Smith-Kem Site

Remedial Investigation/Feasibility Study

Prepared for

PKG Law, P.S.
2701 First Avenue, Suite 410
Seattle, Washington 98121

and

Shell Oil Products US
20945 S. Wilmington Avenue
Carson, California 90810

October 2021

FINAL

Certified B Corporation

100% Recycled Paper

FLOYD | SNIDER
strategy ▪ science ▪ engineering
Two Union Square ▪ 601 Union Street • Suite 600
Seattle, Washington 98101 ▪ tel: 206.292.2078

LIMITATIONS

This report has been prepared for the exclusive use of Smith-Kem, their authorized agents, and regulatory agencies. It has been prepared following the described methods and information available at the time of the work. No other party should use this report for any purpose other than that originally intended, unless Floyd|Snider agrees in advance to such reliance in writing. The information contained herein should not be utilized for any purpose or project except the one originally intended. Under no circumstances shall this document be altered, updated, or revised without written authorization of Floyd|Snider.

The interpretations and conclusions contained in this report are based in part on site characterization data collected by others. Floyd|Snider cannot assure the accuracy of this information.

Executive Summary

INTRODUCTION

The Smith-Kem property (Property) is located at 200 S. Railroad Avenue in Ellensburg, Washington. Starting in the mid-1920s, Shell Oil Products US (SOPUS; herein referred to as "Shell") operated a bulk fuel facility on the property and continued operations until the early 1970s. From 1948 until 1972, Shell leased a portion of the Property to James R. and Jean Smith (the Smiths) to conduct their agricultural products business. The Smiths operated under the Shell Chemical Company brand during that time and provided fertilizers, pesticides, and herbicides. The Smiths, and later, Smith-Kem, conducted fertilizer blending and pesticide storage at the Property until 2015. The McGregor Company began leasing the Property in 2015 and runs a fertilizer blending and pesticide storage operation.

In 2008, the Washington State Department of Ecology (Ecology) identified the Property as a Model Toxics Control Act (MTCA) site based on an investigation that found elevated levels of total petroleum hydrocarbons (TPH) in soil and groundwater. Subsequent investigations documented the presence of pesticides, chlorinated herbicides, nitrate, and ammonia in soil or groundwater. Ecology entered into Agreed Order (AO) No. DE 12908 with Shell and Smith-Kem (two of the potentially liable parties for the Site) in 2016. This Remedial Investigation (RI)/Feasibility Study (FS) has been prepared under the 2016 AO.

The RI portion of this report describes soil and groundwater quality at the site, develops the conceptual site model (CSM), and proposes cleanup standards for chemicals of concern (COCs) at the site. This RI establishes the boundary of the "Site," defined by MTCA as where contamination has come to lie (WAC 173-340-200). The FS portion of this report develops the remedial action objectives (RAOs), provides a comprehensive evaluation of alternative cleanup actions, and identifies a sitewide preferred cleanup action.

Sections 1.0 through 4.0 present hydrogeologic and other information about the Property and describe the investigations used for Site characterization. Sections 5.0 through 7.0 present the results of Site characterization, including identification of COCs, delineation of areas of concern (AOCs), and development of the CSM.

SITE DESCRIPTION

The majority of the Property's surface is covered by buildings or compacted gravel. The topography is relatively flat, with a slope slightly to the south. Soil on the Property consists of unconsolidated gravel and cobbles with varying amounts of sand and silt. Groundwater is typically encountered between 3 and 6 feet below ground surface (bgs) with a hydraulic gradient to the south-southwest and is considered potable per WAC 173-340-720(2).

CONCEPTUAL SITE MODEL

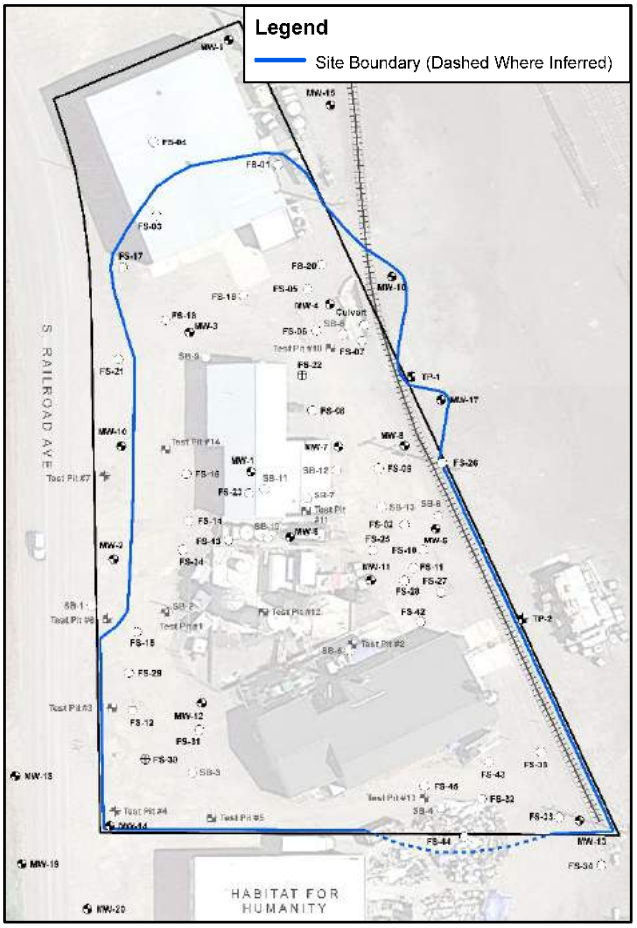
Based on RI sampling and analysis, the two media of concern at the Site are soil and groundwater. Groundwater cleanup standards are protective of human health via drinking water exposure. Soil cleanup standards are protective of groundwater and human and ecological exposure via the direct contact pathway.

Current and former Site uses, including pesticide and fertilizer handling and storage and the historical transfer and storage of bulk petroleum fuels, resulted in contamination at the Site. Potential sources of contamination include the following:

- Direct releases from equipment washing operations
- Generation of by-products during burning operations
- Direct releases from material storage, use, and handling
- Leaks and spills from equipment, tanks, and machinery
- Leaks and spills during fueling and fuel transfer operations at the Rail Spur or between ASTs and trucks
- Grading of the ground surface to maintain gravel surfaces
- Infiltration of precipitation and overland flow through contaminated soil, causing leaching into groundwater

The RI identified COCs in both media. In groundwater, 12 COCs were identified based on an evaluation of the historical and RI data (nitrate, nitrite, eight pesticides and herbicides, diesel-range TPH, and oil-range TPH). In soil, 10 COCs were identified based on the evaluation of the historical and RI data (aldrin, dieldrin, chlordane, alpha-chlordane, beta-benzene hexachloride, and toxaphene); two active-use pesticides (atrazine and simazine); total diesel- and oil-range TPH; and dioxins/furans.

Based on the nature and extent of COCs, there are six AOCs that contain soil or groundwater contamination. The AOCs are areas historically or currently used for trash burning, loading/offloading, storage, and refueling; and a low spot area that experiences seasonal ponding. Additionally, nitrate contamination is widespread in groundwater across the Property. The Site boundary encompasses all areas where contamination originating from historical and current Site activities (that are greater than the proposed CULs) has come to lie.



The CSM is complete with respect to identification of potentially active contaminant transport and exposure pathways. However, data gaps pertaining to the extent of particular soil contaminants will be filled prior to selection and design of the final remedy and may be achieved with additional sampling prior to submittal of the Engineering Design Report. Cleanup standards for the COCs were used to focus the development and evaluation of remedial alternatives in the FS.

DEVELOPMENT OF CLEANUP ACTION ALTERNATIVES

To support the development of cleanup action alternatives, remediation levels (RELs) have been developed to identify the concentrations at which different cleanup actions are taken. RELs are, by definition, concentrations that exceed cleanup standards and can be used when a combination of cleanup action components are necessary to achieve CULs at a point of compliance. RELs may also be used where soil containment (i.e., under a cap) is part of the cleanup action alternative.

Proposed soil RELs were developed for some organochlorine pesticides and TPH. Proposed soil RELs are levels that will result in achievement of the RAOs using a combination of source removal and soil containment. Groundwater RELs are not proposed at the Site because the proposed soil RELs are intended to be protective of groundwater contamination and, when applied, will allow proposed groundwater CULs to be met long-term at the proposed conditional point of compliance.

A range of remedial technologies were reviewed and considered to address both soil and groundwater contamination at the Site. The technologies that were retained have been aggregated into four cleanup action alternatives, which include combinations of the following:

- Excavation of surface soil with concentrations of soil greater than RELs and CULs and placement of an asphalt cap
- Excavation of soil to direct contact RELs, leaching RELs, and/or soil CULs
- Installation of a geosynthetic clay liner (GCL) to provide a protective barrier to remaining pesticide contamination at concentrations greater than RELs or CULs
- In Situ groundwater treatment consisting of a liquid activated carbon matrix to passively treat groundwater contamination
- Monitored natural attenuation (MNA) and groundwater monitoring
- Implementation of institutional controls (ICs), including restrictions on land use and resource use (i.e., prohibit the use of groundwater within Site boundaries as drinking water)

EVALUATION OF CLEANUP ALTERNATIVES—DISPROPORTIONATE COST ANALYSIS

The MTCA cleanup regulations provide the framework for the disproportionate cost analysis (DCA). The DCA evaluates cleanup action alternatives in order to identify the cleanup remedy that uses permanent solutions to the maximum extent practicable, while also achieving cleanup standards within a reasonable restoration time frame. In making this determination, each cleanup action alternative was assessed using MTCA comparative evaluation criteria as follows:

- Protectiveness (30% of total benefit score)
- Permanence (20% of total benefit score)
- Effectiveness over the long term (20% of total benefit score)
- Management of short-term risks (10% of total benefit score)
- Technical and administrative implementability (10% of total benefit score)
- Consideration of public concerns (10% of total benefit score)
- Cost (compared to total benefit score)

Under the MTCA cleanup regulations, cleanup action alternatives must meet minimum requirements for protectiveness. The final step in evaluating alternatives is identifying the protective alternative that is permanent to the maximum extent practicable. This requires weighing incremental costs and benefits of protective cleanup action alternatives. Costs are considered disproportionate to benefits when the incremental costs of an alternative exceed the incremental benefits compared to alternatives that are lower cost but still protective.

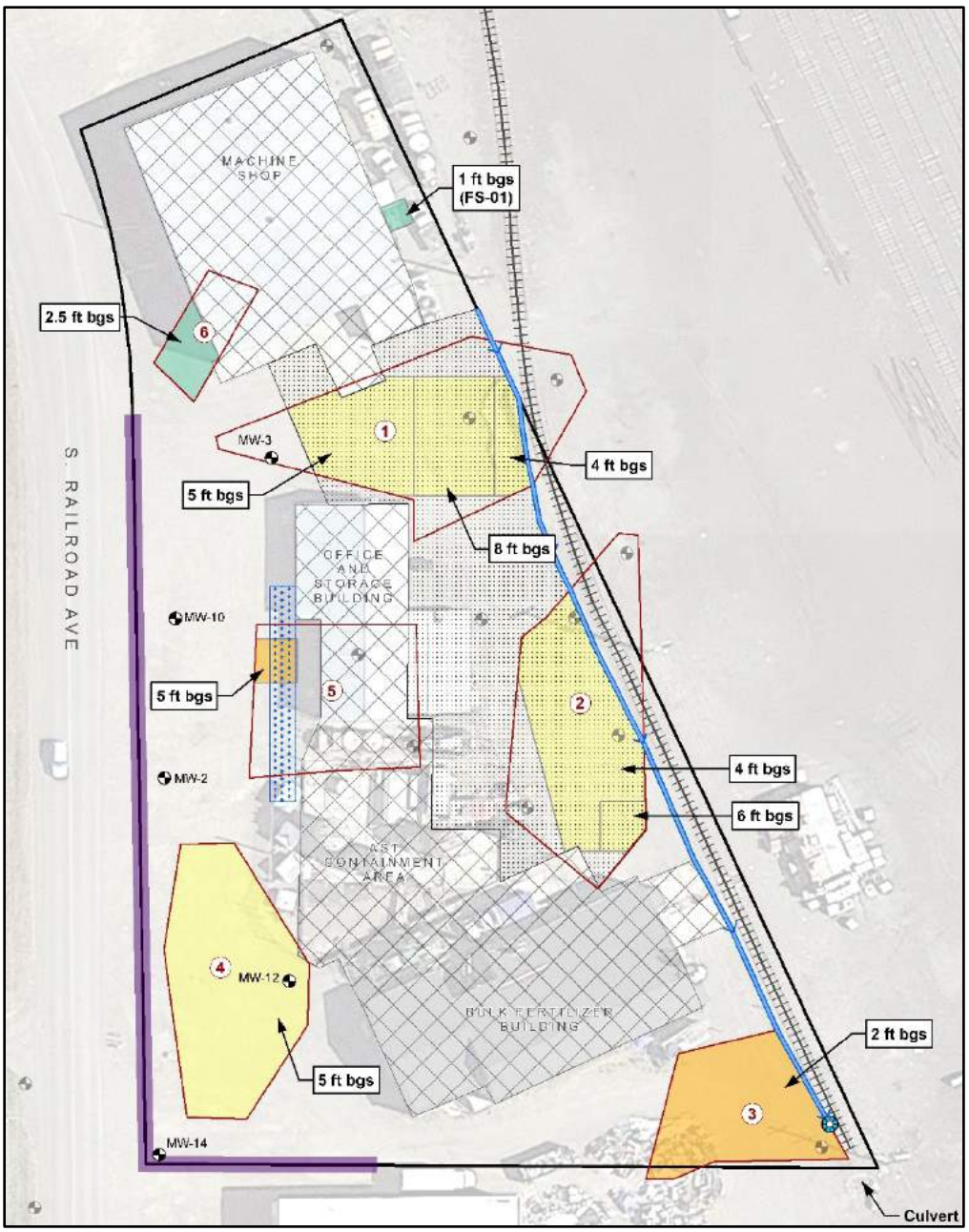
PREFERRED CLEANUP ACTION

The four alternatives were evaluated, and the preferred cleanup action was selected by choosing the alternative with the greatest benefit per unit cost score. Alternative 3 was selected as the Preferred Cleanup Action Alternative as it is permanent to the maximum extent practicable.

The Preferred Cleanup Action Alternative is a comprehensive remedy for the Site that complies with all the applicable remedy selection requirements under MTCA and provides the greatest environmental benefit for the associated cost based on the DCA. This remedy includes the following components:

- Excavation and off-site disposal of soil in all AOCs with COC concentrations greater than RELs or CULs
- Excavation to CULs in AOC 6 and an area around FS-01
- Installation of a GCL and drainage in portions of AOC 1 and AOC 2 for protection of groundwater
- In situ groundwater treatment by injecting liquid activated carbon along the downgradient edge of AOC 5 to immobilize contaminants (pesticides and TPH) in groundwater migrating from beneath the office and storage building
- Capping contaminated soil with COC concentrations greater than the RELs to protect worker direct contact exposure, including pesticide and TPH contamination beneath the office and storage building in AOC 5 and deeper TPH contamination beneath the gravel cap in AOC 4
- ICs to prohibit use of Site groundwater as drinking water and maintenance of the cap
- MNA for groundwater recovery

The Preferred Cleanup Action Alternative for soil and groundwater meets the minimum requirements for selection of a cleanup action under MTCA (WAC 173-340-360(2)(a)) because it is protective of human health and the environment, complies with cleanup standards, complies with applicable state and federal laws, and provides for compliance monitoring. The Preferred Cleanup Action Alternative meets the other MTCA requirements for selection of a cleanup action, including using permanent solutions to the maximum extent practicable, providing for a reasonable restoration time frame, and consideration of public concerns.



Alternative 3

Excavate to CULs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

· AOC 6 · FS-01

Excavate to Direct Contact RELs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

Note: If pre-design data show that contamination in AOC 3 extends off-property, then excavation off-property will be designed to meet the CULs.

· AOC 3 · AOC 5

Excavate to Leaching RELs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

· AOC 1 · AOC 2 · AOC 4

Protect Existing Structures

Existing buildings and concrete pavement to remain as cap.

In Situ Groundwater Treatment

Inject trademarked colloidal activated carbon matrix (PlumeStop™) to create a passive treatment zone.

Geosynthetic Clay Liner

Install GCL as barrier for protection of groundwater from residual soil contamination.

Drainage System

Collect infiltrated precipitation drainage from the GCL and convey to a collection manhole at the southeast corner of the property.

Legend

Proposed CPOC

① Area of Concern (with ID)

Table of Contents

1.0 Introduction 1-1
1.1 PURPOSE AND OBJECTIVES OF THIS REPORT 1-1
1.2 DOCUMENT ORGANIZATION 1-2
2.0 Site Background and Setting 2-1
2.1 PROPERTY LOCATION, DESCRIPTION, AND ZONING 2-1
2.2 SITE DEFINITION, DESCRIPTION OF STUDY AREA, AND SITE SETTING 2-1
2.3 PROJECT BACKGROUND AND REGULATORY OVERVIEW 2-2
2.4 HISTORICAL PROPERTY OWNERSHIP, DEVELOPMENT, AND OPERATIONS 2-3
2.4.1 Shell Operations and Associated Products 2-3
2.4.2 The Smiths and Smith-Kem Operations and Associated Products 2-4
2.5 CURRENT PROPERTY OPERATIONS AND DEVELOPMENT 2-6
2.6 ADJACENT PROPERTIES 2-8
2.7 PHYSICAL ENVIRONMENT 2-9
2.7.1 Site Geology 2-9
2.7.2 Site Hydrogeology 2-9
3.0 Summary of Previous Investigations 3-1
3.1 SAGE EARTH SCIENCES, INC. 3-1
3.2 CONESTOGA-ROVERS & ASSOCIATES 3-1
3.3 FULCRUM ENVIRONMENTAL AND NTH DEGREE 3-2
3.4 LANDAU & ASSOCIATES 3-2
4.0 Remedial Investigation Activities 4-1
4.1 PHASES OF THE REMEDIAL INVESTIGATION ACTIVITIES 4-2
4.1.1 Identification of Analytes of Interest 4-2
4.1.2 Phase 1—2016 4-2
4.1.3 Phase 2A—2017 4-2
4.1.4 Phase 2B—2018 4-3
4.1.5 Supplemental RI Work—2019 to 2020 4-3
4.2 SOIL 4-4
4.2.1 Soil Borings 4-4

4.2.2 Test Pits 4-4
4.2.3 Surface Soil 4-5
4.2.4 Analytical Methods 4-5
4.3 GROUNDWATER 4-6
4.3.1 Monitoring Well Installation and Development 4-7
4.3.2 Monitoring Well Sampling 4-8
4.3.3 Groundwater Screening Sampling 4-8
4.3.4 Analytical Methods 4-9
4.3.5 Water Level Elevations 4-10
4.4 VAPOR AND INDOOR AIR 4-10
4.4.1 Vapor Sampling—Indoor Air, Ambient Air, and Crawl Space 4-10
4.4.2 Analytical Methods 4-11
4.5 DATA VALIDATION 4-11
4.6 DEVIATIONS 4-12
5.0 Preliminary Conceptual Site Model and Site Screening and Cleanup Levels 5-1
5.1 PRELIMINARY CONCEPTUAL SITE MODEL, SCREENING LEVELS, AND ANALYTES OF INTEREST 5-1
5.1.1 Media of Concern, Exposure Pathways, and Receptors 5-1
5.1.2 Screening Level Development 5-3
5.2 PRELIMINARY CLEANUP LEVELS AND POINTS OF COMPLIANCE 5-7
5.2.1 Groundwater 5-7
5.2.2 Soil 5-8
5.3 IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN 5-10
5.3.1 Groundwater 5-10
5.3.2 Soil 5-11
5.3.3 Summary of Chemicals of Potential Concern 5-11
6.0 COCs and Nature and Extent of Contamination 6-1
6.1 IDENTIFICATION OF GROUNDWATER CHEMICALS OF CONCERN 6-1
6.1.1 Summary of Groundwater Chemicals of Concern and Proposed Cleanup Standards 6-2
6.2 IDENTIFICATION OF SOIL CHEMICALS OF CONCERN AND CLEANUP STANDARDS 6-3

6.2.1 Identification of Chemicals of Concern 6-3
6.2.2 Proposed Cleanup Standards 6-10
6.3 NATURE AND EXTENT OF CONTAMINATION: GROUNDWATER 6-11
6.3.1 Nitrate and Nitrite 6-12
6.3.2 Pesticides and Herbicides 6-15
6.3.3 Total Petroleum Hydrocarbons 6-20
6.4 NATURE AND EXTENT OF CONTAMINATION: SOIL 6-21
6.4.1 Legacy Pesticides 6-21
6.4.2 Active-Use Pesticides 6-33
6.4.3 Total Petroleum Hydrocarbons 6-33
6.4.4 Dioxins/Furans 6-35
7.0 Conceptual Site Model, Areas of Concern, and Recommendations 7-1
7.1 CONCEPTUAL SITE MODEL 7-1
7.1.1 Summary of Contaminant Sources and Transport Pathways 7-4
7.1.2 Summary of Areas of Concern 7-4
7.2 RECOMMENDATIONS 7-8
8.0 Feasibility Study 8-1
8.1 REMEDIAL ACTION OBJECTIVES 8-1
8.2 POINTS OF COMPLIANCE 8-1
8.2.1 Groundwater 8-1
8.2.2 Soil 8-2
8.2.3 Air 8-2
8.3 AREAS OF CONCERN 8-3
8.4 REMEDIATION LEVELS 8-4
8.4.1 Soil Remediation Levels 8-5
8.4.2 Groundwater Remediation Levels 8-9
9.0 Remedial Technology Identification and Screening 9-1
9.1 IDENTIFICATION OF REMEDIAL TECHNOLOGIES COMMON TO SOIL AND GROUNDWATER CONTAMINATION 9-1
9.1.1 No Action 9-1
9.1.2 Institutional Controls 9-1

9.1.3 Monitored Natural Attenuation 9-1
9.1.4 Engineering Controls 9-2
9.1.5 Surface Capping 9-2
9.1.6 Enhanced Bioremediation 9-3
9.1.7 Chemical Oxidation and Reduction 9-3
9.1.8 Thermal Treatment 9-4
9.2 IDENTIFICATION OF REMEDIAL TECHNOLOGIES FOR SOIL 9-4
9.2.1 Excavation and Landfill Disposal 9-4
9.2.2 Solidification and Stabilization 9-5
9.2.3 Soil Vapor Extraction 9-5
9.3 IDENTIFICATION OF REMEDIAL TECHNOLOGIES FOR GROUNDWATER 9-6
9.3.1 Remediation of Source Soil Contamination 9-6
9.3.2 In Situ Groundwater Treatment 9-6
9.3.3 Low-Permeability Barrier Wall 9-7
9.3.4 Pump and Treat 9-7
9.3.5 Air Sparging 9-7
9.4 PRELIMINARY SCREENING OF REMEDIAL TECHNOLOGIES 9-8
10.0 Identification of Cleanup Action Alternatives 10-1
10.1 CLEANUP ACTION ALTERNATIVES 10-1
10.1.1 Alternative 1 10-1
10.1.2 Alternative 2 10-2
10.1.3 Alternative 3 10-4
10.1.4 Alternative 4 10-5
10.2 MONITORED NATURAL ATTENUATION AND GROUNDWATER MONITORING 10-5
10.3 INSTITUTIONAL CONTROLS 10-6
11.0 Cleanup Action Alternatives Evaluation and Disproportionate Cost Analysis 11-1
11.1 CLEANUP ACTION ALTERNATIVE EVALUATION 11-1
11.1.1 Model Toxics Control Act Threshold Requirements 11-1
11.2 EVALUATION OF THRESHOLD REQUIREMENTS 11-2
11.3 EVALUATION OF RESTORATION TIME FRAME 11-3

11.4 DISPROPORTIONATE COST ANALYSIS 11-3
11.4.1 Protectiveness 11-5
11.4.2 Permanence 11-5
11.4.3 Effectiveness over the Long-Term 11-5
11.4.4 Management of Short-Term Risk 11-6
11.4.5 Technical and Administrative Implementability 11-6
11.4.6 Consideration of Public Concerns 11-7
11.4.7 Cost 11-7
11.5 IDENTIFICATION OF PREFERRED CLEANUP ACTION ALTERNATIVE 11-7
12.0 Preferred Cleanup Action Recommendation 12-1
12.1 PREFERRED CLEANUP ACTION ALTERNATIVE DESCRIPTION 12-1
12.1.1 Soil Excavation with Off-Site Disposal 12-2
12.1.2 Geosynthetic Clay Liner 12-3
12.1.3 In Situ Groundwater Treatment 12-4
12.1.4 Groundwater Monitoring and Proposed Conditional Point of Compliance 12-4
12.1.5 Institutional Controls 12-5
12.2 COMPLIANCE MONITORING REQUIREMENTS 12-5
12.3 CONTINGENCY ACTIONS 12-6
12.4 COMPLIANCE WITH MTCA 12-7
12.5 COMPLIANCE WITH ARARS 12-7
12.6 COMPLIANCE WITH SITE RAOS 12-8
12.7 PROPERTY OWNERSHIP AND ACCESS 12-8
12.8 TYPES AND AMOUNTS OF HAZARDOUS SUBSTANCES TO REMAIN IN PLACE 12-8
12.9 RESTORATION TIME FRAME 12-9
12.10 ESTIMATED REMEDY COST SUMMARY 12-9
13.0 References 13-1

List of Tables

Table 4.1 Monitoring Well Details

Table 4.2 Remedial Investigation Work Deviations Table

Table 5.1 Groundwater Screening and Preliminary Cleanup Levels (μg/L)

Table 5.2 Soil Screening Levels (mg/kg)

Table 5.3 Screening Evaluation to Identify Groundwater Chemicals of Potential Concern (μg/L)

Table 5.4 Soil Preliminary Cleanup Levels (mg/kg)

Table 5.5 Screening Evaluation to Identify Soil Chemicals of Potential Concern (mg/kg)

Table 5.6 Summary of Soil and Groundwater Chemicals of Potential Concern

Table 6.1 Screening Evaluation to Identify Groundwater Chemicals of Concern (μg/L)

Table 6.2 Summary of Groundwater Chemicals of Concern and Proposed Cleanup Levels (μg/L) (embedded)

Table 6.3 Summary of Key Properties of Groundwater Chemicals of Concern

Table 6.4 Depth-Weighted Average Concentrations

Table 6.5 Screening Evaluation to Identify Soil Chemicals of Concern for the Direct Contact Pathway

Table 6.6 Screening Evaluation to Identify Soil Chemicals of Concern for the Leaching Pathway

Table 6.7 Summary of Soil Chemicals of Concern and Proposed Cleanup Levels by Pathway (mg/kg) (embedded)

Table 6.8 Summary of Key Properties of Soil Chemicals of Concern

Table 6.9 Results for Groundwater Chemicals of Concern (μg/L)

Table 6.10 Results for Soil Chemicals of Concern

Table 7.1 Groundwater Chemicals of Concern, Proposed Cleanup Standards, and AOCs (embedded)

Table 7.2 Soil Chemical of Concern, Proposed Cleanup Standards, and AOCs (embedded)

Table 8.1 Soil Chemicals of Concern Proposed Cleanup Levels and Remediation Levels (embedded)

Table 8.2 Exposure Factors Used to Calculate Direct Contact RELs (embedded)

Table 9.1 Soil and Groundwater Technology Screening

Table 10.1 Alternative Action Summary

Table 11.1 Disproportionate Cost Analysis Summary

Table 11.2 Disproportionate Cost Analysis Alternative Evaluation

Table 12.1 Applicable or Relevant and Appropriate Requirements for the Preferred Cleanup Action Alternative

List of Figures

Figure 1.1 Site Vicinity Map

Figure 1.2 Current Site Plan and Key Features

Figure 2.1 Subject and Surrounding Property Owner-Operator Information

Figure 2.2 Historical Site Features

Figure 2.3 Remedial Investigation Soil and Groundwater Sample Locations and Cross-Section A-A' Line

Figure 2.4 Cross-Section A-A'

Figure 2.5 November 2016 to November 2017 Transducer Measurements

Figure 3.1 Historical Soil and Groundwater Sample Locations

Figure 5.1 Potentially Active Transport Pathways Identified in the Preliminary Conceptual Site Model

Figure 6.1 Site Data and Observations Relevant to the Terrestrial Ecological Evaluation for Pesticides

Figure 6.2 Site Data and Observations Relevant to the Terrestrial Ecological Evaluation for Dioxins/Furans

Figure 6.3 Nitrate Data Compared to Groundwater CUL (µg/L)

Figure 6.4 Nitrite Data Compared to Groundwater CUL (µg/L)

Figure 6.5 Seasonal Variability of Nitrate, Nitrite, and Ammonia Groundwater Data

Figure 6.6 Dieldrin Data Compared to Groundwater CUL (µg/L)

Figure 6.7 Toxaphene Data Compared to Groundwater CUL (µg/L)

Figure 6.8 Other Legacy Pesticide Data Compared to Groundwater CULs (µg/L)

Figure 6.9a Aldrin Groundwater Data: Time Series Charts

Figure 6.9b Dieldrin Groundwater Data: Time Series Charts and Box and Whiskers Plots

Figure 6.9c Chlordane Groundwater Data: Time Series Charts and Box and Whiskers Plots

Figure 6.9d beta-BHC Groundwater Data: Time Series Charts

Figure 6.9e Toxaphene Groundwater Data: Time Series Charts

Figure 6.10 Atrazine Data Compared to Groundwater CUL (µg/L)

Figure 6.11 Atrazine Groundwater Data: Time Series Charts and Box and Whiskers Plots

Figure 6.12 Other Active Use Pesticide Data Compared to Groundwater CULs (µg/L)

Figure 6.13 TPH Data Compared to Groundwater CUL (µg/L)

Figure 6.14 Dieldrin Data Compared to Soil and Groundwater CULs

Figure 6.15 Dieldrin Data Compared to Soil Direct Contact CUL
Figure 6.16 Aldrin and beta-BHC Data Compared to Soil and Groundwater CULs
Figure 6.17 Other Pesticide Data Compared to Soil Direct Contact CULs
Figure 6.18 Toxaphene Data Compared to Soil and Groundwater CULs
Figure 6.19 Toxaphene Data Compared to Soil Direct Contact CUL
Figure 6.20 Chlordane Data Compared to Soil and Groundwater CULs
Figure 6.21 TPH Data Compared to Soil Proposed CUL
Figure 6.22 Dioxin/Furan Data Compared to Soil Proposed CUL
Figure 7.1 Conceptual Site Model
Figure 7.2 Soil and Groundwater Sampling Locations and Soil Areas of Concern
Figure 7.3 Site Boundary
Figure 8.1 Areas of Concern and Site Features
Figure 8.2 TPH Data in Soil—Sitewide
Figure 8.3 Pesticide Data in Soil—Sitewide (0–2 ft bgs)
Figure 8.4 Pesticide Data in Soil—Sitewide (2–6 ft bgs)
Figure 8.5 Pesticide Data in Soil—Sitewide (6+ ft bgs)
Figure 8.6 Pesticide Data in Soil—AOC 1
Figure 8.7 Pesticide Data in Soil—AOC 2
Figure 8.8 Pesticide Data in Soil—AOC 3
Figure 8.9 Pesticide Data in Soil—AOC 4
Figure 8.10 Pesticide Data in Soil—AOC 5
Figure 8.11 Pesticide Data in Soil—AOC 6
Figure 10.1 Alternative 1
Figure 10.2 Alternative 2
Figure 10.3 Alternative 3
Figure 10.4 Alternative 4
Figure 12.1 Preferred Cleanup Action Alternative

List of Appendices

Appendix A	Historical Records
Appendix B	Select Site Photographs
Appendix C	Floyd|Snider Memoranda
Appendix D	Monitoring Well Logs, Boring Logs, and Groundwater Monitoring Field Forms
Appendix E	Remedial Investigation Data
Appendix F	Data Validation Reports
Appendix G	Chemical Parameters and Backup Calculations
Appendix H	Evaluation of Nondetect Results and Analytical Sensitivity
Appendix I	Cost Estimate
Appendix J	Statement from the McGregor Company on Current Operations

List of Acronyms and Abbreviations

Acronym/ Abbreviation	Definition
°C	Degrees Celsius
2,4-D	2,4-Dichlorophenoxyacetic acid
Additions Memorandum	Proposed Additions to Phase 2B Sampling Scope memorandum
ADEC	Alaska Department of Environmental Conservation
ALS	ALS Environmental
AO	Agreed Order
AOC	Area of concern
AOPC	Area of potential concern
ARAR	Applicable or relevant and appropriate requirement
ARI	Analytical Resources, Inc.
AST	Aboveground storage tank
bgs	Below ground surface
BHC	Benzene hexachloride
BNSF	BNSF Railway
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CAP	Cleanup Action Plan

Acronym/ Abbreviation	Definition
CCMP	Construction Compliance Monitoring Plan
COC	Chemical of concern
COPC	Chemical of potential concern
cPAH	Carcinogenic polycyclic aromatic hydrocarbon
CPOC	Conditional point of compliance
CRA	Conestoga-Rovers & Associates
CSBC	Crushed surfacing base course
CSM	Conceptual site model
CUL	Cleanup level
CY	Cubic yards
DCA	Disproportionate cost analysis
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichlorethylene
DDT	Dichlorodiphenyltrichloroethane
DIPE	Diisopropyl ether
Ecology	Washington State Department of Ecology
EDB	1,2-Dibromoethane
EDC	1,2-Dichloroethane
EDR	Engineering Design Report
FBI	Friedman & Bruya, Inc.
f_{oc}	Fraction of organic carbon
FS	Feasibility Study
GCL	Geosynthetic clay liner
GMP	Groundwater Monitoring Plan
HDPE	High-density polyethylene
IC	Institutional control
ISGP	Industrial Stormwater General Permit
ISIS	Integrated Site Information System
K_{oc}	Organic carbon partitioning coefficient
LTCMP	Long-Term Compliance Monitoring Plan
McGregor	The McGregor Company

Acronym/ Abbreviation	Definition
MCL	Maximum contaminant level
MCPA	2-Methyl-4-chlorophenoxyacetic acid
µg/L	Micrograms per liter
mg/kg	Milligrams per kilogram
MNA	Monitored natural attenuation
MTBE	Methyl *tert*-butyl ether
MTCA	Model Toxics Control Act
ng/kg	Nanograms per kilogram
NPRR	Northern Pacific Railroad
NTU	Nephelometric turbidity units
OMMP	Operations, Maintenance, and Monitoring Plan
PAL	Pacific Agricultural Laboratory
PBS	PBS Engineering and Environmental Inc.
PCB	Polychlorinated biphenyl
PID	Photoionization detector
PLP	Potentially liable party
POC	Point of compliance
PQL	Practical quantitation limit
PRB	Permeable reactive barrier
Property	The Smith-Kem property
PVC	Polyvinyl chloride
QA/QC	Quality assurance/quality control
RAO	Remedial action objective
REL	Remediation level
RI	Remedial investigation
ROW	Right-of-way
Sage	Sage Earth Sciences
Sanborn map	Sanborn Fire Insurance map
SF	Square feet
SHA	Site Hazard Assessment
SL	Screening level

Acronym/ Abbreviation	Definition
Smith-Kem	Smith-Kem Ellensburg, Inc.
SMP	Soil Management Plan
SVE	Soil vapor extraction
SVOC	Semivolatile organic compound
TEE	Terrestrial ecological evaluation
TEF	Toxic equivalent factor
TEQ	Toxic equivalent
Total DDx	Calculated as the sum of DDD, DDE, and DDT
TPH	Total petroleum hydrocarbons
USCS	Unified Soil Classification System
USEPA	U.S. Environmental Protection Agency
VCP	Voluntary Cleanup Program
VI	Vapor intrusion
VOC	Volatile organic compound
WAC	Washington Administrative Code
Work Plan	Remedial Investigation Work Plan
Work Plan Addendum	Remedial Investigation Work Plan Addendum memorandum
ZVI	Zero-valent iron

Professional Certification

I hereby certify that the geological components of this document were prepared by or under my responsible charge and that to my knowledge and belief, this document was prepared in accordance with the requirements of Chapter 18.220 RCW.

Name: Gabriel Cisneros, LG
Date: 10/25/2021

I hereby certify that this document was prepared by me or my designated agent under my direct supervision and has been prepared in accordance with good engineering practice, including consideration of applicable industry standards at this time.

Name: Emily Jones, PE
Date: 10/25/2021

1.0 Introduction

This Remedial Investigation (RI) and Feasibility Study (FS) report was prepared per the requirements of Agreed Order (AO) No. DE 12908 (Ecology 2016a) between the Washington State Department of Ecology (Ecology) and the potentially liable parties (PLPs), Shell Oil Products US (SOPUS; herein referred to as "Shell") and Smith-Kem Ellensburg, Inc. (Smith-Kem). The Smith-Kem property (Property) is located at 200 S. Railroad Avenue in Ellensburg, Washington (Figures 1.1 and 1.2). The site has been listed in Ecology's Integrated Site Information System (ISIS) under Facility Site ID number 12832256 and Cleanup Site ID number 4257.

Starting in the mid-1920s, Shell operated a bulk fuel facility on the Property and continued operations until the early 1970s. In 1948, Shell leased a portion of the Property to Smith-Kem, a vendor of agricultural products. Shell sold the Property to James R. and Jean Smith (the Smiths) of Ellensburg, Washington, in 1972, and Smith-Kem continued to conduct operations on the Property until March 31, 2015, when the McGregor Company (McGregor) acquired the business and assumed control of the site and several adjacent parcels as an operator. The Smiths sold the Property to Ad Gro on August 5, 1996 (refer to Quit Claim Deed in Appendix A) but McGregor has had effective control of the day-to-day operations on the Property since April 1, 2015.

An investigation in 2007 identified total petroleum hydrocarbons (TPH) in soil and groundwater, which led to subsequent investigations in soil and groundwater that documented elevated levels of pesticides, chlorinated herbicides, and ammonia. Based on the results, Shell and Smith-Kem were named PLPs and entered into the AO on February 29, 2016 (Ecology 2016a). RI field activities were conducted, per the AO and Ecology-approved RI Work Plan (Work Plan; Floyd|Snider 2016), starting in 2016 and were completed in early 2020.

1.1 PURPOSE AND OBJECTIVES OF THIS REPORT

The purpose of this report is to present an RI/FS consistent with the requirements of the Model Toxics Control Act (MTCA) cleanup regulation (Chapter 173-340 of the Washington Administrative Code [WAC]). In particular, this report was written to meet the following objectives:

- Describe soil and groundwater quality at the site using available data
- Evaluate complete exposure pathways to receptors at the site for analytes of interest found in the environmental media listed above
- Identify cleanup levels (CULs) applicable to the site chemicals of concern (COCs) and points of compliance (POCs)
- Prepare a conceptual site model (CSM) that identifies the COCs and areas of concern (AOCs) at the site
- Define remedial action objectives (RAOs) and applicable or relevant and appropriate requirements (ARARs)

- Develop and evaluate remedial action alternatives for comprehensive cleanup appropriate for implementation at the facility
- Select a preferred remedial action for the site that will achieve MTCA compliance under current and anticipated land uses

1.2 DOCUMENT ORGANIZATION

This document is organized as follows:

- **Section 1.0—Introduction:** Provides the purpose and objectives, regulatory overview for the site, and organization of the RI report.
- **Section 2.0—Site Background and Setting:** Provides information on the location, ownership, and historical and current land use at the site, as well as regional and site geology and ecological setting.
- **Section 3.0—Summary of Previous Investigations:** Presents previous soil and groundwater investigations that have been conducted at the site.
- **Section 4.0—Remedial Investigation Activities:** Presents a description of the soil, groundwater, and vapor intrusion (VI) investigations that were conducted as part of the RI, including sampling design, field methods, and analytical methods. Field activities described include soil sampling, air sampling, groundwater sampling, monitoring well installation, and test pit excavations.
- **Section 5.0—Preliminary Conceptual Site Model and Site Screening Levels:** Presents the CSM, identifies preliminary screening levels (SLs), provides a summary of exposure pathways and receptors, and site SLs, and identifies chemicals of potential concern (COPCs).
- **Section 6.0—Nature and Extent of Contamination:** Presents the COCs based on exceedances of developed site-specific CULs and POCs. Presents a description of type, concentration, and extent of contamination for both soil and groundwater.
- **Section 7.0—Final Conceptual Site Model, Areas of Concern, and Recommendations**: Summarizes the findings and conclusions of the RI, presents the final CSM, summary of AOCs, and proposes recommendations for the site.
- **Section 8.0—Feasibility Study:** Presents the RAOs, the POCs, and provides a summary of the remediation levels (RELs) that were developed to identify the concentrations at which different cleanup actions are taken.
- **Section 9.0—Remedial Technology Identification and Screening:** Presents the remedial technologies that were reviewed and considered to address both soil and groundwater contamination at the Site and a summary of the screening that was done to remove technologies from further evaluation.

- **Section 10.0—Identification of Cleanup Action Alternatives:** Provides a summary of the Sitewide cleanup action alternatives that were compiled as alternatives for the cleanup.
- **Section 11.0—Cleanup Action Alternatives Evaluation and Disproportionate Cost Analysis:** Provides a summary of the requirements and criteria that each remedial alternative is evaluated against in accordance with MTCA. Presents the results of the disproportionate cost analysis (DCA) that was conducted to identify the alternative that is permanent to the maximum extent practicable, using DCA evaluation criteria.
- **Section 12.0—Preferred Cleanup Action Recommendation:** Presents the Preferred Cleanup Action Alternative that was selected for the remediation of soil and groundwater at the Site and how this alternative complies with ARARs and RAOs.
- **Section 13.0—References:** Presents the sources cited in the RI/FS report.

The appendices of this document are as follows:

- Appendix A—Historical Records
- Appendix B—Select Site Photographs
- Appendix C—Floyd|Snider Memoranda
- Appendix D—Monitoring Well Logs, Boring Logs, and Groundwater Monitoring Field Forms
- Appendix E—Remedial Investigation Data
- Appendix F—Data Validation Reports
- Appendix G—Chemical Parameters and Backup Calculations
- Appendix H—Evaluation of Nondetect Results and Analytical Sensitivity
- Appendix I—Cost Estimate
- Appendix J—Statement from the McGregor Company on Current Operations

2.0 Site Background and Setting

2.1 PROPERTY LOCATION, DESCRIPTION, AND ZONING

The Property, located at 200 S. Railroad Avenue, is zoned as "heavy industrial" by the City of Ellensburg (City of Ellensburg 2017; Figure 2.1). The Property is approximately 2 acres and is bounded to the north by vacant properties and to the south by various light-industrial and other commercial businesses. To the east is the BNSF Railway (BNSF) rail yard and the Rail Spur that comes onto the eastern portion of the Property. To the west of S. Railroad Avenue is a rural residential property that is zoned as "Residential Suburban." A detailed description of adjacent properties is provided in Section 2.6.

The Property surface is covered with compacted imported gravel and is relatively flat with an approximate property elevation at 1,500 feet above mean sea level. The general topography of the area slopes slightly toward the south. The nearest bodies of surface water include Mercer Creek, approximately 225 feet to the west of the Property, and Wilson Creek, approximately 125 feet east of the Property.

2.2 SITE DEFINITION, DESCRIPTION OF STUDY AREA, AND SITE SETTING

In this document, the word Property is used to refer to tax parcel 226833 (Figure 2.1). One goal of the RI is to better define the boundary of the "Site," which under MTCA is defined by where contamination has come to lie (WAC 173-340-200). Until the Site is defined in Section 6.0, per MTCA, "site" is used to describe the study area, which includes the Property and the area surrounding the Property where investigation activities occurred and includes the BNSF rail yard (BNSF property) to the east, the commercial property to the south (owned by Ryan Wales; referred to as the Wales property), the residential property to the west (owned by Stephen Carter; referred to as the Carter property), and the City of Ellensburg right-of-way (ROW) S. Railroad Avenue, to the west.

The surrounding City of Ellensburg, as well as most of Kittitas County, is prime agricultural land. Historically, the main agricultural exports were wheat, timothy hay, alfalfa, corn, peas, and cattle. According to the Washington State University extension office (WSU 2018), current exports in Kittitas County include cattle and a variety of crops, including hay, wheat, and vegetables.

In order to transport surface water to farms for irrigation, irrigation ditches were commonly built throughout the area. Historically, an irrigation ditch (the historical ditch) ran from north to south along the eastern Property line, crossing beneath the Rail Spur. The north end of the ditch originated at Mercer Creek and the south end terminated at a conveyance system that drained into Wilson Creek. The ditch was used to convey water to agricultural properties to the south of the site (refer to Figure 2.2 for the ditch location). The dates the historical ditch was constructed and subsequently abandoned are not known. Smith-Kem never used the ditch as part of site operations.

The Property would periodically flood in the winter as the water level in the irrigation ditch would rise during rain events. Additionally, a Mercer Creek culvert to the north of the Property would clog, occasionally causing localized flooding. When the City of Ellensburg replaced the street crossing of Mercer Creek with a bridge and removed the culvert under the road in 2012, flooding from Mercer Creek stopped entirely.

In the early 1990s, the historical ditch was no longer being used and was dry. Because it was considered a safety hazard to have an open ditch, Smith-Kem backfilled the ditch with clean, local fill soil from a hotel construction project in Ellensburg. Because the site is prone to ponding after rain events, a culvert was left in place near the northeast Property boundary at the low spot where the historical ditch crossed under the Rail Spur to allow infiltration of stormwater, as shown on Figure 2.2 and in Photograph 13 of Appendix B.

A second culvert exists just south of the Property line to the east of the terminus of the Rail Spur. This culvert, which appears to be in line with the historical irrigation ditch, does not drain surface water from the Property, but appears to collect water from an off-Property feeder culvert to the west. This culvert daylights again in an open ditch area to the southeast of the Wales property (Photograph 23; Appendix B).

2.3 PROJECT BACKGROUND AND REGULATORY OVERVIEW

Upon discovery of TPH contamination during an investigation (discussed in Section 3.0), Sage Earth Sciences (Sage) notified Ecology on July 2, 2007, that there had been a release of petroleum at the site (Ecology 2016a). Ecology subsequently reviewed the Sage *Limited Site Characterization Report* (Sage 2007), and on May 29, 2008, Ecology Site Manager Richard Bassett conducted a site visit and met with the current property owner.

Following the site visit, on June 2, 2008, Ecology sent a letter to Smith-Kem and Ad Gro recommending that the Property be entered into Ecology's Voluntary Cleanup Program (VCP) or go under AO to characterize soil and groundwater contamination for TPH and other hazardous substances. On August 13, 2008, a Site Hazard Assessment (SHA) ranking of "3" was assigned to the site by Ecology (Ecology 2008).

The site was entered into Ecology's VCP on June 20, 2012, but was subsequently removed in October 2012 by Smith-Kem (CRA 2014). On November 15, 2012, Ecology received notification from Shell acknowledging its PLP status with regard to the former operation of the bulk terminal (Ecology 2016a).

On March 1, 2013, Ecology notified Smith-Kem and Ad Gro of a determination of their proposed PLP status for the site (Ecology 2013). On October 31, 2014, letters were sent to Smith-Kem, Ad Gro, and Shell notifying them all as PLPs under MTCA. On February 29, 2016, Shell and Smith-Kem entered into AO DE 12908 with Ecology. Although Ad Gro was notified as having potential liability under MTCA, it is not a party to the AO.

The AO scope of work required the PLPs to prepare a Work Plan, conduct an RI, and prepare an RI report and FS report in a manner that complies with the requirements of MTCA. The Work Plan was completed in July 2016, and the first of three phases of the RI began in August 2016.

2.4 HISTORICAL PROPERTY OWNERSHIP, DEVELOPMENT, AND OPERATIONS

The following paragraphs detail the history of ownership, development, and operations conducted on the Property. Figure 2.2 shows the approximate locations of notable historical site features identified from Sanborn Fire Insurance maps (Sanborn maps), historical aerial photos, and previous site investigations. Additional site features summarized below may not be shown on Figure 2.2 due to limited information about precise locations of activities or structures. Appendix A provides historical records, aerials, and Sanborn maps that were reviewed for this section.

Shell operated on the Property as a bulk fuel distributer from approximately 1923 to 1972 as described in Section 2.4.1. From 1948 until 1972, Shell leased a portion of the Property to the Smiths to conduct their agricultural products business. The Smiths operated under the Shell brand during that time and provided fertilizers, pesticides, and herbicides, as described in Section 2.4.2.

2.4.1 Shell Operations and Associated Products

Shell's operations at the Property first started in approximately 1923 (Kittitas County 2015). According to historical property records, general operations consisted of receiving, storing, and distributing bulk fuel products, although exact details concerning unloading, storage, and operational activities are not known.

As of the 1928 Sanborn map, there were an office and warehouse building (which still exists currently); two fire hydrants; two oil pumps; two aboveground storage tanks (ASTs), and aboveground product lines that extended from the Rail Spur to the warehouse building.

According to historical records and discussions with the current Property owner, during its operations, Shell had at least four primary ASTs that ranged in volume from approximately 6,000 gallons up to 25,000 gallons. The ASTs were used for the storage of gasoline and diesel fuels that would come on railcars via the Rail Spur. A former pump house, located south of the office building, pumped fuel from the railcars into the ASTs. According to the Property owner, fuel was also pumped through the aboveground product lines, into holes through the roof of the office building and out to trucks for filling. Trucks would also fill their tanks by pulling up to the ASTs for direct filling.

One 600-gallon underground storage tank was formerly located near the southwestern corner of the office building (the exact location is unknown) and used for the storage of white gas and, later, for zinc chelates. The tank was decommissioned and removed in the late 1970s.

According to Kittitas County historical tax assessor records, Shell sold the Property, including all buildings and land improvements, to the Smiths on November 30, 1972 (Kittitas County 2015). Ad Gro acquired the Property from the Smiths, as documented on a Quit Claim Deed, on August 5, 1996 (Appendix A).

2.4.2 The Smiths and Smith-Kem Operations and Associated Products

The Smiths began operations in 1948, operating on the Property concurrent with Shell. As described in Section 2.4, from 1948 until 1972, Shell leased a portion of the Property to the Smiths to conduct their agricultural products business. The Smiths operated under the Shell brand during that time. Initially, they leased a portion of the office and storage building for their operations and unloaded products on the eastern platform onto trucks for application.

Due to the expense associated with pesticide application and limited gross revenue for the business, only 1 to 2 percent of the Smiths' operations included the application of pesticides and up to 98 percent of business was fertilizers (Erickson 2016). The majority of business was for local farmers in the Ellensburg area.

In addition to fertilizer and pesticide handling operations, municipal waste and brush was reportedly burned periodically over a period of decades at the southeast corner of the Property. Limited information regarding the nature of burning operations, including the exact location and extent of the burn area, is available.

Lignin sulfonate was utilized as a dust suppressant in unpaved areas of the Property starting in the early 2000s. The nontoxic product is derived from lignin, a naturally occurring polymer found in wood. Upon initial application to unpaved surfaces, it can appear dark brown (as seen in Photograph 14 in Appendix B). Due to the differences in timing and operational procedures, fertilizer and pesticides have been separated in the following sections to provide a summary of each.

2.4.2.1 The Smiths and Smith-Kem Fertilizer Use and Operations

The Smiths began fertilizer operations and sales in 1948, providing anhydrous ammonia fertilizer, known as Shell NH_3, to local farmers, as well as farmers in the Columbia Basin (Steward 1998). They leased a platform area on the east side of the warehouse building for their operations, although other areas of the Property were used for operational activities. Most fertilizer was delivered to the Property by long haul truck, but some came in on railcar via the Rail Spur.

During the 1950s, anhydrous ammonia was shipped in on railcars and then transferred to trucks for later application in the agricultural fields. In contrast to pesticides, some blending of fertilizers occurred on-site. Liquid potash, sulfur, zinc, and boron were bought directly from the manufacturer and then blended into fertilizers.

The type of fertilizer used at the Property included liquid nitrogen and a limited supply of Solution 32. After fertilizer product was blended, it was loaded into transfer tanks on the beds of

trucks to be delivered and applied on agricultural fields. The Smiths operated two or three trucks with single tanks and two or three trucks with double tanks (Erickson 2016).

Once Shell's operations ceased in the early 1970s (as described in Section 2.4.1), Smith-Kem repurposed some of the ASTs for the storage of fertilizer products. In the late 1980s, all remaining steel tanks were replaced with tanks made of fiberglass.

In 1987, a significant leak of approximately 7,000 gallons of pressurized anhydrous ammonia occurred when a hose burst from a railcar positioned at the end of the Rail Spur. The leak resulted in local evacuations, but no citations were issued for the release.

As the fertilizer operation expanded in the late 1970s to early 1980s, and to comply with Washington State Department of Agriculture and insurance requirements, a 70-foot by 90-foot concrete secondary containment was constructed around the fertilizer tank farm located north of the current bulk fertilizer building (the AST containment area). During Smith-Kem operations on the Property, up to six ASTs containing fertilizer products (of varying volumes), an 8,000-gallon diesel AST, and a 2,000-gallon gasoline AST, were also located within the AST containment area. The diesel and gasoline ASTs were used for refueling equipment (Erickson 2016). These were installed after or concurrent with the AST containment area installation.

Further development occurred on the Property in 1976 when the 8,000-square-foot tractor service and machine shop building was constructed along the northern Property line. Prior to construction, equipment was stored outside and along the west side of the Property. Also in 1976, Smith-Kem added its first computerized three-wheel rig with long spray booms to apply fertilizer and crop protection products. The high-flotation machines were used for widespread application.

In 1988, the fertilizer business shifted from mostly "wet" application (i.e., anhydrous ammonia) to more "dry" application (i.e., pelletized/granular products). To accommodate the storage and mixing of fertilizers, a 5,000-square-foot building (the "bulk fertilizer building") was built in 1988 south of the AST containment area (Kittitas County 2015). Additionally, a designated paved wash area was constructed on the north side of the bulk fertilizer building to collect rinse water, which was stored in a polyethylene tank. During Smith-Kem's operations, this water was stored and later recycled for reapplication to agricultural fields.

In February 1995, Smith-Kem installed a 21,000-gallon anhydrous ammonia AST at the Property. The tank was used until approximately 2010 and was then removed and sold.

2.4.2.2 The Smiths and Smith-Kem Pesticide and Herbicide Use and Operations

The Smiths' historical pesticide operations did not involve converting raw pesticide products into finished products ready for application nor reformulating products. There are no known adjuvants, solvents, or carriers that were added to pesticides or fertilizer formulations during historical operations. Typically, the only modification to products handled on the Property was the addition of water to dilute the pesticide to a concentration suitable for application. Adjuvants

such as surfactants may have been present in products handled at the site, but those would have been additions made by the manufacturer.

Historically, pesticides were loaded onto trucks to the north of the office and storage building and to the south of the storage area, north of the AST containment area.

From July 1989 until termination of its permit in September 2007, Smith-Kem was registered with the U.S. Environmental Protection Agency (USEPA) as a pesticide-producing establishment. USEPA provided reporting forms from years 2005 through 2007, which indicated that Smith-Kem distributed RT Master II and Roundup to customers. Both products are listed as herbicides in the documentation that USEPA provided to Floyd|Snider (Schulze 2016). Dieldrin, a commonly used insecticide, was used to treat pea crops (Erickson 2016).

Other herbicide products may have been stored and distributed at the Property, in addition to RT Master II and Roundup, including 2,4-dichlorophenoxyacetic acid (2,4-D), Banvel (dicamba) atrazine, and Bladex (cyanazine). Roundup was the main product line distributed to customers. Herbicides were mainly distributed to support Smith-Kem fertilizer operations (Erickson 2016).

In general, it is impossible to recreate an accurate product list of all herbicides and pesticides that could have been used and sold on the Property, given the duration and nature of the operations. Generally, pesticide use over time would have depended on the Ellensburg market, which changed as the agricultural markets evolved, and what pesticides were available in commerce.

2.5 CURRENT PROPERTY OPERATIONS AND DEVELOPMENT

McGregor leases the Property to conduct its agricultural product distribution business.[1] Floyd|Snider requested that McGregor provide a list of products and chemicals used and distributed at the Property, as well as information on current operations. In response, McGregor provided some information on products used on-site. McGregor has stated that the range of products at the location at any time may change based on seasonality of product demand, new products or new formulations available in the market, and demand of customers. The National Pesticide Information Retrieval System database further lists McGregor as having “no federally active products registered by this company.” However, McGregor handles hazardous substances and registered pesticides at the facility. Where appropriate, Floyd|Snider has included first-hand observations of materials and operations information. Floyd|Snider has also included McGregor’s responses to requests for information to inform this section but has not independently verified those responses. Refer to Photographs 1 through 13 in Appendix B for current photographs of operations and features at the site.

McGregor is a distributer and manufacturer of bulk crop nutrition and protection products. McGregor operates 33 facilities throughout the northwest, including its operations at the Property. McGregor blends pre-purchased products for commercial use. Additionally, operations

[1] McGregor is responsible for all current operations at the facility. Terms of McGregor’s lease obligate McGregor to prevent all releases, maintain MTCA compliance, and to indemnify and hold harmless Smith-Kem for all activities, releases, and environmental conditions, post April 1, 2015.

consist of filling agricultural equipment for direct application to crops throughout the Ellensburg area.

McGregor reports that its operations at the Property include handling bulk liquid and dry fertilizer products, as well as handling a full range of crop protection products (which include a broad range of pesticides and herbicides). McGregor has recently provided a specific inventory list to Floyd|Snider (as of October 18, 2021). For the purposes of this RI/FS, Floyd|Snider and Ecology assume that any agricultural chemicals registered for use on crops grown in the Kittitas Valley of Washington may be handled at the Property, but, as noted, specific products currently handled and distributed vary seasonally.

Floyd|Snider field personnel have witnessed specific activities during RI field investigations. For example, in the bulk fertilizer building, bulk fertilizer is stored under cover and on concrete. McGregor uses front loaders to transport the fertilizer to other areas across the Property.

Between the office and storage building and the AST area, large spray equipment is driven onto the concrete pad for refueling and filling of crop care products. When sampling the monitoring well in this area, Floyd|Snider field personnel have observed blue, soapy liquid pooled in the bottom of the well monument, which McGregor identified as a marking dye, which some equipment uses to identify where field applications of agricultural products have been made. The product is a common agricultural product derived of a proprietary blend of blue dye and coupling agents and is labeled as nontoxic.

Semitrucks are unloaded into the bulk fertilizer building on the east side of the building using a conveyer system and then direct loaded into machinery on the north side of the building using an overhead transfer system.

Floyd|Snider has limited knowledge of the products currently stored in the ASTs within the containment area; however, based on observations of field personnel, at least one AST contains diesel fuel.

In response to requests for information to further inform this section of the RI/FS, McGregor provided in an email information about its operations as of October 2021 (Appendix J). To the extent that Ecology has further questions or concerns about McGregor's operations, Floyd|Snider would direct Ecology to contact McGregor. Smith-Kem and Floyd|Snider have not independently verified these statements, operations, or practices. McGregor's position is that it does not contribute to any contamination at the Smith-Kem facility.

McGregor has stated that it has discontinued the use of lignin sulfonate as a dust suppressant.

At the northern portion of the Property, McGregor stores its large equipment in and around the machine shop. The machine shop is also used for indoor storage of packaged fertilizer and other products. A small lunch area and restroom are connected to the southeastern corner of the machine shop.

The original office and storage building is located in the central portion of the Property. The office is used for administrative and business operations, while the remainder of the building is used to store packaged liquid and dry agricultural products (including pesticides). One bulk pesticide product is stored (inside containment) in this building.

2.6 ADJACENT PROPERTIES

Figure 2.1 presents the current owners and operators for the properties surrounding the Property. Appendix A provides historical aerial photos and documentation for the adjacent properties described in this section.

To the west of the Property is a 7.6-acre suburban residential property (207 S. Railroad Avenue) owned by Carter since 1979. The Carter property is largely undeveloped fields with one residential structure built in 1920. This property is separated from the Property by S. Railroad Avenue, a City of Ellensburg two-lane ROW road with no shoulder or sidewalks.

To the east of the Property is the BNSF rail yard (former Northern Pacific Railroad [NPRR]). The Rail Spur is present in the 1928 Sanborn map and presumably was once owned by NPRR or Shell. Historically, the Ellensburg Lumber Company's planing and sawmill and a former feed and seed warehouse were present from approximately the 1920s to the 1970s to the east of the BNSF (former NPRR) rail yard.

Based on review of Sanborn maps from 1928 and 1948, hay, grain, and feed companies, whose operations likely included loading/offloading from hay and grain silos, were located to the north and south along the BNSF (former NPRR) rail yard corridor. Currently, these properties are primarily commercial businesses, occupied by a Fred Meyer, a Goodwill, and a boat dealership and parts store. None of these properties and operations appear to be of concern and are not connected to Smith-Kem; therefore, they are not shown on figures.

The adjacent property to the north has remained vacant since early development on the Property. Properties to the north of this parcel are currently light industrial businesses. The properties to the west of the Property, including the property owned by Stephen Carter across S. Railroad Avenue, are primarily residential.

The land to the south of the Property was developed starting in the 1960s. In the 1964 aerial photograph (Appendix A), a large bermed feature is present on this parcel, although it is unclear what purpose this feature served. The bermed feature is not present in the 1970 aerial photograph; it was replaced by a building. Historical business directories indicate that C & H Transfer Transportation & Fuel, and later, Ellensburg Furniture Transfer Company Warehouse, operated at 204 S. Railroad Avenue, which was presumably located directly south and adjacent to the Property. This address no longer exists and is believed to be combined with current 212 S. Railroad Avenue.

At 212 S. Railroad Avenue (the current street address of the Wales property located directly adjacent and south of the Property), former operators included Ellensburg Refrigeration and

Heating and Consolidated Electrical Distributers. This property is currently occupied by Habitat for Humanity, while Protac Dust Control leases the smaller building at the southeastern corner of the parcel. The property was sold on April 1, 2019, to Ryan Wales.

2.7 PHYSICAL ENVIRONMENT

2.7.1 Site Geology

The site is located in the Kittitas Valley, in the eastern foothills of the Cascade Mountains. The geology in the vicinity of the site is characterized by Quaternary valley-fill deposits of glacial drift, alluvial sediments, and loess up to 1,000 feet thick overlying Columbia River basalt flows and older bedrock.

Soil borings advanced on the Property and in the vicinity have encountered shallow soils consisting of unconsolidated gravel and cobbles with varying amounts of sand and silt (refer to Photographs 15 through 20 in Appendix B for representative photos). These soils were observed from the surface to at least 20 feet below ground surface (bgs), which is the maximum depth that soils were sampled during the RI activities. Figure 2.3 shows cross-section line A-A' in plan view (along with RI sample locations, discussed in Section 4.0), and Figure 2.4 shows A-A' in cross section. Soil boring and test pit logs across the site show lateral and vertical heterogeneity typical of alluvial settings. Silt content generally increases on the northern half of the Property with layers of dark brown silt and some organic matter in shallow soils (i.e., between 0 and 5 feet bgs), which is consistent with this area being part of a floodway or wetland prior to site development. This silt unit is not continuous across the Property; however, varying amounts of silt in sandy and gravelly soils were observed in the top 5 feet of soils across the site. All site soils are considered to have been deposited as recent alluvium in the floodplain of the Yakima River.

2.7.2 Site Hydrogeology

The site is located in the Yakima River basin, with regionally characteristic soils of permeable gravel and cobbles with varying amounts of sand and silt. Discontinuous silt layers were also observed in the soil columns on the site; however, there do not appear to be any continuous aquitards within the top 20 feet of soil at this site. A shallow unconfined aquifer is typically encountered at depths ranging from 3 to 6 feet bgs. The annual average groundwater table is 3.5 feet bgs, with greater depths to water (ranging between 4 and 5 feet bgs) encountered on the BNSF property near the Rail Spur, which is consistent with the elevation of the BNSF property sitting approximately 1 to 1.5 feet higher than the Property. The groundwater table has a shallow horizontal gradient of about 0.002 feet per foot and fluctuates with highs observed during early spring (March) and lows observed during winter (January) and late summer (August).

The groundwater flow direction was established to be generally south-southwest using transducer data and observations of eight quarterly groundwater sampling events that took place between August 2016 and July 2018. A review of other Ecology sites in the Ellensburg area (e.g., Circle K Stores 2701136, Devere & Sons Distributing, and A1 Petroleum & Propane) shows the same southwesterly regional groundwater flow direction.

Transducers were installed in five monitoring wells at the site for 12 months between November 2016 and November 2017. The transducers collected groundwater depth, pressure, and temperature four times a day during this 12-month span to monitor for potential agricultural irrigation influence and seasonal fluctuations in groundwater levels. The transducer data are presented in Figure 2.5. Groundwater levels appear to peak in March prior to the 2017 irrigation season in Kittitas County, which ran between April 14 and October 15 (Kittitas Reclamation District 2017). The transducer data show that the local groundwater table is not significantly affected by agricultural irrigation but does exhibit seasonal fluctuations consistent with snow melt in the spring and dry weather in the summer. Within the Property boundary, the typical minimum depth to water during the wet season is approximately 3 feet bgs.

The groundwater at the site is considered potable per WAC 173-340-720(2). According to Ecology's Environmental Information Management database, there is one domestic well located approximately 0.75 miles to the south of the site, which draws groundwater from the aquifer at a depth of 180 feet. Review of the boring log generated during well installation indicates that there is a clay layer present between 115 and 130 feet bgs. Nearby surface water bodies include Mercer Creek to the west and Wilson Creek to the southeast. These creeks are approximately 450 and 200 feet away from the site, respectively, and eventually discharge into the Yakima River, which is about 0.9 miles southwest of the site. Shallow groundwater at the site is recharged from precipitation via infiltration through the unpaved ground surface.

3.0 Summary of Previous Investigations

Between 2007 and 2015, four investigations were done by Smith-Kem, Shell, and McGregor to assess whether TPH contamination and pesticides were present on the Property. Results indicated that elevated levels of TPH, chlorinated pesticides, chlorinated herbicides, nitrate, and ammonia are present in soil and groundwater, as summarized in the following sections. Sampling locations from all previous investigations are shown on Figure 3.1. All data collected during previous investigations are included in the reports described in the following sections.

3.1 SAGE EARTH SCIENCES, INC.

In 2007, Sage (on behalf of Belsaas & Smith Construction and Smith-Kem) performed a site characterization to assess TPH in soil and groundwater adjacent to the AST area on the Property as a result of an interested purchaser inquiry. Fourteen test pits (Test Pit #1 through Test Pit #14) were excavated on June 11 and July 2, 2007. Samples were collected from 12 of the 14 test pits and analyzed for diesel-, oil-, and gasoline-range TPH. Sage's report, dated July 26, 2007, indicated that soil and groundwater were impacted by diesel at concentrations that exceeded the MTCA Method A criteria. Sage concluded that petroleum-impacted soil appeared to be limited to the vicinity of the ASTs. However, the extent of petroleum-impacted soil was not determined. Sage concluded that petroleum-impacted groundwater appeared to extend from the area of the ASTs to the east and northeast (Sage 2007).

3.2 CONESTOGA-ROVERS & ASSOCIATES

In June 2013, Conestoga-Rovers & Associates (CRA) performed a site investigation on behalf of Shell for the purpose of further assessing soil and groundwater contamination reported by Sage in 2007. Eleven soil borings (SB-1 through SB-11) were advanced in June 2013. Samples were analyzed for diesel-, oil-, and gasoline-range TPH and benzene, toluene, ethylbenzene, and xylenes (BTEX). Select samples were analyzed for naphthalene, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), methyl *tert*-butyl ether (MTBE), diisopropyl ether (DIPE), and polychlorinated biphenyls (PCBs).

Concentrations of gasoline-range TPH in soil collected from boring locations SB-6 and SB-11, located in the central and eastern side of the Property, exceeded MTCA Method A criteria.[2] CRA concluded that the majority of diesel- and heavy-oil impacted soil was located on the eastern side of the Property from the location of the former aboveground piping run to the Rail Spur.

Between September and October 2013, CRA completed an additional investigation focused on the TPH releases. Ten soil borings were advanced (MW-1 through MW-8 and SB-12 and SB-13), and eight of the ten borings were completed as monitoring wells (MW-1 to MW-8) to further

[2] Although gasoline-range TPH was identified, a review of the chromatograms suggests that detections of gasoline-range TPH was due to weathered diesel-range TPH creating chromatographic overlap in the gasoline-range organics, as described further in *Development of PCULs and Identification of COPCs for Evaluation in the Remedial Investigation Report* (hereafter referred to as the PCUL and COPC Memo; Attachment C.4 of Appendix C).

assess impacts to groundwater. Samples were analyzed for the same analytes as the June 2013 investigation. TPH was detected in groundwater samples collected from the MW-1 and MW-4 in the central and northern portion of the site (CRA 2014).

Sixteen soil samples were analyzed from locations SB-1 through SB-13 and MW-1, MW-5, MW-7, and MW-8. Results were non-detect or in compliance with MTCA Method A criteria, with the exception of one result from MW-5 that exceeded the criterion for gasoline-range TPH and one result from MW-1 that exceeded the criterion for the benzo(a)pyrene toxic equivalent (TEQ).

Groundwater from monitoring wells MW-4 and MW-6 contained concentrations of diesel-range TPH greater than the MTCA Method A criterion during November 2013 and March 2014. Concentrations of diesel-range TPH were less than MTCA Method A criterion in samples collected from all wells in May and August 2014 (CRA 2014). CRA established the groundwater flow to be to the southwest.

3.3 FULCRUM ENVIRONMENTAL AND NTH DEGREE

As reported in the AO, in 2014, Smith-Kem consultants Fulcrum Environmental and Nth Degree collected groundwater samples from the existing network of eight monitoring wells to investigate the presence and distribution of pesticide contamination in groundwater. A report dated August 4, 2014, indicated that groundwater samples from five of the eight wells (i.e., MW-1, MW-4, MW-6, MW-7, and MW-8) showed detections of gamma-benzene hexachloride (BHC; lindane), chlordane, endrin, endosulfan II, endrin aldehyde, and dieldrin (Ecology 2016a).

3.4 LANDAU & ASSOCIATES

In April 2015, groundwater sampling was performed by Landau & Associates on behalf of McGregor to document conditions compared to results of previous investigations and to establish a baseline concurrent with the start of McGregor operations at the Property. The sampling identified the presence of diesel-range TPH, nitrate, 2,4-D, chlordane, dieldrin, and toxaphene at concentrations greater than their MTCA Method A or Method B criteria in samples collected from monitoring wells MW-1, MW-4, MW-6, MW-7, and MW-8. Oil-range TPH, lindane, dinoseb, and dicamba were detected in groundwater but at concentrations less than their MTCA Method B criteria (Landau 2015).

4.0 Remedial Investigation Activities

Floyd|Snider, on behalf of Smith-Kem, performed RI sampling in three phases between August 2016 and June 2018: Phase 1, Phase 2A, and Phase 2B with additional follow-up sampling completed as required by Ecology in 2019 and 2020. RI sampling was completed in accordance with the Agreed Order and WAC 173-340-350(7) describing procedures for conducting an RI. All RI sample locations are shown on Figure 2.3. The phased approach defined initial analytes of interest, identified areas of potential concern (AOPCs), refined data gaps, and allowed time to get permission to access of the BNSF portion of the site, as described in this section. All three phases included sampling of soil and groundwater via sonic drilling. All sample locations were sampled in accordance with the Work Plan (Floyd|Snider 2016), Work Plan Addendum memorandum (Work Plan Addendum; Floyd|Snider 2017), the Proposed Additions to Phase 2B Sampling Scope memorandum (Additions Memorandum; Floyd|Snider 2018), the Proposed Sampling Plan for Vapor Intrusion Assessment (Floyd|Snider 2019a), and the 2019 Work Plan Addendum (Floyd|Snider 2019b). Boring and well logs are provided in Appendix D. All results associated with RI sampling are provided in Appendix E and will be discussed in later sections of this report.

Based on operations, as well as existing environmental site conditions, seven AOPCs were identified in the Work Plan to identify areas where additional sample collection was necessary to resolve data gaps (refer to Figure 2.3). After Phase 1, the AOPCs were refined and one additional AOPC was added in the Work Plan Addendum (Floyd|Snider 2017). Over the three phases of investigation described in the following sections, the sampling approach was refined to facilitate the collection of data suitable to define the nature and extent of contamination at the site.

The AOPCs defined in the Work Plan and Work Plan Addendum that required further evaluation in this RI are listed as follows and shown on Figure 2.3:

- AOPC 1—Culvert Soil Source Area
- AOPC 2—TPH in MW-5/SB-6 Soil
- AOPC 3—Office Building Area
- AOPC 4—AST Area
- AOPC 5a and AOPC 5b—Potential Former Wash Areas
- AOPC 6—Machine Shop Area
- AOPC 7—Former Irrigation Ditch and Culverts
- AOPC 8—Historical Burn Area

4.1 PHASES OF THE REMEDIAL INVESTIGATION ACTIVITIES

The scope of work of the three phases of RI sampling and supplemental work is described in the following sections. Detailed discussion of sample collection and laboratory analysis are presented in Section 4.2 and 4.3.

4.1.1 Identification of Analytes of Interest

Analytes of interest were identified in the Work Plan based on knowledge of former industrial activities at the Property, coupled with environmental data from previous investigations. Analytes of interest included diesel-, oil-, and gasoline-range TPH; BTEX; select cPAHs; metals; pesticides, herbicides, and insecticides; nitrate; nitrite; and ammonia. Site records regarding pesticide and herbicide use were incomplete; as a result, 10 different classes of pesticides, herbicides, and insecticides were considered analytes of interest. Analysis was conducted for more than 100 different pesticides, herbicides, and insecticides during the first year of quarterly groundwater monitoring (Year 1 groundwater monitoring) and during initial soil investigations (Phase 1 sampling).

4.1.2 Phase 1—2016

Phase 1 of the RI sampling took place between August 1 and 5, 2016, and included installation of six new monitoring wells (MW-9 through MW-14), advancement of 16 soil borings (FS-1 through FS-16), and collection of one surface sample (Culvert-1) on the Property. Analysis of soil and groundwater was conducted for the full suite of analytes of interest identified in the Work Plan (Floyd|Snider 2016).

Quarterly groundwater monitoring of all 14 wells began in August 2016, following installation of the new monitoring wells.

4.1.3 Phase 2A—2017

A Work Plan Addendum was developed after Phase 1 to address data gaps both on the Property and off-Property and to reduce the scope of analytical testing based on findings in Phase 1 (Floyd|Snider 2017). Many analytes were never detected during Phase 1 sampling efforts. Therefore, Phase 1 data were sufficient to remove these analytes from further consideration as COPCs, as documented in two Ecology-approved memoranda: *Summary of Year 1 Groundwater Results and Recommendations for Year 2* (hereafter referred to as the Year 1 Groundwater Summary Memorandum) and *Constituents of Potential Concern Elimination for Phase 2* (hereafter referred to as the Soil Elimination Memorandum), included as Attachments C.2 and C.3, respectively. Screened out analytes include metals, with the exception of arsenic; volatile organic compounds (VOCs); organophosphate pesticides; triazine herbicides; phenylurea herbicides; carbamate pesticides; organophosphorus and organosulfur pesticides; organonitrogen pesticides; and glyphosate. Screened out analytes are not considered COPCs for the site; however, for completeness, data for these analytes are included in Appendix E.

The Phase 2A investigation took place between June 6 and 9, 2017, and included advancement of 17 soil borings (FS-17 through FS-25; FS-27 through FS-33; and FS-35), installation of four temporary wells (FS-37 through FS-40), and collection of one surface sample (Surface-1). The four temporary wells were advanced on the Carter property downgradient of the Smith-Kem Property to determine whether elevated levels of nitrate, nitrite, and atrazine in groundwater are leaving the Property. The surface sample, Surface-1, was collected south of the Property, at the southeastern corner of the Wales property, where a culvert daylights in line with the historical irrigation ditch. Additionally, soil borings FS-22 and FS-30 were converted into temporary wells that were sampled at multiple depth intervals (between 4 and 15 feet bgs) to determine whether COPCs are present at stratified depths in the aquifer. Additional soil samples were collected for dioxin/furan analysis to characterize the former burn area. Refer to the Work Plan Addendum for further sampling rationale (Floyd|Snider 2017).

4.1.4 Phase 2B—2018

Phase 2B was a distinct event from Phase 2A due to delays in attaining site access of adjacent properties. This event took place between June 20 and 22, 2018, and included installation of six monitoring wells (MW-15 through MW-20), advancement of three soil borings (FS-26, FS-34, and FS-42), excavation of two test pits (TP1 and TP2), and collection of three surface soil samples (FS-43 through FS-45). The scope of Phase 2B was to further investigate potential contamination off-Property. Three of the monitoring wells (MW-15, MW-16, and MW-17), one soil boring (FS-26) and the two test pits were completed on the BNSF property to the east of the Property to further investigate the historical irrigation ditch and bound the eastern extent of contamination identified in soil and groundwater on the Property during Phase 1 and Phase 2A. Three monitoring wells (MW-18, MW-19, and MW-20) were installed in the City of Ellensburg ROW downgradient and to the south and west of the Property to characterize groundwater conditions downgradient of the Property. A shallow boring (FS-42) was collected to delineate elevated atrazine concentrations in soil found at FS-28. Additionally, one soil boring (FS-34) was completed to the south of the Property, and three surface samples were collected on the Property (FS-43 through FS-45) to further characterize the dioxins/furans in the historical burn area. Soil samples were analyzed for the same reduced list of COPCs as in Phase 2A. Refer to the Work Plan Addendum and the Additions Memorandum for further sampling rationale (Floyd|Snider 2017 and 2018).

4.1.5 Supplemental RI Work—2019 to 2020

Following completion of Phases 1, 2A, and 2B, supplemental work was completed to assess the risk for VI of petroleum compounds into the office building and to further characterize site groundwater with focused sampling for nine organochlorine pesticides. The VI assessment took place on April 16, 2019, and included collection of three air samples collected over 8 hours to replicate potential exposure to workers during normal working hours. The samples included one outdoor ambient air sample collected near the northwest corner of the building, one indoor air sample collected in the center of the office space, and one air sample collected from the crawl space beneath the office. Air samples were analyzed for TPH, BTEX, and naphthalene. The scope

of work is further described in the Proposed Sampling Plan for Vapor Intrusion Assessment (Floyd|Snider 2019a).

The supplemental groundwater sampling that took place on March 25, 2020, was an Ecology-coordinated sampling effort focused on achieving the lowest attainable practical quantitation limits (PQLs) for nine organochlorine pesticides at the Site. All 20 monitoring wells were sampled during this event, and samples were submitted for laboratory analysis by low-level USEPA Method 8081B. Refer to the 2019 Work Plan Addendum for further sampling methodology and rationale (Floyd|Snider 2019b).

4.2 SOIL

The soil investigations were completed in August 2016, June 2017, and June 2018. This section describes general field methods used for surface and subsurface soil sampling and laboratory analytical methods. Soil sample locations are shown on Figure 2.3.

4.2.1 Soil Borings

Borings were advanced from the ground surface to a typical depth of 10 to 15 feet bgs. Soil was collected for logging purposes using 5-foot-long, 6-inch-diameter drill rods with disposable sampling bags. The drill rods were rinsed between boring locations. Soil was logged continuously by a field geologist according to the Unified Soil Classification System (USCS) and field screened to identify intervals potentially contaminated with volatile constituents using a photoionization detector (PID). PID readings and visual observations of contamination, such as staining and sheen, were documented on the boring logs.

Per the Work Plan, soil samples were collected from depth intervals characterized at the time of collection as surface (i.e., 0 or 0.5 to 1 feet bgs, corresponding to a depth just below the compacted imported gravel surface), shallow vadose zone soil (between the surface and observed water table), at the water table, and saturated soil (generally 4 feet and below). Additional samples were collected at some locations based on field indications of potential contamination such as high PID readings, staining, or odor. Samples were collected from the bagged core using disposal plastic or decontaminated stainless-steel spoons and homogenized, or mixed, in a stainless-steel bowl. Following homogenization, the sample material was placed into laboratory-supplied sample vials and jars, labeled, and immediately placed in a cooler maintained at a temperature of approximately 4 degrees Celsius (°C) using crushed ice. The samples were transported to Friedman & Bruya, Inc. (FBI) in Seattle, Washington; Pacific Agricultural Laboratory (PAL) in Sherwood, Oregon; and Analytical Resources, Inc. (ARI) in Tukwila, Washington, under standard chain-of-custody procedures.

4.2.2 Test Pits

Two test pits were dug during the June 2018 Phase 2B event with an excavator using a 2-foot-wide toothed bucket.

The test pits were excavated near the border of the Smith-Kem and BNSF properties. Soil was logged continuously by a field geologist according to the USCS and screened to identify potentially contaminated depth intervals through olfactory or visual observation of staining or sheen. Signs of contamination such as odors, sheens, or staining were noted on field forms. Test pits were approximately 2 to 3 feet wide by 10 feet long and ranged in depth between 4 and 5 feet.

Test pit soil samples were collected by scraping material from the desired depth of the sidewall of the excavation into a clean, disposable container, using a decontaminated stainless-steel spoon. The sample material was placed into laboratory-supplied sample jars, labeled, and immediately placed in a cooler maintained at a temperature of approximately 4 °C using crushed ice. Samples were transported to FBI and PAL under standard chain-of-custody procedures.

4.2.3 Surface Soil

Two grab samples were collected per the Work Plan and Work Plan Addendum (Culvert-1 and Surface-1). The culvert sample was collected with a decontaminated shovel and the surface sample was collected from the ditch using a decontaminated hand-auger. For both samples, the soil was collected from the tooling with a decontaminated stainless-steel spoon with care taken to avoid any soil that made direct contact with the tool. Each sample was then homogenized in a stainless-steel bowl and placed in laboratory-supplied sample jars, labeled, and immediately placed in a cooler maintained at a temperature of approximately 4 °C using crushed ice. Samples were transported to FBI and PAL under standard chain-of-custody procedures.

The surface samples collected in Phase 2B (FS-43 through FS-45) were not originally included in the scope of either the Work Plan or Work Plan Addendum. These samples were added to the scope of Phase 2B in coordination with Ecology to refine the extent of AOPC 8, the historical burn area, in relation to shallow soils potentially impacted by dioxins/furans. Due to the compacted nature of the ground surface on the Property, the soil samples for FS-43, FS-44, and FS-45 were collected by advancing a 6-inch sonic drill rod 1 to 2 feet into the subsurface. During sample collection, field personnel looked for sign of potential burn areas and no signs were observed. Soil was collected in a disposable plastic liner with care taken to reduce disturbance of the soil sample in order to target the interval just below the compacted gravel road-base fill material. Soil was logged by the field geologist according to the USCS and screened (visually and olfactorily) and then sampled and homogenized using disposable plastic spoons to avoid cross-contamination. Soil was placed in laboratory-supplied sample jars, labeled, and immediately placed in a cooler maintained at a temperature of approximately 4 °C using crushed ice. Samples were transported to ARI under standard chain-of-custody procedures.

4.2.4 Analytical Methods

The soil samples collected in August 2016 as described above were analyzed for some or all of the following constituents using the analytical methods summarized below and in accordance with the Work Plan:

- Metals (arsenic, cadmium, chromium, copper, lead, and zinc) by USEPA Method 200.8
- Mercury by USEPA Method 1631E

- Diesel- and oil-range TPH by NWTPH-Dx
- Gasoline-range TPH by NWTPH-Gx
- VOCs by USEPA Method 8260
- cPAHs by USEPA Method 8270D-SIM
- Nitrate/nitrite by Method SM4500NO3F or USEPA Method 300.0
- Ammonia by USEPA Method 350.1
- Semivolatile organic compounds (SVOCs) by USEPA Method 8270
- Multi-residue pesticides profile, which includes the following analyses:
  - Halogenated pesticides by USEPA Method 8081B
  - Organophosphorus pesticides by USEPA Method 8141B
  - Organonitrogen pesticides by USEPA Method 8270D
  - Miscellaneous pesticides by USEPA Method 8321B
- Chlorinated herbicides by USEPA Method 8151
- Glyphosate by USEPA Method 547

The soil samples collected in June 2017 and June 2018 were analyzed for some or all of the following constituents using the analytical methods summarized below and in accordance with the Work Plan Addendum approved by Ecology in April 2017:

- Nitrate/nitrite by USEPA Method 300.0
- Chlorinated herbicides by USEPA Method 8151
- Organochlorine/halogenated pesticides by Modified USEPA 8081B
- Diesel- and oil-range TPH by NWTPH-Dx
- Dioxins/furans by USEPA Method 1613

4.3 GROUNDWATER

The groundwater investigation was completed during quarterly monitoring events starting in August 2016. Additionally, groundwater screening samples were collected from temporary wells during the June 2017 Phase 2A sampling event, and supplemental groundwater samples were collected from all monitoring wells in March 2020. This section describes field methods used for installation of monitoring wells and analytical laboratory methods. Groundwater sampling locations, including monitoring wells and temporary wells, are shown on Figure 2.3. Monitoring well construction details are provided in Table 4.1.

4.3.1 Monitoring Well Installation and Development

Six monitoring wells (MW-9 through MW-14) were installed on the Property in August 2016 to supplement the existing eight monitoring wells (MW-1 through MW-8) previously installed by CRA in 2013. Three of these wells (MW-9, MW-13, and MW-14) were placed on the northeast, southeast, and southwest Property corners, respectively, to monitor upgradient and downgradient groundwater concentrations at the Property boundaries. The other three wells were placed across the Property to monitor the western edge of the Property (MW-10) and the area surrounding the AST area (MW-11 and MW-12).

Six additional monitoring wells were installed off-Property in the Phase 2B event in June 2018 (MW-15 through MW-20). Three were installed downgradient of the Property near the S. Railroad Avenue ROW (MW-18, MW-19, and MW-20), and three were installed upgradient of the Property on BNSF property (MW-15, MW-16, and MW-17) to monitor downgradient and upgradient groundwater conditions, respectively.

4.3.1.1 Field Methods

Monitoring well installation was completed by Holocene Drilling. The boreholes for the wells were drilled using standard sonic drilling techniques. Sonic boreholes were advanced using a 6-inch-diameter inner rod and 8-inch-diameter outer casing.

The monitoring wells were constructed to span the water table with 10-foot-long screens set from either 3 to 13 feet bgs or 5 to 15 feet bgs. Well screen assemblies consist of a 10-foot length of 2-inch-diameter 0.020-inch (20-slot), Schedule 40 polyvinyl chloride (PVC) pipe set in a #10/20 Colorado silica sand filter pack. The sand filter pack was installed by pouring sand into the space between the well casing and outer drill rod as the casing was withdrawn. A weighted tape was used to monitor filter pack placement and depth during installation. The sand filter pack extends 0.5 to 2 feet above the top of the screened interval. A 2-foot-thick seal of hydrated bentonite chips was installed in the annular space immediately above the sand filter pack. The remainder of the annular space was sealed with concrete to the ground surface.

All monitoring wells were secured with flush-to-ground locking steel protective monuments with expansion seals on the well casing to minimize the potential for surface water entering the monument. Well completion details are summarized in Table 4.1 and in the monitoring well logs in Appendix D.

Well development was completed by continuous pumping at a steady rate using a battery-operated submersible whale pump. Well development equipment was decontaminated by pumping an Alconox solution and clean water through the pump. Well development was terminated when turbidity readings stabilized or were less than 50 nephelometric turbidity units (NTU).

A professional survey, including measuring point elevation of the well case, was completed for all sampling locations. Coordinates were surveyed to ±1 foot accuracy in Washington State Plane

(South) and elevations were surveyed to ±0.1 foot accuracy for Site features and ±0.01 foot accuracy at monitoring well measuring points in North American Vertical Datum of 1988.

4.3.2 Monitoring Well Sampling

Beginning in August 2016, groundwater samples were collected from 14 existing and newly installed monitoring wells for eight consecutive quarters. Following the June 2018 Phase 2B event, the six new monitoring wells were sampled. All 20 monitoring wells were sampled again in March 2020. The following section describes the field methods used for sampling.

4.3.2.1 Field Methods

All wells were purged and sampled from the mid-point of the well screen using low-flow procedures to achieve the lowest turbidity practicable, using a peristaltic pump and dedicated polyethylene and silicone tubing. Prior to and during sampling, depth to water was measured to the nearest 0.01 foot using a water level indicator. The monitoring well was purged prior to sampling at a maximum rate of 0.5 liters per minute. During purging, field parameters (i.e., temperature, pH, conductivity, salinity, and turbidity) were recorded at 5-minute intervals using a multi-parameter water quality meter. Once the field measurements for water quality parameters were stable (within 10 percent) for three consecutive readings, the groundwater sample was collected. The last set of field parameters measured during purging will represent field parameters in the groundwater sample. All field measurements were recorded on groundwater sample collection forms, which are included in Appendix D.

After purging the well and labeling the sample bottles, the groundwater samples were collected by directly filling the laboratory-provided bottles from the pump discharge line at the same flow rate that was used for purging. The sample bottles were labeled and immediately placed in a cooler maintained at a temperature of approximately 4 °C using crushed ice. Samples were transported on ice to FBI and PAL under standard chain-of-custody procedures. During the March 2020 sampling event, samples were transported to ALS Environmental (ALS) in Kelso, Washington, under standard chain-of-custody procedures.

4.3.3 Groundwater Screening Sampling

A total of eight temporary screening wells were sampled in June 2017. Six temporary wells were installed on the Property to characterize the vertical extent of contamination in the vicinity of MW-4 and FS-12, which included three screened intervals (at 5 feet bgs, 10 feet bgs, and 15 feet bgs) installed 1 foot apart at boring locations FS-22 and FS-30. The deepest screened well at FS-22 and the mid-screened well at FS-30 were not productive and, therefore, were not sampled. Four more temporary wells (FS-37, FS-38, FS-39, and FS-40) were installed at depths between 4.5 and 14 feet bgs downgradient of the Property on the Carter property to define the extent of atrazine and nitrate concentrations potentially leaving the Property. The results of this vertical investigation are discussed in Section 6.3.

4.3.3.1 Field Methods

The temporary screening wells installed in June 2017 were constructed with 2- or 5-foot screens set at various depths. Screen lengths and depths were determined in the field and set to span across the water table or to target a specific depth interval. A static depth to water measurement was also collected after installation and prior to purging. Sample collection forms for temporary wells are included in Appendix D.

Well screen assemblies consisted of 2-inch-diameter 0.020-inch (20-slot), Schedule 40 PVC pipe set in a #10/20 Colorado silica sand filter pack. The sand filter pack was installed by pouring sand into the space between the well casing and outer drill rod. The on-Property temporary wells were purged and sampled with the drill casing pulled up to just above the well screen to limit the vertical flow of groundwater during sampling. The temporary wells on the Carter property were purged and sampled with the drill rods fully extracted. After sampling, all temporary wells were abandoned the same day by removing the well casing and screen and backfilling the borehole with hydrate bentonite chips.

Groundwater was purged using standard low flow sampling techniques from the temporary PVC casing using a peristaltic pump with disposable polyethylene and silicone tubing. Groundwater screening samples were collected by filling laboratory-provided bottles directly from the pump discharge line once the purge water was visually clear or until the water quality parameters had stabilized. The sample bottles were labeled and immediately placed in a cooler maintained at a temperature of approximately 4 °C using crushed ice. Samples were transported on ice to FBI and PAL under standard chain-of-custody procedures.

4.3.4 Analytical Methods

The groundwater samples were analyzed for some or all of the following constituents by the methods indicated below and in accordance with the Work Plan and Work Plan Addendum:

- Diesel- and oil-range TPH by NWTPH-Dx
- Gasoline-range TPH by NWTPH-Gx
- Total and/or dissolved metals (arsenic, cadmium, chromium, lead, and mercury) by USEPA Methods 200.8
- VOCs by USEPA Method 8260
- Ammonia as total nitrogen by USEPA Method 350.1
- Nitrate and nitrite as nitrogen by USEPA Method 300.0
- Multi-residue pesticides profile, which includes the following analyses:
    - Halogenated pesticides by USEPA 8081B
    - Organophosphorus pesticides by USEPA 8141B
    - Organonitrogen pesticides by USEPA 8270D

  - Miscellaneous pesticides by USEPA 8321B
- Chlorinated herbicides by USEPA Method 8151
- Low-level organochlorine pesticides by USEPA 8081B (March 2020 only)

4.3.5 Water Level Elevations

Transducers were installed in five monitoring wells (MW-4, MW-6, MW-9, MW-11, and MW-12) and set to collect four measurements a day—at 6 a.m., noon, 6 p.m., and midnight—for 12 months spanning from November 2016 to November 2017. These measurements were downloaded quarterly and corrected for atmospheric pressure with the barometric data collected from a barometer installed in MW-11. Transducer data are presented in Figure 2.5.

4.4 VAPOR AND INDOOR AIR

An initial VI assessment was completed in September 2018 to assess if VI posed an immediate risk to occupants working in the office building. Floyd|Snider prepared a memorandum to document this initial assessment (included as Attachment C.3). Ecology sent a letter to Floyd|Snider on November 19, 2018, requesting that the VI assessment occur in the next 4 months (i.e., by mid-March 2019) to further evaluate the potential VI risk in the office building (Ecology 2018a). A VI investigation was later completed in April 2019 in response to Ecology's letter. Sampling was completed in accordance with the approved sampling plan for VI (Floyd|Snider 2019a). This section describes general field methods used for collecting indoor air, ambient air, and crawl space air samples and laboratory analytical methods. A summary memorandum detailing the field activities and indoor air results is included as Attachment C.5.

4.4.1 Vapor Sampling—Indoor Air, Ambient Air, and Crawl Space

The office building is approximately 1,500 square feet including an attached storage garage area. The office space and storage garage are separated by an exterior wall and have independent foundations. The storage garage area has a slab-on-grade concrete foundation, and the office building is raised approximately 3 feet above the ground with an accessible crawl space. The storage garage area is on top of and adjacent to petroleum-impacted soils.

To assess VI risk in the office building, vapor samples were collected over an 8-hour period from the office space indoor air, upwind ambient air from outside the office building, and air from the crawl space beneath the office building.

4.4.1.1 Field Methods

Three air samples were collected in 6-liter SUMMA canisters over an 8-hour period during normal working business hours to replicate worker exposure conditions during a full workday at the Property. Weather was considered when scheduling sampling to avoid sampling during a period of extreme atmospheric pressure changes or within 24 hours of a rain event that would have produced 0.5 inches of precipitation or more. No precipitation occurred during the sampling or

the previous day. In addition, a building survey was performed that included taking note of other potential vapor sources, such as cleaning products, air fresheners, copy machines, and cigarette smoke.

The SUMMA canisters were set up with flow regulators to allow continuous collection of air to be sampled over an 8-hour period. One SUMMA canister was placed outside and upwind near the northwest corner of the office building approximately 3 feet above the ground surface in a location protected from the elements (i.e., wind, precipitation) to measure ambient air conditions. Wind direction was to the southeast during the sampling event. The outdoor ambient air SUMMA canister was set up first to allow ambient air sample collection prior to the collection of the other samples, approximately 35 minutes before sampling indoor air. This provides a more accurate assessment of the building's air exchange rate, which is generally in the range of 0.25 to 1.0 hour for outdoor air to enter indoor air. A second SUMMA canister was placed near the center of the office building at 4 feet above the floor level to collect an indoor air sample representative of the breathing zone. A third SUMMA canister was placed in the crawl space beneath the office building near utility conduits entering the office floor and away from perimeter vents. All efforts were made to eliminate other sources of vapor-producing chemicals, such as air fresheners, within the office space prior to sampling. If such items were present, they were noted in the building survey form. The survey forms and photographs are included in Attachment C.5.

4.4.2 Analytical Methods

Air samples were sent to FBI in Seattle, Washington, and analyzed for the following:

- Air-phase petroleum hydrocarbons by Method MA-APH
- BTEX and naphthalene by USEPA Method TO-15

Indoor air results were submitted to Ecology, via email, on May 3, 2019.

4.5 DATA VALIDATION

Laboratory analytical data from PAL, ARI, and ALS were validated by EcoChem. Data validation reports from EcoChem are provided in Appendix F. Laboratory analytical data from FBI were validated in-house. Analytical schedules and professional judgment statements for in-house data validation are provided in Appendix F Tables F.1 and F.2

For Phase 1 data, either full validation (USEPA Stage 4) or summary level validation (USEPA Stage 2B) was performed on all herbicide, pesticide, and glyphosate data as sample delivery groups were received from the laboratories. For all other data resulting from laboratory analysis, a compliance screening (Stage 1) data quality review was performed.

For Phase 2, herbicide and pesticide data received a USEPA Stage 2A validation rather than a USEPA Stage 2B validation. As described in the Work Plan Addendum, validation was reduced to a USEPA Stage 2A validation because the full USEPA Stage 4 validation done for the first sampling round did not identify any systematic errors in compound identification or quantitation using

complex analytical methodologies. The majority of data qualification was based on quality assurance/quality control (QA/QC) elements that would still be evaluated during a USEPA Stage 2A validation. The dioxin/furan sample data received a full USEPA Stage 4 validation.

The analytical data were validated in accordance with the National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2014a and 2016a) and National Functional Guidelines for Inorganic Superfund Data Review (USEPA 2014b and 2016b). The data quality review included evaluation of sample chain-of-custody procedures, sample preservation and analytical holding times, blank contamination, precision (replicate analyses), accuracy (compound recovery), adherence to the target analyte list, detection limits, and data package completeness. Appendix F provides the analytical schedule and professional judgment statements relating to each sample delivery group. All RI investigation data are determined to be of acceptable quality for use, as qualified, or noted below:

- In the July 5, 2017, EcoChem data validation report, sample MW-04-081016 was noted to have percent difference values outside the control limit for dieldrin, dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), and alpha-chlordane, which indicates a potential high bias. As a result, EcoChem assigned the samples a data qualifier of "J" to indicate the result should be considered an estimate.
- Additionally, this sample was extremely turbid, as documented on the groundwater sampling form (Appendix D). Despite low-flow purging techniques, higher turbidity values of 150 NTU were noted at monitoring well MW-4. High turbidity measurements in groundwater samples, such as those seen in the August 2016 result collected from MW-4, are known to cause high bias in metals results due to the entrainment of soil particles in the sample (Puls and Powell 1992). Highly turbid samples are typically not used to determine COCs or to measure compliance due to their propensity to cause false positives in the results, particularly for chemicals that have a high soil organic carbon partitioning coefficient (K_{oc}) value.

Due to the high biased qualification during data validation and the fact that the sample was highly turbid, Floyd|Snider determined that results from this sample are unrepresentative of site groundwater conditions for arsenic, dieldrin, DDE, DDT and alpha-chlordane. These results are therefore of unacceptable quality for site characterization.

4.6 DEVIATIONS

Deviations from the Work Plan, Work Plan Addendum, Year 1 Groundwater Summary Memorandum, the Additions Memorandum, the 2019 Work Plan Addendum, and Sampling Plan for Vapor Intrusion Assessment are summarized in Table 4.2.

5.0 Preliminary Conceptual Site Model and Site Screening and Cleanup Levels

Section 5.1 describes key elements of the preliminary CSM, and the SLs developed for soil and groundwater. Section 5.2 describes the preliminary CULs developed for soil and groundwater, and Section 5.3 identifies site COPCs.

5.1 PRELIMINARY CONCEPTUAL SITE MODEL, SCREENING LEVELS, AND ANALYTES OF INTEREST

The preliminary CSM is a tool used to identify potentially contaminated media, receptors, and routes of exposure. The preliminary CSM was developed with consideration of current, historical, and potential future uses of the Property. Physical features of the Property and findings from previous environmental investigations were considered; however, the preliminary CSM will be modified as appropriate following the evaluation of site-specific data in the RI to refine the CSM for the Site.

The sections that follow describe the preliminary CSM; identification of analytes that were potentially released at the Property; and development of SLs for each analyte in each of the media of concern.

5.1.1 Media of Concern, Exposure Pathways, and Receptors

The preliminary CSM identifies the media of concern that may be impacted by current and former site activities. The preliminary CSM includes consideration of direct contaminant release mechanisms as well as potentially complete contaminant transport pathways. Groundwater, vadose zone (unsaturated) soil, saturated soil, and indoor air are the media of concern, as illustrated in Figure 5.1.[3]

VI SLs protective of indoor air are also protective of outdoor air, and soil SLs protective of direct contact are protective of all routes of direct contact exposure (i.e., direct contact, ingestion, and inhalation). Outdoor air is not a medium of concern.

The preliminary CSM also identifies potential receptors (people, plants, and animals) that could be exposed to contamination once in the environment. The preliminary CSM is further described in the sections that follow.

5.1.1.1 Potential Sources of Contamination and Contaminant Transport Pathways

Potential sources of current and historical soil and groundwater contamination may include the following:

- Direct releases from material storage, use, and handling
- Direct releases from equipment washing operations

[3] Surface water and sediment are not media of potential concern because the site does not abut surface water and available data indicate groundwater is unlikely to impact surface water.

- Generation of by-products during burning operations
- Leaks and spills from equipment, tanks, and machinery
- Leaks and spills during fueling and fuel transfer operations at the Rail Spur or between ASTs and trucks
- Grading of the ground surface for maintenance and to support changes in operations
- Infiltration of precipitation and overland flow through contaminated soil, causing leaching into groundwater

The majority of the Property is unpaved. Many historical operations may have resulted in releases that occurred decades ago. Leaching of hazardous substances from soil into groundwater is expected, particularly for those chemicals with low to moderate soil K_{oc} values. Leaching from soil to groundwater may represent a continued source of contamination to groundwater, while transport of a contaminant plume in groundwater may have caused soil downgradient of the source area to become impacted as contaminants sorb onto the soil. Thus, empirical demonstrations of groundwater quality and evaluations of paired soil and groundwater data are expected to be a useful tool when evaluating whether the leaching pathway is complete for particular analytes, in accordance with WAC 173-340-747(3)(f).

WAC 173-340-747(9) describes conditions that must be met for an empirical demonstration to show that the soil concentrations present at the site have not caused, and will not cause, the applicable groundwater criteria to be exceeded at the POC for the target medium. To perform an empirical demonstration the following must be true:

- Sufficient time must have elapsed for soil contamination to migrate to groundwater.
- Current and past site characteristics (e.g., depth to groundwater and infiltration) must be representative of future site conditions.

Ecology's Implementation Memorandum No. 15 provides additional guidance on how to perform an empirical demonstration under MTCA (Ecology 2016c). The soil and groundwater data evaluation performed in later sections of this RI/FS were performed in accordance with technical considerations set forth in Ecology's Implementation Memorandum No. 15. Conditions present at the site are appropriate for a qualitative assessment of whether sufficient time has elapsed for contamination to have migrated to the groundwater; that is, the site has highly permeable soils, shallow depth to groundwater, and a long period of time has elapsed since certain contaminant releases of banned pesticides has occurred.

Finally, certain volatile analytes present a potential risk to indoor air if present in high concentrations and if structures are located or built over contaminated areas. However, a VI assessment was completed for the site in 2019. The vapor sampling data obtained in 2019, in conjunction with the conclusion with the previous VI assessments conducted at the site (Attachment C.3), indicate that TPH contamination in soil or groundwater does not pose a VI threat to occupants within the current office building; therefore, VI risk to indoor air is not a pathway of concern. Vapor sampling activities and results are summarized in Attachment C.5.

5.1.2 Screening Level Development

SLs were developed in accordance with the MTCA cleanup regulation (WAC 173-340) and are protective of both human health and ecological receptors for each of the potentially impacted media at the site. SLs were developed using MTCA Method B, which is the "universal method for determining cleanup levels for all media at all sites" per WAC 173-340-700(5)(b). SLs were initially developed for the chemicals of interest identified as part of the Work Plan (Floyd|Snider 2016). SLs for dioxins/furans were developed using the approach outlined in WAC 173-340-708(8)(d)(ii). The dioxin/furan TEQ[4] for human health and ecological receptors was calculated using the appropriate toxic equivalent factor (TEF) values for humans and mammals in MTCA Table 708-1. Individual congener results and the TEF values used to calculate the dioxin/furan TEQ for each sample are included in Table G.1 in Appendix G.

Additionally, certain SLs were revised in September 2018, because of updates to Ecology guidance for the VI pathway. Throughout this RI, the term SL refers to the updated SLs.

SLs are protective of direct contact and select cross-media exposure scenarios (i.e., cross-media exposures consistent with the contaminant transport pathways identified in Figure 5.1). Cross-media protection pathways require that (1) the contaminant migrates from one medium (or location) to another and that (2) an exposure occurs between a receptor and the medium that is being protected. SLs are inherently conservative because contaminant migration is modeled by simple equilibrium partitioning equations that are not calibrated to site-specific conditions, including natural attenuation and degradation processes that can limit or eliminate contaminant migration and exposure. This ensures the use of analytical methods with appropriate sensitivity to assess risk, regardless of site-specific conditions. SLs are used to identify COPCs prior to a more detailed evaluation to identify COCs based on site-specific conditions.

The sections that follow identify the receptors, potentially applicable exposure pathways, and corresponding regulatory criteria and natural background concentrations considered in the development of SLs for each of the potentially impacted media.

5.1.2.1 Groundwater Screening Levels, Receptors, and Potential Exposure Pathways

Groundwater SLs were initially developed and presented in the Work Plan. Groundwater data were screened against these SLs to identify chemicals tentatively retained as COPCs in the Ecology-approved October 2017 Year 1 Groundwater Summary Memorandum (Attachment C.1). Updated groundwater SLs are described in the text that follows and consider more recent chemical partitioning data and toxicity factors than the SLs developed in the Work Plan.

Groundwater SLs are protective of the following receptors and exposure pathways:

- **Protection of human health via drinking water exposure.** The underlying aquifer is considered potable per WAC 173-340-720(2). Potential receptors include adults and children who drink from wells that supply water from within the aquifer. Protection

[4] The TEQ expresses the toxicity of a mixture of substances (e.g., cPAHs or dioxins/furans) as a single value.

of this exposure pathway is protective of other receptors (e.g., terrestrial receptors and the environment) and other potential future beneficial uses of the aquifer, including industrial and agricultural use. However, groundwater at or near the Property is not currently being used for drinking water and it is not anticipated that such use will occur in the future (Gray & Osborne 2014). As noted in Section 2.7.2, the nearest downgradient groundwater well is located approximately 0.75 miles away from the Property boundary and is unlikely to be affected by contamination originating at the Property.

- **Protection of human health from exposure to indoor air (due to VI).** Aldrin[5] and TPH are present in soil or groundwater at the Property; thus, VI from groundwater was considered a potentially active pathway under current or future land use.

Specific criteria considered for each of these exposure pathways are listed below.

- **Groundwater-to-Drinking-Water Exposure Pathway.** Ecology requires that SLs must be at least as stringent as all applicable state and federal laws per WAC 173-340-700(6)(a). The following criteria were considered for purposes of establishing groundwater SLs protective of potable water use:
  - Federal maximum contaminant level (MCL; 40 CFR 141-143)
  - Washington State MCL (WAC 246-290-310)
  - MTCA Method B groundwater criteria (WAC 173-340-720(4)) protective of cancer and noncancer endpoints, or MTCA Method A groundwater criteria (WAC 173-340-720(3)) when MTCA Method B values were not available
- **Groundwater-to-Indoor-Air Exposure Pathway.** The 2019 indoor air VI assessment indicates that there is not a VI risk to occupants in the current office building, the following criteria were considered for purposes of establishing a groundwater SL protective of indoor air exposure for future buildings:
  - Ecology's *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action,* Table B-1: Indoor Air Cleanup Levels, Groundwater Screening Levels, and Soil Gas Screening Levels (Ecology 2018b)
  - Ecology's *Implementation Memorandum No. 14: Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion* (Ecology 2016b)
  - Ecology's *Implementation Memorandum No. 18: Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings* (Ecology 2018c)

Prior to selecting the groundwater SL, the groundwater target concentration was calculated. The groundwater target concentration is the most stringent drinking water ARAR (i.e., the state or federal MCL) adjusted for health effects, if available. The most stringent drinking water ARAR was

[5] Other than TPH, aldrin is the only volatile analyte of interest for which Ecology has developed VI SLs applicable to groundwater.

adjusted to protect human health if the excess cancer risk exceeds 1 in 100,000 (1×10^{-5}) or if the hazard quotient exceeds 1. In these cases, the ARAR was adjusted downward in accordance with WAC 173-340-720(7)(b) to the minimum of the following:

- MTCA Method B noncancer criterion
- MTCA Method B cancer criterion multiplied by a factor of 10

For analytes without an established ARAR, the groundwater target concentration is the minimum MTCA Method B criterion.

The groundwater SL is the most conservative (lowest) criterion between the groundwater target concentration and the VI SL, after considering natural background. Arsenic is the only chemical whose SL was adjusted upward for natural background. The arsenic SL is equivalent to the Washington natural background concentration established in MTCA Method A Table 720-1 (WAC 173-340-900), as allowed by WAC 173-340-720(7)(c). Groundwater SLs are listed in Table 5.1.

Laboratory methods were chosen such that PQLs for each analyte would be low enough to allow evaluation of the results gathered during sampling conducted in accordance with the Work Plan relative to the SLs. This goal was accomplished for most analytes; however, the PQLs were elevated relative to the SL for 10 organochlorine pesticides. To resolve this data gap, Floyd|Snider conducted a groundwater monitoring event in March 2020: all on-Property and off-Property wells were sampled and analyzed for the 10 organochlorine pesticides with previously elevated reporting limits relative to the SLs. More information is provided in Appendix H.

5.1.2.2 Soil Screening Levels, Receptors, and Potential Exposure Pathways

Soil SLs were initially developed in 2016 in the Work Plan. Soil data were initially screened against SLs developed in the Work Plan to identify chemicals tentatively retained as COPCs in the Ecology-approved February 2017 Soil Elimination Memorandum (Attachment C.2). This information was considered when updating soil SLs in 2020 for this RI. Current soil SLs include more recent chemical partitioning data, toxicity, and exposure factors, and are described in the text that follows.

Receptors potentially exposed to soil include human and ecological receptors. Soil SLs are protective of the following receptors and exposure pathways:

- **Protection of human health via direct contact.** Because the Property is located within a few hundred feet of residential and commercial properties, soil SLs were developed to be protective of unrestricted land use exposure scenarios (i.e., direct contact with soil by customers or nearby residents), consistent with WAC 173-340-745(1)(b)(iii). However, the Property is zoned heavy industrial and is located within a city that has adopted a comprehensive plan and adopted zoning regulations under the Growth Management Act. The current and anticipated future use of the Property will be for industrial purposes.

- **Protection of wildlife receptors via direct contact.** Because soil contamination occurs in the upper 15 feet of soil and includes legacy pesticide contamination, a terrestrial ecological evaluation (TEE) was considered.
- **Protection of the highest beneficial use of groundwater via leaching from soil.** Soil SLs must be protective of the highest beneficial use of groundwater, which is assumed to be potable, per WAC 173-340-700(6)(b). For purposes of soil SL development, the groundwater target concentration to be protected is the groundwater SL presented in Table 5.1.
- **Protection of human health from exposure to indoor air (due to VI).** Soil SLs must consider site use and be protective of current buildings and any future buildings via the VI pathway.

Specific criteria considered for each of these exposure pathways are listed below.

- **Direct Contact Exposure Pathway.** Soil SLs for the direct contact pathway were developed using MTCA Method B soil criteria (WAC 173-340-740(3)) protective of cancer and noncancer endpoints. If MTCA Method B criteria were not available, MTCA Method A criteria for unrestricted land use (WAC 173-340-740(2)) were used.
- **Protection of Groundwater via the Leaching Pathway.** The MTCA three-phase partitioning model (WAC Equation 747-1) was used to determine soil concentrations protective of the groundwater (i.e., the groundwater preliminary CUL developed in Section 5.2). This model was used to determine protective concentrations in site soil using the procedure and default input partitioning parameters for saturated soil described in WAC 173-340-747(4). Chemical partitioning data for each analyte are provided in Table G.2. If a groundwater preliminary CUL was not developed or if chemical partitioning data were not available for a particular analyte, SLs for this pathway were not developed.
- **Soil-to-Indoor Air Exposure Pathway.** VI SLs are presented in Ecology's *Implementation Memorandum No. 14: Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion* and *Implementation Memorandum No. 18: Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings* (Ecology 2016b and Ecology 2018c). These SLs are protective of indoor air for occupants within residential dwellings. Ecology considers these SLs applicable to all sites with petroleum contamination, although the memoranda note that CULs for this pathway may consider current and potential future site conditions and land use consistent with other Ecology VI guidance. In addition, Ecology's Implementation Memorandum No. 18 includes a process to calculating a site-specific TPH indoor air CUL.

Soil SLs are listed in Table 5.2. The soil SL is the most conservative (lowest) criterion from among the criteria identified above, adjusted to natural background, as appropriate per WAC 173-340-740(5)(c). Accordingly, the arsenic SL was adjusted to the Washington natural background concentration established in MTCA Method A Table 740-1 (WAC 173-340-900).

The saturated soil SLs developed for the leaching pathway were less than reporting limits achieved by the laboratory during the Phase 2 soil sampling event for pentachlorophenol and nine organochlorine pesticides. As described in the Soil Elimination Memorandum (Attachment C.2), elevated reporting limits relative to soil SLs are typically not indicative of an unacceptable risk to potential receptors at the site due to the conservative nature of the equilibrium partitioning calculation. Soil data are not compared to soil SLs for the leaching pathway in this RI.

5.2 PRELIMINARY CLEANUP LEVELS AND POINTS OF COMPLIANCE

Preliminary CULs were developed for the site in an Ecology-led process that took place beginning in February 2020. The process is documented in the PCUL and COPC Memo (Attachment C.4). Groundwater preliminary CULs were developed for any chemical that was either (a) detected in site groundwater or (b) retained for further analysis as a COPC in the Ecology-approved October 2017 Year 1 Groundwater Summary Memorandum (Attachment C.1). Soil preliminary CULs were developed for any chemical that was either (a) detected in site soil or (b) retained for further analysis as a COPC in the Ecology-approved February 2017 Soil Elimination Memorandum (Attachment C.2).

This section also describes the POC where each preliminary CUL applies.

5.2.1 Groundwater

Groundwater cleanup standards are defined as a CUL combined with a POC where the CUL will apply. Preliminary groundwater cleanup standards will ensure that groundwater is protective of human health, ecological receptors, and the environment. The highest beneficial use of groundwater in this evaluation is assumed to be drinking water use (refer to Section 5.1.2.1).

5.2.1.1 Point of Compliance

The standard POC for groundwater is defined in MTCA as “throughout the site from the uppermost level of the saturated zone to the lowest depth potentially affected by the site” per WAC 173-340-720(8)(b). Ecology may approve a conditional POC if it can be demonstrated that it is not practical to meet groundwater CULs at the standard POC within a reasonable restoration time frame using all practicable methods of treatment in the site cleanup per WAC 173-340-720(8)(c) or (d). In this RI, the standard POC will be used to define the nature and extent of contamination. The FS will evaluate whether it is feasible to meet the standard POC for groundwater, or whether a conditional POC is required.

5.2.1.2 Preliminary Cleanup Levels

Preliminary CULs for groundwater are presented in Table 5.1 and were developed in accordance with WAC 173-340-720(4). The preliminary CUL is equivalent to the groundwater SL, or risk-based target CUL, unless this value is less than the PQL. In these cases, the groundwater SL was adjusted

upward to the PQL. This adjustment is consistent with WAC 173-340-720(7)(c), which allows upward adjustment of CULs to the PQL or natural background, whichever is higher.[6]

5.2.2 Soil

Soil cleanup standards are defined as a CUL combined with a point of compliance where the CUL will apply. Preliminary soil cleanup standards will ensure that soil is protective of human health, ecological receptors, and the environment for each of the three potentially active soil exposure pathways identified in the preliminary CSM (Section 5.1.1).

5.2.2.1 Point of Compliance

The standard POC for soil is pathway-dependent, as defined in WAC 173-340-740(6)(b) through (e). The standard POC for each potentially active soil exposure pathway, along with specific application at the Property, is summarized below:

- **Direct Contact.** The standard POC is soil throughout the site from the ground surface to 15 feet bgs for both human health and ecological exposure pathways. This represents a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface as a result of site development activities and is consistent with MTCA. This POC is protective of incidental ingestion and dermal contact with soil for any site and does not require the presence of pavement or institutional controls to be protective.

  Ecology may approve a site-specific POC for the terrestrial ecological exposure pathway per WAC 173-340-7490(4)(a). The site-specific POC should be equivalent to the depth of the biologically active zone. The biologically active zone is defined as the maximum depth that soil invertebrates, burrowing animals, and plants may penetrate into the soil. The depth of the biologically active zone bounds the depth where ecological receptors may be exposed to contamination: contamination in soil below the biologically active zone is not a potential source of exposure to ecological receptors. In other words, if the only contamination present at a site is below the biologically active zone, the ecological exposure pathway is incomplete.

  Under WAC 173-340-7490(4)(a), the depth of the biologically active zone is 6 feet bgs. This is equivalent to the conditional POC. This depth is appropriately conservative for a site-specific POC representing the site's biologically active zone based on the following lines of evidence:

  - Observed vegetation surrounding the site is predominantly composed of shrubs, grasses, and other relatively shallow-rooted vegetation. Studies have found that for vegetation of this type, more than 50% of root biomass is expected to be present in the top 3 to 4 feet of soil (Sample et al. 2015).

[6] For clarity, for analytes whose preliminary CUL was adjusted to be equivalent to the PQL, the preliminary CUL prior to adjustment to the PQL is referred to as the risk-based target CUL.

- Soil turnover is low, due to the relative dearth of soil invertebrates at and adjacent to the Property.
- Soil macroinvertebrates, like voles and other burrowing animals, have not been observed at or adjacent to the Property.
- The extremely shallow depth of the vadose zone at the site limits habitability by soil biota and invertebrates, which cannot live in saturated soil due to its lack of oxygen (absence of void space). The maximum depth of the vadose zone is 3.5 feet bgs across the site; periodic seasonal flooding can cause the depth of the vadose zone to rise to 2.5 to 3 feet bgs.

More information describing features of the site and its use that contribute to a relatively shallow biologically active zone are described in Section 6.2.1.1 with respect to the development of proposed CULs for the site.

- **Leaching.** The POC is soil throughout the site. In practice, this means that soil samples collected within the vadose zone are compared to the site-specific preliminary CUL developed for leaching from vadose zone soil, and soil samples collected within saturated soil are compared to the site-specific preliminary CUL developed for leaching from saturated soil.
- **Vapor Intrusion.** The POC is soil throughout the site from the ground surface to the uppermost water table. Generally, for soil on Property, the corresponding depth range for this pathway is from 0 to 3 feet bgs, in accordance with WAC 173-340-740(6)(c).[7]

Because soil POCs are exposure pathway–specific, it is possible to have multiple CULs for soil that apply to different geographic areas of the site or to different depth ranges within the same lateral extent.

5.2.2.2 Preliminary Cleanup Levels

The starting point for development of soil preliminary CULs for each soil pathway is the SL applicable to that pathway. Soil SLs are presented in Table 5.2. SLs are intentionally conservative and are designed to be protective of any site. By contrast, preliminary CULs may consider site-specific conditions that limit current and future exposure to contamination in accordance with WAC 173-340-708(10)(b)(i). At this site, exposure assumptions considered in development of the soil preliminary CUL for the direct contact pathway were not modified from their SLs.

Soil-to-groundwater equilibrium calculations protective of the leaching pathway were performed using the MTCA three-phase model (WAC Equation 747-1). Certain inputs into this equation were modified from the leaching SLs developed for this pathway to account for measurable soil properties that affect contaminant transport. Specifically, the soil fraction of organic carbon (f_{oc}) was modified from the MTCA default value of 0.001 to a site-specific value of 0.011. The site-specific f_{oc} value was calculated by taking the arithmetic mean of select soil samples analyzed for

[7] Ecology's Implementation Memorandum No. 14 (Ecology 2016b) specifies a POC of 0 to 6 feet bgs; however, at this site, the MTCA POC depth is more appropriate to use due to the shallow depth to groundwater.

total organic carbon, expressed as a fraction. f_{oc} data are presented in Table 3 of the PCUL and COPC Memo (Attachment C.4). All other calculation inputs match those used in the calculation of SLs for this pathway.

The risk-based soil criterion selected for each chemical was the more stringent standard between leaching and the direct contact criteria (protective of human direct contact and terrestrial receptors), which was determined using standard MTCA Method B practices described in Ecology's soil cleanup standards development guidance (Ecology 2005). If groundwater demonstrates compliance for the leaching pathway (i.e., the chemical is not identified as a groundwater COPC in Table 5.3, as described in Section 5.3.1), the soil preliminary CUL was modified to the soil direct contact criterion for that chemical.[8] This direct contact preliminary CUL was used to determine exceedance information and COPC status.

Preliminary CULs applicable to site soil are presented in Table 5.4.

Soil to Indoor Air Preliminary Screening Levels

The relevant criteria for this pathway are numerically equivalent to the SLs developed and described in Section 5.1.2.2.

5.3 IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN

Following development of groundwater and soil preliminary CULs, groundwater and soil data were screened relative to the preliminary CULs to identify COPCs for each medium. COPC status and data used to identify COPCs are described in the sections that follow.

5.3.1 Groundwater

For most analytes, all available groundwater data were used to identify site groundwater COPCs. Chemical-specific dataset considerations are summarized below.

- **Metals and TPH.** Results collected from test pits and temporary wells that were analyzed for metals and TPH were excluded from the groundwater data set used to identify site groundwater COPCs, as described in the PCUL and COPC Memo (Attachment C.4).
- **Organochlorine Pesticides.** For the 10 organochlorine pesticides with elevated groundwater reporting limits in Phase 2 groundwater sampling events, groundwater data collected and analyzed in March 2020 were used to determine COPC status. If the chemical was not detected in any sample analyzed during the March 2020 groundwater monitoring event, the chemical was not retained as a COPC. Otherwise,

[8] The conditions in WAC 173-340-747(9)(b)(ii) are met: current soil concentrations for these analytes are protective of groundwater and will remain protective of groundwater in the future. The screened-out analytes were generally legacy pesticides, whose manufacture and use has been discontinued for more than 30 years; thus, a sufficient amount of time has elapsed for migration of these pesticides to groundwater to have occurred.

detected results measured during March 2020 were evaluated relative to the preliminary CUL to determine COPC status.

For all other chemicals, if the maximum detected result exceeded the preliminary CUL in any sample, the chemical was retained as a groundwater COPC. Table 5.3 presents the results of groundwater COPC screening and provides information about the frequency of exceedance and maximum detected result for each analyte.

5.3.2 Soil

All available soil data collected after June 1, 2007, were used to identify soil COPCs. Detected results in soil were compared to soil preliminary CULs, which are protective of direct contact exposure and leaching from soil. The VI pathway was evaluated separately, because the only analyte of interest with a soil VI SL is TPH. TPH concentrations in soil exceed the VI SL. However, the VI assessment activities conducted in 2019 determined that TPH impacts in soil do not pose a significant risk to occupants of the current office building (Attachment C.5). Future VI risk will be evaluated as part of the FS remedy design, but preliminary CULs are protective of the pathway. Thus, TPH in soil is not a VI risk to indoor air relative to future land use on the Property and is not retained as a soil COPC for the VI pathway.

If the maximum detected result exceeded the soil preliminary CUL in any sample, the chemical was retained as a soil COPC. Table 5.5 presents the results of soil COPC screening and provides information about the frequency of exceedance and maximum detected result for each analyte.

Although gasoline-range TPH was detected and exceeded the preliminary CUL in a limited number of samples, it was eliminated as a COPC because the laboratory stated that the pattern of peaks in the chromatograms indicate gasoline is not present in any of the samples with gasoline detections. More information is provided in the PCUL and COPC Memo.

5.3.3 Summary of Chemicals of Potential Concern

COPCs in soil and groundwater are summarized in Table 5.6, along with their preliminary CULs. Table 5.6 also lists the pathway basis of each soil preliminary CUL, which is relevant to the POC where the preliminary CUL applies.

6.0 COCs and Nature and Extent of Contamination

This section identifies groundwater and soil COCs using their preliminary cleanup standards. COCs are generally described as COPCs that are present at the site at concentrations and frequencies that represent a risk to human health or the environment. COCs are determined by screening site data against cleanup standards developed for each medium.

Groundwater and soil cleanup standards developed in Section 5.2 are used to identify the "Site," which, as described in Section 2.2, under MTCA is defined as where contamination has come to lie (WAC 173-340-200). The geographic extent of the Site is described in Section 6.3 for groundwater and Section 6.4 for soil. The cleanup standards are also used to describe the nature and extent of contamination and refine the AOPCs into AOCs in Section 6.4. The Site boundary generally coincides with the Property boundary, with some minor exceedances outside the eastern and southern Property boundary.

6.1 IDENTIFICATION OF GROUNDWATER CHEMICALS OF CONCERN

This section identifies COCs in site groundwater from among the groundwater COPCs by screening site groundwater data against their preliminary CULs.

Table 6.1 presents exceedance information for COPCs detected in site groundwater samples. For each COPC, this table presents the preliminary CUL; information about the number of groundwater results; the maximum detected result; whether detected results exceed the preliminary CUL; and the maximum exceedance factor for each COPC. Exceedance information in this table is based on individual sample results; that is, field samples and field duplicate samples are considered individually, rather than averaged.

The groundwater dataset used to identify COCs is the same as the groundwater dataset used to identify COPCs, with one exception: results for arsenic, dieldrin, DDE, DDT, and alpha-chlordane in sample MW-04-081016 were excluded because these results were determined to be unrepresentative of site groundwater conditions, as described in Section 4.5 relative to elevated turbidity in the sample and data quality issues with particular results. Exclusion of these results is consistent with WAC 173-340-720(9)(a), which establishes that "compliance with groundwater cleanup levels shall be determined by analysis of groundwater samples representative of the groundwater." Exclusion of these results is consistent with earlier discussion and agreement with Ecology: the PCUL and COPC Memo (Attachment C.4) documents studies and guidance demonstrating that elevated turbidity in a groundwater sample can result in sample bias that causes artificially elevated results that are not representative of groundwater quality for particular chemicals, including metals.

Exclusion of these sample results eliminates arsenic, DDE, DDT, and alpha-chlordane as COCs. Three of these four chemicals were measured at concentrations in compliance with their CULs in all other samples within the relevant groundwater dataset used to identify COCs.

Based on information presented in Table 6.1, alpha-chlordane and dicamba were screened out as groundwater COCs in accordance with WAC 173-340-720(9)(e) and WAC 173-340-720(9)(d)(i)(A) because:

1. they were not detected at concentrations exceeding 2 times the preliminary CUL;
2. fewer than 10% of detected results exceed the preliminary CUL; and
3. the upper one-sided 95% confidence limit on the true mean groundwater concentration is less than the preliminary CUL.

6.1.1 Summary of Groundwater Chemicals of Concern and Proposed Cleanup Standards

Proposed CULs were developed for each chemical that was identified as a COC in Section 6.1. Proposed CULs are numerically equivalent to the groundwater preliminary CUL for each chemical. The standard POC for all groundwater COCs is groundwater throughout the site, to the maximum depth where contamination from the site is present. Compliance is determined for each groundwater monitoring well individually in accordance with WAC 173-340-720(9)(c). Proposed CULs for each COC are summarized in Table 6.2.

Table 6.2
Summary of Groundwater Chemicals of Concern and Proposed Cleanup Levels (µg/L)

Analyte	CAS No.	Proposed CUL	CUL Basis	Toxicity Basis [(1)]
Miscellaneous Substances				
Nitrate	14797-55-8	10,000	MCL	Short-Term/Acute
Nitrite	14797-65-0	1,000	MCL	Short-Term/Acute
Organochlorine Pesticides				
HCH-beta	319-85-7	0.049	MTCA Method B	Carcinogenic
Aldrin	309-00-2	0.0026	MTCA Method B	Carcinogenic
Chlordane	57-74-9	2.0	MCL	Carcinogenic
Dieldrin	60-57-1	0.0055	MTCA Method B	Carcinogenic
Toxaphene	8001-35-2	0.80	MCL adjusted to MTCA Method B	Carcinogenic
Chlorinated Herbicides				
2,4-D	94-75-7	70	MCL	Chronic
MCPA	94-74-6	8.0	MTCA Method B	Short-Term/Acute
Other Chlorinated/Halogenated Pesticides				
Atrazine	1912-24-9	3.0	MCL	Carcinogenic

Analyte	CAS No.	Proposed CUL	CUL Basis	Toxicity Basis (1)
Total Petroleum Hydrocarbons				
Diesel-range TPH	DRO	500 (2)	MTCA Method A	Short-Term/Acute
Oil-range TPH	ORO	500 (2)	MTCA Method A	Short-Term/Acute

Note:

1 In accordance with WAC 173-340-720(9)(c)(v), compliance with proposed CULs will be determined using an upper percentile concentration for CULs based on short-term or acute toxic effects on human health or the environment, and the true mean concentration for CULs based on chronic or carcinogenic threats.

2 Ecology has required that diesel-range and oil-range TPH results be summed and compared to a CUL of 500 µg/L. Future assessments of TPH in groundwater (if applicable) will assume the CUL will be summed, per Ecology's requirement. In the draft CAP, it is anticipated that Ecology can establish the final groundwater CUL to reflect the combined diesel-range and oil-range TPH for the Site.

Abbreviations:

CAP Cleanup Action Plan
CAS Chemical Abstracts Services
HCH Hexachlorocyclohexane
MCPA 2-Methyl-4-chlorophenoxyacetic acid
µg/L Micrograms per liter

Key information about each of the groundwater COCs is provided in Table 6.3. Information contained in Table 6.3 includes current and historical commercial uses potentially relevant to on-site releases and environmental partitioning, fate, and transport information. This information can be used to supplement the discussion of nature and extent of contamination contained in Section 6.3.

6.2 IDENTIFICATION OF SOIL CHEMICALS OF CONCERN AND CLEANUP STANDARDS

This section identifies soil COCs and their proposed cleanup standards.

6.2.1 Identification of Chemicals of Concern

This section identifies soil COCs from among the COPCs identified in Section 5.3.2 by screening soil data against CULs protective of the direct contact and leaching pathways. Prior to performing screening analysis to identify COCs, CULs protective of ecological receptors are developed for use in the screening evaluation.

6.2.1.1 Direct Contact

Direct contact criteria protective of ecological receptors form the basis of the preliminary CUL for seven COPCs: lead, zinc, chlordane, total DDx (calculated as the sum of dichlorodiphenyldichloroethane [DDD], DDE, and DDT), alpha-chlordane, total diesel- and oil-range TPH, and dioxins/furans (refer to Table 5.6). Direct contact criteria for the protection of ecological receptors are found in WAC 173-340-900, Table 749-2. Footnotes in that table recognize that these concentrations "are not intended to be protective of terrestrial ecological

receptors at every site" and that "exceedances of the values in this table do not necessarily trigger requirements for cleanup action under this chapter."

A site-specific evaluation has been performed to determine criteria protective of the direct contact pathway. The direct contact criteria that will be considered when selecting proposed CULs will be the most stringent of either a site-specific criterion protective of ecological receptors or the direct contact criterion protective of human health listed in Table 5.4. With respect to ecological receptors, this evaluation will consider whether existing soil concentrations measured at the site:

- are causing or contributing to a loss of habitat quality; and
- are protective of ecological receptors that may be found at the site, now or in the future.

To evaluate whether existing soil concentrations are diminishing habitat quality, current habitat quality was evaluated. Figures 6.1 and 6.2 were developed to support this discussion in this section. These figures identify areas of the site that meet all WAC Table 749-2 TEE criteria; areas of the site that are highly impacted for either pesticides (Figure 6.1) or dioxins (Figure 6.2); and include representative photos of soil borings and vegetation in each of these areas.

Habitat quality was determined to be poor based on the following lines of evidence:

- The soils are primarily sand and permeable gravel and cobbles, with varying amounts of sand and silt present. There are no continuous aquitards within the top 20 feet of soil at the site. For more information on site geology, refer to Section 2.7.1.
- The top 3 feet of soil at the site is typically covered with a gravelly/sandy road base or gravel surface that is low in organic matter relative to typical surface soil.
- Heavy truck traffic at the site compacts surface soil. Compacted soil has less air for plant use and has reduced concentrations of organic matter relative to uncompacted soil (Hipple ND).
- Recent investigations conducted on-site confirm that below the road base or gravel surface that comprises the site surface, soils are typically silty soil or silty sands with gravel that overlay sand with gravel. Soil observations collected from borings in an area outside of any AOPC, where samples do not exceed concentrations protective of terrestrial receptors (e.g., FS-04, FS-17, MW-9, MW-10, MW-15), do not differ significantly from soil observations in borings where soil results were significantly greater than these concentrations (e.g., FS-05, FS-06, and FS-19 in AOPC 1; or FS-33 in AOPC 8). Photographs of representative soil borings are included in Figures 6.1 and 6.2.
- Compared to organic-rich soil, soil types observed at the site are expected to support a smaller number and diversity of terrestrial species. This expectation is confirmed by observations made during site investigations conducted by Floyd|Snider personnel: worms and other biota have not been observed in soil borings at the site.

Earthworm abundance is presumed to be constrained by (a) the soil types present at the site, (b) the site's hard-packed surface, and (c) the site's shallow groundwater table, which is also subject to periodic seasonal flooding. Soil biota are most likely to be present in the top 0.5 to 1 foot of soil—where organic matter is most plentiful—and are less likely to be present below 2 feet bgs, where much lower f_{oc} values are typically observed (Hendrix et al. 1992, Curry 2004). Given the absence or low levels of organic matter present in surficial soils, earthworm populations are severely constrained and, therefore, not available as a prey species.

- There is effectively no vegetation on the Property or at adjacent properties to the east or south. The only vegetation present is occasional grass clumps (particularly immediately off-Property near the railroad track) and a few invasive/emergent non-native shrubs. Photographs of the site, showing limited vegetation, are included in Appendix B. In particular, photographs of the BNSF property and along the northern Property boundary, where soil COPC concentrations were generally less and protective of terrestrial receptors—show that vegetation in these areas of the site is similar to vegetation observed in site AOPCs, where results often exceed criteria protective of terrestrial receptors.

Even if the road base were not present, conditions contributing to poor habitat quality and a lack of earthworm and plant abundance would persist. The sandy and gravely soils present at the site are prone to drought and seasonal flooding; truck traffic and other on-site activities would continue to compact the soil causing continued deterioration of habitat quality for plants and soil biota; and the absence of vegetation to contribute to organic matter content would continue to constrain the occurrence of soil biota (Curry 2004).

To evaluate the second objective, that is, whether current soil concentrations are protective of ecological receptors, the contaminant distribution at the site was evaluated using established practices to determine a depth-weighted average concentration relevant to ecological receptors. This assessment relies on two critical observations:

- The number of results exceeding TEE criteria is generally low. For example, zinc, alpha-chlordane, and total DDx exceed preliminary CULs protective of terrestrial receptors in fewer than 10% of samples collected at the site (Table 5.5).
- Contamination is observed to decrease significantly with depth for most chemicals exceeding TEE criteria.

Depth-weighted receptor exposure adjustment calculations were performed for metals (lead and zinc), pesticides (alpha-chlordane, chlordane, and total DDx), and dioxins/furans. Details of this calculation, including the equation and its inputs, are found in Attachment G.1. Results of these calculations are presented in Table 6.4. Calculations are performed first on a site-wide basis, then by sub-setting the data to exclude areas with elevated concentrations of pesticides and dioxins/furans.

Depth-weighted receptor exposure adjustment factors reflect the importance of different soil horizons for soil exposure potential by various ecological receptors. The most important soil horizon for soil uptake by ecological receptors, including earthworms and burrowing mammals, is the 0.5 to 1 foot bgs soil interval (USEPA 2015). Thus, this depth interval is assigned the largest depth-weighted adjustment factor. The next most important soil horizon is the 0 to 0.5 feet bgs soil interval, because most earthworm communities feed on leaf litter and other surficial sources of organic matter (Curry 2004). Surface soil has the next greatest depth-weighted adjustment factor. Below 1 foot bgs, exposure is expected to decrease with increasing depth; adjustment factors mirror this trend. Vegetation observed on and near the site is primarily composed of plants with shallow root systems, like grasses and shrubs. These standard adjustment factors are also appropriate for vegetation that would be expected to occur at the site that would form the basis of an herbivore's diet.

Depth-weighted average results were considered when developing proposed CULs for metals, legacy pesticides, and dioxins/furans along with additional lines of evidence described below for each chemical. This analysis was not performed for total diesel- and oil-range petroleum hydrocarbons.

Lead and Zinc. Sampling results indicate that although there are limited areas where soil samples collected in the 0 to 2 foot bgs soil interval exceed the TEE criteria for lead and zinc (of 220 milligrams per kilogram [mg/kg] and 270 mg/kg, respectively), the depth-weighted average soil concentration in the top 3 feet of soil across the site is well below TEE criteria in WAC Table 749-2 (refer to Table 6.4). These results show that current concentrations of lead and zinc in soil are unlikely to negatively impact soil biota, plants, or wildlife and are, therefore, protective of terrestrial receptors.

The proposed site-specific TEE criterion for zinc is 470 mg/kg and is equivalent to the maximum detected zinc concentration on-site. This criterion is appropriately conservative because despite some samples with concentrations as great as 470 mg/kg, the TEE criterion for lead is not exceeded when site-wide depth-weighted average calculations are performed (refer to Table 6.4). Because current soil concentrations are protective of ecological receptors, the **proposed CUL for lead is 250 mg/kg**, which is equivalent to the MTCA Method A criterion protective of unrestricted land use.

Total DDx. Sampling results indicate that although there are limited areas where soil samples exceed the TEE criterion, the depth-weighted average soil concentration in the top 3 feet of soil across the site exceeds the TEE criterion by a factor of less than 1.2. Table 6.4 shows that removal of a single sample (i.e., FS-06-0-0.5, collected at FS-06 within the pesticide-impacted area designated on Figure 6.1) will bring the site-wide depth-weighted average soil concentration into compliance with the TEE criterion. This demonstrates that the limited amount of soil that exceeds the TEE criterion in WAC Table 749-2 for total DDx at the site is unlikely to negatively impact soil biota, plants, or wildlife; existing soil concentrations are generally protective of this pathway. The **proposed CUL for total DDx is 13 mg/kg**, which is equivalent to the concentration measured in sample FS-06-0-0.5.

Chlordane and alpha-Chlordane. Outside of the pesticide-impacted area designated on Figure 6.1, current pesticide soil concentrations are unlikely to negatively impact soil biota, plants, or wildlife and are, therefore, protective of terrestrial receptors. The proposed site-specific TEE criterion for alpha-chlordane is 9 mg/kg, which is equivalent to the maximum detected concentration within the pesticide-impacted area. A site-specific TEE criterion protective of ecological receptors was not explicitly calculated for chlordane but is expected to be equivalent to the alpha-chlordane criterion. The proposed TEE criterion of 9 mg/kg is greater than the most stringent MTCA Method B criterion protective of unrestricted land use for chlordane (2.9 mg/kg). Therefore, the **proposed direct contact CUL for both chlordane and alpha-chlordane is 2.9 mg/kg**.

The determination that the concentration of 9 mg/kg is protective of ecological receptors for these chemicals is based on the following lines of evidence:

- The direct contact pathway is incomplete for terrestrial receptors.
  - The basis for the WAC Table 749-2 criterion for chlordane is presumably protection of soil biota, which are the most sensitive ecological receptors (WAC Table 749-3).[9] As previously discussed, site soil cannot support soil biota due to its low organic carbon content, rather than the presence of pesticide contamination.
  - The next most conservative TEE criterion for chlordane listed in WAC Table 749-3 (2.7 mg/kg) is protective of avian and mammalian wildlife. Soil biota or plant life must be present at the site to support avian and mammalian predation. Neither soil biota nor plant life are present at the site, and site use and soil characteristics precludes development of increased vegetation or soil biota populations in the future.
- AOPCs identified for pesticides would be expected to result in a top-down release (e.g., the culvert soil source area, AOPC 1, shown on Figure 6.1). Both alpha-chlordane and chlordane have high K_{oc} values, indicating a preference to sorb to soil (refer to Table G.2), which would be expected to result in concentrations that decrease with depth. That is, results presented in Table 6.4 represent the worst case that receptors would be exposed to because RI sampling focused on collection and analysis of shallow soil samples. Concentrations in the top 3 feet of soil are well characterized and represent the greatest concentrations expected to be present at the site.
- Sampling results indicate that although there are limited areas where alpha-chlordane results exceed the WAC Table 749-2 TEE criterion, the depth-weighted average soil concentration in the top 3 feet of soil across the site is equivalent to the WAC Table 749-2 TEE criterion (refer to Table 6.4). Removal of sample FS-06-0-0.5 reduces the site-wide depth-weighted average soil concentration for alpha-chlordane to less than the TEE criterion in Table 749-2 (1 mg/kg). Residual concentrations of

[9] The most stringent criterion listed in WAC Table 749-3 for each chemical is protective of the most sensitive ecological receptor. Because WAC Table 749-3 does not contain criteria for alpha-chlordane, the criteria developed for chlordane were used as a surrogate in this evaluation.

alpha-chlordane in soil that exceed the WAC Table 749-2 TEE criterion in a limited number of samples are unlikely to negatively impact soil biota, plants, or wildlife.

- The greatest detected concentrations of pesticides were observed at locations FS-05, FS-06, and FS-19, within the pesticide-impacted area shown on Figure 6.1. Table 6.4 shows that if results at these locations are not considered, the site-wide depth-weighted average soil concentration for chlordane is approximately 1.1 mg/kg. This concentration exceeds the WAC Table 749-2 TEE criterion by a factor of 1.1 and is less than the criterion in WAC Table 749-3 for protection of wildlife.
- Vegetation and soil observations (e.g., limited vegetation, lack of soil biota, and soil type) at these three locations are similar to observations of soil borings and lack of vegetation in the northern portion of the site, where no contamination was observed. Thus, lack of vegetation and soil biota are attributable to factors other than presence of contamination. Representative photographs of these observations are included on Figure 6.1.

Dioxins/Furans. Current dioxin/furan soil concentrations are unlikely to negatively impact soil biota, plants, or wildlife and are, therefore, protective of terrestrial receptors. The proposed site-specific TEE criterion for dioxins/furans is 92 mg/kg, which is equivalent to the maximum detected dioxin/furan concentration. This value is greater than the most stringent MTCA Method B criterion protective of unrestricted land use; therefore, the **proposed direct contact CUL for dioxins is 13 nanograms per kilogram (ng/kg)**. The determination that the concentration of 92 mg/kg is protective of ecological receptors is based on the following lines of evidence:

- The direct contact pathway is incomplete for ecological receptors.
  - The basis for the WAC Table 749-2 criterion for dioxins/furans is presumably protection of wildlife, which are the most sensitive from among the three categories of ecological receptors listed in WAC Table 749-3.[10] Soil biota or plant life must be present at the site to support avian and mammalian predation. Neither soil biota nor plant life are present at the site, and site land use and soil characteristics precludes the presence of vegetation or soil biota populations in the future.
- The only significant dioxin/furan-generating activity was constrained to a small geographic area of the site where trash and vegetation were historically burned. This area is identified as AOPC 8 (Figure 2.3). The extent of the area where dioxin/furan contamination is significantly elevated has been refined based on evaluation of site sampling data, as shown on Figure 6.2.
- Presence of dioxins/furans in soil does not inhibit plant growth. Although dioxin/furan impacts were not observed at locations FS-34 and FS-35, no vegetation or soil biota were observed in these areas. Representative soil photographs are included on Figure 6.2. Maximum dioxin/furan concentrations in these samples were measured at 0.141 and 3.38 ng/kg, respectively (Appendix E); both of these concentrations are less

[10] The most stringent criterion listed in WAC Table 749-3 for each chemical is protective of the most sensitive ecological receptor.

than area background (Table 5.4). Thus, lack of vegetation and soil biota are attributable to factors other than presence of contamination.

- Contamination is constrained to surficial soil, consistent with historical trash burning operations. Among samples with elevated levels of dioxins/furans (that is, locations where one or more samples has a dioxin/furan concentration of 20 ng/kg), the average dioxin/furan concentration in surface samples (collected from 0.5 to 1 feet bgs) is greater than the average concentration in the 1 to 2 feet bgs depth interval (Table 6.4).[11] The depth-weighted average sitewide soil concentration for dioxins/furans is approximately 20 ng/kg. This result is believed to be biased high by the sampling schema, which prioritized collection and analysis of dioxin/furan samples in areas suspected to be contaminated by former burning operations.

Table 6.5 presents exceedance information for COPCs in soil relative to the proposed CULs for the direct contact pathway. For each COPC, this table presents relevant direct contact criteria; information about the number of soil results; the maximum detected result; whether detected results exceed direct contact criteria; and the maximum exceedance factor for each COPC. Table 6.5 compares soil data collected from 0 to 15 feet bgs to direct contact CULs to identify soil COCs for the direct contact pathway.

Based on information presented in Table 6.5, zinc and five legacy organochlorine pesticides (beta-BHC, heptachlor, DDD, DDE, and total DDx) were screened out as soil COCs for the direct contact pathway. These analytes were screened out in accordance with WAC 173-340-740(7)(e)(i-ii) and WAC 173-340-740(7)(d)(i)(a) because:

1. the maximum concentration is not greater than 2 times the preliminary CUL; and
2. less than 10% of samples exceed the preliminary CUL; and
3. the upper one-sided 95% confidence limit on the true mean soil concentration is less than the preliminary CUL.

Lead, eight pesticides (i.e., aldrin, chlordane, dieldrin, DDT, toxaphene, atrazine, alpha-chlordane, and simazine), total diesel- and oil-range TPH, and dioxins/furans were retained as soil COCs for the direct contact pathway.

6.2.1.2 Leaching

Table 6.6 presents exceedance information for the leaching pathway. As noted in this table, in addition to elimination of analytes using criteria in WAC 173-340-740(7)(e)(i-ii) and WAC 173-340-740(7)(d)(i)(a), analytes were screened out as soil COCs for the leaching pathway using empirical demonstrations of groundwater quality. Specifically, if a chemical was not retained as

[11] Only one sample was analyzed for dioxins/furans in the 2 to 3 feet bgs depth interval. At this location, the shallow (0 to 2 feet bgs) depth interval was not analyzed for dioxins/furans.

a groundwater COC in Table 6.1, then groundwater empirically demonstrates compliance and the leaching pathway was determined to be inactive for that chemical.

Based on the information in Table 6.6, five legacy pesticides are COCs for the leaching pathway: beta-BHC, aldrin, chlordane, dieldrin, and toxaphene.

6.2.2 Proposed Cleanup Standards

This section develops and describes proposed CULs for the site, which are developed for each soil COC identified in Section 6.2.1. For chemicals that were identified as soil COCs for more than one exposure pathway (e.g., the direct contact and leaching pathway), the proposed CUL will be protective of all potential exposures. The proposed cleanup standard is defined as the proposed CUL combined with a point of compliance where it applies.

Proposed CULs for soil COCs are identified in Table 6.7. The proposed CUL protective of the leaching pathway is referred to as the "leaching CUL." The standard POC for the leaching pathway is 0 feet bgs to the maximum depth where contamination is present. The proposed CUL protective of the direct contact pathway is referred to as the "direct contact CUL." The standard POC for the direct contact pathway is 0 to 15 feet bgs for protection of human health and ecological receptors. At this site, a site-specific POC of 0 to 6 feet bgs for the protection of ecological receptors via direct contact pathway is proposed.

Table 6.7
Summary of Soil Chemicals of Concern and Proposed Cleanup Levels by Pathway (mg/kg) (1)

Analyte	CAS No.	Direct Contact CUL	Leaching CUL
Metals			
Lead	7439-92-1	250	NA
Organochlorine Pesticides			
HCH-beta (b-BHC)	319-85-7	NA	0.0067
Aldrin	309-00-2	0.059	0.0067
Chlordane	57-74-9	2.9	1.1
Dieldrin	60-57-1	0.063	0.0067
4,4'-DDT / Sum DDT	50-29-3	2.9	NA
Toxaphene	8001-35-2	0.91	0.84
Other Chlorinated/Halogenated Pesticides			
Atrazine	1912-24-9	4.3	NA
alpha-Chlordane	5103-71-9	2.9	NA
Simazine	122-34-9	8.3	NA

Analyte	CAS No.	Direct Contact CUL	Leaching CUL
Total Petroleum Hydrocarbons			
Total diesel- and oil-range TPH	DRO+ORO	460 (2)	NA
Dioxins/Furans			
Dioxins/furans	DF_TEQ (U=1/2)	0.000013	NA

Note:
1 Proposed CULs were developed for chemicals identified as soil COCs in Tables 6.5 or 6.6. Proposed CULs are pathway specific.
2 Direct contact CUL is protective of ecological receptors. For protection of human health, TPH data should be evaluated relative to the MTCA Method A criterion of 2,000 mg/kg, which applies to results for diesel- and oil-range TPH.

Abbreviations:
CAS Chemical Abstracts Service
HCH Hexachlorocyclohexane
NA Not applicable

Key information about each of the soil COCs is provided in Table 6.8. Information contained in Table 6.8 includes environmental partitioning, fate, and transport information; potential on-site sources; and current and historical commercial uses. This information can be used to supplement later discussion in this section, including relative to the nature and extent of contamination contained in Section 6.4.

6.3 NATURE AND EXTENT OF CONTAMINATION: GROUNDWATER

The sections that follow describe the nature and extent of groundwater contamination, which serves to define the "Site" for each of the COCs listed in Section 6.1.

Twelve groundwater COCs (nitrate, nitrite, eight pesticides and herbicides, diesel-range TPH, and oil-range TPH) were identified based on an evaluation of data with respect to the preliminary CULs (Section 6.1.1). Results for each of these COCs are included in Table 6.9.

To facilitate the discussion of the nature and extent of contamination of groundwater COCs, Table 6.9 groups results from permanent and temporary groundwater wells according to groundwater flow direction and the geographic area where each well was installed. Groundwater well groups, from northeast to southeast, are identified as follows:

- Upgradient (MW-9, MW-15, and MW-17)
- Cross-gradient off-Property (MW-16)[12]
- Interior (MW-1, MW-3 through MW-8, MW-11, and MW-12; and temporary wells FS-22 and FS-30)

[12] MW-16 is considered cross-gradient based on the similarity of measured groundwater elevations at locations MW-4 and MW-16 during the June/July 2018 sampling events.

- Downgradient Property boundary (MW-2, MW-10, MW-13, and MW-14)
- Downgradient off-Property (MW-18 through MW-20; and temporary wells FS-37 through FS-40)

Table 6.9 includes both individual results and compliance results at each well. MTCA allows compliance with CULs to be determined using either the upper percentile or the true mean concentration for each well, depending on the toxicity basis of the proposed CUL, as long as no single sample concentration is more than 2 times the proposed CUL and no more than 10% of the measured concentrations exceed the proposed CUL (WAC 173-340-720(9)(e)(i-ii)). Thus, Table 6.9 includes a row identifying the compliance result for each well.

As noted in Table 6.2, the compliance result for each well listed in Table 6.9 is equivalent to the true mean groundwater result for analytes whose CULs are based on chronic or carcinogenic effects and is equivalent to the upper percentile result for analytes whose CULs are based on acute or short-term effects.

The compliance result for each chemical at each monitoring well is presented in Table 6.9 and is determined as follows:

1. For legacy pesticides, the compliance result is equivalent to the March 2020 groundwater result if the chemical was not detected at a particular location during RI sampling conducted between 2016 and 2018. For more information, refer to Appendix H.
2. For chemicals with a carcinogenic toxicity basis, including legacy pesticides that were detected at a well during remedial investigation sampling, the compliance result is calculated as the average among all results, including both detect and nondetect results. Only results collected on or after January 1, 2016, are included in the average.
3. For chemicals with a short-term/acute toxicity basis, the compliance result is calculated as (a) the maximum result when all results were nondetect; or (b) the maximum detected result when one or more results were detected. Only results collected on or after January 1, 2016, are considered.

6.3.1 Nitrate and Nitrite

Nitrate and nitrite were detected in groundwater at concentrations greater than their respective proposed CULs at multiple locations across the Property. Current and former fertilizer handling operations are sources of nitrate and nitrite contamination. Although fertilizer can result in nitrite or nitrate contamination, nitrate tends to be the dominant form because most nitrogenous materials (including nitrite, organic nitrogen, and ammonia) convert to nitrate once released in the environment. Nitrate, in turn, is cycled out of the environment via uptake by plants or microbial organisms. Locations where nitrate and nitrite were detected at concentrations that exceed their proposed CULs are shown in Figures 6.3 and 6.4, respectively. Nitrate and nitrite exceedances are clustered in the central portion of the Property, with the greatest detected concentrations measured at wells MW-1 and MW-6 near the office and warehouse buildings. The

greatest detected nitrate concentrations measured at locations MW-1 and MW-6 exceed the proposed CUL by a factor of 16 and 22, respectively. Similarly, the greatest nitrite concentrations measured at wells MW-1 and MW-6 (6,800 and 2,000 µg/L) had exceedance factors of 6.8 and 2.0, respectively.

Generally, nitrate exceedances are more disperse and of greater magnitude than nitrite exceedances. Nitrite exceeds the proposed CUL in groundwater at only four well locations. Each of the four wells where nitrite exceeds the proposed CUL (MW-1, MW-4, MW-6, and MW-7) are classified as interior wells in Table 6.9. By contrast, nitrate results exceed the proposed CUL at 11 monitoring well locations and two temporary wells. Nitrate exceedances decrease in magnitude with increasing distance from MW-1 and MW-6, but still exceed the proposed CUL by a factor greater than 2 at interior wells along the northern Property boundary (MW-4, MW-5, and MW-8) and at well MW-14 along the southern Property boundary. Additionally, nitrate was measured at 12,000 µg/L (exceedance factor of 1.2) at well MW-16, which is cross-gradient to the overall groundwater flow direction.

Results for both nitrate and nitrite are in compliance with the proposed CULs at three upgradient locations (MW-9, MW-15, and MW-17). These data indicate that elevated concentrations of nitrate and nitrite at the Site are associated with current and former operations at the Property. Results for both nitrate and nitrite are in compliance with the proposed CULs at three of the four Property boundary wells (MW-2, MW-10, and MW-13). Nitrate exceeds the proposed CUL at Property boundary well MW-14, but is in compliance at the three adjacent downgradient off-Property wells (MW-18, MW-19, and MW-20). These data are sufficient to bound nitrate and nitrite contamination to within the Property boundary, with the exception of the minor exceedance at MW-16, located on the BNSF property. The magnitude of the exceedance at MW-16 is low enough (exceedance factor less than 2) that active remediation would not be required in this location if groundwater concentrations at interior wells across the Site are brought into compliance, per WAC 173-340-720(9)(e).

Nitrate and Nitrite in Groundwater

Sources

Nitrate and nitrite contamination is a result of current and former fertilizer handling operations. Improved source control is necessary to reduce groundwater concentrations.

Vertical and Lateral Extent

Nitrate and nitrite concentrations are greatest in wells in the central portion of the Property (Figures 6.3 and 6.4). Contamination is confined to the Property boundary, with the exception of a minor nitrate exceedance of the CUL measured on the BNSF property at location MW-16. Concentrations in other upgradient and downgradient wells are less than their CULs (Table 6.9).

Contamination is limited to 15 feet bgs throughout most of the Property. Deeper groundwater contamination may be present near the southwest corner of the Property but does not cause contamination at concentrations of concern in downgradient wells.

Groundwater samples were collected and analyzed for nitrate and nitrite at various depths at six temporary wells (refer to Section 4.3.3). Nitrate results exceeded the proposed CUL at two locations (FS-22 and FS-30). Nitrite results exceeded the proposed CUL only at FS-30. FS-22 is located near MW-4 in the northeastern portion of the Property; FS-30 is located upgradient of MW-14 in the southwestern portion of the Property. At location FS-22, groundwater concentrations were greatest in shallow groundwater. Concentrations in the deeper sample (screened between 9 to 11 feet bgs) were less than half of the concentrations in the shallow sample (screened between 4 to 6 feet bgs). At location FS-30, the opposite was true: concentrations in the deeper sample (screened between 13 to 15 feet bgs) were approximately 2 times greater than the concentrations in the shallow sample (screened between 5 to 7 feet bgs). These results indicate that the nitrate source in the southwestern portion of the Property is potentially older than the nitrate source elsewhere on the Property, because nitrate concentrations would otherwise be expected to decrease with increasing depth. In agricultural areas in Washington, nitrate concentrations in groundwater are related to land use and groundwater recharge: nitrate concentrations typically decrease with increasing depth as a result of increased mixing and transformation processes (DOI 1995).

Results from FS-30 also indicate that in the southwest area of the site, nitrate may be present at levels of concern in groundwater deeper than 15 feet bgs.

Variability in seasonal data was also evaluated. Presuming that current fertilizer handling operations contribute to a portion of the nitrate and nitrite contamination, concentrations are expected to vary seasonally. Box and whisker plots showing data distribution for nitrate, nitrite, and ammonia data are presented in Figure 6.5 to support the discussion of seasonal variability. Figure 6.5 includes charts showing ammonia, nitrate, and nitrite data at MW-1 and MW-6, the nitrate/nitrite source area wells, which are also locations where ammonia data have been collected. Data are normalized relative to nitrate and nitrite CULs. Nitrate concentrations in groundwater at the site do not exhibit a seasonal trend: of the four greatest detected results, two were measured during the dry season[13] (in May and August of 2017 at well MW-6) and two were measured during the wet season (in November 2017 at wells MW-1 and MW-6). The median groundwater concentration does not vary significantly by season. The median[14] nitrate dry season concentration is 21,000 µg/L, and the median wet season concentration is 23,000 µg/L. By contrast, the median ammonia concentration is slightly greater during the dry season than during the wet season. Conversion of nitrogenous material present in ammonia to nitrate during the late summer and early fall could explain the increasing nitrate and decreasing ammonia results observed between August and November 2016 at MW-6; however, this trend is not observed in MW-1. This variability could be related to McGregor operations on the Property, if nitrogen-based and ammonia-based fertilizers are predominantly handled in different areas of the Property. Without more information from McGregor regarding specific products handled and the nature and location of materials handling operations, it is difficult to

[13] The dry season is defined as April through September, to correspond with regional agricultural seasons.

[14] The median concentration during each season is equivalent to the middle line of the box and whiskers plot shown in Figure 6.5.

draw conclusions about seasonal trends in nitrate, nitrite, and ammonia concentrations in the subsurface and whether McGregor operations contribute to the variability.

Similarly, nitrite concentrations in groundwater also do not exhibit a clear seasonal trend. Of the four greatest detected results, three were measured during the dry season (in August 2016 and 2017 at well MW-1 and in May 2017 at MW-6). These data appear to be outliers, because the median groundwater concentration is greater during the wet season than during the dry season. Variability in measured nitrite concentrations likely reflects the variability associated with the rate of conversion of ammonium ions to nitrite and nitrate as part of the nitrification associated with the nitrogen cycle. Nitrification occurs quickly in warm weather and more slowly during cold weather and in wet soil. This would be expected to result in peak nitrite concentrations of greater magnitude and shorter duration in the summer and relatively lower concentrations of nitrate that are more stable in the environment during winter months.

6.3.2 Pesticides and Herbicides

Eight pesticides and herbicides (beta-BHC, aldrin, chlordane, dieldrin, toxaphene, 2,4-D, MCPA, and atrazine) were identified as groundwater COCs. Generally, these pesticide and herbicide COCs can be described as either legacy pesticides or active-use pesticides and herbicides. For purposes of discussion throughout this section, beta-BHC, aldrin, chlordane, dieldrin, and toxaphene are considered legacy pesticides; 2,4-D, MCPA, and atrazine are considered active use pesticides.

All eight of the pesticide and herbicide COCs exceed their proposed CULs at well MW-4, which has the greatest detected pesticide concentrations at the site. The remainder of the discussion of the nature and extent of pesticide and herbicide contamination will group discussion of legacy pesticide contamination separate from active-use pesticides and herbicides.

6.3.2.1 Legacy Pesticides

Five legacy pesticides (beta-BHC, aldrin, chlordane, dieldrin, and toxaphene) are COCs for the Site. These pesticides are considered legacy pesticides because their use has been banned by the USEPA (e.g., chlordane and toxaphene in 1983; dieldrin for all uses in 1987).[15] However, these pesticides are stable in the environment and do not break down easily. Partitioning data for each analyte (i.e., K_{oc} values presented in Table 6.3) indicate that these legacy pesticides can range between moderately mobile to immobile in groundwater; thus, impacted groundwater is expected to remain present near the source of release. Of the five legacy pesticides, toxaphene is the least mobile in groundwater (highest range of K_{oc} values) and aldrin is the most mobile (lowest K_{oc} value).

Despite their differences in mobility, dieldrin and toxaphene have the most widespread detected exceedances, as shown on Figures 6.6 and 6.7, respectively. Groundwater results for other legacy

[15] Dieldrin was banned for all uses except termite control in 1974.

pesticides are shown on Figure 6.8; results for these pesticides exceed their proposed CULs only at locations MW-4 and MW-6.

As previously noted, all three legacy pesticides exceed their proposed CULs at well MW-4. MW-4 is considered a significant source area for the Site: measured concentrations of all legacy pesticides are greatest at MW-4. The ground surface slopes toward MW-4, which is a localized depression that collects surface runoff (Photograph 12, Appendix B). Reported historical operations in the vicinity of MW-4 include pesticide storage and filling; thus, contamination may be attributed to former pesticide handling operations in this area. At MW-1, dieldrin and toxaphene exceed their proposed CULs.

At MW-4, the dieldrin compliance result (0.88 µg/L) exceeds the proposed CUL by a factor of 160. Although concentrations drop sharply with distance from MW-4, the compliance results at MW-16 (0.076 µg/L) also exceeds the proposed CUL by a factor of 14. This trend is also observed for toxaphene in these wells: the compliance result in MW-4 (14 µg/L) is significantly greater than the MW-16 compliance result (1.2 µg/L). MW-16 is upgradient/cross-gradient of MW-4. This pattern of contamination represents a halo effect caused by diffusion of contamination from the source at MW-4, rather than migration of the source in the direction of groundwater flow.

A secondary source of pesticide contamination appears to be present at well MW-6, where dieldrin, toxaphene and beta-BHC exceed their proposed CULs at concentrations that are greater than at wells MW-1 and MW-7. MW-6 is directly north of the AST area where pesticides were historically handled while filling trucks and ASTs. With the exception of dieldrin, legacy pesticides were not detected in groundwater at concentrations exceeding their proposed CULs at any other wells in recent (post-2016) groundwater monitoring events. The downgradient extent of beta-BHC, chlordane, and toxaphene contamination is bounded laterally by MW-2, MW-10, and MW-12, which are downgradient of locations MW-1 and MW-6 (where one or more of these pesticides exceed the proposed CULs). Aldrin contamination is constrained to a smaller footprint immediately surrounding MW-4.

Legacy Pesticides in Groundwater

Sources

Legacy pesticide contamination is a result of former pesticide handling operations.

Vertical and Lateral Extent

Five legacy pesticides (beta-BHC, aldrin, chlordane, dieldrin, and toxaphene) are present at concentrations of concern in groundwater. Legacy pesticide contamination is bounded to the central portion of the Property. Legacy pesticides were detected most frequently in three wells (MW-1, MW-4, and MW-6), with the greatest concentrations measured in MW-4.

Dieldrin and toxaphene exceedances are widespread in groundwater. Contamination is bounded along the southwest property line by results at MW-2, MW-18, MW-19, and MW-20.

Only shallow groundwater (i.e., groundwater less than 15 feet bgs) is impacted.

Dieldrin contamination extends across the site to the southwest corner of the Property at MW-14. Contamination along the west and southwestern Property boundary is bounded by wells MW-10 and MW-2 (western boundary) and MW-18, MW-19, and MW-20 (southwestern boundary). Results at these wells are in compliance with the proposed CUL.

Concentrations of legacy pesticides are generally stable or decreasing in source area wells. Time series charts showing aldrin, dieldrin, chlordane, beta-BHC, and toxaphene results and trends in recent (post-2016) data at locations MW-1, MW-4, and MW-6 are included in Figures 6.9a through 6.9e. Because chlordane and dieldrin were detected relatively frequently in recent events, Figures 6.9b and 6.9c for chlordane and dieldrin also include box and whiskers plots showing the distribution of detected concentrations during the wet and dry seasons.

As shown on Figures 6.9b and 6.9c, both chlordane and dieldrin exhibit a slight seasonal trend, with the greatest detected results typically being measured during the dry season. Because these pesticides are no longer in active use and are not used, handled, or stored at the Property, this trend can be explained by dilution; increased precipitation (rainfall and snowmelt) is potentially diluting pesticide concentrations measured in groundwater during the wet season. Although the greatest detected toxaphene concentration was measured during the dry season, the majority of toxaphene detections have occurred during sampling events conducted in the wet season. This indicates that fluctuations in the water table may impact measured toxaphene concentrations in groundwater, possibly as a result of an increase in particulate-bound toxaphene present in shallow soil being drawn into the groundwater sample. Toxaphene is less mobile and, therefore, mostly bound in surface soils.

Groundwater samples were collected at various depths and analyzed for legacy pesticides at six temporary wells. Dieldrin was the only legacy pesticide detected at any temporary well; the only location where dieldrin was detected was FS-22. FS-22 is located near MW-4. Dieldrin concentrations in the shallow (4 to 6 feet bgs) depth sample from FS-22 were almost 5 times greater than those measured in the deeper (9 to 11 feet bgs) depth sample at this location. These data indicate that pesticide concentrations decrease rapidly with depth, supporting the conclusion that existing groundwater wells are sufficient to bound the depth of groundwater contamination at the site for legacy pesticides.

6.3.2.2 Active-Use Pesticides and Herbicides

Active-use pesticides and herbicides were detected more frequently in groundwater than legacy pesticides. However, most active-use pesticides and herbicides are formulated to be less toxic and less persistent than legacy pesticides (refer to Table 6.3). Three active-use pesticides and herbicides (atrazine, 2,4-D, and MCPA) were detected at sufficient frequency and concentration to become COCs. Although these three analytes are referred to as active-use pesticides and herbicides, they have been in commerce for decades. Therefore, there may be overlap between current use of these pesticides and herbicides at the Property.

Atrazine

Of the three active-use pesticide and herbicide soil COCs, atrazine was detected at concentrations exceeding its proposed CUL most frequently, with 13% of results site-wide exceeding the proposed CUL (Table 6.1). Individual atrazine results exceed the proposed CUL at five well locations (MW-1, MW-4, MW-6, MW-7, and MW-12), as shown in Figure 6.10. However, the compliance results based on average atrazine results exceed the proposed CUL at only two of these wells (MW-4 and MW-6). The maximum detected concentrations of atrazine were measured at well MW-4. Results measured at well MW-4 range from 1.9 to 33 µg/L, with an average detected concentration of 14 µg/L. At this location, both the compliance result and the maximum detected result exceed the proposed CUL by a factor greater than 2. The only other well where individual atrazine results exceed the proposed CUL by a factor greater than 2 is MW-6, which had a maximum detected concentration of 7.9 µg/L. Contamination at MW-4 is suspected to be a result of historical pesticide and herbicide handling operations in the vicinity of the historical loading dock at the north end of the office, and contamination at MW-6 may have been caused by either current or historical operations (e.g., tanker truck and AST filling, as previously described with respect to legacy pesticides).

Active-Use Pesticides and Herbicides in Groundwater

Sources

Active-use pesticide and herbicide contamination is a result of current (and possibly former) pesticide handling operations. Improved source control is expected to reduce groundwater concentrations.

Vertical and Lateral Extent

Active-use pesticide and herbicide contamination is bounded to the central portion of the Property. Atrazine was detected at concentrations exceeding its CUL in only three locations (MW-1, MW-4, and MW-6); MCPA was detected at concentrations exceeding its CUL only at two locations (MW-4 and MW-6); and 2,4-D was detected at concentrations exceeding its CUL only at MW-4.

Only shallow groundwater (i.e., groundwater less than 15 feet bgs) is impacted.

Groundwater samples were collected and analyzed for atrazine at six temporary wells. Atrazine was detected only in temporary wells FS-22 and FS-30 located on the Property. Atrazine concentrations in the temporary wells decrease with depth; measured concentrations in the shallow intervals of FS-22 and FS-30 are significantly greater than concentrations measured in deeper samples. At FS-22, measured concentrations drop from 1.6 µg/L in the shallow interval to 0.44 µg/L in the deeper interval; at FS-30, concentrations drop from 16 µg/L to 1.8 µg/L. Concentrations measured in deep samples at FS-22 and FS-30 (screened at depths from 9 to 11 feet bgs and from 13 to 15 feet bgs, respectively) both meet the proposed CUL. Existing groundwater data at wells throughout the Property are sufficient to bound the vertical extent of atrazine contamination at the site. Only shallow groundwater (i.e., groundwater less than 15 feet bgs) is impacted by atrazine at concentrations of concern.

Atrazine results are in compliance with the proposed CUL at location MW-14; however, because atrazine results exceed the SL, downgradient off-Property wells were installed and analyzed for atrazine at locations MW-18, MW-19, and MW-20. Atrazine was not detected at any of these locations. Average atrazine results are in compliance with the proposed CUL at all of the Property boundary wells. These data are sufficient to bound the lateral extent of atrazine contamination at the Site to interior wells MW-4 and MW-6. Charts presented in Figure 6.11 show trends in groundwater data at wells where atrazine was detected at concentrations exceeding the proposed CUL. At each of these wells, atrazine results show a decreasing trend.

Because atrazine degrades once released to the environment, desethyl atrazine, a common atrazine degradant, was analyzed for at select wells (MW-4, MW-6, MW-12, and MW-14). These wells were selected either because they are source area wells (i.e., wells with the greatest measured concentrations of atrazine) or because they are immediately downgradient of source area wells. As such, these wells were expected to have the greatest concentrations of desethyl atrazine. Samples were collected and analyzed for desethyl atrazine to evaluate whether degradation of atrazine would contribute to human health effects that would otherwise not be accounted for. Desethyl atrazine was nondetect at a reporting limit of 0.06 µg/L in all samples (refer to Appendix E).

Figure 6.11 also includes seasonality information for detected atrazine results. Although the median concentrations during the wet and dry seasons are similar, the greatest detected results were measured in November 2016 and 2017 at location MW-4. These results likely represent a "first flush," whereby heavy rains in the beginning of the wet season wash atrazine on the ground surface into groundwater. Improved source control to reduce spills/leaks of pesticide products containing atrazine, or improved housekeeping practices to clean up spills/leaks of these products, would be expected to reduce atrazine concentrations in groundwater.

2-Methyl-4-chlorophenoxyacetic Acid and 2,4-Dichlorophenoxyacetic Acid

MCPA and 2,4-D have a low magnitude of exceedances site-wide (3% of results or less exceed their proposed CULs; refer to Table 6.1). As shown on Figure 6.12, the greatest detected concentrations of these two pesticides were measured at MW-4. If MW-4 were brought into compliance with the proposed CUL, both chemicals would be screened out as COCs in groundwater because no other results were measured at concentrations greater than 2 times the proposed CUL in any other well.

MCPA was identified as a groundwater COC on the basis of four detected results that exceed the proposed CUL of 8.0 µg/L (Table 6.9). The maximum result was measured at well MW-4, with a detected concentration of 88 µg/L (exceedance factor of 11). As shown in Table 6.9, two other results of 24 and 28 µg/L collected at MW-4 exceed the proposed CUL; each of these results exceeds the proposed CUL by a factor greater than 2. The only other sample with a measured concentration exceeding the proposed CUL was collected at monitoring well MW-6, with a detected concentration of 8.1 µg/L. This result barely exceeds the proposed CUL of 8 µg/L.

2,4-D was retained as a groundwater COC because the maximum result is more than 2 times the proposed CUL. The maximum detected result collected from well MW-4 (260 µg/L) exceeds the proposed CUL by a factor of 3.7 (Table 6.9). Among recent results (collected on or after January 1, 2016) only one sample exceeds the proposed CUL, with a maximum detected result of 210 µg/L (exceedance factor of 3). The average result is in compliance with the proposed CUL at MW-4 and at all other groundwater monitoring locations.

Groundwater samples were collected and analyzed for MCPA and 2,4-D at six temporary wells. MCPA was not detected in any temporary well sample. 2,4-D was detected in samples collected at locations FS-22 and FS-30, but at concentrations more than an order of magnitude less than the proposed CUL. At FS-22, which is proximate to MW-4, concentrations decrease with depth, from 0.15 µg/L in shallow groundwater to nondetect at a reporting limit of 0.08 µg/L in deeper samples. These data indicate that MCPA and 2,4-D contamination is present only in shallow groundwater in the immediate vicinity of MW-4.

TPH in Groundwater

Sources

TPH contamination is a result of former fueling, filling, and fuel handling operations.

Vertical and Lateral Extent

TPH concentrations are greatest in MW-4. Diesel-range TPH also exceeds in well MW-6. Concentrations in all other wells are less than their CULs.

Only shallow groundwater (i.e., groundwater less than 15 feet bgs) is impacted.

6.3.3 Total Petroleum Hydrocarbons

Diesel and oil-range TPH were identified as groundwater COCs on the basis of a limited number of detected results that exceed the proposed CUL of 500 µg/L (Table 6.1). Historically, petroleum fuel (including both diesel- and oil-range TPH) and agricultural products may have flowed toward the low spot surrounding MW-4 during general handling and filling activities in the area. Although less than 2% of oil-range TPH samples exceed the proposed CUL (refer to Table 6.1), the maximum result was detected at a concentration of 1,100 µg/L (exceedance factor of 2.2). As shown on Figure 6.13, oil-range TPH results are in compliance with the proposed CUL at all other wells. All samples collected from temporary wells at locations FS-22 and FS-30 also had oil-range TPH concentrations in compliance with the proposed CUL. These data are sufficient to bound the extent of oil-range TPH contamination both vertically and horizontally to a limited area surrounding MW-4.

Diesel-range TPH results also exceed the proposed CUL at MW-4. The maximum detected result at this location (1,000 µg/L) exceeds the CUL by a factor of 2.0 and was measured in 2014. In samples collected on or after January 1, 2016, the maximum detected result is 750 µg/L (exceedance factor of 1.5). The only other location where groundwater monitoring results exceed the proposed CUL is MW-6. At this location, the maximum diesel-range TPH results is 810 µg/L (exceedance factor of 1.6). Although no individual result or compliance result exceeds the proposed CUL by a factor greater than 2.0, diesel-range TPH was retained as a COC because the 95th percentile result for the dataset as a whole exceeds the proposed CUL.

TPH impacts in groundwater at the site are limited to shallow groundwater (i.e., groundwater less than 15 feet bgs).

Diesel-range and oil-range TPH concentrations in groundwater at the site are less than the SLs recommended in Ecology's Implementation Memorandum No. 14 (Ecology 2016b). Therefore, there is no vapor risk from contaminated groundwater and no further groundwater delineation relative to VI SLs is needed.

6.4 NATURE AND EXTENT OF CONTAMINATION: SOIL

Eleven chemicals were identified as soil COCs based on evaluation of data with respect to the proposed CULs (Section 6.2.1). Soil COCs include lead; six legacy pesticides (aldrin, dieldrin, chlordane, alpha-chlordane, beta-BHC, and toxaphene); two active-use pesticides (atrazine and simazine); total diesel- and oil-range TPH; and dioxins. Results for each of these COCs are included in Table 6.10.

The AOC associated with each soil location is listed in Table 6.10. AOCs are refined from the AOPCs presented in Section 4.0 based on the nature and extent of soil contamination described in the text that follows.

Pesticide contamination is described in Section 6.4.1 (legacy pesticides) and Section 6.4.2 (active-use pesticides); TPH contamination is described in Section 6.4.3; and dioxin/furan contamination is described in Section 6.4.4. Lead exceeds the proposed CUL by a factor greater than 2 times the CUL at only one location (SB-11). It is retained as a COC but is not further described in this section.

Six AOCs were developed based on evaluation of site data in this chapter. AOCs are shown on Figure 6.14 through Figure 6.22 as relevant for particular chemicals. AOCs and briefly described as follows:

- AOC 1: Culvert Source Area
- AOC 2: Rail Spur Loading Area
- AOC 3: Trash Burning Area
- AOC 4: Downgradient Low Spot
- AOC 5: Office and Storage Area
- AOC 6: Machine Shop

6.4.1 Legacy Pesticides

Pesticide data were collected throughout the Property. Four legacy pesticides (aldrin, dieldrin, chlordane, and toxaphene) exceed CULs for the leaching and direct contact pathways; beta-BHC exceeds its proposed CUL for the leaching pathway. Additionally, total DDT and alpha-chlordane exceed their proposed CULs for the direct contact pathway.

Among the seven legacy pesticide COCs, dieldrin and toxaphene are the most widespread contaminants at the site. The nature and extent of these chemicals in soil will be discussed first to develop pesticide AOCs, followed by the nature and extent of contamination for the remaining chemicals, which are generally found within the boundaries of areas where dieldrin and toxaphene contamination is present.

Throughout the discussion in the sections that follow, soil data will be evaluated with respect to proposed CULs to determine whether contamination is bounded. Consistent with WAC 173-340-740(7)(e)(i), soil contamination may be considered bounded for a particular chemical if the measured result in a sample is within 2 times the proposed CUL (that is, the exceedance factor is less than or equal to 2).

6.4.1.1 Dieldrin

Dieldrin exceeds its proposed CUL more frequently than aldrin, chlordane, or toxaphene. This observation is related to dieldrin's greater mobility, as evidenced by its K_{oc} value, which is less than K_{oc} values for either chlordane or toxaphene (refer to Table 6.8).

The nature and extent of dieldrin contamination was evaluated with respect to CULs developed for the leaching and direct contact pathways. The leaching CUL for dieldrin is approximately 10 times less than the direct contact CUL. The leaching CUL is 0.0067 mg/kg, whereas the direct contact CUL is 0.063 mg/kg. Dieldrin is present at concentrations exceeding the leaching CUL in six distinct AOCs on-site, which are shown on Figure 6.14 as AOCs 1 through 6. Figure 6.14 also shows locations where dieldrin was detected at concentrations exceeding the proposed CUL in groundwater to support identification of areas where soil represents a leaching concern to groundwater. Figure 6.15 shows the nature and extent of dieldrin contamination relative to the direct contact CUL.

The greatest detected concentrations of dieldrin in soil were measured within AOC 1 and AOC 2 (Table 6.10). At most locations, dieldrin concentrations are greatest in the uppermost samples

Legacy Pesticides in Soil

Sources

Legacy pesticide contamination is a result of former pesticide handling operations.

Vertical and Lateral Extent

Five legacy pesticides (dieldrin, aldrin, toxaphene, chlordane, and beta-BHC) may be a source to groundwater. The primary areas where leaching is of concern are in the vicinity of MW-4; in the vicinity of former loading and unloading areas near the Rail Spur and office building; and in an area that experiences seasonal ponding near the southwestern Property boundary. Groundwater data along the Property line and in downgradient wells confirm that current legacy pesticide concentrations in soil are protective of off-Property groundwater. Legacy pesticides also exceed direct contact CULs in these areas.

Legacy pesticides also exceed direct contact criteria in isolated areas elsewhere within the Property boundary, including in the southwest corner of the Property and in isolated samples near the Machine Shop.

Throughout the Site, legacy pesticide contamination is generally limited to the top 6 feet of soil.

analyzed, and concentrations decrease significantly with depth. Relative to the direct contact pathway, dieldrin contamination is generally limited to the top 4 feet of soil, as shown on Figure 6.15. However, dieldrin exceeds the direct contact CUL by a factor greater than 2 at depths of 6 or more feet bgs in a limited number of samples within three AOCs: AOC 1, AOC 2, and AOC 5.

Outside of the six AOCs, dieldrin exceedances are low level (less than 2 times the leaching CUL) and spatially isolated. The only location outside of a named AOC where dieldrin exceeds at a concentration greater than 2 times the leaching CUL is Surface-1. Contamination at this location does not need to be remediated based on the following lines of evidence. The location between the southwestern Property boundary and this sample (FS-34) meets the CUL, indicating that (a) this is a localized area of contamination and (b) any contamination between the Property boundary and Surface-1 would be low level and possibly related to off-site activities, a ground surface depression, or the culvert daylighting here. As such, groundwater impacts are not expected. Relative to the direct contact CUL, contamination at Surface-1 is appropriately bounded (exceedance factor of less than 2).

Dieldrin contamination within each of the six AOCs is described below.

AOC 1. The leaching pathway is complete in AOC 1. Within AOC 1 on-Property, dieldrin exceeds the leaching CUL in surface (0 to 1 foot bgs) samples collected from locations FS-05 and FS-06 at concentrations up to 46 mg/kg. FS-05 and FS-06 are located approximately 10 feet from MW-4. Dieldrin contamination is present in groundwater at MW-4, indicating that soil contamination within this AOC is a likely source to groundwater. Dieldrin contamination in AOC 1 extends west as far as FS-18, which is approximately 10 feet from MW-3. The southern extent of AOC 1 is delineated by the nondetect samples at FS-08, which is approximately 20 feet south of FS-22 and 20 feet north of MW-7. Dieldrin was detected at concentrations exceeding the groundwater proposed CUL all three of the aforementioned groundwater sampling locations, which are downgradient of the MW-4 source area.

Dieldrin in groundwater was also measured at concentrations that exceed the proposed CUL off-Property in AOC 1. Collocated soil results in MW-16 exceed the leaching CUL. Contaminated soil at MW-16 is limited to the surface interval (0.5 to 1 foot bgs) and is present at relatively low concentrations compared to adjacent on-Property locations proximate to MW-4 (i.e., FS-05, FS-06, and Culvert). This provides further support that the primary mechanism for groundwater contamination at MW-16 is diffusion, as concluded in Section 6.3.2.1, rather than contaminated soil.

Concentrations in samples collected from FS-05 and FS-06 decrease with depth as shown in Table 6.10: dieldrin concentrations in the 2 to 3 feet bgs samples show a decrease of more than 30-fold from concentrations in the 0.5 to 1 foot bgs samples. Despite the decrease in concentration, dieldrin contamination is not bounded vertically at locations FS-05 or FS-06. The deepest samples analyzed at these locations (from depths of 5 to 6 feet bgs) exceed the leaching and direct contact CULs by a factor greater than 2. Additional samples will be required during remedy design to bound the depth of contamination in this AOC relative to both the direct contact and leaching CULs. The vertical depth of contamination at other locations within AOC 1

is bounded to a depth of 4 feet bgs relative to the direct contact pathway. Relative to the leaching pathway, contamination is expected to extend to depths of 6 to 7 feet bgs throughout much of the AOC.

AOC 2. The leaching pathway is complete in AOC 2. AOC 2 is an area along the southeastern Property boundary near the Rail Spur. Within this AOC, at location FS-27, dieldrin concentrations are greatest in the 3 to 4 feet bgs depth interval and decline in the samples collected in the 4 to 6 feet bgs depth interval. A similar pattern is observed at location FS-28, where dieldrin concentrations in surface soil (0.23 mg/kg at 0.5 to 1 foot bgs) are approximately equivalent to concentrations measured in the 3 to 4 feet bgs depth interval (0.21 mg/kg). Coal fragments are present at an approximate depth of 1.5 feet bgs in boring logs from this area (refer to Appendix D), indicating that the ground surface of the Property was regraded from its historical elevation in the vicinity of FS-27 and FS-28. Elsewhere with AOC 2, contamination is limited to the top 4 feet of soil.

Based on the magnitude of exceedance at FS-27, this location represents the dieldrin saturated soil source area within AOC 2. Dieldrin contamination extends from FS-27 in the direction of groundwater flow. Soil concentrations are expected to be in compliance with the proposed CUL underneath the footprint of the bulk fertilizer building to the southwest of FS-28 and FS-42 based on dieldrin's limited soil mobility.

AOC 3. The leaching pathway is not active in AOC 3. Groundwater in this area (measured at MW-13) is in compliance with the proposed CUL, providing empirical demonstration that dieldrin contamination in shallow soil is not impacting groundwater at levels of concern. Soil samples off-Property to the southeast (FS-34) meet the more stringent leaching CUL and are sufficient to bound contamination along the eastern/southern Property boundary extent. Within AOC 3, dieldrin contamination in shallow soil at locations FS-32 and MW-13 must be addressed relative to the direct contact pathway.

The greatest concentrations of dieldrin in soil were measured at location FS-32. Surface soil (0.5 to 1 foot bgs) had a concentration of 1.6 mg/kg. FS-32 also has the deepest impacts within this AOC: dieldrin exceeds the direct contact CUL at depths of 4 to 5 feet bgs, with a measured concentration of 0.098 mg/kg. Relative to the direct contact pathway, the 4 to 5 feet bgs sample is sufficient to vertically bound contamination: soil in this interval exceeds the direct contact CUL by a factor of less than 2, indicating that dieldrin is unlikely to exceed the direct contact CUL in the 5 to 6 feet bgs sample.

AOC 4. The leaching pathway is complete in AOC 4. Along the western Property boundary, dieldrin was detected at concentrations exceeding the leaching and direct contact CULs at five locations: FS-12, FS-15, FS-29, FS-30, and FS-31. These sample locations are within a localized depression where ponding is frequently observed during wet weather.

Soil contamination is vertically bounded at depths of 3 to 4 feet bgs throughout this AOC. Residual contamination is present at depths of 4 to 5 feet bgs at FS-31. At this location, results exceed the leaching pathway CUL by a factor of less than two. Groundwater wells along the western Property

line and downgradient of the Property boundary (e.g., MW-2, MW-18, MW-19, and MW-20) are sufficient to empirically demonstrate that groundwater contamination does not extend off-site, and soil contamination is bounded to within the Property.

AOC 5. The leaching pathway is complete in AOC 5. Paired results from well MW-1 and nearby soil boring FS-23 indicate that saturated soil underneath the Office and Storage Building may contribute to groundwater contamination at levels of concern. With the exception of FS-23, limited soil data within the building footprint are available in the vicinity of MW-1 and MW-6. However, upgradient soil samples at borings FS-08 and downgradient groundwater samples at MW-10 and MW-2 limit the extent of the area where leaching may be of concern to the area represented by AOC 5 on Figure 6.14. Dieldrin contamination within this AOC exceeds the direct contact and leaching CUL at depths of 5 to 6 feet bgs within AOC 5 (Figure 6.15). Contamination is not vertically bounded at location FS-23, because samples collected in deeper soil intervals were not analyzed for pesticides (Table 6.10).

AOC 6. The leaching pathway is not active in AOC 6. Surface soil (0.5 to 1 foot bgs) samples at two locations near the machine shop (FS-03 and FS-17) exceed dieldrin direct contact CULs. Groundwater wells along the western Property line (e.g., MW-10) are sufficient to empirically demonstrate that groundwater contamination does not extend off-site, and soil contamination is bounded to within the Property. Dieldrin concentrations in the surface sample at FS-21 exceed the direct contact CUL by a factor of less than 2. This result is sufficient to bound the lateral extent of contamination to the southeast; the northern extent of contamination is bounded by FS-04.

Dieldrin was nondetect in the samples from 2.5 to 3.5 feet bgs at locations FS-21, FS-03, and FS-17. These data vertically bound the extent of contamination in this AOC to a depth of 2.5 feet bgs.

6.4.1.2 Aldrin

Once present in the environment, aldrin is converted to dieldrin. This chemical property contributes to the infrequent aldrin detections at the Site and explains why aldrin contamination is present in the same areas as dieldrin. Aldrin exceeds its leaching CUL in AOC 1, AOC 2, AOC 4, and AOC 5 as shown on Figure 6.16. Relative to the direct contact pathway, aldrin exceeds the direct contact CUL only in AOC 1, as shown on Figure 6.17.

The nature and extent of aldrin contamination is described below for each AOC.

AOC 1. The leaching pathway is complete in AOC 1. Sitewide, the greatest detected concentrations of aldrin were measured in surface soil within AOC 1 at locations FS-05 and FS-06. These locations are in close proximity to MW-4, the only location on-site where detected aldrin concentrations exceed the groundwater proposed CUL.

In soil, aldrin exceeds the leaching CUL as far west as FS-19; however, concentrations at FS-19 are on the same order of magnitude as the leaching CUL of 0.0067 mg/kg with a maximum detected concentration of 0.013 mg/kg (exceedance factor of 1.9) and are not expected to

contribute to groundwater exceedances. Indeed, groundwater at location MW-3, less than 20 feet downgradient of FS-19, is in compliance with the proposed CUL. Therefore, FS-19 is used to bound the western extent of aldrin contamination. Results at locations FS-20, Culvert, FS-07, and FS-22 bound the extent of contamination to the north, east, and south.

Within AOC 1, aldrin concentrations decline with increased depth. Aldrin concentrations in the sample collected from 2 to 3 feet bgs at location FS-06 decrease more than 70-fold from 20 mg/kg in the 0.5 to 1 foot bgs sample to 0.24 mg/kg in the 2 to 3 feet bgs sample. The maximum depth of contamination in AOC 1 is expected to be approximately 7 feet bgs based on the sample result in the 5 to 6 feet bgs sample interval at FS-05 and the observed rate of decline in concentration with depth at other sampling locations. The depth of contamination will be further refined during remedy design.

AOC 2. The leaching pathway is not active in AOC 2. Data collected from nearby groundwater well MW-11 provide an empirical demonstration that groundwater is not impacted by aldrin soil contamination within this AOC.

Aldrin was not detected at concentrations exceeding the direct contact CUL within AOC 2. Aldrin exceeds the leaching CUL at three locations within this AOC (FS-27, FS-28, and FS-25; Table 6.10). At FS-25, contamination is limited to the surface soil interval (0.5 to 1 feet bgs) and is present at low concentrations (exceedance factor less than 2). The maximum depth of contamination greater than the leaching CUL within this AOC is 4 feet bgs at location FS-28.

AOC 4. The leaching pathway is not active in AOC 4. Aldrin is in compliance with its proposed groundwater CUL in groundwater wells within AOC 4 (MW-12) and along the western Property line and downgradient of the Property boundary (MW-2, MW-14, MW-18, MW-19, and MW-20). These results are sufficient to empirically demonstrate that soil results that exceed the leaching CUL for aldrin do not impact groundwater.

Aldrin was not detected at concentrations exceeding the direct contact CUL within AOC 4. Aldrin exceeds the leaching CUL at one location within this AOC (FS-29), at relatively low concentrations (0.012 mg/kg; exceedance factor less than 2) in the surface soil interval (0.5 to 1 foot bgs).

AOC 5. The leaching pathway is not active in AOC 5. Nearby groundwater wells MW-1 and MW-6 are sufficient to empirically demonstrate that groundwater is not impacted by soil contamination within this AOC.

Aldrin was not detected at concentrations exceeding the direct contact CUL within AOC 5. Aldrin exceeds the leaching CUL at one location within this AOC (FS-23) in the surface soil interval (0.5 to 1 foot bgs).

6.4.1.3 Toxaphene

Toxaphene exceeds its proposed CULs in the same geographic areas as dieldrin soil exceedances, but the vertical and lateral extent of contamination are typically more constrained as a result of toxaphene's more limited mobility in soil (higher K_{oc} values).

Soil and groundwater data are shown on Figure 6.18 relative to the leaching CUL and proposed groundwater CUL, respectively, to support identification of areas where soil may represent a leaching concern to groundwater. Soil data are shown on Figure 6.19 relative to the direct contact CUL. Toxaphene exceeds the leaching CUL at depths greater than 4 feet bgs only at two locations: at FS-22 in AOC 1 and at FS-27 in AOC 2. At all other locations, toxaphene contamination is vertically bounded at depths of 4 feet bgs or less.

Toxaphene contamination in AOC 6 is low-level (i.e., exceeds the proposed CUL by a factor less than 2) and does not require active remediation. The nature and extent of toxaphene contamination in the remaining AOCs where toxaphene exceeds its proposed CULs described below for each AOC.

AOC 1. The leaching pathway is complete in AOC 1. Within AOC 1, toxaphene exceeds the leaching CUL in surface (0 to 1 foot bgs) samples collected from locations FS-05 and FS-06 at concentrations up to 120 mg/kg. FS-05 and FS-06 are located approximately 10 feet from MW-4. Toxaphene contamination is present in groundwater at MW-4, indicating that soil contamination within this AOC is a likely source to groundwater. Toxaphene exceeds the leaching CUL as far west as FS-19, which is approximately 25 feet from MW-3, and as far south as FS-22. Toxaphene is in compliance with the groundwater proposed CUL at MW-3 and FS-22, which are downgradient of the MW-4 source area. These groundwater results empirically demonstrate that soil exceeding the leaching CUL at FS-19 and FS-22 are not causing groundwater impacts.

Soil samples collected at MW-16 along the eastern boundary of AOC 1 are in compliance with the leaching CUL. However, groundwater results at MW-16 exceed the proposed CUL. This provides further support that the primary mechanism for groundwater contamination at MW-16 is diffusion, as concluded in Section 6.3.2.1, rather than contaminated soil.

Concentrations in samples collected from FS-05 and FS-06 decrease with depth: toxaphene results in the 2 to 3 feet bgs are nondetect at concentrations approximately 10 times less than concentrations measured in surface soil. The maximum depth of contamination within AOC 1 is expected to be 6 feet bgs within the source area (at FS-05 and FS-06) and 4 feet bgs elsewhere throughout the AOC based on measured concentrations in shallow soil at Phase 1 RI sampling locations (e.g., FS-05 and FS-06) and the observed rate of decline in concentration with depth. At other locations in AOC 1 (e.g., FS-19 and FS-22) that are farther from the MW-4 source area, toxaphene is bounded at depths of 4 feet bgs.

AOC 2. The leaching pathway is not active in AOC 2. Within AOC 2, toxaphene concentrations are greatest in the 3 to 4 feet bgs depth interval at locations FS-27 and FS-28. Toxaphene concentrations decline in the samples collected in the 4 to 6 feet bgs depth interval at these

locations. Coal fragments are present at an approximate depth of 1.5 feet bgs in boring logs from this area (refer to Appendix D), indicating that the ground surface of the Property was regraded from its historical elevation in this area. Elsewhere with AOC 2, contamination is limited to the top 4 feet of soil.

Groundwater results at location MW-7 along the northwestern boundary of AOC 2, and proximate to FS-09, exceed the proposed CUL. Groundwater results at other monitoring wells within AOC 2 (i.e., MW-5, MW-8, and MW-11) are in compliance with the proposed CUL. These groundwater results empirically demonstrate that soil exceeding the leaching CUL at FS-02, FS-25, and MW-11 are not causing groundwater impacts. Groundwater results immediately downgradient of FS-27 and FS-28 have not been measured; soil at these two locations is considered a source to groundwater.

The maximum depth of contamination in this AOC is 6 feet bgs in the vicinity of FS-27, based on the observed rate of decline in concentration with depth and the relatively low exceedance factor in the 4 to 5 feet bgs sample (concentration of 1.4 mg/kg with exceedance factor of 1.5). At all other locations in this AOC, toxaphene contamination is vertically bounded at 4 feet bgs.

AOC 3. The leaching pathway is not active in AOC 3. Groundwater in this area (measured at MW-13) is in compliance with the proposed CUL, providing empirical demonstration that toxaphene contamination in shallow soil is not impacting groundwater at levels of concern. Within AOC 3, toxaphene contamination in shallow soil at locations FS-32, FS-33, and FS-35 must be addressed relative to the direct contact pathway.

The greatest concentrations of toxaphene in soil were measured at location FS-32. Surface soil (0.5 to 1 foot bgs) had a concentration of 11 mg/kg (12 times the direct contact CUL of 0.91 mg/kg). Soil samples off-Property to the southeast (FS-34) meet the more stringent leaching CUL and are sufficient to bound contamination along the eastern/southern Property boundary extent.

Toxaphene was not detected in samples from the 2 to 3 feet bgs interval within this AOC, typically with reporting limits less than the direct contact CUL. Toxaphene contamination is limited to shallow (0 to 2 feet bgs) soil in this AOC.

AOC 4. The leaching pathway is not active in AOC 4. Groundwater results within this AOC, along the western Property line, and downgradient of the Property boundary (e.g., FS-30, MW-2, MW-12, MW-14, MW-18, MW-19, and MW-20) empirically demonstrate that soil contamination within this AOC does not impact groundwater at levels of concern. Along the western Property boundary in AOC 4, toxaphene was detected at concentrations exceeding the leaching and direct contact CULs at three locations: FS-12, FS-29, and FS-31. Toxaphene contamination at locations FS-12 and FS-29 must be addressed relative to the direct contact pathway. Soil at location FS-31 exceeds the direct contact CUL by a factor of less than 2 and may remain in place.

The maximum depth of contamination is 2 feet bgs at locations FS-29 and FS-31; contamination extends to 4 feet bgs at location FS-12. Contamination is bounded to the north, south, and east by nondetect results at locations FS-15, FS-30, and MW-12.

AOC 5. The leaching pathway is complete in AOC 5. Toxaphene was detected at concentrations exceeding the leaching CUL in surface soil at FS-23. The maximum depth of contamination at FS-23 is 4 feet bgs; results from the 4 to 5 feet bgs sample are in compliance with the leaching CUL.

Groundwater results from well MW-1, which is approximately 15 feet away from FS-23, indicate that saturated soil underneath the Office and Storage Building may contribute to groundwater contamination. Groundwater results at MW-6 also exceed the proposed CUL for toxaphene, indicating that soil in the vicinity of MW-6 may also exceed the leaching CUL. Few soil samples were collected in the vicinity of MW-1 and MW-6. Upgradient soil samples at boring FS-08 and downgradient soil samples at FS-13, FS-14, and FS-24 limit the extent of the area where leaching may be of concern to a geographic footprint approximately corresponding to the southern half of the Office and Storage Building. Based on results at FS-23 and from other Phase 2 sampling locations across the site, which generally show soil contamination deeper than 4 feet bgs is in compliance with the leaching and direct contact CULs, the maximum depth of toxaphene contamination is expected to be 4 feet bgs.

6.4.1.4 Chlordane and alpha-Chlordane

Chlordane and alpha-chlordane have higher K_{oc} values and are less mobile in soil than dieldrin; this is reflected in the relatively limited extent of chlordane and alpha-chlordane exceedances in soil. Chlordane exceeds its soil proposed CUL by a factor of more than 2 in three of the same geographic areas as dieldrin soil exceedances: within AOC 1 (the MW-4 source area), within AOC 2 (the source area near the Rail Spur at locations FS-27 and FS-28), and within AOC 4 (near the southwest Property boundary at location FS-12). alpha-Chlordane contamination is collocated with chlordane in AOC 1. Chlordane and alpha-chlordane results are both in compliance with proposed CULs in AOC 5 and AOC 6. Chlordane contamination in AOC 3 is low-level (i.e., exceeds the proposed CUL by a factor less than 2) and does not require active remediation.

Soil and groundwater data for chlordane are shown on Figure 6.20 relative to the leaching CUL and proposed groundwater CUL, respectively, to support identification of areas where soil may represent a leaching concern to groundwater. Soil data for chlordane and alpha-chlordane are shown on Figure 6.17 relative to the direct contact CUL.

The nature and extent of chlordane and alpha-chlordane contamination is described below for each AOC.

AOC 1. The leaching pathway is complete in AOC 1. Chlordane concentrations in the surface soil samples collected from FS-05 and FS-06 are 38 and 84 mg/kg. Chlordane concentrations in groundwater samples from nearby groundwater well MW-4 exceed the groundwater proposed CUL.

Chlordane exceeds the leaching CUL as far west as FS-19, which is approximately 20 feet from MW-3, and as far south as FS-22. Chlordane is in compliance with the groundwater proposed CUL at MW-3 and FS-22, which are downgradient of the MW-4 source area. These groundwater results empirically demonstrate that soil exceeding the leaching CUL at FS-19 and FS-22 are not causing groundwater impacts.

Chlordane and alpha-chlordane are in compliance with the direct contact CUL in soil at FS-19 and FS-22. Addressing contamination at FS-05 and FS-06 will resolve exposure concerns with respect to both the leaching and direct contact pathways. The maximum depth of contamination requiring remediation at these locations is expected to be 7 feet bgs based on a sample that exceeds in the 5 to 6 feet bgs interval at FS-05 (2.6 mg/kg; exceedance factor of 2.4) and the observed rate of decline in concentration with depth. At other locations in AOC 1 (e.g., FS-19 and FS-22) that are further from the MW-4 source area, chlordane is bounded at depths of 4 feet bgs.

AOC 2. The leaching pathway is not active in AOC 2. Nearby groundwater wells MW-05 and MW-11 are used to provide an empirical demonstration that groundwater is not impacted by chlordane soil contamination within this AOC. Thus, current concentrations of chlordane in soil in AOC 2 are not of concern for the leaching pathway. Chlordane exceedances of the direct contact CUL (Figure 6.17) must be addressed.

Chlordane exceeds its leaching and direct contact CULs at four locations within this AOC (FS-27, FS-28, FS-02, and FS-09), between the AST containment area and Rail Spur. At these locations, contamination is generally present in the 3 to 4 feet bgs depth interval, consistent with the elevation of surficial soils prior to regrading this area of the Property. The maximum detected concentration of chlordane within this AOC was measured at a concentration of 14 mg/kg, which exceeds the leaching and direct contact CULs (of 1.1 and 2.9 mg/kg) by factors of 13 and 4.8, respectively. Samples from locations along the eastern Property boundary (i.e., FS-26 and FS-10) bound the extent of contamination within the Property boundary. Samples from locations FS-25 and MW-11 bound contamination to the west.

alpha-Chlordane does not exceed its proposed CUL in this AOC.

AOC 4. The leaching pathway is not active in AOC 4. Groundwater wells along the western Property line and downgradient of the Property boundary (i.e., MW-2, MW-14, MW-18, MW-19, and MW-20) are sufficient to empirically demonstrate that groundwater contamination does not extend off-site, and soil contamination is bounded to within the Property.

Chlordane exceeds the leaching and direct contact CUL at two locations within this AOC (FS-29 and FS-12); alpha-chlordane is in compliance with its soil proposed CUL in this AOC. Chlordane contamination is present at concentrations requiring remediation only in the surface soil interval (0.5 to 1 foot bgs) in this AOC; deeper results that exceed the direct contact CUL at FS-12 exceed the CUL by a factor of less than 2. Current concentrations of chlordane in soil in AOC 4 are not of concern for the leaching pathway; however, chlordane exceedances of the direct contact CUL at location FS-29 at depths of 0.5 to 1 foot bgs must be addressed.

6.4.1.5 beta-BHC

beta-BHC does not exceed its preliminary CUL for the direct contact pathway; therefore, its proposed CUL is based on the leaching pathway. Soil and groundwater results for beta-BHC are shown on Figure 6.16. beta-BHC results requiring further evaluation are present within AOC 1, AOC 2, and AOC 5. There are two other locations that exceed the proposed CUL (FS-29 and FS-32); but these results are spatially isolated with low magnitudes of exceedance (exceedance factors of less than 2). Contamination is bounded at 4 feet bgs across the site; in most areas, beta-BHC contamination is limited to the top 1 foot of soil.

AOC 1. The leaching pathway is assumed to be complete in AOC 1. Groundwater results for beta-BHC exceed the proposed CUL at MW-4. beta-BHC was not detected in soil sampling locations proximate (within 20 feet) to MW-4. However, because most of these locations were collected during Phase 1 monitoring events, their reporting limits are elevated with respect to the proposed CUL. The typical maximum depth of contamination is 4 feet bgs, based on the typical maximum depth of contamination for other legacy pesticides across the site and the maximum depth of less-mobile pesticides in AOC 1. Contamination may extend as deep as 6 feet bgs near FS-05.

During Phase 2 sampling events, beta-BHC was detected at concentrations exceeding the leaching CUL within AOC 1 at downgradient locations FS-19 and FS-22. Results at these locations, ranging from 0.0084 to 0.011 mg/kg, exceed the proposed CUL of 0.0067 mg/kg by factors of less than 2. Collocated and proximate downgradient groundwater results at locations MW-3 and FS-22 meet the proposed groundwater CUL, indicating that soil at FS-19 and FS-22 is unlikely to be a source to groundwater. It is assumed that soil at FS-05 and FS-06 within the AOC 1 source zone may be contributing to groundwater exceedances at MW-4. That is, the extent of beta-BHC contamination within AOC 1 is expected to be constrained to a much smaller geographic footprint than observed for other legacy pesticides, like dieldrin.

AOC 2. The leaching pathway may be complete in AOC 2. Collocated soil and groundwater data at AOC 2 were evaluated to determine whether soil exceedances contribute to beta-BHC groundwater contamination at the site. As shown on Figure 6.16, the nearest groundwater well is MW-11, which is less than 20 feet downgradient of FS-28. MW-11 is in compliance with the groundwater proposed CUL.

However, there are no wells immediately downgradient of FS-42 and FS-27, where the greatest detected concentrations of beta-BHC were measured. MW-11 is cross-gradient to these soil sampling locations. Therefore, it is assumed that locations FS-42 and FS-27 may cause or contribute to groundwater contamination in the southern portion of AOC 2.

At FS-42 and FS-27, soil from the 3 to 4 feet bgs depth interval was measured at concentrations of 0.017 and 0.052 mg/kg, exceeding the leaching CUL of 0.0067 mg/kg by factors of 2.5 and 7.8, respectively. The depth of contamination at these locations is bounded at 4 feet bgs by the clean sample from the 4 to 5 feet bgs interval at location FS-27. The lateral extent of contamination within AOC 2 is bounded by results at FS-28, which had a maximum result of 0.0068 mg/kg

(exceedance factor of just more than 1.0), and by TP-2, which is in compliance with the proposed CUL.

AOC 5. The leaching pathway may be complete in AOC 5. Groundwater results for beta-BHC exceed the proposed CUL at MW-6. Soil samples were not collected upgradient of MW-6. The two soil sampling locations closest to MW-6 were both nondetect (FS-13 and FS-23; Table 6.10). These two sampling locations are located downgradient of MW-6 (Figure 6.16). It is possible that upgradient soil near MW-6 is contaminated. The geographic extent of any such contamination is expected to be limited to an area within approximately 20 feet of the well, given the relatively low magnitude of exceedance in groundwater (maximum exceedance of 0.085 µg/L, a factor of 2.0 times the proposed CUL of 0.049 µg/L).

6.4.1.6 DDT

DDT is not a groundwater COC; therefore, the proposed CUL for DDT is 2.9 mg/kg, which is equivalent to the proposed CUL developed for the direct contact pathway. DDT results are shown on Figure 6.17. DDT exceeds its proposed CUL at concentrations requiring remedial action (i.e., at concentrations greater than 2 times the proposed CUL) in one sample at one location: FS-33. FS-33 is present within AOC 3.

At this location, DDT was detected at a concentration of 20 mg/kg (exceedance factor of 6.9) in the 2 to 3 feet bgs depth interval. Results in the 4 to 5 feet bgs soil sample at FS-33 are in compliance with the proposed CUL. Adjacent samples to the north/northwest and southeast at locations FS-35, FS-32, and MW-13 meet the proposed CUL in all sampled depth intervals. These results confirm contamination is vertically and laterally bounded.

6.4.1.7 Summary

The greatest detected concentrations of legacy pesticides were measured in AOC 1, near MW-4. Soil in this area is a source of contamination to groundwater. Soil is also contaminated with legacy pesticides at levels of concern elsewhere at the site, particularly in areas where former pesticide loading, handling, and storage occurred.

Data discussed in Sections 6.4.1.1 through 6.1.4.5 with respect to the leaching pathway demonstrate that the leaching CUL overestimates leaching from soil for several chemicals.

For most legacy pesticides (i.e., aldrin, chlordane, beta-BHC, and toxaphene), soil results that exceed the leaching CULs, even at concentrations more than 10 times the proposed CULs, did not necessarily impact groundwater at levels of concern. This illustrates an important concept with respect to the leaching pathway: if a relatively small amount of high-concentration contamination is present, it is unlikely to cause groundwater contamination at levels of concern. That is, both the concentration (magnitude of exceedance) and the volume of impacted soil are important predictors of groundwater impacts. Remediation levels (RELs) for the leaching pathway will be developed for these chemicals in the FS.

6.4.2 Active-Use Pesticides

Pesticide data were collected throughout the Property. Two active-use pesticides (atrazine and simazine) exceed their proposed CUL for the direct contact pathway. Active-use pesticides were detected at concentrations that exceed their proposed CULs at much lower frequency than legacy pesticides (Table 6.5). Atrazine and simazine were detected at concentrations that exceed their proposed CUL at just one location: FS-28 (refer to Table 6.10) The maximum detected concentrations of atrazine and simazine of 710 mg/kg and 110 mg/kg exceed their proposed CULs of 4.3 and 8.3 mg/kg by factors of 165 and 13, respectively, at this location. Results in the sample from the deeper depth interval (collected from 5 to 6 feet bgs) at this location meet the proposed CUL, indicating that contamination is limited to the top 4 feet of soil.

Results at adjacent sampling locations (i.e., FS-11, FS-27, FS-42, and MW-11) also meet the CUL, bounding the extent of contamination to a discrete area within the Property boundary.

6.4.3 Total Petroleum Hydrocarbons

Total diesel- and oil-range TPH was identified as a soil COC. Results that exceed the proposed CUL for total diesel- and oil-range TPH are shown on Figure 6.21. Generally, chromatograms from site TPH samples, at all depths, show results of a highly weathered middle distillate that is absent of quantifiable C8 through C12 hydrocarbons (refer to Appendix E). These chromatograms indicate that TPH contamination at the site is primarily a result of historical operations, rather than more recent releases associated with current operations.

As shown on Figure 6.21, diesel- and oil-range TPH exceedances in soil are clustered in areas where fuel was transferred from railcars and loaded into ASTs or loaded into trucks for refueling, such as at locations FS-10 (within AOC 2) and FS-23 (within AOC 5).

Active-Use Pesticides in Soil

Sources

Active-use pesticide contamination is a result of recent or former pesticide handling operations.

Vertical and Lateral Extent

Contamination is limited to an area of the Property associated with pesticide handling: an area near the Rail Spur in the southeastern portion of the Property.

Contamination is limited to the top 4 feet of soil.

TPH in Soil

Sources

TPH contamination is a result of former fueling, filling, and fuel handling operations. Leaks and drips from vehicles and equipment impact surface soil.

Vertical and Lateral Extent

TPH contamination is present at three areas of the Property associated with former fuel handling and storage: the office and former refueling area; the Rail Spur; and the AST Containment Area. TPH contamination is found in the top 10 feet of soil in these areas.

Additionally, surface soil (0 to 1 feet bgs) exceeds the proposed CUL at two discrete locations in the northeast portion of the site: FS-01 and Culvert.

Additionally, surface soil exceeds the proposed CUL at two discrete locations in the northeast portion of the site: FS-01 and Culvert. The sample at Culvert was collected at a depth of 0 to 0.25 feet bgs; the sample at FS-01 was collected at a depth of 0.5 to 1 foot bgs. A deeper sample was not collected at Culvert, but a sample result from 2 to 3 feet bgs at FS-01 bounds the contamination at FS-01. The only known source of contamination in the vicinity of FS-01 and Culvert is incidental leaks are spills from vehicle equipment used and parked on the Property. Thus, soil contamination in these areas is expected to be limited to the upper 1 to 2 feet of soil.

The nature and extent of TPH contamination is described below for each of the remaining AOCs.

AOC 2. The only results that exceed the proposed CUL for total diesel- and oil-range TPH by a factor greater than 2 within AOC 2 were collected at depths between 7.5 and 10 feet bgs at locations FS-10, FS-27, and MW-5. These depths are below the biologically active zone (Section 5.2.2.1), which is the same as the conditional POC allowable under MTCA for this pathway per WAC 173-340-7490(4)(a). The maximum result in soil deeper than 6 feet bgs in AOC 2 is 3,300 mg/kg. This result is less than 2 times the direct contact criterion developed for protection of human health (2,000 mg/kg for diesel- and oil-range TPH; Table 5.3). Results from soil samples collected in shallower depth intervals at these three locations (FS-10, FS-27, and MW-5) are less than samples collected at depths greater than 7.5 feet bgs, indicating that deep soil contamination is a result of an older release. This release is likely associated with former loading and unloading operations at the Rail Spur.

Shallow soil samples from locations FS-09, MW-11, FS-27, and FS-28 indicate that more recent releases resulted in surficial soil contamination within this AOC. At these locations, soil in the 0.5 to 1 foot bgs sample depth interval exceeds the proposed CUL, with concentrations dropping significantly in the next deepest soil sampling interval. Samples collected from the 1.5 to 4 feet bgs depth interval at these three locations are in compliance with the proposed CUL. Shallow TPH contamination is not present in surficial samples collected at FS-02, FS-10, and FS-11, indicating that surface soil contamination is a result of small release (e.g., leaks and drips from equipment) rather than a significant spill. The maximum depth of TPH contamination requiring remediation in this AOC is 6 feet bgs at FS-28; soil contamination is typically bounded at shallower depths at other locations within AOC 2.

AOC 4. Site-wide, the greatest concentrations of diesel- and oil-range TPH were measured in samples collected from locations MW-12 and Test Pit #1, which are downgradient of the AST containment area and within AOC 4. The maximum TPH result was detected at a concentration of 21,000 mg/kg (exceedance factor of 46) at MW-12 at a depth of 1.5 to 2 feet bgs. Concentrations measured at MW-12 decrease with depth and are in compliance with the proposed CUL at a depth of 7 to 8 feet bgs. At Test Pit #1, samples were collected at depths of 3 and 5 feet bgs; both samples exceed the proposed CUL. Within AOC 4, diesel- and oil-range TPH exceeds the proposed CUL at location FS-31 at a depth of 8 to 9 feet bgs. The sample from the 9 to 10 feet bgs interval is in compliance with the proposed CUL of 460 mg/kg.

Contamination in AOC 4 is present at depths deeper than the biologically active zone for ecological receptors. However, a total diesel- and oil-range TPH concentration measured at a

depth of 8 to 9 feet bgs at FS-31 (7,000 mg/kg), which exceeds the direct contact criterion for protection of human health (2,000 mg/kg for diesel- and oil-range TPH) by a factor greater than 2.[16] Based on results from FS-31 and MW-12, TPH contamination is vertically delineated at a depth of 9 feet bgs in this AOC.

AOC 5. Contamination within AOC 5 is present in both surface soil (i.e., FS-16 and FS-23) and at depths of 6 to 7 feet bgs (i.e., FS-13 and FS-23). Deep samples at FS-16 and shallow samples at FS-23 indicate that two distinct sources of contamination may be present within this AOC. This observation is supported by the pattern of contamination observed in samples from location FS-23. At location FS-23, TPH concentrations are greatest in surface soil and decrease with depth between 0 and 6 feet bgs; the sample collected at a depth of 5 to 6 feet bgs is in compliance with the proposed CUL. The next sample, collected from a depth of 6 to 7 feet bgs (below the biologically active zone), exceeds the proposed CUL by a factor of 10. The concentration measured in this sample (4,600 mg/kg) is similar to the concentration measured in the surface soil sample from this location (4,900 mg/kg). This sample result exceeds the direct contact criterion for protection of human health (2,000 mg/kg for diesel- and oil-range TPH) by a factor greater than 2. The sample collected from a depth of 8 to 9 feet bgs at this location is in compliance with the proposed CUL of 460 mg/kg.

FS-23 is located within the footprint of the Office and Storage Building. Diesel- and oil-range TPH was nondetect or detected at relatively low concentrations in samples collected from locations both upgradient (MW-1 and SB-11) and downgradient (FS-16 and FS-14) of FS-23.

At location FS-23, contamination is vertically bounded by the sample collected from a depth of 8 to 9 feet bgs. This depth interval was not sampled at location FS-13; however, the sample collected at a depth of 13 to 14 feet bgs at location FS-13 is in compliance with the proposed CUL. Relative to the direct contact criterion for protection of human health, the maximum depth of TPH contamination in this AOC is between 10 and 12 feet bgs.

6.4.4 Dioxins/Furans

Dioxin/furan sampling was conducted in the southeastern corner of the Property in an area where historical burning activities were reportedly conducted. Based on current and historical activities at the Property, dioxin/furan contamination associated with AOC 3 is expected to be limited to surface soil. The maximum depth of dioxin/furan contamination is assumed to be 2 feet bgs.

Sample results confirm the presence of dioxin/furan contamination resulting from these activities: surface soil results at locations FS-32, FS-33, FS-43 and FS-44 range from 23.1 to 92.4 ng/kg (Table 6.10). These results exceed the proposed CUL by factors ranging between

[16] Summed result for total diesel- and oil-range TPH is used as a surrogate for this initial evaluation of protection of human health via the direct contact pathway. Individual results for diesel- and oil-range TPH are presented in Appendix E.

1.8 and 7.1, as shown on Figure 6.22. Contamination is bounded to the southeast, north, and northwest by samples collected from locations FS-34, FS-35, and FS-45, respectively.

The greatest dioxin/furan concentration (92.4 ng/kg) was measured in FS-44, which is located in the southwestern corner of AOC 3 along the southern Property boundary. Relative to the proposed CUL, the extent of off-site contamination along the southwestern boundary of AOC 3 is a data gap that must be filled prior to selection and design of the final remedy. This may be achieved with additional sampling prior to submittal of the Engineering Design Report (EDR).

One additional sample was collected and analyzed for dioxins/furans: a sample from the 2 to 3 feet bgs depth interval was collected from FS-19, located near the machine shop. This sample was collected to determine whether use of lignosulfonate as a dust suppressant is associated with dioxin/furan contamination in deeper soil elsewhere at the site. This sample exceeds the proposed CUL, but by a factor less than 2. This concentration is low enough that the area does not require active remediation for dioxins/furans. Thus, active remediation will be constrained to AOC 3, after completion of additional sampling to bound the extent of off-Property contamination associated with this AOC.

7.0 Conceptual Site Model, Areas of Concern, and Recommendations

This section presents the Characterization Stage CSM (herein referred to as the "CSM") for the Site, including identification of media of concern, contaminant migration and exposure pathways, and receptors. The CSM is illustrated in Figure 7.1 to accompany the discussion in this section.

Based on the nature and extent of COCs described in Section 6.0, AOCs were identified that will be evaluated as part of the FS. The AOCs are summarized on Figure 7.2. The Site boundary is shown on Figure 7.3. This Site boundary includes all locations where contamination greater than the proposed CULs and originating from the activities associated with the Site has come to lie.

7.1 CONCEPTUAL SITE MODEL

Soil and groundwater are the two media of concern at the Site. Potentially active pathways and receptors are summarized below, along with the compliance basis for proposed cleanup standards developed to protect site receptors.

Groundwater. VI is not an active pathway at the Site: current groundwater concentrations are protective of current and future industrial worker and commercial exposure via VI throughout the Site without the need for remedial action (refer to Attachment C.5). Groundwater proposed CULs were developed to be protective of human health via drinking water exposure. Groundwater proposed CULs must be met at the standard POC; that is, at all wells throughout the site to the maximum depth where contamination is present. Groundwater contamination is present at the Site at a maximum depth of 15 feet bgs for all groundwater COCs except for nitrate. Nitrate may exceed the proposed CUL at depths deeper than 15 feet bgs in the southwest Property boundary (i.e., MW-12, FS-30, and MW-14). Groundwater COCs and proposed cleanup standards are summarized in Table 7.1.

Table 7.1
Groundwater Chemicals of Concern, Proposed Cleanup Standards, and AOCs

Chemical	Proposed CUL (µg/L)	Compliance Basis [(1)]	Point of Compliance	AOCs Where Contamination is Present
Miscellaneous Substances				
Nitrate	10,000	Upper Percentile	0–15+ feet bgs	Sitewide
Nitrite	1,000	Upper Percentile	0–15 feet bgs	AOC 1, AOC 5
Legacy Pesticides				
Aldrin	0.0026	True Mean	0–15 feet bgs	AOC 1
beta-BHC	0.049	True Mean	0–15 feet bgs	AOC 1, AOC 5
Chlordane	0.6	True Mean	0–15 feet bgs	AOC 1
Dieldrin	0.06	True Mean	0–15 feet bgs	Widespread within the Site
Toxaphene	0.8	True Mean	0–15 feet bgs	AOC 1, AOC 5

Chemical	Proposed CUL (µg/L)	Compliance Basis [1]	Point of Compliance	AOCs Where Contamination is Present
Active Use Pesticides				
2,4-D	70	True Mean	0–15 feet bgs	AOC 1
Atrazine	3	True Mean	0–15 feet bgs	Widespread within the Property
MCPA	8	Upper Percentile	0–15 feet bgs	AOC 1, AOC 5
Total Petroleum Hydrocarbons				
Diesel-range TPH	500 [2]	Upper Percentile	0–15 feet bgs	AOC 1, AOC 5
Oil-range TPH	500 [2]	Upper Percentile	0–15 feet bgs	AOC 1

Note:

1 Compliance with proposed CULs will be determined using either an upper percentile concentration or the true mean concentration, in accordance with WAC 173-340-720(9)(c) and (e).

2 Ecology has required that diesel-range and oil-range TPH results be summed and compared to a CUL of 500 µg/L. Future assessments of TPH in groundwater (if applicable) will assume the CUL will be summed, per Ecology's requirement. In the draft CAP, it is anticipated that Ecology can establish the final groundwater CUL to reflect the combined diesel-range and oil-range TPH for the Site.

Soil. Soil cleanup standards were developed to be protective of both the highest beneficial use of groundwater and of human and ecological exposure via the direct contact pathway. The vapor sampling data obtained in 2019 indicate that TPH soil concentrations in AOC 5, under the Office and Storage Building, do not pose a significant risk to building occupants and the VI pathway is not active. Thus, soil vapor does not require active mitigation.

Land use at the Site is currently industrial and will remain industrial based on City of Ellensburg zoning and growth plans. At this Site, Ecology determined that CULs must be protective of unrestricted land use, as documented in the PCUL and COPC Memo. Industrial land use does not need to be maintained to ensure current and future protection of human health and ecological receptors, and institutional controls limiting future land use to industrial are not required if the proposed CULs are met. Soil proposed CULs based on exposure via the direct contact pathway must be met throughout the standard MTCA POC of 0 to 15 feet bgs if the basis of the proposed CUL is protection of human health. If the pathway basis is protection of ecological receptors, a site-specific POC of 0 to 6 feet bgs is proposed, based on the depth of the biologically active zone. If the maximum depth where contamination occurs is shallower than these maximum depth thresholds, the POC is the maximum depth where contamination occurs. Finally, for soil proposed CULs based on protection of groundwater via the leaching pathway, the POC is throughout site soil, to the maximum depth where contamination occurs.

Soil COCs and proposed cleanup standards are summarized in Table 7.2. Because legacy pesticides are generally of concern in soil relative to the leaching pathway, data for each of the six legacy pesticides are used to delineate specific areas that could either be an ongoing source to groundwater or risk to human health via the direct contact pathway, using empirical demonstrations of groundwater quality as appropriate for each chemical and AOC.

The POC indicated in Table 7.2 was identified based on the maximum depth of Site contamination as described in Section 6.4.

Table 7.2
Soil Chemicals of Concern, Proposed Cleanup Standards, and AOCs

Chemical	Proposed CUL (mg/kg)	Pathway/Basis	Point of Compliance [1]
Metals			
Lead	250	Direct Contact/ MTCA Method A	AOC 4: 0–2 feet bgs [2]
Legacy Pesticides			
Aldrin	0.0067	Leaching/WAC Eq. 747-1	AOC 1: 0–7 feet bgs [3]
	0.059	Direct Contact/ MTCA Method B	AOC 2: 0–4 feet bgs AOC 5: 0–2 feet bgs
beta-BHC	0.0067	Leaching/WAC Eq. 747-1	AOC 1: 0–6 feet bgs AOC 2: 0–5 feet bgs
Chlordane	1.1	Leaching/WAC Eq. 747-1	AOC 1: 0–7 feet bgs
	2.9	Direct Contact/ MTCA Method B	AOC 2: 0–4 feet bgs AOC 4: 0–1 feet bgs
alpha-Chlordane	2.9	Direct Contact/ MTCA Method B	AOC 1: 0–2 feet bgs
Dieldrin	0.0067	Leaching/WAC Eq. 747-1	AOC 1, 2, 5: 0–7 feet bgs [3] AOC 4: 0–5 feet bgs
	0.063	Direct Contact/ MTCA Method B	AOC 3: 0–6 feet bgs AOC 6: 0–2.5 feet bgs
Total DDT	2.9	Direct Contact/ MTCA Method B	AOC 3: 0–4 feet bgs
Toxaphene	0.84	Leaching/WAC Eq. 747-1	AOC 1 and 2: 0–6 feet bgs AOC 5: 0–4 feet bgs [3]
	0.91	Direct Contact/ MTCA Method B	AOC 3: 0–2 feet bgs AOC 4: 0–4 feet bgs
Active-Use Pesticides			
Atrazine	4.3	Direct Contact/ MTCA Method B	AOC 2: 0–4 feet bgs
Simazine	8.3	Direct Contact/ MTCA Method B	AOC 2: 0–4 feet bgs
Total Petroleum Hydrocarbons [4]			
Total Diesel-and Oil-Range TPH	460 / 2,000	Direct Contact/TEE and MTCA Method A	AOC 2: 0–6 feet bgs AOC 4: 0–9 feet bgs [5] AOC 5: 0–12 feet bgs [5] FS-01: 0-1 feet bgs

Chemical	Proposed CUL (mg/kg)	Pathway/Basis	Point of Compliance (1)
Dioxins/Furans			
Dioxins/Furans	0.000013	Direct Contact/ MTCA Method B	AOC 3: 0–2 feet bgs

Notes:

1 This table lists the maximum depth of contamination requiring remediation for each chemical based on discussion in Section 6.4. The standard POC for the direct contact pathway is 0–15 feet bgs; the standard POC for the leaching pathway is throughout the soil column. If deeper contamination is encountered during remedial activities, the POC depth will be expanded as appropriate.

2 Lead exceeds the soil proposed CUL in two samples from two locations (FS-08 and MW-12) at a maximum depth of 2 feet bgs. Deeper samples at each location bound the depth of contamination. The Ecology-approved data gaps memorandum (Attachment C.6) concludes that lead contamination is bounded at a depth of 2 feet bgs based on detected results collected site-wide.

3 Maximum depth of contamination will be confirmed as necessary during remedial design.

4 The proposed CULs for TPH are protective of the direct contact and leaching pathways. The POC for the TEE criterion of 460 mg/kg is 0 to 6 feet bgs. The POC for the MTCA Method A criterion of 2,000 mg/kg is 0 to 15 feet bgs. The proposed CULs for the petroleum VI pathway are equivalent to the preliminary CUL of 250 mg/kg. VI will be assessed in the FS to determine whether remediation is required to address the VI pathway.

5 TPH contamination exceeding the MTCA Method A criterion (direct contact criterion for protection of human health) by a factor greater than 2 is present in soil deeper than 6 feet bgs. The depth of contamination in this AOC reflects the standard MTCA POC for protection of human health.

7.1.1 Summary of Contaminant Sources and Transport Pathways

Soil and groundwater contaminants at the Site are caused by current and former Site uses, including pesticide and fertilizer handling and storage and the historical transfer and storage of bulk petroleum fuels. Sources of current and historical soil and groundwater contamination include the following:

- Direct releases from equipment washing operations
- Generation of by-products during burning operations
- Direct releases from material storage, use, and handling
- Leaks and spills from equipment, tanks, and machinery
- Leaks and spills during fueling and fuel transfer operations to/from the Rail Spur and to/from ASTs or trucks
- Grading of the ground surface to support changes in operations
- Infiltration of precipitation and overland flow through contaminated soil, causing leaching into groundwater

7.1.2 Summary of Areas of Concern

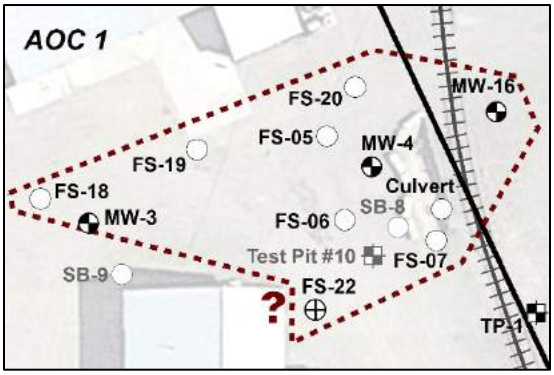
Based on the nature and extent of groundwater and soil COCs, described in Sections 6.3 and 6.4, respectively, the boundaries for each AOPC retained for consideration in Section 6.4 were

updated to form AOCs that will be evaluated as part of the FS. The AOCs are illustrated on Figure 7.2.

The AOC descriptions below include details about the associated soil and groundwater contamination within each AOC. Insets for each AOC show historical and current locations that were used to define the extent of the AOC. All AOCs will be evaluated in the FS during the development and analysis of comprehensive site remedial actions.

Additionally, certain chemicals may be present at the Site outside of defined AOCs as a result of incidental releases during McGregor operations. These chemicals including total diesel- and oil-range TPH in soil; nitrate and nitrite in groundwater; and atrazine in groundwater.

AOC 1 (Culvert Source Area)



AOC 1 represents a historical source area surrounding MW-4, which is lower than the surrounding area and culminates at the culvert. The extent of the AOC encompasses the greatest concentrations of legacy pesticides and oil-range TPH in groundwater at MW-4.

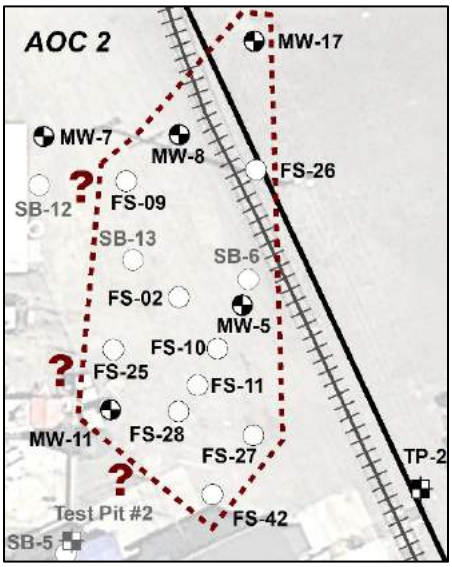
AOC 1 is also associated with active-use pesticides and diesel- and oil-range TPH that are detected at elevated concentrations in groundwater. Soil boring locations FS-05 and FS-06, within AOC 1, contain the greatest concentrations of legacy pesticides in soil exceeding the proposed CULs. In addition, AOC 1 is extended to the west to include soil boring FS-18, which exceeds proposed CULs for legacy pesticides for the leaching pathway.

In groundwater, COCs present at concentrations exceeding their proposed CULs in AOC 1 include nitrate, nitrite, all legacy pesticides (beta-BHC, aldrin, chlordane, dieldrin, and toxaphene), all active use pesticides (2,4-D, MCPA, atrazine), and diesel- and oil-range TPH.

Soil COCs present at concentrations exceeding their proposed CULs in AOC 1 are legacy pesticides (aldrin, beta-BHC, chlordane, alpha-chlordane, dieldrin, and toxaphene); total diesel- and oil-range TPH; and dioxins/furans. Within AOC 1, the maximum depth for pesticides with concentrations exceeding the CULs in soil is approximately 7 feet bgs; pesticides are not detected at depths greater than 6 feet bgs, but clean bounding samples are not available for all chemicals at locations near the source zone (i.e., FS-05 and FS-06). TPH contamination is limited to surface soil, and dioxin/furan contamination is present at low levels (less than 2 times the proposed CUL).

AOC 2 (Rail Spur Loading Area)

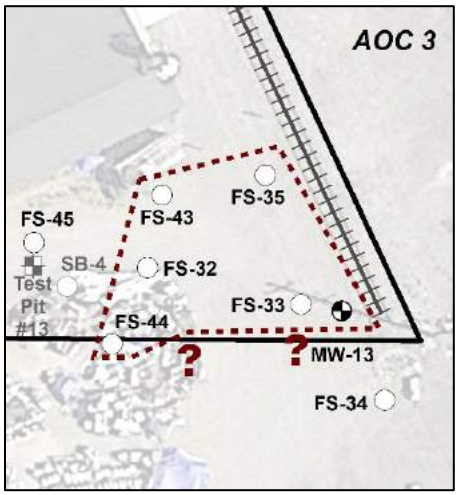
AOC 2 encompasses the area adjacent to the Rail Spur where miscellaneous chemicals were historically transferred from railcars to the ASTs and overhead loading racks. AOC 2 also represents an area of track-out of dry fertilizer from concrete onto gravel. The COCs present at concentrations exceeding the proposed CULs in AOC 2 are encountered primarily in soil and include legacy pesticides (aldrin, beta-BHC, chlordane, dieldrin, and toxaphene), as well as active use pesticides atrazine and simazine. Within AOC 2, the greatest concentrations for pesticides are encountered at depths between 3 and 4 feet bgs with a maximum exceedance depth of 6 feet bgs.



Nitrate and dieldrin exceed their proposed groundwater CULs within this AOC.

AOC 3 (Trash Burning Area)

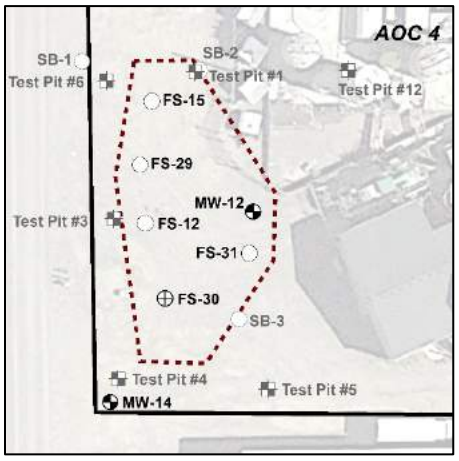
AOC 3 encompasses an area where trash was historically burned. There are no groundwater impacts associated with AOC 3. Dioxins/furans and three legacy pesticides (dieldrin, DDT, and toxaphene) exceed their soil proposed CULs at concentrations by a factor greater than 2 within AOC 3. Chlordane and beta-BHC are also present at concentrations greater than their proposed soil CULs, but with lower-magnitude exceedances. Dioxin/furan contamination associated with AOC 3 is bounded at a depth of 2 feet bgs; pesticide contamination is bounded at a depth of 3 feet bgs.



Pesticide contamination is bounded within the Property boundary. A data gap remains with respect to the extent of dioxin/furan contamination along the southwestern corner of AOC 3 along the southern Property boundary.

AOC 4 (Downgradient Low Spot)

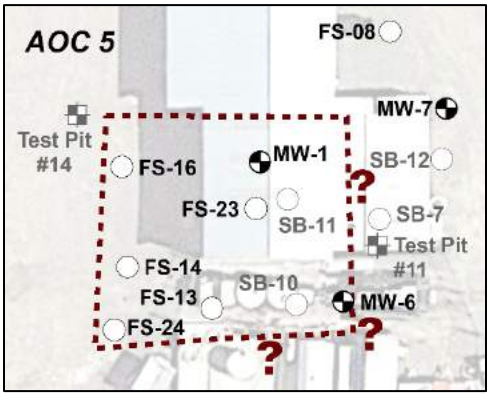
AOC 4 represents a low spot area that experiences seasonal ponding. It is downgradient of the former anhydrous ammonia tank, which was in use from 1995 to 2010. The extent of AOC 4 includes soil contaminated with diesel- and oil-range TPH outside and downgradient of the AST area at locations Test Pit #1, MW-12 and FS-31.



Lead and four legacy pesticides (beta-BHC, chlordane, dieldrin, and toxaphene) exceed their proposed CULs in this AOC. Lead contamination is present at 2 feet bgs. Legacy pesticide contamination is bounded at a maximum depth of approximately 6 feet bgs. TPH contamination is bounded at 9 feet bgs.

Three chemicals (nitrate, dieldrin, and atrazine) exceed their groundwater proposed CULs within AOC 4 or in well MW-14, which is immediately downgradient.

AOC 5 (Office and Storage Area)

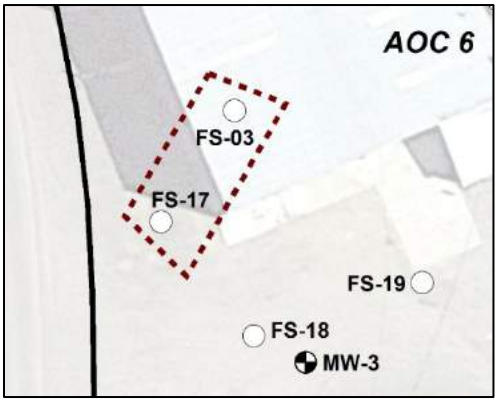


AOC 5 represents the area surrounding the office and former historical refueling area. This area was historically used for petroleum product offloading and storage. Agricultural chemicals were also reportedly offloaded and stored in this area after operations were fully converted from fuel terminal operations.

Soil COCs in this AOC are legacy pesticides (aldrin, dieldrin, and toxaphene) and total diesel- and oil- range TPH. Pesticide contamination is present at a maximum depth of approximately 6 feet bgs and is expected to be bounded at depths of 7 feet bgs. TPH contamination is present at depths of 6 to 7 feet bgs; clean bounding samples are not available at all locations until 12 feet bgs.

Groundwater contamination is present in AOC 5 wells MW-1 and MW-6. The greatest detected nitrate concentrations at the Site were measured at these two wells; nitrite also exceeds its proposed CUL at these locations. Three legacy pesticides (beta-BHC, dieldrin, and toxaphene) exceed their CULs in MW-1 and MW-6. Additionally, two active use pesticides (2,4-D and atrazine) and diesel-range TPH exceed their proposed CULs at MW-6.

AOC 6 (Machine Shop)



AOC 6 is located in the northern portion of the Property near the machine shop. There are no groundwater impacts associated with AOC 6. Surface soil is contaminated for two legacy pesticides (dieldrin and toxaphene) in this AOC, likely as a result of incidental spills during historical operations. Contamination is bounded at depths of 2.5 feet bgs.

7.2 RECOMMENDATIONS

The following bulleted items describe data gaps that will be addressed further in the FS as needed with regard to the nature and extent of contamination and fate and transport.

- There is not a VI risk to occupants in the current office building; however, VI risk to future potential buildings will be assessed in alternative cleanup actions presented in the FS.
- Results from temporary well FS-30 indicate that in the southwest area of the Site, nitrate may be present in groundwater deeper than 15 feet bgs, although the specific depth of impacted groundwater is not well constrained. Future activities to address this data gap may include evaluation of source control measures (such as paving) to address ongoing fertilizer input and monitoring to assess the impact on groundwater.
- The leaching pathway for dieldrin is partially delineated along the downgradient boundary of AOC 2/upgradient boundary of AOC 5. Soil exceeds the leaching CUL within these AOCs, with limited soil samples between them proximate to wells MW-6 and MW-7. Dieldrin exceeds its groundwater proposed CUL in both of these wells. This will be considered during FS development when evaluating remedial alternatives for the Site. Soil in this area is considered a potential source to groundwater unless additional data collected during remedial design bounds the extent of soil contamination in the vicinity of these wells.
- The leaching pathway for dieldrin is partially delineated along the downgradient boundary of AOC 1 by FS-22. Soil exceeds the leaching CUL at this location. The nearest downgradient monitoring well is MW-1 within AOC 5. Dieldrin exceeds its groundwater proposed CUL in MW-1. This will be considered during FS development when evaluating remedial alternatives for the Site. Soil in this area is considered a potential source to groundwater unless additional data collected during remedial design bounds the extent of soil contamination in the vicinity of MW-1.
- The extent of off-site dioxin/furan contamination along the southwestern boundary of AOC 3 is a data gap that must be filled prior to design of the final remedy. This will be achieved with additional sampling as part of pre-design data collection prior to submittal of the EDR, as further described in Section 12.1.1.
- The FS will include source control recommendations to be coupled with site remediation to address nitrate and nitrite contamination in groundwater and prevent contamination from incidental TPH or active-use pesticide releases.

8.0 Feasibility Study

This FS has been developed in accordance with MTCA WAC 173-340-350(8) and includes an evaluation of cleanup action alternatives for contaminated soil and groundwater at the Site. The purpose of the FS is to evaluate cleanup actions that are protective of human health and the environment through elimination, reduction, or control of risks posed through potential exposure and migration pathways present at the Site in compliance with MTCA and its implementing regulations. Based on this evaluation, a sitewide preferred cleanup action is recommended to Ecology for consideration.

8.1 REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) for the Site were developed to specifically identify goals that should be accomplished to meet the minimum requirements of the MTCA cleanup regulations (WAC 173-340). RAOs define the objectives that must also be met by the remedy to ensure substantive compliance with ARARs. RAOs for the Site include the following:

- Remediate soil and groundwater to protect human and ecological receptors from exposure to Site contamination that exceeds applicable CULs.
    - Remove unacceptable human health risk resulting from direct contact with contaminated soil or groundwater.
    - Remove unacceptable potential human health risk from consumption of drinking water.
    - Remove unacceptable future potential human health risk from indoor VI of TPH contamination.
- Comply with local, state, and federal laws (ARARs; WAC 173-340-710) and site-specific cleanup standards (as described in Sections 6.1 and 6.2).
- Provide for compliance monitoring to evaluate the effectiveness of the preferred cleanup action and to determine that the cleanup standards are met.
- Remediate contaminants in a method that does not interfere with or restrict proposed future use plans to operate the Site as an industrial parcel.

8.2 POINTS OF COMPLIANCE

Per WAC 173-340-200, the POC is “the point or points on a site where CULs established in accordance with WAC 173-340-720 through 173-340-760 shall be attained” and includes standard POCs and conditional points of compliance (CPOCs). POCs are established for each impacted medium at the Site, as described in the following sections.

8.2.1 Groundwater

Under MTCA (WAC 173-340-720(8)(b)), the standard POC for groundwater is defined as “throughout the site from the uppermost level of the saturated zone extending vertically to the

lowest most depth which could potentially be affected by the site," which implies that groundwater will meet CULs throughout the Site within a reasonable restoration time frame. Therefore, the standard POC for groundwater is throughout the Site.

Per MTCA (WAC 173-340-720(8)), where it can be demonstrated that it is not practicable to meet the CULs throughout the Site within a reasonable restoration time frame using all practicable methods of treatment, Ecology may approve a CPOC that is as close as practicable to the source area, and typically not extending past the property boundary. The use of a CPOC may be proposed as part of a cleanup action alternative based on whether the alternative can meet CULs Sitewide within a reasonable restoration time frame.

8.2.2 Soil

The standard POCs for soil are based on three pathways of exposure:

- **Direct contact.** The standard POC for all direct contact pathways (irrespective of the receptor) is the top 15 feet of soil per WAC 173-340-740(6)(d) for human health risk assessment and WAC 173-340-7490(4)(b) for ecological risk assessment. This POC is protective of incidental ingestion and dermal contact with soil and does not require the presence of a cap or institutional controls (ICs) to be protective.
- **Leaching to groundwater.** The standard POC for the leaching pathway is soil throughout the Site per WAC 173-340-740(6)(b). This is a cross-media pathway for Sitewide soil that is a potential source of contamination to groundwater.
- **Soil vapor.** The standard POC is from the surface to the uppermost groundwater table, per WAC 173-340-740(6)(c).

For ecological risk assessment, MTCA allows the use of a CPOC for sites with ICs to prevent excavation of deeper soil per WAC 173-340-7490(4)(a). The CPOC can be set at the soil biologically active zone for the direct contact pathway protective of ecological receptors, which is assumed to extend to a depth of 6 feet bgs. If ICs are proposed as part of the remedy for the Site, a CPOC may be used for the protection of ecological receptors via the direct contact pathway.

8.2.3 Air

The POC for ambient and indoor air is Sitewide; however, VI from subsurface contaminants will occur only in enclosed spaces and structures. An initial VI assessment was completed in 2019 to assess whether VI posed an immediate risk to occupants of the office building on-site (refer to Section 4.4). The assessment memorandum, included as Attachment C.3, concluded that VI was not a risk to building occupants. Therefore, further VI assessment was not considered as part of this FS for existing buildings. VI assessment for future structures is discussed in Section 12.1.5 as part of proposed ICs for the Site.

8.3 AREAS OF CONCERN

AOCs were developed based on the nature and extent of soil COCs. Refer to Section 7.1.2 for details about each AOC and the determination for the AOC boundaries. A summary of the COCs in soil and groundwater and depth of contamination for each AOC is presented in this section along with a description of physical features that will affect the remedy or design, and additional pre-design data needs that may affect the boundary extent in certain AOCs. COCs in groundwater exist outside the described AOCs, as described in Section 6.3. In addition, dieldrin and nitrate in groundwater extend past the property boundary at the southwest corner of the Site. Exceedances of groundwater and long-term monitoring will be addressed as part of each alternative. The AOCs and relevant site features are shown on Figure 8.1. For the specific sample locations within each AOC, refer to Figure 7.2.

AOC 1: AOC 1 contains multiple pesticides, TPH, and dioxins/furans in soil at concentrations greater than CULs to a maximum known depth of 7 feet bgs and multiple pesticides, TPH, and nitrate/nitrite in groundwater at concentrations greater than CULs. AOC 1 is along the eastern property edge and extends onto the BNSF property to include MW-16. Remedial actions in this AOC will need to include a buffer from the active BNSF rail line. Elevated concentrations of pesticides are present along the north edge of AOC 1, and additional data collection is needed to better define this boundary prior to design of the final remedy.

AOC 2: AOC 2 contains multiple pesticides in soil at concentrations greater than CULs to a maximum known depth of 7 feet bgs and dieldrin and nitrate in groundwater at concentrations greater than CULs. High concentrations of dieldrin at FS-09 (north side) and FS-27 (south side) are not fully bounded in soil. The containment area (west) and bulk fertilizer building (south) near AOC 2 define these boundaries. AOC 2 is also along the eastern property edge and extends onto the BNSF property. Remedial actions in this AOC would need to include a buffer from the active BNSF rail line.

AOC 3: Multiple pesticides and dioxins/furans are present in AOC 3 in soil to a maximum known depth of 5 feet bgs. There are no groundwater impacts in AOC 3. Additional data collection is needed to better define the lateral extent of off-site dioxin/furan contamination along the southwestern boundary of AOC 3 prior to design of the final remedy. AOC 3 is along the southeastern edge of the property, and remedial actions in this AOC would need to include a buffer from the active BNSF rail line and access to the adjoining property for data collection and cleanup.

AOC 4: AOC 4 contains multiple pesticides and TPH in soil at concentrations greater than CULs to a maximum known depth of 5 feet bgs for pesticides and 9 feet bgs for TPH. Dieldrin and nitrate/nitrite in groundwater are greater than CULs in AOC 4. Elevated concentrations of dieldrin are present along the western edge of AOC 4, and additional data collection is needed to better define this boundary of AOC 4 prior to design of the final remedy. The containment area and bulk fertilizer building define the eastern boundary of AOC 4.

AOC 5: AOC 5 contains multiple pesticides and TPH in soil at concentrations greater than CULs to a maximum known depth of 7 feet bgs for pesticides and TPH (TPH may extend as deep as 12 feet bgs). In groundwater, multiple pesticides, TPH, and nitrates/nitrites are present at concentrations greater than CULs. Elevated concentrations of dieldrin are present in FS-16 in the northwest corner of AOC 5, and additional data collection is needed to better define this boundary prior to design of the final remedy. AOC 5 contains part of the office and storage building, a concrete pad for truck loading and unloading, and the northern edge of the containment area. The office and storage building is an older structure that has underlying contamination that will be considered during the evaluation of cleanup alternatives. The containment area is the southern boundary of AOC 5.

AOC 6: This AOC is characterized by shallow dieldrin and toxaphene in soil at concentrations greater than the CULs to a maximum depth of 2.5 feet bgs. Groundwater contamination is not present in this AOC. The eastern portion of AOC 6 extends beneath the machine shop, and underlying shallow soil contamination will need to be considered during the evaluation of cleanup action alternatives.

Additional data described in the bullets in Section 7.2 will be collected as part of a pre-design investigation prior to submittal of the EDR, as further described in Section 12.1.1.

8.4 REMEDIATION LEVELS

This section discusses the use of RELs at the Site. In accordance with WAC 173 340-200, a REL "means a concentration of a hazardous substance in soil, air, water, or sediment above which a particular cleanup action component will be required as part of a cleanup action at a site." RELs are, by definition, concentrations that exceed cleanup standards and can be used when a combination of cleanup action components are necessary to achieve CULs at a POC. RELs may also be used where soil containment (i.e., under a cap) is part of the cleanup action alternative. A summary of COCs and proposed CULs for the Site is included in Section 6.0. Cleanup actions that use RELs to meet the cleanup standards at a CPOC are also considered to comply with the cleanup standards.

RELs have been developed to identify the concentrations at which different cleanup actions are taken. Multiple cleanup technologies will be necessary in developing cleanup alternatives due to the widespread and varied nature of contamination across the Site. In addition, inaccessible areas of contamination beneath buildings and the containment area and ongoing sources of contamination from continued operational use will need to be addressed. A summary of the Sitewide nature and extent of contamination is presented in Section 7.0.

RELs are proposed only for some COCs in soil. COCs not discussed in the following sections will use their respective proposed CUL to determine the appropriate cleanup action.

Sitewide TPH soil data relative to the proposed RELs and CULs are shown on Figure 8.2, along with the approximate extent of the TPH groundwater plumes. Figures 8.3 through 8.5 provide Sitewide pesticide soil data and groundwater contamination extent at different depth intervals

relative to the proposed RELs and CULs. Figures 8.6 through 8.11 provide pesticide soil data for each AOC relative to the proposed RELs and CULs.

8.4.1 Soil Remediation Levels

Proposed soil RELs are levels that will result in achievement of the RAOs using a combination of source removal and soil containment. Where appropriate, a low-permeability cap would eliminate the direct contact pathway for workers and the leaching pathway of vadose zone soil to groundwater via stormwater infiltration. A low-permeability cap would also control ongoing sources of COCs from current and future industrial operations. Current operational sources of COCs are described in Section 7.1. The long-term goal is to achieve compliance with the proposed CULs in groundwater that are protective of human health via drinking water exposure, as measured at the proposed CPOC. Proposed soil CULs and RELs for Site COCs are presented in Table 8.1. All soil criteria are presented in Table 5.2.

Table 8.1
Soil Chemicals of Concern Proposed Cleanup Levels and Remediation Levels

Analyte	CAS No.	Proposed CUL (Leaching)	Proposed CUL (Direct Contact)	Proposed REL (Leaching)	Proposed REL (Direct Contact)
Metals (mg/kg)					
Lead	7439-92-1	--	250 (1)	--	--
Organochlorine Pesticides (mg/kg)					
Aldrin	309-00-2	0.0067 (2)	0.059 (3)	0.13	0.43
beta-BHC	319-85-7	0.0067 (2)	--	0.13	--
Chlordane	57-74-9	1.1 (2)	2.9 (3)	22	21
Dieldrin	60-57-1	0.0067 (2)	0.063 (3)	0.13	0.46
Total DDT	50-29-3	--	2.9 (3)	--	22
Toxaphene	8001-35-2	0.84 (2)	0.91 (3)	17	6.7
Other Chlorinated/Halogenated Pesticides (mg/kg)					
Atrazine	1912-24-9	--	4.3 (3)	--	32
alpha-Chlordane	5103-71-9	--	2.9 (3)	--	21
Simazine	122-34-9	--	8.3 (3)	--	61

Analyte	CAS No.	Proposed CUL (Leaching)	Proposed CUL (Direct Contact)	Proposed REL (Leaching)	Proposed REL (Direct Contact)
Total Petroleum Hydrocarbons (mg/kg)					
Diesel-range TPH	DRO+ORO	--	460 (4)/2,000 (1)	3,800	--
Oil-range TPH		--		8,700	--
Dioxins/Furans (ng/kg)					
Dioxins/furans	DF_TEQ (U=1/2)	--	13.0 (3)	NA	94.0

Notes:

1 Based on MTCA Method A.
2 Based on WAC Equation 747-1.
3 Based on MTCA Method B.
4 Based on TEE. POC for the terrestrial ecological exposure pathway is the biologically active zone, defined within the Site as 0 to 6 feet bgs. Refer to Section 5.2.2.1.

During engineering design, a Long-Term Compliance Monitoring Plan (LTCMP) will be developed that meets the requirements of WAC 173-340-410. In this plan, cleanup action requirements will be evaluated where soil RELs are used. Performance and confirmation monitoring will be developed during engineering design.

8.4.1.1 Total Petroleum Hydrocarbons

The proposed TPH RELs are based on conservative residual saturation values. A residual saturation value is defined as the concentration at which the petroleum product is not mobile in groundwater. Selection of residual saturation values as RELs is consistent with WAC 173-340-747(3)(g), which states that soil concentrations left on-site must not result in the accumulation of light non-aqueous phase liquid in groundwater. A TPH REL based on residual saturation values is appropriate to use where groundwater exceedances are not of concern and the direct contact pathway has been addressed by other technologies.

Table 15-14 of Ecology's Concise Explanatory Statement for the Amendments to the Model Toxics Control Act Cleanup Regulation (Ecology 2001) identifies residual saturation values for different petroleum products relevant to a variety of soil types.

The sum of total diesel- and oil-range TPH concentrations greater than the combined CUL is present in AOCs 1, 2, 4 and 5. AOCs 2 and 5 include predominately weathered diesel-range TPH, and AOCs 1 and 4 include primarily weathered oil-range TPH. Separate RELs were developed for diesel range-TPH and oil-range TPH to evaluate the collocation of these constituents with diesel- and oil-range TPH groundwater exceedances. The Site geology is characterized as layers of silty sand to silty gravel within the top 5 feet underlain by well-graded sand and gravel, as described in Section 2.7.1. Therefore, the residual saturation values for coarse sand and gravel in Table 15 14 (Ecology 2001) were conservatively chosen to be most appropriate for the Site based

on geology and hydrogeology: 3,879 mg/kg for middle distillates (i.e., diesel fuel) and 8,727 mg/kg for fuel oils.

These values are consistent with studies from the Alaska Department of Environmental Conservation (ADEC). In 2006, ADEC published recommendations from a joint working group that included ADEC, USEPA, and a number of federal stakeholders in Alaska regarding the formation of free product as a function of soil type and petroleum product (ASCWG 2006). The studies proposed residual saturation values of 2,200 mg/kg for middle distillate and 4,800 mg/kg for residual range in coarse gravel, and 6,500 mg/kg for middle distillate and 15,000 mg/kg for residual range in coarse sand (no values were proposed for coarse sand/gravel).

For conservatism, the RELs selected for use at the Site are less than those identified in Table 15 14 (Ecology 2001) and by ADEC. RELs proposed for the Site are 3,800 mg/kg for diesel range TPH and 8,700 mg/kg for oil-range TPH. The distribution of diesel-range TPH and oil-range TPH in soil at concentrations greater than the REL according to depth is shown on Figure 8.2.

8.4.1.2 Pesticides

Two different RELs were developed for pesticides: a REL protective of soil leaching to groundwater and a REL protective of commercial workers exposed via direct contact. The rationale for each of these RELs is described as follows.

Protection of Soil Leaching to Groundwater REL

A REL to protect the soil to groundwater (leaching) pathway was developed using an empirical demonstration by reviewing Site soil and groundwater data to determine at which concentration COCs in soil will not cause an exceedance of the established groundwater proposed CULs. This approach to develop empirical demonstration-based RELs is consistent with WAC 173-340-747(3)(f).

Soil sample locations within an approximately 20-foot radius of groundwater wells were considered collocated for purposes of performing the empirical demonstration.[17] Collocated data for aldrin, beta-BHC, and chlordane indicated that these COCs were present in soil at concentrations greater than 50 times the leaching proposed CUL and leach to groundwater at levels that cause groundwater to exceed CULs (FS-05/FS-06 to MW-4). Elsewhere at the Site, collocated data for these COCs at concentrations between 1 and 5 times the soil proposed CUL did not cause exceedances in groundwater. However, there were no relevant soil data with lesser exceedances collocated with groundwater results that could be used to determine a threshold between 5 and 50 times the leaching proposed CUL that represents soil concentrations sufficient to cause groundwater contamination.

Toxaphene soil data indicate that leaching contributes to groundwater contamination when soil results are greater than 20 times the leaching proposed CUL (FS-23 to MW-1, FS-05/FS-06 to

[17] Soil data collected at distances of up to 30 feet upgradient of groundwater wells were considered collocated when closer soil samples were not available.

MW-4, and FS-09 to MW-7). This threshold does not apply at all locations. For example, there were no exceedances of the toxaphene groundwater proposed CUL at MW-11 where collocated soil data are 60 to 80 times the CUL at nearby FS-27 and FS-28.

Dieldrin soil data also indicate that leaching contributes to groundwater contamination when soil concentrations are greater than 20 times the proposed CUL (nine clustered locations across the Site). Soil data collocated with MW-17 and MW-15, which meet groundwater CULs for dieldrin, exceed dieldrin leaching proposed CULs by exceedance factors ranging between 2 and 10. These data empirically demonstrate that soil concentrations 10 times greater than the leaching proposed CUL do not contaminate groundwater via the leaching pathway.

Based on analysis of Site data, a leaching REL of 20 times the leaching proposed CUL is proposed for pesticides to protect the soil to groundwater (leaching) pathway.

Protection of Commercial Worker Direct Contact REL

Proposed CULs may consider site-specific conditions that limit current and future exposure to contamination in accordance with WAC 173-340-708(10)(b)(i). At this site, exposure assumptions considered in development of the soil preliminary CUL for the direct contact pathway were not modified from their SLs. Therefore, RELs for commercial worker direct contact were developed using MTCA equations for direct contact CULs (WAC Equations 740-1 and 740-2) with considerations of site-specific exposure factors. Table 8.2 lists the exposure factors used in Equations 740-1 and 740-2.

Table 8.2
Exposure Factors Used to Calculate Direct Contact RELs

Criteria	Used Value	Basis
Reference dose	Refer to Appendix G	MTCA Default Value
Average body weight	70 kilograms	Commercial Exposure
Hazard quotient	1 (unitless)	MTCA Default Value
Averaging time	20 years	Commercial Exposure
Soil ingestion rate	150 milligrams per day	Commercial Exposure
Gastrointestinal absorption factor	1 (0.6) [(1)] (unitless)	MTCA Default Value
Exposure frequency	0.40 (unitless)	Commercial Exposure
Exposure duration	20 years	Commercial Exposure

Note:
1 A factor of 0.6 was used for dioxins/furans.

8.4.1.3 Dioxins/Furans

As described in Section 6.2, current dioxin/furan soil concentrations are unlikely to negatively impact soil biota, plants, or wildlife and are, therefore, protective of terrestrial receptors. The proposed REL for dioxins/furans is 94 ng/kg, which is based on protecting worker direct contact. Similar to pesticides, the dioxin/furan REL was calculated using the MTCA equations for direct contact CULs (WAC Equation 740-1 and 740-2) with considerations of site-specific exposure factors. The exposure factors used in Equations 740-1 and 740-2 are listed in Table 8.2.

The extent of dioxin/furan contamination that is located along the southwestern corner of AOC 3 at the southern Property boundary remains a data gap and will be addressed as part of a pre-design investigation, further described in Section 12.1.1. The REL for dioxins/furans may be applied only to contamination within the Property boundary; therefore, dioxin/furan contamination extending past the Property boundary must be addressed to the established CULs.

8.4.2 Groundwater Remediation Levels

Groundwater RELs are not proposed at the Site. Soil RELs described in the preceding sections are intended to be protective of groundwater contamination and, when applied, will allow proposed groundwater CULs to be met long-term at the proposed CPOC. Each COC in groundwater will be included as part of long-term groundwater monitoring for the Site, and compliance will be determined based on compliance with the proposed groundwater CULs at the POC or CPOC, if one is established.

9.0 Remedial Technology Identification and Screening

Remedial technologies were reviewed and considered to address both soil and groundwater contamination at the Site. This section identifies and briefly describes the most common remedial technologies for cleanup of the site-specific COCs for soil (lead, aldrin, beta-BHC, chlordane, dieldrin, total DDT, toxaphene, atrazine, alpha-chlordane, simazine, diesel-range TPH, oil-range TPH, and dioxins/furans) and groundwater (nitrate, nitrite, aldrin, beta-BHC, chlordane, dieldrin, toxaphene, 2,4-D, atrazine, MCPA, diesel-range TPH, and oil-range TPH), and the application and limitations of each technology.

A preliminary technology screening was then completed to eliminate technologies that do not meet RAOs applicable to the Site, are not technically feasible, or do not address the types of contamination present.

9.1 IDENTIFICATION OF REMEDIAL TECHNOLOGIES COMMON TO SOIL AND GROUNDWATER CONTAMINATION

The following technologies may be applicable for remediation of soil and groundwater contamination at the Site and for long-term protection of human and ecological receptors from exposure to contaminated soil and groundwater.

9.1.1 No Action

No action indicates that no active remedial technology would be implemented. No action can provide a reference for comparison of the benefits of other remedial technologies.

9.1.2 Institutional Controls

ICs are physical, legal, and administrative measures that are implemented to minimize or prevent human exposure to contamination by restricting access to the Site. ICs often involve deed restrictions or covenants, site advisories, use restrictions, or consent decrees and would be implemented at the Site to limit or prohibit activities that may interfere with the integrity of any cleanup action or result in exposures to hazardous substances at the Site. ICs are typically implemented in addition to other technologies when those technologies leave COCs on-site at concentrations that could pose a risk to human or ecological receptors. ICs may include documents such as an Operations, Maintenance, and Monitoring Plan (OMMP) that would describe how contamination that remained on-site would be addressed if disturbed in the future.

ICs are applicable to Site soil for protection of terrestrial ecological receptors and are potentially applicable to all Site soil and groundwater COCs.

9.1.3 Monitored Natural Attenuation

Monitored natural attenuation (MNA) involves regular sampling and analysis to monitor the results of one or more naturally occurring physical, chemical, or biological processes that reduce

the mass, toxicity, volume, or concentration of chemicals in site soil or groundwater. These naturally occurring processes may include biodegradation; dispersion; dilution; sorption; volatilization; and chemical stabilization, transformation, or destruction of contaminants. MNA may be implemented as a stand-alone remedial technology or in combination with other remedial technologies.

In soil, natural attenuation would consist mainly of biodegradation of TPH, but it would not be an effective treatment for pesticides and herbicides. MNA is applicable to all groundwater contamination at the Site.

9.1.4 Engineering Controls

Engineering controls are physical measures constructed to block exposure pathways and reduce or eliminate contaminant exposure to ecological and human receptors. Engineering controls focus on controlling or preventing access to the contamination and do not remove or destroy contaminated material. Engineering controls can be used as permanent measures or as temporary measures to prevent exposure to the contamination until a permanent cleanup is implemented.

Any technology designed to block exposure to contaminated material can be considered an engineering control measure. Soil engineering controls include placement of an indicator layer on top of contaminated soil, stabilization of erosion areas, or the use of engineered equipment or access controls (e.g., fencing) to prevent or limit contact with contaminated soil. Installation of a surface cap such as pavement is also an engineering control that blocks exposure to contaminated soil and minimizes infiltration of stormwater through soil that causes leaching to groundwater. Surface capping is discussed separately from other engineering controls in Section 9.1.5.

Engineering controls require maintenance in perpetuity to ensure proper function and prevent exposures. They are typically implemented with ICs and other more permanent technologies. The engineering controls technology is applicable to all Site soil and groundwater COCs.

9.1.5 Surface Capping

Surface capping is a containment remedy that places a physical barrier over contaminated soil to control surface water infiltration, human and ecological exposure via direct contact, and soil erosion. Surface caps can be constructed with pervious material such as gravel or clean fill; impervious material such as asphalt, concrete, or geosynthetic clay liner (GCL); or a combination of those materials. They are engineered to meet the conditions of a site such as permeability requirements, erosion potential, and site use. Existing building slab footprints or paved surfaces can also act as a capped surface if they meet the engineer cap requirements for the site. Stormwater conveyance systems or other types of drainage system may need to be installed in combination with capping if the cap is designed to minimize infiltration or if capping modifies existing grades and associated drainage. Surface capping requires maintenance to preserve

integrity and is typically implemented with ICs that require cap maintenance and define procedures for soil and groundwater management when the cap is penetrated.

The surface capping technology is applicable to all Site soil COCs and is potentially applicable to all Site groundwater COCs.

9.1.6 Enhanced Bioremediation

Bioremediation of groundwater involves the process of using microorganisms in situ to degrade COCs to less- or non-toxic constituents. Microorganisms, nutrients, or oxygen are injected into groundwater to accelerate the natural biodegradation process and aid in the decomposition of COCs. Typical enhancements include oxygen, nitrates, or solid-phase peroxide products. Bioremediation amendments, such as a slow-oxygen-release compound, can be effective in treating residual contamination over a long time (up to 12 months) following implementation. Bioremediation amendments are typically applied to groundwater via a permanent well or temporary injection points. Bioremediation of groundwater is typically effective only once the source of the contamination is removed and is often used in combination with other remedial technologies.

Bioremediation of soil involves the process of using microorganisms in situ or ex situ to degrade COCs to less- or non-toxic constituents. Microorganisms, nutrients, or oxygen are injected into soil to accelerate the natural biodegradation process and aid in the decomposition of COCs. Typical enhancements include oxygen, nitrates, or solid-phase peroxide products. Bioventing involves adding oxygen to vadose zone soil to aid microorganisms already present in breaking down COCs. Bioventing is effective in the vadose zone for degrading TPH and organic vapors but is not effective at treating saturated soil. Mixing of microorganisms, nutrients, or oxygen with contaminated soil can also be accomplished with excavated soil in landfarms. Following degradation of COCs, the landfarmed soil can be replaced on-site.

Bioremediation is applicable to treat TPH, nitrate, nitrite and, to a lesser extent, organic pesticides in Site soil and groundwater.

9.1.7 Chemical Oxidation and Reduction

Chemical oxidation involves injecting oxidizing agents, such as ozone, hydrogen peroxide, or permanganate, into the subsurface to rapidly destroy organic chemicals. Injection can be applied in both vadose and saturated zones but is most effective in treating chemicals in the saturated zone. Applicability of chemical oxidation is dependent on aquifer characteristics, soil types, and the homogeneity of the subsurface, because injected solutions tend to follow preferential pathways through heterogeneous soil. Volumes of injected agent and rate of chemical injection are dependent on the subsurface conditions at the Site. Injection points may be installed as permanent injection wells or may be injected via temporary borings. The effectiveness of injections is quite dependent on-site conditions, which typically are heterogeneous, making it difficult to obtain an even and effective distribution of the oxidant. Further, a high soil oxidant

demand (i.e., high soil organic content that consumes the added oxidant) or other oxidizer sink may significantly reduce the effectiveness of chemical oxidants.

Chemical oxidation is applicable to treat all Site COCs in soil and groundwater.

9.1.8 Thermal Treatment

Thermal treatment (which is commonly applied via electrical resistance heating or thermal conduction) is a process that quickly and evenly heats contaminated waste to volatilize chemicals with low boiling points (e.g., TPH). Vapors are then recovered and typically treated using activated carbon or thermal oxidation. Thermal treatment can be applied as an in situ or ex situ process.

In situ thermal remediation involves passing electrical current or direct heat through zones of contaminated soil and groundwater. With electrical resistance heating, a current is delivered to the subsurface through a series of closely spaced electrodes. Resistance to the flow of electricity between electrodes via the natural resistance of the soil matrix generates heat in the subsurface. Soil consisting of silt can be heated as effectively as sandier zones due to the superior electrical resistance properties of silt or clay. If heated close to the boiling point of water, the heating process volatilizes chemical droplets embedded in soil into a vapor phase. The contaminated vapors, along with steam produced by the boiling of groundwater, are removed from the subsurface through a vapor recovery network for condensation and treatment.

Ex situ thermal treatment requires excavation and placement of the subsurface soil into a treatment cell or combustion chamber. The material is then heated through electrical resistance or application of direct heat to the temperature necessary to volatilize targeted solid and aqueous contaminants into the vapor phase. Ex situ thermal treatment generally allows a shorter and more efficient heating process than in situ thermal treatment because of the ability to homogenize the material inside the treatment cell; however, it requires additional costs in soil excavation and handling.

Thermal treatment is applicable to treat all COCs in soil and groundwater except lead.

9.2 IDENTIFICATION OF REMEDIAL TECHNOLOGIES FOR SOIL

The following technologies may be applicable for remediation of soil contamination at the Site and for long-term protection of human and ecological receptors from exposure to contaminated soil. Soil COCs consist of lead, aldrin, beta-BHC, chlordane, alpha-chlordane, dieldrin, total DDT, toxaphene, atrazine, simazine, diesel-range TPH, oil-range TPH, and dioxins/furans.

9.2.1 Excavation and Landfill Disposal

Excavation of contaminated soil using standard construction equipment is a common method to achieve remediation goals. For off-site disposal, excavated contaminated soil is transported by either truck or rail to an appropriate licensed landfill. The extent of soil removal is defined by remedial design sampling or confirmation soil sampling of the excavated surface prior to backfill,

compaction, and site restoration. Selection of backfill material and site restoration is dependent on site-specific considerations and is typically designed to meet future use of the site. In some circumstances, backfilled material may act as a capped surface if contamination remains deeper than the bottom depth of the excavation. Excavation may require relocation of mobile structures or shoring to maintain sidewall stability. Dewatering or drawdown of the groundwater table may also be required if excavation is to occur below the groundwater table. Excavation depths will vary depending on the depth of contamination, presence of subsurface utilities, and site use.

Excavation is applicable to treat all Site COCs in soil.

9.2.2 Solidification and Stabilization

Solidification and stabilization physically bind or chemically immobilize/stabilize the contamination within the soil matrix, thereby reducing or eliminating contaminant mobility. With solidification, the contaminants are either enclosed or bound within the soil matrix via a binding agent such as cement grout. Stabilization involves adding and mixing a chemical compound with the contaminated soil to make the COC immobile through a chemical reaction that forms a new compound that is less toxic than the parent COC, or through adsorption processes.

Soil mixing with an auger is a remediation technique that can be used to implement solidification or stabilization by mixing amended soil in overlapping soil columns. The soil columns are formed by advancing a large-diameter auger into the subsurface, in combination with a series of mixing shafts. As the mixing shafts are advanced into the soil, grout or slurry containing a reactant that destroys or stabilizes the COC (for example, zero-valent iron [ZVI]) is pumped through the hollow stem of the shaft and injected into the soil. This process generates a large amount of spoils that are difficult to handle and can also leave wedges of untreated soil in the spaces between the installed soil columns.

Solidification or stabilization can also be accomplished in conjunction with excavation by mixing the binding agent into the soil at the base of excavation. This method can be advantageous if deeper excavation is riskier or more expensive due to structural stability.

The solidification and stabilization technologies are applicable to treat all Site COCs in soil.

9.2.3 Soil Vapor Extraction

Soil vapor extraction (SVE) is a process that extracts soil vapor from unsaturated soil pore spaces in the vadose zone by applying a vacuum to the subsurface. Vacuum is applied by a blower connected to extraction wells screened within the unsaturated area of contamination. The controlled flow of air removes accumulated volatile vapors from the unsaturated zone, which causes additional volatilization of chemicals in the soil to the vapor phase. Soil vapor extracted from the subsurface is processed through a treatment system, typically including filters for particulate removal, condensate removal, and treatment by oxidation or carbon filtration. SVE systems may be enhanced with air sparging or groundwater extraction if contamination extends below the water table.

SVE is applicable to the volatile fraction of the TPH soil contamination located in the vadose zone but is not effective in treating the heavy fraction of TPH (higher end of diesel- and oil-ranges) or other Site COCs.

9.3 IDENTIFICATION OF REMEDIAL TECHNOLOGIES FOR GROUNDWATER

The following technologies may be applicable for remediation of groundwater contamination at the Site and for long-term protection of human and ecological receptors from exposure to contaminated groundwater. Groundwater COCs consist of nitrate, nitrite, aldrin, beta-BHC, chlordane, dieldrin, toxaphene, 2,4-D, atrazine, MCPA, diesel-range TPH, and oil-range TPH.

9.3.1 Remediation of Source Soil Contamination

The source of groundwater contamination on-site comes from the direct leaching of soil contamination or the diffusion of contaminated groundwater in contact with contaminated soil. Therefore, the application of technologies to remove or reduce COC concentrations in soil will also be effective in reducing COC concentrations in groundwater. The effectiveness of groundwater remediation via remediation of soil is determined by the degree of COC concentration reduction in soil and the natural attenuation potential for each COC in groundwater. Source removal typically includes groundwater monitoring following remedy implementation to confirm that the soil source to groundwater has been effectively removed and that groundwater concentrations are less than cleanup standards. Compliance may not occur immediately and may require a short time frame for subsurface conditions to stabilize.

9.3.2 In Situ Groundwater Treatment

There are multiple methods for in situ groundwater treatment, each of which typically involves creating a passive treatment zone in the groundwater column. One method of in situ groundwater treatment is a permeable reactive barrier (PRB) wall that intercepts and treats contaminated groundwater flowing from an upgradient source. Groundwater flows through a treatment wall of reactive material, typically composed of ZVI mixed with sand. Permeable barrier walls, such as PRB walls, are generally constructed in one of two configurations, either as a “funnel and gate” configuration that employs angled wing walls to capture and direct the contaminated groundwater to a central treatment unit or as a linear trench intersecting the plume. Groundwater flows according to its natural gradient through the PRB, where the reactive media within the wall react with the dissolved chemicals in groundwater. The life span and effectiveness of a PRB wall is also dependent on the mass of chemicals passing through the wall. PRB walls do not remediate the source area itself but decrease the contaminant solubility or otherwise immobilize the chemicals migrating from the source area with the groundwater. An alternative in situ groundwater treatment method is to create a passive treatment zone by injecting colloidal liquid activated carbon, such as the trademarked Regenesis PlumeStop™, in a formation within or downgradient of the contaminated plume. PlumeStop can also be amended with ZVI or other chemical-reduction compounds.

In situ groundwater treatment is applicable for remediating all Site COCs in groundwater.

9.3.3 Low-Permeability Barrier Wall

Barrier wall containment technologies are implemented to contain chemicals in place and typically do not involve further source area treatment. Vertical containment barriers are placed in the subsurface to cut off groundwater flow and stop chemical migration. They can be constructed using a variety of materials such as metal sheet piling, high-density polyethylene (HDPE), or a slurry mixture. The slurry wall is constructed of a low-permeability material, typically a soil and bentonite clay mixture, that does not degrade in the environment. Barrier walls are typically constructed vertically from the ground surface to a depth greater than the chemical plume in soil and groundwater, or until the wall encounters a confining layer. Containment remedies are often implemented in combination with permanent pumping remedies to maintain inward gradients within the contained area and provide hydraulic control. Barrier walls and hydraulic control require continued monitoring in perpetuity to confirm the hydraulic gradients are maintained and extensive maintenance on the systems installed to pump groundwater to maintain inward gradients. Pumping system operations would also require treatment and disposal of extracted groundwater that is contaminated.

A low-permeability barrier wall is applicable to all Site COCs in groundwater.

9.3.4 Pump and Treat

Pump and treat involves pumping contaminated groundwater from the subsurface and treating it before it is discharged. Treatment is generally conducted by air stripping for VOCs, filtration via activated carbon for organic compounds, or precipitation or ion exchange for metals. Groundwater pump and treat can reduce chemical concentrations in saturated soil slowly by increasing the diffusion of soil contamination into groundwater. Extraction system design and treatment are dependent on the site characteristics and chemical type. Extraction wells may be screened at different levels or intervals to maximize the system effectiveness; however, restoration time frames for pump and treat systems are often very long because pump and treat cannot significantly accelerate the removal of mass from source areas, which are often large enough to leach chemicals into groundwater for long periods of time.

The pump and treat technology is applicable to all Site COCs in groundwater.

9.3.5 Air Sparging

Air sparging is typically used to treat groundwater contaminated with volatile and certain semivolatile chemicals including the volatile fraction of TPH. Air is injected into the contaminated aquifer through injection wells, where it bubbles upward through channels in the soil column, creating an air stripping effect that moves chemicals in groundwater to the air bubble, which migrates to the vadose zone where it can be recovered and treated. Air sparging is limited by contaminant depths and works best in homogenous sandy soil formations that limit preferential pathways for air flow.

The air sparging technology would not be applicable to most Site COCs in groundwater including the heavier diesel- and oil-range TPH contamination and organochlorine pesticides.

9.4 PRELIMINARY SCREENING OF REMEDIAL TECHNOLOGIES

A preliminary screening of the remedial technologies listed in Sections 9.1 through 9.3 was completed in accordance with WAC 173-340-350(8)(b). The objective of the screening was to remove technologies from further evaluation if they clearly did not meet the minimum requirements of the RAOs or had a disproportionate cost to apply based on the site conditions. The preliminary screening process retains or rejects technologies based on the applicability at the Site given: the COCs and impacted media, effectiveness based on proven success at similar sites, applicability of the technology within the Site physical constraints, and the ability of the technology to achieve RAOs. Table 9.1 evaluates each technology compared to these criteria and indicates if the technology was retained or rejected as a result of the screening process.

Based on this preliminary screening step, the following technologies were rejected from further evaluation for remediation of soil or groundwater:

- No action
- Solidification and stabilization
- Enhanced bioremediation
- Chemical oxidation
- SVE
- Thermal treatment
- Low-permeability barrier wall
- Pump and treat
- Air sparging

The remaining technologies were retained for further consideration as part of the cleanup action alternative evaluation in one or more AOCs:

- ICs
- MNA
- Engineering controls
- Surface capping
- Source removal by excavation and landfill disposal
- In situ groundwater treatment

These technologies may be implemented as stand-alone treatments or in combination with other technologies, as appropriate, depending on subsurface conditions. These retained technologies were evaluated for each AOC and then aggregated into Sitewide alternatives for further evaluation as described in Section 10.0.

10.0 Identification of Cleanup Action Alternatives

The technologies that were retained in Section 9.4 have been aggregated into cleanup action alternatives for soil and groundwater contamination at the Site and compiled into Sitewide alternatives, as described in the following sections.

10.1 CLEANUP ACTION ALTERNATIVES

The alternatives summarized in the following sections were selected to address both soil and groundwater contamination at the Site and are presented in order from least protective to most protective. Alternative 1 is a minimum removal alternative, and Alternative 4 is a full removal alternative to the maximum extent practicable. Consistent with WAC 173-340-350(8)(c)(ii)(B)(II), Alternative 4 does not fully meet the definition of a permanent cleanup action because it is not technically possible to address all contaminated soil beneath all active structures, although it addresses the majority of contaminated soil present. The four alternatives are summarized in Table 10.1 and will be evaluated according to the MTCA DCA procedures described in Section 11.0, to compare the costs and benefits of each of the alternatives, and to identify the alternative that is permanent to the maximum extent practicable. A summary of the alternative costs is shown on Table 10.1.

10.1.1 Alternative 1

Alternative 1 is shown on Figure 10.1 and includes the following elements:

- **Excavation:** Localized shallow pesticide contamination in AOC 6 and surface TPH contamination around FS-01 would be excavated to CULs where asphalt is not installed. Excavation of these two areas would remove approximately 60 cubic yards (CY) of contaminated soil. Prior to asphalt capping described below, the top 1 foot of surface soil would be excavated across much of the Site. The total volume of soil removed in Alternative 1 is 1,810 CY. All excavated soil would be disposed of off-site at a permitted Subtitle D landfill facility. The depth of excavation and amount of soil removal are summarized in Table 10.1.
- **Capping:** After excavation of a certain amount of surface soil necessary for grading (likely a minimum of 1 foot),[18] the area would be replaced with crushed surfacing base course (CSBC) and asphalt surfacing to restore the existing grade, which would cap the remaining contamination on-site. The installation of a new stormwater conveyance and treatment system would be a necessary component of this alternative because stormwater currently infiltrates through the gravel surface. Asphalt would not be required in the northern area of the Site where only localized surface contamination is present and is proposed to be excavated.

[18] Most of the surface soil in the AOCs is contaminated; therefore, a limited amount of contaminated soil removal would occur as part of grading that would be necessary prior to asphalt pavement installation.

The asphalt and drainage evaluation for the Site was completed by PBS Engineering and Environmental Inc. (PBS). Current operations, which involve heavy equipment and frequent turning, were considered by PBS to determine the necessary thickness of pavement and CSBC (refer to the asphalt cross section on Figure 10.1). The addition of pavement and stormwater infrastructure would trigger permit coverage under the Industrial Stormwater General Permit (ISGP) and would likely require stormwater treatment as part of the system design.

Existing structures (i.e., the office and storage building) that have contaminated soil beneath them will also function as a cap. Monitoring the integrity of these structures will be required as part of the ICs.

In addition to shallow excavation and capping, MNA and ICs would be a component of this alternative, as described in Sections 10.2 and 10.3. A CPOC would be established along the downgradient property boundary and long-term groundwater monitoring would be necessary to monitor groundwater recovery and compliance with cleanup standards. Of note, the asphalt surface would require periodic maintenance and eventual replacement over time given the temperature extremes in Ellensburg and load and turning requirements of heavy machinery used on property.

The estimated cost for Alternative 1 is $2,508,000, as shown in Table 10.1 and Table I.2 of Appendix I.

10.1.2 Alternative 2

Alternative 2 is shown on Figure 10.2 and includes the following elements:

- **Excavation:** Remove soil with COC concentrations greater than commercial worker direct contact RELs for pesticides and dioxins/furans,[19] RELs for TPH, and CULs for other COCs (lead and pesticides without established RELs) and dispose of off-site at a permitted Subtitle D landfill facility. Localized shallow pesticide contamination in surface soil in AOC 6 and surface TPH soil contamination around FS-01 would be excavated to CULs. Alternative 2 would remove a total of 2,610 CY of contaminated soil. The depth of excavation and amount of soil removal in each AOC is summarized in Table 10.1.
- **Geosynthetic Clay Liner:** A GCL would be installed in portions of AOC 1 and AOC 2 and throughout AOC 4 to provide a protective barrier to remaining pesticide contamination at concentrations greater than leaching RELs in areas with the most significant groundwater contamination. The total area of GCL installed will equal approximately 22,300 square feet (SF). The surface layer will be excavated in areas where GCL will be placed outside excavation footprints to an approximate depth of 1.5 feet bgs. The GCL will be extended beyond the area of known contamination and

[19] If pre-design data show that contamination in AOC 3 extends off-property, then excavation off-property will be designed to meet CULs

would provide a secondary benefit of source control in the primary traffic route for current bulk fertilizer loading operations. The GCLs would be constructed with a gentle slope to shed water and direct infiltrated precipitation to respective drainage trenches. One trench would be installed along the east side of the facility to manage flow from the northeast GCL, and a second trench would be installed along the south side of the facility to manage flow from the southwest GCL. Both trenches would have a perforated underdrain within the GCL footprint and would be filled with gravel to convey surface runoff and shallow subsurface flow from above the GCL. Outside of the GCL footprint, the conveyance lines would be solid conveyance pipe to prevent exfiltration of collected surface water to other areas of the Site. Both trenches would drain to a single collection manhole that would be installed near the existing culvert in the southeast corner of the facility to allow sedimentation of solids before infiltration and discharge to an existing swale. The GCL and drainage evaluation was performed by PBS.

- **In Situ Groundwater Treatment:** A liquid activated carbon matrix (such as PlumeStop) would be injected into the subsurface along the downgradient edge of AOC 5 to passively treat groundwater contamination migrating from underneath the office and storage building. The liquid activated carbon is a colloidal substance that coats the surface of soil particles and adsorbs organic contaminants in groundwater to immobilize the contaminants from migrating further.
- **Capping:** Contaminated soil with COC concentrations greater than direct contact RELs will require a cap to protect worker direct contact exposure. The cap will include the office and storage building in AOC 5, which covers TPH- and pesticide-contaminated soil, and the GCL in AOC 4, which covers deeper TPH-contaminated soil. Monitoring the integrity of these structures will be required as part of the ICs.

In addition to excavation, GCL, groundwater treatment, and capping, MNA after excavation of contaminated soils and ICs would be a component of this alternative, as described in Sections 10.2 and 10.3. In addition, a CPOC would be established along the downgradient property boundary and long-term groundwater monitoring would be necessary to monitor groundwater recovery and compliance with cleanup standards. The GCL is presumed to require less maintenance than an asphalt surface because the gravel surface above the GCL is more conducive to ongoing operations.

The estimated cost for Alternative 2 is $2,087,000, as shown in Table 10.1 and Table I.3 of Appendix I.

10.1.3 Alternative 3

Alternative 3 is shown on Figure 10.3 and includes the following elements:

- **Excavation:** Remove soil with COC concentrations greater than leaching RELs for pesticides, RELs for TPH and dioxins/furans,[20] and CULs for other COCs (lead and pesticides without established RELs) and dispose of off-site at a permitted Subtitle D landfill facility. Localized shallow pesticide contamination in surface soil in AOC 6 and surface TPH soil contamination around FS-01 would be excavated to CULs. Alternative 3 would remove a total of 3,070 CY of contaminated soil. The depth of excavation and amount of soil removal in each AOC is summarized in Table 10.1.
- **Geosynthetic Clay Liner:** A GCL would be installed in portions of AOCs 1 and 2 to provide a barrier to remaining pesticide contamination at concentrations greater than leaching CULs in areas with exceedances of groundwater CULs. The surface layer will be excavated in areas where GCL will be placed outside excavation footprints to an approximate depth of 1.5 feet bgs. The total area of GCL installed will equal approximately 15,650 SF. A GCL would not be installed in AOC 4 because pesticide concentrations greater than the empirically based leaching CULs would be removed and pesticide concentrations in groundwater in this area is less than 10 times the CUL, which is expected to meet cleanup standards within a reasonable time frame. The GCL across AOC 1 and AOC 2 would be extended beyond the area of known contamination and would provide a secondary benefit of source control within the primary traffic route for current bulk fertilizer loading operations. The GCL would be constructed with a gentle slope to shed water and direct infiltrated precipitation to respective drainage trenches. One trench would be installed along the east side of the facility to manage flow from the GCL. This trench would have a perforated underdrain within the GCL footprint and would be filled with gravel to convey surface runoff and shallow subsurface flow from above the GCL. Outside of the GCL footprint, the conveyance lines would be solid conveyance pipe to prevent exfiltration of collected surface water to other areas of the Site. The trench would drain to a single collection manhole that would be installed near the existing culvert in the southeast corner of the facility to allow sedimentation of solids before infiltration and discharge to an existing swale. The GCL and drainage evaluation was performed by PBS.
- **In Situ Groundwater Treatment:** A liquid activated carbon matrix (such as PlumeStop) would be injected into the subsurface along the downgradient edge of AOC 5 to passively treat contaminated groundwater migrating from underneath the office and storage building. The liquid activated carbon is a colloidal substance that coats the surface of soil particles and adsorbs organic contaminants in groundwater.
- **Capping:** Contaminated soil with COC concentrations greater than direct contact RELs will require a cap to protect worker direct contact exposure. The cap will include the

[20] If pre-design data show that contamination in AOC 3 extends off-property, then excavation off-property will be designed to meet CULs.

office and storage building in AOC 5, which covers TPH- and pesticide-contaminated soil, and the new gravel surface in AOC 4, which covers deeper TPH-contaminated soil. Monitoring the integrity of these structures will be required as part of the ICs.

MNA after excavation of contaminated soils and ICs would be a component of this alternative, as described in Sections 10.2 and 10.3. In addition, a CPOC would be established along the downgradient property boundary and long-term groundwater monitoring would be necessary to monitor groundwater recovery and compliance with cleanup standards.

The estimated cost for Alternative 3 is $2,107,000, as shown in Table 10.1 and Table I.4 in Appendix I.

10.1.4 Alternative 4

Alternative 4 is shown on Figure 10.4 and includes the following elements:

- **Excavation:** Remove soil with COC concentrations greater than CULs to the maximum extent practical for all COCs and dispose of off-site at a permitted Subtitle D landfill facility. The office and storage building would be demolished to access the area of contamination beneath the building. Deeper areas of excavation would require shoring or soil layback to stabilize the excavation side slopes, and dewatering of the excavation would require treatment and disposal of extracted groundwater. Following remediation, the office and storage building would be restored to resemble existing conditions. Alternative 4 would remove a total of 5,370 CY of contaminated soil. The depth of excavation and amount of soil removal in each AOC is summarized in Table 10.1.
- **Capping:** Existing structures (i.e., the office and storage building) that have contaminated soil beneath them will also function as a cap. Monitoring the integrity of these structures will be required as part of the ICs.

MNA after excavation of contaminated soils and ICs would be a component of this alternative, as described in Sections 10.2 and 10.3. In addition, a CPOC would be established along the downgradient property boundary and long-term groundwater monitoring would be necessary to monitor groundwater recovery and compliance with cleanup standards.

The estimated cost for Alternative 4 is $3,173,000, as shown in Table 10.1 and Table I.5 of Appendix I.

10.2 MONITORED NATURAL ATTENUATION AND GROUNDWATER MONITORING

The technologies proposed for each alternative address soil contamination and will facilitate the recovery of groundwater contamination by removing the source of contamination or by capping contamination to block the infiltration of stormwater, which leads to groundwater leaching. Nitrate and nitrite are widespread contaminants in groundwater but are not COCs in soil; therefore, the proposed technologies will serve to remove source material and block infiltration

of stormwater in areas with the greatest concentrations of these COCs in groundwater. MNA for groundwater is a component of each alternative after excavation of contaminated soils, and natural attenuation processes would be assumed for long-term groundwater recovery. Therefore, post-remedy groundwater monitoring would be part of each alternative after remedy implementation to confirm that natural attenuation is occurring and downward concentration trends are apparent after remedy implementation. Specific details for long-term groundwater monitoring will be included in a Groundwater Monitoring Plan (GMP). The GMP will describe required post-construction groundwater monitoring and adaptive management to ensure the long-term protectiveness of the selected remedy and will be part of a LTCMP for the Site, which will be prepared as part of engineering design.

10.3 INSTITUTIONAL CONTROLS

ICs are legal and administrative controls intended to restrict human activities such that exposure to contaminants can be prevented or reduced. ICs will be included for the selected remedy for the Site. Specific ICs for the Site would include restrictions on land use, resource use (i.e., prohibit the use of groundwater within Site boundaries as drinking water), and provisions for maintaining the cap as a barrier to subsurface soil contamination, if warranted.

A Soil Management Plan (SMP) would be prepared as part of the ICs to identify where contaminated soil remains on-site. Any activities that would be proposed within these restricted areas would require compliance with the SMP, which would outline health and safety protocols along with soil handling and management procedures. The SMP will also provide details for routine inspection and maintenance of remedial elements (such as the cap, the drainage system, and monitoring wells) and will be part of the LTCMP for the Site. Lastly, contingency actions, as described in Section 12.3, would also be included in the LTCMP should conditions or site-use change in the future.

11.0 Cleanup Action Alternatives Evaluation and Disproportionate Cost Analysis

In this section, the cleanup action alternatives developed for the Site are evaluated against the MTCA requirements for a cleanup remedy per WAC 173-340-360.

11.1 CLEANUP ACTION ALTERNATIVE EVALUATION

This section provides a summary of the requirements and criteria that each remedial alternative is evaluated against in accordance with MTCA. Each of the proposed cleanup action alternatives is screened relative to mandatory "MTCA Threshold Requirements" and "Other MTCA Requirements" for evaluation. A DCA is conducted to identify the alternative that is "permanent to the maximum extent practicable," using DCA evaluation criteria. Based on these evaluations, a Preferred Cleanup Action Alternative is selected for recommendation to Ecology.

11.1.1 Model Toxics Control Act Threshold Requirements

WAC 173-340-360(2) states that when multiple cleanup action components are implemented for a single site, the overall cleanup action components shall also meet the minimum requirements of WAC 173-340-360(2)(a):

- **Protect Human Health and the Environment.** Protection of human health and the environment shall be achieved through implementation of the selected cleanup action.
- **Comply with Cleanup Standards.** Cleanup standards, as defined by MTCA, include CULs for hazardous substances present at the site; the location, or POC, where the CULs must be met; and any regulatory requirements that may apply to the site due to the type of action being implemented and/or the location of the site.
- **Comply with Applicable State and Federal Laws.** WAC 173-340-710 states that cleanup standards shall comply with applicable state and federal laws. Section 12.5 identifies the ARARs for the preferred alternative for this Site.
- **Provide for Compliance Monitoring.** MTCA requires that all cleanup action alternatives provide for compliance monitoring as described in WAC 173-340-410. Compliance monitoring includes protection monitoring during remedial implementation to monitor short-term risks and confirm protection of human health and the environment during construction activities. Performance monitoring will assess short-term remedy effectiveness and confirm compliance with the CULs immediately following remedy implementation. Confirmation monitoring will evaluate long-term effectiveness of the cleanup action following attainment of the cleanup standards.

Cleanup alternatives that meet the threshold requirements must also fulfill other MTCA requirements described in WAC 173-340-360(2)(b). These additional requirements include the following:

- **Use Permanent Solutions to the Maximum Extent Practicable.** The use of permanent solutions to the maximum extent practicable for a cleanup action is analyzed according to the procedure described in WAC 173-340-360(3). Preference is given to

alternatives that implement permanent solutions, defined in MTCA as actions that can meet cleanup standards "without further action being required at the site being cleaned up or any other site involved with the cleanup action, other than the approved disposal of any residue from the treatment of hazardous substances" (WAC 173-340-200). Under WAC 173-340-360(2)(h), a DCA is required for a cleanup action that uses RELs.

- **Provide for a Reasonable Restoration Time Frame.** A cleanup action shall provide for a reasonable restoration time frame. The factors to be considered when determining the reasonable restoration time frame are listed in WAC 173-340-360(4)(b) and include, but are not limited to, the potential risks posed by the site, the practicability of achieving a shorter restoration time frame, and the current and expected future use of the site.
- **Consideration of Public Concerns.** Public involvement must be initiated according to the requirements set forth in WAC 173-340-600. Ecology's decision on alternative selection will be presented for public comment in the draft CAP.

11.2 EVALUATION OF THRESHOLD REQUIREMENTS

All of the proposed Sitewide cleanup action alternatives meet the MTCA Threshold Requirements as described below:

- **Protection of Human Health and the Environment.** The proposed alternatives provide varying degrees of protection of human health and the environment through methods of contaminated mass removal by excavation or passive in situ groundwater treatment. All of the proposed alternatives are capable of achieving the proposed CULs for protection of groundwater as drinking water, as measured at the CPOC.
- **Comply with Cleanup Standards.** Cleanup standards for soil are expected to be met by all alternatives through the proposed active remediation methods or by implementing engineering controls and ICs to prevent exposure. Groundwater CULs are anticipated to be met at the CPOC by all alternatives over the predicted restoration time frame.
- **Comply with Applicable State and Federal Laws.** All alternatives address and comply with all relevant and applicable state and federal laws relevant to this project, as described in Section 12.5.
- **Provide for Compliance Monitoring.** All alternatives would include compliance monitoring throughout the cleanup area per WAC 173-340-410. For any alternative selected as the preferred cleanup action, a GMP would be prepared as part of the LTCMP and would include long-term groundwater monitoring to be conducted following completion of cleanup activities to evaluate compliance with proposed CULs at the CPOC.

11.3 EVALUATION OF RESTORATION TIME FRAME

Site-specific groundwater conditions may be taken into consideration under WAC 173-340-360(4)(b) when considering the definition of a reasonable restoration time frame and whether it is practicable to achieve a shorter restoration time frame. Two of the COCs in groundwater, dieldrin and nitrate, are present at high magnitudes across a large portion of the Site and extend off-Property in the southwest corner. The maximum compliance result of dieldrin in groundwater was 0.88 µg/L at MW-4 during the March 2020 sampling event, which is 160 times the proposed groundwater CUL of 0.0055 µg/L based on potable groundwater consumption. Nitrate, which is a COC only in groundwater, had a maximum compliance result of 220,000 µg/L at MW-6 in the central portion of the Site, which is 22 times the proposed CUL of 10,000 µg/L. It is not practicable to achieve CULs for these COC within a restoration time frame shorter than 5 years. Each of the alternatives include some amount of source removal and capping to block the leaching pathway; therefore, the predicted restoration time frames for groundwater between 5 to 25 years are all reasonable. The predicted restoration time frames are based on best professional judgment and experience with similar sites, technologies, and COCs. The restoration time frame for groundwater to meet proposed cleanup standards at the CPOC for each alternative is as follows:

- Alternative 1: 20 to 25 years
- Alternative 2: 15 years
- Alternative 3: 10 years
- Alternative 4: 5 years

11.4 DISPROPORTIONATE COST ANALYSIS

The MTCA DCA is used to evaluate whether a cleanup action uses permanent solutions to the maximum extent practicable, as determined by the level of attainment of a specific criterion defined within WAC 173-340-360(3)(f). The relative benefits and costs associated with each alternative are compared using seven evaluation criteria. As stated in MTCA, the cost of an individual alternative is determined disproportionate "if the incremental costs of the alternative over that of a lower cost alternative exceed the incremental degree of benefits achieved by the alternative over that of the other lower cost alternative" (WAC 173-340-360(3)(e)(i)).

Evaluation of disproportionate cost compares each alternative against the most permanent alternative presented and attainment of MTCA criteria, which factors into the overall permanence of each alternative. Alternative 4 is the most permanent alternative presented; however, it is not technically possible to implement and is not considered in the FS per WAC 173-340-350(8)(c)(ii)(B)(II). It is not technically feasible to remove certain structures (machine shop, AST containment area, bulk fertilizer building, and BNSF rail line) under current and reasonable future site operations without significant disruption to site use. Therefore, Alternative 3 is the most permanent alternative that the evaluation of disproportionate cost is compared against. This can be a qualitative or quantitative analysis, and when multiple alternatives possess equivalent benefits, the lower-cost alternative will be selected. The seven criteria defined in MTCA (WAC 173-340-360(f)) include protectiveness, permanence, effectiveness over the long-

term, management of short-term risks, technical and administrative implementability, considerations of public concerns, and cost:

- **Protectiveness.** Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, the time required to reduce these risks, and the overall improvement in environmental quality.
- **Permanence.** The degree to which the alternative permanently reduces the toxicity, mobility, or volume of hazardous substances.
- **Cost.** The cost to implement the alternative, consisting of construction, net present value of any long-term costs, and agency oversight costs that are recoverable.
- **Effectiveness over the Long-Term.** Long-term effectiveness consists of the degree of certainty that the alternative will be successful, the reliability of the alternative during the time when hazardous substances are expected to remain on-site at concentrations greater than CULs, the magnitude of the residual risk with the alternatives in place, and the effectiveness of controls in place to control risk while contaminants remain on-site.
- **Management of Short-Term Risks.** Short-term risks consist of the risk to human health and the environment associated with the alternative during construction and implementation and the effectiveness of measures taken to control those risks.
- **Technical and Administrative Implementability.** The ability of the alternative to be implemented is based on whether the alternative is technically possible and meets administrative and regulatory requirements, and if all necessary services, supplies, and facilities are readily available.
- **Consideration of Public Concerns.** These considerations involve whether the community has concerns regarding the alternative and, if so, to what extent the alternative addresses those concerns.

As part of the DCA, each alternative was ranked and assigned a numerical score for each DCA criterion except cost on a scale of 1 to 10, where a score of 10 represents the greatest benefit and a score of 1 represents the least benefit. Each numerical score was then multiplied by a weighting value, and the scores were summed to determine the total alternative benefit score. The weighting values used in this FS are as follows:

- Protectiveness: 30%
- Permanence: 20%
- Effectiveness over the long-term: 20%
- Management of short-term risks: 10%
- Technical and administrative implementability: 10%
- Consideration of public concerns: 10%

The alternatives are evaluated relative to their ability to comply with the criteria listed above and are compared to both each other and the criteria. Because some alternatives provide a similar

degree of compliance with a given criterion, the associated evaluation statements may be the same or similar. Estimated costs for each alternative are summarized in Table 11.1 and presented in detail in Appendix I. The following sections provide a summary of each of the DCA criteria and discuss the rationale for why each alternative was scored in relation to the other alternatives. DCA criteria aspects that were considered equal for all alternatives did not influence the scoring distribution and are not discussed in the following sections. A full description of all aspects evaluated under each criterion for the alternatives is included in Table 11.2.

11.4.1 Protectiveness

Protectiveness was evaluated based on the degree to which existing risks were reduced, time required to reduce risks and attain cleanup standards, risks resulting from alternative implementation, and improvement in overall environmental quality. Alternative 4 is considered the most protective remedy because it would remove the most soil contamination from the Site, has the shortest restoration time frame for groundwater (5 years), and has the greatest overall improvement in environmental quality. Alternative 4 was scored a 9. Alternative 3 includes the second greatest volume of soil removal, but significantly less than Alternative 4, and includes a GCL-capped area and in situ groundwater treatment. Alternative 3 was scored an 8. Alternative 2 includes a smaller volume of soil removal than Alternative 3, but a larger GCL capping footprint and the same volume of in situ groundwater treatment injection. Alternative 2 was scored a 6. Alternative 1 was scored a 3 because it has a much smaller volume of contaminated soil removal, an asphalt cap across most of the Site, and longer restoration time frame than the other alternatives.

11.4.2 Permanence

Permanence was evaluated based on the degree of reduction of contaminant toxicity, mobility, volume, adequacy of destruction of hazardous substances, reduction or elimination of release sources, degree of irreversibility, and risk of treatment residuals. Alternative 4 is the most permanent alternative and was scored the highest at a 9 because it removes almost all contaminated soil greater than CULs. The limited amount of residual soil contamination remaining in place post-remedy is isolated beneath existing structures. Alternative 3 was scored an 8 because the alternative removes all accessible soil that is at risk of leaching contaminants to groundwater and soil that is a direct contact risk to commercial/industrial workers. This alternative relies on a physical cap and ICs to maintain protection against remaining contamination on-site. Alternative 2 was scored a 5 because it removes a smaller volume of contaminated soil than Alternative 3 and relies on a larger GCL cap footprint with ICs. Alternative 1 was scored the lowest with a 2 because it relies solely on a cap and ICs to protect workers from direct contact with contaminated soil. Asphalt maintenance, repair, and likely eventual replacement over time make Alternative 1 a less permanent solution.

11.4.3 Effectiveness over the Long-Term

Long-term effectiveness was evaluated based on the degree of certainty of success, reliability while contaminants remain on-site, magnitude of residual risk, and effectiveness of controls to manage residual risk. Alternative 4 was scored a 9 because it removes almost all contaminated soil with COC concentrations greater than CULs and only limited shallow surface soil

contamination would remain beneath existing structures. Therefore, it has the greatest degree of certainty for success to achieve groundwater CULs in the shortest restoration time frame. Alternative 3 was scored an 8 because it leaves contaminated soil with COC concentrations greater than CULs but less than RELs in place. Alternative 3 also includes a GCL-capped area and in situ groundwater treatment, which are proven technologies, so this alternative still receives a high score. Alternative 2 was scored a 5 because this alternative leaves more contaminated volume than Alternative 3, including soil with pesticide concentrations greater than leaching-based RELs, and, therefore, is less effective with a longer restoration time frame. Alternative 2 also includes a larger GCL footprint than Alternative 3. Alternative 1 was scored a 2 because it relies solely on capping contaminated soil, which will require ICs to be maintained in perpetuity and more long-term operations, maintenance, and monitoring, and has the longest groundwater restoration time frame. Based on current operations that involve heavy equipment and traffic, the long-term asphalt maintenance would be a large component of Alternative 1 and the long-term effectiveness reduced over time due to wear and tear.

11.4.4 Management of Short-Term Risk

Short-term risk management was evaluated based on the risk to human health and the environment created by implementing the remedy and the effectiveness of controls to manage the short-term risk. Alternative 1 was scored a 7 because it involves the smallest volume of contaminated soil handling but requires installation of deeper stormwater conveyance structures and a significant area of asphalt paving. Alternatives 2 and 3 were scored a 7 and 6, respectively, because they both require significantly more contaminated material handling than Alternative 1 and Alternative 3 removes more soil than Alternative 2. Alternative 4 was scored a 4 because it includes the largest scope of contaminated material removal, will likely require a significantly larger scope of dewatering and groundwater treatment, will require shoring or sloping to maintain excavation stabilization, and includes demolition of the office and storage building, which increases the risk of encountering hazardous material. Handling contaminated material would require appropriate personal protective equipment and training to appropriately manage this risk.

11.4.5 Technical and Administrative Implementability

Technical and administrative feasibility was evaluated based on technical possibility; availability of facilities, services, and material; administrative and regulatory requirements; project scale and complexity; monitoring requirements; access requirements; and integration with existing and future operations. All alternatives utilize common technologies that can be safely implemented by local contractors and, therefore, were all scored relatively high. Alternatives 2 and 3 were both scored an 8 because the scope of excavation for both alternatives would not require complex shoring or dewatering methods. Alternative 1 was scored a 6 because the asphalt installation would require installing several deeper manhole and stormwater treatment structures that would require more planning. Additionally, an asphalt surface will require more frequent maintenance than a gravel surface due to the current operations and heavy equipment traffic moving across the Site. Collected stormwater would have to be managed (including treatment) under a stormwater permit, which would involve routine operations, maintenance, monitoring, and reporting. Alternative 4 was scored the lowest with a 4 because it includes the most

contaminated soil handling and demolition of the storage and office building, which would involve permitting and coordination of alternative office space for the current tenant.

11.4.6 Consideration of Public Concerns

Public concerns will be reviewed following the public comment period and will be addressed as part of the final cleanup action alternative selection and design. It is anticipated that the public would have minimal concern with cleanup of the Site.

11.4.7 Cost

Costs were estimated for each alternative and include costs for construction; long-term operations, maintenance, and monitoring; permitting; and agency oversight costs. In addition, all costs include sales tax and a 20% design contingency. Estimated costs for each alternative are summarized in Table 11.1 and presented in detail in Appendix I. The costs for each alternative are as follows:

- Alternative 1: $2,508,000
- Alternative 2: $2,099,000
- Alternative 3: $2,137,000
- Alternative 4: $3,209,000

11.5 IDENTIFICATION OF PREFERRED CLEANUP ACTION ALTERNATIVE

The preferred cleanup action was selected by choosing the alternative with the greatest benefit per unit cost score. This score is calculated by dividing the total weighted benefit score by the estimated alternative cost (standardized by dividing by $2.5 million) for that alternative. Based on the alternative evaluation presented in the previous sections and in Tables 11.1 and 11.2, the total benefit per unit of cost achieved are as follows:

- Alternative 1: 3.69
- Alternative 2: 7.15
- Alternative 3: 9.01
- Alternative 4: 6.08

These results indicate Alternative 3 as the option that is permanent to the maximum extent practicable and, therefore, is selected as the Preferred Cleanup Action Alternative. Section 12.0 describes the Preferred Cleanup Action Alternative in greater detail.

12.0 Preferred Cleanup Action Recommendation

The Preferred Cleanup Action Alternative for the remediation of soil and groundwater at the Site, which is proposed by Smith-Kem to Ecology for selection and implementation at the Site, is described in greater detail in the following sections. This section describes how the Preferred Cleanup Action Alternative complies with MTCA, Site RAOs and associated ARARs for the least cost per degree of benefit and provides the greatest level of environmental benefit and permanence per dollar spent, making it the most permanent remedy to the maximum extent practicable.

12.1 PREFERRED CLEANUP ACTION ALTERNATIVE DESCRIPTION

Alternative 3 is selected as the Preferred Cleanup Action Alternative for the Site and is shown on Figure 12.1. This remedy includes the following components:

- Excavation and off-site disposal of soil in all AOCs with COC concentrations greater than:
  - Leaching-based RELs for pesticides
  - RELs for TPH and dioxins/furans[21]
  - CULs for lead and pesticides without an established REL
- Excavation to CULs in AOC 6 and an area around FS-01
- Installation of a GCL and drainage in portions of AOC 1 and AOC 2 for protection of groundwater
- In situ groundwater treatment by injecting liquid activated carbon along the downgradient edge of AOC 5 to immobilize contaminants (pesticides and TPH) in groundwater migrating from beneath the office and storage building
- Capping contaminated soil with COC concentrations greater than the RELs to protect worker direct contact exposure, including pesticide and TPH contamination beneath the office and storage building in AOC 5 and deeper TPH contamination beneath the gravel cap in AOC 4
- ICs to prohibit use of Site groundwater as drinking water and maintenance of the cap
- MNA for groundwater recovery, after excavation of contaminated soils, and long-term groundwater monitoring to confirm that natural attenuation is occurring

The Preferred Cleanup Action Alternative is a comprehensive remedy for the Site that complies with all the applicable remedy selection requirements under MTCA. This alternative provides the

[21] If pre-design data show that contamination in AOC 3 extends off-property, then excavation off-property will be designed to meet CULs.

greatest environmental benefit for the associated cost based on the DCA presented in Section 11.0 and Tables 11.1 and 11.2.

12.1.1 Soil Excavation with Off-Site Disposal

Contaminated soil will be removed from all of the AOCs and an area around FS-01, as shown on Figure 12.1, using standard excavation means and methods. Excavated soil will be transported off-site to a permitted Subtitle D landfill for disposal. Excavated areas will be backfilled with clean imported fill and restored with a gravel surface. Prior to final surfacing, a GCL will be installed beneath AOC 1 and AOC 2, as described in Section 12.1.2. Removal of contaminated soil to proposed CULs or RELs is anticipated to bring groundwater into compliance with proposed CULs at the proposed CPOC within the predicted restoration time frame of 10 years.

Specific details regarding excavation in each of the AOCs is described below. Actual excavation limits may differ from the depths or lateral dimensions specified to remove soils with COC concentrations greater than applicable CULs or RELs, as determined by future compliance sampling. In addition, the scope of the Preferred Cleanup Action Alternative is based on the data presented in this RI/FS. There are several areas that will include additional data collection as part of pre-remedial design, as indicated in italicized text below.

- **AOC 1:** Soil will be excavated in three zones to remove pesticides, TPH, and dioxins/furans to the applicable RELs or CULs. The western zone will be excavated to 5 feet bgs, the center zone will be excavated to 8 feet bgs, and the eastern zone will be excavated to 4 feet bgs. Dewatering and shoring or lay back of side slopes may be necessary to complete the excavation. The total estimated volume of soil removal from AOC 1 is 850 CY. *Additional pre-design data collection will likely be required to define the northern AOC 1 boundary between AOC 1 and the machine shop.*
- **AOC 2:** Soil from this area will be excavated from two zones to remove pesticides at concentrations greater than the applicable RELs or CULs. A small footprint in the southern portion of AOC 2 will be excavated to 6 feet bgs, and the remaining area will be excavated to 4 feet bgs. Approximately 530 CY of soil will be removed in total. Dewatering and shoring are not anticipated to be necessary to complete the excavation. *Additional pre-design data collection will likely be required to define the northern and southern edges of AOC 2.*
- **AOC 3:** Soil will be excavated to remove pesticides and dioxins/furans at concentrations greater than the applicable RELs or CULs to a depth of 2 feet bgs. The total estimated volume of soil removal from AOC 3 is 220 CY. Dewatering and shoring are not anticipated to be necessary to complete the excavation. *Additional pre-design data collection will likely be required to define the southwestern edge of AOC 3 where shallow dioxins/furans have not been fully delineated.*
- **AOC 4:** Excavation in AOC 4 will remove soil with pesticides, TPH, and lead at concentrations greater than the applicable RELs and CULs to a depth of 5 feet bgs corresponding to a total estimated volume of 860 CY of soil removed. Dewatering and

shoring are not anticipated to be necessary to complete the excavation. *Additional pre-design data collection will likely be required to define the western AOC 4 boundary.*

- **AOC 5:** Excavation in AOC 5 will remove TPH and pesticides at concentrations greater than the applicable RELs and CULs to a depth of 5 feet bgs. The total estimated volume of soil removal from AOC 5 is 60 CY. Dewatering and shoring are not anticipated to be necessary to complete the excavation.
- **AOC 6:** Surface exceedances of pesticide CULs will be removed from AOC 6 to a depth a 2.5 feet bgs. The total estimated volume of soil removal from AOC 6 is 50 CY. Dewatering and shoring are not anticipated to be necessary to complete the excavation.
- **FS-01:** Approximately 10 CY of surface soil will be excavated around the boring location FS-01 to remove TPH at concentrations greater than the CUL.

The additional data collection described in this section will be used to support design and will be collected as part of a pre-remedial design phase after the CAP is issued by Ecology and prior to the EDR. A Pre-Design Investigation Work Plan will be submitted to Ecology for approval prior to implementation and the pre-design investigation results will be documented in the EDR.

12.1.2 Geosynthetic Clay Liner

A GCL would be installed in portions of and around AOC 1 and AOC 2 (15,600 SF) to provide additional protection of groundwater in this area with the greatest concentrations of COCs in groundwater. The intent of the GCL is to minimize infiltration into groundwater, which will control plume migration and would provide an added protection of source control in high-traffic, ongoing bulk fertilizer operational areas. The GCL would be extended beyond the area of known contamination as an added protective measure. The surface layer will be excavated in areas where GCL will be placed outside excavation footprints to an approximate depth of 1.5 feet bgs. The GCL will be installed with multiple layers of gravel and geosynthetic material to provide structure and security against accidental breaches. A cross-section of the GCL installation is shown on Figure 12.1. Composite gravel and liner recommendations were developed based on experience with similar projects and conversations with GCL manufacturers.

Prior to installing the GCL, a 4-inch layer of sand would be placed and compacted to provide a level base. The GCL would be installed over the sand in the footprint shown on Figure 12.1. The GCL can be purchased as premade rolled mats, which can be efficiently unrolled over the area and hydrated to expand into place. The GCL will be covered with 4 inches of CSBC, a 10-ounce high-visibility (orange-colored) geosynthetic fabric, and second 4-inch layer of CSBC to provide structural integrity to the GCL. A 6-ounce high-visibility indicator layer will be placed over the CSBC and is intended as a visual cue to warn operators before more critical underlying fabrics are damaged. The final and top/surface layer will consist of a minimum of 4 inches of CSBC to restore the surface grade elevation. Periodic repairs to the gravel surface will be necessary as part of the long-term operations, maintenance, and monitoring; specific inspection and maintenance requirements will be included in the SMP.

The GCL will be constructed with a gentle slope to direct infiltrated water to a drainage trench along the eastern property boundary. This trench would have a perforated underdrain within the GCL footprint and would be filled with gravel to convey surface runoff and shallow subsurface flow from above the GCL. Outside of the GCL footprint, the conveyance lines would be solid conveyance pipe to prevent exfiltration of collected surface water to other areas of the Site.

Collected infiltrated water would be conveyed to a single collection manhole in the southeastern corner of the facility to provide pretreatment of water by encouraging sedimentation. Following pre-treatment, water will infiltrate into a swale that will be created at the existing riprap area in the southeastern corner of the Site. Overflow water may go toward an existing culvert at the adjacent property line.

12.1.3 In Situ Groundwater Treatment

In situ groundwater treatment will be conducted along the downgradient western edge of AOC 5 to address TPH and pesticides at concentrations greater than respective CULs in groundwater migrating from beneath the office and storage building. A proprietary mixture of liquid activated carbon, such as PlumeStop, will be injected under low pressure into the subsurface using a direct push drill rig to provide even distribution within the target groundwater treatment zone (which is expected to be 5 to 15 feet bgs). The colloidal matrix will coat soil particles to increase the adsorption of groundwater contaminants and act as a passive treatment zone to immobilize contaminants and passively treat groundwater as it flows downgradient.

12.1.4 Groundwater Monitoring and Proposed Conditional Point of Compliance

MNA for groundwater is a component of the Preferred Cleanup Action Alternative after the removal of the soil source contamination. As part of MNA, post-remedy groundwater monitoring will be required after remedy implementation throughout the groundwater plumes to document that natural attenuation is occurring and to evaluate groundwater concentration trends. The GMP will describe long-term post-construction groundwater monitoring and adaptive management to ensure the long-term protectiveness of the selected Sitewide remedy. In addition, a monitoring well network will be established as part of the GMP that will include locations for performance monitoring for the components of the Sitewide remedy (e.g., excavation, in situ groundwater treatment, and MNA). Selected monitoring wells located in source areas (i.e., MW-4) would be replaced post-remedy to evaluate remedy performance. Additional wells may be installed for performance and confirmation monitoring, as warranted based on post-remedy conditions. Groundwater compliance Sitewide will be determined based on a comparison of groundwater data to proposed CULs at the proposed CPOC.

A CPOC is recommended for this Site because of widespread pesticide and nitrate/nitrite contamination across the Site; multiple COCs in groundwater exceed their respective CULs in groundwater by an order of magnitude or more and are not technically feasible to naturally attenuate within a reasonable restoration time frame. Therefore, compliance with the groundwater CULs at the standard POC (groundwater throughout the Site) is not technically feasible within a reasonable restoration time frame. The maximum compliance result of dieldrin

in groundwater was 0.88 µg/L at MW-04, which is 160 times the proposed groundwater CUL of 0.0055 µg/L. Nitrate, which is a COC only in groundwater had a maximum compliance result of 220,000 µg/L at MW-06, which is more than 20 times the proposed CUL of 10,000 µg/L. These CULs are based on protection of groundwater as drinking water; the use of groundwater as drinking water will be prohibited on the Property by the proposed ICs.

Consistent with WAC 173-340-720(8)(c), the proposed CPOC for groundwater is as close as practical to the source of contamination, along the western edge of the Property (refer to Figure 12.1). Compliance at the CPOC would be measured by direct sampling of groundwater in monitoring wells that are along this boundary. Existing monitoring wells MW-2, MW-3, MW-10, MW-12, and MW-14 provide the basis for the proposed CPOC. Additional monitoring wells may be added to the monitoring well network, as needed, to demonstrate compliance. The post-cleanup action monitoring well network will be defined in the GMP, which will be prepared as part of the LTCMP.

12.1.5 Institutional Controls

ICs, in the form of an Environmental Covenant, will be required for the Property and will require a deed restriction that restricts future uses of the Property. ICs will prohibit the use of groundwater as drinking water at the Property. ICs will also require implementation of an Ecology-approved SMP specifying soil management procedures for future subsurface work in areas where contamination at concentrations greater than CULs is present. The SMP, which will be prepared as part of the LTCMP, will define specific source areas and depths where soil contamination that remains in place at concentrations greater than proposed CULs would limit land use. Any activities that would be proposed within these restricted areas will require compliance with the SMP, which will outline health and safety protocols along with soil handling and management procedures and notification requirements. The SMP will include measures for routine inspection and maintenance of remedial elements such as the GCL and monitoring wells. These procedures will be applicable to any future development or maintenance that involves ground-disturbing activities. The SMP will also outline procedures if existing structures are removed in the future that may have potential subsurface contamination at concentrations greater than CULs (refer to Section 12. 3 for potential contingency actions). Where an environmental covenant is required, and in consultation with AdGro, Ecology will prepare the Environmental Covenant consistent with WAC 173-340-440 and RCW 64.70.

12.2 COMPLIANCE MONITORING REQUIREMENTS

Compliance monitoring to ensure the protectiveness of the Preferred Cleanup Action Alternative will be implemented in accordance with WAC 173-340-410, Compliance Monitoring Requirements. Detailed monitoring elements for construction will be described in a Construction Compliance Monitoring Plan (CCMP), which will be prepared as part of remedial design. The CCMP will include a Healthy and Safety Plan, Sampling and Analysis Plan, and Quality Assurance Project Plan for monitoring and sample collection during remedy implementation. The CCMP will be included as an appendix to the EDR, which will describe the approach and criteria for the engineering design of soil and groundwater cleanup actions at the Site. A post-remedy LTCMP

will describe required long-term operations, maintenance, and monitoring after remedy implementation to ensure the long-term protectiveness of the remedy and will include a GMP, SMP, and an updated Healthy and Safety Plan.

The objectives of compliance monitoring as stated in WAC 173-340-410 are the following:

- **Protection Monitoring** is used to confirm that human health and the environment are adequately protected during construction of the cleanup action and post-construction monitoring. Protection monitoring requirements will be described in Site-specific Health and Safety Plan(s) that address worker activities during remedy construction and post-construction monitoring.
- **Performance Monitoring** is used to confirm that the cleanup action has attained cleanup standards and other performance standards. Performance monitoring will be conducted throughout each phase of remedy construction to document that remedial goals are being achieved.
- **Confirmation Monitoring** is used to confirm the long-term effectiveness of the cleanup action after completion of the preferred cleanup action. Confirmation monitoring will include long-term monitoring to document that CULs continue to be attained.

12.3 CONTINGENCY ACTIONS

Contingency actions may be required if additional risk reduction measures are needed after remedy implementation. Specific details regarding contingency actions will be outlined in the EDR, and contingency action triggers will be updated, as needed, after remedy implementation in the LTCMP. The contingency measures for the Site are anticipated to include the following:

- Source control efforts to control potential ongoing nitrate and nitrite contributions to groundwater associated with current fertilizer handling operations. There are not data that quantify the ongoing contribution from current operations; therefore, it will be important to assess the potential for ongoing contributions post-remedy. Following installation of the GCL, surface water that infiltrates to the GCL will be conveyed to a collection manhole at the southeastern property line. Water that is conveyed to this manhole can be sampled to determine if an ongoing nitrate/nitrite source exists. If it is determined that fertilizer handling on-site is an ongoing source of nitrate/nitrite in groundwater and post-remedy groundwater concentrations of nitrate/nitrite are not adequately improving, as measured at the proposed CPOC, then a contingency source control evaluation will be done to propose additional best management practices for the Site.
- Pesticide and TPH contamination is present in soil beneath the office and storage building. If future Property development includes removal of this building, then excavation may be necessary to remove contaminated soil beneath this structure. Specific details regarding this contingency will be included in the SMP.

- The southern boundary of AOC 5 and the western boundary of AOC 2 have not been fully delineated due to the presence of the containment area. If future Property development includes removal of the containment area, then additional investigation may be necessary to determine if contamination is present beneath this structure, which could warrant excavation. Investigation and evaluation details regarding this contingency will be included in the SMP.

12.4 COMPLIANCE WITH MTCA

The Preferred Cleanup Action Alternative for soil and groundwater meets the minimum requirements for selection of a cleanup action under MTCA (WAC 173-340-360(2)(a)) because it is protective of human health and the environment, complies with cleanup standards, complies with applicable state and federal laws, and provides for compliance monitoring. The Preferred Cleanup Action Alternative meets the other MTCA requirements for selection of a cleanup action, including using permanent solutions to the maximum extent practicable, providing for a reasonable restoration time frame, and consideration of public concerns. Exposure pathways will be addressed through contaminant removal and disposal in a landfill, capping, and MNA. ICs will be developed to restrict groundwater usage as drinking water and to manage contamination that would remain in place at concentrations greater than proposed CULs.

12.5 COMPLIANCE WITH ARARS

Compliance with ARARs is a minimum requirement for cleanup actions. ARARs are often categorized as location-specific, action-specific, or chemical-specific, as described below and summarized in Table 12.1.

- **Location-Specific ARARs** are requirements that are applicable to the specific area where the site is located and can restrict the performance of activities, including cleanup actions, solely because they occur in specific locations.
- **Action-Specific ARARs** are requirements that are applicable to certain types of activities that occur or technologies that are used during the implementation of cleanup actions. Waste disposal regulations are an example of an action-specific ARAR.
- **Chemical-Specific ARARs** are applicable to the types of contaminants present at the site. The cleanup of contaminated media at the site must meet the proposed CULs developed under MTCA; these CULs are considered chemical-specific ARARs.

The Preferred Cleanup Action Alternative complies with all applicable ARARs. Location-specific ARARs will be met through compliance with all applicable state and federal regulations based on the physical location of the Site. Action-specific ARARs will be met through implementation of construction activities in compliance with all applicable construction-related requirements such as disposal for excavated soil. Chemical-specific ARARs will be met through compliance with proposed CULs and RELs.

Implementation of the Preferred Cleanup Action Alternative would typically trigger a suite of environmental permits; however, cleanup actions conducted under a Consent Decree or AO with Ecology are exempt from the state and local ARAR procedural requirements, such as permitting and approval requirements. Cleanup actions must, however, demonstrate compliance with the substantive requirements of those ARARs (WAC 173-340-710(9)). This exemption applies to procedural permitting requirements under the Washington State Water Pollution Control Act, the Solid Waste Management Act, and local laws requiring permitting such as City of Ellensburg regulations. Cleanup actions are not exempt from procedural requirements of federal ARARs.

12.6 COMPLIANCE WITH SITE RAOS

The Preferred Cleanup Action Alternative will comply with all RAOs through the combination of selected remedial technologies. Excavation and capping of contaminated soil with COC concentrations greater than respective RELs or CULs will minimize leaching and direct contact risk, which will significantly reduce the source of COCs to groundwater. In situ groundwater treatment will reduce dissolved-phase mass and improve groundwater quality. Contaminated soil with COC concentrations greater than the proposed CULs and RELs that remain on-site that could pose a risk to the direct contact and leaching pathways will be controlled through ICs and a cap (GCL, concrete pads, or buildings).

12.7 PROPERTY OWNERSHIP AND ACCESS

The Property is currently owned by Ad Gro and the Property has been leased to McGregor since 2015. As described in Section 2.5, McGregor uses the Property to conduct its agricultural product distribution business and they are responsible for all current operations at the facility. Cleanup action implementation will need to be closely coordinated with McGregor (or the current tenant if McGregor terminates their lease) to minimize disruption to their operations.

The Preferred Cleanup Action Alternative would involve pre-design sample collection to define the southern boundary of AOC 3 and, depending on the results, potential excavation on the southern adjacent property owned by Ryan Wales (and currently occupied by Habitat for Humanity). An access agreement would need to be obtained from the property owner prior to any work on that property.

In addition, there is a BNSF rail spur located along the eastern Property boundary. Cleanup along the rail spur will either require offset to accommodate a standard buffer from the rail for protection, or a permit will need to be obtained from BNSF to conduct cleanup actions immediately adjacent to the rail.

12.8 TYPES AND AMOUNTS OF HAZARDOUS SUBSTANCES TO REMAIN IN PLACE

Some soil contamination at concentrations greater than proposed CULs will remain in place on-site following remedy implementation. The following is a conservative estimate of the contaminated soil volume (untreated) that would remain in place after implementation of the preferred alternative. This estimate does not account for the discontinuous nature of the

contamination and, therefore, the total volume of contaminated soil that is estimated to remain in place is likely less than predicted.

- **AOC 1:** Approximately 600 CY of contaminated soil with COC concentrations (pesticides) greater than CULs would remain in place beneath a cap.
- **AOC 2:** Approximately 350 CY of contaminated soil with COC concentrations (pesticides) greater than CULs would remain in place beneath a cap.
- **AOC 3:** Approximately 320 CY of contaminated soil with COC concentrations (pesticides) greater than CULs would remain in place.
- **AOC 4:** Approximately 210 CY of contaminated soil with COC concentrations (TPH and pesticides) greater than CULs/RELs would remain in place.
- **AOC 5:** Approximately 1,210 CY of contaminated soil with COC concentrations (TPH and pesticides) greater than CULs/RELs would remain in place. The majority of this contaminated soil mass is beneath the office and storage building.
- **AOC 6:** Approximately 45 CY of contaminated soil with dieldrin concentrations greater than CULs would remain in place.

The risk associated with contamination remaining on-site will be managed by ICs that will restrict groundwater usage and will require long-term operations, maintenance, monitoring, and soil management. Contaminated soil remaining in place is not considered an issue to meeting the restoration time frame because the Preferred Cleanup Action Alternative focuses on removal of the greatest contaminant mass areas and uses RELs based on an empirical evaluation of soil leaching to groundwater at the Site. Based on this information, the residual contamination that would be left in place is not anticipated to result in conditions that would prohibit achievement of the proposed CULs at the CPOC within the specified restoration time frame.

12.9 RESTORATION TIME FRAME

RELs, and to an extent CULs, for soil COCs are expected to be met following completion of soil excavation, which is expected to take approximately 2 months from the start of construction. ICs and an SMP will be implemented to manage future exposures. The restoration time frame for groundwater at the CPOC is expected to be 10 years from completion of construction.

12.10 ESTIMATED REMEDY COST SUMMARY

Estimated costs for the Preferred Cleanup Action Alternative are presented in Appendix I. The costs associated with remedy implementation consist of capital construction costs, long-term operations, maintenance, and monitoring costs following remedy completion, and agency oversight that will include periodic reviews of the constructed remedy. The estimated costs for construction of the Preferred Cleanup Action Alternative are as follows:

- Agency oversight, engineering design/reporting, planning, and permitting costs associated with remedy implementation are estimated to be $275,000.

- Construction capital costs that include sales tax, construction and engineering oversight, and monitoring well decommissioning and installation are estimated to be approximately $1.3 million.
- Long-term groundwater monitoring costs were estimated based on semiannual monitoring for 2 years after remedy implementation, then annual monitoring thereafter for a period of 8 years. The estimated groundwater monitoring costs, including well installation and decommissioning, with estimated costs of $200,000.
- Cap inspection and maintenance costs were estimated for a period of 10 years and estimated to be $15,000.

The total project cost for the Preferred Cleanup Action Alternative, which includes a 20% contingency cost, is estimated to be $2,137,000.

13.0 References

Alaska Statement of Cooperation Working Group (ASCWG). 2006. *Maximum Allowable Concentration, Residual Saturation, and Free-Product Mobility: Technical Background Document and Recommendations.* Prepared by Geosphere, Inc., and CH2M Hill. September.

Conestoga-Rovers & Associates (CRA). 2014. *Subsurface Investigation Report: Smith-Kem Facility, 200 Railroad Avenue South, Ellensburg, Washington*. Prepared for Shell Oil Products US. 29 September.

City of Ellensburg. 2017. *Comprehensive Plan.* Ordinance Number 4785. 18 December.

Climate Impacts Group (CIG). 2009. *The Washington Climate Change Impacts Assessment: Evaluating Washington's Future in a Changing Climate.* University of Washington: Seattle, Washington. June.

Curry, J. P. 2004. "Factors Affecting the Abundance of Earthworms in Soils." *Earthworm Ecology.* Second Edition. CRC Press LLC: Boca Raton, London, New York, Washington, DC.

Erickson, Andrew. 2016. Telephone conversation between Andrew Erickson, Smith-Kem, and Allison Geiselbrecht, Floyd|Snider. Seattle, Washington. 22 February. Finalized 29 April.

Floyd|Snider. 2016. *Smith-Kem Site Remedial Investigation Work Plan*. Prepared for Foster Pepper LLC, Seattle, Washington, and Shell Oil Products US, Carson, California. July.

_____. 2017a. *Smith-Kem Remedial Investigation Work Plan Addendum—Phase 2.* Memorandum from Allison Geiselbrecht, Erin Murray, and Pamela Osterhout, Floyd|Snider, to John Mefford, Washington State Department of Ecology. 31 March.

_____. 2018. *Proposed Additions to Phase 2B Sampling Scope at the Smith-Kem Site.* Memorandum from Allison Geiselbrecht, Erin Murray, and Pamela Osterhout, Floyd|Snider, to John Mefford and Mary Monahan, Washington State Department of Ecology. 4 May.

_____. 2019a. *Proposed Sampling Plan for Vapor Intrusion Assessment at the Smith-Kem Site, 200 S. Railroad Ave., Ellensburg, Washington.* Memorandum from Pamela Osterhout, Floyd|Snider, to John Mefford, Washington State Department of Ecology. 12 March. Revised 10 May.

_____. 2019b. *Smith-Kem Remedial Investigation 2019 Work Plan Addendum.* Memorandum from Allison Geiselbrecht and Erin Murray, Floyd|Snider, to John Mefford and Mary Monahan, Washington State Department of Ecology. 9 October.

Gray & Osborne, Inc. (Gray & Osborne). 2014. *Water System Plan: Volume I.* Prepared for the City of Ellensburg. May.

Hendrix, P. F., B. R. Mueller, R. R. Bruce, G. W. Langdale, and R. W. Parmelee. 1992. "Abundance and Distribution of Earthworms in Relation to Landscape Factors in Georgia Piedmont, U.S.A." *Soil Biology and Biochemistry.* 24(12): 1,357–1,361.

Hipple, H. K. ND. *Washington Soil Atlas.* U.S. Department of Agriculture.

Kittitas County Tax Assessor (Kittitas County). 2015. Historical Property Record Cards. File No. 7880. Files accessed December.

Kittitas Reclamation District. 2017. Minutes from Board of Directors Meeting. Prepared by the Office of the Secretary Manager. 7 November.

Landau Associates. 2015. *RE: April 2015 Groundwater Sampling and Analysis, Smith-Kem Ellensburg, 2001 South Railroad Avenue, Ellensburg, Washington, Parcel No. 226833, Facility/Site ID No. 12832256.* Letter from Timothy L. Syverson, Landau, to Valerie Bound, Washington State Department of Ecology Toxics Cleanup Program. 8 July.

Puls, R. W., and R. M. Powell. 1992. Acquisition of Representative Ground Water Quality Samples for Metals. *Ground Water Monitoring Review.* 12(3): 167–176.

Sample, B. E., J. Lowe, P. Seeley, M. Markin, C. McCarthy, J. Hansen, and A. H. Aly. 2015. "Depth of the Biologically Active Zone in Upland Habitats at the Hanford Site, Washington: Implications for Remediation and Ecological Risk Management." *Integrated Environmental Assessment and Management.* 11(1): 150–160.

Sage Earth Sciences, Inc. (Sage). 2007. *Limited Site Characterization Report for the Smith-Kem, Inc. Facility, 200 Railroad Avenue, Ellensburg, WA*. Prepared for Belsaas & Smith Construction. 26 July.

Schulze, Chad. 2016. Email message: "RE: FOIA # EPA-R10-2016-002384" from Chad Schulze, Pesticides and Toxics Unit, U.S. Environmental Protection Agency, to Lisa Meoli, Floyd|Snider. 12 January.

Steward, Peggy. 1998. "Smith-Kem: 50 years serving agri-business." *Ellensburg Daily Record*. 20 February.

U.S. Department of the Interior (DOI). 1995. *Nitrate Concentrations in Ground Water of the Central Columbia Plateau.* Publication No. 95-445. Prepared by Sarah J. Ryker and Joseph L. Jones. U.S. Geological Survey. October.

U.S. Department of the Interior and Washington State Department of Ecology (DOI and Ecology). 2012. *Yakima River Basin Integrated Water Resource Management Plan: Framework for Implementation Report.* October.

U.S. Environmental Protection Agency (USEPA). 2014a. *National Functional Guidelines for Superfund Organic Methods Data Review.* Prepared by the Office of Superfund Remediation and Technology Innovation. EPA-540-R-014-002/OSWER 9355.0-132. August.

_____. 2014b. *National Functional Guidelines for Inorganic Superfund Data Review.* Prepared by the Office of Superfund Remediation and Technology Innovation. EPA-540-R-013-001/OSWER 9355.0-131. August.

_____. 2015. *Determination of the Biologically Relevant Sampling Depth for Terrestrial and Aquatic Ecological Risk Assessments.* EPA/600/R-15/176. October.

_____. 2016a. *National Functional Guidelines for Superfund Organic Methods Data Review.* Prepared by the Office of Superfund Remediation and Technology Innovation. EPA-540-R-2016-002/OLEM 9355.0-134. September.

_____. 2016b. *National Functional Guidelines for Inorganic Superfund Methods Data Review.* Prepared by the Office of Superfund Remediation and Technology Innovation. EPA-540-R-2016-001/OLEM 9355.0-133. September.

Washington State Department of Ecology (Ecology). 2001. *Concise Explanatory Statement for the Amendments to the Model Toxics Control Act Cleanup Regulation Chapter 173-340 WAC.* Publication No. 01-09-043. 12 February.

_____. 2005*. Focus on Developing Soil Cleanup Standards under the Model Toxics Control Act.* Publication No. 01-09-071. Toxics Cleanup Program. April.

_____. 2008. *Site Hazard Assessment for Smith-Kem Facility, 200 Railroad Avenue, Ellensburg, WA*. Site visit conducted by Richard Bassett, Ecology. 13 August.

_____. 2013. *RE: Determination of Potentially Liable Person Status*. Letter from Valerie Bound, Ecology Toxics Cleanup Program, to Andy Erickson, Smith-Kem Ellensburg, Inc. & Ad Gro, LLC. 10 May.

_____. 2016a. Agreed Order No. DE 12908. In the Matter of Remedial Action by: Shell Oil Products US, Smith-Kem Ellensburg, Inc. 29 February.

_____. 2016b. *Implementation Memorandum No. 14: Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion.* Prepared by Jeff Johnston, Section Manager, Toxics Cleanup Program, Washington State Department of Ecology. Publication No. 16-09-046. 31 March.

_____. 2016c. *Frequently Asked Questions (FAQ's) Regarding Empirical Demonstrations and Related Issues.* Implementation Memorandum No. 15. Publication No. 16-09-047. June.

_____. 2018a. *Ecology comments on Floyd Snider memorandum titled: "Initial Vapor Intrusion Assessment."* Letter from John Mefford, Washington State Department of Ecology, to Allison Geiselbrecht, Floyd|Snider. 19 November.

_____. 2018b. *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*. Published by the Toxics Cleanup Program. Publication No. 09-09-047. Review draft published October 2009. Revised February 2016 and April 2018.

_____. 2018c. *Implementation Memorandum No. 18: Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings.* Prepared by Jeff Johnston, Section Manager, Toxics Cleanup Program, Washington State Department of Ecology. Publication No. 17-09-043. 10 January.

Washington State University (WSU). 2018. Kittitas County: Agriculture. Extension Office, College of Agricultural, Human, and Natural Resource Sciences. Available at: https://extension.wsu.edu/kittitas/agriculture/. Last accessed 27 December 2018.

Smith-Kem Site

Remedial Investigation/Feasibility Study

Tables

Table 4.1
Monitoring Well Details

Monitoring Well [1]	Installed By	Date Installed	Ecology Tag ID	Northing (feet NAD 83/98)	Easting (feet NAD 83/98)	Ground Surface Elevation (feet NAVD 88)	Top of Casing Elevation (feet NAVD 88)	Well Screen (feet bgs)	Highest Manually Measured Water Level Elevation [2,3]	Lowest Manually Measured Water Level Elevation [2,4]
MW-1	CRA	10/4/2013	BIC-833	604548.6	1626786.3	1508.07	1507.56	3 to 13	1503.54	1502.31
MW-2	CRA	9/30/2013	BIC-826 or 827	604500.2	1626709.9	1507.08	1506.75	3 to 13	1503.31	1502.23
MW-3	CRA	10/2/2013	BIC-829	604626.0	1626752.1	1507.85	1507.23	3 to 13	1503.70	1502.47
MW-4	CRA	10/2/2013	BIC-828	604641.6	1626830.0	1506.81	1506.25	3 to 13	1504.10	1502.46
MW-5	CRA	9/30/2013	BIC-826 or 827	604516.9	1626888.8	1507.03	1506.69	3 to 13	1503.97	1502.44
MW-6	CRA	10/3/2013	BIC-830/831/832	604512.5	1626808.0	1507.57	1507.17	3 to 13	1503.64	1502.32
MW-7	CRA	10/3/2013	BIC-830/831/832	604562.6	1626834.8	1506.89	1506.83	3 to 13	1503.82	1502.47
MW-8	CRA	10/3/2013	BIC-830/831/832	604563.1	1626871.6	1506.93	1506.50	3 to 13	1504.05	1502.45
MW-9	Floyd|Snider	8/2/2016	BJW-312	604788.2	1626773.9	--	1508.35	5 to 15	1505.40	1503.68
MW-10	Floyd|Snider	8/2/2016	BJW-313	604562.9	1626714.2	--	1506.66	5 to 15	1503.50	1502.40
MW-11	Floyd|Snider	8/2/2016	BJW-314	604488.5	1626883.0	--	1507.14	5 to 15	1503.81	1502.34
MW-12	Floyd|Snider	8/1/2016	BJW-310	604420.2	1626759.0	--	1506.47	5 to 15	1503.41	1502.23
MW-13	Floyd|Snider	8/1/2016	BJW-309	604388.0	1626968.8	--	1506.42	3.5 to 13.5	1503.92	1502.30
MW-14	Floyd|Snider	8/1/2016	BJW-311	604352.0	1626707.8	--	1506.55	5 to 15	1503.18	1502.15
MW-15	Floyd|Snider	6/20/2018	BKZ-666	604752.0	1626830.3	--	1508.28	5 to 15	1503.79	1503.63
MW-16	Floyd|Snider	6/20/2018	BKZ-667	604656.7	1626864.5	--	1508.84	5 to 15	1503.05	1502.84
MW-17	Floyd|Snider	6/20/2018	BKZ-668	604588.5	1626892.0	--	1508.04	5 to 15	1502.99	1502.79
MW-18	Floyd|Snider	6/21/2018	BKZ-671	604379.8	1626655.3	--	1506.77	3 to 13	1502.50	1501.37
MW-19	Floyd|Snider	6/21/2018	BKZ-670	604331.1	1626658.9	--	1506.43	3 to 13	1502.47	1502.35
MW-20	Floyd|Snider	6/21/2018	BKZ-669	604306.0	1626695.5	--	1506.8	3 to 13	1502.35	1502.24

Notes:

-- Not measured.

1 All wells were installed with 2-inch schedule 40 PVC, 0.010 or 0.020 slotted screens, and silica sand pack.

2 Elevation reported in feet NAVD 88.

3 The highest reported water levels for MW-1 through MW-14 were observed during the May 2017 quarterly monitoring event, and in March 2020 for MW-15 through MW-20.

4 The lowest reported water levels for MW-1 through MW-14 were observed during August 2017, and in July 2018 for MW-15 through MW-20.

Abbreviations:

bgs Below ground surface
CRA Conestoga-Rovers & Associates
Ecology Washington State Department of Ecology
NAD 83 North American Datum of 1983
NAD 98 North American Datum of 1998
NAVD 88 North American Vertical Datum of 1988

Table 4.2
Remedial Investigation Work Deviations Table

Floyd|Snider Document	Proposed Action	Deviation
Remedial Investigation Work Plan (2016)	The schedule in section 9 indicates Phase 2 occurring in Fall 2016.	Due to delayed receipt of analytical data and property access, Phase 2 was split into two mobilizations. The first mobilization (Phase 2a) occurred in June 2017. Phase 2b was planned for October 2017, but was not completed until June 2018 as a result of access limitations.
	Per the Sampling Analysis Plan/Quality Assurance Project Plan (SAP/QAPP), analyze soil for nitrate/nitrite by Method SM-4500 NO3F.	Nitrate/nitrite in soil were analyzed by Method SM-4500 NO3F in the August 2016 event (Phase 1). In the June 2017 event (Phase 2A), the primary lab subcontracted the nitrate/nitrite analyses to Fremont Analytical, Inc., which does not run this method (they run nitrate/nitrite by USEPA Method 300.0). According to the laboratory chemist, Method SM-4500 and USEPA Method 300.0 are essentially equivalent to each other. Both methods are conducted using ion chromatography and have the same preparation and analysis.
	Per the SAP/QAPP, analyze groundwater for nitrate/nitrite by USEPA Method 353.2.	Nitrate/nitrite in groundwater were analyzed by USEPA Method 353.2 in the November 2016 quarterly event. In the August 2016, February 2017, and May 2017 quarterly groundwater events, the lab analyzed the samples by USEPA Method 300.0. According to the lab chemist, the original USEPA Method 353.2 that was stated in the Remedial Investigation Work Plan (Work Plan) is a colorimetry titration method and has a greater likelihood of false positives than USEPA Method 300.0, which uses ion chromatography and is a superior method that produces more accurate results.
	Per Table 6.1, install three soil boring/temporary wells (TMW-1 through TMW-3) on BNSF property to determine potential impacts off site.	At the time of drilling, access to the BNSF property had not been granted and sampling was not conducted. (Note: In the Work Plan Addendum, Floyd|Snider proposed that these three soil boring/temporary wells would become permanent monitoring wells [see below].)
Remedial Investigation Work Plan Addendum (2017)	Per Table 5, during the May 2017 quarterly event, analyze upgradient monitoring well MW-9 (a relatively clean well) and an impacted well (likely MW-4) for dissolved organic carbon (DOC) to determine the background concentration of DOC compared to the DOC in a contaminated well for further consideration during the feasibility study.	This sampling was not conducted in the May 2017 quarterly event but was conducted in the August 2017 quarterly event.
	Per Table 5, collect groundwater samples from select wells at the site and analyze for major cations and anions as well as redox couples during the next quarterly groundwater sampling event (i.e., during the May 2017 quarterly event).	This sampling was not conducted in the May 2017 quarterly event but was conducted in the August 2017 quarterly event.
	Per Table 5, FS-36 is a provisional temporary well downgradient (on Stephen Carter's property) that will be sampled pending detections of nitrate in FS-37, FS-38, FS-39, or FS-40 using a field kit.	FS-36 was not sampled despite detections of nitrate at low levels between 1 and 3 milligrams per liter (mg/L) at FS-37, FS-38, and FS-40. Field staff determined that elevated turbidity of the groundwater samples was causing unreliable field kit results, and that FS-36 could be sampled during Phase 2b if the laboratory results indicated elevated nitrate was present further downgradient.
	Per Table 5, analyze downgradient, off-site locations (i.e., on Stephen Carter's property) for atrazine and nitrate to determine extent of groundwater contamination.	The laboratory inadvertently analyzed all samples for the full range of pesticides/herbicides, rather than just atrazine. Nitrate was less than the screening level (SL), atrazine was non-detect, and the other pesticides/herbicides were all non-detect, except for two low-level detects (less than the SL) for prometon, an organonitrogen pesticide.
	Per Table 5, install three permanent monitoring wells (MW-15 through MW-17), one soil boring (FS-26), and two trenches (Trenches 1 and 2) on BNSF property to determine potential impacts off site.	At the time of drilling, access to the BNSF property had not been granted and sampling was not conducted. As stated above, these wells were converted to permanent monitoring wells (rather than temporary wells, as approved in the Work Plan) and MW-16 was moved closer to the Smith-Kem Property line.
	Per Table 5, install one soil boring (FS-34) on southern property (Habitat for Humanity) to determine potential impacts off site.	At the time of drilling, access to the Habitat for Humanity property had not been granted and sampling was not conducted.
	Per Table 5, install two temporary groundwater monitoring wells (FS-22 near MW-4 and FS-30 near MW-14) and sample at discrete intervals of approximately 5 feet, 10 feet, and 15 feet below ground surface to determine if chemicals of potential concern (COPCs) are present in stratified depths in the aquifer.	At FS-22, groundwater samples were collected from 4–6 feet below ground surface (bgs) and 9–11 feet bgs. The temporary well installed from 13–15 feet bgs was not productive due to very silty lithology and a sample was not collected from this deeper depth. At FS-30, groundwater samples were collected from 5–7 feet bgs and 13–15 feet bgs. The temporary well installed from 9–11 feet bgs was not productive due to very silty lithology and a sample was not collected from this middle depth.

Table 4.2
Remedial Investigation Work Deviations Table

Floyd|Snider Document	Proposed Action	Deviation
Remedial Investigation Work Plan Addendum (2017) (cont.)	Per Table 5, advance a soil boring west of FS-13 (FS-24) to delineate the extent of total petroleum hydrocarbon (TPH) contamination. Analyze the samples for the limited COPC list (organochlorine pesticides, chlorinated herbicides, atrazine, simazine, nitrate/nitrite, TPH-Oil, and TPH-Diesel).	The samples collected from this boring were analyzed for pesticides/herbicides and nitrate/nitrite; samples were not analyzed for TPH because there were no field indications of the presence of petroleum (i.e., borings were free from odor and sheen, and photoionization detector (PID) readings did not indicate presence of volatile organic compounds).
	A boring is proposed east of the rail spur on BNSF property (FS-26) to delineate any potential offsite contamination of TPH, pesticides, and/or herbicides.	The boring location FS-26 was relocated to the west of the proposed location to be in-line with the approximate location of the historical ditch. Moving this boring relocated it from BNSF property onto Smith-Kem Property. No field indication of TPH was observed, so a soil sample was not collected for analysis of TPH.
Year 1 Summary Groundwater Sampling Plan Memorandum (2017)	Per Table 4, desethyl atrazine is proposed as an additional analysis for select wells in Year 2 groundwater monitoring to assist in development of the Conceptual Site Model (CSM).	Desethyl atrazine was only analyzed during one event. The results were non-detect, so continued analysis was not deemed to be necessary for CSM development.
	Per Table 5, the third quarter of quarterly groundwater monitoring occurs between February and April 2018.	In coordination with the Washington State Department of Ecology (Ecology), the third quarter was postponed until June 2018 to coincide with Phase 2B field work.
Proposed Additions to Phase 2B Sampling Scope at the Smith-Kem Site Memorandum (2018)	Collect up to four additional soil samples for dioxin/furan analysis with a step-out pattern in order to analyze soil samples with a tiered approach (i.e., analyze the first two samples, assess the results and analyze the step-outs, if necessary).	Three additional soil samples were collected for dioxin/furan analysis to the west of the historical burn area (FS-43, FS-44, and FS-45). All three samples were analyzed instead of utilizing the tiered approach. Further step-outs were limited due to inability to gain approval for site access further south of the Smith-Kem Property.
	Sample the new monitoring wells downgradient of the Smith-Kem Property for atrazine and nitrate during two consecutive groundwater sampling events following the Phase 2B investigation.	Only one sampling event was completed following the Phase 2B investigation. In coordination with Ecology, continued groundwater monitoring was postponed until after review of the Remedial Investigation Report.
Proposed Sampling Plan for Vapor Intrusion Assessment at the Smith-Kem Site Memorandum (2019)	All efforts will be made to eliminate other sources of vapor-producing chemicals, such as air fresheners, within the office space prior to sampling.	The SUMMA cannister placed in the office building to sample indoor air was unknowingly set up immediately adjacent to a copier/printer, which may contribute to naphthalene concentrations in the workspace.
Smith-Kem Site Remedial Investigation 2019 Work Plan Addendum (2019)	Ecology personnel will be present on-Site and will perform sample collection for split samples collected from all 20 monitoring wells to be analyzed by Analytical Resources, Inc. (laboratory).	Ecology did not have a representative on site, nor did they collect split samples due to the COVID-19 pandemic and limitations on in-person gatherings.
	Groundwater samples from all wells will be analyzed for nine organochlorine pesticides by low-level USEPA Method 8081B.	HCH-beta was also analyzed along with the nine other organochlorine pesticides.
	ALS Environmental (ALS) provided method detection and reporting limits for each of the nine organochlorine pesticides attainable by the low-level USEPA Method 8081B.	The expected method detection limits and reporting limits listed in Table 2 were elevated by 2 times for aldrin, lindane, and heptachlor in the laboratory report from ALS.

Table 5.1
Groundwater Screening and Preliminary Cleanup Levels (µg/L)

Chemical [1]	CAS No.	Relevant Criteria [2]				Screening Level (Risk-Based Criteria) [8]	Adjustment Factor [3]	Preliminary CUL [10]
		Drinking Water			Vapor Intrusion			
		Groundwater MTCA Method B/A [4]	Minimum State and Federal MCL [5]	Groundwater Target Concentration [6]	Vapor Intrusion Criteria [7]		PQL [9]	
Conventionals								
Alkalinity (as $CaCO_3$)	--					NE	NA	No GW preliminary CUL
Chloride	16887-00-6					NE	NA	No GW preliminary CUL
Dissolved Organic Carbon	--					NE	NA	No GW preliminary CUL
Sulfate	14808-79-8					NE	NA	No GW preliminary CUL
Total Dissolved Solids	--					NE	NA	No GW preliminary CUL
Metals								
Arsenic [11]	7440-38-2	0.058	10	5.0		5.0	1	5
Cadmium	7440-43-9	8.0	5.0	5.0		5.0	1.0	5.0
Calcium	7440-70-2					NE	NA	No GW preliminary CUL
Chromium (Total) [12]	7440-47-3	24,000	100	100		100	1	100
Copper	7440-50-8	640	1,300	640		640	1	640
Ferrous Iron	--	11,000				11,000	NA	11,000
Iron	7439-89-6	11,000				11,000	NA	11,000
Lead	7439-92-1	15	15	15		15	1	15
Magnesium	7439-95-4					NE	NA	No GW preliminary CUL
Manganese	7439-96-5	750				750	NA	750
Sodium	7440-23-5					NE	NA	No GW preliminary CUL
Zinc	7440-66-6	4,800				4,800	1	4,800
Volatile Organic Compounds								
Benzene	71-43-2	0.80	5.0	5.0		5.0	0.4	5.0
tert-Butyl alcohol	75-65-0					NE	NA	No GW preliminary CUL
Toluene	108-88-3	6,400	1,000	640		640	1	640
Xylenes [13]	1330-20-7	1,600	10,000	1,600		1,600	3	1,600
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7					NE	NA	No GW preliminary CUL
Nitrate/Nitrite	14797-55-8	26,000	10,000	10,000		See nitrate and nitrite	NA	10,000
Nitrate	14797-55-8	26,000	10,000	10,000		10,000	150	10,000
Nitrite	14797-65-0	1,600	1,000	1,000		1,000	5	1,000
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	0.014				0.014	0.001	0.014
HCH-beta (b-BHC)	319-85-7	0.049				0.049	0.001	0.049
HCH-delta (d-BHC)	319-86-8					NE	NA	No GW preliminary CUL
g-BHC (Lindane)	58-89-9	0.080	0.20	0.20		0.20	0.00	0.20
Aldrin	309-00-2	0.0026			0.32	0.0026	0.001	0.0026
Heptachlor	76-44-8	0.019	0.40	0.19		0.19	0.00	0.19
Heptachlor Epoxide	1024-57-3	0.0048	0.20	0.048		0.048	0.00	0.05
Chlordane	12789-03-6	0.25	2.0	2.0		2.0	0.0	2.0
Dieldrin	60-57-1	0.0055		0.0055		0.0055	0.001	0.0055
Endrin	72-20-8	4.8	2.0	2.0		2.0	0.1	2.0
Endosulfan I [14]	959-98-8	96				96	0.06	96
Endosulfan II [14]	33213-65-9	96				96	0.06	96
4,4'-DDD / Sum DDD	72-54-8	0.36				0.36	0.06	0.36
4,4'-DDE / Sum DDE	72-55-9	0.26				0.26	0.06	0.26
4,4'-DDT / Sum DDT	50-29-3	0.26				0.26	0.06	0.26
Hexachlorobenzene	118-74-1	0.055	1.0	0.55		0.55	0.0	0.6
Methoxychlor	72-43-5	80	40	40		40	0.06	40
Toxaphene	8001-35-2	0.080	3.0	0.80		0.80	0.1	0.8
Chlorinated Herbicides								
2,4-D	94-75-7	160	70	70		70	0.08	70
2,4-DB	94-82-6	480				480	0.08	480
2,4,5-TP (Silvex)	93-72-1	130	50	50		50	0.08	50
2,4,5-T	93-76-5	160				160	0.08	160
Dalapon	75-99-0	240	200	200		200	NA	200
Dicamba	1918-00-9	480				480	0.08	480
Dinoseb	88-85-7	16	7.0	7.0		7.0	0.1	7.0
MCPA	94-74-6	8.0				8.0	0.08	8
MCPP (Mecoprop)	93-65-2	16				16	0.08	16
Pentachlorophenol	87-86-5	0.22	1.0	1.0		1.0	0.1	1.0
Other Chlorinated/Halogenated Pesticides								
Atrazine	1912-24-9	0.38	3.0	3.0		3.0	0.1	3.0
Chlordane-alpha [15]	5103-71-9	0.25	2.0	2.0		2.0	0.1	2.0
Metribuzin	21087-64-9	400				400	0.12	400
Oxadiazon	19666-30-9	80				80	0.12	80
Propiconazole	60207-90-1	1,600				1,600	0.3	1,600
Simazine	122-34-9	0.73	4.0	4.0		4.0	0.1	4.0
Terbacil	5902-51-2	210				210	0.12	210
Triazine Herbicides (Organonitrogen Pesticides)								
Hexazinone	51235-04-2	530				530	0.06	530
Prometon	1610-18-0	240				240	0.12	240
Propazine	139-40-2	320				320	0.06	320
Phenylurea Herbicides								
Diuron	330-54-1	32				32	0.06	32
Carbamate Pesticides								
Carbaryl	63-25-2	1,600				1,600	0.06	1,600
Carbofuran	1563-66-2	80	40	40		40	0.06	40
Organonitrogen Pesticides								
Metalaxyl	57837-19-1	960				960	0.06	960
Pendimethalin	40487-42-1	4,800				4,800	0.06	4,800
Tebuthiuron	34014-18-1	1,100				1,100	0.12	1,100

Table 5.1
Groundwater Screening and Preliminary Cleanup Levels (µg/L)

Chemical [1]	CAS No.	Relevant Criteria [2]				Screening Level (Risk-Based Criteria) [8]	Adjustment Factor [3]	Preliminary CUL [10]
		Drinking Water			Vapor Intrusion			
		Groundwater MTCA Method B/A [4]	Minimum State and Federal MCL [5]	Groundwater Target Concentration [6]	Vapor Intrusion Criteria [7]		PQL [9]	
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	GRO	800				800	100	800
Diesel	--	500				500	130	500
Diesel-Range TPH	DRO	500			30,000	500	50	500
Oil-Range TPH	ORO	500				500	250	500

Notes:

Blank cells are intentional.

1 Only chemicals requiring development of GW preliminary CULs are retained in this table. GW peliminary CULs were developed for any chemical that was either (a) detected in GW, or (b) retained as a potential COPC in the Ecology-approved Year 1 Groundwater Summary Memorandum (Attachment C.1). For more information, refer to the PCUL and COPC Memo (Attachment C.4).

2 GW criteria protective of drinking water use and vapor intrusion were considered. All criteria are rounded to two significant digits.

3 Adjustment factors allowable under WAC 173-340-720(7)(c) include the PQL and natural background.

4 The MTCA Method B/A criterion for each chemical is the most stringent criterion from among standard MTCA Method B cancer and non-cancer groundwater criteria (WAC 173-340-720(4)). MTCA Method A groundwater criteria listed in WAC Table 720-1 were considered for TPH compounds, as no other TPH criteria were developed.

5 The most stringent criterion for each chemical between state and federal MCLs (WAC 246-290-310 and 40 CFR 141-143, respectively).

6 The GW target concentration is the most stringent state and federal MCL criterion, after adjusting for health effects. The most stringent MCL is sufficiently protective and does not require adjustment to protect human health if the excess cancer risk does not exceed 1 in 100,000 (1 x 10-5) and the hazard quotient does not exceed one (1). If the most stringent MCL is not sufficiently protective, it was adjusted downward in accordance with WAC 173-340-720(7)(b) to the minimum of (a) MTCA Method B noncancer criterion and (b) MTCA Method B cancer criterion multiplied by a factor of 10. If an MCL was not established for a particular chemical, the groundwater target concentration is the MTCA Method B/A criterion.

7 Vapor intrusion criteria are from Ecology's 2018 document *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* and subsequent implementation memoranda.

8 The screening level (i.e., risk-based target CUL) is equivalent to the minimum of the groundwater target concentration and vapor intrusion criterion for each chemical. If no relevant groundwater criteria exist, a screening level is not established.

9 PQLs are site-specific and based on the method reporting limit information from two laboratories: PAL and ALS Environmental. If it appeared there would be no upward adjustment from the risk-based criterion for a particular chemical, the PAL method reporting limit was selected as the PQL. PQLs are not listed for chemicals that were not analyzed on or after January 1, 2016. PQLs are rounded to two significant digits.

10 The preliminary CUL is the GW screening level adjusted upward to the PQL or natural background, whichever is greater, consistent with WAC 173-340-720(7)(c).

11 The Washington natural background concentration for arsenic is 5 µg/L, as established in MTCA Method A Table 720-1 (WAC 173-340-900).

12 Criteria developed for chromium(III) were considered when determining the relevant criteria for chromium. There is no reason to suspect the presence of chromium(VI) on-site.

13 Xylenes are typically analyzed and reported by laboratories as m,p-xylene and o-xylene; these values are summed and reported as total xylenes. When evaluating relevant criteria for xylenes, the criterion developed for total xylenes was selected as the relevant criterion.

14 Criteria were not developed for endosulfan I or endosulfan II in CLARC. Criteria developed for endosulfan (CAS no. 115-29-7) were used as a surrogate.

15 Criteria were not developed for chlordane-alpha in CLARC; criteria developed for chlordane (CAS no. 12789-03-6) were used as a surrogate.

Abbreviations:

2,4-D	2,4-Dichlorophenoxyacetic acid	DDD	Dichlorodiphenyldichloroethane	µg/L	Micrograms per liter
2,4-DB	4-(2,4-Dichlorophenoxy)butyric acid	DDE	Dichlorodiphenyldichlorethylene	MTCA	Model Toxics Control Act
2,4,5-T	2,4,5-Trichlorophenoxyacetic acid	DDT	Dichlorodiphenyltrichloroethane	NA	Not applicable
2,4,5-TP	2(2,4,5-Trichlorophenoxy) propionic acid	Ecology	Washington State Department of Ecology	NE	Not established
BHC	Benzene hexachloride	GW	Groundwater	PAL	Pacific Agricultural Laboratory
CAS	Chemical Abstracts Service	HCH	Hexachlorocyclohexane	PQL	Practical quantitation limit
CLARC	Cleanup Levels and Risk Calculation	MCL	Maximum contaminant level		
COPC	Chemical of potential concern	MCPA	2-Methyl-4-chlorophenoxyacetic acid		
CUL	Cleanup level	MCPP	Methylchlorophenoxypropionic acid		

Table 5.2
Soil Screening Levels (mg/kg)

Chemical [1]	CAS No.	Criteria Considered in Screening Level Development				Screening Level [6]
		Human Health		Ecological Receptors	Leaching	
		MTCA Method A Unrestricted [2]	Minimum Soil MTCA Method B [3]	Simple Unrestricted Land Use Site TEE [4]	Soil to Protect GW—Saturated [5]	
Conventionals						
Bulk Density	--					No SL
pH	pH					No SL
Total Organic Carbon	--					No SL
Metals						
Arsenic	7440-38-2	20	0.67		0.15	0.15
Cadmium	7440-43-9	2.0	80	25	0.035	0.035
Chromium (Total) [7]	7440-47-3			64	No Partitioning Data	64
Copper	7440-50-8		3,200	100	14	14
Lead	7439-92-1	250		220	150	150
Mercury	7439-97-6	2.0		0.70		0.70
Zinc	7440-66-6		24,000	270	300	270
Volatile Organic Compounds						
Acetone	67-64-1		72,000			72,000
Carbon disulfide	75-15-0		8,000			8,000
Dibromomethane	74-95-3		800			800
Ethylbenzene	100-41-4	6.0	8,000			8,000
Naphthalene	91-20-3	5.0	1,600			1,600
n-Hexane	110-54-3		4,800			4,800
n-Propylbenzene	103-65-1		8,000			8,000
sec-Butylbenzene	135-98-8		8,000			8,000
Toluene	108-88-3	7.0	6,400		1.2	1.2
Xylene (meta & para)	108-38-3/106-42-3		16,000			16,000
Xylene (ortho)	95-47-6		16,000			16,000
Xylenes [8]	1330-20-7	9.0	16,000		4.6	4.6
Semivolatile Organic Compounds						
1-Methylnaphthalene	90-12-0		34			34
2-Methylnaphthalene	91-57-6		320			320
Acenaphthylene	208-96-8					No SL
Anthracene	120-12-7		24,000			24,000
Benzo(g,h,i)perylene	191-24-2					No SL
Bis(2-ethylhexyl)phthalate	117-81-7		71			71
Fluoranthene	206-44-0		3,200			3,200
Phenanthrene	85-01-8					No SL
Pyrene	129-00-0		2,400			2,400
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)						
Benz(a)anthracene	56-55-3					See cPAH TEQ
Benzo(a)pyrene	50-32-8	0.10	0.19	30		See cPAH TEQ
Benzo(b)fluoranthene	205-99-2					See cPAH TEQ
Benzo(k)fluoranthene	207-08-9					See cPAH TEQ
Chrysene	218-01-9					See cPAH TEQ
Indeno(1,2,3-c,d)pyrene	193-39-5					See cPAH TEQ
cPAH TEQ (MTCA TEQ-1/2ND)	BaPEq (U=1/2)	0.10	0.19	30		0.19
cPAH TEQ (MTCA TEQ-ZeroND)	BaPEq (U=0)	0.10	0.19	30		0.19
Miscellaneous Substances						
Nitrate/Nitrite	14797-55-8		130,000		No Partitioning Data	130,000
Nitrate	14797-55-8		130,000		No Partitioning Data	130,000
Nitrite	14797-65-0		8000		No Partitioning Data	8,000
Organochlorine Pesticides						
HCH-alpha (a-BHC)	319-84-6		0.16		0.00028	0.00028
HCH-beta (b-BHC)	319-85-7		0.56		0.0012	0.0012
HCH-delta (d-BHC)	319-86-8				No GW PCUL	0.0012
g-BHC (Lindane)	58-89-9	0.010	0.91	10	0.0030	0.0030
Aldrin	309-00-2		0.059	0.17	0.0014	0.0014
Heptachlor	76-44-8		0.22	0.60	0.020	0.020
Heptachlor epoxide	1024-57-3		0.11	0.60	0.044	0.044
Chlordane	12789-03-6		2.9	1.0	1.1	1.0
Dieldrin	60-57-1		0.063	0.17	0.0015	0.0015
Endrin	72-20-8		24	0.40	0.24	0.24
Endosulfan I [9]	959-98-8		480		2.2	2.20
Endosulfan II [9]	33213-65-9		480		2.2	2.20
4,4'-DDD / Sum DDD	72-54-8		2.4		0.18	0.18
4,4'-DDE / Sum DDE	72-55-9		2.9		0.25	0.25
4,4'-DDT / Sum DDT	50-29-3	3.0	2.9		1.9	1.9
Total DDx	T_DDx (U=0)			1.0		1.0
Hexachlorobenzene	118-74-1		0.63	31	0.48	0.48
Methoxychlor	72-43-5		400		35	35
Toxaphene	8001-35-2		0.91		0.84	0.84
Chlorinated Herbicides						
2,4-D	94-75-7		800		No Partitioning Data	800
2,4-DB	94-82-6		2,400		No Partitioning Data	2,400
2,4,5-TP (Silvex)	93-72-1		640		No Partitioning Data	640
2,4,5-T	93-76-5		800		No Partitioning Data	800
Dalapon	75-99-0		2,400			2,400
Dicamba	1918-00-9		2,400		No Partitioning Data	2,400
Dinoseb	88-85-7		80		No Partitioning Data	80
MCPA	94-74-6		40		No Partitioning Data	40
MCPP (Mecoprop)	93-65-2		80		No Partitioning Data	80
Pentachlorophenol	87-86-5		2.5	11	0.0068	0.0068

Table 5.2
Soil Screening Levels (mg/kg)

Chemical [1]	CAS No.	Criteria Considered in Screening Level Development				Screening Level [6]
		Human Health		Ecological Receptors	Leaching	
		MTCA Method A Unrestricted [2]	Minimum Soil MTCA Method B [3]	Simple Unrestricted Land Use Site TEE [4]	Soil to Protect GW—Saturated [5]	
Other Chlorinated/Halogenated Pesticides						
Atrazine	1912-24-9		4.3		No Partitioning Data	4.3
Chlordane-alpha [10]	5103-71-9		2.9	1.0	1.1	1.0
Cyanazine (Bladex)	21725-46-2		1.2			1.2
Metribuzin	21087-64-9		2,000		No Partitioning Data	2,000
Simazine	122-34-9		8.3		No Partitioning Data	8.3
Trifluralin	1582-09-8		130			130
Organophosphate Pesticides (Organophosphorus Compounds)						
Glyphosate	1071-83-6		8,000			8,000
Chlorpyrifos	2921-88-2		80			80
Triazine Herbicides (Organonitrogen Pesticides)						
Ametryn	834-12-8		720			720
Hexazinone	51235-04-2		2,600		No Partitioning Data	2,600
Prometon	1610-18-0		1,200		No Partitioning Data	1,200
Prometryn	7287-19-6		3,200			3,200
Phenylurea Herbicides						
Diuron	330-54-1		160		No Partitioning Data	160
Linuron	330-55-2		620			620
Carbamate Pesticides						
Carbaryl	63-25-2		8,000		No Partitioning Data	8,000
Carbofuran	1563-66-2		400		No Partitioning Data	400
Organonitrogen Pesticides						
Diphenylamine	122-39-4		8,000			8,000
Pendimethalin	40487-42-1		24,000		No Partitioning Data	24,000
Tebuthiuron	34014-18-1		5,600		No Partitioning Data	5,600
Other Pesiticide/Herbicides						
AMPA	1066-51-9					No SL
Endosulfan sulfate	1031-07-8		480			480
Endrin aldehyde	7421-93-4					No SL
Endrin ketone	53494-70-5					No SL
Total Petroleum Hydrocarbons (TPH)						
C5-C6 Aliphatics	--					No SL
C6-C8 Aliphatics	--					No SL
C8-C10 Aliphatics	--					No SL
C8-C10 Aromatics	--					No SL
C10-C12 Aliphatics	--					No SL
C10-C12 Aromatics	--					No SL
C12-C13 Aromatics	--					No SL
C12-C16 Aliphatics	--					No SL
C16-C21 Aliphatics	--					No SL
C16-C21 Aromatics	--					No SL
C21-C34 Aliphatics	--					No SL
C21-C34 Aromatics	--					No SL
Gasoline-range TPH	GRO	30		200	No Partitioning Data	30
Diesel-range TPH	DRO	2,000			No Partitioning Data	See Total Diesel- and Oil-Range TPH
Oil-range TPH	ORO	2,000			No Partitioning Data	
Total diesel- and oil-range TPH	DRO+ORO	2,000		460	No Partitioning Data	460
Individual Dioxin/Furan Compounds and TEQ ND Zero						
1,2,3,4,6,7,8-HpCDD	35822-46-9					See Dioxins
1,2,3,4,6,7,8-HpCDF	67562-39-4					See Dioxins
1,2,3,4,7,8,9-HpCDF	55673-89-7					See Dioxins
1,2,3,4,7,8-HxCDD	39227-28-6					See Dioxins
1,2,3,4,7,8-HxCDF	70648-26-9					See Dioxins
1,2,3,6,7,8-HxCDD	57653-85-7					See Dioxins
1,2,3,6,7,8-HxCDF	57117-44-9					See Dioxins
1,2,3,7,8,9-HxCDD	19408-74-3					See Dioxins
1,2,3,7,8,9-HxCDF	72918-21-9					See Dioxins
1,2,3,7,8-PeCDD	40321-76-4					See Dioxins
1,2,3,7,8-PeCDF	57117-41-6					See Dioxins
2,3,4,6,7,8-HxCDF	60851-34-5					See Dioxins
2,3,4,7,8-PeCDF	57117-31-4					See Dioxins
2,3,7,8-TCDD (Dioxin)	1746-01-6		0.0000130			See Dioxins
2,3,7,8-TCDF	51207-31-9					See Dioxins
Dioxins/Furans (MTCA TEQ-	DF_TEQ (U=0)		0.0000130			See Dioxins
Total HpCDD	37871-00-4					See Dioxins
Total HpCDF	38998-75-3					See Dioxins
Total HxCDD	34465-46-8		0.000160			See Dioxins
Total HxCDF	55684-94-1					See Dioxins
Total PeCDD	36088-22-9					See Dioxins
Total PeCDF	30402-15-4					See Dioxins
Total TCDD	41903-57-5					See Dioxins
Total TCDF	55722-27-5					See Dioxins
OCDD	3268-87-9					See Dioxins
OCDF	39001-02-0					See Dioxins

Table 5.2
Soil Screening Levels (mg/kg)

Chemical [1]	CAS No.	Criteria Considered in Screening Level Development				Screening Level [6]
		Human Health		Ecological Receptors	Leaching	
		MTCA Method A Unrestricted [2]	Minimum Soil MTCA Method B [3]	Simple Unrestricted Land Use Site TEE [4]	Soil to Protect GW—Saturated [5]	
Dioxins/Furans						
Dioxins/Furans	DF_TEQ (U=1/2)		0.0000130	0.00000300		0.00000300

Notes:

Blank cells are intentional.

Dioxin citeria are rounded to three significant figures; all other criteria are rounded to two significant figures.

-- Not applicable.

1 Only chemicals requiring development of soil preliminary CULs are retained in this table. Soil preliminary CULs were developed for any chemical that was either (a) detected in soil, or (b) retained as a potential COPC in the Soil Elimination Memorandum (Attachment C.2). For more information, refer to the PCUL and COPC Memo (Attachment C.4).

2 MTCA Method A criteria for unrestricted land use (WAC Table 740-1) are included in this table and are selected as the risk-based criterion for a particular chemical when no other criteria are available.

3 Standard MTCA Method B equations were used to calculate concentrations protective of HH using Equation 720-1 for noncancer health effects and Equation 720-2 for cancer health effects.

4 Criteria for the protection of terrestrial ecological receptors at a site with unrestricted land use sourced from WAC 173-340-900, Table 749-2.

5 Criteria protective of preliminary CULs for GW were calculated using the variable three-phase equilibrium partitioning model according to WAC 173-340-747(5)(b)(i) using Equation 747-1. Default MTCA input parameters were used, with the exception of f_{oc}. A site-specific f_{oc} of 1.1% (0.011) was used in the calculation.

6 Risk-based criteria in this column are based on unrestricted land use and are protective of HH and the environment (MTCA Method A table values); HH from direct contact (MTCA Method B standard formula values); terrestrial receptors (Simple Site with Unrestricted Land Use); and the soil-to-GW pathway (WAC Equation 747-1).

7 Criteria developed for total chromium and for chromium(III) were considered when determining the relevant criteria for chromium. There is no reason to suspect the presence of chromium(VI) on-site.

8 Xylenes are typically analyzed and reported by laboratories as m,p-xylene and o-xylene; these values are summed and reported as total xylenes. When evaluating relevant criteria for xylenes, the criterion developed for total xylenes was selected as the relevant criterion.

9 Criteria were not developed for endosulfan I or endosulfan II in CLARC. Criteria developed for endosulfan (CAS no. 115-29-7) were used as a surrogate.

10 Criteria were not developed for chlordane-alpha in CLARC; criteria developed for chlordane (CAS no. 12789-03-6) were used as a surrogate.

Abbreviations:

2,4-D	2,4-Dichlorophenoxyacetic acid
2,4-DB	4-(2,4-Dichlorophenoxy)butyric acid
2,4,5-T	2,4,5-Trichlorophenoxyacetic acid
2,4,5-TP	2(2,4,5-Trichlorophenoxy) propionic acid
AMPA	α-Amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid
BHC	Benzene hexachloride
CAS	Chemical Abstracts Service
CLARC	Cleanup Level and Risk Calculation
COPC	Chemical of potential concern
cPAH	Carcinogenic polycyclic aromatic hydrocarbon
CUL	Cleanup level
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichlorethylene
DDT	Dichlorodiphenyltrichloroethane
f_{oc}	Fraction of organic carbon
GW	Groundwater
HCH	Hexachlorocyclohexane
HH	Human health
HpCDD	Heptachlorodibenzo-p-dioxin
HpCDF	Heptachlorodibenzofuran
HxCDD	Hexachlorodibenzo-p-dioxin
HxCDF	Hexachlorodibenzofuran
MCPA	2-Methyl-4-chlorophenoxyacetic acid
MCPP	Methylchlorophenoxypropionic acid
mg/kg	Milligrams per kilogram
MTCA	Model Toxics Control Act
ND	Nondetect
OCDD	Octachlorodibenzodioxin
OCDF	Octachlorodibenzofuran
PeCDD	Pentachlorodibenzo-p-dioxin
PeCDF	Pentachlorodibenzofuran
SL	Screening level
TEE	Terrestrial Ecological Evaluation
TEQ	Toxic equivalent
TCDD	Tetrachlorodibenzo-p-dioxin
TCDF	Tetrachlorodibenzofuran
Total DDx	Calculated as the sum of DDD, DDE, and DDT

Table 5.3
Screening Evaluation to Identify Groundwater Chemicals of Potential Concern (µg/L)

Chemical [1]	CAS No.	Groundwater Preliminary CUL [2]	Maximum Detected Result / *(Maximum Detected Well Result)* [3]	Percent of Detected Results That Exceed	Maximum Detected Exceedance Factor	Minimum Phase 2 Reporting Limit [4]	Maximum Phase 2 Reporting Limit [4]	Maximum March 2020 Reporting Limit [5]	GW COPC? [6]	Rationale
Metals										
Arsenic	7440-38-2	5.0	23 / ***(14)***	1.7%	2.8	1	1	NA	**Yes**	**Maximum result > preliminary CUL**
Cadmium	7440-43-9	5.0	4.2	None	None	1	1	NA	No	No exceedances
Chromium (Total)	7440-47-3	100	290 / ***(17)***	None	None	1	1	NA	No	No exceedances in groundwater wells; chemical not associated with pesticides
Copper	7440-50-8	640	170	None	None	5	5	NA	No	No exceedances
Ferrous Iron	--	11,000	230	None	None	NA	NA	NA	No	No exceedances
Iron	7439-89-6	11,000	2,700	None	None	NA	NA	NA	No	No exceedances
Lead	7439-92-1	15	31 / ***(10)***	None	None	1	1	NA	No	No exceedances in groundwater wells
Manganese	7439-96-5	750	350	None	None	NA	NA	NA	No	No exceedances
Zinc	7440-66-6	4,800	1,700	None	None	5	5	NA	No	No exceedances
Volatile Organic Compounds										
Benzene	71-43-2	5.0	2.2	None	None	0.35	0.35	NA	No	No exceedances
Toluene	108-88-3	640	1.6	None	None	1	1	NA	No	No exceedances
Xylenes	1330-20-7	1,600	11	None	None	20	20	NA	No	No exceedances
Miscellaneous Substances										
Nitrate	14797-55-8	10,000	210,000	57%	21	150	150	NA	**Yes**	**Maximum result > preliminary CUL**
Nitrite	14797-65-0	1,000	6,800	8.2%	6.8	5	5	NA	**Yes**	**Maximum result > preliminary CUL**
Organochlorine Pesticides										
HCH-alpha (a-BHC)	319-84-6	0.014	0.0044	None	NA	**0.06**	**0.12**	0.0010	No	No exceedances in March 2020
HCH-beta (b-BHC)	319-85-7	0.049	0.087	3.2%	1.8	**0.06**	**0.12**	0.0010	**Yes**	**Maximum result > preliminary CUL**
g-BHC (Lindane)	58-89-9	0.20	0.17	None	None	0.06	0.12	0.0020	No	No exceedances
Aldrin	309-00-2	0.0026	0.0059	1.3%	2.3	**0.06**	**0.12**	0.0020	**Yes**	**Maximum result > preliminary CUL**
Heptachlor	76-44-8	0.19	0.0098	None	NA	0.06	0.12	0.0031	No	Maximum Phase 2 RL < GW preliminary CUL
Heptachlor Epoxide	1024-57-3	0.048	0.0056	None	NA	**0.06**	**0.12**	0.0010	No	No exceedances in March 2020
Chlordane	12789-03-6	2.0	22	2.4%	11	0.6	0.6	0.020	**Yes**	**Maximum result > preliminary CUL**
Dieldrin	60-57-1	0.0055	10	24%	1,800	**0.06**	**0.12**	0.0010	**Yes**	**Maximum result > preliminary CUL**
Endrin	72-20-8	2.0	Not Detected in GW	NA	NA	0.06	0.12	NA	No	RLs < GW preliminary CUL
Endosulfan I	959-98-8	96	Not Detected in GW	NA	NA	0.06	0.12	NA	No	RLs < GW preliminary CUL
Endosulfan II	33213-65-9	96	Not Detected in GW	NA	NA	0.06	0.12	NA	No	RLs < GW preliminary CUL
4,4'-DDD / Sum DDD	72-54-8	0.36	Not Detected in GW	NA	NA	0.06	0.12	NA	No	RLs < GW preliminary CUL
4,4'-DDE / Sum DDE	72-55-9	0.26	0.76	0.81%	2.9	0.06	0.12	NA	**Yes**	**Maximum result > preliminary CUL**
4,4'-DDT / Sum DDT	50-29-3	0.26	1.5	0.81%	5.8	0.06	0.12	NA	**Yes**	**Maximum result > preliminary CUL**
Hexachlorobenzene	118-74-1	0.55	Not Detected in GW	NA	NA	0.06	0.12	0.0010	No	RLs < GW preliminary CUL
Methoxychlor	72-43-5	40	Not Detected in GW	NA	NA	0.06	0.12	NA	No	RLs < GW preliminary CUL
Toxaphene	8001-35-2	0.80	26	8.1%	33	**6**	**6**	0.1	**Yes**	**Maximum result > preliminary CUL**
Chlorinated Herbicides										
2,4-D	94-75-7	70	260	1.6%	3.7	0.08	0.08	NA	**Yes**	**Maximum result > preliminary CUL**
2,4-DB	94-82-6	480	0.096	None	None	0.08	0.08	NA	No	No exceedances
2,4,5-TP (Silvex)	93-72-1	50	0.74	None	None	0.08	0.08	NA	No	No exceedances
2,4,5-T	93-76-5	160	Not Detected in GW	NA	NA	0.08	0.08	NA	No	RLs < GW preliminary CUL
Dalapon	75-99-0	200	Not Detected in GW	NA	NA	0.38	0.4	NA	No	RLs < GW preliminary CUL
Dicamba	1918-00-9	480	550	1.6%	1.1	0.08	0.08	NA	**Yes**	**Maximum result > preliminary CUL**
Dinoseb	88-85-7	7.0	3.0	None	None	0.08	0.08	NA	No	No exceedances
MCPA	94-74-6	8.0	88	3.2%	11	0.08	0.08	NA	**Yes**	**Maximum result > preliminary CUL**
MCPP (Mecoprop)	93-65-2	16	Not Detected in GW	NA	NA	0.08	0.08	NA	No	RLs < GW preliminary CUL
Pentachlorophenol	87-86-5	1.0	Not Detected in GW	NA	NA	0.16	0.16	NA	No	RLs < GW preliminary CUL

Table 5.3
Screening Evaluation to Identify Groundwater Chemicals of Potential Concern (µg/L)

Chemical [1]	CAS No.	Groundwater Preliminary CUL [2]	Maximum Detected Result / *(Maximum Detected Well Result)* [3]	Percent of Detected Results That Exceed	Maximum Detected Exceedance Factor	Minimum Phase 2 Reporting Limit [4]	Maximum Phase 2 Reporting Limit [4]	Maximum March 2020 Reporting Limit [5]	GW COPC? [6]	Rationale
Other Chlorinated/Halogenated Pesticides										
Atrazine	1912-24-9	3.0	33	13%	11	0.06	0.06	NA	**Yes**	**Maximum result > preliminary CUL**
Chlordane-alpha	5103-71-9	2.0	3.3	0.80%	1.7	0.06	0.12	NA	**Yes**	**Maximum result > preliminary CUL**
Metribuzin	21087-64-9	400	20	None	None	0.06	0.06	NA	No	No exceedances
Oxadiazon	19666-30-9	80	0.34	None	None	0.12	0.12	NA	No	No exceedances
Propiconazole	60207-90-1	1,600	0.96	None	None	0.3	0.3	NA	No	No exceedances
Simazine	122-34-9	4.0	2.8	None	None	0.06	0.06	NA	No	No exceedances
Terbacil	5902-51-2	210	0.40	None	None	0.1	1.2	NA	No	No exceedances
Triazine Herbicides (Organonitrogen Pesticides)										
Hexazinone	51235-04-2	530	3.8	None	None	0.06	0.06	NA	No	No exceedances
Prometon	1610-18-0	240	0.24	None	None	0.06	0.06	NA	No	No exceedances
Propazine	139-40-2	320	0.30	None	None	0.06	0.06	NA	No	No exceedances
Phenylurea Herbicides										
Diuron	330-54-1	32	12	None	None	0.06	0.06	NA	No	No exceedances
Carbamate Pesticides										
Carbaryl	63-25-2	1,600	1.2	None	None	0.06	0.06	NA	No	No exceedances
Carbofuran	1563-66-2	40	0.15	None	None	0.06	0.06	NA	No	No exceedances
Organonitrogen Pesticides										
Metalaxyl	57837-19-1	960	1.2	None	None	0.06	0.06	NA	No	No exceedances
Pendimethalin	40487-42-1	640	0.52	None	None	0.12	0.12	NA	No	No exceedances
Tebuthiuron	34014-18-1	1,100	0.13	None	None	0.12	0.12	NA	No	No exceedances
Total Petroleum Hydrocarbons (TPH)										
Gasoline-Range TPH	GRO	800	5,500 ***(Not Detected in Wells)***	None	None	100	100	NA	No	Eliminated in Attachment C.1: gasoline detections are chromatographic overlap with weathered diesel
Diesel	--	500	230	None	None	130	130	NA	NA	See Diesel-Range TPH
Diesel-Range TPH	DRO	500	24,000 ***(1,000)***	8.2%	2.0	50	70	NA	**Yes**	**Maximum result > preliminary CUL**
Oil-Range TPH	ORO	500	24,000 ***(1,100)***	2.1%	2.2	250	350	NA	**Yes**	**Maximum result > preliminary CUL**

Notes:

GW preliminary CULs, results, and exceedance factors are rounded to two significant figures.

RED/BOLD Chemical identified as a COPC.

RED/BOLD RL exceeds GW preliminary CUL.

1 Only chemicals with GW preliminary CULs are included in this table.

2 GW preliminary CULs were developed in Table 5.1.

3 The value in plain text (i.e., not in bold italics) includes all GW results, including data from test pits and temporary well screens at soil boring locations, which are typically used for field screening purposes. These data should not be considered representative of site conditions for determining compliance with CULs as a result of greater sample turbidity. Nearby GW well data exist and can be used to characterize GW quality in the vicinity of test pit/soil boring GW samples. In areas without a nearby well, GW samples collected from collocated soil borings indicate that historical data collected from test pits are not representative of GW quality.

4 RLs presented in this table represent the range of RLs in the 2017–2018 Phase 2b and Phase 2 Groundwater Sampling events among nondetect results. If a chemical was not analyzed during these events, the range of RLs presented in this table represent the minimum and maximum RL from prior events. If a chemical was not analyzed on or after January 1, 2016, RLs are not provided.

5 RLs presented in this table represent the maximum RL in the March 2020 GW sampling event.

6 A chemical is retained as a groundwater COPC if its maximum detected result exceeds the preliminary CUL. For TPH and metals, only results from wells are considered when comparing data to the preliminary CUL. If the chemical was not detected at concentrations exceeding the preliminary CUL, RLs are compared to the preliminary CUL to determine COPC status. RLs measured during the March 2020 event are used for this screening evaluation, when available.

Abbreviations:

2,4-D 2,4-Dichlorophenoxyacetic acid
2,4-DB 4-(2,4-Dichlorophenoxy)butyric acid
2,4,5-T 2,4,5-Trichlorophenoxyacetic acid
2,4,5-TP 2(2,4,5-Trichlorophenoxy) propionic acid
BHC Benzene hexachloride
CAS Chemical Abstracts Service
COPC Chemical of potential concern
CUL Cleanup level
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichlorethylene
DDT Dichlorodiphenyltrichloroethane
GW Groundwater
HCH Hexachlorocyclohexane
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Methylchlorophenoxypropionic acid
µg/L Micrograms per liter
NA Not applicable
RL Reporting limit

Table 5.4
Soil Preliminary Cleanup Levels (mg/kg)

Chemical [1]	CAS No.	Criteria and Factors Considered in Preliminary CUL Development										Soil Preliminary CUL [13]
		Human Health		Ecological Receptors	Leaching	Screening Level [6]	Adjustment Factors [7]		Leaching Component of Preliminary CUL [10]	Direct Contact Component of Preliminary CUL [11]	Is it a GW COPC? [12]	
		MTCA Method A Unrestricted [2]	Minimum Soil MTCA Method B [3]	Simple Unrestricted Land Use Site TEE [4]	Soil to Protect GW—Saturated [5]		Final PQL [8]	Natural or Area-Wide Background [9]				
Metals												
Arsenic	7440-38-2	20	0.67		0.15	0.15	1.0	20	20	20	Yes	20
Cadmium	7440-43-9	2.0	80	25	0.035	0.035	1.0	0.096	1.0	25	No	25
Chromium (Total) [14]	7440-47-3			64	No Partitioning Data	64	1.0		--	64	No	64
Copper	7440-50-8		3,200	100	14	14	1.0	14	14	100	No	100
Lead	7439-92-1	250		220	150	150	1.0	7.2	150	220	No	220
Mercury	7439-97-6	2.0		0.70		0.70	0.10	0.0070	--	0.7	No	0.70
Zinc	7440-66-6		24,000	270	300	270	1.0	53	300	270	No	270
Volatile Organic Compounds												
Ethylbenzene	100-41-4	6.0	8,000			8,000	0.050		--	8,000	No	8,000
Naphthalene	91-20-3	5.0	1,600			1,600	0.050		--	1,600	No	1,600
n-Hexane	110-54-3		4,800			4,800	0.050		--	4,800	No	4,800
Toluene	108-88-3	7.0	6,400		1.2	1.2	0.050		1.2	6,400	No	6,400
Xylene (meta & para)	108-38-3/106-42-3		16,000			16,000	0.0020		--	16,000	No	16,000
Xylene (ortho)	95-47-6		16,000			16,000	0.0010		--	16,000	No	16,000
Xylenes [15]	1330-20-7	9.0	16,000		4.6	4.6	1.5		4.6	16,000	No	16,000
Semivolatile Organic Compounds												
1-Methylnaphthalene	90-12-0		34			34	0.050		--	34	No	34
2-Methylnaphthalene	91-57-6		320			320	0.050		--	320	No	320
Anthracene	120-12-7		24,000			24,000			--	24,000	No	24,000
Bis(2-ethylhexyl)phthalate	117-81-7		71			71			--	71	No	71
Fluoranthene	206-44-0		3,200			3,200			--	3,200	No	3,200
Pyrene	129-00-0		2,400			2,400			--	2,400	No	2,400
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)												
cPAH TEQ (MTCA TEQ-1/2ND)	BaPEq (U=1/2)	0.10	0.19	30		0.19	0.0020		--	0.19	No	0.19
cPAH TEQ (MTCA TEQ-ZeroND)	BaPEq (U=0)	0.10	0.19	30		0.19	0.0020		--	0.19	No	0.19
Miscellaneous Substances												
Nitrate/Nitrite	14797-55-8		130,000		No Partitioning Data	130,000	0.50		--	130,000	No	130,000
Nitrate	14797-55-8		130,000		No Partitioning Data	130,000	0.50		--	130,000	Yes	130,000
Nitrite	14797-65-0		8000		No Partitioning Data	8,000	0.50		--	8000	Yes	8,000
Organochlorine Pesticides												
HCH-alpha (a-BHC)	319-84-6		0.16		0.00028	0.00028	0.0067		0.0067	0.16	No	0.16
HCH-beta (b-BHC)	319-85-7		0.56		0.0012	0.0012	0.0067		0.0067	0.56	Yes	0.0067
g-BHC (Lindane)	58-89-9	0.010	0.91	10	0.0030	0.0030	0.0067		0.0067	0.91	No	0.91
Aldrin	309-00-2		0.059	0.17	0.0014	0.0014	0.0067		0.0067	0.059	Yes	0.0067
Heptachlor	76-44-8		0.22	0.60	0.020	0.020	0.0067		0.020	0.22	No	0.22
Heptachlor epoxide	1024-57-3		0.11	0.60	0.044	0.044	0.0067		0.044	0.11	No	0.11
Chlordane	12789-03-6		2.9	1.0	1.1	1.0	0.030		1.1	1.0	Yes	1.0
Dieldrin	60-57-1		0.063	0.17	0.0015	0.0015	0.0067		0.0067	0.063	Yes	0.0067
Endrin	72-20-8		24	0.40	0.24	0.24	0.0067		0.24	0.40	No	0.40

Table 5.4
Soil Preliminary Cleanup Levels (mg/kg)

Chemical [1]	CAS No.	Criteria and Factors Considered in Preliminary CUL Development										Soil Preliminary CUL [13]
		Human Health		Ecological Receptors	Leaching	Screening Level [6]	Adjustment Factors [7]		Leaching Component of Preliminary CUL [10]	Direct Contact Component of Preliminary CUL [11]	Is it a GW COPC? [12]	
		MTCA Method A Unrestricted [2]	Minimum Soil MTCA Method B [3]	Simple Unrestricted Land Use Site TEE [4]	Soil to Protect GW—Saturated [5]		Final PQL [8]	Natural or Area-Wide Background [9]				
Organochlorine Pesticides (cont.)												
Endosulfan I [16]	959-98-8		480		2.2	2.2	0.0067		2.2	480	No	480
Endosulfan II [16]	33213-65-9		480		2.2	2.2	0.0067		2.2	480	No	480
4,4'-DDD / Sum DDD	72-54-8		2.4		0.18	0.18	0.0067		0.18	2.4	No	2.4
4,4'-DDE / Sum DDE	72-55-9		2.9		0.25	0.25	0.0067		0.25	2.9	Yes	0.25
4,4'-DDT / Sum DDT	50-29-3	3.0	2.9		1.9	1.9	0.0067		1.9	2.9	Yes	1.9
Total DDx	T_DDx (U=0)			1.0		1.0	0.0067		--	1.0	No	1.0
Hexachlorobenzene	118-74-1		0.63	31	0.48	0.48	0.0067		0.48	0.63	No	0.63
Methoxychlor	72-43-5		400		35	35	0.0067		35	400	No	400
Toxaphene	8001-35-2		0.91		0.84	0.84	0.33		0.84	0.91	Yes	0.84
Chlorinated Herbicides												
2,4-D	94-75-7		800		No Partitioning Data	800	0.010		--	800	Yes	800
2,4-DB	94-82-6		2,400		No Partitioning Data	2,400	0.010		--	2400	No	2,400
2,4,5-TP (Silvex)	93-72-1		640		No Partitioning Data	640	0.010		--	640	No	640
2,4,5-T	93-76-5		800		No Partitioning Data	800	0.010		--	800	No	800
Dalapon	75-99-0		2,400			2,400	NA		--	2,400	No	2,400
Dicamba	1918-00-9		2,400		No Partitioning Data	2,400	0.010		--	2,400	Yes	2,400
Dinoseb	88-85-7		80		No Partitioning Data	80	0.010		--	80	No	80
MCPA	94-74-6		40		No Partitioning Data	40	0.010		--	40	Yes	40
MCPP (Mecoprop)	93-65-2		80		No Partitioning Data	80	0.010		--	80	No	80
Pentachlorophenol	87-86-5		2.5	11	0.0068	0.0068	0.020		0.020	2.5	No	2.5
Other Chlorinated/Halogenated Pesticides												
Atrazine	1912-24-9		4.3		No Partitioning Data	4.3	0.0067		--	4.3	Yes	4.3
Chlordane-alpha [17]	5103-71-9		2.9	1.0	1.1	1.0	0.017		1.1	1.0	Yes	1.0
Cyanazine (Bladex)	21725-46-2		1.2			1.2	0.017		--	1.2	No	1.2
Metribuzin	21087-64-9		2,000		No Partitioning Data	2,000	0.0067		--	2,000	No	2,000
Simazine	122-34-9		8.3		No Partitioning Data	8.3	0.0067		--	8.3	No	8.3
Trifluralin	1582-09-8		130			130	0.0067		--	130	No	130
Organophosphate Pesticides (Organophosphorus Compounds)												
Glyphosate	1071-83-6		8,000			8,000	0.033		--	8,000	No	8,000
Chlorpyrifos	2921-88-2		80			80	0.017		--	80	No	80
Triazine Herbicides (Organonitrogen Pesticides)												
Ametryn	834-12-8		720			720	0.0067		--	720	No	720
Hexazinone	51235-04-2		2,600		No Partitioning Data	2,600	0.0067		--	2,600	No	2,600
Prometon	1610-18-0		1,200		No Partitioning Data	1,200	0.0067		--	1,200	No	1,200
Prometryn	7287-19-6		3,200			3,200	0.0067		--	3200	No	3,200
Phenylurea Herbicides												
Diuron	330-54-1		160		No Partitioning Data	160	0.0067		--	160	No	160
Linuron	330-55-2		620			620	0.0067		--	620	No	620
Carbamate Pesticides												
Carbaryl	63-25-2		8,000		No Partitioning Data	8,000	0.0067		--	8,000	No	8,000
Carbofuran	1563-66-2		400		No Partitioning Data	400	0.0067		--	400	No	400

Table 5.4
Soil Preliminary Cleanup Levels (mg/kg)

Chemical [1]	CAS No.	Criteria and Factors Considered in Preliminary CUL Development										Soil Preliminary CUL [13]
		Human Health		Ecological Receptors	Leaching	Screening Level [6]	Adjustment Factors [7]		Leaching Component of Preliminary CUL [10]	Direct Contact Component of Preliminary CUL [11]	Is it a GW COPC? [12]	
		MTCA Method A Unrestricted [2]	Minimum Soil MTCA Method B [3]	Simple Unrestricted Land Use Site TEE [4]	Soil to Protect GW—Saturated [5]		Final PQL [8]	Natural or Area-Wide Background [9]				
Organonitrogen Pesticides												
Diphenylamine	122-39-4		8,000			8,000	NA		--	NA	No	NA
Pendimethalin	40487-42-1		24,000		No Partitioning Data	24,000	0.0067		--	24,000	No	24,000
Tebuthiuron	34014-18-1		5,600		No Partitioning Data	5,600	0.013		--	5,600	No	5,600
Pesiticide/Herbicides												
Endosulfan sulfate	1031-07-8		480			480			--	480	No	480
Total Petroleum Hydrocarbons (TPH)												
Gasoline-range TPH	GRO	30		200	No Partitioning Data	30	2.0		30	30	No	30
Diesel-range TPH	DRO	2,000				2,000			See Total Diesel- and Oil-Range TPH	See Total Diesel- and Oil-Range TPH	Yes	See Total Diesel- and Oil-Range
Oil-range TPH	ORO	2,000				2,000					Yes	
Total diesel- and oil-range TPH	DRO+ORO			460	No Partitioning Data	460	250		--	460	Yes	460
Dioxins/Furans												
Dioxins/Furans	DF_TEQ (U=1/2)		0.0000130	0.00000300		0.00000300	0.0000100	0.00000520	--	0.0000100	No	1.00E-05

Notes:

Blank cells are intentional.

Dioxin/furan citeria are rounded to three significant figures; all other criteria are rounded to two significant figures.

-- Not applicable.

The preliminary CUL for this chemical was adjusted to the PQL.

1 This table includes all chemicals for which a soil screening level was established in Table 5.2.

2 MTCA Method A criteria for unrestricted land use (WAC Table 740-1) are included in this table and are selected as the risk-based criterion for a particular chemical when no other criteria are available.

3 Standard MTCA Method B equations were used to calculate concentrations protective of HH using Equation 720-1 for noncancer health effects and Equation 720-2 for cancer health effects.

4 Criteria for the protection of terrestrial ecological receptors at a site with unrestricted land use sourced from WAC 173-340-900, Table 749-2.

5 Criteria protective of GW preliminary CULs were calculated using the variable three-phase equilibrium partitioning model according to WAC 173-340-747(5)(b)(i) using Equation 747-1. Default MTCA input parameters were used, with the exception of f_{oc}. A site-specific f_{oc} of 1.1% (0.011) was used in the calculation.

6 Risk-based criteria in this column are based on unrestricted land use and are protective of HH and the environment (MTCA Method A table values); HH from direct contact (MTCA Method B standard formula values); terrestrial receptors (Simple Site with Unrestricted Land Use); and the soil-to-GW pathway (WAC Equation 747-1).

7 Preliminary CULs are adjusted for the PQL or natural or area background as appropriate per WAC 173-340-740(5)(c).

8 Ecology-approved site-specific PQLs were developed in the PCUL and COPC Memo (Attachment C.4). PQLs were not achieved in all samples for all chemicals, due to site-specific matrix and other interferences.

9 Background values were sourced as follows:
* State-wide natural background for arsenic from WAC Table 740-1.
* Natural background for dioxins/furans from Ecology's 2010 Technical Memorandum #8 *Natural Background for Dioxins/Furans in WA Soils* .
* Area background for other metals are the geometric mean of the agricultural field results, as printed in Table 2-3 of Ecology's 1999 *Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State* .

10 The leaching component of the soil preliminary CUL is equivalent to the soil to protect GW concentration calculated using the three-phase partitioning equation for saturated soil, after adjusting to the greater of the PQL or natural background.

11 The direct contact component of the soil preliminary CUL is equivalent to the most stringent direct contact criterion for protection of HH and ecological receptors, after adjusting to the greater of the PQL or natural background.

12 GW COPCs were identified in Table 5.3.

13 If GW empirically demonstrates compliance (i.e., the chemical is not retained as a GW COPC), the soil preliminary CUL is equivalent to the direct contact component of the preliminary CUL. If the chemical was retained as a COPC in GW, the soil preliminary CUL is equivalent to the lesser of the leaching and direct contact components of the preliminary CUL.

14 Criteria developed for total chromium and for chromium(III) were considered when determining the relevant criteria for chromium. There is no reason to suspect the presence of chromium(VI) on-site.

15 Xylenes are typically analyzed and reported by laboratories as m,p-xylene and o-xylene; these values are summed and reported as total xylenes. When evaluating relevant criteria for xylenes, the criterion developed for total xylenes was selected as the relevant criterion.

16 Criteria were not developed for endosulfan I or endosulfan II in CLARC. Criteria developed for endosulfan (CAS no. 115-29-7) were used as a surrogate.

17 Criteria were not developed for chlordane-alpha in CLARC; criteria developed for chlordane (CAS no. 12789-03-6) were used as a surrogate.

Abbreviations:

2,4-D	2,4-Dichlorophenoxyacetic acid	DDD	Dichlorodiphenyldichloroethane	MCPP	Methylchlorophenoxypropionic acid
2,4-DB	4-(2,4-Dichlorophenoxy)butyric acid	DDE	Dichlorodiphenyldichlorethylene	mg/kg	Milligrams per kilogram
2,4,5-T	2,4,5-Trichlorophenoxyacetic acid	DDT	Dichlorodiphenyltrichloroethane	MTCA	Model Toxics Control Act
2,4,5-TP	2(2,4,5-Trichlorophenoxy) propionic acid	Ecology	Washington State Department of Ecology	PQL	Practical quantitation limit
BHC	Benzene hexachloride	f_{oc}	Fraction of organic carbon	TEE	Terrestrial Ecological Evaluation
CAS	Chemical Abstracts Service	GW	Groundwater	TEQ	Toxic equivalent
CLARC	Cleanup Level and Risk Calculation	HCH	Hexachlorocyclohexane	Total DDx	Calculated as the sum of DDD, DDE, and DDT
COPC	Chemical of potential concern	HH	Human health		
CUL	Cleanup level	MCPA	2-Methyl-4-chlorophenoxyacetic acid		

Table 5.5
Screening Evaluation to Identify Soil Chemicals of Potential Concern (mg/kg)

Chemical [1]	CAS No.	Soil Preliminary CUL [2]	Information Considered in COPC Identification					Is it a Soil COPC? [5]	Rationale
			Maximum Detection in Soil [3]	Percent of Detected Results That Exceed	Maximum Detected Exceedance Factor	Minimum Phase 2 Reporting Limit [4]	Maximum Phase 2 Reporting Limit [4]		
Metals									
Arsenic	7440-38-2	20	11	None	None	NA	NA	No	No exceedances
Cadmium	7440-43-9	25	4.4	None	None	1	1	No	No exceedances
Chromium (Total)	7440-47-3	64	65	1.4%	1.0	NA	NA	No	Chromium(VI) is not associated with pesticides or any other former industrial uses or practices at the site. The preliminary CUL of 64 mg/kg is consistent with Technical Addendum Attachment V: WAC 173-340 Table 749-2 Chemical-Specific Technical Support Documents for use at sites where only chromium(III) is present.
Copper	7440-50-8	100	90	None	None	NA	NA	No	No exceedances
Lead	7439-92-1	220	990	3.6%	4.5	NA	NA	**Yes**	**Maximum result > preliminary CUL**
Mercury	7439-97-6	0.70	0.71	1.3%	1.0	1	1	No	Only one detected result exceeds, with an exceedance factor of < 1.1. Sample is bounded.
Zinc	7440-66-6	270	470	6.7%	1.7	NA	NA	**Yes**	**Maximum result > preliminary CUL**
Volatile Organic Compounds									
Ethylbenzene	100-41-4	8,000	0.24	None	None	0.001	0.05	No	No exceedances
Naphthalene	91-20-3	1,600	0.34	None	None	0.002	0.23	No	No exceedances
n-Hexane	110-54-3	4,800	0.029	None	None	0.005	0.25	No	No exceedances
Toluene	108-88-3	6,400	0.61	None	None	0.001	0.05	No	No exceedances
Xylene (meta & para)	108-38-3/106-42-3	16,000	1.1	None	None	0.002	0.1	No	No exceedances
Xylene (ortho)	95-47-6	16,000	0.98	None	None	0.001	0.05	No	No exceedances
Xylenes	1330-20-7	16,000	2.1	None	None	0.0016	1	No	No exceedances
Semivolatile Organic Compounds									
1-Methylnaphthalene	90-12-0	34	0.45	None	None	0.002	0.02	No	No exceedances
2-Methylnaphthalene	91-57-6	320	0.48	None	None	0.002	0.02	No	No exceedances
Anthracene	120-12-7	24,000	0.0055	None	None	0.002	0.1	No	No exceedances
Bis(2-ethylhexyl)phthalate	117-81-7	71	0.19	None	None	0.16	40	No	No exceedances
Fluoranthene	206-44-0	3,200	0.12	None	None	0.002	0.0038	No	No exceedances
Pyrene	129-00-0	2,400	0.48	None	None	0.002	0.0038	No	No exceedances
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)									
cPAH TEQ (MTCA TEQ-1/2ND)	BaPEq (U=1/2)	0.19	0.085	None	None	0.0015	0.015	No	No exceedances
cPAH TEQ (MTCA TEQ-ZeroND	BaPEq (U=0)	0.19	0.085	None	None	0.002	0.02	No	No exceedances
Miscellaneous Substances									
Nitrate/Nitrite	14797-55-8	130,000	550	None	None	NA	NA	No	No exceedances
Nitrate	14797-55-8	130,000	550	None	None	NA	NA	No	No exceedances
Nitrite	14797-65-0	8,000	5.6	None	None	1	56	No	No exceedances
Organochlorine Pesticides									
HCH-alpha (a-BHC)	319-84-6	0.16	0.017	None	None	0.0067	0.0067	No	No exceedances
HCH-beta (b-BHC)	319-85-7	0.0067	0.052	6.0%	7.8	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
g-BHC (Lindane)	58-89-9	0.91	0.16	None	None	0.0067	0.0067	No	No exceedances
Aldrin	309-00-2	0.0067	20	8.6%	14,000	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
Heptachlor	76-44-8	0.22	0.43	1.3%	2.0	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
Heptachlor epoxide	1024-57-3	0.11	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No exceedances
Chlordane	12789-03-6	1.0	84	12%	84	0.032	0.33	**Yes**	**Maximum result > preliminary CUL**
Dieldrin	60-57-1	0.0067	46	46%	31,000	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
Endrin	72-20-8	0.40	0.38	None	None	0.0067	0.0067	No	GW demonstrates compliance; no exceedances of direct contact preliminary CUL

Table 5.5
Screening Evaluation to Identify Soil Chemicals of Potential Concern (mg/kg)

Chemical [1]	CAS No.	Soil Preliminary CUL [2]	Information Considered in COPC Identification					Is it a Soil COPC? [5]	Rationale
			Maximum Detection in Soil [3]	Percent of Detected Results That Exceed	Maximum Detected Exceedance Factor	Minimum Phase 2 Reporting Limit [4]	Maximum Phase 2 Reporting Limit [4]		
Organochlorine Pesticides (cont.)									
Endosulfan I	959-98-8	480	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No exceedances
Endosulfan II	33213-65-9	480	1.5	None	None	0.0067	0.0067	No	No exceedances
4,4'-DDD / Sum DDD [6]	72-54-8	2.4	3.2	2.0%	1.3	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
4,4'-DDE / Sum DDE [6]	72-55-9	0.25	5.4	7.9%	22	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
4,4'-DDT / Sum DDT [6]	50-29-3	1.9	20	6.0%	10	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
Total DDx [6]	T_DDx (U=0)	1.0	25	9.3%	25	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
Hexachlorobenzene	118-74-1	0.63	0.0099	None	None	0.0067	0.0067	No	No exceedances
Methoxychlor	72-43-5	400	0.0092	None	None	0.0067	0.0067	No	No exceedances
Toxaphene	8001-35-2	0.84	120	18%	140	0.32	1.3	**Yes**	**Maximum result > preliminary CUL**
Chlorinated Herbicides									
2,4-D	94-75-7	800	3.1	None	None	0.010	0.250	No	No exceedances
2,4-DB	94-82-6	2,400	0.72	None	None	0.010	0.010	No	No exceedances
2,4,5-TP (Silvex)	93-72-1	640	2.9	None	None	0.010	0.010	No	No exceedances
2,4,5-T	93-76-5	800	0.087	None	None	0.010	0.010	No	No exceedances
Dalapon	75-99-0	2,400	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
Dicamba	1918-00-9	2,400	10	None	None	0.010	0.010	No	No exceedances
Dinoseb	88-85-7	80	3.7	None	None	0.010	0.010	No	No exceedances
MCPA	94-74-6	40	0.76	None	None	0.010	0.010	No	No exceedances
MCPP (Mecoprop)	93-65-2	80	Not Detected in Soil	NA	NA	0.010	0.010	No	No exceedances
Pentachlorophenol	87-86-5	2.5	0.12	None	None	0.020	0.020	No	No exceedances
Other Chlorinated/Halogenated Pesticides									
Atrazine	1912-24-9	4.3	710	0.66%	170	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
Chlordane-alpha	5103-71-9	1.0	9.9	5.6%	9.9	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
Cyanazine (Bladex)	21725-46-2	1.2	0.29	None	None	0.013	0.013	No	No exceedances
Metribuzin	21087-64-9	2,000	0.18	None	None	0.013	0.013	No	No exceedances
Simazine	122-34-9	8.3	110	0.66%	13	0.0067	0.0067	**Yes**	**Maximum result > preliminary CUL**
Trifluralin	1582-09-8	130	0.49	None	None	0.065	1.3	No	No exceedances
Organophosphate Pesticides (Organophosphorus Compounds)									
Glyphosate	1071-83-6	8,000	20	None	None	NA	NA	No	No exceedances
Chlorpyrifos	2921-88-2	80	0.041	None	None	0.033	0.34	No	No exceedances
Triazine Herbicides (Organonitrogen Pesticides)									
Ametryn	834-12-8	720	0.046	None	None	0.0067	0.0067	No	No exceedances
Hexazinone	51235-04-2	2,600	0.57	None	None	0.0067	0.0067	No	No exceedances
Prometon	1610-18-0	1,200	0.38	None	None	0.0067	0.0067	No	No exceedances
Prometryn	7287-19-6	3,200	0.014	None	None	0.0067	0.0067	No	No exceedances
Phenylurea Herbicides									
Diuron	330-54-1	160	1.8	None	None	0.0067	0.0067	No	No exceedances
Linuron	330-55-2	620	0.036	None	None	0.0067	0.0067	No	No exceedances
Carbamate Pesticides									
Carbaryl	63-25-2	8,000	0.24	None	None	0.0067	0.0067	No	No exceedances
Carbofuran	1563-66-2	400	0.070	None	None	0.0067	0.0067	No	No exceedances
Organonitrogen Pesticides									
Diphenylamine	122-39-4	NA	0.0092	None	None	0.0067	0.0067	No	No exceedances
Pendimethalin	40487-42-1	24,000	0.67	None	None	0.065	1.3	No	No exceedances
Tebuthiuron	34014-18-1	5,600	0.63	None	None	0.013	0.013	No	No exceedances

Table 5.5
Screening Evaluation to Identify Soil Chemicals of Potential Concern (mg/kg)

Chemical [1]	CAS No.	Soil Preliminary CUL [2]	Information Considered in COPC Identification: Maximum Detection in Soil [3]	Percent of Detected Results That Exceed	Maximum Detected Exceedance Factor	Minimum Phase 2 Reporting Limit [4]	Maximum Phase 2 Reporting Limit [4]	Is it a Soil COPC? [5]	Rationale
Other Pesiticide/Herbicides									
Endosulfan sulfate	1031-07-8	480	1.1	None	None	0.0067	0.0067	No	No exceedances
Total Petroleum Hydrocarbons (TPH)									
Gasoline-range TPH	GRO	30	1,200	6.9%	40	2	5	No	Eliminated in Attachment C.2: gasoline detections are chromatographic overlap with weathered diesel.
Total diesel- and oil-range TPH	DRO+ORO	460	21,000	25%	46	250	250	**Yes**	**Maximum result > preliminary CUL**
Dioxins/Furans									
Dioxins/Furans [7]	DF_TEQ (U=1/2)	0.0000100	0.0000924	78%	9.24	NA	NA	**Yes**	**Maximum result > preliminary CUL**

Notes:

Blank cells are intentional.

Dioxin/furan citeria, exceedance factors, and results are rounded to three significant figures; all other criteria, exceedance factors, and results are rounded to two significant figures.

RED/BOLD Chemical identified as a COPC.

1 This table includes all chemicals for which a soil preliminary CUL was established in Table 5.4.

2 Soil preliminary CULs were developed in Table 5.4 and are protective of GW (MTCA Equation 747-1 with site-specific f_{oc}); human health via direct contact (standard MTCA Method B and MTCA Method A criteria for unrestricted land use); terrestrial ecological receptors via direct contact (WAC Table 749-2); and vapor intrusion (Ecology vapor intrusion guidance and implementation memoranda).

3 The soil dataset includes results of all soil samples collected since June 1, 2007.

4 Reporting limits presented in this table represent the range of reporting limits among nondetect results in the 2017–2018 Phase 2 Soil Sampling events. If a chemical was not analyzed during these events, the range of reporting limits presented in this table represent the minimum and maximum reporting limit from all other events.

5 A chemical is retained as a soil COPC if its maximum detected result exceeds the preliminary CUL, unless otherwise documented in the PCUL and COPC Memo (Attachment C.4) and summarized here. If the chemical was not detected at concentrations exceeding the preliminary CUL, reporting limits are compared to the preliminary CUL to determine COPC status.

6 Samples were not analyzed for the 2,4' isomer of DDT-family compounds. The result for the 4,4' isomer is compared to relevant criteria developed for total DDD, DDE, DDT; 4,4' isomer results are summed to calculate the total DDx result.

7 The dioxin/furan result is equivalent to the total dioxin/furan TEQ summed using toxic equivalent factor values in WAC Table 708-1 and 1/2 of the reported result for nondetect results in each sample.

Abbreviations:

2,4-D	2,4-Dichlorophenoxyacetic acid
2,4-DB	4-(2,4-Dichlorophenoxy)butyric acid
2,4,5-T	2,4,5-Trichlorophenoxyacetic acid
2,4,5-TP	2(2,4,5-Trichlorophenoxy) propionic acid
BHC	Benzene hexachloride
CAS	Chemical Abstracts Service
COPC	Chemical of potential concern
CUL	Cleanup level
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichlorethylene
DDT	Dichlorodiphenyltrichloroethane
Ecology	Washington State Department of Ecology
f_{oc}	Fraction of organic carbon
GW	Groundwater
HCH	Hexachlorocyclohexane
MCPA	2-Methyl-4-chlorophenoxyacetic acid
MCPP	Methylchlorophenoxypropionic acid
mg/kg	Milligrams per kilogram
MTCA	Model Toxics Control Act
NA	Not applicable
TEQ	Toxic equivalent
Total DDx	Calculated as the sum of DDD, DDE, and DDT

Table 5.6
Summary of Soil and Groundwater Chemicals of Potential Concern

Chemical	Groundwater Preliminary CUL (µg/L) [1]	Soil Preliminary CUL (mg/kg) [2]	Soil Preliminary CUL Basis
Metals			
Arsenic	5.0	--	--
Lead	--	220	TEE
Zinc	--	270	TEE
Miscellaneous Substances			
Nitrate	10,000	--	--
Nitrite	1,000	--	--
Organochlorine Pesticides			
HCH-beta (b-BHC)	0.0490	0.0067	Leaching adjusted to the PQL
Aldrin	0.0026	0.0067	Leaching adjusted to the PQL
Chlordane	2.0	1.0	TEE
Dieldrin	0.0055	0.0067	Leaching adjusted to the PQL
Heptachlor	--	0.22	MTCA Method B
4,4'-DDD / Sum DDD	--	2.4	MTCA Method B
4,4'-DDE / Sum DDE	0.26	0.25	Leaching
4,4'-DDT / Sum DDT	0.26	1.9	Leaching
Total DDx	--	1.0	TEE
Toxaphene	0.80	0.84	Leaching
Chlorinated Herbicides			
2,4-D	70	--	--
Dicamba	480	--	--
MCPA	8.0	--	--
Other Chlorinated/Halogenated Pesticides			
Atrazine	3.0	4.3	MTCA Method B [3]
Chlordane-alpha	2.0	1.0	TEE
Simazine	--	8.3	MTCA Method B
Total Petroleum Hydrocarbons (TPH)			
Diesel-Range TPH	500	--	See Total Diesel- and Oil-Range TPH [3]
Oil-Range TPH	500	--	
Total Diesel- and Oil-Range TP	--	460	TEE
Dioxins/Furans			
Dioxins/Furans	--	0.0000100	TEE adjusted to the PQL

Notes:

Dioxin/furan citerion is rounded to three significant figures; all other criteria are rounded to two significant fig

-- Not applicable.

1 Groundwater preliminary CULs were developed in Table 5.1. Preliminary CULs are protective of HH and the environment (MTCA Method A table values); HH via drinking water (state and federal MCLs; MTCA Method B standard formula values); and vapor intrusion (Ecology guidance and implementation memoranda).

2 Soil preliminary CULs were developed in Table 5.4. Preliminary CULs are protective of HH and the environment (MTCA Method A table values); HH from direct contact (MTCA Method B standard formula values); terrestrial receptors (Simple Site with Unrestricted Land Use); and the soil-to-groundwater pathway

3 Chemical was retained as a COPC in groundwater, but there is no three-phase leaching pathway criterion for this chemical in soil. For TPH compounds, MTCA Method A CULs in soil are protective of groundwater but were not selected as the preliminary CUL because the TEE criterion is more conservative.

Abbreviations:

2,4-D	2,4-Dichlorophenoxyacetic acid
BHC	Benzene hexachloride
COPC	Chemical of Potential Concern
CUL	Cleanup level
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichlorethylene
DDT	Dichlorodiphenyltrichloroethane
Ecology	Washington State Department of Ecology
HCH	Hexachlorocyclohexane
HH	Human health
MCL	Maximum contaminant level
MCPA	2-Methyl-4-chlorophenoxyacetic acid
µg/L	Micrograms per liter
mg/kg	Milligrams per kilogram
MTCA	Model Toxics Control Act
PQL	Practical quantitation limit
TEE	Terrestrial ecological evaluation
Total DDx	Calculated as the sum of DDD, DDE, and DDT

Table 6.1
Screening Evaluation to Identify Groundwater Chemicals of Concern (µg/L)

Chemical [1]	CAS No.	Preliminary CUL [2]	Information About Dataset [3,4]				Information About Maximum Detection [3]				Information About Non-Detect Results [3]			Information about COC Status	
			Number of Results	Number of Detected Results	95th Percentile	Detected Results that Exceed	Maximum Detected Result	Exceedance Factor	Location	Sample Date	Minimum Phase 2 Reporting Limit [5]	Maximum Phase 2 Reporting Limit [5]	Maximum March 2020 Reporting Limit	GW COC? [6]	Rationale
Total Metals [7]															
Arsenic	7440-38-2	5.0	81	35	4	0%	4.7	NA	MW-4	2/27/2017 6/20/2018	1.0	1.0	NA	No	After removing one unrepresentative GW sample, all results in compliance
Miscellaneous Substances															
Nitrate	14797-55-8	10,000	121	115	180,000	56%	2,600,000	260	MW-4	4/15/2015	150	150	NA	**Yes**	**Max result > 2x preliminary CUL**
Nitrite	14797-65-0	1,000	113	46	4,500	8.0%	6,800	6.8	MW-1	8/10/2016	5	5	NA	**Yes**	**Max result > 2x preliminary CUL**
Organochlorine Pesticides															
HCH-beta (b-BHC)	319-85-7	0.049	154	9	0.12	2.6%	0.087	1.8	MW-6	6/20/2018	**0.06**	**0.12**	0.001	**Yes**	**Max result > preliminary CUL**
Aldrin	309-00-2	0.0026	154	2	0.12	1.3%	0.0059	2.3	MW-4	3/25/2020	**0.06**	**0.12**	0.002	**Yes**	**Max result > 2x preliminary CUL**
Chlordane	12789-03-6	2.0	154	37	1.6	1.9%	22	11	MW-4	8/10/2016	0.6	0.6	0.4	**Yes**	**Max result > 2x preliminary CUL**
Dieldrin	60-57-1	0.0055	153	45	0.76	28%	2	360	MW-4	4/15/2015	**0.06**	**0.12**	0.02	**Yes**	**Max result > 2x preliminary CUL**
4,4'-DDE / Sum DDE [8]	72-55-9	0.26	132	0	0.12	0%	NA	NA	NA	NA	0.06	0.12	NA	No	After removing one unrepresentative GW sample, all results in compliance
4,4'-DDT / Sum DDT [8]	50-29-3	0.26	132	1	0.12	0%	0.089	NA	MW-4	3/5/2018	0.06	0.12	NA	No	
Toxaphene	8001-35-2	0.80	154	21	9.7	10.0%	26	33	MW-4	8/10/2016	**6**	**6**	0.1	**Yes**	**Max result > 2x preliminary CUL**
Chlorinated Herbicides															
2,4-D	94-75-7	70	133	42	14	1.5%	260	3.7	MW-4	4/15/2015	0.08	0.08	NA	**Yes**	**Max result > 2x preliminary CUL**
Dicamba	1918-00-9	480	133	78	110	1.5%	550	1.1	MW-6	11/28/2017	0.08	0.08	NA	No	Eliminated per WAC 173-340-720(9)(e) and WAC 173-340-720(9)(d)(i)(a)
MCPA	94-74-6	8.0	133	33	133	3.0%	88	11	MW-4	11/9/2016	0.08	0.08	NA	**Yes**	**Max result > 2x preliminary CUL**
Other Chlorinated/Halogenated Pesticides															
Atrazine	1912-24-9	3.0	128	88	8.7	13%	33	11	MW-4	11/9/2016	0.06	0.06	NA	**Yes**	**Max result > 2x preliminary CUL**
Chlordane-alpha	5103-71-9	2.0	124	19	0.21	0.8%	3.3	1.7	MW-4	8/10/2016	0.06	0.12	0.001	No	Eliminated per WAC 173-340-720(9)(e) and WAC 173-340-720(9)(d)(i)(a)
Total Petroleum Hydrocarbons (TPH) [9]															
Diesel-Range TPH	DRO	500	155	51	640	7.7%	1,000	2.0	MW-4	3/20/2014	50	70	NA	**Yes**	**95th percentile > preliminary CUL**
Oil-Range TPH	ORO	500	155	11	300	1.9%	1,100	2.2	MW-4	8/10/2016	250	350	NA	**Yes**	**Max result > 2x preliminary CUL**

Notes:

Blank cells are intentional.

RED/BOLD Chemical identified as a COC.

RED/BOLD Reporting limit exceeds risk-based GW criteria.

1 Only chemicals identified as GW COPCs in Table 5.3 are included in this table.

2 GW criteria protective of drinking water use and vapor intrusion were considered when developing preliminary CULs. Development of GW preliminary CULs is presented in Table 5.1.

3 Analytical results, reporting limits, and calculated values (e.g., 95th percentile values) are reported to two significant figures.

4 The GW dataset used to identify COCs is the same as the groundwater dataset used to identify COPCs, with one exception. Results for arsenic, dieldrin, DDE, DDT and chlordane-alpha in sample MW-04-081016 (collected 8/10/2016) were excluded because these results were determined to be unrepresentative of site GW conditions, as described in Section 4.5.

5 Reporting limits presented in this table represent the range of reporting limits for nondetect results in the 2017–2018 Phase 2b and Phase 2 Groundwater Sampling events. If a chemical was not analyzed during these events, the range of reporting limits presented in this table represent the minimum and maximum reporting limit for nondetect results from all other events.

6 A chemical is eliminated as a COC if the following criteria from WAC 173-340-720(9)(e) and WAC 173-340-720(9)(d)(i)(a) are met:

* The maximum result is no more than 2 times the preliminary CUL;
* Less than 10% of samples exceed the preliminary CUL; and
* The 95 percentile result is in compliance with the preliminary CUL.

7 Preliminary CUL developed for arsenic is applicable to the total fraction. Dissolved fraction results are available in Appendix E but are not compared to the proposed CUL.

8 Samples were not analyzed for the 2,4' isomer of DDT-family compounds. The result for the 4,4' isomer is compared to relevant criteria developed for total DDE and total DDT.

9 Silica gel-treated results are included in Appendix E but are not compared to criteria developed for TPH.

Abbreviations:

2,4-D 2,4-Dichlorophenoxyacetic acid
BHC Benzene hexachloride
CAS Chemical Abstracts Service
COC Chemical of concern
COPC Chemical of potential concern
CUL Cleanup level
DDE Dichlorodiphenyldichlorethylene
DDT Dichlorodiphenyltrichloroethane
Ecology Washington State Department of Ecology
GW Groundwater
HCH Hexachlorocyclohexane
MCPA 2-Methyl-4-chlorophenoxyacetic acid
µg/L Micrograms per liter
NA Not applicable

Table 6.3
Summary of Key Properties of Groundwater Chemicals of Concern

Chemical [1]	CAS No.	Description	Typical Use in Commerce	Dates of Use	Potential Site Sources	Groundwater Mobility [2]		Behavior in Environment
						K_{oc} Range	Classification	
Miscellaneous Substances								
Nitrate	14797-55-8	Component of Fertilizer	Crop fertilization.	1950s to present.	Current and former fertilizer handling.	NA	Highly soluble and mobile.	Nitrogen cycle, denitrification, and uptake by plants are important processes.
Nitrite	14797-65-0							
Organochlorine Pesticides								
HCH-beta	319-85-7	Legacy Pesticide	Insecticide; one of the major components of Lindane.	Banned in 1976.	Former pesticide handling.	2,140	Limited water solubility. High mobility.	Expected to bioaccumulate. Aerobic degradation via reaction with hydroxyl radicals. Biodegrades slowly.
Aldrin	309-00-2		Insecticide against termites and ants, whitegrubs, and other soil-dwelling pests.	Banned in 1974 except to control termites; banned completely in 1987.		400–28,000	Not soluble in water. Moderate to no mobility.	Converted to dieldrin.
Chlordane	57-74-9		Pesticide for crops, lawns, and gardens; underground termite treatment; fumigating agent.	From 1948 until gradually phased out beginning in 1978; banned for all uses in 1988.		20,000–76,000	Not soluble. No mobility.	Persistent and unlikely to biodegrade.
Dieldrin	60-57-1		Insecticide against termites and ants, whitegrubs, and other soil-dwelling pests.	Banned in 1974 except to control termites; banned completely in 1987.		1,957–23,310	Limited water solubility. Little to no mobility.	Persistent; degrades slowly.
Toxaphene	8001-35-2		Insecticide used on field crops and to control pests on livestock and poultry.	Widely used in the 1970s; banned in 1983 except for emergency use. Banned completely in 1990.		210,000–1,000,000	Limited water solubility. No mobility.	Persistent. Degrades via reductive dechlorination anaerobically; does not degrade in aerobic conditions.
Chlorinated Herbicides								
2,4-D	94-75-7	Active-Use Herbicide	Common component of systemic herbicides used to control broadleaf weeds.	Commercially available beginning in 1945. Oldest and most widely used phenoxy herbicide.	Current and former herbicide handling.	20–136	Soluble. High mobility.	Biodegrades readily.
MCPA	94-74-6		Herbicide used to control broadleaf weeds.	Developed in the late 1940s and currently commonly used in the Pacific Northwest.		50–62	Soluble. High mobility.	Biodegrades readily.
Other Chlorinated/Halogenated Pesticides								
Atrazine	1912-24-9	Active-Use Herbicide	Herbicide used to control pre- and post-emergence broadleaf weeds.	Invented in 1958; currently one of the most commonly used herbicides in the United States.	Current and former herbicide handling.	54–1,164	Somewhat soluble. High to moderate mobility.	Biodegrades readily in soil; persistent in groundwater. Degradation products are desethyl atrazine, hydroxy atrazine, deisopropyl atrazine, and didealkyl atrazine.
Total Petroleum Hydrocarbons (TPH)								
Diesel-Range TPH	--	Common Fuel	Feedstock for fuels and manufacturing, or as a heat source.	In use throughout the Property's entire history of industrial operations.	Refueling activities and ASTs.	NA	Limited solubility to insoluble in groundwater. Little to no mobility.	Lighter end components are present in trace amounts but are readily biodegraded and dispersed. Heavier components are more persistent.
Oil-Range TPH	--	Common Fuel	Feedstock for fuels and manufacturing, or as a heat source.	In use throughout the Property's entire history of industrial operations.	Refueling activities and ASTs.	NA	Limited solubility to insoluble in groundwater. Little to no mobility.	Lighter end components are present in trace amounts but are readily biodegraded and dispersed. Heavier components are more persistent.

Notes:

-- Not available.

1 This table includes only analytes that were retained as COCs in Table 6.1.

2 Groundwater mobility and environmental behavior information is from the following sources:

PubChem. 2021a. "(4-Chloro-2-methylphenoxy)acetic acid." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/7204 >. Last accessed January 15, 2021.

_____. 2021b. "2,4-Dichlorophenoxyacetic acid." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/1486 >. Last accessed January 15, 2021.

_____. 2021c. "Atrazine." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/2256 >. Last accessed January 15, 2021.

_____. 2021d. "Chlordane." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/5993 >. Last accessed January 15, 2021.

_____. 2021e. "Dieldrin." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/969491 >. Last accessed January 15, 2021.

_____. 2021f. "Toxaphene." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/5284469 >. Last accessed January 15, 2021.

_____. 2021g. "beta-Hexachlorocyclohexane." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/source/hsdb/6183 >. Last accessed January 11, 2021.

_____. 2021h. "Aldrite." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/12310947 >. Last accessed January 11, 2021.

Abbreviations:

2,4-D 2,4-Dichlorophenoxyacetic acid
AST Aboveground storage tank
CAS Chemical Abstracts Service
COC Chemical of concern
HCH Hexachlorocyclohexane
K_{oc} Organic carbon partitioning coefficient
MCPA 2-Methyl-4-chlorophenoxyacetic acid
NA Not applicable

Table 6.4
Depth-Weighted Average Concentrations

		Metals				Pesticides						Dioxins/Furans	
Chemical		Lead		Zinc		Chlordane		Chlordane-alpha		Total DDx		Dioxins/Furans	
WAC Table 749-2 TEE Criterion		220		270		1.0		1.0		1.0		3.00 (1)	
Units		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		ng/kg	
Sample Depth Bin (feet bgs)	Depth Adjustment Factor	Average Result	Depth-Adjusted Concentration	Average Result	Depth-Adjusted Concentration	Average Result	Depth-Adjusted Concentration	Average Result	Depth-Adjusted Concentration	Average Result	Depth-Adjusted Concentration	Average Result	Depth-Adjusted Concentration
Sitewide Data													
0–0.5	0.3	44	13	134	40	13	3.9	1.6	0.48	2.1	0.64	--	--
0.5–1	0.55	57	32	179	99	3.8	2.1	0.91	0.50	0.80	0.44	30.1	16.6
1–2	0.1	221	22	149	15	0.57	0.06	0.18	0.02	0.25	0.03	30.6	3.06
2–3	0.05	19	0.94	65	3.3	0.42	0.02	0.19	0.01	1.6	0.08	1.05	0.0525
Depth-Weighted Average			**68**		**157**		**6.1**		**1.0**		**1.2**		**19.7**
Sitewide Data Excluding Sample FS-06-0.5-1													
0–0.5	0.3	Not Applicable		Not Applicable		1	0.3	0.2	0.07	0.3	0.09	Not Applicable	
0.5–1	0.55					3.8	2.1	0.91	0.50	0.80	0.44		
1–2	0.1					0.57	0.06	0.18	0.02	0.25	0.03		
2–3	0.05					0.42	0.02	0.19	0.01	1.6	0.08		
Depth-Weighted Average							**2.5**		**0.6**		**0.6**		
Sitewide Data Excluding Pesticide-Impacted Area (2)													
0–0.5	0.3	Not Applicable		Not Applicable		1.13	0.34	0.24	0.07	0.31	0.09	Not Applicable	
0.5–1	0.55					1.25	0.69	0.32	0.18	0.35	0.19		
1–2	0.1					0.57	0.06	0.18	0.02	0.25	0.03		
2–3	0.05					0.26	0.01	0.15	0.01	1.62	0.08		
Depth-Weighted Average							**1.1**		**0.27**		**0.39**		
Dioxin/Furan-Impacted Area (3)													
0–0.5	0.3	Not Applicable		Not Applicable		Not Applicable		Not Applicable		Not Applicable		--	--
0.5–1	0.55											56.3	31.0
1–2	0.1											30.6	3.06
2–3	0.05											1.05	0.0500
Depth-Weighted Average													**34.1**
Other Locations Sampled for Dioxins/Furans													
0–0.5	0.3	Not Applicable		Not Applicable		Not Applicable		Not Applicable		Not Applicable		3.93	2.16
0.5–1	0.55											--	--
1–2	0.1											--	--
2–3	0.05											18.3	0.915
Depth-Weighted Average													**3.08**

Notes:

Dioxin/furan results and depth-weighted average concentrations are rounded to three significant figures; other results and depth-weighted average concentrations are rounded to two significant figures.

-- No samples in this depth interval for this location group.

RED/BOLD Depth-weighted average result exceeds TEE criterion

1 TEE criteria for unrestricted land use at a simple site from WAC Table 749-2, prior to adjustment to the greater of the PQL or natural background. The Ecology-approved dioxin/furan PQL for the site is 10 ng/kg.

2 The pesticide-impacted area is shown on Figure 6.1. Three locations were sampled within this area: FS-05, FS-06, and FS-19.

3 The dioxin/furan-impacted area is shown on Figure 6.2. Four locations were sampled within this area: FS-32, FS-33, FS-43, and FS-44.

Abbreviations:

bgs Below ground surface
mg/kg Milligrams per kilogram
ng/kg Nanograms per kilogram
PQL Practical quantitation limit
TEE Terrestrial ecological evaluation
Total DDx Calculated as the sum of dichlorodiphenyldichloroethane, dichlorodiphenyldichlorethylene, and dichlorodiphenyltrichloroethane
WAC Washington Administrative Code

Table 6.5
Screening Evaluation to Identify Soil Chemicals of Concern for the Direct Contact Pathway

Chemical [1]	CAS No.	Units	Direct Contact Criteria [2]				Information About Dataset [3]								Information About Nondetect Results [3]		Is it a Soil COC for the Direct Contact Pathway? [10]	Rationale
			Human Health MTCA Method B/A [4]	Ecological Receptors Unrestricted Land Use Site-Specific TEE [5]	Is it a GW COC? [6]	Soil Proposed CUL If GW Demonstrates Compliance [7]	Number of Results	Number of Detected Results	95th Percentile [8]	Percent of Detected Results That Exceed	Information About Maximumimum Detectio Result	Exceedance Factor	Location	Sample Depth (feet bgs)	Minimum Phase 2 Reporting Limit [9]	Maximum Phase 2 Reporting Limit [9]		
Metals																		
Lead	7439-92-1	mg/kg	250	990	No	250	81	81	109	2.5%	990	4.0	MW-12	1.5–2	NA	NA	**Yes**	**Maximum result > 2x direct contact proposed CUL**
Zinc	7440-66-6	mg/kg	24,000	470	No	470	73	73	290	None	470	None	FS-02	0.5–1	NA	NA	No	No exceedances
Organochlorine Pesticides																		
HCH-beta (b-BHC)	319-85-7	mg/kg	0.56	NA	Yes	0.56	151	9	0.34	None	0.052	None	FS-27	3–4	0.0067	0.0067	No	No exceedances
Aldrin	309-00-2	mg/kg	0.059	0.17	Yes	0.059	151	13	0.34	3.3%	20	340	FS-06	0–0.5	0.0067	0.0067	**Yes**	**Maximum result > 2x direct contact proposed CUL**
Heptachlor	76-44-8	mg/kg	0.22	0.60	No	0.22	151	9	0.34	1.3%	0.43	2.0	FS-05	0.5–1	0.0067	0.0067	No	Eliminated per WAC 173-340-740(9)(e) and WAC 173-340-740(7)(d)(i)(a).
Chlordane	12789-03-6	mg/kg	2.9	9.0	Yes	9.0	150	46	6.6	4.0%	84	9.3	FS-06	0–0.5	0.032	0.33	**Yes**	**Maximum result > 2x direct contact proposed CUL**
Dieldrin	60-57-1	mg/kg	0.063	0.17	Yes	0.063	151	69	1.6	30%	46	730	FS-06	0–0.5	0.0067	0.0067	**Yes**	**Maximum result > 2x direct contact proposed CUL**
4,4'-DDD / Sum DDD [11]	72-54-8	mg/kg	2.4	NA	No	2.4	151	29	0.34	0.66%	3.2	1.3	FS-33	2–3	0.0067	0.0067	No	Eliminated per WAC 173-340-740(9)(e) and WAC 173-340-740(7)(d)(i)(a).
4,4'-DDE / Sum DDE [11]	72-55-9	mg/kg	2.9	NA	No	2.9	151	52	1	2.0%	5.4	1.9	FS-06	0–0.5	0.0067	0.0067	No	Eliminated per WAC 173-340-740(9)(e) and WAC 173-340-740(7)(d)(i)(a).
4,4'-DDT / Sum DDT [11]	50-29-3	mg/kg	2.9	NA	No	2.9	151	61	1.3	2.6%	20	6.9	FS-33	2–3	0.0067	0.0067	**Yes**	**Maximum result > 2x direct contact proposed CUL**
Total DDx [11]	T_DDx (U=0)	mg/kg	NE	13	--	13	151	62	1.9	0.66%	25	1.9	FS-33	2–3	0.0067	0.0067	No	Eliminated per WAC 173-340-740(9)(e) and WAC 173-340-740(7)(d)(i)(a).
Toxaphene	8001-35-2	mg/kg	0.91	NA	Yes	0.91	150	36	53	17%	120	130	FS-06	0–0.5	0.32	1.3	**Yes**	**Maximum result > 2x direct contact proposed CUL**
Other Chlorinated/Halogenated Pesticides																		
Atrazine	1912-24-9	mg/kg	4.3	NA	--	4.3	151	62	0.13	0.66%	710	170	FS-28	3–4	0.0067	0.0067	**Yes**	**Maximum result > 2x direct contact proposed CUL**
Chlordane-alpha	5103-71-9	mg/kg	2.9	9.0	No	2.9	89	18	1.3	3.4%	9.9	3.4	FS-06	0–0.5	0.0067	0.0067	**Yes**	**Maximum result > 2x direct contact proposed CUL**
Simazine	122-34-9	mg/kg	8.3	NA	--	8.3	151	40	0.12	0.66%	110	13	FS-28	3–4	0.0067	0.0067	**Yes**	**Maximum result > 2x direct contact proposed CUL**
Total Petroleum Hydrocarbons (TPH)																		
Total diesel- and oil-range TPH [12]	DRO+ORO	mg/kg	2,000	460	--	460	143	52	3,120	20%	21,000	46	MW-12	1.5–2	250	250	**Yes**	**Maximum result > 2x direct contact proposed CUL**

Table 6.5
Screening Evaluation to Identify Soil Chemicals of Concern for the Direct Contact Pathway

Chemical [1]	CAS No.	Units	Direct Contact Criteria [2]: Human Health MTCA Method B/A [4]	Direct Contact Criteria [2]: Ecological Receptors Unrestricted Land Use Site-Specific TEE [5]	Direct Contact Criteria [2]: Is it a GW COC? [6]	Direct Contact Criteria [2]: Soil Proposed CUL If GW Demonstrates Compliance [7]	Information About Dataset [3]: Number of Results	Number of Detected Results	95th Percentile [8]	Percent of Detected Results That Exceed	Information About Maximumimum Detectio: Result	Exceedance Factor	Location	Sample Depth (feet bgs)	Information About Nondetect Results [3]: Minimum Phase 2 Reporting Limit [9]	Maximum Phase 2 Reporting Limit [9]	Is it a Soil COC for the Direct Contact Pathway? [10]	Rationale
Dioxins/Furans																		
Dioxins/Furans [13]	DF_TEQ (U=1/2)	ng/kg	13.0	92.4	--	13.0	9	9	77.0	56%	92.4	7.11	FS-44	0.5–1	NA	NA	**Yes**	**Maximum result > 2x direct contact proposed CUL**

Notes:

Dioxin/furan citeria, exceedance factors, and results are rounded to three significant figures; all other criteria, exceedance factors, and results are rounded to two significant figures.

-- Not applicable: GW preliminary CUL not required for this chemical. Refer to Table 5.1.

RED/BOLD Chemical identified as a COC for the direct contact pathway.

Site-specific criteria for the protection of terrestrial ecological receptors developed in Section 6.2.1.1.

1 Only chemicals identified as soil COPCs in Table 5.5 are included in this table.

2 This table includes criteria protective of the direct contact pathway. If any direct contact proposed CUL is less than the PQL or natural background, the direct contact criterion that would become the soil proposed CUL if groundwater demonstrates compliance is adjusted upward as appropriate per WAC 173-340-740(5)(c).

3 The soil dataset includes results of all soil samples collected since June 1, 2007, from depths of 0 to 15 feet bgs.

4 Standard MTCA Method B equations were used to calculate concentrations protective of HH using Equation 720-1 for noncancer health effects and Equation 720-2 for cancer health effects. If MTCA Method B criteria were not available, MTCA Method A criteria for unrestricted land use (WAC Table 740-1) are included.

5 Site-specific criteria for the protection of terrestrial ecological receptors were developed in Section 6.2.1.1. If a site-specific criterion was not developed, the value presented in this column is equivalent to the value listed in WAC 173-340-900, Table 749-2.

6 Groundwater COCs are identified in Table 6.1.

7 Risk-based criteria in this column are based on unrestricted land use and are protective of HH and the environment (MTCA Method A table values); HH from direct contact (MTCA Method B standard formula values); and terrestrial receptors (Simple Site with Unrestricted Land Use). Criteria protective of GW via the leaching pathway are considered separately in Table 6.6.

8 Calculated 95th percentile values include detect and nondetect results.

9 Reporting limits presented in this table represent the range of reporting limits among nondetect results in the 2017–2018 Phase 2 Soil Sampling events. If a chemical was not analyzed during these events, the range of reporting limits presented in this table represent the minimum and maximum reporting limit from all other events.

10 A chemical is eliminated as a soil COC for the direct contact pathway if the following criteria from WAC 173-340-740(9)(e) and WAC 173-340-720(7)(d)(i)(a) are met:
* The maximum result is no more than 2 times the direct contact CUL;
* Less than 10% of samples exceed the direct contact CUL; and
* The 95 percentile result is in compliance with the direct contact CUL.

11 Samples were not analyzed for the 2,4' isomer of DDT-family compounds. The result for the 4,4' isomer is compared to relevant criteria developed for total DDD, DDE, DDT; 4,4' isomer results are summed to calculate the total DDx result.

12 Summed result for total diesel- and oil-range TPH is used as a surrogate for this initial evaluation of protection of HH via the direct contact pathway; as indicated in Table 5.4, the MTCA Method A criterion of 2,000 mg/kg applies to results for diesel- and oil-range TPH. Individual results for diesel- and oil-range TPH are presented in Appendix E.

13 The dioxin/furan result is equivalent to the total dioxin/furan TEQ summed using toxic equivalent factor values in WAC Table 708-1 and 1/2 of the reported result for nondetect results in each sample.

Abbreviations:

bgs	Below ground surface	CUL	Cleanup level	HCH	Hexachlorocyclohexane	ng/kg	Nanograms per kilogram
BHC	Benzene hexachloride	DDD	Dichlorodiphenyldichloroethane	HH	Human health	PQL	Practical quantitation limit
CAS	Chemical Abstracts Service	DDE	Dichlorodiphenyldichlorethylene	mg/kg	Milligrams per kilogram	TEE	Terrestrial Ecological Evaluation
COC	Chemical of concern	DDT	Dichlorodiphenyltrichloroethane	MTCA	Model Toxics Control Act	TEQ	Toxic equivalent
COPC	Chemical of potential concern	GW	Groundwater	NA	Not applicable	Total DDx	Calculated as the sum of DDD, DDE, and DDT
						WAC	Washington Administrative Code

Table 6.6
Screening Evaluation to Identify Soil Chemicals of Concern for the Leaching Pathway

Chemical [1]	CAS No.	Units	Leaching Criteria [2]: Leaching: Soil to Protect GW—Saturated [4]	Leaching: Is it a GW COC? [5]	Leaching: If Groundwater Does Not Demonstrate Compliance [6]	Information About Dataset [3]: Number of Results	Number of Detected Results	95th Percentile [7]	Percent of Detected Results That Exceed	Information About Maximum Detection: Result	Exceedance Factor	Location	Sample Depth (feet bgs)	Information About Nondetect Results [3]: Minimum Phase 2 Reporting Limit [8]	Maximum Phase 2 Reporting Limit [8]	Is it a Soil COC for the Leaching Pathway? [9]	Rationale
Metals																	
Lead	7439-92-1	mg/kg	150	No	NA	83	83	107	NA	990	None	MW-12	1.5–2	NA	NA	No	GW demonstrates compliance.
Zinc	7440-66-6	mg/kg	300	No	NA	75	75	290	NA	470	None	FS-02	0.5–1	NA	NA	No	GW demonstrates compliance.
Organochlorine Pesticides																	
HCH-beta (b-BHC)	319-85-7	mg/kg	0.0012	Yes	0.0067	151	9	0.34	6.0%	0.052	7.8	FS-27	3–4	0.0067	0.0067	**Yes**	**Maximum result > soil proposed CUL**
Aldrin	309-00-2	mg/kg	0.0014	Yes	0.0067	151	13	0.34	8.6%	20	3,000	FS-06	0–0.5	0.0067	0.0067	**Yes**	**Maximum result > soil proposed CUL**
Heptachlor	76-44-8	mg/kg	0.020	No	NA	151	9	0.34	NA	0.43	None	FS-05	0.5–1	0.0067	0.0067	No	GW demonstrates compliance.
Chlordane	12789-03-6	mg/kg	1.1	Yes	1.1	150	46	6.6	12%	84	76	FS-06	0–0.5	0.032	0.33	**Yes**	**Maximum result > soil proposed CUL**
Dieldrin	60-57-1	mg/kg	0.0015	Yes	0.0067	151	69	1.6	45%	46	6,900	FS-06	0–0.5	0.0067	0.0067	**Yes**	**Maximum result > soil proposed CUL**
4,4'-DDD / Sum DDD [10]	72-54-8	mg/kg	0.18	No	NA	151	29	0.34	NA	3.2	None	FS-33	2–3	0.0067	0.0067	No	GW demonstrates compliance.
4,4'-DDE / Sum DDE [10]	72-55-9	mg/kg	0.25	No	NA	151	52	1.0	NA	5.4	None	FS-06	0–0.5	0.0067	0.0067	No	GW demonstrates compliance.
4,4'-DDT / Sum DDT [10]	50-29-3	mg/kg	1.9	No	NA	151	61	1.3	NA	20	None	FS-33	2–3	0.0067	0.0067	No	GW demonstrates compliance.
Total DDx [10]	T_DDx (U=0)	mg/kg	Not a GW COPC	--	NA	151	62	1.9	NA	25	None	FS-33	2–3	0.0067	0.0067	No	GW demonstrates compliance.
Toxaphene	8001-35-2	mg/kg	0.84	Yes	0.84	150	36	53	18%	120	140	FS-06	0–0.5	0.32	1.3	**Yes**	**Maximum result > soil proposed CUL**
Other Chlorinated/Halogenated Pesticides																	
Atrazine	1912-24-9	mg/kg	No Partitioning Data	--	NA	151	62	0.13	NA	710	None	FS-28	3–4	0.0067	0.0067	No	No partitioning data.
Chlordane-alpha	5103-71-9	mg/kg	1.1	No	NA	89	18	1.3	NA	9.9	None	FS-06	0–0.5	0.0067	0.0067	No	GW demonstrates compliance.
Simazine	122-34-9	mg/kg	No Partitioning Data	--	NA	151	40	0.12	NA	110	None	FS-28	3–4	0.0067	0.0067	No	GW demonstrates compliance.
Total Petroleum Hydrocarbons (TPH)																	
Total diesel- and oil-range TPH	DRO+ORO	mg/kg	No Partitioning Data	--	NA	145	52	3,060	NA	21,000	None	MW-12	1.5–2	250	250	No	No partitioning data.
Dioxins/furans																	
Dioxins/furans [11]	DF_TEQ (U=1/2)	ng/kg	Not a GW COPC	--	NA	9	9	77.0	NA	92.4	None	FS-44	0.5–1	NA	NA	No	GW demonstrates compliance.

Notes:

Dioxin/furan citeria, exceedance factors, and results are rounded to three significant figures; all other criteria, exceedance factors, and results are rounded to two significant figures.

-- Not applicable: either GW preliminary CUL not required for this chemical or development of soil preliminary CUL does not require calculation of concentration protective of GW. Refer to Tables 5.1 and 5.2.

RED/BOLD Chemical identified as a COC for the leaching pathway.

1 Only chemicals identified as soil COPCs in Table 5.5 are included in this table.

2 This table includes soil criteria protective of GW (also referred to as leaching criteria). If any leaching CUL is less than the PQL or natural background, the leaching CUL is adjusted upward per WAC 173-340-740(5)(c).

3 The soil dataset includes results of all soil samples collected since June 1, 2007. Dioxins/furans results are rounded to three significant figures; all other results are rounded to two significant figures.

4 Leaching criteria were calculated using the three-phase equation (WAC Equation 747-1). Refer to Table 5.4.

5 GW COCs are identified in Table 6.1.

6 If GW empirically demonstrates compliance (i.e., a chemical is not retained as a GW COC in Table 6.1), the leaching pathway is not active and calculated criteria protective of this pathway are not applicable to the site.

7 Calculated 95th percentile values include detect and nondetect results.

8 Reporting limits presented in this table represent the range of reporting limits among nondetect results in the 2017–2018 Phase 2 Soil Sampling events. If a chemical was not analyzed during these events, the range of reporting limits presented in this table represent the minimum and maximum reporting limit from all other events.

9 A chemical is eliminated as a soil COC for the leaching pathway if groundwater demonstrates compliance (i.e., chemical is not a COC in groundwater) or if the following criteria from WAC 173-340-740(9)(e) and WAC 173-340

* The maximum result is no more than 2 times the leaching CUL;
* Less than 10% of samples exceed the leaching CUL; and
* The 95th percentile result is in compliance with the leaching CUL.

10 Samples were not analyzed for the 2,4' isomer of DDT-family compounds. The result for the 4,4' isomer is compared to relevant criteria developed for total DDD, DDE, DDT; 4,4' isomer results are summed to calculate the total DDx result.

11 The dioxin/furan result is equivalent to the total dioxin/furan TEQ summed using toxic equivalent factor values in WAC Table 708-1 and 1/2 of the reported result for nondetect results in each sample.

Abbreviations:

bgs Below ground surface
BHC Benzene hexachloride
CAS Chemical Abstracts Service
COC Chemical of concern
COPC Chemical of potential concern
CUL Cleanup level
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichlorethylene
DDT Dichlorodiphenyltrichloroethane
GW Groundwater
HCH Hexachlorocyclohexane
mg/kg Milligrams per kilogram
NA Not applicable
PQL Practical quantitation limit
Total DDx Calculated as the sum of DDD, DDE, and DDT
WAC Washington Administrative Code

Table 6.8
Summary of Key Properties of Soil Chemicals of Concern

Chemical	CAS No.	Description	Typical Use in Commerce	Dates of Use	Potential Site Sources	Soil Mobility		Behavior in Environment
						K_{oc} Range	Classification	
Metals								
Lead	7439-92-1	Metal	Formerly used in paint and as an anti-knock agent in gasoline; currently used in batteries.	Banned in paint for consumer use in 1978 and as gasoline additive for most uses in 1996.	Lead paint or lead in building materials.	NA	Moderate to limited mobility.	Often inert; may be convert to other forms such as $PbSO_4$, $Pb_3(PO_4)_2$, PbS, and PbO.
Organochlorine Pesticides								
Aldrin	309-00-2	Legacy Pesticide	Pesticide against termites, corn rootworm, grasshoppers, and other soil-dwelling pests.	Banned in 1974 except to control termites; banned completely in 1987.	Former pesticide handling.	400–28,000	Moderate to no mobility.	Converted to dieldrin.
HCH-beta (b-BHC)	319-85-7		Insecticide; one of the major components of Lindane.	Banned in 1976.		2,140	Little mobility.	Expected to bioaccumulate. Aerobic degradation via reaction with hydroxyl radicals. Biodegrades slowly.
Chlordane	57-74-9		Pesticide for crops, lawns, and gardens; underground termite treatment; fumigating agent.	From 1948 until gradually phased out beginning in 1978; banned for all uses in 1988.		20,000–76,000	No mobility.	Persistent and unlikely to biodegrade.
Dieldrin	60-57-1		Insecticide against termites and ants, whitegrubs, and other soil-dwelling pests.	Banned in 1974 except to control termites; banned completely in 1987.		1,957–23,310	Little to no mobility.	Persistent; degrades slowly.
4,4'-DDT / Sum DDT	50-29-3		Insecticide used on field crops.	Most uses banned in 1971 and 1972, except for specific uses to control vector diseases and for controlling body lice.		113,000–350,000	No mobility.	Degrades via reductive dechlorination.
Toxaphene	8001-35-2		Insecticide used on field crops and to control pests on livestock and poultry.	Widely used in the 1970s; banned in 1983 except for emergency use. Banned completely in 1990.		210,000–1,000,000	No mobility.	Persistent. Degrades via reductive dechlorination anaerobically; does not degrade in aerobic conditions.
Other Chlorinated/Halogenated Pesticides								
Atrazine	1912-24-9	Active-Use Pesticide	Herbicide used to control pre- and post-emergence broadleaf weeds.	Invented in 1958; currently one of the most commonly used herbicides in the United States.	Recent or former pesticide handling.	54–1,164	High to moderate mobility.	Biodegrades readily in soil; persistent in groundwater. Degradation products are desethyl atrazine, hydroxy atrazine, deisopropyl atrazine, and didealkyl atrazine.
Chlordane-alpha	5103-71-9	Legacy Pesticide	Major component of chlordane. Pesticide for crops, lawns, and gardens; underground termite treatment; fumigating agent.	From 1948 until gradually phased out beginning in 1978; banned for all uses in 1988.	Former pesticide handling.	20,000–76,000	No mobility.	Persistent and unlikely to biodegrade.
Simazine	122-34-9	Active-Use Pesticide	Herbicide used to control broadleaf weeds, annual grasses, algae, and submerged weeds.	Invented in 1956; currently a commonly used herbicide in cropland. Second most commonly used herbicide in United States cherry orchards.	Recent or former pesticide handling.	78–3,559	High to limited mobility.	Biodegrades as cometabolite in high-organic-content soils.
Total Petroleum Hydrocarbons (TPH)								
Diesel-Range TPH	DRO	Common Fuel	Fuel for trucks, agricultural equipment, and electrical generators.	In use throughout the Site's entire history of industrial operations.	Refueling activities and ASTs.	NA	Moderate to limited mobility.	Lighter end components are readily biodegraded. Heavier components are more persistent.
Oil-Range TPH	ORO		Feedstock for fuels and manufacturing, or as a heat source.	In use throughout the Property's entire history of industrial operations.			Little to no mobility.	Lighter end components are present only in trace amounts but are readily biodegraded. Heavier components are more persistent.

Table 6.8
Summary of Key Properties of Soil Chemicals of Concern

Chemical	CAS No.	Description	Typical Use in Commerce	Dates of Use	Potential Site Sources	Soil Mobility		Behavior in Environment
						K_{oc} Range	Classification	
Dioxins/Furans								
Dioxins/Furans	DF_TEQ (U=1/2)	Reaction Byproduct	Byproduct of certain chemical manufacturing processes and formed during high-temperature combustion reactions.	Natural and anthropogenic contributions possible throughout the Property's entire history of industrial operations.	Historical burning activities.	24,500,000 (3)	Little to no mobility.	Persistent and unlikely to biodegrade.

Notes:

1 This table includes only analytes that were retained as COCs in Tables 6.5 and 6.6.

2 Soil mobility and environmental behavior information is from the following sources:

PubChem. 2021a. "Aldrite." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/12310947 >. Last accessed January 11, 2021.

_____. 2021b. “Chlordane.” Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/5993 >. Last accessed January 15, 2021.

_____. 2021c. "Dieldrin." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/969491 >. Last accessed January 15, 2021.

_____. 2021d. "Toxaphene." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/5284469 >. Last accessed January 15, 2021.

_____. 2021e. "beta-Hexachlorocyclohexane." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/source/hsdb/6183 >. Last accessed January 11, 2021.

_____. 2021f. “Atrazine.” Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/2256 >. Last accessed January 15, 2021.

_____. 2021g. “Clofenotane.” Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/3036 >. Last accessed January 15, 2021.

_____. 2021h. “cis-Chlordane.” Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/1550472 >. Last accessed January 15, 2021.

_____. 2021i. “Simazine.” Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/5216 >. Last accessed January 15, 2021.

_____. 2021j. “Lead.” Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/5352425 >. Last accessed January 15, 2021.

_____. 2021k. "2,3,7,8-Tetrachlorodibenzo-P-dioxin." Hazardous Substances Data Bank (HSDB). U.S. National Library of Medicine. < https://pubchem.ncbi.nlm.nih.gov/compound/15625 >. Last accessed February 24, 2021.

3 This K_{oc} value is a mean based on 2,3,7,8-tetrachlorodibenzo-P-dioxin (PubChem 2021k), which is the most toxic and most mobile of the dioxin/furan compounds.

Abbreviations:

AST Aboveground storage tank
BHC Benzene hexachloride
CAS Chemical Abstracts Service
COC Chemical of concern
DDT Dichlorodiphenyltrichloroethane
HCH Hexachlorocyclohexane
K_{oc} Organic carbon partitioning coefficient
NA Not applicable

Table 6.9
Results for Groundwater Chemicals of Concern (µg/L)

Chemical Group [1]				Nutrients		Legacy Pesticides (Organochlorine Pesticides)					Active-Use Pesticides			Total Petroleum Hydrocarbons (TPH)	
Chemical [2]				Nitrate	Nitrite	HCH-beta (b-BHC)	Aldrin	Chlordane	Dieldrin	Toxaphene	2,4-D	MCPA	Atrazine	Diesel-Range TPH	Oil-Range TPH
Groundwater Proposed CUL [3]				10,000	1,000	0.049	0.0026	2	0.0055	0.8	70	8	3	500	500
Compliance Basis [4]				Maximum	Maximum	True Mean	True Mean	True Mean	True Mean	True Mean	True Mean	Maximum	True Mean	Maximum	Maximum
Location	Screened Interval (feet bgs)	Date Group	Sample Date												
Upgradient															
MW-9	5–15	Post-2016	8/10/2016	6,200	51	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.55	0.06 U	50 U	250 U
			11/9/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 U	0.08 U	0.06 U	60 U	300 U
			2/28/2017	2,000	42	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			5/17/2017	7,800	400 JQ	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.06 UJ	50 U	250 U
			8/30/2017	5,600	480 JQ	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 UJ	0.08 UJ	0.06 U	55 U	280 U
			3/5/2018	3,300	170 JQ	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			3/25/2020			0.001 U	0.002 U	0.02 U	0.001 U	0.1 U					
		Compliance Result [5]	**Post-2016**	**7,800**	**480 JQ**	**0.001 U**	**0.002 U**	**0.02 U**	**0.001 U**	**0.1 U**	**0.08 UJ**	**0.55**	**0.06 UJ**	**50 U**	**250 U**
MW-15	5–15	Post January 1, 2016	7/5/2018	1,700	100 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			3/25/2020			0.001 U	0.002 U	0.02 U	0.001 U	0.1 U					
		Compliance Result [5]	**Post-2016**	**1,700**	**100 U**	**0.001 U**	**0.002 U**	**0.02 U**	**0.001 U**	**0.1 U**	**0.08 U**	**0.08 U**	**0.06 U**	**50 U**	**250 U**
MW-17	5–15	Post January 1, 2016	7/5/2018	100 JQ	200 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			3/25/2020			0.001 U	0.002 U	0.02 U	0.001 U	0.1 U					
		Compliance Result [5]	**Post-2016**	**100 JQ**	**200 U**	**0.001 U**	**0.002 U**	**0.02 U**	**0.001 U**	**0.1 U**	**0.08 U**	**0.08 U**	**0.06 U**	**50 U**	**250 U**
Cross-Gradient Off-Property															
MW-16	5–15	Post January 1, 2016	7/5/2018	9,000 J	370	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.19	50 U	250 U
				12,000 J	440	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.16	50 U	250 U
			3/25/2020			0.0047	0.002 U	0.21	**0.076**	**1.2**					
		Compliance Result [5]	**Post-2016**	**12,000 J**	**440**	**0.0047**	**0.002 U**	**0.21**	**0.076**	**1.2**	**0.08 U**	**0.08 U**	**0.19**	**50 U**	**250 U**
Interior															
MW-1	3–13	Pre-2016	11/11/2013											180	110 U
			3/20/2014											250	94
			5/22/2014											96	94 U
			8/5/2014											130	94 U
			4/15/2015	**610,000**		0.01 U	*0.01 U*	0.089	**0.23**	**2.4**	7.6 U	*95 U*		130 U	250 U
		Post January 1, 2016	8/10/2016	**110,000**	**6,800**	*0.06 U*	*0.06 U*	1.5	**0.61 J**	*6 U*	0.26	0.08 U	**3.2**	96 JM	250 U
			11/10/2016			*0.12 UJ*	*0.12 UJ*	0.72 J	**0.21 J**	*6 UJ*	8.9	2.8	2.9	53 JM	250 U
			2/27/2017	**100,000**	640	*0.12 U*	*0.12 U*	0.6 U	**0.3**	*6 U*	3.7	1.1	**3.2**	130	300 U
				100,000	640	*0.12 UJ*	*0.12 UJ*	0.6 UJ	**0.31 J**	*6 UJ*	7	1.8	2.3	120	250 U
			5/17/2017	**23,000**	*2,000 UJ*	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.26 J	0.24 J	0.69 J	50 U	250 U
			8/29/2017	**81,000**	**4,200**	*0.12 U*	*0.12 U*	1.6	**0.69**	*6 U*	0.08 U	0.08 U	1.9	89 [6]	280 U
			11/28/2017	**160,000**	**1,600 JQ**	*0.06 UJ*	*0.06 UJ*	0.82	**0.38 J**	*6 U*	3.3	2.1 J	1.4 J	84 [6]	250 U
			3/5/2018	**51,000**	860 JQ	*0.06 U*	*0.06 U*	0.6 U	**0.36**	*6 U*	0.44	0.45	1.8 J	70 U	350 U
			6/21/2018	**53,000**	1,000 U	*0.06 U*	*0.06 U*	0.96	**0.45**	*6 U*	0.12	0.08 U	0.91	68 [6]	250 U
			3/25/2020			0.0083 J	0.002 U	0.63	**0.28**	**2.4**					
		Compliance Result [5]	**Post-2016**	**160,000**	**6,800**	**0.0083 J**	**0.002 U**	**0.89 J**	**0.38 J**	**2.4**	**2.5 J**	**2.8**	**2 J**	**130**	**250 U**

Table 6.9
Results for Groundwater Chemicals of Concern (µg/L)

Chemical Group [1]				Nutrients		Legacy Pesticides (Organochlorine Pesticides)					Active-Use Pesticides			Total Petroleum Hydrocarbons (TPH)	
Chemical [2]				Nitrate	Nitrite	HCH-beta (b-BHC)	Aldrin	Chlordane	Dieldrin	Toxaphene	2,4-D	MCPA	Atrazine	Diesel-Range TPH	Oil-Range TPH
Groundwater Proposed CUL [3]				10,000	1,000	0.049	0.0026	2	0.0055	0.8	70	8	3	500	500
Compliance Basis [4]				Maximum	Maximum	True Mean	True Mean	True Mean	True Mean	True Mean	True Mean	Maximum	True Mean	Maximum	Maximum
Location	Screened Interval (feet bgs)	Date Group	Sample Date												
Interior (cont.)															
MW-3	3–13	Pre-2016	11/11/2013											94 U	94 U
			3/20/2014											94 U	94 U
			5/22/2014											94 U	94 U
			8/5/2014											94 U	94 U
			4/15/2015	150 U		0.011 U	*0.011 U*	0.011 U	*0.011 U*	0.51 U	0.38 U	*95 U*		130 U	250 U
		Post January 1, 2016	8/11/2016	**32,000**	12	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.15	81 JM	300 U
			11/9/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 U	0.19	0.06 U	50 U	250 U
			2/27/2017	80	5 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.29	0.13	0.076	50 U	250 U
			5/17/2017	1,000 U	1,000 UJ	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.15 J	0.06 UJ	50 U	250 U
			8/29/2017	**33,000**	200 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.16	50 U	250 U
			11/28/2017	1,000 U	1,000 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			3/5/2018	900	500 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			6/21/2018	**11,000**	*5,000 U*	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			3/25/2020			0.001 U	0.002 U	0.073	**0.03**	0.33					
		Compliance Result [5]	**Post-2016**	**33,000**	**12**	**0.001 U**	**0.002 U**	**0.073**	**0.03**	**0.33**	**0.11 J**	**0.19**	**0.086 J**	**81 JM**	**250 U**
MW-4	3–13	Pre-2016	11/11/2013											**880**	**570**
			3/20/2014											**1,000**	300
			5/22/2014											95 U	95 U
			8/5/2014											94 U	94 U
			4/15/2015	**2,600,000**		0.01 U	*0.012 U*	0.28	**2**	**17**	**260**	*140 U*		**580**	250
		Post January 1, 2016	8/10/2016	**51,000**	26	*0.6 U*	*0.6 U*	**22**	**10 J**	**26**	0.49	0.22	**9.2**	**750 JM**	**1,100 JM**
			11/9/2016			*1.2 UJ*	*1.2 UJ*	*6 UJ*	*1.2 UJ*	*60 UJ*	**210**	**88**	**33**	**740 JM**	320 JM
			2/27/2017	**13,000**	260	*0.12 UJ*	*0.12 UJ*	**2.3 J**	**1.2 J**	**9.3 J**	14	7.3	**11 J**	360	**680**
			5/17/2017	**19,000**	980 JQ	*0.12 UJ*	*0.12 UJ*	1.4 J	**1 J**	*6 UJ*	38 J	**28 J**	**11 J**	420	340
			8/29/2017	1,500	1,000 U	*0.12 U*	*0.12 U*	**2.5**	**0.79 J**	*6 U*	0.52 J	0.08 U	1.9 J	140 [6]	300 U
			11/28/2017	**55,000**	*2,000 U*	**0.066 J**	*0.06 UJ*	0.93	**0.53 J**	*6 U*	23	**24 J**	**26 J**	380 [6]	250 U
			3/5/2018	**39,000**	**1,200 JQ**	*0.06 U*	*0.06 U*	1.5	**1**	*6 U*	0.15	0.09 J	**15**	310	250 U
			6/20/2018	**76,000**	940 JQ	**0.067**	*0.06 U*	0.6 U	**0.56**	*6 U*	0.21	0.14 J	**3.8**	310 [6]	290 [6]
			3/25/2020			0.013 J	**0.0059 JN**	0.77	**0.7**	**4.6**					
						0.014	**0.0057 JN**	0.76	**0.73**	**4.9**					
		Compliance Result [5]	**Post-2016**	**76,000**	**1,200 JQ**	**0.26 J**	**0.0059 JN**	**4.2 J**	**0.88 J**	**14 J**	**36 J**	**88**	**14 J**	**750 JM**	**1,100 JM**
MW-5	3–13	Pre-2016	11/11/2013											110 U	110 U
			3/20/2014											94 U	94 U
			5/22/2014											94 U	94 U
			8/5/2014											94 U	94 U
			4/15/2015	3,600		0.01 U	*0.01 U*	0.01 U	*0.01 U*	0.5 U	0.38 U	*95 U*		130 U	250 U
		Post January 1, 2016	8/10/2016	9,900	5 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.17	50 U	250 U
			11/9/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 U	0.08 U	0.1	50 U	250 U
						0.12 UJ	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 U	0.08 U	0.099	50 U	250 U
			2/28/2017	530	5 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.068	50 U	250 U
			5/17/2017	**34,000**	*5,000 UJ*	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.06 UJ	50 U	250 U
			8/29/2017	3,900	200 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.15	60 U	300 U
			11/28/2017	1,000	1,000 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 UJ	0.08 UJ	0.06 U	50 U	250 U
			3/5/2018	1,000 U	1,000 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06	50 U	250 U
			6/21/2018	2,200 J	1,000 UJ	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			3/25/2020			0.001 U	0.002 U	0.0067 JQ	0.0012	0.1 U					
		Compliance Result [5]	**Post-2016**	**34,000**	**5 U**	**0.001 U**	**0.002 U**	**0.0067 JQ**	**0.0012**	**0.1 U**	**0.08 UJ**	**0.08 U**	**0.091 J**	**50 U**	**250 U**

Table 6.9
Results for Groundwater Chemicals of Concern (µg/L)

Chemical Group [1]				Nutrients		Legacy Pesticides (Organochlorine Pesticides)					Active-Use Pesticides			Total Petroleum Hydrocarbons (TPH)	
Chemical [2]				Nitrate	Nitrite	HCH-beta (b-BHC)	Aldrin	Chlordane	Dieldrin	Toxaphene	2,4-D	MCPA	Atrazine	Diesel-Range TPH	Oil-Range TPH
Groundwater Proposed CUL [3]				10,000	1,000	0.049	0.0026	2	0.0055	0.8	70	8	3	500	500
Compliance Basis [4]				Maximum	Maximum	True Mean	True Mean	True Mean	True Mean	True Mean	True Mean	Maximum	True Mean	Maximum	Maximum
Location	Screened Interval (feet bgs)	Date Group	Sample Date												
Interior (cont.)															
MW-6	3–13	Pre-2016	11/11/2013											760	150
			3/20/2014											590	140
			5/22/2014											430	94 U
			8/5/2014											240	94 U
			4/15/2015	960,000		0.01 U	*0.01 U*	0.14	0.53	9.9	2.1	*95 U*		150	250 U
		Post January 1, 2016	8/10/2016	34,000	5 U	*0.06 U*	*0.06 U*	1.6	0.69 J	*6 U*	3.8	0.96	3.4	560 JM	250 U
			11/10/2016			*0.12 UJ*	*0.12 UJ*	1.7 J	0.49 J	11 J	0.54	1.1	3.5	200 JM	250 U
			2/27/2017	110,000	1,000	*0.12 U*	*0.12 U*	0.6 U	0.33	*6 U*	0.37	0.25	3	160	250 U
			5/17/2017	220,000	2,000 JQ	*0.12 UJ*	*0.12 UJ*	0.87 J	0.32 J	*6 UJ*	14 J	3 J	7.9 J	350	250 U
			8/29/2017	160,000	*5,000 U*	*0.12 U*	*0.12 U*	1.5	0.52	*6 U*	37 J	5.5 J	2.3 J	810 [6]	280 U
			11/28/2017	180,000	1,500 JQ	*0.06 U*	*0.06 U*	1.3	0.47	10	0.72	0.67 J	2.1	730 [6]	250 U
				180,000	*10,000 U*	*0.06 U*	*0.06 U*	1.2	0.49	8.8	1	0.87 J	2.3	720 [6]	250 U
			3/5/2018	150,000	1,400 JQ	*0.06 U*	*0.06 U*	0.82	0.53	*6 U*	2.5	8.1	2.5	430	250 U
			6/20/2018	110,000	920 JQ	0.087	*0.06 U*	1.1	0.83	6.9	1.5	1.5	1.9	600 [6]	250 U
				110,000	930 JQ	0.085	*0.06 U*	1.1	0.67	*6 U*	1.4	1.4	1.7	430 [6]	250 U
			3/25/2020			0.0041 J	0.002 U	1.7	0.55	9.6					
		Compliance Result [5]	**Post-2016**	220,000	2,000 JQ	0.083 J	**0.002 U**	**1.2 J**	0.53 J	7.5 J	**7.6 J**	8.1	3.4 J	810 [6]	**250 U**
MW-7	3–13	Pre-2016	11/11/2013											110 U	110 U
			3/20/2014											94 U	94 U
			5/22/2014											94 U	94 U
			8/5/2014											94 U	94 U
			4/15/2015	93,000		0.011 U	*0.011 U*	0.021	0.17	1	0.38 U	*95 U*		130 U	250 U
		Post January 1, 2016	8/10/2016	11,000	5 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.32	50 U	250 U
				2,800	5 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.39	50 U	250 U
			11/9/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.12	0.08 U	0.82	50 U	250 U
			2/28/2017	62,000	1,500	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	15	3.9 J	5.9	100	250 U
			5/17/2017	27,000	1,000 UJ	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.27 J	50 U	250 U
			8/29/2017	1,300	200 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.11	55 U	280 U
			11/28/2017	17,000	810 JQ	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	2.7	2.5 J	3.9	50 U	250 U
			3/5/2018	2,700	1,200	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.33	0.25	0.69	50 U	250 U
			6/20/2018	1,200	500 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.12	50 U	250 U
			3/25/2020			0.001 U	0.002 U	0.027	0.0064	0.11					
		Compliance Result [5]	**Post-2016**	62,000	1,500	**0.001 U**	**0.002 U**	**0.027**	0.0064	**0.11**	**2.3 J**	**3.9 J**	**1.5 J**	**100**	**250 U**
MW-8	3–13	Pre-2016	11/11/2013											96 U	96 U
			3/20/2014											94 U	94 U
			5/22/2014											94 U	94 U
			8/5/2014											94 U	94 U
			4/14/2015	320,000		0.01 U	*0.01 U*	0.012	0.031	0.5 U	0.38 U	*95 U*		130 U	250 U
		Post January 1, 2016	8/10/2016	34,000	5 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	1.8 J	60 U	300 U
			11/9/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 U	0.08 U	0.28	50 U	250 U
			2/28/2017	63,000	5 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	1	0.72	2	50 U	250 U
			5/17/2017	76,000	*2,000 UJ*	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.099 J	50 U	250 U
			8/29/2017	17,000	200 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.53	60 U	300 U
			11/28/2017	40,000	1,000 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.29	0.27 J	0.51 J	50 U	250 U
			3/5/2018	23,000	1,000 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.59	50 U	250 U
			6/20/2018	34,000	1,000 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.48	50 U	250 U
			3/25/2020			0.001 U	0.002 U	0.054	0.011	0.13 J					
		Compliance Result [5]	**Post-2016**	76,000	**5 U**	**0.001 U**	**0.002 U**	**0.054**	0.011	**0.13 J**	**0.22 J**	**0.72**	**0.79 J**	**50 U**	**250 U**

Table 6.9
Results for Groundwater Chemicals of Concern (µg/L)

Chemical Group [1]				Nutrients		Legacy Pesticides (Organochlorine Pesticides)					Active-Use Pesticides			Total Petroleum Hydrocarbons (TPH)	
Chemical [2]				Nitrate	Nitrite	HCH-beta (b-BHC)	Aldrin	Chlordane	Dieldrin	Toxaphene	2,4-D	MCPA	Atrazine	Diesel-Range TPH	Oil-Range TPH
Groundwater Proposed CUL [3]				10,000	1,000	0.049	0.0026	2	0.0055	0.8	70	8	3	500	500
Compliance Basis [4]				Maximum	Maximum	True Mean	True Mean	True Mean	True Mean	True Mean	True Mean	Maximum	True Mean	Maximum	Maximum
Location	Screened Interval (feet bgs)	Date Group	Sample Date												
Interior (cont.)															
MW-11	5–15	Post January 1, 2016	8/10/2016	54,000	44	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	1.5	270 JM	250 U
			11/9/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 U	0.08 U	0.37	100 JM	250 U
			2/28/2017	39,000	5 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.44	110	250 U
			5/17/2017	51,000	1,000 UJ	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.32 J	79	250 U
				51,000	1,000 UJ	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.3 J	77	250 U
			8/29/2017	54,000	500 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.43	140 [6]	280 U
				53,000	500 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.42	110 [6]	280 U
			11/28/2017	46,000	*2,000 U*	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.22	340 [6]	250 U
			3/5/2018	37,000	1,000 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.36	89	250 U
			6/21/2018	66,000	*5,000 U*	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.48	70 [6]	250 U
			3/25/2020			0.001 U	0.002 U	0.33	0.066	0.3					
		Compliance Result [5]	**Post-2016**	**66,000**	**44**	**0.001 U**	**0.002 U**	**0.33**	**0.066**	**0.3**	**0.08 UJ**	**0.08 U**	**0.52 J**	**340 [6]**	**250 U**
MW-12	5–15	Post January 1, 2016	8/11/2016	55,000	28	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	2.8	91 JM	250 U
			11/10/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 U	0.08 U	4.7	60 U	300 U
			2/28/2017	28,000	5 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.18	0.08 U	1	50 U	250 U
			5/18/2017	52,000	*2,000 UJ*	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	1.5 J	60 U	300 U
			8/30/2017	35,000	500 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 UJ	0.08 UJ	1.1	50 U	250 U
			11/28/2017	22,000	*2,000 U*	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.63	50 U	250 U
			3/5/2018	39,000	1,000 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	1.8	50 U	250 U
			6/21/2018	37,000	*2,000 U*	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	1	60 [6]	250 U
			3/26/2020			0.001 U	0.002 U	0.13	0.031	0.36					
		Compliance Result [5]	**Post-2016**	**55,000**	**28**	**0.001 U**	**0.002 U**	**0.13**	**0.031**	**0.36**	**0.093 J**	**0.08 U**	**1.8 J**	**91 JM**	**250 U**
FS-22	4–6	Post January 1, 2016	6/6/2017	68,000	1,000 U	*0.6 U*	*0.6 U*	*3 U*	0.79	*30 U*	0.15 J	0.08 UJ	1.6	260	250 U
				69,000	*2,000 U*	*0.6 U*	*0.6 U*	*3 U*	0.74	*30 U*	0.14 J	0.08 UJ	1.4	400	250 U
	9–11		6/6/2017	25,000	450 JQ	*0.12 U*	*0.12 U*	0.6 U	0.17	*6 U*	0.08 UJ	0.08 UJ	0.44 J	74	250 U
FS-30	5–7		6/8/2017	31,000 J	490 JQ	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.15 J	0.08 UJ	16	89	250 U
	13–15		6/8/2017	51,000 J	1,000 JQ	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.13 J	0.08 UJ	1.8 J	59	250 U
Downgradient Property Boundary															
MW-2	3–13	Pre-2016	11/11/2013											95 U	95 U
			3/20/2014											94 U	94 U
			5/22/2014											94 U	94 U
			8/5/2014											94 U	94 U
			4/15/2015	2,100		0.011 U	*0.011 U*	0.011 U	*0.011 U*	0.51 U	0.38 U	*95 U*		130 U	250 U
		Post January 1, 2016	8/11/2016	3,400	81	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			11/10/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 U	0.08 U	0.06 U		
			2/28/2017	2,500	64	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			5/18/2017	1,900	210 JQ	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.06 UJ	50 U	250 U
			8/30/2017	2,800	240	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.06 U	55 U	280 U
			3/5/2018	1,700	330 JQ	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			3/26/2020			0.001 U	0.002 U	0.02 U	0.001 U	0.1 U					
		Compliance Result [5]	**Post-2016**	**3,400**	**330 JQ**	**0.001 U**	**0.002 U**	**0.02 U**	**0.001 U**	**0.1 U**	**0.08 UJ**	**0.08 U**	**0.06 UJ**	**50 U**	**250 U**

Table 6.9
Results for Groundwater Chemicals of Concern (µg/L)

Chemical Group [1]				Nutrients		Legacy Pesticides (Organochlorine Pesticides)					Active-Use Pesticides			Total Petroleum Hydrocarbons (TPH)	
Chemical [2]				Nitrate	Nitrite	HCH-beta (b-BHC)	Aldrin	Chlordane	Dieldrin	Toxaphene	2,4-D	MCPA	Atrazine	Diesel-Range TPH	Oil-Range TPH
Groundwater Proposed CUL [3]				10,000	1,000	0.049	0.0026	2	0.0055	0.8	70	8	3	500	500
Compliance Basis [4]				Maximum	Maximum	True Mean	True Mean	True Mean	True Mean	True Mean	True Mean	Maximum	True Mean	Maximum	Maximum
Location	Screened Interval (feet bgs)	Date Group	Sample Date												
Downgradient Property Boundary (cont.)															
MW-10	5–15	Post January 1, 2016	8/11/2016	2,600	30	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	60 U	300 U
			11/9/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 U	0.08 U	0.06 U	50 U	250 U
			2/27/2017	2,400	51	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			5/18/2017	3,500	*2,000 UJ*	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.06 UJ	50 U	250 U
			8/30/2017	1,700	170 JQ	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.06 U	60 U	300 U
			3/5/2018	1,900	320 JQ	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			3/25/2020			0.001 U	0.002 U	0.02 U	0.001 U	0.1 U					
		Compliance Result [5]	**Post-2016**	**3,500**	**320 JQ**	**0.001 U**	**0.002 U**	**0.02 U**	**0.001 U**	**0.1 U**	**0.08 UJ**	**0.08 U**	**0.06 UJ**	**50 U**	**250 U**
MW-13	3.5–13.5	Post January 1, 2016	8/10/2016	46	5 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	60 U	300 U
			11/10/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 U	0.08 U	0.071	70 U	350 U
			2/28/2017	3,500	5 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	16	0.1	0.06	50 U	250 U
			5/18/2017	200 U	200 UJ	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.06 UJ	50 U	250 U
			8/30/2017	120	100 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			3/5/2018	100 U	100 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	50 U	250 U
			3/25/2020			0.001 U	0.002 U	0.02 U	0.00051 JQ	0.1 U					
		Compliance Result [5]	**Post-2016**	**3,500**	**5 U**	**0.001 U**	**0.002 U**	**0.02 U**	**0.00051 JQ**	**0.1 U**	**2.7 J**	**0.1**	**0.062 J**	**50 U**	**250 U**
MW-14	5–15	Post January 1, 2016	8/10/2016	**37,000**	30	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	1.4	50 U	250 U
			11/10/2016			*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.081	0.08 U	0.67	50 U	250 U
			2/27/2017	3,800	5 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.2	50 U	250 U
			5/18/2017	**23,000**	*2,000 UJ*	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.57 J	50 U	250 U
			8/30/2017	**16,000**	200 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 U	0.08 U	0.53	60 U	300 U
			11/28/2017	3,800	500 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.12	50 U	250 U
			3/5/2018	2,700	200 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.1	50 U	250 U
				2,800	200 U	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.11	50 U	250 U
			6/21/2018	390 J	100 UJ	*0.06 U*	*0.06 U*	0.6 U	*0.06 U*	*6 U*	0.08 U	0.08 U	0.06 U	60 U	300 U
			3/26/2020			0.001 U	0.002 U	0.04 J	**0.011**	0.11 J					
		Compliance Result [5]	**Post-2016**	**37,000**	**30**	**0.001 U**	**0.002 U**	**0.04 J**	**0.011**	**0.11 J**	**0.08 J**	**0.08 U**	**0.46 J**	**50 U**	**250 U**
Downgradient Off-Property															
MW-18	3–13	Post January 1, 2016	7/5/2018	750	110								0.06 U		
			3/26/2020			0.001 U	0.002 U	0.02 U	0.001 U	0.1 U					
		Compliance Result [5]	**Post-2016**	**750**	**110**	**0.001 U**	**0.002 U**	**0.02 U**	**0.001 U**	**0.1 U**			**0.06 U**		
MW-19	3–13	Post January 1, 2016	7/5/2018	540	100 U								0.06 U		
			3/26/2020			0.001 U	0.002 U	0.02 U	0.001 U	0.1 U					
		Compliance Result [5]	**Post-2016**	**540**	**100 U**	**0.001 U**	**0.002 U**	**0.02 U**	**0.001 U**	**0.1 U**			**0.06 U**		
MW-20	3–13	Post January 1, 2016	7/5/2018	390	100 U								0.06 U		
			3/26/2020			0.001 U	0.002 U	0.02 U	0.001 U	0.1 U					
		Compliance Result [5]	**Post-2016**	**390**	**100 U**	**0.001 U**	**0.002 U**	**0.02 U**	**0.001 U**	**0.1 U**			**0.06 U**		

Table 6.9
Results for Groundwater Chemicals of Concern (µg/L)

Chemical Group [1]				Nutrients		Legacy Pesticides (Organochlorine Pesticides)					Active-Use Pesticides			Total Petroleum Hydrocarbons (TPH)	
Chemical [2]				Nitrate	Nitrite	HCH-beta (b-BHC)	Aldrin	Chlordane	Dieldrin	Toxaphene	2,4-D	MCPA	Atrazine	Diesel-Range TPH	Oil-Range TPH
Groundwater Proposed CUL [3]				10,000	1,000	0.049	0.0026	2	0.0055	0.8	70	8	3	500	500
Compliance Basis [4]				Maximum	Maximum	True Mean	True Mean	True Mean	True Mean	True Mean	True Mean	Maximum	True Mean	Maximum	Maximum
Location	Screened Interval (feet bgs)	Date Group	Sample Date												
Downgradient Off-Property Temporary Wells															
FS-37	9–14	Post January 1, 2016	6/6/2017	1,200	1,000 U	*0.12 UJ*	*0.12 UJ*	0.6 UJ	*0.12 UJ*	*6 UJ*	0.08 UJ	0.08 UJ	0.06 UJ		
FS-38	4.5–7		6/6/2017	710	220 JQ	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 UJ	0.08 UJ	0.06 UJ		
FS-39	4.5–7		6/6/2017	240 JQ	500 U	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 UJ	0.08 UJ	0.06 U		
FS-40	4.5–7		6/6/2017	1,100	220 JQ	*0.12 U*	*0.12 U*	0.6 U	*0.12 U*	*6 U*	0.08 UJ	0.08 UJ	0.06 U		

Notes:

Result was not used to calculate the compliance result. In the case of sample duplicates, the maximum among detected result and the minimum among nondetect result was used to calculate the average. Additionally, certain results from the sample collected on August 10, 2016, from location MW-4 were excluded as a result of poor data quality following data validation (refer to Section 4.5).

RED/BOLD Result exceeds groundwater proposed CUL.

Italics Nondetect result exceeds groundwater proposed CUL.

1 Chemical groups correspond to the discussion in Section 6.0 relative to the nature and extent of contamination.

2 Only chemicals identified as groundwater COCs in Table 6.1 are included in this table.

3 Proposed CULs were developed for each chemical retained as a COC in Table 6.1 and are numerically equivalent to groundwater preliminary CULs developed in Table 5.1.

4 In accordance with WAC 173-340-720(9)(c)(v), compliance with proposed CULs will be determined using an upper percentile (i.e. maximum) concentration for CULs based on short-term or acute toxic effects on human health or the environment, and the true mean (or average) concentration for CULs based on chronic or carcinogenic threats.

5 The compliance result at each monitoring well is determined as follows:
(1) For legacy pesticides, the compliance result is equivalent to the March 2020 groundwater result if the chemical was not detected at a particular location during remedial investigation sampling. For more information, refer to Appendix H.
(2) For chemicals with a carcinogenic toxicity basis, including legacy pesticides that were detected at a well during remedial investigation sampling, the compliance result is calculated as the average among all results, including both detect and nondetect results. Only results collected on or after January 1, 2016, are included in the average.
(3) For chemicals with a short-term/acute toxicity basis, the compliance result is calculated as (a) the maximum result when all results were nondetect; or (b) the maximum detected result when one or more results were detected. Only results collected on or after January 1, 2016, are considered.

6 Laboratory noted that the sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Abbreviations:

2,4-D 2,4-Dichlorophenoxyacetic acid
bgs Below ground surface
COC Chemical of concern
CUL Cleanup level
HCH Hexachlorocyclohexane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
WAC Washington Administrative Code

Qualifiers:

J Analyte was detected, concentration is considered to be an estimate.
JM Analyte was detected, concentration is considered to be an estimate due to a poor chromatographic match to standard.
JN Analyte was detected, concentration is considered to be an estimate due to a tentative match to standard or library sample.
JQ Analyte was detected between the method detection limit and reporting limit and is considered to be an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered to be an estimate.

Table 6.10
Results for Soil Chemicals of Concern

		Chemical Group	Metals	Legacy Pesticides							Active-Use Pesticides		Total Petroleum Hydrocarbons	Dioxins/Furans
		Chemical [1]	Lead	Aldrin	HCH-beta (b-BHC)	Chlordane	Chlordane-alpha	Dieldrin	4,4'-DDT / Sum DDT [3]	Toxaphene	Atrazine	Simazine	and oil-range TPH	Dioxins/Furans [4]
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ng/kg
Proposed Cleanup Standard	Direct Contact	CUL	250	0.059	--	2.9	2.9	0.063	2.9	0.91	4.3	8.3	460	13.0
		Point of Compliance [2a]	Sitewide	AOC 2, 4, 5		AOC 2, 4	Sitewide	AOC 3, 6	Sitewide	AOC 3, 4	Sitewide	Sitewide	Sitewide	Sitewide
	Leaching	CUL	--	0.0067	0.0067	1.1	--	0.0067	--	0.84	--	--	--	--
		Point of Compliance [2b]		All Others	Sitewide	All Others		All Others		All Others				
Event	Location Name	Depth Range (feet bgs)												
AOC 1														
RI Phase 1	Culvert	0–0.25	23	*0.34 UJ*	*0.34 UJ*	*1.6 UJ*	0.34 UJ	**0.72 J**	0.79 J	*17 UJ*	0.11 J	0.02 J	**2,000 JM**	
	FS-05	0.5–1	73	**8.3 J**	*0.13 UJ*	**38 J**	**5.6 J**	**31 J**	**4.2 J**	**18 J**	0.24 J	0.14 J	**570 JM**	
		3–4	2.5	*0.066 UJ*	*0.066 UJ*	0.32 UJ	0.066 UJ	*0.066 UJ*	0.066 UJ	*3.3 UJ*	0.0067 U	0.0067 U	250 U	
		5–6	4.7	**0.14 J**	*0.067 UJ*	0.61 J	0.11 J	**0.44 J**	0.14 J	*3.4 UJ*	0.0073	0.0067 U	250 U	
	FS-06	0–0.5	35	**20 J**	*0.34 UJ*	**84 J**	**9.9 J**	**46 J**	**5.7 J**	**120 J**	0.13 J	0.03 J	**570 JM**	
			36	**17 J**	*0.34 UJ*	**67 J**	**8 J**	**42 J**	**4.9 J**	**100 J**	0.12 J	0.023 J	**590 JM**	
		2–3	11	**0.24 J**	*0.13 UJ*	**3.1 J**	0.42 J	**1.3 J**	0.35 J	*6.6 UJ*	0.0084	0.0067 U	250 U	
		5–6	4.2	*0.34 UJ*	*0.34 UJ*	**2.6 J**	0.46 J	**1.6 J**	0.34 UJ	*17 UJ*	0.017	0.0067 U	250 U	
	FS-07	0.5–1	6.6	*0.33 UJ*	*0.33 UJ*	*1.6 UJ*	0.33 UJ	*0.33 UJ*	0.33 UJ	*17 UJ*	0.036 J	0.0067 U	250 U	
		3–4	3	*0.33 UJ*	*0.33 UJ*	*1.6 UJ*	0.33 UJ	*0.33 UJ*	0.33 UJ	*17 UJ*	0.032 J	0.0067 U	250 U	
		4–5	1.7	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.02	0.0067 U	250 U	
RI Phase 2	FS-18	0.5–1		0.0067 U	0.0067 U	0.042		**0.044**	0.098	0.39	0.0067 U	0.0067 U		
		2–3		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
				0.0067 U	0.0067 U	0.032 U		0.0067 U	0.0067 U	0.32 U	0.0067 U	0.0067 U		
		4–5		0.0067 U	0.0067 U	0.033 U		**0.017**	0.031	0.33 U	0.0067 U	0.0067 U		
		6–7		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
	FS-19	0.5–1		**0.013**	**0.012**	**2.6**		**1.6**	1.3	**22**	0.029	0.0067 U		
		2.5–3.5		**0.0098**	**0.0084**	**2.1**		**1.4**	1.3	**13**	0.012	0.0067 U		**18.3**
		4.5–5.5		0.0067 U	0.0067 U	0.033 U		**0.024**	0.01	0.33 U	0.0067 U	0.0067 U		
		6–7		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
	FS-20	0.5–1		0.0067 U	0.0067 U	0.2		**0.095**	0.035	0.52	0.0067 U	0.0067 U		
		3–4		0.0067 U	0.0067 U	0.033 U		**0.0075**	0.15	0.33 U	0.013	0.0067 U		
				0.0067 U	0.0067 U	0.033 U		**0.011**	0.19	0.33 U	0.015	0.0067 U		
		4–5		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0077	0.0067 U		
		5.5–6.5		0.0067 U	0.0067 U	0.04		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
	FS-22	0.5–1		0.0067 U	**0.011**	**2.6**		**0.35**	0.36	**13**	0.0067 U	0.0067 U		
		3–4		0.0067 U	0.0067 U	0.033 U		0.0067	0.0067 U	0.33 U	0.0089	0.018		
		4–5		0.0067 U	0.0067 U	0.061		**0.031**	0.012	**2**	0.013	0.012		
		4.5–5		0.0067 U	0.0067 U	0.056		**0.0095**	0.0067 U	0.36	0.014	0.012		
		7–8		0.0067 U	0.0067 U	0.033 U		**0.0078**	0.0067 U	0.33 U	0.0067 U	0.0067 U		
	MW-16	0.5–1		0.0067 U	0.0067 U	0.033	0.016	**0.049**	0.039	0.33 U	0.026	0.0067 U		
		3–4		0.0067 U	0.0067 U	0.033 U	0.0067 U	0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
		5.5–6		0.0067 U	0.0067 U	0.033 U	0.0067 U	0.0067 U	0.0067 U	0.33 U	0.0091	0.0067 U		
Historical Event	SB-8	3.5											4.9 U	

Table 6.10
Results for Soil Chemicals of Concern

Chemical Group			Metals	Legacy Pesticides							Active-Use Pesticides		Total Petroleum Hydrocarbons	Dioxins/Furans
Chemical [1]			Lead	Aldrin	HCH-beta (b-BHC)	Chlordane	Chlordane-alpha	Dieldrin	4,4'-DDT / Sum DDT [3]	Toxaphene	Atrazine	Simazine	and oil-range TPH	Dioxins/Furans [4]
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ng/kg
Proposed Cleanup Standard	Direct Contact	CUL	250	0.059	--	2.9	2.9	0.063	2.9	0.91	4.3	8.3	460	13.0
		Point of Compliance [2a]	Sitewide	AOC 2, 4, 5		AOC 2, 4	Sitewide	AOC 3, 6	Sitewide	AOC 3, 4	Sitewide	Sitewide	Sitewide	Sitewide
	Leaching	CUL	--	0.0067	0.0067	1.1	--	0.0067	--	0.84	--	--	--	--
		Point of Compliance [2b]		All Others	Sitewide	All Others		All Others		All Others				
Event	Location Name	Depth Range (feet bgs)												
AOC 2														
RI Phase 1	FS-02	0.5–1	16	*0.34 UJ*	*0.34 UJ*	1.6 UJ	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.07 J	0.0067 UJ	81 JM	
		2.5–3.5	12	*0.34 UJ*	*0.34 UJ*	**6.6 J**	0.67 J	**2.7 J**	0.34 J	**12 J**	0.012 J	0.02 UJ	250 U	
		4–5	2.2	*0.13 UJ*	*0.13 UJ*	0.64 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.6 UJ*	0.0067 UJ	0.0067 UJ	250 U	
	FS-09	0.5–1	50	*1.3 UJ*	*1.3 UJ*	**7.6 J**	1.3 UJ	**1.7 J**	1.2 J	*68 UJ*	0.046 J	0.072 J	**550 JM**	
		3–4	24	*0.33 UJ*	*0.33 UJ*	**14 J**	1.4 J	**1.8 J**	2.9 J	**68 J**	0.088 J	0.014 J	250 U	
		4–5	3.7	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0078	0.0067 U	250 U	
	FS-10	0.5–1	41	*0.33 UJ*	*0.33 UJ*	1.6 UJ	0.33 UJ	**0.35 J**	0.33 UJ	*17 UJ*	0.034 J	0.022 J	400	
		2–3	5.5	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 U	0.0067 U	250 U	
		9–10	4	*0.34 UJ*	*0.34 UJ*	1.6 UJ	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.0067 U	0.0067 U	**3,300**	
	FS-11	0.5–1	35	*1.3 UJ*	*1.3 UJ*	*6.6 UJ*	1.3 UJ	*1.3 UJ*	1.3 UJ	*68 UJ*	0.024 J	0.0067 U	120 JM	
		3–4	18	*0.34 UJ*	*0.34 UJ*	1.6 UJ	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.018 J	0.0067 U	250 U	
			21	*0.34 UJ*	*0.34 UJ*	1.6 UJ	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.0067 U	0.0067 U	250 U	
		11.5–12.5	1.7										250 U	
		15–16	1.6										250 U	
		19–20	5.9										250 U	
RI Phase 2	FS-25	0.5–1		**0.0087**	0.0067 U	0.43		**0.22**	0.24	**2.5**	0.13	0.13		
		1.5–2		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0093	0.054		
		4.5–5.5		0.0067 U	0.0067 U	0.067		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
		6–7		0.0067 U	0.0067 U	0.033 U		**0.008**	0.0067 U	0.33 U	0.0067 U	0.0067 U		
	FS-26	0.05–1		0.0067 U	0.0067 U	0.032 U	0.0067 U	0.0067 U	0.012	0.32 U	0.011	0.0067 U		
		2.5–3.5		0.0067 U	0.0067 U	0.033 U	0.0067 U	0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
				0.0067 U	0.0067 U	0.033 U	0.0067 U	0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
		5–6		0.0067 U	0.0067 U	0.04	0.013	**0.048**	0.24	0.45	0.031	0.0067 U		
	FS-27	0.5–1		0.0093	**0.008**	2.1		**1.1**	0.19	**11**	0.0082	0.0068	**500 JM**	
		3–4		**0.029**	**0.052**	**13**		**6.2**	0.86	**70**	0.012	0.012	110 JM	
		4–5		0.0067 U	0.0067 U	0.2		**0.2**	0.022	**1.4**	0.0067 U	0.0067 U	250 U	
		7.5–8											**1,000**	
		9.5–10											250 U	
	FS-28	0.5–1		**0.022**	0.0067 U	0.37		**0.23**	0.053	**1.1**	1.6	0.29	**870 JM**	
		3–4		0.0067 U	**0.0068**	**11**		**0.21**	0.019	**52**	**710**	**110**	**800 JM**	
		5–5.5		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.46	0.11	**530 JM**	
		7–8											250 U	
	FS-42	3–4		0.0067 U	**0.017**		0.048	**0.11**	0.022		0.17	0.2		
Historical Event	MW-5	2											23	
		5	1.7										4.8 U	
		10											**970**	
RI Phase 1	MW-11	0–0.5	59	*0.34 UJ*	*0.34 UJ*	1.6 UJ	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.04 J	0.36 J	91 JM	
		1.5–2	41	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.014 J	4.1 J	250 U	
		7.5–8	1.6	*0.34 UJ*	*0.34 UJ*	1.6 UJ	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.0067 UJ	0.0067 UJ	**740**	
		9–10											250 U	

Table 6.10
Results for Soil Chemicals of Concern

Chemical Group			Metals	Legacy Pesticides							Active-Use Pesticides		Total Petroleum Hydrocarbons	Dioxins/Furans
Chemical [1]			Lead	Aldrin	HCH-beta (b-BHC)	Chlordane	Chlordane-alpha	Dieldrin	4,4'-DDT / Sum DDT [3]	Toxaphene	Atrazine	Simazine	and oil-range TPH	Dioxins/Furans [4]
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ng/kg
Proposed Cleanup Standard	Direct Contact	CUL	250	0.059	--	2.9	2.9	0.063	2.9	0.91	4.3	8.3	460	13.0
		Point of Compliance [2a]	Sitewide	AOC 2, 4, 5		AOC 2, 4	Sitewide	AOC 3, 6	Sitewide	AOC 3, 4	Sitewide	Sitewide	Sitewide	Sitewide
	Leaching	CUL	--	0.0067	0.0067	1.1	--	0.0067	--	0.84	--	--	--	--
		Point of Compliance [2b]		All Others	Sitewide	All Others		All Others		All Others				
Event	Location Name	Depth Range (feet bgs)												
AOC 2 (cont.)														
RI Phase 2	MW-17	0.5–1		0.0067 U	0.0067 U	0.033 U	0.0067 U	**0.013**	0.096	0.33 U	0.0067 U	0.0067 U		
		3.5–4		0.0067 U	0.0067 U	0.19	0.046	**0.065**	0.3	**1.1**	0.0085	0.0067 U		
		5–5.5		0.0067 U	0.0067 U	0.032 U	0.0067 U	**0.011**	0.11	0.32 U	0.0067 U	0.0067 U		
Historical Event	SB-13	2											5 U	
		5											4.9 U	
		10											5 U	
AOC 3														
RI Phase 2	FS-32	0.5–1		0.0067 U	**0.012**	**1.4**		**1.6**	0.51	**11**	0.027	0.019		**23.1 J**
		2–3		0.0067 U	0.0067 U	0.033 U		0.022	0.029	0.33 U	0.0067 U	0.0067 U		
				0.0067 U	0.0067 U	0.032 U		0.018	0.059	0.32 U	0.0067 U	0.0067 U		
		4–5		0.0067 U	0.0067 U	0.097		**0.098**	0.026	0.63	0.0078	0.0067 U		
	FS-33	0.5–1		0.0067 U	0.0067 U	0.44		**0.31**	0.41	**2.5**	0.12	0.23		**53.4**
		2–3		0.0067 U	0.0067 U	0.15		0.023	**20**	*1.3 U*	0.0067 U	0.0081		1.05 J
		4–5		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.029	0.33 U	0.0067 U	0.0067 U		
	FS-43	1–2												**30.6**
	FS-44	0.5–1												**92.4**
RI Phase 1	MW-13	0–0.5	30	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	**0.16 J**	0.13 UJ	*6.8 UJ*	0.013 J	0.031 J	250 U	
		1–2	32	*0.13 UJ*	*0.13 UJ*	0.5 J	0.067 UJ	**0.28 J**	0.51 J	*6.8 UJ*	0.03 J	0.033 J	250 U	
		3.5–4.5	1.7	*0.13 UJ*	*0.13 UJ*	0.64 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.6 UJ*	0.0067 UJ	0.0067 UJ	250 U	
AOC 4														
RI Phase 1	FS-12	0.5–1	76	*0.33 UJ*	*0.33 UJ*	**4.7 J**	1.1 J	**1.5 J**	0.41 J	**15 J**	0.024 J	0.015 J	**1,200 JM**	
		3–4	12	*0.13 UJ*	*0.13 UJ*	**4.6 J**	0.74 J	**1.2 J**	0.48 J	**14 J**	0.024 J	0.016 J	280	
		4–5		*0.065 UJ*	*0.065 UJ*	0.32 UJ	0.065 UJ	*0.065 UJ*	0.065 UJ	*3.3 UJ*	0.0067 U	0.0067 U		
	FS-15	0.5–1	20	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	**0.16 J**	0.13 UJ	*6.8 UJ*	0.0067 U	0.0067 U	250 U	
		3–4	8.7	*0.067 UJ*	*0.067 UJ*	0.33 UJ	0.067 UJ	**0.31 J**	0.067 UJ	*3.4 UJ*	0.0067 U	0.0093	250 U	
			12	*0.067 UJ*	*0.067 UJ*	0.33 UJ	0.067 UJ	*0.067 UJ*	0.067 UJ	*3.4 UJ*	0.0067 U	0.0067 U	250 U	
		4–5	7.9	*0.067 UJ*	*0.067 UJ*	0.33 UJ	0.067 UJ	*0.067 UJ*	0.067 UJ	*3.4 UJ*	0.0067 U	0.0067 U	250 U	
RI Phase 2	FS-29	0.5–1		0.007	**0.012**	**6.3**		**1.2**	0.2	**53**	0.048	0.013		
		1–2		0.0067 U	0.0067 U	0.057		**0.031**	0.022	0.67	0.0067 U	0.0067 U		
		4–4.5		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
	FS-30	0.5–1		0.0067 U	0.0067 U	0.089		**0.4**	0.1	0.57	0.0067 U	0.0067 U		
		2–3		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
		3–4		0.0067 U	0.0067 U	0.033 U		**0.009**	0.0067 U	0.33 U	0.0067 U	0.0067 U		
	FS-31	0.5–1		0.0067 U	0.0067 U	0.39		**0.21**	0.066	**1.8**	0.0067 U	0.012		
		2–3		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
				0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
		3–5											**1,100 JM**	
		4–5		0.0067 U	0.0067 U	0.033 U		**0.0099**	0.013	0.33 U	0.0067 U	0.0067 U		
		8–9											**7,000 JM**	
		9–10											250 UJ	

Table 6.10
Results for Soil Chemicals of Concern

		Chemical Group	Metals	Legacy Pesticides							Active-Use Pesticides		Total Petroleum Hydrocarbons	Dioxins/Furans
		Chemical [1]	Lead	Aldrin	HCH-beta (b-BHC)	Chlordane	Chlordane-alpha	Dieldrin	4,4'-DDT / Sum DDT [3]	Toxaphene	Atrazine	Simazine	and oil-range TPH	Dioxins/Furans [4]
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ng/kg
Proposed Cleanup Standard	Direct Contact	CUL	250	0.059	--	2.9	2.9	0.063	2.9	0.91	4.3	8.3	460	13.0
		Point of Compliance [2a]	Sitewide	AOC 2, 4, 5		AOC 2, 4	Sitewide	AOC 3, 6	Sitewide	AOC 3, 4	Sitewide	Sitewide	Sitewide	Sitewide
	Leaching	CUL	--	0.0067	0.0067	1.1	--	0.0067	--	0.84	--	--	--	--
		Point of Compliance [2b]		All Others	Sitewide	All Others		All Others		All Others				
Event	Location Name	Depth Range (feet bgs)												
AOC 4 (cont.)														
RI Phase 1	MW-12	0–0.5	110	*0.34 UJ*	*0.34 UJ*	1.6 UJ	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.0067 UJ	0.0067 UJ	**500 JM**	
		1.5–2	**990**	*0.34 UJ*	*0.34 UJ*	1.6 UJ	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.0067 UJ	0.0067 UJ	**21,000 JM**	
		5–6	4.1	*0.34 UJ*	*0.34 UJ*	1.6 UJ	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.0067 UJ	0.0067 UJ	**13,000 JM**	
		7–8											250 UJ	
Historical Event	Test Pit #1	3											**1,800**	
		5											**7,400**	
AOC 5														
RI Phase 1	FS-13	0.5–1	80	*0.13 UJ*	*0.13 UJ*	0.82 J	0.21 J	**0.23 J**	0.54 J	*6.6 UJ*	0.053 J	0.022 J	250 U	
		3–4	5.7	*0.067 UJ*	*0.067 UJ*	0.33 UJ	0.067 UJ	*0.067 UJ*	0.067 UJ	*3.4 UJ*	0.0067 U	0.0067 U	230	
		4–5											250 U	
		6–7	2.6	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 U	0.0067 U	**4,700**	
		13–14	3.2										250 U	
	FS-14	0.5–1	22	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 U	0.0067 U	250 U	
		4–5	1.7	*0.13 UJ*	*0.13 UJ*	0.64 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.6 UJ*	0.0067 U	0.0067 U	250 U	
		5–6	4.9	*0.067 UJ*	*0.067 UJ*	0.33 UJ	0.067 UJ	*0.067 UJ*	0.067 UJ	*3.4 UJ*	0.0067 U	0.014	250 U	
	FS-16	0.5–1	47	*0.065 UJ*	*0.065 UJ*	0.99 J	0.18 J	**0.44 J**	0.68 J	*3.3 UJ*	0.014 J	0.01 J	**530 JM**	
		3–4	58	*0.13 UJ*	*0.13 UJ*	0.97 J	0.16 J	**0.55 J**	1.1 J	*6.7 UJ*	0.017 J	0.014 J	400 JM	
		5–6	3	*1.3 UJ*	*1.3 UJ*	*6.6 UJ*	*1.3 UJ*	*1.3 UJ*	1.3 UJ	*68 UJ*	0.12 J	0.025 J	250 U	
		9–10	2.2										63 JM	
RI Phase 2	FS-23	0.5–1		**0.023**	0.0067 U	0.33 U		**0.067**	0.17	**17**	0.012	0.0067 U	**4,900**	
		4–5		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.45	0.0067 U	0.0067 U	**2,100**	
		5–6		0.0067 U	0.0067 U	0.032 U		**0.99**	0.0067 U	0.32 U	0.0067 U	0.0067 U	460	
		6–7											**4,600**	
		8–9											250 U	
	FS-24	0.5–1		0.0067 U	0.0067 U	0.033 U		**0.0092**	0.0083	0.33 U	0.0067 U	0.0067 U		
		2–3		0.0067 U	0.0067 U	0.046		**0.014**	0.014	0.37	0.0067 U	0.0067 U		
		4–5		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
Historical Event	MW-1	2	31										13	
		5	78										4.9 U	
	SB-10	3	3.8										**1,700**	
	SB-11	0.5	250										120	
		1											140	
AOC 6														
RI Phase 1	FS-03	0.5–1	18	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	**0.35 J**	0.13 UJ	*6.8 UJ*	0.009 J	0.0067 U	250 U	
		2.5–3.5	34	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 U	0.0067 U	250 U	
		5.5–6.5	3.2	*0.067 UJ*	*0.067 UJ*	0.33 UJ	0.067 UJ	*0.067 UJ*	0.067 UJ	*3.4 UJ*	0.0067 U	0.0067 U	250 U	
RI Phase 2	FS-17	0.5–1		0.0067 U	0.0067 U	0.22		**0.12**	0.11	**1.3**	0.025	0.03		
		2.5–3.5		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
		4–5		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		

Table 6.10
Results for Soil Chemicals of Concern

		Chemical Group	Metals	Legacy Pesticides							Active-Use Pesticides		Total Petroleum Hydrocarbons	Dioxins/Furans
		Chemical [1]	Lead	Aldrin	HCH-beta (b-BHC)	Chlordane	Chlordane-alpha	Dieldrin	4,4'-DDT / Sum DDT [3]	Toxaphene	Atrazine	Simazine	and oil-range TPH	Dioxins/Furans [4]
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ng/kg
Proposed Cleanup Standard	Direct Contact	CUL	250	0.059	--	2.9	2.9	0.063	2.9	0.91	4.3	8.3	460	13.0
		Point of Compliance [2a]	Sitewide	AOC 2, 4, 5		AOC 2, 4	Sitewide	AOC 3, 6	Sitewide	AOC 3, 4	Sitewide	Sitewide	Sitewide	Sitewide
	Leaching	CUL	--	0.0067	0.0067	1.1	--	0.0067	--	0.84	--	--	--	--
		Point of Compliance [2b]		All Others	Sitewide	All Others		All Others		All Others				
Event	Location Name	Depth Range (feet bgs)												
None														
RI Phase 1	FS-01	0.5–1	110	*0.34 UJ*	*0.34 UJ*	*1.6 UJ*	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.025 J	0.048 J	**1,300 JM**	
		2–3	78	*0.34 UJ*	*0.34 UJ*	*1.6 UJ*	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.0067 UJ	0.0067 UJ	250 U	
		7–8	1.8	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 UJ	0.0067 UJ	250 U	
	FS-04	0.5–1	4.2	*0.066 UJ*	*0.066 UJ*	0.32 UJ	0.066 UJ	*0.066 UJ*	0.066 UJ	*3.3 UJ*	0.0067 U	0.0067 U	250 U	
		3–4	21	*0.067 UJ*	*0.067 UJ*	0.33 UJ	0.067 UJ	*0.067 UJ*	0.067 UJ	*3.4 UJ*	0.011	0.0067 U	250 U	
		7–8	5	*0.067 UJ*	*0.067 UJ*	0.33 UJ	0.067 UJ	*0.067 UJ*	0.067 UJ	*3.4 UJ*	0.0067 U	0.0067 U	250 U	
	FS-08	0.5–1	**350**	*0.34 UJ*	*0.34 UJ*	*1.6 UJ*	0.34 UJ	*0.34 UJ*	0.77 J	*17 UJ*	0.054 J	0.0067 U	**710 JM**	
		3–4	7.2	*0.13 UJ*	*0.13 UJ*	0.64 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.6 UJ*	0.0067 U	0.0067 U	250 U	
		4–5	2.7	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 U	0.0067 U	250 U	
RI Phase 2	FS-21	0.5–1		0.0067 U	0.0067 U	0.033 U		**0.011**	0.021	0.33 U	0.0067 U	0.0067 U		
		2–3		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
		4.5–5		0.0067 U	0.0067 U	0.033 U		0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
	FS-34	0.5–1		0.0067 U	0.0067 U	0.033 U	0.0067 U	0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		0.141 J
		2–3		0.0067 U	0.0067 U	0.033 U	0.0067 U	0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
		3–4		0.0067 U	0.0067 U	0.033 U	0.0067 U	0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
	FS-35	0.5–1		0.0067 U	0.0067 U	0.38		**0.18**	0.094	**2.1**	0.0079	0.0071		3.38 J
				0.0067 U	0.0067 U	0.28		**0.12**	0.069	**2**	0.0067 U	0.0067 U		
		2–3		0.0067 U	0.0067 U	0.032 U		0.0067 U	0.0067 U	0.32 U	0.0067 U	0.0067 U		
	FS-45	0.5–1												8.28
Historical Event	MW-7	2	9.3										5 U	
		5											4.9 U	
		10											4.8 U	
	MW-8	2											18	
		5	32										16	
		10											5 U	
RI Phase 1	MW-9	0.5–1	16	*0.13 UJ*	*0.13 UJ*	0.64 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.6 UJ*	0.0067 UJ	0.0067 UJ	250 U	
		4–5	42	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.014 J	0.0081 J	250 U	
		7–8	4.9	*0.34 UJ*	*0.34 UJ*	*1.6 UJ*	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.0067 UJ	0.0067 UJ	250 U	
		7–8	6.6	*0.34 UJ*	*0.34 UJ*	*1.6 UJ*	0.34 UJ	*0.34 UJ*	0.34 UJ	*17 UJ*	0.0067 UJ	0.0067 UJ	250 U	
	MW-10	0–0.5	23	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 UJ	0.0067 UJ	250 U	
		1.5–2.5	12	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 UJ	0.0067 UJ	250 U	
		4–5	2.9	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 UJ	0.0067 UJ	250 U	
	MW-14	0–0.5	30	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 UJ	0.013 UJ	250 U	
		2–3	2.6	*0.13 UJ*	*0.13 UJ*	0.64 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.6 UJ*	0.0067 UJ	0.0067 UJ	250 U	
		4–5	1.7	*0.13 UJ*	*0.13 UJ*	0.66 UJ	0.13 UJ	*0.13 UJ*	0.13 UJ	*6.8 UJ*	0.0067 UJ	0.0067 UJ	250 U	
RI Phase 2	MW-15	0.5–1		0.0067 U	0.0067 U	0.033 U	0.015	**0.0078**	0.012	0.33 U	0.0067 U	0.0067 U		
		3–4		0.0067 U	0.0067 U	0.033 U	0.0067 U	0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		
		5–5.5		0.0067 U	0.0067 U	0.033 U	0.0067 U	0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		

Table 6.10
Results for Soil Chemicals of Concern

		Chemical Group		Metals	Legacy Pesticides							Active-Use Pesticides		Total Petroleum Hydrocarbons	Dioxins/Furans
		Chemical [1]		Lead	Aldrin	HCH-beta (b-BHC)	Chlordane	Chlordane-alpha	Dieldrin	4,4'-DDT / Sum DDT [3]	Toxaphene	Atrazine	Simazine	and oil-range TPH	Dioxins/Furans [4]
		Unit		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ng/kg
Proposed Cleanup Standard	Direct Contact	CUL		250	0.059	--	2.9	2.9	0.063	2.9	0.91	4.3	8.3	460	13.0
		Point of Compliance [2a]		Sitewide	AOC 2, 4, 5		AOC 2, 4	Sitewide	AOC 3, 6	Sitewide	AOC 3, 4	Sitewide	Sitewide	Sitewide	Sitewide
	Leaching	CUL		--	0.0067	0.0067	1.1	--	0.0067	--	0.84	--	--	--	--
		Point of Compliance [2b]			All Others	Sitewide	All Others		All Others		All Others				
Event	Location Name	Depth Range (feet bgs)													
None (cont.)															
Historical Event	SB-1	7												5 U	
		11												4.9 U	
	SB-2	7		3.5										4.9 U	
		11												4.9 U	
	SB-3	3												5.4	
		7												5 U	
		15												5 U	
	SB-4	3												190	
		7												5 U	
		11												5 U	
	SB-5	3												26	
		7												5 U	
		11												4.9 U	
	SB-6	3												4.9 U	
		7												35	
		11												8.4	
		15												5 U	
	SB-7	3												64	
		7												5 U	
	SB-9	3												220	
	SB-12	5												5 U	
		10												5 U	
RI Phase 2	Surface-1	0.5–1		34	0.0067 U	0.0067 U	0.17		**0.094**	0.098	**0.86**	0.14	0.009	250 U	

Table 6.10
Results for Soil Chemicals of Concern

		Chemical Group	Metals	Legacy Pesticides							Active-Use Pesticides		Total Petroleum Hydrocarbons	Dioxins/Furans
		Chemical [1]	Lead	Aldrin	HCH-beta (b-BHC)	Chlordane	Chlordane-alpha	Dieldrin	4,4'-DDT / Sum DDT [3]	Toxaphene	Atrazine	Simazine	and oil-range TPH	Dioxins/Furans [4]
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ng/kg
Proposed Cleanup Standard	Direct Contact	CUL	250	0.059	--	2.9	2.9	0.063	2.9	0.91	4.3	8.3	460	13.0
		Point of Compliance [2a]	Sitewide	AOC 2, 4, 5		AOC 2, 4	Sitewide	AOC 3, 6	Sitewide	AOC 3, 4	Sitewide	Sitewide	Sitewide	Sitewide
	Leaching	CUL	--	0.0067	0.0067	1.1	--	0.0067	--	0.84	--	--	--	--
		Point of Compliance [2b]		All Others	Sitewide	All Others		All Others		All Others				
Event	Location Name	Depth Range (feet bgs)												
None (cont.)														
Historical Event	Test Pit #3	4.7											50 U	
	Test Pit #4	4.7											50 U	
	Test Pit #5	5											50 U	
	Test Pit #6	5											50 U	
	Test Pit #7	4.5											50 U	
	Test Pit #11	4.7											50 U	
	Test Pit #13	4.7											50 U	
	Test Pit #14	4.7											50 U	
RI Phase 2	TP-1	3.5		0.0067 U	0.0067 U	0.032 U	0.0067 U	0.0067 U	0.016	0.32 U	0.0067 U	0.0067 U		
	TP-2	4.5–5		0.0067 U	0.0067 U	0.033 U	0.0067 U	0.0067 U	0.0067 U	0.33 U	0.0067 U	0.0067 U		

Notes:

Dioxin/furan results are rounded to three significant figures; all other results are rounded to two significant figures.

-- Not applicable; pathway is not active or proposed CUL listed in this table is protective of other pathways.

Result was not used to determine compliance with the proposed CUL. For sample duplicates, the maximum among detected result and the minimum among nondetect results was used to determine compliance.

RED/BOLD Result exceeds applicable soil proposed CUL for either the direct contact or leaching pathway. Soil proposed CULs are summarized by chemical and AOC in Table 7.1.

Italics Nondetect result exceeds groundwater proposed CUL.

1 Only chemicals identified as soil COCs in Table 6.5 or Table 6.6 are included in this table.

2 Proposed cleanup standards were developed for each chemical retained as a soil COC and are summarized in Table 6.7. A proposed cleanup standard is a CUL combined with a point of compliance where the CUL applies. If the leaching pathway is active and the proposed CUL for the leaching pathway is less (more stringent) than the proposed CUL for the direct contact pathway, both proposed CULs are listed in this table. If groundwater data empirically demonstrate that the leaching pathway is not active for a particular AOC, the proposed CUL in that AOC is equivalent to the direct contact CUL.

2a The point of compliance for the direct contact pathway is from 0 to 15 feet bgs. For TPH, whose proposed CUL is based on the TEE pathway, Ecology may approve a site-specific point of compliance equivalent to the depth of the biologically active zone (i.e., from 0 to 6 feet bgs).

2b The point of compliance for the leaching pathway is soil collected at any depth, where groundwater does not empirically demonstrate compliance with the CUL. The leaching pathway is considered potentially active in soil collected outside of a designated AOC for all soil COCs with a leaching CUL listed in this table.

3 Samples were not analyzed for the 2,4' isomer of DDT-family compounds. The result for the 4,4' isomer is compared to relevant criteria developed for total DDT.

4 The dioxin/furan result is equivalent to the total dioxin/furan TEQ summed using toxic equivalent factor values in WAC Table 708-1 and 1/2 of the reported result for nondetect results in each sample.

Abbreviations:

AOC Area of concern
BHC Benzene hexachloride
COC Chemical of concern
CUL Cleanup level
DDT Dichlorodiphenyltrichloroethane
Ecology Washington State Department of Ecology
HCH Hexachlorocyclohexane
mg/kg Milligrams per kilogram
ng/kg Nanograms per kilogram
RI Remedial Investigation
TEE Terrestrial Ecological Evaluation
TEQ Toxic equivalent

Qualifiers:

J Analyte was detected, concentration is considered to be an estimate.
JM Analyte was detected, concentration is considered to be an estimate due to poor match to chromatographic standard.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered to be an estimate.

Table 9.1
Soil and Groundwater Technology Screening

Remedial Technology	Applicable Media	COCs Addressed	General Technology Benefits	General Technology Constraints	Consideration of Site Physical Conditions and RAOs [1]	Retained	Rejected	Rationale for Retaining or Rejecting Technology
No Action	• Soil • Groundwater	• None, there is no treatment or removal of COCs associated with this technology. This is included in the technology screening for comparative purposes.	• No cost to implement. • No long-term monitoring cost. • Does not cause substantial impacts to site operations.	• Does not reduce or remove chemical concentrations. • Does not protect human health and the environment. • Does not meet cleanup goals in a reasonable restoration time frame. • Technology does not have proven success at sites with similar conditions.	• Not limited by site physical conditions. • Does not contribute to achievement of RAOs. • Does not affect site operations.		X	No action does not address any of the site COCs or achieve RAOs.
Institutional Controls	• Soil • Groundwater	• Applicable to all COCs.	• Low cost to implement. • Protective of exposure pathways through requirements for maintenance and property restrictions.	• Does not reduce or remove chemical concentrations. • Limits future site operations and ground-disturbing maintenance through restrictive covenants or administrative measures. • As a stand-alone technology, institutional controls are not protective of any soil exposure pathways present at the site.	• Not limited by site physical conditions. • Contributes to achievement of RAOs when used in combination with other technologies. • Can be implemented and maintained with minimal disturbances and ensures that future site maintenance and redevelopment are conducted properly.	✓		Institutional controls are applicable to all COCs and all media, achieve RAOs when used in combination with other technologies, and can be implemented given site conditions.
Monitored Natural Attenuation	• Soil • Groundwater	• Applicable to all COCs to varying degrees. Most effective to treat TPH, nitrate, and nitrate in groundwater.	• Low cost to implement. • Does not cause impacts to site operations.	• Long-term monitoring required until compliance conditions are obtained. • Does not control chemical migration. • Long restoration time frame to achieve CULs using natural degradation processes.	• Not limited by site physical conditions. • Contributes to achievement of RAOs when used in combination with other remedial technologies. • Natural degradation processes have not been demonstrated at the Site for legacy pesticide COCs.	✓		Monitored Natural Attenuation would be applicable to achieving RAOs for naturally degrading COCs in groundwater when used in combination with other technologies.
Engineering Controls (excluding surface capping)	• Soil	• Applicable to all COCs.	• Typically low cost to implement. • Can be protective of direct contact, erosion, and vapor intrusion pathways through physical measures, such as an indicator layer or vapor barrier.	• Chemicals remain in place and are not removed or destroyed. • Requires maintenance and institutional controls in perpetuity. • Pervious ECs, such as an indicator layer, do not protect the soil to groundwater leaching pathway.	• Not limited by site physical conditions. • Contributes to the achievement of RAOs for soil when used in combination with other technologies. • Is not effective to achieve RAOs for groundwater if a permeable engineering control is implemented.	✓		Engineering controls are applicable to all COCs and all media, achieve RAOs when used in combination with other technologies, and can be implemented given site conditions.
Surface Capping	• Soil • Groundwater (by protection of soil to groundwater pathway)	• Applicable to all COCs.	• Provides containment of contaminated soil below the ground surface with surface controls or barrier caps.	• Chemicals remain in place and are not removed or destroyed. • Cap maintenance and institutional controls required in perpetuity. • Requires either installation of a stormwater conveyance system and permitting to discharge stormwater in perpetuity or other appropriate drainage controls.	• Not limited by site physical conditions. • Contributes to achievement of RAOs.	✓		Surface capping is applicable to all COCs in soil and groundwater, achieves RAOs when used in combination with other technologies, and can be implemented given site conditions.

Table 9.1
Soil and Groundwater Technology Screening

Remedial Technology	Applicable Media	COCs Addressed	General Technology Benefits	General Technology Constraints	Consideration of Site Physical Conditions and RAOs [1]	Retained	Rejected	Rationale for Retaining or Rejecting Technology
Source Removal by Excavation and Landfill Disposal	• Soil • Groundwater (by protection of soil to groundwater pathway)	• Applicable to all COCs.	• Results in immediate removal of all COCs within the excavation area, reducing mass in a short time frame. • Removal of soil contamination in areas of impacted groundwater removes the ongoing source of contaminants to groundwater.	• Can be expensive to implement because of landfill disposal costs. • Deeper excavations, especially near critical infrastructure, may require shoring for stability. • Dewatering may be required for excavations extending below the groundwater table, which would require treatment and disposal of groundwater.	• Limited by presence of existing buildings. Deeper excavation would need to be sloped or shored. • Excavation would not be limited in open areas. • Contributes to the achievement of RAOs to the extent that source material is removed.	✓		Source removal is applicable to all COCs in soil and groundwater, is implementable given site conditions, and achieves RAOs.
Solidification and Stabilization	• Soil • Groundwater (by protection of soil to groundwater pathway)	• Applicable to all COCs.	• Reduces the mobility of soil contamination through physical or chemical immobilization. • Controls contaminant migration and leaching to groundwater. • Can reach deep soil contamination by using the auger method without requiring shoring or other soil stabilization measures.	• Chemicals remain immobilized in place but not removed. Long-term groundwater compliance monitoring is required to ensure that contaminants are not leaching from the immobilized mass. • When applied by the use of an auger, the technology can leave wedges of untreated soil in the spaces between treated soil columns. • High up-front cost to mobilize equipment and a large water source.	• Limited by the presence of existing buildings or structures. • Site contamination is typically shallow and accessible by more permanent and cost-effective remediation technologies. • May contribute to the achievement of RAOs to the extent that source material is immobilized.		X	Solidification/stabilization is a less permanent technology compared to source removal. The area to be treated is shallow (less than 8 feet below ground surface) and would not require extensive shoring methods to stabilize surrounding soil.
Enhanced Bioremediation	• Soil • Groundwater	• Applicable to remediation of TPH, nitrate, nitrite, and pesticides. • Not effective in treating lead and dioxins/furans.	• Typically low cost to implement. • Bioremediation amendment can be injected adjacent to inaccessible areas (e.g., buildings) to treat downgradient soil and groundwater. • Can be used in combination with a source control technology to treat residual groundwater contamination.	• May require several rounds of injections of microorganisms, nutrients, or oxygen. • Does not treat inorganics. • Different methods of bioremediation application are required for vadose and saturated zone soils. • Effectiveness is limited based on soil geology and nutrient composition.	• Not limited by existing structures. • High concentrations of nitrate and nitrite in soil and groundwater limit the effectiveness of bioremediation to break down less readily available COCs such as pesticides. • May contribute to the achievement of RAOs when used in combination with other technologies.		X	Enhanced bioremediation would not be as effective at treating all site COCs compared to other in situ technologies considered.

Table 9.1
Soil and Groundwater Technology Screening

Remedial Technology	Applicable Media	COCs Addressed	General Technology Benefits	General Technology Constraints	Consideration of Site Physical Conditions and RAOs [1]	Retained	Rejected	Rationale for Retaining or Rejecting Technology
Chemical Oxidation	• Soil • Groundwater	• Applicable to TPH, nitrate, nitrite, and pesticide contamination. • Not applicable to lead and dioxin/furan contamination.	• Chemical oxidation can be injected adjacent to inaccessible areas (e.g., buildings) to treat downgradient soil and groundwater. • Can be used in combination with a source control technology to treat residual groundwater contamination.	• Effectiveness limited by subsurface conditions and site heterogeneity because injected solutions can follow preferential pathways. • Requires multiple rounds of injection. • Oxidants used may require additional health and safety measures. Some oxidants are corrosive to underground utilities. • Not effective in treating vadose zone soils.	• Not limited by existing structures. • Site geology is typically heterogenic, gravelly soil, which is favorable for in situ remediation injection. • High concentrations of nitrate and nitrite in soil and groundwater limit the effectiveness of chemical oxidation to break down less readily available COCs such as pesticides. • May contribute to achievement of RAOs when used in combination with other remedial technologies.		X	The composition of COCs in groundwater, particularly the high nitrate concentrations, would limit the effectiveness of chemical oxidation to treat other COCs.
Soil Vapor Extraction	• Soil	• Applicable to the volatile fraction of TPH contamination. • Not applicable to other COCs.	• Can be implemented adjacent to or beneath existing structures and with limited disturbance to surface activities. • System can be easily turned on and off to optimize performance and cost.	• Limited to treatment of vadose zone soil and volatile contaminants. • Requires surface capping to prevent short-circuiting. • Relatively expensive to install and maintain. • Does not address groundwater contamination for site COCs.	• No current vapor intrusion risk to existing buildings. • Does not address contamination for COCs other than TPH and is not effective in treating saturated zone soils.		X	Soil vapor intrusion is not a current risk at the site that needs to be addressed. Technology has limited effectiveness for site COCs.
Thermal Treatment	• Soil • Groundwater	• Applicable to TPH, pesticide, and dioxin/furan contamination. • Not applicable to nitrate, nitrite, and lead.	• Can be implemented at greater depths than other technologies. • No long-term maintenance required. • Area of effect for treatment can extend beneath inaccessible areas to a certain extent.	• High cost associated with implementation, including site preparation and utility relocation. • Requires large loads of on-site power. • Requires substantial surface infrastructure for operation. • Treating shallow contamination requires a cap to maintain high temperatures in the soil.	• The majority of contamination on site is less than 5 feet below ground surface and would require much higher energy input or constructed cap to effectively heat and degrade COCs. • Thermal treatment would require equipment to remain on-site for the duration of the treatment time, which would likely disturb current operations.		X	Thermal treatment is not as effective as other technologies to achieve RAOs and would not be cost-effective to treat the small source area of contamination.
In Situ Groundwater Treatment	• Groundwater	• Applicable to TPH, pesticide, nitrate, and nitrite contamination. • Not applicable to dioxins/furans and lead.	• Passively treats contaminated groundwater as it passes through the treatment zone. • Can be straightforward to implement, except at significant depths. • Is relatively feasible to implement at shallow depths and does not cause significant disruption to site operations.	• A passive treatment zone must be maintained indefinitely if the source of groundwater contamination is not removed or immobilized. • Depending on the contaminant concentrations in groundwater, the passive treatment zone media may require replacement once the reaction capacity of the material is reached or, in the case of a permeable reactive barrier, the wall pores become clogged.	• Site geology is typically heterogenic, gravelly soil, which is favorable for in situ remediation injection. • May contribute to achievement of RAOs when used in combination with other remedial technologies.	✓		In situ groundwater treatment is applicable to the COCs present in groundwater, is implementable given site conditions, and achieves RAOs.

Table 9.1
Soil and Groundwater Technology Screening

Remedial Technology	Applicable Media	COCs Addressed	General Technology Benefits	General Technology Constraints	Consideration of Site Physical Conditions and RAOs [1]	Retained	Rejected	Rationale for Retaining or Rejecting Technology
Low-Permeability Barrier Wall	• Groundwater	• Applicable to all COCs.	• Intercepts and treats contaminated groundwater.	• Is relatively costly to implement. • May impact future site operations and require relocation of existing utilities. • Requires hydraulic control (pumping) inside the barrier wall to maintain an inward gradient of groundwater in perpetuity.	• Could cause future impacts to operations. • Would not achieve RAOs for contamination within the property boundary. • There is not an underlying silt layer to confine the barrier wall.		X	The site conditions limit the effectiveness of a low-permeability barrier wall to contribute toward the achievement of RAOs.
Pump and Treat	• Groundwater	• Applicable to all site COCs.	• Removes dissolved-phase chemicals and adsorbed chemicals to suspended particles from groundwater.	• Does not treat soil source contamination. • High groundwater pumping rates may be required resulting in high volumes of groundwater for treatment and disposal. • Significant cost associated with treatment and discharge of treated waste stream. • Long-term operation and maintenance required for extraction system in perpetuity.	• Does not contribute to the achievement of RAOs for the soil pathway and would not be effective as a stand-alone technology to achieve RAOs. • Pump and treat operations would cause ongoing impacts to future site use.		X	Groundwater contamination can be effectively treated with source contamination removal and source control. Adding pump and treat remediation would add marginal benefit compared to the cost and long-term operation and maintenance.
Air Sparging	• Groundwater	• Not applicable to site COCs.	• Removes volatile contaminants from groundwater including volatile organic compounds and TPH.	• Is not effective at treating heavier-range TPH contaminants. • High up-front costs to install air sparging and soil vapor extraction system. • Typically requires long-term operation and maintenance.	• TPH contamination is diesel- to oil-range constituents. • Would cause some disruption to operations. • Does not contribute to achievement of RAOs when used in combination with other remedial technologies.		X	Air sparging would not contribute to achieving RAOs.

Note:
1 RAOs refer to those discussed in Section 9.0.

Abbreviations:
COC Contaminant of concern
CUL Cleanup level
RAO Remedial Action Objective
TPH Total petroleum hydrocarbons

Table 10.1
Alternative Action Summary

Cleanup Action Area	Alternative 1	Alternative 2	Alternative 3	Alternative 4
AOC 1	**Surface Soil Excavation and Asphalt Cap** (210 CY soil; 5,060 SF asphalt)	**Excavate to Direct Contact RELs** (690 CY, 5–8 ft bgs) **Install GCL** (90 CY soil; 4,550 SF GCL)	**Excavate to Leaching RELs** (850 CY, 4–8 ft bgs) **Install GCL** (50 CY soil; 4,550 SF GCL)	**Excavate to CULs** (1,500 CY, 8 ft bgs)
AOC 2	**Surface Soil Excavation and Asphalt Cap** (170 CY soil; 4,150 SF asphalt)	**Excavate to Direct Contact RELs** (500 CY, 4 ft bgs) **Install GCL** (50 CY soil; 4,150 SF GCL)	**Excavate to Leaching RELs** (530 CY, 4–6 ft bgs) **Install GCL** (50 CY soil; 4,150 SF GCL)	**Excavate to CULs** (930 CY, 6 ft bgs)
AOC 3	**Surface Soil Excavation and Asphalt Cap** (120 CY soil; 2,920 SF asphalt)	**Excavate to Direct Contact RELs** (220 CY, 2 ft bgs)	**Excavate to Leaching RELs** (220 CY, 2 ft bgs)	**Excavate to CULs** (540 CY, 4–6 ft bgs)
AOC 4	**Surface Soil Excavation and Asphalt Cap** (190 CY soil; 4,600 SF asphalt)	**Excavate to Direct Contact RELs** (250 CY, 5 ft bgs) **Install GCL Cap** (190 CY soil; 4,600 SF GCL)	**Excavate to Leaching RELs** (860 CY, 5 ft bgs) **Gravel Cap** (4,600 SF)	**Excavate to CULs** (1,070 CY, 5–9 ft bgs)
AOC 5	**Surface Soil Excavation and Asphalt Cap** (70 CY soil; 1,620 SF asphalt)	**Excavate to Direct Contact RELs** (60 CY, 5 ft bgs) **In Situ Groundwater Treatment**	**Excavate to Leaching RELs** (60 CY, 5 ft bgs) **In Situ Groundwater Treatment**	**Excavate to CULs** (1,270 CY, 7–12 ft bgs)
AOC 6	**Excavate to CULs** (50 CY, 2 ft bgs)	**Excavate to CULs** (50 CY, 2 ft bgs)	**Excavate to CULs** (50 CY, 2 ft bgs)	**Excavate to CULs** (50 CY, 2 ft bgs)
FS-01	**Excavate to CULs** (10 CY, 1 ft bgs)	**Excavate to CULs** (10 CY, 1 ft bgs)	**Excavate to CULs** (10 CY, 1 ft bgs)	**Excavate to CULs** (10 CY, 1 ft bgs)
Outside AOCs	**Install Asphalt Cap** (990 CY soil; 29,300 SF asphalt)	**Install GCL** (500 CY soil; 9,000 SF GCL)	**Install GCL** (390 CY soil; 6,950 SF GCL)	**None**
Restoration Time Frame	*20–25 years*	*15 years*	*10 years*	*5 years*
Cost	***$2,508,000***	***$2,087,000***	***$2,107,000***	***$3,173,000***
Total Soil Excavation (CY)	1,810	2,610	3,070	5,370

Abbreviations:

AOC Area of concern
bgs Below ground surface
CUL Cleanup level
CY Cubic yard
ft Feet
GCL Geosynthetic Clay Liner
REL Remediation level
SF Square feet

Table 11.1
Disproportionate Cost Analysis Summary

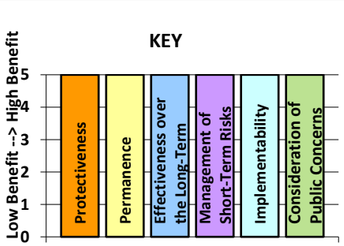
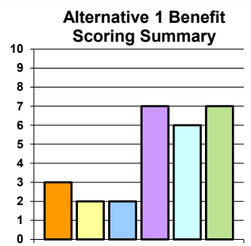
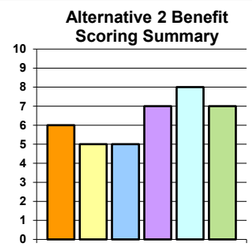
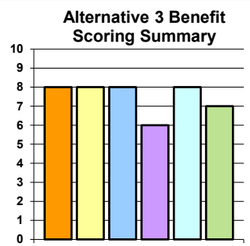
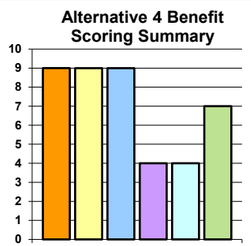
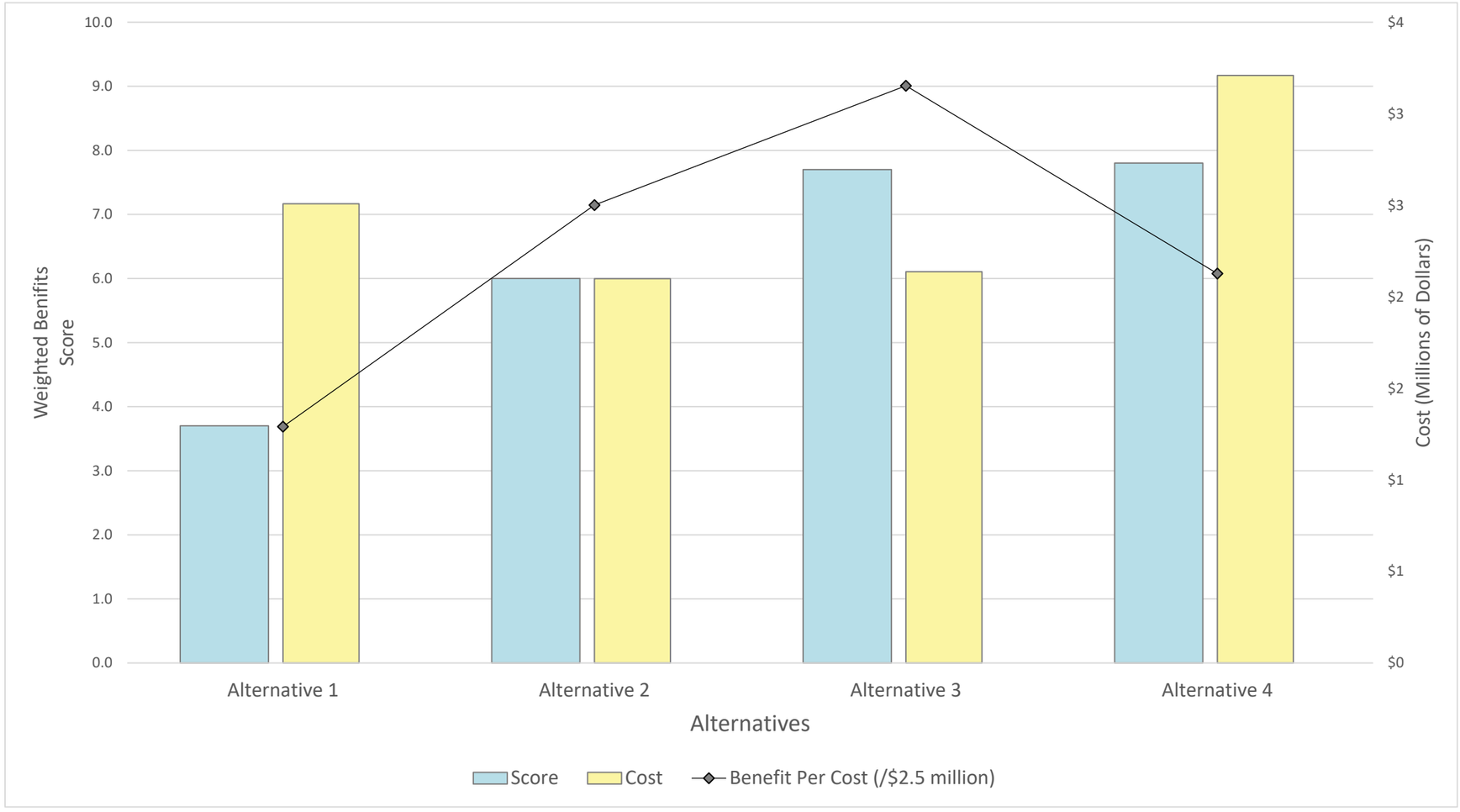
Alternative	Alternative 1 Capping Soil	Alternative 2 Soil Excavation to Meet Direct Contact RELs, Capping, and In Situ Groundwater Treatment	Alternative 3 Soil Excavation to Meet Leaching and Direct Contact RELs, Capping, and In Situ Groundwater Treatment	Alternative 4 [1] Soil Excavation to Meet CULs
Alternative Description	Alternative 1 includes: (1) shallow 1-foot surface excavation in all AOCs. (2) installation of asphalt cap with stormwater conveyance. (3) excavation to CULs in AOC 6 and around FS-01. (4) Institutional controls.	Alternative 2 includes: (1) Excavation to direct-contact RELs in AOCs 1, 2, 3, 4, and 5. (2) Installation of GCL cap over AOCs 1, 2, and 4 with drainage conveyance. (3) Excavation to CULs in AOC 6 and around FS-01. (4) Injection of in situ groundwater treatment. (5) Institutional controls.	Alternative 3 includes: (1) Excavation to leaching, residual saturation, and direct contact RELs in AOCs 1, 2, 3, 4, and 5. (2) Installation of GCL cap over AOCs 1 and 2 with drainage conveyance. (3) Excavation to CULs in AOC 6 and around FS-01. (4) Injection of in situ groundwater treatment. (5) Institutional controls.	Alternative 4 includes: (1) Excavation to CULs in all AOCs. (2) Demolition and replacement of the office and storage building to access subsurface contamination. (3) Other buildings/structures as a cap. (4) Institutional controls.
					
Complies with MTCA Threshold Requirements	Yes	Yes	Yes	Yes
Restoration Time Frame (to achieve CULs in groundwater at CPOC)	20 to 25 Years	15 Years	10 Years	5 Years
Protectiveness (30%)	3	6	8	9
Permanence (20%)	2	5	8	9
Effectiveness over the Long-Term (20%)	2	5	8	9
Management of Short-Term Risks (10%)	7	7	6	4
Technical and Administrative Implementability (10%)	6	8	8	4
Consideration of Public Concerns (10%) [2]	7	7	7	7
Total Weighted Benefit Score (Relative Benefit Ranking)	**3.7**	**6.0**	**7.7**	**7.8**
Estimated Total Alternative Cost [3]	$2.5 million	$2.1 million	$2.1 million	$3.2 million
Benefit per Unit Cost Ratio [4]	**3.69**	**7.15**	**9.01**	**6.08**
Costs Disproportionate to Incremental Benefits	YES	NO	NO	NO
Overall Alternative Ranking	**4**	**2**	**1**	**3**

Table 11.1
Disproportionate Cost Analysis Summary



Notes:

1 Alternative 4 is the most permanent alternative to the maximum extent practicable. Consistent with WAC 173-340-350(8)(c)(ii)(B)(II), Alternative 4 does not fully meet the definition of a permanent cleanup action because it is not technically feasible to address all contaminated soil beneath all active structures, although it addresses the majority of contaminated soil present.
2 Scores for Consideration of Public Concerns were assumed to be equal for all alternatives.
3 Specific cost estimate information is provided in Appendix I.
4 Benefit per Unit Cost Ratio calculated by dividing the Total Weighted Benefit Score by the Estimated Total Alternative Cost (standardized by divided by $2.5 million). Higher value indicates the most benefit per unit cost.

Abbreviations:

AOC	Area of concern	GCL	Geosynthetic clay layer
COPC	Conditional point of compliance	MTCA	Model Toxics Control Act
CUL	Cleanup level	REL	Remediation Level

Table 11.2
Disproportionate Cost Analysis Alternative Evaluation

Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Alternative Description	Alternative 1 consists of the following: • Excavation of 1 foot of soil and placement of an asphalt cap • Excavation to CULs in AOC 6 and around FS-01 • Installation of a stormwater conveyance system Excavated soil would be disposed of off-site at a Subtitle D landfill facility. Existing buildings and pavement would be protected and designated a cap to subsurface soil. Alternative 1 would support sitewide groundwater recovery through the removal of surface contamination and preventing vadose zone soil leaching to groundwater by stormwater infiltration. Groundwater monitoring would be implemented to evaluate groundwater compliance with CULs at the CPOC. The anticipated restoration time frame is 20 to 25 years. ICs would be required to address remaining contamination at risk to human and ecological health and would require implementation of an SMP that would protect all exposure pathways during future excavation or site redevelopment.	Alternative 2 consists of the following: • Excavation in AOCs 1, 2, 3, 4, and 5 based on: ○ Industrial worker direct contact RELs for pesticides ○ RELs for TPH and dioxins/furans ○ CULs for other COCs without established RELs • Excavation to CULs in AOC 6 and around FS-01 • In situ groundwater treatment using liquid-activated carbon along the downgradient edge of AOC 5 • Placement of a GCL in AOCs 1, 2, and 4 and installing appropriate drainage conveyance Excavated soil would be disposed of off-site at a Subtitle D landfill facility. Excavations would be backfilled with clean import fill and a gravel surface. Existing buildings and pavement would be protected and designated a cap to subsurface soil. Alternative 2 would support sitewide groundwater recovery through the removal of source material and blocking the leaching via stormwater infiltration pathway in AOCs 1, 2, and 4 using a GCL. Groundwater monitoring would be implemented to evaluate groundwater compliance with CULs at the CPOC. The anticipated restoration time frame is 15 years. ICs would be required to address remaining contamination at risk to human and ecological health and would require implementation of an SMP that would protect all exposure pathways during future excavation or site redevelopment.	Alternative 3 consists of the following: • Excavation in AOCs 1, 2, 3, 4, and 5 based on: ○ Empirically based leaching RELs for pesticides ○ RELs for TPH and dioxins/furans ○ CULs for other COCs without established RELs • Excavation to CULs in AOC 6 and around FS-01 • In situ groundwater treatment using liquid-activated carbon along the downgradient edge of AOC 5 • Placement of a GCL in AOCs 1 and 2 and installing appropriate drainage conveyance Excavated soil would be disposed of off-site at a Subtitle D landfill facility. Excavations would be backfilled with clean import fill and a gravel surface. Existing buildings and pavement would be protected and designated a cap to subsurface contaminated soil. Alternative 3 would support sitewide groundwater recovery through the removal of source material and blocking the leaching via stormwater infiltration pathway in AOCs 1 and 2 using a GCL. Groundwater monitoring would be implemented to evaluate groundwater compliance with CULs at the CPOC. The anticipated restoration time frame is 10 years. ICs would be required to address remaining contamination at risk to human and ecological health and would require implementation of an SMP that would protect all exposure pathways during future excavation or site redevelopment.	Alternative 4 consists of the following: • Excavation to CULs in AOCs 1, 2, 3, 4, 5, and 6 and around FS-01 • Demolition and replacement of the office and storage building to access contaminated soil beneath Excavated soil would be disposed of off-site at a Subtitle D landfill facility. Excavations would be backfilled with clean import fill and a gravel surface. Other building and pavement besides the demolished structures would be protected and designated a cap to subsurface contaminated soil. Alternative 4 would support sitewide groundwater recovery through the removal of source material. Groundwater monitoring would be implemented to evaluate groundwater compliance with CULs at the CPOC. The anticipated restoration time frame is 5 years. ICs would be required to address remaining contamination at risk to human and ecological health in limited surface soil areas beneath existing structures. ICs would require implementation of an SMP that would protect all exposure pathways during future site redevelopment.

Table 11.2
Disproportionate Cost Analysis Alternative Evaluation

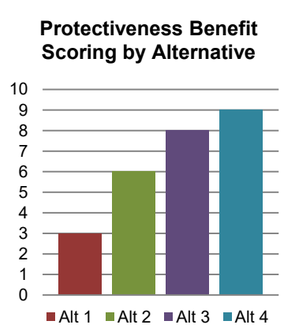
Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Overall Protectiveness • Degree to which existing risks to human health and the environment are reduced • Time required to reduce risks and attain cleanup standards • On-site and off-site risks resulting from alternative implementation • Improvement in overall environmental quality  	• Risks associated with contaminated soil in the AOCs would be permanently reduced a moderate degree by capping with asphalt and existing structures. The cap would provide a reduction in risk associated with groundwater by preventing surface water from infiltrating and leaching contaminants from vadose zone soil. • Risks associated with contaminated soil and groundwater greater than CULs remaining on-site beneath the cap would be effectively reduced by ICs, which prohibit groundwater use as drinking water, require the property to remain for industrial use only, and require contingency measures if any existing structures with subsurface contaminated soil were demolished during future redevelopment. • The time frame to reduce risks associated with soil would be immediately following remedy implementation. The time frame for achievement of groundwater CULs sitewide is anticipated to be 20 to 25 years. • On-site risks during construction would be managed by proper H&S protocols and site security. There are no other added on-site risks. The off-site risks associated with contaminated material transport and disposal are negligible and would be managed using licensed operators and permitted disposal facilities. • Alternative 1 achieves the lowest improvement in overall environmental quality because it permanently removes the least mass of contamination. This alternative has the longest anticipated restoration time frame for groundwater compared to other alternatives, which remove more contaminated soil mass.	• Risks associated with contaminated soil in the AOCs would be permanently reduced to a high degree by excavation, capping, and in situ groundwater treatment, but less than Alternatives 3 and 4, which remove more contaminated soil mass. Removing and capping contaminated soil would provide a reduction in risk associated with groundwater. • Risks associated with contaminated soil and groundwater greater than CULs remaining on-site would be effectively reduced by ICs, which prohibit groundwater use as drinking water, require the property to remain for industrial use only, and require contingency measures if any existing structures with subsurface contaminated soil were demolished during future redevelopment. • The time frame to reduce risks associated with soil would be immediately following remedy implementation. The time frame for achievement of groundwater CULs sitewide is anticipated to be 15 years. • On-site risks during construction would be managed by proper H&S protocols and site security. There are no other added on-site risks. The off-site risks associated with contaminated material transport and disposal are negligible and would be managed using licensed operators and permitted disposal facilities. • Alternative 2 achieves the third highest improvement in overall environmental quality because it permanently removes the third greatest mass of contamination. This alternative has a longer anticipated restoration time frame for groundwater compared to Alternatives 3 and 4, which remove more contaminated soil mass.	• Risks associated with contaminated soil in the AOCs would be permanently reduced to a high degree by excavation, capping, and in situ groundwater treatment, but less than Alternative 4, which removes more contaminated soil mass. Removing and capping contaminated soil would provide a reduction in risk associated with groundwater. • Risks associated with contaminated soil and groundwater greater than CULs remaining on-site would be effectively reduced by ICs, which prohibit groundwater use as drinking water, require the property to remain for industrial use only, and require contingency measures if any existing structures with subsurface contaminated soil were demolished during future redevelopment. • The time frame to reduce risks associated with soil would be immediately following remedy implementation. The time frame for achievement of groundwater CULs sitewide is anticipated to be 10 years. • On-site risks during construction would be managed by proper H&S protocols and site security. There are no other added on-site risks. The off-site risks associated with contaminated material transport and disposal are negligible and would be managed using licensed operators and permitted disposal facilities. • Alternative 3 achieves the second highest improvement in overall environmental quality because it permanently removes the second greatest mass of contamination. This alternative has a shorter anticipated restoration time frame for groundwater compared to Alternatives 1 and 2, which remove less contaminated soil mass.	• Risks associated with contaminated soil in the AOCs would be permanently reduced to a high degree by excavation. Excavation of contaminated soil would provide a reduction in risk associated with groundwater. • Risks associated with contaminated soil and groundwater greater than CULs remaining on-site would be effectively reduced by ICs, which prohibit groundwater use as drinking water, require the property to remain for industrial use only, and require contingency measures if any existing structures with subsurface contaminated soil were demolished during future redevelopment. • The time frame to reduce risks associated with soil would be immediately following remedy implementation. The time frame for achievement of groundwater CULs sitewide is anticipated to be 5 years. • On-site risks during construction would be managed by proper H&S protocols and site security. There are no other added on-site risks. The off-site risks associated with contaminated material transport and disposal are negligible and would be managed using licensed operators and permitted disposal facilities. • Alternative 4 achieves the highest improvement in overall environmental quality because it permanently removes the greatest mass of contamination. This alternative has a shorter anticipated restoration time frame for groundwater compared to other alternatives due to significant source removal.

Table 11.2
Disproportionate Cost Analysis Alternative Evaluation

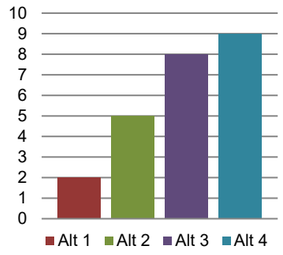
Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Permanence • Degree of reduction of contaminant toxicity, mobility, and volume • Adequacy of destruction of hazardous substances • Reduction or elimination of substance release, and source of release • Degree of irreversibility of waste treatment processes • Volume and characteristics of generated treatment residuals **Permanence Benefit Scoring by Alternative**  	• Alternative 1 provides a low reduction in contaminant volume compared to other alternatives because the majority of contamination would be capped. Capping will reduce the overall mobility of subsurface contamination. • Excavation and off-site disposal of contamination are irreversible. Capping is reversible but would be maintained with ICs. • There are no treatment residuals associated with implementation of this technology.	• Alternative 2 provides a moderate reduction in contaminant volume compared to other alternatives. Excavation to RELs (RELs based on industrial direct contact for pesticides) would remove a moderate volume of contaminated soil within the site, which would reduce contaminated groundwater concentrations over the restoration time frame. • The primary sources of contamination would be removed from the site by excavation. • Excavation and off-site disposal of contamination are irreversible. There is a small degree of reversibility for contamination adsorbed to injected activated carbon in the saturated zone if groundwater conditions change substantially. Capping is reversible but would be maintained with ICs. • There are no treatment residuals associated with implementation of this technology.	• Alternative 3 provides a moderate to high reduction in contaminant volume compared to other alternatives. Excavation to RELs (RELs based on leaching for pesticides) would remove a large volume of contaminated soil within the site, which would reduce contaminated groundwater concentrations over the restoration time frame. • The primary sources of contamination would be removed from the site by excavation. • Excavation and off-site disposal of contamination are irreversible. There is a small degree of reversibility for contamination adsorbed to injected activated carbon in the saturated zone if groundwater conditions change substantially. Capping is reversible but would be maintained with ICs. • There are no treatment residuals associated with implementation of this technology.	• Alternative 4 provides the greatest reduction in contaminant volume compared to other alternatives. Excavation to CULs would remove a significant volume of contaminated soil within the site in all accessible areas (office and storage building would be demolished to allow excavated underneath), which would reduce contaminated groundwater concentrations over the restoration time frame. • The primary sources of contamination would be removed from the site by excavation. • Excavation and off-site disposal of contamination are irreversible. Capping is reversible but would be maintained with ICs. • There are no treatment residuals associated with implementation of this technology.

Table 11.2
Disproportionate Cost Analysis Alternative Evaluation

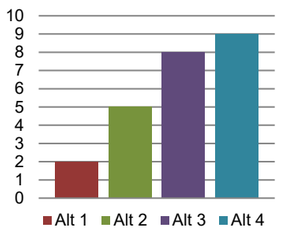
Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Effectiveness over the Long-Term • Degree of certainty of alternative success • Reliability while contaminants remain on-site greater than CULs • Magnitude of residual risk • Effectiveness of controls implemented to manage residual risk **Effectiveness over the Long-Term Benefit Scoring by Alternative**  	• Alternative 1 provides a low degree of certainty of success to meet RAOs and achieve groundwater CULs within a restoration time frame of 25 years at the CPOC. • Excavation and capping are effective and common technologies to implement and would fully remove contaminants or block exposure pathways in remediated areas. The long-term success of the cap would require maintenance and ICs in perpetuity. • Asphalt would require more frequent maintenance to keep up due to the heavy equipment traffic patterns at the site. • Degree of certainty for success to remediate groundwater at the CPOC is low because most contamination would remain on-site, but the vadose zone to groundwater leaching pathway would be blocked by the cap. • Residual risk from soil contamination remaining beneath the asphalt and existing structures would be low, and contingency measures would be established by ICs if the cap were removed during future development. • The risk from groundwater contamination remaining on-site during the restoration time frame would be monitored by routine groundwater monitoring events until compliance with CULs was achieved. • Residual risk from groundwater contamination remaining greater than CULs internal to the site would be controlled through the enforcement of ICs, which would restrict the use of groundwater as drinking water on property.	• Alternative 2 provides a moderate degree of certainty of success to meet RAOs and achieve groundwater CULs within a restoration time frame of 15 years at the CPOC. • Excavation and capping are effective and common technologies to implement and would fully remove contaminants or block exposure pathways in remediated areas. The long-term success of the cap would require maintenance and ICs in perpetuity. • A gravel surface would require less frequent maintenance intervals than asphalt to maintain a safe working condition. • Degree of certainty for success to remediate groundwater at the CPOC is moderate because a significant amount of source contamination would be removed, but not as extensively as other alternatives. In situ groundwater treatment would supplement source removal. • Residual risk from soil contamination remaining beneath the GCL and existing structures would be low, and contingency measures would be established by ICs if the cap were removed during future development. • The risk from groundwater contamination remaining on-site during the restoration time frame would be monitored by routine groundwater monitoring events until compliance with CULs was achieved. • Residual risk from groundwater contamination remaining greater than CULs internal to the site would be controlled through the enforcement of ICs, which would restrict the use of groundwater as drinking water on property.	• Alternative 3 provides a high degree of certainty of success to meet RAOs and achieve groundwater CULs within a restoration time frame of 10 years at the CPOC. • Excavation and capping are effective and common technologies to implement and would fully remove contaminants or block exposure pathways in remediated areas. The long-term success of the cap would require maintenance and ICs in perpetuity. • A gravel surface would require less frequent maintenance intervals than asphalt to maintain a safe working condition. • Degree of certainty for success to remediate groundwater at the CPOC is high because a significant amount of source contamination would be removed. In situ groundwater treatment would supplement source removal. • Residual risk from soil contamination remaining beneath the GCL and existing structures would be low, and contingency measures would be established by ICs if the cap were removed during future development. • The risk from groundwater contamination remaining on-site during the restoration time frame would be monitored by routine groundwater monitoring events until compliance with CULs was achieved. • Residual risk from groundwater contamination remaining greater than CULs internal to the site would be controlled through the enforcement of ICs, which would restrict the use of groundwater as drinking water on property.	• Alternative 4 provides the highest degree of certainty of success to meet RAOs and achieve groundwater CULs within a restoration time frame of 5 years at the CPOC. • Excavation is an effective and common technology to implement and would fully remove contaminants in remediated areas. • Degree of certainty for success to remediate groundwater at the CPOC is high because a significant amount of source contamination would be removed. • Residual risk from the minimal soil contamination remaining beneath existing structures would be low, and contingency measures would be established by ICs if the cap were removed during future development. • The risk from groundwater contamination remaining on-site during the restoration time frame would be monitored by routine groundwater monitoring events until compliance with CULs was achieved. • Residual risk from groundwater contamination remaining greater than CULs internal to the site would be controlled through the enforcement of ICs, which would restrict the use of groundwater as drinking water on property.

Table 11.2
Disproportionate Cost Analysis Alternative Evaluation

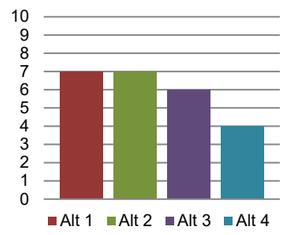
Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Short-Term Risk Management • Risk to human health and the environment associated with alternative construction • The effectiveness of controls in place to manage short-term risks **Short-Term Risk Management Benefit Scoring by Alternative**  	• Alternative 1 has the lowest short-term risk to human health and the environment during implementation due to the requirement of handling the smallest quantity of contaminated material during excavation. Handling contaminated soil is a direct contact risk to construction workers and can release odors, which is a public health risk. These risks would be managed by proper H&S procedures and site security. • This alternative would have the least amount of traffic, which is a short-term risk due to, for example, the potential for accidents. • There is some risk for public exposure with this alternative due to increased traffic associated with contaminated soil transportation from the site for disposal over public roadways; however, the excavated soil would be managed by licensed professionals at a permitted landfill. • There is a low risk associated with installing pavement and stormwater infrastructure at the site. • Site activities would require appropriate PPE, BMPs, site controls to restrict site access, and appropriate training requirements for management of risk. These controls are highly effective and anticipated to adequately manage short-term risk.	• Alternative 2 has moderate short-term risk to human health and the environment during implementation due to the requirement of handling a moderate quantity of contaminated material during excavation. Handling contaminated soil is a direct contact risk to construction workers and can release odors, which is a public health risk. These risks would be managed by proper H&S procedures and site security. • This alternative would have a moderate amount of traffic, which is a short-term risk due to, for example, the potential for accidents. • There is some risk for public exposure with this alternative due to increased traffic associated with contaminated soil transportation from the site for disposal over public roadways; however, the excavated soil would be managed by licensed professionals at a permitted landfill. • There is a low risk to site workers during handling of liquid activated carbon for injection. • Site activities would require appropriate PPE, BMPs, site controls to restrict site access, and appropriate training requirements for management of risk. These controls are highly effective and anticipated to adequately manage short-term risk.	• Alternative 3 has moderate to high short-term risk to human health and the environment during implementation due to handling the second largest quantity of contaminated material during excavation. Handling contaminated soil is a direct contact risk to construction workers and can release odors, which is a public health risk. These risks would be managed by proper H&S procedures and site security. • This alternative would have a moderate amount of traffic, which is a short-term risk due to, for example, the potential for accidents. • There is some risk for public exposure with this alternative due to increased traffic associated with contaminated soil transportation from the site for disposal over public roadways; however, the excavated soil would be managed by licensed professionals at a permitted landfill. • There is a low risk to site workers during handling of liquid activated carbon for injection. • Site activities would require appropriate PPE, BMPs, site controls to restrict site access, and appropriate training requirements for management of risk. These controls are highly effective and anticipated to adequately manage short-term risk.	• Alternative 4 has the highest short-term risk to human health and the environment during implementation due to handling the largest quantity of contaminated material during excavation and managing deeper shored excavations. Handling contaminated soil is a direct contact risk to construction workers and can release odors, which is a public health risk. These risks would be managed by proper H&S procedures and site security. • There is moderate risk to site workers handling groundwater during dewatering and treatment during excavation. • This alternative would have the most amount of traffic, which is a short-term risk due to, for example, the potential for accidents. • There is some risk for public exposure with this alternative due to increased traffic associated with contaminated soil transportation from the site for disposal over public roadways; however, the excavated soil would be managed by licensed professionals at a permitted landfill. • Site activities would require appropriate PPE, BMPs, site controls to restrict site access, and appropriate training requirements for management of risk. These controls are highly effective and anticipated to adequately manage short-term risk.

Table 11.2
Disproportionate Cost Analysis Alternative Evaluation

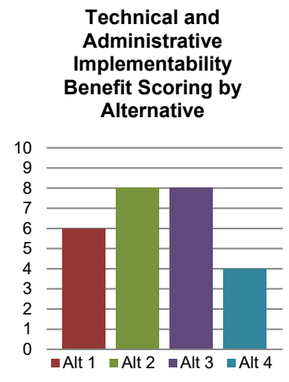
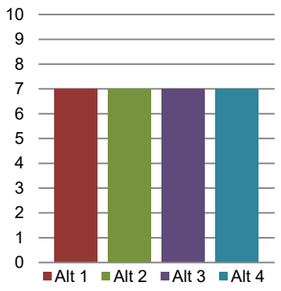
Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Technical and Administrative Implementability *Ability of alternative to be implemented considering:* • Technical possibility • Availability of off-site facilities, services, and materials • Administrative and regulatory requirements • Schedule, size, and complexity of construction • Monitoring requirements • Site access for construction, operations, and monitoring • Integration with existing site operations or other current and potential future remedial action  	• Alternative 1 is moderate in scale. Excavation and paving with asphalt are common technologies that can be safely implemented by many contractors in the region. This alternative can easily be implemented in a single construction season. • All necessary off-site facilities, materials, and services are available within the region. • Monitoring requirements include protection monitoring for workers during construction (e.g., vapor monitoring) and groundwater monitoring following implementation. • ICs and a cap monitoring program would be maintained in perpetuity, or until the contaminated soil beneath the cap was removed. • This alternative would not impede the current site use as an industrial property.	• Alternative 2 is the third largest in scale and may require slope stabilization and dewatering in deeper excavations. Excavation and GCL installation are common technologies that can be safely implemented by many contractors in the region. This alternative can easily be implemented in a single construction season. • All necessary off-site facilities, materials, and services are available within the region. • Injection of liquid activated carbon in the subsurface would require specialized contractors that are available in the region. • Monitoring requirements include protection monitoring for workers during construction (e.g., vapor monitoring) and groundwater monitoring following implementation. • ICs and a cap monitoring program would be maintained in perpetuity, or until the contaminated soil beneath the cap was removed. • This alternative would not impede the current site use as an industrial property.	• Alternative 3 is the second largest in scale and may require slope stabilization and dewatering in deeper excavations. Excavation and GCL installation are common technologies that can be safely implemented by many contractors in the region. This alternative can be implemented easily in a single construction season. • All necessary off-site facilities, materials, and services are available within the region. • Injection of liquid activated carbon in the subsurface would require specialized contractors that are available in the region. • Monitoring requirements include protection monitoring for workers during construction (e.g., vapor monitoring) and groundwater monitoring following implementation. • ICs and a cap monitoring program would be maintained in perpetuity, or until the contaminated soil beneath the cap was removed. • This alternative would not impede the current site use as an industrial property.	• Alternative 4 is large in scale and includes more technical construction elements including shoring and dewatering. Excavation is a common technology that can be safely implemented by many contractors in the region. This alternative can be implemented easily in a single construction season. • All necessary off-site facilities, materials, and services are available within the region. • Monitoring requirements include protection monitoring for workers during construction (e.g., vapor monitoring) and groundwater monitoring following implementation. • ICs would be maintained for remaining soil beneath existing structures until future site redevelopment removed the remaining soil greater than CULs. • This alternative would not impede the current site use as an industrial property.

Table 11.2
Disproportionate Cost Analysis Alternative Evaluation

Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Consideration of Public Concerns • Whether the community has concerns • Degree to which the alternative addresses those concerns **Consideration of Public Concerns Benefit Scoring by Alternative**  	Public concerns will be reviewed following the public comment period and addressed in the final remedial alternative selection and design. The public concerns score for all alternatives were considered to be equal because there were no elements that would cause considerable public scrutiny.	Public concerns will be reviewed following the public comment period and addressed in the final remedial alternative selection and design. The public concerns score for all alternatives were considered to be equal because there were no elements that would cause considerable public scrutiny.	Public concerns will be reviewed following the public comment period and addressed in the final remedial alternative selection and design. The public concerns score for all alternatives were considered to be equal because there were no elements that would cause considerable public scrutiny.	Public concerns will be reviewed following the public comment period and addressed in the final remedial alternative selection and design. The public concerns score for all alternatives were considered to be equal because there were no elements that would cause considerable public scrutiny.
Cost • Cost of construction • Long-term monitoring, operations, and maintenance costs • Agency oversight costs	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Alternative 4**
	Total cost: $2,508,000 • Includes construction, long-term monitoring, O&M, and agency oversight costs • Includes tax • Includes 20% contingency	Total cost: $2,099,000 • Includes construction, long-term monitoring, O&M, and agency oversight costs • Includes tax • Includes 20% contingency	Total cost: $2,137,000 • Includes construction, long-term monitoring, O&M, and agency oversight costs • Includes tax • Includes 20% contingency	Total cost: $3,209,000 • Includes construction, long-term monitoring, O&M, and agency oversight costs • Includes tax Includes 20% contingency

Abbreviations:

AOC	Area of concern
BMP	Best management practice
COC	Chemical of concern
CPOC	Conditional point of compliance
CUL	Cleanup level
GCL	Geosynthetic clay layer
H&S	Health and safety
IC	Institutional control
O&M	Operations and management
PPE	Personal protective equipment
RAO	Remedial Action Objective
REL	Remediation level
SMP	Soil Management Plan
TPH	Total petroleum hydrocarbons

Table 12.1
Applicable or Relevant and Appropriate Requirements for the Preferred Cleanup Action Alternative

Standard, Requirement, or Limitation [1]	Description
Location-Specific ARARs [2]	
City of Ellensburg Critical Areas Regulations (EMC Chapter 15.620 [Wetlands] and EMC Chapter 15.650 [Fish and Wildlife Habitat Conservation Areas])	These chapters establish regulations pertaining to development within or adjacent to designated critical areas. The subject property is located approximately 125 feet west of Wilson Creek, 220 feet east of Mercer Creek, and 125 feet north of a freshwater forested/shrub wetland. The City of Ellensburg regulates all development activities within 300 feet of stream and wetland resources.
Native American Graves Protection and Repatriation Act (25 USC 3001 through 3013; 43 CFR 10) Washington's Indian Graves and Records Law (RCW 27.44)	These statutes prohibit the destruction or removal of Native American cultural items and require written notification of inadvertent discovery to the appropriate agencies and Native American tribe. These programs are applicable to the remedial action if cultural items are found. The activities must cease in the area of the discovery; a reasonable effort must be made to protect the items discovered; and notice must be provided.
Archaeological Resources Protection Act (16 USC 470aa et seq.; 43 CFR 7)	This program sets forth requirements that are triggered when archaeological resources are discovered. These requirements only apply if archaeological items are discovered during implementation of the selected remedy.
National Historic Preservation Act (16 USC 470 et seq.; 36 CFR parts 60, 63, and 800)	This program sets forth a national policy of historic preservation and provides a process that must be followed to ensure that impacts of actions on archaeological, historic, and other cultural resources are protected.
Action-Specific ARARs [3]	
State Environmental Policy Act (RCW 43.21C, WAC 197-11)	Establishes the state's policy for protection and preservation of the natural environment. Applies to cleanup actions conducted under MTCA; Ecology will be the lead agency for this effort.
Resource Conservation and Recovery Act (42 USC 6921-6949a; 40 CFR Part 268, Subtitles C and D)	Establishes requirements for the identification, handling, and disposal of hazardous and non-hazardous waste.
Dangerous Waste Regulations (RCW 70.105; WAC 173-303)	Establishes regulations that are the state equivalent of RCRA requirements for determining whether a solid waste is a state dangerous waste. This regulation also provides requirements for the management of dangerous wastes.
Solid Waste Disposal Act (42 USC Sec. 6901-6992; 40 CFR 257-258) Federal Land Disposal Requirements (40 CFR 268)	Protects health and the environment and promotes conservation of valuable material and energy resources. The Solid Waste Disposal Act establishes a framework for regulation of solid waste disposal. Federal land disposal requirements promulgated under the authority of the Solid Waste Disposal Act set minimum safety requirements for landfills including limitations on storage and land disposal for hazardous substances.
Department of Transportation Hazardous Materials Regulations (49 CFR 172)	Regulates the safe and secure transportation of hazardous materials, including documentation and handling requirements for shipping.
Washington Minimum Functional Standards for Solid Waste Handling (WAC 173-304)	Sets minimum functional standards for the proper handling of all solid waste materials originating from residences, commercial, agricultural, and industrial operations, as well as other sources.
Washington Solid Waste Handling Standards (RCW 70.95 and WAC 173-350)	Establishes minimum standards for handling and disposal of solid waste. Solid waste includes wastes that are likely to be generated as a result of site remediation, including contaminated soils, construction and demolition wastes, and garbage.
Washington Water Pollution Control Law (RCW 90.48; WAC 173-216, WAC 173-220) National Pollution Discharge Elimination System (CWA Part 402)	Washington has been delegated authority to issue NPDES permits. CWA Section 301, 302, and 303 require states to adopt water quality standards and implement a NPDES permitting process. The Washington Water Pollution Control Law and regulations address this requirement.
City of Ellensburg Noise Ordinance (EMC Chapter 5.60)	Project construction shall comply with the noise limitations set forth in City of Ellensburg's noise ordinance.
Noise Control Act of 1974 (RCW 70.107, WAC 173-60)	Establishes maximum noise levels on a state level; the local noise ordinance regulations prevail given that they are more restrictive than the regulations set forth for the state.
Washington State Underground Injection Control Program (WAC 173-218)	Washington is authorized under CWA Sections 144 through 147 to administer a statewide Underground Injection Control program to protect groundwater by regulating the discharge of fluid from injection wells including temporary injection points.
City of Ellensburg Site Development Permit (EMC 15.250.020)	City of Ellensburg Site Development Permits authorize the following activities: paving, grading, clearing, filling, tree removal, on-site utility installation, stormwater facility installation […]. All excavation, paving, and utility and stormwater facility installation work will require substantive compliance with the Site Development Permit requirements and any supporting technical memorandums (e.g., City of Ellensburg Storm Standards for design and installation of stormwater facilities).
Federal, State, and Local Air Quality Protection Programs State Implementation of Ambient Air Quality Standards NWAPA Ambient and Emission Standards Regional Standards for Fugitive Dust Emissions Toxic Air Pollutants	Regulations promulgated under the federal Clean Air Act (42 USC 7401) and the Washington State Clean Air Act (RCW 70.94) govern the release of airborne contaminants from point and non-point sources. State and local air pollution control authorities such as the Ecology Central Regional Office and City of Ellensburg have also set forth regulations for implementing these air quality requirements. These requirements may be applicable to the Site for the purposes of demolition or dust control.

Table 12.1
Applicable or Relevant and Appropriate Requirements for the Preferred Cleanup Action Alternative

Standard, Requirement, or Limitation [1]	Description
Chemical-Specific ARARs [4]	
Model Toxics Control Act (WAC 173-340)	Establishes Washington administrative processes and standards to identify, investigate, and clean up facilities where hazardous substances are located.
Drinking Water Standards—State MCLs (WAC 246-290-310)	Establishes standards for contaminant levels in drinking water for water system purveyors.
Water Quality Standards for Groundwaters of the State of Washington (WAC 173-200)	Implements the Water Pollution Control Act and the Water Resources Act of 1971 (90.54 RCW).

Notes:

1 Projects conducted under an Agreed Order are exempt from the procedural requirements of most state and local permits (RCW 70.105D.090); however, the remedial actions must still comply with the substantive requirements of the exempt permits.
2 Location-specific ARARs are requirements that are applicable to the specific area where the Site is located, and can restrict the performance of activities, including cleanup actions, solely because they occur in specific locations.
3 Action-specific ARARs are requirements that are applicable to certain types of activities that occur or technologies that are used during the implementation of cleanup actions.
4 Chemical-specific ARARs are applicable to the types of contaminants present at the Site. The cleanup of contaminated media at the Site must meet the CULs developed under MTCA; these CULs are considered chemical-specific ARARs.

Abbreviations:

ARAR Applicable or relevant and appropriate requirement
CFR Code of Federal Regulations
CUL Cleanup level
CWA Clean Water Act
Ecology Washington State Department of Ecology
MCL Maximum Contaminant Level
MTCA Model Toxics Control Act
NPDES National Pollutant Discharge Elimination System
NWAPA Northwest Air Pollution Authority
RCRA Resource Conservation and Recovery Act
RCW Revised Code of Washington
EMC Ellensburg Municipal Code
USC U.S. Code
WAC Washington Administrative Code

Smith-Kem Site

Remedial Investigation/Feasibility Study

Figures

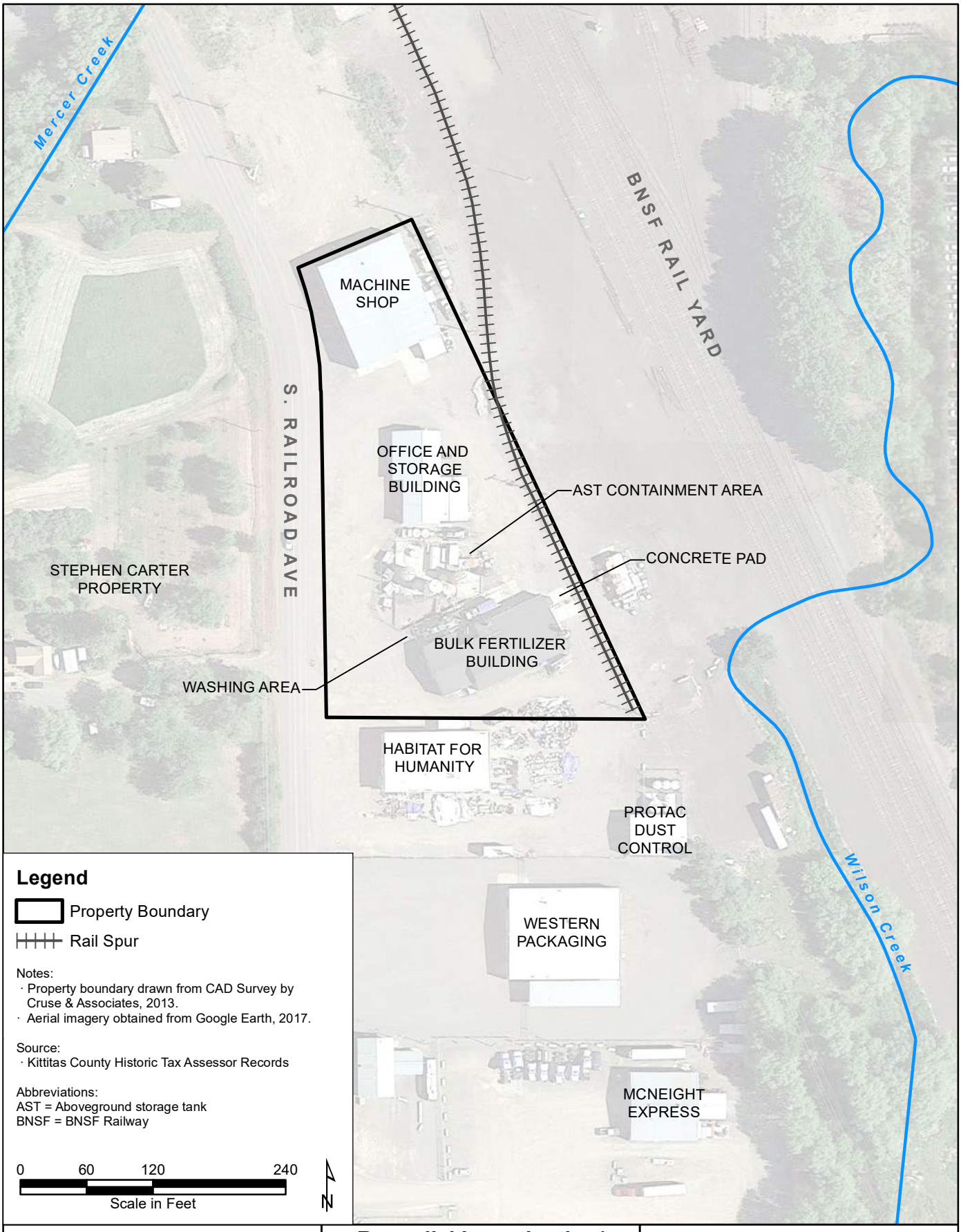
Notes:
· Property boundary drawn from CAD Survey by Cruse & Associates, 2013.
· Aerial imagery obtained from ESRI, 2016.

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 1.1
Site Vicinity Map

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 1.1 Site Vicinity Map.mxd
2/19/2021



FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 1.2
Current Site Plan and Key Features

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 1.2 Current Site Plan and Key Features.mxd
4/28/2021

Parcel ID: 948033
Address: Unknown
Owner: Ad Gro, LLC
Operator: Vacant

Parcel ID: 628033
Address: Unknown
Owner: Ad Gro, LLC
Operator: Vacant

BNSF RAIL YARD

Parcel ID: 216833
Owner: BNSF Railway

Parcel ID: 256833
Address: 207 S. Railroad Ave
Owner: Stephen Carter

S. RAILROAD AVE

City Road (Ellensburg)

Parcel ID: 226833
Address: 200 S. Railroad Ave
Owner: Ad Gro, LLC
Operator: McGregor

Parcel ID: 246833
Address: 212 S. Railroad Ave
Owner: Ryan Wales
Operator: Habitat for Humanity

Operator:
Protac Dust
Control LLC

Parcel ID: 378133
Address: 220 S. Railroad Ave
Owner: Western Packaging, Inc.

Legend

- Subject Tax Parcel
- Surrounding Tax Parcel of Interest
- Rail Spur

Notes:
· Parcel boundaries and owner/operator information obtained from Kittitas County Information Services.
· Aerial imagery obtained from Google Earth, 2017.

0 40 80 160
Scale in Feet

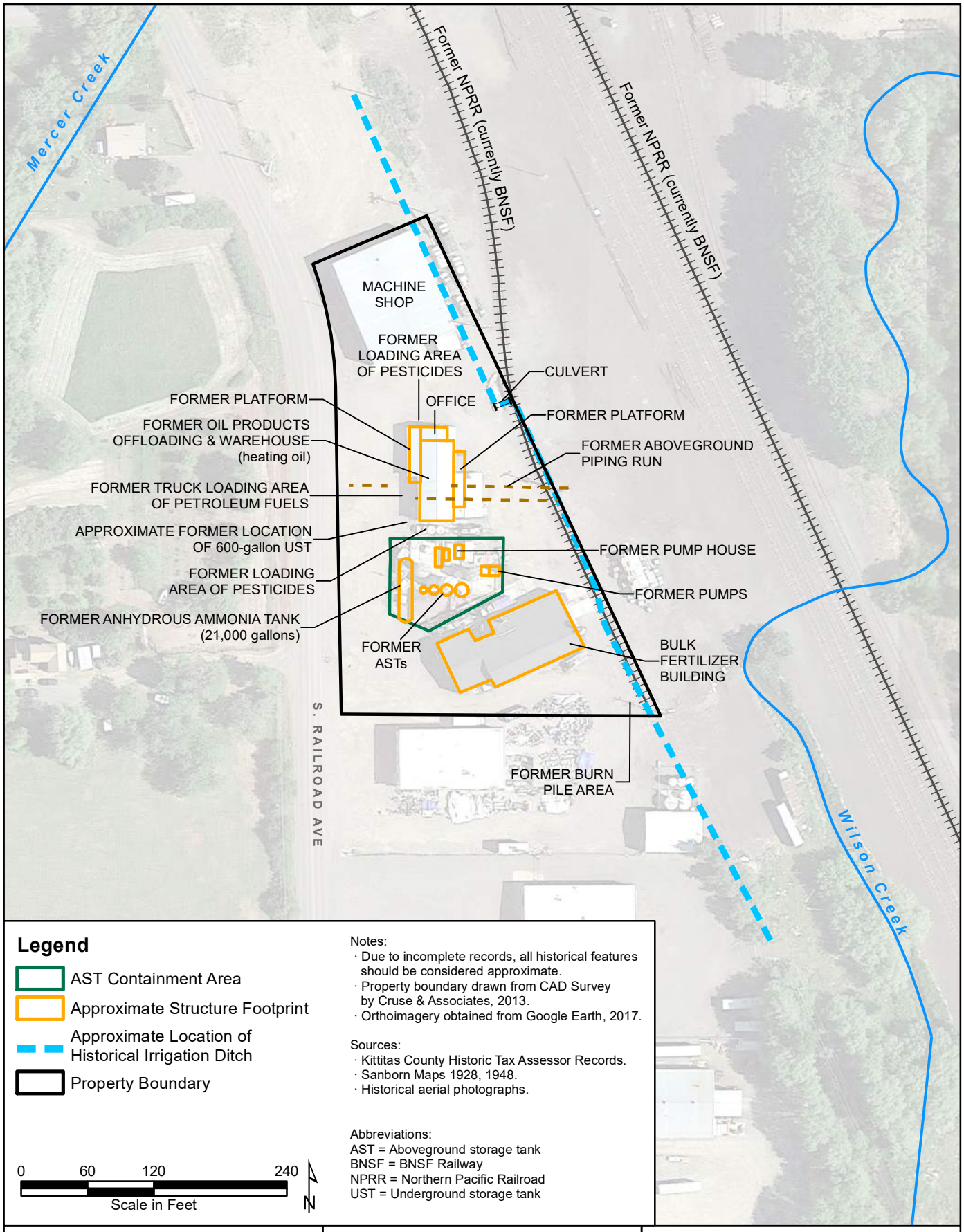
N

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 2.1
Subject and Surrounding Property Owner-Operator Information

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 2.1 Subject and Surrounding Property Owner-Operator Information.mxd
3/12/2021



FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 2.2
Historical Site Features

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 2.2 Historical Site Features.mxd
4/28/2021

Legend

Remedial Investigation Sample Locations

- Air Sample
- Monitoring Well
- Temporary Monitoring Well
- Soil Boring
- Soil Boring with Temporary Monitoring Well
- Surface Sample
- Test Pit

Other Features

- Property Boundary
- Area of Potential Concern[1]
- Approximate Groundwater Flow Direction
- Approximate Location of Historical Irrigation Ditch
- Rail Spur
- Culvert

Number	Area of Potential Concern
1	Culvert Soil Source Area
2	TPH in MW-5/SB-6 Soil
3	Office Building Area
4	AST Area
5a	Potential Former Wash Area #1
5b	Potential Former Wash Area #2
6	Machine Shop Area
7	Former Irrigation Ditch and Culverts
8	Historical Burn Area

Notes:
1. Areas of Potential Concern as defined in the 2016 Remedial Investigation Work Plan and 2017 Remedial Investigation Work Plan Addendum (Floyd|Snider 2016, 2017).
· Refer to Figure 2.4 for A-A' cross-section.
· Aerial imagery obtained from Google Earth, 2017.

S. RAILROAD AVE

HABITAT FOR HUMANITY

A

A'

MW-9 MW-15 MW-16 MW-17 MW-10 MW-8 MW-7 MW-1 MW-5 MW-6 MW-2 MW-11 MW-12 MW-18 MW-14 MW-19 MW-20 MW-3 MW-4 MW-13

FS-01 FS-02 FS-03 FS-04 FS-05 FS-06 FS-07 FS-08 FS-09 FS-10 FS-11 FS-12 FS-13 FS-14 FS-15 FS-16 FS-17 FS-18 FS-19 FS-20 FS-21 FS-22 FS-23 FS-24 FS-25 FS-26 FS-27 FS-28 FS-29 FS-30 FS-31 FS-32 FS-33 FS-34 FS-35 FS-42 FS-43 FS-44 FS-45

TP-1 TP-2

AA-041619 CS-041619 IA-041619

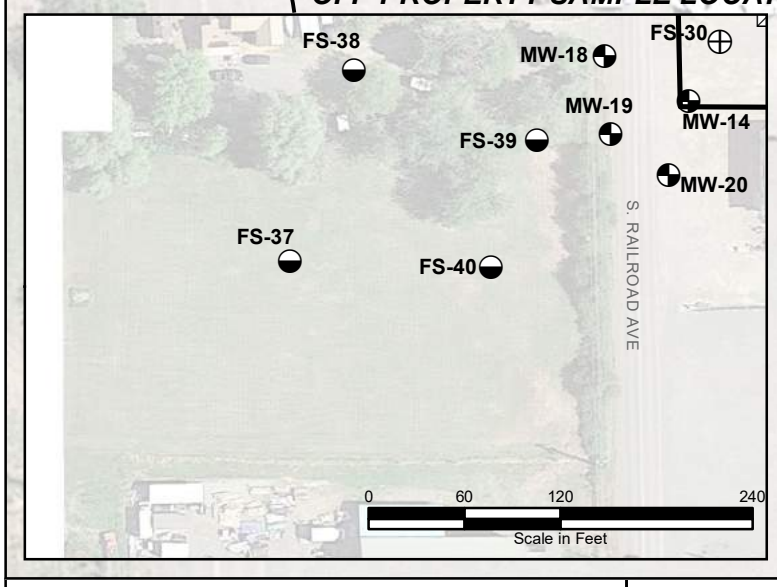
Culvert

Surface-1

0 25 50 100
Scale in Feet

N

OFF-PROPERTY SAMPLE LOCATIONS

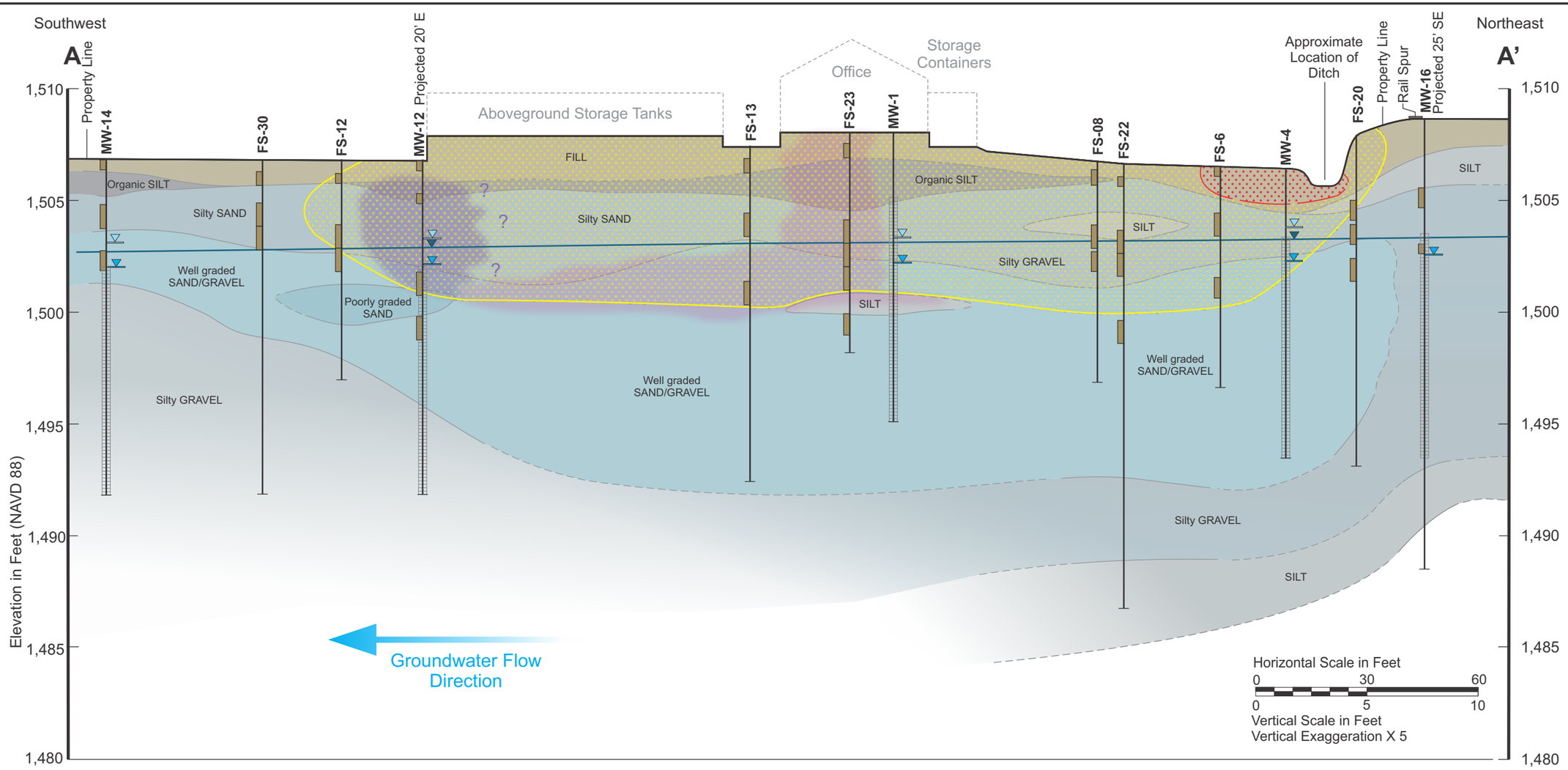


FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study Smith-Kem Site Ellensburg, Washington

Figure 2.3
Remedial Investigation Soil and Groundwater Sample Locations and Cross-Section A-A' Line

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 2.3 RI Soil and GW Sample Locs and Cross Section.mxd
4/28/2021



Results of one or more pesticide/ herbicide greater than industrial criteria

Results of one or more pesticide/ herbicide greater than residential criteria

Oil-range TPH exceedance of MTCA Method A criteria

Diesel-range TPH exceedance of MTCA Method A criteria

Boring/Well Location

Soil Sample Interval

Screened Interval

Highest observed groundwater table

Lowest observed groundwater table

Average groundwater table

Notes:

1. Refer to Figure 2.3 for the aerial transect.
2. Locations that are farther than 15 feet from the transect line are noted with distance in feet and orientation away from the line.
3. Average groundwater table elevation calculated using transducer data collected from MW-12, MW-6, and MW-4 between November 2016 and November 2017.
4. Dashed lithology contacts are inferred.

Abbreviations:

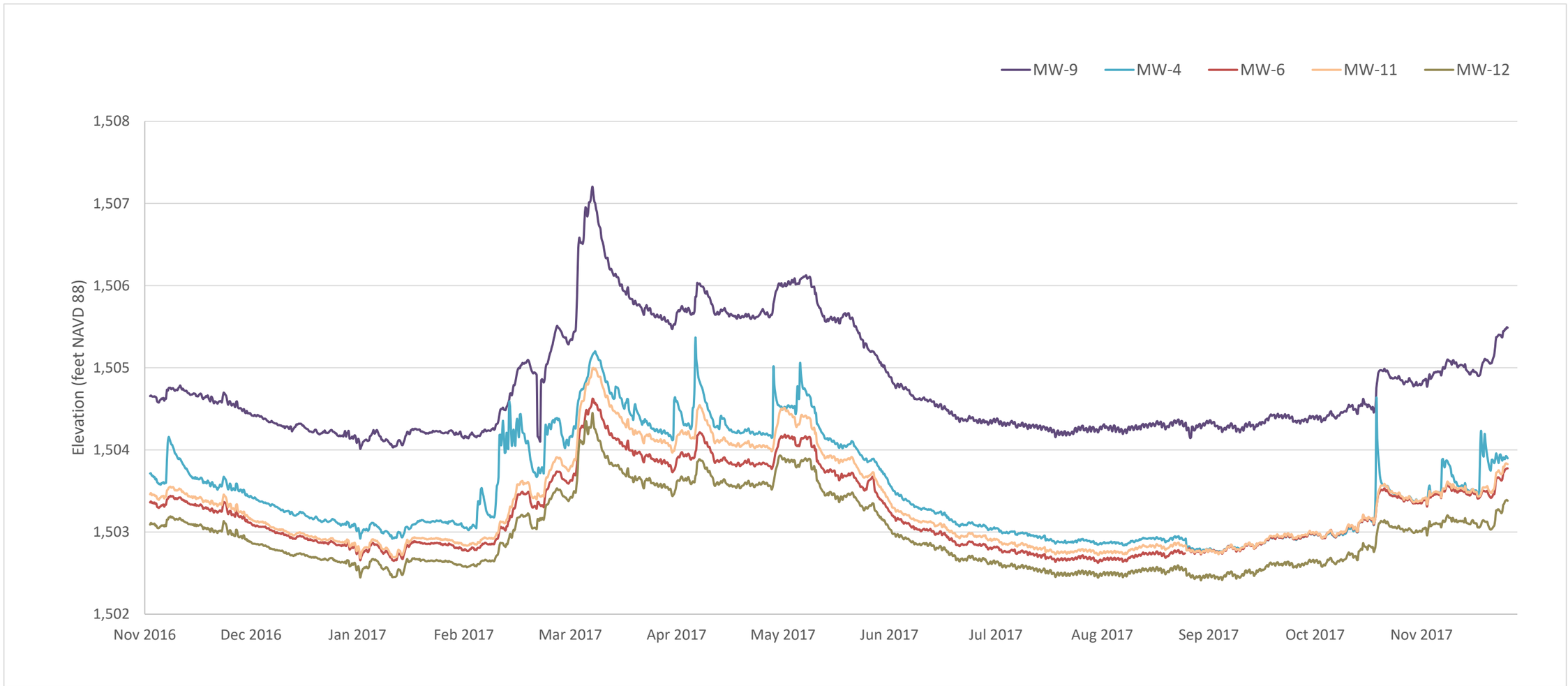
MTCA: Model Toxics Control Act
NAVD 88: North American Vertical Datum of 1988
TPH: Total petroleum hydrocarbons

FLOYD | SNIDER
strategy ▪ science ▪ engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 2.4
Cross-Section A-A'

G:Project\Clients\Floyd Snider\Smith-Kem Site\Section A-A'.cdr\11-29-2018

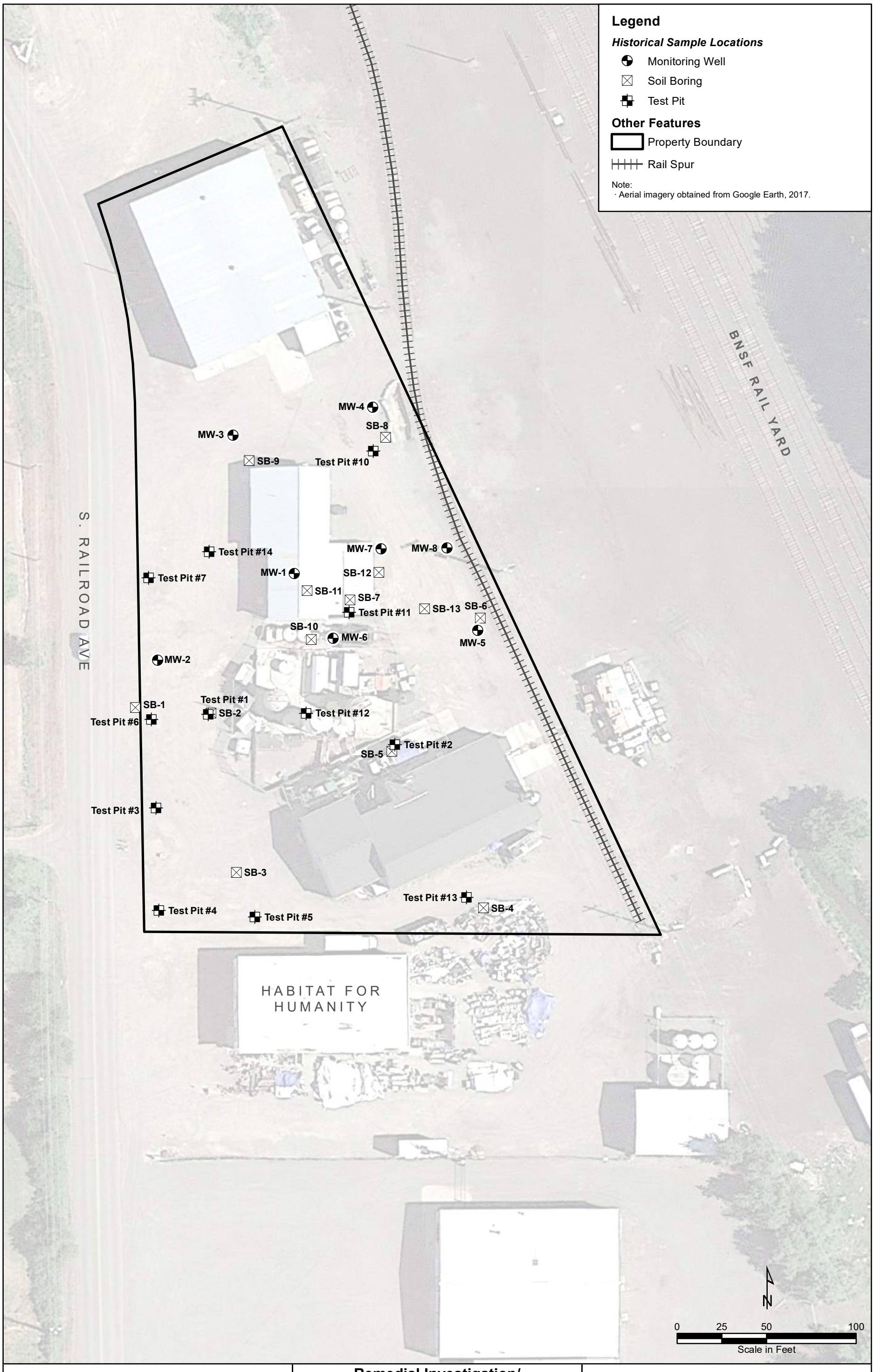


FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 2.5
November 2016 to November 2017
Transducer Measurements

2/24/2021

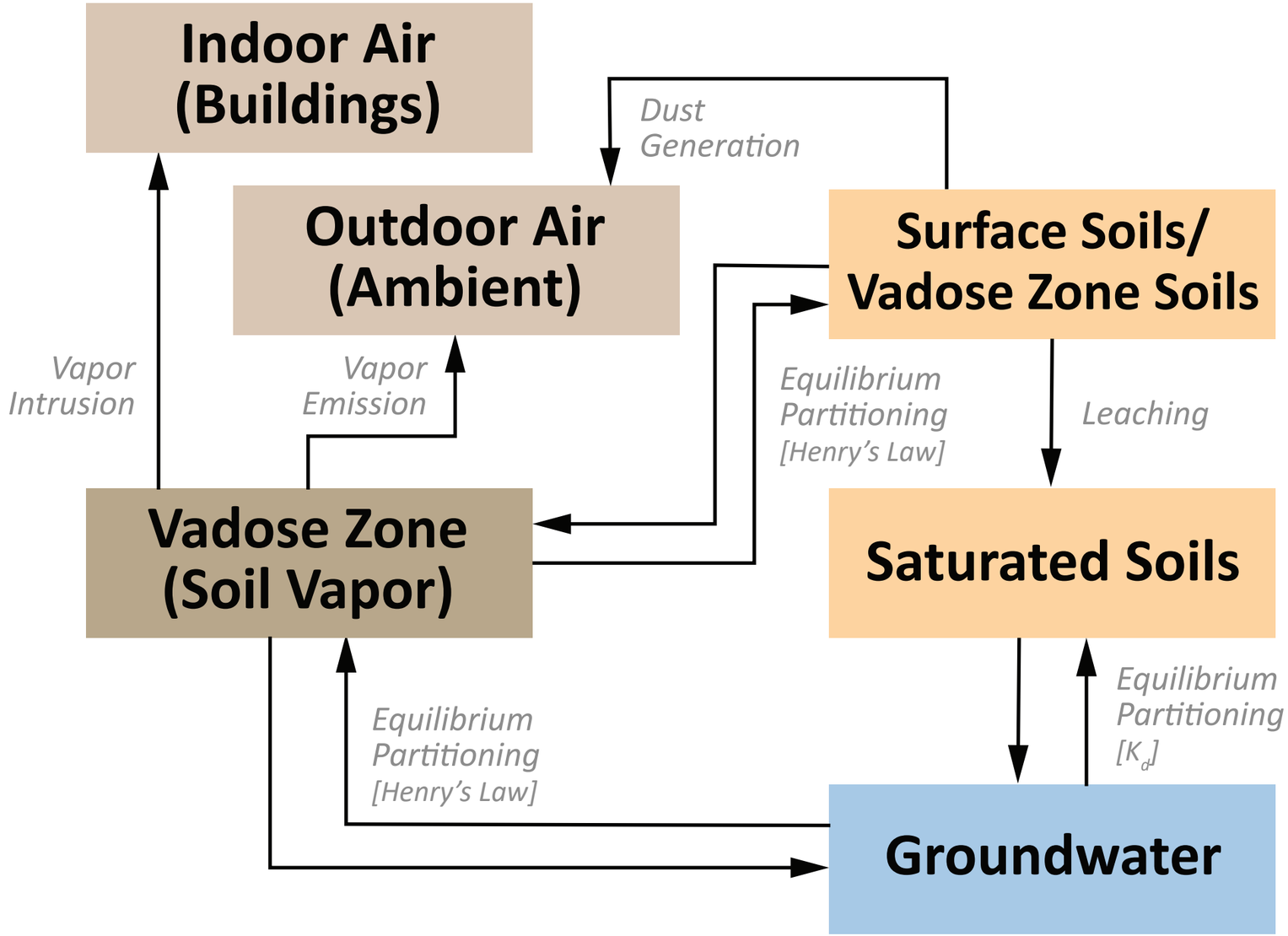


FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 3.1
Historical Soil and Groundwater Sample Locations

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 3.1 Historical Soil and GW Sample Locs.mxd
5/18/2021



Note:

- For more information, refer to the preliminary CSM discussion in Section 5.1.

Abbreviations:

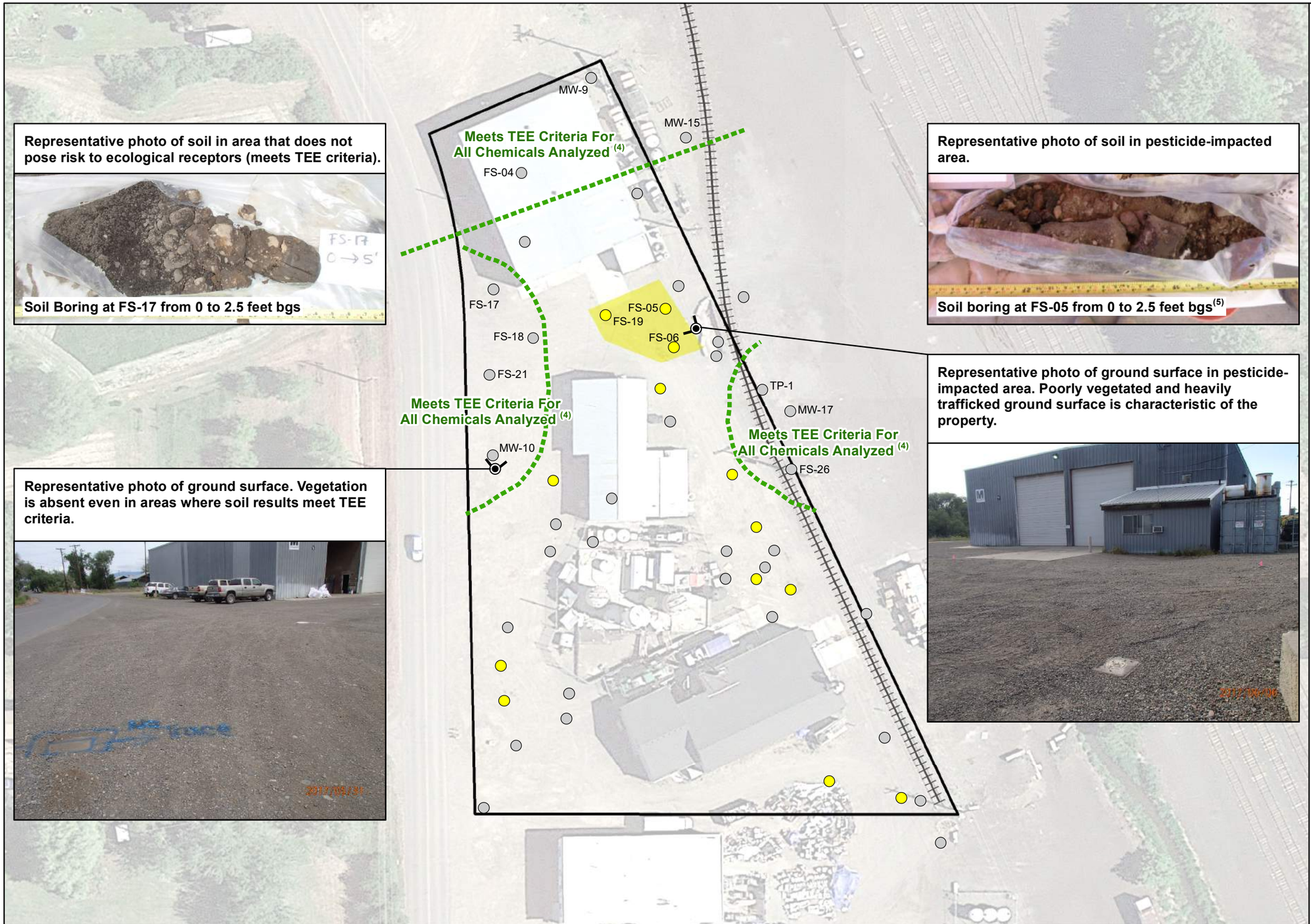
CSM = Conceptual site model
K_d = Solid/liquid partition coefficient

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 5.1
Potentially Active Transport Pathways Identified in the Preliminary Conceptual Site Model

I:\GIS\Projects\FP-SmithKem\AI\Figure 5.1 Flowchart Complete Pathways\Figure 5.1 Potentially Active Transport Pathways Identified in the PCSM.ai
05/17/2021



Representative photo of soil in area that does not pose risk to ecological receptors (meets TEE criteria).

Soil Boring at FS-17 from 0 to 2.5 feet bgs

Representative photo of soil in pesticide-impacted area.

Soil boring at FS-05 from 0 to 2.5 feet bgs(5)

Representative photo of ground surface in pesticide-impacted area. Poorly vegetated and heavily trafficked ground surface is characteristic of the property.

Representative photo of ground surface. Vegetation is absent even in areas where soil results meet TEE criteria.

Legend

- Soil Sample Location

Other Features

- Property Boundary
- Approximate Location and Direction of Oblique Photo
- Rail Spur

Soil Compliance Information

- Area of Elevated Pesticide Concentrations(1)

Soil Results(2)

- Exceeds TEE Criteria
- Meets TEE Criteria

Soil TEE Criteria(3)

Chlordane: 1.0 mg/kg
alpha-Chlordane: 1.0 mg/kg
Total DDx: 1.0 mg/kg

Notes:
1. The area surrounding MW-4 has the greatest detected pesticide concentrations at the site.
2. Results at all depths are considered when determining compliance information for each location. Only results for pesticides whose preliminary CUL is based on the TEE are shown on this figure.
3. TEE criteria for unrestricted land use at a simple site from WAC Table 749-2.
4. Results for all chemicals with TEE criteria in WAC Table 749-2 were considered when identifying areas of the site where TEE criteria are met.
5. Floyd|Snider soil boring SB-05 was renamed to FS-05.

· Criteria are rounded to two significant figures.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
bgs = Below ground surface
CUL = Cleanup level
mg/kg = Milligrams per kilogram
TEE = Terrestrial Ecological Evaluation
Total DDx = Calculated as the sum of dichlorodiphenyldichloroethane, dichlorodiphenyldichlorethylene, and dichlorodiphenyltrichloroethane
WAC = Washington Administrative Code

N
0 30 60 120
Scale in Feet

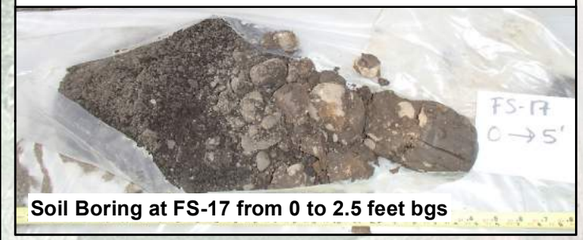
FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.1
Site Data and Observations Relevant to the Terrestrial Ecological Evaluation for Pesticides

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.1 TEE Evaluation for Pesticides.mxd
2/23/2021

Representative photo of soil in area that does not pose risk to ecological receptors (meets TEE criteria).



Soil Boring at FS-17 from 0 to 2.5 feet bgs

Representative photo of ground surface. Vegetation is absent even in areas where soil results meet TEE criteria.

Representative photo of soil in dioxin/furan-impacted area.

Soil boring at FS-44 from 0 to 1.5 feet bgs

Ground surface in dioxin/furan-impacted area. Poorly vegetated and heavily trafficked ground surface is characteristic of the property.

Legend

- Soil Sample Location

Other Features

- Property Boundary
- Approximate Location and Direction of Oblique Photo
- Rail Spur

Soil Compliance Information

- Area of Elevated Dioxin/Furan Concentrations

Soil Results[1]

- Exceeds TEE Criteria
- Meets TEE Criteria
- Not Analyzed for Dioxins/Furans[2]

Soil TEE Criteria[3]

Dioxins/Furans: 3.00 ng/kg

Notes:
1. Results at all depths are considered when determining compliance information for each location.
2. Most samples were not analyzed for dioxins/furans because dioxin/furan-generating activity was constrained to a small geographic area of the site originally identified as AOPC 8 (the "burn area"; Figure 2.3).
3. TEE criteria for unrestricted land use at a simple site from WAC Table 749-2, prior to adjustment to the greater of the PQL or natural background. The Ecology-approved PQL for the site is 10 ng/kg.
4. Results for all chemicals with TEE criteria in WAC Table 749-2 were considered when identifying areas of the site where TEE criteria are met.

· Criteria are rounded to three significant figures.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOPC = Area of Potential Concern
Ecology = Washington State Department of Ecology
ng/kg = Nanograms per kilogram
PQL = Practical quatitation limit
TEE = Terrestrial Ecological Evaluation
WAC = Washington Administrative Code

N

0 30 60 120

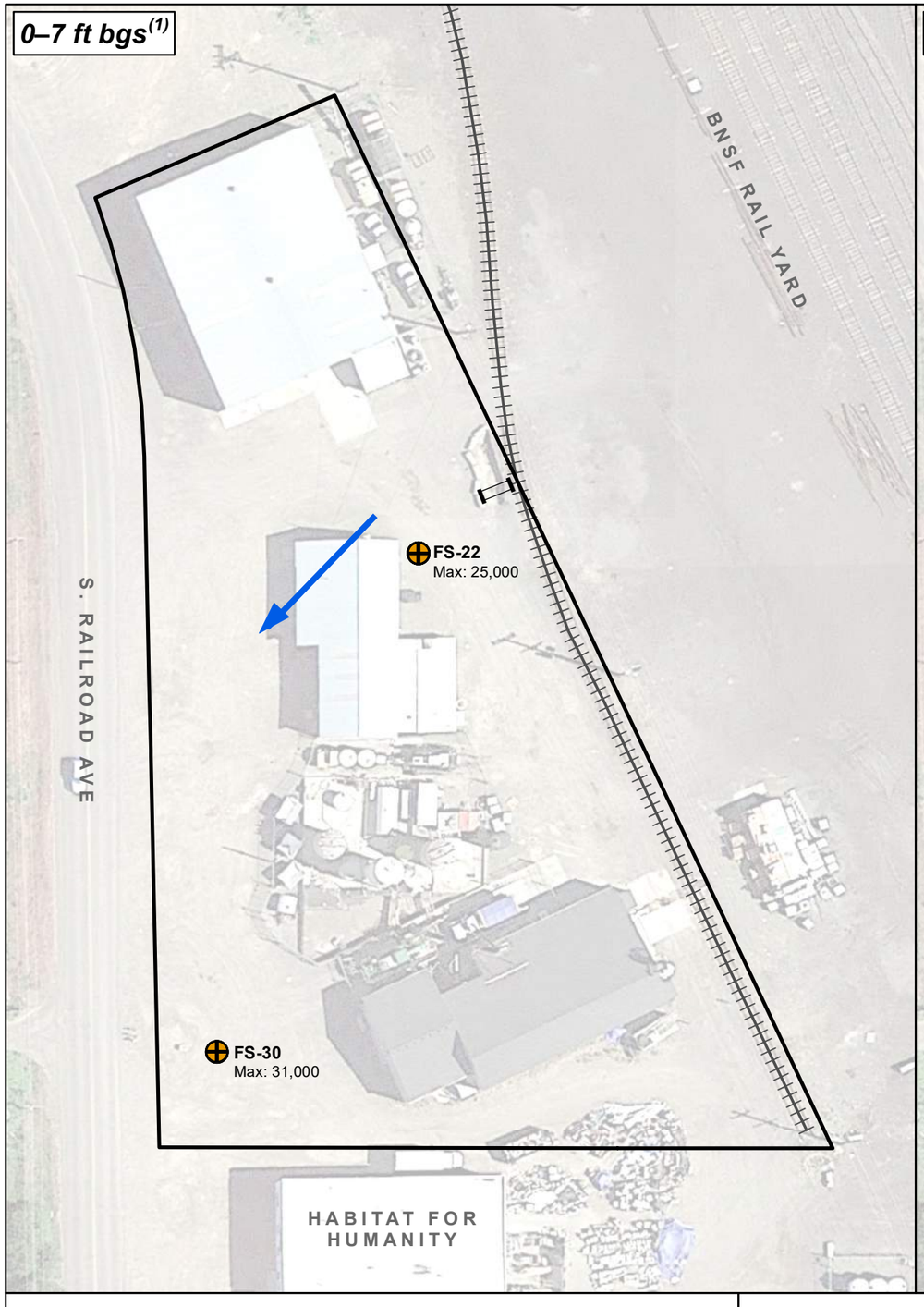
Scale in Feet

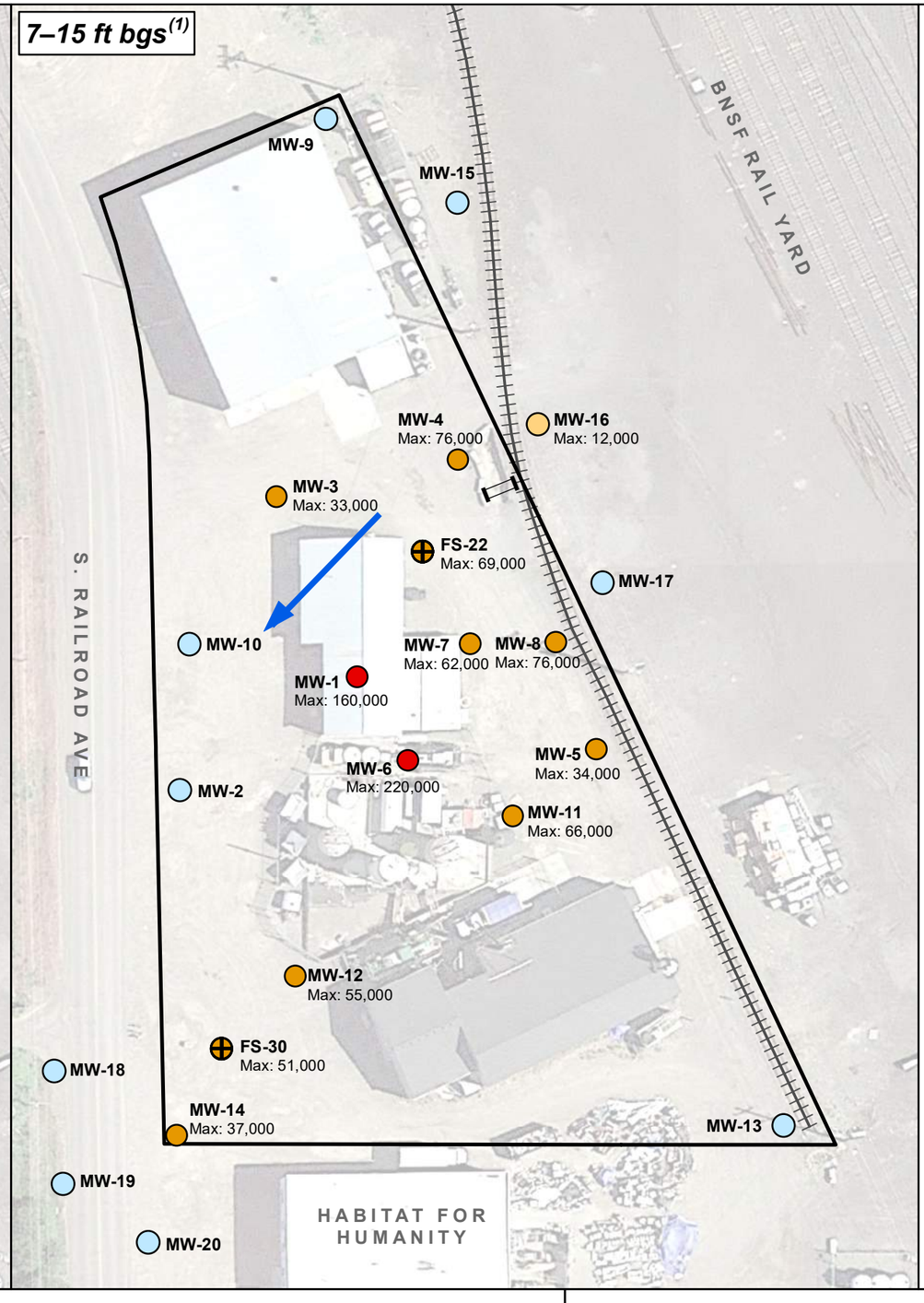
FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.2
Site Data and Observations Relevant to the Terrestrial Ecological Evaluation for Dioxins/Furans

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.2 TEE Evaluation for Dioxins.mxd
2/23/2021





Legend

Groundwater Sample Location

- Permanent Monitoring Well
- Temporary Monitoring Well

Other Features

- Property Boundary
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information(2)

- >10 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Meets Proposed CUL

Groundwater Proposed CUL(3)

Nitrate: 10,000 µg/L

Notes:

1. The midpoint of the well screen is used to categorize the depth of well results.
2. The color of each location is determined using the compliance result (i.e., the result with the maximum exceedance factor, considering recent data). Table 6.9 provides more information and presents all data.
3. Proposed groundwater CULs are numerically equivalent to the preliminary CULs developed in Table 5.1.

· Results are reported to two significant figures. Result qualifiers are omitted.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup Level
ft bgs = Feet below ground surface
µg/L = Micrograms per liter

N

0 30 60 120

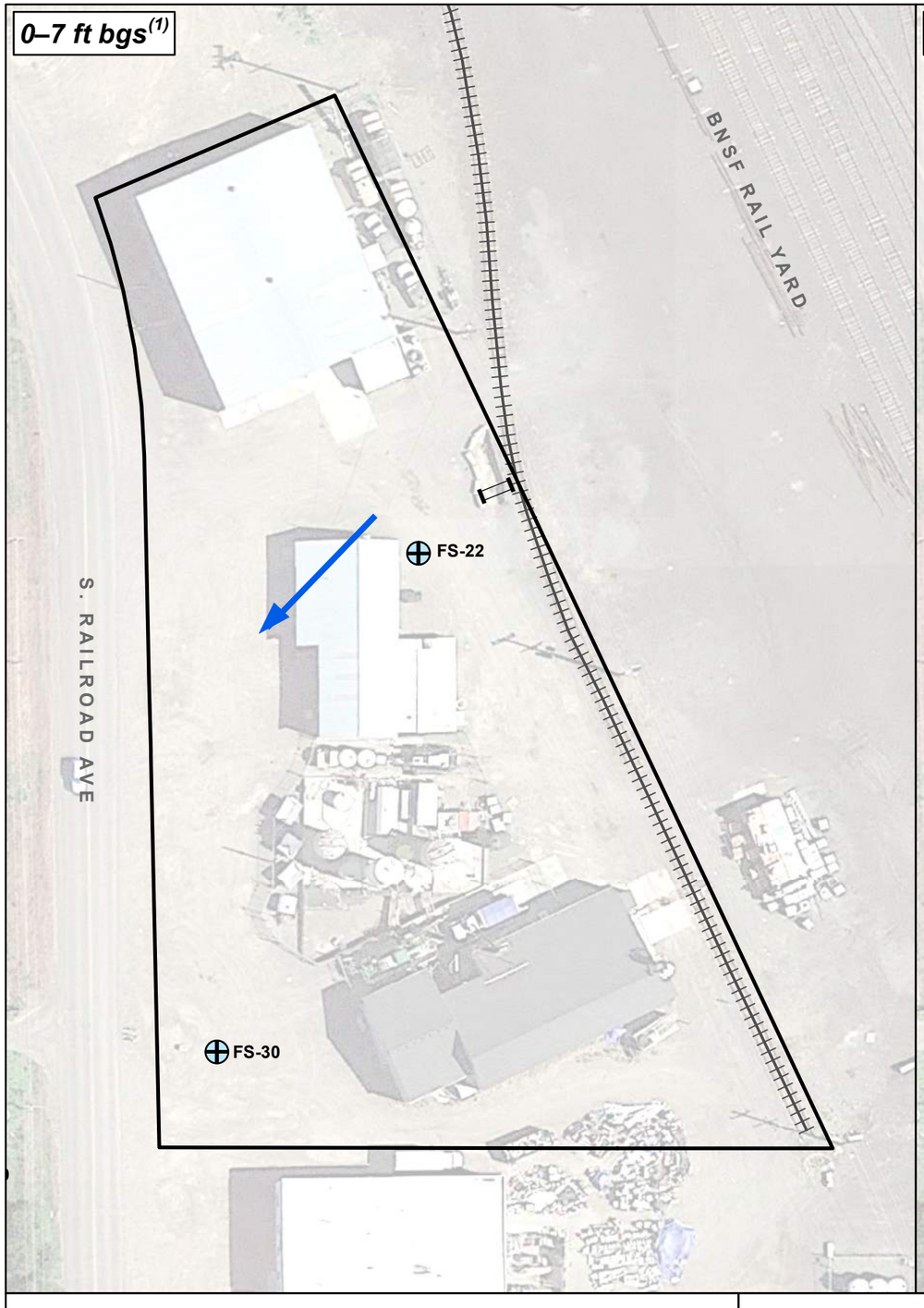
Scale in Feet

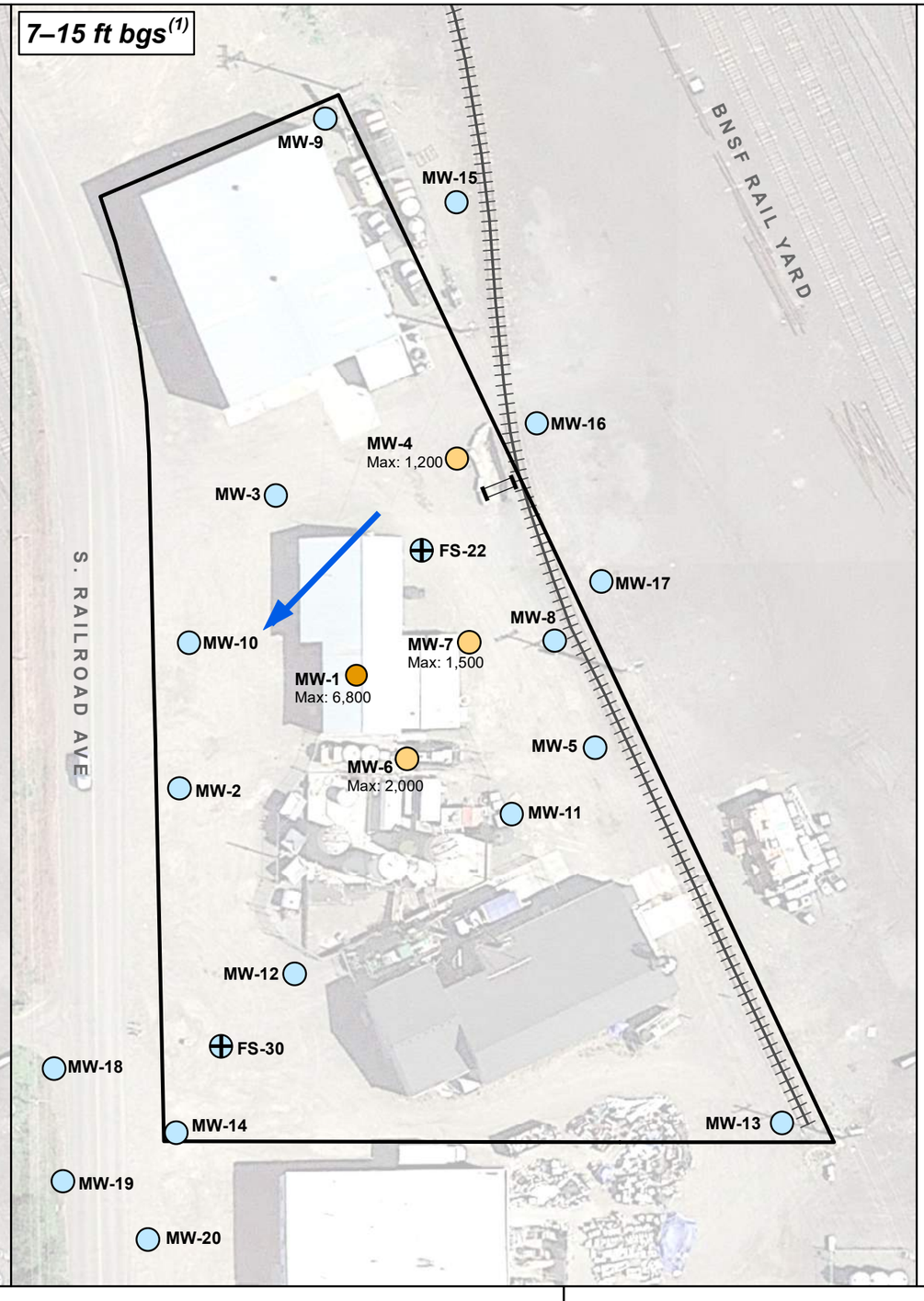
FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.3
Nitrate Data Compared to Groundwater CUL (µg/L)

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.3 Nitrate Data Compared to GW CUL.mxd
2/19/2021





Legend

Groundwater Sample Location

- Permanent Monitoring Well
- Temporary Monitoring Well

Other Features

- Property Boundary
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information(2)

- >10 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Meets Proposed CUL

Groundwater Proposed CUL(3)

Nitrite: 1,000 µg/L

Notes:

1. The midpoint of the well screen is used to categorize the depth of well results.
2. The color of each location is determined using the compliance result (i.e., the result with the maximum exceedance factor, considering recent data). Table 6.9 provides more information and presents all data.
3. Proposed groundwater CULs are numerically equivalent to the preliminary CULs developed in Table 5.1.

· Results are reported to two significant figures. Result qualifiers are omitted.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup Level
ft bgs = Feet below ground surface
µg/L = Micrograms per liter

N

0 30 60 120

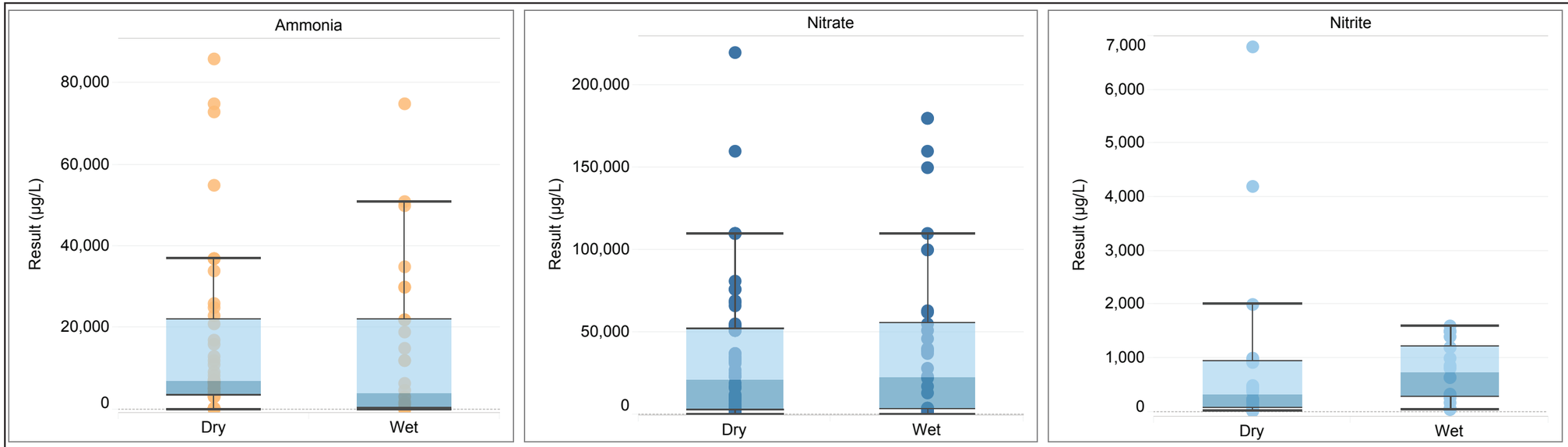
Scale in Feet

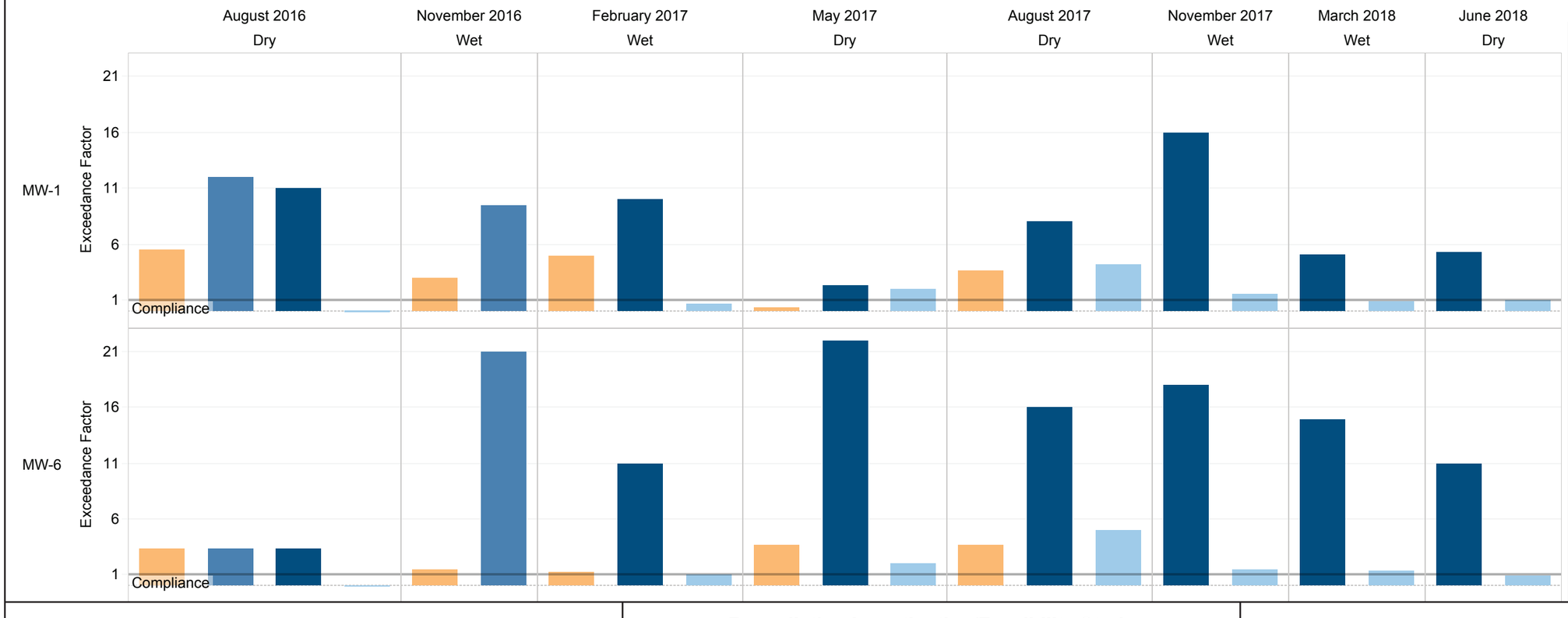
FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.4
Nitrite Data Compared to Groundwater CUL (µg/L)

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.4 Nitrite Data Compared to GW CUL.mxd
2/19/2021





Legend

Analyte

- Ammonia (total as nitrogen)
- Total Nitrate/Nitrite
- Nitrate
- Nitrite

Nitrate Proposed CUL: 10,000 µg/L
Nitrite Proposed CUL: 1,000 µg/L

Notes:

1. Exceedance factors are calculated by dividing the result by their proposed CULs.
2. Ammonia and total nitrate/nitrite do not have a proposed CUL. Ammonia may be considered potential source of nitrate, and nitrate is more commonly found in the environment than nitrite. Thus, the exceedance factor is calculated by dividing results for these analytes by the proposed CUL for nitrate.
3. Box and whiskers plots include all detected results measured at the site.

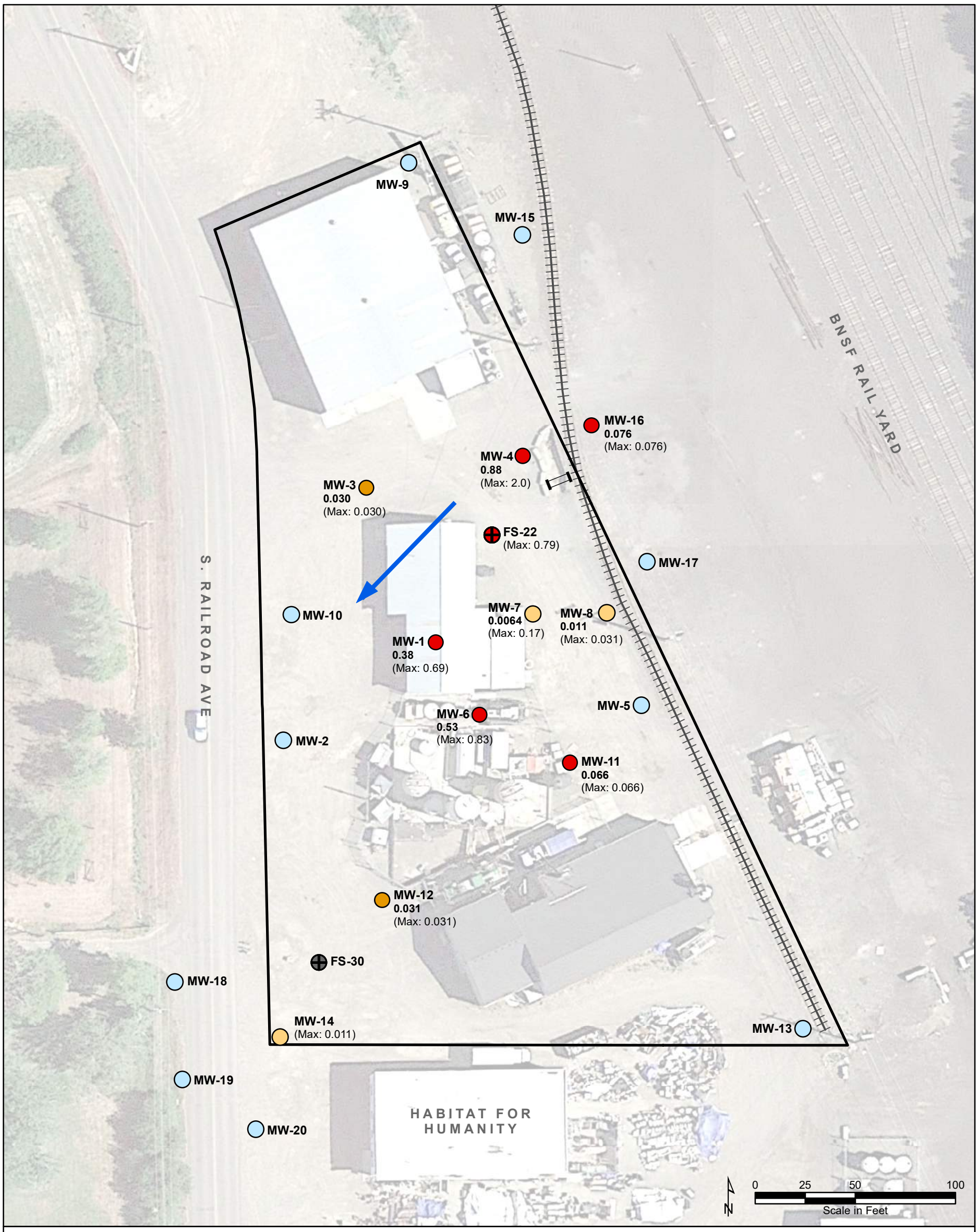
Abbreviations:
CUL = Cleanup level
µg/L = Micrograms per liter

FLOYD | SNIDER
strategy • science • engineering

Remediation Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.5
Seasonal Variability of Nitrate, Nitrite, and Ammonia Groundwater Data

I:\GIS\Projects\PKG-SmithKem\AI\RI 2021\Figure 6.5 Seasonal Variability of Nitrate, Nitrite, and Ammonia Groundwater Data.ai
02/01/2021



Legend

Groundwater Sample Location

- Permanent Monitoring Well
- Temporary Monitoring Well

Other Features

- Property Boundary
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information[1, 2]

- >10 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect Exceedance
- Meets Proposed CUL

Groundwater Proposed CUL[3]

Dieldrin: 0.0055 µg/L

Notes:

1. At monitoring wells, location color is determined using the compliance result. The compliance result is the March 2020 groundwater result if the chemical was not detected during remedial investigation sampling. Otherwise, the compliance result is the average of recent (2016-2020) results. If the compliance result exceeds the proposed CUL, it is listed in bold next to the location ID. For more information, see Table 6.9.
2. The maximum detected result at each location is listed if the maximum result exceeds the proposed CUL. Per WAC 173-340-720(9)(e)(i), no single sample result can be more than two times the proposed CUL.
3. Proposed groundwater CULs are numerically equivalent to the preliminary CULs developed in Table 5.1.

· Results are reported to two significant figures. Result qualifiers are omitted.
· Aerial imagery obtained from Google Earth, 2017.

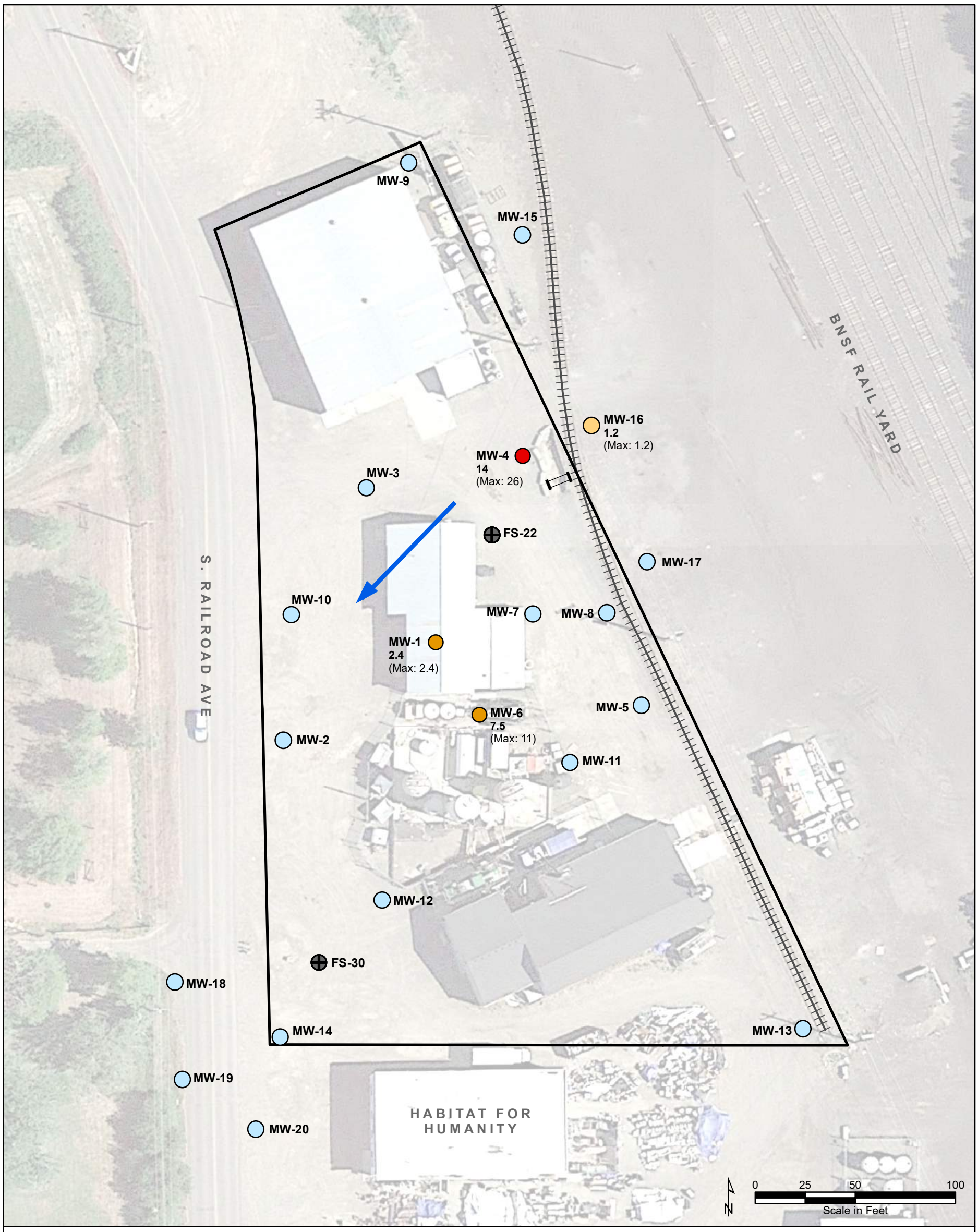
Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
ft bgs = Feet below ground surface
µg/L = Micrograms per liter
WAC = Washington Administrative Code

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.6
Dieldrin Data Compared to Groundwater CUL (µg/L)

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.6 Dieldrin Data Compared to GW CUL.mxd
2/19/2021



Legend

Groundwater Sample Location

- Permanent Monitoring Well
- Temporary Monitoring Well

Other Features

- Property Boundary
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information[1, 2]

- >10 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect Exceedance
- Meets Proposed CUL

Groundwater Proposed CUL[3]

Toxaphene: 0.80 µg/L

Notes:

1. At monitoring wells, location color is determined using the compliance result. The compliance result is the March 2020 groundwater result if the chemical was not detected during remedial investigation sampling. Otherwise, the compliance result is the average of recent (2016-2020) results. If the compliance result exceeds the proposed CUL, it is listed in bold next to the location ID. For more information, see Table 6.9.
2. The maximum detected result at each location is listed if the maximum result exceeds the proposed CUL. Per WAC 173-340-720(9)(e)(i), no single sample result can be more than two times the proposed CUL.
3. Proposed groundwater CULs are numerically equivalent to the preliminary CULs developed in Table 5.1.

· Results are reported to two significant figures. Result qualifiers are omitted.
· Aerial imagery obtained from Google Earth, 2017.

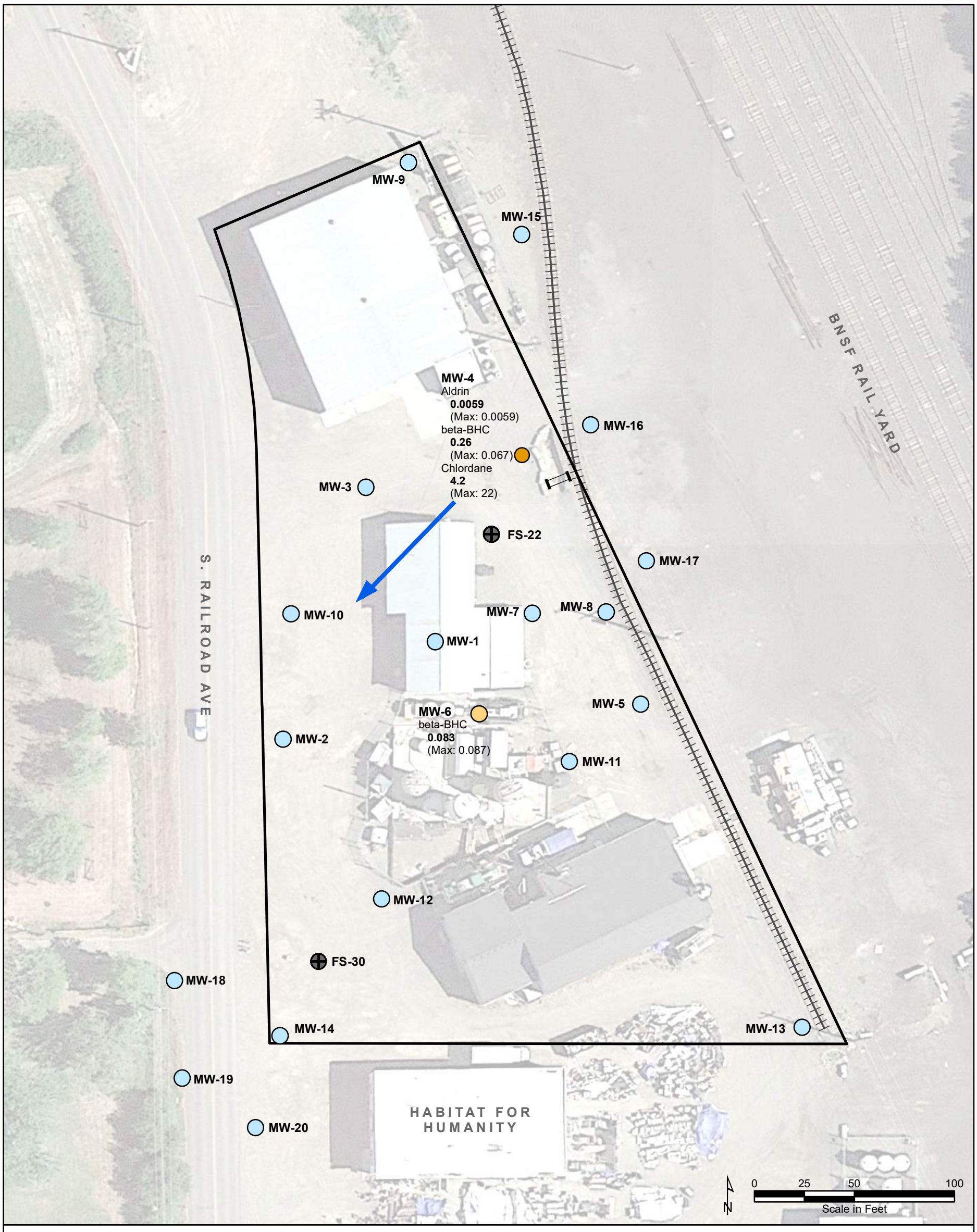
Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
ft bgs = Feet below ground surface
µg/L = Micrograms per liter
WAC = Washington Administrative Code

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.7
Toxaphene Data Compared to Groundwater CUL (µg/L)

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.7 Toxaphene Data Compared to GW CUL.mxd
2/19/2021



Legend

Groundwater Sample Location

- Permanent Monitoring Well
- Temporary Monitoring Well

Other Features

- Property Boundary
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information[1, 2]

- >10 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect Exceedance
- Meets Proposed CUL

Groundwater Proposed CUL[3]

Aldrin: 0.0026 µg/L
beta-BHC: 0.049 µg/L
Chlordane: 2.0 µg/L

Notes:
1. Groundwater sampling locations are colored according to the maximum exceedance factor of the compliance result. The compliance result is the March 2020 groundwater result if the chemical was not detected during remedial investigation sampling. Otherwise, the compliance result is the average of recent (2016-2020) results. If the compliance result exceeds the proposed CUL, it is listed in bold next to the location ID. For more information, see Table 6.9.
2. The maximum detected result at each location is listed if the maximum result exceeds the proposed CUL. Per WAC 173-340-720(9)(e)(i), no single sample result can be more than two times the proposed CUL.
3. Proposed groundwater CULs are numerically equivalent to the preliminary CULs developed in Table 5.1.

· Results are reported to two significant figures. Result qualifiers are omitted.
· Aerial imagery obtained from Google Earth, 2017.

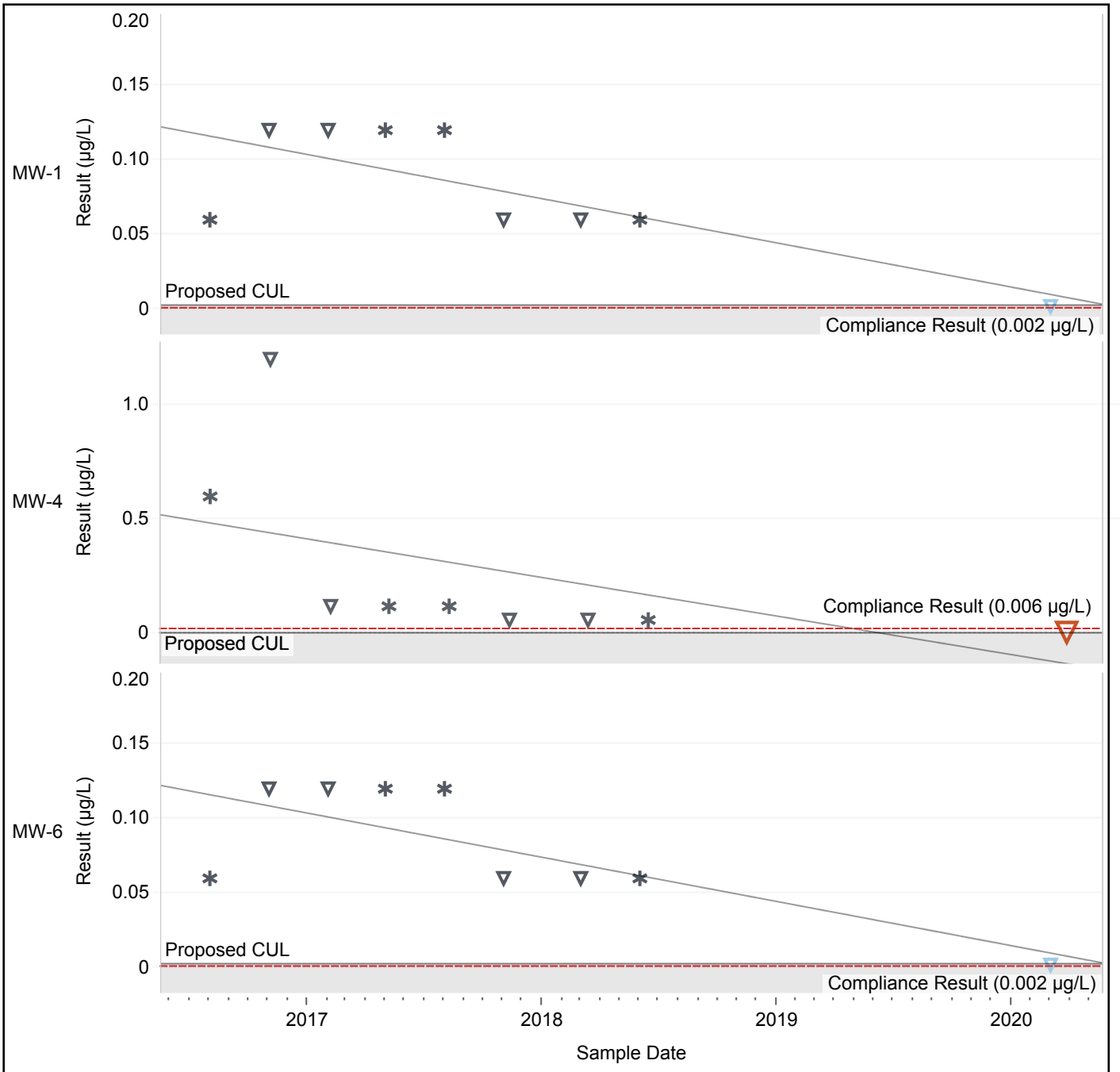
Abbreviations:
BHC = Benzene hexachloride
BNSF = BNSF Railway
CUL = Cleanup level
ft bgs = Feet below ground surface
µg/L = Micrograms per liter
WAC = Washington Administrative Code

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.8
Other Legacy Pesticides Data Compared to Groundwater CULs (µg/L)

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.8 Other Legacy Pesticides Data Compared to GW CULs.mxd
2/23/2021



Legend

Compliance Information
- Exceeds Proposed CUL
- Meets Proposed CUL
- Nondetect Exceedance

Season
- ✱ Dry
- ▽ Wet

Aldrin Proposed CUL: 0.0026 µg/L

Notes:
1. Time series charts were created for the three wells most impacted by legacy pesticides.
2. The compliance result is the average of recent (2016-2020) results. If the chemical was not detected among these results, the compliance result is the March 2020 groundwater result. For more information, see Table 6.9.
3. Box and whiskers plots were not created because aldrin was infrequently detected.

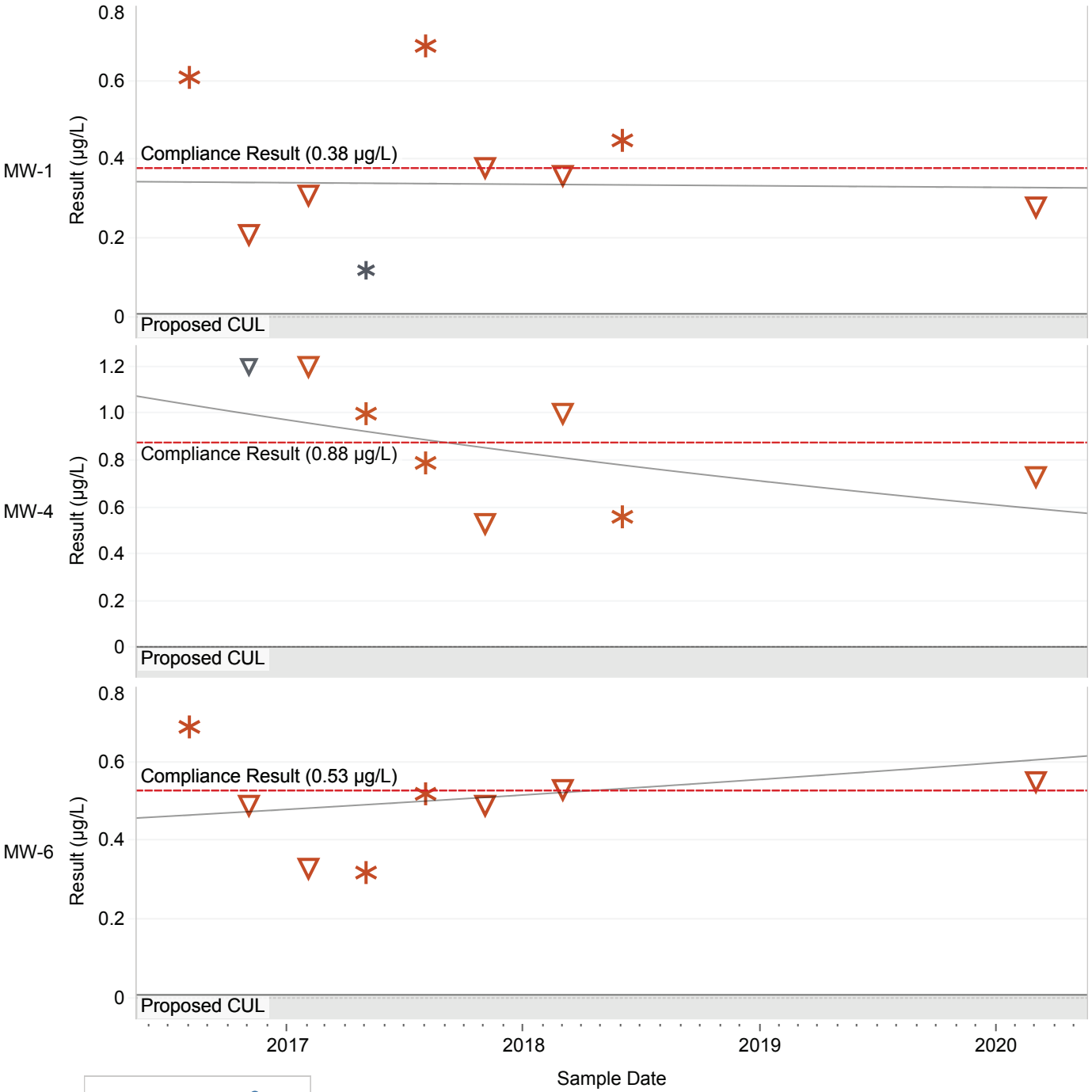
Abbreviations:
CUL = Cleanup level
µg/L = Micrograms per liter

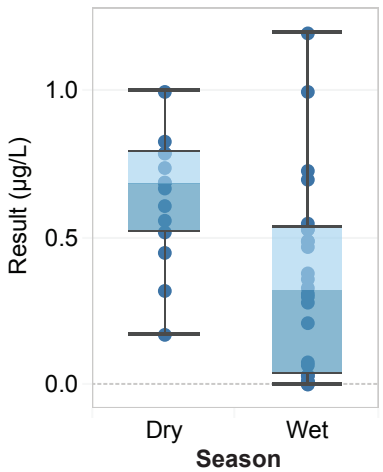
FLOYD | SNIDER
strategy • science • engineering

Remediation Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.9a
Aldrin Groundwater Data: Time Series Charts

I:\GIS\Projects\PKG-SmithKem\AI\RI 2021\Figure 6.9a Aldrin Groundwater Data: Time Series Charts.ai
02/23/2021





Legend

Compliance Information
- Exceeds Proposed CUL
- Nondetect Exceedance

Season
- Dry
- Wet

Dieldrin Proposed CUL: 0.0055 µg/L

Notes:
1. Time series charts were created for the three wells most impacted by legacy pesticides.
2. The compliance result is the average of recent (2016-2020) results. If the chemical was not detected among these results, the compliance result is the March 2020 groundwater result. For more information, see Table 6.9.
3. Box and whiskers plots include all detected results measured at the site.

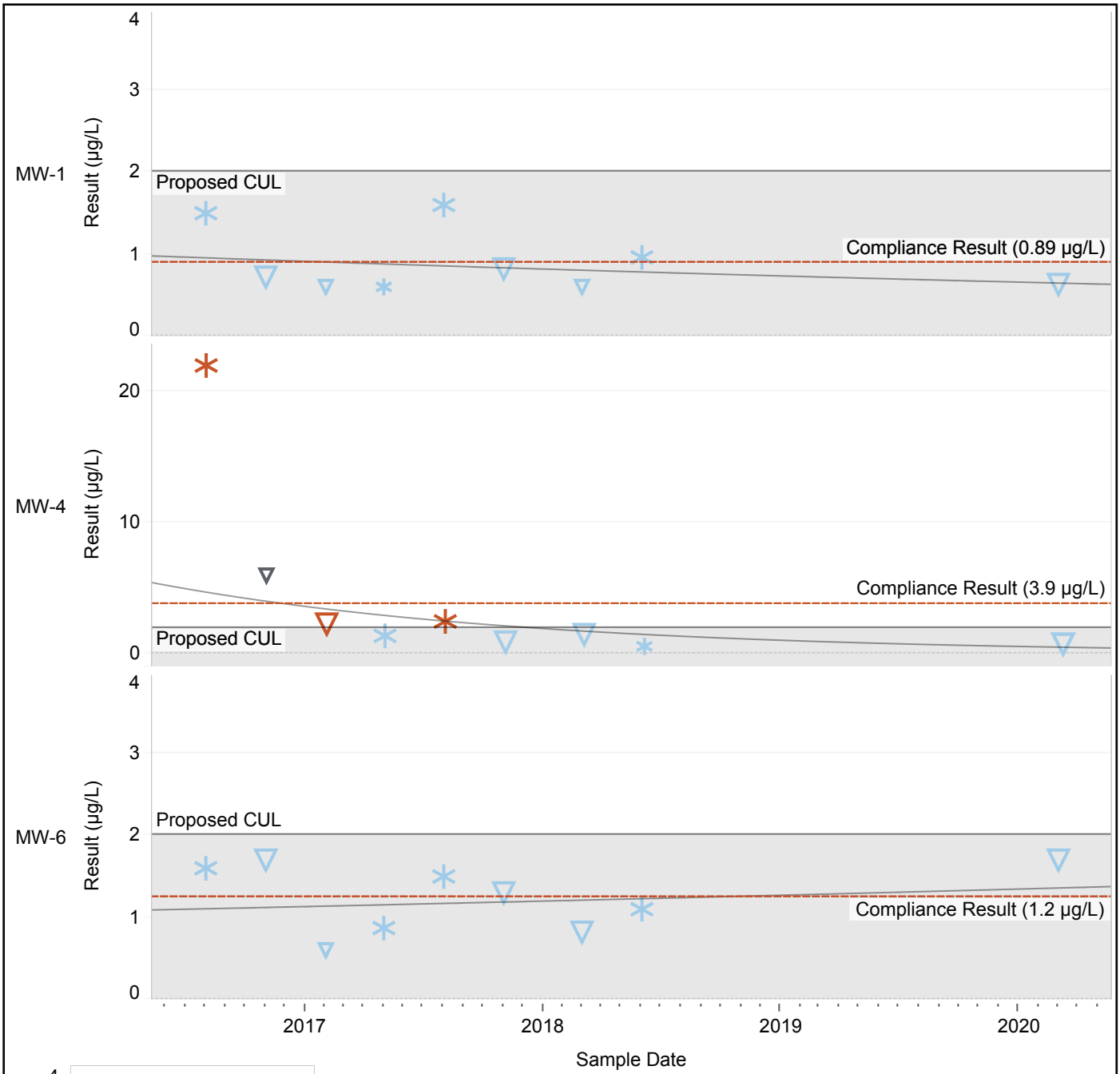
Abbreviations:
CUL = Cleanup level
µg/L = Micrograms per liter

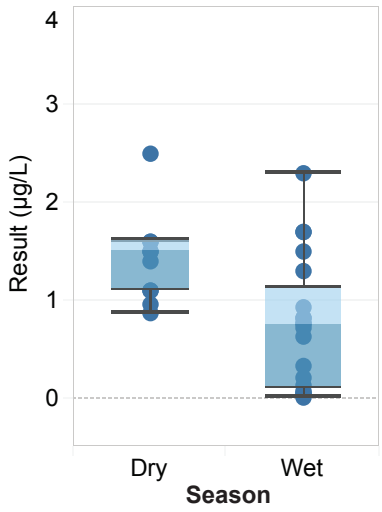
FLOYD | SNIDER
strategy • science • engineering

Remediation Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.9b
Dieldrin Groundwater Data: Time Series Charts and Box and Whiskers Plots

I:\GIS\Projects\PKG-SmithKem\AI\RI 2021\Figure 6.9b Dieldrin Groundwater Data: Time Series Charts and Box and Whiskers Plots.ai
02/23/2021





Legend

Compliance Information
- Exceeds Proposed CUL
- Meets Proposed CUL
- Nondetect Exceedance

Season
- Dry
- Wet

Chlordane Proposed CUL: 2 µg/L

Notes:
1. Time series charts were created for the three wells most impacted by legacy pesticides.
2. The compliance result is the average of recent (2016-2020) results. If the chemical was not detected among these results, the compliance result is the March 2020 groundwater result. For more information, see Table 6.9.
3. Box and whiskers plots include all detected results measured at the site.

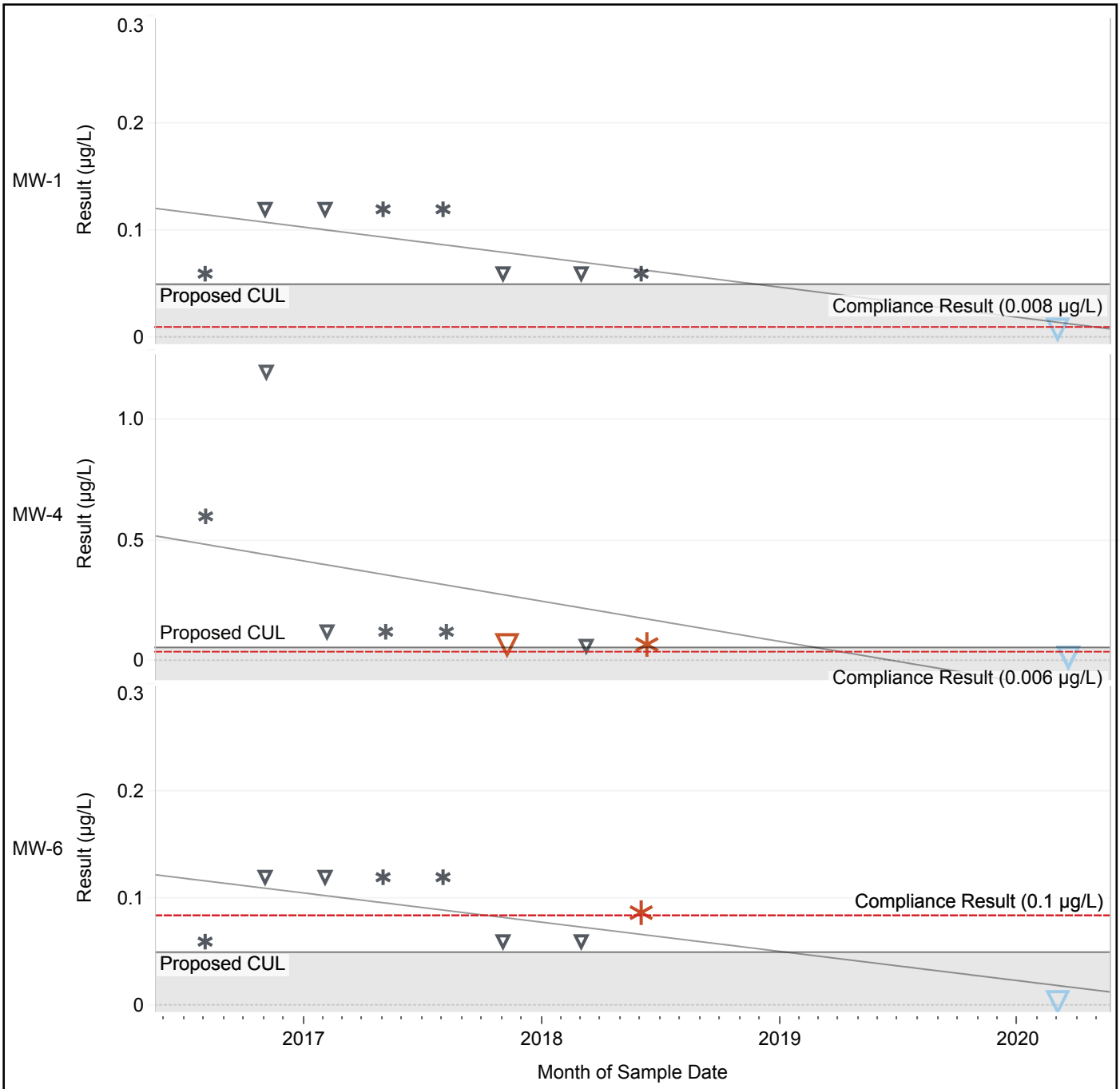
Abbreviations:
CUL = Cleanup level
µg/L = Micrograms per liter

FLOYD | SNIDER
strategy • science • engineering

Remediation Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.9c
Chlordane Groundwater Data: Time Series Charts and Box and Whiskers Plots

I:\GIS\Projects\PKG-SmithKem\AI\RI 2021\Figure 6.9c Chlordane Groundwater Data: Time Series Charts and Box and Whiskers Plots.ai
02/23/2021



Legend

Compliance Information
- Exceeds Proposed CUL
- Meets Proposed CUL
- Nondetect Exceedance

Season
- Dry
- Wet

beta-BHC Proposed CUL: 0.049 µg/L

Notes:
1. Time series charts were created for the three wells most impacted by legacy pesticides.
2. The compliance result is the average of recent (2016-2020) results. If the chemical was not detected among these results, the compliance result is the March 2020 groundwater result. For more information, see Table 6.9.
3. Box and whiskers plots were not created because beta-BHC was infrequently detected.

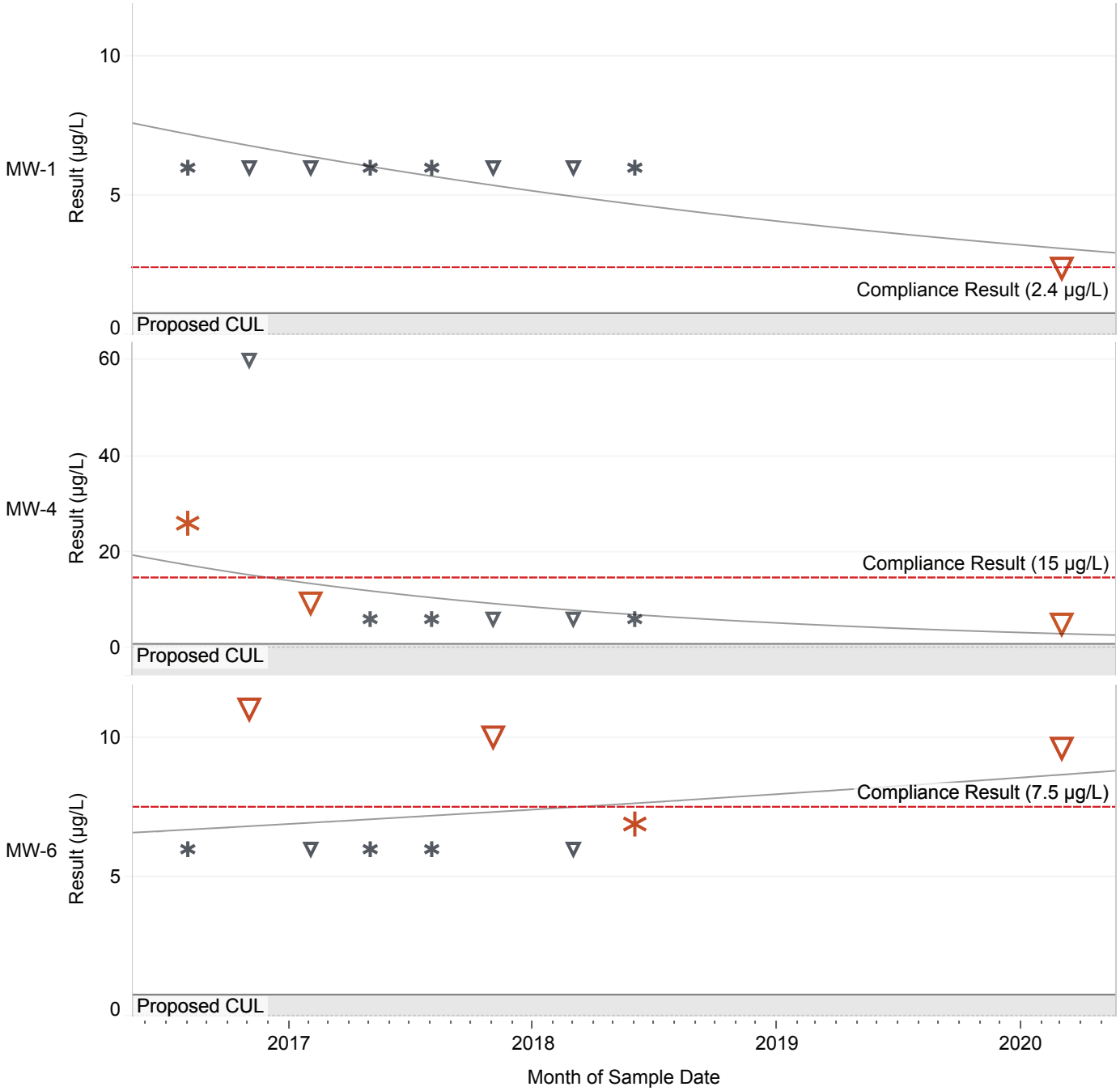
Abbreviations:
BHC = Benzene hexachloride
CUL = Cleanup level
µg/L = Micrograms per liter

FLOYD | SNIDER
strategy • science • engineering

Remediation Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.9d
beta-BHC Groundwater Data: Time Series Charts

I:\GIS\Projects\PKG-SmithKem\AI\RI 2021\Figure 6.9d beta-BHC Groundwater Data: Time Series Charts.ai
02/23/2021



Legend

Compliance Information
- Exceeds Proposed CUL
- Nondetect Exceedance

Season
- Dry
- Wet

Toxaphene Proposed CUL: 0.8 µg/L

Notes:
1. Time series charts were created for the three wells most impacted by legacy pesticides.
2. The compliance result is the average of recent (2016-2020) results. If the chemical was not detected among these results, the compliance result is the March 2020 groundwater result. For more information, see Table 6.9.
3. Box and whiskers plots were not created because toxaphene was infrequently detected.

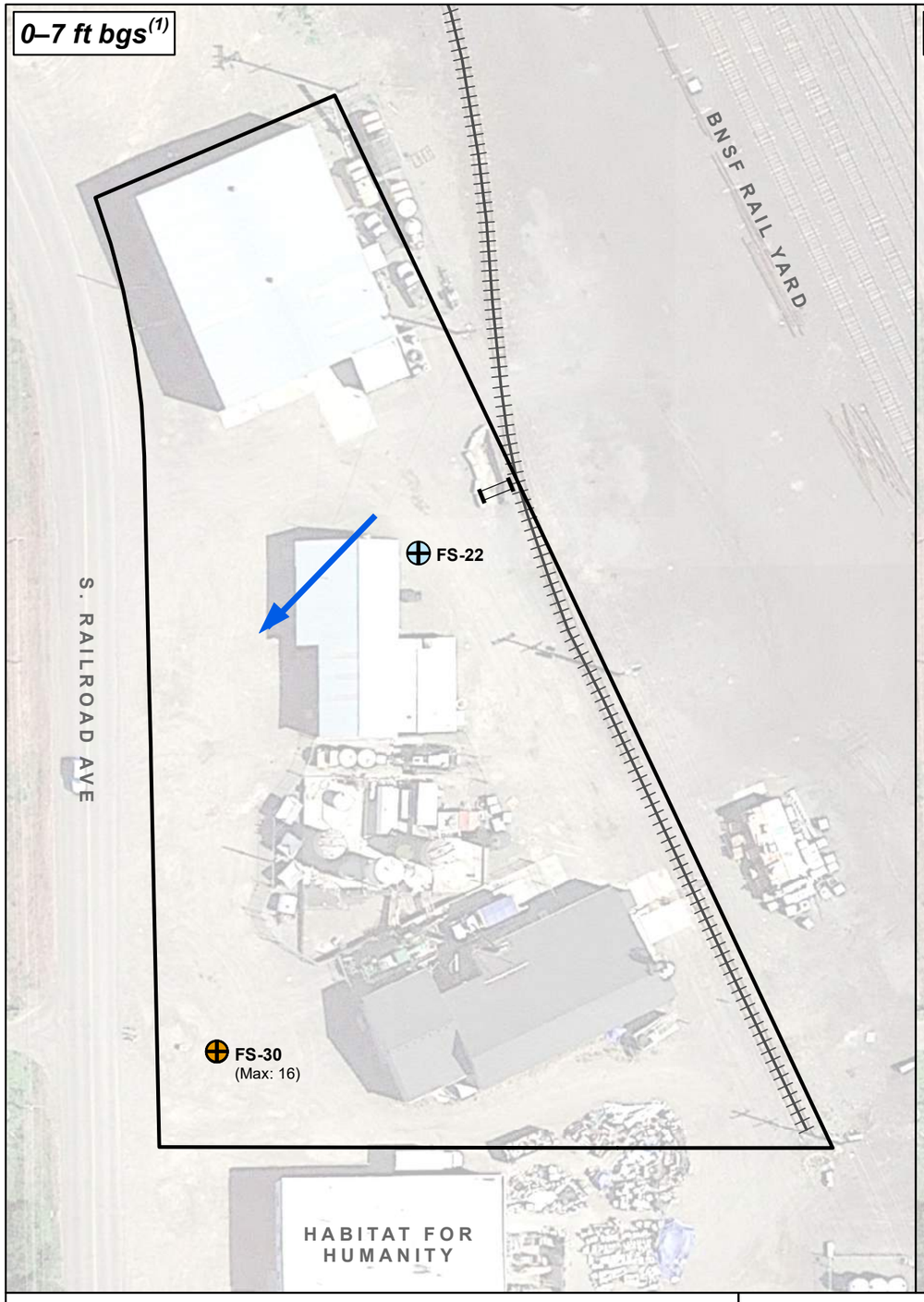
Abbreviations:
CUL = Cleanup level
µg/L = Micrograms per liter

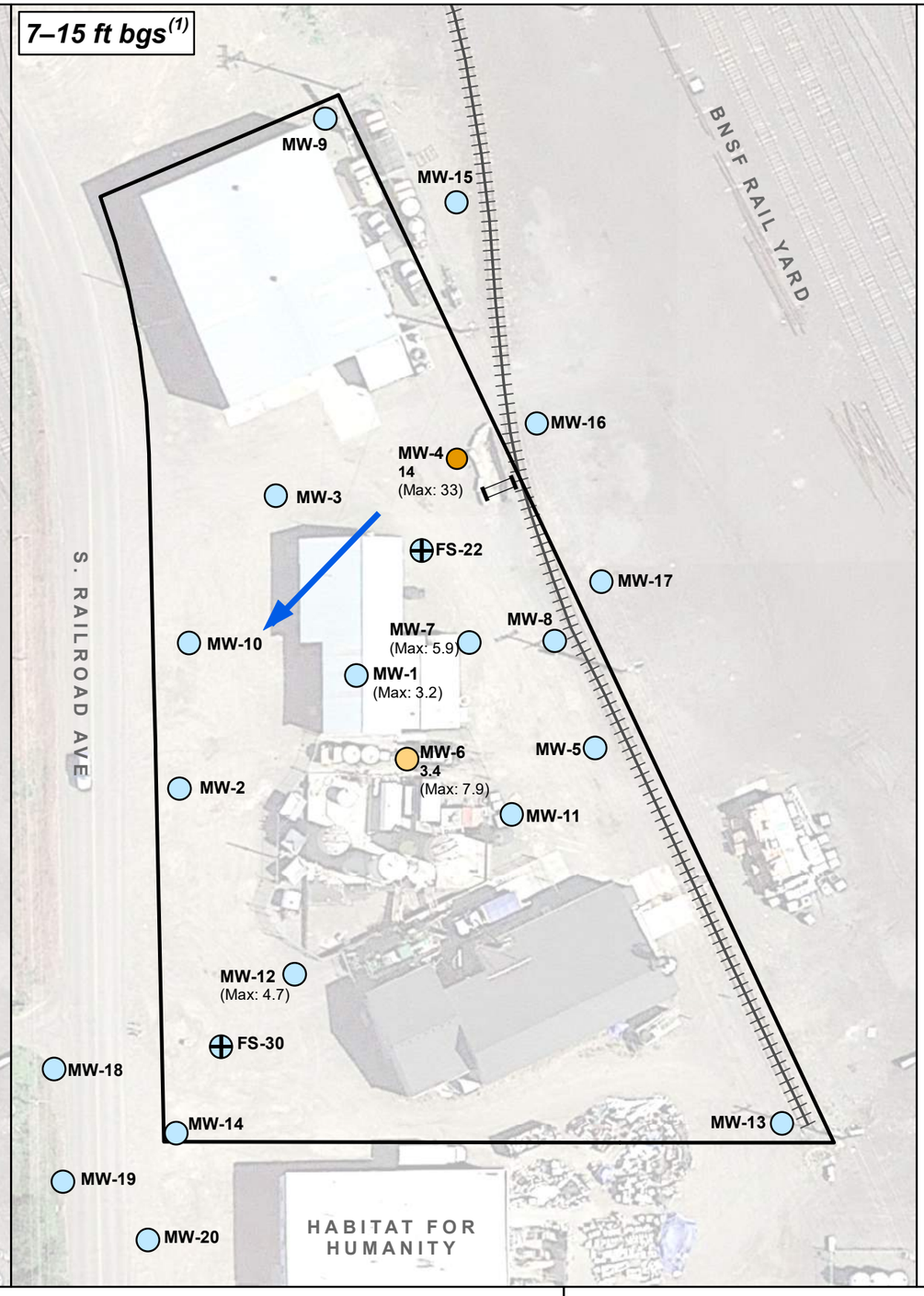
FLOYD | SNIDER
strategy • science • engineering

Remediation Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.9e
Toxaphene Groundwater Data: Time Series Charts

I:\GIS\Projects\PKG-SmithKem\AI\RI 2021\Figure 6.9e Toxaphene Groundwater Data: Time Series Charts.ai
02/23/2021





Legend

Groundwater Sample Location

- Permanent Monitoring Well
- Temporary Monitoring Well

Other Features

- Property Boundary
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information(2, 3)

- >10 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Meets Proposed CUL

Groundwater Proposed CUL(4)

Atrazine: 3.0 µg/L

Notes:
1. The midpoint of the well screen is used to categorize the depth of well results.
2. At monitoring wells, location color is determined using the compliance result; i.e., the average result. If the compliance result exceeds the proposed CUL, it is listed in bold next to the location ID. For more information, see Table 6.9.
3. The maximum detected result at each location is listed if the maximum result exceeds the proposed CUL. Per WAC 173-340-720(9)(e)(i), no single sample result can be more than two times the proposed CUL.
4. Proposed groundwater CULs are numerically equivalent to the preliminary CULs developed in Table 5.1.

· Results are reported to two significant figures. Result qualifiers are omitted.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup Level
ft bgs = Feet below ground surface
µg/L = Micrograms per liter
WAC = Washington Administrative Code

N

0 30 60 120

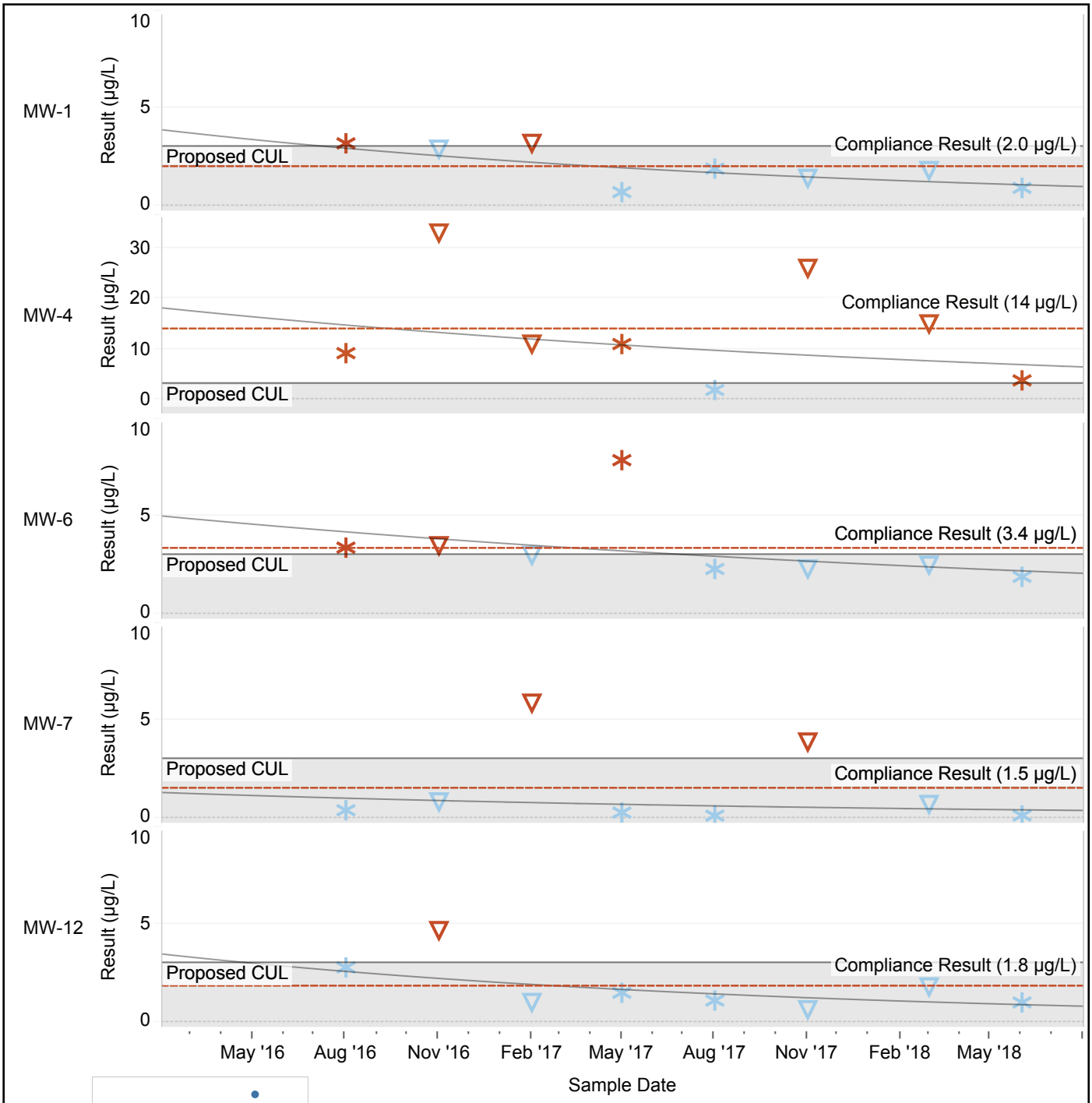
Scale in Feet

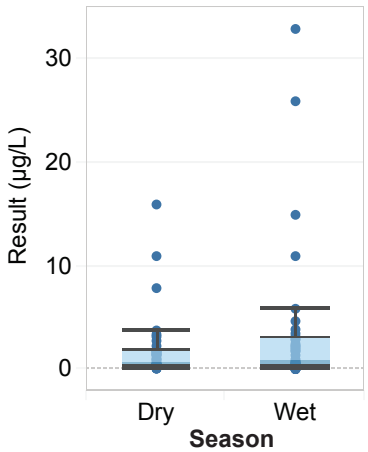
FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.10
Atrazine Data Compared to Groundwater CUL (µg/L)

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.10 Atrazine Data Compared to GW CUL.mxd
2/19/2021





Legend

Compliance Information
- Exceeds Proposed CUL
- Meets Proposed CUL

Season
- ✱ Dry
- ▽ Wet

Atrazine Proposed CUL: 3 µg/L

Notes:
1. Time series charts were created for wells where one or more results exceed the proposed CUL.
2. The compliance result is the average of recent (2016-2020) results. For more information, see Table 6.9.
3. Box and whiskers plots include all detected results measured at the site.

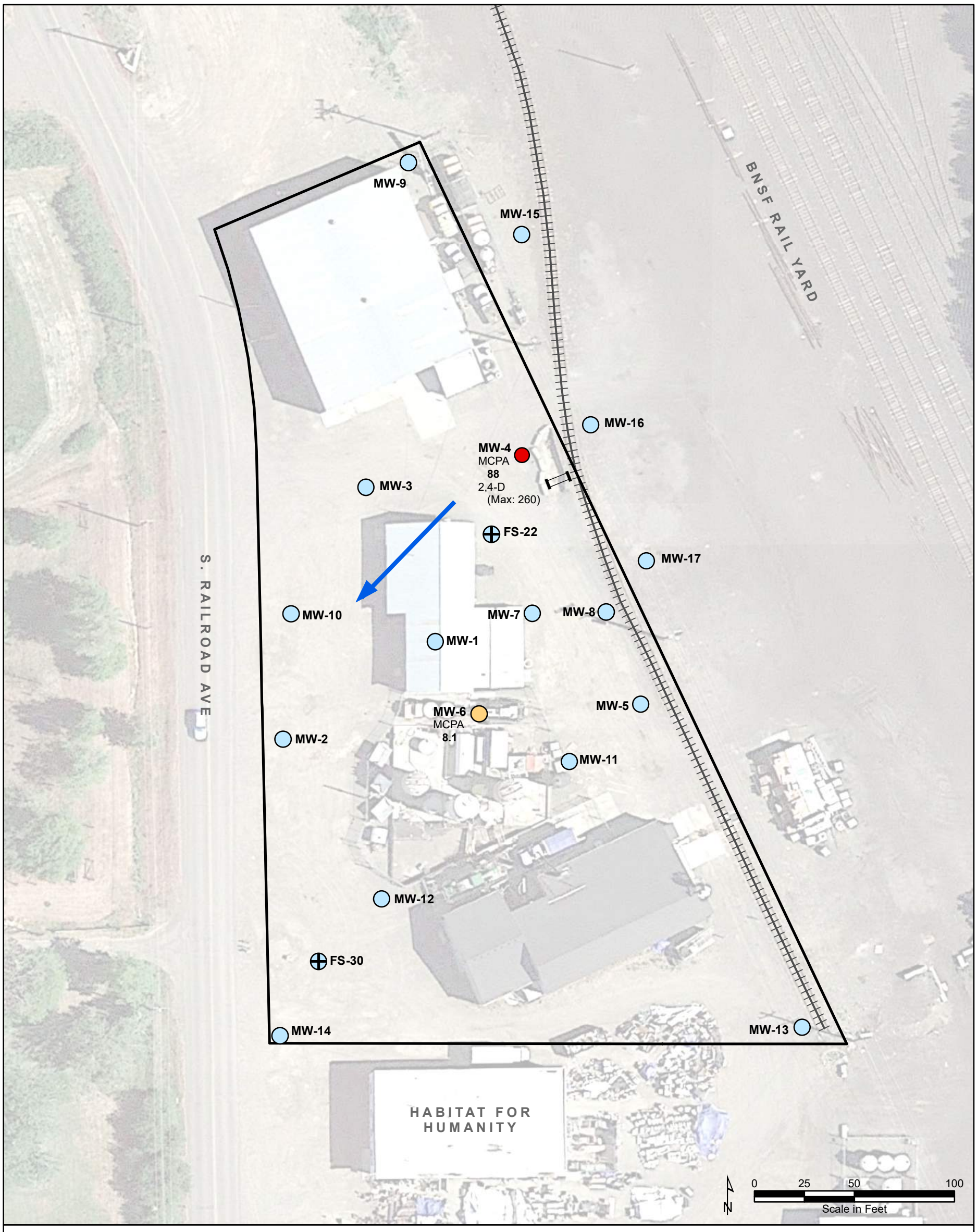
Abbreviations:
CUL = Cleanup level
µg/L = Micrograms per liter

FLOYD | SNIDER
strategy • science • engineering

Remediation Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.11
Atrazine Groundwater Data: Time Series Charts and Box and Whiskers Plots

I:\GIS\Projects\PKG-SmithKem\AI\RI 2021\Figure 6.11 Atrazine Groundwater Data: Time Series Charts and Box and Whiskers Plots.ai
02/23/2021



Legend

Groundwater Sample Location

- Permanent Monitoring Well
- Temporary Monitoring Well

Other Features

- Property Boundary
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information(1, 2)

- >10 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Meets Proposed CUL

Groundwater Proposed CUL(3)

2,4-D: 70 µg/L
MCPA: 8.0 µg/L

Notes:
1. Groundwater sampling locations are colored according to the maximum exceedance factor of the compliance result; i.e., the maximum of recent (2016-2020) results for MCPA, and the average of recent results for 2,4-D. If the compliance result exceeds the proposed CUL, it is listed in bold next to the location ID. For more information, see Table 6.9.
2. The maximum detected result for 2,4-D at each location is listed if the maximum result exceeds the proposed CUL. Per WAC 173-340-720(9)(e)(i), no single sample result can be more than two times the proposed CUL.
3. Proposed groundwater CULs are numerically equivalent to the preliminary CULs developed in Table 5.1.

· Results are reported to two significant figures. Result qualifiers are omitted.
· Aerial imagery obtained from Google Earth, 2017.

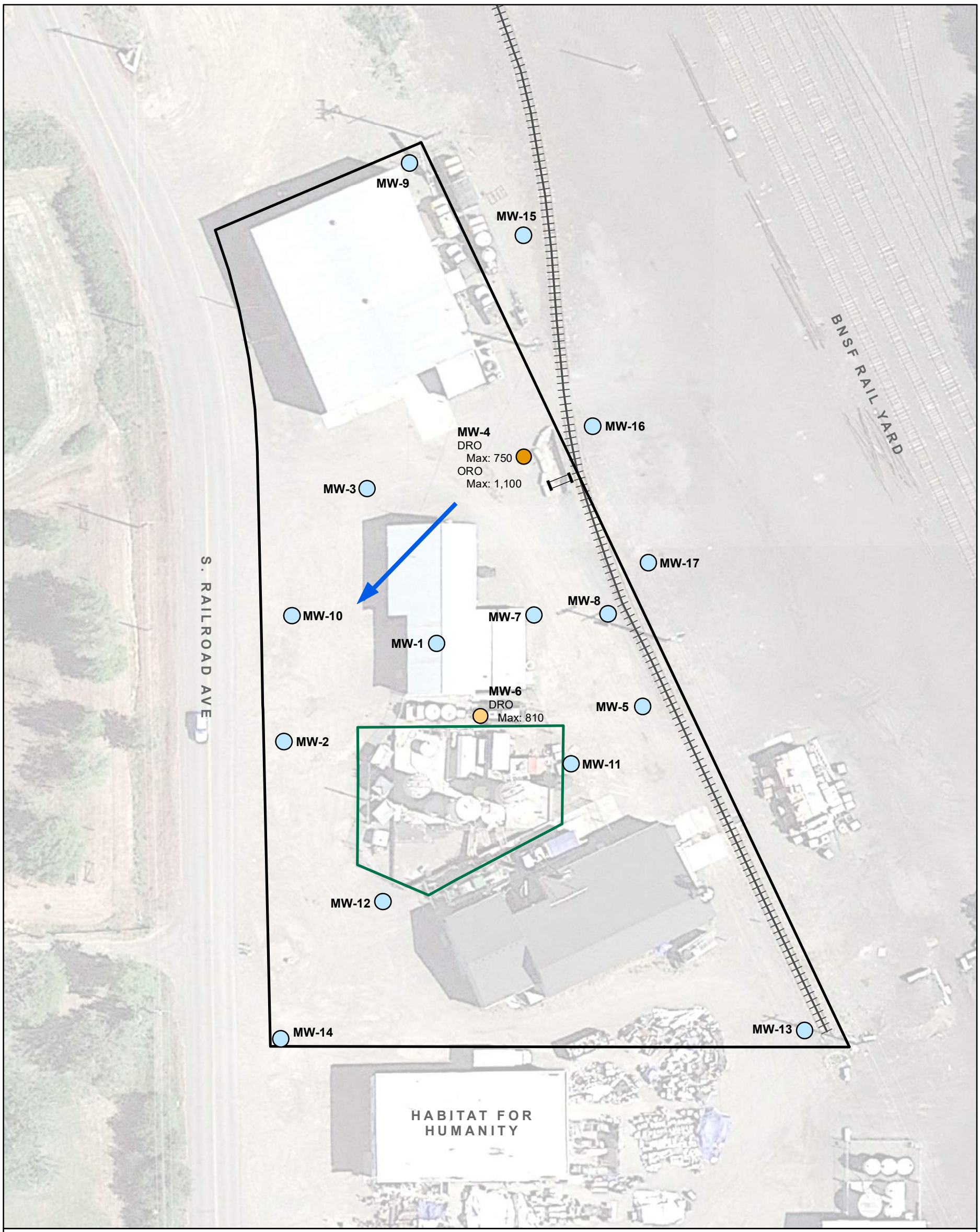
Abbreviations:
2,4-D = 2,4-Dichlorophenoxyacetic acid
BNSF = BNSF Railway
CUL = Cleanup level
ft bgs = Feet below ground surface
MCPA = 2-Methyl-4-chlorophenoxyacetic acid
µg/L = Micrograms per liter
WAC = Washington Administrative Code

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.12
Other Active Use Pesticide Data
Compared to Groundwater CULs (µg/L)

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.12 Other Active Use Peticide Data Compared to GW CULs.mxd
2/23/2021



Legend

Groundwater Sample Location

- Permanent Monitoring Well

Other Features

- Property Boundary
- AST Containment Area
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information(2)

- >10 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Meets Proposed CUL

Groundwater Proposed CUL(2)

DRO: 500 µg/L
ORO: 500 µg/L

Notes:
1. Groundwater sampling locations are colored according to the maximum exceedance factor of the compliance result (i.e., the result with the maximum exceedance factor, considering recent data). Table 6.9 provides more information and presents all well data.
2. Proposed groundwater CULs are numerically equivalent to the preliminary CULs developed in Table 5.1.

· Results are reported to two significant figures. Result qualifiers are omitted.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
DRO = Diesel-range TPH
ft bgs = Feet below ground surface
µg/L = Micrograms per liter
ORO = Oil-range TPH
TPH = Total petroleum hydrocarbons

N

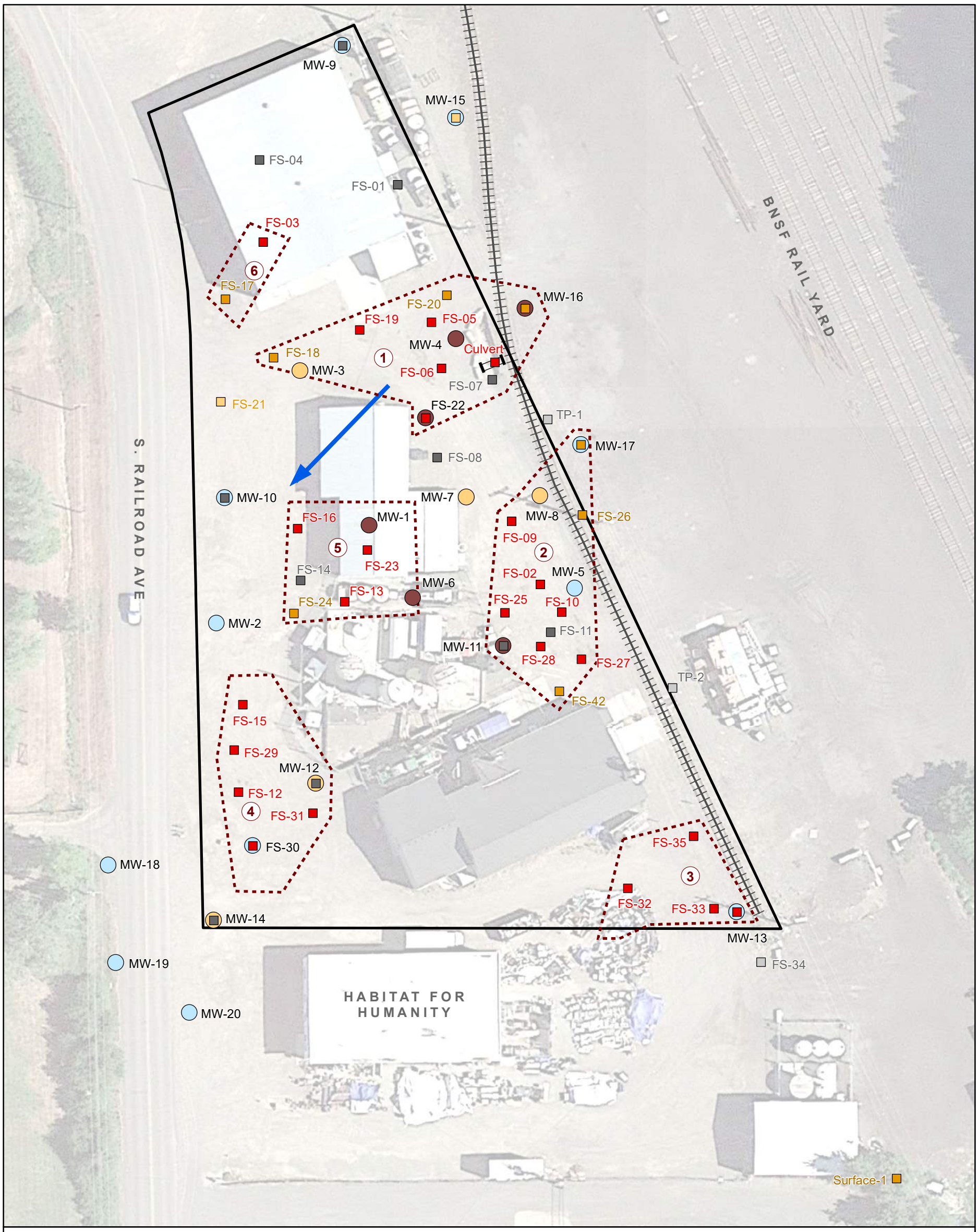
0 25 50 100
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.13
TPH Data Compared
to Groundwater CUL (µg/L)

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.13 TPH Data Compared to GW CUL.mxd
2/19/2021



Legend

Sample Location and Type

- Groundwater Sample
- Soil Sample

Other Features

- Property Boundary
- Area of Concern (with ID)
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information

Soil[1,2]

- >20 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect Exceedance
- Meets Proposed CUL

Groundwater[3]

- >10 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect/Meets Proposed CUL

Soil Proposed CUL
Dieldrin: 0.0067 mg/kg

Groundwater Proposed CUL
Dieldrin: 0.0055 µg/L

Notes:
1. Soil sampling locations are colored according to the maximum exceedance factor at that location.
2. Soil proposed CUL is protective of the leaching pathway. Groundwater data may be used to perform an empirical demonstration that existing soil concentrations are protective of groundwater. Refer to Section 6.4 for further analysis.
3. Groundwater sampling locations are colored according to the exceedance factor of the compliance result; refer to Table 6.9.

· CULs are rounded to two significant figures.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
mg/kg = Milligrams per kilogram
µg/L = Micrograms per liter

N

0 25 50 100
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study Smith-Kem Site Ellensburg, Washington

Figure 6.14
Dieldrin Data Compared to Soil and Groundwater CULs

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.14 Dieldrin Data Compared to Soil and Groundwater CULs.mxd
4/28/2021

0–4 ft bgs

4–15 ft bgs

S. RAILROAD AVE

BNSF RAIL YARD

MW-9, MW-15, FS-04, FS-01, FS-03, FS-20, MW-16, FS-17, FS-05, FS-19, FS-18, FS-06, Culvert, FS-07, FS-21, FS-22, TP-1, MW-17, FS-08, MW-10, FS-09, FS-26, FS-16, FS-23, FS-02, FS-14, FS-10, FS-13, FS-25, FS-11, FS-24, MW-11, FS-28, FS-27, FS-42, FS-15, FS-29, FS-12, MW-12, FS-31, FS-30, FS-35, FS-32, FS-33, MW-14, MW-13, FS-34, Surface-1, TP-2

1, 2, 3, 4, 5, 6

Legend

Soil Sample Location

- Phase 2 Soil Sample(1)
- Prior Event Soil Sample

Other Features

- Property Boundary
- Area of Concern (with ID)
- Approximate Location of Historical Irrigation Ditch
- Rail Spur
- Culvert

Compliance Information(2,3)

- >10 Times Direct Contact CUL
- >2 Times Direct Contact CUL
- >1 Times Direct Contact CUL
- Nondetect Exceedance
- Meets Direct Contact CUL

Soil Direct Contact CUL
Dieldrin: 0.063 mg/kg

Notes:
1. The laboratory achieved lower reporting limits during Phase 2 soil sampling events conducted in 2017-2018. For more information, see Appendix H.
2. Soil sampling locations are colored according to the maximum exceedance factor at that location within the indicated depth group.
3. The basis for the direct contact CUL is described in Section 6.2. The direct contact CUL may become the proposed CUL if groundwater data empirically demonstrate compliance with the leaching pathway.

· CUL is rounded to two significant figures.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram

N

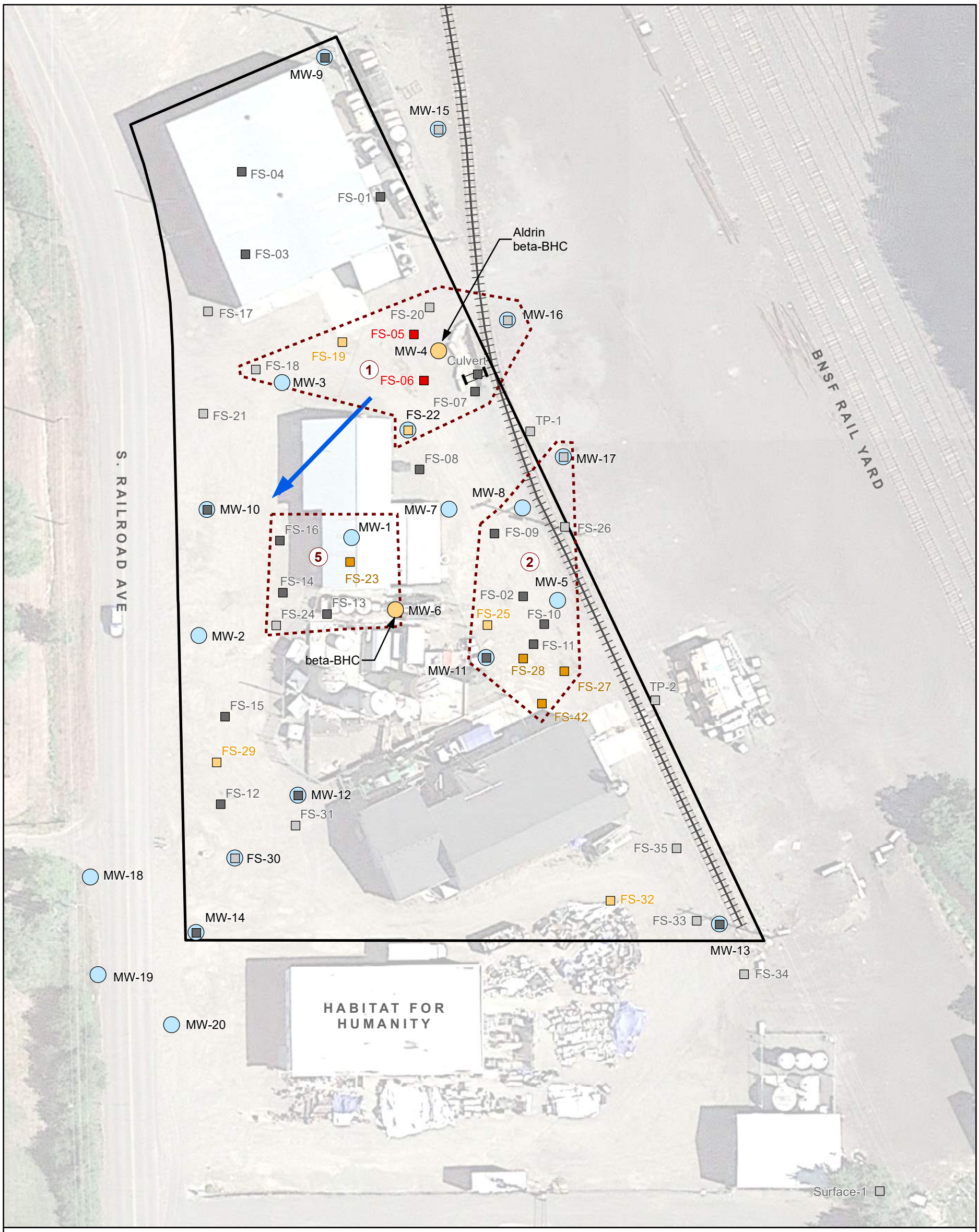
0 32.5 65 130
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.15
Dieldrin Data Compared to Soil Direct Contact CUL

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.15 Dieldrin Data Compared to Soil Direct Contact CUL.mxd
4/28/2021



Legend

Sample Location and Type

- Groundwater Sample
- Soil Sample

Other Features

- Property Boundary
- Area of Concern (with ID)
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information

Soil(1,2)

- >20 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect Exceedance
- Meets Proposed CUL

Groundwater(3)

- >10 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect/Meets Proposed CUL

Soil Proposed CUL
Aldrin: 0.0067 mg/kg
beta-BHC: 0.0067 mg/kg

Groundwater Proposed CUL
Aldrin: 0.0026 µg/L
beta-BHC: 0.049 µg/L

Notes:
1. Soil sampling locations are colored according to the maximum exceedance factor at that location.
2. Soil proposed CUL is protective of the leaching pathway. Groundwater data may be used to perform an empirical demonstration that existing soil concentrations are protective of groundwater. Refer to Section 6.4 for further analysis.
3. Groundwater sampling locations are colored according to the **maximum** exceedance factor of the compliance result; refer to Table 6.9. **Labels list chemicals that exceed their proposed groundwater CULs.**

· CULs are rounded to two significant figures.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BHC = Benzene hexachloride
BNSF = BNSF Railway
CUL = Cleanup level
mg/kg = Milligrams per kilogram
µg/L = Micrograms per liter

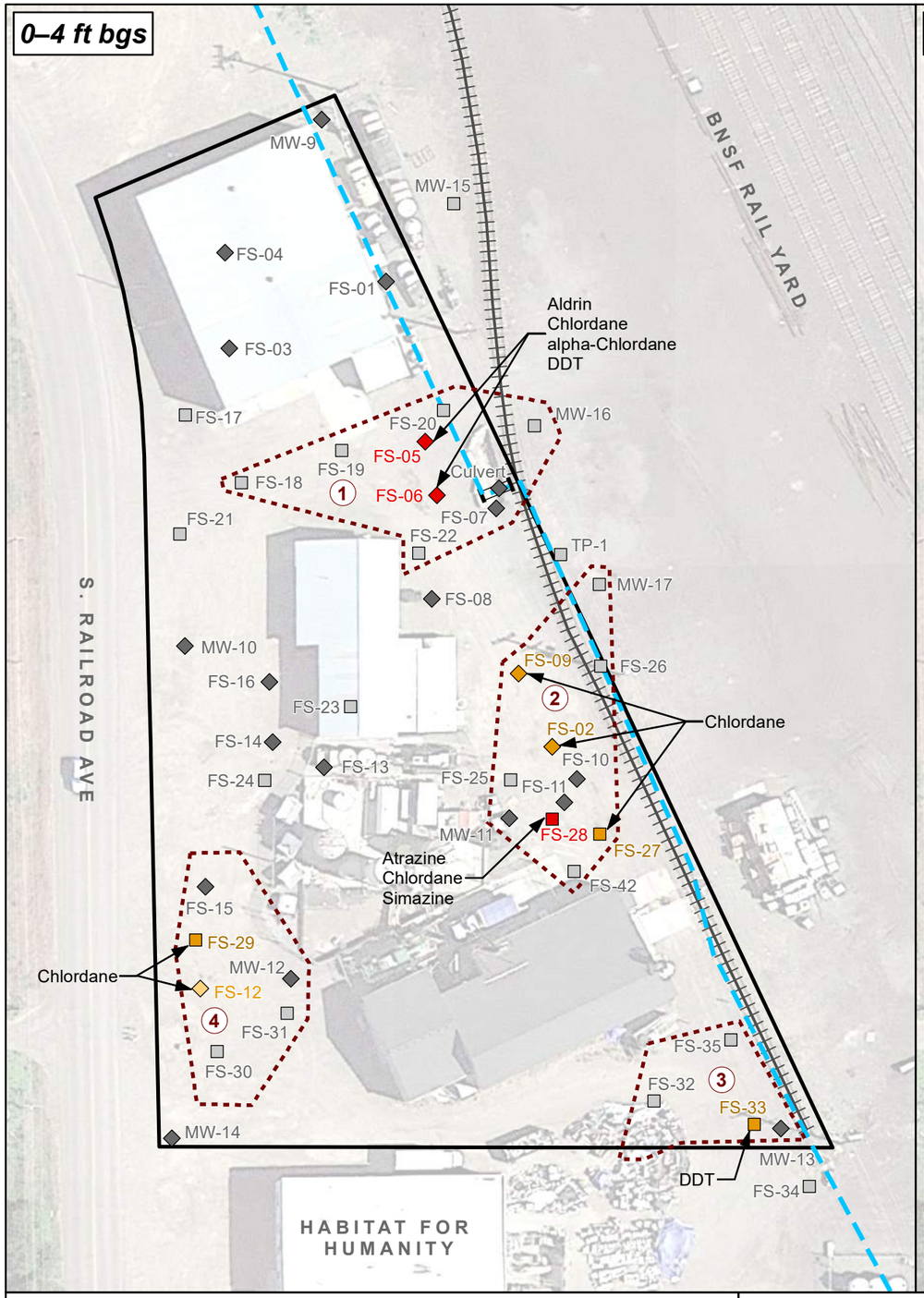
N
0 25 50 100
Scale in Feet

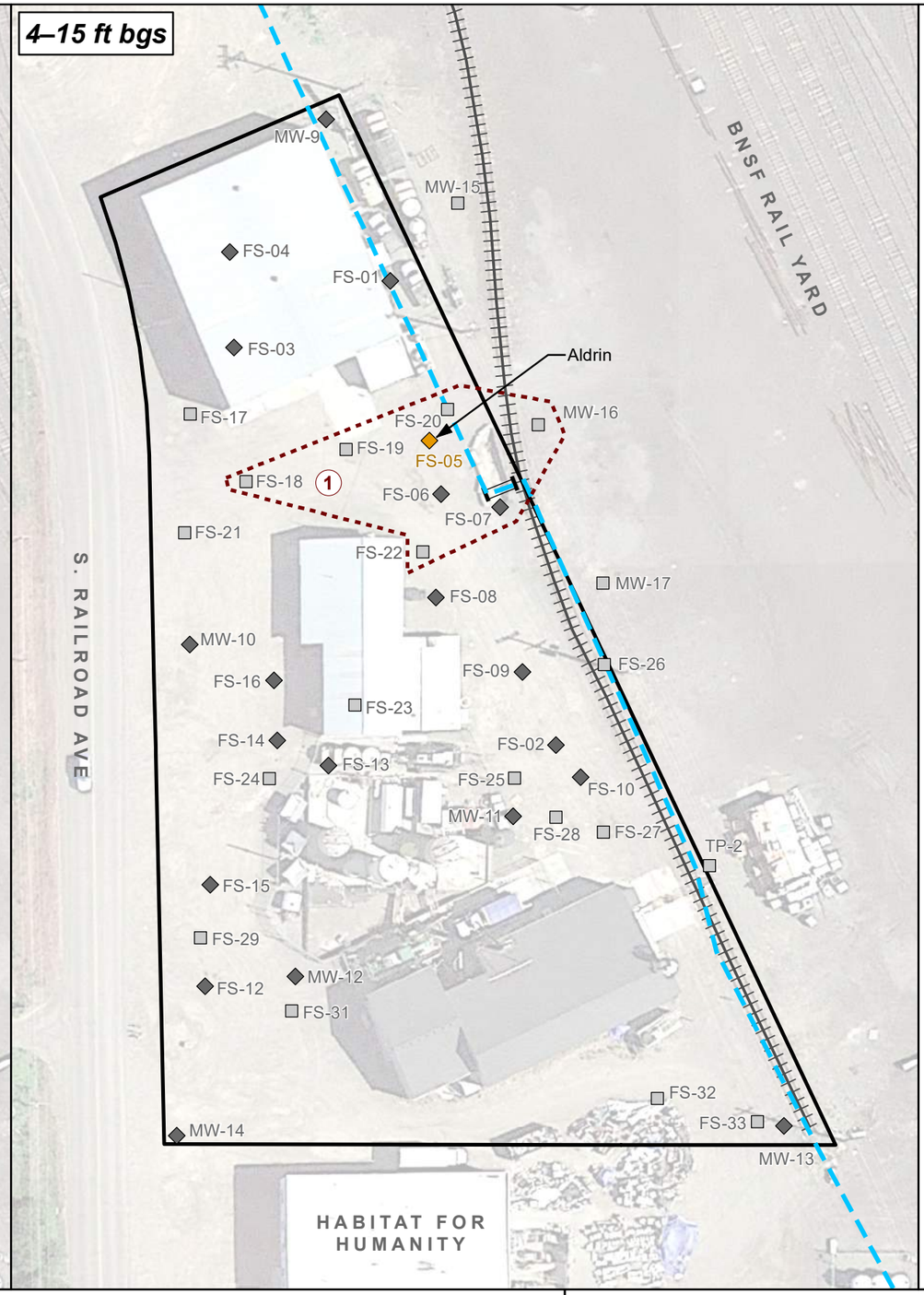
FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.16
Aldrin and beta-BHC Data Compared to Soil and Groundwater CULs

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.16 Aldrin and beta-BHC Data Compared to Soil and Groundwater CULs.mxd
4/28/2021





Legend

Soil Sample Location

- Phase 2 Soil Sample[1]
- Prior Event Soil Sample

Other Features

- Property Boundary
- Area of Concern (with ID)
- Approximate Location of Historical Irrigation Ditch
- Rail Spur
- Culvert

Compliance Information[2,3]

- >10 Times Direct Contact CUL
- >2 Times Direct Contact CUL
- >1 Times Direct Contact CUL
- Nondetect Exceedance
- Meets Direct Contact CUL

Soil Direct Contact CUL

Aldrin: 0.059 mg/kg
Atrazine: 4.3 mg/kg
Chlordane: 2.9 mg/kg
alpha-Chlordane: 2.9 mg/kg
DDT: 2.9 mg/kg
Simazine: 8.3 mg/kg

Notes:
1. The laboratory achieved lower reporting limits during Phase 2 soil sampling events conducted in 2017-2018. For more information, see Appendix H.
2. Soil sampling locations are colored according to the maximum exceedance factor at that location within the indicated depth group.
3. The basis for the direct contact CUL is described in Section 6.2. The direct contact CUL may become the proposed CUL if groundwater data empirically demonstrate compliance with the leaching pathway.

· CUL is rounded to two significant figures.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
DDT= Dichlorodiphenyltrichloroethane
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram

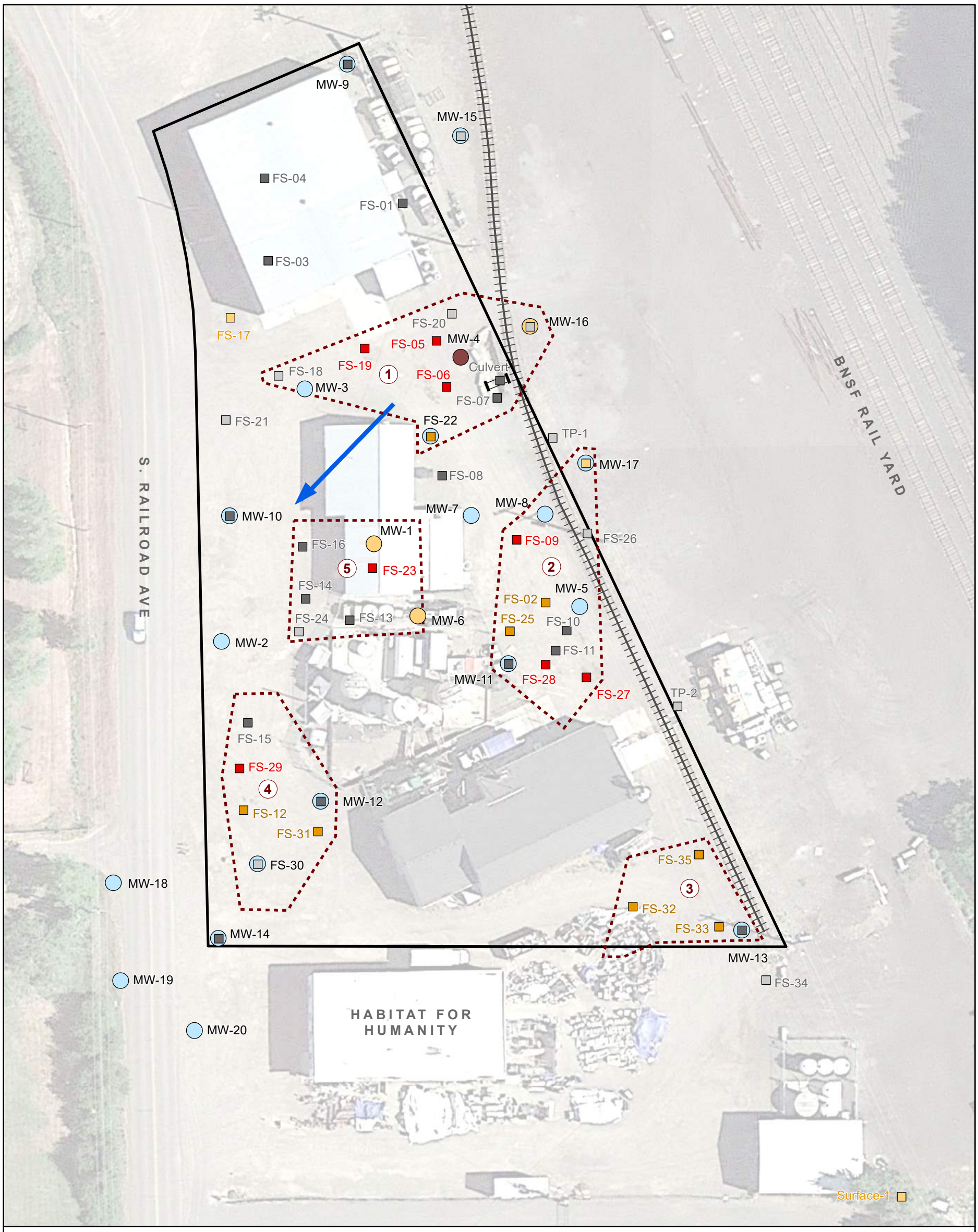
0 30 60 120
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.17
Other Pesticide Data Compared to Soil Direct Contact CULs

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.17 Other Pesticide Data Compared to Soil Direct Contact CULs.mxd
4/28/2021



Legend

Sample Location and Type

- Groundwater Sample
- Soil Sample

Other Features

- Property Boundary
- Area of Concern (with ID)
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information

Soil[1,2]

- >20 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect Exceedance
- Meets Proposed CUL

Groundwater[3]

- >10 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect/Meets Proposed CUL

Soil Proposed CUL
Toxaphene: 0.84 mg/kg

Groundwater Proposed CUL
Toxaphene: 0.80 µg/L

Notes:
1. Soil sampling locations are colored according to the maximum exceedance factor at that location.
2. Soil proposed CUL is protective of the leaching pathway. Groundwater data may be used to perform an empirical demonstration that existing soil concentrations are protective of groundwater. Refer to Section 6.4 for further analysis.
3. Groundwater sampling locations are colored according to the exceedance factor of the compliance result; refer to Table 6.9.

· CULs are rounded to two significant figures.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
mg/kg = Milligrams per kilogram
µg/L = Micrograms per liter

N

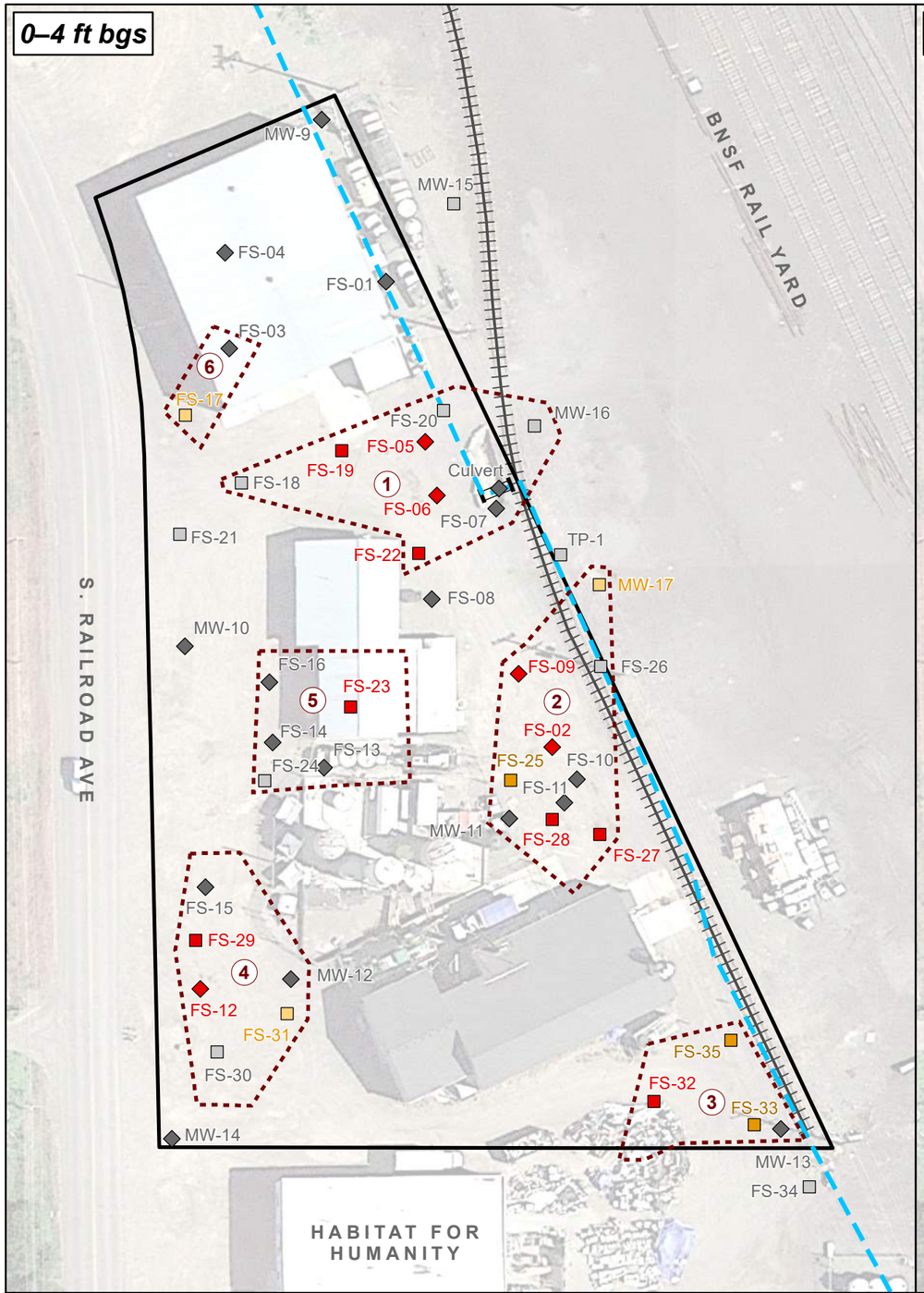
0 25 50 100
Scale in Feet

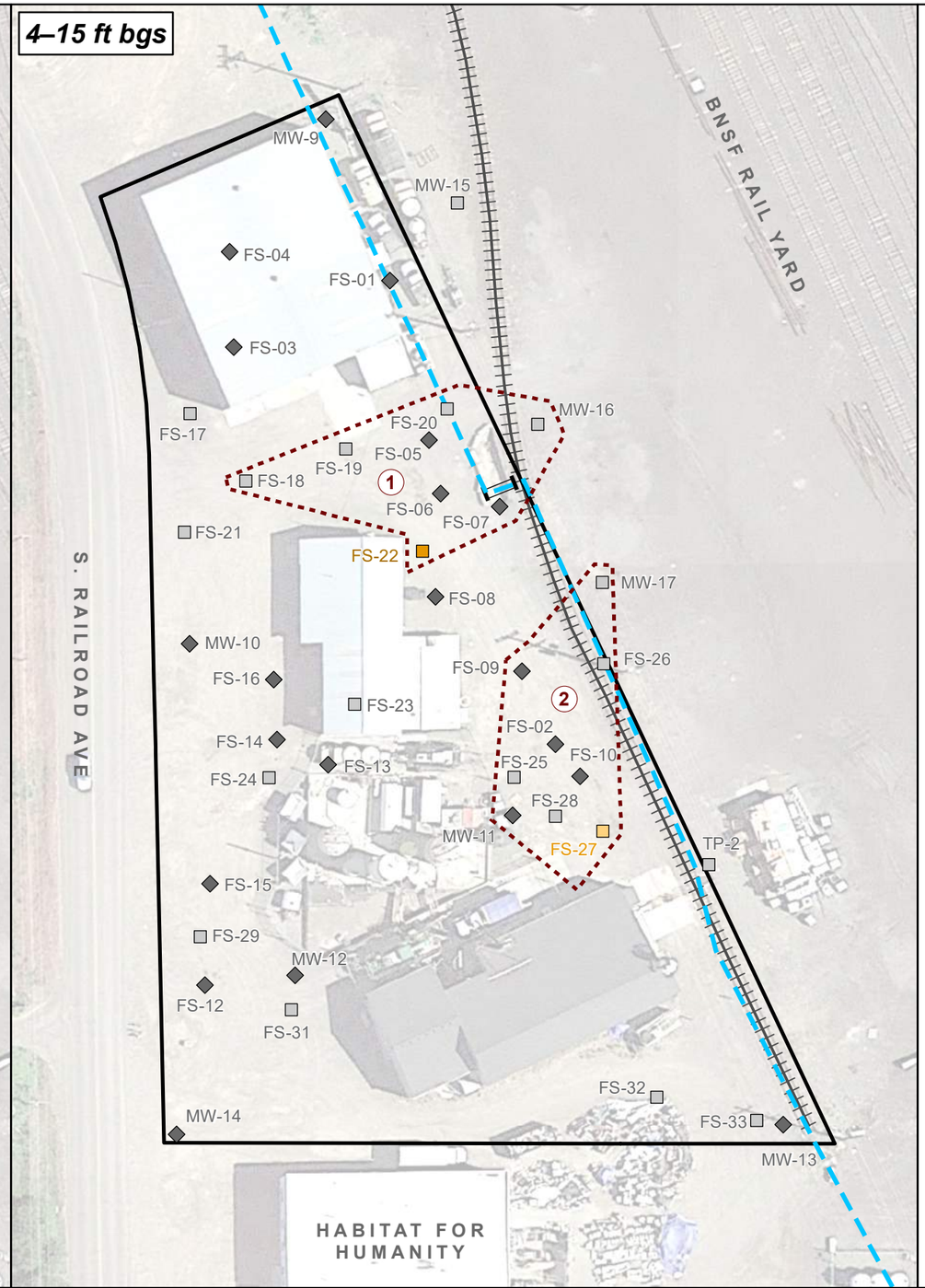
FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study Smith-Kem Site Ellensburg, Washington

Figure 6.18
Toxaphene Data Compared to Soil and Groundwater CULs

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.18 Toxaphene Data Compared to Soil and Groundwater CULs.mxd
4/28/2021





Legend

Soil Sample Location

- Phase 2 Soil Sample[1]
- Prior Event Soil Sample

Other Features

- Property Boundary
- Area of Concern (with ID)
- Approximate Location of Historical Irrigation Ditch
- Rail Spur
- Culvert

Compliance Information[2,3]

- >10 Times Direct Contact CUL
- >2 Times Direct Contact CUL
- >1 Times Direct Contact CUL
- Nondetect Exceedance
- Meets Direct Contact CUL

Soil Direct Contact CUL
Toxaphene: 0.91 mg/kg

Notes:
1. The laboratory achieved lower reporting limits during Phase 2 soil sampling events conducted in 2017-2018. For more information, see Appendix H.
2. Soil sampling locations are colored according to the maximum exceedance factor at that location within the indicated depth group.
3. The basis for the direct contact CUL is described in Section 6.2. The direct contact CUL may become the proposed CUL if groundwater data empirically demonstrate compliance with the leaching pathway.

· CUL is rounded to two significant figures.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram

N

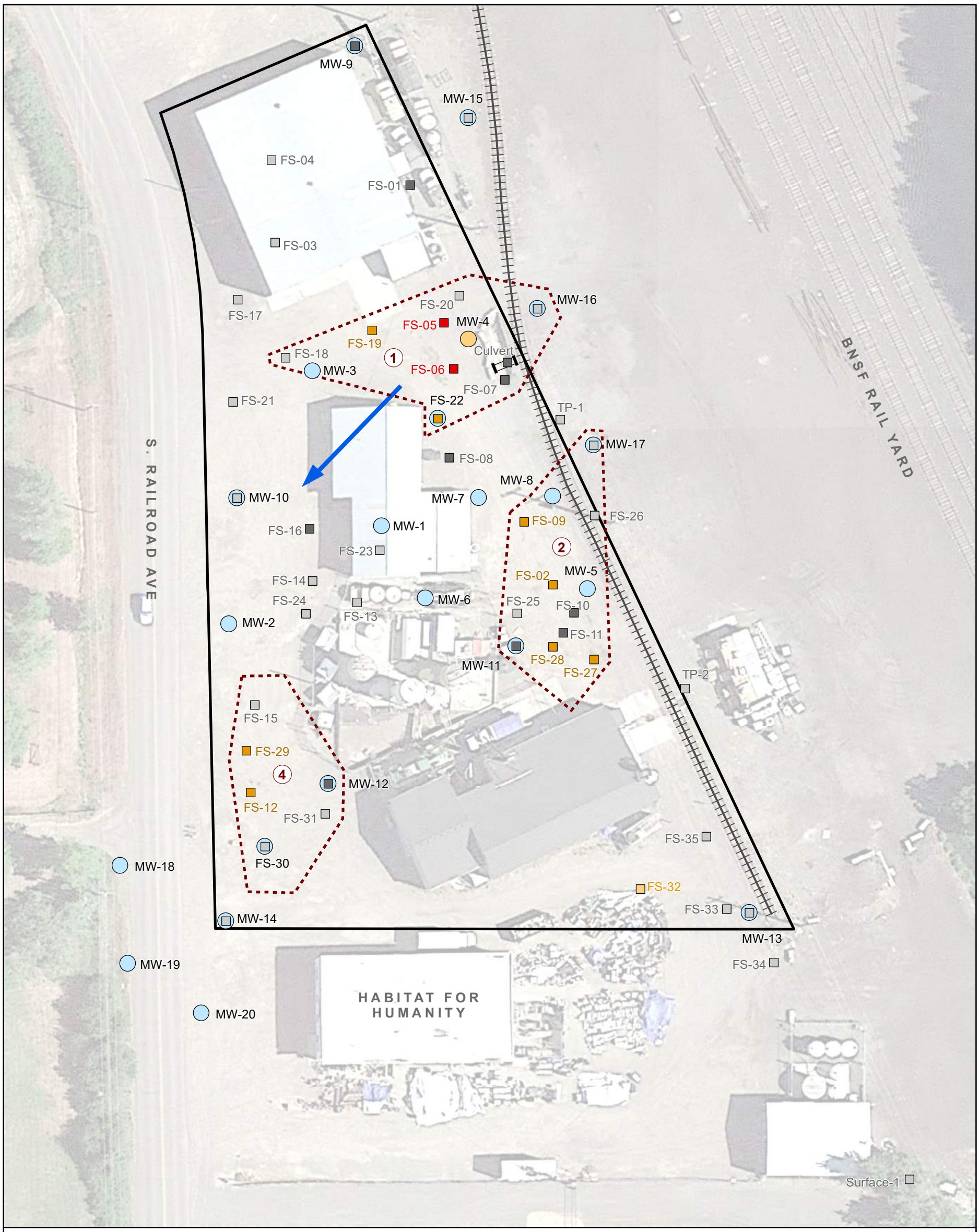
0 30 60 120
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.19
Toxaphene Data Compared to Soil Direct Contact CUL

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.19 Toxaphene Data Compared to Soil Direct Contact CUL.mxd
4/28/2021



Legend

Sample Location and Type

- Groundwater Sample
- Soil Sample

Other Features

- Property Boundary
- Area of Concern (with ID)
- Approximate Groundwater Flow Direction
- Rail Spur
- Culvert

Compliance Information

Soil[1,2]

- >20 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect Exceedance
- Meets Proposed CUL

Groundwater[3]

- >10 Times Proposed CUL
- >1 Times Proposed CUL
- Nondetect/Meets Proposed CUL

Soil Proposed CUL
Chlordane: 1.1 mg/kg

Groundwater Proposed CUL
Chlordane: 2.0 µg/L

Notes:
1. Soil sampling locations are colored according to the maximum exceedance factor at that location.
2. Soil proposed CUL is protective of the leaching pathway. Groundwater data may be used to perform an empirical demonstration that existing soil concentrations are protective of groundwater. Refer to Section 6.4 for further analysis.
3. Groundwater sampling locations are colored according to the exceedance factor of the compliance result; refer to Table 6.9.

· CULs are rounded to two significant figures.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
mg/kg = Milligrams per kilogram
µg/L = Micrograms per liter

N

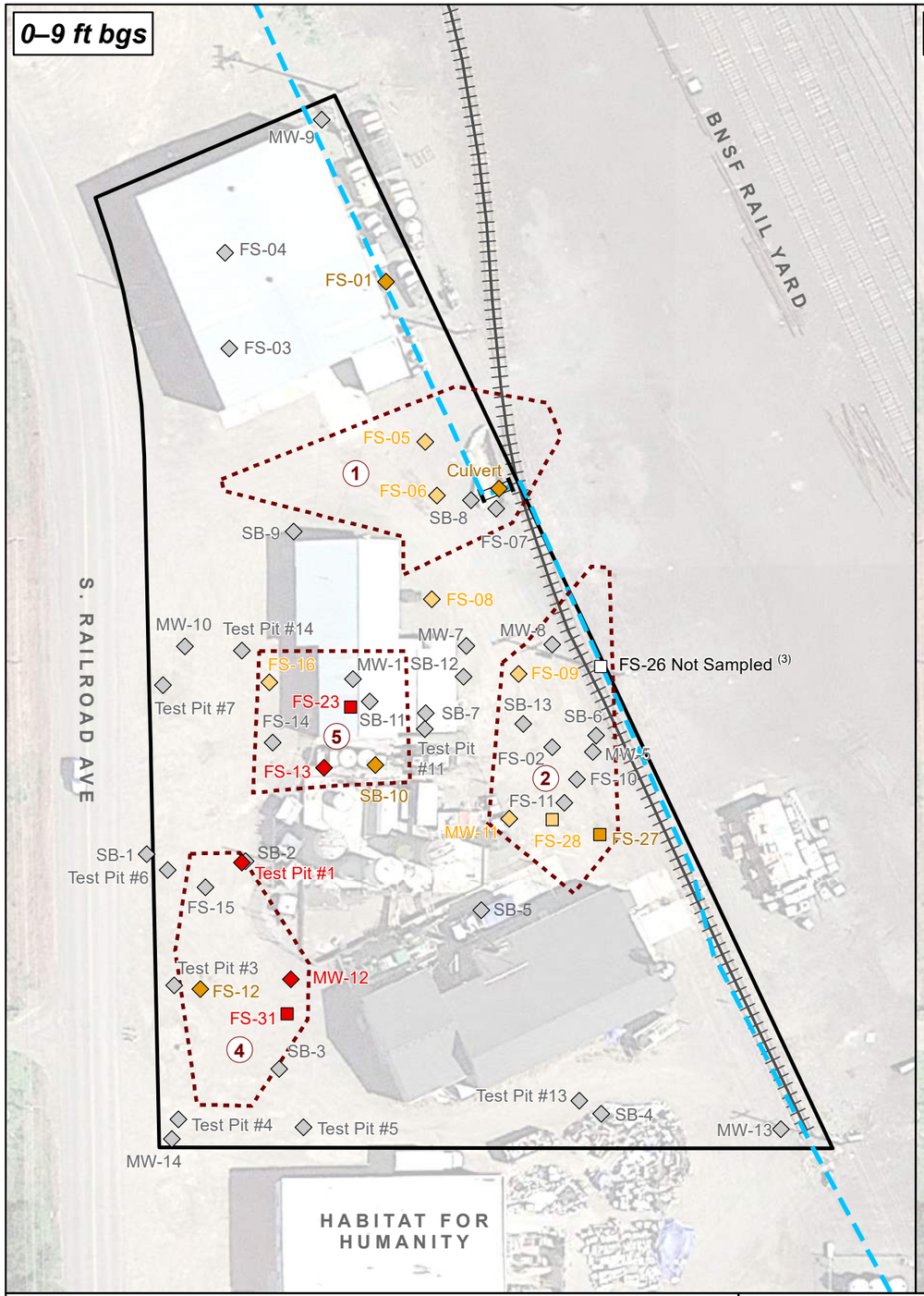
0 25 50 100
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.20
Chlordane Data Compared to Soil and Groundwater CULs

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.20 Chlordane Data Compared to Soil and Groundwater CULs.mxd
4/28/2021



Legend

Soil Sample Location

- Phase 2 Soil Sample
- Prior Event Soil Sample

Other Features

- Property Boundary
- Area of Concern (with ID)
- Approximate Location of Historical Irrigation Ditch
- Rail Spur
- Culvert

Compliance Information[1,2]

- >10 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Meets Proposed CUL

Soil Proposed CUL
DRO+ORO: 460 mg/kg

Notes:
1. Soil sampling locations are colored according to the maximum exceedance factor at that location within the indicated depth group.
2. The basis for the proposed CUL is described in Section 6.2.
3. No evidence of TPH contamination observed in the field at location FS-26.
- CUL is rounded to two significant figures.
- Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
DRO = Diesel-range TPH
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
ORO = Oil-range TPH
TPH = Total petroleum hydrocarbons

N

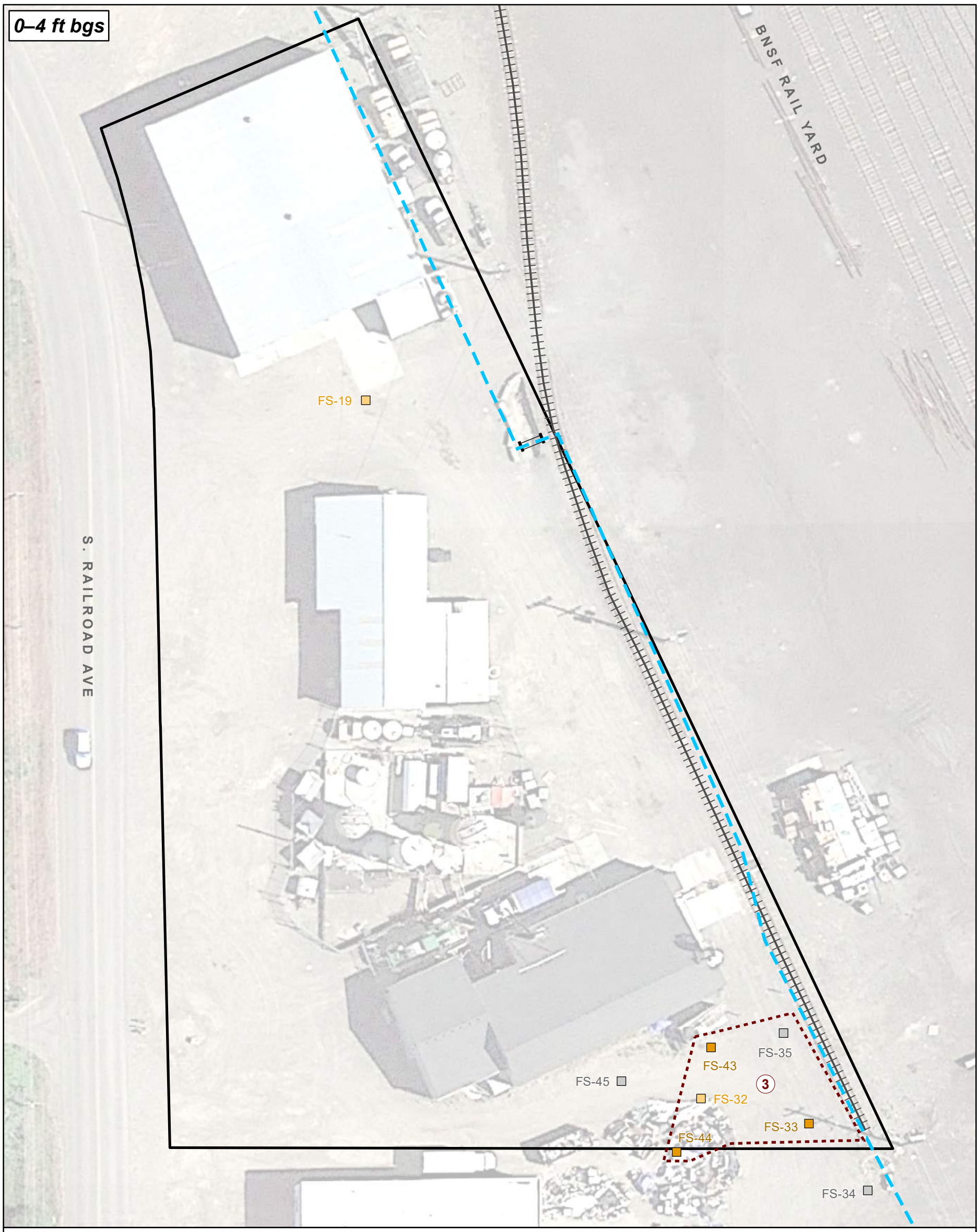
0 30 60 120
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 6.21
TPH Data Compared to Soil Proposed CUL

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.21 TPH Data Compared to Soil CUL.mxd
4/28/2021



Legend

Soil Sample Location

- Phase 2 Soil Sample

Other Features

- Property Boundary
- Area of Concern (with ID)
- Approximate Location of Historical Irrigation Ditch
- Rail Spur
- Culvert

Compliance Information(1,2)

- >10 Times Proposed CUL
- >2 Times Proposed CUL
- >1 Times Proposed CUL
- Meets Proposed CUL

Soil Proposed CUL

Dioxins/furans: 13.0 ng/kg

Notes:
1. Soil sampling locations are colored according to the maximum exceedance factor at that location.
2. The basis for the proposed CUL is described in Section 6.2.
· CUL is rounded to three significant figures.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
BNSF = BNSF Railway
CUL = Cleanup level
ft bgs = Feet below ground surface
ng/kg = Nanograms per kilogram

N

0 20 40 80

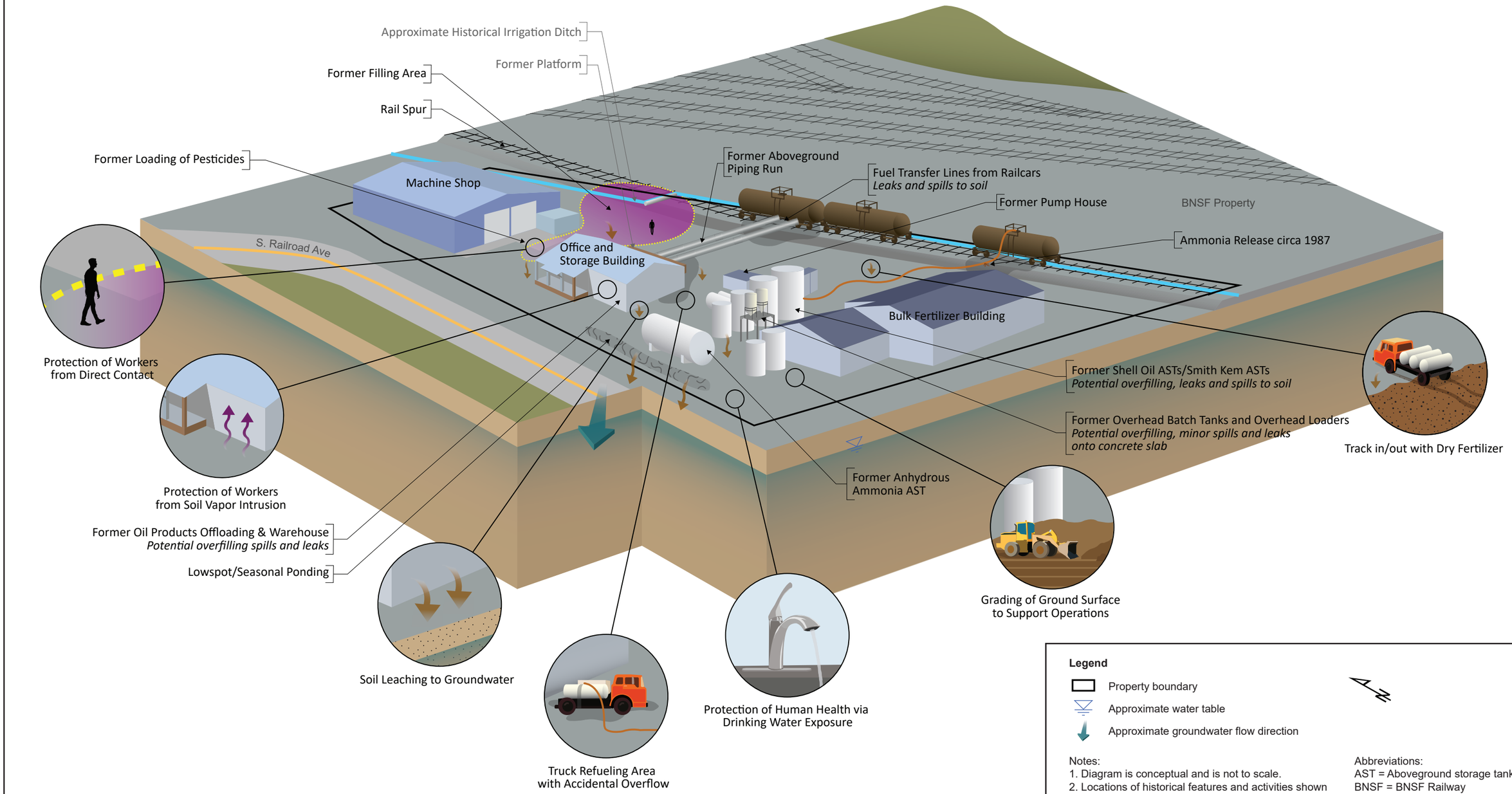
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study Smith-Kem Site Ellensburg, Washington

Figure 6.22
Dioxin/Furan Data Compared to Soil Proposed CUL

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 6.22 Dioxin Furan Data Compared to Soil CUL.mxd
4/28/2021



Legend

- Property boundary
- Approximate water table
- Approximate groundwater flow direction

Notes:
1. Diagram is conceptual and is not to scale.
2. Locations of historical features and activities shown are approximate due to limited historical records.
3. Diagram presents all known current and historical transport pathways and current and future exposure pathways and contaminant migration.

Abbreviations:
AST = Aboveground storage tank
BNSF = BNSF Railway
UST = Underground storage tank

FLOYD | SNIDER
strategy ▪ science ▪ engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 7.1
Conceptual Site Model

I:\GIS\Projects\FP-SmithKem\AI\RI Report CSM Figure\Figure 7.1 Conceptual Site Model.ai
02/24/2021

Legend

- Area of Concern (with ID)

Remedial Investigation Sample Locations

- Monitoring Well
- Temporary Monitoring Well
- Soil Boring with Temporary Monitoring Well
- Soil Sample
- Test Pit

Historical Sample Locations

- Soil Sample
- Test Pit

Other Features

- Property Boundary
- Rail Spur

Note:
· Aerial imagery obtained from Google Earth, 2017.

Abbreviation:
TPH = Total petroleum hydrocarbons

Pesticides

Pesticides TPH Dioxins/Furans

Pesticides TPH

Pesticides, TPH

Pesticides, Lead, TPH

Pesticides Dioxins/Furans

MW-9 MW-15 MW-16 MW-17 MW-18 MW-19 MW-20 MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7 MW-8 MW-10 MW-11 MW-12 MW-13 MW-14

FS-01 FS-02 FS-03 FS-04 FS-05 FS-06 FS-07 FS-08 FS-09 FS-10 FS-11 FS-12 FS-13 FS-14 FS-15 FS-16 FS-17 FS-18 FS-19 FS-20 FS-21 FS-22 FS-23 FS-24 FS-25 FS-26 FS-27 FS-28 FS-29 FS-30 FS-31 FS-32 FS-33 FS-34 FS-35 FS-42 FS-43 FS-44 FS-45

SB-1 SB-2 SB-3 SB-4 SB-5 SB-6 SB-7 SB-8 SB-9 SB-10 SB-11 SB-12 SB-13

Test Pit #1 Test Pit #2 Test Pit #3 Test Pit #4 Test Pit #5 Test Pit #6 Test Pit #7 Test Pit #10 Test Pit #11 Test Pit #12 Test Pit #13 Test Pit #14

Culvert

TP-1 TP-2

Surface-1

1 2 3 4 5 6

S. RAILROAD AVE

BNSF RAIL YARD

HABITAT FOR HUMANITY

0 22.5 45 90
Scale in Feet
N

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study Smith-Kem Site Ellensburg, Washington

Figure 7.2
Soil and Groundwater Sampling Locations and Soil Areas of Concern

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 7.2 Soil and Groundwater Sampling Locations and Soil Areas of Concern.mxd
4/28/2021

Legend

Site Boundary (Dashed Where Inferred)

Remedial Investigation Sample Locations

- Monitoring Well
- Temporary Monitoring Well
- Soil Boring with Temporary Monitoring Well
- Soil Sample
- Test Pit

Historical Sample Locations

- Soil Sample
- Test Pit

Other Features

- Property Boundary
- Rail Spur

Note:
· Aerial imagery obtained from Google Earth, 2017.

MW-9, MW-15, FS-04, FS-01, FS-03, FS-17, FS-20, FS-05, MW-16, FS-19, MW-4, Culvert, FS-18, MW-3, SB-8, FS-06, FS-07, Test Pit #10, SB-9, FS-21, FS-22, TP-1, MW-17, FS-08, MW-10, Test Pit #14, MW-7, MW-8, MW-1, FS-16, SB-12, FS-09, FS-26, Test Pit #7, SB-11, FS-23, SB-7, SB-13, SB-6, Test Pit #11, FS-14, SB-10, MW-6, FS-02, MW-5, FS-13, FS-25, FS-10, MW-2, FS-24, MW-11, FS-11, FS-27, FS-28, SB-1, SB-2, Test Pit #12, FS-42, TP-2, Test Pit #6, Test Pit #1, FS-15, SB-5, Test Pit #2, FS-29, Test Pit #3, MW-12, FS-12, FS-31, FS-30, SB-3, FS-35, FS-43, MW-18, FS-45, Test Pit #13, FS-32, Test Pit #4, SB-4, FS-33, Test Pit #5, MW-14, FS-44, MW-13, MW-19, FS-34, MW-20, Surface-1

S. RAILROAD AVE

BNSF RAIL YARD

HABITAT FOR HUMANITY

0 22.5 45 90
Scale in Feet

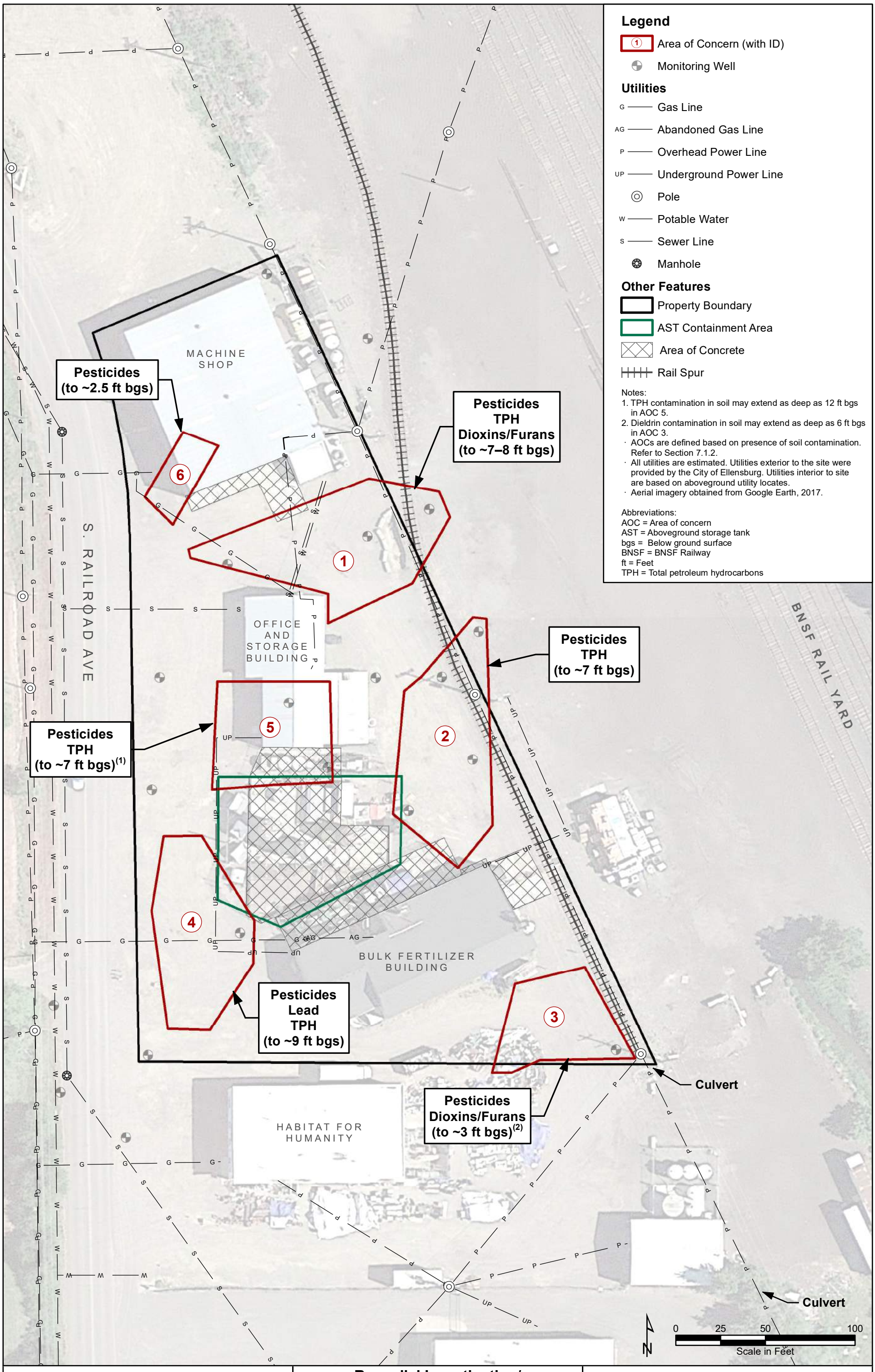
N

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 7.3
Site Boundary

I:\GIS\Projects\PKG-SmithKem\MXD\RI\RI 2021\Figure 7.3 Site Boundary.mxd
4/28/2021



Legend

- Area of Concern (with ID)
- Monitoring Well

Utilities

- G — Gas Line
- AG — Abandoned Gas Line
- P — Overhead Power Line
- UP — Underground Power Line
- Pole
- W — Potable Water
- S — Sewer Line
- Manhole

Other Features

- Property Boundary
- AST Containment Area
- Area of Concrete
- Rail Spur

Notes:
1. TPH contamination in soil may extend as deep as 12 ft bgs in AOC 5.
2. Dieldrin contamination in soil may extend as deep as 6 ft bgs in AOC 3.
- AOCs are defined based on presence of soil contamination. Refer to Section 7.1.2.
- All utilities are estimated. Utilities exterior to the site were provided by the City of Ellensburg. Utilities interior to site are based on aboveground utility locates.
- Aerial imagery obtained from Google Earth, 2017.

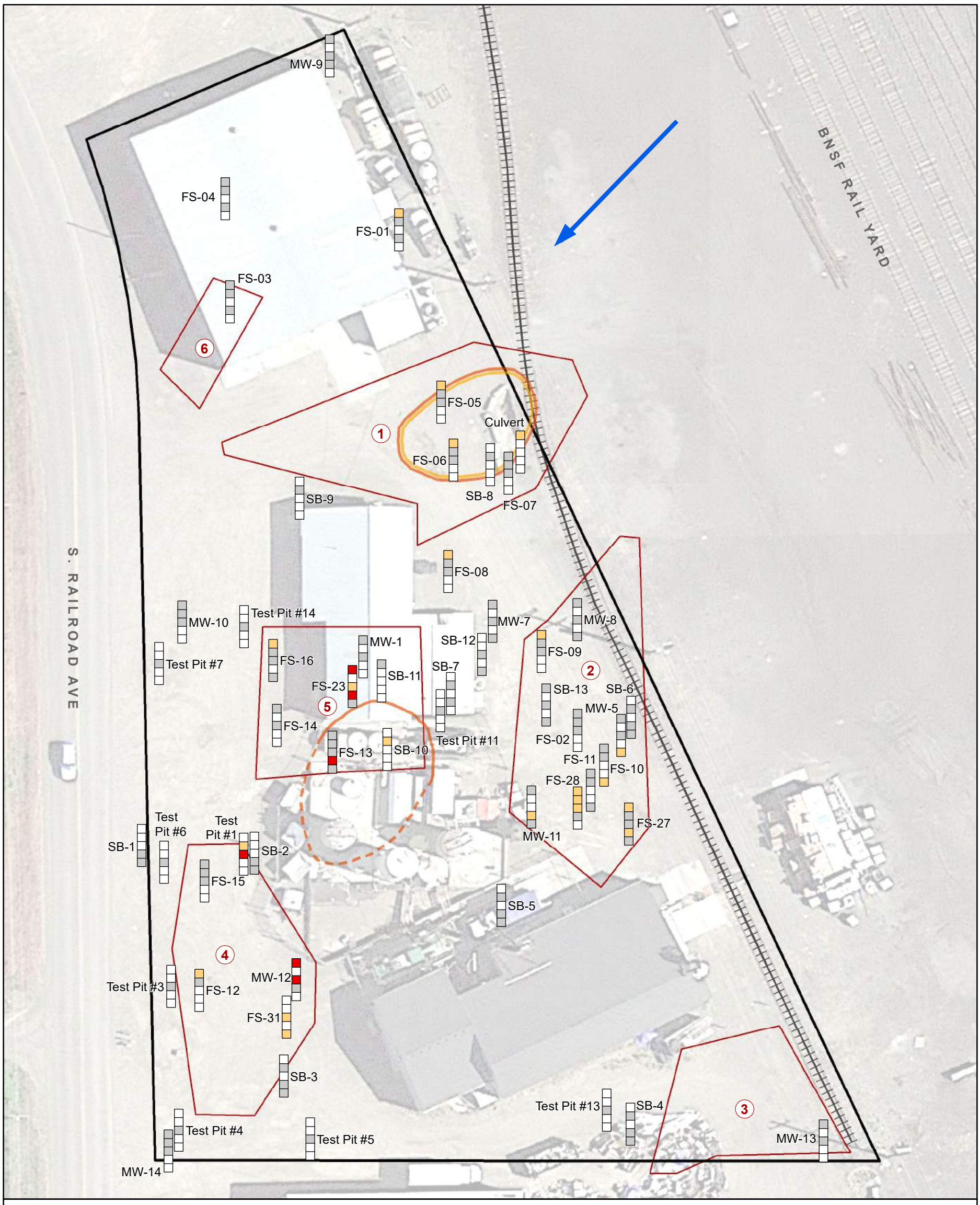
Abbreviations:
AOC = Area of concern
AST = Aboveground storage tank
bgs = Below ground surface
BNSF = BNSF Railway
ft = Feet
TPH = Total petroleum hydrocarbons

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.1
Areas of Concern and Site Features

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.1 Areas of Concern and Site Features.mxd
4/28/2021



Legend

① Area of Concern (with ID)

Approximate Extent of TPH in Groundwater

DRO >500 µg/L (dashed where inferred)

ORO >500 µg/L

Other Features

Property Boundary

Approximate Groundwater Flow Direction

Rail Spur

Soil Labels

Sample Depth Interval → 0–2 ft bgs, 2–4 ft bgs, 4–6 ft bgs, 6–8 ft bgs, 8+ ft bgs

Location ID → FS-01

Compliance Information

- One or More Results Greater Than REL
- One or More Results Greater Than CUL
- All Results Less Than CUL
- Not Analyzed

Soil Cleanup and Remediation Levels

DRO+ORO = 460 mg/kg (CUL)
DRO = 3,800 mg/kg (REL)
ORO = 8,700 mg/kg (REL)

Notes:
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
bgs = Below ground surface
BNSF = BNSF Railway
CUL = Cleanup level
DRO = Diesel-range TPH
ft = Feet
µg/L = Micrograms per liter
mg/kg = Milligrams per kilogram
ORO = Oil-range TPH
REL = Remediation level
TPH = Total petroleum hydrocarbons

N

0 20 40 80

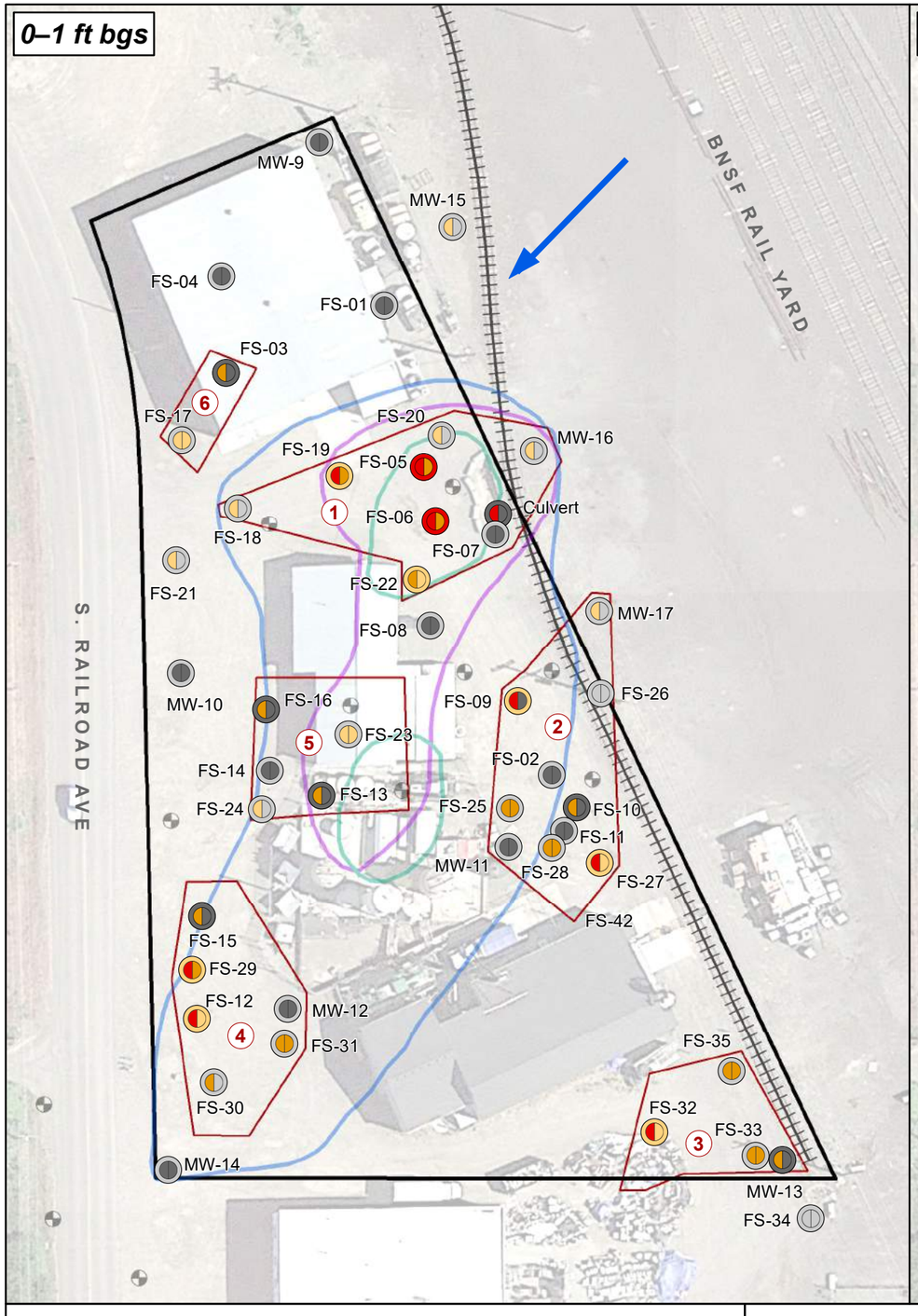
Scale in Feet

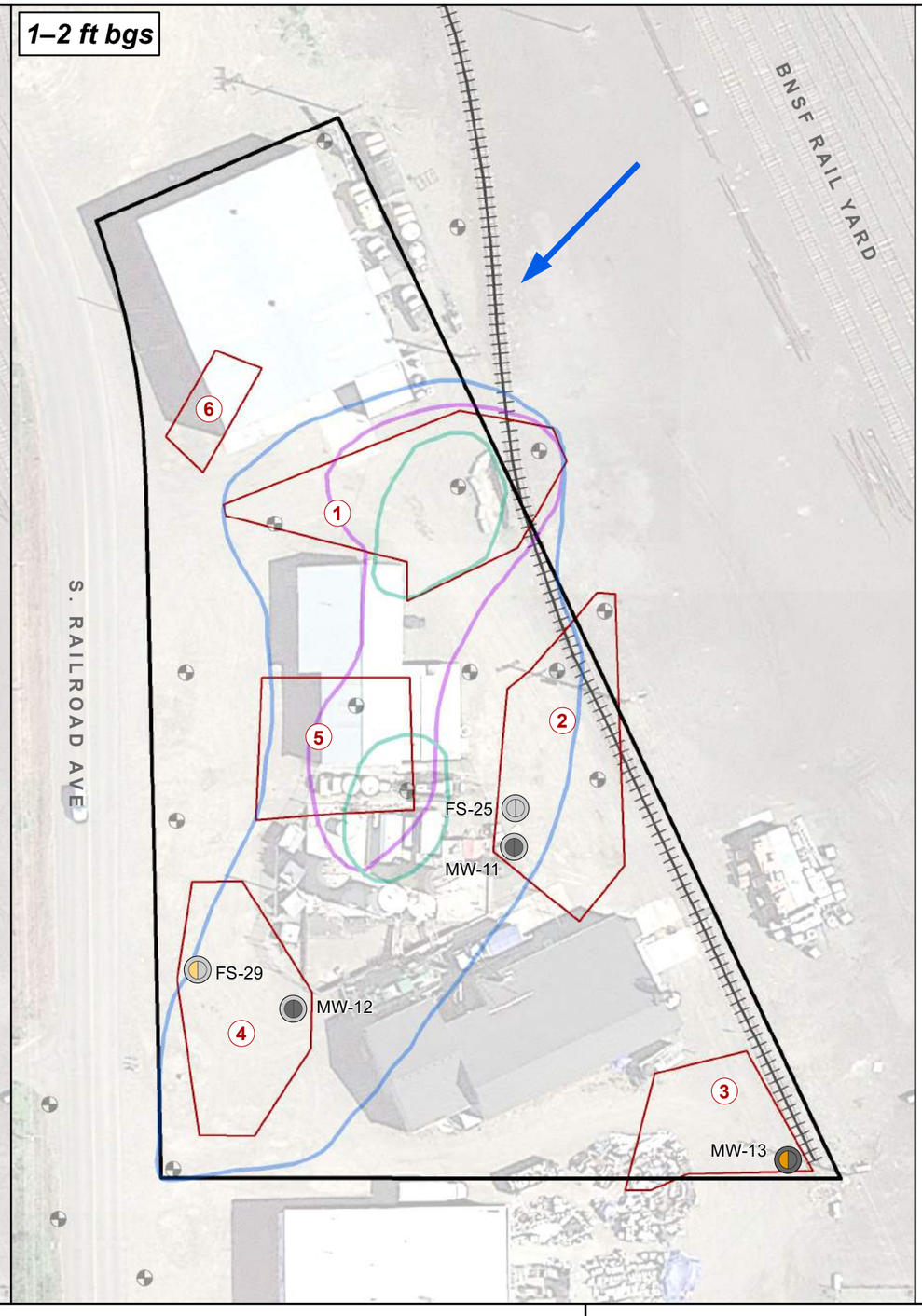
FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.2
TPH Data in Soil—Sitewide

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.2 TPH Data in Soil Sitewide.mxd
4/28/2021





Legend

- Area of Concern (with ID)
- Monitoring Well with No Results for Pesicides in Soil

Approximate Extent of Pesticides Exceeding Proposed CUL

- Dieldrin >0.0055 µg/L
- Toxaphene >0.80 µg/L
- Other Pesticides > Proposed CUL

Other Features

- Property Boundary
- Approximate Groundwater Flow Direction
- Rail Spur

Soil Labels

Other Pesticides / Dieldrin / Toxaphene

Compliance Information

- One or More Results Greater Than Direct Contact REL
- One or More Results Greater Than Leaching REL
- One or More Results Greater Than CUL
- Nondetect Exceedance
- Meets CUL
- Not Sampled

Notes:
· The applicable CULs for pesticide COCs are specific to the AOC. Refer to Table 7.2 for details.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOC = Area of concern
bgs = Below ground surface
BNSF = BNSF Railway
COC = Chemical of concern
CUL = Cleanup level
ft = Feet
µg/L = Micrograms per liter
REL = Remediation level

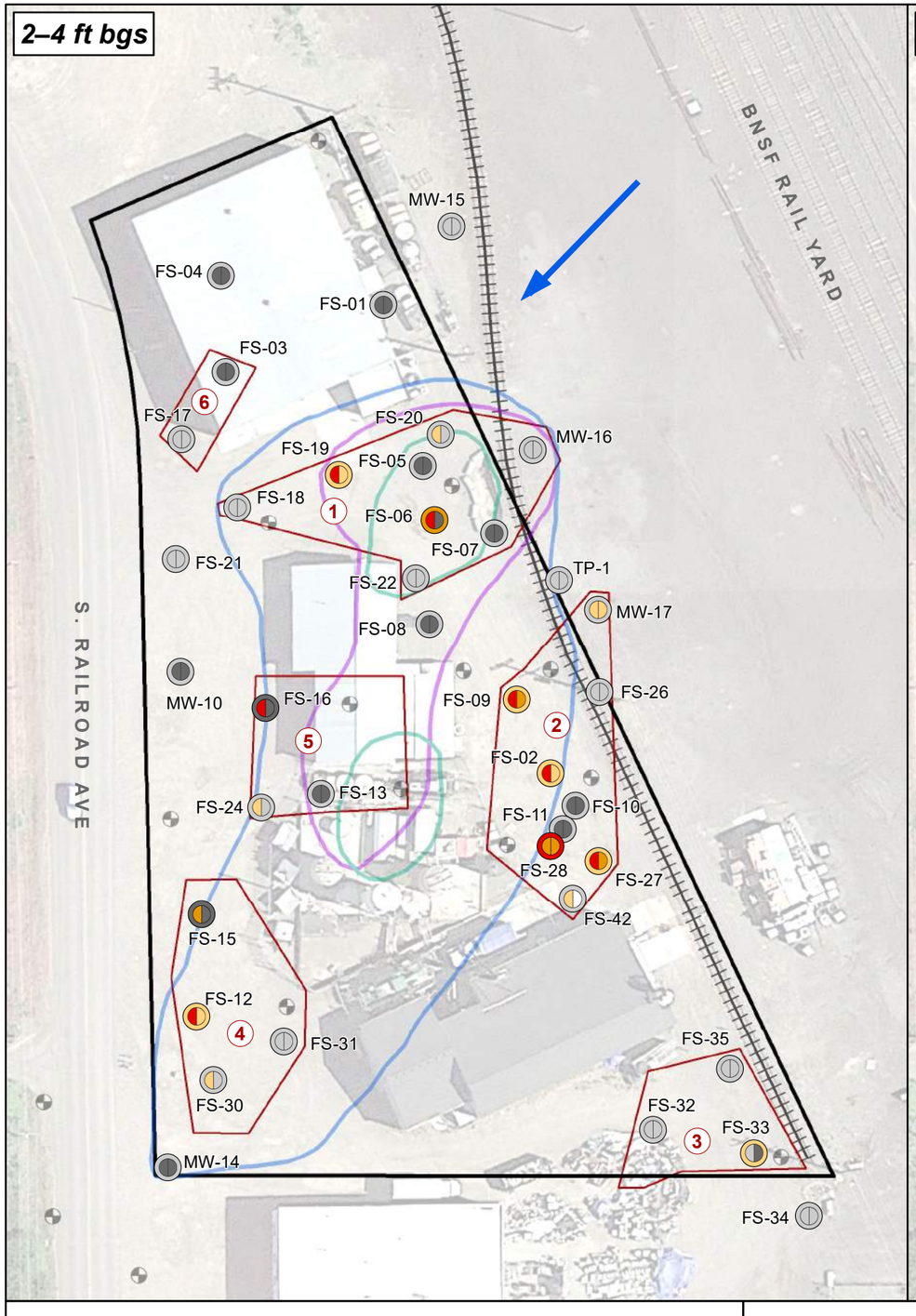
N
0 30 60 120
Scale in Feet

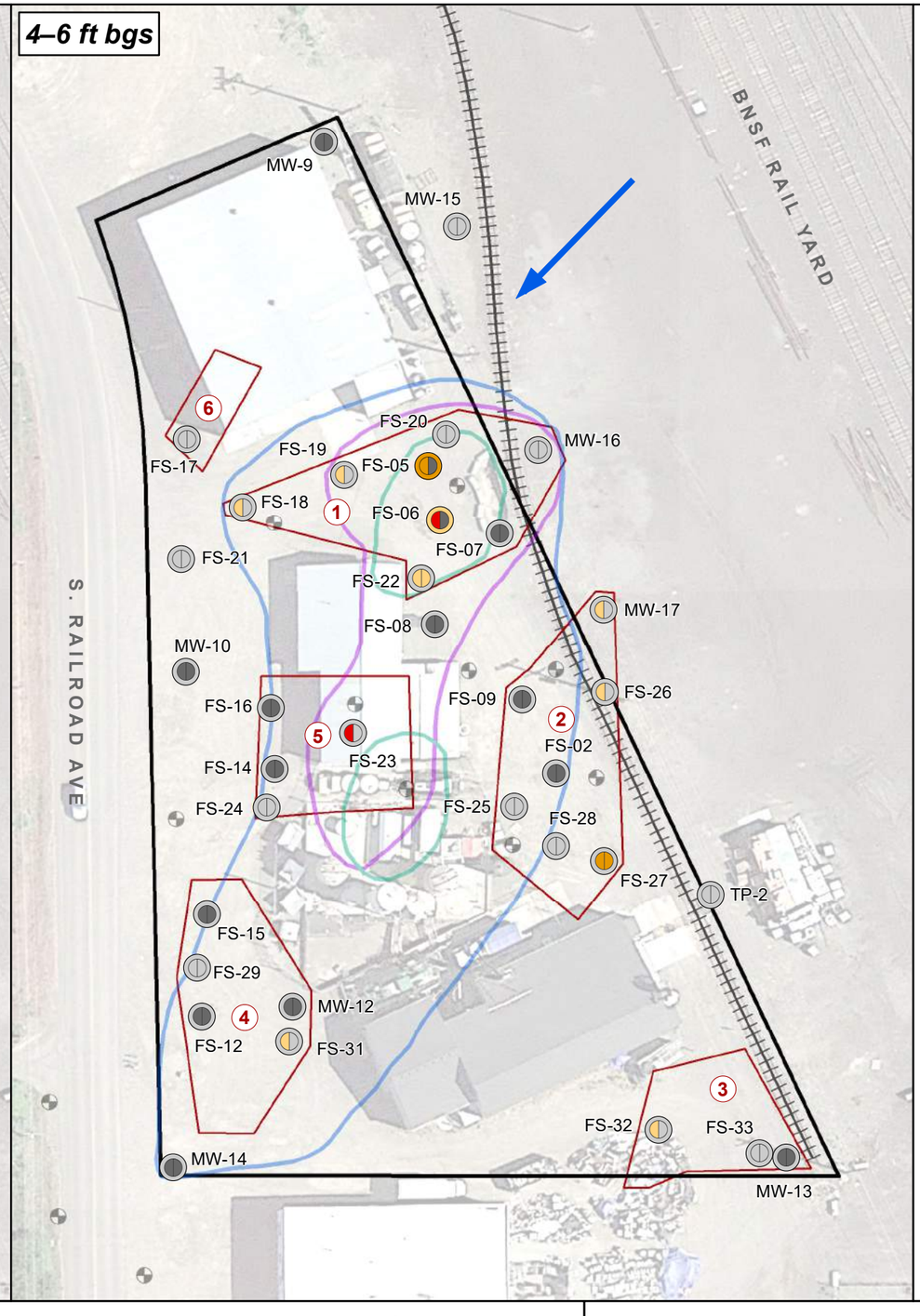
FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.3
Pesticide Data in Soil—Sitewide
(0–2 ft bgs)

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.3 Pesticide Data in Soil Sitewide 0-2 ft bgs.mxd
5/18/2021





Legend

- Area Of Concern (with ID)
- Monitoring Well with No Results for Pesicides in Soil

Approximate Extent of Pesticides Exceeding Proposed CUL

- Dieldrin >0.0055 µg/L
- Toxaphene >0.80 µg/L
- Other Pesticides > Proposed CUL

Other Features

- Property Boundary
- Approximate Groundwater Flow Direction
- Rail Spur

Soil Labels

Other Pesticides / Dieldrin / Toxaphene

Compliance

- One or More Results Greater Than Direct Contact REL
- One or More Results Greater Than Leaching REL
- One or More Results Greater Than
- Nondetect
- Meets CUL
- Not Sampled

Notes:
· The applicable CULs for pesticide COCs are specific to the AOC. Refer to Table 7.2 for details.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOC = Area of concern
bgs = Below ground surface
BNSF = BNSF Railway
COC = Chemical of concern
CUL = Cleanup level
ft = Feet
µg/L = Micrograms per liter
REL = Remediation level

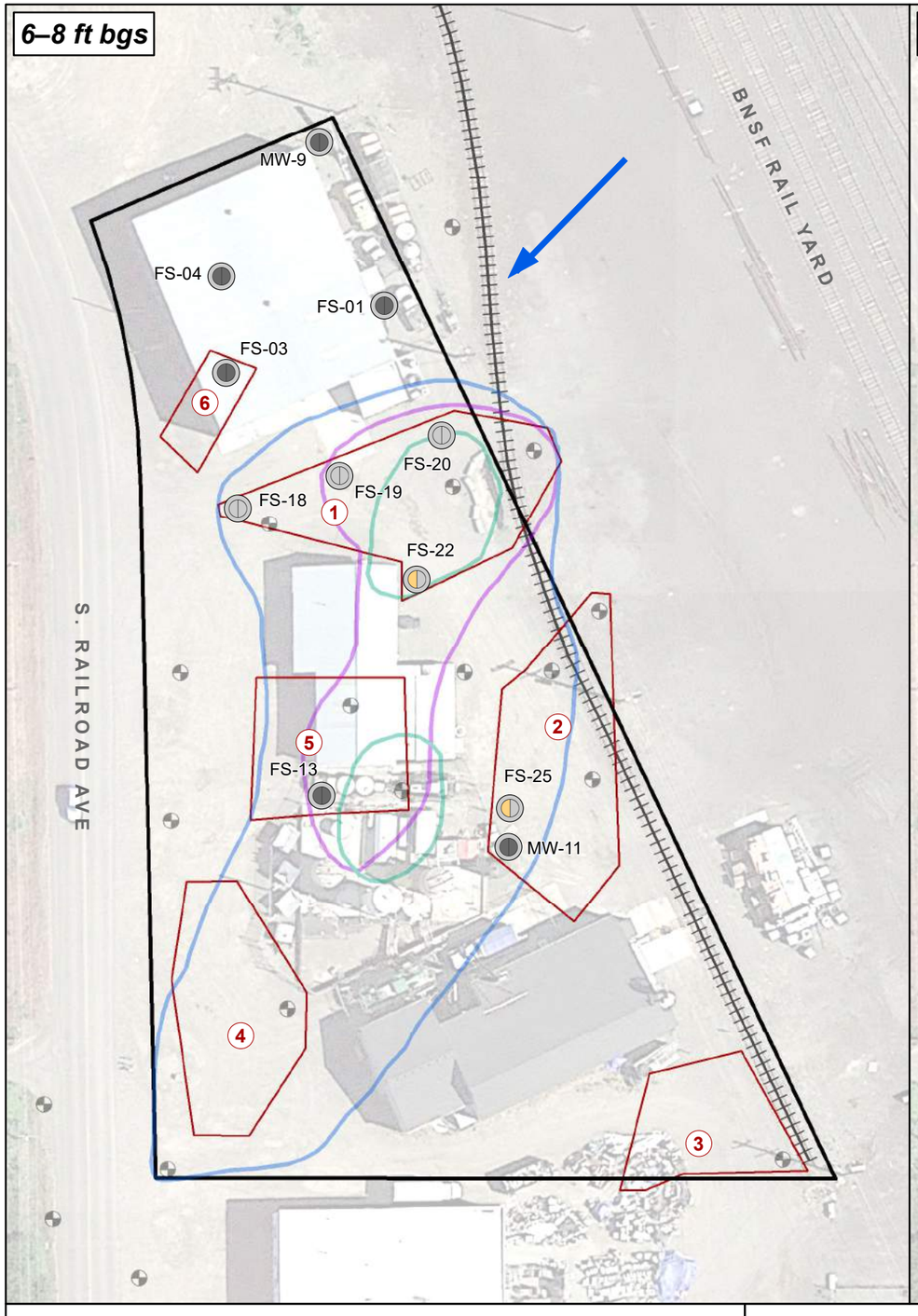
N
0 30 60 120
Scale in Feet

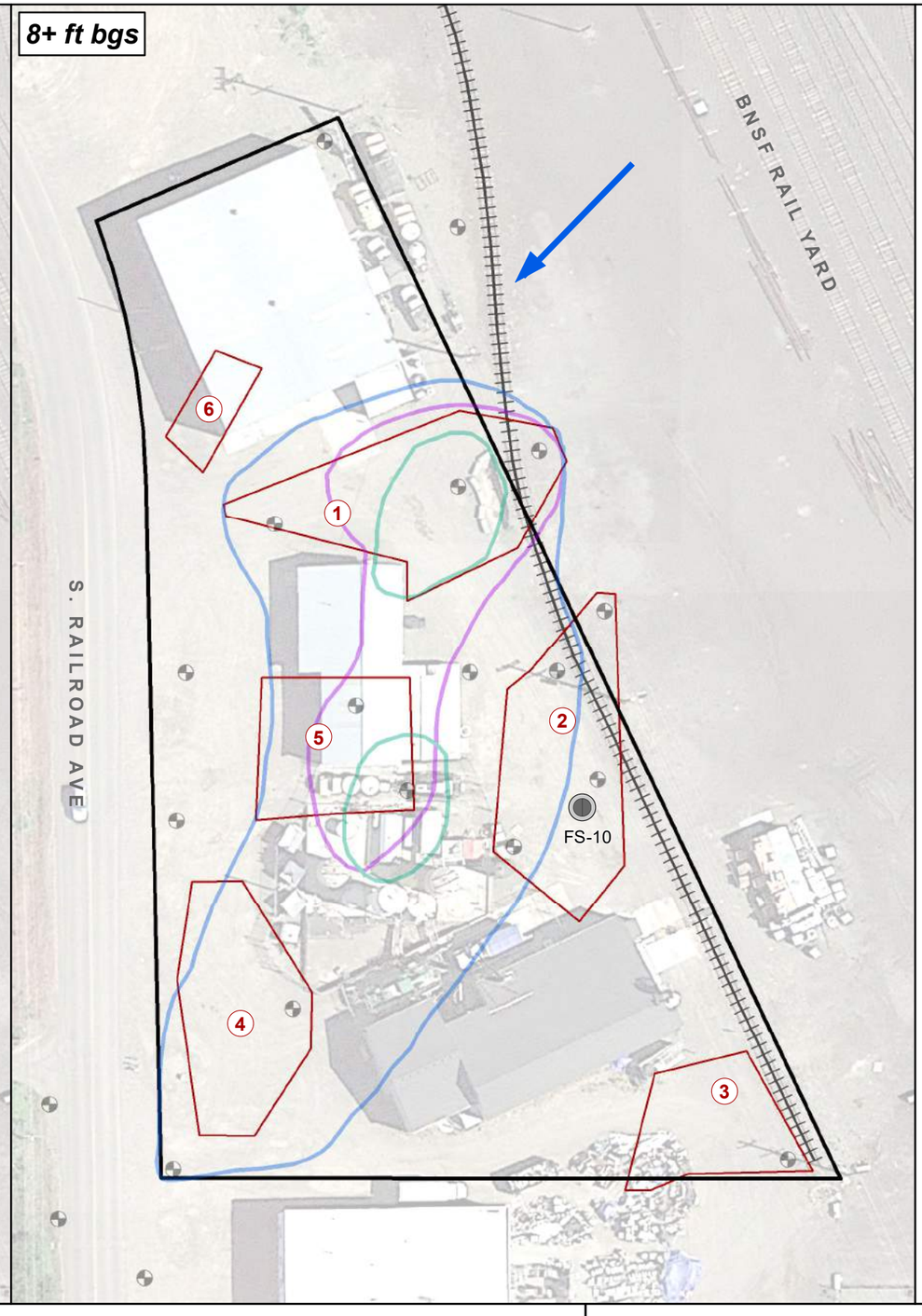
FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.4
Pesticide Data in Soil—Sitewide
(2–6 ft bgs)

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.4 Pesticide Data in Soil Sitewide 2-6 ft bgs.mxd
5/18/2021





Legend

- Area of Concern (with ID)
- Monitoring Well with No Results for Pesicides in Soil

Approximate Extent of Pesticides Exceeding Proposed CUL

- Dieldrin >0.0055 µg/L
- Toxaphene >0.80 µg/L
- Other Pesticides > Proposed CUL

Other Features

- Property Boundary
- Approximate Groundwater Flow Direction
- Rail Spur

Soil Labels

Other Pesticides
Dieldrin — Toxaphene

Compliance Information

- One or More Results Greater Than Direct Contact REL
- One or More Results Greater Than Leaching REL
- One or More Results Greater Than CUL
- Nondetect Exceedance
- Meets CUL
- Not Sampled

Notes:
· The applicable CULs for pesticide COCs are specific to the AOC. Refer to Table 7.2 for details.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOC = Area of concern
bgs = Below ground surface
BNSF = BNSF Railway
COC = Chemical of concern
CUL = Cleanup level
ft = Feet
µg/L = Micrograms per liter
REL = Remediation level

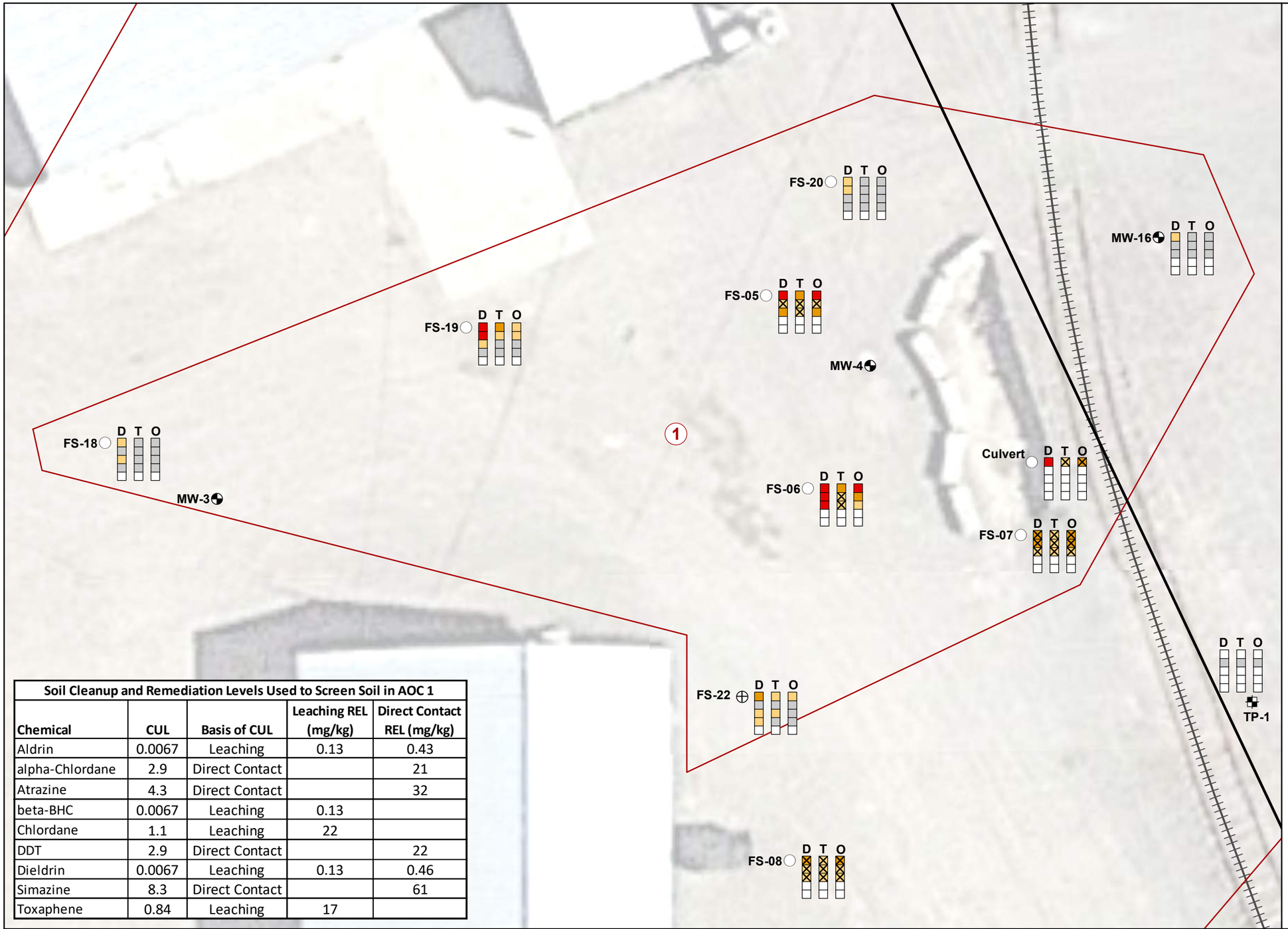
N
0 30 60 120
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.5
Pesticide Data in Soil—Sitewide
(6+ ft bgs)

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.5 Pesticide Data in Soil Sitewide 6+ ft bgs.mxd
5/18/2021



Soil Cleanup and Remediation Levels Used to Screen Soil in AOC 1				
Chemical	CUL	Basis of CUL	Leaching REL (mg/kg)	Direct Contact REL (mg/kg)
Aldrin	0.0067	Leaching	0.13	0.43
alpha-Chlordane	2.9	Direct Contact		21
Atrazine	4.3	Direct Contact		32
beta-BHC	0.0067	Leaching	0.13	
Chlordane	1.1	Leaching	22	
DDT	2.9	Direct Contact		22
Dieldrin	0.0067	Leaching	0.13	0.46
Simazine	8.3	Direct Contact		61
Toxaphene	0.84	Leaching	17	

Legend

① Area of Concern (with ID)

Remedial Investigation Sample Locations

- Monitoring Well
- Soil Boring with Temporary Monitoring Well
- Soil Sample
- Test Pit

Other Features

- Property Boundary
- Rail Spur

Soil Labels

Location ID: FS-22 ⊕ | Chemical Group: D T O | Sample Depth Interval: 0–2 ft bgs; 2–4 ft bgs; 4–6 ft bgs; 6–8 ft bgs; 8+ ft bgs

Chemical Group Key:
D = Dieldrin T = Toxaphene O = Other Pesticides

Compliance Information

- One or More Results Greater Than Direct Contact REL
- One or More Results Greater Than Leaching REL
- One or More Results Greater Than CUL
- Meets CUL
- Nondetect Exceedance
- Not Sampled

Notes:
· Locations outside of the AOC are compared to sitewide criteria.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOC = Area of concern
bgs = Below ground surface
BHC = Benzene hexachloride
CUL = Cleanup level
DDT = Dichlorodiphenyltrichloroethane
ft = Feet
mg/kg = Milligrams per kilogram
REL = Remediation level

N

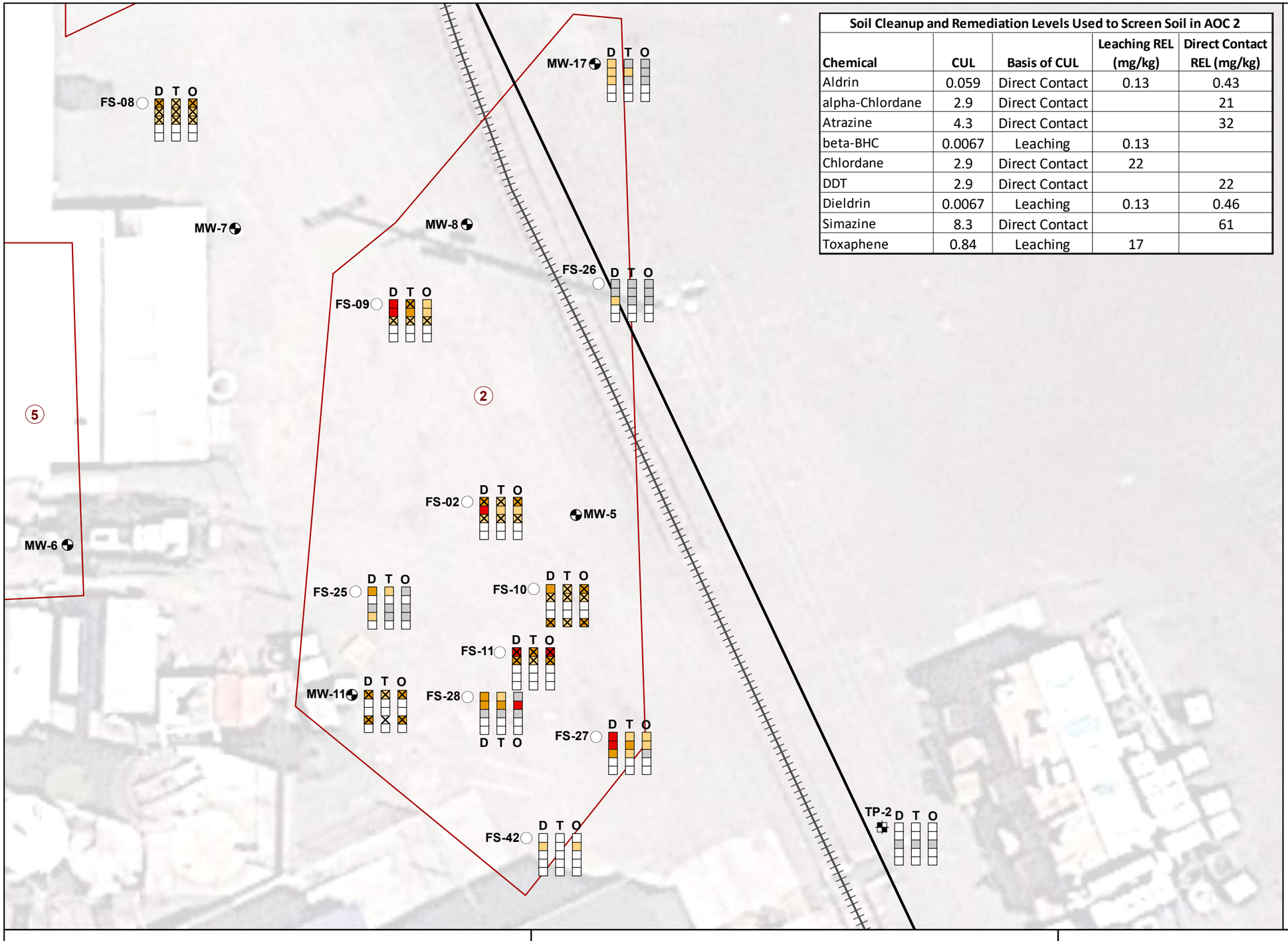
0 6 12 24
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.6
Pesticide Data in Soil—AOC 1

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.6 Pesticide Data in Soil AOC 1.mxd
5/18/2021



Soil Cleanup and Remediation Levels Used to Screen Soil in AOC 2

Chemical	CUL	Basis of CUL	Leaching REL (mg/kg)	Direct Contact REL (mg/kg)
Aldrin	0.059	Direct Contact	0.13	0.43
alpha-Chlordane	2.9	Direct Contact		21
Atrazine	4.3	Direct Contact		32
beta-BHC	0.0067	Leaching	0.13	
Chlordane	2.9	Direct Contact	22	
DDT	2.9	Direct Contact		22
Dieldrin	0.0067	Leaching	0.13	0.46
Simazine	8.3	Direct Contact		61
Toxaphene	0.84	Leaching	17	

Legend

① Area of Concern (with ID)

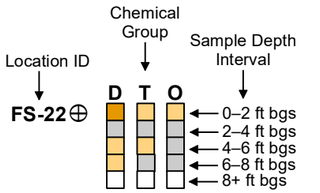
Remedial Investigation Sample Locations

- Monitoring Well
- Soil Sample
- Test Pit

Other Features

- Property Boundary
- Rail Spur

Soil Labels



Chemical Group Key:
D = Dieldrin T = Toxaphene O = Other Pesticides

Compliance Information

- One or More Results Greater Than Direct Contact REL
- One or More Results Greater Than Leaching REL
- One or More Results Greater Than CUL
- Meets CUL
- Nondetect Exceedance
- Not Sampled

Notes:
· Locations outside of the AOC are compared to sitewide criteria.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOC = Area of concern
bgs = Below ground surface
BHC = Benzene hexachloride
CUL = Cleanup level
DDT = Dichlorodiphenyltrichloroethane
ft = Feet
mg/kg = Milligrams per kilogram
REL = Remediation level

N

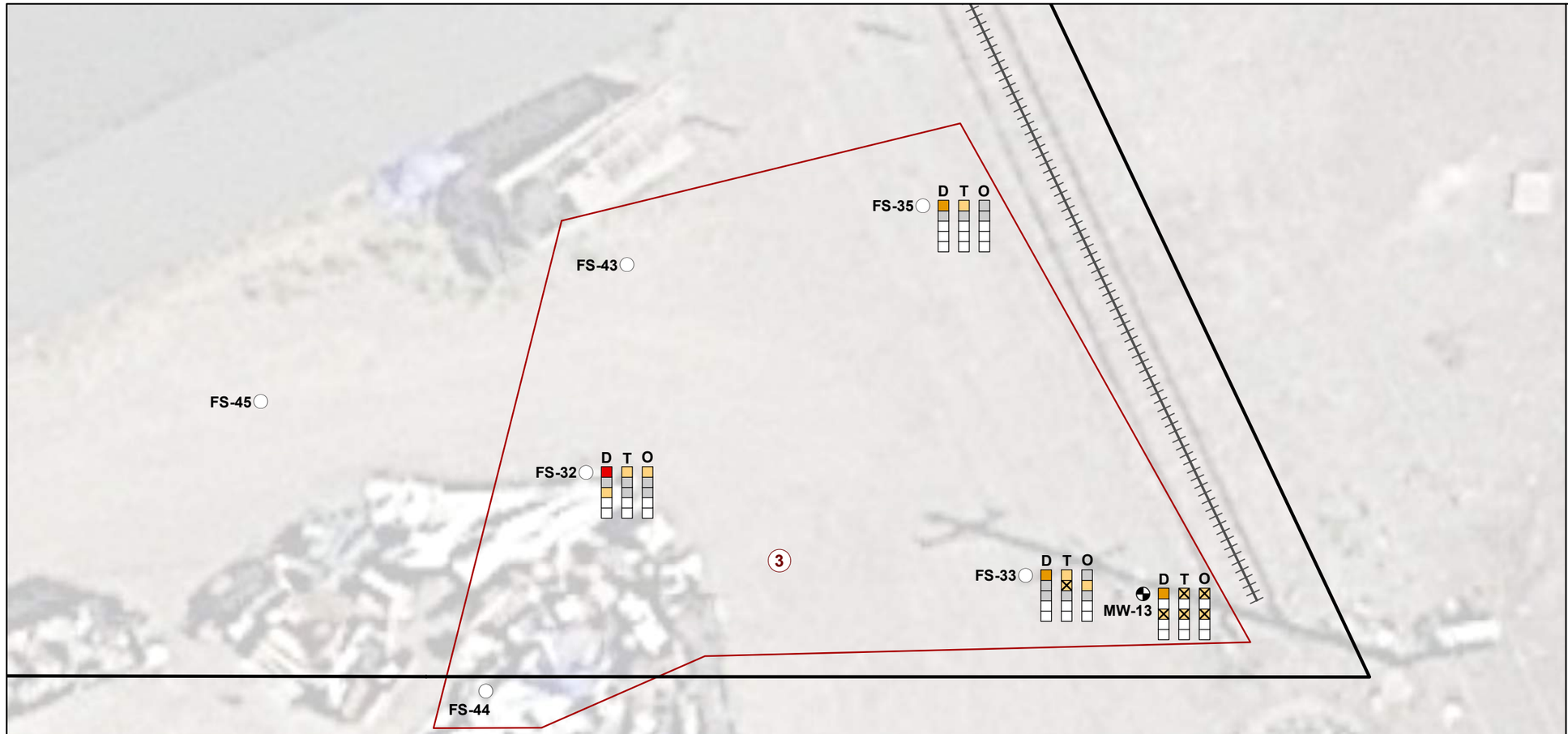
0 8 16 32
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.7
Pesticide Data in Soil—AOC 2

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.7 Pesticide Data in Soil AOC 2.mxd
5/18/2021



Soil Cleanup and Remediation Levels Used to Screen Soil in AOC 3				
Chemical	CUL	Basis of CUL	Leaching REL (mg/kg)	Direct Contact REL (mg/kg)
Aldrin	0.059	Direct Contact	0.13	0.43
alpha-Chlordane	2.9	Direct Contact		21
Atrazine	4.3	Direct Contact		32
beta-BHC	0.0067	Leaching	0.13	
Chlordane	2.9	Direct Contact	22	
DDT	2.9	Direct Contact		22
Dieldrin	0.063	Direct Contact	0.13	0.46
Simazine	8.3	Direct Contact		61
Toxaphene	0.91	Direct Contact	17	

Legend

- ① Area of Concern (with ID)

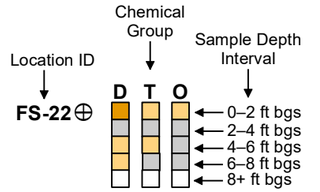
Remedial Investigation Sample Locations

- Monitoring Well
- Soil Sample

Other Features

- Property Boundary
- Rail Spur

Soil Labels



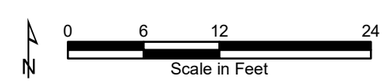
Chemical Group Key:
D = Dieldrin T = Toxaphene O = Other Pesticides

Compliance Information

- One or More Results Greater Than Direct Contact REL
- One or More Results Greater Than Leaching REL
- One or More Results Greater Than CUL
- Meets CUL
- Nondetect Exceedance
- Not Sampled

Notes:
· Locations outside of the AOC are compared to sitewide criteria.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOC = Area of concern
bgs = Below ground surface
BHC = Benzene hexachloride
CUL = Cleanup level
DDT = Dichlorodiphenyltrichloroethane
ft = Feet
mg/kg = Milligrams per kilogram
REL = Remediation level

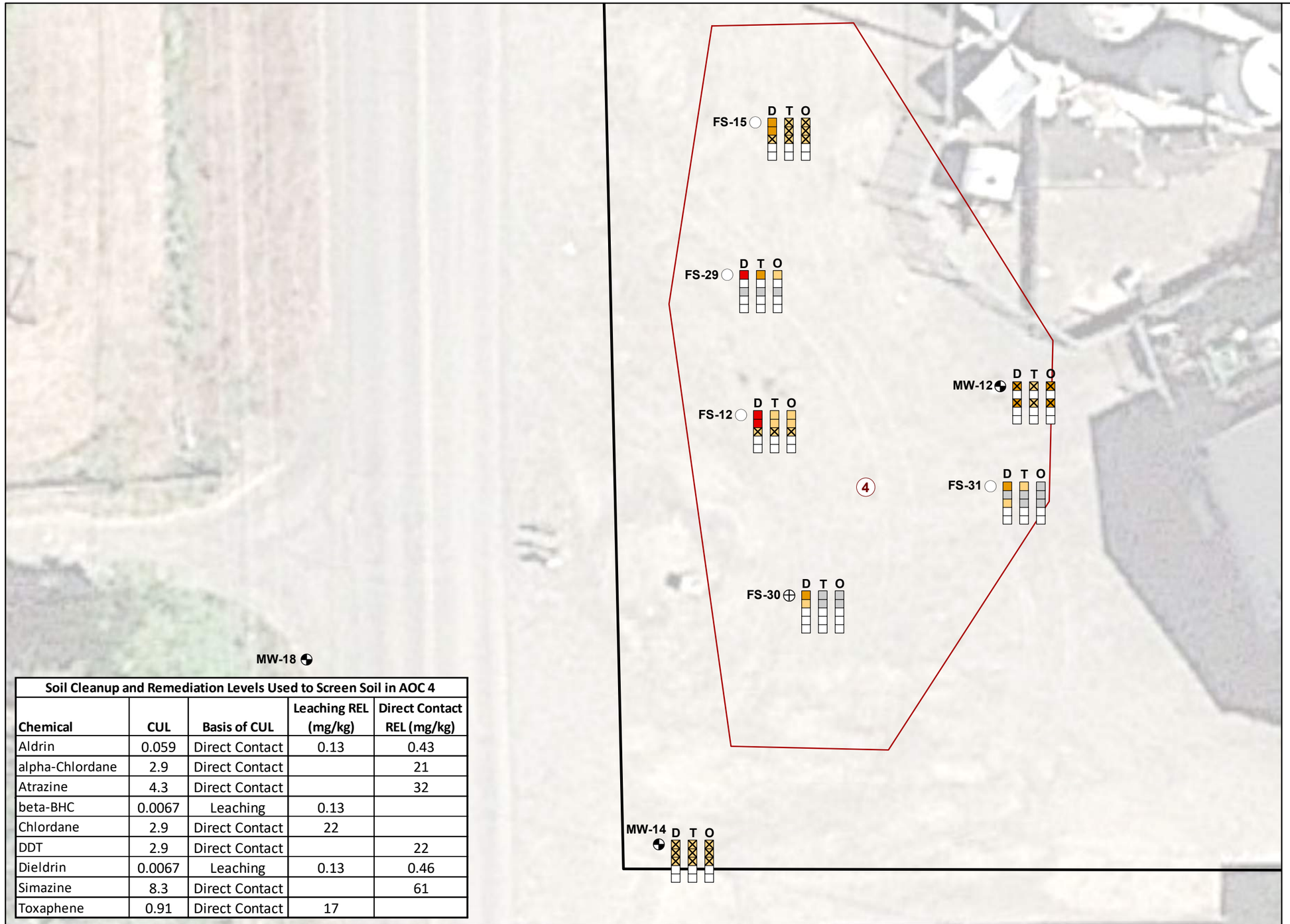


FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.8
Pesticide Data in Soil—AOC 3

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.8 Pesticide Data in Soil AOC 3.mxd
5/18/2021



Soil Cleanup and Remediation Levels Used to Screen Soil in AOC 4				
Chemical	CUL	Basis of CUL	Leaching REL (mg/kg)	Direct Contact REL (mg/kg)
Aldrin	0.059	Direct Contact	0.13	0.43
alpha-Chlordane	2.9	Direct Contact		21
Atrazine	4.3	Direct Contact		32
beta-BHC	0.0067	Leaching	0.13	
Chlordane	2.9	Direct Contact	22	
DDT	2.9	Direct Contact		22
Dieldrin	0.0067	Leaching	0.13	0.46
Simazine	8.3	Direct Contact		61
Toxaphene	0.91	Direct Contact	17	

Legend

① Area of Concern (with ID)

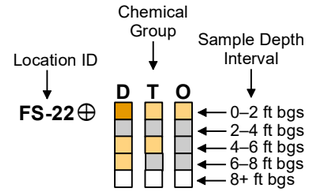
Remedial Investigation Sample Locations

- Monitoring Well
- Soil Boring with Temporary Monitoring Well
- Soil Sample

Other Features

- Property Boundary
- Rail Spur

Soil Labels



Chemical Group Key:
D = Dieldrin T = Toxaphene O = Other Pesticides

Compliance Information

- One or More Results Greater Than Direct Contact REL
- One or More Results Greater Than Leaching REL
- One or More Results Greater Than CUL
- Meets CUL
- Nondetect Exceedance
- Not Sampled

Notes:
· Locations outside of the AOC are compared to sitewide criteria.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOC = Area of concern
bgs = Below ground surface
BHC = Benzene hexachloride
CUL = Cleanup level
DDT = Dichlorodiphenyltrichloroethane
ft = Feet
mg/kg = Milligrams per kilogram
REL = Remediation level

N

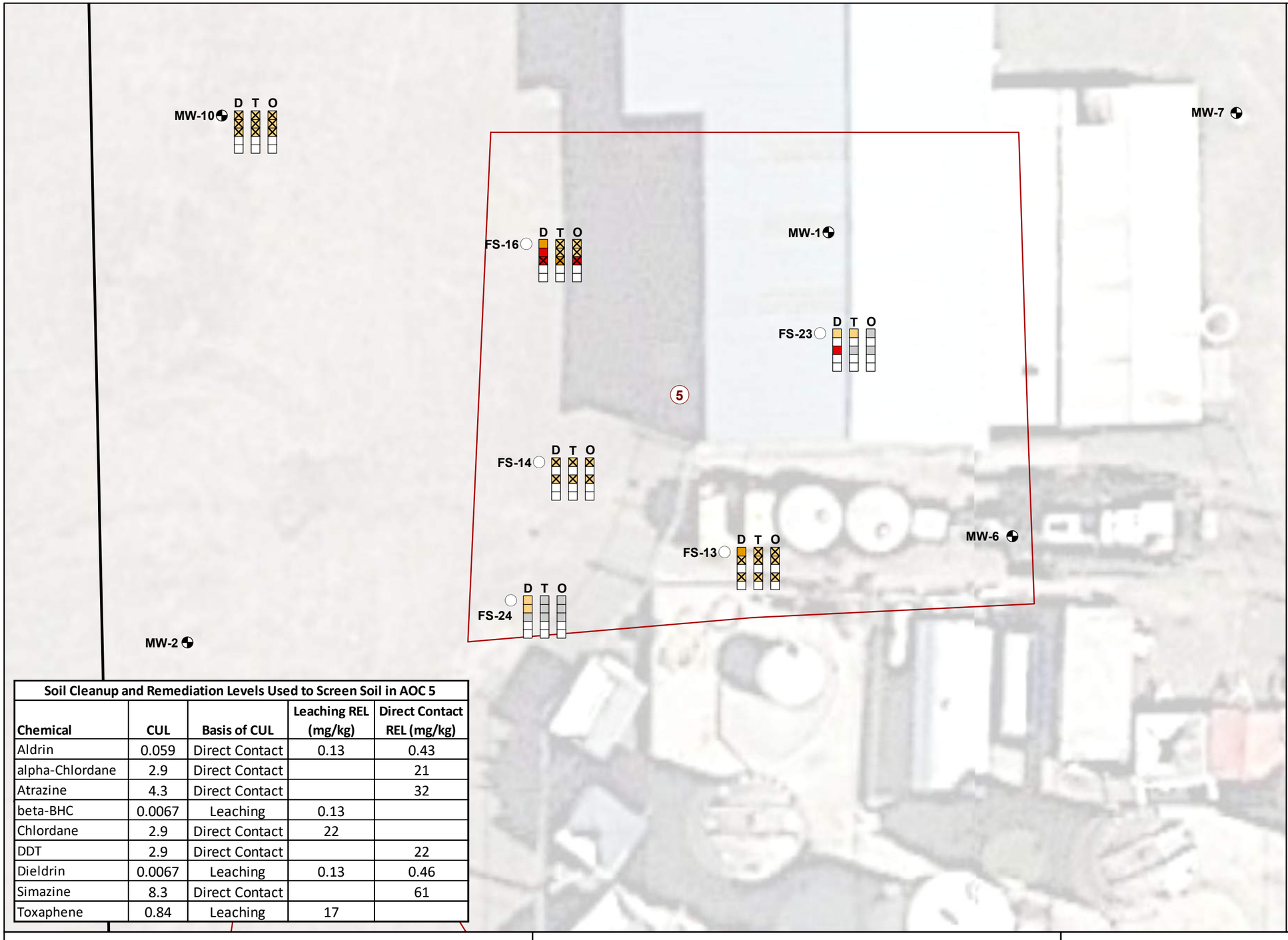
0 7.5 15 30
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.9
Pesticide Data in Soil—AOC 4

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.9 Pesticide Data in Soil AOC 4.mxd
5/18/2021



Soil Cleanup and Remediation Levels Used to Screen Soil in AOC 5				
Chemical	CUL	Basis of CUL	Leaching REL (mg/kg)	Direct Contact REL (mg/kg)
Aldrin	0.059	Direct Contact	0.13	0.43
alpha-Chlordane	2.9	Direct Contact		21
Atrazine	4.3	Direct Contact		32
beta-BHC	0.0067	Leaching	0.13	
Chlordane	2.9	Direct Contact	22	
DDT	2.9	Direct Contact		22
Dieldrin	0.0067	Leaching	0.13	0.46
Simazine	8.3	Direct Contact		61
Toxaphene	0.84	Leaching	17	

Legend

① Area of Concern (with ID)

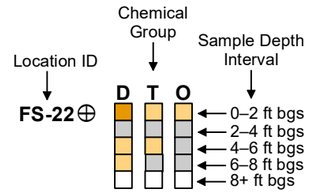
Remedial Investigation Sample Locations

- Monitoring Well
- Soil Sample

Other Features

- Property Boundary
- Rail Spur

Soil Labels



Chemical Group Key:
D = Dieldrin T = Toxaphene O = Other Pesticides

Compliance Information

- One or More Results Greater Than Direct Contact REL
- One or More Results Greater Than Leaching REL
- One or More Results Greater Than CUL
- Meets CUL
- Nondetect Exceedance
- Not Sampled

Notes:
· Locations outside of the AOC are compared to sitewide criteria.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOC = Area of concern
bgs = Below ground surface
BHC = Benzene hexachloride
CUL = Cleanup level
DDT = Dichlorodiphenyltrichloroethane
ft = Feet
mg/kg = Milligrams per kilogram
REL = Remediation level

N

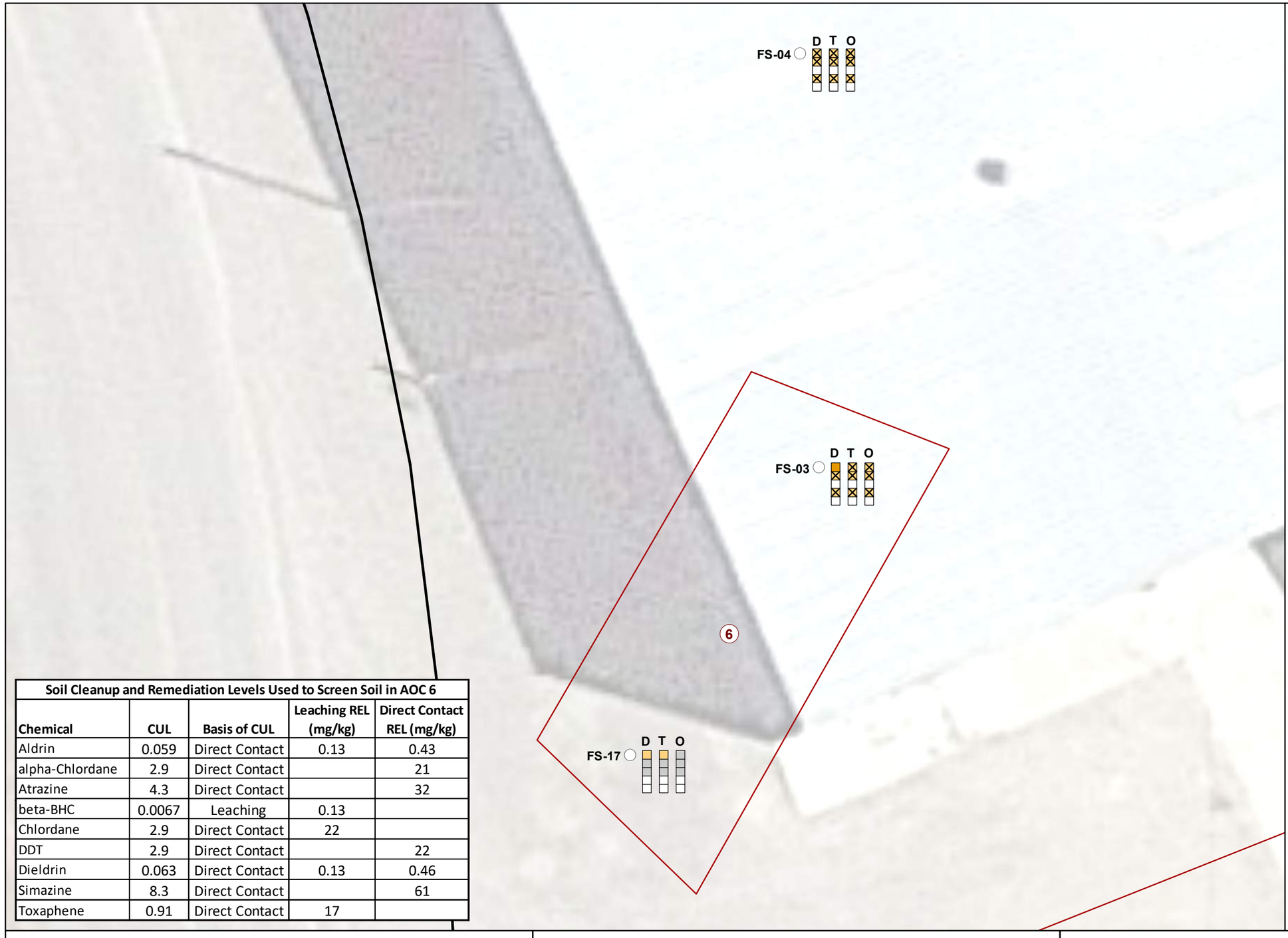
0 6 12 24
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.10
Pesticide Data in Soil—AOC 5

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.10 Pesticide Data in Soil AOC 5.mxd
4/28/2021



Soil Cleanup and Remediation Levels Used to Screen Soil in AOC 6

Chemical	CUL	Basis of CUL	Leaching REL (mg/kg)	Direct Contact REL (mg/kg)
Aldrin	0.059	Direct Contact	0.13	0.43
alpha-Chlordane	2.9	Direct Contact		21
Atrazine	4.3	Direct Contact		32
beta-BHC	0.0067	Leaching	0.13	
Chlordane	2.9	Direct Contact	22	
DDT	2.9	Direct Contact		22
Dieldrin	0.063	Direct Contact	0.13	0.46
Simazine	8.3	Direct Contact		61
Toxaphene	0.91	Direct Contact	17	

Legend

① Area of Concern (with ID)

Remedial Investigation Sample Locations

Soil Sample

Other Features

Property Boundary

Rail Spur

Soil Labels

Location ID: FS-22 ⊕

Chemical Group: D T O

Sample Depth Interval:
- 0–2 ft bgs
- 2–4 ft bgs
- 4–6 ft bgs
- 6–8 ft bgs
- 8+ ft bgs

Chemical Group Key:
D = Dieldrin T = Toxaphene O = Other Pesticides

Compliance Information

- One or More Results Greater Than Direct Contact REL
- One or More Results Greater Than Leaching REL
- One or More Results Greater Than CUL
- Meets CUL
- Nondetect Exceedance
- Not Sampled

Notes:
· Locations outside of the AOC are compared to sitewide criteria.
· Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOC = Area of concern
bgs = Below ground surface
BHC = Benzene hexachloride
CUL = Cleanup level
DDT = Dichlorodiphenyltrichloroethane
ft = Feet
mg/kg = Milligrams per kilogram
REL = Remediation level

N

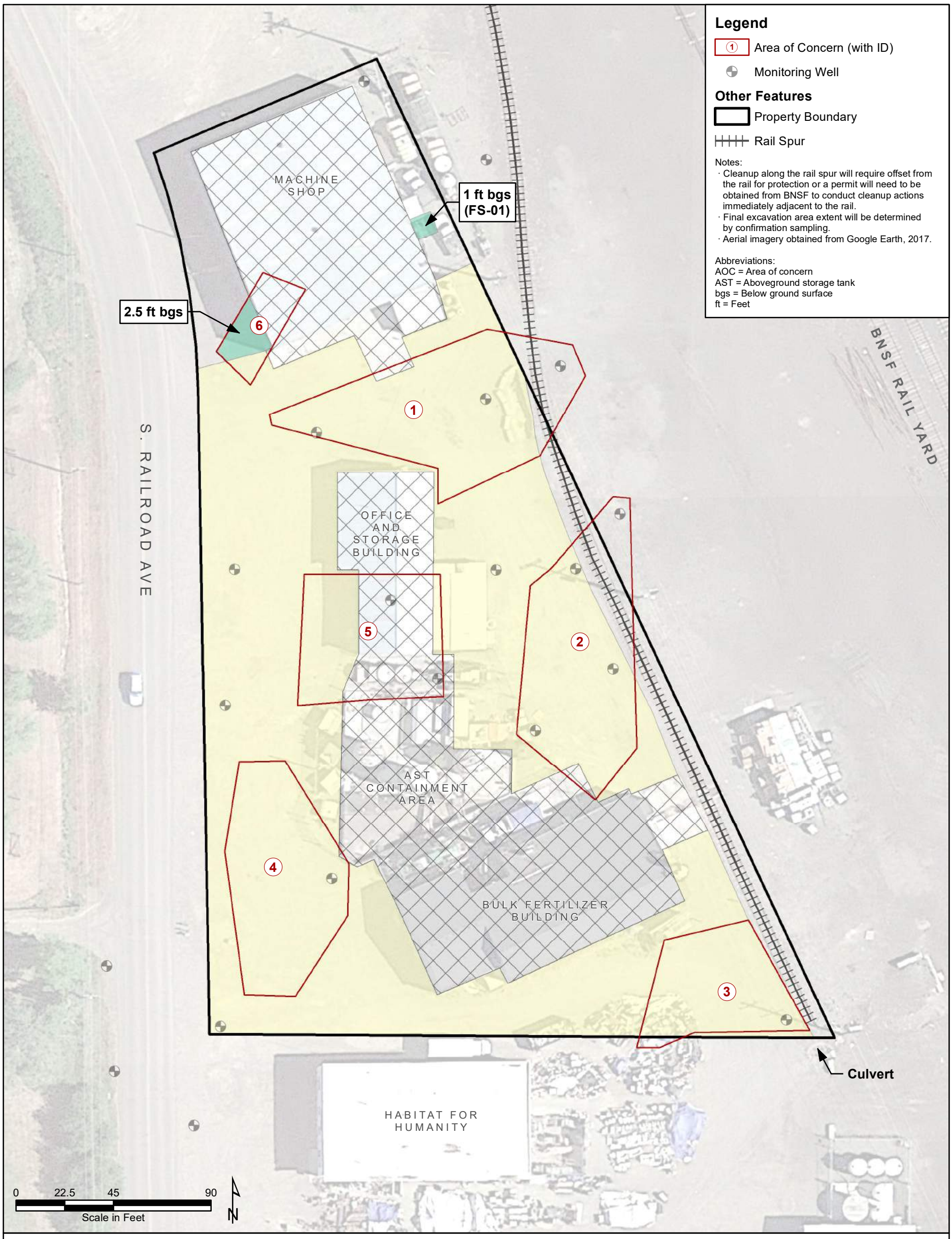
0 5 10 20
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 8.11
Pesticide Data in Soil—AOC 6

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 8.11 Pesticide Data in Soil AOC 6.mxd
5/18/2021



Alternative 1

Excavate to CULs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

· AOC 6
· FS-01

Protect Existing Structures

Existing buildings, concrete slabs, and concrete within containment area to remain as cap.

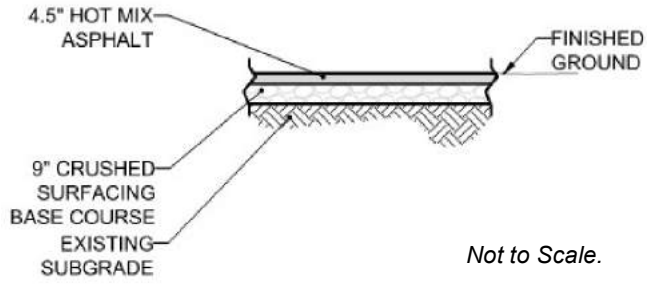
Asphalt Cap

Excavate shallow soil and place asphalt cap to restore existing grade. Includes installation of stormwater conveyance system and treatment. Refer to asphalt cross-section for details.

Note: Contaminated surficial soil will be removed as necessary for grading and will be disposed of at an off-site landfill.

· AOC 1 · AOC 4
· AOC 2 · AOC 5
· AOC 3

Asphalt Cross-Section



Not to Scale.

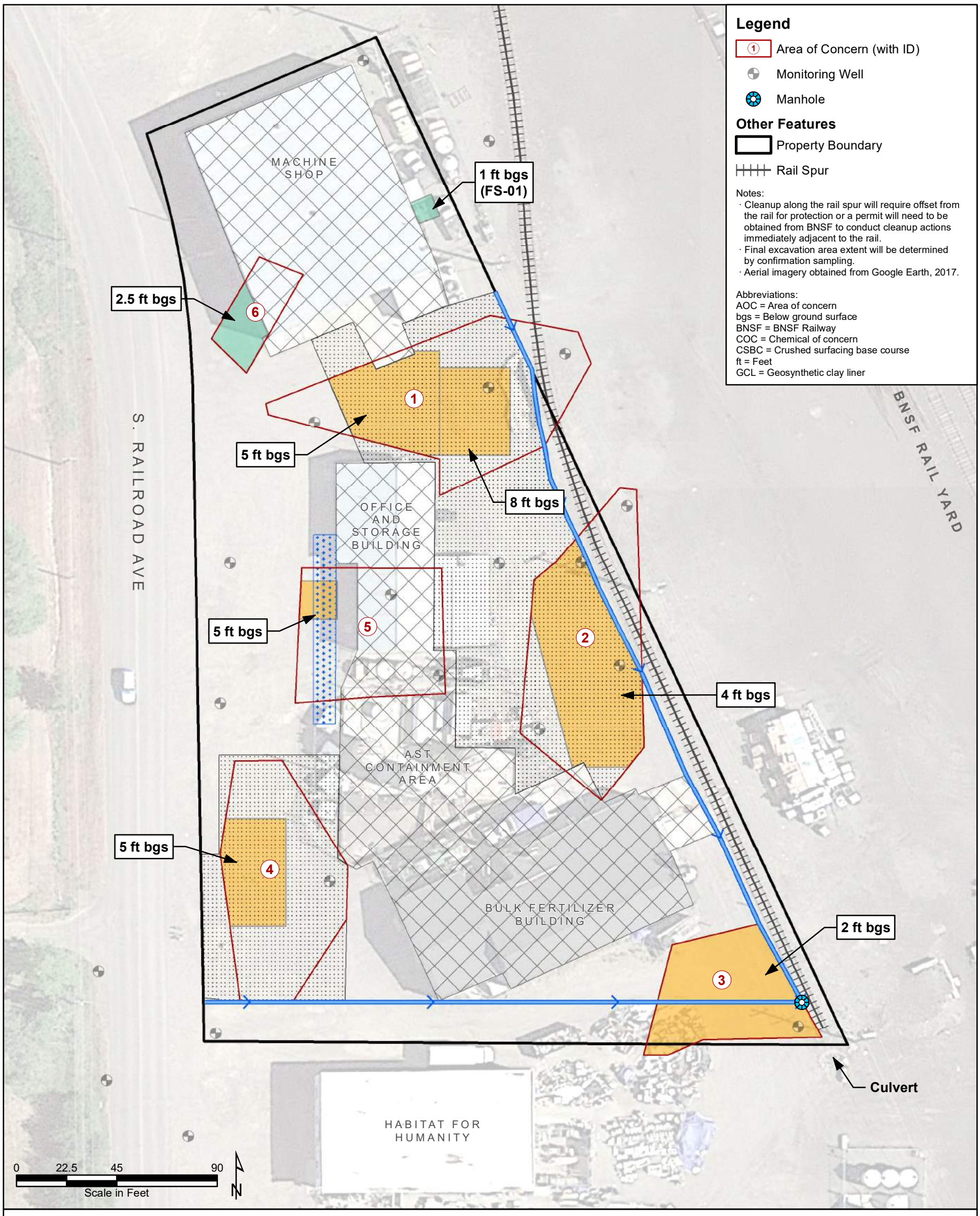
Note: Asphalt cross-section provided by PBS Engineering and Environmental Inc.

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study Smith-Kem Site Ellensburg, Washington

Figure 10.1
Alternative 1

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 10.1 Alternative 1.mxd
6/8/2021



Alternative 2

Excavate to CULs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

· AOC 6 · FS-01

Excavate to Direct Contact RELs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

Note: If pre-design data show that contamination in AOC 3 extends off-property, then excavation off-property will be designed to meet the CULs.

· AOC 1 · AOC 3 · AOC 6
· AOC 2 · AOC 5

Protect Existing Structures

Existing buildings, concrete slabs, and concrete within containment area to remain as cap.

In Situ Groundwater Treatment

Inject trademarked colloidal activated carbon matrix (PlumeStop™) to create a passive treatment zone.

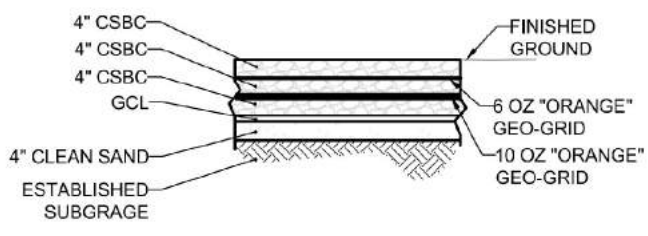
Geosynthetic Clay Liner

Install GCL as barrier for protection of groundwater from residual soil contamination.

Drainage System

Collect infiltrated precipitation drainage from the GCL and convey to a collection manhole at the southeast corner of the property.

GCL Cross-Section



Not to Scale.

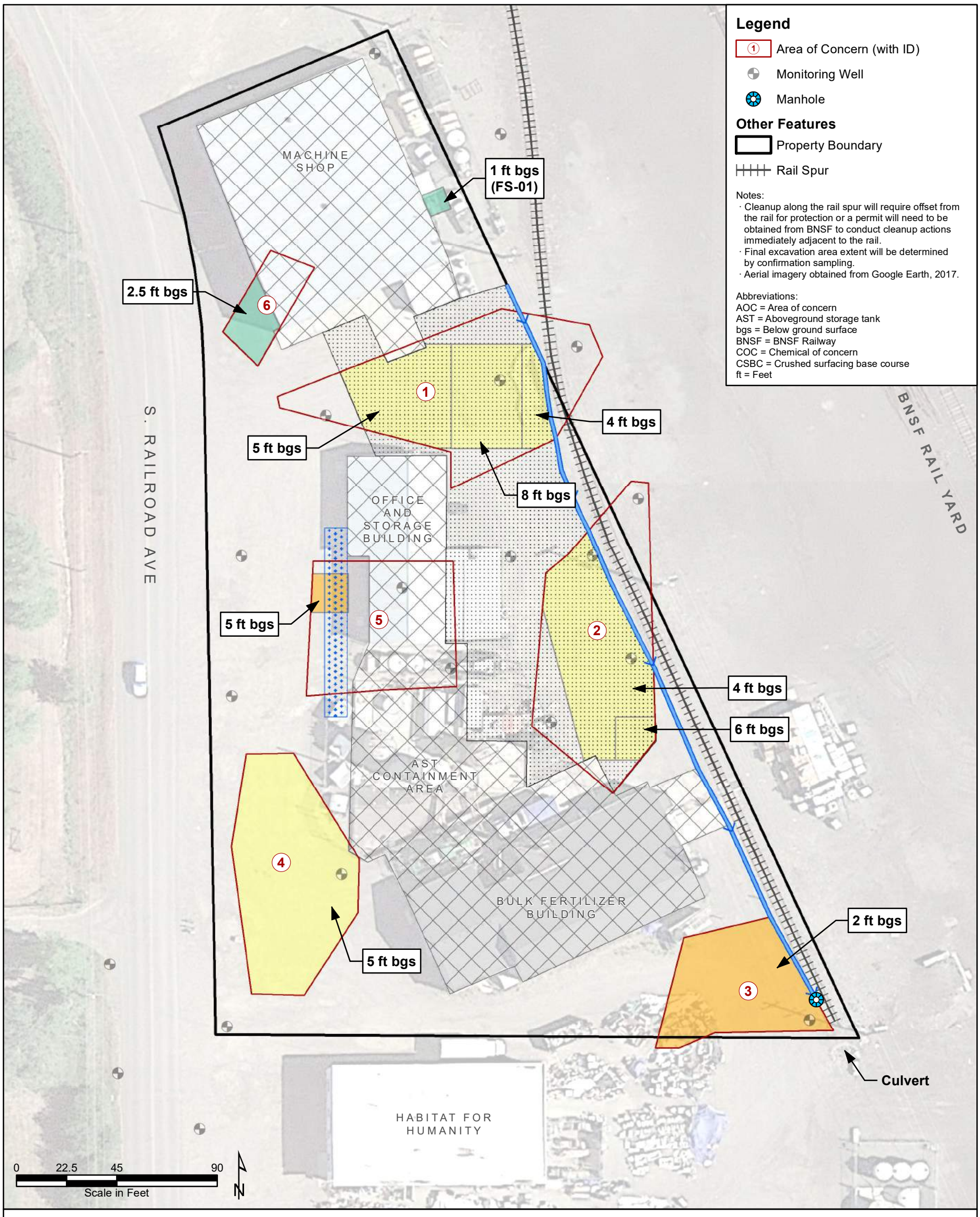
Note: GCL cross-section provided by PBS Engineering and Environmental Inc.

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study Smith-Kem Site Ellensburg, Washington

Figure 10.2
Alternative 2

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 10.2 Alternative 2.mxd
6/8/2021



Alternative 3

Excavate to CULs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

· AOC 6 · FS-01

Excavate to Direct Contact RELs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

Note: If pre-design data show that contamination in AOC 3 extends off-property, then excavation off-property will be designed to meet the CULs.

· AOC 3 · AOC 5

Excavate to Leaching RELs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

· AOC 1 · AOC 2 · AOC 4

Protect Existing Structures

Existing buildings, concrete slabs, and concrete within containment area to remain as cap.

In Situ Groundwater Treatment

Inject trademarked colloidal activated carbon matrix (PlumeStop™) to create a passive treatment zone.

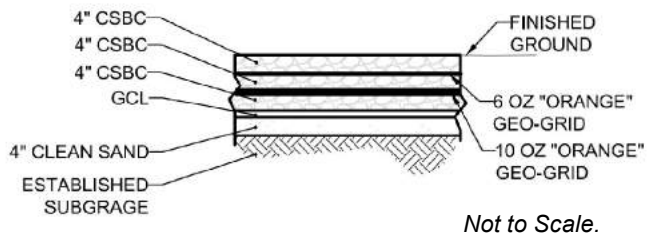
Geosynthetic Clay Liner

Install GCL as barrier for protection of groundwater from residual soil contamination.

Drainage System

Collect infiltrated precipitation drainage from the GCL and convey to a collection manhole at the southeast corner of the property.

GCL Cross- Section



Not to Scale.

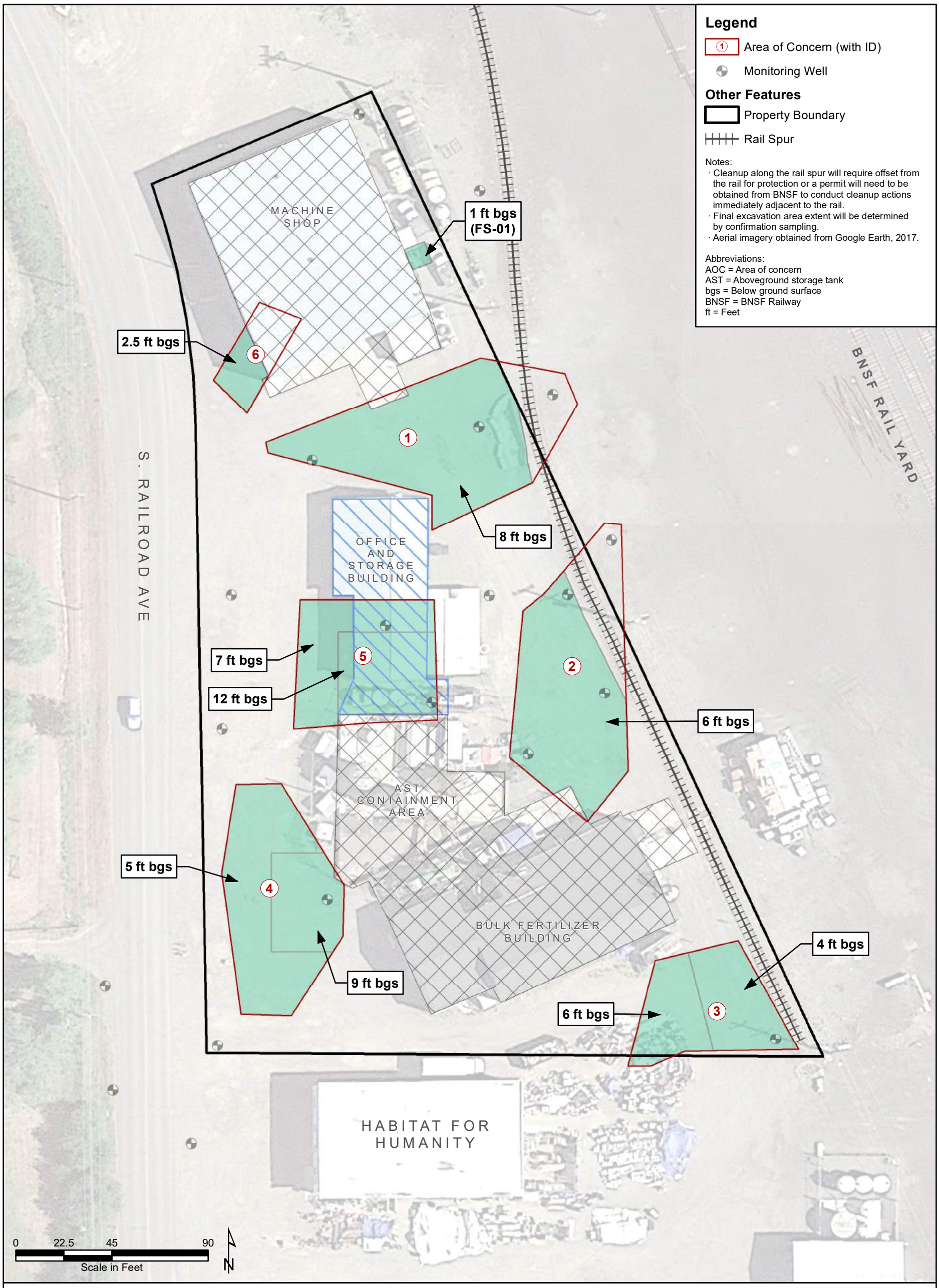
Note: GCL cross-section provided by PBS Engineering and Environmental Inc.

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study Smith-Kem Site Ellensburg, Washington

Figure 10.3
Alternative 3

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 10.3 Alternative 3.mxd
6/8/2021



Alternative 4

Excavate to CULs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

- AOC 1
- AOC 2
- AOC 3
- AOC 4
- AOC 5
- AOC 6
- FS-01

Demolish and Replace Existing Structures

Remove office and storage building and concrete pad to allow for excavation. Replace in kind.

Protect Existing Structures

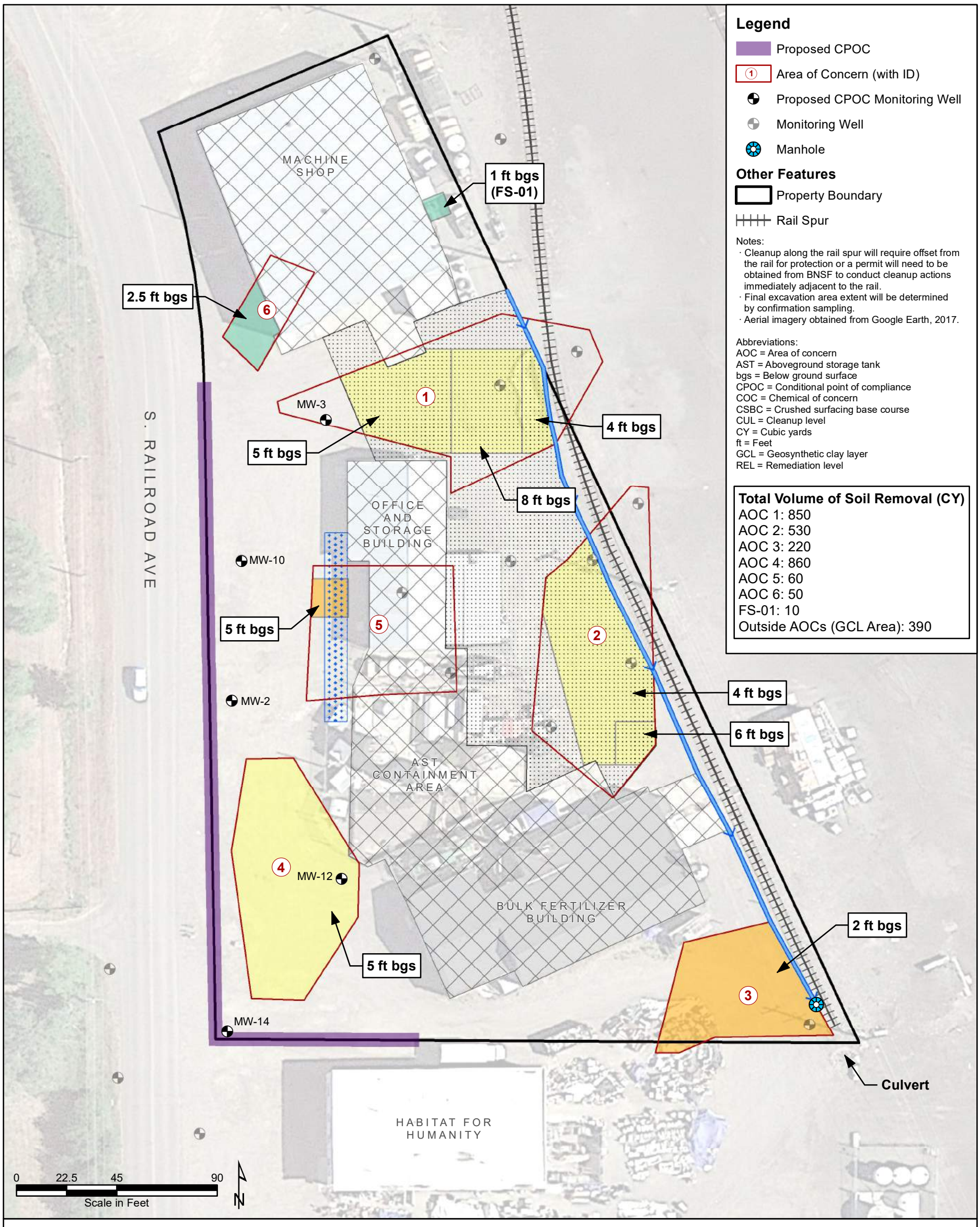
Existing buildings, concrete slabs, and concrete within containment area to remain as cap.

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure 10.4
Alternative 4

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 10.4 Alternative 4.mxd
6/8/2021



Legend

- Proposed CPOC
- Area of Concern (with ID)
- Proposed CPOC Monitoring Well
- Monitoring Well
- Manhole

Other Features

- Property Boundary
- Rail Spur

Notes:
- Cleanup along the rail spur will require offset from the rail for protection or a permit will need to be obtained from BNSF to conduct cleanup actions immediately adjacent to the rail.
- Final excavation area extent will be determined by confirmation sampling.
- Aerial imagery obtained from Google Earth, 2017.

Abbreviations:
AOC = Area of concern
AST = Aboveground storage tank
bgs = Below ground surface
CPOC = Conditional point of compliance
COC = Chemical of concern
CSBC = Crushed surfacing base course
CUL = Cleanup level
CY = Cubic yards
ft = Feet
GCL = Geosynthetic clay layer
REL = Remediation level

Total Volume of Soil Removal (CY)
AOC 1: 850
AOC 2: 530
AOC 3: 220
AOC 4: 860
AOC 5: 60
AOC 6: 50
FS-01: 10
Outside AOCs (GCL Area): 390

Alternative 3

Excavate to CULs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

· AOC 6 · FS-01

Excavate to Direct Contact RELs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

Note: If pre-design data show that contamination in AOC 3 extends off-property, then excavation off-property will be designed to meet the CULs.

· AOC 3 · AOC 5

Excavate to Leaching RELs

Excavate and dispose of soil at off-site landfill. Backfill with clean fill and gravel surface.

· AOC 1 · AOC 2 · AOC 4

Protect Existing Structures

Existing buildings and concrete pavement to remain as cap.

In Situ Groundwater Treatment

Inject trademarked colloidal activated carbon matrix (PlumeStop™) to create a passive treatment zone.

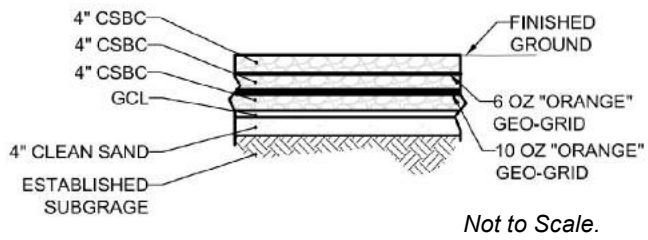
Geosynthetic Clay Liner

Install GCL as barrier for protection of groundwater from residual soil contamination.

Drainage System

Collect infiltrated precipitation drainage from the GCL and convey to a collection manhole at the southeast corner of the property.

GCL Cross-Section



Not to Scale.

Note: GCL cross-section provided by PBS Engineering and Environmental Inc.

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation/ Feasibility Study Smith-Kem Site Ellensburg, Washington

Figure 12.1
Preferred Cleanup Action Alternative

I:\GIS\Projects\PKG-SmithKem\MXD\FS\FS 2021\Figure 12.1 Preferred Cleanup Action Alternative.mxd
6/8/2021

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix A
Historical Records

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix A
Historical Records

Attachment A.1
Quit Claim Deed

F/R: Cove-Elbog

Recorded in the County of Kittitas, WA
Beverly M. Allenbaugh, Auditor
9.00
199608070025 3:11pm 08/07/96
001 4000438 04 04
Q01 2 2275 8.00 1.00

Real Estate Excise Tax
Exempt
SALLY SCHORMANN, TREAS.
Kittitas County Treasurer
By
AF #2275 8-7-96

QUIT CLAIM DEED

THE GRANTORS, JAMES R. SMITH and JEAN SMITH, husband and wife, for and in consideration of ONE DOLLAR ($1.00) and other good and valuable consideration, convey and quit claim to AD GRO, L.L.C., a limited liability company, the Grantee, the following described real estate, situated in Kittitas County, State of Washington, together with all after acquired title of the Grantor therein:

All of that portion of the Northeast quarter of the Southwest quarter of Section 2, Township 17 North, Range 18 East, W.M., in the County of Kittitas, State of Washington which is bounded by a line described as follows:
Beginning at the Northwest corner of said quarter of quarter section and running thence South 1°29' East 458 feet; thence South 89°48' East 321 feet to a point on a line parallel to and 200 feet distant, measured at right angles from the center line of the main track of the Northern Pacific Railway Company's railroad; thence North 25°04' West along said line 506.2 feet to the North boundary line of said quarter of quarter section; and thence North 89°48' West 119.4 feet to the point of beginning.

DATED this 5th day of Aug, 1996.

JAMES R. SMITH

Jean P. Smith
JEAN SMITH

GRANTORS

[redacted]

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix A
Historical Records

Attachment A.2
Smith-Kem Historical Property Records

UNIVERBAL paper goods
MADE IN SEATTLE

STOCK NO. 112

TED OWNER

7880

~~18-54~~

18-51

18-82

17 18 02 31 0002

con Refining Co.

Sub. NE¼ SW¼ Tax #4 Sec. 2 Twp. 17

Rd. E Sch. 401 Fire Hosp. 1

Cont Buyer: Shell Oil Co.

2nd Cont Buyer: James R. Smith
1101 East Second St.
Ellensburg, Wash. 9892
(Aff. 9753-73-$10,880-L

Vol. Page

Vol. Page

Less .33 Co. Rd

Vol. Page

s	Road Acres	ACRES Improved	ACRES Unimproved	VALUE Improved	VALUE Unimproved	TOTAL VALUATION Land	TOTAL VALUATION Buildings	
98	.33					3960 3,960	5270 5,370	
98	.33					7,920 7,920	10,740 10,740	
98 ✓	.33				JF/no change	7920 7,920 ✓	10740 10,740 ✓	
98 ✓	.33			NC 62000 ~	RW: BK 21	8000 ~ 8,000 ✓	78400 ~ 78,400 ✓	
	.33				RC BK 25-1	12,300	95,300	
	.33				RC-BK 24A NC 14,400	12,300	100,500	
	.33				RC/misc NC 84,000	12,300	94,500	

e card in folder

KITTITAS COUNTY ASSESSOR
ELLENSBURG, WASH.

TER INFOR. AUG 17 1981
Smith well (P)
Shell well 2 (P)
Wash Dept. well 3 (P)

legal 4 plugged WI TER INFOR. JUN 09 1983 wal Blk 25-1 TER INFOR MAY - 1 1987 INF. ER INFOR JUL 12 1989 INF.			

TED OWNER

ington Refining Co.

7880

18-54

Sub. SW¼ Tax [redacted]. 4 Sec. 2 Twp. 1

Rd. E Sch. 401 Fire Hosp. 1

ell oil Co - Cont. Buyer

Less .33 Co. Rd.

Vol. Page

Vol. Page

Vol. Page

-Co. Rd.

	Road Acres	ACRES		VALUE		TOTAL VALUATION	
		Improved	Unimproved	Improved	Unimproved	Land	Buildings
3						460.	3,565.
8	.33					8/63 575.	3,565.
98	.33					5/66 650 650.	3565.
3	.33					3/67 720 720.	3565.
3	.33					720.	4455 F 4455.
	.33					1440. 1,440	8,910. 8,910
8	.33					~~4950.~~ 1440	~~8810.~~ 8910
98	.33					1,440	8,910
	.33					4950	8810
8	.33					4,950	8,810
							F
8	.33					4950	8810
98	.33					4,950	8,810

& PTG. CO. 225729

KITTITAS COUNTY ASSESSOR
ELLENSBURG, WASH.

KITTITAS COUNTY PROPERTY APPRAISAL RECORD

PROPERTY I.D. AND LEGAL DESCRIPTION

PROPERTY ID: P226833 CARD:
TAX ACCT. NO.: 17-18-02031-0002

SITUS 200 S RAILROAD AVE
ELLENSBURG, WA 98926
LEVY CODE 018 ACRES 1.98
COMMENTS

LEGAL DESCRIPTION

ACRES 1.98, CD. 7880; SEC. 2; TWP. 17; RGE. 18; NE 1/4 SW 1/4 TAX #4 LESS .33 CO. RD

PROPERTY REMARKS

APPRAISAL: (1) GM 6-9-99 REVIEWED STRUCTURE AND CHANGED QUALITY.

IMPROVEMENT:

LAND:

SALES HISTORY

DATE	PRICE	AF #	TYPE
04/01/97	0		CR
08/01/96	0		QD

BUILDING PERMIT

PERMIT NO.	TYPE	AMT	ISSUED	% COM
98-024	CADD	8000	03/16/98	100

OWNER NAME AND ADDRESS

AD GRO, LLC
% SMITH-KEM
200 RAILROAD AVE

ELLENSBURG, WA 98926
OWNER ID (53434)

ACTIVITY

DATE PRINTED	11/16/99
LAST NOTICES	06/10/99
LAST APPRAISAL	01/01/99
APPRAISER	GM

PROPERTY DETAILS

LAND USE CODE	082
ZONE EIH	
NEIGHB. CODE	E6
REVAL AREA	3
PROPERTY CODE	09
EXEMPTION	

TAXABLE VALUE

IMPROVEMENT (2000)	101860
LAND	129370
TOTAL	231230

SKETCH NOTES

IMP I1

ROLL VALUE HISTORY

YEAR	IMPROVEMENT	LAND	ASSESSED	CLASS	EX
1999	85060	86250	171310	082	
1998	81700	86250	167950	082	
1997	81700	86250	167950	082	
1996	81700	86250	167950	082	
1995	90400	29700	120100	082	

APPEAL HISTORY

RECORD #	ROLL ID	STATUS	DEC CD	DEC DATE	FINAL MKT

CONSTRUCTION DETAIL

ELEMENT	CODE	DESCRIPTION
FOUNDATION		
EXTERIOR WALL		
ROOF COVER		
ROOF STYLE		
FLOORING	;	;
INT FINISH		
PLUMBING		
HEATING		
FIREPLACE		
INT COMPONENT		
EXT COMPONENT		
ELECTRIC		
BEDROOMS		
SHAPE		
ADD FACTOR 1		
ADD FACTOR 2		

TOTAL REPL COST NEW	TOTAL LVG AREA	TOTAL DEPRE	DEPRE TABLE	MISC CODE	APPRAIS ACRES	ZONING
				ON MS		

IMPROVEMENT VALUATION

IMPROVE SEGMT.	TYPE	DESCRIPTION	MTHD/ BLD CLASS	QUAL CLASS	DIMENSION	AREA	UNIT PRICE	REPLACEMENT COST NEW	EFF AGE	YR BLT	COND.	DEPR	ADJUSTMENTS	MKT MOD	TOTAL ADJ	FINAL VALUE
I1	C	SHOP,OFFICE,WAREH														101,860

LAND VALUATION

DESCRIPTION	LAND TYPE	LAND TABLE	VAL MTHD	UNITS TAXABLE	MKT RATES	ADJUSTMENTS	MKT MOD	TOTAL ADJ	MARKET VALUE	OS TABLE	OS MKT MTHD	OS UNIT PRICE	ASSESSED VALUE
INDUSTRIAL IMPROVE	IDM	3-EIH-1	;LB	86249500,100				100	129,370				

Total 1.98A

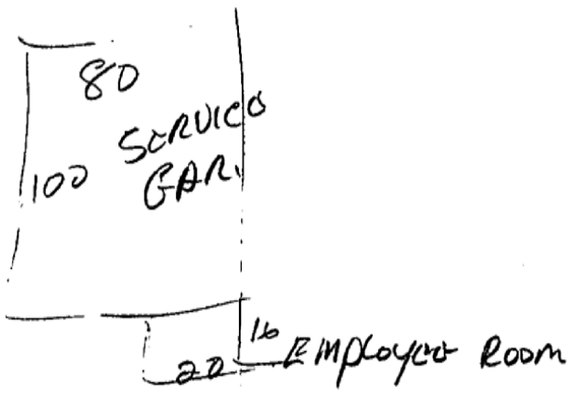
LIEN/MARKET VALUES

rcel Number: 17-18-0231-0002
operty Owner: JAMES R. SMITH
qal/Card#: 7880
vy/Land Use: 018-082
ar Built: 1975
les Info:
les Info:
praised By/Date: G.M./1-1-99
ofile ID: THREE #279

cupancy: 25% Garage, Service, 75% Utility Building
oor Area: 8,000 square feet
ass: Steel
st rank: Low/Average
st as of: 10/98
Number of stories: 1.0
Average story height: 24.0 fe
Effective age: 7 years

	Units	Cost	Total
sic structure cost.....	8,000	14.05	112,400
tras:			
MPLOYEE ROOM ATT.TO MAIN.....	320	15.00	4,800
placement Cost New.....			117,200
ss Depreciation:			
nysical.....	<30.0%>		<35,159
preciated Cost.....			82,041
scellaneous:			
ND BUILDING ON #14.....			19,820
tal.....			101,861
unded to nearest $10			101,860

st data by MARSHALL and SWIFT

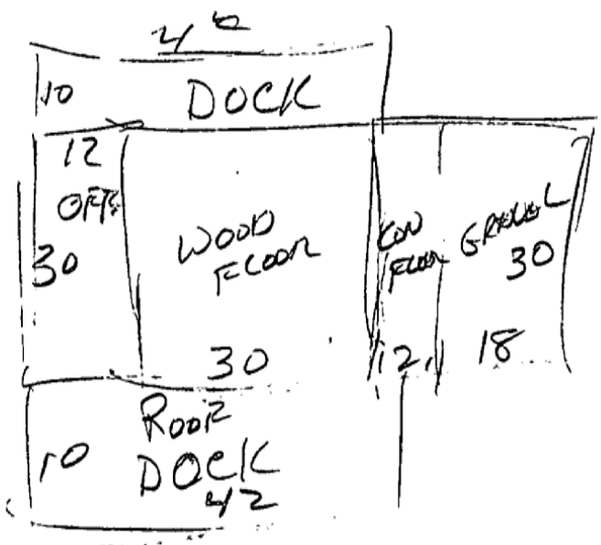


rcel Number: 17-18-0231-0002-2
operty Owner: SMITH, JAMES R.
gal/Card#: 7880
vy/Land Use: 018-082
ar Built: 1926
les Info:
les Info:
praised By/Date: G.M./1-1-99
ofile ID: THREE #14

cupancy: 65% Warehouse, Storage, 35% Office
oor Area: 2,664 square feet
ass: Frame
st rank: Low
st as of: 10/98
Number of stories: 1.0
Average story height: 10.0 fe
Effective age: 34 years

	Units	Cost	Total
sic structure cost.....	2,664	24.80	66,067
ss Depreciation:			
nysical.....	<70.0%>		<46,246
preciated Cost.....			19,821
unded to nearest $10			19,820

st data by MARSHALL and SWIFT



WAREHOUSE
30X60
50% WOOD FL
20% CON FL
30% GRAVEL

KITTITAS COUNTY PROPERTY APPRAISAL RECORD

PROPERTY I.D. AND LEGAL DESCRIPTION

PROPERTY ID: P226833 CARD:
TAX ACCT. NO.: 17-18-0231-0002-00

SITUS 200 S RAILROAD AVE
ELLENSBURG, WA 98926
LEVY CODE 018 ACRES 1.98
COMMENTS

OWNER NAME AND ADDRESS

AD GRO, LLC
% SMITH-KEM
200 RAILROAD AVE

ELLENSBURG, WA 98926
OWNER ID (53434)

ACTIVITY

DATE PRINTED	01/28/99
LAST NOTICES	10/29/98
LAST APPRAISAL	01/01/99
APPRAISER	GM

PROPERTY DETAILS

LAND USE CODE	082
ZONE EIH	
NEIGHB. CODE	E6
REVAL AREA	3
PROPERTY CODE	09
EXEMPTION	

TAXABLE VALUE

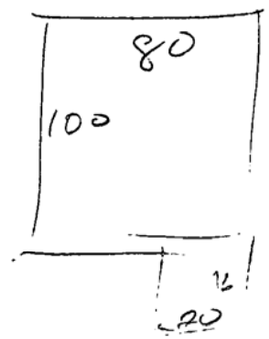
IMPROVEMENT (1999)	85060
LAND	86250
TOTAL	171310

LEGAL DESCRIPTION

ACRES 1.98, CD. 7880; SEC. 2; TWP. 17; RGE. 18; NE 1/4 SW 1/4 TAX #4 LESS .33 CO. RD

SKETCH NOTES

IMP I1



ROLL VALUE HISTORY

YEAR	IMPROVEMENT	LAND	ASSESSED	CLASS	EX
1998	81700	86250	167950	082	
1997	81700	86250	167950	082	
1996	81700	86250	167950	082	
1995	90400	29700	120100	082	
1994	90400	29700	120100		

PROPERTY REMARKS

APPRAISAL:

IMPROVEMENT: ON PC THREE-279 AND 14/COST VALUE 81,700

LAND:

APPEAL HISTORY

RECORD #	ROLL ID	STATUS	DEC CD	DEC DATE	FINAL MKT

SALES HISTORY

DATE	PRICE	AF #	TYPE
04/01/97	0		CR
08/01/96	0		QD

CONSTRUCTION DETAIL

ELEMENT	CODE	DESCRIPTION
FOUNDATION	C	CONCRETE
EXTERIOR WALL	M	METAL
ROOF COVER	M	METAL
ROOF STYLE	SHD	SHED
FLOORING	;CSF	;CONCRETE
INT FINISH	LC	LOW COST FINISH
PLUMBING	FIX=2	
HEATING	EW	ELECTRIC WALL UNITS
FIREPLACE		
INT COMPONENT		
EXT COMPONENT		
ELECTRIC		
BEDROOMS		
SHAPE		
ADD FACTOR 1		
ADD FACTOR 2	EMPLOYEE ROOM	ADD FACTOR 2

TOTAL REPL COST NEW	TOTAL LVG AREA	TOTAL DEPRE	DEPRE TABLE	MISC CODE	APPRAIS ACRES	ZONING

BUILDING PERMIT

PERMIT NO.	TYPE	AMT	ISSUED	% COM
98-024	CADD	8000	03/16/98	80

IMPROVEMENT VALUATION

IMPROVE SEGMT.	TYPE	DESCRIPTION	MTHD/ BLD CLASS	QUAL CLASS	DIMENSION	AREA	UNIT PRICE	REPLACEMENT COST NEW	EFF AGE	YR BLT	COND.	DEPR	ADJUSTMENTS	MKT MOD	TOTAL ADJ	FINAL VALUE
I1	C															85,060
1.1	ASTG	ATTACHED STORAGE	F;R3	5		320			98	98	A		FIN 80		80	3,360

LAND VALUATION

DESCRIPTION	LAND TYPE	LAND TABLE	VAL MTHD	UNITS TAXABLE	MKT RATES	ADJUSTMENTS	MKT MOD	TOTAL ADJ	MARKET VALUE
INDUSTRIAL IMPROVE	IDM	3-EIH-1	;LB	86249S00,100				100	86,250

LIEN/MARKET VALUES

OS TABLE	MKT MTHD	OS UNIT PRICE	ASSESSED VALUE

Total 1.98A

9 30 88

KITTITAS COUNTY PROPERTY APPRAISAL RECORD

PROPERTY I.D. AND LEGAL DESCRIPTION

PROPERTY ID: P226833 CARD:
TAX ACCT. NO.: 17-18-0231-0002-00

SITUS 200 S RAILROAD AVE
ELLENSBURG, WA 98926
LEVY CODE 018 ACRES 1.98
COMMENTS

OWNER NAME AND ADDRESS

SMITH, JAMES R.
P. O. BOX 774

ELLENSBURG, WA 98926
OWNER ID (19473)

ACTIVITY

DATE PRINTED	11/29/95
LAST NOTICES	07/27/95
LAST APPRAISAL	01/01/95
APPRAISER	GM

PROPERTY DETAILS

LAND USE CODE	082
ZONE EIH	
NEIGHB. CODE	E6
REVAL AREA	3
PROPERTY CODE	09
EXEMPTION	

TAXABLE VALUE

IMPROVEMENT (1995)	90400
LAND	29700
TOTAL	120100

LEGAL DESCRIPTION

ACRES 1.98, CD. 7880; SEC. 2; TWP. 17; RGE. 18; NE 1/4 SW 1/4 TAX #4 LESS .33 CO. RD

SKETCH NOTES

IMP I1

ROLL VALUE HISTORY

YEAR	IMPROVEMENT	LAND	ASSESSED	CLASS	EX
1995	90400	29700	120100	082	
1994	90400	29700	120100		
1993	90400	29700	120100		
1992	90400	29700	120100		
1991	94500	12300	106800		

PROPERTY REMARKS

APPRAISAL:

IMPROVEMENT: ON PC THREE-279 AND 14/COST VALUE 81,700

LAND:

APPEAL HISTORY

RECORD #	ROLL ID	STATUS	DEC CD	DEC DATE	FINAL MKT

SALES HISTORY

DATE	PRICE	AF #	TYPE

CONSTRUCTION DETAIL

ELEMENT	CODE	DESCRIPTION
FOUNDATION		
EXTERIOR WALL		
ROOF COVER		
ROOF STYLE		
FLOORING	;	;
INT FINISH		
PLUMBING		
HEATING		
FIREPLACE		
INT COMPONENT		
EXT COMPONENT		
ELECTRIC		
BEDROOMS		
SHAPE		
ADD FACTOR 1		
ADD FACTOR 2		

TOTAL REPL COST NEW	TOTAL LVG AREA	TOTAL DEPRE	DEPRE TABLE	MISC CODE	APPRAIS ACRES	ZONING

BUILDING PERMIT

PERMIT NO.	TYPE	AMT	ISSUED	% COM

IMPROVEMENT VALUATION

IMPROVE SEGMT.	TYPE	DESCRIPTION	MTHD/ BLD CLASS	QUAL CLASS	DIMENSION	AREA	UNIT PRICE	REPLACEMENT COST NEW	EFF AGE	YR BLT	COND.	DEPR	ADJUSTMENTS	MKT MOD	TOTAL ADJ	FINAL VALUE
I1	C															81,700

LAND VALUATION

DESCRIPTION	LAND TYPE	LAND TABLE	VAL MTHD	UNITS TAXABLE	MKT RATES	ADJUSTMENTS	MKT MOD	TOTAL ADJ	MARKET VALUE
INDUSTRIAL IMPROVE	IDM	EIH-1	LB	86249S00,100				100	86,250

Total 1.98A

LIEN/MARKET VALUES

OS TABLE	MKT MTHD	OS UNIT PRICE	ASSESSED VALUE

Parcel Number : 17-18-0231-0002
Property Owner : JAMES R. SMITH
Legal/Card# : 7880
levy/Land Use : 018-082
Year built : 1975
Sales info :
Sales info :
Appraised by/ Date: G.M./1-1-95

Occupancy: 75% Utility Building, 25% Garage, Service
Floor Area: 8,000 square feet
Number of stories: 1.0
Class: Steel
Average story height: 24.0
Cost rank: Low
Effective age: 0 years
Cost as of: 10/94

	Units	Cost	Tot
Basic structure cost.....	8,000	11.18	89,4
Less Depreciation:			
Physical.....	<25.0%>		<22,3
Depreciated Cost.....			67,0
Miscellaneous:			
2ND BUILDING ON #14.....			14,6
Total.....			81,6
Rounded to nearest $100			81,7

Cost data by MARSHALL and SWIFT

Parcel Number : 17-18-0231-0002-2
Property Owner : SMITH, JAMES R.
Legal/Card# : 7880
levy/Land Use : 018-082
Year built : 1926
Sales info :
Sales info :
Appraised by/ Date: G.M./1-1-95

Occupancy: Warehouse, Storage
Floor Area: 2,664 square feet
Class: Frame
Cost rank: Low
Cost as of: 10/94

Number of stories: 1.0
Average story height: 10.0
Effective age: 30 years

	Units	Cost	Tot
Basic structure cost.....	2,664	15.71	41,8
Less Depreciation:			
Physical.....	<65.0%>		<27,2
Depreciated Cost.....			14,6
Rounded to nearest $100			14,6

Cost data by MARSHALL and SWIFT

OMMERCIAL APPRAISAL

No..... Page No.....
o No..... Photo No.....
odeled 19..... Cost $.....
19..... Amount $.....
19..... Amount $.....
r..... Date..... Appr. Val. $.....
r..... Date..... Appr. Val. $.....

018-082 17-18-0231-0002/00
SMITH, JAMES R.

1101 E. 2ND ST.
ELLENSBURG ,WA 98926
CD. 7880; SEC. 2; TWP. 17; RGE. 18;
NE 1/4 SW 1/4 TAX #4
L- 12,300 I- 94,500 A- 1.98

PC 279

BUILDING	CONSTRUCTION	PARTITIONS
Apartment	Single	Plaster
Apartment Hotel	Double	Drywall
Auto Sales	Block	Composition
Bank	Wood Frame	Concrete Block
Court	Steel Frame	Brick
Dental	Insulation	Steel
Department		
Garage	ROOF	CEILING
Gas Station	Arch	Acoustic
Greenhouse	Flat	Composition
Hotel	Gable	Drywall
Industrial	Hip	Plaster
Market	Shed	Suspended
Medical		
Metal Bldg.	Steel Beam	INTERIOR
Motel	Steel Truss	Department Store
Office	Wood Truss	Market
Restaurant		Auto Show
Store	Aluminum	Restaurants
Theatre	Built-up	Office
Warehouse	Composition	Theatres
	Concrete	
	Galv. Iron	ELECTRICAL
	Rock	Minimum
FOUNDATION	Shake	Average
Concrete	Shingle	Good
Concrete Block	Steel	
Stone	Tar and Gravel	FLOOR
Brick		Single
Wood Frame	HEATING	Double
	Floor-Wall	Fir
	Forced Air	Hardwood
EXT. WALLS	Gravity	Concrete
Aluminum	Hot Air	Grade
Brick	No. Units	Elevated
Brick Veneer	Space Heat	
Concrete Block		BASEMENT
Concrete Reinf.	Hot Water	Finished 3/4
Curtain	Steam	Utility 1/2
Galv. Iron		Full 1/4
Shakes	ELECTRIC	
Shingle	Baseboard	PLUMBING
Siding	Heat Pump	Toilet Hwt.
Steel Panel		Urinal Lav.
Stucco	AIR COND.	Fountain Sink
Tile	Evaporative	Shower Tub
Tilt-up	Refrigeration	
	Custom	

Class Type Condition
No. Units Backed Detached
Sq. Feet Stories Wall Height
Year Built Construction Cost $

Square Foot Items	% Adj. −	% Adj. +	Base Rat −
Total Adj.			
Adj. Base Cost			

ADDED FEATURES	−
Basement	
Heating	
Plumbing	
Electrical	
Elevators	
Stairway	
Balcony	
Sprinklers	
Canopy	
TOTAL	
ADJ. TOTAL	
Area.....x.....P.S.F.	
Added Features	
Total Base Cost	
19..... Cost Index.....% x Base Cost	
.....% Quality Adjustment	
Replacement Cost	
Depreciation .....% Phy.-Func.-Econ.	
Depr.-Repl. Cost	
Other Improvements	
Total Depr.-Repl. Cost $ LAND COST SHEETS	

MARKS: 1.98 ACRES @ 15000 per = 29700

Land Value 29700
Imp. Value 90400
Total 120100

rcel Number : 17-18-0231-0002/00
operty Owner : James R Smith
gal/Card# : CD#7880
vy/Land Use : 018-082
ar built : 1926
les info :
les info :
praised by/ Date: G.M./5-28-91

cupancy: Warehouse, Storage
oor Area: 2,664 square feet
ass: Frame
st rank: Low/Average
st as of: 1/91

Number of stories: 1.0
Average story height: 10.0 fe
Effective age: 35 years

	Units	Cost	Tota
sic structure cost.....	2,664	16.64	44,329
ss Depreciation:			
hysical.....	<60.0%>		<26,597
preciated Cost.....			17,732
scellaneous:			
and			29,700
uilding on page #2.....			72,700
ubtotal.....			102,400
tal.....			120,132
unded to nearest $100			120,100

st data by MARSHALL and SWIFT

is is page #1 of 2.

2ND BUILDING ON P.C RECORDS

rcel Number : 17-18-0231-0002/00
operty Owner : James R Smith
gal/Card# : CD#7880
vy/Land Use : 018-082
ar built : 1979
les info :
les info :
praised by/ Date: G.M./5-28-91

cupancy: 75% Utility Building, 25% Garage, Service
oor Area: 8,000 square feet Number of stories: 1.0
ass: Steel Average story height: 24.0 fe
st rank: Low Effective age: 0 years
st as of: 1/91

	Units	Cost	Total
sic structure cost.....	8,000	10.10	80,800
ss Depreciation:			
hysical.....	<10.0%>		<8,079
preciated Cost.....			72,721
unded to nearest $100			72,700

st data by MARSHALL and SWIFT

is is page #2 of 2.

MAIN BUILDING ON P.C. RECORDS

(3) 18-082 Cd. 78

OMMERCIAL APPRAISAL

No..... Page No.....
No..... Photo No.....
odeled 19..... Cost $.....
19..... Amount $.....
19..... Amount $.....

Owner James R Smith 17-18-0231-0
Building Name.....
Address 1101 E 2nd St.
Addition Ellensburg, WA 98926
CO 1880 Sec 2 - Twp 17 - Rg 18
L-12,300 Imp 100,500

BUILDING	CONSTRUCTION	PARTITIONS
Apartment	Single	Plaster
Apartment Hotel	Double	Drywall
Auto Sales	Block	Composition
Bank	Wood Frame	Concrete Block
Court	Steel Frame	Brick
Dental	Insulation	Steel
Department		
Garage	ROOF	CEILING
Gas Station	Arch	Acoustic
Greenhouse	Flat	Composition
Hotel	Gable	Drywall
Industrial	Hip	Plaster
Market	Shed	Suspended
Medical		
Metal Bldg.	Steel Beam	INTERIOR
Motel	Steel Truss	Department Store
Office	Wood Truss	Market
Restaurant		Auto Show
Store	Aluminum	Restaurants
Theatre	Built-up	Office
Warehouse	Composition	Theatres
	Concrete	
	Galv. Iron	ELECTRICAL
	Rock	Minimum
FOUNDATION	Shake	Average
Concrete	Shingle	Good
Concrete Block	Steel	
Stone	Tar and Gravel	FLOOR
Brick		Single
Wood Frame	HEATING	Double
	Floor-Wall	Fir
	Forced Air	Hardwood
EXT. WALLS	Gravity	Concrete
Aluminum	Hot Air	Grade
Brick	No. Units	Elevated
Brick Veneer	Space Heat	
Concrete Block		BASEMENT
Concrete Reinf.	Hot Water	Finished ¾
Curtain	Steam	Utility ½
Galv. Iron		Full ¼
Shakes	ELECTRIC	
Shingle	Baseboard	PLUMBING
Siding	Heat Pump	Toilet Hwt.
Steel Panel		Urinal Lav.
Stucco	AIR COND.	Fountain Sink
Tile	Evaporative	Shower Tub
Built-up	Refrigeration	
	Custom	

Class	Type	Condition
No. Units	Backed	Detached
Sq. Feet	Stories	Wall Height
Year Built	Construction Cost $	

Square Foot Items	% Adj. −	% Adj. +	Base Rate −
Total Adj.			
Adj. Base Cost			

ADDED FEATURES	−
Basement	
Heating	
Plumbing	
Electrical	
Elevators Prev Imp Value	
Stairway	
Balcony	
Sprinklers	
Canopy	
Remove 2400 gal. Tank	1400
416 SF Conc 1/100 Cl. 40	
326 Lin ft 8" thick 4' High	
C2,00 pl ft	
TOTAL	1400
ADJ. TOTAL	
Area ..... x .....P.S.F.	
Added Features	
Total Base Cost	
19 .. Cost Index .....% x Base Cost	
.....% Quality Adjustment	
Replacement Cost	
Depreciation .....% Phy.-Func.-Econ.	
Depr.-Repl. Cost	
Other Improvements	
Total Depr.-Repl. Cost	

REMARKS:
6-28-88R
Conc. wall & floor around feet, TANKS

COMPUTER INFOR
JUL 12 1989

NC 8400

Land Value 12300
Imp. Value 94500
Total 106800

COMMERCIAL APPRAISAL

Unit-in-Place Build-up Form

Brown Tank is 10,000 gal

Interior	Unit Cost	Area	Replacement Cost

OMMERCIAL APPRAISAL

TTER LEFT No. YES NO Page No.
SIDE INSPECTED YES NO Photo No.
FUSED ENTRY YES NO
ouered 19 Cost $
d 19 Amount $
d 19 Amount $
r Date Appr. Val. $
r Date Appr. Val. $

Owner 018-082 17-18-0231-
Buildin SMITH, JAMES R.
Addres 1101 E. 2ND ST.
Additio ELLENSBURG , WA 98926
CD. 7880; SEC. 2; TWP. 17; RGE.
NE 1/4 SW 1/4 TAX #4
L- 12,300 I- 95,300 A-

BUILDING	CONSTRUCTION	PARTITIONS
Apartment	✓ Single	Plaster
Apartment Hotel	Double	✓ Drywall (office & BATH)
Auto Sales	Block	Composition
Bank	Wood Frame	Concrete Block
Court	Steel Frame	Brick
Dental	Insulation	Steel
Department		
Garage	ROOF	CEILING
Gas Station	Arch	Acoustic
Greenhouse	Flat	Composition
Hotel	✓ Gable	Drywall
✓ Industrial	Hip	Plaster
Market	Shed	Suspended
Medical		
Metal Bldg.	Steel Beam	INTERIOR
Motel	Steel Truss	Department Store
Office	✓ Wood Truss	Market
Restaurant		Auto Show
Store	Aluminum	Restaurants
Theatre	Built-up	Office
Warehouse	Composition	Theatres
	Concrete	✓ INDUSTRIAL
	✓ Galv. Iron	ELECTRICAL
	Rock	✓ Minimum
FOUNDATION	Shake	Average
Concrete	Shingle	Good
Concrete Block	Steel	
Stone	Tar and Gravel	FLOOR
Brick		✓ Single
Wood Frame	HEATING	Double
P & P	Floor-Wall	✓ Fir
	Forced Air	Hardwood
EXT. WALLS	Gravity	Concrete
Aluminum	Hot Air	Grade
Brick	No. Units	Elevated
Brick Veneer	Space Heat	
Concrete Block		BASEMENT
Concrete Reinf.	Hot Water	Finished 3/4
Curtain	Steam	Utility 1/2
✓ Galv. Iron		Full 1/4
Shakes	✓ ELECTRIC	
Shingle	✓ Baseboard	PLUMBING
Siding	Heat Pump	✓ Toilet ✓ Hwt.
Steel Panel		Urinal ✓ Lav.
Stucco	AIR COND.	Fountain Sink
Tile	Evaporative	✓ Shower Tub
Tilt-up	Refrigeration	
	Custom	

Class D - STG Type Avg Condition Fair
No. Units Backed Detached
Sq. Feet 2664 Stories Wall Height
Year Built 1926 Construction Cost $

Square Foot Items	% Adj. −	% Adj. +	Base Rat −
Per Mult. 1.168			
Total Adj.			
Adj. Base Cost			

ADDED FEATURES	−
Basement	
Heating	
Plumbing	
Electrical	
Elevators	
Stairway	
Balcony	
Sprinklers	
Canopy	
NC 14,400	
TOTAL	
ADJ. TOTAL ✓	
Area 2664 x 14.97 P.S.F.	
Added Features	
Total Base Cost	
19 87 Cost Index 1.04 % x Base Cost	
% Quality Adjustment	
Replacement Cost	
Depreciation 75% (Phy.-Func.-Econ.)	
Depr.-Repl. Cost	
Other Improvements	
Total Depr.-Repl. Cost	
Assessed Value	

arks: 8-21-86

COMPUTER INFOR
MAY - 1 1987

HAS AG LAND 26517 & 2652
TOTAL @ 2.74 Ac @ 8500 per @

LAND

COMMERCIAL APPRAISAL
Unit-in-Place Build-up Form

Class: A B C D	Unit Cost	Area	Replacement Cost		Unit Cost	Area	Replacement Cost
Excavation				Roof			
Basement Walls				Heating			
				Cooling			
Foundation				Electrical			
Floors [redacted]				Plumbing			
Ceilings				Elevators			
				BULK TANKS - See			
Exterior Walls				~~Misc. Construction~~	16 000	6@1	
					24,000	"	
					25,000	" 2@ 6000 X 25% 6-000	
Interior Construction					24,000	" 1 -	
		Sub-total				Total	

Base Cost	
19..... Cost Index .....% x Base Cost	
.....% Quality Adjustment	
Replacement Cost	
Dep.....% Phy.-Func.-Econ.	
Depreciated Replacement Cost	

OMMERCIAL APPRAISAL

No..... Page No.....
No..... Photo No.....
odeled 19..... Cost $.....
19..... Amount $.....
19..... Amount $.....
..... Date..... Appr. Val. $.....
..... Date..... Appr. Val. $.....

Owner JAMES L SMITH
Building Name.....
Address 1101 E. 2ND
Addition.....
CD 7880 See 2-17-18

BUILDING	CONSTRUCTION	PARTITIONS
Apartment	Single	Plaster
Apartment Hotel	Double	✓ Drywall SHOP
Auto Sales	Block	Composition
Bank	Wood Frame	Concrete Block
Court	✓ Steel Frame	Brick
Dental	Insulation	Steel
Department		
Garage	ROOF	CEILING
Gas Station	Arch	Acoustic
Greenhouse	Flat	Composition
Hotel	Gable	Drywall
Industrial	Hip	Plaster
Market	Shed	Suspended
Medical		
Metal Bldg.	Steel Beam	INTERIOR
Motel	✓ Steel Truss	Department Store
Office	Wood Truss	Market
Restaurant		Auto Show
Store	✓ Aluminum	Restaurants
Theatre	Built-up	Office
Warehouse	Composition	Theatres
MACH SHOP	Concrete	
EQ. STG.	Galv. Iron	ELECTRICAL
	Rock	Minimum
FOUNDATION	Shake	Average
Concrete	Shingle	Good
Concrete Block	Steel	
Stone	Tar and Gravel	FLOOR
Brick		Single
Wood Frame	HEATING	Double
	Floor-Wall	Fir
	Forced Air	Hardwood
EXT. WALLS	Gravity	✓ Concrete
Aluminum	Hot Air	Grade
Brick	No. Units	Elevated
Brick Veneer	Space Heat	
Concrete Block		BASEMENT
Concrete Reinf.	Hot Water	Finished ¾
Curtain	Steam	Utility ½
Galv. Iron		Full ¼
Shakes	ELECTRIC	
Shingle	Baseboard	PLUMBING
Siding	Heat Pump	Toilet Hwt.
Steel Panel		Urinal Lav.
Stucco	AIR COND.	Fountain Sink
Tile	Evaporative	Shower Tub
Tilt-up	Refrigeration	
	Custom	

Class S - Low Type Condition
No. Units Backed Detached
Sq. Feet 8000 Stories Wall Height
Year Built Construction Cost $

25% - Low Service X 14.76 = 3.69
75% - Low Utility Sq X 5.15 = 3.86

Square Foot Items	% Adj. −	% Adj. +	Base Rate −
.894 Perimeter			
X 1.154 =			
Total Adj.			
Adj. Base Cost			
ADDED FEATURES			−
Basement			
Heating			
Plumbing			
Electrical			
Elevators			
Stairway			
Balcony			
Sprinklers			
Canopy			
INSULATION for Mach Shop =			
TOTAL			
ADJ. TOTAL			

Area 8000 x 8.58 P.S.F.
Added Features
Total Base Cost
19 87 Cost Index 1.04 % x Base Cost
..... % Quality Adjustment
Replacement Cost
Depreciation 5 % (Phy.) Func.-Econ.
Depr.-Repl. Cost
Other Improvements
Total Depr.-Repl. Cost
Assessed Value

COMPUTER INFOR MAY - 1 1987

ks: No Plumbing No Floor Area 3 Walk In Doors - 2 Drive In
Exc 40x60 Shop Area
Roll Fiberglass Ins In Shop - Electrical Heat - Shop

OMMERCIAL APPRAISAL

✓ C18 171802-31-

No..... Page No.....
No..... Photo No.....
odeled 19..... Cost $.....
19..... Amount $.....
19..... Amount $.....
r..... Date..... Appr. Val. $.....
r..... Date..... Appr. Val. $.....

Owner... SMITH, JAMES R.
Building 1101 E. 2ND. ST.
Address ELLENSBURG, WA. 98926
Addition CD. 7880; SEC. 2; TWP. 17; RGE.
NE 1/4 SW 1/4 TAX #4
L- 8,000 I- 78,400 A-

BUILDING		CONSTRUCTION		PARTITIONS
Apartment		✓ Single		Plaster
Apartment Hotel		Double	✓	Drywall Office &
Auto Sales		Block		Composition Bath
Bank		Wood Frame		Concrete Block
Court		Steel Frame		Brick
Dental		Insulation		Steel
Department				
Garage		ROOF		CEILING
Gas Station		Arch		Acoustic
Greenhouse		Flat		Composition
Hotel		✓ Gable		Drywall
Industrial		Hip		Plaster
Market		Shed		Suspended
Medical				
Metal Bldg.		Steel Beam		INTERIOR
Motel		Steel Truss		Department Store
Office		✓ Wood Truss		Market
Restaurant				Auto Show
Store		Aluminum		Restaurants
Theatre		Built-up		Office
Warehouse		Composition		Theatres
		Concrete	✓	INDUSTRIAL
		✓ Galv. Iron		ELECTRICAL
		Rock	✓	Minimum
FOUNDATION		Shake		Average
Concrete		Shingle		Good
Concrete Block		Steel		
Stone		Tar and Gravel		FLOOR
Brick			✓	Single
Wood Frame		HEATING		Double
P&P		Floor-Wall	✓	Fir
		Forced Air		Hardwood
EXT. WALLS		Gravity		Concrete
Aluminum		Hot Air		Grade
Brick		No. Units		Elevated
Brick Veneer		Space Heat		
Concrete Block				BASEMENT
Concrete Reinf.		Hot Water		Finished 3/4
Curtain		Steam		Utility 1/2
Galv. Iron				Full 1/4
Shakes	/	ELECTRIC		
Shingle	✓	Baseboard		PLUMBING
Siding		Heat Pump	/	Toilet / Hwt.
Steel Panel			/	Urinal / Lav.
Stucco		AIR COND.		Fountain Sink
Tile		Evaporative	/	Shower Tub
Tilt-up		Refrigeration		
		Custom		

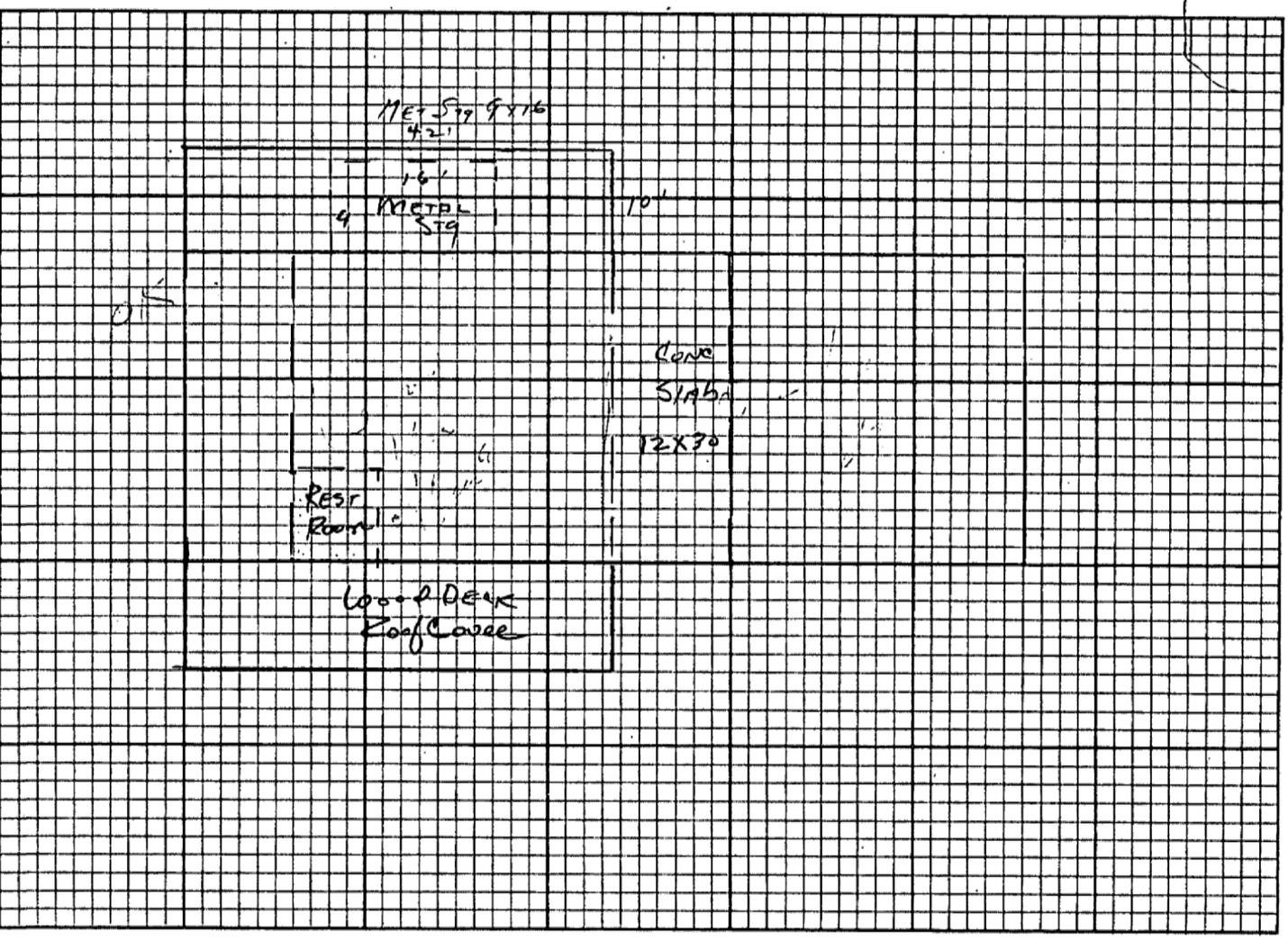
Class S - Avg Type Stg Condition Fair
No. Units Backed Detached
Sq. Feet 2664 Stories Wall Height
Year Built 1926 Construction Cost $

Square Foot Items	% Adj. −	% Adj. +	Base Rate −
Per Manr			
Total Adj.			
Adj. Base Cost			

ADDED FEATURES	−
Basement	
Heating	
Plumbing	
Electrical	
Elevators	
Stairway	
Balcony	
Sprinklers	
Canopy	
TOTAL	
ADJ. TOTAL	
Area 2664 x 15.73 P.S.F.	
Added Features	
Total Base Cost	
19 83 Cost Index 1.18 % x Base Cost	
..... % Quality Adjustment	
Replacement Cost	
Depreciation 10 % Phy. Func. Econ.	
Depr.-Repl. Cost	
Other Improvements	
Total Depr.-Repl. Cost	
Assessed Value	

arks: TALKED TO Joel Smith 4-26-83
F.C
14R → HASRdj LAND PARCELS 265-1 & 265 valued at 850 per
LAND
10

COMMERCIAL APPRAISAL
Unit-in-Place Build-up Form



Class: A B C D	Unit Cost	Area	Replacement Cost		Unit Cost	Area	Replacement Cost
Excavation				Roof			
Basement Walls				Heating			
				Cooling			
Foundation				Electrical			
Floors				Plumbing			
Ceilings				Elevators			
Exterior Walls				Misc. Construction			
Interior Construction							
		Sub-total				Total	

Base Cost	
19..... Cost Index ..... % x Base Cost	
..... % Quality Adjustment	
Replacement Cost	
Dep..... % Phy.-Func.-Econ.	
Depreciated Replacement Cost	

FERTIL

OMMERCIAL APPRAISAL

No. ..... Page No. .....
No. ..... Photo No. .....
odeled 19..... Cost $.....
19..... Amount $.....
19..... Amount $.....
r..... Date..... Appr. Val. $.....
r..... Date..... Appr. Val. $.....

Owner James L. Smith
Building Name
Address
Addition

BUILDING		CONSTRUCTION		PARTITIONS
Apartment		Single		Plaster
Apartment Hotel		Double		Drywall
Auto Sales		Block		Composition
Bank		Wood Frame		Concrete Block
Court		Steel Frame		Brick
Dental		Insulation		Steel
Department				
Garage		ROOF		CEILING
Gas Station		Arch		Acoustic
Greenhouse		Flat		Composition
Hotel		Gable		Drywall
Industrial		Hip		Plaster
Market		Shed		Suspended
Medical				
Metal Bldg.		Steel Beam		INTERIOR
Motel		Steel Truss		Department Store
Office		Wood Truss		Market
Restaurant				Auto Show
Store		Aluminum		Restaurants
Theatre		Built-up		Office
Warehouse		Composition		Theatres
Mach Shop		Concrete		
		Galv. Iron		ELECTRICAL
		Rock		Minimum
FOUNDATION		Shake		Average
Concrete		Shingle		Good
Concrete Block		Steel		
Stone		Tar and Gravel		FLOOR
Brick				Single
Wood Frame		HEATING		Double
		Floor-Wall		Fir
		Forced Air		Hardwood
EXT. WALLS		Gravity		Concrete 700 ft
Aluminum		Hot Air		Grade
Brick		No. Units		Elevated
Brick Veneer		Space Heat		
Concrete Block				BASEMENT
Concrete Reinf.		Hot Water		Finished 3/4
Curtain		Steam		Utility 1/2
Galv. Iron				Full 1/4
Shakes		ELECTRIC		
Shingle		Baseboard		PLUMBING
Siding		Heat Pump		Toilet Hwt.
Steel Panel				Urinal Lav.
Stucco		AIR COND.		Fountain Sink
Tile		Evaporative		Shower Tub
Tilt-up		Refrigeration		
		Custom		

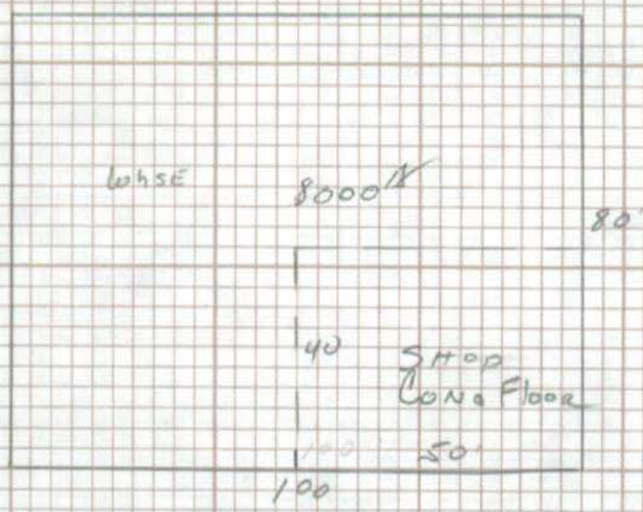
Class 5 Avg Type Util. Bldg. Condition
No. Units Backed Detached
Sq. Feet 8000 Stories 1 Wall Height
Year Built Construction Cost $

Square Foot Items	% Adj. −	% Adj. +	Base Rat −
Total Adj.			
Adj. Base Cost			

ADDED FEATURES	−
Basement	
Heating	
Plumbing	
Electrical	
Elevators	
Stairway	
Balcony	
Sprinklers	
Canopy	
2 Doors 12X20	
6000 ft Nolen Floor 1.25	7500
TOTAL	7500
ADJ. TOTAL	
Area 8000 x 10.00 P.S.F.	
Added Features	
Total Base Cost	
19 83 Cost Index 1 % x Base Cost	
% Quality Adjustment	
Replacement Cost	
Depreciation 9.5 % Phy.-Func.-Econ.	
Depr.-Repl. Cost	
Other Improvements	
Total Depr.-Repl. Cost	−
Assessed Value	

arks:

COMMERCIAL APPRAISAL
Unit-in-Place Build-up Form



Class: A B C D	Unit Cost	Area	Replacement Cost		Unit Cost	Area	Replacement Cost
Excavation				Roof			
Basement Wa							
Foundation							
Floors							
Ceilings							= 9750
							9750
							7100
Exterior Walls							6300
							5500
							3600
Interior Const							4725
							46,225 ea 25

RESIDENTIAL APPRAISAL

[redacted]0 Page No. 82
ap No. 02 Photo No.
onthly Rent
modeled 19 Cost $
d 19 Amount $
d 19 Amount $

Owner JAMES R. SMITH ET UX
Address 1101 E. 2ND ST.
ELLENSBURG WA. 98926
Addition
E 401 1 1
SW¼ TX 4 2 1

1,98@

L. 7,920 I. 10,740 (1.

Class Perimeter
Condition Square ft.
Year Built Const. Cost $

BUILDING	CONSTRUCTION	STORIES	1	½	2	A	B
Dwelling	Single	No. Rooms					
Duplex	Double	No. Baths					
FOUNDATION	Block	No. Bedrooms					
Conc. 6 8 10	Insulation						
Concrete Block		PARTITIONS					
Brick		Plaster					
Stone	HEATING	Drywall					
Piers	Forced	Compo.					
EXT. WALLS	Gravity	Paper					
Bevel	Floor or Wall	Wood Panel					
Rustic		Plywood					
B. and B.	Hot Water	CEILING					
Vertical	Baseboard	Plaster					
Wood Shingles	C. I. Rad.	Drywall					
Comp. Shingles	Floor Rad.	Compo.					
Aluminum		Plywood					
Comp. Shakes	Electric	Tile					
Wood Shakes	Wall Units	Paper					
Low Cost	Baseboard	Wood Panel					
Average	Glass Panel						
Good	Ceiling Rad.	FLOORS					
Concrete Block	Floor Rad.	Single					
Stucco		Double					
Brick		Softwood					
Common		Hardwood					
Roman	FIREPLACE	Plywood					
Stone	1 Sty. Single	Carpet					
	1 Sty. Bkd.	Tile					
	2 Sty. Single	Concrete					
ROOF	2 Sty. Bkd.	Linoleum					
Flat	2 Sty. Stkd.						
Hip		BASEMENT					
Gable	EXTRAS	None					
	B. I. Oven	Full					
Pitch	B. I. Range	Part					
Low	Hood and Fan	No. Rooms					
Medium	Water Soft.	Class Rooms					
Steep		Daylight					
Shingles							
Wood	BUILT-INS	PLUMBING					
Composition	Fir	1st G.		2nd G.			
Aluminum	Hardwood	Toilet		Shower Stall			
	Metal	Tub		Tub Shower			
Shakes		Lav.		Sink			
Light	LIGHTING	Laundry Fac.					
Medium	Good	Garbage Disp.					
Heavy	Average	Dishwasher					
Built-up	Poor	Hot Water Heater					
Roll							
Tile		No. Fixtures					

Rate Adj.	—
Base Rate	
TOTAL RATES	
ADJ. BASE RATE	
ADDED FEATURES	—
Basement	
Basement Rooms	
Heating	
Plumbing	
Fireplace	
Attached Garage	
Upper Stories	
Extras	
TOTALS	
Adjusted Total	
Area x P.S.F.	
Added Features	
Total Base Cost	
19 Cost Index % x Base C.	
Depreciation % Phy. Func. Econ.	
Additional Buildings See back	
Total Value	
Assessed Value	

Marks: Check For New Building
RW 4 MAY 3, 1979

LAND VALUE

CARDS POSTED NOTICE SENT

RM REV. 61 0010 (6-74)

NC 62 000

Type / Use	DESCRIPTION: Found.	Floor	Roof	Walls	Condition	Dimensions	Area	Rate	Qual. Index % MDF	Repl. Cost	Dep. %	Depreciated Replacement Cost
e												
ilding							8008					

Eco. Rent 1.08 X 8000 = 6.40 X 12 =

7608

X 1.95

7296 X Multiplier

of 8.5 = 6200

or 7.75

OMMERCIAL · APPR[illegible]SAL

No. 7880 Page No.

o No. Photo No.

odeled 19 Cost $

d 19 73 Amount $ 10,880.

d 19 Amount $

r Date 2-73 Appr. Val. $ 18,660.

r Date Appr. Val. $

Owner JAMES R[illegible] SMITH

~~Building Name~~ 1101 EAST 2ND ST.

Address ELLENSBURG, WASH. 98926

Addition

NE¼ SW¼ TAX 4, SEC. 2 - 17 - 18

L - 7920.

I - 10,740.

BUILDING	CONSTRUCTION	PARTITIONS
Apartment	Single	Plaster
Apartment Hotel	Double	Drywall
Auto Sales	Block	Composition
Bank	Wood Frame	Concrete Block
Court	Steel Frame	Brick
Dental	Insulation	Steel
Department		
Garage	ROOF	CEILING
Gas Station	Arch	Acoustic
Greenhouse	Flat	Composition
Hotel	Gable	Drywall
Industrial	Hip	Plaster
Market	Shed	Suspended
Medical		
Metal Bldg.	Steel Beam	INTERIOR
Motel	Steel Truss	Department Store
Office	Wood Truss	Market
Restaurant		Auto Show
Store	Aluminum	Restaurants
Theatre	Built-up	Office
Warehouse	Composition	Theatres
	Concrete	
	Galv. Iron	ELECTRICAL
	Rock	Minimum
FOUNDATION	Shake	Average
Concrete	Shingle	Good
Concrete Block	Steel	
Stone	Tar and Gravel	FLOOR
Brick		Single
Wood Frame	HEATING	Double
	Floor-Wall	Fir
	Forced Air	Hardwood
EXT. WALLS	Gravity	Concrete
Aluminum	Hot Air	Grade
Brick	No. Units	Elevated
Brick Veneer	Space Heat	
Concrete Block		BASEMENT
Concrete Reinf.	Hot Water	Finished ¾
Curtain	Steam	Utility ½
Galv. Iron		Full ¼
Shakes	ELECTRIC	
Shingle	Baseboard	PLUMBING
Siding	Heat Pump	Toilet Hwt.
Steel Panel		Urinal Lav.
Stucco	AIR COND.	Fountain Sink
Tile	Evaporative	Shower Tub
Tilt-up	Refrigeration	
	Custom	

Class	Type	Condition
No. Units	Backed	Detached
Sq. Feet	Stories	Wall Height
Year Built	Construction Cost $	

Square Foot Items	% Adj. −	% Adj. +	Base Rat −
Total Adj.			
Adj. Base Cost			

ADDED FEATURES	−
Basement	
Heating	
Plumbing	
Electrical	
Elevators	
Stairway	
Balcony	
Sprinklers	
Canopy	
TOTAL	
ADJ. TOTAL	
Area ..... x ..... P.S.F.	
Added Features	
Total Base Cost	
19 ..... Cost Index ..... % x Base Cost	
..... % Quality Adjustment	
Replacement Cost	
Depreciation ..... % Phy.-Func.-Econ.	
Depr.-Repl. Cost	
Other Improvements	
Total Depr.-Repl. Cost	
Assessed Value	

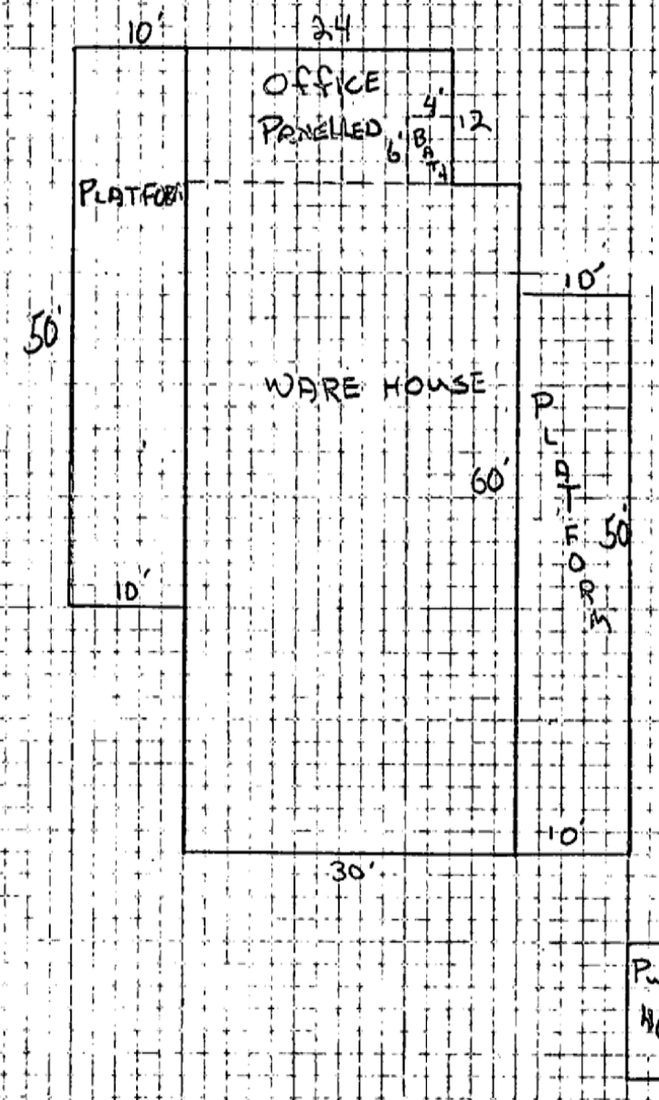
arks:

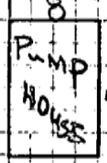
CARDS POSTED

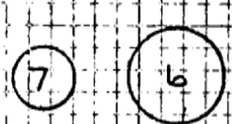
110 Chang

Scale 1 sq = 2 ft

Acct







Office: 288

PLATFORM: 1000

WARE HOUSE: 1800

PUMP HOUSE: 96

TOTAL 3784

#7880

REVALUATION

OMMERCIAL APPRAISAL

No..... Page No.....
o No..... Photo No.....
odeled 19..... Cost $.....
19..... Amount $.....
19..... Amount $.....
r..... Date..... Appr. Val. $.....
r..... Date..... Appr. Val. $.....

Owner Shell oil Co
Building Name SMITH ICEM FERTILIZER
Address
Addition SW¼ TAX 4 SEC 2-17-18

L- 4950
I- 8,810.

BUILDING		CONSTRUCTION		PARTITIONS
Apartment	X	Single		Plaster
Apartment Hotel		Double	X	Drywall office + Bath
Auto Sales		Block		Composition
Bank		Wood Frame		Concrete Block
Court		Steel Frame		Brick
Dental		Insulation		Steel
Department				
Garage		ROOF		CEILING
Gas Station		Arch		Acoustic
Greenhouse		Flat		Composition
Hotel	X	Gable		Drywall
Industrial		Hip		Plaster
Market		Shed		Suspended
Medical				
Metal Bldg.		Steel Beam		INTERIOR
Motel		Steel Truss		Department Store
Office	X	Wood Truss		Market
Restaurant				Auto Show
Store		Aluminum		Restaurants
Theatre		Built-up		Office
Warehouse		Composition		Theatres
		Concrete		INDUSTRIAL
	X	Galv. Iron		ELECTRICAL
		Rock	X	Minimum
FOUNDATION		Shake		Average
Concrete		Shingle		Good
Concrete Block		Steel		
Stone		Tar and Gravel		FLOOR
Brick			X	Single
Wood Frame		HEATING		Double
P + P		Floor-Wall	X	Fir
		Forced Air		Hardwood
EXT. WALLS		Gravity		Concrete
Aluminum		Hot Air		Grade
Brick		No. Units		Elevated
Brick Veneer		Space Heat		
Concrete Block				BASEMENT
Concrete Reinf.		Hot Water		Finished ¾
Curtain		Steam		Utility ½
Galv. Iron				Full ¼
Shakes		ELECTRIC		
Shingle	X	Baseboard		PLUMBING
Siding		Heat Pump	1	Toilet 1 Hwt.
Steel Panel				Urinal 1 Lav.
Stucco		AIR COND.		Fountain Sink
Tile		Evaporative	1	Shower Tub
Tilt-up		Refrigeration		
		Custom		

Class INDUSTRIAL Type METAL Condition FAIR
No. Units Backed Detached
Sq. Feet 2664 Stories Wall Height
Year Built 1926 Construction Cost $

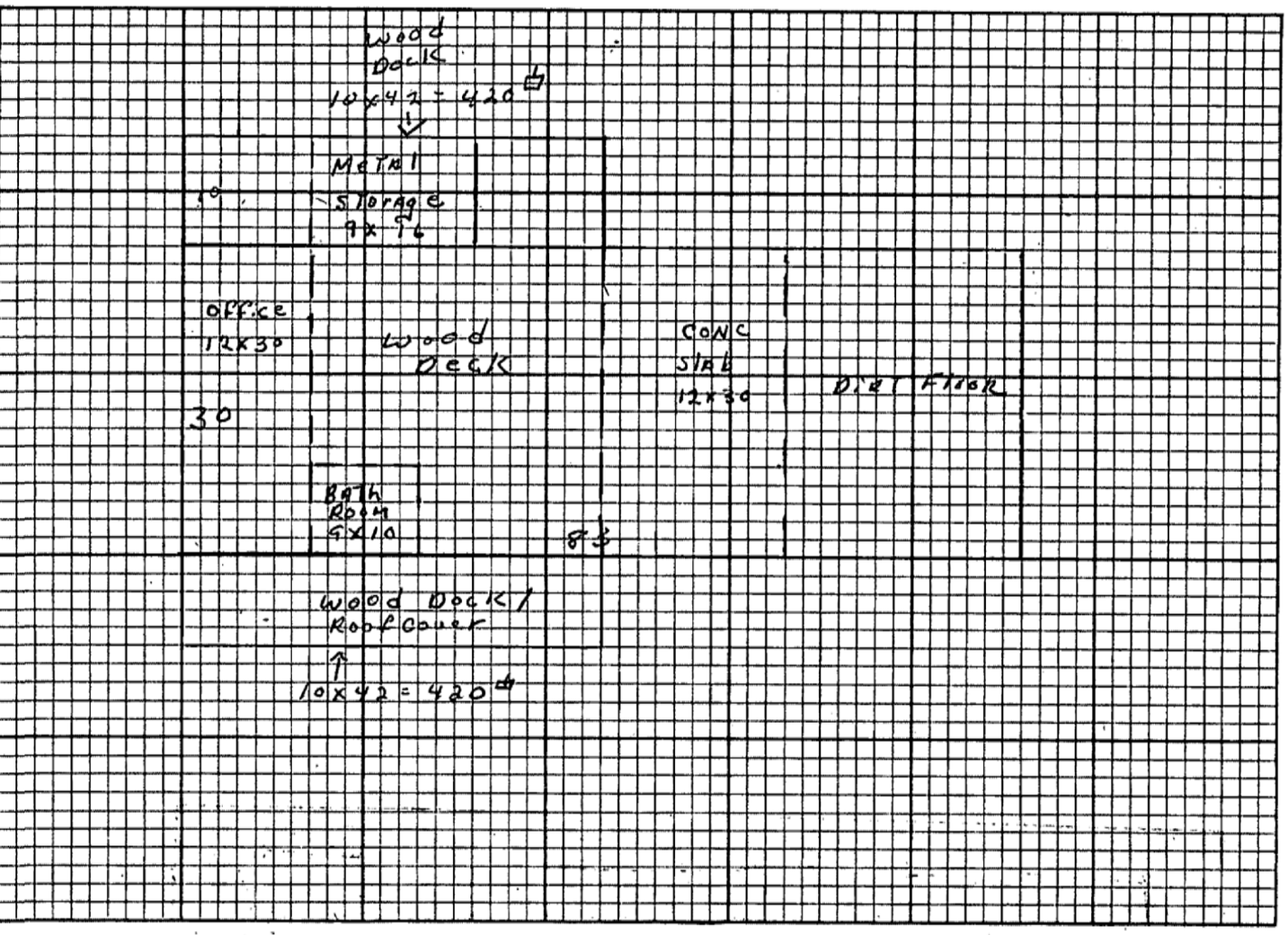
Square Foot Items	% Adj. −	% Adj. +	Base Rate −
Total Adj.			
Adj. Base Cost			

ADDED FEATURES	+ −
Basement	
Heating	
Plumbing ADJ ¾ BATH	
Electrical /	
Elevators	
Stairway	
Balcony	
Sprinklers	
~~Canopy~~ ADJ wood floor 12.60 @ 3.20	
ADJ office space + BATH room space 450 @ 3.00	
ADJ 420 wood dock/roof 3.20	
ADJ 420 @ 3.20	
TOTAL	
ADJ. TOTAL	
Area 2664 x 442 P.S.F.	
Added Features	
Total Base Cost	
19..... Cost Index..... % x Base Cost	
..... % Quality Adjustment	
Replacement Cost 50% 10%	
Depreciation 60 % (Phy) (Func) (Econ) /	
Depr.-Repl. Cost	
Other Improvements Depreciated	
Total Depr.-Repl. Cost	
Assessed Value 50.70	

CARDS POSTED
NOTICE SENT

Marks: R+VB Land value change
Feb 1973
4,000 Per Acre 1.98 = 7920 @ 50% = New Land A.V. →
Total A.V. →

COMMERCIAL APPRAISAL
Unit-in-Place Build-up Form



Class: A B C D	Unit Cost	Area	Replacement Cost		Unit Cost	Area	Replacement Cost
Excavation				Roof			
Basement Walls				Heating			
				Cooling			
Foundation				Electrical			
Floors				Plumbing			
Ceilings				Elevators			
Exterior Walls				Misc. Construction			
Interior Construction							
		Sub-total				Total	

Base Cost	
19..... Cost Index ..... % x Base Cost	
..... % Quality Adjustment	
Replacement Cost	
Dep..... % Phy.-Func.-Econ.	
Depreciated Replacement Cost	

SMITH KEM

BULK TANK

		#1		#2		
1 - 24,000 gal.	=	2,520.	+	410.		Column #1=Tank Co
1 - 25,000 gal.	=	2,612.	+	410.		Column #2=Conc. &
1 - 16,000 gal.	=	1,890.	+	340.		Tank
1 - 12,000 gal.	=	1,575.	+	340.		Support
1 - 10,000 gal.	=	1,430.	+	265.		
1 - 5,000 gal.	=	850.	+	154.		
1 - 4,000 gal.	=	681.	+	125.		
87,000 gal.	=	11,558.	+	2,044.	=	13,602

13,602 X 130 F. = 17,680. Dep. 85% = 20% Good = 2,652.

Bulk plants have become obsolete in this area. There are several plants closed in this area and have very little sale value on the market.

The reason for the High depreciation of the bulk storage tank is the super adequate storage of the tanks for the fertilizer business.

Roy Webber

Feb 13, 1973

SHELL CHEMICAL COMPANY
A DIVISION OF SHELL OIL COMPANY
1500 NEWELL AVENUE
WALNUT CREEK, CALIFORNIA 94596
TELEPHONE (415) 933-93

GRICULTURAL DIVISION
TERN MARKETING REGION

November 3 1972

Smith-Kem
Ellensburg, Washington

Subject; Plant Purchase
Ellensburg location

Dear Mr. Smith

Per our discussion of recent date, a break out of plant and equipment values for your Ellensburg location is as follows;

LAND	$ 3,400.00
NH3 FIELD EQUIPMENT	3,425.00 — pp
PETROLEUM PLANT, BLDG, TANK	10,862.00
TOTAL:	$17 687.00

If you need additional information please advise.

very truly yours

Emmett L. Reed

.7 acres

AS COUNTY PROPERTY HISTORY

File No. 78E
4

ity ELLENSBURG Address RAILROAD AVE.

ater WELL? Sanitary Sewer 12" AC Storm Sewer

Road BT Alley NO R.R. Siding

Curb NO Sidewalk NO Street Light

lectricity YES Telephone YES Gas YES

uilding Permit:

Date	Amount	Purpose

ales – Lease – Mortgage

nt	Date	Amount	E. Tax No.	A. File No.	Notes

Zoning:

Date	Class	Use
1969	M-1	Shell Bulk Plant

Land Valuation: Depth Table _____ ft. Corner Influence

Ft.	Depth	Acres	Unit Value	Factor	A.U.V.	Cor. Influence	
		1.98	5,000				$
						TOTAL	$9

Land Assessment:

70	19 70		19		19		1

OMMERCIAL APPRAISAL

7880

Owner WASHINGTON REFINING Co.
Building Name SHELL BULK PLANT
Address RAILROAD AVE
Addition SW¼ TAX 4 Sec 2 Twp 8

L 720
I 4455

No. ..... Page No. .....
p No. ..... Photo No. .....
nodeled 19..... Cost $.....
d 19..... Amount $.....
d 19..... Amount $.....
pr. ..... Date ..... Appr. Val. $.....
Leach Date 3-13-70 Appr. Val. $.....

BUILDING		CONSTRUCTION		PARTITIONS
Apartment		Single		Plaster
Apartment Hotel		Double		Drywall
Auto Sales		Block		Composition
Bank	✓	Wood Frame		Concrete Block
Court		Steel Frame		Brick
Dental		Insulation		Steel
Department			✓	PLYWOOD
Garage		ROOF		CEILING
Gas Station		Arch	✓	Acoustic office
Greenhouse		Flat		Composition
Hotel	✓	Gable		Drywall
Industrial		Hip		Plaster
Market		Shed		Suspended
Medical			~	Open web
Metal Bldg.		Steel Beam		INTERIOR
Motel		Steel Truss		Department Store
Office		Wood Truss		Market
Restaurant				Auto Show
Store		Aluminum		Restaurants
Theatre		Built-up		Office
Warehouse		Composition		Theatres
		Concrete	✓	industrial
	✓	Galv. Iron		ELECTRICAL
		Rock		Minimum
FOUNDATION		Shake	✓	Average
Concrete		Shingle		Good
Concrete Block		Steel		
Stone		Tar and Gravel		FLOOR
Brick				Single
Wood Frame		HEATING		Double
	✓	Floor-Wall oil	✓	Fir
		Forced Air		Hardwood
EXT. WALLS		Gravity		Concrete
Aluminum		Hot Air		Grade
Brick		No. Units		Elevated
Brick Veneer		Space Heat		
Concrete Block				BASEMENT
Concrete Reinf.		Hot Water		Finished ¾
Curtain		Steam		Unfinished NONE ½
Galv. Iron				Full ¼
Shakes		ELECTRIC		
Shingle		Baseboard		PLUMBING
Siding		Heat Pump	1	Toilet — Hwt.
Steel Panel			—	Urinal 1 Lav.
Stucco		AIR COND.	—	Fountain — Sink
Tile		Evaporative NONE	—	Shower — Tub
Tilt-up		Refrigeration		
		Custom		

Class Wood Frame Type LG Condition AVER
No. Units Backed Detached
Sq. Feet 7088 Stories Wall Height
Year Built 1923 Construction Cost $ 0-0

Square Foot Items	% Adj. −	% Adj. +	Base Ra −
WFLG			
Electrical			
Total Adj.			
Adj. Base Cost			
ADDED FEATURES			−
Basement			
Heating			
Plumbing			
Electrical			
Elevators			
Stairway for tanks 50 LF			
Balcony			
~~Sprinklers~~ Pump House			
~~Canopy~~ 1 - 4000 Gal tank UG			
2 - 25000 Gal stg tanks			
1 - 16000 Gal " "			
2 - 12000 Gal " "			
1 - 6000 Gal " "			
TOTAL			
ADJ. TOTAL			

Area 7088 x 3.77 P.S.F.
Added Features
Total Base Cost
19 64 Cost Index 130 % x Base Cost
..... % Quality Adjustment
Replacement Cost
Depreciation 70 % Phy.-Func.-Econ.
Depr.-Repl. Cost
Other Improvements
Total Depr.-Repl. Cost
Assessed Value @ 50%

arks:

COMMERCIAL APPRAISAL
Unit-in-Place Build-up Form

TANKS

1. - 25,000
2. - 25,000
3. - 16,000
4. - 12,000
5. - 4,000 UNDER GROUND
6. - 12,000 > AWAY FROM OTHER TANKS
7. - 6,000

Pumps

1. 1½ HP
2. 5 HP
3. # KP - 1080

Class: A B C D	Unit Cost	Area	Replacement Cost		Unit Cost	Area	Replacement Cost
Excavation				Roof			
Basement Walls				Heating			
				Cooling			
Foundation							
Floors							
Ceilings							
Exterior Walls							
Interior Construction							

Dep.....% Phy.-Func.-Econ.	
Depreciated Replacement Cost	

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix A
Historical Records

Attachment A.3
Environmental Data Resources, Inc.
City Directory Report

CL-Smith-Kem
200 South Railroad Avenue
Ellensburg, WA 98926

Inquiry Number: 4503422.1
January 05, 2016

The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2015 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2013	☑	☐	Cole Information Services
2008	☑	☐	Cole Information Services
2003	☑	☐	Cole Information Services
1999	☑	☐	Cole Information Services
1995	☑	☐	Cole Information Services
1992	☑	☐	Polk's City Directory
1988	☑	☐	Polk's City Directory
1983	☑	☐	Polk's City Directory
1977	☑	☐	Polk's City Directory
1972	☑	☐	Polk's City Directory
1968	☑	☐	Polk's City Directory
1963	☑	☐	Polk's City Directory
1946	☑	☐	Polk's City Directory

RECORD SOURCES

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.

FINDINGS

TARGET PROPERTY STREET

200 South Railroad Avenue
Ellensburg, WA 98926

Year	***CD Image***	***Source***

S RAILROAD AVE

2013	pg A1	Cole Information Services
2008	pg A2	Cole Information Services
2003	pg A3	Cole Information Services
1999	pg A4	Cole Information Services
1995	pg A5	Cole Information Services
1992	pg A6	Polk's City Directory
1988	pg A7	Polk's City Directory
1983	pg A8	Polk's City Directory
1977	pg A9	Polk's City Directory
1972	pg A10	Polk's City Directory
1968	pg A11	Polk's City Directory
1963	pg A12	Polk's City Directory
1946	pg A13	Polk's City Directory

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	Cole Information Services

S RAILROAD AVE 2013

101	OCCUPANT UNKNOWN
207	STEPHEN CARTER
212	HABITAT FOR HUMANITY ELLENSBURG AREA
	HABITAT FOR HUMANITY RESTORE
320	ORVEN PETTET
411	JOSH BLEDSOE
412	CONSOLIDATED ELECTRICAL DISTRIBUTORS
	MCNEIGHT EXPRESS INC
505	PAUL BENNETT

Target Street	Cross Street	Source
✓	-	Cole Information Services

S RAILROAD AVE 2008

200	SMITH KEM ELLENSBURG INC
206	RICHARD HINK
207	STEPHEN CARTER
212	CONSOLIDATED ELECTRICAL DISTRIBUTORS
220	ONEILLS DIESEL SERVICE INC
304	MC NEIGHT EXPRESS INC
320	ORVEN PETTET
411	JOHN GRIFFITHS
505	PAUL BENNETT

Target Street	Cross Street	Source
✓	-	Cole Information Services

S RAILROAD AVE 2003

101	PATSY WADE
207	STEPHEN CARTER
212	CONSOLIDATED ELCTRCL DSTRBTR
	KEN KEELER
220	ONEILLS DIESEL SERVICE
505	PAUL BENNETT

Target Street	Cross Street	Source
✓	-	Cole Information Services

S RAILROAD AVE 1999

207	STEPHEN CARTER
220	ONEILLS DIESEL SERVICE
304	MCNEIGHT EXPRESS INCORPORATED
411	GORDON FORD
505	PAUL BENNETT

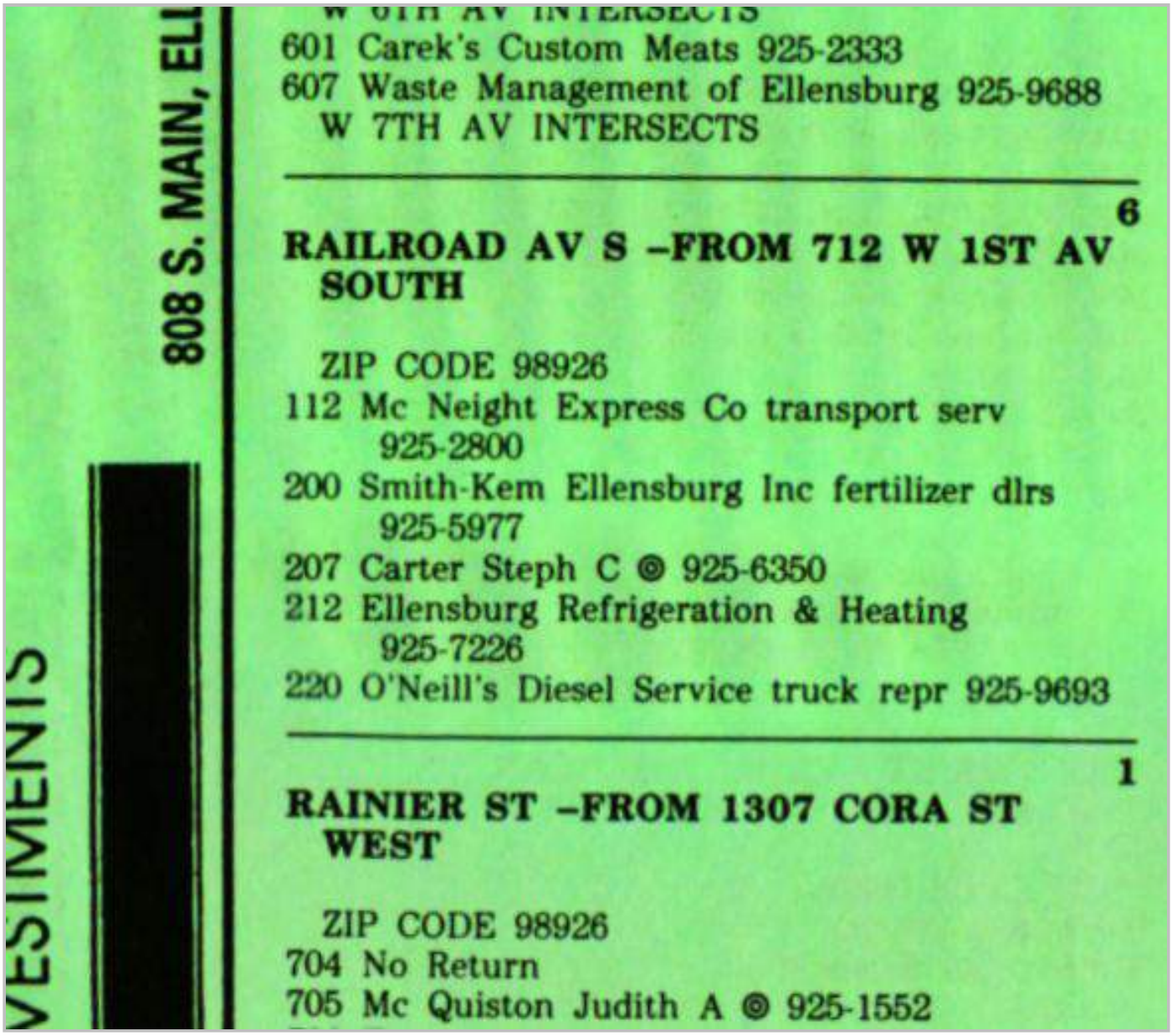
Target Street	Cross Street	Source
✓	-	Cole Information Services

S RAILROAD AVE 1995

220 ONEILLS DIESEL SVC
505 BENNETT, PAUL

Target Street	Cross Street	Source
✓	-	Polk's City Directory

S RAILROAD AVE 1992



W 6TH AV INTERSECTS

601 Carek's Custom Meats 925-2333
607 Waste Management of Ellensburg 925-9688
W 7TH AV INTERSECTS

6

RAILROAD AV S –FROM 712 W 1ST AV SOUTH

ZIP CODE 98926
112 Mc Neight Express Co transport serv 925-2800
200 Smith-Kem Ellensburg Inc fertilizer dlrs 925-5977
207 Carter Steph C © 925-6350
212 Ellensburg Refrigeration & Heating 925-7226
220 O'Neill's Diesel Service truck repr 925-9693

1

RAINIER ST –FROM 1307 CORA ST WEST

ZIP CODE 98926
704 No Return
705 Mc Quiston Judith A © 925-1552

Target Street	Cross Street	Source
✓	-	Polk's City Directory

S RAILROAD AVE 1988

6

RAILROAD AV S –FROM 712 W 1ST AV SOUTH

ZIP CODE 98926
112 Ellensburg Transfer Co furn transfer co 925-2800
200 Smith-Kem Ellensburg Inc fertilizer dlrs 925-5977
207 Carter Steph C © 925-6350
220 O'Neill's Diesel Service truck repr 925-9693

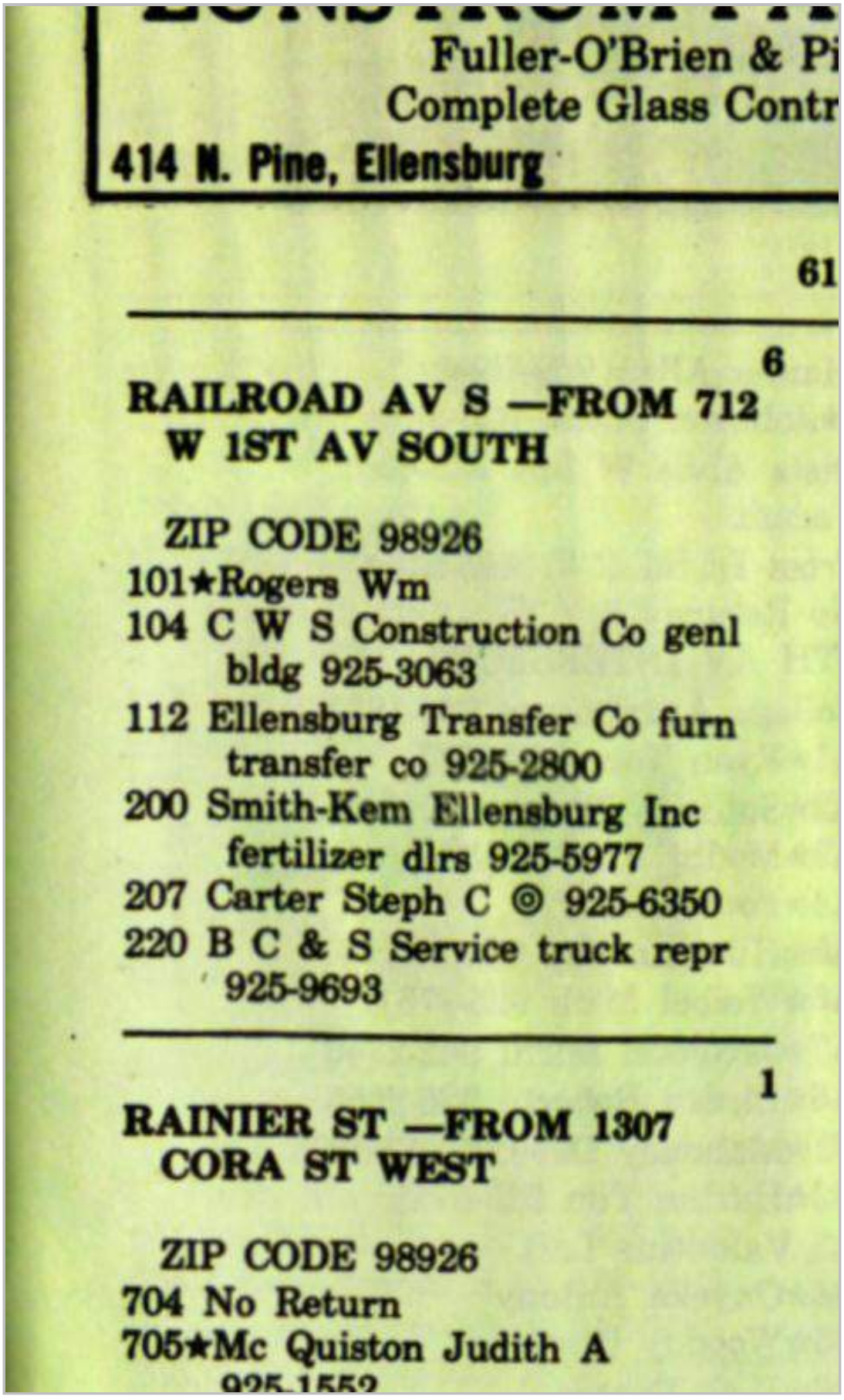
1

RAINIER ST –FROM 1307 CORA ST WEST

ZIP CODE 98926
704 Jaworski Marek 925-9683

Target Street	Cross Street	Source
✓	-	Polk's City Directory

S RAILROAD AVE 1983



Fuller-O'Brien & Pi
Complete Glass Contr
414 N. Pine, Ellensburg

61

6

RAILROAD AV S —FROM 712 W 1ST AV SOUTH

ZIP CODE 98926

101★Rogers Wm
104 C W S Construction Co genl bldg 925-3063
112 Ellensburg Transfer Co furn transfer co 925-2800
200 Smith-Kem Ellensburg Inc fertilizer dlrs 925-5977
207 Carter Steph C ◎ 925-6350
220 B C & S Service truck repr 925-9693

1

RAINIER ST —FROM 1307 CORA ST WEST

ZIP CODE 98926

704 No Return
705★Mc Quiston Judith A
925-1552

S RAILROAD AVE 1977

603 Ellensburg Truck & Tractor Repair 925-4414
Mehrer V H Co truck repr 962-2181
W 7TH AV INTERSECTS

6

RAILROAD AV S —FROM 712 W 1ST AV SOUTH

ZIP CODE 98926

101 Nickerson Minnie L Mrs ◎ 925-2897
112 Ellenburg Transfer Co furn transfer co 925-2800
113 No Return
200 Smith-Kem Ellensburge Inc (whse) 925-5977
204 Vacant
220 B C & S Service truck repr 925-9693

1

RAINIER ST —FROM 1307 CORA ST WEST

ZIP CODE 98926

704★Castleberry Linda
705★Moyer Beth
706 Vacant

Target Street	Cross Street	Source
✓	-	Polk's City Directory

S RAILROAD AVE 1972

Mehrer V H Co truck repr
925-3622
W 7TH AV INTERSECTS

6

RAILROAD AV S —FROM 712 W 1ST AV SOUTH

ZIP CODE 98926

101 ★ Nickerson Minnie L Mrs
925-2897
106 Vacant
108 Stevens Bonnie M Mrs ◎
925-2595
112 Steele's Plumbing & Heating
plmb contr 925-2255
113 Winterer Roscoe H ◎
962-2543
200 Smith-Kem Co (whse)
925-5977
204 Ellensburg Transfer Co (Whse)
220 B C & S Service truck repr
925-9693

1

RAINIER ST —FROM 1307 CORA ST WEST

ZIP CODE 98926

Target Street	Cross Street	Source
✓	-	Polk's City Directory

S RAILROAD AVE 1968

CLEANERS
613 North Pine, Ellensburg
Phone 925-5865

RADIO RD--CONTD
BERNATH HARRISON B
31 THOMPSON JOHN W ●
925-1267
33 SPLETT GILBERT E REV ●
925-1781
37 ROGOWSKI MIKE P ●
925-2041
---CHAMITH LA INTERSECTS
38 KLAMPHER EARL R ●
962-2964
39 WALKER CARLES W
962-2622
---VISTA RD INTERSECTS

7

RAILROAD AV N -FROM 712 W 1ST AV NORTH 2 WEST OF N KITTITAS ST

---ZIP CODE 98926
---N DENNIS ST INTERSECTS
301 WHEELER CLARK ●
925-2264
320 S & K CONSTRUCTION CO INC 925-8301
---W 4TH AV INTERSECTS
403 WHIPPEL PARK
421 LOWE'S LUCKY DOLLAR GRO 962-7447
---W 5TH AV INTERSECTS
501 U S DEPT OF INST-BONNEVILLE POWER ADMN 925-5601
503 U S DEPT OF INT-BONNEVILLE POWER ADMN SUB STA POWER PLANT 925-1388
507 SPURGEON NORMAN L ●
925-9543
---W 6TH AV INTERSECTS
601 HUDSON COMMUNITY CANNERY & MEAT CUTTING CANNERY 925-5255
603 ELLENSBURG TRUCK & TRACTOR REPAIR 925-3622
MEHRER V H CO TRUCK REPR 925-3622
---W 7TH AV INTERSECTS

6

RAILROAD AV S -FROM 712 W 1ST AV SOUTH 2 WEST OF S KITTITAS ST

---ZIP CODE 98926
106 BACCARA ALBERT
108 STEVENS JOHN ●
925-2595
113 WINTERER ROSCOE H ●
962-2543
200 ANDERSON OIL CO INC
925-9788
201 HUDSON WILLARD A ●
962-2665
204 C & H TRANSFER TRANS & FUEL 925-2788
506 MILNER DANNIS

8

RICHARDSON LA -FROM 1125 FRANKLIN AV N EAST

---ZIP CODE 98926
1109 MC FARLAND LAWRENCE R
925-5103

13

RUBY ST N -FROM 300 E 1ST AV NORTH 2 EAST OF N PEARL ST

---ZIP CODE 98926
100 CHRISTIAN MISSIONARY ALLIANCE CHURCH CH
101 COLEY TALBOT T ●
925-1201
103 BOB'S PHOTO 925-2308
YOUNG ROBT A ●
925-2308
104 VACANT
105 HARTMAN CLARENCE S ●
962-2342
107 NIMZ FRANK T ●
925-1904
109 APARTMENTS
1 EDWARDS MARGT E MRS 925-5505
2 DAMSKEY ANONA P MRS ● 962-9514
3 BEST LINDA
4 HARTMAN MARGT
---E 2D AV INTERSECTS
200 HUTKO GLADYS M MRS ●
925-2490
201 HUGHES NORMAN E ●
962-2343
205 NEW TESTAMENT CHRISTIAN CHURCH 925-2355
208 FIRST METHODIST CHURCH 962-9869
209 CITY PUBLIC LIBRARY 925-9433
---E 3D AV INTERSECTS

Target Street	Cross Street	Source
✓	-	Polk's City Directory

S RAILROAD AVE 1963

repr WA 5-8801
sw cor Mehrer V H Co hay brokers WA 5-0791
Dollar way intersects

7

RAILROAD S — From 712 1st av W south

106 Vacant
108 Stephens John ◎ WA 5-6377
113 Hodges Ann R Mrs ◎ WO 2-2320
Weagant Lawrence WO 2-2320
115 Justin Dorothy Mrs ◎
Anderson Oil Co Inc WO 2-4157
Bennett Paul ◎ WO 2-9640
Drolson Andrew C ◎
Foster David WO 2-2369
Hightower Larry M WA 5-7427
Licari Jos G ◎ WO 2-9670
Travis Ross D ◎

8

RICHARDSON LANE — From 1125 Franklin av N east

1109 Whiteman Arth J WO 2-2407

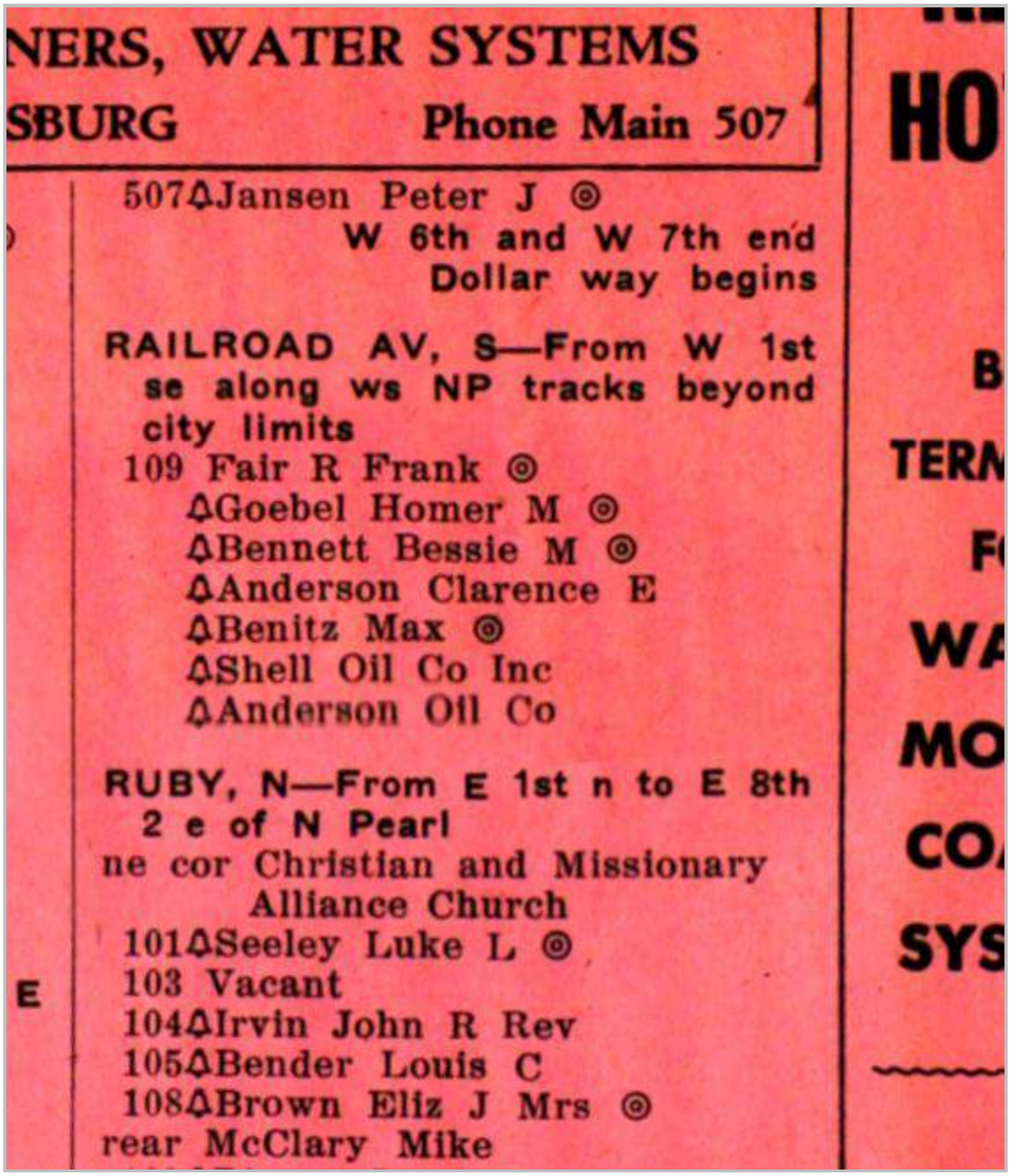
13

RUBY N — From 300 1st av E north

100 Christian & Missionary Alliance Church

Target Street	Cross Street	Source
✓	-	Polk's City Directory

S RAILROAD AVE 1946



NERS, WATER SYSTEMS
SBURG Phone Main 507

507 Jansen Peter J ◎
W 6th and W 7th end
Dollar way begins

RAILROAD AV, S—From W 1st
se along ws NP tracks beyond
city limits
109 Fair R Frank ◎
Goebel Homer M ◎
Bennett Bessie M ◎
Anderson Clarence E
Benitz Max ◎
Shell Oil Co Inc
Anderson Oil Co

RUBY, N—From E 1st n to E 8th
2 e of N Pearl
ne cor Christian and Missionary
Alliance Church
101 Seeley Luke L ◎
103 Vacant
104 Irvin John R Rev
105 Bender Louis C
108 Brown Eliz J Mrs ◎
rear McClary Mike

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix A
Historical Records

Attachment A.4
EDR Aerial Photo Decade Package

Smith-Kem
200 South Railroad Avenue
Ellensburg, WA 98926

Inquiry Number: 4524103.1
January 28, 2016

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Date EDR Searched Historical Sources:

Aerial Photography January 28, 2016

Target Property:

200 South Railroad Avenue

Ellensburg, WA 98926

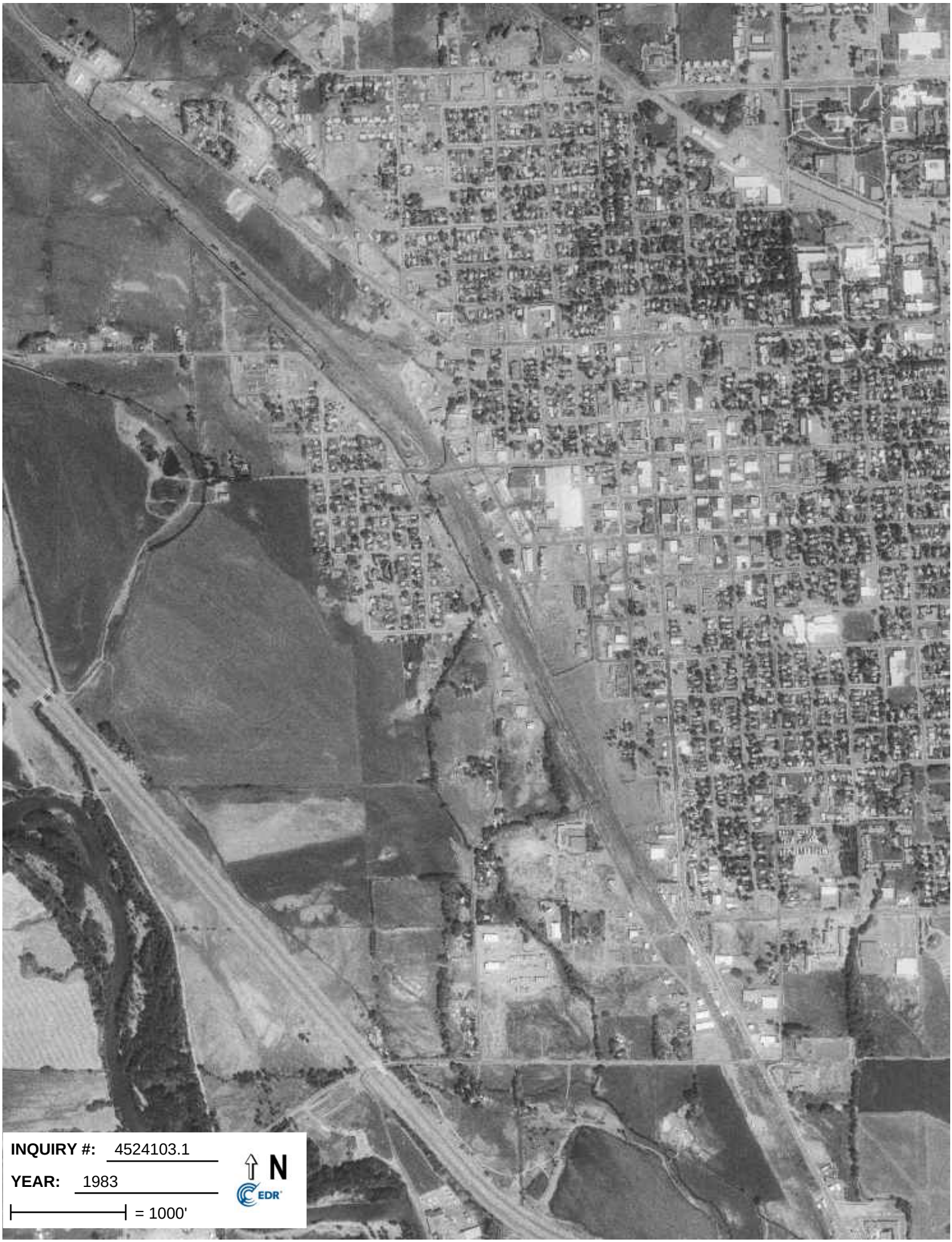
Year	***Scale***	***Details***	***Source***
1956	Aerial Photograph. Scale: 1"=500'	Flight Date: August 09, 1956	EDR
1964	Aerial Photograph. Scale: 1"=500'	Flight Date: October 26, 1964	EDR
1970	Aerial Photograph. Scale: 1"=500'	Flight Date: August 17, 1970	EDR
1981	Aerial Photograph. Scale: 1"=500'	Flight Date: July 22, 1981	USGS
1983	Aerial Photograph. Scale: 1"=1000'	Flight Date: August 15, 1983	EDR
1990	Aerial Photograph. Scale: 1"=500'	Flight Date: June 18, 1990	USGS
2000	Aerial Photograph. Scale: 1"=500'	DOQQ - acquisition dates: June 15, 2000	USGS/DOQQ
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
2011	Aerial Photograph. Scale: 1"=500'	Flight Year: 2011	USDA/NAIP

INQUIRY #: 4524103.1
YEAR: 1956
= 500'
N
EDR

INQUIRY #: 4524103.1
YEAR: 1964
= 500'
N
EDR

INQUIRY #: 4524103.1
YEAR: 1970
= 500'
N
EDR

INQUIRY #: 4524103.1
YEAR: 1981
= 500'
N
EDR


INQUIRY #: 4524103.1
YEAR: 1983
= 1000'
N
EDR

INQUIRY #: 4524103.1
YEAR: 1990
= 500'
N
EDR

INQUIRY #: 4524103.1
YEAR: 2000
= 500'
N
EDR

INQUIRY #: 4524103.1
YEAR: 2005
= 500'
N
EDR

INQUIRY #: 4524103.1
YEAR: 2006
= 500'
N
EDR

INQUIRY #: 4524103.1
YEAR: 2009
= 500'
N
EDR

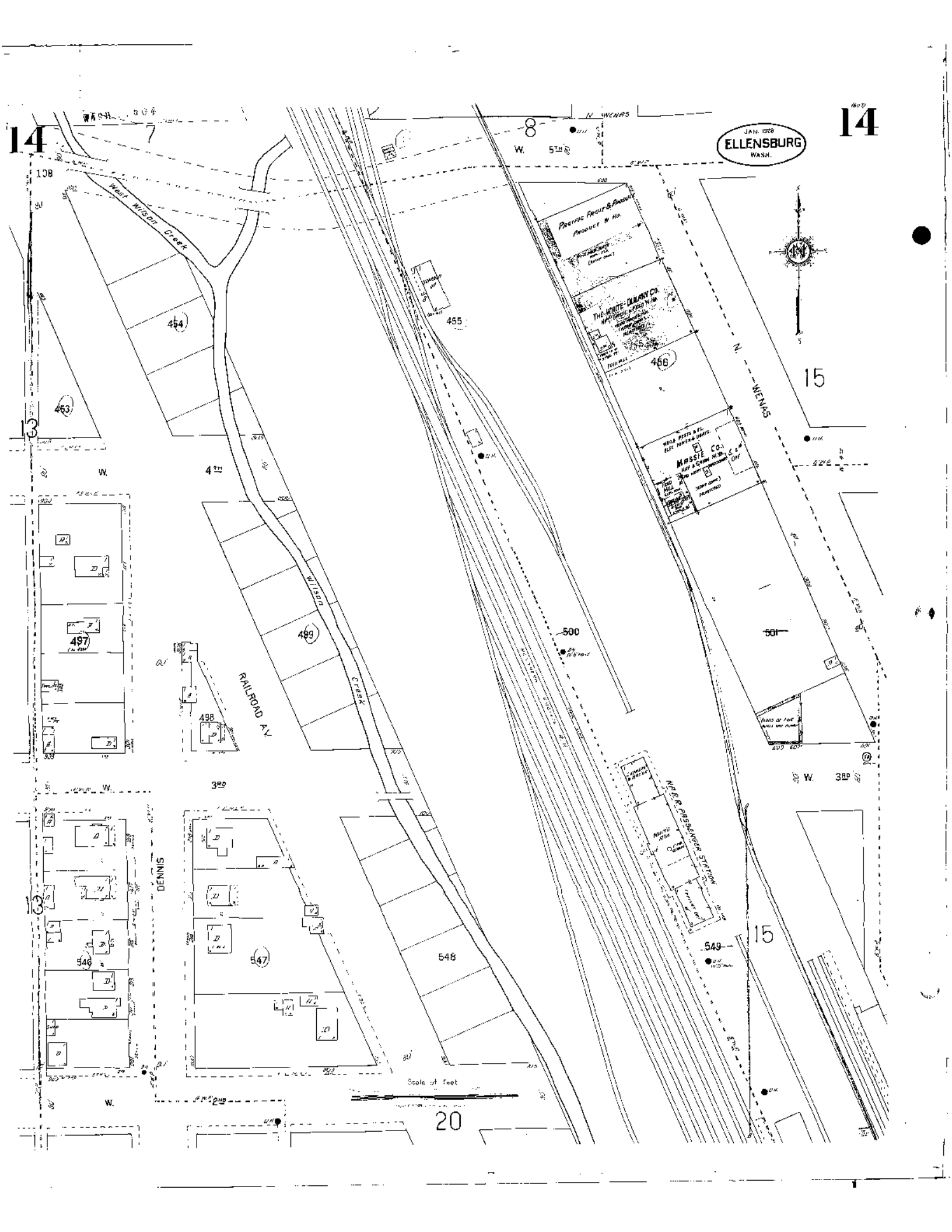
INQUIRY #: 4524103.1
YEAR: 2011
= 500'
N
EDR

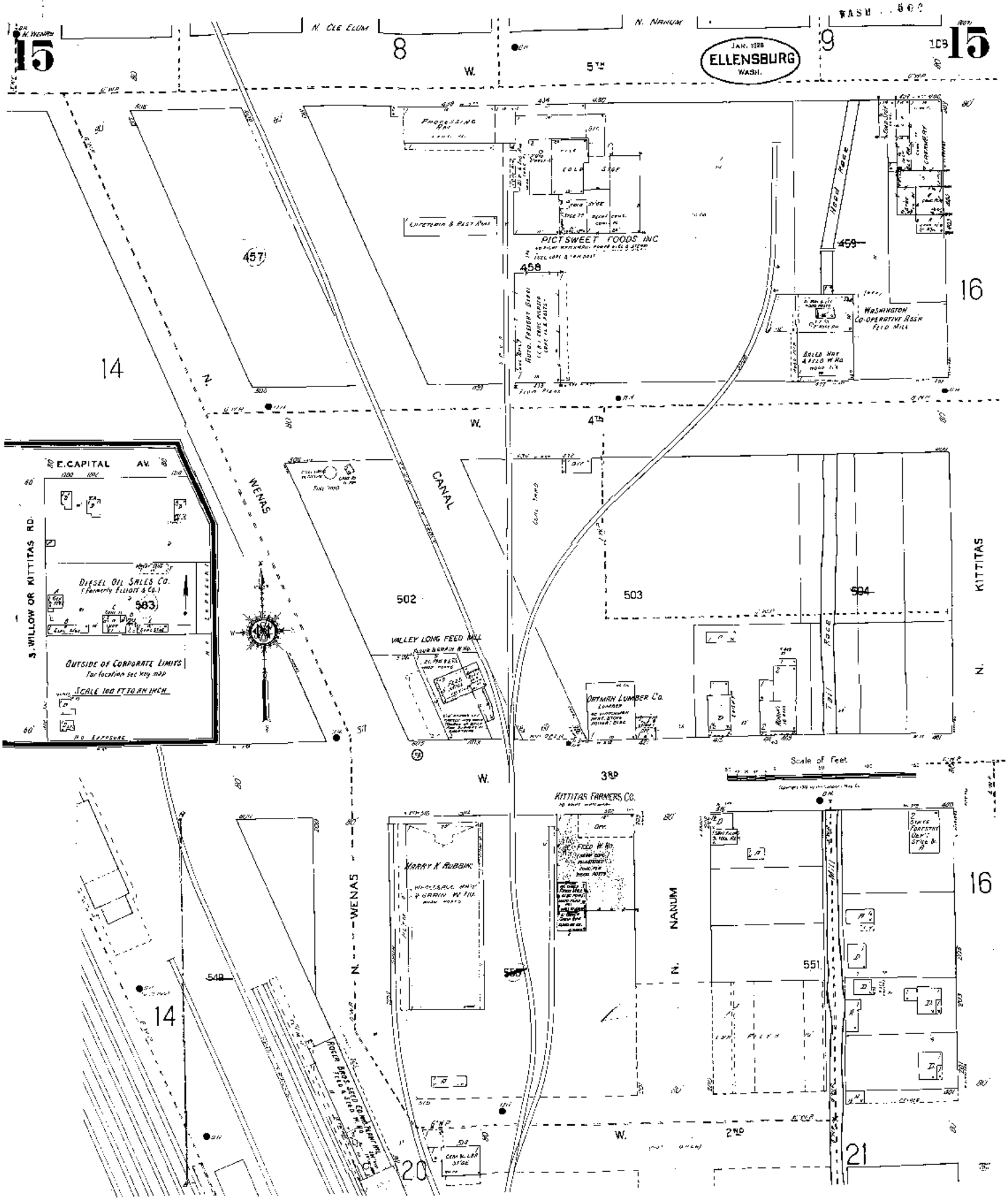
Smith-Kem Site

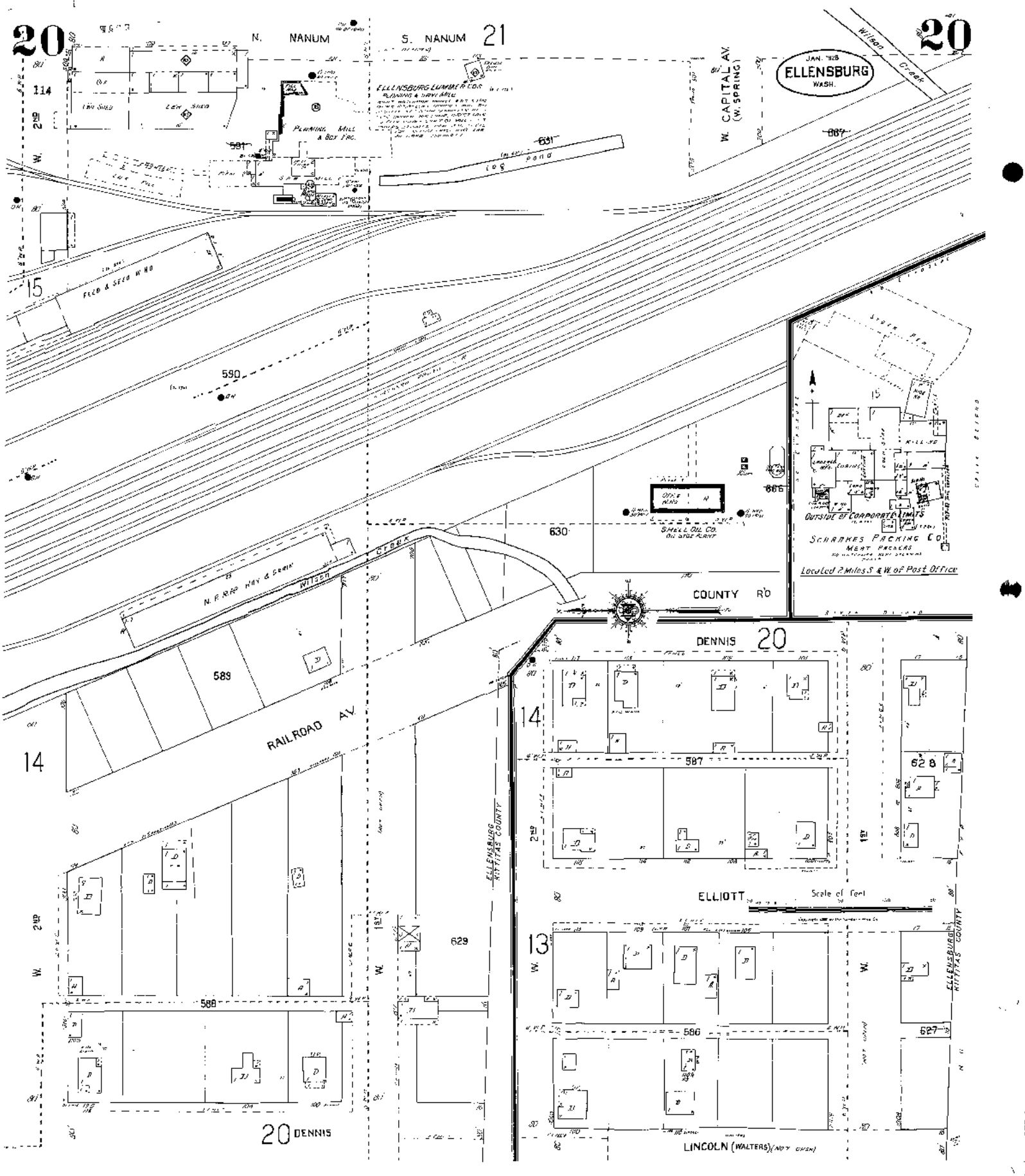
Remedial Investigation/Feasibility Study

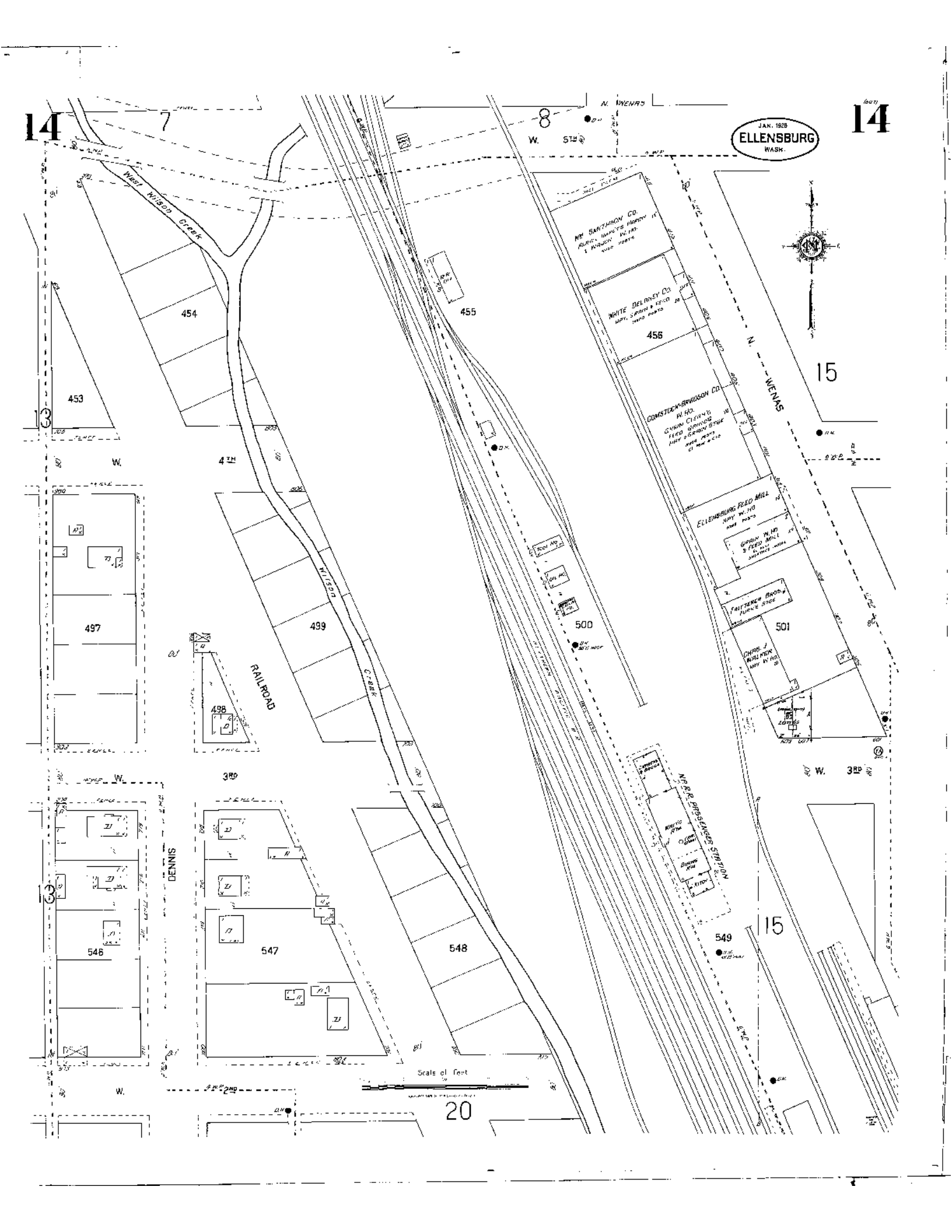
Appendix A
Historical Records

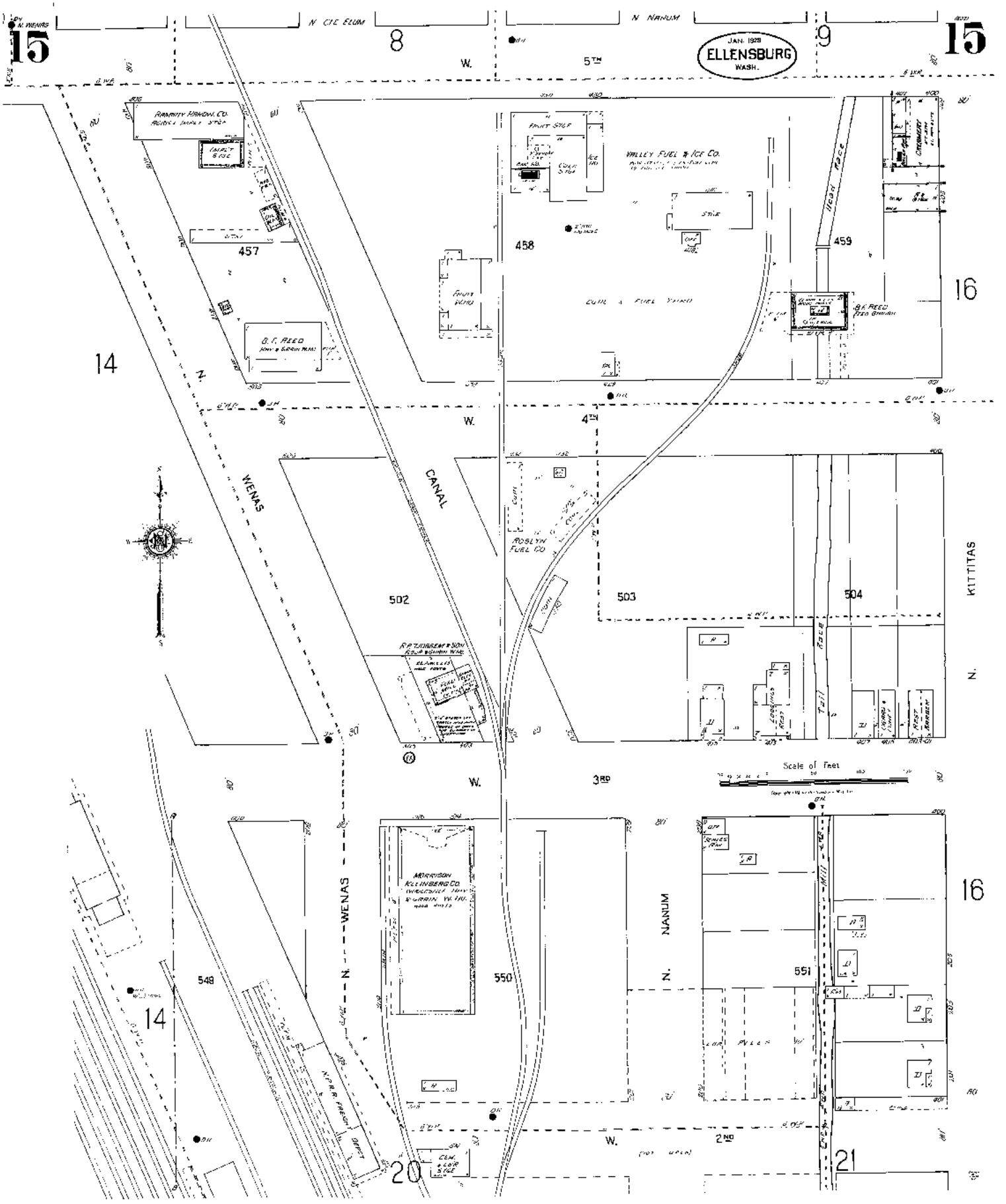
Attachment A.5
Sanborn Maps

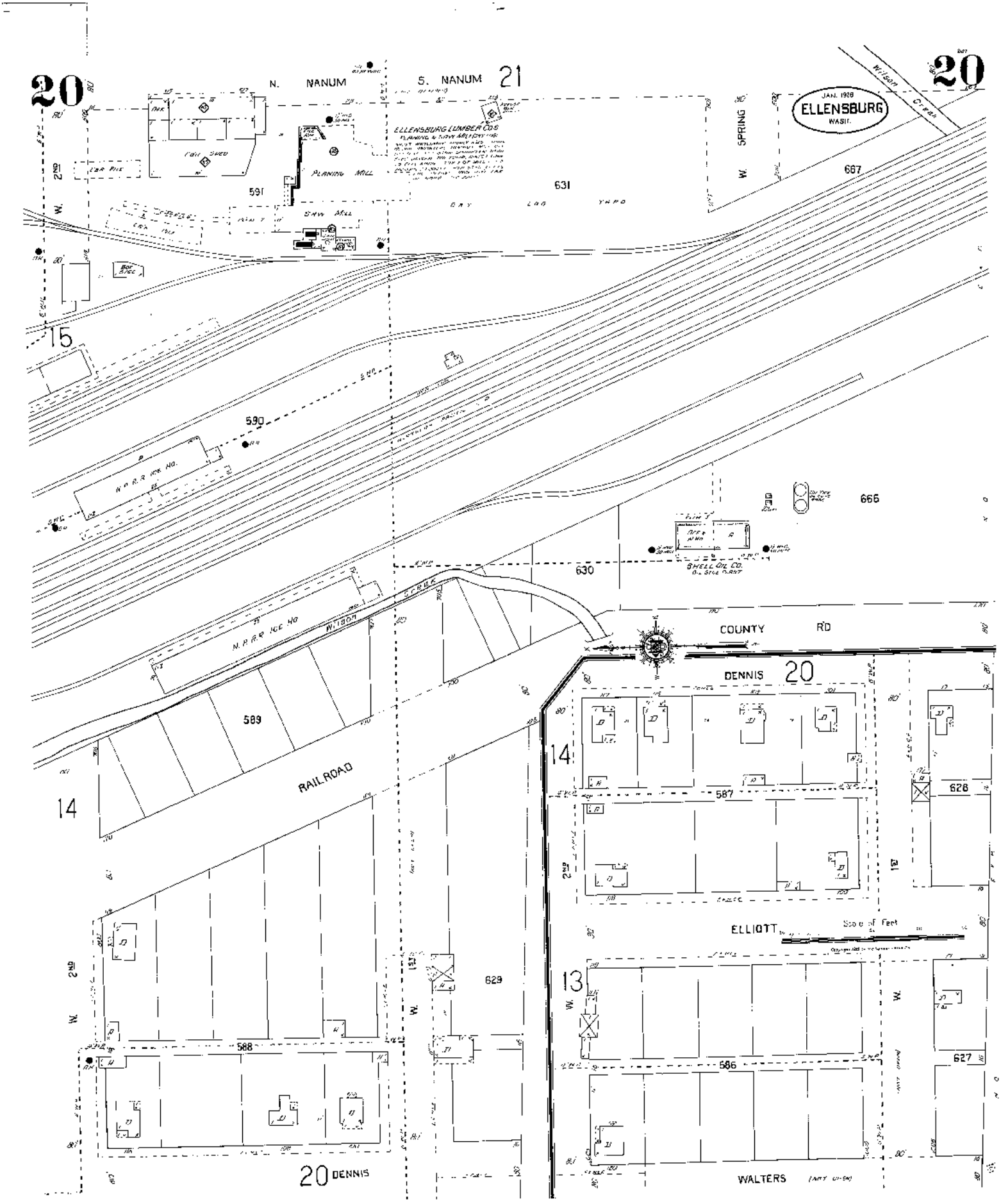

14
14
JAN. 1928
ELLENSBURG
WASH.
West Wilson Creek
W. 5TH
N. WENAS
15
Pacific Fruit & Produce
Produce W. Ho.
THE WHITE-DUNAWAY CO.
MASSIE CO.
454
455
456
463
497
498
499
500
501
546
547
548
549
RAILROAD AV.
Wilson Creek
N.P.R.R. PASSENGER STATION
DENNIS
W. 4TH
W. 3RD
W. 2ND
Scale of Feet
20


JAN. 1928
ELLENSBURG
WASH.
N. WENAS
N. CLE ELUM
N. NANUM
W. 5TH
W. 4TH
W. 3RD
W. 2ND
N. WENAS
N. KITTITAS
E. CAPITAL AV.
S. WILLOW OR KITTITAS RD.
CANAL
PICTSWEET FOODS INC
WASHINGTON CO-OPERATIVE ASSN
DIESEL OIL SALES CO.
(Formerly Elliott & Co.)
OUTSIDE OF CORPORATE LIMITS
For location see key map
SCALE 100 FT TO AN INCH
VALLEY LONG FEED MILL
KITTITAS FARMERS CO.
HARRY K. RUBSAM
Scale of Feet
457
458
459
502
503
504
550
551
14
15
16
20
21


20
N. NANUM
S. NANUM
21
20
JAN. 1928
ELLENSBURG
WASH.
W. CAPITAL AV.
(W. SPRING)
Wilson Creek
ELLENSBURG LUMBER CO.
PLANING & SAW MILL
PLANING MILL & BOX FAC.
LOG POND
631
667
114
2ND W.
15
FEED & SEED WHS
590
630
665
SHELL OIL CO.
BULK AGENT
OUTSIDE OF CORPORATE LIMITS
SCHRAMES PACKING CO
MEAT PACKERS
Located 2 Miles S & W of Post Office
COUNTY RD
N. P. R.R. HAY & GRAIN
WILSON CREEK
589
RAILROAD AV.
14
DENNIS
20
587
628
1ST
ELLIOTT
Scale of Feet
ELLENSBURG
KITTITAS COUNTY
629
588
13
586
627
LINCOLN (WALTERS) (NOT OPEN)
20 DENNIS


14
14
JAN. 1928
ELLENSBURG
WASH.
7
8
W. 5TH
N. WENAS
West Wilson Creek
454
455
456
453
15
WENAS
W. 4TH
497
499
500
501
498
RAILROAD
Creek
Wilson
W. 3RD
N.P.R.R. PASSENGER STATION
548
547
546
549
DENNIS
W. 2ND
20
Scale of Feet


15
8
9
15
N. CLE ELUM
N. NANUM
JAN. 1929
ELLENSBURG
WASH.
5TH
W.
RAMSEY HIXON CO.
FRUIT STGE
VALLEY FUEL & ICE CO.
HIGH RACE
457
458
459
16
14
O. T. REED
B.F. REED
4TH
CANAL
WENAS
ROSLYN FUEL CO
502
503
504
KITTITAS
N.
R.P. TROSSETH & SON
MORRISON KLEINBERG CO.
Scale of Feet
3RD
549
550
551
N. NANUM
N. WENAS
14
16
N.P.R.R. FREIGHT DEPOT
2ND
20
21


20
N. NANUM
S. NANUM
21
20
JAN. 1928
ELLENSBURG
WASH.
Wilson Creek
W. SPRING
2ND
W.
ELLENSBURG LUMBER CO'S
PLANING MILL
SAW MILL
591
631
667
15
590
N.P.R.R. ICE HO.
666
630
SHELL OIL CO.
COUNTY RD
DENNIS
20
14
589
RAILROAD
587
628
ELLIOTT
Scale of Feet
13
629
588
586
627
20 DENNIS
WALTERS

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix B
Select Site Photographs

Photograph 1. Chemical storage area adjacent to office building (looking northeast). February 2016.

Photograph 2. Bulk fertilizer building adjacent to aboveground storage tank (AST) containment area (looking east). October 2015.

Photograph 3. Fertilizer storage inside of bulk fertilizer building. February 2016.

Photograph 4. Incidental spill of dry product at west side of bulk fertilizer building. May 2017.

Photograph 5. Scale/truck filling area between bulk fertilizer building and AST containment area (looking west). June 2016.

Photograph 6. Dust blowing off truck as it is being filled with dry fertilizer product. March 2020.

Photograph 7. AST containment area (during installation of MW-11; looking west). August 2016.

Photograph 8. Incidental spill of [orange] unknown dry product east of office building. May 2017.

Photograph 9. Machine shop and area behind office building (looking north). August 2017.

Photograph 10. Product handling outside of machine shop/storage building. May 2017.

Photograph 11. Storage inside machine shop. June 2016.

Photograph 12. Low spot near monitoring well MW-4 (looking southeast). June 2016.

Photograph 13. Culvert adjacent to MW-4, located to the right of the Ecology blocks (looking south). February 2016.

Photograph 14. Puddles showing brownish tinge of the dust suppressant lignin sulfonate near west side of property/ MW-10 (looking west). February 2016.

Photograph 15. Soil representative of subsurface conditions at Smith-Kem site (organic-rich silt/silty gravel above well-graded gravel and silty gravels) recovered from FS-11 during RI Phase 1. August 2016.

Photograph 16. Soil representative of subsurface conditions at Smith-Kem site recovered from MW-12 during RI Phase 1 (Photo 1 of 2). August 2016.

Photograph 17. Soil representative of subsurface conditions at Smith-Kem site recovered from MW-12 during RI Phase 1 (photo 2 of 2). August 2016.

Photograph 18. Soil representative of subsurface conditions near southeast side of Smith-Kem site recovered from MW-13 during RI Phase 1. August 2016.

Photograph 19. Soil representative of subsurface conditions near north side of Smith-Kem site recovered from MW-15 during RI Phase 2B. June 2018.

Photograph 20. Soil recovered from boring FS-31 showing petroleum-impacted interval collected during RI Phase 2A. June 2017.

Photograph 21. Location of TP-1 adjacent to rail spur (looking north). June 2018.

Photograph 22. Panoramic view of north sidewall in TP-1 showing curvature of fill material in historical irrigation ditch. June 2018.

Photograph 23. Culvert daylighting in low area/ditch on Wales Property south of Smith-Kem Property (looking north). June 2017.

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix C
Floyd|Snider Memoranda

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix C
Floyd|Snider Memoranda

Attachment C.1
Summary of Year 1 Groundwater Results and Recommendations for Year 2

20 YEARS FLOYD | SNIDER
strategy ▪ science ▪ engineering

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

Memorandum

To: John Mefford and Mary Monahan, Washington State Department of Ecology

From: Allison Geiselbrecht, PhD, and Erin Murray, Floyd|Snider

Date: October 6, 2017

Project No: Smith-Kem

Re: **Summary of Year 1 Groundwater Results and Recommendations for Year 2**

This memorandum presents a summary of the first year of quarterly groundwater monitoring at the Smith-Kem Ellensburg Site (Site), as well as recommendations for modifications to the constituents of potential concern (COPCs), the monitoring well network, and sampling schedule for Year 2.

As described in the *Smith-Kem Site Remedial Investigation Work Plan* (Work Plan; Floyd|Snider 2016), the data gaps investigation was to be completed in a phased approach, with the intent to collect data in Phase 1 to better inform the approach for Phase 2 sampling. In February 2017, a memorandum was submitted to the Washington State Department of Ecology (Ecology) proposing a reduction in some soil COPCs for Phase 2 of the Remedial Investigation (Floyd|Snider 2017). In late February 2017, Ecology approved the memorandum, which limited Phase 2 investigation soil sampling to those COPCs that were detected at concentrations of potential concern. This memorandum presents a similar rationale for modification to the groundwater sampling plan. By eliminating extraneous COPCs, analytical complexities can be reduced, which, in turn, allows for the elimination of multi-residue methodology for pesticides (and hence, a more standard method), helping reach practical quantification limits (PQLs), reduce costs, and decrease the turnaround time for results.

The COPCs selected for analysis in Phase 1 were based on previous investigations at the Site. COPCs consisted of diesel-range total petroleum hydrocarbons (TPH-D); gasoline-range TPH (TPH-G); benzene, toluene, ethylbenzene, and xylenes (BTEX); organochlorine pesticides; chlorinated herbicides; nitrate; nitrite; and ammonia. However, based on the incomplete record of historical pesticide/fertilizer use, it was not possible to rule out any particular classes of pesticides, herbicides, or insecticides as being COPCs. Therefore, a full suite of organochlorine pesticides, chlorinated herbicides, halogenated pesticides, organophosphate pesticides, organonitrogen pesticides, phenylurea herbicides, carbamate pesticides, and organophosphorus or organosulfur pesticides were analyzed in the first year of quarterly groundwater monitoring in order to cover the full range of pesticides/herbicides that may have been handled on-site.

DATA SUMMARY BY ANALYTE CLASS

Per the Agreed Order (No. DE 12908), the network of 14 monitoring wells were sampled quarterly for 1 year (Ecology 2016). Table 1 provides a summary of detections and the rationale for whether an analyte is proposed for elimination. Table 2 provides the analytical results for all quarterly groundwater samples collected between August 2016 and May 2017. In Phase 2, samples were also collected at two temporary wells on-site at two depths to determine if previously identified COPCs are present within stratified depths within the aquifer. Temporary wells were also installed on the property to the west of the Site to assess atrazine and nitrate contamination off-site. The results of the temporary well sampling are presented in Table 3.

Petroleum Hydrocarbons

As shown in Table 1, TPH-G was not detected during any sampling event and, therefore, is proposed for elimination as an analyte and COPC from future monitoring events. TPH-D and oil-range TPH (TPH-O) are retained, as they were detected in soils and exceeded the most stringent groundwater screening level (SL) in two monitoring wells in at least one event (Figure 1).

Volatile Organic Compounds

There were no BTEX detections or other volatile organic compounds (VOCs) in groundwater samples collected between August 2016 and June 2017 (Tables 1 and 2). Therefore, VOCs will no longer be considered a COPC and are proposed for elimination from future groundwater monitoring events.

Metals

Groundwater was sampled and analyzed for arsenic, cadmium, copper, lead, mercury, and zinc in each sampling event. As shown in Table 1 and Figure 1, in all sampling events there was only one sample that exceeded the most stringent SL for arsenic at MW-4. Due to this one exceedance, Ecology would like monitoring for arsenic to continue (both total and dissolved) at MW-4. Additionally, any new wells installed on-site or on the BNSF property will need to be analyzed for arsenic to determine compliance. Therefore, all other metals, with the exception of arsenic, will no longer be considered COPCs and are proposed for elimination from future groundwater monitoring events.

Nitrate and Nitrite

Nitrate and nitrite have been detected at concentrations greater than SLs with seasonal variations across the Site (Figure 2). Due to these results, and because the Site is an active fertilizer distributor, nitrate and nitrite are being retained as COPCs for future groundwater monitoring.

Ammonia

Ammonia-nitrogen was analyzed for four consecutive quarters in groundwater and does not have a groundwater SL or standard. The existing data are deemed sufficient for conceptual site model (CSM) development; therefore, it is proposed that ammonia will be eliminated from future groundwater monitoring for currently installed wells. For any newly installed monitoring wells on-site or on the BNSF property, groundwater will be analyzed for ammonia to determine compliance.

Organochlorine Pesticides

There were exceedances of a select number of organochlorine pesticides in both soil and groundwater across the Site. Furthermore, there were raised reporting limits for some non-detect analytes in this class (refer to Table 2). Therefore, all the pesticides listed in the Work Plan in this class will be retained as COPCs.

Chlorinated Herbicides

Of the chlorinated herbicides analyzed in groundwater, 2,4-dichlorophenoxyacetic acid (2,4-D) and 2-methyl-4-chlorophenoxyacetic acid (MCPA) concentrations exceeded the SLs during the second or fourth quarter monitoring events, but did not exceed during the first or third quarter of events (Figure 3). Due to this variability in concentrations, the full list of chlorinated herbicides will be retained as COPCs for future groundwater monitoring.

Other Chlorinated/Halogenated Pesticides

As shown in Table 1, of the analytes listed in this category, only atrazine, simazine, and chlordane-alpha exceed their respective SLs. Atrazine and simazine will be retained as COPCs. Because chlordane-alpha is an isomer of chlordane, which is being retained as a COPC (within the organochlorine pesticide class described above), it can be eliminated from future analyses at all wells except for MW-4. Due to chlordane-alpha's toxicity and the potential that this isomer may have different fate and transport characteristics than chlordane, Ecology would like continued monitoring for chlordane-alpha at MW-4.

Other than atrazine and simazine, which will be analyzed at all wells, and chlordane-alpha at MW-4, all other chlorinated/halogenated pesticides can be eliminated as COPCs in future groundwater monitoring.

Additional analyses for future groundwater monitoring will include desethyl atrazine, which is a degradation product of the pesticide atrazine. This additional analysis will be conducted for select monitoring wells with previous exceedances of atrazine. The results will be used in the development of the CSM and remedial alternatives by quantifying the transit time of atrazine in the aquifer.

Remaining Pesticides and Herbicides

For the remaining categories of pesticides and herbicides (i.e., organophosphate pesticides, triazine herbicides, phenylurea herbicides, carbamate pesticides, organophosphorus and organosulfur pesticides, organonitrogen pesticides, and glyphosate), although there were some detections, concentrations were significantly less than the SLs in Table 1. Therefore, all of these classes can be eliminated as COPCs in future groundwater monitoring.

The analytes proposed for elimination (and those that will be retained) are summarized in Table 4.

Table 4
Constituents of Potential Concern in Year 1 and Year 2 of Groundwater Monitoring

Analyte	Year 1	Year 2
TPH-D	Yes	Yes
TPH-G	Yes	No
Volatile Organic Compounds	Yes	No
Metals	Yes	No[1]
Nitrate and Nitrate	Yes	Yes
Ammonia-Nitrogen	Yes	No[2]
Organochlorine Pesticides	Yes	Yes
Chlorinated Herbicides	Yes	Yes
Other Chlorinated/Halogenated Pesticides	Yes (full list)	Atrazine/ Simazine only[3]
Remaining Pesticides and Herbicides	Yes	No
Desethyl Atrazine	No	Yes (new for Year 2)

Notes:
1 Monitoring for arsenic will continue (both total and dissolved) at MW-4.
2 Any newly installed monitoring wells on-site or on the BNSF property will be analyzed for ammonia.
3 Monitoring for chlordane-alpha will continue at MW-4.

MONITORING NETWORK AND FREQUENCY

Based on the aforementioned discussion of groundwater COPCs and the data presented in Tables 1 through 3, a reduction in the network and frequency of groundwater sampling is appropriate for the next year of monitoring. The monitoring wells on-site that show little-to-no impact or seasonal variation (i.e., MW-2, MW-9, MW-10, and MW-13) are proposed to be sampled semiannually. Seasonal variations of nitrate and nitrite concentrations show peaks in late summer and early fall and lows in winter. Therefore, these quarters (Q1 and Q3) are appropriate sampling times for further documentation of seasonal variations at the minimally impacted wells. Table 5 presents a summary of the proposed wells and monitoring frequency for the second year of groundwater monitoring.

Table 5
Monitoring Network and Frequency

Location	Monitoring Frequency for Year 2
MW-1, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-11, MW-12, MW-14	Quarterly
MW-2, MW-9, MW-10, MW-13	Semiannually:[1, 2] Q1 and Q3
Phase 2b Wells (Off-Property)	To be sampled 1 week after installation. Continued monitoring schedule contingent on initial results.

Notes:
1 Q1 of Year 2 Monitoring will occur between August and October 2017; Q3 will occur between February and April 2018.
2 If the analytical laboratory is able to achieve lower reporting limits using the new analytical method for pesticides and herbicides and results indicate detections where there were previously non-detect exceedances, these monitoring wells will be monitored quarterly.

REFERENCES

Floyd|Snider. 2016. *Smith-Kem Site Remedial Investigation Work Plan*. Prepared for Foster Pepper LLC, Seattle, Washington, and Shell Oil Products US, Carson, California. July.

_____. 2017. *Constituents of Potential Concern Elimination for Phase 2.* Memorandum from Allison Geiselbrecht and Erin Murray, Floyd|Snider, to John Mefford and Mary Monahan, Washington State Department of Ecology. 3 February.

Washington State Department of Ecology (Ecology). 2016. Agreed Order No. DE 12908, Shell Oil Products US (SOPUS) and Smith-Kem Ellensburg, Inc. 29 February.

ATTACHMENTS

Table 1 Frequency of Detection and Exceedance of Screening Levels for Groundwater

Table 2 August 2016 to May 2017 Quarterly Groundwater Results

Table 3 Temporary Well Sampling Analytical Results

Table 4 Constituents of Potential Concern in Year 1 and Year 2 of Groundwater Monitoring (embedded)

Table 5 Monitoring Network and Frequency (embedded)

Figure 1 Total Petroleum Hydrocarbon and Arsenic Results in Groundwater

Figure 2 Nitrate and Nitrite Results in Groundwater

Figure 3 Pesticide and Herbicide Results in Groundwater

Tables

Table 1
Frequency of Detection and Exceedance of Screening Levels for Groundwater

Analyte	CAS No.	Units	Information about Detects								Information about Detected Exceedances			Retain as COPC?	Rationale
			Most Stringent Groundwater Screening Level	Number of Results[1]	Percent of Detects	Minimum Detected Value	Maximum Detected Value	Location of Maximum Detect[2]	Date of Maximum Detect	Depth Range (ft bgs)	Number of Detected Results Exceeding Criteria[1]	Percent of Detected Results Exceeding Criteria	Exceedance Factor[3]		
Volatile Organic Compounds															
Benzene	71-43-2	µg/L	0.8	64	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Toluene	100-41-4	µg/L	640	64	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Ethylbenzene	108-88-3	µg/L	70	64	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Xylenes	1330-20-7	µg/L	1,600	64	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Methyl tert-Butyl Ether	1634-04-4	µg/L	24	1	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Naphthalene	91-20-3	µg/L	160	1	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48	1	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
n-Hexane	110-54-3	µg/L	480	1	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022	2	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Metals, Dissolved															
Arsenic	7440-38-2	µg/L	5	29	41%	1.09	11	MW-4	8/10/2016	3–13	1	3.4%	2.2	No	Not retained; see section text for rationale.
Cadmium	7440-43-9	µg/L	5	29	14%	1.07	4.17	MW-4	11/9/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Copper	7440-50-8	µg/L	640	29	90%	5.24	103	MW-4	8/10/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Lead	7439-92-1	µg/L	15	29	6.9%	1.3	10.3	MW-3	2/27/2017	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Mercury	7439-97-6	µg/L	2	29	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Zinc	7440-66-6	µg/L	4,800	29	66%	5.26	1,600	MW-6	8/10/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Metals, Total															
Arsenic	7440-38-2	µg/L	5	65	45%	1	22.7	FS-30(C)	6/8/2017	13–15	5	7.7%	4.5	No	Not retained; see section text for rationale.
Cadmium	7440-43-9	µg/L	5	65	17%	1.2	3.91	MW-4	11/9/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Copper	7440-50-8	µg/L	640	65	92%	5.09	174	FS-30(C)	6/8/2017	13–15	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Lead	7439-92-1	µg/L	15	65	15%	1.01	31.4	FS-30(C)	6/8/2017	13–15	1	1.5%	2.1	No	Not retained; exceedances and exceedance factor are less than 5%.
Mercury	7439-97-6	µg/L	2	65	--	--	--	--	--	--	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Zinc	7440-66-6	µg/L	4,800	65	62%	5.05	1,670	MW-6	5/17/2017	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Miscellaneous Substances															
Ammonia-Nitrogen	7664-41-7	µg/L	--	65	89%	7	86,100	MW-4	5/17/2017	3–13	--	--	--	No	Not retained; no criteria.
Nitrate/Nitrite	14797-55-8	µg/L	1,000	30	97%	46	210,000	MW-6	11/10/2016	3–13	28	93%	210	No	All future analyses will differentiate nitrate and nitrite.
Nitrate	14797-55-8	µg/L	10,000	54	96%	46	219,000	MW-6	5/17/2017	3–13	32	59%	22	Yes	
Nitrite	14797-65-0	µg/L	1,000	54	48%	12	6,840	MW-1	8/10/2016	5–15	4	7.4%	6.8	Yes	

Table 1
Frequency of Detection and Exceedance of Screening Levels for Groundwater

Analyte	CAS No.	Units	Information about Detects								Information about Detected Exceedances			Retain as COPC?	Rationale
			Most Stringent Groundwater Screening Level	Number of Results[1]	Percent of Detects	Minimum Detected Value	Maximum Detected Value	Location of Maximum Detect[2]	Date of Maximum Detect	Depth Range (ft bgs)	Number of Detected Results Exceeding Criteria[1]	Percent of Detected Results Exceeding Criteria	Exceedance Factor[3]		
Organochlorine Pesticides															
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
HCH-delta (d-BHC)	319-86-8	µg/L	--	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
G-BHC (Lindane)	58-89-9	µg/L	0.08	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Aldrin	309-00-2	µg/L	0.0026	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Heptachlor	76-44-8	µg/L	0.019	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Chlordane	57-74-9	µg/L	0.25	69	12%	0.72	22	MW-4	8/10/2016	3–13	8	12%	88	Yes	
Dieldrin	60-57-1	µg/L	0.0055	69	20%	0.17	10	MW-4	8/10/2016	3–13	14	20%	1,800	Yes	
Endrin	72-20-8	µg/L	2	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Endosulfan I	959-98-8	µg/L	96	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Endosulfan II	33213-65-9	µg/L	96	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
DDD	72-54-8	µg/L	0.36	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
DDE	72-55-9	µg/L	0.26	69	1.4%	0.76	0.76	MW-4	8/10/2016	3–13	1	1.4%	2.9	Yes	
DDT	50-29-3	µg/L	0.26	69	1.4%	1.5	1.5	MW-4	8/10/2016	3–13	1	1.4%	5.8	Yes	
Hexachlorobenzene	118-74-1	µg/L	0.055	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Methoxychlor	72-43-5	µg/L	40	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Toxaphene	8001-35-2	µg/L	0.08	69	4.3%	9.3	26	MW-4	8/10/2016	3–13	3	4.3%	325	Yes	
Chlorinated Herbicides															
2,4-D	94-75-7	µg/L	70	69	35%	0.081	210	MW-4	11/9/2016	3–13	1	1.4%	3	Yes	
2,4-DB	94-82-6	µg/L	130	69	1.4%	0.096	0.096	MW-4	11/9/2016	3–13	--	--	--	Yes	
2,4,5-TP (Silvex)	93-72-1	µg/L	50	69	7.2%	0.17	0.74	MW-4	8/10/2016	3–13	--	--	--	Yes	
2,4,5-T	93-76-5	µg/L	160	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Dicamba	1918-00-9	µg/L	480	69	59%	0.095	210	MW-6	5/17/2017	3–13	--	--	--	Yes	
Dinoseb	88-85-7	µg/L	7	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
MCPA	94-74-6	µg/L	8	69	28%	0.1	88	MW-4	11/9/2016	3–13	2	2.9%	11	Yes	
MCPP (Mecoprop)	93-65-2	µg/L	16	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Pentachlorophenol	87-86-5	µg/L	0.22	69	--	--	--	--	--	--	--	--	--	Yes	Retained as a group.
Other Chlorinated/Halogenated Pesticides															
Acetochlor	34256-82-1	µg/L	320	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Alachlor	15972-60-8	µg/L	1.6	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Atrazine	1912-24-9	µg/L	0.38	69	70%	0.06	33	MW-4	11/9/2016	3–13	32	46%	87	Yes	
Captafol	2425-06-1	µg/L	0.58	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Captan	133-06-2	µg/L	38	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Chlordane-alpha	5103-71-9	µg/L	0.25	69	8.7%	0.13	3.3	MW-4	8/10/2016	3–13	2	2.9%	13	No	Not retained, chrlordane-alpha is an isomer of chlordane, which is a retained COPC.
Chlorbenzilate	510-15-6	µg/L	0.8	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Chlorthalonil	1897-45-6	µg/L	28	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.

Table 1
Frequency of Detection and Exceedance of Screening Levels for Groundwater

Analyte	CAS No.	Units	Information about Detects: Most Stringent Groundwater Screening Level	Number of Results[1]	Percent of Detects	Minimum Detected Value	Maximum Detected Value	Location of Maximum Detect[2]	Date of Maximum Detect	Depth Range (ft bgs)	Information about Detected Exceedances: Number of Detected Results Exceeding Criteria[1]	Percent of Detected Results Exceeding Criteria	Exceedance Factor[3]	Retain as COPC?	Rationale
Other Chlorinated/Halogenated Pesticides (cont.)															
Cyhalothrin/karate	68085-85-8	µg/L	80	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Cypermethrin	52315-07-8	µg/L	160	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
DCPA (Dacthal)	1861-32-1	µg/L	160	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Flutolanil	66332-96-5	µg/L	960	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Folpet	133-07-3	µg/L	25	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Iprodione	36734-19-7	µg/L	640	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Metoachlor	51218-45-2	µg/L	2,400	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Metribuzin	21087-64-9	µg/L	400	69	55%	0.068	20	MW-4	8/10/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Norflurazon	27314-13-2	µg/L	640	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Oxadiazon	19666-30-9	µg/L	80	69	2.9%	0.22	0.34	MW-6	8/10/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Oxamyl	23135-22-0	µg/L	200	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Permethrin	52645-53-1	µg/L	800	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Pronamide	23950-58-5	µg/L	1,200	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Propachlor	1918-16-7	µg/L	210	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Propanil	709-98-8	µg/L	80	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Propiconazole	60207-90-1	µg/L	210	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Simazine	122-34-9	µg/L	0.73	69	45%	0.066	2.8	FS-30(C)	6/8/2017	5–7	3	4.3%	3.8	Yes	
Terbacil	5902-51-2	µg/L	210	69	5.8%	0.19	0.4	MW-1	2/27/2017	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Trifluralin	1582-09-8	µg/L	11	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Organophosphate Pesticides (Organophosphorus Compounds)															
Chlorpyrifos	2921-88-2	µg/L	16	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Chlorpyrifos-methyl	5598-13-0	µg/L	160	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Diazinon	333-41-5	µg/L	11	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Dichlorvos	62-73-7	µg/L	0.15	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Dicrotophos	141-66-2	µg/L	1.6	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Dimethoate	60-51-5	µg/L	3.2	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Disulfoton	298-04-4	µg/L	0.64	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
EPN	2104-64-5	µg/L	0.16	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Ethion (Ronnel)	563-12-2	µg/L	8	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Fonofos (Merphos)	944-22-9	µg/L	32	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Malathion	121-75-5	µg/L	320	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Parathion	56-38-2	µg/L	96	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Parathion-methyl	298-00-0	µg/L	4	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Phorate	298-02-2	µg/L	3.2	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Terbufos	13071-79-9	µg/L	0.4	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.

Table 1
Frequency of Detection and Exceedance of Screening Levels for Groundwater

Analyte	CAS No.	Units	Information about Detects: Most Stringent Groundwater Screening Level	Number of Results[1]	Percent of Detects	Minimum Detected Value	Maximum Detected Value	Location of Maximum Detect[2]	Date of Maximum Detect	Depth Range (ft bgs)	Information about Detected Exceedances: Number of Detected Results Exceeding Criteria[1]	Percent of Detected Results Exceeding Criteria	Exceedance Factor[3]	Retain as COPC?	Rationale
Triazine Herbicides (Organonitrogen Pesticides)															
Ametryn	834-12-8	µg/L	140	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Hexazinone	51235-04-2	µg/L	530	69	38%	0.066	3.8	MW-4	11/9/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Prometon	1610-18-0	µg/L	240	69	20%	0.06	0.22	MW-1	8/10/2016	5–15	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Prometryn	7287-19-6	µg/L	64	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Propazine	139-40-2	µg/L	320	69	8.7%	0.089	0.3	MW-4	11/9/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Phenylurea Herbicides															
Diuron	330-54-1	µg/L	32	69	46%	0.061	12	MW-4	8/10/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Linuron	330-55-2	µg/L	32	39	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Carbamate Pesticides															
Aldicarb	116-06-3	µg/L	16	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Aldicarb sulfone	1646-88-4	µg/L	16	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Carbaryl	63-25-2	µg/L	1,600	69	8.7%	0.11	1.2	MW-4	11/9/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Carbofuran	1563-66-2	µg/L	40	69	4.3%	0.13	0.15	MW-1 MW-1	11/10/2016 2/27/2017	3-13 3-13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Methomyl	16752-77-5	µg/L	400	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Thiobencarb	28249-77-6	µg/L	160	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Organophosphorus and Organosulfur Pesticides															
Demeton	8065-48-3	µg/L	0.64	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Fenamiphos	22224-92-6	µg/L	4	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Merphos	150-50-5	µg/L	0.48	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Methidathion	950-37-8	µg/L	16	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Phosmet	732-11-6	µg/L	320	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Pirimiphos-methyl	29232-93-7	µg/L	160	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Propargite	2312-35-8	µg/L	160	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Tetrachlorvinphos	961-11-5	µg/L	3.6	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Amitraz	33089-61-1	µg/L	40	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Diphenylamine	122-39-4	µg/L	400	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Fluometuron	2164-17-2	µg/L	210	69	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Metalaxyl	57837-19-1	µg/L	960	69	12%	0.063	1.2	MW-4	11/9/2016	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Oryzalin	19044-88-3	µg/L	800	1	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Pendimethalin	40487-42-1	µg/L	640	69	4.3%	0.17	0.52	MW-4	5/17/2017	3–13	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Tebuthiuron	34014-18-1	µg/L	1,100	69	1.4%	0.12	0.12	MW-10	11/9/2016	5–15	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.

Table 1
Frequency of Detection and Exceedance of Screening Levels for Groundwater

Analyte	CAS No.	Units	Information about Detects: Most Stringent Groundwater Screening Level	Number of Results[1]	Percent of Detects	Minimum Detected Value	Maximum Detected Value	Location of Maximum Detect[2]	Date of Maximum Detect	Depth Range (ft bgs)	Information about Detected Exceedances: Number of Detected Results Exceeding Criteria[1]	Percent of Detected Results Exceeding Criteria	Exceedance Factor[3]	Retain as COPC?	Rationale
Total Petroleum Hydrocarbons (TPH)															
Gasoline-Range TPH	--	µg/L	800	64	--	--	--	--	--	--	--	--	--	No	Not retained; not detected.
Diesel-Range TPH	--	µg/L	500	66	39%	53	750	MW-4	8/10/2016	3–13	3	4.5%	1.5	Yes	
Oil-Range TPH	--	µg/L	500	66	7.6%	320	1,100	MW-4	8/10/2016	3–13	3	4.5%	2.2	Yes	

Notes:

Red analyte is retained as a COPC.

-- Not applicable

1 Both field samples and field duplicates are included in the counts.

2 Locations include permanent wells and temporary Geoprobe wells.

3 Exceedance factors have been rounded to two significant figures.

Abbreviations:

BHC Benzene hexachloride
CAS Chemical Abstracts Service
COPC Constituent of potential concern
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
EPN *O*-Ethyl *O*-(4-nitrophenyl) phenylphosphonothioate
ft bgs Feet below ground surface
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-1	MW-1	MW-1	MW-1	MW-1
			Sample ID	MW-01-081016	MW-1-111016	MW-01-022717	MW-01X-022717	MW-01-051717
			Sample Date	8/10/2016	11/10/2016	2/27/2017	2/27/2017	5/17/2017
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5	1.26	1 U			1 U
Cadmium	7440-43-9	µg/L	5	1 U	1 U			1 U
Copper	7440-50-8	µg/L	640	30	20.2			13.7
Lead	7439-92-1	µg/L	15	1 U	1 U			1 U
Mercury	7439-97-6	µg/L	2	1 U	1 U			1 U
Zinc	7440-66-6	µg/L	4,800	435	485			37.5
Metals, Total								
Arsenic	7440-38-2	µg/L	5	1.69	1	1 U	1 U	1 U
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1.2	1.27	1 U
Copper	7440-50-8	µg/L	640	35.1	20.3	16.2	16.7	13.2
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U	5.8
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	488	396	593	622	31
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	55,400	29,600	49,800	50,600	3,090
Nitrate/Nitrite[2]	14797-55-8	µg/L	--		95,000			
Nitrate	14797-55-8	µg/L	10,000	110,000		102,000	104,000	23,300
Nitrite	14797-65-0	µg/L	1,000	6,840		639	640	***2,000 UJ***
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.12 U***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.12 U***
HCH-delta (d-BHC)	319-86-8	µg/L		***0.06 U***	0.12 UJ	0.12 U	0.12 U	0.12 U
G-BHC (Lindane)	58-89-9	µg/L	0.08	0.06 U	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.12 U***
Aldrin	309-00-2	µg/L	0.0026	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.12 U***
Heptachlor	76-44-8	µg/L	0.019	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.12 U***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.12 U***
Chlordane	57-74-9	µg/L	0.25	1.5	0.72 J	***0.6 U***	***0.6 U***	***0.6 U***
Dieldrin	60-57-1	µg/L	0.0055	0.61 J	0.21 J	0.3	0.31	***0.12 U***
Endrin	72-20-8	µg/L	2	0.06 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Endosulfan I	959-98-8	µg/L	96	0.06 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Endosulfan II	33213-65-9	µg/L	96	0.06 U	0.12 UJ	0.12 U	0.12 U	0.12 U
DDD	72-54-8	µg/L	0.36	0.06 U	0.12 UJ	0.12 U	0.12 U	0.12 U
DDE	72-55-9	µg/L	0.26	0.06 U	0.12 UJ	0.12 U	0.12 U	0.12 U
DDT	50-29-3	µg/L	0.26	0.06 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.12 U***
Methoxychlor	72-43-5	µg/L	40	0.06 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Toxaphene	8001-35-2	µg/L	0.08	***6 U***	***6 UJ***	***6 U***	***6 U***	***6 U***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	0.26	8.9	3.7	7	0.26
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	4	4.3	15	22	2.7
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.08 U	2.8	1.1	1.8	0.24
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 U
Alachlor	15972-60-8	µg/L	1.6	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 U
Atrazine	1912-24-9	µg/L	0.38	3.2	2.9	3.2	2.3	0.69
Captafol	2425-06-1	µg/L	0.58	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 U
Captan	133-06-2	µg/L	38	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Chlordane-alpha	5103-71-9	µg/L	0.25	0.2 J	0.12 UJ	0.12 U	0.12 U	0.12 U
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 U
Chlorthalonil	1897-45-6	µg/L	28	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Cypermethrin	52315-07-8	µg/L	160	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Flutolanil	66332-96-5	µg/L	960	1.2 UJ	1.2 UJ	1.2 U	1.2 U	1.2 U
Folpet	133-07-3	µg/L	25	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 U
Iprodione	36734-19-7	µg/L	640	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Metoachlor	51218-45-2	µg/L	2,400	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Metribuzin	21087-64-9	µg/L	400	3.3	2	1.5	1.6	0.27
Norflurazon	27314-13-2	µg/L	640	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 U
Oxadiazon	19666-30-9	µg/L	80	0.22 J	0.12 UJ	0.12 U	0.12 U	0.12 U

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-1	MW-1	MW-1	MW-1	MW-1
			Sample ID	MW-01-081016	MW-1-111016	MW-01-022717	MW-01X-022717	MW-01-051717
			Sample Date	8/10/2016	11/10/2016	2/27/2017	2/27/2017	5/17/2017
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Pronamide	23950-58-5	µg/L	1,200	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Propachlor	1918-16-7	µg/L	210	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 U
Propanil	709-98-8	µg/L	80	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Propiconazole	60207-90-1	µg/L	210	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Simazine	122-34-9	µg/L	0.73	0.34	0.1	0.15	0.13	0.072
Terbacil	5902-51-2	µg/L	210	0.12 UJ	0.12 UJ	0.28	0.4	0.12 U
Trifluralin	1582-09-8	µg/L	11	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 UJ***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	56-38-2	µg/L	96	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.49	0.34	0.59	0.61	0.083
Prometon	1610-18-0	µg/L	240	0.22	0.15	0.17	0.15	0.061
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	1.3	1.9	1.1	0.89	0.11
Linuron	330-55-2	µg/L	32	0.06 U	0.06 U			
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.11	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.15	0.13	0.15	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.063	0.06 U	0.06 U	0.06 U	0.06 U
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.46 J	0.12 UJ	0.12 U	0.12 U	0.12 U
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	96 JM	53 JM	130	120	50 U
Oil-Range TPH	--	µg/L	500	250 U	250 U	300 U	250 U	250 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-2	MW-2	MW-2	MW-2	MW-3
			Sample ID	MW-2-081116	MW-2-111016	MW-02-022817	MW-02-051817	MW-3-081116
			Sample Date	8/11/2016	11/10/2016	2/28/2017	5/18/2017	8/11/2016
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U		0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U		1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U		1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U		2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5					1 U
Cadmium	7440-43-9	µg/L	5					1 U
Copper	7440-50-8	µg/L	640					9.94
Lead	7439-92-1	µg/L	15					1 U
Mercury	7439-97-6	µg/L	2					1 U
Zinc	7440-66-6	µg/L	4,800					5 U
Metals, Total								
Arsenic	7440-38-2	µg/L	5	1 U	1 U	1 U	1 U	3.34
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1 U	1 U	1 U
Copper	7440-50-8	µg/L	640	6.75	7.29	5.09	5 U	16.6
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U	1 U
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	5.9	5 U	5 U	5 U	6.56
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	5 U	29	5 U	100 U	20 J
Nitrate/Nitrite[2]	14797-55-8	µg/L	--		4,000			
Nitrate	14797-55-8	µg/L	10,000	3,360		2,500	1,880	32,000
Nitrite	14797-65-0	µg/L	1,000	81		64	205 JQ	12
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
HCH-delta (d-BHC)	319-86-8	µg/L		0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
G-BHC (Lindane)	58-89-9	µg/L	0.08	0.06 U	***0.12 UJ***	***0.12 U***	***0.12 U***	0.06 U
Aldrin	309-00-2	µg/L	0.0026	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
Heptachlor	76-44-8	µg/L	0.019	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
Chlordane	57-74-9	µg/L	0.25	***0.6 U***	***0.6 UJ***	***0.6 U***	***0.6 U***	***0.6 U***
Dieldrin	60-57-1	µg/L	0.0055	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
Endrin	72-20-8	µg/L	2	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
Endosulfan I	959-98-8	µg/L	96	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
Endosulfan II	33213-65-9	µg/L	96	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
DDD	72-54-8	µg/L	0.36	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
DDE	72-55-9	µg/L	0.26	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
DDT	50-29-3	µg/L	0.26	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
Methoxychlor	72-43-5	µg/L	40	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
Toxaphene	8001-35-2	µg/L	0.08	***6 U***	***6 UJ***	***6 U***	***6 U***	***6 U***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	0.08 U	0.08 U	0.08 U	0.08 U	0.11
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Alachlor	15972-60-8	µg/L	1.6	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Atrazine	1912-24-9	µg/L	0.38	0.06 U	0.06 U	0.06 U	0.06 U	0.15
Captafol	2425-06-1	µg/L	0.58	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Captan	133-06-2	µg/L	38	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Chlordane-alpha	5103-71-9	µg/L	0.25	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Chlorthalonil	1897-45-6	µg/L	28	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Cypermethrin	52315-07-8	µg/L	160	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Flutolanil	66332-96-5	µg/L	960	1.2 UJ	1.2 UJ	1.2 U	1.2 U	1.2 UJ
Folpet	133-07-3	µg/L	25	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Iprodione	36734-19-7	µg/L	640	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Metoachlor	51218-45-2	µg/L	2,400	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Metribuzin	21087-64-9	µg/L	400	0.12 U	0.06 U	0.06 U	0.06 U	0.12
Norflurazon	27314-13-2	µg/L	640	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Oxadiazon	19666-30-9	µg/L	80	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-2	MW-2	MW-2	MW-2	MW-3
			Sample ID	MW-2-081116	MW-2-111016	MW-02-022817	MW-02-051817	MW-3-081116
			Sample Date	8/11/2016	11/10/2016	2/28/2017	5/18/2017	8/11/2016
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Pronamide	23950-58-5	µg/L	1,200	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Propachlor	1918-16-7	µg/L	210	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Propanil	709-98-8	µg/L	80	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Propiconazole	60207-90-1	µg/L	210	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Simazine	122-34-9	µg/L	0.73	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Terbacil	5902-51-2	µg/L	210	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Trifluralin	1582-09-8	µg/L	11	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Dimethoate	60-51-5	µg/L	3.2	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 UJ***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 UJ***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Parathion	56-38-2	µg/L	96	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometon	1610-18-0	µg/L	240	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Linuron	330-55-2	µg/L	32	0.06 U	0.06 U			0.06 U
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Phosmet	732-11-6	µg/L	320	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U		100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	50 U		50 U	50 U	81 JM
Oil-Range TPH	--	µg/L	500	250 U		250 U	250 U	300 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-3	MW-3	MW-3	MW-4	MW-4
			Sample ID	MW-3-110916	MW-03-022717	MW-03-051717	MW-04-081016	MW-4-110916
			Sample Date	11/9/2016	2/27/2017	5/17/2017	8/10/2016	11/9/2016
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24				1 U	
Naphthalene	91-20-3	µg/L	160				1 U	
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48				0.35 U	
n-Hexane	110-54-3	µg/L	480				1 U	
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022				0.01 U	
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5		1 U		**11**	3.97
Cadmium	7440-43-9	µg/L	5		1 U		1.46	4.17
Copper	7440-50-8	µg/L	640		9.98		103	44.4
Lead	7439-92-1	µg/L	15		10.3		1 U	1 U
Mercury	7439-97-6	µg/L	2		1 U		1 U	1 U
Zinc	7440-66-6	µg/L	4,800		5 U		182	1,320
Metals, Total								
Arsenic	7440-38-2	µg/L	5	1 U	1 U	1 U	**13.5**	3.7
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1 U	2.47	3.91
Copper	7440-50-8	µg/L	640	10.1	11.4	8.5	129	47.3
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	4.72	1 U
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	5 U	5 U	5 U	326	1,310
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	78	97	205	13,300	74,800
Nitrate/Nitrite[2]	14797-55-8	µg/L	--	10 U				**49,000**
Nitrate	14797-55-8	µg/L	10,000		80	1,000 U	**51,100**	
Nitrite	14797-65-0	µg/L	1,000		5 U	1,000 UJ	26	
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.6 U***	***1.2 UJ***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.6 U***	***1.2 UJ***
HCH-delta (d-BHC)	319-86-8	µg/L		0.12 UJ	0.12 U	0.12 U	0.6 U	1.2 UJ
G-BHC (Lindane)	58-89-9	µg/L	0.08	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.6 U***	***1.2 UJ***
Aldrin	309-00-2	µg/L	0.0026	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.6 U***	***1.2 UJ***
Heptachlor	76-44-8	µg/L	0.019	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.6 U***	***1.2 UJ***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.6 U***	***1.2 UJ***
Chlordane	57-74-9	µg/L	0.25	***0.6 UJ***	***0.6 U***	***0.6 U***	**22**	***6 UJ***
Dieldrin	60-57-1	µg/L	0.0055	***0.12 UJ***	***0.12 U***	***0.12 U***	**10 J**	***1.2 UJ***
Endrin	72-20-8	µg/L	2	0.12 UJ	0.12 U	0.12 U	0.6 U	1.2 UJ
Endosulfan I	959-98-8	µg/L	96	0.12 UJ	0.12 U	0.12 U	0.6 U	1.2 UJ
Endosulfan II	33213-65-9	µg/L	96	0.12 UJ	0.12 U	0.12 U	0.6 U	1.2 UJ
DDD	72-54-8	µg/L	0.36	0.12 UJ	0.12 U	0.12 U	***0.6 U***	***1.2 UJ***
DDE	72-55-9	µg/L	0.26	0.12 UJ	0.12 U	0.12 U	**0.76 J**	***1.2 UJ***
DDT	50-29-3	µg/L	0.26	0.12 UJ	0.12 U	0.12 U	**1.5 J**	***1.2 UJ***
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.6 U***	***1.2 UJ***
Methoxychlor	72-43-5	µg/L	40	0.12 UJ	0.12 U	0.12 U	0.6 U	1.2 UJ
Toxaphene	8001-35-2	µg/L	0.08	***6 UJ***	***6 U***	***6 U***	**26**	***60 UJ***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	0.08 U	0.29	0.08 U	0.49	**210**
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.096
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.74	0.43
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	0.08 U	0.095	0.08 U	31	110
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.19	0.13	0.15	0.22	**88**
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 UJ	0.3 U	0.3 U	3 UJ	3 UJ
Alachlor	15972-60-8	µg/L	1.6	0.3 UJ	0.3 U	0.3 U	***3 UJ***	***3 UJ***
Atrazine	1912-24-9	µg/L	0.38	0.06 U	0.076	0.06 U	**9.2**	**33**
Captafol	2425-06-1	µg/L	0.58	0.12 UJ	0.12 U	0.12 U	***1.2 UJ***	***1.2 UJ***
Captan	133-06-2	µg/L	38	0.3 UJ	0.3 U	0.3 U	3 U	3 UJ
Chlordane-alpha	5103-71-9	µg/L	0.25	0.12 UJ	0.12 U	0.12 U	**3.3 J**	***1.2 UJ***
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 UJ	0.3 U	0.3 U	***3 UJ***	***3 UJ***
Chlorthalonil	1897-45-6	µg/L	28	0.12 UJ	0.12 U	0.12 U	1.2 U	1.2 UJ
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 UJ	0.3 U	0.3 U	3 U	3 UJ
Cypermethrin	52315-07-8	µg/L	160	0.3 UJ	0.3 U	0.3 U	3 U	3 UJ
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 UJ	0.12 U	0.12 U	1.2 U	1.2 UJ
Flutolanil	66332-96-5	µg/L	960	1.2 UJ	1.2 U	1.2 U	12 U	12 UJ
Folpet	133-07-3	µg/L	25	0.12 UJ	0.12 U	0.12 U	1.2 UJ	1.2 UJ
Iprodione	36734-19-7	µg/L	640	0.12 UJ	0.12 U	0.12 U	1.2 U	1.2 UJ
Metoachlor	51218-45-2	µg/L	2,400	0.3 UJ	0.3 U	0.3 U	3 U	3 UJ
Metribuzin	21087-64-9	µg/L	400	0.06 U	0.06 U	0.06 U	20	10
Norflurazon	27314-13-2	µg/L	640	0.12 UJ	0.12 U	0.12 U	1.2 UJ	1.2 UJ
Oxadiazon	19666-30-9	µg/L	80	0.12 UJ	0.12 U	0.12 U	1.2 U	1.2 UJ

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-3	MW-3	MW-3	MW-4	MW-4
			Sample ID	MW-3-110916	MW-03-022717	MW-03-051717	MW-04-081016	MW-4-110916
			Sample Date	11/9/2016	2/27/2017	5/17/2017	8/10/2016	11/9/2016
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 UJ	0.3 U	0.3 U	3 U	3 UJ
Pronamide	23950-58-5	µg/L	1,200	0.12 UJ	0.12 U	0.12 U	1.2 U	1.2 UJ
Propachlor	1918-16-7	µg/L	210	0.3 UJ	0.3 U	0.3 U	3 UJ	3 UJ
Propanil	709-98-8	µg/L	80	0.12 UJ	0.12 U	0.12 U	1.2 U	1.2 UJ
Propiconazole	60207-90-1	µg/L	210	0.3 UJ	0.3 U	0.3 U	3 U	3 UJ
Simazine	122-34-9	µg/L	0.73	0.06 U	0.06 U	0.06 U	**1.1**	0.11
Terbacil	5902-51-2	µg/L	210	0.12 UJ	0.12 U	0.12 U	1.2 UJ	1.2 UJ
Trifluralin	1582-09-8	µg/L	11	0.12 UJ	0.12 U	0.12 U	1.2 U	1.2 UJ
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 UJ	0.12 U	0.12 U	1.2 U	1.2 UJ
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 UJ***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Parathion	56-38-2	µg/L	96	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.06 U	0.06 U	0.06 U	2.9	3.8
Prometon	1610-18-0	µg/L	240	0.06 U	0.06 U	0.06 U	0.064	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.06 U	0.12	0.3
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	0.06 U	0.06 U	0.06 U	12	9.1
Linuron	330-55-2	µg/L	32	0.06 U			0.06 U	0.06 U
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.41	1.2
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.06 U	0.06 U	0.06 U	0.64	1.2
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.12 UJ	0.12 U	0.12 U	1.2 U	1.2 UJ
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	50 U	50 U	50 U	**750 JM**/150[1]	**740 JM**
Oil-Range TPH	--	µg/L	500	250 U	250 U	250 U	**1,100/910**[1]	320 JM

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-4	MW-4	MW-5	MW-5	MW-5
			Sample ID	MW-04-022717	MW-04-051717	MW-05-081016	MW-5-110916	MW-5D-110916
			Sample Date	2/27/2017	5/17/2017	8/10/2016	11/9/2016	11/9/2016
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5	3.74				
Cadmium	7440-43-9	µg/L	5	1.07				
Copper	7440-50-8	µg/L	640	49.3				
Lead	7439-92-1	µg/L	15	1 U				
Mercury	7439-97-6	µg/L	2	1 U				
Zinc	7440-66-6	µg/L	4,800	271				
Metals, Total								
Arsenic	7440-38-2	µg/L	5	4.7	3.4	1 U	1 U	1 U
Cadmium	7440-43-9	µg/L	5	1.48	2.41	1 U	1 U	1 U
Copper	7440-50-8	µg/L	640	61.7	41	15	25.4	12
Lead	7439-92-1	µg/L	15	3.42	1 U	1 U	1 U	1 U
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	342	475	5 U	5 U	5 U
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	35,400	86,100	278	364	435
Nitrate/Nitrite[2]	14797-55-8	µg/L	--				6,100	7,000
Nitrate	14797-55-8	µg/L	10,000	**13,300**	**19,200**	9,910		
Nitrite	14797-65-0	µg/L	1,000	256	975 JQ	5 U		
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 UJ***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 UJ***
HCH-delta (d-BHC)	319-86-8	µg/L		0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 UJ
G-BHC (Lindane)	58-89-9	µg/L	0.08	***0.12 U***	***0.12 U***	0.06 U	***0.12 UJ***	***0.12 UJ***
Aldrin	309-00-2	µg/L	0.0026	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 UJ***
Heptachlor	76-44-8	µg/L	0.019	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 UJ***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 UJ***
Chlordane	57-74-9	µg/L	0.25	**2.3**	**1.4**	***0.6 U***	***0.6 UJ***	***0.6 UJ***
Dieldrin	60-57-1	µg/L	0.0055	**1.2**	**1**	***0.06 U***	***0.12 UJ***	***0.12 UJ***
Endrin	72-20-8	µg/L	2	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 UJ
Endosulfan I	959-98-8	µg/L	96	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 UJ
Endosulfan II	33213-65-9	µg/L	96	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 UJ
DDD	72-54-8	µg/L	0.36	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 UJ
DDE	72-55-9	µg/L	0.26	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 UJ
DDT	50-29-3	µg/L	0.26	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 UJ
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 UJ***
Methoxychlor	72-43-5	µg/L	40	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 UJ
Toxaphene	8001-35-2	µg/L	0.08	**9.3**	***6 U***	***6 U***	***6 UJ***	***6 UJ***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	14	38	0.08 U	0.08 U	0.08 U
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.18	0.21	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	11	53	0.08 U	0.08 U	0.08 U
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	7.3	**28**	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 UJ
Alachlor	15972-60-8	µg/L	1.6	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 UJ
Atrazine	1912-24-9	µg/L	0.38	**11**	**11**	0.17	0.1	0.099
Captafol	2425-06-1	µg/L	0.58	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 UJ
Captan	133-06-2	µg/L	38	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Chlordane-alpha	5103-71-9	µg/L	0.25	0.21	0.12 U	0.06 U	0.12 UJ	0.12 UJ
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 UJ
Chlorthalonil	1897-45-6	µg/L	28	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Cypermethrin	52315-07-8	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 UJ
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Flutolanil	66332-96-5	µg/L	960	1.2 U	1.2 U	1.2 UJ	1.2 UJ	1.2 UJ
Folpet	133-07-3	µg/L	25	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 UJ
Iprodione	36734-19-7	µg/L	640	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Metoachlor	51218-45-2	µg/L	2,400	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Metribuzin	21087-64-9	µg/L	400	3.1	3.8	0.12 U	0.06 U	0.06 U
Norflurazon	27314-13-2	µg/L	640	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 UJ
Oxadiazon	19666-30-9	µg/L	80	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-4	MW-4	MW-5	MW-5	MW-5
			Sample ID	MW-04-022717	MW-04-051717	MW-05-081016	MW-5-110916	MW-5D-110916
			Sample Date	2/27/2017	5/17/2017	8/10/2016	11/9/2016	11/9/2016
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Pronamide	23950-58-5	µg/L	1,200	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Propachlor	1918-16-7	µg/L	210	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 UJ
Propanil	709-98-8	µg/L	80	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Propiconazole	60207-90-1	µg/L	210	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Simazine	122-34-9	µg/L	0.73	0.091	0.12	0.06 U	0.06 U	0.06 U
Terbacil	5902-51-2	µg/L	210	0.28	0.19	0.12 UJ	0.12 UJ	0.12 UJ
Trifluralin	1582-09-8	µg/L	11	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 U***	***0.3 U***	***0.3 UJ***	***0.3 U***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Parathion	56-38-2	µg/L	96	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	1.9	0.8	0.06 U	0.06 U	0.06 U
Prometon	1610-18-0	µg/L	240	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.089	0.092	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	5.5	6	0.06 U	0.06 U	0.06 U
Linuron	330-55-2	µg/L	32			0.06 U	0.06 U	0.06 U
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.38	0.55	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.45	0.29	0.06 U	0.06 U	0.06 U
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.17	0.52	0.12 U	0.12 UJ	0.12 UJ
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	360	420	50 U	50 U	50 U
Oil-Range TPH	--	µg/L	500	**680**	340	250 U	250 U	250 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-5	MW-5	MW-6	MW-6	MW-6
			Sample ID	MW-05-022817	MW-05-051717	MW-06-081016	MW-6-111016	MW-06-022717
			Sample Date	2/28/2017	5/17/2017	8/10/2016	11/10/2016	2/27/2017
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5		1 U	1 U		
Cadmium	7440-43-9	µg/L	5		1 U	2.17		
Copper	7440-50-8	µg/L	640		11.6	22.8		
Lead	7439-92-1	µg/L	15		1 U	1 U		
Mercury	7439-97-6	µg/L	2		1 U	1 U		
Zinc	7440-66-6	µg/L	4,800		5 U	1600		
Metals, Total								
Arsenic	7440-38-2	µg/L	5	1 U	1 U	1 U	1 U	1 U
Cadmium	7440-43-9	µg/L	5	1 U	1 U	2.25	2.11	1.25
Copper	7440-50-8	µg/L	640	9.22	11.2	29.1	22.6	16.2
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U	1 U
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	5 U	5 U	1,630	1,090	739
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	159	250	33,900	15,000	11,600
Nitrate/Nitrite[2]	14797-55-8	µg/L	--				210,000	
Nitrate	14797-55-8	µg/L	10,000	526	33,600	34,200		113,000
Nitrite	14797-65-0	µg/L	1,000	5 U	***5,000 UJ***	5 U		1,000
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
HCH-delta (d-BHC)	319-86-8	µg/L		0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
G-BHC (Lindane)	58-89-9	µg/L	0.08	***0.12 U***	***0.12 U***	0.06 U	***0.12 UJ***	***0.12 U***
Aldrin	309-00-2	µg/L	0.0026	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Heptachlor	76-44-8	µg/L	0.019	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Chlordane	57-74-9	µg/L	0.25	***0.6 U***	***0.6 U***	**1.6**	**1.7 J**	***0.6 U***
Dieldrin	60-57-1	µg/L	0.0055	***0.12 U***	***0.12 U***	**0.69 J**	**0.49 J**	**0.33**
Endrin	72-20-8	µg/L	2	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
Endosulfan I	959-98-8	µg/L	96	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
Endosulfan II	33213-65-9	µg/L	96	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
DDD	72-54-8	µg/L	0.36	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
DDE	72-55-9	µg/L	0.26	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
DDT	50-29-3	µg/L	0.26	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Methoxychlor	72-43-5	µg/L	40	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
Toxaphene	8001-35-2	µg/L	0.08	***6 U***	***6 U***	***6 U***	**11 J**	***6 U***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	0.08 U	0.08 U	3.8	0.54	0.37
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	0.08 U	0.08 U	43	48	29
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.08 U	0.08 U	0.96	1.1	0.25
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 U
Alachlor	15972-60-8	µg/L	1.6	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 U
Atrazine	1912-24-9	µg/L	0.38	0.068	0.06 U	**3.4**	**3.5**	**3**
Captafol	2425-06-1	µg/L	0.58	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 U
Captan	133-06-2	µg/L	38	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Chlordane-alpha	5103-71-9	µg/L	0.25	0.12 U	0.12 U	**0.3 J**	0.18 J	0.12 U
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 U
Chlorthalonil	1897-45-6	µg/L	28	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Cypermethrin	52315-07-8	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Flutolanil	66332-96-5	µg/L	960	1.2 U	1.2 U	1.2 UJ	1.2 UJ	1.2 U
Folpet	133-07-3	µg/L	25	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 U
Iprodione	36734-19-7	µg/L	640	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Metoachlor	51218-45-2	µg/L	2,400	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Metribuzin	21087-64-9	µg/L	400	0.06 U	0.06 U	2.7	2.7	1.5
Norflurazon	27314-13-2	µg/L	640	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 U
Oxadiazon	19666-30-9	µg/L	80	0.12 U	0.12 U	0.34 J	0.12 UJ	0.12 U

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-5	MW-5	MW-6	MW-6	MW-6
			Sample ID	MW-05-022817	MW-05-051717	MW-06-081016	MW-6-111016	MW-06-022717
			Sample Date	2/28/2017	5/17/2017	8/10/2016	11/10/2016	2/27/2017
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Pronamide	23950-58-5	µg/L	1,200	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Propachlor	1918-16-7	µg/L	210	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 U
Propanil	709-98-8	µg/L	80	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Propiconazole	60207-90-1	µg/L	210	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Simazine	122-34-9	µg/L	0.73	0.06 U	0.06 U	0.59	0.21	0.2
Terbacil	5902-51-2	µg/L	210	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 U
Trifluralin	1582-09-8	µg/L	11	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 U***	***0.3 U***	***0.3 UJ***	***0.3 U***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Parathion	56-38-2	µg/L	96	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.06 U	0.06 U	0.7	0.41	0.28
Prometon	1610-18-0	µg/L	240	0.06 U	0.06 U	0.081	0.06	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	0.06 U	0.06 U	0.89	1.3	0.71
Linuron	330-55-2	µg/L	32			0.06 U	0.06 U	
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	50 U	50 U	**560 JM**/50 U[1]	200 JM	160
Oil-Range TPH	--	µg/L	500	250 U	250 U	250 U	250 U	250 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

			Location	MW-6	MW-7	MW-7	MW-7	MW-7
			Sample ID	MW-06-051717	MW-07-081016	MW-07D-081016	MW-7-110916	MW-07-022817
			Sample Date	5/17/2017	8/10/2016	8/10/2016	11/9/2016	2/28/2017
Analyte	CAS No.	Units	Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5		1 U	1 U		1.82
Cadmium	7440-43-9	µg/L	5		1 U	1 U		1 U
Copper	7440-50-8	µg/L	640		8.44	10.1		14.9
Lead	7439-92-1	µg/L	15		1 U	1 U		1.3
Mercury	7439-97-6	µg/L	2		1 U	1 U		1 U
Zinc	7440-66-6	µg/L	4,800		5.26	5 U		240
Metals, Total								
Arsenic	7440-38-2	µg/L	5	1 U	1 U	1 U	1.53	2.03
Cadmium	7440-43-9	µg/L	5	2.06	1 U	1 U	1 U	1 U
Copper	7440-50-8	µg/L	640	21	11.3	12.7	14.1	24.8
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U	1.39
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	1,670	5.05	5.08	17.2	249
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	36,900	6,760	6,470	6,440	29,500
Nitrate/Nitrite[2]	14797-55-8	µg/L	--				11,000	
Nitrate	14797-55-8	µg/L	10,000	219,000	10,500	2,750		62,400
Nitrite	14797-65-0	µg/L	1,000	1,950 JQ	5 U	5 U		1,500
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.12 U***	***0.06 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.12 U***	***0.06 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
HCH-delta (d-BHC)	319-86-8	µg/L		0.12 U	0.06 U	0.06 U	0.12 UJ	0.12 U
G-BHC (Lindane)	58-89-9	µg/L	0.08	***0.12 U***	0.06 U	0.06 U	***0.12 UJ***	***0.12 U***
Aldrin	309-00-2	µg/L	0.0026	***0.12 U***	***0.06 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Heptachlor	76-44-8	µg/L	0.019	***0.12 U***	***0.06 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.12 U***	***0.06 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Chlordane	57-74-9	µg/L	0.25	0.87	***0.6 U***	***0.6 U***	***0.6 UJ***	***0.6 U***
Dieldrin	60-57-1	µg/L	0.0055	0.32	***0.06 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Endrin	72-20-8	µg/L	2	0.12 U	0.06 U	0.06 U	0.12 UJ	0.12 U
Endosulfan I	959-98-8	µg/L	96	0.12 U	0.06 U	0.06 U	0.12 UJ	0.12 U
Endosulfan II	33213-65-9	µg/L	96	0.12 U	0.06 U	0.06 U	0.12 UJ	0.12 U
DDD	72-54-8	µg/L	0.36	0.12 U	0.06 U	0.06 U	0.12 UJ	0.12 U
DDE	72-55-9	µg/L	0.26	0.12 U	0.06 U	0.06 U	0.12 UJ	0.12 U
DDT	50-29-3	µg/L	0.26	0.12 U	0.06 U	0.06 U	0.12 UJ	0.12 U
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.12 U***	***0.06 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Methoxychlor	72-43-5	µg/L	40	0.12 U	0.06 U	0.06 U	0.12 UJ	0.12 U
Toxaphene	8001-35-2	µg/L	0.08	***6 U***	***6 U***	***6 U***	***6 UJ***	***6 U***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	14	0.08 U	0.08 U	0.12	15
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.17
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	210	0.22	0.22	0.55	16
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	3	0.08 U	0.08 U	0.08 U	3.9
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 U	0.3 UJ	0.3 UJ	0.3 UJ	0.3 U
Alachlor	15972-60-8	µg/L	1.6	0.3 U	0.3 UJ	0.3 UJ	0.3 UJ	0.3 U
Atrazine	1912-24-9	µg/L	0.38	7.9	0.32	0.39	0.82	5.9
Captafol	2425-06-1	µg/L	0.58	0.12 U	0.12 UJ	0.12 UJ	0.12 UJ	0.12 U
Captan	133-06-2	µg/L	38	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Chlordane-alpha	5103-71-9	µg/L	0.25	0.13	0.06 U	0.06 U	0.12 UJ	0.12 U
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 U	0.3 UJ	0.3 UJ	0.3 UJ	0.3 U
Chlorthalonil	1897-45-6	µg/L	28	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Cypermethrin	52315-07-8	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Flutolanil	66332-96-5	µg/L	960	1.2 U	1.2 UJ	1.2 UJ	1.2 UJ	1.2 U
Folpet	133-07-3	µg/L	25	0.12 U	0.12 UJ	0.12 UJ	0.12 UJ	0.12 U
Iprodione	36734-19-7	µg/L	640	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Metoachlor	51218-45-2	µg/L	2,400	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Metribuzin	21087-64-9	µg/L	400	3.2	0.18	0.18	0.5	2.4
Norflurazon	27314-13-2	µg/L	640	0.12 U	0.12 UJ	0.12 UJ	0.12 UJ	0.12 U
Oxadiazon	19666-30-9	µg/L	80	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

			Location	MW-6	MW-7	MW-7	MW-7	MW-7
			Sample ID	MW-06-051717	MW-07-081016	MW-07D-081016	MW-7-110916	MW-07-022817
			Sample Date	5/17/2017	8/10/2016	8/10/2016	11/9/2016	2/28/2017
Analyte	CAS No.	Units	Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Pronamide	23950-58-5	µg/L	1,200	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Propachlor	1918-16-7	µg/L	210	0.3 U	0.3 UJ	0.3 UJ	0.3 UJ	0.3 U
Propanil	709-98-8	µg/L	80	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Propiconazole	60207-90-1	µg/L	210	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Simazine	122-34-9	µg/L	0.73	0.61	0.06 U	0.06 U	0.06 U	0.06 U
Terbacil	5902-51-2	µg/L	210	0.12 U	0.12 UJ	0.12 UJ	0.12 UJ	0.12 U
Trifluralin	1582-09-8	µg/L	11	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 U***	***0.3 UJ***	***0.3 UJ***	***0.3 U***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Parathion	56-38-2	µg/L	96	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.54	0.06 U	0.06 U	0.066	0.5
Prometon	1610-18-0	µg/L	240	0.087	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.094	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	2.9	0.13	0.14	0.19	2
Linuron	330-55-2	µg/L	32		0.06 U	0.06 U	0.06 U	
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.06 U	0.19
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.066	0.06 U	0.06 U	0.06 U	0.36
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	350	50 U	50 U	50 U	100
Oil-Range TPH	--	µg/L	500	250 U	250 U	250 U	250 U	250 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-7	MW-8	MW-8	MW-8	MW-8
			Sample ID	MW-07-051717	MW-08-081016	MW-8-110916	MW-08-022817	MW-08-051717
			Sample Date	5/17/2017	8/10/2016	11/9/2016	2/28/2017	5/17/2017
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5	1 U				
Cadmium	7440-43-9	µg/L	5	1 U				
Copper	7440-50-8	µg/L	640	14.1				
Lead	7439-92-1	µg/L	15	1 U				
Mercury	7439-97-6	µg/L	2	1 U				
Zinc	7440-66-6	µg/L	4,800	6.36				
Metals, Total								
Arsenic	7440-38-2	µg/L	5	1 U	1.72	1.73	1.35	1 U
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1 U	1 U	1 U
Copper	7440-50-8	µg/L	640	13.7	17	11.5	12.5	11.7
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U	1 U
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	7.28	5 U	187	5 U	5 U
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	7,280	16,200 J	11,700	19,000	6,520
Nitrate/Nitrite[2]	14797-55-8	µg/L	--			24,000		
Nitrate	14797-55-8	µg/L	10,000	26,900	34,200		62,500	76,200
Nitrite	14797-65-0	µg/L	1,000	1,000 UJ	5 U		5 U	***2,000 UJ***
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
HCH-delta (d-BHC)	319-86-8	µg/L		0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
G-BHC (Lindane)	58-89-9	µg/L	0.08	***0.12 U***	0.06 U	***0.12 UJ***	***0.12 U***	***0.12 U***
Aldrin	309-00-2	µg/L	0.0026	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
Heptachlor	76-44-8	µg/L	0.019	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
Chlordane	57-74-9	µg/L	0.25	***0.6 U***	***0.6 U***	***0.6 UJ***	***0.6 U***	***0.6 U***
Dieldrin	60-57-1	µg/L	0.0055	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
Endrin	72-20-8	µg/L	2	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
Endosulfan I	959-98-8	µg/L	96	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
Endosulfan II	33213-65-9	µg/L	96	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
DDD	72-54-8	µg/L	0.36	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
DDE	72-55-9	µg/L	0.26	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
DDT	50-29-3	µg/L	0.26	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
Methoxychlor	72-43-5	µg/L	40	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
Toxaphene	8001-35-2	µg/L	0.08	***6 U***	***6 U***	***6 UJ***	***6 U***	***6 U***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	0.08 U	0.08 U	0.08 U	1	0.08 U
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	0.095	0.15	0.14	4.7	0.22
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.08 U	0.08 U	0.08 U	0.72	0.08 U
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Alachlor	15972-60-8	µg/L	1.6	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Atrazine	1912-24-9	µg/L	0.38	0.27	1.8 J	0.28	2	0.099
Captafol	2425-06-1	µg/L	0.58	0.12 U	0.12 UJ	0.12 UJ	0.12 U	0.12 U
Captan	133-06-2	µg/L	38	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Chlordane-alpha	5103-71-9	µg/L	0.25	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Chlorthalonil	1897-45-6	µg/L	28	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Cypermethrin	52315-07-8	µg/L	160	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Flutolanil	66332-96-5	µg/L	960	1.2 U	1.2 UJ	1.2 UJ	1.2 U	1.2 U
Folpet	133-07-3	µg/L	25	0.12 U	0.12 UJ	0.12 UJ	0.12 U	0.12 U
Iprodione	36734-19-7	µg/L	640	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Metoachlor	51218-45-2	µg/L	2,400	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Metribuzin	21087-64-9	µg/L	400	0.094	1.5	0.33	3.1	0.1
Norflurazon	27314-13-2	µg/L	640	0.12 U	0.12 UJ	0.12 UJ	0.12 U	0.12 U
Oxadiazon	19666-30-9	µg/L	80	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-7	MW-8	MW-8	MW-8	MW-8
			Sample ID	MW-07-051717	MW-08-081016	MW-8-110916	MW-08-022817	MW-08-051717
			Sample Date	5/17/2017	8/10/2016	11/9/2016	2/28/2017	5/17/2017
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Pronamide	23950-58-5	µg/L	1,200	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Propachlor	1918-16-7	µg/L	210	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Propanil	709-98-8	µg/L	80	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Propiconazole	60207-90-1	µg/L	210	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Simazine	122-34-9	µg/L	0.73	0.06 U	0.18	0.06 U	0.14	0.06 U
Terbacil	5902-51-2	µg/L	210	0.12 U	0.12 UJ	0.12 UJ	0.12 U	0.12 U
Trifluralin	1582-09-8	µg/L	11	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 U***	***0.3 UJ***	***0.3 U***	***0.3 U***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Parathion	56-38-2	µg/L	96	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.06 U	0.19	0.06 U	0.61	0.06 U
Prometon	1610-18-0	µg/L	240	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	0.086	0.42 J	0.13	0.69	0.06 U
Linuron	330-55-2	µg/L	32		0.06 U	0.06 U		
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.06 U	0.06 U	0.06 U	0.081	0.06 U
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	50 U	60 U	50 U	50 U	50 U
Oil-Range TPH	--	µg/L	500	250 U	300 U	250 U	250 U	250 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-9	MW-9	MW-9	MW-9	MW-10
			Sample ID	MW-09-081016	MW-9-110916	MW-09-022817	MW-09-051717	MW-10-081116
			Sample Date	8/10/2016	11/9/2016	2/28/2017	5/17/2017	8/11/2016
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5		1 U		1 U	1 U
Cadmium	7440-43-9	µg/L	5		1 U		1 U	1 U
Copper	7440-50-8	µg/L	640		9.97		10.1	7.87
Lead	7439-92-1	µg/L	15		1 U		1 U	1 U
Mercury	7439-97-6	µg/L	2		1 U		1 U	1 U
Zinc	7440-66-6	µg/L	4,800		5 U		7.36	5 U
Metals, Total								
Arsenic	7440-38-2	µg/L	5	1 U	1 U	1 U	1 U	1 U
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1 U	1 U	1 U
Copper	7440-50-8	µg/L	640	9.18	11.4	7.76	10.4	7.78
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U	1 U
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	5 U	5 U	5 U	5 U	5 U
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	5 U	34	7	100 U	129
Nitrate/Nitrite[2]	14797-55-8	µg/L	--		4,200			
Nitrate	14797-55-8	µg/L	10,000	6,150		2,000	7,780	2,560
Nitrite	14797-65-0	µg/L	1,000	51		42	400 JQ	30
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
HCH-delta (d-BHC)	319-86-8	µg/L		0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
G-BHC (Lindane)	58-89-9	µg/L	0.08	0.06 U	***0.12 UJ***	***0.12 U***	***0.12 U***	0.06 U
Aldrin	309-00-2	µg/L	0.0026	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
Heptachlor	76-44-8	µg/L	0.019	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
Chlordane	57-74-9	µg/L	0.25	***0.6 U***	***0.6 UJ***	***0.6 U***	***0.6 U***	***0.6 U***
Dieldrin	60-57-1	µg/L	0.0055	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
Endrin	72-20-8	µg/L	2	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
Endosulfan I	959-98-8	µg/L	96	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
Endosulfan II	33213-65-9	µg/L	96	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
DDD	72-54-8	µg/L	0.36	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
DDE	72-55-9	µg/L	0.26	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
DDT	50-29-3	µg/L	0.26	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***
Methoxychlor	72-43-5	µg/L	40	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
Toxaphene	8001-35-2	µg/L	0.08	***6 U***	***6 UJ***	***6 U***	***6 U***	***6 U***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.55	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Alachlor	15972-60-8	µg/L	1.6	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Atrazine	1912-24-9	µg/L	0.38	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Captafol	2425-06-1	µg/L	0.58	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Captan	133-06-2	µg/L	38	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Chlordane-alpha	5103-71-9	µg/L	0.25	0.06 U	0.12 UJ	0.12 U	0.12 U	0.06 U
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Chlorthalonil	1897-45-6	µg/L	28	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Cypermethrin	52315-07-8	µg/L	160	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Flutolanil	66332-96-5	µg/L	960	1.2 UJ	1.2 UJ	1.2 U	1.2 U	1.2 UJ
Folpet	133-07-3	µg/L	25	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Iprodione	36734-19-7	µg/L	640	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Metoachlor	51218-45-2	µg/L	2,400	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Metribuzin	21087-64-9	µg/L	400	0.12 U	0.06 U	0.06 U	0.06 U	0.12 U
Norflurazon	27314-13-2	µg/L	640	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Oxadiazon	19666-30-9	µg/L	80	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-9	MW-9	MW-9	MW-9	MW-10
			Sample ID	MW-09-081016	MW-9-110916	MW-09-022817	MW-09-051717	MW-10-081116
			Sample Date	8/10/2016	11/9/2016	2/28/2017	5/17/2017	8/11/2016
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Pronamide	23950-58-5	µg/L	1,200	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Propachlor	1918-16-7	µg/L	210	0.3 UJ	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Propanil	709-98-8	µg/L	80	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Propiconazole	60207-90-1	µg/L	210	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Simazine	122-34-9	µg/L	0.73	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Terbacil	5902-51-2	µg/L	210	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Trifluralin	1582-09-8	µg/L	11	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Dimethoate	60-51-5	µg/L	3.2	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	**0.3 UJ**	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 UJ***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Parathion	56-38-2	µg/L	96	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometon	1610-18-0	µg/L	240	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Linuron	330-55-2	µg/L	32	0.06 U	0.06 U			0.06 U
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Phosmet	732-11-6	µg/L	320	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	50 U	60 U	50 U	50 U	60 U
Oil-Range TPH	--	µg/L	500	250 U	300 U	250 U	250 U	300 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-10	MW-10	MW-10	MW-11	MW-11
			Sample ID	MW-10-110916	MW-10-022717	MW-10-051817	MW-11-081016	MW-11-110916
			Sample Date	11/9/2016	2/27/2017	5/18/2017	8/10/2016	11/9/2016
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5			1 U		
Cadmium	7440-43-9	µg/L	5			1 U		
Copper	7440-50-8	µg/L	640			6.34		
Lead	7439-92-1	µg/L	15			1 U		
Mercury	7439-97-6	µg/L	2			1 U		
Zinc	7440-66-6	µg/L	4,800			5 U		
Metals, Total								
Arsenic	7440-38-2	µg/L	5	1 U	1 U	1 U	1.07	1 U
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1 U	1 U	1 U
Copper	7440-50-8	µg/L	640	8.8	7.73	5.91	10.2	7.41
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U	1 U
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	5 U	5 U	5 U	8.71	47.2
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	363	5 U	100 U	4,960	1,810
Nitrate/Nitrite[2]	14797-55-8	µg/L	--	2,600				**41,000**
Nitrate	14797-55-8	µg/L	10,000		2,400	3,480	**53,700**	
Nitrite	14797-65-0	µg/L	1,000		51	***2,000 UJ***	44	
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
HCH-delta (d-BHC)	319-86-8	µg/L		0.12 UJ	0.12 U	0.12 U	0.06 U	0.12 UJ
G-BHC (Lindane)	58-89-9	µg/L	0.08	***0.12 UJ***	***0.12 U***	***0.12 U***	0.06 U	***0.12 UJ***
Aldrin	309-00-2	µg/L	0.0026	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
Heptachlor	76-44-8	µg/L	0.019	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
Chlordane	57-74-9	µg/L	0.25	***0.6 UJ***	***0.6 U***	***0.6 U***	***0.6 U***	***0.6 UJ***
Dieldrin	60-57-1	µg/L	0.0055	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
Endrin	72-20-8	µg/L	2	0.12 UJ	0.12 U	0.12 U	0.06 U	0.12 UJ
Endosulfan I	959-98-8	µg/L	96	0.12 UJ	0.12 U	0.12 U	0.06 U	0.12 UJ
Endosulfan II	33213-65-9	µg/L	96	0.12 UJ	0.12 U	0.12 U	0.06 U	0.12 UJ
DDD	72-54-8	µg/L	0.36	0.12 UJ	0.12 U	0.12 U	0.06 U	0.12 UJ
DDE	72-55-9	µg/L	0.26	0.12 UJ	0.12 U	0.12 U	0.06 U	0.12 UJ
DDT	50-29-3	µg/L	0.26	0.12 UJ	0.12 U	0.12 U	0.06 U	0.12 UJ
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.12 UJ***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
Methoxychlor	72-43-5	µg/L	40	0.12 UJ	0.12 U	0.12 U	0.06 U	0.12 UJ
Toxaphene	8001-35-2	µg/L	0.08	***6 UJ***	***6 U***	***6 U***	***6 U***	***6 UJ***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	0.08 U	0.08 U	0.08 U	0.16	0.56
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 UJ	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Alachlor	15972-60-8	µg/L	1.6	0.3 UJ	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Atrazine	1912-24-9	µg/L	0.38	0.06 U	0.06 U	0.06 U	**1.5**	0.37
Captafol	2425-06-1	µg/L	0.58	0.12 UJ	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Captan	133-06-2	µg/L	38	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Chlordane-alpha	5103-71-9	µg/L	0.25	0.12 UJ	0.12 U	0.12 U	0.06 U	0.12 UJ
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 UJ	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Chlorthalonil	1897-45-6	µg/L	28	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 UJ
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Cypermethrin	52315-07-8	µg/L	160	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 UJ
Flutolanil	66332-96-5	µg/L	960	1.2 UJ	1.2 U	1.2 U	1.2 UJ	1.2 UJ
Folpet	133-07-3	µg/L	25	0.12 UJ	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Iprodione	36734-19-7	µg/L	640	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 UJ
Metoachlor	51218-45-2	µg/L	2,400	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Metribuzin	21087-64-9	µg/L	400	0.06 U	0.06 U	0.06 U	0.47	0.087
Norflurazon	27314-13-2	µg/L	640	0.12 UJ	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Oxadiazon	19666-30-9	µg/L	80	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 UJ

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-10	MW-10	MW-10	MW-11	MW-11
			Sample ID	MW-10-110916	MW-10-022717	MW-10-051817	MW-11-081016	MW-11-110916
			Sample Date	11/9/2016	2/27/2017	5/18/2017	8/10/2016	11/9/2016
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Pronamide	23950-58-5	µg/L	1,200	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 UJ
Propachlor	1918-16-7	µg/L	210	0.3 UJ	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Propanil	709-98-8	µg/L	80	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 UJ
Propiconazole	60207-90-1	µg/L	210	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 UJ
Simazine	122-34-9	µg/L	0.73	0.06 U	0.06 U	0.06 U	**1.3**	0.15
Terbacil	5902-51-2	µg/L	210	0.12 UJ	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Trifluralin	1582-09-8	µg/L	11	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 UJ
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 UJ***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Parathion	56-38-2	µg/L	96	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.06 U	0.06 U	0.06 U	0.17	0.06 U
Prometon	1610-18-0	µg/L	240	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Linuron	330-55-2	µg/L	32	0.06 U			0.06 U	0.06 U
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 UJ
Tebuthiuron	34014-18-1	µg/L	1,100	0.12	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	50 U	50 U	50 U	270 JM	100 JM
Oil-Range TPH	--	µg/L	500	250 U	250 U	250 U	250 U	250 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-11	MW-11	MW-11	MW-12	MW-12
			Sample ID	MW-11-022817	MW-11-051717	MW-11X-051717	MW-12-081116	MW-12-111016
			Sample Date	2/28/2017	5/17/2017	5/17/2017	8/11/2016	11/10/2016
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5		1 U	1 U		2.4
Cadmium	7440-43-9	µg/L	5		1 U	1 U		1 U
Copper	7440-50-8	µg/L	640		5 U	5.24		13.3
Lead	7439-92-1	µg/L	15		1 U	1 U		1 U
Mercury	7439-97-6	µg/L	2		1 U	1 U		1 U
Zinc	7440-66-6	µg/L	4,800		32.4	33		70.1
Metals, Total								
Arsenic	7440-38-2	µg/L	5	1 U	1 U	1 U	1.73	2.19
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1 U	1 U	1 U
Copper	7440-50-8	µg/L	640	7.05	5.16	5.58	10.9	9.98
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U	1 U
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	28.3	36.1	36	20.7	70.5
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	1,300	4,340	4,030	25,400	22,400
Nitrate/Nitrite[2]	14797-55-8	µg/L	--					42,000
Nitrate	14797-55-8	µg/L	10,000	38,700	51,000	51,400	55,300	
Nitrite	14797-65-0	µg/L	1,000	5 U	1,000 UJ	1,000 UJ	28	
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.12 U***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.12 U***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
HCH-delta (d-BHC)	319-86-8	µg/L		0.12 U	0.12 U	0.12 U	0.06 U	0.12 UJ
G-BHC (Lindane)	58-89-9	µg/L	0.08	***0.12 U***	***0.12 U***	***0.12 U***	0.06 U	***0.12 UJ***
Aldrin	309-00-2	µg/L	0.0026	***0.12 U***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
Heptachlor	76-44-8	µg/L	0.019	***0.12 U***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.12 U***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
Chlordane	57-74-9	µg/L	0.25	***0.6 U***	***0.6 U***	***0.6 U***	***0.6 U***	***0.6 UJ***
Dieldrin	60-57-1	µg/L	0.0055	***0.12 U***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
Endrin	72-20-8	µg/L	2	0.12 U	0.12 U	0.12 U	0.06 U	0.12 UJ
Endosulfan I	959-98-8	µg/L	96	0.12 U	0.12 U	0.12 U	0.06 U	0.12 UJ
Endosulfan II	33213-65-9	µg/L	96	0.12 U	0.12 U	0.12 U	0.06 U	0.12 UJ
DDD	72-54-8	µg/L	0.36	0.12 U	0.12 U	0.12 U	0.06 U	0.12 UJ
DDE	72-55-9	µg/L	0.26	0.12 U	0.12 U	0.12 U	0.06 U	0.12 UJ
DDT	50-29-3	µg/L	0.26	0.12 U	0.12 U	0.12 U	0.06 U	0.12 UJ
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.12 U***	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***
Methoxychlor	72-43-5	µg/L	40	0.12 U	0.12 U	0.12 U	0.06 U	0.12 UJ
Toxaphene	8001-35-2	µg/L	0.08	***6 U***	***6 U***	***6 U***	***6 U***	***6 UJ***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	3.5	0.78	0.77	0.095	0.2
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Alachlor	15972-60-8	µg/L	1.6	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Atrazine	1912-24-9	µg/L	0.38	0.44	0.32	0.3	2.8	4.7
Captafol	2425-06-1	µg/L	0.58	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Captan	133-06-2	µg/L	38	0.3 U	0.3 U	0.3 U	0.3 U	0.3 UJ
Chlordane-alpha	5103-71-9	µg/L	0.25	0.12 U	0.12 U	0.12 U	0.06 U	0.12 UJ
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Chlorthalonil	1897-45-6	µg/L	28	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 U	0.3 U	0.3 U	0.3 U	0.3 UJ
Cypermethrin	52315-07-8	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 UJ
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Flutolanil	66332-96-5	µg/L	960	1.2 U	1.2 U	1.2 U	1.2 UJ	1.2 UJ
Folpet	133-07-3	µg/L	25	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Iprodione	36734-19-7	µg/L	640	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Metoachlor	51218-45-2	µg/L	2,400	0.3 U	0.3 U	0.3 U	0.3 U	0.3 UJ
Metribuzin	21087-64-9	µg/L	400	0.22	0.06 U	0.06 U	0.62	0.43
Norflurazon	27314-13-2	µg/L	640	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Oxadiazon	19666-30-9	µg/L	80	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-11	MW-11	MW-11	MW-12	MW-12
			Sample ID	MW-11-022817	MW-11-051717	MW-11X-051717	MW-12-081116	MW-12-111016
			Sample Date	2/28/2017	5/17/2017	5/17/2017	8/11/2016	11/10/2016
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 U	0.3 U	0.3 U	0.3 U	0.3 UJ
Pronamide	23950-58-5	µg/L	1,200	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Propachlor	1918-16-7	µg/L	210	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 UJ
Propanil	709-98-8	µg/L	80	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Propiconazole	60207-90-1	µg/L	210	0.3 U	0.3 U	0.3 U	0.3 U	0.3 UJ
Simazine	122-34-9	µg/L	0.73	0.06 U	0.16	0.14	0.33	0.73
Terbacil	5902-51-2	µg/L	210	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 UJ
Trifluralin	1582-09-8	µg/L	11	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 UJ***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Parathion	56-38-2	µg/L	96	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.15	0.06 U	0.06 U	0.13	0.13
Prometon	1610-18-0	µg/L	240	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	0.06 U	0.06 U	0.06 U	0.15	0.18
Linuron	330-55-2	µg/L	32				0.06 U	0.06 U
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	110	79	77	91 JM	60 U
Oil-Range TPH	--	µg/L	500	250 U	250 U	250 U	250 U	300 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-12	MW-12	MW-13	MW-13	MW-13
			Sample ID	MW-12-022817	MW-12-051817	MW-13-081016	MW-13-111016	MW-13-022817
			Sample Date	2/28/2017	5/18/2017	8/10/2016	11/10/2016	2/28/2017
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5		1.35		3.26	2.2
Cadmium	7440-43-9	µg/L	5		1 U		1 U	1 U
Copper	7440-50-8	µg/L	640		8.06		5 U	5 U
Lead	7439-92-1	µg/L	15		1 U		1 U	1 U
Mercury	7439-97-6	µg/L	2		1 U		1 U	1 U
Zinc	7440-66-6	µg/L	4,800		32.9		5 U	7.72
Metals, Total								
Arsenic	7440-38-2	µg/L	5	1.52	1.42	3.91	3.19	3.63
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1 U	1 U	1 U
Copper	7440-50-8	µg/L	640	8.8	7.98	5 U	5 U	5 U
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U	1.01
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	53.9	33.4	5 U	5 U	15.7
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	22,000	23,400	151	375	133
Nitrate/Nitrite[2]	14797-55-8	µg/L	--			46	1,100	
Nitrate	14797-55-8	µg/L	10,000	27,900	51,900	46		3,500
Nitrite	14797-65-0	µg/L	1,000	5 U	***2,000 UJ***	5 U		5 U
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
HCH-delta (d-BHC)	319-86-8	µg/L		0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
G-BHC (Lindane)	58-89-9	µg/L	0.08	***0.12 U***	***0.12 U***	0.06 U	***0.12 UJ***	***0.12 U***
Aldrin	309-00-2	µg/L	0.0026	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Heptachlor	76-44-8	µg/L	0.019	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Chlordane	57-74-9	µg/L	0.25	***0.6 U***	***0.6 U***	***0.6 U***	***0.6 UJ***	***0.6 U***
Dieldrin	60-57-1	µg/L	0.0055	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Endrin	72-20-8	µg/L	2	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
Endosulfan I	959-98-8	µg/L	96	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
Endosulfan II	33213-65-9	µg/L	96	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
DDD	72-54-8	µg/L	0.36	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
DDE	72-55-9	µg/L	0.26	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
DDT	50-29-3	µg/L	0.26	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.12 U***	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***
Methoxychlor	72-43-5	µg/L	40	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
Toxaphene	8001-35-2	µg/L	0.08	***6 U***	***6 U***	***6 U***	***6 UJ***	***6 U***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	0.18	0.08 U	0.08 U	0.08 U	16
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	0.45	1.6	0.08 U	0.13	0.53
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.08 U	0.08 U	0.08 U	0.08 U	0.1
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 U
Alachlor	15972-60-8	µg/L	1.6	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 U
Atrazine	1912-24-9	µg/L	0.38	1	1.5	0.06 U	0.071	0.06
Captafol	2425-06-1	µg/L	0.58	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 U
Captan	133-06-2	µg/L	38	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Chlordane-alpha	5103-71-9	µg/L	0.25	0.12 U	0.12 U	0.06 U	0.12 UJ	0.12 U
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 U
Chlorthalonil	1897-45-6	µg/L	28	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Cypermethrin	52315-07-8	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Flutolanil	66332-96-5	µg/L	960	1.2 U	1.2 U	1.2 UJ	1.2 UJ	1.2 U
Folpet	133-07-3	µg/L	25	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 U
Iprodione	36734-19-7	µg/L	640	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Metoachlor	51218-45-2	µg/L	2,400	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Metribuzin	21087-64-9	µg/L	400	0.29	0.07	0.12 U	0.06 U	0.06 U
Norflurazon	27314-13-2	µg/L	640	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 U
Oxadiazon	19666-30-9	µg/L	80	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-12	MW-12	MW-13	MW-13	MW-13
			Sample ID	MW-12-022817	MW-12-051817	MW-13-081016	MW-13-111016	MW-13-022817
			Sample Date	2/28/2017	5/18/2017	8/10/2016	11/10/2016	2/28/2017
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Pronamide	23950-58-5	µg/L	1,200	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Propachlor	1918-16-7	µg/L	210	0.3 U	0.3 U	0.3 UJ	0.3 UJ	0.3 U
Propanil	709-98-8	µg/L	80	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Propiconazole	60207-90-1	µg/L	210	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U
Simazine	122-34-9	µg/L	0.73	0.12	0.66	0.06 U	0.06 U	0.06 U
Terbacil	5902-51-2	µg/L	210	0.12 U	0.12 U	0.12 UJ	0.12 UJ	0.12 U
Trifluralin	1582-09-8	µg/L	11	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 U***	***0.3 U***	***0.3 UJ***	***0.3 U***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Parathion	56-38-2	µg/L	96	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.093	0.06 U	0.06 U	0.06 U	0.06 U
Prometon	1610-18-0	µg/L	240	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	0.088	0.06 U	0.06 U	0.15	0.061
Linuron	330-55-2	µg/L	32			0.06 U	0.06 U	
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.12 U	0.12 U	0.12 U	0.12 UJ	0.12 U
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	50 U	60 U	60 U	70 U	50 U
Oil-Range TPH	--	µg/L	500	250 U	300 U	300 U	350 U	250 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-13	MW-14	MW-14	MW-14	MW-14
			Sample ID	MW-13-051817	MW-14-081016	MW-14-111016	MW-14-022717	MW-14-051817
			Sample Date	5/18/2017	8/10/2016	11/10/2016	2/27/2017	5/18/2017
			Criteria					
Volatile Organic Compounds								
Benzene	71-43-2	µg/L	0.8	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U	1 U
Xylenes	1330-20-7	µg/L	1,600	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether	1634-04-4	µg/L	24					
Naphthalene	91-20-3	µg/L	160					
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48					
n-Hexane	110-54-3	µg/L	480					
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022					
Metals, Dissolved								
Arsenic	7440-38-2	µg/L	5					
Cadmium	7440-43-9	µg/L	5					
Copper	7440-50-8	µg/L	640					
Lead	7439-92-1	µg/L	15					
Mercury	7439-97-6	µg/L	2					
Zinc	7440-66-6	µg/L	4,800					
Metals, Total								
Arsenic	7440-38-2	µg/L	5	2.57	1 U	1.06	1.09	1.08
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1 U	1 U	1 U
Copper	7440-50-8	µg/L	640	5 U	8.66	6.82	5.56	5.62
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U	1 U
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U	1 U
Zinc	7440-66-6	µg/L	4,800	5 U	39.1	32.1	17.5	14.4
Miscellaneous Substances								
Ammonia-Nitrogen	7664-41-7	µg/L	--	155	6,760	3,080	4,700	8,260
Nitrate/Nitrite[2]	14797-55-8	µg/L	--			16,000		
Nitrate	14797-55-8	µg/L	10,000	200 U	36,600		3,800	23,400
Nitrite	14797-65-0	µg/L	1,000	200 UJ	30		5 U	***2,000 UJ***
Organochlorine Pesticides								
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
HCH-delta (d-BHC)	319-86-8	µg/L		0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
G-BHC (Lindane)	58-89-9	µg/L	0.08	***0.12 U***	0.06 U	***0.12 UJ***	***0.12 U***	***0.12 U***
Aldrin	309-00-2	µg/L	0.0026	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
Heptachlor	76-44-8	µg/L	0.019	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
Chlordane	57-74-9	µg/L	0.25	***0.6 U***	***0.6 U***	***0.6 UJ***	***0.6 U***	***0.6 U***
Dieldrin	60-57-1	µg/L	0.0055	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
Endrin	72-20-8	µg/L	2	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
Endosulfan I	959-98-8	µg/L	96	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
Endosulfan II	33213-65-9	µg/L	96	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
DDD	72-54-8	µg/L	0.36	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
DDE	72-55-9	µg/L	0.26	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
DDT	50-29-3	µg/L	0.26	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.12 U***	***0.06 U***	***0.12 UJ***	***0.12 U***	***0.12 U***
Methoxychlor	72-43-5	µg/L	40	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
Toxaphene	8001-35-2	µg/L	0.08	***6 U***	***6 U***	***6 UJ***	***6 U***	***6 U***
Chlorinated Herbicides								
2,4-D	94-75-7	µg/L	70	0.08 U	0.08 U	0.081	0.08 U	0.08 U
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	0.08 U	0.08 U	0.08 U	0.08 U	0.65
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides								
Acetochlor	34256-82-1	µg/L	320	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Alachlor	15972-60-8	µg/L	1.6	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Atrazine	1912-24-9	µg/L	0.38	0.06 U	1.4	0.67	0.2	0.57
Captafol	2425-06-1	µg/L	0.58	0.12 U	0.12 UJ	0.12 UJ	0.12 U	0.12 U
Captan	133-06-2	µg/L	38	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Chlordane-alpha	5103-71-9	µg/L	0.25	0.12 U	0.06 U	0.12 UJ	0.12 U	0.12 U
Chlorbenzilate	510-15-6	µg/L	0.8	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Chlorthalonil	1897-45-6	µg/L	28	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Cypermethrin	52315-07-8	µg/L	160	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
DCPA (Dacthal)	1861-32-1	µg/L	160	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Flutolanil	66332-96-5	µg/L	960	1.2 U	1.2 UJ	1.2 UJ	1.2 U	1.2 U
Folpet	133-07-3	µg/L	25	0.12 U	0.12 UJ	0.12 UJ	0.12 U	0.12 U
Iprodione	36734-19-7	µg/L	640	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Metoachlor	51218-45-2	µg/L	2,400	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Metribuzin	21087-64-9	µg/L	400	0.06 U	0.45	0.25	0.079	0.068
Norflurazon	27314-13-2	µg/L	640	0.12 U	0.12 UJ	0.12 UJ	0.12 U	0.12 U
Oxadiazon	19666-30-9	µg/L	80	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U

Table 2
August 2016 to May 2017 Quarterly Groundwater Results

Analyte	CAS No.	Units	Location	MW-13	MW-14	MW-14	MW-14	MW-14
			Sample ID	MW-13-051817	MW-14-081016	MW-14-111016	MW-14-022717	MW-14-051817
			Sample Date	5/18/2017	8/10/2016	11/10/2016	2/27/2017	5/18/2017
			Criteria					
Other Chlorinated/Halogenated Pesticides								
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Pronamide	23950-58-5	µg/L	1,200	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Propachlor	1918-16-7	µg/L	210	0.3 U	0.3 UJ	0.3 UJ	0.3 U	0.3 U
Propanil	709-98-8	µg/L	80	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Propiconazole	60207-90-1	µg/L	210	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U
Simazine	122-34-9	µg/L	0.73	0.06 U	0.13	0.067	0.06 U	0.15
Terbacil	5902-51-2	µg/L	210	0.12 U	0.12 UJ	0.12 UJ	0.12 U	0.12 U
Trifluralin	1582-09-8	µg/L	11	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)								
Chlorpyrifos	2921-88-2	µg/L	16	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 U***	***0.3 UJ***	***0.3 U***	***0.3 U***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Parathion	56-38-2	µg/L	96	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)								
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.06 U	0.097	0.06 U	0.06 U	0.06 U
Prometon	1610-18-0	µg/L	240	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides								
Diuron	330-54-1	µg/L	32	0.06 U	0.068	0.06 U	0.06 U	0.06 U
Linuron	330-55-2	µg/L	32		0.06 U	0.06 U		
Carbamate Pesticides								
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides								
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 U
Propargite	2312-35-8	µg/L	160	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Oryzalin	19044-88-3	µg/L	800					
Pendimethalin	40487-42-1	µg/L	640	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)								
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	--	µg/L	500	50 U	50 U	50 U	50 U	50 U
Oil-Range TPH	--	µg/L	500	250 U	250 U	250 U	250 U	250 U

Notes:

Blanks are intentional.

-- Not applicable.

Red Detected concentration that exceeds criteria.

Italics Non-detect; reporting limit exceeds criteria.

1 The second number listed is with Silica Gel cleanup.

2 Result listed for comparison only.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Table 3
Temporary Well Sampling Analytical Results

Analyte	CAS No.	Units	Location	FS-22		FS-30		FS-37	FS-38	FS-39	FS-40
			Sample ID	FS-22-GW-4-6	FS-22-GW-9-11	FS-30-GW-5-7	FS-30-GW-13-15	FS-37-GW-9-14	FS-38-GW-4.5-7	FS-39-GW-4.5-7	FS-40-GW-4.5-7
			Sample Date	6/6/2017	6/6/2017	6/8/2017	6/8/2017	6/7/2017	6/7/2017	6/7/2017	6/7/2017
			Criteria								
Volatile Organic Compounds											
Benzene	71-43-2	µg/L	0.8	***1 U***	***1 U***	***1 U***	***1 U***				
Toluene	100-41-4	µg/L	640	1 U	1 U	1 U	1 U				
Ethylbenzene	108-88-3	µg/L	70	1 U	1 U	1 U	1 U				
Xylenes	1330-20-7	µg/L	1,600	3 U	3 U	3 U	3 U				
Methyl tert-Butyl Ether	1634-04-4	µg/L	24								
Naphthalene	91-20-3	µg/L	160								
1,2-Dichloroethane (EDC)	107-06-2	µg/L	0.48								
n-Hexane	110-54-3	µg/L	480								
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.022								
Metals, Dissolved											
Arsenic	7440-38-2	µg/L	5	2.92	1 U	1 U	1.09				
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1 U	1 U				
Copper	7440-50-8	µg/L	640	14.4	9.05	5.59	11.5				
Lead	7439-92-1	µg/L	15	1 U	1 U	1 U	1 U				
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U				
Zinc	7440-66-6	µg/L	4,800	37	5 U	5 U	209				
Metals, Total											
Arsenic	7440-38-2	µg/L	5	**5.7**	**16.1**	1.91	**22.7**				
Cadmium	7440-43-9	µg/L	5	1 U	1 U	1 U	1.43 J				
Copper	7440-50-8	µg/L	640	22.8	53.3	12.5	174				
Lead	7439-92-1	µg/L	15	1.95	9.11	1.96	**31.4**				
Mercury	7439-97-6	µg/L	2	1 U	1 U	1 U	1 U				
Zinc	7440-66-6	µg/L	4,800	33.3	93.8	26.5	1040				
Miscellaneous Substances											
Ammonia-Nitrogen	7664-41-7	µg/L	--	75,200	7,240	9,200	17,200				
Nitrate/Nitrite[2]	14797-55-8	µg/L	--								
Nitrate	14797-55-8	µg/L	10,000	**69,000**	**24,900**	**31,100 J**	**51,400 J**	1,190	710	240 JQ	1,060
Nitrite	14797-65-0	µg/L	1,000	1,000 U	450 JQ	490 JQ	**1,040 JQ**	1,000 U	215 JQ	500 U	220 JQ
Organochlorine Pesticides											
HCH-alpha (a-BHC)	319-84-6	µg/L	0.014	***0.6 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
HCH-beta (b-BHC)	319-85-7	µg/L	0.049	***0.6 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
HCH-delta (d-BHC)	319-86-8	µg/L		0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
G-BHC (Lindane)	58-89-9	µg/L	0.08	***0.6 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Aldrin	309-00-2	µg/L	0.0026	***0.6 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Heptachlor	76-44-8	µg/L	0.019	***0.6 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Heptachlor Epoxide	1024-57-3	µg/L	0.0048	***0.6 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Chlordane	57-74-9	µg/L	0.25	***3 U***	***0.6 U***	***0.6 U***	***0.6 U***	***0.6 U***	***0.6 U***	***0.6 U***	***0.6 U***

Table 3
Temporary Well Sampling Analytical Results

Analyte	CAS No.	Units	Location	FS-22		FS-30		FS-37	FS-38	FS-39	FS-40
			Sample ID	FS-22-GW-4-6	FS-22-GW-9-11	FS-30-GW-5-7	FS-30-GW-13-15	FS-37-GW-9-14	FS-38-GW-4.5-7	FS-39-GW-4.5-7	FS-40-GW-4.5-7
			Sample Date	6/6/2017	6/6/2017	6/8/2017	6/8/2017	6/7/2017	6/7/2017	6/7/2017	6/7/2017
			Criteria								
Organochlorine Pesticides (cont.)											
Dieldrin	60-57-1	µg/L	0.0055	0.79	0.17	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Endrin	72-20-8	µg/L	2	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Endosulfan I	959-98-8	µg/L	96	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Endosulfan II	33213-65-9	µg/L	96	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
DDD	72-54-8	µg/L	0.36	***0.6 U***	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
DDE	72-55-9	µg/L	0.26	***0.6 U***	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
DDT	50-29-3	µg/L	0.26	***0.6 U***	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Hexachlorobenzene	118-74-1	µg/L	0.055	***0.6 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Methoxychlor	72-43-5	µg/L	40	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Toxaphene	8001-35-2	µg/L	0.08	***30 U***	***6 U***	***6 U***	***6 U***	***6 U***	***6 U***	***6 U***	***6 U***
Chlorinated Herbicides											
2,4-D	94-75-7	µg/L	70	0.15	0.08 U	0.15	0.13	0.08 U	0.08 U	0.08 U	0.08 U
2,4-DB	94-82-6	µg/L	130	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	93-72-1	µg/L	50	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	93-76-5	µg/L	160	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	1918-00-9	µg/L	480	2.6	0.24	2.2	1.9	0.08 U	0.08 U	0.08 U	0.08 U
Dinoseb	88-85-7	µg/L	7	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	94-74-6	µg/L	8	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	93-65-2	µg/L	16	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	87-86-5	µg/L	0.22	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides											
Acetochlor	34256-82-1	µg/L	320	1.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Alachlor	15972-60-8	µg/L	1.6	1.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Atrazine	1912-24-9	µg/L	0.38	1.6	0.44	16	1.8	0.06 U	0.06 U	0.06 U	0.06 U
Captafol	2425-06-1	µg/L	0.58	***0.6 U***	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Captan	133-06-2	µg/L	38	1.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlordane-alpha	5103-71-9	µg/L	0.25	***0.6 U***	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorbenzilate	510-15-6	µg/L	0.8	***1.5 U***	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorthalonil	1897-45-6	µg/L	28	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	21725-46-2	µg/L	0.1	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***	***0.12 U***
Cyhalothrin/karate	68085-85-8	µg/L	80	1.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Cypermethrin	52315-07-8	µg/L	160	1.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	1861-32-1	µg/L	160	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Flutolanil	66332-96-5	µg/L	960	6 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Folpet	133-07-3	µg/L	25	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Iprodione	36734-19-7	µg/L	640	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Metoachlor	51218-45-2	µg/L	2,400	1.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Metribuzin	21087-64-9	µg/L	400	1.6	0.18	0.06 U	0.38	0.06 U	0.06 U	0.06 U	0.06 U

Table 3
Temporary Well Sampling Analytical Results

Analyte	CAS No.	Units	Location	FS-22		FS-30		FS-37	FS-38	FS-39	FS-40
			Sample ID	FS-22-GW-4-6	FS-22-GW-9-11	FS-30-GW-5-7	FS-30-GW-13-15	FS-37-GW-9-14	FS-38-GW-4.5-7	FS-39-GW-4.5-7	FS-40-GW-4.5-7
			Sample Date	6/6/2017	6/6/2017	6/8/2017	6/8/2017	6/7/2017	6/7/2017	6/7/2017	6/7/2017
			Criteria								
Other Chlorinated/Halogenated Pesticides (cont.)											
Norflurazon	27314-13-2	µg/L	640	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxadiazon	19666-30-9	µg/L	80	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxamyl	23135-22-0	µg/L	200	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	52645-53-1	µg/L	800	1.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pronamide	23950-58-5	µg/L	1,200	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propachlor	1918-16-7	µg/L	210	1.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propanil	709-98-8	µg/L	80	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propiconazole	60207-90-1	µg/L	210	1.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Simazine	122-34-9	µg/L	0.73	0.18	0.066	**2.8**	0.29	0.06 U	0.06 U	0.06 U	0.06 U
Terbacil	5902-51-2	µg/L	210	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Trifluralin	1582-09-8	µg/L	11	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)											
Chlorpyrifos	2921-88-2	µg/L	16	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	5598-13-0	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	333-41-5	µg/L	11	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	62-73-7	µg/L	0.15	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Dicrotophos	141-66-2	µg/L	1.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	60-51-5	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	298-04-4	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	2104-64-5	µg/L	0.16	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***	***0.3 U***
Ethion (Ronnel)	563-12-2	µg/L	8	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fonofos (Merphos)	944-22-9	µg/L	32	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	121-75-5	µg/L	320	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	56-38-2	µg/L	96	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	298-00-0	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	298-02-2	µg/L	3.2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	13071-79-9	µg/L	0.4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)											
Ametryn	834-12-8	µg/L	140	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	51235-04-2	µg/L	530	0.33	0.06 U	0.06 U	0.23	0.06 U	0.06 U	0.06 U	0.06 U
Prometon	1610-18-0	µg/L	240	0.091	0.06 U	0.06 U	0.06 U	0.07	0.061	0.06 U	0.1
Prometryn	7287-19-6	µg/L	64	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	139-40-2	µg/L	320	0.06 U	0.06 U	0.28	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides											
Diuron	330-54-1	µg/L	32	1	0.46	0.087	0.1	0.06 U	0.06 U	0.06 U	0.06 U
Linuron	330-55-2	µg/L	32	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U

Table 3
Temporary Well Sampling Analytical Results

Analyte	CAS No.	Units	Location	FS-22		FS-30		FS-37	FS-38	FS-39	FS-40
			Sample ID	FS-22-GW-4-6	FS-22-GW-9-11	FS-30-GW-5-7	FS-30-GW-13-15	FS-37-GW-9-14	FS-38-GW-4.5-7	FS-39-GW-4.5-7	FS-40-GW-4.5-7
			Sample Date	6/6/2017	6/6/2017	6/8/2017	6/8/2017	6/7/2017	6/7/2017	6/7/2017	6/7/2017
			Criteria								
Carbamate Pesticides											
Aldicarb	116-06-3	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	1646-88-4	µg/L	16	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	63-25-2	µg/L	1,600	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	1563-66-2	µg/L	40	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	16752-77-5	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	28249-77-6	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides											
Demeton	8065-48-3	µg/L	0.64	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	22224-92-6	µg/L	4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	150-50-5	µg/L	0.48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	950-37-8	µg/L	16	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	732-11-6	µg/L	320	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	29232-93-7	µg/L	160	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	2312-35-8	µg/L	160	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Tetrachlorvinphos	961-11-5	µg/L	3.6	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Amitraz	33089-61-1	µg/L	40	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	122-39-4	µg/L	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	2164-17-2	µg/L	210	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	57837-19-1	µg/L	960	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Oryzalin	19044-88-3	µg/L	800			0.06 U					
Pendimethalin	40487-42-1	µg/L	640	0.6 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tebuthiuron	34014-18-1	µg/L	1,100	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)											
Gasoline-Range TPH	--	µg/L	800	100 U	100 U	100 U	100 U				
Diesel-Range TPH	--	µg/L	500	400	74	89	59				
Oil-Range TPH	--	µg/L	500	250 U	250 U	250 U	250 U				

Notes:

Blanks are intentional.
-- Not applicable.
Red Detected concentration that exceeds criteria.
Italics Non detect; reporting limit exceeds criteria.
1 The second number listed is with Silica Gel cleanup.
2 Result listed for comparison only.

Qualifiers:

J Analyte was detected; concentration is considered an estimate.
JM Analyte was detected, but chromatograph did not match the standard used for quantition; concentration is considered an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered an estimate.
U Analyte was not detected at the given reporting limit.
UJ Analyte was not detected at the given reporting limit, which is considered an estimate.

Abbreviations:

CAS Chemical Abstracts Service
BHC Benzene hexachloride
D Dichlorophenoxyacetic acid
DB Dichlorophenoxy butyric acid
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-Methyl-4-chlorophenoxyacetic acid
MCPP Meta-chlorophenylpiperazine
T Trichlorophenoxyacetic acid

Figures

Notes:
1. Groundwater criteria protective of drinking water.
2. All four quarters did not exceed criteria.
· Aerial imagery obtained from Google Earth, 2015.

Abbreviations:
µg/L = Micrograms per liter
TPH-D = Diesel-range total petroluem hydrocarbons
TPH-O = Oil-range total petroluem hydrocarbons

Qualifier:
JM Concentration is estimated due to poor match to standard, acceptable for use with qualification.

Legend

- Monitoring Well
- Property Boundary
- Approximate Groundwater Flow Direction
- Approximate Location of Historical Irrigation Ditch
- BNSF Railway

Location Labels:

Location ID → **MW-6**
Sample Date → **8/2016:**
Analyte → TPH-D: 560 JM ← Exceedance Result (µg/L) and Qualifier

All analyte concentrations are less than screening criteria.
One or more analyte concentrations exceed screening criteria.

Screening Criteria for Analytes with Exceedances[1]:

Analyte	Criteria (µg/L)
Arsenic (As)	5
TPH-D	500
TPH-O	500

BNSF Railway Rail Spur

S. RAILROAD AVE

MW-9[2]

MW-4
8/2016
As : 13.5
THP-D : 750 JM
TPH-O : 1,100 JM
11/2016
THP-D : 740 JM
2/2017
TPH-O : 680

MW-3[2]

MW-10[2]

MW-7[2]

MW-8[2]

MW-1[2]

MW-6
8/2016
THP-D : 560 JM

MW-5[2]

MW-2[2]

MW-11[2]

MW-12[2]

MW-14[2]

MW-13[2]

N

0 20 40 80
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Summary of Year 1 Groundwater Results Smith-Kem Site Ellensburg, Washington

Figure 1
Total Petroleum Hydrocarbon and Arsenic Results in Groundwater

I:\GIS\Projects\FP-SmithKem\MXD\Summary of Y1 GW Results\Figure 1 TPH and Arsenic Results in Groundwater.mxd
8/16/2017

Notes:
1. Groundwater criteria protective of drinking water.
2. Analytical method used in 11/2016 event did not differentiate NO_3 and NO_2 concentrations. Screening criteria are not applicable to the combined NO_3+NO_2 results, but they are displayed for comparison purposes.
3. All four quarters did not exceed criteria.
- **RED TEXT** indicates exceedance of criteria.
- ***GRAY TEXT*** indicates concentration was non-detect.
- Aerial imagery obtained from Google Earth, 2015.

Abbreviations:
bgs = Below ground surface
ft = Feet
µg/L = Micrograms per liter

Qualitfiers:
J Concentration is estimated, but acceptable for most uses.
JQ Concentration is an estimated value reported below the associated quantitation limit but above the MDL, acceptable for use with qualification.
U Analyte is not detected at the associated reporting limit.

Legend

- Monitoring Well
- Property Boundary
- Approximate Groundwater Flow Direction
- Approximate Location of Historical Irrigation Ditch
- BNSF Railway

Location Labels:

Location ID → **MW-7**
Sample Date → **8/2016:**
Analyte → NO_3: 10,500 ← Result (µg/L)

All analyte concentrations are less than screening criteria.
One or more analyte concentrations exceed screening criteria.

Screening Criteria[1]:

Analyte	Criteria (µg/L)
Nitrate (NO_3)	10,000
Nitrite (NO_2)	1,000
Nitrate + Nitrite	--[2]

BNSF Railway Rail Spur
S. RAILROAD AVE

MW-9[3]

MW-4
8/2016
NO_3: 51,100
NO_2: 26
11/2016
NO_3 + NO_2: 49,000
2/2017
NO_3: 13,300
NO_2: 256
5/2017
NO_3: 19,200
NO_2: 975 JQ

MW-3
8/2016
NO_3: 32,000
NO_2: 12
11/2016
NO_3 + NO_2: *10 U*
2/2017
NO_3: 80
5/2017
NO_3: *1,000 U*

MW-7
8/2016
NO_3: 10,500
11/2016
NO_3 + NO_2: 11,000
2/2017
NO_3: 62,400
NO_2: 1,500
5/2017
NO_3: 26,900

MW-8
8/2016
NO_3: 34,200
11/2016
NO_3 + NO_2: 24,000
2/2017
NO_3: 62,500
5/2017
NO_3: 76,200

MW-1
8/2016
NO_3: 110,000
NO_2: 6,840
11/2016
NO_3 + NO_2: 95,000
2/2017
NO_3: 104,000
NO_2: 640
5/2017
NO_3: 23,300

MW-10[3]

MW-5
8/2016
NO_3: 9,910
11/2016
NO_3 + NO_2: 7,000
2/2017
NO_3: 526
5/2017
NO_3: 33,600

MW-2[3]

MW-6
8/2016
NO_3: 34,200
11/2016
NO_3 + NO_2: 210,000
2/2017
NO_3: 113,000
NO_2: 1,000
5/2017
NO_3: 219,000
NO_2: 1,950 JQ

MW-11
8/2016
NO_3: 53,700
NO_2: 44
11/2016
NO_3 + NO_2: 41,000
2/2017
NO_3: 38,700
5/2017
NO_3: 51,400

MW-12
8/2016
NO_3: 55,300
NO_2: 28
11/2016
NO_3 + NO_2: 42,000
2/2017
NO_3: 27,900
5/2017
NO_3: 51,900

MW-14
8/2016
NO_3: 36,600
NO_2: 30
11/2016
NO_3 + NO_2: 16,000
2/2017
NO_3: 3,800
5/2017
NO_3: 23,400

MW-13[3]

N
0 20 40 80
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Summary of Year 1 Groundwater Results
Smith-Kem Site
Ellensburg, Washington

Figure 2
Nitrate and Nitrite Results in Groundwater

I:\GIS\Projects\FP-SmithKem\MXD\Summary of Y1 GW Results\Figure 2 Nitrate and Nitrite Results in Groundwater.mxd
8/16/2017

Notes:
1. Groundwater criteria protective of drinking water.
2. All four quarters did not exceed criteria.
· Aerial imagery obtained from Google Earth, 2015.

Abbreviations:
2,4-D = 2,4-Dichlorophenoxyacetic acid
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
MCPA = 2-methyl-4-chlorophenoxyacetic acid
µg/L = Micrograms per liter

Qualifier:
J Concentration is estimated, but acceptable for most uses.

Legend

- Monitoring Well
- Property Boundary
- Approximate Groundwater Flow Direction
- Approximate Location of Historical Irrigation Ditch
- BNSF Railway

Location Labels:

Location ID → **MW-8**
Sample Date → **8/2016**
Analyte → Atrazine: 1.8 ← Exceedance Result (µg/L)

- All analyte concentrations are less than screening criteria.
- One or more analyte concentrations exceed screening criteria.

Screening Criteria for Analytes with Exceedances[1]:

Analyte	Criteria (µg/L)
2,4-D	70
DDE	0.26
DDT	0.26
Atrazine	0.38
Chlordane	0.25
Dieldrin	0.0055
MCPA	8
Simazine	0.73
Toxaphene	0.080

BNSF Railway Rail Spur

S. RAILROAD AVE

MW-4
8/2016
DDE: 0.76 J
DDT: 1.5 J
Atrazine: 9.2
Chlordane: 22
Dieldrin: 10 J
Simazine: 1.1
Toxaphene: 26
11/2016
2,4-D: 210
Atrazine: 33
MCPA: 88
2/2017
Atrazine: 11
Chlordane: 2.3
Dieldrin: 1.2
Toxaphene: 9.3
5/2017
Atrazine: 11
Chlordane: 1.4
Dieldrin: 1
MCPA: 28

MW-9[2]

MW-3[2]

MW-1
8/2016
Atrazine: 3.2
Chlordane: 1.5
Dieldrin: 0.61 J
11/2016
Atrazine: 2.9
Chlordane: 0.72 J
Dieldrin: 0.21 J
2/2017
Atrazine: 3.2
Dieldrin: 0.31
5/2017
Atrazine: 0.69

MW-10[2]

MW-2[2]

MW-12
8/2016
Atrazine: 2.8
11/2016
Atrazine: 4.7
2/2017
Atrazine: 1
5/2017
Atrazine: 1.5

MW-14
8/2016
Atrazine: 1.4
11/2016
Atrazine: 0.67
5/2017
Atrazine: 0.57

MW-7
8/2016
Atrazine: 0.39
11/2016
Atrazine: 0.82
2/2017
Atrazine: 5.9

MW-6
8/2016
Atrazine: 3.4
Chlordane: 1.6
Dieldrin: 0.69 J
11/2016
Atrazine: 3.5
Chlordane: 1.7 J
Dieldrin: 0.49 J
Toxaphene : 11 J
2/2017
Atrazine: 3
Dieldrin: 0.33
5/2017
Atrazine: 7.9
Chlordane: 0.87
Dieldrin: 0.32

MW-11
8/2016
Atrazine: 1.5
Simazine: 1.3
2/2017
Atrazine: 0.44

MW-8
8/2016
Atrazine: 1.8 J
2/2017
Atrazine: 2

MW-5[2]

MW-13[2]

N

0 20 40 80
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Summary of Year 1 Groundwater Results
Smith-Kem Site
Ellensburg, Washington

Figure 3
Pesticide and Herbicide Results in Groundwater

I:\GIS\Projects\FP-SmithKem\MXD\Summary of Y1 GW Results\Figure 3 Pesticide and Herbicide Results in Groundwater.mxd
8/16/2017

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix C
Floyd|Snider Memoranda

Attachment C.2
Constituents of Potential Concern Elimination for Phase 2

20 YEARS FLOYD | SNIDER
strategy ▪ science ▪ engineering

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

Memorandum

To: John Mefford and Mary Monahan, Washington State Department of Ecology

Copies:

From: Allison Geiselbrecht and Erin Murray, Floyd|Snider

Date: February 3, 2017

Project No: Smith-Kem

Re: **Constituents of Potential Concern Elimination for Phase 2**

As described in the Smith-Kem Site Remedial Investigation Work Plan (Work Plan; Floyd|Snider 2016), the data gaps investigation was to be completed in a phased approach, with the intent to collect data in Phase 1 to refine data gaps and inform the approach for Phase 2 sampling. This memorandum presents the rationale for elimination or retention of some constituents of potential concern (COPCs) in soil for the Phase 2 investigation. The full list of COPCs in groundwater will remain unchanged through at least the first four quarters of groundwater sampling.

The COPCs selected for analysis in Phase 1 were based on previous investigations at the Smith-Kem Ellensburg Site (Site) located at 200 South Railroad Avenue in Ellensburg, Washington. COPCs consisted of diesel-range total petroleum hydrocarbons (TPH-D); gasoline-range TPH (TPH-G); benzene, toluene, ethylbenzene, and xylenes (BTEX); organochlorine pesticides; chlorinated herbicides; nitrate/nitrite; and ammonia. However, based on the incomplete record of pesticide/fertilizer use, it was not possible to rule out particular classes of pesticides, herbicides, or insecticides as being COPCs. Therefore, a full suite of organochlorine pesticides, chlorinated herbicides, halogenated pesticides, organophosphate pesticides, organonitrogen pesticides, phenylurea herbicides, carbamate pesticides, and organophosphorus or organosulfur pesticides were analyzed in Phase 1 in order to cover the full range of pesticides/herbicides that may have been handled on-site.

Therefore, in order to adequately and efficiently characterize the Site, Phase 2 sampling will be limited to those COPCs that are actually present on-site at concentrations of potential concern. The process for elimination of COPCs is described below.

PROCESS FOR ELIMINATION OF CONSTITUENTS OF POTENTIAL CONCERN

Table 1a is a frequency of exceedance table for detections for all of the soil COPCs and compares their concentrations against the screening levels (SLs) put forth in Table A.3 of the Work Plan.

Table 1b is a frequency of exceedance table for the non-detects compared against these same SLs.

In most cases, the SLs are based on the soil to protect groundwater pathway, natural background, or the Model Toxics Control Act (MTCA) Method B, which contains a variety of conservative assumptions and has not been tailored to account for site-specific conditions or exposures. The protectiveness of soil screening levels based on the soil to protect groundwater pathway is better evaluated using empirical groundwater data. Therefore, if the analyte exceeds the soil to protect groundwater concentration but is not present in groundwater at concentrations greater than the groundwater screening level, the analyte is considered for elimination in Phase 2 soil testing.

Alternatively, if the COPC has exceedances in both soil and groundwater according to the SLs in Tables 1a and 2, the COPC was retained.

CONSTITUENT OF POTENTIAL CONCERN PROPOSED TO BE ELIMINATED FROM THE ANALYTE LIST IN PHASE 2

Volatile Organic Compounds

As shown in Table 1a, there were only a few exceedances of the SLs for some analytes (which for volatile organic compounds [VOCs] are all based on the protection of groundwater), and there are no exceedances in groundwater for any of these analytes (refer to Table 2).

In addition to the VOCs listed in Table 1a, select samples from MW-11, MW-12, SB-3, and SB-6 were analyzed for the full suite of VOCs. All results were non-detect. For this reason, VOCs are proposed for elimination as COPCs in Phase 2.

Metals

Metals were analyzed in Phase 1 to see if there was a correlation between metals and pesticides and herbicides in soil. Although there were a few limited detections of metals in surface soil across the Site, concentrations do not indicate a connection between metals and pesticide/herbicide concentration and the variability in concentrations is consistent with those seen on an industrial site.

As shown in Table 1a arsenic does not exceed the SL; therefore, it can be eliminated as a COPC in Phase 2. Cadmium, copper, lead, mercury, and zinc all exceed their respective SLs in some detected results (i.e., 2.7, 11, 2.7, 15, and 4.1 percent, respectively). However, because the SLs for these metals are based on the protection of groundwater and there are no exceedances in groundwater (refer to Table 2), and because they are not related to the pesticides on-site, metals should be eliminated as COPCs in Phase 2.

Carcinogenic Polycyclic Aromatic Hydrocarbons

Per the Work Plan, in accordance with MTCA Table 830-1, if there were field indications of TPH in soil or groundwater, a representative sample was to be collected and analyzed for carcinogenic polycyclic aromatic hydrocarbons (cPAHs). Although there were some low-level detections of cPAHs, they were much less than their SLs; therefore, they can be eliminated as COPCs in Phase 2.

Nitrate/Nitrite

Nitrate and nitrite would be eliminated based on the process of elimination described above (i.e., their maximum concentrations did not exceed their respective SLs in soil). However, nitrate and nitrite exceeded the SLs in groundwater. Therefore, nitrate and nitrite were retained as COPCs because the Site is an active fertilizer distributor and the information may be useful during the remedial investigation for development of the conceptual site model.

Organochlorine Pesticides

There were significant exceedances of a select group of organochlorine pesticides in both soil and groundwater across the Site. Furthermore, there were raised reporting limits for some non-detect analytes in this class (refer to Table 1a). Therefore, all the pesticides listed in the Work Plan in this class will be retained as COPCs.

Chlorinated Herbicides

Of the chlorinated herbicides analyzed in soil, only pentachlorophenol was found to exceed the SL; however, 2,4-dichloropehnoxyacetic acid (2,4-D) and 2-methyl-4-chlorophenoxyacetic acid (MCPA) concentrations exceeded the SLs in groundwater during the second quarter of monitoring. However, 2,4-D and MCPA were not detected in groundwater at concentrations greater than SLs during the first quarter of groundwater sampling, this shows that there is variability in groundwater at the Site and, therefore, the full list of chlorinated herbicides will be retained as a COPCs for Phase 2.

Other Chlorinated/Halogenated Pesticides

As shown in Table 1a, of the analytes listed in this category, only chlordane-alpha exceeds its respective SL. However, because chlordane-alpha is an isomer of chlordane, which is being retained as a COPC (within the organochlorine pesticide class described above), it can be eliminated for Phase 2. Additionally, there were exceedances in groundwater for atrazine and simazine (refer to Table 2) and, although they were not detected at concentrations greater than the SLs in soil, they will be retained as COPCs in Phase 2 soil testing. Other than atrazine and simazine, all other chlorinated/halogenated pesticides can be eliminated as COPCs in Phase 2.

Remaining Pesticides and Herbicides

For the remaining categories of pesticides and herbicides (organophosphate pesticides, triazine herbicides, phenylurea herbicides, carbamate pesticides, organophosphorus and organosulfur pesticides, organonitrogen pesticides, and glyphosate), although there were some detections, concentrations were much less than the SLs in Table 1a and were rarely found in groundwater. Therefore, all of these classes can be eliminated as COPCs in Phase 2.

Petroleum Hydrocarbons

Although TPH-G was detected and exceeded the SL, the case narrative provided by the laboratory stated that the pattern of peaks in the chromatograms indicate that the presence of gasoline was not seen in any of the samples with gasoline detections. According to the laboratory, any gasoline detection is likely chromatographic overlap with weathered TPH-D or oil-range TPH. Therefore, gasoline can be eliminated as a COPC for Phase 2. TPH-D is retained, as it was found in soil at elevated concentrations.

Constituents of Potential Concern in Phase 1 and Phase 2

Analytes	**Phase 1**	**Phase 2**
Volatile organic compounds	Yes	No
Metals	Yes	No
Carcinogenic polycyclic aromatic hydrocarbons	Yes	No
Nitrate/Nitrate	Yes	**Yes**
Organochlorine Pesticides	Yes	**Yes**
Chlorinated Herbicides	Yes (full list)	**Yes (reduced list)**
Other Chlorinated/Halogenated Pesticides	Yes (full list)	Atrazine/Simazine only
Remaining Pesticides and Herbicides	Yes	No
Petroleum Hydrocarbons (TPH-D, TPH-G)	Yes	**Yes (TPH-D only)**

REFERENCES

Floyd|Snider. 2016. *Smith-Kem Site Remedial Investigation Work Plan*. Prepared for Foster Pepper LLC, Seattle, Washington, and Shell Oil Products US, Carson, California. July.

ATTACHMENTS

Table 1a Frequency of Exceedance of Screening Levels for Soil—Detections

Table 1b Frequency of Exceedance of Screening Levels for Soil—Non-Detections

Table 2 Frequency of Exceedance of Screening Levels for Groundwater

Tables

Table 1a
Frequency of Exceedance of Screening Levels for Soil—Detections

CAS Number	Analyte	Units	Screening Level	Information About Detected Results						Information About Detected Exceedances		Retain as COPC?	Rationale
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Depth of Maximum Detect (ft bgs)	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor		
Volatile Organic Compounds[1]													
71-43-2	Benzene	mg/kg	0.002	78	2.6%	0.037	FS-11	0.5–1	8/4/2016	2.6%	19	No	Not detected in groundwater; demonstrates that soil is protective of groundwater.
100-41-4	Toluene	mg/kg	0.34	78	15%	0.61	FS-11	0.5–1	8/4/2016	1.3%	1.8	No	Not detected in groundwater; demonstrates that soil is protective of groundwater.
108-88-3	Ethylbenzene	mg/kg	0.27	78	12%	0.24	FS-11	0.5–1	8/4/2016	--	--	No	Not detected in groundwater; demonstrates that soil is protective of groundwater.
1330-20-7	Xylenes	mg/kg	0.83	78	14%	2.1	FS-11	0.5–1	8/4/2016	1.3%	2.5	No	Not detected in groundwater; demonstrates that soil is protective of groundwater.
1634-04-4	Methyl tert-Butyl Ether (MTBE)	mg/kg	0.0072	11	--	--	--	--	--	--	--	No	Not detected in soil or groundwater.
64-17-5	Ethanol	mg/kg	--	3	--	--	--	--	--	--	--	No	Not detected in soil or groundwater.
91-20-3	Naphthalene	mg/kg	0.24	15	20%	0.34	MW-12	1.5–2	8/1/2016	6.7%	1.4	No	Not detected in groundwater; demonstrates that soil is protective of groundwater.
107-06-2	1,2-Dichloroethane (EDC)	mg/kg	0.0016	11	--	--	--	--	--	--	--	No	Not detected in soil or groundwater.
110-54-3	n-Hexane	mg/kg	1.8	11	--	--	--	--	--	--	--	No	Not detected in soil or groundwater.
106-93-4	1,2-Dibromoethane (EDB)	mg/kg	0.5	11	--	--	--	--	--	--	--	No	Not detected in soil or groundwater.
Metals													
7440-38-2	Arsenic	mg/kg	20	75	100%	10.7	FS-06	0.5–1	8/3/2016	--	--	No	Not retained; maximum detected value is less than screening level protective of groundwater.
7440-43-9	Cadmium	mg/kg	2	74	14%	4.41	FS-12	0.5–1	8/4/2016	2.7%	2.2	No	Not detected in groundwater; demonstrates that soil is protective of groundwater.
7440-50-8	Copper	mg/kg	36	74	100%	90.2	Culvert	0–0.25	8/5/2016	11%	2.5	No	Not detected in groundwater; demonstrates that soil is protective of groundwater.
7439-92-1	Lead	mg/kg	150	74	100%	993	MW-12	1.5–2	8/1/2016	2.7%	6.6	No	Not detected in groundwater; demonstrates that soil is protective of groundwater.
7439-97-6	Mercury	mg/kg	0.1	74	18%	0.71	FS-08	0.5–1	8/3/2016	15%	7.1	No	Not detected in groundwater; demonstrates that soil is protective of groundwater.
7440-66-6	Zinc	mg/kg	299	74	100%	474	FS-02	0.5–1	8/2/2016	4.1%	1.6	No	Not detected in groundwater; demonstrates that soil is protective of groundwater.
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)													
56-55-3	Benz(a)anthracene	mg/kg	0.043	9	22%	0.032	MW-12	5–6	8/1/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
50-32-8	Benzo(a)pyrene	mg/kg	0.12	9	22%	0.029	MW-12	5–6	8/1/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
205-99-2	Benzo(b)fluoranthene	mg/kg	0.12	9	44%	0.12	MW-12	1.5–2	8/1/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.

Table 1a
Frequency of Exceedance of Screening Levels for Soil—Detections

CAS Number	Analyte	Units	Screening Level	Information About Detected Results						Information About Detected Exceedances		Retain as COPC?	Rationale
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Depth of Maximum Detect (ft bgs)	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor		
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) (Continued)													
207-08-9	Benzo(k)fluoranthene	mg/kg	1.2	9	--	--	--	--	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
218-01-9	Chrysene	mg/kg	4.8	9	67%	0.32	MW-12	1.5–2	8/1/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.012	9	--	--	--	--	--	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	0.12	9	11%	0.022	MW-12	5–6	8/1/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
--	cPAH TEQ	mg/kg	0.12	9	67%	0.085	MW-12	1.5–2	8/1/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Miscellaneous Substances													
14797-55-8	Nitrate/Nitrite	mg/kg	8,000	25	100%	550	FS-03	0.5–1	8/3/2016	--	--	Yes	
Organochlorine Pesticides													
319-84-6	HCH-alpha (a-BHC)	mg/kg	0.00055	70	--	--	--	--	--	--	--	Yes	
319-85-7	HCH-beta (b-BHC)	mg/kg	0.0023	70	--	--	--	--	--	--	--	Yes	
319-86-8	HCH-delta (d-BHC)	mg/kg	--	70	--	--	--	--	--	--	--	Yes	
58-89-9	G-BHC (Lindane)	mg/kg	0.0062	70	--	--	--	--	--	--	--	Yes	
309-00-2	Aldrin	mg/kg	0.0025	70	7.1%	20	FS-06	0.5–1	8/3/2016	7.1%	8,000	Yes	
76-44-8	Heptachlor	mg/kg	0.038	70	1.4%	0.43	FS-05	0.5–1	8/3/2016	1.4%	11	Yes	
1024-57-3	Heptachlor Epoxide	mg/kg	0.08	70	--	--	--	--	--	--	--	Yes	
57-74-9	Chlordane	mg/kg	2.1	70	21%	84	FS-06	0.5–1	8/3/2016	14%	40	Yes	
60-57-1	Dieldrin	mg/kg	0.0028	70	30%	46	FS-06	0.5–1	8/3/2016	30%	16,000	Yes	
72-20-8	Endrin	mg/kg	0.2	70	--	--	--	--	--	--	--	Yes	
959-98-8	Endosulfan I	mg/kg	4.3	70	--	--	--	--	--	--	--	Yes	
33213-65-9	Endosulfan II	mg/kg	4.3	70	5.7%	1.5	FS-06	0.5–1	8/3/2016	--	--	Yes	
72-54-8	4,4'-DDD / Sum DDD	mg/kg	0.34	70	10%	1.6	FS-06	0.5–1	8/3/2016	4.3%	4.7	Yes	
72-55-9	4,4'-DDE / Sum DDE	mg/kg	0.45	70	16%	5.4	FS-06	0.5–1	8/3/2016	7.1%	12	Yes	
50-29-3	4,4'-DDT / Sum DDT	mg/kg	0.75	70	23%	5.7	FS-06	0.5–1	8/3/2016	11%	7.6	Yes	
118-74-1	Hexachlorobenzene	mg/kg	0.63	73	--	--	--	--	--	--	--	Yes	
72-43-5	Methoxychlor	mg/kg	62	70	--	--	--	--	--	--	--	Yes	
8001-35-2	Toxaphene	mg/kg	0.91	70	10%	120	FS-06	0.5–1	8/3/2016	10%	130	Yes	

Table 1a
Frequency of Exceedance of Screening Levels for Soil—Detections

CAS Number	Analyte	Units	Screening Level	Information About Detected Results						Information About Detected Exceedances		Retain as COPC?	Rationale
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Depth of Maximum Detect (ft bgs)	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor		
Chlorinated Herbicides													
94-75-7	2,4-D	mg/kg	800	70	67%	3.1	FS-11	0.5–1	8/4/2016	--	--	Yes	
94-82-6	2,4-DB	mg/kg	640	70	30%	0.72	FS-09	0.5–1	8/3/2016	--	--	Yes	
93-72-1	2,4,5-TP (Silvex)	mg/kg	640	70	47%	2.9	FS-05	0.5–1	8/3/2016	--	--	Yes	
93-76-5	2,4,5-T	mg/kg	800	70	16%	0.087	FS-05	0.5–1	8/3/2016	--	--	Yes	
1918-00-9	Dicamba	mg/kg	2,400	70	79%	10	FS-02	2.5–3.5	8/2/2016	--	--	Yes	
88-85-7	Dinoseb	mg/kg	80	70	17%	0.52	FS-05	0.5–1	8/3/2016	--	--	Yes	
94-74-6	MCPA	mg/kg	40	70	60%	0.76	Culvert	0–0.25	8/5/2016	--	--	Yes	
93-65-2	MCPP (Mecoprop)	mg/kg	80	70	--	--	--	--	--	--	--	Yes	
87-86-5	Pentachlorophenol	mg/kg	0.016	73	1.4%	0.12	MW-12	1.5–2	8/1/2016	1.4%	7.5	Yes	
Other Chlorinated/Halogenated Pesticides													
34256-82-1	Acetochlor	mg/kg	1,600	70	--	--	--	--	--	--	--	No	Not retained; not detected.
15972-60-8	Alachlor	mg/kg	18	70	--	--	--	--	--	--	--	No	Not retained; not detected.
1912-24-9	Atrazine	mg/kg	4.3	70	47%	0.24	FS-05	0.5–1	8/3/2016	--	--	Yes	
2425-06-1	Captafol	mg/kg	6.7	70	--	--	--	--	--	--	--	No	Not retained; not detected.
133-06-2	Captan	mg/kg	430	70	--	--	--	--	--	--	--	No	Not retained; not detected.
5103-71-9	Chlordane-alpha	mg/kg	2.1	70	19%	9.9	FS-06	0.5–1	8/3/2016	4.3%	4.7	No	Not retained, chrlordane-alpha is an isomer of chlordane, which is a retained COPC.
510-15-6	Chlorbenzilate	mg/kg	9.1	70	--	--	--	--	--	--	--	No	Not retained; not detected.
1897-45-6	Chlorthalonil	mg/kg	320	70	--	--	--	--	--	--	--	No	Not retained; not detected.
21725-46-2	Cyanazine (Bladex)	mg/kg	1.2	70	2.9%	0.29	FS-05	0.5–1	8/3/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
68085-85-8	Cyhalothrin/karate	mg/kg	400	70	--	--	--	--	--	--	--	No	Not retained; not detected.
52315-07-8	Cypermethrin	mg/kg	800	70	--	--	--	--	--	--	--	No	Not retained; not detected.
1861-32-1	DCPA (Dacthal)	mg/kg	800	70	--	--	--	--	--	--	--	No	Not retained; not detected.
66332-96-5	Flutolanil	mg/kg	4,800	70	--	--	--	--	--	--	--	No	Not retained; not detected.
133-07-3	Folpet	mg/kg	290	70	--	--	--	--	--	--	--	No	Not retained; not detected.
77-47-4	Hexachlorocylcopentadiene	mg/kg	190	3	--	--	--	--	--	--	--	No	Not retained; not detected.
36734-19-7	Iprodione	mg/kg	3,200	70	--	--	--	--	--	--	--	No	Not retained; not detected.
51218-45-2	Metoachlor	mg/kg	12,000	70	--	--	--	--	--	--	--	No	Not retained; not detected.
21087-64-9	Metribuzin	mg/kg	2,000	70	31%	0.18	FS-02	0.5–1	8/2/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
27314-13-2	Norflurazon	mg/kg	3,200	70	--	--	--	--	--	--	--	No	Not retained; not detected.
19666-30-9	Oxadiazon	mg/kg	400	70	--	--	--	--	--	--	--	No	Not retained; not detected.
23135-22-0	Oxamyl	mg/kg	2,000	70	--	--	--	--	--	--	--	No	Not retained; not detected.

Table 1a
Frequency of Exceedance of Screening Levels for Soil—Detections

CAS Number	Analyte	Units	Screening Level	Information About Detected Results						Information About Detected Exceedances		Retain as COPC?	Rationale
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Depth of Maximum Detect (ft bgs)	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor		
Other Chlorinated/Halogenated Pesticides (Continued)													
52645-53-1	Permethrin	mg/kg	4,000	70	--	--	--	--	--	--	--	No	Not retained; not detected.
23950-58-5	Pronamide	mg/kg	6,000	70	--	--	--	--	--	--	--	No	Not retained; not detected.
1918-16-7	Propachlor	mg/kg	1,000	70	--	--	--	--	--	--	--	No	Not retained; not detected.
709-98-8	Propanil	mg/kg	400	70	--	--	--	--	--	--	--	No	Not retained; not detected.
60207-90-1	Propiconazole	mg/kg	1,000	70	--	--	--	--	--	--	--	No	Not retained; not detected.
122-34-9	Simazine	mg/kg	8	70	30%	4.1	MW-11	1.5–2	8/2/2016	--	--	Yes	
5902-51-2	Terbacil	mg/kg	1,000	70	--	--	--	--	--	--	--	No	Not retained; not detected.
1582-09-8	Trifluralin	mg/kg	130	70	5.7%	0.49	MW-11	0–0.5	8/2/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
Organophosphate Pesticides (Organophosphorus Compounds)													
1071-83-6	Glyphosate	mg/kg	8,000	3	100%	20	FS-05	0.5–1	8/3/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
2921-88-2	Chlorpyrifos	mg/kg	80	70	1.4%	0.041	FS-16	5–6	8/4/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
5598-13-0	Chlorpyrifos-methyl	mg/kg	800	70	--	--	--	--	--	--	--	No	Not retained; not detected.
333-41-5	Diazinon	mg/kg	56	70	--	--	--	--	--	--	--	No	Not retained; not detected.
62-73-7	Dichlorvos	mg/kg	3.4	70	--	--	--	--	--	--	--	No	Not retained; not detected.
141-66-2	Dicrotophos	mg/kg	8	70	--	--	--	--	--	--	--	No	Not retained; not detected.
60-51-5	Dimethoate	mg/kg	16	70	--	--	--	--	--	--	--	No	Not retained; not detected.
298-04-4	Disulfoton	mg/kg	3.2	70	--	--	--	--	--	--	--	No	Not retained; not detected.
2104-64-5	EPN	mg/kg	0.8	70	--	--	--	--	--	--	--	No	Not retained; not detected.
563-12-2	Ethion (Ronnel)	mg/kg	40	70	--	--	--	--	--	--	--	No	Not retained; not detected.
944-22-9	Fonofos (Merphos)	mg/kg	160	70	--	--	--	--	--	--	--	No	Not retained; not detected.
121-75-5	Malathion	mg/kg	1,600	70	--	--	--	--	--	--	--	No	Not retained; not detected.
56-38-2	Parathion	mg/kg	480	70	--	--	--	--	--	--	--	No	Not retained; not detected.
298-00-0	Parathion-methyl	mg/kg	20	70	--	--	--	--	--	--	--	No	Not retained; not detected.
298-02-2	Phorate	mg/kg	16	70	--	--	--	--	--	--	--	No	Not retained; not detected.
13071-79-9	Terbufos	mg/kg	2	70	--	--	--	--	--	--	--	No	Not retained; not detected.
Triazine Herbicides (Organonitrogen Pesticides)													
834-12-8	Ametryn	mg/kg	720	70	7.1%	0.046	FS-11	3–4	8/4/2016	--	--	No	Not retained; not detected.
51235-04-2	Hexazinone	mg/kg	2,600	70	33%	0.57	FS-02	0.5–1	8/2/2016	--	--	No	Not retained; not detected.
1610-18-0	Prometon	mg/kg	1,200	70	39%	0.38	FS-06	0.5–1	8/3/2016	--	--	No	Not retained; not detected.
7287-19-6	Prometryn	mg/kg	3,200	70	2.9%	0.014	FS-09	0.5–1	8/3/2016	--	--	No	Not retained; not detected.
139-40-2	Propazine	mg/kg	1,600	70	--	--	--	--	--	--	--	No	Not retained; not detected.

Table 1a
Frequency of Exceedance of Screening Levels for Soil—Detections

CAS Number	Analyte	Units	Screening Level	Information About Detected Results						Information About Detected Exceedances		Retain as COPC?	Rationale
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Depth of Maximum Detect (ft bgs)	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor		
Phenylurea Herbicides													
330-54-1	Diuron	mg/kg	160	70	63%	1.8	Culvert FS-16	0–0.25 5–6	8/5/2016 8/4/2016	--	--	No	Not retained; not detected.
330-55-2	Linuron	mg/kg	160	70	4.3%	0.036	MW-13	1–2	8/1/2016	--	--	No	Not retained; not detected.
Carbamate Pesticides													
116-06-3	Aldicarb	mg/kg	80	70	--	--	--	--	--	--	--	No	Not retained; not detected.
1646-88-4	Aldicarb sulfone	mg/kg	80	70	--	--	--	--	--	--	--	No	Not retained; not detected.
63-25-2	Carbaryl	mg/kg	8,000	70	37%	0.24	FS-12	3–4	8/4/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
1563-66-2	Carbofuran	mg/kg	400	70	20%	0.07	MW-10	0–0.5	8/2/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
16752-77-5	Methomyl	mg/kg	2,000	70	--	--	--	--	--	--	--	No	Not retained; not detected.
28249-77-6	Thiobencarb	mg/kg	800	70	--	--	--	--	--	--	--	No	Not retained; not detected.
Organophosphorus and Organosulfur Pesticides													
8065-48-3	Demeton	mg/kg	3.2	70	--	--	--	--	--	--	--	No	Not retained; not detected.
22224-92-6	Fenamiphos	mg/kg	20	70	--	--	--	--	--	--	--	No	Not retained; not detected.
150-50-5	Merphos	mg/kg	2.4	70	--	--	--	--	--	--	--	No	Not retained; not detected.
950-37-8	Methidathion	mg/kg	80	70	--	--	--	--	--	--	--	No	Not retained; not detected.
732-11-6	Phosmet	mg/kg	1,600	70	--	--	--	--	--	--	--	No	Not retained; not detected.
29232-93-7	Pirimiphos-methyl	mg/kg	800	70	--	--	--	--	--	--	--	No	Not retained; not detected.
2312-35-8	Propargite	mg/kg	1,600	70	--	--	--	--	--	--	--	No	Not retained; not detected.
961-11-5	Tetrachlorvinphos	mg/kg	42	70	--	--	--	--	--	--	--	No	Not retained; not detected.
Organonitrogen Pesticides													
33089-61-1	Amitraz	mg/kg	200	70	--	--	--	--	--	--	--	No	Not retained; not detected.
122-39-4	Diphenylamine	mg/kg	2,000	70	2.9%	0.0092	Culvert	0–0.25	8/5/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
2164-17-2	Fluometuron	mg/kg	1,000	70	--	--	--	--	--	--	--	No	Not retained; not detected.
57837-19-1	Metalaxyl	mg/kg	4,800	70	--	--	--	--	--	--	--	No	Not retained; not detected.
40487-42-1	Pendimethalin	mg/kg	3,200	70	1.4%	0.67	Culvert	0–0.25	8/5/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
34014-18-1	Tebuthiuron	mg/kg	5,600	70	8.6%	0.63	MW-13	0–0.5	8/1/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.

Table 1a
Frequency of Exceedance of Screening Levels for Soil—Detections

CAS Number	Analyte	Units	Screening Level	Information About Detected Results						Information About Detected Exceedances		Retain as COPC?	Rationale
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Depth of Maximum Detect (ft bgs)	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor		
Total Petroleum Hydrocarbons (TPH)													
--	Gasoline-Range TPH	mg/kg	30	76	29%	1200	FS-13	6–7	8/4/2016	7%	40	No	Lab case narrative: A pattern of peaks indicating the presence of gasoline was not seen in the samples.
--	Diesel-Range TPH	mg/kg	2,000	77	29%	4,700	FS-13	6–7	8/4/2016	4%	2.35	Yes	
--	Oil-Range TPH	mg/kg	2,000	77	18%	17,000	MW-12	1.5–2	8/1/2016	3%	8.5	Yes	
Additional Pesticides													
1066-51-9	AMPA	mg/kg	--	3	100%	2.6	FS-05	0.5–1	8/3/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
1031-07-8	Endosulfan sulfate	mg/kg	--	70	2.9%	1.1	FS-09	3–4	8/3/2016	--	--	No	Not retained; maximum detected value is less than most stringent screening level.
26225-79-6	Ethofumesate	mg/kg	--	70	--	--	--	--	--	--	--	No	Not retained; not detected.
15299-99-7	Napropamide	mg/kg	--	70	--	--	--	--	--	--	--	No	Not retained; not detected.

Notes:

1 Volatile organic compounds (VOCs) shown are those included in the Smith-Kem Site Remedial Investigation Work Plan (Floyd|Snider 2016). Although not listed in this table, the full suite of VOCs was analyzed in select samples. All results were non-detect.
Only soil from the Phase 1 Event included.
No location, sample, depth, or date restrictions.
Analytes were restricted to the Work Plan COC list.
Nitrate + Nitrite reported as micrograms per gram (µg/g) by the laboratory, this is equivalent to (mg/kg); unit was updated to match criteria.
For Gasoline-Range TPH, only one result was between the 30 and 100 criteria (sample MW-12-1.5-2), which did have detected benzene, so the lower criteria is applicable. The remaining four samples exceeded both sets of criteria, but did not have benzene analyzed.
All pesticide/herbicide data are from preliminary lab reports and have not been validated at this time.
Exceedance factor is rounded to two significant figures.

Yes Indicates that constituent was retained as a COPC.

Notes:

-- Not applicable
2,4-DB 4-(2,4-dichlorophenoxy)butyric acid
2,4-D 2,4-dichloropehnoxyacetic
2,4,5-T 2,4,5-Trichlorophenoxyacetic acid
BHC Benzene hexachloride
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
MCPA 2-methyl-4-chlorophenoxyacetic acid
mg/kg Milligrams per kilogram
TEQ Toxic equivalent

Table 1b
Frequency of Exceedance of Screening Levels for Soil—Non-Detections

CAS Number	Analyte	Units	Screening Level	Information about Non-Detect Results			Number of Non-Detected Results that Exceed Screening Level	Percent of Detected Results that Exceed Screening Level	Exceedance Factor
				Number of Non-Detected Results	Percent of Non-Detected Results	Maximum Non-Detect Value[1]			
Volatile Organic Compounds									
71-43-2	Benzene	mg/kg	0.002	76	97%	0.03	65	83%	15
100-41-4	Toluene	mg/kg	0.34	66	85%	0.05	--	--	--
108-88-3	Ethylbenzene	mg/kg	0.27	69	88%	0.05	--	--	--
1330-20-7	Xylenes	mg/kg	0.83	67	86%	1	1	1.3%	1.2
1634-04-4	Methyl tert-Butyl Ether (MTBE)	mg/kg	0.0072	11	100%	0.05	6	55%	6.9
64-17-5	Ethanol	mg/kg	--	3	100%	1	--	--	--
91-20-3	Naphthalene	mg/kg	0.24	12	80%	0.05	--	--	--
107-06-2	1,2-Dichloroethane (EDC)	mg/kg	0.0016	11	100%	0.05	6	55%	31
110-54-3	n-Hexane	mg/kg	1.8	11	100%	0.25	--	--	--
106-93-4	1,2-Dibromoethane (EDB)	mg/kg	0.5	11	100%	0.05	--	--	--
Metals									
7440-38-2	Arsenic	mg/kg	20	--	--	2	--	--	--
7440-43-9	Cadmium	mg/kg	36	64	86%	2	--	--	--
7440-50-8	Copper	mg/kg	36	--	--	10	--	--	--
7439-92-1	Lead	mg/kg	150	--	--	5.19	--	--	--
7439-97-6	Mercury	mg/kg	0.1	61	82%	0.1	--	--	--
7440-66-6	Zinc	mg/kg	299	--	--	10	--	--	--
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAH)									
56-55-3	Benz(a)anthracene	mg/kg	0.043	7	78%	0.1	1	11%	2.3
50-32-8	Benzo(a)pyrene	mg/kg	0.12	7	78%	0.1	--	--	--
205-99-2	Benzo(b)fluoranthene	mg/kg	0.12	5	56%	0.02	--	--	--
207-08-9	Benzo(k)fluoranthene	mg/kg	1.2	9	100%	0.1	--	--	--
218-01-9	Chrysene	mg/kg	4.8	3	33%	0.02	--	--	--
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.012	9	100%	0.1	2	22%	8.3
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	0.12	8	89%	0.1	--	--	--
--	cPAH TEQ	mg/kg	0.12	3	33%	0.015	--	--	--
Miscellaneous Substances									
14797-55-8	Nitrate/Nitrite	mg/kg	8,000	--	--	0.5	--	--	--
Organochlorine Pesticides									
319-84-6	HCH-alpha (a-BHC)	mg/kg	0.00055	70	100%	1.3	70	100%	2,400
319-85-7	HCH-beta (b-BHC)	mg/kg	0.0023	70	100%	1.3	70	100%	570
319-86-8	HCH-delta (d-BHC)	mg/kg	--	70	100%	1.3	--	--	--
58-89-9	G-BHC (Lindane)	mg/kg	0.0062	70	100%	1.3	70	100%	210
309-00-2	Aldrin	mg/kg	0.0025	65	93%	1.3	65	93%	520
76-44-8	Heptachlor	mg/kg	0.038	69	99%	1.3	69	99%	34

Table 1b
Frequency of Exceedance of Screening Levels for Soil—Non-Detections

CAS Number	Analyte	Units	Screening Level	Information about Non-Detect Results			Number of Non-Detected Results that Exceed Screening Level	Percent of Detected Results that Exceed Screening Level	Exceedance Factor
				Number of Non-Detected Results	Percent of Non-Detected Results	Maximum Non-Detect Value[1]			
Organochlorine Pesticides (Continued)									
1024-57-3	Heptachlor Epoxide	mg/kg	0.08	70	100%	1.3	57	81%	16
57-74-9	Chlordane	mg/kg	2.1	55	79%	6.6	2	2.9%	3.1
60-57-1	Dieldrin	mg/kg	0.0028	49	70%	1.3	49	70%	460
72-20-8	Endrin	mg/kg	0.2	70	100%	1.3	27	39%	6.5
959-98-8	Endosulfan I	mg/kg	4.3	70	100%	1.3	--	--	--
33213-65-9	Endosulfan II	mg/kg	4.3	66	94%	1.3	--	--	--
72-54-8	4,4'-DDD / Sum DDD	mg/kg	0.34	63	90%	1.3	3	4.3%	3.8
72-55-9	4,4'-DDE / Sum DDE	mg/kg	0.45	59	84%	1.3	2	2.9%	2.9
50-29-3	4,4'-DDT / Sum DDT	mg/kg	0.75	54	77%	1.3	2	2.9%	1.7
118-74-1	Hexachlorobenzene	mg/kg	0.63	73	100%	2.5	4	5.5%	4
72-43-5	Methoxychlor	mg/kg	62	70	100%	1.3	--	--	--
8001-35-2	Toxaphene	mg/kg	0.91	63	90%	68	63	90%	75
Chlorinated Herbicides									
94-75-7	2,4-D	mg/kg	800	23	33%	0.01	--	--	--
94-82-6	2,4-DB	mg/kg	640	49	70%	0.01	--	--	--
93-72-1	2,4,5-TP (Silvex)	mg/kg	640	37	53%	0.01	--	--	--
93-76-5	2,4,5-T	mg/kg	800	59	84%	0.01	--	--	--
1918-00-9	Dicamba	mg/kg	2,400	15	21%	0.01	--	--	--
88-85-7	Dinoseb	mg/kg	80	58	83%	0.01	--	--	--
94-74-6	MCPA	mg/kg	40	28	40%	0.01	--	--	--
93-65-2	MCPP (Mecoprop)	mg/kg	80	70	100%	0.01	--	--	--
87-86-5	Pentachlorophenol	mg/kg	0.016	72	99%	25	72	99%	1,600
Other Chlorinated/Halogenated Pesticides									
34256-82-1	Acetochlor	mg/kg	1,600	70	100%	3.4	--	--	--
15972-60-8	Alachlor	mg/kg	18	70	100%	3.4	--	--	--
1912-24-9	Atrazine	mg/kg	4.3	37	53%	0.0067	--	--	--
2425-06-1	Captafol	mg/kg	6.7	70	100%	1.3	--	--	--
133-06-2	Captan	mg/kg	430	70	100%	3.4	--	--	--
5103-71-9	Chlordane-alpha	mg/kg	2.1	57	81%	1.3	--	--	--
510-15-6	Chlorbenzilate	mg/kg	9.1	70	100%	3.4	--	--	--
1897-45-6	Chlorthalonil	mg/kg	320	70	100%	1.3	--	--	--
21725-46-2	Cyanazine (Bladex)	mg/kg	1.2	68	97%	0.013	--	--	--
68085-85-8	Cyhalothrin/karate	mg/kg	400	70	100%	6.6	--	--	--
52315-07-8	Cypermethrin	mg/kg	800	70	100%	6.6	--	--	--

Table 1b
Frequency of Exceedance of Screening Levels for Soil—Non-Detections

CAS Number	Analyte	Units	Screening Level	Information about Non-Detect Results			Number of Non-Detected Results that Exceed Screening Level	Percent of Detected Results that Exceed Screening Level	Exceedance Factor
				Number of Non-Detected Results	Percent of Non-Detected Results	Maximum Non-Detect Value[1]			
Other Chlorinated/Halogenated Pesticides (Continued)									
1861-32-1	DCPA (Dacthal)	mg/kg	800	70	100%	1.3	--	--	--
66332-96-5	Flutolanil	mg/kg	4,800	70	100%	13	--	--	--
133-07-3	Folpet	mg/kg	290	70	100%	3.4	--	--	--
77-47-4	Hexachlorocylcopentadiene	mg/kg	190	3	100%	7.5	--	--	--
36734-19-7	Iprodione	mg/kg	3,200	70	100%	1.3	--	--	--
51218-45-2	Metoachlor	mg/kg	12,000	70	100%	3.4	--	--	--
21087-64-9	Metribuzin	mg/kg	2,000	48	69%	0.013	--	--	--
27314-13-2	Norflurazon	mg/kg	3,200	70	100%	1.3	--	--	--
19666-30-9	Oxadiazon	mg/kg	400	70	100%	1.3	--	--	--
23135-22-0	Oxamyl	mg/kg	2,000	70	100%	0.0067	--	--	--
52645-53-1	Permethrin	mg/kg	4,000	70	100%	6.6	--	--	--
23950-58-5	Pronamide	mg/kg	6,000	70	100%	1.3	--	--	--
1918-16-7	Propachlor	mg/kg	1,000	70	100%	3.4	--	--	--
709-98-8	Propanil	mg/kg	400	70	100%	1.3	--	--	--
60207-90-1	Propiconazole	mg/kg	1,000	70	100%	3.4	--	--	--
122-34-9	Simazine	mg/kg	8	49	70%	0.02	--	--	--
5902-51-2	Terbacil	mg/kg	1,000	70	100%	1.3	--	--	--
1582-09-8	Trifluralin	mg/kg	130	66	94%	1.3	--	--	--
Organophosphate Pesticides (Organophosphorus Compounds)									
1071-83-6	Glyphosate	mg/kg	8,000	--	--	1.7	--	--	--
2921-88-2	Chlorpyrifos	mg/kg	80	69	99%	0.34	--	--	--
5598-13-0	Chlorpyrifos-methyl	mg/kg	800	70	100%	0.34	--	--	--
333-41-5	Diazinon	mg/kg	56	70	100%	0.34	--	--	--
62-73-7	Dichlorvos	mg/kg	3.4	70	100%	0.34	--	--	--
141-66-2	Dicrotophos	mg/kg	8	70	100%	0.34	--	--	--
60-51-5	Dimethoate	mg/kg	16	70	100%	0.34	--	--	--
298-04-4	Disulfoton	mg/kg	3.2	70	100%	0.34	--	--	--
2104-64-5	EPN	mg/kg	0.8	70	100%	0.34	--	--	--
563-12-2	Ethion (Ronnel)	mg/kg	40	70	100%	0.34	--	--	--
944-22-9	Fonofos (Merphos)	mg/kg	160	70	100%	0.34	--	--	--
121-75-5	Malathion	mg/kg	1,600	70	100%	0.34	--	--	--
56-38-2	Parathion	mg/kg	480	70	100%	0.34	--	--	--
298-00-0	Parathion-methyl	mg/kg	20	70	100%	0.34	--	--	--
298-02-2	Phorate	mg/kg	16	70	100%	0.34	--	--	--
13071-79-9	Terbufos	mg/kg	2	70	100%	0.34	--	--	--

Table 1b
Frequency of Exceedance of Screening Levels for Soil—Non-Detections

CAS Number	Analyte	Units	Screening Level	Information about Non-Detect Results			Number of Non-Detected Results that Exceed Screening Level	Percent of Detected Results that Exceed Screening Level	Exceedance Factor
				Number of Non-Detected Results	Percent of Non-Detected Results	Maximum Non-Detect Value[1]			
Triazine Herbicides (Organonitrogen Pesticides)									
834-12-8	Ametryn	mg/kg	720	65	93%	0.0067	--	--	--
51235-04-2	Hexazinone	mg/kg	2,600	47	67%	0.0067	--	--	--
1610-18-0	Prometon	mg/kg	1,200	43	61%	0.0067	--	--	--
7287-19-6	Prometryn	mg/kg	3,200	68	97%	0.0067	--	--	--
139-40-2	Propazine	mg/kg	1,600	70	100%	0.027	--	--	--
Phenylurea Herbicides									
330-54-1	Diuron	mg/kg	160	26	37%	0.0067	--	--	--
330-55-2	Linuron	mg/kg	160	67	96%	0.0067	--	--	--
Carbamate Pesticides									
116-06-3	Aldicarb	mg/kg	80	70	100%	0.0067	--	--	--
1646-88-4	Aldicarb sulfone	mg/kg	80	70	100%	0.0067	--	--	--
63-25-2	Carbaryl	mg/kg	8,000	44	63%	0.0067	--	--	--
1563-66-2	Carbofuran	mg/kg	400	56	80%	0.0067	--	--	--
16752-77-5	Methomyl	mg/kg	2,000	70	100%	0.0067	--	--	--
28249-77-6	Thiobencarb	mg/kg	800	70	100%	0.0067	--	--	--
Organophosphorus and Organosulfur Pesticides									
8065-48-3	Demeton	mg/kg	3.2	70	100%	0.34	--	--	--
22224-92-6	Fenamiphos	mg/kg	20	70	100%	0.34	--	--	--
150-50-5	Merphos	mg/kg	2.4	70	100%	0.34	--	--	--
950-37-8	Methidathion	mg/kg	80	70	100%	0.34	--	--	--
732-11-6	Phosmet	mg/kg	1,600	70	100%	0.34	--	--	--
29232-93-7	Pirimiphos-methyl	mg/kg	800	70	100%	0.34	--	--	--
2312-35-8	Propargite	mg/kg	1,600	70	100%	0.013	--	--	--
961-11-5	Tetrachlorvinphos	mg/kg	42	70	100%	0.34	--	--	--
Organonitrogen Pesticides									
33089-61-1	Amitraz	mg/kg	200	70	100%	0.013	--	--	--
122-39-4	Diphenylamine	mg/kg	2,000	68	97%	0.0067	--	--	--
2164-17-2	Fluometuron	mg/kg	1,000	70	100%	0.0067	--	--	--
57837-19-1	Metalaxyl	mg/kg	4,800	70	100%	0.0067	--	--	--
40487-42-1	Pendimethalin	mg/kg	3,200	69	99%	1.3	--	--	--
34014-18-1	Tebuthiuron	mg/kg	5,600	64	91%	0.013	--	--	--
Total Petroleum Hydrocarbons (TPH)									
--	Gasoline-Range TPH	mg/kg	30	54	71%	2	--	--	--
--	Diesel-Range TPH	mg/kg	2,000	55	71%	50	--	--	--
--	Oil-Range TPH	mg/kg	2,000	63	82%	250	--	--	--

Table 1b
Frequency of Exceedance of Screening Levels for Soil—Non-Detections

CAS Number	Analyte	Units	Screening Level	Information about Non-Detect Results			Number of Non-Detected Results that Exceed Screening Level	Percent of Detected Results that Exceed Screening Level	Exceedance Factor
				Number of Non-Detected Results	Percent of Non-Detected Results	Maximum Non-Detect Value[1]			
Additional Pesticides									
1066-51-9	AMPA	mg/kg	--	--	--	1.7	--	--	--
1031-07-8	Endosulfan sulfate	mg/kg	--	68	97%	1.3	--	--	--
26225-79-6	Ethofumesate	mg/kg	--	70	100%	0.0067	--	--	--
15299-99-7	Napropamide	mg/kg	--	70	100%	0.0067	--	--	--

Notes:

1 When all values were detected the reporting limit is given for minimum/maximum non-detects.
Only soil from the Phase 1 Event included.
No location, sample, depth, or date restrictions.
Analytes were restricted to the Work Plan constituents of concern list.
Nitrate + Nitrite reported as micrograms per gram (µg/g) by the laboratory, this is equivalent to mg/kg; unit was updated to match criteria.
For Gasoline-Range TPH, only one result was between the 30 & 100 criteria (sample MW-12-1.5-2), which did have detected benzene, so the lower criteria is applicable. The remaining four samples exceeded both sets of criteria, but did not have benzene analyzed.
All pesticide/herbicide data is from preliminary lab reports and has not been validated at this time.
Exceedance factor is rounded to two significant figures.

Abbreviations:

-- Not applicable
2,4-DB 4-(2,4-dichlorophenoxy)butyric acid
2,4-D 2,4-dichloropehnoxyacetic
2,4,5-T 2,4,5-Trichlorophenoxyacetic acid
BHC Benzene hexachloride
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
MCPA 2-methyl-4-chlorophenoxyacetic acid
mg/kg Milligrams per kilogram
TEQ Toxic equivalent

Table 2

Frequency of Exceedance of Screening Levels for Groundwater[1]

CAS Number	Analyte	Units	Screening Level	Information About Detected Results					Information About Detected Exceedances		Information About Non-Detects			Information About Non-Detect Exceedances		
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor	Number of Non-Detect Results	Percent of Non-Detect Results	Maximum Non-Detect Value	Non-Detect Results that Exceed Screening Level	Non-Detect Results that Exceed Screening Level	Exceedance Factor
Volatile Organic Compounds																
71-43-2	Benzene	µg/L	0.8	29	--	--	--	--	--	--	29	100%	0.35	--	--	--
100-41-4	Toluene	µg/L	70	29	--	--	--	--	--	--	29	100%	1	--	--	--
108-88-3	Ethylbenzene	µg/L	640	29	--	--	--	--	--	--	29	100%	1	--	--	--
1330-20-7	Xylenes	µg/L	1,600	29	--	--	--	--	--	--	1	100%	1	--	--	--
1634-04-4	Methyl tert-Butyl Ether (MTBE)	µg/L	24	1	--	--	--	--	--	--	29	100%	2	--	--	--
91-20-3	Naphthalene	µg/L	160	1	--	--	--	--	--	--	1	100%	1	--	--	--
107-06-2	1,2-Dichloroethane (EDC)	µg/L	0.48	1	--	--	--	--	--	--	1	100%	0.35	--	--	--
110-54-3	n-Hexane	µg/L	480	1	--	--	--	--	--	--	1	100%	1	--	--	--
106-93-4	1,2-Dibromoethane (EDB)	µg/L	0.022	2	--	--	--	--	--	--	2	100%	1	1	50%	45
Dissolved Metals																
7440-38-2	Arsenic	µg/L	5	12	42%	11	MW-4	8/10/2016	8.3%	2.2	7	58%	1	--	--	--
7440-43-9	Cadmium	µg/L	5	12	25%	4.17	MW-4	11/9/2016	--	--	9	75%	1	--	--	--
7440-50-8	Copper	µg/L	640	12	92%	103	MW-4	8/10/2016	--	--	1	8.3%	5	--	--	--
7439-92-1	Lead	µg/L	15	12	--	--	--	--	--	--	12	100%	1	--	--	--
7439-97-6	Mercury	µg/L	2	12	--	--	--	--	--	--	12	100%	1	--	--	--
7440-66-6	Zinc	µg/L	4,800	12	58%	1600	MW-6	8/10/2016	--	--	5	42%	5	--	--	--
Total Metals																
7440-38-2	Arsenic	µg/L	5	30	47%	13.5	MW-4	8/10/2016	3.3%	2.7	16	53%	1	--	--	--
7440-43-9	Cadmium	µg/L	5	30	13%	3.91	MW-4	11/9/2016	--	--	26	87%	1	--	--	--
7440-50-8	Copper	µg/L	640	30	93%	129	MW-4	8/10/2016	--	--	2	6.7%	5	--	--	--
7439-92-1	Lead	µg/L	15	30	3.3%	4.72	MW-4	8/10/2016	--	--	29	97%	1	--	--	--
7439-97-6	Mercury	µg/L	2	30	--	--	--	--	--	--	30	100%	1	--	--	--
7440-66-6	Zinc	µg/L	4,800	30	60%	1630	MW-6	8/10/2016	--	--	12	40%	5	--	--	--
Miscellaneous Substances																
7664-41-7	Ammonia-Nitrogen	µg/L	--	30	93%	74,800	MW-4	11/9/2016	--	--	2	6.7%	5	--	--	--
--	Nitrate/Nitrite	µg/L	10,000/1,000	30	97%	210,000	MW-6	11/10/2016	57%/93%	210	1	3.3%	10	--	--	--
14797-55-8	Nitrate	µg/L	10,000	8	88%	2,600,000	MW-4	4/15/2015	63%	260	1	13%	150	--	--	--
14797-65-0	Nitrite	µg/L	1,000	15	60%	6,840	MW-1	8/10/2016	6.7%	6.8	6	40%	5	--	--	--
Organochlorine Pesticides																
319-84-6	HCH-alpha (a-BHC)	µg/L	0.014	30	--	--	--	--	--	--	30	100%	1.2	30	100%	86
319-85-7	HCH-beta (b-BHC)	µg/L	0.049	30	--	--	--	--	--	--	30	100%	1.2	30	100%	24
319-86-8	HCH-delta (d-BHC)	µg/L	--	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
58-89-9	G-BHC (Lindane)	µg/L	0.08	30	--	--	--	--	--	--	30	100%	1.2	16	53%	15
309-00-2	Aldrin	µg/L	0.0026	30	--	--	--	--	--	--	30	100%	1.2	30	100%	460

Table 2

Frequency of Exceedance of Screening Levels for Groundwater[1]

CAS Number	Analyte	Units	Screening Level	Information About Detected Results					Information About Detected Exceedances		Information About Non-Detects			Information About Non-Detect Exceedances		
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor	Number of Non-Detect Results	Percent of Non-Detect Results	Maximum Non-Detect Value	Non-Detect Results that Exceed Screening Level	Non-Detect Results that Exceed Screening Level	Exceedance Factor
Organochlorine Pesticides (Continued)																
76-44-8	Heptachlor	µg/L	0.019	30	--	--	--	--	--	--	30	100%	1.2	30	100%	63
1024-57-3	Heptachlor Epoxide	µg/L	0.0048	30	--	--	--	--	--	--	30	100%	1.2	30	100%	250
57-74-9	Chlordane	µg/L	0.25	30	17%	22	MW-4	8/10/2016	17%	88	25	83%	6	25	83%	24
60-57-1	Dieldrin	µg/L	0.0055	30	17%	10	MW-4	8/10/2016	17%	1,800	25	83%	1.2	25	83%	220
72-20-8	Endrin	µg/L	2	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
959-98-8	Endosulfan I	µg/L	96	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
33213-65-9	Endosulfan II	µg/L	96	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
72-54-8	4,4'-DDD / Sum DDD	µg/L	0.36	30	--	--	--	--	--	--	30	100%	1.2	2	6.7%	3.3
72-55-9	4,4'-DDE / Sum DDE	µg/L	0.26	30	3.3%	0.76	MW-4	8/10/2016	3.3%	2.9	29	97%	1.2	1	3.3%	4.6
50-29-3	4,4'-DDT / Sum DDT	µg/L	0.26	30	3.3%	1.5	MW-4	8/10/2016	3.3%	5.8	29	97%	1.2	1	3.3%	4.6
118-74-1	Hexachlorobenzene	µg/L	0.055	30	--	--	--	--	--	--	30	100%	1.2	30	100%	22
72-43-5	Methoxychlor	µg/L	40	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
8001-35-2	Toxaphene	µg/L	0.08	30	6.7%	260	MW-4	8/10/2016	6.7%	3,300	28	93%	60	28	93%	750
Chlorinated Herbicides																
94-75-7	2,4-D	µg/L	70	30	27%	210	MW-4	11/9/2016	3.3%	3	22	73%	0.08	--	--	--
94-82-6	2,4-DB	µg/L	130	30	3.3%	0.096	MW-4	11/9/2016	--	--	29	97%	0.08	--	--	--
93-72-1	2,4,5-TP (Silvex)	µg/L	50	30	6.7%	0.74	MW-4	8/10/2016	--	--	28	93%	0.08	--	--	--
93-76-5	2,4,5-T	µg/L	160	30	--	--	--	--	--	--	30	100%	0.08	--	--	--
1918-00-9	Dicamba	µg/L	480	30	57%	110	MW-4	11/9/2016	--	--	13	43%	0.08	--	--	--
88-85-7	Dinoseb	µg/L	7	30	--	--	--	--	--	--	30	100%	0.08	--	--	--
94-74-6	MCPA	µg/L	8	30	23%	88	MW-4	11/9/2016	3.3%	11	23	77%	0.08	--	--	--
93-65-2	MCPP (Mecoprop)	µg/L	16	30	--	--	--	--	--	--	30	100%	0.08	--	--	--
87-86-5	Pentachlorophenol	µg/L	0.22	30	--	--	--	--	--	--	30	100%	0.16	--	--	--
Other Chlorinated/Halogenated Pesticides																
34256-82-1	Acetochlor	µg/L	320	30	--	--	--	--	--	--	30	100%	3	--	--	--
15972-60-8	Alachlor	µg/L	1.6	30	--	--	--	--	--	--	30	100%	3	2	6.7%	1.9
1912-24-9	Atrazine	µg/L	0.38	30	73%	33	MW-4	11/9/2016	47%	87	8	27%	0.06	--	--	--
2425-06-1	Captafol	µg/L	0.58	30	--	--	--	--	--	--	30	100%	1.2	2	6.7%	2.1
133-06-2	Captan	µg/L	38	30	--	--	--	--	--	--	30	100%	3	--	--	--
5103-71-9	Chlordane-alpha	µg/L	0.25	30	13%	3.3	MW-4	8/10/2016	6.7%	13	26	87%	1.2	1	3.3%	4.8
510-15-6	Chlorbenzilate	µg/L	0.8	30	--	--	--	--	--	--	30	100%	3	2	6.7%	3.75
1897-45-6	Chlorthalonil	µg/L	28	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
21725-46-2	Cyanazine (Bladex)	µg/L	0.1	30	--	--	--	--	--	--	30	100%	0.12	30	100%	1.2
68085-85-8	Cyhalothrin/karate	µg/L	80	30	--	--	--	--	--	--	30	100%	3	--	--	--

Table 2

Frequency of Exceedance of Screening Levels for Groundwater[1]

CAS Number	Analyte	Units	Screening Level	Information About Detected Results					Information About Detected Exceedances		Information About Non-Detects			Information About Non-Detect Exceedances		
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor	Number of Non-Detect Results	Percent of Non-Detect Results	Maximum Non-Detect Value	Non-Detect Results that Exceed Screening Level	Non-Detect Results that Exceed Screening Level	Exceedance Factor
Other Chlorinated/Halogenated Pesticides (Continued)																
52315-07-8	Cypermethrin	µg/L	160	30	--	--	--	--	--	--	30	100%	3	--	--	--
1861-32-1	DCPA (Dacthal)	µg/L	160	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
66332-96-5	Flutolanil	µg/L	960	30	--	--	--	--	--	--	30	100%	12	--	--	--
133-07-3	Folpet	µg/L	25	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
36734-19-7	Iprodione	µg/L	640	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
51218-45-2	Metoachlor	µg/L	2400	30	--	--	--	--	--	--	30	100%	3	--	--	--
21087-64-9	Metribuzin	µg/L	400	30	60%	20	MW-4	8/10/2016	--	--	12	40%	0.12	--	--	--
27314-13-2	Norflurazon	µg/L	640	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
19666-30-9	Oxadiazon	µg/L	80	30	6.7%	0.34	MW-6	8/10/2016	--	--	28	93%	1.2	--	--	--
23135-22-0	Oxamyl	µg/L	200	30	--	--	--	--	--	--	30	100%	0.06	--	--	--
52645-53-1	Permethrin	µg/L	800	30	--	--	--	--	--	--	30	100%	3	--	--	--
23950-58-5	Pronamide	µg/L	1200	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
1918-16-7	Propachlor	µg/L	210	30	--	--	--	--	--	--	30	100%	3	--	--	--
709-98-8	Propanil	µg/L	80	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
60207-90-1	Propiconazole	µg/L	210	30	--	--	--	--	--	--	30	100%	3	--	--	--
122-34-9	Simazine	µg/L	0.73	30	43%	1.3	MW-11	8/10/2016	6.7%	1.8	17	57%	0.06	--	--	--
5902-51-2	Terbacil	µg/L	210	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
1582-09-8	Trifluralin	µg/L	11	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
Organophosphate Pesticides (Organophosphorus Compounds)																
2921-88-2	Chlorpyrifos	µg/L	16	30	--	--	--	--	--	--	30	100%	1.2	--	--	--
5598-13-0	Chlorpyrifos-methyl	µg/L	160	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
333-41-5	Diazinon	µg/L	11	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
62-73-7	Dichlorvos	µg/L	0.15	30	--	--	--	--	--	--	30	100%	0.3	30	100%	2
141-66-2	Dicrotophos	µg/L	1.6	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
60-51-5	Dimethoate	µg/L	3.2	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
298-04-4	Disulfoton	µg/L	0.64	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
2104-64-5	EPN	µg/L	0.16	30	--	--	--	--	--	--	30	100%	0.3	30	100%	1.9
563-12-2	Ethion (Ronnel)	µg/L	8	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
944-22-9	Fonofos (Merphos)	µg/L	32	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
121-75-5	Malathion	µg/L	320	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
56-38-2	Parathion	µg/L	96	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
298-00-0	Parathion-methyl	µg/L	4	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
298-02-2	Phorate	µg/L	3.2	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
13071-79-9	Terbufos	µg/L	0.4	30	--	--	--	--	--	--	30	100%	0.3	--	--	--

Table 2

Frequency of Exceedance of Screening Levels for Groundwater[1]

CAS Number	Analyte	Units	Screening Level	Information About Detected Results					Information About Detected Exceedances		Information About Non-Detects			Information About Non-Detect Exceedances		
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor	Number of Non-Detect Results	Percent of Non-Detect Results	Maximum Non-Detect Value	Non-Detect Results that Exceed Screening Level	Non-Detect Results that Exceed Screening Level	Exceedance Factor
Triazine Herbicides (Organonitrogen Pesticides)																
834-12-8	Ametryn	µg/L	140	30	--	--	--	--	--	--	30	100%	0.06	--	--	--
51235-04-2	Hexazinone	µg/L	530	30	40%	3.8	MW-4	11/9/2016	--	--	18	60%	0.06	--	--	--
1610-18-0	Prometon	µg/L	240	30	17%	0.22	MW-1	8/10/2016	--	--	25	83%	0.06	--	--	--
7287-19-6	Prometryn	µg/L	64	30	--	--	--	--	--	--	30	100%	0.06	--	--	--
139-40-2	Propazine	µg/L	320	30	6.7%	0.3	MW-4	11/9/2016	--	--	28	93%	0.06	--	--	--
Phenylurea Herbicides																
330-54-1	Diuron	µg/L	32	30	50%	12	MW-4	8/10/2016	--	--	15	50%	0.06	--	--	--
330-55-2	Linuron	µg/L	32	30	--	--	--	--	--	--	30	100%	0.06	--	--	--
Carbamate Pesticides																
116-06-3	Aldicarb	µg/L	16	30	--	--	--	--	--	--	30	100%	0.06	--	--	--
1646-88-4	Aldicarb sulfone	µg/L	16	30	--	--	--	--	--	--	30	100%	0.06	--	--	--
63-25-2	Carbaryl	µg/L	1,600	30	10%	1.2	MW-4	11/9/2016	--	--	27	90%	0.06	--	--	--
1563-66-2	Carbofuran	µg/L	40	30	3.3%	0.15	MW-1	11/10/2016	--	--	29	97%	0.06	--	--	--
16752-77-5	Methomyl	µg/L	400	30	--	--	--	--	--	--	30	100%	0.06	--	--	--
28249-77-6	Thiobencarb	µg/L	160	30	--	--	--	--	--	--	30	100%	0.06	--	--	--
Organophosphorus and Organosulfur Pesticides																
8065-48-3	Demeton	µg/L	0.64	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
22224-92-6	Fenamiphos	µg/L	4	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
150-50-5	Merphos	µg/L	0.48	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
950-37-8	Methidathion	µg/L	16	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
732-11-6	Phosmet	µg/L	320	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
29232-93-7	Pirimiphos-methyl	µg/L	160	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
2312-35-8	Propargite	µg/L	160	30	--	--	--	--	--	--	30	100%	0.12	--	--	--
961-11-5	Tetrachlorvinphos	µg/L	3.6	30	--	--	--	--	--	--	30	100%	0.3	--	--	--
Organonitrogen Pesticides																
33089-61-1	Amitraz	µg/L	40	30	--	--	--	--	--	--	30	100%	0.12	--	--	--
122-39-4	Diphenylamine	µg/L	400	30	--	--	--	--	--	--	30	100%	0.06	--	--	--
2164-17-2	Fluometuron	µg/L	210	30	--	--	--	--	--	--	30	100%	0.06	--	--	--
57837-19-1	Metalaxyl	µg/L	960	30	10%	1.2	MW-4	11/9/2016	--	--	27	90%	0.06	--	--	--
40487-42-1	Pendimethalin	µg/L	640	30	3.3%	0.46	MW-1	8/10/2016	--	--	29	97%	1.2	--	--	--
34014-18-1	Tebuthiuron	µg/L	1,100	30	3.3%	0.12	MW-10	11/9/2016	--	--	29	97%	0.12	--	--	--

Table 2

Frequency of Exceedance of Screening Levels for Groundwater[1]

CAS Number	Analyte	Units	Screening Level	Information About Detected Results					Information About Detected Exceedances		Information About Non-Detects			Information About Non-Detect Exceedances		
				Number of Results	Percent of Detected Results	Maximum Detected Value	Location of Maximum Detect	Date of Maximum Detect	Detected Results that Exceed Screening Level	Exceedance Factor	Number of Non-Detect Results	Percent of Non-Detect Results	Maximum Non-Detect Value	Non-Detect Results that Exceed Screening Level	Non-Detect Results that Exceed Screening Level	Exceedance Factor
Total Petroleum Hydrocarbons (TPH)																
--	Gasoline-Range TPH	µg/L	800/1,000	29	--	--	--	--	--	--	29	100%	100	--	--	--
--	Diesel-Range TPH	µg/L	500	31	35%	750	MW-4	8/10/2016	10%	1.5	20	65%	70	--	--	--
--	Oil-Range TPH	µg/L	500	31	10%	1100	MW-4	8/10/2016	6.5%	2.2	28	90%	350	--	--	--

Note:

1 Details of Data Set Construction:

- Ammonia-Nitrogen & Nitrate + Nitrite were reported in milligrams per liter (mg/L) by the laboratory; the result values and units were updated to µg/L to match criteria.
- Exceedance Factor is rounded to two significant figures.

Abbreviations:

-- Not applicable
2,4-DB 4-(2,4-dichlorophenoxy)butyric acid
2,4-D 2,4-dichloropehnoxyacetic
2,4,5-T 2,4,5-Trichlorophenoxyacetic acid
BHC Benzene hexachloride
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
µg/L Micrograms per liter
MCPA 2-methyl-4-chlorophenoxyacetic acid

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix C
Floyd|Snider Memoranda

Attachment C.3
Initial Vapor Intrusion Assessment

FLOYD | SNIDER
strategy ▪ science ▪ engineering

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

Memorandum

To: John Mefford and Mary Monahan, Washington State Department of Ecology

From: Gabe Cisneros, LG, and Allison Geiselbrecht, PhD, Floyd|Snider

Date: September 17, 2018

Project No: FP-SmithKem

Re: **Initial Vapor Intrusion Assessment**

This memorandum provides an initial assessment on whether vapor intrusion (VI) is a potential risk for occupants in the current office building at the Smith-Kem Ellensburg Site (the Site), located at 200 South Railroad Avenue in Ellensburg, Washington (Figure 1). This memorandum summarizes diesel- and heavy oil-range total petroleum hydrocarbon (TPH-D and TPH-O, respectively) concentrations adjacent to the office building, reviews the soil-gas to indoor air pathway for occupants in the current office building, and uses the Washington State Department of Ecology (Ecology) guidance documents to determine if there is a VI risk to occupants that needs to be addressed immediately.

SOIL DATA SUMMARY

Soil analytical data from locations FS-13 and FS-23, adjacent to the office building, indicate that TPH-D was detected at concentrations ranging between 2,100 milligrams per kilogram (mg/kg) and 4,700 mg/kg. All other locations adjacent to the office building resulted in TPH-D concentrations that were either less than the laboratory reporting limits or less than the screening criteria of 2,000 mg/kg (Figure 1). The shallowest TPH-D detection in soil boring FS-23 indicated a concentration of 4,300 mg/kg at a depth between 0.5 and 1.0 feet below ground surface (bgs). Soil boring FS-23 is approximately 26 feet south of the occupied office portion of the office/storage building, beneath the concrete slab of the storage warehouse. Soil samples collected from MW-1 by Conestoga-Rovers & Associates (CRA) in 2014 were analyzed for TPH-D, which was not detected at 2 or 5 feet bgs, and TPH-O, which was not detected at a concentration greater than 13 mg/kg at 2 and 5 feet bgs.

Additionally, locations MW-12 and FS-31, located to the southwest of the containment and bulk aboveground storage tanks (ASTs), contained TPH-D and TPH-O concentrations exceeding the screening criteria. TPH-D was detected in MW-12 at a concentration of 3,500 mg/kg at 1.5 feet bgs, and oil-range TPH (TPH-O) was detected at concentrations of 17,000 and 11,000 mg/kg at depths between 1.5 to 2 and 5 to 6 feet bgs, respectively. No soil samples collected from soil boring FS-31 contained TPH-D or TPH-O at concentrations greater than the screening criteria

except for TPH-O detected at a concentration of 6,300 mg/kg between 8 and 9 feet bgs. Locations MW-12 and FS-31 are adjacent to the bulk fertilizer storage building and FS-31 is approximately 70 feet north of the Habitat for Humanity building. Soil analytical data from locations MW-14, TP-5, and SB-3, which are downgradient from FS-31 and MW-12 and upgradient from the Habitat for Humanity building, indicate that TPH concentrations were less than the laboratory reporting limits or the screening criteria for TPH-D and TPH-O (Figure 1).

BUILDING USES AND DESCRIPTIONS

The office portion of the office/storage building is approximately 35 feet by 40 feet and is suspended approximately 3 feet above a crawlspace (Figure 1). A storage building is adjacent to the south end of the office building, and from an aerial figure, the two appear to be connected. However, the storage building has a slab-on-grade, concrete floor and a wall with a doorway and stairs that separates the two buildings. Occupancy in the storage building is limited to storage activities (Attachment 1, Photograph 4).

The building adjacent to locations MW-12 and FS-31 is a bulk fertilizer storage warehouse, and occupancy is limited to storage of fertilizer and short-term worker occupancy (Attachment 1). The Habitat for Humanity building is approximately 95 feet by 50 feet and appears to have an elevated floor as well.

ECOLOGY'S INITIAL ASSESSMENT OF POTENTIAL VAPOR INTRUSION

U.S. Environmental Protection Agency's (USEPA's) 2015 technical guidance for addressing petroleum VI states that the lateral inclusion zone and horizontal separation distance must be defined to determine if current buildings are threatened by potential VI (USEPA 2015). Ecology has updated their VI guidance to include lateral inclusion zones and vertical separation distances in their memorandum, *Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion* (2016 VI Guidance; Ecology 2016). The 2016 VI Guidance defines the lateral inclusion zone as the area surrounding a contaminant source through which vapor phase contamination might travel and intrude into buildings. If the degree and extent of contamination is well-defined and the dissolved-phase plume is stable or receding, then a horizontal separation distance of 30 feet is appropriate for establishing a lateral inclusion zone. In addition, the following site-specific conditions are noted:

- The degree and extent of TPH contamination in soil and groundwater is well-defined.
- There are no occupied, slab-on-grade buildings within the lateral inclusion zone at the site. The only slab-on-grade buildings above and adjacent to TPH detections are warehouse storage areas. The current office building is within 30 feet of shallow residual TPH-D; however, the office has a crawl space (i.e., not slab-on-grade).
- Soil samples from MW-1 indicate that the extent of TPH-D and TPH-O contamination may not extend northward in soils under the office space.

- Soil analytical data indicate that the Habitat for Humanity building is more than 30 feet away from residual TPH concentrations. Therefore, the initial VI assessment process is complete for occupants of the off-property Habitat for Humanity building.

If occupied buildings are present within the lateral inclusion zone, then the vertical separation distance must be evaluated. The vertical screening distances are defined by 6 feet and 15 feet between contamination and the lowest point of the building floor. For soil, total TPH concentrations must be less than 250 mg/kg for weathered gasoline and diesel in biologically active soil to meet the vertical separation distance of 6 feet.

Formerly, the Model Toxics Control Act (MTCA) specified that for sites with diesel contamination, the vapor pathway must be evaluated when total TPH concentrations in soil are greater than 10,000 mg/kg. This concentration-based criteria was developed in the late 1990s as part of the 2001 MTCA rule revisions. Since that time, additional research and USEPA's 2015 guidance suggest that it may be more appropriate to assess the VI pathway even if the soil TPH concentrations for diesel-range organics are less than 10,000 mg/kg.

The suggested total TPH screening level of 250 mg/kg in Ecology's 2016 VI Guidance, is conservative considering that total TPH includes gasoline-range hydrocarbons in addition to TPH-D and TPH-O concentrations. Gasoline-range TPH is not a constituent of concern at the Site; therefore, a more appropriate screening level for TPH-D and TPH-O is 2,000 mg/kg. This concentration is consistent with the MTCA Method A cleanup level and petroleum-related Ecology guidance documents, such as *Model Remedies for Sites with Petroleum Contaminated Soils*, which states that "most sites that meet the Method A levels will have adequately addressed the vapor intrusion pathway" (Ecology 2017). At this time, Ecology has not approved the proposed screening level.

As defined in Ecology's 2016 VI Guidance, soil boring FS-23 is the only location within 30 feet of an occupied office building with TPH-D concentrations within the vertical separation distance of 6 feet at a concentration that exceeds the screening level of 2,000 mg/kg.

CHROMATOGRAMS

The chromatogram for soil sample FS-23-0.5-1, collected at 0.5 to 1 feet bgs, indicates a highly weathered middle distillate fuel that exhibits a slightly different shape than one would expect from a diesel number 2 fuel, but that is still a middle distillate. The diesel standards that were analyzed with the corresponding soil samples are included in Attachment 2. The laboratory director at Friedman & Bruya, Inc., compared the diesel standard with soil sample FS-23-0.5-1.0 and indicated that the more volatile components, less than equivalent carbon (EC) C12 compounds, are absent or non-quantifiable. Generally, C8 through C12 compounds are present in fresh diesel samples, as shown on the diesel standard chromatogram. Chromatograms from soil borings FS-13 and FS-23, at all depths, show similar results of a highly weathered middle distillate that is absent of quantifiable C8 through C12 hydrocarbons.

Generally, petroleum vapors consist primarily of hydrocarbons that do not exceed C12, and in middle distillates, aliphatic compounds in the C9 to C12 range make up the higher percentage of petroleum vapors. This is consistent with Ecology's 2018 updated VI guidance, which states that for diesel releases, the EC 8–12 aliphatic fraction can make up a significant portion of the petroleum vapors (Ecology 2018).

DISCUSSION

The extent of TPH-D in soil is limited and well-defined. Soil boring FS-23 is the only location within 30 feet of a current occupied, office building with TPH-D concentrations within the vertical separation distance of 6 feet at a concentration exceeding the screening level of 2,000 mg/kg. Soil sample FS-23-0.5-1 is slightly more than twice the screening level. It should be noted that the vertical separation distance is conservative and is based on any size building using residential occupants. The current office building contains a crawl space that is opened to outside ambient air, which helps to reduce possible VI risk.

Ecology and USEPA VI screening levels are conservative and based on residential buildings with the occupants experiencing residential exposure durations and exposure frequencies. The office building is used for commercial occupancy, not residential, and the occupants have lower exposure duration and frequencies than occupants living in a residential dwelling.

Additionally, Ellensburg experiences very cold winters (average low temperatures of 20 degrees Fahrenheit) and hot summers (high temperatures up to 100 degrees Fahrenheit). The office building contains an air-conditioning and heating unit, which provides fresh air and a higher indoor air exchange rate (ER) than the default ER value of 0.25 used in conservative VI models (Attachment 1). Therefore, the higher indoor air ER helps to reduce any potential VI risk.

Furthermore, the chromatograms show a highly weathered middle distillate fuel that is largely absent of the EC 8–12 aliphatic fraction that can make up a significant portion of petroleum vapors that can affect indoor air. Therefore, VI risk is minimal.

CONCLUSION AND NEXT STEPS

Based on these lines of evidence, there is not a VI risk to occupants in the current office building that needs to be evaluated immediately. Therefore, VI will be assessed after submitting the Remedial Investigation report and prior to preparing a Feasibility Study. Results from future VI assessments will be used to determine if proposed remedial options are required to address the VI pathway.

REFERENCES

U.S. Environmental Protection Agency (USEPA). 2015. *Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites.* Publication No. EPA 510-R-15-001. Office of Underground Storage Tanks. Washington, DC. June.

Washington State Department of Ecology (Ecology). 2016. *Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion.* Implementation Memorandum No. 14 to Interested Persons, from Jeff Johnston, Toxics Cleanup Program. Publication No. 16-09-046. 31 March.

_____. 2017. *Model Remedies for Sites with Petroleum Contaminated Soils.* Publication No. 15-09-043. Toxics Cleanup Program. December.

_____. 2018. *Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings.* Implementation Memorandum No. 18 to Interested Persons, from Jeff Johnston, Toxics Cleanup Program. Publication No. 17-09-043. 10 January.

FIGURES

Figure 1 Total Petroleum Hydrocarbon Results in Soil

ATTACHMENTS

Attachment 1 Property Photographs

Attachment 2 Chromatograms

Figure

Legend

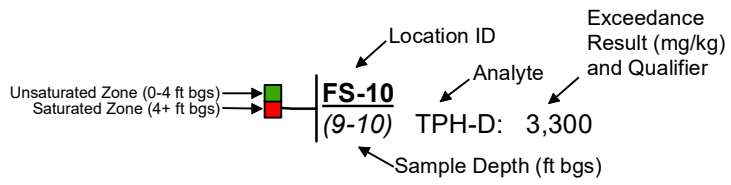
- Property Boundary
- Approximate Location of Historical Irrigation Ditch
- BNSF Railway

N

0 25 50 100

Scale in Feet

Location Labels:



Boxes are colored according to the greatest concentration detected within that depth interval.

- One or more analyte concentrations are greater than screening criteria.
- All analyte concentrations are less than screening criteria.
- Analyte concentrations were non-detect.
- Analyte concentrations were non-detect.
- Analysis not conducted for specified analytes.

Screening Criteria:

Analyte	Criteria[1] (mg/kg)
TPH-D	2,000
TPH-O	2,000

MW-9
FS-04
FS-01
FS-03
FS-17
FS-20
FS-05
FS-19
MW-4
Culvert
FS-18
MW-3
FS-06
FS-07
BNSF
FS-21
FS-22
Office (crawl space)
FS-08
Storage Building (slab on grade)
MW-10
MW-7
MW-8
26 feet
FS-16
MW-1
FS-09
FS-23
(0.5-1) TPH-D: 4,300
(4-5) TPH-D: 2,100
(6-7) TPH-D : 4,600
FS-14
FS-02
MW-5
FS-24
MW-2
MW-6
FS-25
FS-10
(9-10) TPH-D: 3,300
FS-13
(6-7) TPH-D : 4,700
FS-11
FS-27
MW-11
FS-28
Containment & Bulk ASTs
Stephen Carter
FS-15
FS-29
MW-12
(1.5-2) TPH-D: 3,500 JM
TPH-O: 17,000
(5-6) TPH-O: 11,000
Bulk Fertilizer Building
FS-12
FS-35
FS-30
SB-3
FS-31
(8-9) TPH-O: 6,300
FS-32
FS-33
MW-13
TP-5
MW-14
S. RAILROAD AVE
Habitat for Humanity
Surface-1
Western Packaging

Notes:
1. Criteria presented for TPH compounds are based on MTCA Method A soil criteria.
· Aerial imagery obtained from Google Earth, 2018.

Abbreviations:
AST = Aboveground storage tank
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
MTCA = Model Toxics Control Act
TPH-D = Diesel-range total petroleum hydrocarbons
TPH-O = Oil-range total petroleum hydrocarbons

Qualifier:
JM Concentration is estimated due to poor match to standard, acceptable for use with qualification.

FLOYD | SNIDER
strategy • science • engineering

Initial Vapor Intrusion Assessment
Smith-Kem Site
Ellensburg, Washington

Figure 1
Total Petroleum Hydrocarbon Results in Soil

I:\GIS\Projects\FP-SmithKem\MXD\Initial Vapor Intrusion Assessment\Figure 1 TPH Results in Soil.mxd
9/17/2018

Attachment 1
Property Photographs

Photograph 1. Crawl space beneath the office building, looking east.

Photograph 2. Crawl space behind office building with dumpster for scale, looking northwest.

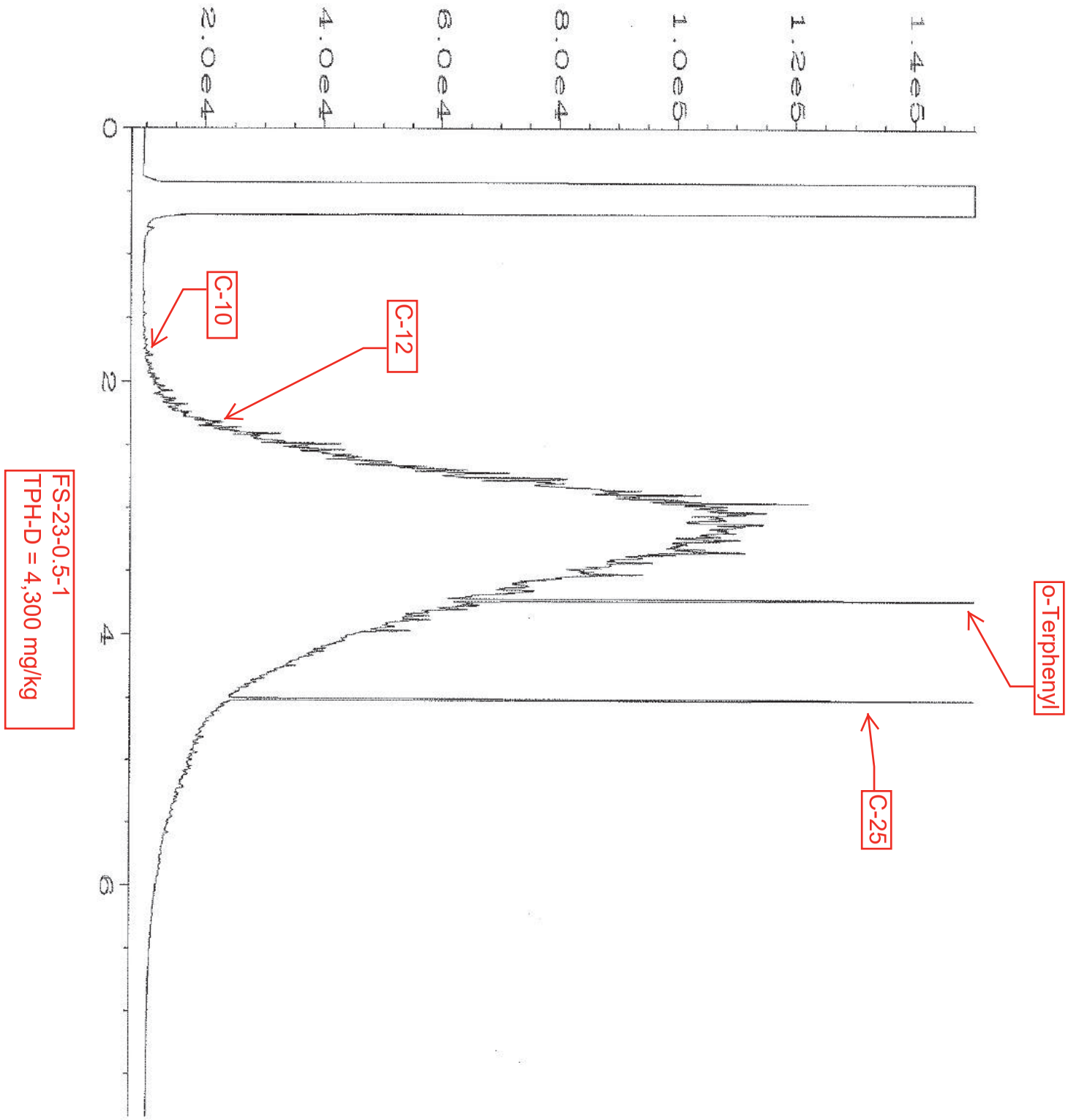
Photograph 3. Heat pump and AC unit on north side of office building, looking southeast.

Photograph 4. Warehouse and location of FS-23, looking south.

Photograph 5. Fertilizer storage warehouse location on the southern end of the property and adjacent to locations MW-12 and FS-31.

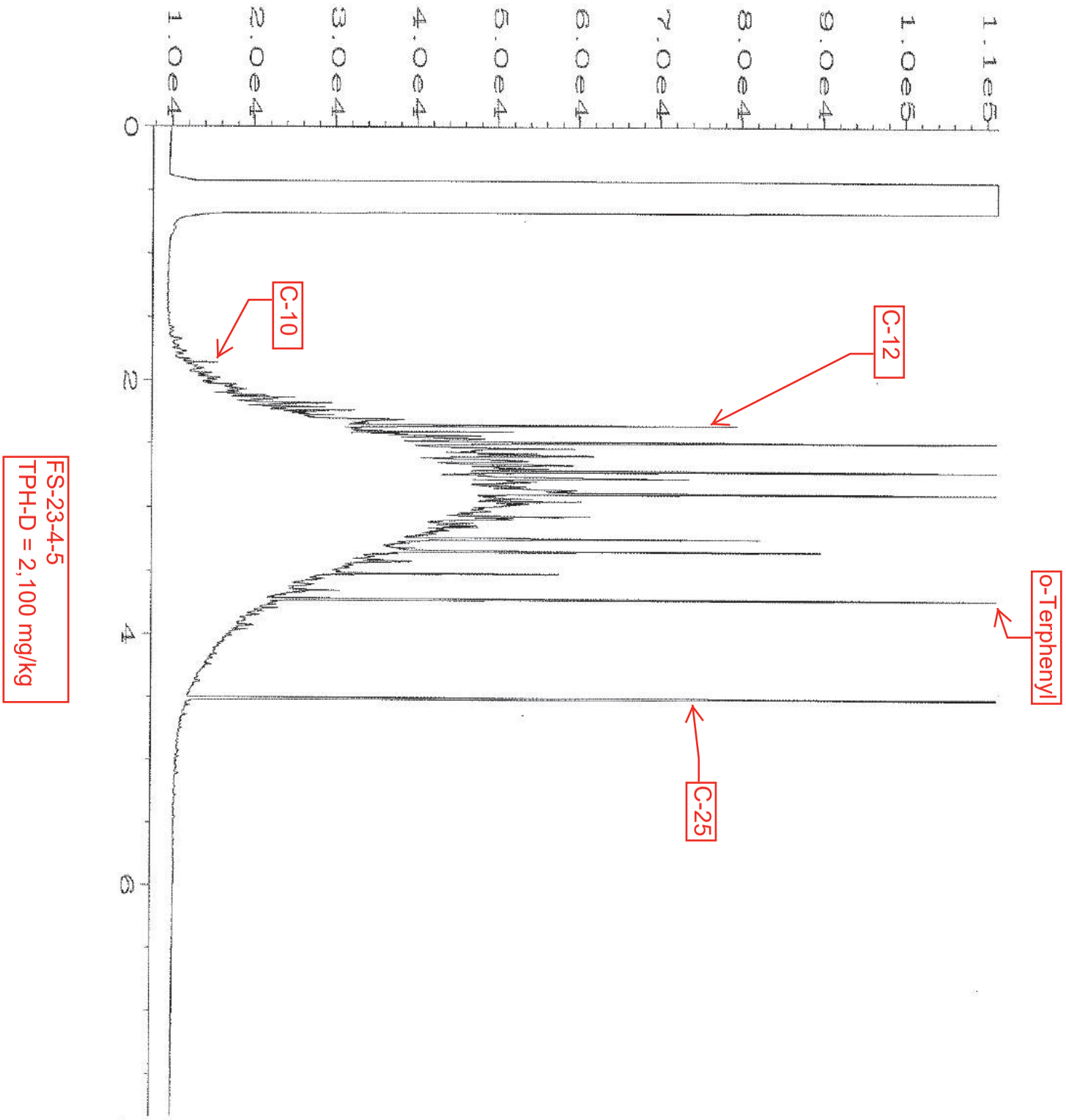
Photograph 6. Habitat for Humanity building, looking east.

Attachment 2
Chromatograms

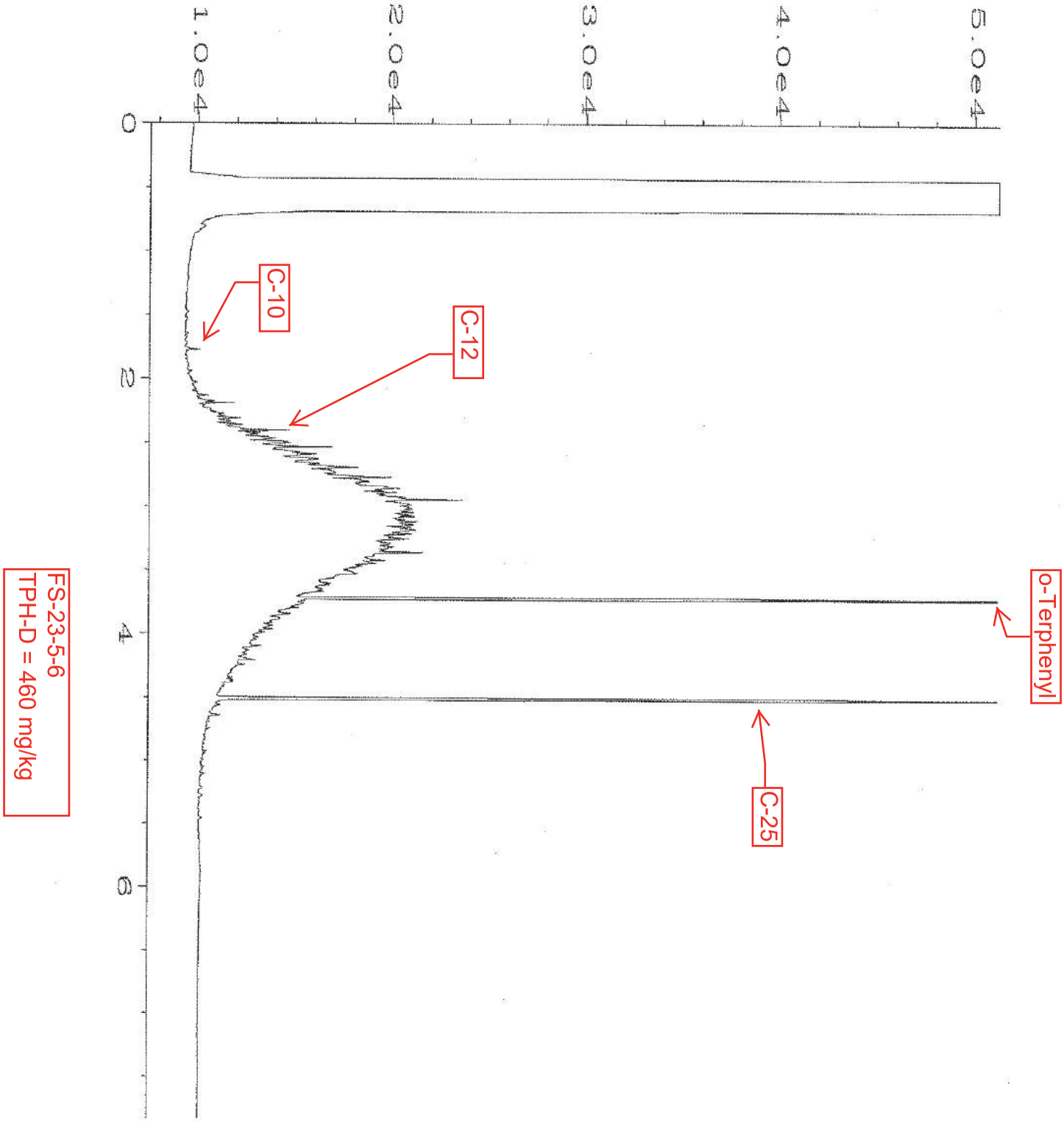


Data File Name : C:\HPCHEM\1\DATA\06-09-17\034F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 706128-11
Run Time Bar Code:
Acquired on : 09 Jun 17 05:12 PM
Report Created on: 12 Jun 17 09:34 AM

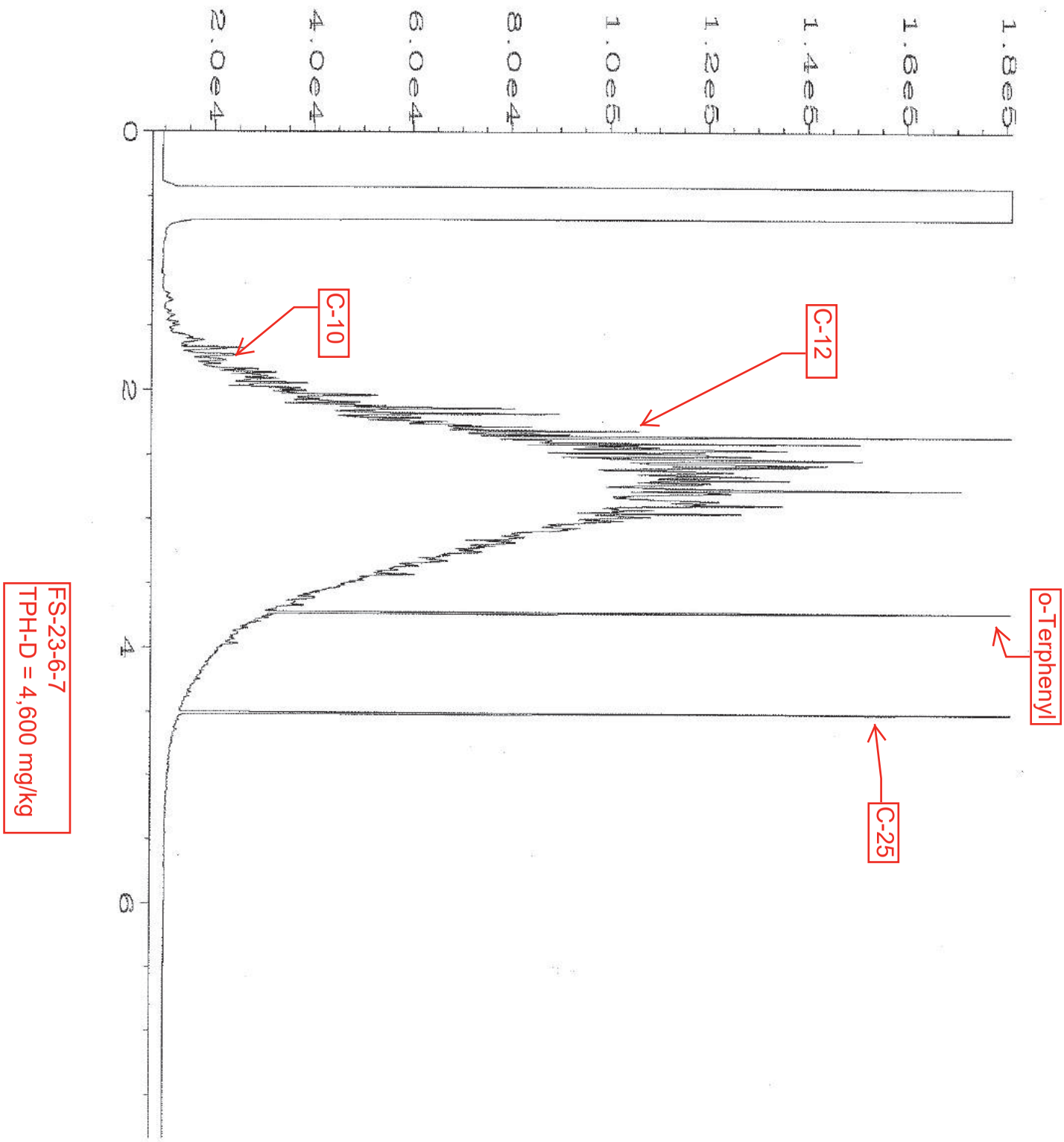
Page Number : 1
Vial Number : 34
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



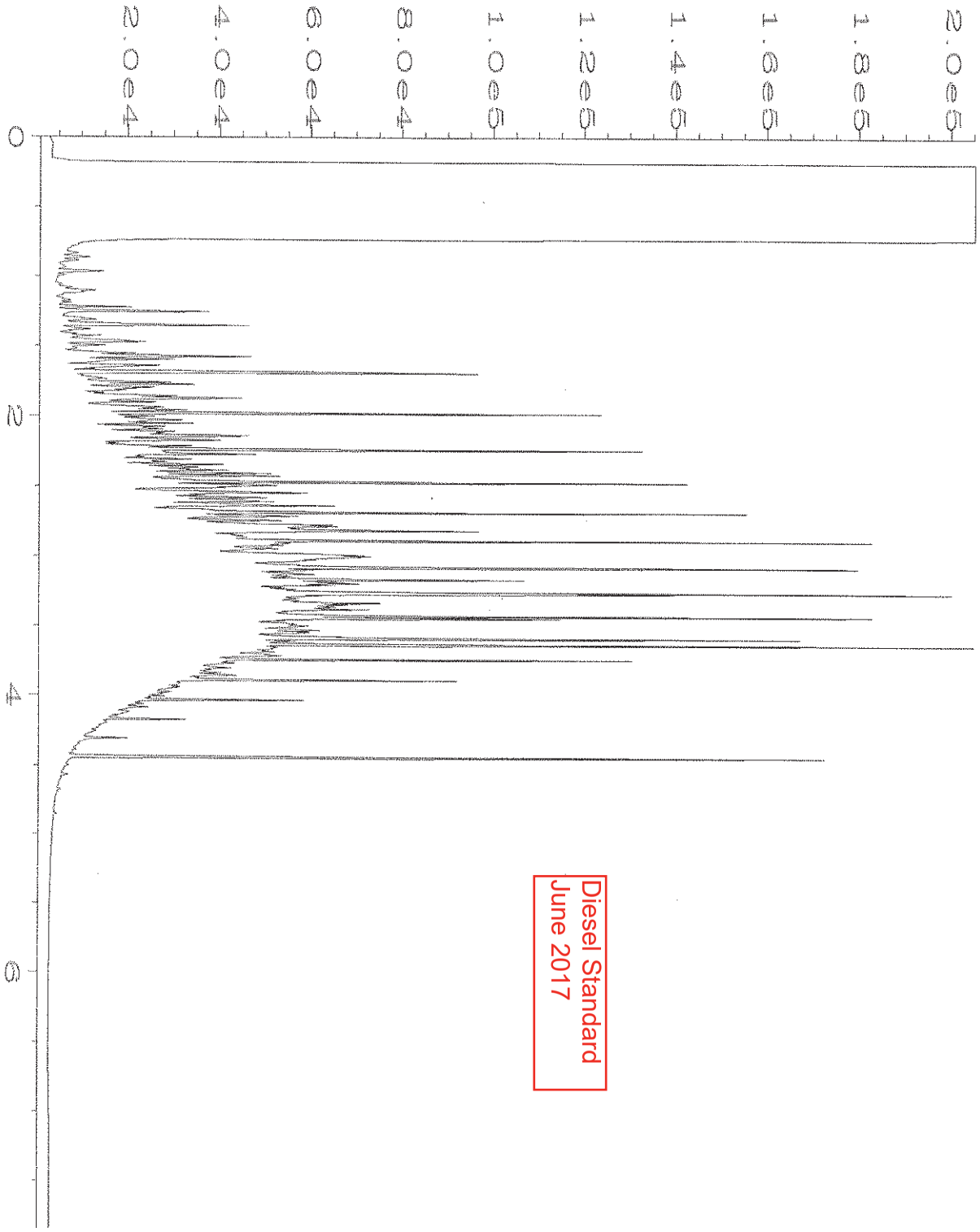
Data File Name	: C:\HPCHEM\1\DATA\06-09-17\035F0701.D		
Operator	: mwd1	Page Number	: 1
Instrument	: GC1	Vial Number	: 35
Sample Name	: 706128-12	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 09 Jun 17 05:24 PM	Instrument Method	: DX.MTH
Report Created on:	12 Jun 17 09:34 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\1\DATA\06-09-17\036F0701.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 36
Sample Name	: 706128-13	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 09 Jun 17 05:35 PM	Instrument Method	: DX.MTH
Report Created on:	12 Jun 17 09:34 AM	Analysis Method	: DX.MTH



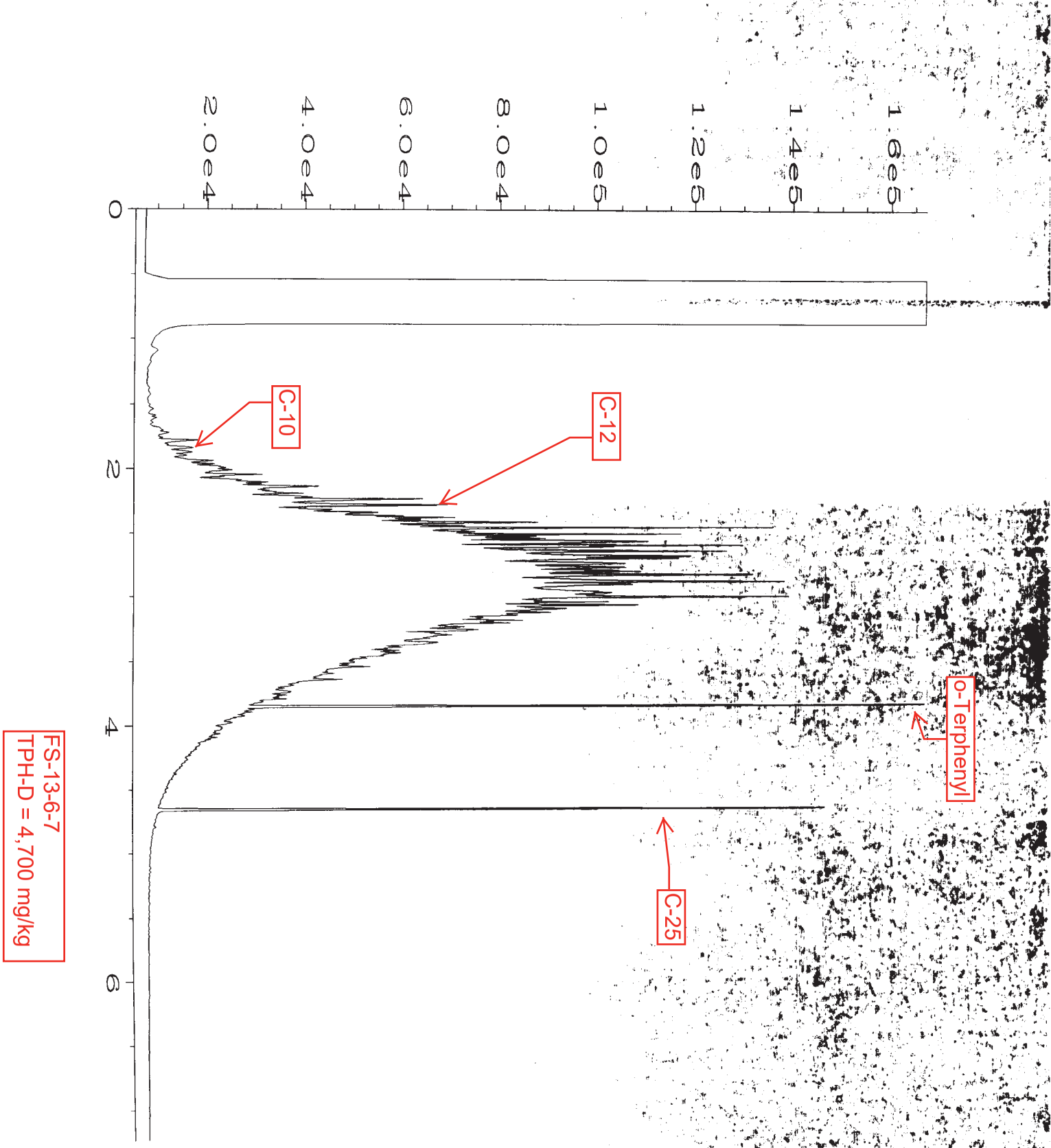
Data File Name	: C:\HPCHEM\1\DATA\06-09-17\037F0701.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 37
Sample Name	: 706128-14	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 09 Jun 17 05:47 PM	Instrument Method	: DX.MTH
Report Created on	: 12 Jun 17 09:34 AM	Analysis Method	: DX.MTH



Diesel Standard
June 2017

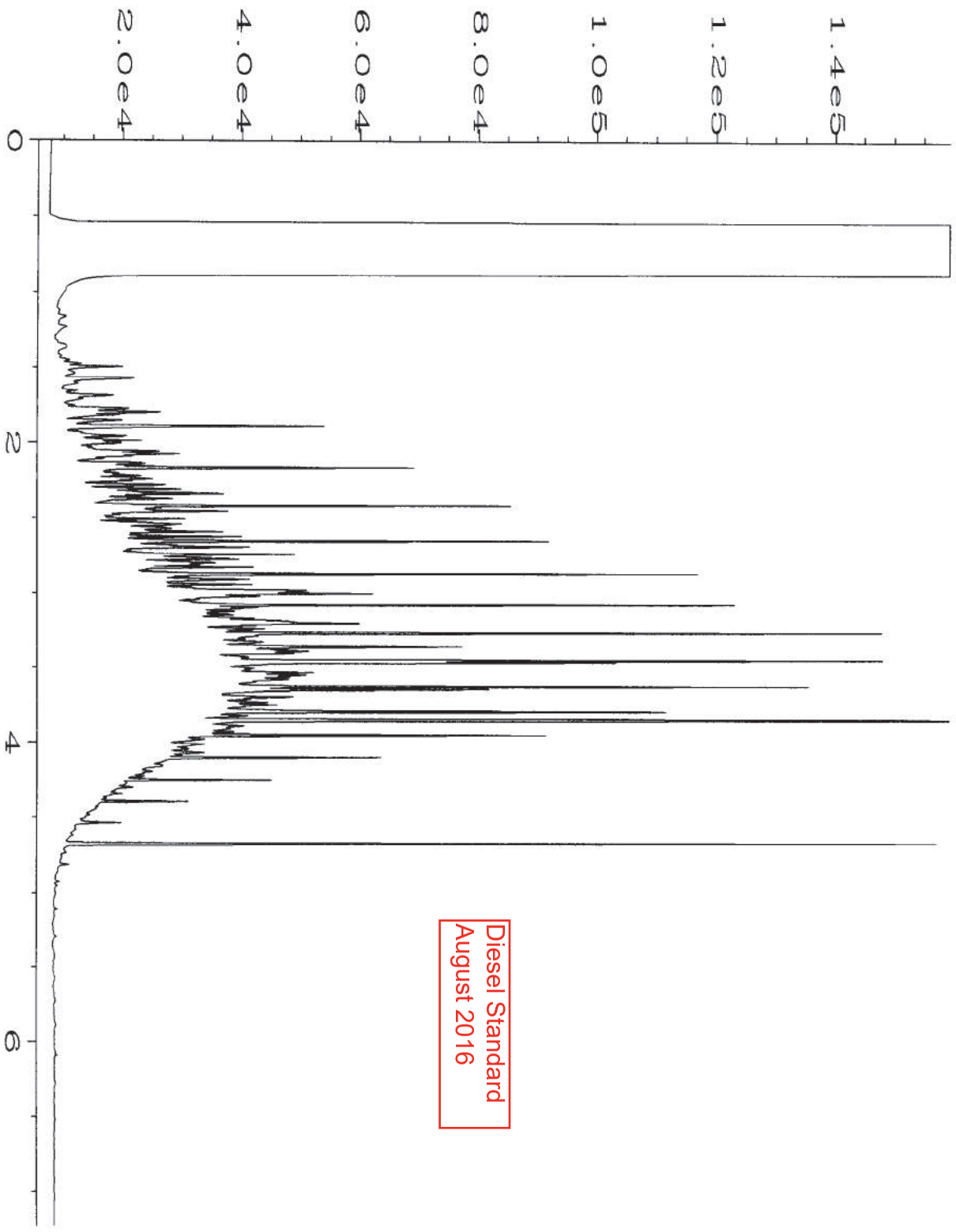
Data File Name : C:\HPCHEM\4\DATA\06-08-17\003F0201.D
Operator : mwdl
Instrument : GC#4
Sample Name : 500 Dx 49-188E
Run Time Bar Code:
Acquired on : 08 Jun 17 06:04 AM
Report Created on: 09 Jun 17 08:34 AM

Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 2
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name : C:\HPCHEM\1\DATA\08-09-16\047F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-47
Run Time Bar Code:
Acquired on : 09 Aug 16 07:30 PM
Report Created on: 10 Aug 16 09:25 AM

Page Number : 47
Vial Number : 47
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name : C:\HPCHEM\6\DATA\08-08-16\003F0201.D
Operator : mwdl
Instrument : GC1
Sample Name : 500 Dx 48-20B
Run Time Bar Code:
Acquired on : 08 Aug 16 07:32 AM
Report Created on: 09 Aug 16 11:21 AM

Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 2
Instrument Method: DX.MTH
Analysis Method : COND.MTH

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix C
Floyd|Snider Memoranda

Attachment C.4
Development of PCULs and Identification of COPCs for Evaluation in the Remedial Investigation Report

FLOYD | SNIDER
strategy ▪ science ▪ engineering

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

Memorandum

To: John Mefford, Washington State Department of Ecology

Copies: Arthur Buchan and Mary Monahan, Washington State Department of Ecology
Jeff Gaarder, GHD

From: Emily Jones, PE, Floyd|Snider

Date: October 30, 2020

Project No: PKG-SmithKem

Re: **Development of PCULs and Identification of COPCs for Evaluation in the Remedial Investigation Report**

This memorandum describes the process that took place in spring 2020 to develop preliminary cleanup levels (PCULs) and identify chemicals of potential concern (COPCs) for use in the Remedial Investigation (RI) report. This memorandum will be included as an addendum to the RI to document the process.

1.0 DEVELOPMENT OF PCULS

In spring and summer 2020, under direction from the Washington State Department of Ecology (Ecology), Floyd|Snider assisted the Ecology team with revising the risk-based criteria for the Smith-Kem site that were put forth in the 2019 RI. Modifications included the following: land use assumptions, pathways, receptors, exposure assumptions, site soil characteristics, and practical quantitation limits (PQLs). These risk-based criteria were then compared to laboratory PQLs and adjusted upward, as appropriate, to arrive at the soil and groundwater PCULs to be included in the RI. Specific decisions applicable to groundwater and soil PCUL development are presented in Sections 1.1 and 1.2, respectively.

1.1 Groundwater

Groundwater PCULs were developed for any chemical that either was detected in site groundwater or was retained for further analysis as a COPC in the Ecology-approved October 2017 year 1 groundwater summary memorandum (Floyd|Snider 2017a). Groundwater PCULs, risk-based criteria, and PQLs for each chemical requiring a groundwater PCUL are presented in Table 1.

Groundwater criteria protective of drinking water use and vapor intrusion were considered when developing PCULs. The criteria for protection of drinking water include state and federal

Certified B Corporation

maximum contaminant levels and standard Washington Model Toxics Control Act (MTCA) Method B cancer and non-cancer groundwater criteria, calculated using Equation 720-1 for noncancer health effects and Equation 720-2 for cancer health effects. Additionally, MTCA Method A groundwater criteria were considered for total petroleum hydrocarbons (TPH) compounds, because no other TPH criteria were developed. Because site groundwater is unlikely to reach surface water, surface water criteria were not considered.

The risk-based groundwater criterion selected for each chemical was developed, consistent with standard MTCA Method B practices described in Ecology publication no. 01-09-049 (Ecology 2005a), including human health-based adjustments required by WAC 173-340-720(7)(b). The risk-based groundwater criterion for arsenic was adjusted upward to the natural background concentration.

For all other chemicals, the risk-based criterion was compared to the most sensitive PQL achieved by Pacific Agricultural Laboratory (PAL PQL). If the PAL PQL was less than the risk-based criterion, the risk-based criterion became the groundwater PCUL. If the PAL PQL was greater than the risk-based criterion, the risk-based criterion was adjusted to the Analytical Laboratory Services (ALS) PQL provided to Floyd|Snider in an email dated October 2, 2019. The ALS PQLs represent typical PQLs that ALS can achieve using the specified method and preparation steps; these PQLs may not be achievable in all samples due to site-specific conditions or interferences.

Floyd|Snider conducted a groundwater monitoring event in March 2020—all on-property and off-property wells were sampled. ALS analyzed the samples collected during this event for 10 organochlorine pesticides. Following receipt of validated data for this event, groundwater PCULs were reviewed and adjusted to the greater of either the ALS PQL that was achieved in site groundwater sample analysis or the risk-based cleanup level (CUL). Specifically, the PCUL for beta-benzene hexachloride (BHC) was adjusted from the PQL to the risk-based CUL. Groundwater PCULs for other chemicals did not change following the receipt of ALS data.

The analytical laboratory report and data validation report for the March 2020 groundwater data are included as Attachment 1.

1.2 Soil

Soil PCULs were developed for any chemical that either was detected in site soil or was retained for further analysis as a COPC in the Ecology-approved February 2017 soil elimination memorandum (Floyd|Snider 2017b). Soil PCULs, risk-based criteria, and PQLs for each chemical requiring a soil PCUL are presented in Table 2. The fraction of organic carbon data used in development of soil PCULs are presented in Table 3.

Risk-based criteria are based on unrestricted land use and are protective of human health and the environment (MTCA Method A table values); human health via the direct contact pathway (MTCA Method B standard formula values); terrestrial receptors via the direct contact pathways (Simple Site with Unrestricted Land Use); and the soil-to-groundwater pathway (WAC Equation 747-1).

The soil-to-groundwater (leaching) pathway was considered only for chemicals for which a groundwater PCUL was developed. If the May 2019 version of Ecology's Cleanup Levels and Risk Calculation workbook contained insufficient partitioning data to perform the three-phase model calculation, a value protective of the soil-to-groundwater pathway was not calculated. Default MTCA input parameters for saturated soil were used in this calculation, with the exception of f_{oc}. A site-specific f_{oc} of 1.1 percent was used in the calculation. The groundwater PCULs presented in Table 1 were used as the groundwater target concentrations to be protected.

The risk-based soil criterion selected for each chemical was the more stringent standard between leaching and the direct contact criteria (protective of human direct contact and terrestrial receptors), which was determined using standard MTCA Method B practices described in Ecology publication no. 01-09-071 (Ecology 2005b). Ecology criteria for summed analytes were incorporated as follows:

- A PCUL was developed for Total DDx (that is, total dichlorodiphenyltrichloroethane [DDT] and its derivatives) for the terrestrial ecological exposure (TEE) pathway. The PCULs for total dichlorodiphenyldichloroethane, total dichlorodiphenyldichloro-ethylene, and total DDT do not consider the TEE pathway criterion; the PCULs for these analytes consider human health and leaching exposure pathways.
- A PCUL was developed for total diesel- and oil-range TPH (i.e., TPH-diesel and TPH-oil) based on the most stringent PCUL for either diesel-range TPH or oil-range TPH. The PCULs previously developed for diesel-range TPH and oil-range TPH were removed.

Risk-based criteria were then adjusted upward to the PAL PQL or to natural background levels.

Because the groundwater PCUL for beta-BHC was updated following the March 2020 groundwater monitoring event, groundwater target concentrations used in the leaching calculation used to derive soil PCULs were also updated.

2.0 IDENTIFICATION OF COPCS

Site data presented in Tables 1 and 2 were used to identify soil and groundwater COPCs in each medium according to the rationale described in this section.

Chemicals identified as candidates to become COPCs were initially determined by Ecology by comparing the maximum detected result in soil and groundwater to their PCULs. If the maximum detected result exceeded the applicable PCUL, it was retained as a COPC. If a chemical was never detected, its reporting limits during the Smith-Kem Phase 2 soil and groundwater monitoring events were compared to the PCUL to identify COPCs. Certain organochlorine pesticides were not detected in groundwater in prior events but had reporting limits greater than the ALS PQLs presented in Table 1. These chemicals were initially retained as pending COPCs in groundwater.

If any pending COPC was not detected in any groundwater monitoring well during the March 2020 groundwater sampling event, that chemical was not retained as a COPC. If a pending COPC

was detected in groundwater, data were evaluated relative to the PCUL to determine COPC status. Following the receipt of validated March 2020 groundwater event data, the COPC status of three chemicals was updated: alpha-BHC and heptachlor epoxide did not become groundwater COPCs; aldrin became a groundwater COPC.

Chemicals that Ecology identified as candidates to become groundwater COPCs are summarized in Table 4, along with their PCULs, exceedance information, and ultimate COPC status. Table 4 contains two categories of chemicals: those retained as COPCs and chemicals not retained as COPCs based on discussion that occurred during meetings on April 1, May 4, and June 8, 2020. Table 5 presents the same information for soil.

Groundwater COPC Considerations. During an April 1, 2020, meeting, Floyd|Snider and Ecology agreed to refine the COPC identification approach for metals and TPH. Rather than using the maximum result ever detected in groundwater (which includes groundwater data from test pits and temporary well screens at soil boring locations), only results from established groundwater monitoring wells were used to identify COPCs. Groundwater data from test pits and soil borings are typically used for field screening purposes. For example, the data can assist with determining where to install a permanent monitoring well. Furthermore, results from groundwater wells are typically more representative of site groundwater quality than results from temporary wells, which are more subject to increased turbidity and other sampling artifacts that can bias results. This sampling artifact bias is particularly common for metals, so Ecology guidance for sampling water supply wells recommends sampling wells for metals only if turbidity is less than 10 nephelometric turbidity units (Ecology 2019). Metals results from proximate downgradient wells are available at both locations where metals data were collected from a soil boring location.

TPH data were collected during two different historical events prior to installation of permanent wells. Groundwater samples collected from test pits in 2007 were analyzed for TPH. These data informed the subsequent collection of groundwater samples from temporary wells installed at soil borings in 2013. In most cases, groundwater data from soil borings indicated that historical TPH data collected from test pits are not representative of groundwater quality. Permanent groundwater wells were installed in areas where field screening samples indicated that TPH may be present in groundwater. At locations where TPH samples from test pits and soil borings are elevated (e.g., detected on the order of 24,000 micrograms per liter), data collected over the course of multiple events from collocated groundwater wells demonstrate that these results meet the definition of an outlier, as described in Ecology statistical guidance (Ecology 1992). Groundwater well data show that diesel- and oil-range TPH are groundwater COPCs, with exceedances in a limited number of wells. Groundwater well data were used to eliminate gasoline-range TPH as a groundwater COPC. This conclusion is supported by chromatographic review: historical samples with detected gasoline-range TPH results have peaks only at the upper end of the gasoline spectrum. This signature overlaps with the light-end of the diesel-range TPH chromatographic spectrum, indicating that diesel-range TPH components were reported as both gasoline-range TPH and diesel-range TPH in these historical samples.

Soil COPC Considerations. During the April 1, 2020, meeting, Floyd|Snider and Ecology agreed to refine the approach to identification of soil COPCs to reflect groundwater COPC status with respect to the leaching pathway. If groundwater demonstrates compliance for the leaching pathway (i.e., the chemical is not a groundwater COPC), the soil PCUL was modified to the soil direct contact criterion for that chemical. This direct contact PCUL was used to determine exceedance information and COPC status.

Gasoline-range TPH (TPH-G) was eliminated as a COPC, although it was detected and exceeded the PCUL in a limited number of samples. In 2017 and 2020, the laboratory evaluated chromatograms for samples with elevated TPH-G results to see if peaks indicative of gasoline were present. The case narrative provided by the laboratory stated that the pattern of peaks in the chromatograms indicate gasoline is not present in any of the samples with gasoline detections: any gasoline detection is likely chromatographic overlap with weathered diesel-range TPH or oil-range TPH. Laboratory reports containing revised case narratives supporting this conclusion are provided as Attachment 2. Both reports include chromatograms. Based on this analysis, Ecology agreed on April 24, 2020, via email that TPH-G is not a COPC.

Finally, Floyd|Snider and Ecology agreed to modify the terrestrial ecological evaluation criterion for chromium to 64 milligrams per kilogram (mg/kg), up from 42 mg/kg. The PCUL of 64 mg/kg is consistent with Technical Addendum Attachment V: WAC 173-340 Table 749-2 Chemical-Specific Technical Support Documents for use at sites where only chromium(III) is present. This is appropriate at the Smith-Kem site, because chromium(VI) is not associated with pesticides or any other current or former industrial uses or practices at the site.

3.0 REFERENCES

Floyd|Snider. 2016. *Smith-Kem Site Remedial Investigation Work Plan.* Prepared for Foster Pepper PLLC. July.

_____. 2017a. *Summary of Year 1 Groundwater Results and Recommendations for Year 2.* Memorandum from Allison Geiselbrecht and Erin Murray, Floyd|Snider, to John Mefford and Mary Monahan, Washington State Department of Ecology. 6 October.

_____. 2017b. *Constituents of Potential Concern Elimination for Phase 2.* Memorandum from Allison Geiselbrecht and Erin Murray, Floyd|Snider, to John Mefford and Mary Monahan, Washington State Department of Ecology. 3 February.

_____. 2019. *Smith-Kem Site Remedial Investigation 2019 Work Plan Addendum.* Technical Memorandum from Allison Geiselbrecht and Erin Murray, Floyd|Snider, to John Mefford and Mary Monahan, Washington State Department of Ecology. 9 October.

Washington State Department of Ecology (Ecology). 1992. *Statistical Guidance for Ecology Site Managers.* Toxics Cleanup Program. Publication No. 92-54. 1 August.

_____. 2005a. *Focus on Developing Ground Water Cleanup Standards under the Model Toxics Control Act.* Toxics Cleanup Program. Publication No. 01-09-049. April.

_____. 2005b. *Focus on Developing Soil Cleanup Standards under the Model Toxics Control Act.* Toxics Cleanup Program. Publication No. 01-09-071. April.

_____. 2019. *Standard Operating Procedure EAP098, Version 1.1: Collecting Groundwater Samples for Metals Analysis from Water Supply Wells.* Environmental Assessment Program. Publication No. 19-03-204. January.

4.0 LIST OF ATTACHMENTS

Table 1 Groundwater Criteria, PQLs, PCULs, and COPCs

Table 2 Soil Criteria, PQLs, PCULs, and COPCs

Table 3 Fraction of Organic Carbon Data in Soil

Table 4 Groundwater Constituents of Potential Concern Summary

Table 5 Soil Constituents of Potential Concern Summary

Attachment 1 Laboratory Report and Data Validation Report for March 2020 Groundwater Sampling Event

Attachment 2 Laboratory Reports Containing Case Narrative Supporting Elimination of TPH-G as a COPC

Tables

Table 1
Groundwater Criteria, PQLs, PCULs, and COPCs

Chemical Requiring GW PCUL Development [5]	Chemical	CAS No.	Analyzed in GW?	Detected In GW?	Potential GW COPC? [6]	Risk-Based Criteria [1, 2]				Adjustment Factors [2, 3, 4]				
						Groundwater MTCA Method B/A (µg/L)	Minimum State and Federal MCL (µg/L)	GW Target Concentration (µg/L)	Risk-Based Criteria [7]	PAL PQLs [8]	ALS PQLs [9]	FINAL PQL [10]	Natural Background	Final PCUL (µg/L)
Analytes on COC Lists														
Volatile Organic Compounds														
TRUE	Benzene	71-43-2	TRUE	TRUE	FALSE	0.80	5.0	5.0	5.0	0.35		0.35		5.0
TRUE	Toluene	100-41-4	TRUE	TRUE	FALSE	800	700	700	700	1.0		1.0		700
TRUE	Xylenes [14]	1330-20-7	TRUE	TRUE	FALSE	1,600	10,000	1,600	1,600	3.0		3.0		1,600
Metals														
TRUE	Arsenic	7440-38-2	TRUE	TRUE	TRUE	0.058	10	5.0	0.058	1.0		1.0	5.0	5.0
TRUE	Cadmium	7440-43-9	TRUE	TRUE	FALSE	8.0	5.0	5.0	5.0	1.0		1.0		5.0
TRUE	Chromium (Total) [15]	7440-47-3	TRUE	TRUE	FALSE	24,000	100		100	1.0		1.0		100
TRUE	Copper	7440-50-8	TRUE	TRUE	FALSE	640	1,300	640	640	1.0		1.0		640
TRUE	Lead	7439-92-1	TRUE	TRUE	FALSE		15	15	15	1.0		1.0		15
TRUE	Zinc	7440-66-6	TRUE	TRUE	FALSE	4,800		4,800	4,800	1.0		1.0		4,800
Miscellaneous Substances														
TRUE	Ammonia-Nitrogen	7664-41-7	TRUE	TRUE	FALSE					0.0050		0.0050		No GW PCUL
TRUE	Nitrate/Nitrite	14797-55-8	TRUE	TRUE	FALSE	26,000	10,000		10,000	0.010		0.010		10,000
TRUE	Nitrate	14797-55-8	TRUE	TRUE	TRUE	26,000	10,000		10,000	0.010		0.010		10,000
TRUE	Nitrite	14797-65-0	TRUE	TRUE	TRUE	1,600	1,000		1,000	0.010		0.010		1,000
Organochlorine Pesticides														
TRUE	HCH-alpha (a-BHC)	319-84-6	TRUE	FALSE	TRUE	0.014		0.014	0.014	**0.060**	0.0010	0.0010		0.014
TRUE	HCH-beta (b-BHC)	319-85-7	TRUE	TRUE	TRUE	0.049		0.049	0.049	**0.060**	0.0010	0.0600		0.049
TRUE	HCH-delta (d-BHC)	319-86-8	TRUE	FALSE	TRUE					0.060		0.060		No GW PCUL
TRUE	G-BHC (Lindane)	58-89-9	TRUE	TRUE	TRUE	0.080	0.20	0.20	0.20	0.060	0.0010	0.0010		0.20
TRUE	Aldrin [16]	309-00-2	TRUE	FALSE	TRUE	0.0026		0.0026	0.0026	**0.060**	0.0010	0.0010		0.0026
TRUE	Heptachlor	76-44-8	TRUE	FALSE	TRUE	0.019	0.40	0.19	0.19	0.060	0.0010	0.0010		0.19
TRUE	Heptachlor Epoxide	1024-57-3	TRUE	FALSE	TRUE	0.0048	0.20	0.048	0.048	**0.060**	0.0010	0.0010		0.048
TRUE	Chlordane	12789-03-6	TRUE	TRUE	TRUE	0.25	2.0	2.0	2.0	0.12	0.020	0.020		2.0
TRUE	Dieldrin	60-57-1	TRUE	TRUE	TRUE	0.0055		0.0055	0.0055	**0.060**	0.0010	0.0010		0.0055
TRUE	Endrin	72-20-8	TRUE	FALSE	TRUE	4.8	2.0	2.0	2.0	0.060		0.060		2.0
TRUE	Endosulfan I [17]	959-98-8	TRUE	FALSE	TRUE	96		96	96	0.060		0.060		96
TRUE	Endosulfan II [17]	33213-65-9	TRUE	FALSE	TRUE	96		96	96	0.060		0.060		96
TRUE	4,4'-DDD / Sum DDD	72-54-8	TRUE	FALSE	TRUE	0.36		0.36	0.36	0.060		0.060		0.36
TRUE	4,4'-DDE / Sum DDE	72-55-9	TRUE	TRUE	TRUE	0.26		0.26	0.26	0.060		0.060		0.26
TRUE	4,4'-DDT / Sum DDT	50-29-3	TRUE	TRUE	TRUE	0.26		0.26	0.26	0.060		0.060		0.26
TRUE	Hexachlorobenzene	118-74-1	TRUE	FALSE	TRUE	0.055	1.0	0.55	0.55	0.060	0.0010	0.0010		0.55
TRUE	Methoxychlor	72-43-5	TRUE	FALSE	TRUE	80	40	40	40	0.060		0.060		40
TRUE	Toxaphene	8001-35-2	TRUE	TRUE	TRUE	0.080	3.0	0.80	0.80	**6.0**	0.10	0.10		0.80
Chlorinated Herbicides														
TRUE	2,4-D	94-75-7	TRUE	TRUE	TRUE	160	70		70	0.080		0.080		70
TRUE	2,4-DB	94-82-6	TRUE	TRUE	TRUE	130			130	0.080		0.080		130
TRUE	2,4,5-TP (Silvex)	93-72-1	TRUE	TRUE	TRUE	130	50		50	0.080		0.080		50
TRUE	2,4,5-T	93-76-5	TRUE	FALSE	TRUE	160			160	0.080		0.080		160
TRUE	Dalapon	75-99-0	TRUE	FALSE	TRUE	240	200		200	NA				200
TRUE	Dicamba	1918-00-9	TRUE	TRUE	TRUE	480			480	0.080		0.080		480
TRUE	Dinoseb	88-85-7	TRUE	TRUE	TRUE	16	7.0		7.0	0.080		0.080		7.0
TRUE	MCPA	94-74-6	TRUE	TRUE	TRUE	8.0			8.0	0.080		0.080		8.0
TRUE	MCPP (Mecoprop)	93-65-2	TRUE	FALSE	TRUE	16			16	0.080		0.080		16
TRUE	Pentachlorophenol	87-86-5	TRUE	FALSE	TRUE	0.22	1.0	1.0	1.0	0.080		0.080		1.0

Table 1
Groundwater Criteria, PQLs, PCULs, and COPCs

Chemical Requiring GW PCUL Development [5]	Chemical	CAS No.	Analyzed in GW?	Detected In GW?	Potential GW COPC? [6]	Maximum Detected Result / *(Maximum Detected Well Result)* (µg/L) [11]	Percent of Detected Results that Exceed	Maximum Detected Exceedance Factor	Minimum Phase 2 Reporting Limit (µg/L) [12]	Maximum Phase 2 Reporting Limit (µg/L) [12]	GW COPC? [13]	Rationale
Analytes on COC Lists												
Volatile Organic Compounds												
TRUE	Benzene	71-43-2	TRUE	TRUE	FALSE	2.2	None	None	NA	NA	No	No exceedances
TRUE	Toluene	100-41-4	TRUE	TRUE	FALSE	1.6	None	None	NA	NA	No	No exceedances
TRUE	Xylenes [14]	1330-20-7	TRUE	TRUE	FALSE	11	None	None	NA	NA	No	No exceedances
Metals												
TRUE	Arsenic	7440-38-2	TRUE	TRUE	TRUE	23 / ***(14)***	1.7%	2.8	NA	NA	**Yes**	**Max result > PCUL**
TRUE	Cadmium	7440-43-9	TRUE	TRUE	FALSE	4.2	None	None	NA	NA	No	No exceedances
TRUE	Chromium (Total) [15]	7440-47-3	TRUE	TRUE	FALSE	290 / ***(17)***	None	None	NA	NA	**No**	**No exceedances in groundwater wells; chemical not associated with pesticides**
TRUE	Copper	7440-50-8	TRUE	TRUE	FALSE	170	None	None	NA	NA	No	No exceedances
TRUE	Lead	7439-92-1	TRUE	TRUE	FALSE	31 / ***(10)***	None	None	NA	NA	**No**	**No exceedances in groundwater wells**
TRUE	Zinc	7440-66-6	TRUE	TRUE	FALSE	1,700	None	None	NA	NA	No	No exceedances
Miscellaneous Substances												
TRUE	Ammonia-Nitrogen	7664-41-7	TRUE	TRUE	FALSE	1,300,000	NA	NA	NA	NA	No	No GW PCUL
TRUE	Nitrate/Nitrite	14797-55-8	TRUE	TRUE	FALSE	210,000	57%	21	NA	NA	**NA**	**See nitrate and nitrite**
TRUE	Nitrate	14797-55-8	TRUE	TRUE	TRUE	210,000	57%	21	NA	NA	**Yes**	**Max result > PCUL**
TRUE	Nitrite	14797-65-0	TRUE	TRUE	TRUE	6,800	8.2%	6.8	NA	NA	**Yes**	**Max result > PCUL**
Organochlorine Pesticides												
TRUE	HCH-alpha (a-BHC)	319-84-6	TRUE	TRUE	TRUE	0.0044	None	NA	0.060	0.12	No	No exceedances in March 2020
TRUE	HCH-beta (b-BHC)	319-85-7	TRUE	TRUE	TRUE	0.087	3.2%	1.8	NA	NA	**Yes**	**Max result > PCUL**
TRUE	HCH-delta (d-BHC)	319-86-8	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	NA	NA	No	No GW PCUL
TRUE	G-BHC (Lindane)	58-89-9	TRUE	TRUE	TRUE	0.17	None	None	0.060	0.12	**No**	**No exceedances**
TRUE	Aldrin [16]	309-00-2	TRUE	TRUE	TRUE	0.0059	1.3%	2.3	*0.060*	0.12	**Yes**	**Max result > PCUL**
TRUE	Heptachlor	76-44-8	TRUE	TRUE	TRUE	0.0098	None	NA	0.060	0.12	No	Max Phase 2 RL < GW PCUL
TRUE	Heptachlor Epoxide	1024-57-3	TRUE	TRUE	TRUE	0.0056	None	NA	0.060	0.12	No	No exceedances in March 2020
TRUE	Chlordane	12789-03-6	TRUE	TRUE	TRUE	22	2.4%	11	NA	NA	**Yes**	**Max result > PCUL**
TRUE	Dieldrin	60-57-1	TRUE	TRUE	TRUE	10	24%	1,800	NA	NA	**Yes**	**Max result > PCUL**
TRUE	Endrin	72-20-8	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	0.060	0.12	No	RLs < GW PCUL
TRUE	Endosulfan I [17]	959-98-8	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	0.060	0.12	No	RLs < GW PCUL
TRUE	Endosulfan II [17]	33213-65-9	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	0.060	0.12	No	RLs < GW PCUL
TRUE	4,4'-DDD / Sum DDD	72-54-8	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	0.060	0.12	No	RLs < GW PCUL
TRUE	4,4'-DDE / Sum DDE	72-55-9	TRUE	TRUE	TRUE	0.76	0.81%	2.9	NA	NA	**Yes**	**Max result > PCUL**
TRUE	4,4'-DDT / Sum DDT	50-29-3	TRUE	TRUE	TRUE	1.5	0.81%	5.8	NA	NA	**Yes**	**Max result > PCUL**
TRUE	Hexachlorobenzene	118-74-1	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	0.060	0.12	No	RLs < GW PCUL
TRUE	Methoxychlor	72-43-5	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	0.060	0.12	No	RLs < GW PCUL
TRUE	Toxaphene	8001-35-2	TRUE	TRUE	TRUE	26	8.1%	33	NA	NA	**Yes**	**Max result > PCUL**
Chlorinated Herbicides												
TRUE	2,4-D	94-75-7	TRUE	TRUE	TRUE	260	1.6%	3.7	NA	NA	**Yes**	**Max result > PCUL**
TRUE	2,4-DB	94-82-6	TRUE	TRUE	TRUE	0.096	None	None	NA	NA	No	No exceedances
TRUE	2,4,5-TP (Silvex)	93-72-1	TRUE	TRUE	TRUE	0.74	None	None	NA	NA	No	No exceedances
TRUE	2,4,5-T	93-76-5	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	0.080	0.080	No	RLs < GW PCUL
TRUE	Dalapon	75-99-0	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	0.38	0.39	No	RLs < GW PCUL
TRUE	Dicamba	1918-00-9	TRUE	TRUE	TRUE	550	1.6%	1.1	NA	NA	**Yes**	**Max result > PCUL**
TRUE	Dinoseb	88-85-7	TRUE	TRUE	TRUE	3.0	None	None	NA	NA	No	No exceedances
TRUE	MCPA	94-74-6	TRUE	TRUE	TRUE	88	3.2%	11	NA	NA	**Yes**	**Max result > PCUL**
TRUE	MCPP (Mecoprop)	93-65-2	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	0.080	0.080	No	RLs < GW PCUL
TRUE	Pentachlorophenol	87-86-5	TRUE	FALSE	TRUE	Not Detected in GW	NA	NA	0.16	0.16	No	RLs < GW PCUL

Table 1
Groundwater Criteria, PQLs, PCULs, and COPCs

Chemical Requiring GW PCUL Development [5]	Chemical	CAS No.	Analyzed in GW?	Detected In GW?	Potential GW COPC? [6]	Risk-Based Criteria [1, 2]				Adjustment Factors [2, 3, 4]				
						Groundwater MTCA Method B/A (µg/L)	Minimum State and Federal MCL (µg/L)	GW Target Concentration (µg/L)	Risk-Based Criteria [7]	PAL PQLs [8]	ALS PQLs [9]	FINAL PQL [10]	Natural Background	Final PCUL (µg/L)
Analytes on COC Lists (cont.)														
Other Chlorinated/Halogenated Pesticides														
TRUE	Atrazine	1912-24-9	TRUE	TRUE	TRUE	0.38	3.0		3.0	0.060		0.060		3.0
TRUE	Chlordane-alpha [18]	5103-71-9	TRUE	TRUE	TRUE	0.25	2.0	2.0	2.0	0.12		0.12		2.0
TRUE	Metribuzin	21087-64-9	TRUE	TRUE	FALSE	400			400	0.12		0.12		400
TRUE	Oxadiazon	19666-30-9	TRUE	TRUE	FALSE	80			80	0.12		0.12		80
TRUE	Propiconazole	60207-90-1	TRUE	TRUE	FALSE	210			210	0.30		0.30		210
TRUE	Simazine	122-34-9	TRUE	TRUE	TRUE	0.73	4.0		4.0	0.060		0.060		4.0
TRUE	Terbacil	5902-51-2	TRUE	TRUE	FALSE	210			210	0.12		0.12		210
Triazine Herbicides (Organonitrogen Pesticides)														
TRUE	Hexazinone	51235-04-2	TRUE	TRUE	FALSE	530			530	0.060		0.060		530
TRUE	Prometon	1610-18-0	TRUE	TRUE	FALSE	240			240	0.12		0.12		240
TRUE	Propazine	139-40-2	TRUE	TRUE	FALSE	320			320	0.060		0.060		320
Phenylurea Herbicides														
TRUE	Diuron	330-54-1	TRUE	TRUE	FALSE	32			32	0.060		0.060		32
Carbamate Pesticides														
TRUE	Carbaryl	63-25-2	TRUE	TRUE	FALSE	1,600			1,600	0.060		0.060		1,600
TRUE	Carbofuran	1563-66-2	TRUE	TRUE	FALSE	80	40		40	0.060		0.060		40
Organonitrogen Pesticides														
TRUE	Metalaxyl	57837-19-1	TRUE	TRUE	FALSE	960			960	0.060		0.060		960
TRUE	Pendimethalin	40487-42-1	TRUE	TRUE	FALSE	640			640	0.060		0.060		640
TRUE	Tebuthiuron	34014-18-1	TRUE	TRUE	FALSE	1,100			1,100	0.12		0.12		1,100
Total Petroleum Hydrocarbons (TPH) [19]														
TRUE	Gasoline-Range TPH	GRO	TRUE	TRUE	FALSE	800			800	100		100		800
TRUE	Diesel-Range TPH	DRO	TRUE	TRUE	TRUE	500			500	50		50		500
TRUE	Oil-Range TPH	ORO	TRUE	TRUE	TRUE	500			500	250		250		500
Analytes not on COC Lists														
Conventionals														
TRUE	Alkalinity (as $CaCO_3$)	--	TRUE	TRUE	FALSE									No GW PCUL
TRUE	Chloride	16887-00-6	TRUE	TRUE	FALSE									No GW PCUL
TRUE	Dissolved Organic Carbon	--	TRUE	TRUE	FALSE									No GW PCUL
TRUE	Sulfate	14808-79-8	TRUE	TRUE	FALSE									No GW PCUL
TRUE	Total Dissolved Solid	--	TRUE	TRUE	FALSE									No GW PCUL
Metals														
TRUE	Calcium	7440-70-2	TRUE	TRUE	FALSE									No GW PCUL
TRUE	Ferrous Iron	--	TRUE	TRUE	FALSE	11,000			11,000					11,000
TRUE	Iron	7439-89-6	TRUE	TRUE	FALSE	11,000			11,000					11,000
TRUE	Magnesium	7439-95-4	TRUE	TRUE	FALSE									No GW PCUL
TRUE	Manganese	7439-96-5	TRUE	TRUE	FALSE	750			750					750
TRUE	Sodium	7440-23-5	TRUE	TRUE	FALSE									No GW PCUL

Table 1
Groundwater Criteria, PQLs, PCULs, and COPCs

Chemical Requiring GW PCUL Development [5]	Chemical	CAS No.	Analyzed in GW?	Detected In GW?	Potential GW COPC? [6]	Maximum Detected Result / *(Maximum Detected Well Result)* (µg/L) [11]	Percent of Detected Results that Exceed	Maximum Detected Exceedance Factor	Minimum Phase 2 Reporting Limit (µg/L) [12]	Maximum Phase 2 Reporting Limit (µg/L) [12]	GW COPC? [13]	Rationale
Analytes on COC Lists (cont.)												
Other Chlorinated/Halogenated Pesticides												
TRUE	Atrazine	1912-24-9	TRUE	TRUE	TRUE	33	13%	11	NA	NA	**Yes**	**Max result > PCUL**
TRUE	Chlordane-alpha [18]	5103-71-9	TRUE	TRUE	TRUE	3.3	0.80%	1.7	NA	NA	**Yes**	**Max result > PCUL**
TRUE	Metribuzin	21087-64-9	TRUE	TRUE	FALSE	20	None	None	NA	NA	No	No exceedances
TRUE	Oxadiazon	19666-30-9	TRUE	TRUE	FALSE	0.34	None	None	NA	NA	No	No exceedances
TRUE	Propiconazole	60207-90-1	TRUE	TRUE	FALSE	0.96	None	None	NA	NA	No	No exceedances
TRUE	Simazine	122-34-9	TRUE	TRUE	TRUE	2.8	None	None	NA	NA	No	No exceedances
TRUE	Terbacil	5902-51-2	TRUE	TRUE	FALSE	0.40	None	None	NA	NA	No	No exceedances
Triazine Herbicides (Organonitrogen Pesticides)												
TRUE	Hexazinone	51235-04-2	TRUE	TRUE	FALSE	3.8	None	None	NA	NA	No	No exceedances
TRUE	Prometon	1610-18-0	TRUE	TRUE	FALSE	0.24	None	None	NA	NA	No	No exceedances
TRUE	Propazine	139-40-2	TRUE	TRUE	FALSE	0.30	None	None	NA	NA	No	No exceedances
Phenylurea Herbicides												
TRUE	Diuron	330-54-1	TRUE	TRUE	FALSE	12	None	None	NA	NA	No	No exceedances
Carbamate Pesticides												
TRUE	Carbaryl	63-25-2	TRUE	TRUE	FALSE	1.2	None	None	NA	NA	No	No exceedances
TRUE	Carbofuran	1563-66-2	TRUE	TRUE	FALSE	0.15	None	None	NA	NA	No	No exceedances
Organonitrogen Pesticides												
TRUE	Metalaxyl	57837-19-1	TRUE	TRUE	FALSE	1.2	None	None	NA	NA	No	No exceedances
TRUE	Pendimethalin	40487-42-1	TRUE	TRUE	FALSE	0.52	None	None	NA	NA	No	No exceedances
TRUE	Tebuthiuron	34014-18-1	TRUE	TRUE	FALSE	0.13	None	None	NA	NA	No	No exceedances
Total Petroleum Hydrocarbons (TPH) [19]												
TRUE	Gasoline-Range TPH	GRO	TRUE	TRUE	FALSE	5,500 ***(Not Detected in Wells)***	None	None	NA	NA	**No**	**Eliminated in GW Elimination Memo: gasoline detections are chromatographic overlap with weathered diesel**
TRUE	Diesel-Range TPH	DRO	TRUE	TRUE	TRUE	24,000 ***(1,000)***	8.2%	2.0	NA	NA	**Yes**	**Max result > PCUL**
TRUE	Oil-Range TPH	ORO	TRUE	TRUE	TRUE	24,000 ***(1,100)***	2.1%	2.2	NA	NA	**Yes**	**Max result > PCUL**
Analytes not on COC Lists												
Conventionals												
TRUE	Alkalinity (as $CaCO_3$)	--	TRUE	TRUE	FALSE	230	NA	NA	NA	NA	No	No GW PCUL
TRUE	Chloride	16887-00-6	TRUE	TRUE	FALSE	130	NA	NA	NA	NA	No	No GW PCUL
TRUE	Dissolved Organic Carbon	--	TRUE	TRUE	FALSE	230	NA	NA	NA	NA	No	No GW PCUL
TRUE	Sulfate	14808-79-8	TRUE	TRUE	FALSE	83,000	NA	NA	NA	NA	No	No GW PCUL
TRUE	Total Dissolved Solid	--	TRUE	TRUE	FALSE	230	NA	NA	NA	NA	No	No GW PCUL
Metals												
TRUE	Calcium	7440-70-2	TRUE	TRUE	FALSE	59,000	NA	NA	NA	NA	No	No GW PCUL
TRUE	Ferrous Iron	--	TRUE	TRUE	FALSE	230	None	None	NA	NA	No	No exceedances
TRUE	Iron	7439-89-6	TRUE	TRUE	FALSE	2,700	None	None	NA	NA	No	No exceedances
TRUE	Magnesium	7439-95-4	TRUE	TRUE	FALSE	27,000	NA	NA	NA	NA	No	No GW PCUL
TRUE	Manganese	7439-96-5	TRUE	TRUE	FALSE	350	None	None	NA	NA	No	No exceedances
TRUE	Sodium	7440-23-5	TRUE	TRUE	FALSE	150,000	NA	NA	NA	NA	No	No GW PCUL

Table 1
Groundwater Criteria, PQLs, PCULs, and COPCs

Chemical Requiring GW PCUL Development [5]	Chemical	CAS No.	Analyzed in GW?	Detected In GW?	Potential GW COPC? [6]	Risk-Based Criteria [1, 2]				Adjustment Factors [2, 3, 4]				
						Groundwater MTCA Method B/A (µg/L)	Minimum State and Federal MCL (µg/L)	GW Target Concentration (µg/L)	Risk-Based Criteria [7]	PAL PQLs [8]	ALS PQLs [9]	FINAL PQL [10]	Natural Background	Final PCUL (µg/L)
Analytes not on COC Lists (cont.)														
TPH														
TRUE	Diesel	--	TRUE	TRUE	FALSE	500				50				500
Volatile organic compounds (VOCs)														
TRUE	tert-Butyl alcohol	75-65-0	TRUE	TRUE	FALSE									No GW PCUL

Notes:

Blank cells are intentional.

RED/BOLD Chemical identified as a COPC by Floyd|Snider and Ecology.

BOLD Chemical identified as a COPC by Ecology; not retained by Floyd|Snider.

RED/BOLD Reporting limit exceeds risk-based groundwater criteria.

1 GW criteria protective of drinking water use and vapor intrusion were considered when developing preliminary cleanup levels. Criteria for protection of drinking water considered include state and federal MCLs and MTCA Method B cancer and non-cancer groundwater criteria. Additionally, MTCA Method A groundwater criteria were considered for TPH compounds, as no other TPH criteria were developed.

2 All criteria and PQLs are rounded to two significant figures. Analytical results are reported to two significant figures.

3 PQLs provided are typical of the method in the media indicated, but may be elevated in some samples due to matrix interferences and/or may be elevated for some compounds due to spectral or other interferences associated with the analysis. The laboratory will make every effort to obtain PQLs that are less than the applicable soil or groundwater cleanup standard in this table using the indicated method.

4 Washington natural background levels in groundwater were considered, in addition to criteria developed for protection of human health and ecological receptors. When the risk-based criteria were less than natural background values, the natural background value was selected as the relevant criterion.

5 Only chemicals requiring development of GW PCULs are retained in this table. GW PCULs were developed for any chemical that was either (a) detected in GW, or (b) retained as a potential COPC in the Ecology-approved Groundwater Elimination Memorandum (Floyd|Snider 2017a).

6 A designation of "true" indicates that the chemical was retained as a candidate to become a COPC following the October 2017 Year 1 Groundwater Summary Memorandum (Floyd|Snider 2017a).

7 The most stringent ARAR established under applicable state and federal laws is sufficiently protective and does not require adjustment to protect human health if the excess cancer risk does not exceed 1 in 100,000 (1 x 10-5) and the hazard quotient does not exceed one (1). If the most stringent ARAR is not sufficiently protective, it was adjusted downward in accordance with WAC 173-340-720(7)(b) to the minimum of (a) MTCA Method B noncancer criterion and (b) MTCA Method B cancer criterion multiplied by a factor of 10. The risk-based criteria presented in this column are the GW target concentration, which considers this human health adjustment, if a target value was developed in Ecology's CLARC; the most stringent state and federal MCL; or, if no MCL exists, the lowest MTCA Method B groundwater criteria.

8 During Phase 2, 41 GW samples were collected and analyzed by PAL for organochlorine pesticides. The maximum reporting limit for all Phase 2 samples was in compliance with the Ecology-approved PQL from the Remedial Investigation Work Plan (Floyd|Snider 2016) for all chemicals included in this table, with the exception of toxaphene.

9 ALS method detection and reporting limits were provided to Floyd|Snider in an email dated October 2, 2019. In order to report down to the listed limits, ALS will utilize appropriate extraction and cleanup techniques to maximize recovery and reduce matrix interference. ALS extraction and cleanup techniques for analysis of groundwater samples using USEPA Method 8081B are described as follows:
• If the water sample contains enough solid material (sediment) to interfere with sample extraction, ALS will completely decant the liquid portion of the sample for extraction prior to analysis.
• If extracts are colored, then a carbon cleanup is performed. This procedure is based on Restek Application Note EVAN1197. The extracts to be analyzed are passed through a rinsed solid-phase extraction cartridge packed with carbon using a positive pressure or vacuum manifold. The cartridges are then eluted with DCM:Hexane (1:1), leaving the interferences on the carbon.
The ALS PQLs reported in this table represent typical PQLs the lab can achieve using the specified method and preparation steps; these PQLs may not be achievable in all samples due to site-specific conditions or interferences.

10 Final PQLs are site-specific and based off of the Method Reporting Limit information from three labs: PAL, Manchester Lab, and ALS. If it appeared there would be no upward adjustment from a protective value (either groundwater or soil), the PAL method reporting limit was selected as the final PQL.

11 The value in plain text includes all GW results, including data from test pits and temporary well screens at soil boring locations, which are typically used for field screening purposes. These data should not be considered representative of site conditions for determining compliance with cleanup levels as a result of higher sample turbidity. Nearby GW well data exist and can be used to characterize groundwater quality in the vicinity of test pit/soil boring groundwater samples. In areas without a nearby well, GW samples collected from collocated soil borings indicate that historical data collected from test pits are not representative of GW quality.

12 Reporting limits presented in this table represent the range of reporting limits in the 2017–2018 Phase 2a and Phase 2 Groundwater Sampling events. If a chemical was not analyzed during these events, the range of reporting limits presented in this table represent the minimum and maximum reporting limit from all other events.

13 GW COPCs identified in this table have not yet been approved by Ecology.

14 Xylenes are typically analyzed and reported by laboratories as m,p-Xylene and o-Xylene; these values are summed and reported as Total Xylenes. When evaluating relevant criteria for Xylenes, the criterion developed for Total Xylenes was selected as the relevant criterion.

15 Criteria developed for Total Chromium and for Chromium(III) were considered when determining the relevant criteria for chromium. There is no reason to suspect the presence of Chromium(VI) on-site.

16 Aldrin is the only pesticide with a vapor intrusion screening level. The vapor intrusion screening level for aldrin is 0.32 µg/L, which is less conservative (greater than) than criteria protective of the drinking water exposure pathway.

17 Criteria were not developed for Endosulfan I or Endosulfan II in CLARC. Criteria developed for Endosulfan (CAS 115-29-7) were used as a surrogate.

18 Criteria were not developed for chlordane-alpha in CLARC; criteria developed for Chlordane (CAS 12789-03-6) were used as a surrogate.

19 The screening level protective of the vapor intrusion pathway for TPH is 30,000 µg/L, which is less conservative (greater than) than criteria protective of the drinking water exposure pathway.

Abbreviations:

ALS Analytical Laboratory Services
ARAR Applicable or Relevant and Appropriate Requiremen
CAS Chemical Abstracts Service
CLARC Cleanup Levels and Risk Calculation
COC Chemical of concern
COPC Chemical of Potential Concern
Ecology Washington State Department of Ecology
GW Groundwater
MCL Maximum Contaminant Level
µg/L Micrograms per liter
MTCA Model Toxics Control Act
NA Not analyzed; PAL does not perform analysis for this analyte in the indicated media.
PAL Pacific Agricultural Laboratories
PCUL Preliminary cleanup level
PQL Practical quantitation limit

Table 1
Groundwater Criteria, PQLs, PCULs, and COPCs

Chemical Requiring GW PCUL Development [5]	Chemical	CAS No.	Analyzed in GW?	Detected In GW?	Potential GW COPC? [6]	Maximum Detected Result / *(Maximum Detected Well Result)* (µg/L) [11]	Percent of Detected Results that Exceed	Maximum Detected Exceedance Factor	Minimum Phase 2 Reporting Limit (µg/L) [12]	Maximum Phase 2 Reporting Limit (µg/L) [12]	GW COPC? [13]	Rationale
Analytes not on COC Lists (cont.)												
TPH												
TRUE	Diesel	--	TRUE	TRUE	FALSE	230	None	None	NA	NA	NA	See Diesel-Range TPH
Volatile organic compounds (VOCs)												
TRUE	tert-Butyl alcohol	75-65-0	TRUE	TRUE	FALSE	12	NA	NA	NA	NA	No	No GW PCUL

Notes:

Blank cells are intentional.

RED/BOLD Chemical identified as a COPC by Floyd|Snider and Ecology.

BOLD Chemical identified as a COPC by Ecology; not retained by Floyd|Snider.

RED/BOLD Reporting limit exceeds risk-based groundwater criteria.

1 GW criteria protective of drinking water use and vapor intrusion were considered when developing preliminary cleanup levels. Criteria for protection of drinking water considered include state and federal MCLs and MTCA Method B cancer and non-cancer groundwater criteria. Additionally, MTCA Method A groundwater criteria were considered for TPH compounds, as no other TPH criteria were developed.

2 All criteria and PQLs are rounded to two significant figures. Analytical results are reported to two significant figures.

3 PQLs provided are typical of the method in the media indicated, but may be elevated in some samples due to matrix interferences and/or may be elevated for some compounds due to spectral or other interferences associated with the analysis. The laboratory will make every effort to obtain PQLs that are less than the applicable soil or groundwater cleanup standard in this table using the indicated method.

4 Washington natural background levels in groundwater were considered, in addition to criteria developed for protection of human health and ecological receptors. When the risk-based criteria were less than natural background values, the natural background value was selected as the relevant criterion.

5 Only chemicals requiring development of GW PCULs are retained in this table. GW PCULs were developed for any chemical that was either (a) detected in GW, or (b) retained as a potential COPC in the Ecology-approved Groundwater Elimination Memorandum (Floyd|Snider 2017a).

6 A designation of "true" indicates that the chemical was retained as a candidate to become a COPC following the October 2017 Year 1 Groundwater Summary Memorandum (Floyd|Snider 2017a).

7 The most stringent ARAR established under applicable state and federal laws is sufficiently protective and does not require adjustment to protect human health if the excess cancer risk does not exceed 1 in 100,000 (1 x 10-5) and the hazard quotient does not exceed one (1). If the most stringent ARAR is not sufficiently protective, it was adjusted downward in accordance with WAC 173-340-720(7)(b) to the minimum of (a) MTCA Method B noncancer criterion and (b) MTCA Method B cancer criterion multiplied by a factor of 10. The risk-based criteria presented in this column are the GW target concentration, which considers this human health adjustment, if a target value was developed in Ecology's CLARC; the most stringent state and federal MCL; or, if no MCL exists, the lowest MTCA Method B groundwater criteria.

8 During Phase 2, 41 GW samples were collected and analyzed by PAL for organochlorine pesticides. The maximum reporting limit for all Phase 2 samples was in compliance with the Ecology-approved PQL from the Remedial Investigation Work Plan (Floyd|Snider 2016) for all chemicals included in this table, with the exception of toxaphene.

9 ALS method detection and reporting limits were provided to Floyd|Snider in an email dated October 2, 2019. In order to report down to the listed limits, ALS will utilize appropriate extraction and cleanup techniques to maximize recovery and reduce matrix interference. ALS extraction and cleanup techniques for analysis of groundwater samples using USEPA Method 8081B are described as follows:
• If the water sample contains enough solid material (sediment) to interfere with sample extraction, ALS will completely decant the liquid portion of the sample for extraction prior to analysis.
• If extracts are colored, then a carbon cleanup is performed. This procedure is based on Restek Application Note EVAN1197. The extracts to be analyzed are passed through a rinsed solid-phase extraction cartridge packed with carbon using a positive pressure or vacuum manifold. The cartridges are then eluted with DCM:Hexane (1:1), leaving the interferences on the carbon.
The ALS PQLs reported in this table represent typical PQLs the lab can achieve using the specified method and preparation steps; these PQLs may not be achievable in all samples due to site-specific conditions or

10 Final PQLs are site-specific and based off of the Method Reporting Limit information from three labs: PAL, Manchester Lab, and ALS. If it appeared there would be no upward adjustment from a protective value (either groundwater or soil), the PAL method reporting limit was selected as the final PQL.

11 The value in plain text includes all GW results, including data from test pits and temporary well screens at soil boring locations, which are typically used for field screening purposes. These data should not be considered representative of site conditions for determining compliance with cleanup levels as a result of higher sample turbidity. Nearby GW well data exist and can be used to characterize groundwater quality in the vicinity of test pit/soil boring groundwater samples. In areas without a nearby well, GW samples collected from collocated soil borings indicate that historical data collected from test pits are not representative of GW quality.

12 Reporting limits presented in this table represent the range of reporting limits in the 2017–2018 Phase 2a and Phase 2 Groundwater Sampling events. If a chemical was not analyzed during these events, the range of reporting limits presented in this table represent the minimum and maximum reporting limit from all other events.

13 GW COPCs identified in this table have not yet been approved by Ecology.

14 Xylenes are typically analyzed and reported by laboratories as m,p-Xylene and o-Xylene; these values are summed and reported as Total Xylenes. When evaluating relevant criteria for Xylenes, the criterion developed for Total Xylenes was selected as the relevant criterion.

15 Criteria developed for Total Chromium and for Chromium(III) were considered when determining the relevant criteria for chromium. There is no reason to suspect the presence of Chromium(VI) on-site.

16 Aldrin is the only pesticide with a vapor intrusion screening level. The vapor intrusion screening level for aldrin is 0.32 µg/L, which is less conservative (greater than) than criteria protective of the drinking water exposure pathway.

17 Criteria were not developed for Endosulfan I or Endosulfan II in CLARC. Criteria developed for Endosulfan (CAS 115-29-7) were used as a surrogate.

18 Criteria were not developed for chlordane-alpha in CLARC; criteria developed for Chlordane (CAS 12789-03-6) were used as a surrogate.

19 The screening level protective of the vapor intrusion pathway for TPH is 30,000 µg/L, which is less conservative (greater than) than criteria protective of the drinking water exposure pathway.

Abbreviations:

ALS Analytical Laboratory Services
ARAR Applicable or Relevant and Appropriate Requiremen
CAS Chemical Abstracts Service
CLARC Cleanup Levels and Risk Calculation
COC Chemical of concern
COPC Chemical of Potential Concern
Ecology Washington State Department of Ecology
GW Groundwater
MCL Maximum Contaminant Level
µg/L Micrograms per liter
MTCA Model Toxics Control Act
NA Not analyzed; PAL does not perform analysis for this analyte in the indicated media.
PAL Pacific Agricultural Laboratories
PCUL Preliminary cleanup level
PQL Practical quantitation limit

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Human Health and Ecological Risk-Based Criteria					Information Considered in Development of Soil PCUL						
							Human Health		Ecological Receptors	Leaching	Risk-Based Criteria: Includes Ecological Receptors [9]	PAL PQL (mg/kg) [10]	Manchester PQL (mg/kg) [11]	Final PQL (mg/kg) [12]	Natural or Area-Wide Background [13]	HH+TEE+Leaching PCUL (mg/kg) [14]	Is it a GW COPC?	Direct Contact PCUL (HH+TEE) if GW Demonstrates Compliance (mg/kg)
							MTCA Method A Unrestricted [5]	Min. Soil MTCA Method B (mg/kg) [6]	Simple Unrestricted Land Use Site TEE (mg/kg) [7]	Soil to Protect GW - Saturated (mg/kg) [8]								
Analytes on COC Lists																		
Volatile Organic Compounds (VOCs)																		
TRUE	Benzene	71-43-2	TRUE	TRUE	TRUE	FALSE	0.030	18		0.0048	0.0048	0.030	0.0010	0.030		0.030	TRUE	18
TRUE	Toluene	100-41-4	TRUE	TRUE	TRUE	FALSE	6.0	8,000		1.8	1.8	0.050	0.0010	0.050		1.8	TRUE	8,000
FALSE	Ethylbenzene	108-88-3	FALSE	TRUE	TRUE	FALSE	7.0	6,400			6,400	0.050	0.0010	0.050		6,400	--	
TRUE	Xylenes [18]	1330-20-7	TRUE	TRUE	TRUE	FALSE	9.0	16,000		4.6	4.6	1.5	0.0020	1.5		4.6	TRUE	16,000
FALSE	Methyl tert-Butyl Ether	1634-04-4	FALSE	TRUE	FALSE	FALSE	0.10	560			560	0.050	0.0010	0.050		560	--	
FALSE	Ethanol	64-17-5	FALSE	TRUE	FALSE	FALSE						50		50		No Soil PCUL	--	
FALSE	Naphthalene	91-20-3	FALSE	TRUE	TRUE	FALSE	5.0	1,600			1,600	0.050	0.0010	0.050		1,600	--	
FALSE	1,2-Dichloroethane	107-06-2	FALSE	TRUE	FALSE	FALSE		11			11	0.050	0.0010	0.050		11	--	
FALSE	n-Hexane	110-54-3	FALSE	TRUE	TRUE	FALSE		4,800			4,800	0.050		0.050		4,800	--	
FALSE	1,2-Dibromoethane	106-93-4	FALSE	TRUE	FALSE	FALSE	0.0050	0.50			0.50	0.050	0.0010	0.050		0.50	--	
Metals																		
TRUE	Arsenic	7440-38-2	TRUE	TRUE	TRUE	FALSE	20	0.67		0.15	0.15	1.0		1.0	20	20	TRUE	
TRUE	Cadmium	7440-43-9	TRUE	TRUE	TRUE	FALSE	2.0	80	25	0.035	0.035	1.0		1.0	0.096	1.0	TRUE	25
TRUE	Chromium (Total) [19]	7440-47-3	TRUE	TRUE	TRUE	FALSE			64	No Partitioning Data	64	1.0		1.0		64	--	
TRUE	Copper	7440-50-8	TRUE	TRUE	TRUE	FALSE		3,200	100	14	14	1.0		1.0	14	14	TRUE	100
TRUE	Lead	7439-92-1	TRUE	TRUE	TRUE	FALSE	250		220	150	150	1.0		1.0	7.2	150	TRUE	220
FALSE	Mercury	7439-97-6	FALSE	TRUE	TRUE	FALSE	2.0		0.70		0.70	0.10		0.10	0.0070	0.70	--	
TRUE	Zinc	7440-66-6	TRUE	TRUE	TRUE	FALSE		24,000	270	300	270	1.0		1.0	53	270	TRUE	270
Carcinogenic Polycyclic Aromatic Hydrocarbons																		
FALSE	Benz(a)anthracene	56-55-3	FALSE	TRUE	TRUE	FALSE						0.0020		0.0020		See cPAH TEQ	--	
FALSE	Benzo(a)pyrene	50-32-8	FALSE	TRUE	TRUE	FALSE	0.10	0.19	30		0.19	0.0020		0.0020		See cPAH TEQ	--	
FALSE	Benzo(b)fluoranthene	205-99-2	FALSE	TRUE	TRUE	FALSE						0.0020		0.0020		See cPAH TEQ	--	
FALSE	Benzo(k)fluoranthene	207-08-9	FALSE	TRUE	TRUE	FALSE						0.0020		0.0020		See cPAH TEQ	--	
FALSE	Chrysene	218-01-9	FALSE	TRUE	TRUE	FALSE						0.0020		0.0020		See cPAH TEQ	--	
FALSE	Dibenz(a,h)anthracene	53-70-3	FALSE	TRUE	FALSE	FALSE						0.0020		0.0020		See cPAH TEQ	--	
FALSE	Indeno(1,2,3-c,d)pyrene	193-39-5	FALSE	TRUE	TRUE	FALSE						0.0020		0.0020		See cPAH TEQ	--	
FALSE	cPAH TEQ	BaPEq (U=0)	FALSE	TRUE	TRUE	FALSE	0.10	0.19	30		0.19	0.0020		0.0020		0.19	--	
Miscellaneous Substances																		
TRUE	Ammonia-Nitrogen	7664-41-7	TRUE	FALSE	FALSE	FALSE						NA	NA	NA		No Soil PCUL	--	
TRUE	Nitrate/Nitrite	14797-55-8	TRUE	TRUE	TRUE	FALSE		130,000		No Partitioning Data	130,000	0.50		0.50		130,000	--	
TRUE	Nitrate	14797-55-8	TRUE	TRUE	TRUE	TRUE		130,000		No Partitioning Data	130,000	0.50		0.50		130,000	--	
TRUE	Nitrite	14797-65-0	TRUE	TRUE	TRUE	TRUE		8000		No Partitioning Data	8,000	0.50		0.50		8,000	--	
Organochlorine Pesticides																		
TRUE	HCH-alpha (a-BHC)	319-84-6	TRUE	TRUE	TRUE	TRUE		0.16		0.00028	0.00028	0.0067	0.00025	0.0067		0.0067	TRUE	0.16
TRUE	HCH-beta (b-BHC)	319-85-7	TRUE	TRUE	TRUE	TRUE		0.56		0.0012	0.0012	0.0067	0.00025	0.0067		0.0067	TRUE	
TRUE	HCH-delta (d-BHC)	319-86-8	FALSE	TRUE	TRUE	TRUE				No GW PCUL		0.0067	0.00025	0.0067		No Soil PCUL	--	
TRUE	G-BHC (Lindane)	58-89-9	TRUE	TRUE	TRUE	TRUE	0.010	0.91	10	0.0030	0.0030	0.0067	0.00025	0.0067		0.0067	TRUE	0.91
TRUE	Aldrin	309-00-2	TRUE	TRUE	TRUE	TRUE		0.059	0.17	0.0014	0.0014	0.0067	0.00050	0.0067		0.0067	TRUE	
TRUE	Heptachlor	76-44-8	TRUE	TRUE	TRUE	TRUE		0.22	0.60	0.020	0.020	0.0067	0.00050	0.0067		0.020	TRUE	0.22
TRUE	Heptachlor Epoxide	1024-57-3	TRUE	TRUE	FALSE	TRUE		0.11	0.60	0.044	0.044	0.0067	0.00025	0.0067		0.044	TRUE	0.11
TRUE	Chlordane	12789-03-6	TRUE	TRUE	TRUE	TRUE			1.0	1.1	1.0	0.033	NA [20]	0.030		1.0	TRUE	
TRUE	Dieldrin	60-57-1	TRUE	TRUE	TRUE	TRUE		0.063	0.17	0.0015	0.0015	0.0067	0.00025	0.0067		0.0067	TRUE	
TRUE	Endrin	72-20-8	FALSE	TRUE	TRUE	TRUE		24	0.40	0.24	0.24	0.0067	0.00025	0.0067		0.24	FALSE	0.40

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Information Considered in COPC Identification: Max Detection in Soil (mg/kg) [15]	Percent of Detected Results that Exceed	Maximum Detected Exceedance Factor	Min Phase 2 Reporting Limit (mg/kg) [16]	Max Phase 2 Reporting Limit (mg/kg) [16]	Is it a Soil COPC? [17]	Rationale
Analytes on COC Lists													
Volatile Organic Compounds (VOCs)													
TRUE	Benzene	71-43-2	TRUE	TRUE	TRUE	FALSE	0.037	None	None	NA	NA	**No**	**GW demonstrates compliance; no exceedances of direct contact PCUL**
TRUE	Toluene	100-41-4	TRUE	TRUE	TRUE	FALSE	0.61	None	None	NA	NA	No	GW demonstrates compliance; no exceedances
FALSE	Ethylbenzene	108-88-3	FALSE	TRUE	TRUE	FALSE	0.24	None	None	NA	NA	No	No exceedances
TRUE	Xylenes [18]	1330-20-7	TRUE	TRUE	TRUE	FALSE	2.1	None	None	NA	NA	No	GW demonstrates compliance; no exceedances
FALSE	Methyl tert-Butyl Ether	1634-04-4	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0010	0.050	No	No exceedances
FALSE	Ethanol	64-17-5	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.15	1.0	No	No Soil PCUL
FALSE	Naphthalene	91-20-3	FALSE	TRUE	TRUE	FALSE	0.34	None	None	NA	NA	No	No exceedances
FALSE	1,2-Dichloroethane	107-06-2	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0010	0.050	No	No exceedances
FALSE	n-Hexane	110-54-3	FALSE	TRUE	TRUE	FALSE	0.029	None	None	NA	NA	No	No exceedances
FALSE	1,2-Dibromoethane	106-93-4	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0010	0.050	No	No exceedances
Metals													
TRUE	Arsenic	7440-38-2	TRUE	TRUE	TRUE	FALSE	11	None	None	NA	NA	No	No exceedances
TRUE	Cadmium	7440-43-9	TRUE	TRUE	TRUE	FALSE	4.4	None	None	NA	NA	**No**	**GW demonstrates compliance; no exceedances of direct contact PCUL**
TRUE	Chromium (Total) [19]	7440-47-3	TRUE	TRUE	TRUE	FALSE	65	1.4%	1.0	NA	NA	**No**	**Chromium(VI) is not associated with pesticides or any other former industrial uses or practices at the site. The PCUL of 64 mg/kg is consistent with Technical Addendum Attachment V: *WAC 173-340 Table 749-2 Chemical-Specific Technical Support Documents* for use at sites where only chromium(III) is present.**
TRUE	Copper	7440-50-8	TRUE	TRUE	TRUE	FALSE	90	None	None	NA	NA	**No**	**GW demonstrates compliance; no exceedances of direct contact PCUL**
TRUE	Lead	7439-92-1	TRUE	TRUE	TRUE	FALSE	990	3.6%	4.5	NA	NA	**Yes**	**GW demonstrates compliance; max result > direct contact PCUL**
FALSE	Mercury	7439-97-6	FALSE	TRUE	TRUE	FALSE	0.71	1.3%	1.0	NA	NA	No	Only one result exceeds, with an exceedance factor of < 1.1. Sample is bounded.
TRUE	Zinc	7440-66-6	TRUE	TRUE	TRUE	FALSE	470	6.7%	1.7	NA	NA	**Yes**	**Max result > soil PCUL**
Carcinogenic Polycyclic Aromatic Hydrocarbons													
FALSE	Benz(a)anthracene	56-55-3	FALSE	TRUE	TRUE	FALSE	0.032	NA	NA	NA	NA	NA	See cPAH TEQ
FALSE	Benzo(a)pyrene	50-32-8	FALSE	TRUE	TRUE	FALSE	0.029	NA	NA	NA	NA	NA	See cPAH TEQ
FALSE	Benzo(b)fluoranthene	205-99-2	FALSE	TRUE	TRUE	FALSE	0.12	NA	NA	NA	NA	NA	See cPAH TEQ
FALSE	Benzo(k)fluoranthene	207-08-9	FALSE	TRUE	TRUE	FALSE	0.0074	NA	NA	NA	NA	NA	See cPAH TEQ
FALSE	Chrysene	218-01-9	FALSE	TRUE	TRUE	FALSE	0.32	NA	NA	NA	NA	NA	See cPAH TEQ
FALSE	Dibenz(a,h)anthracene	53-70-3	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0020	0.10	NA	See cPAH TEQ
FALSE	Indeno(1,2,3-c,d)pyrene	193-39-5	FALSE	TRUE	TRUE	FALSE	0.022	NA	NA	NA	NA	NA	See cPAH TEQ
FALSE	cPAH TEQ	BaPEq (U=0)	FALSE	TRUE	TRUE	FALSE	0.085	None	None	NA	NA	No	No exceedances
Miscellaneous Substances													
TRUE	Ammonia-Nitrogen	7664-41-7	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
TRUE	Nitrate/Nitrite	14797-55-8	TRUE	TRUE	TRUE	FALSE	550	None	None	NA	NA	No	No exceedances
TRUE	Nitrate	14797-55-8	TRUE	TRUE	TRUE	TRUE	550	None	None	NA	NA	No	No exceedances
TRUE	Nitrite	14797-65-0	TRUE	TRUE	TRUE	TRUE	5.6	None	None	NA	NA	No	No exceedances
Organochlorine Pesticides													
TRUE	HCH-alpha (a-BHC)	319-84-6	TRUE	TRUE	TRUE	TRUE	0.017	None	None	NA	NA	No	GW demonstrates compliance; no exceedances of direct contact PCUL
TRUE	HCH-beta (b-BHC)	319-85-7	TRUE	TRUE	TRUE	TRUE	0.052	6.0%	7.8	NA	NA	**Yes**	**GW demonstrates compliance; no exceedances of direct contact PCUL**
TRUE	HCH-delta (d-BHC)	319-86-8	FALSE	TRUE	TRUE	TRUE	0.010	None	None	NA	NA	No	No Soil PCUL
TRUE	G-BHC (Lindane)	58-89-9	TRUE	TRUE	TRUE	TRUE	0.16	None	None	NA	NA	No	GW demonstrates compliance; no exceedances of direct contact PCUL
TRUE	Aldrin	309-00-2	TRUE	TRUE	TRUE	TRUE	20	8.6%	14,000	NA	NA	**Yes**	**Max result > soil PCUL and direct contact PCUL**
TRUE	Heptachlor	76-44-8	TRUE	TRUE	TRUE	TRUE	0.43	1.3%	2.0	NA	NA	**Yes**	**Max result > direct contact PCUL**
TRUE	Heptachlor Epoxide	1024-57-3	TRUE	TRUE	FALSE	TRUE	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No exceedances
TRUE	Chlordane	12789-03-6	TRUE	TRUE	TRUE	TRUE	84	12%	84	NA	NA	**Yes**	**Max result > soil PCUL**
TRUE	Dieldrin	60-57-1	TRUE	TRUE	TRUE	TRUE	46	46%	31,000	NA	NA	**Yes**	**Max result > soil PCUL**
TRUE	Endrin	72-20-8	FALSE	TRUE	TRUE	TRUE	0.38	None	None	NA	NA	No	GW demonstrates compliance; no exceedances of direct contact PCUL

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Human Health and Ecological Risk-Based Criteria					Information Considered in Development of Soil PCUL						
							Human Health		Ecological Receptors	Leaching	Risk-Based Criteria: Includes Ecological Receptors [9]	PAL PQL (mg/kg) [10]	Manchester PQL (mg/kg) [11]	Final PQL (mg/kg) [12]	Natural or Area-Wide Background [13]	HH+TEE+Leaching PCUL (mg/kg) [14]	Is it a GW COPC?	Direct Contact PCUL (HH+TEE) if GW Demonstrates Compliance (mg/kg)
							MTCA Method A Unrestricted [5]	Min. Soil MTCA Method B (mg/kg) [6]	Simple Unrestricted Land Use Site TEE (mg/kg) [7]	Soil to Protect GW - Saturated (mg/kg) [8]								
Analytes on COC Lists (cont.)																		
Organochlorine Pesticides (cont.)																		
TRUE	Endosulfan I [21]	959-98-8	FALSE	TRUE	FALSE	TRUE		480		2.2	2.2	0.0067	0.00050	0.0067		2.2	FALSE	480
TRUE	Endosulfan II [21]	33213-65-9	FALSE	TRUE	TRUE	TRUE		480		2.2	2.2	0.0067	0.00025	0.0067		2.2	FALSE	480
TRUE	4,4'-DDD / Sum DDD	72-54-8	FALSE	TRUE	TRUE	TRUE		2.4		0.18	0.18	0.0067	0.00050 [22]	0.0067		0.18	FALSE	2.4
TRUE	4,4'-DDE / Sum DDE	72-55-9	TRUE	TRUE	TRUE	TRUE		2.9		0.25	0.25	0.0067	0.00050	0.0067		0.25	TRUE	
TRUE	4,4'-DDT / Sum DDT	50-29-3	TRUE	TRUE	TRUE	TRUE	3.0	2.9		3.9	2.9	0.0067	0.00050	0.0067		2.9	TRUE	
FALSE	Total DDx	T_DDx (U=0)	FALSE	TRUE	TRUE	TRUE			1.0		1.0	0.0067	0.00050	0.0067		1.0	FALSE	1.0
TRUE	Hexachlorobenzene	118-74-1	FALSE	TRUE	TRUE	TRUE		0.63	31	0.48	0.48	0.0067	0.00050	0.0067		0.48	FALSE	0.63
TRUE	Methoxychlor	72-43-5	FALSE	TRUE	TRUE	TRUE		400		35	35	0.0067	0.00050	0.0067		35	FALSE	400
TRUE	Toxaphene	8001-35-2	TRUE	TRUE	TRUE	TRUE		0.91		0.84	0.84	0.33	0.0025	0.33		0.84	TRUE	
Chlorinated Herbicides																		
TRUE	2,4-D	94-75-7	TRUE	TRUE	TRUE	TRUE		800		No Partitioning Data	800	0.010	0.016	0.010		800	--	
TRUE	2,4-DB	94-82-6	TRUE	TRUE	TRUE	TRUE		640		No Partitioning Data	640	0.010	0.016	0.010		640	--	
TRUE	2,4,5-TP (Silvex)	93-72-1	TRUE	TRUE	TRUE	TRUE		640		No Partitioning Data	640	0.010	0.016	0.010		640	--	
TRUE	2,4,5-T	93-76-5	FALSE	TRUE	TRUE	TRUE		800		No Partitioning Data	800	0.010	0.016	0.010		800	--	
TRUE	Dalapon	75-99-0	FALSE	FALSE	FALSE	TRUE		2,400			2,400	NA	NA	NA		2,400	--	
TRUE	Dicamba	1918-00-9	TRUE	TRUE	TRUE	TRUE		2,400		No Partitioning Data	2,400	0.010	0.016	0.010		2,400	Yes	
TRUE	Dinoseb	88-85-7	TRUE	TRUE	TRUE	TRUE		80		No Partitioning Data	80	0.010	0.016	0.010		80	--	
TRUE	MCPA	94-74-6	TRUE	TRUE	TRUE	TRUE		40		No Partitioning Data	40	0.010	0.016	0.010		40	--	
TRUE	MCPP (Mecoprop)	93-65-2	FALSE	TRUE	FALSE	TRUE		80		No Partitioning Data	80	0.010	0.016	0.010		80	--	
TRUE	Pentachlorophenol	87-86-5	FALSE	TRUE	TRUE	TRUE		2.5	11	0.0068	0.0068	0.020	0.016	0.020		0.020	FALSE	2.5
Other Chlorinated/Halogenated Pesticides																		
FALSE	Acetochlor	34256-82-1	FALSE	TRUE	FALSE	FALSE		1,600			1,600	0.017	NA	0.017		1,600	--	
FALSE	Alachlor	15972-60-8	FALSE	TRUE	FALSE	FALSE		18			18	0.017	NA	0.017		18	--	
TRUE	Atrazine	1912-24-9	TRUE	TRUE	TRUE	TRUE		4.3		No Partitioning Data	4.3	0.0067	NA	0.0067		4.3	--	
FALSE	Captafol	2425-06-1	FALSE	TRUE	FALSE	FALSE		6.7			6.7	0.0067	NA	0.0067		6.7	--	
FALSE	Captan	133-06-2	FALSE	TRUE	FALSE	FALSE		430			430	0.017	NA	0.017		430	--	
TRUE	Chlordane-alpha [23]	5103-71-9	TRUE	TRUE	TRUE	TRUE		2.9	1.0	1.1	1.0	0.017	0.00025	0.017		1.0	TRUE	1.0
FALSE	Chlorbenzilate	510-15-6	FALSE	TRUE	FALSE	FALSE		9.1			9.1	0.017	NA	0.017		9.1	--	
FALSE	Chlorthalonil	1897-45-6	FALSE	TRUE	FALSE	FALSE		320			320	0.0067	NA	0.0067		320	--	
FALSE	Cyanazine (Bladex)	21725-46-2	FALSE	TRUE	TRUE	FALSE		1.2			1.2	0.017	NA	0.017		1.2	--	
FALSE	Cyhalothrin/karate	68085-85-8	FALSE	TRUE	FALSE	FALSE		400			400	0.033	NA	0.033		400	--	
FALSE	Cypermethrin	52315-07-8	FALSE	TRUE	FALSE	FALSE		800			800	0.033	NA	0.033		800	--	
FALSE	DCPA (Dacthal)	1861-32-1	FALSE	TRUE	FALSE	FALSE		800			800	0.0067	0.00025	0.0067		800	--	
FALSE	Flutolanil	66332-96-5	FALSE	TRUE	FALSE	FALSE		4,800			4,800	0.0067	NA	0.0067		4,800	--	
FALSE	Folpet	133-07-3	FALSE	TRUE	FALSE	FALSE		290			290	0.017	NA	0.017		290	--	
FALSE	Hexachlorocylcopentadien	77-47-4	FALSE	TRUE	FALSE	FALSE		480			480	NA	NA	NA		480	--	
FALSE	Iprodione	36734-19-7	FALSE	TRUE	FALSE	FALSE		3200			3,200	0.0067	NA	0.0067		3,200	--	
FALSE	Metoachlor	51218-45-2	FALSE	TRUE	FALSE	FALSE		12,000			12,000	0.017	NA	0.017		12,000	--	
TRUE	Metribuzin	21087-64-9	TRUE	TRUE	TRUE	FALSE		2,000		No Partitioning Data	2,000	0.0067	NA	0.0067		2,000	--	
FALSE	Norflurazon	27314-13-2	FALSE	TRUE	FALSE	FALSE		3,200			3,200	0.0067	NA	0.0067		3,200	--	
TRUE	Oxadiazon	19666-30-9	TRUE	TRUE	FALSE	FALSE		400		No Partitioning Data	400	0.0067	NA	0.0067		400	--	
FALSE	Oxamyl	23135-22-0	FALSE	TRUE	FALSE	FALSE		2,000			2,000	0.033	NA	0.033		2,000	--	
FALSE	Permethrin	52645-53-1	FALSE	TRUE	FALSE	FALSE		4,000			4,000	0.033	NA	0.033		4,000	--	
FALSE	Pronamide	23950-58-5	FALSE	TRUE	FALSE	FALSE		6,000			6,000	0.0067	NA	0.0067		6,000	--	
FALSE	Propachlor	1918-16-7	FALSE	TRUE	FALSE	FALSE		1,000			1,000	0.017	NA	0.017		1,000	--	
FALSE	Propanil	709-98-8	FALSE	TRUE	FALSE	FALSE		400			400	0.0067	NA	0.0067		400	--	
TRUE	Propiconazole	60207-90-1	TRUE	TRUE	FALSE	FALSE		1,000		No Partitioning Data	1,000	0.017	NA	0.017		1,000	--	
TRUE	Simazine	122-34-9	TRUE	TRUE	TRUE	TRUE		8.3		No Partitioning Data	8.3	0.0067	NA	0.0067		8.3	--	
TRUE	Terbacil	5902-51-2	TRUE	TRUE	FALSE	FALSE		1,000		No Partitioning Data	1,000	0.0067	NA	0.0067		1,000	--	
FALSE	Trifluralin	1582-09-8	FALSE	TRUE	TRUE	FALSE		130			130	0.0067	NA	0.0067		130	--	

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Information Considered in COPC Identification: Max Detection in Soil (mg/kg) [15]	Percent of Detected Results that Exceed	Maximum Detected Exceedance Factor	Min Phase 2 Reporting Limit (mg/kg) [16]	Max Phase 2 Reporting Limit (mg/kg) [16]	Is it a Soil COPC? [17]	Rationale
Analytes on COC Lists (cont.)													
Organochlorine Pesticides (cont.)													
TRUE	Endosulfan I [21]	959-98-8	FALSE	TRUE	FALSE	TRUE	Not Detected in Soil	NA	NA	0.0067	0.0067	No	GW demonstrates compliance; max RL < direct contact criteria
TRUE	Endosulfan II [21]	33213-65-9	FALSE	TRUE	TRUE	TRUE	1.5	None	None	NA	NA	No	GW demonstrates compliance; no exceedances
TRUE	4,4'-DDD / Sum DDD	72-54-8	FALSE	TRUE	TRUE	TRUE	3.2	2.0%	1.3	NA	NA	**Yes**	**Max result > direct contact PCUL**
TRUE	4,4'-DDE / Sum DDE	72-55-9	TRUE	TRUE	TRUE	TRUE	5.4	7.9%	22	NA	NA	**Yes**	**Max result > soil PCUL**
TRUE	4,4'-DDT / Sum DDT	50-29-3	TRUE	TRUE	TRUE	TRUE	20	6.0%	7	NA	NA	**Yes**	**Max result > soil PCUL**
FALSE	Total DDx	T_DDx (U=0)	FALSE	TRUE	TRUE	TRUE	25	9.3%	25	NA	NA	**Yes**	**Max result > soil PCUL**
TRUE	Hexachlorobenzene	118-74-1	FALSE	TRUE	TRUE	TRUE	0.0099	None	None	NA	NA	No	GW demonstrates compliance; no exceedances
TRUE	Methoxychlor	72-43-5	FALSE	TRUE	TRUE	TRUE	0.0092	None	None	NA	NA	No	GW demonstrates compliance; no exceedances
TRUE	Toxaphene	8001-35-2	TRUE	TRUE	TRUE	TRUE	120	18%	140	NA	NA	**Yes**	**Max result > soil PCUL**
Chlorinated Herbicides													
TRUE	2,4-D	94-75-7	TRUE	TRUE	TRUE	TRUE	3.1	None	None	NA	NA	No	No exceedances
TRUE	2,4-DB	94-82-6	TRUE	TRUE	TRUE	TRUE	0.72	None	None	NA	NA	No	No exceedances
TRUE	2,4,5-TP (Silvex)	93-72-1	TRUE	TRUE	TRUE	TRUE	2.9	None	None	NA	NA	No	No exceedances
TRUE	2,4,5-T	93-76-5	FALSE	TRUE	TRUE	TRUE	0.087	None	None	NA	NA	No	No exceedances
TRUE	Dalapon	75-99-0	FALSE	FALSE	FALSE	TRUE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
TRUE	Dicamba	1918-00-9	TRUE	TRUE	TRUE	TRUE	10	None	None	NA	NA	No	No exceedances
TRUE	Dinoseb	88-85-7	TRUE	TRUE	TRUE	TRUE	3.7	None	None	NA	NA	No	No exceedances
TRUE	MCPA	94-74-6	TRUE	TRUE	TRUE	TRUE	0.76	None	None	NA	NA	No	No exceedances
TRUE	MCPP (Mecoprop)	93-65-2	FALSE	TRUE	FALSE	TRUE	Not Detected in Soil	NA	NA	0.010	0.010	No	No exceedances
TRUE	Pentachlorophenol	87-86-5	FALSE	TRUE	TRUE	TRUE	0.12	None	None	NA	NA	**No**	**GW demonstrates compliance; no exceedances of direct contact PCUL**
Other Chlorinated/Halogenated Pesticides													
FALSE	Acetochlor	34256-82-1	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.17	3.4	No	No exceedances
FALSE	Alachlor	15972-60-8	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.17	3.4	No	No exceedances
TRUE	Atrazine	1912-24-9	TRUE	TRUE	TRUE	TRUE	710	0.66%	170	NA	NA	**Yes**	**Max result > soil PCUL**
FALSE	Captafol	2425-06-1	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0067	33	No	No exceedances
FALSE	Captan	133-06-2	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.065	1.3	No	No exceedances
TRUE	Chlordane-alpha [23]	5103-71-9	TRUE	TRUE	TRUE	TRUE	9.9	5.6%	9.9	NA	NA	**Yes**	**Max result > soil PCUL**
FALSE	Chlorbenzilate	510-15-6	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.17	3.4	No	No exceedances
FALSE	Chlorthalonil	1897-45-6	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.065	1.3	No	No exceedances
FALSE	Cyanazine (Bladex)	21725-46-2	FALSE	TRUE	TRUE	FALSE	0.29	None	None	NA	NA	No	No exceedances
FALSE	Cyhalothrin/karate	68085-85-8	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.32	6.6	No	No exceedances
FALSE	Cypermethrin	52315-07-8	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.32	6.6	No	No exceedances
FALSE	DCPA (Dacthal)	1861-32-1	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.065	1.3	No	No exceedances
FALSE	Flutolanil	66332-96-5	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.65	13	No	No exceedances
FALSE	Folpet	133-07-3	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.17	3.4	No	No exceedances
FALSE	Hexachlorocylcopentadien	77-47-4	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.030	7.5	No	No exceedances
FALSE	Iprodione	36734-19-7	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.065	1.3	No	No exceedances
FALSE	Metoachlor	51218-45-2	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.17	3.4	No	No exceedances
TRUE	Metribuzin	21087-64-9	TRUE	TRUE	TRUE	FALSE	0.18	None	None	NA	NA	No	No exceedances
FALSE	Norflurazon	27314-13-2	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.065	1.3	No	No exceedances
TRUE	Oxadiazon	19666-30-9	TRUE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.065	1.3	No	No exceedances
FALSE	Oxamyl	23135-22-0	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No exceedances
FALSE	Permethrin	52645-53-1	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.32	6.6	No	No exceedances
FALSE	Pronamide	23950-58-5	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.065	1.3	No	No exceedances
FALSE	Propachlor	1918-16-7	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.17	3.4	No	No exceedances
FALSE	Propanil	709-98-8	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.065	1.3	No	No exceedances
TRUE	Propiconazole	60207-90-1	TRUE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.17	3.4	No	No exceedances
TRUE	Simazine	122-34-9	TRUE	TRUE	TRUE	TRUE	110	0.66%	13	NA	NA	**Yes**	**Max result > soil PCUL**
TRUE	Terbacil	5902-51-2	TRUE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.065	1.3	No	No exceedances
FALSE	Trifluralin	1582-09-8	FALSE	TRUE	TRUE	FALSE	0.49	None	None	NA	NA	No	No exceedances

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Human Health and Ecological Risk-Based Criteria					Information Considered in Development of Soil PCUL						
							Human Health		Ecological Receptors	Leaching	Risk-Based Criteria: Includes Ecological Receptors [9]	PAL PQL (mg/kg) [10]	Manchester PQL (mg/kg) [11]	Final PQL (mg/kg) [12]	Natural or Area-Wide Background [13]	HH+TEE+Leaching PCUL (mg/kg) [14]	Is it a GW COPC?	Direct Contact PCUL (HH+TEE) if GW Demonstrates Compliance (mg/kg)
							MTCA Method A Unrestricted [5]	Min. Soil MTCA Method B (mg/kg) [6]	Simple Unrestricted Land Use Site TEE (mg/kg) [7]	Soil to Protect GW - Saturated (mg/kg) [8]								
Analytes on COC Lists (cont.)																		
Organophosphate Pesticides (Organophosphorus Compounds)																		
FALSE	Glyphosate	1071-83-6	FALSE	TRUE	TRUE	FALSE		8,000			8,000	0.033	NA	0.033		8,000	--	
FALSE	Chlorpyrifos	2921-88-2	FALSE	TRUE	TRUE	FALSE		80			80	0.017	0.00025	0.017		80	--	
FALSE	Chlorpyrifos-methyl	5598-13-0	FALSE	TRUE	FALSE	FALSE		800			800	0.017	NA	0.017		800	--	
FALSE	Diazinon	333-41-5	FALSE	TRUE	FALSE	FALSE		56			56	0.017	NA	0.017		56	--	
FALSE	Dichlorvos	62-73-7	FALSE	TRUE	FALSE	FALSE		3.4			3.4	0.017	NA	0.017		3.4	--	
FALSE	Dicrotophos	141-66-2	FALSE	TRUE	FALSE	FALSE		8.0			8.0	0.017	NA	0.017		8.0	--	
FALSE	Dimethoate	60-51-5	FALSE	TRUE	FALSE	FALSE		16			16	0.017	NA	0.017		16	--	
FALSE	Disulfoton	298-04-4	FALSE	TRUE	FALSE	FALSE		3.2			3.2	0.017	NA	0.017		3.2	--	
FALSE	EPN	2104-64-5	FALSE	TRUE	FALSE	FALSE		0.80			0.80	0.017	NA	0.017		0.80	--	
FALSE	Ethion (Ronnel)	563-12-2	FALSE	TRUE	FALSE	FALSE		40			40	0.017	NA	0.017		40	--	
FALSE	Fenchlorphos	299-84-3	FALSE	FALSE	FALSE	FALSE		4,000			4,000	0.017	NA	0.017		4,000	--	
FALSE	Fonofos (Merphos)	944-22-9	FALSE	TRUE	FALSE	FALSE		160			160	0.017	NA	0.017		160	--	
FALSE	Malathion	121-75-5	FALSE	TRUE	FALSE	FALSE		1,600			1,600	0.017	NA	0.017		1,600	--	
FALSE	Naled (as Dichlorvos)	300-76-5	FALSE	FALSE	FALSE	FALSE		160			160	0.017	NA	0.017		160	--	
FALSE	Parathion	56-38-2	FALSE	TRUE	FALSE	FALSE		480			480	0.017	NA	0.017		480	--	
FALSE	Parathion-methyl	298-00-0	FALSE	TRUE	FALSE	FALSE		20			20	0.017	NA	0.017		20	--	
FALSE	Phorate	298-02-2	FALSE	TRUE	FALSE	FALSE		16			16	0.017	NA	0.017		16	--	
FALSE	Terbufos	13071-79-9	FALSE	TRUE	FALSE	FALSE		2.0			2.0	0.017	NA	0.017		2.0	--	
Triazine Herbicides (Organonitrogen Pesticides)																		
FALSE	Ametryn	834-12-8	FALSE	TRUE	TRUE	FALSE		720			720	0.0067	NA	0.0067		720	--	
TRUE	Hexazinone	51235-04-2	TRUE	TRUE	TRUE	FALSE		2,600		No Partitioning Data	2,600	0.0067	NA	0.0067		2,600	--	
TRUE	Prometon	1610-18-0	TRUE	TRUE	TRUE	FALSE		1,200		No Partitioning Data	1,200	0.0067	NA	0.0067		1,200	--	
FALSE	Prometryn	7287-19-6	FALSE	TRUE	TRUE	FALSE		320			320	0.0067	NA	0.0067		320	--	
TRUE	Propazine	139-40-2	TRUE	TRUE	FALSE	FALSE		1,600		No Partitioning Data	1,600	0.0067	NA	0.0067		1,600	--	
Phenylurea Herbicides																		
TRUE	Diuron	330-54-1	TRUE	TRUE	TRUE	FALSE		160		No Partitioning Data	160	0.0067	NA	0.0067		160	--	
FALSE	Linuron	330-55-2	FALSE	TRUE	TRUE	FALSE		160			160	0.0067	NA	0.0067		160	--	
Carbamate Pesticides																		
FALSE	Aldicarb	116-06-3	FALSE	TRUE	FALSE	FALSE		80			80	0.0067	NA	0.0067		80	--	
FALSE	Aldicarb sulfone	1646-88-4	FALSE	TRUE	FALSE	FALSE		80			80	0.0067	NA	0.0067		80	--	
TRUE	Carbaryl	63-25-2	TRUE	TRUE	TRUE	FALSE		8,000		No Partitioning Data	8,000	0.0067	NA	0.0067		8,000	--	
TRUE	Carbofuran	1563-66-2	TRUE	TRUE	TRUE	FALSE		400		No Partitioning Data	400	0.0067	NA	0.0067		400	--	
FALSE	Methomyl	16752-77-5	FALSE	TRUE	FALSE	FALSE		2,000			2,000	0.0067	NA	0.0067		2,000	--	
FALSE	Thiobencarb	28249-77-6	FALSE	TRUE	FALSE	FALSE		800			800	0.0067	NA	0.0067		800	--	
Organophosphorus and Organosulfur Pesticides																		
FALSE	Demeton	8065-48-3	FALSE	TRUE	FALSE	FALSE		3.2			3.2	0.017	NA	0.017		3.2	--	
FALSE	Fenamiphos	22224-92-6	FALSE	TRUE	FALSE	FALSE		20			20	0.017	NA	0.017		20	--	
FALSE	Merphos	150-50-5	FALSE	TRUE	FALSE	FALSE		2.4			2.4	0.017	NA	0.017		2.4	--	
FALSE	Methidathion	950-37-8	FALSE	TRUE	FALSE	FALSE		80			80	0.017	NA	0.017		80	--	
FALSE	Phosmet	732-11-6	FALSE	TRUE	FALSE	FALSE		1,600			1,600	0.017	NA	0.017		1,600	--	
FALSE	Pirimiphos-methyl	29232-93-7	FALSE	TRUE	FALSE	FALSE		800			800	0.017	NA	0.017		800	--	
FALSE	Propargite	2312-35-8	FALSE	TRUE	FALSE	FALSE		1,600			1,600	0.017	NA	0.017		1,600	--	
FALSE	Tetrachlorvinphos	961-11-5	FALSE	TRUE	FALSE	FALSE		42			42	0.017	NA	0.017		42	--	
Organonitrogen Pesticides																		
FALSE	Amitraz	33089-61-1	FALSE	TRUE	FALSE	FALSE		200			200	0.013	NA	0.013		200	--	
FALSE	Diphenylamine	122-39-4	FALSE	TRUE	TRUE	FALSE		2,000			2,000	NA	NA	NA		NA	--	
FALSE	Fluometuron	2164-17-2	FALSE	TRUE	FALSE	FALSE		1,000			1,000	0.0067	NA	0.0067		1,000	--	
TRUE	Metalaxyl	57837-19-1	TRUE	TRUE	FALSE	FALSE		4,800		No Partitioning Data	4,800	0.0067	NA	0.0067		4,800	--	
FALSE	Oryzalin	19044-88-3	FALSE	FALSE	FALSE	FALSE		4,000			4,000	0.0067	NA	0.0067		4,000	--	
TRUE	Pendimethalin	40487-42-1	TRUE	TRUE	TRUE	FALSE		3,200		No Partitioning Data	3,200	0.0067	NA	0.0067		3,200	--	
TRUE	Tebuthiuron	34014-18-1	TRUE	TRUE	TRUE	FALSE		5,600		No Partitioning Data	5,600	0.013	NA	0.013		5,600	--	

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Information Considered in COPC Identification: Max Detection in Soil (mg/kg) [15]	Percent of Detected Results that Exceed	Maximum Detected Exceedance Factor	Min Phase 2 Reporting Limit (mg/kg) [16]	Max Phase 2 Reporting Limit (mg/kg) [16]	Is it a Soil COPC? [17]	Rationale
Analytes on COC Lists (cont.)													
Organophosphate Pesticides (Organophosphorus Compounds)													
FALSE	Glyphosate	1071-83-6	FALSE	TRUE	TRUE	FALSE	20	None	None	NA	NA	No	No exceedances
FALSE	Chlorpyrifos	2921-88-2	FALSE	TRUE	TRUE	FALSE	0.041	None	None	NA	NA	No	No exceedances
FALSE	Chlorpyrifos-methyl	5598-13-0	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Diazinon	333-41-5	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Dichlorvos	62-73-7	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Dicrotophos	141-66-2	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Dimethoate	60-51-5	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Disulfoton	298-04-4	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	EPN	2104-64-5	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Ethion (Ronnel)	563-12-2	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Fenchlorphos	299-84-3	FALSE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
FALSE	Fonofos (Merphos)	944-22-9	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Malathion	121-75-5	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Naled (as Dichlorvos)	300-76-5	FALSE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
FALSE	Parathion	56-38-2	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Parathion-methyl	298-00-0	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Phorate	298-02-2	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Terbufos	13071-79-9	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
Triazine Herbicides (Organonitrogen Pesticides)													
FALSE	Ametryn	834-12-8	FALSE	TRUE	TRUE	FALSE	0.046	None	None	NA	NA	No	No exceedances
TRUE	Hexazinone	51235-04-2	TRUE	TRUE	TRUE	FALSE	0.57	None	None	NA	NA	No	No exceedances
TRUE	Prometon	1610-18-0	TRUE	TRUE	TRUE	FALSE	0.38	None	None	NA	NA	No	No exceedances
FALSE	Prometryn	7287-19-6	FALSE	TRUE	TRUE	FALSE	0.014	None	None	NA	NA	No	No exceedances
TRUE	Propazine	139-40-2	TRUE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0067	0.027	No	No exceedances
Phenylurea Herbicides													
TRUE	Diuron	330-54-1	TRUE	TRUE	TRUE	FALSE	1.8	None	None	NA	NA	No	No exceedances
FALSE	Linuron	330-55-2	FALSE	TRUE	TRUE	FALSE	0.036	None	None	NA	NA	No	No exceedances
Carbamate Pesticides													
FALSE	Aldicarb	116-06-3	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No exceedances
FALSE	Aldicarb sulfone	1646-88-4	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No exceedances
TRUE	Carbaryl	63-25-2	TRUE	TRUE	TRUE	FALSE	0.24	None	None	NA	NA	No	No exceedances
TRUE	Carbofuran	1563-66-2	TRUE	TRUE	TRUE	FALSE	0.070	None	None	NA	NA	No	No exceedances
FALSE	Methomyl	16752-77-5	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No exceedances
FALSE	Thiobencarb	28249-77-6	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No exceedances
Organophosphorus and Organosulfur Pesticides													
FALSE	Demeton	8065-48-3	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Fenamiphos	22224-92-6	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Merphos	150-50-5	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Methidathion	950-37-8	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Phosmet	732-11-6	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Pirimiphos-methyl	29232-93-7	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
FALSE	Propargite	2312-35-8	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.013	0.013	No	No exceedances
FALSE	Tetrachlorvinphos	961-11-5	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.033	0.34	No	No exceedances
Organonitrogen Pesticides													
FALSE	Amitraz	33089-61-1	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.013	0.013	No	No exceedances
FALSE	Diphenylamine	122-39-4	FALSE	TRUE	TRUE	FALSE	0.0092	None	None	NA	NA	No	No exceedances
FALSE	Fluometuron	2164-17-2	FALSE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No exceedances
TRUE	Metalaxyl	57837-19-1	TRUE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No exceedances
FALSE	Oryzalin	19044-88-3	FALSE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
TRUE	Pendimethalin	40487-42-1	TRUE	TRUE	TRUE	FALSE	0.67	None	None	NA	NA	No	No exceedances
TRUE	Tebuthiuron	34014-18-1	TRUE	TRUE	TRUE	FALSE	0.63	None	None	NA	NA	No	No exceedances

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Human Health and Ecological Risk-Based Criteria					Information Considered in Development of Soil PCUL						
							Human Health		Ecological Receptors	Leaching	Risk-Based Criteria: Includes Ecological Receptors [9]	PAL PQL (mg/kg) [10]	Manchester PQL (mg/kg) [11]	Final PQL (mg/kg) [12]	Natural or Area-Wide Background [13]	HH+TEE+Leaching PCUL (mg/kg) [14]	Is it a GW COPC?	Direct Contact PCUL (HH+TEE) if GW Demonstrates Compliance (mg/kg)
							MTCA Method A Unrestricted [5]	Min. Soil MTCA Method B (mg/kg) [6]	Simple Unrestricted Land Use Site TEE (mg/kg) [7]	Soil to Protect GW - Saturated (mg/kg) [8]								
Analytes on COC Lists (cont.)																		
Total Petroleum Hydrocarbons (TPH)																		
TRUE	Gasoline-Range TPH	GRO	TRUE	TRUE	TRUE	TRUE	30		200	No Partitioning Data	30	2.0		2.0		30	--	
TRUE	Diesel-Range TPH	DRO	TRUE	TRUE	TRUE	TRUE	2,000		460	No Partitioning Data	460	50		50		See Total Diesel- and Oil-Range TPH	--	
TRUE	Oil-Range TPH	ORO	TRUE	TRUE	TRUE	TRUE	2,000			No Partitioning Data	2,000	250		250			--	
FALSE	Total Diesel- and Oil-Range TPH	DRO+ORO	TRUE	TRUE	TRUE	TRUE	2,000		460	No Partitioning Data	460	250		250		460		
Dioxins																		
FALSE	Dioxins	DF_TEQ (U=1/2)	FALSE	TRUE	TRUE	TRUE		0.0000130	3.00E-06		0.00000300	1.00E-05		1.00E-05	5.20E-06	1.00E-05	--	
Analytes not on COC Lists																		
Conventionals																		
TRUE	Alkalinity (as $CaCO_3$)	--	TRUE	FALSE	FALSE	FALSE										No Soil PCUL	--	
FALSE	Bulk Density	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
TRUE	Chloride	16887-00-6	TRUE	FALSE	FALSE	FALSE										No Soil PCUL	--	
TRUE	Dissolved Organic Carbon	--	TRUE	FALSE	FALSE	FALSE										No Soil PCUL	--	
FALSE	pH	pH	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
TRUE	Sulfate	14808-79-8	TRUE	FALSE	FALSE	FALSE										No Soil PCUL	--	
TRUE	Total Dissolved Solids	--	TRUE	FALSE	FALSE	FALSE										No Soil PCUL	--	
FALSE	Total Organic Carbon	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
Individual Dioxin/Furan Compounds and TEQ ND Zero																		
FALSE	1,2,3,4,6,7,8-HpCDD	35822-46-9	FALSE	TRUE	TRUE	FALSE						0.00000250		0.00000250		See Dioxins	--	
FALSE	1,2,3,4,6,7,8-HpCDF	67562-39-4	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	1,2,3,4,7,8,9-HpCDF	55673-89-7	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	1,2,3,4,7,8-HxCDD	39227-28-6	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	1,2,3,4,7,8-HxCDF	70648-26-9	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	1,2,3,6,7,8-HxCDD	57653-85-7	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	1,2,3,6,7,8-HxCDF	57117-44-9	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	1,2,3,7,8,9-HxCDD	19408-74-3	FALSE	TRUE	TRUE	FALSE		0.000160			0.000160	0.00000100		0.00000100	5.20E-06	See Dioxins	--	
FALSE	1,2,3,7,8,9-HxCDF	72918-21-9	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	1,2,3,7,8-PeCDD	40321-76-4	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	1,2,3,7,8-PeCDF	57117-41-6	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	2,3,4,6,7,8-HxCDF	60851-34-5	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	2,3,4,7,8-PeCDF	57117-31-4	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	2,3,7,8-TCDD (Dioxin)	1746-01-6	FALSE	TRUE	TRUE	FALSE		0.0000130			0.0000130	0.00000100		0.00000100	5.20E-06	See Dioxins	--	
FALSE	2,3,7,8-TCDF	51207-31-9	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	Dioxin/Furans (MTCA TEQ-ZeroND)	DF_TEQ (U=0)	FALSE	TRUE	TRUE	FALSE		0.0000130			0.0000130	0.0000100		0.0000100	5.20E-06	See Dioxins	--	
FALSE	OCDD	3268-87-9	FALSE	TRUE	TRUE	FALSE						0.0000100		0.0000100		See Dioxins	--	
FALSE	OCDF	39001-02-0	FALSE	TRUE	TRUE	FALSE						0.00000200		0.00000200		See Dioxins	--	
FALSE	Total HpCDD	37871-00-4	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	Total HpCDF	38998-75-3	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	Total HxCDD	34465-46-8	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	Total HxCDF	55684-94-1	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	Total PeCDD	36088-22-9	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	Total PeCDF	30402-15-4	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	Total TCDD	41903-57-5	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	
FALSE	Total TCDF	55722-27-5	FALSE	TRUE	TRUE	FALSE						0.00000100		0.00000100		See Dioxins	--	

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Information Considered in COPC Identification: Max Detection in Soil (mg/kg) [15]	Percent of Detected Results that Exceed	Maximum Detected Exceedance Factor	Min Phase 2 Reporting Limit (mg/kg) [16]	Max Phase 2 Reporting Limit (mg/kg) [16]	Is it a Soil COPC? [17]	Rationale
Analytes on COC Lists (cont.)													
Total Petroleum Hydrocarbons (TPH)													
TRUE	Gasoline-Range TPH	GRO	TRUE	TRUE	TRUE	TRUE	1,200	6.9%	40	NA	NA	No	Eliminated in Soil Elimination Memo: gasoline detections are chromatographic overlap with weathered diesel.
TRUE	Diesel-Range TPH	DRO	TRUE	TRUE	TRUE	TRUE	7,400	9.7%	16	NA	NA	No	See Total Diesel- and Oil-Range TPH
TRUE	Oil-Range TPH	ORO	TRUE	TRUE	TRUE	TRUE	17,000	2.2%	8.5	NA	NA	No	
FALSE	Total Diesel- and Oil-Range TPH	DRO+ORO	TRUE	TRUE	TRUE	TRUE	21,000	25%	46	NA	NA	**Yes**	**Max result > soil PCUL**
Dioxins													
FALSE	Dioxins	DF_TEQ (U=1/2)	FALSE	TRUE	TRUE	TRUE	0.0000924	78.0%	9.24	NA	NA	**Yes**	**Max result > soil PCUL**
Analytes not on COC Lists													
Conventionals													
TRUE	Alkalinity (as $CaCO_3$)	--	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
FALSE	Bulk Density	--	FALSE	TRUE	TRUE	FALSE	2.5	NA	NA	NA	NA	No	No Soil PCUL
TRUE	Chloride	16887-00-6	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
TRUE	Dissolved Organic Carbon	--	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
FALSE	pH	pH	FALSE	TRUE	TRUE	FALSE	8.0	NA	NA	NA	NA	No	No Soil PCUL
TRUE	Sulfate	14808-79-8	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
TRUE	Total Dissolved Solids	--	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
FALSE	Total Organic Carbon	--	FALSE	TRUE	TRUE	FALSE	3.7	NA	NA	NA	NA	No	No Soil PCUL
Individual Dioxin/Furan Compounds and TEQ ND Zero													
FALSE	1,2,3,4,6,7,8-HpCDD	35822-46-9	FALSE	TRUE	TRUE	FALSE	0.000119	NA	NA	NA	NA	NA	See Dioxins
FALSE	1,2,3,4,6,7,8-HpCDF	67562-39-4	FALSE	TRUE	TRUE	FALSE	0.000213	NA	NA	NA	NA	NA	See Dioxins
FALSE	1,2,3,4,7,8,9-HpCDF	55673-89-7	FALSE	TRUE	TRUE	FALSE	0.0000190	NA	NA	NA	NA	NA	See Dioxins
FALSE	1,2,3,4,7,8-HxCDD	39227-28-6	FALSE	TRUE	TRUE	FALSE	0.00000685	NA	NA	NA	NA	NA	See Dioxins
FALSE	1,2,3,4,7,8-HxCDF	70648-26-9	FALSE	TRUE	TRUE	FALSE	0.0000519	NA	NA	NA	NA	NA	See Dioxins
FALSE	1,2,3,6,7,8-HxCDD	57653-85-7	FALSE	TRUE	TRUE	FALSE	0.0000132	NA	NA	NA	NA	NA	See Dioxins
FALSE	1,2,3,6,7,8-HxCDF	57117-44-9	FALSE	TRUE	TRUE	FALSE	0.0000420	NA	NA	NA	NA	NA	See Dioxins
FALSE	1,2,3,7,8,9-HxCDD	19408-74-3	FALSE	TRUE	TRUE	FALSE	0.00000955	NA	NA	NA	NA	NA	See Dioxins
FALSE	1,2,3,7,8,9-HxCDF	72918-21-9	FALSE	TRUE	TRUE	FALSE	0.0000123	NA	NA	NA	NA	NA	See Dioxins
FALSE	1,2,3,7,8-PeCDD	40321-76-4	FALSE	TRUE	TRUE	FALSE	0.0000153	NA	NA	NA	NA	NA	See Dioxins
FALSE	1,2,3,7,8-PeCDF	57117-41-6	FALSE	TRUE	TRUE	FALSE	0.0000217	NA	NA	NA	NA	NA	See Dioxins
FALSE	2,3,4,6,7,8-HxCDF	60851-34-5	FALSE	TRUE	TRUE	FALSE	0.0000489	NA	NA	NA	NA	NA	See Dioxins
FALSE	2,3,4,7,8-PeCDF	57117-31-4	FALSE	TRUE	TRUE	FALSE	0.0000309	NA	NA	NA	NA	NA	See Dioxins
FALSE	2,3,7,8-TCDD (Dioxin)	1746-01-6	FALSE	TRUE	TRUE	FALSE	0.0000734	NA	NA	NA	NA	NA	See Dioxins
FALSE	2,3,7,8-TCDF	51207-31-9	FALSE	TRUE	TRUE	FALSE	0.0000147	NA	NA	NA	NA	NA	See Dioxins
FALSE	Dioxin/Furans (MTCA TEQ-ZeroND)	DF_TEQ (U=0)	FALSE	TRUE	TRUE	FALSE	0.0000924	NA	NA	NA	NA	NA	See Dioxins
FALSE	OCDD	3268-87-9	FALSE	TRUE	TRUE	FALSE	0.00120	NA	NA	NA	NA	NA	See Dioxins
FALSE	OCDF	39001-02-0	FALSE	TRUE	TRUE	FALSE	0.000157	NA	NA	NA	NA	NA	See Dioxins
FALSE	Total HpCDD	37871-00-4	FALSE	TRUE	TRUE	FALSE	0.000213	NA	NA	NA	NA	NA	See Dioxins
FALSE	Total HpCDF	38998-75-3	FALSE	TRUE	TRUE	FALSE	0.000301	NA	NA	NA	NA	NA	See Dioxins
FALSE	Total HxCDD	34465-46-8	FALSE	TRUE	TRUE	FALSE	0.000202	NA	NA	NA	NA	NA	See Dioxins
FALSE	Total HxCDF	55684-94-1	FALSE	TRUE	TRUE	FALSE	0.000640	NA	NA	NA	NA	NA	See Dioxins
FALSE	Total PeCDD	36088-22-9	FALSE	TRUE	TRUE	FALSE	0.000163	NA	NA	NA	NA	NA	See Dioxins
FALSE	Total PeCDF	30402-15-4	FALSE	TRUE	TRUE	FALSE	0.000886	NA	NA	NA	NA	NA	See Dioxins
FALSE	Total TCDD	41903-57-5	FALSE	TRUE	TRUE	FALSE	0.000166	NA	NA	NA	NA	NA	See Dioxins
FALSE	Total TCDF	55722-27-5	FALSE	TRUE	TRUE	FALSE	0.000606	NA	NA	NA	NA	NA	See Dioxins

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Human Health and Ecological Risk-Based Criteria					Information Considered in Development of Soil PCUL						
							Human Health		Ecological Receptors	Leaching	Risk-Based Criteria: Includes Ecological Receptors [9]	PAL PQL (mg/kg) [10]	Manchester PQL (mg/kg) [11]	Final PQL (mg/kg) [12]	Natural or Area-Wide Background [13]	HH+TEE+Leaching PCUL (mg/kg) [14]	Is it a GW COPC?	Direct Contact PCUL (HH+TEE) if GW Demonstrates Compliance (mg/kg)
							MTCA Method A Unrestricted [5]	Min. Soil MTCA Method B (mg/kg) [6]	Simple Unrestricted Land Use Site TEE (mg/kg) [7]	Soil to Protect GW - Saturated (mg/kg) [8]								
Analytes not on COC Lists (cont.)																		
Metals																		
TRUE	Calcium	7440-70-2	TRUE	FALSE	FALSE	FALSE										No Soil PCUL	--	
TRUE	Ferrous Iron	--	TRUE	FALSE	FALSE	FALSE		56,000			56,000					56,000	--	
TRUE	Iron	7439-89-6	TRUE	FALSE	FALSE	FALSE		56,000			56,000					56,000	--	
TRUE	Magnesium	7439-95-4	TRUE	FALSE	FALSE	FALSE										No Soil PCUL	--	
TRUE	Manganese	7439-96-5	TRUE	FALSE	FALSE	FALSE		3,700			3,700					3,700	--	
TRUE	Sodium	7440-23-5	TRUE	FALSE	FALSE	FALSE										No Soil PCUL	--	
Pesiticide/Herbicides																		
FALSE	AMPA	1066-51-9	FALSE	TRUE	TRUE	FALSE						NA	NA	NA		No Soil PCUL	--	
FALSE	Endosulfan sulfate	1031-07-8	FALSE	TRUE	TRUE	FALSE		480			480		0.00025			480	--	
FALSE	Endrin aldehyde	7421-93-4	FALSE	TRUE	TRUE	FALSE							0.00025			No Soil PCUL	--	
FALSE	Endrin ketone	53494-70-5	FALSE	TRUE	TRUE	FALSE							0.00025			No Soil PCUL	--	
Polycyclic Aromatic Hydrocarbon Semivolatile Organic Compounds (PAH SVOCs)																		
FALSE	1-Methylnaphthalene	90-12-0	FALSE	TRUE	TRUE	FALSE		34			34	0.050		0.050		34	--	
FALSE	2-Methylnaphthalene	91-57-6	FALSE	TRUE	TRUE	FALSE		320			320	0.050		0.050		320	--	
FALSE	Acenaphthylene	208-96-8	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	Anthracene	120-12-7	FALSE	TRUE	TRUE	FALSE		24,000			24,000					24,000	--	
FALSE	Benzo(g,h,i)perylene	191-24-2	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	bis(2-ethylhexyl)phthalate	117-81-7	FALSE	TRUE	TRUE	FALSE		71			71					71	--	
FALSE	cPAHs (MTCA TEQ-ZeroND	BaPEq (U=0)	FALSE	TRUE	TRUE	FALSE	0.10	0.19	30		0.19	0.0020		0.0020		0.19	--	
FALSE	Fluoranthene	206-44-0	FALSE	TRUE	TRUE	FALSE		3,200			3,200					3,200	--	
FALSE	Phenanthrene	85-01-8	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	Pyrene	129-00-0	FALSE	TRUE	TRUE	FALSE		2,400			2,400					2,400	--	
TPH																		
TRUE	Diesel	--	TRUE	TRUE	FALSE	FALSE	2,000		460		460	50		50		460	--	
FALSE	C10-C12 Aliphatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C10-C12 Aromatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C12-C13 Aromatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C12-C16 Aliphatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C16-C21 Aliphatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C16-C21 Aromatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C21-C34 Aliphatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C21-C34 Aromatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C5-C6 Aliphatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C6-C8 Aliphatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C8-C10 Aliphatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	
FALSE	C8-C10 Aromatics	--	FALSE	TRUE	TRUE	FALSE										No Soil PCUL	--	

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Information Considered in COPC Identification						Rationale
							Max Detection in Soil (mg/kg) [15]	Percent of Detected Results that Exceed	Maximum Detected Exceedance Factor	Min Phase 2 Reporting Limit (mg/kg) [16]	Max Phase 2 Reporting Limit (mg/kg) [16]	Is it a Soil COPC? [17]	
Analytes not on COC Lists (cont.)													
Metals													
TRUE	Calcium	7440-70-2	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
TRUE	Ferrous Iron	--	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
TRUE	Iron	7439-89-6	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
TRUE	Magnesium	7439-95-4	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
TRUE	Manganese	7439-96-5	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
TRUE	Sodium	7440-23-5	TRUE	FALSE	FALSE	FALSE	Not Analyzed in Soil	NA	NA	NA	NA	No	Not of concern in site soil
Pesiticide/Herbicides													
FALSE	AMPA	1066-51-9	FALSE	TRUE	TRUE	FALSE	2.6	None	None	NA	NA	No	No Soil PCUL
FALSE	Endosulfan sulfate	1031-07-8	FALSE	TRUE	TRUE	FALSE	1.1	None	None	NA	NA	No	No exceedances
FALSE	Endrin aldehyde	7421-93-4	FALSE	TRUE	TRUE	FALSE	Not Detected in Soil	NA	NA	0.0067	0.0067	No	No Soil PCUL
FALSE	Endrin ketone	53494-70-5	FALSE	TRUE	TRUE	FALSE	0.057	NA	NA	NA	NA	No	No Soil PCUL
Polycyclic Aromatic Hydrocarbon Semivolatile Organic Compounds (PAH SVOCs)													
FALSE	1-Methylnaphthalene	90-12-0	FALSE	TRUE	TRUE	FALSE	0.45	None	None	NA	NA	No	No exceedances
FALSE	2-Methylnaphthalene	91-57-6	FALSE	TRUE	TRUE	FALSE	0.48	None	None	NA	NA	No	No exceedances
FALSE	Acenaphthylene	208-96-8	FALSE	TRUE	TRUE	FALSE	0.0047	NA	NA	NA	NA	No	No Soil PCUL
FALSE	Anthracene	120-12-7	FALSE	TRUE	TRUE	FALSE	0.0055	None	None	NA	NA	No	No exceedances
FALSE	Benzo(g,h,i)perylene	191-24-2	FALSE	TRUE	TRUE	FALSE	0.11	NA	NA	NA	NA	No	No Soil PCUL
FALSE	bis(2-ethylhexyl)phthalate	117-81-7	FALSE	TRUE	TRUE	FALSE	0.19	None	None	NA	NA	No	No exceedances
FALSE	cPAHs (MTCA TEQ-ZeroND	BaPEq (U=0)	FALSE	TRUE	TRUE	FALSE	0.085	None	None	NA	NA	No	No exceedances
FALSE	Fluoranthene	206-44-0	FALSE	TRUE	TRUE	FALSE	0.12	None	None	NA	NA	No	No exceedances
FALSE	Phenanthrene	85-01-8	FALSE	TRUE	TRUE	FALSE	0.27	NA	NA	NA	NA	No	No Soil PCUL
FALSE	Pyrene	129-00-0	FALSE	TRUE	TRUE	FALSE	0.48	None	None	NA	NA	No	No exceedances
TPH													
TRUE	Diesel	--	TRUE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	50	50	NA	See Diesel-Range TPH
FALSE	C10-C12 Aliphatics	--	FALSE	TRUE	TRUE	FALSE	440	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C10-C12 Aromatics	--	FALSE	TRUE	TRUE	FALSE	190	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C12-C13 Aromatics	--	FALSE	TRUE	TRUE	FALSE	190	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C12-C16 Aliphatics	--	FALSE	TRUE	TRUE	FALSE	6.6	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C16-C21 Aliphatics	--	FALSE	TRUE	TRUE	FALSE	57	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C16-C21 Aromatics	--	FALSE	TRUE	TRUE	FALSE	15	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C21-C34 Aliphatics	--	FALSE	TRUE	TRUE	FALSE	650	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C21-C34 Aromatics	--	FALSE	TRUE	TRUE	FALSE	220	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C5-C6 Aliphatics	--	FALSE	TRUE	TRUE	FALSE	14	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C6-C8 Aliphatics	--	FALSE	TRUE	TRUE	FALSE	22	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C8-C10 Aliphatics	--	FALSE	TRUE	TRUE	FALSE	35	NA	NA	NA	NA	No	No Soil PCUL
FALSE	C8-C10 Aromatics	--	FALSE	TRUE	TRUE	FALSE	28	NA	NA	NA	NA	No	No Soil PCUL

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Human Health and Ecological Risk-Based Criteria: Human Health: MTCA Method A Unrestricted [5]	Human Health: Min. Soil MTCA Method B (mg/kg) [6]	Ecological Receptors: Simple Unrestricted Land Use Site TEE (mg/kg) [7]	Leaching: Soil to Protect GW - Saturated (mg/kg) [8]	Risk-Based Criteria: Includes Ecological Receptors [9]	Information Considered in Development of Soil PCUL: PAL PQL (mg/kg) [10]	Manchester PQL (mg/kg) [11]	Final PQL (mg/kg) [12]	Natural or Area-Wide Background [13]	HH+TEE+Leaching PCUL (mg/kg) [14]	Is it a GW COPC?	Direct Contact PCUL (HH+TEE) if GW Demonstrates Compliance (mg/kg)
Analytes not on COC Lists (cont.)																		
VOCs																		
FALSE	Acetone	67-64-1	FALSE	TRUE	TRUE	FALSE		72,000			72,000	NA		NA		NA	--	
FALSE	Carbon disulfide	75-15-0	FALSE	TRUE	TRUE	FALSE		8,000			8,000	NA	0.0010	NA		NA	--	
FALSE	Dibromomethane	74-95-3	FALSE	TRUE	TRUE	FALSE		800			800	NA	0.0010	NA		NA	--	
FALSE	n-Propylbenzene	103-65-1	FALSE	TRUE	TRUE	FALSE		8,000			8,000	NA	0.0010	NA		NA	--	
FALSE	sec-Butylbenzene	135-98-8	FALSE	TRUE	TRUE	FALSE		8,000			8,000	NA	0.0010	NA		NA	--	
TRUE	tert-Butyl alcohol	75-65-0	TRUE	TRUE	FALSE	FALSE						NA	0.0010	NA		No Soil PCUL	--	
FALSE	Xylene (meta & para)	108-38-3/106-42-3	FALSE	TRUE	TRUE	FALSE		16,000			16,000	1.5	0.0020	0.0020		16,000	--	
FALSE	Xylene (ortho)	95-47-6	FALSE	TRUE	TRUE	FALSE		16,000			16,000	1.5	0.0010	0.0010		16,000	--	

Notes:

Blank cells are intentional.
This draft PCUL sheet is developed from a parent document (Copy of 20-0217SmithKem PCULs dev with Arthur – Soil+GW.xlsx).
Criteria and results are rounded to two significant figures, with the exception of dioxin criteria and results. Dioxin citeria and results are rounded to three significant figures.
-- Not applicable.
RED/BOLD Chemical identified as a COPC by Floyd|Snider and Ecology.
The PCUL for this chemical was adjusted to the PQL.
Manchester PQL is greater than PAL PQL, but the PAL PQL is sufficient to compare data to the PCUL.

1 GW PCULs were developed for any chemical that was either (a) detected in GW, or (b) retained as a potential COPC in the Groundwater Elimination Memorandum (Floyd|Snider 2017a).
2 This table lists all chemicals that were analyzed for in site soil or GW. Not all chemicals require PCULs in all site media.
3 Chemicals that were not analyzed in soil are not considered potential soil COPCs at the site.
4 A designation of "true" indicates that the chemical was retained as a candidate to become a soil COPC in the Ecology-approved February 2017 Soil Elimination Memorandum (Floyd|Snider 2017b).
5 MTCA Method A criteria for unrestricted land use (WAC Table 740-1) are included in this table and are selected as the risk-based criterion for a particular chemical when no other criteria are available.
6 Standard MTCA Method B equations were used to calculate concentrations protective of human health using Equation 720-1 for noncancer health effects and Equation 720-2 for cancer health effects.
7 Criteria for the protection of terrestrial ecological receptors at a site with unrestricted land use sourced from WAC 173-340-900, Table 749-2.
8 Criteria protective of PCULs for GW were calculated using the variable three-phase equilibrium partitioning model according to WAC 173-340-747(5)(b)(i) using Equation 747-1. Default MTCA input parameters were used, with the exception of f_{oc}. A site-specific f_{oc} of 1.1% was used in the calculation.
9 Risk-based criteria in this column are based on unrestricted land use and are protective of HH and the environment (MTCA Method A table values); HH from direct contact (MTCA Method B standard formula values); terrestrial receptors (Simple Site with Unrestricted Land Use); and the soil-to-GW pathway (WAC Equation 747-1).
10 PAL PQLs were presented in the Ecology-approved work plan (Floyd|Snider 2016), with the exception of the PQLs for dioxins. ARI dioxin PQLs were provided in the Ecology-approved work plan addendum (Floyd|Snider 2019). The listed PQLs were not achieved in all samples for all chemicals, due to site-specific matrix and other interferences.
11 Manchester PQLs were provided to Floyd|Snider by Arthur Buchan at Ecology in an email dated 2/19/2020. Manchester PQLs were last updated in April 2019. Blanks indicate that PQLs for the relevant analysis method/analyte class were not provided. NA indicates that while Manchester performs analysis for pesticides and herbicides, Manchester PQLs for that particular chemical were not provided. The Manchester PQLs reported in this table represent typical PQLs the lab can achieve; these PQLs may not be achievable in all samples due to site-specific conditions or interferences.
12 Final PQLs are site-specific and based off of the method reporting limit information from three labs: PAL, Manchester Lab, and ALS. The PAL method reporting limit was selected as the final PQL.
13 Background values were sourced as follows:
* State-wide natural background for arsenic from WAC Table 740-1.
* Natural background for dioxins/furans from Ecology's 2010 Technical Memorandum #8 *Natural Background for Dioxins/Furans in WA Soils* .
* Area background for other metals are the geometric mean of the agricultural field results, as printed in Table 2-3 of Ecology's 1995 *Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State* .
14 PCULs are adjusted for the PQL or natural or area background as appropriate per WAC 173-340-740(5)(c).
15 The soil dataset includes results of all soil samples collected since June 1, 2007.
16 Reporting limits presented in this table represent the range of reporting limits in the 2017–2018 Phase 2 Soil Sampling events. If a chemical was not analyzed during these events, the range of reporting limits presented in this table represent the minimum and maximum reporting limit from all other events.
17 Soil COPCs identified in this table have not yet been approved by Ecology.
18 Xylenes are typically analyzed and reported by laboratories as m,p-Xylene and o-Xylene; these values are summed and reported as Total Xylenes. When evaluating relevant criteria for Xylenes, the criterion developed for Total Xylenes was selected as the relevant criterion.
19 Criteria developed for Total Chromium and for Chromium(III) were considered when determining the relevant criteria for chromium. There is no reason to suspect the presence of Chromium(VI) on-site.
20 Manchester does not perform analysis for total chlordane/technical chlordane. PQLs were provided only for individual components of total chlordane (that is, cis- and trans-chlordane).
21 Criteria were not developed for Endosulfan I or Endosulfan II in CLARC. Criteria developed for Endosulfan (CAS 115-29-7) were used as a surrogate.
22 PQL for 4,4-DDD is lower than the PQL for 2,4-DDD; used PQL for 2,4-DDD.
23 Criteria were not developed for chlordane-alpha in CLARC; criteria developed for Chlordane (CAS 12789-03-6) were used as a surrogate.

Abbreviations:

ALS	Analytical Laboratory Services	HH	Human health
ARI	Analytical Resources Inc.	mg/kg	Milligrams per kilogram
CAS	Chemical Abstracts Service	MTCA	Model Toxics Control Act
CLARC	Cleanup Level and Risk Calculation	NA	Not analyzed; PAL does not perform analysis for this analyte in the indicated media.
COC	Chemical of concern	PAL	Pacific Agricultural Laboratories
COPC	Chemical of potential concern	PCUL	Preliminary cleanup level
cPAH	Chlorinated polycyclic aromatic hydrocarbo	PQL	Practical quantitation limit
Ecology	Washington State Department of Ecology	TEE	Terrestrial Ecological Evaluation
GW	Groundwater	TEQ	Toxic equivalent

Table 2
Soil Criteria, PQLs, PCULs, and COPCs

Chemical Requiring Groundwater PCUL Development [1]	Chemical [2]	CAS No.	Detected In GW?	Analyzed in Soil [3]	Detected in Soil?	Potential Soil COPC? [4]	Information Considered in COPC Identification: Max Detection in Soil (mg/kg) [15]	Percent of Detected Results that Exceed	Maximum Detected Exceedance Factor	Min Phase 2 Reporting Limit (mg/kg) [16]	Max Phase 2 Reporting Limit (mg/kg) [16]	Is it a Soil COPC? [17]	Rationale
Analytes not on COC Lists (cont.)													
VOCs													
FALSE	Acetone	67-64-1	FALSE	TRUE	TRUE	FALSE	0.11	None	None	NA	NA	No	No exceedances
FALSE	Carbon disulfide	75-15-0	FALSE	TRUE	TRUE	FALSE	0.0052	None	None	NA	NA	No	No exceedances
FALSE	Dibromomethane	74-95-3	FALSE	TRUE	TRUE	FALSE	0.0018	None	None	NA	NA	No	No exceedances
FALSE	n-Propylbenzene	103-65-1	FALSE	TRUE	TRUE	FALSE	0.0046	None	None	NA	NA	No	No exceedances
FALSE	sec-Butylbenzene	135-98-8	FALSE	TRUE	TRUE	FALSE	0.0058	None	None	NA	NA	No	No exceedances
TRUE	tert-Butyl alcohol	75-65-0	TRUE	TRUE	FALSE	FALSE	Not Detected in Soil	NA	NA	0.028	0.028	No	No Soil PCUL
FALSE	Xylene (meta & para)	108-38-3/106-42-3	FALSE	TRUE	TRUE	FALSE	1.1	None	None	NA	NA	No	No exceedances
FALSE	Xylene (ortho)	95-47-6	FALSE	TRUE	TRUE	FALSE	0.98	None	None	NA	NA	No	No exceedances

Notes:

Blank cells are intentional.
This draft PCUL sheet is developed from a parent document (Copy of 20-0217SmithKem PCULs dev with Arthur – Soil+GW.xlsx).
Criteria and results are rounded to two significant figures, with the exception of dioxin criteria and results. Dioxin citeria and results are rounded to three significant figures.
-- Not applicable.
RED/BOLD Chemical identified as a COPC by Floyd|Snider and Ecology.
The PCUL for this chemical was adjusted to the PQL.
Manchester PQL is greater than PAL PQL, but the PAL PQL is sufficient to compare data to the PCUL.

1 GW PCULs were developed for any chemical that was either (a) detected in GW, or (b) retained as a potential COPC in the Groundwater Elimination Memorandum (Floyd|Snider 2017a).
2 This table lists all chemicals that were analyzed for in site soil or GW. Not all chemicals require PCULs in all site media.
3 Chemicals that were not analyzed in soil are not considered potential soil COPCs at the site.
4 A designation of "true" indicates that the chemical was retained as a candidate to become a soil COPC in the Ecology-approved February 2017 Soil Elimination Memorandum (Floyd|Snider 2017b).
5 MTCA Method A criteria for unrestricted land use (WAC Table 740-1) are included in this table and are selected as the risk-based criterion for a particular chemical when no other criteria are available.
6 Standard MTCA Method B equations were used to calculate concentrations protective of human health using Equation 720-1 for noncancer health effects and Equation 720-2 for cancer health effects.
7 Criteria for the protection of terrestrial ecological receptors at a site with unrestricted land use sourced from WAC 173-340-900, Table 749-2.
8 Criteria protective of PCULs for GW were calculated using the variable three-phase equilibrium partitioning model according to WAC 173-340-747(5)(b)(i) using Equation 747-1. Default MTCA input parameters were used, with the exception of f_{oc}. A site-specific f_{oc} of 1.1% was used in the calculation.
9 Risk-based criteria in this column are based on unrestricted land use and are protective of HH and the environment (MTCA Method A table values); HH from direct contact (MTCA Method B standard formula values); terrestrial receptors (Simple Site with Unrestricted Land Use); and the soil-to-GW pathway (WAC Equation 747-1).
10 PAL PQLs were presented in the Ecology-approved work plan (Floyd|Snider 2016), with the exception of the PQLs for dioxins. ARI dioxin PQLs were provided in the Ecology-approved work plan addendum (Floyd|Snider 2019). The listed PQLs were not achieved in all samples for all chemicals, due to site-specific matrix and other interferences.
11 Manchester PQLs were provided to Floyd|Snider by Arthur Buchan at Ecology in an email dated 2/19/2020. Manchester PQLs were last updated in April 2019. Blanks indicate that PQLs for the relevant analysis method/analyte class were not provided. NA indicates that while Manchester performs analysis for pesticides and herbicides, Manchester PQLs for that particular chemical were not provided. The Manchester PQLs reported in this table represent typical PQLs the lab can achieve; these PQLs may not be achievable in all samples due to site-specific conditions or interferences.
12 Final PQLs are site-specific and based off of the method reporting limit information from three labs: PAL, Manchester Lab, and ALS. The PAL method reporting limit was selected as the final PQL.
13 Background values were sourced as follows:
* State-wide natural background for arsenic from WAC Table 740-1.
* Natural background for dioxins/furans from Ecology's 2010 Technical Memorandum #8 *Natural Background for Dioxins/Furans in WA Soils* .
* Area background for other metals are the geometric mean of the agricultural field results, as printed in Table 2-3 of Ecology's 1995 *Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State* .
14 PCULs are adjusted for the PQL or natural or area background as appropriate per WAC 173-340-740(5)(c).
15 The soil dataset includes results of all soil samples collected since June 1, 2007.
16 Reporting limits presented in this table represent the range of reporting limits in the 2017–2018 Phase 2 Soil Sampling events. If a chemical was not analyzed during these events, the range of reporting limits presented in this table represent the minimum and maximum reporting limit from all other events.
17 Soil COPCs identified in this table have not yet been approved by Ecology.
18 Xylenes are typically analyzed and reported by laboratories as m,p-Xylene and o-Xylene; these values are summed and reported as Total Xylenes. When evaluating relevant criteria for Xylenes, the criterion developed for Total Xylenes was selected as the relevant criterion.
19 Criteria developed for Total Chromium and for Chromium(III) were considered when determining the relevant criteria for chromium. There is no reason to suspect the presence of Chromium(VI) on-site.
20 Manchester does not perform analysis for total chlordane/technical chlordane. PQLs were provided only for individual components of total chlordane (that is, cis- and trans-chlordane).
21 Criteria were not developed for Endosulfan I or Endosulfan II in CLARC. Criteria developed for Endosulfan (CAS 115-29-7) were used as a surrogate.
22 PQL for 4,4-DDD is lower than the PQL for 2,4-DDD; used PQL for 2,4-DDD.
23 Criteria were not developed for chlordane-alpha in CLARC; criteria developed for Chlordane (CAS 12789-03-6) were used as a surrogate.

Abbreviations:

ALS	Analytical Laboratory Services	HH	Human health
ARI	Analytical Resources Inc.	mg/kg	Milligrams per kilogram
CAS	Chemical Abstracts Service	MTCA	Model Toxics Control Act
CLARC	Cleanup Level and Risk Calculation	NA	Not analyzed; PAL does not perform analysis for this analyte in the indicated media.
COC	Chemical of concern	PAL	Pacific Agricultural Laboratories
COPC	Chemical of potential concern	PCUL	Preliminary cleanup level
cPAH	Chlorinated polycyclic aromatic hydrocarbo	PQL	Practical quantitation limit
Ecology	Washington State Department of Ecology	TEE	Terrestrial Ecological Evaluation
GW	Groundwater	TEQ	Toxic equivalent

Table 3
Fraction of Organic Carbon Soil Data

Location	Sample Depth (feet bgs) [1]	Date	Fraction of Organic Carbon (f_{oc}) [2]
FS-19	1–5	06/06/2017	0.037 J
	5–7.5	06/06/2017	0.00075 U
FS-25	1–3	06/08/2017	0.037
	3–5	06/08/2017	0.00056 JQ
FS-31	3–5	06/08/2017	0.0062
	9–12	06/08/2017	0.00027 JQ
FS-33	2–4	06/09/2017	0.017
	6–8	06/09/2017	0.0035
Site-Wide Average [1]			**0.011**

Notes:

1 The majority of submitted samples for TOC analysis were collected from saturated soil, which typically has a lesser f_{oc} than shallow soil.
The site-wide average f_{oc} was adjusted to exclude the foc data from FS-19 from 1 to 5 feet bgs due to contamination present in the sample. Additionally, the f_{oc} data from FS-31 from 9 to 12 feet bgs was not included because the sample is too deep. For the non-detect foc sample from FS-19 from 5 to 7.5 feet bgs, one-half the detection limit was used in the calculation.
The calculated average is a conservative representation of site-wide conditions.

2 f_{oc} is calculated by converting the TOC result to a decimal and rounding to two significant figures. It is unitless.

Abbreviations:

bgs Below ground surface
f_{oc} Fraction of organic carbon
TOC Total organic carbon

Qualifier:

J Analyte was detected and the concentration is considered to be an estimate.
JQ Analyte was detected between the method detection limit and reporting limit; concentration is considered to be an estimate.
U Analyte was not detected; concentration given is the reporting limit.

Table 4
Groundwater Constituents of Potential Concern Summary

Chemical	Final PCUL (µg/L)	Maximum Detected Result / *(Maximum Detected Well Result)* (µg/L) [(1)]	Percent of Detected Results that Exceed	Groundwater COPC?	Rationale
Chemicals Identified as COPCs and Pending COPCs					
Metals					
Arsenic	5.0	23 / ***(14)***	1.7%	**Yes**	**Max result > PCUL**
Miscellaneous Substances					
Nitrate	10,000	210,000	57%	**Yes**	**Max result > PCUL**
Nitrite	1,000	6,800	8.2%	**Yes**	**Max result > PCUL**
Organochlorine Pesticides					
HCH-alpha (a-BHC)	0.014	0.0044	None	No	No exceedances in March 2020 Event
HCH-beta (b-BHC)	0.0490	0.087	3.2%	**Yes**	**Max result > PCUL**
Aldrin	0.0026	0.0059	1.3%	**Yes**	**Max result > PCUL**
Heptachlor Epoxide	0.048	0.0056	None	No	No exceedances in March 2020 Event
Chlordane	2.0	22	2.4%	**Yes**	**Max result > PCUL**
Dieldrin	0.0055	10	24%	**Yes**	**Max result > PCUL**
4,4'-DDE / Sum DDE	0.26	0.76	0.81%	**Yes**	**Max result > PCUL**
4,4'-DDT / Sum DDT	0.26	1.5	0.81%	**Yes**	**Max result > PCUL**
Toxaphene	0.80	26	8.1%	**Yes**	**Max result > PCUL**
Chlorinated Herbicides					
2,4-D	70	260	1.6%	**Yes**	**Max result > PCUL**
Dicamba	480	550	1.6%	**Yes**	**Max result > PCUL**
MCPA	8.0	88	3.2%	**Yes**	**Max result > PCUL**
Other Chlorinated/Halogenated Pesticides					
Atrazine	3.0	33	13%	**Yes**	**Max result > PCUL**
Chlordane-alpha	2.0	3.3	0.80%	**Yes**	**Max result > PCUL**
Total Petroleum Hydrocarbons (TPH)					
Diesel-Range TPH	500	24,000 / ***(1,000)***	8.2%	**Yes**	**Max result > PCUL**
Oil-Range TPH	500	24,000 / ***(1,100)***	2.1%	**Yes**	**Max result > PCUL**
Chemicals Not Retained as COPCs					
Volatile Organic Compounds					
Chromium (Total)	100	290 / ***(17)***	None	No	No exceedances in groundwater wells; chemical not associated with pesticides
Lead	15	31 / ***(10)***	None	No	No exceedances in groundwater wells
Miscellaneous Substances					
Nitrate/Nitrite	10,000	210,000	57%	NA	See nitrate and nitrite
Organochlorine Pesticides					
G-BHC (Lindane)	0.20	0.17	NA	No	No exceedances
Total Petroleum Hydrocarbons (TPH)					
Gasoline-Range TPH	800	5,500 / ***(Not Detected in Wells)***	None	No	Eliminated in GW Elimination Memo: gasoline detections are chromatographic overlap with weathered diesel

Notes:

All criteria and PQLs are rounded to two significant figures. Analytical results are reported to two significant figures.

RED/BOLD Chemical identified as a COPC by Floyd|Snider and Ecology.

GW PCUL includes state and federal MCLs, MTCA Method B, and MTCA Method A GW criteria.

1 The value in plain text includes all GW results, including data from test pits and temporary well screens at soil boring locations, which are typically used for field screening purposes. These data should not be considered representative of site conditions. Nearby proximate GW well data collected over the course of multiple events demonstrates that these results meet the definition of an outlier, as described in Ecology statistical guidance (Ecology 1992). In areas without a nearby well, GW samples collected from collocated soil borings indicate that historical data collected from test pits are not representative of GW quality.

Abbreviations:

COPC Chemical of Potential Concern
Ecology Washington State Department of Ecology
GW Groundwater
MCL Maximum Contaminant Level
µg/L Micrograms per liter
MTCA Model Toxics Control Act
NA Not analyzed; PAL does not perform analysis for this analyte in the indicated media.
PCUL Preliminary cleanup level
RL Reporting limit

Table 5
Soil Constituents of Potential Concern Summary

	Chemical	PCUL if Groundwater Demonstrates Compliance (mg/kg)	Considers Pathways	Max Detection in Soil (mg/kg)	Detected Results that Exceed	Is it a Soil COPC?	Rationale
	Chemicals Identified as COPCs and Pending COPCs						
Groundwater demonstrates compliance for leaching pathway	**Metals**						
	Lead	220	Direct Contact	990	3.6%	**Yes**	**Max Result > Direct Contact PCUL**
	Zinc	270	Direct Contact	470	6.7%	**Yes**	**Max Result > Direct Contact PCUL**
	Organochlorine Pesticides						
	Heptachlor	0.22	Direct Contact	0.43	1.3%	**Yes**	**Max Result > Direct Contact PCUL**
	HCH-alpha (a-BHC)	0.16	Direct Contact	0.017	2.0%	**No**	**No exceedances of direct contact PCUL**
	4,4'-DDD / Sum DDD	2.4	Direct Contact	3.2	0.66%	**Yes**	**Max Result > Direct Contact PCUL**
Other Chemicals	**Organochlorine Pesticides**						
	HCH-beta (b-BHC)	0.0067	Direct Contact, Leaching	0.052	6.0%	**Yes**	**Max Result > Soil PCUL**
	Aldrin	0.0067	Direct Contact, Leaching	20	8.6%	**Yes**	**Max result > soil PCUL and Direct Contact PCUL**
	Chlordane	1.0	Direct Contact, Leaching	84	12%	**Yes**	**Max Result > Soil PCUL**
	Dieldrin	0.0067	Direct Contact, Leaching	46	46%	**Yes**	**Max Result > Soil PCUL**
	4,4'-DDE / Sum DDE	0.25	Direct Contact, Leaching	5.4	7.9%	**Yes**	**Max Result > Soil PCUL**
	4,4'-DDT / Sum DDT	2.9	Direct Contact, Leaching	20	6.0%	**Yes**	**Max Result > Soil PCUL**
	Total DDx	1.0	Direct Contact [3]	25	9.3%	**Yes**	**Max Result > Soil PCUL**
	Toxaphene	0.84	Direct Contact, Leaching	120	18%	**Yes**	**Max Result > Soil PCUL**
	Other Chlorinated/Halogenated Pesticides						
	Atrazine	4.3	Direct Contact [3]	710	0.66%	**Yes**	**Max Result > Soil PCUL**
	Chlordane-alpha	1.0	Direct Contact, Leaching	9.9	5.6%	**Yes**	**Max Result > Soil PCUL**
	Simazine	8.3	Direct Contact [3]	110	0.66%	**Yes**	**Max Result > Soil PCUL**
	Total Petroleum Hydrocarbons (TPH)						
	Total Diesel- and Oil-Range	460	Direct Contact [3]	21,000	25%	**Yes**	**Max Result > Soil PCUL**
	Dioxins						
	Dioxins	0.00000300	Direct Contact [3]	0.0000924	78%	**Yes**	**Max Result > Soil PCUL**
	Chemicals Not Retained as COPCs Despite Having One or More Detected Results that Exceed the PCUL						
Groundwater demonstrates compliance for leaching pathway	**Volatile Organic Compounds**						
	Benzene	18	Direct Contact	0.037	None	No	No exceedances
	Metals						
	Cadmium	25	Direct Contact	4.4	None	No	No exceedances
	Copper	100	Direct Contact	90	None	No	No exceedances
	Organochlorine Pesticides						
	G-BHC (Lindane)	0.91	Direct Contact	0.16	None	No	No exceedances
	Endrin	0.40	Direct Contact	0.38	None	No	No exceedances
	Other Chlorinated/Halogenated Pesticides						
	Pentachlorophenol	2.5	Direct Contact	0.12	None	No	No exceedances
Other Chemicals	**Metals**						
	Chromium (Total)	64	Direct Contact [3]	65	1.4%	No	The form of chromium present at the site is chromium(III): chromium(VI) is not associated with pesticides or any other current or former industrial uses or practices at the site. The PCUL of 64 mg/kg is consistent with Technical Addendum Attachment V: *WAC 173-340 Table 749-2 Chemical-specific Technical Support Documents* for use at sites where only chromium(III) is present. One sample exceeds the PCUL by a factor of approximately 1.0.
	Total Petroleum Hydrocarbons (TPH)						
	Gasoline-Range TPH	30	Direct Contact [3]	1,200	6.9%	No	Eliminated in Soil Elimination Memo: gasoline detections are chromatographic overlap with weathered diesel.

Notes:

Criteria and results are rounded to two significant figures, with the exception of dioxin criteria and results. Dioxin citeria and results are rounded to three significant figures.

RED/BOLD Chemical identified as a COPC by Floyd|Snider and Ecology.

Soil PCUL has been adjusted to the PQL.

Soil PCUL includes TEE, human health, and leaching pathway as appropriate for the chemical.

Soil PCUL includes only direct contact criteria; the leaching pathway is not active.

1 If groundwater is clean (i.e., chemical is not a groundwater COPC), the PCUL presented in this table is the most conservative soil direct contact criterion for that chemical. This "direct contact PCUL" was used to determine exceedance information and COPC status.

2 If a-BHC is not detected in any groundwater well in results from the March 2020 groundwater sampling event, a-BHC will not be considered a COPC in soil. If a-BHC is detected in groundwater, soil and groundwater data will be evaluated to determine soil COPC status.

3 No three-phase leaching pathway criteria.

Abbreviations:

COPC Chemical of Potential Concern
mg/kg Milligrams per kilogram
PCUL Preliminary cleanup level
PQL Practical quantitation limit
TEE Terrestrial Ecological Evaluation

Attachment 1
Laboratory Report and Data Validation Report
for March 2020 Groundwater Sampling Event

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

April 29, 2020

Analytical Report for Service Request No: K2002652

Pamela Osterhout
Floyd Snider
601 Union Street, Suite 600
Seattle, WA 98101

RE: PKG SmithKem Site

Dear Pamela,

Enclosed are the results of the sample(s) submitted to our laboratory March 27, 2020
For your reference, these analyses have been assigned our service request number **K2002652.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at Mark.Harris@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Mark Harris
Project Manager

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

Table of Contents

Acronyms
Qualifiers
State Certifications, Accreditations, And Licenses
Case Narrative
Chain of Custody
Organochlorine Pesticides
Raw Data
    Organochlorine Pesticides

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: Floyd Snider
Project: PKG SmithKem Site
Sample Matrix: Water

Service Request: K2002652
Date Received: 03/27/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Twenty one water samples were received for analysis at ALS Environmental on 03/27/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

Method 8081B, Ultra Low Level Organochlorine Pesticides by GC/ECD 04/19/2020: The upper control criterion was exceeded for Toxaphene in Duplicate Laboratory Control Sample (LCS) KQ2004497-04: 168, 66-154. Recovery in and RPD between the Laboratory Control Sample (LCS) KQ2004497-03 was acceptable, which indicated the analytical batch was in control. The analyte in question was detected in the associated field samples MW-8-032520, MW-3-032520, MW-12-032620, and MW-14-032620. The error associated with elevated recovery indicated a high bias. The sample data was not significantly affected. No further corrective action was appropriate.

Approved by _____ Date 04/29/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Environmental

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

CHAIN OF CUSTODY
107278

001

SR# K1003652

COC Set 1 of 3

COC#

Project Name: PKG South Kem | Project Number:
Project Manager: Erin Murray
Company: Floyd Snider
Address: 601 Union St, Suite 600, Seattle
Phone #: 206-292-2078 | email: erin.murray@floydsnider.com
Sampler Signature: Pam Osterhout | Sampler Printed Name: Pamela Osterhout + Kristin Anderson

CLIENT SAMPLE ID	LABID	SAMPLING Date	SAMPLING Time	Matrix	NUMBER OF CONTAINERS	1631E / Hg LLT	90D	LL 8081 ★					Remarks
1. MW-9-032520		3/25/20	1035	GW	10			X					MS/MSD
2. MW-4-032520			1055		2			X					Historically hot
3. MW-104-032520			1100		2			X					Historically hot
4. MW-15-032520			1135		2			X					
5. MW-11e-032520			1250		2			X					
6. MW-17-032520			1333		2			X					
7. MW-7-032520			1215		2			X					
8. MW-6-032520			1320		2			X					Historically hot
9. MW-1-032520			1435		2			X					Historically hot
10. MW-11-032520			1457		2			X					

★ Extraction Method 3511
★ Low level 8081B
Includes:
- HCH-alpha
- HCH-beta
- Lindane
- Aldrin
- Heptachlor
- Heptachlor Epoxide
- Chlordane
- Dieldrin
- Hexachlorobenzene
- Toxaphene

Report Requirements
- X I. Routine Report: Method Blank, Surrogate, as required
- X II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- X IV. Data Validation Report
- X V. EDD

Invoice Information
P.O.#
Bill To:

Turnaround Requirements
___ 24 hr. ___ 48 hr. ___ 5 Day X Standard
Requested Report Date

Circle which metals are to be analyzed
Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg
Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments:
Low level 8081B w/ extraction by 3511
Provide Level 4 DV Data Package.

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other____(Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: Pam Osterhout	Signature: K Morrow	Signature	Signature	Signature	Signature
Printed Name: Pamela Osterhout	Printed Name: FLS	Printed Name	Printed Name	Printed Name	Printed Name
Firm: Floyd Snider	Firm: 3/27/20 0935	Firm	Firm	Firm	Firm
Date/Time: 3/26/20 14:30	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Laboratory - ESSential Bulkhead

ALS Environmental

CHAIN OF CUSTODY
107278

001

SR# K2002652

COC Set 2 of 3

COC#

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

Project Name: PRG-Smith Kem | Project Number:

Project Manager:

Company: Floyd Snider | Address: see page 1

Phone #: | Email:

Sampler Signature: Pam Osterhout | Sampler Printed Name: Pamela Osterhout + Kristin Anderson

CLIENT SAMPLE ID	LABID	SAMPLING Date	Time	Matrix	NUMBER OF CONTAINERS	90D	1631E / Hg LL T	1 LL-Pb021 *	2	3	4	5	Remarks
1. MW-E-032520		3/25/20	1520	GW	2			X					
2. MW-S-032520			1610		2			X					
3. MW-13-032520			1602		2			X					
4. MW-3-032520			1720		2			X					
5. MW-10-032520			1735		2			X					
6. MW-2-032620		3/26/20	0900		2			X					
7. MW-12-032620			0910		2			X					
8. MW-14-032620			0955		2			X					
9. MW-18-032620			1045		2			X					
10. MW-19-032620			1042		2			X					

* See page 1 for list of pesticides to report
- Extraction Method 3511

Report Requirements

- X I. Routine Report: Method Blank, Surrogate, as required
- X II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- X IV. Data Validation Report
- X V. EDD Level 4

Invoice Information

P.O.#

Bill To:

Turnaround Requirements

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments: See page 1

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other ____ (Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: Pam Osterhout	Signature: K Morrow	Signature	Signature	Signature	Signature
Printed Name: Pamela Osterhout	Printed Name: HLS	Printed Name	Printed Name	Printed Name	Printed Name
Firm: Floyd Snider	Firm: 3/27/20 0930	Firm	Firm	Firm	Firm
Date/Time: 3/26/20 14:30	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

ALS Environmental

CHAIN OF CUSTODY
107278

001

SR# K2002652

COC Set 3 of 3

COC#

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

Project Name: PKG South Kern | Project Number:

Project Manager:

Company: Floyd Snider | Address: see page 1

Phone #: | email:

Sampler Signature: Pamela Osterhout

Sampler Printed Name: Pamela Osterhout, Kristin Anderson

CLIENT SAMPLE ID	LABID	SAMPLING Date	Time	Matrix	NUMBER OF CONTAINERS	1631E / Hg LL T	90D	LL-8081B*	2	3	4	5	Remarks
1. MW-20-032620		3/26/20	0935	GW	2			X					
2.													
3.													
4.													
5.													
6.													
7.													
8.													
9.													
10.				PO									

★ see page 1 for list of analytes
- Extraction method 3511

Report Requirements

- X I. Routine Report: Method Blank, Surrogate, as required
- X II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- X IV. Data Validation Report Level 4
- X V. EDD

Invoice Information

P.O.#

Bill To:

Turnaround Requirements

___ 24 hr. ___ 48 hr.
___ 5 Day
(Standard)

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments: see page 1

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other ____ (Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature:	Signature:	Signature	Signature	Signature	Signature
Printed Name: Pamela Osterhout	Printed Name:	Printed Name	Printed Name	Printed Name	Printed Name
Firm: Floyd Snider	Firm: 3/27/20 0935	Firm	Firm	Firm	Firm
Date/Time: 3/26/20 14:30	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

PC MH

Cooler Receipt and Preservation Form

Client Floyd Snider Service Request K20 02057

Received: 3/27/20 Opened: 3/27/20 By: KM Unloaded: 3/27/20 By: KL

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? Y N

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID NA	Tracking Number NA	Filed
4.1	—	—	—	—	29800488 WS	107278	391413655923	
5.4	—	—	—	—	11	11	391413679611	

4. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* yes NA (Y) KM N KL
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: ~~Sample on COC - MW-13-032520 was not received.~~ KM Received.

Organochlorine Pesticides

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 10:35
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-9-032520	**Units:**	ng/L
Lab Code:	K2002652-001	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 04:29	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 04:29	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 04:29	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 04:29	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 04:29	3/31/20	
Dieldrin	ND U	1.0	0.44	1	04/19/20 04:29	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 04:29	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 04:29	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 04:29	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 04:29	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	67	14 - 160	04/19/20 04:29	
Tetrachloro-m-xylene	97	30 - 148	04/19/20 04:29	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 10:55
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-4-032520	**Units:**	ng/L
Lab Code:	K2002652-002	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	40	16	20	04/22/20 20:24	3/31/20	
alpha-BHC	ND U	20	5.0	20	04/22/20 20:24	3/31/20	
beta-BHC	**17 JP**	20	3.4	20	04/22/20 20:24	3/31/20	
gamma-BHC (Lindane)	**120**	40	12	20	04/22/20 20:24	3/31/20	
Chlordane	**1100**	400	76	20	04/22/20 20:24	3/31/20	
Dieldrin	**730**	20	8.8	20	04/22/20 20:24	3/31/20	
Heptachlor	ND U	40	13	20	04/22/20 20:24	3/31/20	
Heptachlor Epoxide	ND U	20	5.8	20	04/22/20 20:24	3/31/20	
Hexachlorobenzene	ND U	20	5.4	20	04/22/20 20:24	3/31/20	
Toxaphene	**4900**	2000	980	20	04/22/20 20:24	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	29	14 - 160	04/22/20 20:24	
Tetrachloro-m-xylene	98	30 - 148	04/22/20 20:24	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 10:55
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-4-032520	**Units:**	ng/L
Lab Code:	K2002652-002	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	**5.7**	**P**	2.0	0.77	1	04/19/20 04:59	3/31/20	
alpha-BHC	**2.9**		1.0	0.25	1	04/19/20 04:59	3/31/20	
beta-BHC	**14**		1.0	0.17	1	04/19/20 04:59	3/31/20	
gamma-BHC (Lindane)	**100**	**E**	2.0	0.60	1	04/19/20 04:59	3/31/20	
Chlordane	**760**		20	3.8	1	04/19/20 04:59	3/31/20	
Dieldrin	**550**	**E**	1.0	0.44	1	04/19/20 04:59	3/31/20	
Heptachlor	**8.2**	**P**	2.0	0.61	1	04/19/20 04:59	3/31/20	
Heptachlor Epoxide	**3.7**		1.0	0.29	1	04/19/20 04:59	3/31/20	
Hexachlorobenzene	**ND**	**Ui**	1.0	0.46	1	04/19/20 04:59	3/31/20	
Toxaphene	**4000**		100	49	1	04/19/20 04:59	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	20	14 - 160	04/19/20 04:59	
Tetrachloro-m-xylene	74	30 - 148	04/19/20 04:59	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 11:00
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-104-032520	**Units:**	ng/L
Lab Code:	K2002652-003	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	40	16	20	04/22/20 20:53	3/31/20	
alpha-BHC	ND U	20	5.0	20	04/22/20 20:53	3/31/20	
beta-BHC	**16 JP**	20	3.4	20	04/22/20 20:53	3/31/20	
gamma-BHC (Lindane)	**120**	40	12	20	04/22/20 20:53	3/31/20	
Chlordane	**1000**	400	76	20	04/22/20 20:53	3/31/20	
Dieldrin	**700**	20	8.8	20	04/22/20 20:53	3/31/20	
Heptachlor	ND U	40	13	20	04/22/20 20:53	3/31/20	
Heptachlor Epoxide	**5.9 J**	20	5.8	20	04/22/20 20:53	3/31/20	
Hexachlorobenzene	ND U	20	5.4	20	04/22/20 20:53	3/31/20	
Toxaphene	**4600**	2000	980	20	04/22/20 20:53	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	31	14 - 160	04/22/20 20:53	
Tetrachloro-m-xylene	106	30 - 148	04/22/20 20:53	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 11:00
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-104-032520	**Units:**	ng/L
Lab Code:	K2002652-003	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	**5.9**	**P**	2.0	0.77	1	04/19/20 05:29	3/31/20	
alpha-BHC	**3.0**		1.0	0.25	1	04/19/20 05:29	3/31/20	
beta-BHC	**13**	**P**	1.0	0.17	1	04/19/20 05:29	3/31/20	
gamma-BHC (Lindane)	**110**	**E**	2.0	0.60	1	04/19/20 05:29	3/31/20	
Chlordane	**770**		20	3.8	1	04/19/20 05:29	3/31/20	
Dieldrin	**550**	**E**	1.0	0.44	1	04/19/20 05:29	3/31/20	
Heptachlor	**9.8**	**P**	2.0	0.61	1	04/19/20 05:29	3/31/20	
Heptachlor Epoxide	**4.4**		1.0	0.29	1	04/19/20 05:29	3/31/20	
Hexachlorobenzene	**ND**	**Ui**	1.0	0.47	1	04/19/20 05:29	3/31/20	
Toxaphene	**4000**		100	49	1	04/19/20 05:29	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	25	14 - 160	04/19/20 05:29	
Tetrachloro-m-xylene	80	30 - 148	04/19/20 05:29	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 11:35
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-15-032520	**Units:**	ng/L
Lab Code:	K2002652-004	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 05:58	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 05:58	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 05:58	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 05:58	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 05:58	3/31/20	
Dieldrin	ND U	1.0	0.44	1	04/19/20 05:58	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 05:58	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 05:58	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 05:58	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 05:58	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	45	14 - 160	04/19/20 05:58	
Tetrachloro-m-xylene	91	30 - 148	04/19/20 05:58	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 12:50
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-16-032520	**Units:**	ng/L
Lab Code:	K2002652-005	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	10	3.9	5	04/25/20 08:41	3/31/20	
alpha-BHC	ND U	5.0	1.3	5	04/25/20 08:41	3/31/20	
beta-BHC	**5.4 P**	5.0	0.85	5	04/25/20 08:41	3/31/20	
gamma-BHC (Lindane)	**3.6 J**	10	3.0	5	04/25/20 08:41	3/31/20	
Chlordane	**240**	100	19	5	04/25/20 08:41	3/31/20	
Dieldrin	**76**	5.0	2.2	5	04/25/20 08:41	3/31/20	
Heptachlor	**ND Ui**	10	3.1	5	04/25/20 08:41	3/31/20	
Heptachlor Epoxide	ND U	5.0	1.5	5	04/25/20 08:41	3/31/20	
Hexachlorobenzene	ND U	5.0	1.4	5	04/25/20 08:41	3/31/20	
Toxaphene	**1600**	500	250	5	04/25/20 08:41	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	68	14 - 160	04/25/20 08:41	
Tetrachloro-m-xylene	123	30 - 148	04/25/20 08:41	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 12:50
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-16-032520	**Units:**	ng/L
Lab Code:	K2002652-005	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 06:28	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 06:28	3/31/20	
beta-BHC	**4.7**	1.0	0.17	1	04/19/20 06:28	3/31/20	
gamma-BHC (Lindane)	**3.4**	2.0	0.60	1	04/19/20 06:28	3/31/20	
Chlordane	**210**	20	3.8	1	04/19/20 06:28	3/31/20	
Dieldrin	**76 E**	1.0	0.44	1	04/19/20 06:28	3/31/20	
Heptachlor	**ND Ui**	2.0	0.89	1	04/19/20 06:28	3/31/20	
Heptachlor Epoxide	**1.9**	1.0	0.29	1	04/19/20 06:28	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 06:28	3/31/20	
Toxaphene	**1200**	100	49	1	04/19/20 06:28	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	59	14 - 160	04/19/20 06:28	
Tetrachloro-m-xylene	110	30 - 148	04/19/20 06:28	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 13:33
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-17-032520	**Units:**	ng/L
Lab Code:	K2002652-006	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 06:57	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 06:57	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 06:57	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 06:57	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 06:57	3/31/20	
Dieldrin	ND U	1.0	0.44	1	04/19/20 06:57	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 06:57	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 06:57	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 06:57	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 06:57	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	79	14 - 160	04/19/20 06:57	
Tetrachloro-m-xylene	101	30 - 148	04/19/20 06:57	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 12:15
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-7-032520	**Units:**	ng/L
Lab Code:	K2002652-007	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 07:27	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 07:27	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 07:27	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 07:27	3/31/20	
Chlordane	**27**	20	3.8	1	04/19/20 07:27	3/31/20	
Dieldrin	**6.4**	1.0	0.44	1	04/19/20 07:27	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 07:27	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 07:27	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 07:27	3/31/20	
Toxaphene	**110**	100	49	1	04/19/20 07:27	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	73	14 - 160	04/19/20 07:27	
Tetrachloro-m-xylene	112	30 - 148	04/19/20 07:27	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 13:20
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-6-032520	**Units:**	ng/L
Lab Code:	K2002652-008	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND	U	2.0	0.77	1	04/19/20 07:57	3/31/20	
alpha-BHC	**4.4**		1.0	0.25	1	04/19/20 07:57	3/31/20	
beta-BHC	**4.1**	**P**	1.0	0.17	1	04/19/20 07:57	3/31/20	
gamma-BHC (Lindane)	**36**		2.0	0.60	1	04/19/20 07:57	3/31/20	
Chlordane	**1400**		20	3.8	1	04/19/20 07:57	3/31/20	
Dieldrin	**590**	**E**	1.0	0.44	1	04/19/20 07:57	3/31/20	
Heptachlor	**ND**	**Ui**	3.1	3.1	1	04/19/20 07:57	3/31/20	
Heptachlor Epoxide	**5.6**	**P**	1.0	0.29	1	04/19/20 07:57	3/31/20	
Hexachlorobenzene	**ND**	**Ui**	1.0	0.37	1	04/19/20 07:57	3/31/20	
Toxaphene	**8000**	**P**	100	49	1	04/19/20 07:57	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	73	14 - 160	04/19/20 07:57	
Tetrachloro-m-xylene	102	30 - 148	04/19/20 07:57	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 13:20
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-6-032520	**Units:**	ng/L
Lab Code:	K2002652-008	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND	U	40	16	20	04/22/20 21:23	3/31/20	
alpha-BHC	**8.0**	**J**	20	5.0	20	04/22/20 21:23	3/31/20	
beta-BHC	ND	U	20	3.4	20	04/22/20 21:23	3/31/20	
gamma-BHC (Lindane)	**41**		40	12	20	04/22/20 21:23	3/31/20	
Chlordane	**1700**		400	76	20	04/22/20 21:23	3/31/20	
Dieldrin	**550**		20	8.8	20	04/22/20 21:23	3/31/20	
Heptachlor	ND	U	40	13	20	04/22/20 21:23	3/31/20	
Heptachlor Epoxide	ND	U	20	5.8	20	04/22/20 21:23	3/31/20	
Hexachlorobenzene	ND	U	20	5.4	20	04/22/20 21:23	3/31/20	
Toxaphene	**9600**		2000	980	20	04/22/20 21:23	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	92	14 - 160	04/22/20 21:23	
Tetrachloro-m-xylene	122	30 - 148	04/22/20 21:23	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 14:35
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-1-032520	**Units:**	ng/L
Lab Code:	K2002652-009	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	**ND**	**Ui**	2.0	1.1	1	04/19/20 08:26	3/31/20	
alpha-BHC	**1.5**	**P**	1.0	0.25	1	04/19/20 08:26	3/31/20	
beta-BHC	**8.3**	**P**	1.0	0.17	1	04/19/20 08:26	3/31/20	
gamma-BHC (Lindane)	**4.5**		2.0	0.60	1	04/19/20 08:26	3/31/20	
Chlordane	**630**		20	3.8	1	04/19/20 08:26	3/31/20	
Dieldrin	**250**	**E**	1.0	0.44	1	04/19/20 08:26	3/31/20	
Heptachlor	**ND**	**Ui**	1.9	1.9	1	04/19/20 08:26	3/31/20	
Heptachlor Epoxide	**2.8**	**P**	1.0	0.29	1	04/19/20 08:26	3/31/20	
Hexachlorobenzene	ND	U	1.0	0.27	1	04/19/20 08:26	3/31/20	
Toxaphene	**2400**		100	49	1	04/19/20 08:26	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	54	14 - 160	04/19/20 08:26	
Tetrachloro-m-xylene	110	30 - 148	04/19/20 08:26	

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 14:35
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-1-032520	**Units:**	ng/L
Lab Code:	K2002652-009	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	20	7.7	10	04/23/20 07:42	3/31/20	
alpha-BHC	ND U	10	2.5	10	04/23/20 07:42	3/31/20	
beta-BHC	**8.2 JP**	10	1.7	10	04/23/20 07:42	3/31/20	
gamma-BHC (Lindane)	ND U	20	6.0	10	04/23/20 07:42	3/31/20	
Chlordane	**760**	200	38	10	04/23/20 07:42	3/31/20	
Dieldrin	**280**	10	4.4	10	04/23/20 07:42	3/31/20	
Heptachlor	ND U	20	6.1	10	04/23/20 07:42	3/31/20	
Heptachlor Epoxide	**ND Ui**	10	4.7	10	04/23/20 07:42	3/31/20	
Hexachlorobenzene	ND U	10	2.7	10	04/23/20 07:42	3/31/20	
Toxaphene	**2800**	1000	490	10	04/23/20 07:42	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	65	14 - 160	04/23/20 07:42	
Tetrachloro-m-xylene	131	30 - 148	04/23/20 07:42	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 14:57
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-11-032520	**Units:**	ng/L
Lab Code:	K2002652-010	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 08:56	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 08:56	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 08:56	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 08:56	3/31/20	
Chlordane	**330**	20	3.8	1	04/19/20 08:56	3/31/20	
Dieldrin	**59 E**	1.0	0.44	1	04/19/20 08:56	3/31/20	
Heptachlor	**ND Ui**	2.0	0.76	1	04/19/20 08:56	3/31/20	
Heptachlor Epoxide	**1.2**	1.0	0.29	1	04/19/20 08:56	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 08:56	3/31/20	
Toxaphene	**300**	100	49	1	04/19/20 08:56	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	76	14 - 160	04/19/20 08:56	
Tetrachloro-m-xylene	113	30 - 148	04/19/20 08:56	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 14:57
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-11-032520	**Units:**	ng/L
Lab Code:	K2002652-010	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	10	3.9	5	04/25/20 09:10	3/31/20	
alpha-BHC	ND U	5.0	1.3	5	04/25/20 09:10	3/31/20	
beta-BHC	ND U	5.0	0.85	5	04/25/20 09:10	3/31/20	
gamma-BHC (Lindane)	ND U	10	3.0	5	04/25/20 09:10	3/31/20	
Chlordane	**430**	100	19	5	04/25/20 09:10	3/31/20	
Dieldrin	**66**	5.0	2.2	5	04/25/20 09:10	3/31/20	
Heptachlor	**ND Ui**	10	3.1	5	04/25/20 09:10	3/31/20	
Heptachlor Epoxide	**2.6 JP**	5.0	1.5	5	04/25/20 09:10	3/31/20	
Hexachlorobenzene	ND U	5.0	1.4	5	04/25/20 09:10	3/31/20	
Toxaphene	**600**	500	250	5	04/25/20 09:10	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	91	14 - 160	04/25/20 09:10	
Tetrachloro-m-xylene	132	30 - 148	04/25/20 09:10	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 15:20
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-8-032520	**Units:**	ng/L
Lab Code:	K2002652-011	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 14:22	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 14:22	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 14:22	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 14:22	3/31/20	
Chlordane	**54**	20	3.8	1	04/19/20 14:22	3/31/20	
Dieldrin	**11**	1.0	0.44	1	04/19/20 14:22	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 14:22	3/31/20	
Heptachlor Epoxide	**0.40 J**	1.0	0.29	1	04/19/20 14:22	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 14:22	3/31/20	
Toxaphene	**130 P**	100	49	1	04/19/20 14:22	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	86	14 - 160	04/19/20 14:22	
Tetrachloro-m-xylene	109	30 - 148	04/19/20 14:22	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 16:10
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-5-032520	**Units:**	ng/L
Lab Code:	K2002652-012	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 14:52	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 14:52	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 14:52	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 14:52	3/31/20	
Chlordane	**6.7 J**	20	3.8	1	04/19/20 14:52	3/31/20	
Dieldrin	**1.2**	1.0	0.44	1	04/19/20 14:52	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 14:52	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 14:52	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 14:52	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 14:52	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	66	14 - 160	04/19/20 14:52	
Tetrachloro-m-xylene	91	30 - 148	04/19/20 14:52	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 17:20
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-3-032520	**Units:**	ng/L
Lab Code:	K2002652-013	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 15:21	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 15:21	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 15:21	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 15:21	3/31/20	
Chlordane	**73**	20	3.8	1	04/19/20 15:21	3/31/20	
Dieldrin	**30**	1.0	0.44	1	04/19/20 15:21	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 15:21	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 15:21	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 15:21	3/31/20	
Toxaphene	**330**	100	49	1	04/19/20 15:21	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	55	14 - 160	04/19/20 15:21	
Tetrachloro-m-xylene	86	30 - 148	04/19/20 15:21	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 17:35
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-10-032520	**Units:**	ng/L
Lab Code:	K2002652-014	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 15:51	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 15:51	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 15:51	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 15:51	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 15:51	3/31/20	
Dieldrin	ND U	1.0	0.44	1	04/19/20 15:51	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 15:51	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 15:51	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 15:51	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 15:51	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	65	14 - 160	04/19/20 15:51	
Tetrachloro-m-xylene	102	30 - 148	04/19/20 15:51	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/26/20 09:00
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-2-032620	**Units:**	ng/L
Lab Code:	K2002652-015	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 16:21	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 16:21	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 16:21	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 16:21	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 16:21	3/31/20	
Dieldrin	ND U	1.0	0.44	1	04/19/20 16:21	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 16:21	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 16:21	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 16:21	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 16:21	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	59	14 - 160	04/19/20 16:21	
Tetrachloro-m-xylene	91	30 - 148	04/19/20 16:21	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/26/20 09:10
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-12-032620	**Units:**	ng/L
Lab Code:	K2002652-016	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 16:50	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 16:50	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 16:50	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 16:50	3/31/20	
Chlordane	**130**	20	3.8	1	04/19/20 16:50	3/31/20	
Dieldrin	**31**	1.0	0.44	1	04/19/20 16:50	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 16:50	3/31/20	
Heptachlor Epoxide	**0.69 J**	1.0	0.29	1	04/19/20 16:50	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 16:50	3/31/20	
Toxaphene	**360**	100	49	1	04/19/20 16:50	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	81	14 - 160	04/19/20 16:50	
Tetrachloro-m-xylene	119	30 - 148	04/19/20 16:50	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/26/20 09:55
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-14-032620	**Units:**	ng/L
Lab Code:	K2002652-017	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 17:20	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 17:20	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 17:20	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 17:20	3/31/20	
Chlordane	**40 P**	20	3.8	1	04/19/20 17:20	3/31/20	
Dieldrin	**11**	1.0	0.44	1	04/19/20 17:20	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 17:20	3/31/20	
Heptachlor Epoxide	**0.46 JP**	1.0	0.29	1	04/19/20 17:20	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 17:20	3/31/20	
Toxaphene	**110 P**	100	49	1	04/19/20 17:20	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	78	14 - 160	04/19/20 17:20	
Tetrachloro-m-xylene	108	30 - 148	04/19/20 17:20	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/26/20 10:45
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-18-032620	**Units:**	ng/L
Lab Code:	K2002652-018	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 17:50	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 17:50	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 17:50	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 17:50	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 17:50	3/31/20	
Dieldrin	ND U	1.0	0.44	1	04/19/20 17:50	3/31/20	
Heptachlor	**ND Ui**	2.0	0.92	1	04/19/20 17:50	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 17:50	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 17:50	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 17:50	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	77	14 - 160	04/19/20 17:50	
Tetrachloro-m-xylene	102	30 - 148	04/19/20 17:50	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/26/20 10:42
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-19-032620	**Units:**	ng/L
Lab Code:	K2002652-019	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 18:19	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 18:19	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 18:19	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 18:19	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 18:19	3/31/20	
Dieldrin	ND U	1.0	0.44	1	04/19/20 18:19	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 18:19	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 18:19	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 18:19	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 18:19	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	59	14 - 160	04/19/20 18:19	
Tetrachloro-m-xylene	83	30 - 148	04/19/20 18:19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/26/20 09:55
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-20-032620	**Units:**	ng/L
Lab Code:	K2002652-020	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 18:49	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 18:49	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 18:49	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 18:49	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 18:49	3/31/20	
Dieldrin	ND U	1.0	0.44	1	04/19/20 18:49	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 18:49	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 18:49	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 18:49	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 18:49	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	78	14 - 160	04/19/20 18:49	
Tetrachloro-m-xylene	106	30 - 148	04/19/20 18:49	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20 16:02
Sample Matrix:	Water	**Date Received:**	03/27/20 09:30
Sample Name:	MW-13-032520	**Units:**	ng/L
Lab Code:	K2002652-021	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 19:19	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 19:19	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 19:19	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 19:19	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 19:19	3/31/20	
Dieldrin	**0.51 J**	1.0	0.44	1	04/19/20 19:19	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 19:19	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 19:19	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 19:19	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 19:19	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	41	14 - 160	04/19/20 19:19	
Tetrachloro-m-xylene	103	30 - 148	04/19/20 19:19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KQ2004496-07	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 01:02	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 01:02	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 01:02	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 01:02	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 01:02	3/31/20	
Dieldrin	ND U	1.0	0.44	1	04/19/20 01:02	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 01:02	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 01:02	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 01:02	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 01:02	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	69	14 - 160	04/19/20 01:02	
Tetrachloro-m-xylene	100	30 - 148	04/19/20 01:02	

Analytical Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KQ2004497-05	**Basis:**	NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Prep Method: EPA 3511

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aldrin	ND U	2.0	0.77	1	04/19/20 11:54	3/31/20	
alpha-BHC	ND U	1.0	0.25	1	04/19/20 11:54	3/31/20	
beta-BHC	ND U	1.0	0.17	1	04/19/20 11:54	3/31/20	
gamma-BHC (Lindane)	ND U	2.0	0.60	1	04/19/20 11:54	3/31/20	
Chlordane	ND U	20	3.8	1	04/19/20 11:54	3/31/20	
Dieldrin	ND U	1.0	0.44	1	04/19/20 11:54	3/31/20	
Heptachlor	ND U	2.0	0.61	1	04/19/20 11:54	3/31/20	
Heptachlor Epoxide	ND U	1.0	0.29	1	04/19/20 11:54	3/31/20	
Hexachlorobenzene	ND U	1.0	0.27	1	04/19/20 11:54	3/31/20	
Toxaphene	ND U	100	49	1	04/19/20 11:54	3/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	68	14 - 160	04/19/20 11:54	
Tetrachloro-m-xylene	93	30 - 148	04/19/20 11:54	

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 10:55
Date Received: 3/27/20

Sample Name: MW-4-032520
Lab Code: K2002652-002

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	76	1100	1400	24		20	04/22/20 20:24
Dieldrin	8.8	730	740	1		20	04/22/20 20:24
Toxaphene	980	4900	5900	19		20	04/22/20 20:24
beta-BHC	3.4	17	29	52	JP	20	04/22/20 20:24
gamma-BHC (Lindane)	12	120	130	8		20	04/22/20 20:24
Aldrin	0.77	5.7	13	78	P	1	04/19/20 04:59
Chlordane	3.8	760	1100	37		1	04/19/20 04:59
Dieldrin	0.44	550	710	25	E	1	04/19/20 04:59
Heptachlor	0.61	8.2	17	70	P	1	04/19/20 04:59
Heptachlor Epoxide	0.29	3.7	4.0	8		1	04/19/20 04:59
Toxaphene	49	4000	5800	37		1	04/19/20 04:59
alpha-BHC	0.25	2.9	4.2	37		1	04/19/20 04:59
beta-BHC	0.17	14	18	25		1	04/19/20 04:59
gamma-BHC (Lindane)	0.60	100	110	10	E	1	04/19/20 04:59

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 11:00
Date Received: 3/27/20

Sample Name: MW-104-032520
Lab Code: K2002652-003

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	76	1000	1400	33		20	04/22/20 20:53
Dieldrin	8.8	700	710	1		20	04/22/20 20:53
Heptachlor Epoxide	5.8	5.9	6.1	3	J	20	04/22/20 20:53
Toxaphene	980	4600	5600	20		20	04/22/20 20:53
beta-BHC	3.4	16	30	61	JP	20	04/22/20 20:53
gamma-BHC (Lindane)	12	120	130	8		20	04/22/20 20:53
Aldrin	0.77	5.9	12	68	P	1	04/19/20 05:29
Chlordane	3.8	770	1100	35		1	04/19/20 05:29
Dieldrin	0.44	550	720	27	E	1	04/19/20 05:29
Heptachlor	0.61	9.8	18	59	P	1	04/19/20 05:29
Heptachlor Epoxide	0.29	4.4	5.4	20		1	04/19/20 05:29
Toxaphene	49	4000	5700	35		1	04/19/20 05:29
alpha-BHC	0.25	3.0	3.9	26		1	04/19/20 05:29
beta-BHC	0.17	13	22	51	P	1	04/19/20 05:29
gamma-BHC (Lindane)	0.60	110	120	9	E	1	04/19/20 05:29

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 12:50
Date Received: 3/27/20

Sample Name: MW-16-032520
Lab Code: K2002652-005

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	19	240	270	12		5	04/25/20 08:41
Dieldrin	2.2	76	85	11		5	04/25/20 08:41
Toxaphene	250	1600	1500	6		5	04/25/20 08:41
beta-BHC	0.85	5.4	9.7	57	P	5	04/25/20 08:41
gamma-BHC (Lindane)	3.0	3.6	5.1	34	J	5	04/25/20 08:41
Chlordane	3.8	210	260	21		1	04/19/20 06:28
Dieldrin	0.44	76	76	<1	E	1	04/19/20 06:28
Heptachlor Epoxide	0.29	1.9	2.4	23		1	04/19/20 06:28
Toxaphene	49	1200	1200	<1		1	04/19/20 06:28
beta-BHC	0.17	4.7	6.1	26		1	04/19/20 06:28
gamma-BHC (Lindane)	0.60	3.4	3.4	<1		1	04/19/20 06:28

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 12:15
Date Received: 3/27/20

Sample Name: MW-7-032520
Lab Code: K2002652-007

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	27	38	34		1	04/19/20 07:27
Dieldrin	0.44	6.4	7.1	10		1	04/19/20 07:27
Toxaphene	49	110	150	31		1	04/19/20 07:27

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 13:20
Date Received: 3/27/20

Sample Name: MW-6-032520
Lab Code: K2002652-008

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	76	1700	1900	11		20	04/22/20 21:23
Dieldrin	8.8	550	570	4		20	04/22/20 21:23
Toxaphene	980	9600	13000	30		20	04/22/20 21:23
alpha-BHC	5.0	8.0	9.9	21	J	20	04/22/20 21:23
gamma-BHC (Lindane)	12	41	43	5		20	04/22/20 21:23
Chlordane	3.8	1400	1500	7		1	04/19/20 07:57
Dieldrin	0.44	590	450	27	E	1	04/19/20 07:57
Heptachlor Epoxide	0.29	5.6	13	80	P	1	04/19/20 07:57
Toxaphene	49	8000	14000	55	P	1	04/19/20 07:57
alpha-BHC	0.25	4.4	6.3	36		1	04/19/20 07:57
beta-BHC	0.17	4.1	7.2	55	P	1	04/19/20 07:57
gamma-BHC (Lindane)	0.60	36	36	<1		1	04/19/20 07:57

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 14:35
Date Received: 3/27/20

Sample Name: MW-1-032520
Lab Code: K2002652-009

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	38	760	940	21		10	04/23/20 07:42
Dieldrin	4.4	280	280	<1		10	04/23/20 07:42
Toxaphene	490	2800	3800	30		10	04/23/20 07:42
beta-BHC	1.7	8.2	18	75	JP	10	04/23/20 07:42
Chlordane	3.8	630	790	23		1	04/19/20 08:26
Dieldrin	0.44	250	280	11	E	1	04/19/20 08:26
Heptachlor Epoxide	0.29	2.8	5.9	71	P	1	04/19/20 08:26
Toxaphene	49	2400	3000	22		1	04/19/20 08:26
alpha-BHC	0.25	1.5	2.8	60	P	1	04/19/20 08:26
beta-BHC	0.17	8.3	13	44	P	1	04/19/20 08:26
gamma-BHC (Lindane)	0.60	4.5	5.3	16		1	04/19/20 08:26

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 14:57
Date Received: 3/27/20

Sample Name: MW-11-032520
Lab Code: K2002652-010

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	19	430	580	30		5	04/25/20 09:10
Dieldrin	2.2	66	76	14		5	04/25/20 09:10
Heptachlor Epoxide	1.5	2.6	4.8	59	JP	5	04/25/20 09:10
Toxaphene	250	600	410	38		5	04/25/20 09:10
Chlordane	3.8	330	460	33		1	04/19/20 08:56
Dieldrin	0.44	59	61	3	E	1	04/19/20 08:56
Heptachlor Epoxide	0.29	1.2	1.7	34		1	04/19/20 08:56
Toxaphene	49	300	350	15		1	04/19/20 08:56

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 15:20
Date Received: 3/27/20

Sample Name: MW-8-032520
Lab Code: K2002652-011

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	54	67	21		1	04/19/20 14:22
Dieldrin	0.44	11	12	9		1	04/19/20 14:22
Heptachlor Epoxide	0.29	0.40	0.54	30	J	1	04/19/20 14:22
Toxaphene	49	130	220	51	P	1	04/19/20 14:22

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 16:10
Date Received: 3/27/20

Sample Name: MW-5-032520
Lab Code: K2002652-012

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	6.7	8.6	25	J	1	04/19/20 14:52
Dieldrin	0.44	1.2	1.2	<1		1	04/19/20 14:52

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 17:20
Date Received: 3/27/20

Sample Name: MW-3-032520
Lab Code: K2002652-013

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	73	76	4		1	04/19/20 15:21
Dieldrin	0.44	30	30	<1		1	04/19/20 15:21
Toxaphene	49	330	360	9		1	04/19/20 15:21

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/26/20 09:10
Date Received: 3/27/20

Sample Name: MW-12-032620
Lab Code: K2002652-016

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	130	150	14		1	04/19/20 16:50
Dieldrin	0.44	31	33	6		1	04/19/20 16:50
Heptachlor Epoxide	0.29	0.69	1.0	37	J	1	04/19/20 16:50
Toxaphene	49	360	460	24		1	04/19/20 16:50

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/26/20 09:55
Date Received: 3/27/20

Sample Name: MW-14-032620
Lab Code: K2002652-017

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	40	62	43	P	1	04/19/20 17:20
Dieldrin	0.44	11	11	<1		1	04/19/20 17:20
Heptachlor Epoxide	0.29	0.46	0.93	68	JP	1	04/19/20 17:20
Toxaphene	49	110	180	48	P	1	04/19/20 17:20

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 16:02
Date Received: 3/27/20

Sample Name: MW-13-032520
Lab Code: K2002652-021

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Dieldrin	0.44	0.51	0.76	39	J	1	04/19/20 19:19

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 10:35
Date Received: 3/27/20

Sample Name: MW-9-032520
Lab Code: KQ2004496-01

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aldrin	0.77	24.8	26.0	5		1	04/19/20 02:01
Dieldrin	0.44	24.0	25.0	4		1	04/19/20 02:01
Heptachlor	0.61	26.2	31.9	20		1	04/19/20 02:01
Heptachlor Epoxide	0.29	23.6	24.1	2		1	04/19/20 02:01
Hexachlorobenzene	0.27	24.2	25.2	4		1	04/19/20 02:01
alpha-BHC	0.25	25.3	25.5	<1		1	04/19/20 02:01
beta-BHC	0.17	20.2	22.7	12		1	04/19/20 02:01
gamma-BHC (Lindane)	0.60	24.5	25.3	3		1	04/19/20 02:01

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 10:35
Date Received: 3/27/20

Sample Name: MW-9-032520
Lab Code: KQ2004496-02

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aldrin	0.77	26.1	27.6	6		1	04/19/20 02:31
Dieldrin	0.44	25.4	25.8	2		1	04/19/20 02:31
Heptachlor	0.61	27.7	34.3	21		1	04/19/20 02:31
Heptachlor Epoxide	0.29	24.5	25.0	2		1	04/19/20 02:31
Hexachlorobenzene	0.27	25.2	26.3	4		1	04/19/20 02:31
alpha-BHC	0.25	26.2	26.5	1		1	04/19/20 02:31
beta-BHC	0.17	21.0	23.0	9		1	04/19/20 02:31
gamma-BHC (Lindane)	0.60	25.4	26.6	5		1	04/19/20 02:31

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ2004496-03

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aldrin	0.77	23.8	25.0	5		1	04/19/20 01:32
Dieldrin	0.44	22.9	23.1	<1		1	04/19/20 01:32
Heptachlor	0.61	25.2	35.6	34		1	04/19/20 01:32
Heptachlor Epoxide	0.29	22.0	23.0	4		1	04/19/20 01:32
Hexachlorobenzene	0.27	23.4	23.4	<1		1	04/19/20 01:32
alpha-BHC	0.25	23.9	24.4	2		1	04/19/20 01:32
beta-BHC	0.17	20.2	21.6	7		1	04/19/20 01:32
gamma-BHC (Lindane)	0.60	23.5	24.4	4		1	04/19/20 01:32

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 10:35
Date Received: 3/27/20

Sample Name: MW-9-032520
Lab Code: KQ2004496-04

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	461	518	12		1	04/19/20 03:30
Toxaphene	49	1220	1260	3		1	04/19/20 03:30

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: 03/25/20 10:35
Date Received: 3/27/20

Sample Name: MW-9-032520
Lab Code: KQ2004496-05

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	481	556	14		1	04/19/20 03:59
Toxaphene	49	1240	1280	3		1	04/19/20 03:59

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ2004496-06

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	469	476	1		1	04/19/20 03:00
Toxaphene	49	1230	1250	2		1	04/19/20 03:00

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ2004497-01

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aldrin	0.77	25.3	27.2	7		1	04/19/20 12:24
Dieldrin	0.44	24.7	25.1	2		1	04/19/20 12:24
Heptachlor	0.61	26.8	38.7	36		1	04/19/20 12:24
Heptachlor Epoxide	0.29	23.7	24.8	5		1	04/19/20 12:24
Hexachlorobenzene	0.27	25.1	25.8	3		1	04/19/20 12:24
alpha-BHC	0.25	26.4	26.7	1		1	04/19/20 12:24
beta-BHC	0.17	21.7	22.9	5		1	04/19/20 12:24
gamma-BHC (Lindane)	0.60	25.5	26.5	4		1	04/19/20 12:24

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: NA
Date Received:

Sample Name: Duplicate Lab Control Sample
Lab Code: KQ2004497-02

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aldrin	0.77	23.7	25.4	7		1	04/19/20 12:53
Dieldrin	0.44	23.1	23.4	1		1	04/19/20 12:53
Heptachlor	0.61	25.5	40.5	45	P	1	04/19/20 12:53
Heptachlor Epoxide	0.29	22.2	23.3	5		1	04/19/20 12:53
Hexachlorobenzene	0.27	23.7	24.1	2		1	04/19/20 12:53
alpha-BHC	0.25	24.2	24.9	3		1	04/19/20 12:53
beta-BHC	0.17	20.3	22.0	8		1	04/19/20 12:53
gamma-BHC (Lindane)	0.60	23.9	24.9	4		1	04/19/20 12:53

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ2004497-03

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	465	470	1		1	04/19/20 13:23
Toxaphene	49	1470	1490	1		1	04/19/20 13:23

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: NA
Date Received:

Sample Name: Duplicate Lab Control Sample
Lab Code: KQ2004497-04

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: EPA 3511

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Chlordane	3.8	509	580	13		1	04/19/20 13:53
Toxaphene	49	1680	1740	4		1	04/19/20 13:53

Confirmation Results

Client: Floyd Snider
Project: PKG SmithKem Site
SRM Matrix: Water

Service Request: K2002652
Date Collected: NA
Date Received:

Sample Name: Continuing Calibration Blank
Lab Code: KQ2005597-03

Units: ng/L
Basis: NA

Ultra Low Level Organochlorine Pesticides by GC/ECD

Analytical Method: 8081B
Prep Method: None

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Toxaphene	49	72	82	13	J	1	04/25/20 05:42

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Extraction Method: EPA 3511

Sample Name	Lab Code	Decachlorobiphenyl 14-160	Tetrachloro-m-xylene 30-148
MW-9-032520	K2002652-001	67	97
MW-4-032520	K2002652-002	20	74
MW-4-032520 DL1	K2002652-002	29	98
MW-104-032520	K2002652-003	25	80
MW-104-032520 DL1	K2002652-003	31	106
MW-15-032520	K2002652-004	45	91
MW-16-032520	K2002652-005	59	110
MW-16-032520 DL1	K2002652-005	68	123
MW-17-032520	K2002652-006	79	101
MW-7-032520	K2002652-007	73	112
MW-6-032520	K2002652-008	73	102
MW-6-032520 DL1	K2002652-008	92	122
MW-1-032520	K2002652-009	54	110
MW-1-032520 DL1	K2002652-009	65	131
MW-11-032520	K2002652-010	76	113
MW-11-032520 DL1	K2002652-010	91	132
MW-8-032520	K2002652-011	86	109
MW-5-032520	K2002652-012	66	91
MW-3-032520	K2002652-013	55	86
MW-10-032520	K2002652-014	65	102
MW-2-032620	K2002652-015	59	91
MW-12-032620	K2002652-016	81	119
MW-14-032620	K2002652-017	78	108
MW-18-032620	K2002652-018	77	102
MW-19-032620	K2002652-019	59	83
MW-20-032620	K2002652-020	78	106
MW-13-032520	K2002652-021	41	103
Method Blank	KQ2004496-07	69	100
Method Blank	KQ2004497-05	68	93
Lab Control Sample	KQ2004496-03	68	93
Lab Control Sample	KQ2004496-06	73	92
Lab Control Sample	KQ2004497-01	75	101
Duplicate Lab Control Sample	KQ2004497-02	69	96
Lab Control Sample	KQ2004497-03	61	88
Duplicate Lab Control Sample	KQ2004497-04	67	99
MW-9-032520	KQ2004496-01	77	97
MW-9-032520	KQ2004496-02	91	103

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
Extraction Method: EPA 3511

Sample Name	Lab Code	Decachlorobiphenyl 14-160	Tetrachloro-m-xylene 30-148
MW-9-032520	KQ2004496-04	68	90
MW-9-032520	KQ2004496-05	72	93

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Floyd Snider **Service Request:**K2002652
Project: PKG SmithKem Site **Date Analyzed:**04/18/20 23:03

Internal Standard Area and RT SUMMARY
Ultra Low Level Organochlorine Pesticides by GC/ECD

File ID: J:\GC23\data\041820\0418F008.D\ **Lab Code:**KQ2005306-02
Instrument ID: K-GC-23 **Analysis Lot:**677292
Analysis Method: 8081B **Signal ID:**DB XLB

		1-Bromo-2-nitrobenzene		1-Bromo-2-nitrobenzene {2}		1-Bromo-2-nitrobenzene {3}	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	4,461,070	5.49	4,722,729	5.49	4,729,879	5.49
	Upper Limit ==>	8,922,140	5.99	9,445,458	5.99	9,459,758	5.99
	Lower Limit ==>	2,230,535	4.99	2,361,365	4.99	2,364,940	4.99
Associated Analyses							
Continuing Calibration Verification	KQ2005306-02	5022136	5.49				
Continuing Calibration Verification	KQ2005306-02			4966214	5.49		
Continuing Calibration Verification	KQ2005306-02					4935302	5.48
Continuing Calibration Blank	KQ2005306-03	4701175	5.49	4701175	5.49	4701175	5.49
Method Blank	KQ2004496-07	4582524	5.48	4582524	5.48	4582524	5.48
Lab Control Sample	KQ2004496-03	4685512	5.48	4685512	5.48	4685512	5.48
MW-9-032520MS	KQ2004496-01	4641301	5.48	4641301	5.48	4641301	5.48
MW-9-032520DMS	KQ2004496-02	4846443	5.48	4846443	5.48	4846443	5.48
Lab Control Sample	KQ2004496-06	4868111	5.48	4868111	5.48	4868111	5.48
MW-9-032520MS	KQ2004496-04	4810583	5.48	4810583	5.48	4810583	5.48
MW-9-032520DMS	KQ2004496-05	4862642	5.48	4862642	5.48	4862642	5.48
MW-9-032520	K2002652-001	5073340	5.48	5073340	5.48	5073340	5.48
MW-4-032520	K2002652-002	5573825	5.48	5573825	5.48	5573825	5.48
MW-104-032520	K2002652-003	4978718	5.48	4978718	5.48	4978718	5.48
MW-15-032520	K2002652-004	5205580	5.48	5205580	5.48	5205580	5.48
MW-16-032520	K2002652-005	4511428	5.48	4511428	5.48	4511428	5.48
MW-17-032520	K2002652-006	4915999	5.48	4915999	5.48	4915999	5.48
MW-7-032520	K2002652-007	4991164	5.48	4991164	5.48	4991164	5.48
MW-6-032520	K2002652-008	4554870	5.48	4554870	5.48	4554870	5.48
MW-1-032520	K2002652-009	4449535	5.49	4449535	5.49	4449535	5.49
MW-11-032520	K2002652-010	4693007	5.48	4693007	5.48	4693007	5.48

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Floyd Snider **Service Request:**K2002652
Project: PKG SmithKem Site **Date Analyzed:**04/19/20 09:55

Internal Standard Area and RT SUMMARY
Ultra Low Level Organochlorine Pesticides by GC/ECD

File ID: J:\GC23\data\041820\0418F030.D\ **Lab Code:**KQ2005308-02
Instrument ID: K-GC-23 **Analysis Lot:**677293
Analysis Method: 8081B **Signal ID:**DB XLB

		1-Bromo-2-nitrobenzene		1-Bromo-2-nitrobenzene {2}		1-Bromo-2-nitrobenzene {3}	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	4,461,070	5.49	4,722,729	5.49	4,729,879	5.49
	Upper Limit ==>	8,922,140	5.99	9,445,458	5.99	9,459,758	5.99
	Lower Limit ==>	2,230,535	4.99	2,361,365	4.99	2,364,940	4.99
Associated Analyses							
Continuing Calibration Verification	KQ2005308-02	5318899	5.49				
Continuing Calibration Verification	KQ2005308-02			5096370	5.49		
Continuing Calibration Verification	KQ2005308-02					5094261	5.48
Continuing Calibration Blank	KQ2005308-03	4966079	5.48	4966079	5.48	4966079	5.48
Method Blank	KQ2004497-05	4913231	5.48	4913231	5.48	4913231	5.48
Lab Control Sample	KQ2004497-01	4813146	5.48	4813146	5.48	4813146	5.48
Duplicate Lab Control Sample	KQ2004497-02	4924512	5.48	4924512	5.48	4924512	5.48
Lab Control Sample	KQ2004497-03	4967750	5.49	4967750	5.49	4967750	5.49
Duplicate Lab Control Sample	KQ2004497-04	5082135	5.48	5082135	5.48	5082135	5.48
MW-8-032520	K2002652-011	4758646	5.48	4758646	5.48	4758646	5.48
MW-5-032520	K2002652-012	4975442	5.48	4975442	5.48	4975442	5.48
MW-3-032520	K2002652-013	5309747	5.49	5309747	5.49	5309747	5.49
MW-10-032520	K2002652-014	4715884	5.48	4715884	5.48	4715884	5.48
MW-2-032620	K2002652-015	4790042	5.48	4790042	5.48	4790042	5.48
MW-12-032620	K2002652-016	4550776	5.48	4550776	5.48	4550776	5.48
MW-14-032620	K2002652-017	4463291	5.49	4463291	5.49	4463291	5.49
MW-18-032620	K2002652-018	4710646	5.48	4710646	5.48	4710646	5.48
MW-19-032620	K2002652-019	5011495	5.48	5011495	5.48	5011495	5.48
MW-20-032620	K2002652-020	4705397	5.49	4705397	5.49	4705397	5.49
MW-13-032520	K2002652-021	5066256	5.48	5066256	5.48	5066256	5.48

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Floyd Snider **Service Request:**K2002652
Project: PKG SmithKem Site **Date Analyzed:**04/22/20 10:53

Internal Standard Area and RT SUMMARY
Ultra Low Level Organochlorine Pesticides by GC/ECD

File ID: J:\GC23\data\042220\0422F004.D\ **Lab Code:**KQ2005500-02
Instrument ID: K-GC-23 **Analysis Lot:**677794
Analysis Method: 8081B **Signal ID:**DB XLB

		1-Bromo-2-nitrobenzene		1-Bromo-2-nitrobenzene {2}		1-Bromo-2-nitrobenzene {3}	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	4,461,070	5.49	4,722,729	5.49	4,729,879	5.49
	Upper Limit ==>	8,922,140	5.99	9,445,458	5.99	9,459,758	5.99
	Lower Limit ==>	2,230,535	4.99	2,361,365	4.99	2,364,940	4.99
Associated Analyses							
Continuing Calibration Verification	KQ2005500-02	3764705	5.48				
MW-4-032520	K2002652-002	4792824	5.48	4792824	5.48	4792824	5.48
MW-104-032520	K2002652-003	4639130	5.48	4639130	5.48	4639130	5.48
MW-6-032520	K2002652-008	4593462	5.48	4593462	5.48	4593462	5.48

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Date Analyzed:** 04/22/20 23:22

Internal Standard Area and RT SUMMARY
Ultra Low Level Organochlorine Pesticides by GC/ECD

File ID: J:\GC23\data\042220\0422F026.D\ **Lab Code:** KQ2005501-02
Instrument ID: K-GC-23 **Analysis Lot:** 677799
Analysis Method: 8081B **Signal ID:** DB XLB

		1-Bromo-2-nitrobenzene		1-Bromo-2-nitrobenzene {2}		1-Bromo-2-nitrobenzene {3}	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	4,461,070	5.49	4,722,729	5.49	4,729,879	5.49
	Upper Limit ==>	8,922,140	5.99	9,445,458	5.99	9,459,758	5.99
	Lower Limit ==>	2,230,535	4.99	2,361,365	4.99	2,364,940	4.99
Associated Analyses							
Continuing Calibration Verification	KQ2005501-02	4061090	5.48				
Continuing Calibration Verification	KQ2005501-02			4073093	5.47		
Continuing Calibration Verification	KQ2005501-02					4028104	5.48
Continuing Calibration Blank	KQ2005501-03	3778269	5.48	3778269	5.48	3778269	5.48
MW-1-032520	K2002652-009	4598280	5.47	4598280	5.47	4598280	5.47

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Floyd Snider **Service Request:**K2002652
Project: PKG SmithKem Site **Date Analyzed:**04/25/20 04:13

Internal Standard Area and RT SUMMARY
Ultra Low Level Organochlorine Pesticides by GC/ECD

File ID: J:\GC23\data\042420B\0424F023.D\ **Lab Code:**KQ2005597-01
Instrument ID: K-GC-23 **Analysis Lot:**678037
Analysis Method: 8081B **Signal ID:**DB XLB

		1-Bromo-2-nitrobenzene		1-Bromo-2-nitrobenzene {2}		1-Bromo-2-nitrobenzene {3}	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	4,461,070	5.49	4,722,729	5.49	4,729,879	5.49
	Upper Limit ==>	8,922,140	5.99	9,445,458	5.99	9,459,758	5.99
	Lower Limit ==>	2,230,535	4.99	2,361,365	4.99	2,364,940	4.99
Associated Analyses							
Continuing Calibration Verification	KQ2005597-01	4351915	5.47				
Continuing Calibration Blank	KQ2005597-03	3627982	5.47	3627982	5.47	3627982	5.47
MW-16-032520	K2002652-005	4966860	5.47	4966860	5.47	4966860	5.47
MW-11-032520	K2002652-010	4650614	5.47	4650614	5.47	4650614	5.47

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20
Sample Matrix:	Water	**Date Received:**	03/27/20
		Date Analyzed:	04/19/20
		Date Extracted:	03/31/20

Duplicate Matrix Spike Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:	MW-9-032520	**Units:**	ng/L
Lab Code:	K2002652-001	**Basis:**	NA
Analysis Method:	8081B		
Prep Method:	EPA 3511		

		Matrix Spike KQ2004496-01			Duplicate Matrix Spike KQ2004496-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aldrin	ND U	24.8	25.0	99	26.1	25.0	104	54-163	5	30
alpha-BHC	ND U	25.3	25.0	101	26.2	25.0	105	71-165	3	30
beta-BHC	ND U	20.2	25.0	81	21.0	25.0	84	58-159	4	30
gamma-BHC (Lindane)	ND U	24.5	25.0	98	25.4	25.0	101	67-172	4	30
Dieldrin	ND U	24.0	25.0	96	25.4	25.0	102	60-166	6	30
Heptachlor Epoxide	ND U	23.6	25.0	94	24.5	25.0	98	59-163	4	30
Hexachlorobenzene	ND U	24.2	25.0	97	25.2	25.0	101	52-132	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Collected:**	03/25/20
Sample Matrix:	Water	**Date Received:**	03/27/20
		Date Analyzed:	04/19/20
		Date Extracted:	03/31/20

Duplicate Matrix Spike Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:	MW-9-032520	**Units:**	ng/L
Lab Code:	K2002652-001	**Basis:**	NA
Analysis Method:	8081B		
Prep Method:	EPA 3511		

		Matrix Spike KQ2004496-04			Duplicate Matrix Spike KQ2004496-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chlordane	ND U	461	500	92	481	500	96	27-172	4	30
Toxaphene	ND U	1220	1000	122	1240	1000	124	66-144	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	04/19/20
Sample Matrix:	Water	**Date Extracted:**	03/31/20

Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method:	8081B	**Units:**	ng/L
Prep Method:	EPA 3511	**Basis:**	NA
		Analysis Lot:	677292

Lab Control Sample
KQ2004496-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Aldrin	23.8	25.0	95	54-163
alpha-BHC	23.9	25.0	96	71-165
beta-BHC	20.2	25.0	81	58-159
Dieldrin	22.9	25.0	92	60-166
gamma-BHC (Lindane)	23.5	25.0	94	67-172
Heptachlor Epoxide	22.0	25.0	88	59-163
Hexachlorobenzene	23.4	25.0	94	52-132

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	04/19/20
Sample Matrix:	Water	**Date Extracted:**	03/31/20

Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method:	8081B	**Units:**	ng/L
Prep Method:	EPA 3511	**Basis:**	NA
		Analysis Lot:	677292

Lab Control Sample
KQ2004496-06

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chlordane	469	500	94	27-172
Toxaphene	1230	1000	123	66-154

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	04/19/20
Sample Matrix:	Water	**Date Extracted:**	03/31/20

Duplicate Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method:	8081B	**Units:**	ng/L
Prep Method:	EPA 3511	**Basis:**	NA
		Analysis Lot:	677293

	Lab Control Sample KQ2004497-01			Duplicate Lab Control Sample KQ2004497-02					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aldrin	25.3	25.0	101	23.7	25.0	95	54-163	7	30
alpha-BHC	26.4	25.0	106	24.2	25.0	97	71-165	9	30
beta-BHC	21.7	25.0	87	20.3	25.0	81	58-159	7	30
Dieldrin	24.7	25.0	99	23.1	25.0	92	60-166	7	30
gamma-BHC (Lindane)	25.5	25.0	102	23.9	25.0	95	67-172	7	30
Heptachlor Epoxide	23.7	25.0	95	22.2	25.0	89	59-163	7	30
Hexachlorobenzene	25.1	25.0	100	23.7	25.0	95	52-132	6	30

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	04/19/20
Sample Matrix:	Water	**Date Extracted:**	03/31/20

Duplicate Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method:	8081B	**Units:**	ng/L
Prep Method:	EPA 3511	**Basis:**	NA
		Analysis Lot:	677293

	Lab Control Sample KQ2004497-03			Duplicate Lab Control Sample KQ2004497-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chlordane	465	500	93	509	500	102	27-172	9	30
Toxaphene	1470	1000	147	1680	1000	168 *	66-154	13	30

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	NA
Sample Matrix:	Water	**Date Extracted:**	

Method Blank Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:		**Instrument ID:**	
Lab Code:		**File ID:**	
Analysis Method:	8081B	**Analysis Lot:**	677292,677794,677799,678037
Prep Method:	None		

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Performance Evaluation	KQ2005306-01	J:\GC23\data\041820\0418F007.D\	04/18/20 22:33

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	04/19/20 01:02
Sample Matrix:	Water	**Date Extracted:**	03/31/20

Method Blank Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:	Method Blank	**Instrument ID:**	K-GC-23
Lab Code:	KQ2004496-07	**File ID:**	J:\GC23\data\041820\0418F012.D\
Analysis Method:	8081B	**Analysis Lot:**	677292,677794,677799,678037
Prep Method:	EPA 3511	**Extraction Lot:**	356225

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ2004496-03	J:\GC23\data\041820\0418F013.D\	04/19/20 01:32
MW-9-032520MS	KQ2004496-01	J:\GC23\data\041820\0418F014.D\	04/19/20 02:01
MW-9-032520DMS	KQ2004496-02	J:\GC23\data\041820\0418F015.D\	04/19/20 02:31
Lab Control Sample	KQ2004496-06	J:\GC23\data\041820\0418F016.D\	04/19/20 03:00
MW-9-032520MS	KQ2004496-04	J:\GC23\data\041820\0418F017.D\	04/19/20 03:30
MW-9-032520DMS	KQ2004496-05	J:\GC23\data\041820\0418F018.D\	04/19/20 03:59
MW-9-032520	K2002652-001	J:\GC23\data\041820\0418F019.D\	04/19/20 04:29
MW-4-032520	K2002652-002	J:\GC23\data\041820\0418F020.D\	04/19/20 04:59
MW-104-032520	K2002652-003	J:\GC23\data\041820\0418F021.D\	04/19/20 05:29
MW-15-032520	K2002652-004	J:\GC23\data\041820\0418F022.D\	04/19/20 05:58
MW-16-032520	K2002652-005	J:\GC23\data\041820\0418F023.D\	04/19/20 06:28
MW-17-032520	K2002652-006	J:\GC23\data\041820\0418F024.D\	04/19/20 06:57
MW-7-032520	K2002652-007	J:\GC23\data\041820\0418F025.D\	04/19/20 07:27
MW-6-032520	K2002652-008	J:\GC23\data\041820\0418F026.D\	04/19/20 07:57
MW-1-032520	K2002652-009	J:\GC23\data\041820\0418F027.D\	04/19/20 08:26
MW-11-032520	K2002652-010	J:\GC23\data\041820\0418F028.D\	04/19/20 08:56
MW-4-032520	K2002652-002	J:\GC23\data\042220\0422F020.D\	04/22/20 20:24
MW-104-032520	K2002652-003	J:\GC23\data\042220\0422F021.D\	04/22/20 20:53
MW-6-032520	K2002652-008	J:\GC23\data\042220\0422F022.D\	04/22/20 21:23
MW-1-032520	K2002652-009	J:\GC23\data\042220\0422F043.D\	04/23/20 07:42
MW-16-032520	K2002652-005	J:\GC23\data\042420B\0424F032.D\	04/25/20 08:41
MW-11-032520	K2002652-010	J:\GC23\data\042420B\0424F033.D\	04/25/20 09:10

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	NA
Sample Matrix:	Water	**Date Extracted:**	

Method Blank Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:		**Instrument ID:**	
Lab Code:		**File ID:**	
Analysis Method:	8081B	**Analysis Lot:**	677293
Prep Method:	None		

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Performance Evaluation	KQ2005308-01	J:\GC23\data\041820\0418F029.D\	04/19/20 09:26

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	04/19/20 11:54
Sample Matrix:	Water	**Date Extracted:**	03/31/20

Method Blank Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:	Method Blank	**Instrument ID:**	K-GC-23
Lab Code:	KQ2004497-05	**File ID:**	J:\GC23\data\041820\0418F034.D\
Analysis Method:	8081B	**Analysis Lot:**	677293
Prep Method:	EPA 3511	**Extraction Lot:**	356226

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ2004497-01	J:\GC23\data\041820\0418F035.D\	04/19/20 12:24
Duplicate Lab Control Sample	KQ2004497-02	J:\GC23\data\041820\0418F036.D\	04/19/20 12:53
Lab Control Sample	KQ2004497-03	J:\GC23\data\041820\0418F037.D\	04/19/20 13:23
Duplicate Lab Control Sample	KQ2004497-04	J:\GC23\data\041820\0418F038.D\	04/19/20 13:53
MW-8-032520	K2002652-011	J:\GC23\data\041820\0418F039.D\	04/19/20 14:22
MW-5-032520	K2002652-012	J:\GC23\data\041820\0418F040.D\	04/19/20 14:52
MW-3-032520	K2002652-013	J:\GC23\data\041820\0418F041.D\	04/19/20 15:21
MW-10-032520	K2002652-014	J:\GC23\data\041820\0418F042.D\	04/19/20 15:51
MW-2-032620	K2002652-015	J:\GC23\data\041820\0418F043.D\	04/19/20 16:21
MW-12-032620	K2002652-016	J:\GC23\data\041820\0418F044.D\	04/19/20 16:50
MW-14-032620	K2002652-017	J:\GC23\data\041820\0418F045.D\	04/19/20 17:20
MW-18-032620	K2002652-018	J:\GC23\data\041820\0418F046.D\	04/19/20 17:50
MW-19-032620	K2002652-019	J:\GC23\data\041820\0418F047.D\	04/19/20 18:19
MW-20-032620	K2002652-020	J:\GC23\data\041820\0418F048.D\	04/19/20 18:49
MW-13-032520	K2002652-021	J:\GC23\data\041820\0418F049.D\	04/19/20 19:19

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	NA
Sample Matrix:	Water	**Date Extracted:**	

Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:		**Instrument ID:**	
Lab Code:		**File ID:**	
Analysis Method:	8081B	**Analysis Lot:**	677292,677794,677799,678037
Prep Method:	None		

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Performance Evaluation	KQ2005306-01	J:\GC23\data\041820\0418F007.D\	04/18/20 22:33

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	04/19/20 03:00
Sample Matrix:	Water	**Date Extracted:**	03/31/20

Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-23
Lab Code:	KQ2004496-06	**File ID:**	J:\GC23\data\041820\0418F016.D\
Analysis Method:	8081B	**Analysis Lot:**	677292,677794,677799,678037
Prep Method:	EPA 3511	**Extraction Lot:**	356225

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ2004496-07	J:\GC23\data\041820\0418F012.D\	04/19/20 01:02
MW-9-032520MS	KQ2004496-01	J:\GC23\data\041820\0418F014.D\	04/19/20 02:01
MW-9-032520DMS	KQ2004496-02	J:\GC23\data\041820\0418F015.D\	04/19/20 02:31
MW-9-032520MS	KQ2004496-04	J:\GC23\data\041820\0418F017.D\	04/19/20 03:30
MW-9-032520DMS	KQ2004496-05	J:\GC23\data\041820\0418F018.D\	04/19/20 03:59
MW-9-032520	K2002652-001	J:\GC23\data\041820\0418F019.D\	04/19/20 04:29
MW-4-032520	K2002652-002	J:\GC23\data\041820\0418F020.D\	04/19/20 04:59
MW-104-032520	K2002652-003	J:\GC23\data\041820\0418F021.D\	04/19/20 05:29
MW-15-032520	K2002652-004	J:\GC23\data\041820\0418F022.D\	04/19/20 05:58
MW-16-032520	K2002652-005	J:\GC23\data\041820\0418F023.D\	04/19/20 06:28
MW-17-032520	K2002652-006	J:\GC23\data\041820\0418F024.D\	04/19/20 06:57
MW-7-032520	K2002652-007	J:\GC23\data\041820\0418F025.D\	04/19/20 07:27
MW-6-032520	K2002652-008	J:\GC23\data\041820\0418F026.D\	04/19/20 07:57
MW-1-032520	K2002652-009	J:\GC23\data\041820\0418F027.D\	04/19/20 08:26
MW-11-032520	K2002652-010	J:\GC23\data\041820\0418F028.D\	04/19/20 08:56
MW-4-032520	K2002652-002	J:\GC23\data\042220\0422F020.D\	04/22/20 20:24
MW-104-032520	K2002652-003	J:\GC23\data\042220\0422F021.D\	04/22/20 20:53
MW-6-032520	K2002652-008	J:\GC23\data\042220\0422F022.D\	04/22/20 21:23
MW-1-032520	K2002652-009	J:\GC23\data\042220\0422F043.D\	04/23/20 07:42
MW-16-032520	K2002652-005	J:\GC23\data\042420B\0424F032.D\	04/25/20 08:41
MW-11-032520	K2002652-010	J:\GC23\data\042420B\0424F033.D\	04/25/20 09:10

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	NA
Sample Matrix:	Water	**Date Extracted:**	

Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:		**Instrument ID:**	
Lab Code:		**File ID:**	
Analysis Method:	8081B	**Analysis Lot:**	677292,677794,677799,678037
Prep Method:	None		

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Performance Evaluation	KQ2005306-01	J:\GC23\data\041820\0418F007.D\	04/18/20 22:33

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	04/19/20 03:00
Sample Matrix:	Water	**Date Extracted:**	03/31/20

Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-23
Lab Code:	KQ2004496-06	**File ID:**	J:\GC23\data\041820\0418F016.D\
Analysis Method:	8081B	**Analysis Lot:**	677292,677794,677799,678037
Prep Method:	EPA 3511	**Extraction Lot:**	356225

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ2004496-07	J:\GC23\data\041820\0418F012.D\	04/19/20 01:02
MW-9-032520MS	KQ2004496-01	J:\GC23\data\041820\0418F014.D\	04/19/20 02:01
MW-9-032520DMS	KQ2004496-02	J:\GC23\data\041820\0418F015.D\	04/19/20 02:31
MW-9-032520MS	KQ2004496-04	J:\GC23\data\041820\0418F017.D\	04/19/20 03:30
MW-9-032520DMS	KQ2004496-05	J:\GC23\data\041820\0418F018.D\	04/19/20 03:59
MW-9-032520	K2002652-001	J:\GC23\data\041820\0418F019.D\	04/19/20 04:29
MW-4-032520	K2002652-002	J:\GC23\data\041820\0418F020.D\	04/19/20 04:59
MW-104-032520	K2002652-003	J:\GC23\data\041820\0418F021.D\	04/19/20 05:29
MW-15-032520	K2002652-004	J:\GC23\data\041820\0418F022.D\	04/19/20 05:58
MW-16-032520	K2002652-005	J:\GC23\data\041820\0418F023.D\	04/19/20 06:28
MW-17-032520	K2002652-006	J:\GC23\data\041820\0418F024.D\	04/19/20 06:57
MW-7-032520	K2002652-007	J:\GC23\data\041820\0418F025.D\	04/19/20 07:27
MW-6-032520	K2002652-008	J:\GC23\data\041820\0418F026.D\	04/19/20 07:57
MW-1-032520	K2002652-009	J:\GC23\data\041820\0418F027.D\	04/19/20 08:26
MW-11-032520	K2002652-010	J:\GC23\data\041820\0418F028.D\	04/19/20 08:56
MW-4-032520	K2002652-002	J:\GC23\data\042220\0422F020.D\	04/22/20 20:24
MW-104-032520	K2002652-003	J:\GC23\data\042220\0422F021.D\	04/22/20 20:53
MW-6-032520	K2002652-008	J:\GC23\data\042220\0422F022.D\	04/22/20 21:23
MW-1-032520	K2002652-009	J:\GC23\data\042220\0422F043.D\	04/23/20 07:42
MW-16-032520	K2002652-005	J:\GC23\data\042420B\0424F032.D\	04/25/20 08:41
MW-11-032520	K2002652-010	J:\GC23\data\042420B\0424F033.D\	04/25/20 09:10

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	NA
Sample Matrix:	Water	**Date Extracted:**	

Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:		**Instrument ID:**	
Lab Code:		**File ID:**	
Analysis Method:	8081B	**Analysis Lot:**	677293
Prep Method:	None		

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Performance Evaluation	KQ2005308-01	J:\GC23\data\041820\0418F029.D\	04/19/20 09:26

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	04/19/20 13:23
Sample Matrix:	Water	**Date Extracted:**	03/31/20

Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-23
Lab Code:	KQ2004497-03	**File ID:**	J:\GC23\data\041820\0418F037.D\
Analysis Method:	8081B	**Analysis Lot:**	677293
Prep Method:	EPA 3511	**Extraction Lot:**	356226

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ2004497-05	J:\GC23\data\041820\0418F034.D\	04/19/20 11:54
Duplicate Lab Control Sample	KQ2004497-02	J:\GC23\data\041820\0418F036.D\	04/19/20 12:53
Duplicate Lab Control Sample	KQ2004497-04	J:\GC23\data\041820\0418F038.D\	04/19/20 13:53
MW-8-032520	K2002652-011	J:\GC23\data\041820\0418F039.D\	04/19/20 14:22
MW-5-032520	K2002652-012	J:\GC23\data\041820\0418F040.D\	04/19/20 14:52
MW-3-032520	K2002652-013	J:\GC23\data\041820\0418F041.D\	04/19/20 15:21
MW-10-032520	K2002652-014	J:\GC23\data\041820\0418F042.D\	04/19/20 15:51
MW-2-032620	K2002652-015	J:\GC23\data\041820\0418F043.D\	04/19/20 16:21
MW-12-032620	K2002652-016	J:\GC23\data\041820\0418F044.D\	04/19/20 16:50
MW-14-032620	K2002652-017	J:\GC23\data\041820\0418F045.D\	04/19/20 17:20
MW-18-032620	K2002652-018	J:\GC23\data\041820\0418F046.D\	04/19/20 17:50
MW-19-032620	K2002652-019	J:\GC23\data\041820\0418F047.D\	04/19/20 18:19
MW-20-032620	K2002652-020	J:\GC23\data\041820\0418F048.D\	04/19/20 18:49
MW-13-032520	K2002652-021	J:\GC23\data\041820\0418F049.D\	04/19/20 19:19

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	NA
Sample Matrix:	Water	**Date Extracted:**	

Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:		**Instrument ID:**	
Lab Code:		**File ID:**	
Analysis Method:	8081B	**Analysis Lot:**	677293
Prep Method:	None		

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Performance Evaluation	KQ2005308-01	J:\GC23\data\041820\0418F029.D\	04/19/20 09:26

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Floyd Snider	**Service Request:**	K2002652
Project:	PKG SmithKem Site	**Date Analyzed:**	04/19/20 13:23
Sample Matrix:	Water	**Date Extracted:**	03/31/20

Lab Control Sample Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-23
Lab Code:	KQ2004497-03	**File ID:**	J:\GC23\data\041820\0418F037.D\
Analysis Method:	8081B	**Analysis Lot:**	677293
Prep Method:	EPA 3511	**Extraction Lot:**	356226

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ2004497-05	J:\GC23\data\041820\0418F034.D\	04/19/20 11:54
Duplicate Lab Control Sample	KQ2004497-02	J:\GC23\data\041820\0418F036.D\	04/19/20 12:53
Duplicate Lab Control Sample	KQ2004497-04	J:\GC23\data\041820\0418F038.D\	04/19/20 13:53
MW-8-032520	K2002652-011	J:\GC23\data\041820\0418F039.D\	04/19/20 14:22
MW-5-032520	K2002652-012	J:\GC23\data\041820\0418F040.D\	04/19/20 14:52
MW-3-032520	K2002652-013	J:\GC23\data\041820\0418F041.D\	04/19/20 15:21
MW-10-032520	K2002652-014	J:\GC23\data\041820\0418F042.D\	04/19/20 15:51
MW-2-032620	K2002652-015	J:\GC23\data\041820\0418F043.D\	04/19/20 16:21
MW-12-032620	K2002652-016	J:\GC23\data\041820\0418F044.D\	04/19/20 16:50
MW-14-032620	K2002652-017	J:\GC23\data\041820\0418F045.D\	04/19/20 17:20
MW-18-032620	K2002652-018	J:\GC23\data\041820\0418F046.D\	04/19/20 17:50
MW-19-032620	K2002652-019	J:\GC23\data\041820\0418F047.D\	04/19/20 18:19
MW-20-032620	K2002652-020	J:\GC23\data\041820\0418F048.D\	04/19/20 18:49
MW-13-032520	K2002652-021	J:\GC23\data\041820\0418F049.D\	04/19/20 19:19

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Calibration Date:** 4/6/2020

Initial Calibration Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190 **Signal ID:** DB XLB
Instrument ID: K-GC-23

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC2000190-01	81 0.2PPB GCPS8-74N @10X	J:\GC23\data\040620ICAL\0406F005.D	04/06/2020 12:53
02	KC2000190-02	81 0.5PPB GCPS8-74N @4X	J:\GC23\data\040620ICAL\0406F006.D	04/06/2020 13:23
03	KC2000190-03	81 1PPB GCPS8-74N @2X	J:\GC23\data\040620ICAL\0406F007.D	04/06/2020 13:53
04	KC2000190-04	81 2PPB GCPS8-74N	J:\GC23\data\040620ICAL\0406F008.D	04/06/2020 14:23
05	KC2000190-05	81 5PPB GCPS8-74O @2X	J:\GC23\data\040620ICAL\0406F009.D	04/06/2020 14:53
06	KC2000190-06	81 10PPB GCPS8-74O	J:\GC23\data\040620ICAL\0406F010.D	04/06/2020 15:22
08	KC2000190-08	24 0.2PPB GCPS8-74B @10X	J:\GC23\data\040620ICAL\0406F012.D	04/06/2020 16:22
09	KC2000190-09	24 1PPB GCPS8-74B @2X	J:\GC23\data\040620ICAL\0406F014.D	04/06/2020 17:21
10	KC2000190-10	24 2PPB GCPS8-74B	J:\GC23\data\040620ICAL\0406F015.D	04/06/2020 17:51
11	KC2000190-11	24 5PPB GCPS8-74A @2X	J:\GC23\data\040620ICAL\0406F016.D	04/06/2020 18:20
12	KC2000190-12	24 10PPB GCPS8-74A	J:\GC23\data\040620ICAL\0406F017.D	04/06/2020 18:50
13	KC2000190-13	M/P .2/1PPB GCPS8-76D @10X	J:\GC23\data\040620ICAL\0406F019.D	04/06/2020 19:49
14	KC2000190-14	M/P .5/2.5PPB GCPS8-76D @4X	J:\GC23\data\040620ICAL\0406F020.D	04/06/2020 20:19
15	KC2000190-15	M/P 1/5PPB GCPS8-76D @2X	J:\GC23\data\040620ICAL\0406F021.D	04/06/2020 20:49
16	KC2000190-16	M/P 2/10PPB GCPS8-76D	J:\GC23\data\040620ICAL\0406F022.D	04/06/2020 21:18
17	KC2000190-17	M/P 5/25PPB GCPS8-74G @2X	J:\GC23\data\040620ICAL\0406F023.D	04/06/2020 21:48
18	KC2000190-18	M/P 10/50PPB GCPS8-74G	J:\GC23\data\040620ICAL\0406F024.D	04/06/2020 22:18
19	KC2000190-19	PERTH 100PPB GCPS8-72A @50X	J:\GC23\data\040620ICAL\0406F025.D	04/06/2020 22:47
22	KC2000190-22	TOX 10PPB GCPS8-74H @10X	J:\GC23\data\040620ICAL\0406F028.D	04/07/2020 00:16
23	KC2000190-23	TOX 25PPB GCPS8-7H4H@4X	J:\GC23\data\040620ICAL\0406F029.D	04/07/2020 00:46
24	KC2000190-24	TOX 50PPB GCPS8-74H @2X	J:\GC23\data\040620ICAL\0406F030.D	04/07/2020 01:15
25	KC2000190-25	TOX 100PPB GCPS8-74H	J:\GC23\data\040620ICAL\0406F031.D	04/07/2020 01:45
26	KC2000190-26	TOX 250PPB GCPS8-74I @2X	J:\GC23\data\040620ICAL\0406F032.D	04/07/2020 02:15
27	KC2000190-27	TOX 500PPB GCPS8-74I	J:\GC23\data\040620ICAL\0406F033.D	04/07/2020 02:44
29	KC2000190-29	CHLOR 2PPB GCPS8-74M @10X	J:\GC23\data\040620ICAL\0406F035.D	04/07/2020 03:43
30	KC2000190-30	CHLOR 5PPB GCPS8-74M @4X	J:\GC23\data\040620ICAL\0406F036.D	04/07/2020 04:13
31	KC2000190-31	CHLOR 10PPB GCPS8-74M @2X	J:\GC23\data\040620ICAL\0406F037.D	04/07/2020 04:43
32	KC2000190-32	CHLOR 20PPB GCPS8-74M	J:\GC23\data\040620ICAL\0406F038.D	04/07/2020 05:12
33	KC2000190-33	CHLOR 50PPB GCPS8-74C @4X	J:\GC23\data\040620ICAL\0406F039.D	04/07/2020 05:42
34	KC2000190-34	CHLOR 100PPB GCPS8-74C @2X	J:\GC23\data\040620ICAL\0406F040.D	04/07/2020 06:12
35	KC2000190-35	CHLOR 200PPB GCPS8-74C	J:\GC23\data\040620ICAL\0406F041.D	04/07/2020 06:41
37	KC2000190-37	24 0.5PPB GCPS8-74B @4X	J:\GC23\data\040720ICAL\0407F005.D	04/07/2020 10:59

Analyte

Aldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.801	02	0.500	1.738	03	1.000	1.66	04	2.000	1.552
05	5.000	1.484	06	10.000	1.385						

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Calibration Date:** 4/6/2020

Initial Calibration Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190 **Signal ID:** DB XLB
Instrument ID: K-GC-23

Analyte

Chlordane {1}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.07742	30	5.000	0.07126	31	10.000	0.0719	32	20.000	0.07122
33	50.000	0.06494	34	100.000	0.06279	35	200.000	0.05767			

Chlordane {2}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.09603	30	5.000	0.08993	31	10.000	0.09059	32	20.000	0.08895
33	50.000	0.08389	34	100.000	0.07979	35	200.000	0.07531			

Chlordane {3}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.06286	30	5.000	0.06955	31	10.000	0.0684	32	20.000	0.0642
33	50.000	0.06109	34	100.000	0.05667	35	200.000	0.05105			

Chlordane {4}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.2123	30	5.000	0.2026	31	10.000	0.2026	32	20.000	0.1862
33	50.000	0.1798	34	100.000	0.1723	35	200.000	0.1612			

Chlordane {5}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.1805	30	5.000	0.167	31	10.000	0.1676	32	20.000	0.1517
33	50.000	0.1489	34	100.000	0.1417	35	200.000	0.1319			

Chlordane {6}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.1399	30	5.000	0.121	31	10.000	0.1194	32	20.000	0.1123
33	50.000	0.1088	34	100.000	0.1032	35	200.000	0.09495			

Decachlorobiphenyl

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.987	02	0.500	1.956	03	1.000	1.889	04	2.000	1.822
05	5.000	1.587	06	10.000	1.435						

Dieldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.89	02	0.500	1.799	03	1.000	1.76	04	2.000	1.607
05	5.000	1.473	06	10.000	1.371						

Heptachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	2.058	02	0.500	1.845	03	1.000	1.807	04	2.000	1.695
05	5.000	1.545	06	10.000	1.441						

Heptachlor Epoxide

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.966	02	0.500	1.884	03	1.000	1.748	04	2.000	1.646
05	5.000	1.494	06	10.000	1.376						

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Calibration Date:** 4/6/2020

Initial Calibration Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190 **Signal ID:** DB XLB
Instrument ID: K-GC-23

Analyte

Hexachlorobenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	2.333	02	0.500	2.191	03	1.000	2.087	04	2.000	1.972
05	5.000	1.715	06	10.000	1.551						

Tetrachloro-m-xylene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.683	02	0.500	1.543	03	1.000	1.482	04	2.000	1.462
05	5.000	1.312	06	10.000	1.217						

Toxaphene {1}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01408	23	25.000	0.01918	24	50.000	0.01993	25	100.000	0.0183
26	250.000	0.0142	27	500.000	0.01288						

Toxaphene {2}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01875	23	25.000	0.01573	24	50.000	0.01591	25	100.000	0.01416
26	250.000	0.0129	27	500.000	0.01172						

Toxaphene {3}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.03543	23	25.000	0.03217	24	50.000	0.03157	25	100.000	0.02942
26	250.000	0.02537	27	500.000	0.02372						

Toxaphene {4}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01885	23	25.000	0.02109	24	50.000	0.02229	25	100.000	0.02079
26	250.000	0.01912	27	500.000	0.01736						

Toxaphene {5}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.02097	23	25.000	0.02007	24	50.000	0.02	25	100.000	0.01986
26	250.000	0.01752	27	500.000	0.01546						

Toxaphene {6}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01232	23	25.000	0.009195	24	50.000	0.009068	25	100.000	0.008968
26	250.000	0.007818	27	500.000	0.007313						

alpha-BHC

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.9	02	0.500	1.73	03	1.000	1.7	04	2.000	1.665
05	5.000	1.54	06	10.000	1.474						

beta-BHC

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.077	02	0.500	0.9037	03	1.000	0.9461	04	2.000	0.8858
05	5.000	0.8084	06	10.000	0.7296						

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Calibration Date: 4/6/2020

Initial Calibration Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190
Instrument ID: K-GC-23

Signal ID: DB XLB

Analyte

gamma-BHC (Lindane)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.885	02	0.500	1.685	03	1.000	1.628	04	2.000	1.591
05	5.000	1.483	06	10.000	1.398						

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Calibration Date:** 4/6/2020

Initial Calibration Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190 **Signal ID:** DB XLB
Instrument ID: K-GC-23

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Aldrin	TRG	Average RF	% RSD	9.9	≤20	1.603	
Chlordane {1}	MULTI	Average RF	% RSD	9.8	≤20	0.06817	
Chlordane {2}	MULTI	Average RF	% RSD	8.2	≤20	0.08635	
Chlordane {3}	MULTI	Average RF	% RSD	10.5	≤20	0.06197	
Chlordane {4}	MULTI	Average RF	% RSD	9.8	≤20	0.1881	
Chlordane {5}	MULTI	Average RF	% RSD	10.8	≤20	0.1556	
Chlordane {6}	MULTI	Average RF	% RSD	12.7	≤20	0.1142	
Decachlorobiphenyl	SURR	Average RF	% RSD	12.4	≤20	1.779	
Dieldrin	TRG	Average RF	% RSD	12.2	≤20	1.65	
Heptachlor	TRG	Average RF	% RSD	12.8	≤20	1.732	
Heptachlor Epoxide	TRG	Average RF	% RSD	13.4	≤20	1.686	
Hexachlorobenzene	TRG	Average RF	% RSD	14.9	≤20	1.975	
Tetrachloro-m-xylene	SURR	Average RF	% RSD	11.4	≤20	1.45	
Toxaphene {1}	MULTI	Average RF	% RSD	18.5	≤20	0.01643	
Toxaphene {2}	MULTI	Average RF	% RSD	16.8	≤20	0.01486	
Toxaphene {3}	MULTI	Average RF	% RSD	14.9	≤20	0.02961	
Toxaphene {4}	MULTI	Average RF	% RSD	9.0	≤20	0.01992	
Toxaphene {5}	MULTI	Average RF	% RSD	10.9	≤20	0.01898	
Toxaphene {6}	MULTI	Quadratic	COD	0.9995	≥0.990	0.009114	
alpha-BHC	TRG	Average RF	% RSD	9.0	≤20	1.668	
beta-BHC	TRG	Average RF	% RSD	13.3	≤20	0.8917	
gamma-BHC (Lindane)	TRG	Average RF	% RSD	10.5	≤20	1.612	

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Calibration Date:** 4/6/2020

Initial Calibration Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190 **Signal ID:** DB-35MS
Instrument ID: K-GC-23

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC2000190-01	81 0.2PPB GCPS8-74N @10X	J:\GC23\data\040620ICAL\0406F005.D	04/06/2020 12:53
02	KC2000190-02	81 0.5PPB GCPS8-74N @4X	J:\GC23\data\040620ICAL\0406F006.D	04/06/2020 13:23
03	KC2000190-03	81 1PPB GCPS8-74N @2X	J:\GC23\data\040620ICAL\0406F007.D	04/06/2020 13:53
04	KC2000190-04	81 2PPB GCPS8-74N	J:\GC23\data\040620ICAL\0406F008.D	04/06/2020 14:23
05	KC2000190-05	81 5PPB GCPS8-74O @2X	J:\GC23\data\040620ICAL\0406F009.D	04/06/2020 14:53
06	KC2000190-06	81 10PPB GCPS8-74O	J:\GC23\data\040620ICAL\0406F010.D	04/06/2020 15:22
08	KC2000190-08	24 0.2PPB GCPS8-74B @10X	J:\GC23\data\040620ICAL\0406F012.D	04/06/2020 16:22
09	KC2000190-09	24 1PPB GCPS8-74B @2X	J:\GC23\data\040620ICAL\0406F014.D	04/06/2020 17:21
10	KC2000190-10	24 2PPB GCPS8-74B	J:\GC23\data\040620ICAL\0406F015.D	04/06/2020 17:51
11	KC2000190-11	24 5PPB GCPS8-74A @2X	J:\GC23\data\040620ICAL\0406F016.D	04/06/2020 18:20
12	KC2000190-12	24 10PPB GCPS8-74A	J:\GC23\data\040620ICAL\0406F017.D	04/06/2020 18:50
13	KC2000190-13	M/P .2/1PPB GCPS8-76D @10X	J:\GC23\data\040620ICAL\0406F019.D	04/06/2020 19:49
14	KC2000190-14	M/P .5/2.5PPB GCPS8-76D @4X	J:\GC23\data\040620ICAL\0406F020.D	04/06/2020 20:19
15	KC2000190-15	M/P 1/5PPB GCPS8-76D @2X	J:\GC23\data\040620ICAL\0406F021.D	04/06/2020 20:49
16	KC2000190-16	M/P 2/10PPB GCPS8-76D	J:\GC23\data\040620ICAL\0406F022.D	04/06/2020 21:18
17	KC2000190-17	M/P 5/25PPB GCPS8-74G @2X	J:\GC23\data\040620ICAL\0406F023.D	04/06/2020 21:48
18	KC2000190-18	M/P 10/50PPB GCPS8-74G	J:\GC23\data\040620ICAL\0406F024.D	04/06/2020 22:18
19	KC2000190-19	PERTH 100PPB GCPS8-72A @50X	J:\GC23\data\040620ICAL\0406F025.D	04/06/2020 22:47
22	KC2000190-22	TOX 10PPB GCPS8-74H @10X	J:\GC23\data\040620ICAL\0406F028.D	04/07/2020 00:16
23	KC2000190-23	TOX 25PPB GCPS8-7H4H@4X	J:\GC23\data\040620ICAL\0406F029.D	04/07/2020 00:46
24	KC2000190-24	TOX 50PPB GCPS8-74H @2X	J:\GC23\data\040620ICAL\0406F030.D	04/07/2020 01:15
25	KC2000190-25	TOX 100PPB GCPS8-74H	J:\GC23\data\040620ICAL\0406F031.D	04/07/2020 01:45
26	KC2000190-26	TOX 250PPB GCPS8-74I @2X	J:\GC23\data\040620ICAL\0406F032.D	04/07/2020 02:15
27	KC2000190-27	TOX 500PPB GCPS8-74I	J:\GC23\data\040620ICAL\0406F033.D	04/07/2020 02:44
29	KC2000190-29	CHLOR 2PPB GCPS8-74M @10X	J:\GC23\data\040620ICAL\0406F035.D	04/07/2020 03:43
30	KC2000190-30	CHLOR 5PPB GCPS8-74M @4X	J:\GC23\data\040620ICAL\0406F036.D	04/07/2020 04:13
31	KC2000190-31	CHLOR 10PPB GCPS8-74M @2X	J:\GC23\data\040620ICAL\0406F037.D	04/07/2020 04:43
32	KC2000190-32	CHLOR 20PPB GCPS8-74M	J:\GC23\data\040620ICAL\0406F038.D	04/07/2020 05:12
33	KC2000190-33	CHLOR 50PPB GCPS8-74C @4X	J:\GC23\data\040620ICAL\0406F039.D	04/07/2020 05:42
34	KC2000190-34	CHLOR 100PPB GCPS8-74C @2X	J:\GC23\data\040620ICAL\0406F040.D	04/07/2020 06:12
35	KC2000190-35	CHLOR 200PPB GCPS8-74C	J:\GC23\data\040620ICAL\0406F041.D	04/07/2020 06:41
37	KC2000190-37	24 0.5PPB GCPS8-74B @4X	J:\GC23\data\040720ICAL\0407F005.D	04/07/2020 10:59

Analyte

Aldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.855	02	0.500	1.641	03	1.000	1.563	04	2.000	1.491
05	5.000	1.47	06	10.000	1.436						

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Calibration Date:** 4/6/2020

Initial Calibration Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190 **Signal ID:** DB-35MS
Instrument ID: K-GC-23

Analyte

Chlordane {1}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.05908	30	5.000	0.05878	31	10.000	0.05722	32	20.000	0.05631
33	50.000	0.0525	34	100.000	0.05064	35	200.000	0.04759			

Chlordane {2}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.0354	30	5.000	0.04229	31	10.000	0.03799	32	20.000	0.03668
33	50.000	0.03754	34	100.000	0.03616	35	200.000	0.03454			

Chlordane {3}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.01829	30	5.000	0.01955	31	10.000	0.02989	32	20.000	0.02723
33	50.000	0.02664	34	100.000	0.02612	35	200.000	0.02526			

Chlordane {4}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.1601	30	5.000	0.1501	31	10.000	0.1482	32	20.000	0.1452
33	50.000	0.1476	34	100.000	0.1484	35	200.000	0.1482			

Chlordane {5}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.1068	30	5.000	0.09056	31	10.000	0.09251	32	20.000	0.0898
33	50.000	0.08808	34	100.000	0.08745	35	200.000	0.08635			

Chlordane {6}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.146	30	5.000	0.1345	31	10.000	0.1351	32	20.000	0.1299
33	50.000	0.1274	34	100.000	0.128	35	200.000	0.1278			

Decachlorobiphenyl

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	2	02	0.500	1.78	03	1.000	1.643	04	2.000	1.579
05	5.000	1.402	06	10.000	1.269						

Dieldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.605	02	0.500	1.534	03	1.000	1.5	04	2.000	1.457
05	5.000	1.377	06	10.000	1.339						

Heptachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.831	02	0.500	1.63	03	1.000	1.611	04	2.000	1.517
05	5.000	1.425	06	10.000	1.385						

Heptachlor Epoxide

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.823	02	0.500	1.592	03	1.000	1.592	04	2.000	1.508
05	5.000	1.408	06	10.000	1.349						

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Calibration Date:** 4/6/2020

Initial Calibration Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190 **Signal ID:** DB-35MS
Instrument ID: K-GC-23

Analyte

Hexachlorobenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.731	02	0.500	1.743	03	1.000	1.652	04	2.000	1.585
05	5.000	1.472	06	10.000	1.37						

Tetrachloro-m-xylene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.295	02	0.500	1.306	03	1.000	1.26	04	2.000	1.269
05	5.000	1.185	06	10.000	1.12						

Toxaphene {1}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.02628	23	25.000	0.02341	24	50.000	0.02298	25	100.000	0.02181
26	250.000	0.01951	27	500.000	0.01935						

Toxaphene {2}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01948	23	25.000	0.01792	24	50.000	0.01798	25	100.000	0.0165
26	250.000	0.01561	27	500.000	0.01509						

Toxaphene {3}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.03205	23	25.000	0.0279	24	50.000	0.02158	25	100.000	0.02365
26	250.000	0.0197	27	500.000	0.01921						

Toxaphene {4}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01198	23	25.000	0.008069	24	50.000	0.008556	25	100.000	0.0081
26	250.000	0.007287	27	500.000	0.007003						

Toxaphene {5}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01356	23	25.000	0.01291	24	50.000	0.01206	25	100.000	0.01169
26	250.000	0.01085	27	500.000	0.01074						

Toxaphene {6}

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.006301	23	25.000	0.007277	24	50.000	0.006643	25	100.000	0.00651
26	250.000	0.006038	27	500.000	0.006135						

alpha-BHC

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.715	02	0.500	1.615	03	1.000	1.611	04	2.000	1.564
05	5.000	1.513	06	10.000	1.49						

beta-BHC

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	0.8065	02	0.500	0.7783	03	1.000	0.7993	04	2.000	0.7648
05	5.000	0.6932	06	10.000	0.6682						

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Calibration Date: 4/6/2020

Initial Calibration Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190
Instrument ID: K-GC-23

Signal ID: DB-35MS

Analyte

gamma-BHC (Lindane)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.717	02	0.500	1.634	03	1.000	1.541	04	2.000	1.514
05	5.000	1.444	06	10.000	1.404						

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Calibration Date:** 4/6/2020

Initial Calibration Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190 **Signal ID:** DB-35MS
Instrument ID: K-GC-23

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Aldrin	TRG	Average RF	% RSD	9.9	≤20	1.576	
Chlordane {1}	MULTI	Average RF	% RSD	8.1	≤20	0.05459	
Chlordane {2}	MULTI	Average RF	% RSD	6.8	≤20	0.03723	
Chlordane {3}	MULTI	Average RF	% RSD	17.1	≤20	0.02471	
Chlordane {4}	MULTI	Average RF	% RSD	3.2	≤20	0.1497	
Chlordane {5}	MULTI	Average RF	% RSD	7.6	≤20	0.09165	
Chlordane {6}	MULTI	Average RF	% RSD	5.0	≤20	0.1327	
Decachlorobiphenyl	SURR	Average RF	% RSD	16.2	≤20	1.612	
Dieldrin	TRG	Average RF	% RSD	6.7	≤20	1.469	
Heptachlor	TRG	Average RF	% RSD	10.4	≤20	1.567	
Heptachlor Epoxide	TRG	Average RF	% RSD	10.8	≤20	1.545	
Hexachlorobenzene	TRG	Average RF	% RSD	9.3	≤20	1.592	
Tetrachloro-m-xylene	SURR	Average RF	% RSD	5.8	≤20	1.239	
Toxaphene {1}	MULTI	Average RF	% RSD	11.8	≤20	0.02222	
Toxaphene {2}	MULTI	Average RF	% RSD	9.7	≤20	0.0171	
Toxaphene {3}	MULTI	Quadratic	COD	0.9984	≥0.990	0.02401	
Toxaphene {4}	MULTI	Quadratic	COD	0.9996	≥0.990	0.008499	
Toxaphene {5}	MULTI	Average RF	% RSD	9.4	≤20	0.01197	
Toxaphene {6}	MULTI	Average RF	% RSD	6.9	≤20	0.006484	
alpha-BHC	TRG	Average RF	% RSD	5.1	≤20	1.585	
beta-BHC	TRG	Average RF	% RSD	7.7	≤20	0.7517	
gamma-BHC (Lindane)	TRG	Average RF	% RSD	7.6	≤20	1.543	

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Calibration Date:** 4/6/2020

Initial Calibration Verification Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190 **Signal ID:** DB XLB
Instrument ID: K-GC-23

#	Lab Code	Sample Name	File Location	Acquisition Date
07	KC2000190-07	81 ICV 2PPB GCPS8-73E	J:\GC23\data\040620ICAL\0406F011.D	04/06/2020 15:52
20	KC2000190-20	MISC ICV 2PPB GCPS8-74E	J:\GC23\data\040620ICAL\0406F026.D	04/06/2020 23:17
21	KC2000190-21	PERTH ICV 25PPB GCPS8-71J	J:\GC23\data\040620ICAL\0406F027.D	04/06/2020 23:47
28	KC2000190-28	TOX ICV 100PPB GCPS8-69H	J:\GC23\data\040620ICAL\0406F034.D	04/07/2020 03:14
36	KC2000190-36	CHLOR ICV 50PPB GCPS8-66J	J:\GC23\data\040620ICAL\0406F042.D	04/07/2020 07:11
38	KC2000190-38	24 ICV 2PPB GCPS8-67G	J:\GC23\data\040720ICAL\0407F006.D	04/07/2020 11:29

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Aldrin	2.00	1.77	1.603E0	1.422E0	-11.264	±20	Average RF
alpha-BHC	2.00	1.73	1.668E0	1.439E0	-13.724	±20	Average RF
beta-BHC	2.00	1.71	8.917E-1	7.627E-1	-14.471	±20	Average RF
gamma-BHC (Lindane)	2.00	1.74	1.612E0	1.4E0	-13.158	±20	Average RF
Chlordane	50.0	46.8			-6.410	±20	NA
Dieldrin	2.00	1.63	1.65E0	1.347E0	-18.349	±20	Average RF
Heptachlor	2.00	1.76	1.732E0	1.52E0	-12.207	±20	Average RF
Heptachlor Epoxide	2.00	1.73	1.686E0	1.455E0	-13.704	±20	Average RF
Hexachlorobenzene	2.00	1.74	1.975E0	1.716E0	-13.104	±20	Average RF
Toxaphene	100	99.3			-0.681	±20	NA

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Chlordane {1}	50.0	38.5	6.817E-2	5.249E-2	-23.000	±100	Average RF
Chlordane {2}	50.0	36.4	8.635E-2	6.282E-2	-27.253	±100	Average RF
Chlordane {3}	50.0	60.6	6.197E-2	7.517E-2	21.29	±100	Average RF
Chlordane {4}	50.0	47.3	1.881E-1	1.781E-1	-5.350	±100	Average RF
Chlordane {5}	50.0	47.8	1.556E-1	1.489E-1	-4.312	±100	Average RF
Chlordane {6}	50.0	50.1	1.142E-1	1.144E-1	0.165	±100	Average RF
Toxaphene {1}	100	103	1.643E-2	1.686E-2	2.62	±100	Average RF
Toxaphene {2}	100	92.0	1.486E-2	1.368E-2	-7.954	±100	Average RF
Toxaphene {3}	100	95.1	2.961E-2	2.816E-2	-4.900	±100	Average RF
Toxaphene {4}	100	104	1.992E-2	2.074E-2	4.12	±100	Average RF
Toxaphene {5}	100	108	1.898E-2	2.057E-2	8.40	±100	Average RF
Toxaphene {6}	100	93.6	9.114E-3	8.064E-3	-6.382	±100	Quadratic

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site **Calibration Date:** 4/6/2020

Initial Calibration Verification Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Calibration ID: KC2000190 **Signal ID:** DB-35MS
Instrument ID: K-GC-23

#	Lab Code	Sample Name	File Location	Acquisition Date
07	KC2000190-07	81 ICV 2PPB GCPS8-73E	J:\GC23\data\040620ICAL\0406F011.D	04/06/2020 15:52
20	KC2000190-20	MISC ICV 2PPB GCPS8-74E	J:\GC23\data\040620ICAL\0406F026.D	04/06/2020 23:17
21	KC2000190-21	PERTH ICV 25PPB GCPS8-71J	J:\GC23\data\040620ICAL\0406F027.D	04/06/2020 23:47
28	KC2000190-28	TOX ICV 100PPB GCPS8-69H	J:\GC23\data\040620ICAL\0406F034.D	04/07/2020 03:14
36	KC2000190-36	CHLOR ICV 50PPB GCPS8-66J	J:\GC23\data\040620ICAL\0406F042.D	04/07/2020 07:11
38	KC2000190-38	24 ICV 2PPB GCPS8-67G	J:\GC23\data\040720ICAL\0407F006.D	04/07/2020 11:29

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Aldrin	2.00	1.71	1.576E0	1.347E0	-14.518	±20	Average RF
alpha-BHC	2.00	1.71	1.585E0	1.353E0	-14.629	±20	Average RF
beta-BHC	2.00	1.71	7.517E-1	6.418E-1	-14.627	±20	Average RF
gamma-BHC (Lindane)	2.00	1.71	1.543E0	1.32E0	-14.403	±20	Average RF
Chlordane	50.0	51.2			2.34	±20	NA
Dieldrin	2.00	1.62	1.469E0	1.19E0	-19.002	±20	Average RF
Heptachlor	2.00	1.70	1.567E0	1.33E0	-15.108	±20	Average RF
Heptachlor Epoxide	2.00	1.67	1.545E0	1.293E0	-16.351	±20	Average RF
Hexachlorobenzene	2.00	1.76	1.592E0	1.398E0	-12.147	±20	Average RF
Toxaphene	100	93.9			-6.142	±20	NA

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Chlordane {1}	50.0	38.2	5.459E-2	4.173E-2	-23.555	±100	Average RF
Chlordane {2}	50.0	55.4	3.723E-2	4.122E-2	10.73	±100	Average RF
Chlordane {3}	50.0	66.3	2.471E-2	3.277E-2	32.61	±100	Average RF
Chlordane {4}	50.0	47.7	1.497E-1	1.427E-1	-4.648	±100	Average RF
Chlordane {5}	50.0	52.9	9.165E-2	9.697E-2	5.81	±100	Average RF
Chlordane {6}	50.0	46.6	1.327E-1	1.236E-1	-6.882	±100	Average RF
Toxaphene {1}	100	94.9	2.222E-2	2.11E-2	-5.058	±100	Average RF
Toxaphene {2}	100	89.5	1.71E-2	1.53E-2	-10.526	±100	Average RF
Toxaphene {3}	100	91.1	2.401E-2	2.008E-2	-8.936	±100	Quadratic
Toxaphene {4}	100	94.9	8.499E-3	7.467E-3	-5.072	±100	Quadratic
Toxaphene {5}	100	93.3	1.197E-2	1.117E-2	-6.685	±100	Average RF
Toxaphene {6}	100	99.4	6.484E-3	6.447E-3	-0.574	±100	Average RF

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Date Analyzed: 04/18/20 23:03

Continuing Calibration Verification (CCV) Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
File ID: J:\GC23\data\041820\0418F008.D\
Signal ID: DB-35MS

Calibration Date: 4/6/2020
Calibration ID: KC2000190
Analysis Lot: 677292
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Aldrin	2.00	1.70	1.576	1.3412	-14.9	NA	±20	Average RF
alpha-BHC	2.00	1.68	1.5847	1.332	-15.9	NA	±20	Average RF
beta-BHC	2.00	1.79	0.7517	0.6737	-10.4	NA	±20	Average RF
gamma-BHC (Lindane)	2.00	1.72	1.5426	1.3257	-14.1	NA	±20	Average RF
Chlordane	20.0	21.3	NA	NA	NA	NA	±20	
Dieldrin	2.00	1.76	1.4689	1.294	-11.9	NA	±20	Average RF
Heptachlor	2.00	1.84	1.5667	1.4382	-8.2	NA	±20	Average RF
Heptachlor Epoxide	2.00	1.73	1.5452	1.335	-13.6	NA	±20	Average RF
Hexachlorobenzene	2.00	1.76	1.5919	1.4015	-12.0	NA	±20	Average RF
Toxaphene	100	88.6	NA	NA	NA	NA	±20	

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Chlordane {1}	20.0	20.1	0.0546	0.055	0.7	NA	±100	Average RF
Chlordane {2}	20.0	22.1	0.0372	0.0412	10.6	NA	±100	Average RF
Chlordane {3}	20.0	23.6	0.0247	0.0292	18.1	NA	±100	Average RF
Chlordane {4}	20.0	20.9	0.1497	0.156	4.3	NA	±100	Average RF
Chlordane {5}	20.0	20.5	0.0916	0.0939	2.4	NA	±100	Average RF
Chlordane {6}	20.0	20.3	0.1327	0.1347	1.5	NA	±100	Average RF
Toxaphene {1}	100	90.4	0.0222	0.0201	-9.6	NA	±100	Average RF
Toxaphene {2}	100	83.4	0.0171	0.0143	-16.6	NA	±100	Average RF
Toxaphene {3}	100	83.3	0.024	0.0185	NA	-16.7	±100	Quadratic
Toxaphene {4}	100	93.9	0.0085	0.0074	NA	-6.1	±100	Quadratic
Toxaphene {5}	100	88.0	0.012	0.0105	-12.0	NA	±100	Average RF
Toxaphene {6}	100	92.5	0.0065	0.006	-7.5	NA	±100	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	2.00	1.68	1.6121	1.3525	-16.1	NA	±20	Average RF
Tetrachloro-m-xylene	2.00	1.73	1.2391	1.0695	-13.7	NA	±20	Average RF

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Date Analyzed: 04/18/20 23:03

Continuing Calibration Verification (CCV) Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
File ID: J:\GC23\data\041820\0418F008.D\
Signal ID: DB XLB

Calibration Date: 4/6/2020
Calibration ID: KC2000190
Analysis Lot: 677292
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Aldrin	2.00	1.89	1.6031	1.5168	-5.4	NA	±20	Average RF
alpha-BHC	2.00	1.86	1.668	1.5488	-7.2	NA	±20	Average RF
beta-BHC	2.00	1.82	0.8917	0.81	-9.2	NA	±20	Average RF
gamma-BHC (Lindane)	2.00	1.83	1.6118	1.4783	-8.3	NA	±20	Average RF
Chlordane	20.0	22.4	NA	NA	NA	NA	±20	
Dieldrin	2.00	1.84	1.65	1.5158	-8.1	NA	±20	Average RF
Heptachlor	2.00	1.92	1.7318	1.6603	-4.1	NA	±20	Average RF
Heptachlor Epoxide	2.00	1.91	1.6856	1.6083	-4.6	NA	±20	Average RF
Hexachlorobenzene	2.00	1.80	1.975	1.7799	-9.9	NA	±20	Average RF
Toxaphene	100	96.5	NA	NA	NA	NA	±20	

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Chlordane {1}	20.0	22.5	0.0682	0.0766	12.3	NA	±100	Average RF
Chlordane {2}	20.0	22.4	0.0864	0.0966	11.9	NA	±100	Average RF
Chlordane {3}	20.0	23.7	0.062	0.0735	18.7	NA	±100	Average RF
Chlordane {4}	20.0	22.0	0.1881	0.2067	9.9	NA	±100	Average RF
Chlordane {5}	20.0	22.2	0.1556	0.1729	11.1	NA	±100	Average RF
Chlordane {6}	20.0	21.4	0.1142	0.1224	7.2	NA	±100	Average RF
Toxaphene {1}	100	93.0	0.0164	0.0153	-7.0	NA	±100	Average RF
Toxaphene {2}	100	95.4	0.0149	0.0142	-4.6	NA	±100	Average RF
Toxaphene {3}	100	88.4	0.0296	0.0262	-11.6	NA	±100	Average RF
Toxaphene {4}	100	101	0.0199	0.0201	1.0	NA	±100	Average RF
Toxaphene {5}	100	96.2	0.019	0.0183	-3.8	NA	±100	Average RF
Toxaphene {6}	100	105	0.0091	0.009	NA	5.0	±100	Quadratic

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	2.00	1.86	1.7793	1.6554	-7.0	NA	±20	Average RF
Tetrachloro-m-xylene	2.00	1.79	1.4499	1.2949	-10.7	NA	±20	Average RF

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Date Analyzed: 04/19/20 09:55

Continuing Calibration Verification (CCV) Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
File ID: J:\GC23\data\041820\0418F030.D\
Signal ID: DB-35MS

Calibration Date: 4/6/2020
Calibration ID: KC2000190
Analysis Lot: 677293
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Aldrin	2.00	1.68	1.576	1.3231	-16.0	NA	±20	Average RF
alpha-BHC	2.00	1.67	1.5847	1.321	-16.6	NA	±20	Average RF
beta-BHC	2.00	1.75	0.7517	0.6593	-12.3	NA	±20	Average RF
gamma-BHC (Lindane)	2.00	1.70	1.5426	1.3136	-14.8	NA	±20	Average RF
Chlordane	20.0	21.3	NA	NA	NA	NA	±20	
Dieldrin	2.00	1.72	1.4689	1.2638	-14.0	NA	±20	Average RF
Heptachlor	2.00	1.81	1.5667	1.4188	-9.4	NA	±20	Average RF
Heptachlor Epoxide	2.00	1.69	1.5452	1.3029	-15.7	NA	±20	Average RF
Hexachlorobenzene	2.00	1.74	1.5919	1.3854	-13.0	NA	±20	Average RF
Toxaphene	100	92.3	NA	NA	NA	NA	±20	

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Chlordane {1}	20.0	19.9	0.0546	0.0542	-0.7	NA	±100	Average RF
Chlordane {2}	20.0	22.5	0.0372	0.042	12.7	NA	±100	Average RF
Chlordane {3}	20.0	23.8	0.0247	0.0295	19.2	NA	±100	Average RF
Chlordane {4}	20.0	20.7	0.1497	0.1548	3.4	NA	±100	Average RF
Chlordane {5}	20.0	20.6	0.0916	0.0943	2.9	NA	±100	Average RF
Chlordane {6}	20.0	20.5	0.1327	0.1359	2.4	NA	±100	Average RF
Toxaphene {1}	100	93.4	0.0222	0.0208	-6.6	NA	±100	Average RF
Toxaphene {2}	100	90.2	0.0171	0.0154	-9.8	NA	±100	Average RF
Toxaphene {3}	100	85.2	0.024	0.0189	NA	-14.8	±100	Quadratic
Toxaphene {4}	100	97.4	0.0085	0.0076	NA	-2.6	±100	Quadratic
Toxaphene {5}	100	92.4	0.012	0.0111	-7.6	NA	±100	Average RF
Toxaphene {6}	100	95.1	0.0065	0.0062	-4.9	NA	±100	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	2.00	1.66	1.6121	1.3359	-17.1	NA	±20	Average RF
Tetrachloro-m-xylene	2.00	1.74	1.2391	1.0782	-13.0	NA	±20	Average RF

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Date Analyzed: 04/19/20 09:55

Continuing Calibration Verification (CCV) Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
File ID: J:\GC23\data\041820\0418F030.D\
Signal ID: DB XLB

Calibration Date: 4/6/2020
Calibration ID: KC2000190
Analysis Lot: 677293
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Aldrin	2.00	1.91	1.6031	1.533	-4.4	NA	±20	Average RF
alpha-BHC	2.00	1.83	1.668	1.5278	-8.4	NA	±20	Average RF
beta-BHC	2.00	1.86	0.8917	0.8305	-6.9	NA	±20	Average RF
gamma-BHC (Lindane)	2.00	1.81	1.6118	1.4613	-9.3	NA	±20	Average RF
Chlordane	20.0	22.5	NA	NA	NA	NA	±20	
Dieldrin	2.00	1.85	1.65	1.5249	-7.6	NA	±20	Average RF
Heptachlor	2.00	1.89	1.7318	1.639	-5.4	NA	±20	Average RF
Heptachlor Epoxide	2.00	1.93	1.6856	1.6277	-3.4	NA	±20	Average RF
Hexachlorobenzene	2.00	1.81	1.975	1.79	-9.4	NA	±20	Average RF
Toxaphene	100	97.5	NA	NA	NA	NA	±20	

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Chlordane {1}	20.0	24.0	0.0682	0.0819	20.1	NA	±100	Average RF
Chlordane {2}	20.0	22.1	0.0864	0.0956	10.7	NA	±100	Average RF
Chlordane {3}	20.0	23.4	0.062	0.0724	16.8	NA	±100	Average RF
Chlordane {4}	20.0	21.8	0.1881	0.2047	8.8	NA	±100	Average RF
Chlordane {5}	20.0	22.3	0.1556	0.1733	11.4	NA	±100	Average RF
Chlordane {6}	20.0	21.5	0.1142	0.123	7.7	NA	±100	Average RF
Toxaphene {1}	100	107	0.0164	0.0176	7.0	NA	±100	Average RF
Toxaphene {2}	100	90.0	0.0149	0.0134	-10.0	NA	±100	Average RF
Toxaphene {3}	100	89.4	0.0296	0.0265	-10.6	NA	±100	Average RF
Toxaphene {4}	100	95.3	0.0199	0.019	-4.7	NA	±100	Average RF
Toxaphene {5}	100	102	0.019	0.0193	1.7	NA	±100	Average RF
Toxaphene {6}	100	102	0.0091	0.0087	NA	1.8	±100	Quadratic

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	2.00	1.87	1.7793	1.6677	-6.3	NA	±20	Average RF
Tetrachloro-m-xylene	2.00	1.83	1.4499	1.323	-8.8	NA	±20	Average RF

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Date Analyzed: 04/22/20 10:53

Continuing Calibration Verification (CCV) Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
File ID: J:\GC23\data\042220\0422F004.D\
Signal ID: DB-35MS

Calibration Date: 4/6/2020
Calibration ID: KC2000190
Analysis Lot: 677794
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Aldrin	2.00	2.13	1.576	1.6748	6.3	NA	±20	Average RF
alpha-BHC	2.00	2.15	1.5847	1.7029	7.5	NA	±20	Average RF
beta-BHC	2.00	2.22	0.7517	0.8334	10.9	NA	±20	Average RF
gamma-BHC (Lindane)	2.00	2.09	1.5426	1.6148	4.7	NA	±20	Average RF
Dieldrin	2.00	2.20	1.4689	1.6168	10.1	NA	±20	Average RF
Heptachlor	2.00	2.17	1.5667	1.6999	8.5	NA	±20	Average RF
Heptachlor Epoxide	2.00	2.15	1.5452	1.6637	7.7	NA	±20	Average RF
Hexachlorobenzene	2.00	2.24	1.5919	1.7855	12.2	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	2.00	2.08	1.6121	1.6791	4.2	NA	±20	Average RF
Tetrachloro-m-xylene	2.00	2.16	1.2391	1.3354	7.8	NA	±20	Average RF

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Date Analyzed: 04/22/20 10:53

Continuing Calibration Verification (CCV) Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
File ID: J:\GC23\data\042220\0422F004.D\
Signal ID: DB XLB

Calibration Date: 4/6/2020
Calibration ID: KC2000190
Analysis Lot: 677794
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Aldrin	2.00	2.15	1.6031	1.7205	7.3	NA	±20	Average RF
alpha-BHC	2.00	2.06	1.668	1.7169	2.9	NA	±20	Average RF
beta-BHC	2.00	2.10	0.8917	0.9344	4.8	NA	±20	Average RF
gamma-BHC (Lindane)	2.00	2.10	1.6118	1.6895	4.8	NA	±20	Average RF
Dieldrin	2.00	2.13	1.65	1.7588	6.6	NA	±20	Average RF
Heptachlor	2.00	2.15	1.7318	1.8591	7.4	NA	±20	Average RF
Heptachlor Epoxide	2.00	2.16	1.6856	1.8173	7.8	NA	±20	Average RF
Hexachlorobenzene	2.00	2.09	1.975	2.0643	4.5	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	2.00	2.22	1.7793	1.9787	11.2	NA	±20	Average RF
Tetrachloro-m-xylene	2.00	2.07	1.4499	1.4983	3.3	NA	±20	Average RF

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Date Analyzed: 04/22/20 23:22

Continuing Calibration Verification (CCV) Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
File ID: J:\GC23\data\042220\0422F026.D\
Signal ID: DB-35MS

Calibration Date: 4/6/2020
Calibration ID: KC2000190
Analysis Lot: 677799
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Aldrin	2.00	2.03	1.576	1.5957	1.3	NA	±20	Average RF
alpha-BHC	2.00	2.07	1.5847	1.639	3.4	NA	±20	Average RF
beta-BHC	2.00	2.15	0.7517	0.8065	7.3	NA	±20	Average RF
gamma-BHC (Lindane)	2.00	1.97	1.5426	1.52	-1.5	NA	±20	Average RF
Chlordane	20.0	23.3	NA	NA	NA	NA	±20	
Dieldrin	2.00	2.00	1.4689	1.471	0.1	NA	±20	Average RF
Heptachlor	2.00	1.98	1.5667	1.5502	-1.0	NA	±20	Average RF
Heptachlor Epoxide	2.00	2.03	1.5452	1.57	1.6	NA	±20	Average RF
Hexachlorobenzene	2.00	2.17	1.5919	1.7263	8.4	NA	±20	Average RF
Toxaphene	100	95.2	NA	NA	NA	NA	±20	

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Chlordane {1}	20.0	23.8	0.0546	0.0651	19.2	NA	±100	Average RF
Chlordane {2}	20.0	23.5	0.0372	0.0437	17.4	NA	±100	Average RF
Chlordane {3}	20.0	25.2	0.0247	0.0311	25.9	NA	±100	Average RF
Chlordane {4}	20.0	22.5	0.1497	0.1687	12.7	NA	±100	Average RF
Chlordane {5}	20.0	21.7	0.0916	0.0994	8.5	NA	±100	Average RF
Chlordane {6}	20.0	22.8	0.1327	0.1513	14.0	NA	±100	Average RF
Toxaphene {1}	100	93.3	0.0222	0.0207	-6.7	NA	±100	Average RF
Toxaphene {2}	100	93.8	0.0171	0.016	-6.2	NA	±100	Average RF
Toxaphene {3}	100	93.0	0.024	0.0205	NA	-7.0	±100	Quadratic
Toxaphene {4}	100	99.9	0.0085	0.0078	NA	-0.1	±100	Quadratic
Toxaphene {5}	100	95.3	0.012	0.0114	-4.7	NA	±100	Average RF
Toxaphene {6}	100	95.6	0.0065	0.0062	-4.4	NA	±100	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	2.00	1.91	1.6121	1.5378	-4.6	NA	±20	Average RF
Tetrachloro-m-xylene	2.00	2.13	1.2391	1.319	6.4	NA	±20	Average RF

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Date Analyzed: 04/22/20 23:22

Continuing Calibration Verification (CCV) Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
File ID: J:\GC23\data\042220\0422F026.D\
Signal ID: DB XLB

Calibration Date: 4/6/2020
Calibration ID: KC2000190
Analysis Lot: 677799
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Aldrin	2.00	2.24	1.6031	1.7965	12.1	NA	±20	Average RF
alpha-BHC	2.00	2.15	1.668	1.7949	7.6	NA	±20	Average RF
beta-BHC	2.00	2.14	0.8917	0.954	7.0	NA	±20	Average RF
gamma-BHC (Lindane)	2.00	2.15	1.6118	1.7299	7.3	NA	±20	Average RF
Chlordane	20.0	24.6	NA	NA	NA	NA	±20	
Dieldrin	2.00	2.18	1.65	1.7975	8.9	NA	±20	Average RF
Heptachlor	2.00	2.04	1.7318	1.7652	1.9	NA	±20	Average RF
Heptachlor Epoxide	2.00	2.17	1.6856	1.8245	8.2	NA	±20	Average RF
Hexachlorobenzene	2.00	2.31	1.975	2.2793	15.4	NA	±20	Average RF
Toxaphene	100	103	NA	NA	NA	NA	±20	

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Chlordane {1}	20.0	24.6	0.0682	0.0837	22.8	NA	±100	Average RF
Chlordane {2}	20.0	23.0	0.0864	0.0993	15.0	NA	±100	Average RF
Chlordane {3}	20.0	25.5	0.062	0.0792	27.7	NA	±100	Average RF
Chlordane {4}	20.0	25.3	0.1881	0.2378	26.4	NA	±100	Average RF
Chlordane {5}	20.0	24.5	0.1556	0.1906	22.5	NA	±100	Average RF
Chlordane {6}	20.0	24.7	0.1142	0.1413	23.7	NA	±100	Average RF
Toxaphene {1}	100	105	0.0164	0.0173	5.2	NA	±100	Average RF
Toxaphene {2}	100	101	0.0149	0.015	1.1	NA	±100	Average RF
Toxaphene {3}	100	99.4	0.0296	0.0294	-0.6	NA	±100	Average RF
Toxaphene {4}	100	107	0.0199	0.0212	6.6	NA	±100	Average RF
Toxaphene {5}	100	105	0.019	0.02	5.4	NA	±100	Average RF
Toxaphene {6}	100	101	0.0091	0.0086	NA	0.6	±100	Quadratic

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	2.00	2.26	1.7793	2.0071	12.8	NA	±20	Average RF
Tetrachloro-m-xylene	2.00	2.29	1.4499	1.6589	14.4	NA	±20	Average RF

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Date Analyzed: 04/25/20 04:13

Continuing Calibration Verification (CCV) Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
File ID: J:\GC23\data\042420B\0424F023.D\
Signal ID: DB-35MS

Calibration Date: 4/6/2020
Calibration ID: KC2000190
Analysis Lot: 678037
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Aldrin	2.00	1.86	1.576	1.4641	-7.1	NA	±20	Average RF
alpha-BHC	2.00	1.96	1.5847	1.5511	-2.1	NA	±20	Average RF
beta-BHC	2.00	2.04	0.7517	0.7659	1.9	NA	±20	Average RF
gamma-BHC (Lindane)	2.00	1.92	1.5426	1.4825	-3.9	NA	±20	Average RF
Dieldrin	2.00	1.89	1.4689	1.3841	-5.8	NA	±20	Average RF
Heptachlor	2.00	2.05	1.5667	1.6084	2.7	NA	±20	Average RF
Heptachlor Epoxide	2.00	1.89	1.5452	1.4589	-5.6	NA	±20	Average RF
Hexachlorobenzene	2.00	1.99	1.5919	1.5849	-0.4	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	2.00	1.78	1.6121	1.4348	-11.0	NA	±20	Average RF
Tetrachloro-m-xylene	2.00	1.92	1.2391	1.1921	-3.8	NA	±20	Average RF

Client: Floyd Snider
Project: PKG SmithKem Site

Service Request: K2002652
Date Analyzed: 04/25/20 04:13

Continuing Calibration Verification (CCV) Summary
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B
File ID: J:\GC23\data\042420B\0424F023.D\
Signal ID: DB XLB

Calibration Date: 4/6/2020
Calibration ID: KC2000190
Analysis Lot: 678037
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Aldrin	2.00	2.09	1.6031	1.6719	4.3	NA	±20	Average RF
alpha-BHC	2.00	2.05	1.668	1.706	2.3	NA	±20	Average RF
beta-BHC	2.00	1.96	0.8917	0.8752	-1.9	NA	±20	Average RF
gamma-BHC (Lindane)	2.00	2.05	1.6118	1.6546	2.7	NA	±20	Average RF
Dieldrin	2.00	2.04	1.65	1.6807	1.9	NA	±20	Average RF
Heptachlor	2.00	2.17	1.7318	1.8779	8.4	NA	±20	Average RF
Heptachlor Epoxide	2.00	2.04	1.6856	1.719	2.0	NA	±20	Average RF
Hexachlorobenzene	2.00	2.00	1.975	1.9782	0.2	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	2.00	2.07	1.7793	1.8411	3.5	NA	±20	Average RF
Tetrachloro-m-xylene	2.00	2.00	1.4499	1.4497	0.0	NA	±20	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Floyd Snider **Service Request:**K2002652
Project: PKG SmithKem Site

Analysis Run Log
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B **Analysis Lot:**677292
Instrument ID:K-GC-23

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC23\data\041820\0418F007.D\	Performance Evaluation	KQ2005306-01	4/18/2020	22:33:00	
J:\GC23\data\041820\0418F008.D\	Continuing Calibration Verification	KQ2005306-02	4/18/2020	23:03:00	
J:\GC23\data\041820\0418F009.D\	Continuing Calibration Verification	KQ2005306-02	4/18/2020	23:33:00	
J:\GC23\data\041820\0418F010.D\	Continuing Calibration Verification	KQ2005306-02	4/19/2020	00:02:00	
J:\GC23\data\041820\0418F011.D\	Continuing Calibration Blank	KQ2005306-03	4/19/2020	00:32:00	
J:\GC23\data\041820\0418F012.D\	Method Blank	KQ2004496-07	4/19/2020	01:02:00	
J:\GC23\data\041820\0418F013.D\	Lab Control Sample	KQ2004496-03	4/19/2020	01:32:00	
J:\GC23\data\041820\0418F014.D\	MW-9-032520 MS	KQ2004496-01	4/19/2020	02:01:00	
J:\GC23\data\041820\0418F015.D\	MW-9-032520 DMS	KQ2004496-02	4/19/2020	02:31:00	
J:\GC23\data\041820\0418F016.D\	Lab Control Sample	KQ2004496-06	4/19/2020	03:00:00	
J:\GC23\data\041820\0418F017.D\	MW-9-032520 MS	KQ2004496-04	4/19/2020	03:30:00	
J:\GC23\data\041820\0418F018.D\	MW-9-032520 DMS	KQ2004496-05	4/19/2020	03:59:00	
J:\GC23\data\041820\0418F019.D\	MW-9-032520	K2002652-001	4/19/2020	04:29:00	
J:\GC23\data\041820\0418F020.D\	MW-4-032520	K2002652-002	4/19/2020	04:59:00	
J:\GC23\data\041820\0418F021.D\	MW-104-032520	K2002652-003	4/19/2020	05:29:00	
J:\GC23\data\041820\0418F022.D\	MW-15-032520	K2002652-004	4/19/2020	05:58:00	
J:\GC23\data\041820\0418F023.D\	MW-16-032520	K2002652-005	4/19/2020	06:28:00	
J:\GC23\data\041820\0418F024.D\	MW-17-032520	K2002652-006	4/19/2020	06:57:00	
J:\GC23\data\041820\0418F025.D\	MW-7-032520	K2002652-007	4/19/2020	07:27:00	
J:\GC23\data\041820\0418F026.D\	MW-6-032520	K2002652-008	4/19/2020	07:57:00	
J:\GC23\data\041820\0418F027.D\	MW-1-032520	K2002652-009	4/19/2020	08:26:00	
J:\GC23\data\041820\0418F028.D\	MW-11-032520	K2002652-010	4/19/2020	08:56:00	

Client: Floyd Snider **Service Request:**K2002652
Project: PKG SmithKem Site

Analysis Run Log
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B **Analysis Lot:**677293
Instrument ID:K-GC-23

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC23\data\041820\0418F029.D\	Performance Evaluation	KQ2005308-01	4/19/2020	09:26:00	
J:\GC23\data\041820\0418F030.D\	Continuing Calibration Verification	KQ2005308-02	4/19/2020	09:55:00	
J:\GC23\data\041820\0418F031.D\	Continuing Calibration Verification	KQ2005308-02	4/19/2020	10:25:00	
J:\GC23\data\041820\0418F032.D\	Continuing Calibration Verification	KQ2005308-02	4/19/2020	10:55:00	
J:\GC23\data\041820\0418F033.D\	Continuing Calibration Blank	KQ2005308-03	4/19/2020	11:24:00	
J:\GC23\data\041820\0418F034.D\	Method Blank	KQ2004497-05	4/19/2020	11:54:00	
J:\GC23\data\041820\0418F035.D\	Lab Control Sample	KQ2004497-01	4/19/2020	12:24:00	
J:\GC23\data\041820\0418F036.D\	Duplicate Lab Control Sample	KQ2004497-02	4/19/2020	12:53:00	
J:\GC23\data\041820\0418F037.D\	Lab Control Sample	KQ2004497-03	4/19/2020	13:23:00	
J:\GC23\data\041820\0418F038.D\	Duplicate Lab Control Sample	KQ2004497-04	4/19/2020	13:53:00	
J:\GC23\data\041820\0418F039.D\	MW-8-032520	K2002652-011	4/19/2020	14:22:00	
J:\GC23\data\041820\0418F040.D\	MW-5-032520	K2002652-012	4/19/2020	14:52:00	
J:\GC23\data\041820\0418F041.D\	MW-3-032520	K2002652-013	4/19/2020	15:21:00	
J:\GC23\data\041820\0418F042.D\	MW-10-032520	K2002652-014	4/19/2020	15:51:00	
J:\GC23\data\041820\0418F043.D\	MW-2-032620	K2002652-015	4/19/2020	16:21:00	
J:\GC23\data\041820\0418F044.D\	MW-12-032620	K2002652-016	4/19/2020	16:50:00	
J:\GC23\data\041820\0418F045.D\	MW-14-032620	K2002652-017	4/19/2020	17:20:00	
J:\GC23\data\041820\0418F046.D\	MW-18-032620	K2002652-018	4/19/2020	17:50:00	
J:\GC23\data\041820\0418F047.D\	MW-19-032620	K2002652-019	4/19/2020	18:19:00	
J:\GC23\data\041820\0418F048.D\	MW-20-032620	K2002652-020	4/19/2020	18:49:00	
J:\GC23\data\041820\0418F049.D\	MW-13-032520	K2002652-021	4/19/2020	19:19:00	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Floyd Snider **Service Request:**K2002652
Project: PKG SmithKem Site

Analysis Run Log
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B **Analysis Lot:**677794
Instrument ID:K-GC-23

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC23\data\042220\0422F001.D\	Performance Evaluation	KQ2005500-01	4/22/2020	09:24:00	
J:\GC23\data\042220\0422F004.D\	Continuing Calibration Verification	KQ2005500-02	4/22/2020	10:53:00	
J:\GC23\data\042220\0422F020.D\	MW-4-032520	K2002652-002	4/22/2020	20:24:00	
J:\GC23\data\042220\0422F021.D\	MW-104-032520	K2002652-003	4/22/2020	20:53:00	
J:\GC23\data\042220\0422F022.D\	MW-6-032520	K2002652-008	4/22/2020	21:23:00	

Client: Floyd Snider **Service Request:**K2002652
Project: PKG SmithKem Site

Analysis Run Log
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B **Analysis Lot:**677799
Instrument ID:K-GC-23

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC23\data\042220\0422F025.D\	Performance Evaluation	KQ2005501-01	4/22/2020	22:52:00	
J:\GC23\data\042220\0422F026.D\	Continuing Calibration Verification	KQ2005501-02	4/22/2020	23:22:00	
J:\GC23\data\042220\0422F031.D\	Continuing Calibration Blank	KQ2005501-03	4/23/2020	01:50:00	
J:\GC23\data\042220\0422F043.D\	MW-1-032520	K2002652-009	4/23/2020	07:42:00	

Client: Floyd Snider **Service Request:**K2002652
Project: PKG SmithKem Site

Analysis Run Log
Ultra Low Level Organochlorine Pesticides by GC/ECD

Analysis Method: 8081B **Analysis Lot:**678037
Instrument ID:K-GC-23

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC23\data\042420B\0424F022.D\	Performance Evaluation	KQ2005597-02	4/25/2020	03:44:00	
J:\GC23\data\042420B\0424F023.D\	Continuing Calibration Verification	KQ2005597-01	4/25/2020	04:13:00	
J:\GC23\data\042420B\0424F026.D\	Continuing Calibration Blank	KQ2005597-03	4/25/2020	05:42:00	
J:\GC23\data\042420B\0424F032.D\	MW-16-032520	K2002652-005	4/25/2020	08:41:00	
J:\GC23\data\042420B\0424F033.D\	MW-11-032520	K2002652-010	4/25/2020	09:10:00	

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site
Sample Matrix: Water

Ultra Low Level Organochlorine Pesticides by GC/ECD

Prep Method: EPA 3511 **Extraction Lot:** 356225
Analytical Method: 8081B **Extraction Date:** 03/31/20 14:08

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
MW-9-032520	K2002652-001	3/25/20	3/27/20	200 mL	1 mL	
MW-4-032520	K2002652-002	3/25/20	3/27/20	200 mL	1 mL	
MW-4-032520	K2002652-002	3/25/20	3/27/20	200 mL	1 mL	
MW-104-032520	K2002652-003	3/25/20	3/27/20	200 mL	1 mL	
MW-104-032520	K2002652-003	3/25/20	3/27/20	200 mL	1 mL	
MW-15-032520	K2002652-004	3/25/20	3/27/20	200 mL	1 mL	
MW-16-032520	K2002652-005	3/25/20	3/27/20	200 mL	1 mL	
MW-16-032520	K2002652-005	3/25/20	3/27/20	200 mL	1 mL	
MW-17-032520	K2002652-006	3/25/20	3/27/20	200 mL	1 mL	
MW-7-032520	K2002652-007	3/25/20	3/27/20	200 mL	1 mL	
MW-6-032520	K2002652-008	3/25/20	3/27/20	200 mL	1 mL	
MW-6-032520	K2002652-008	3/25/20	3/27/20	200 mL	1 mL	
MW-1-032520	K2002652-009	3/25/20	3/27/20	200 mL	1 mL	
MW-1-032520	K2002652-009	3/25/20	3/27/20	200 mL	1 mL	
MW-11-032520	K2002652-010	3/25/20	3/27/20	200 mL	1 mL	
MW-11-032520	K2002652-010	3/25/20	3/27/20	200 mL	1 mL	
Matrix Spike	KQ2004496-01MS	3/25/20	3/27/20	200 mL	1 mL	
Duplicate Matrix Spike	KQ2004496-02DMS	3/25/20	3/27/20	200 mL	1 mL	
Lab Control Sample	KQ2004496-03LCS	NA	NA	200 mL	1 mL	
Matrix Spike	KQ2004496-04MS	3/25/20	3/27/20	200 mL	1 mL	
Duplicate Matrix Spike	KQ2004496-05DMS	3/25/20	3/27/20	200 mL	1 mL	
Lab Control Sample	KQ2004496-06LCS	NA	NA	200 mL	1 mL	
Method Blank	KQ2004496-07MB	NA	NA	200 mL	1 mL	

Prep Summary Report

Client: Floyd Snider **Service Request:** K2002652
Project: PKG SmithKem Site
Sample Matrix: Water

Ultra Low Level Organochlorine Pesticides by GC/ECD

Prep Method: EPA 3511 **Extraction Lot:** 356226
Analytical Method: 8081B **Extraction Date:** 03/31/20 14:08

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
MW-8-032520	K2002652-011	3/25/20	3/27/20	200 mL	1 mL	
MW-5-032520	K2002652-012	3/25/20	3/27/20	200 mL	1 mL	
MW-3-032520	K2002652-013	3/25/20	3/27/20	200 mL	1 mL	
MW-10-032520	K2002652-014	3/25/20	3/27/20	200 mL	1 mL	
MW-2-032620	K2002652-015	3/26/20	3/27/20	200 mL	1 mL	
MW-12-032620	K2002652-016	3/26/20	3/27/20	200 mL	1 mL	
MW-14-032620	K2002652-017	3/26/20	3/27/20	200 mL	1 mL	
MW-18-032620	K2002652-018	3/26/20	3/27/20	200 mL	1 mL	
MW-19-032620	K2002652-019	3/26/20	3/27/20	200 mL	1 mL	
MW-20-032620	K2002652-020	3/26/20	3/27/20	200 mL	1 mL	
MW-13-032520	K2002652-021	3/25/20	3/27/20	200 mL	1 mL	
Lab Control Sample	KQ2004497-01LCS	NA	NA	200 mL	1 mL	
Duplicate Lab Control Sample	KQ2004497-02DLCS	NA	NA	200 mL	1 mL	
Lab Control Sample	KQ2004497-03LCS	NA	NA	200 mL	1 mL	
Duplicate Lab Control Sample	KQ2004497-04DLCS	NA	NA	200 mL	1 mL	
Method Blank	KQ2004497-05MB	NA	NA	200 mL	1 mL	

Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Organochlorine Pesticides

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 356226
Team: Semivoa GC/JDUNFIELD
Number of Copies to make: 1

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3511

Status: Prepped
Prep Date/Time: 3/31/20 14:08

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	K2002652-011	MW-8-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
2	K2002652-012	MW-5-032520	.01	8081B/Pest OC ULL	6	Water	200mL	1.00mL	
3	K2002652-013	MW-3-032520	.01	8081B/Pest OC ULL	6	Water	200mL	1.00mL	
4	K2002652-014	MW-10-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
5	K2002652-015	MW-2-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
6	K2002652-016	MW-12-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
7	K2002652-017	MW-14-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
8	K2002652-018	MW-18-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
9	K2002652-019	MW-19-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
10	K2002652-020	MW-20-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
11	K2002652-021	MW-13-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
12	KQ2004497-01	LCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
13	KQ2004497-02	DLCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
14	KQ2004497-03	LCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
15	KQ2004497-04	DLCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
16	KQ2004497-05	MB		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	

Spiking Solutions

Name: 8081 MS Tox 20 ppm — Inventory ID 205213 — Logbook Ref: GCPS8-69B — Expires On: 06/03/2020

KQ2004497-03 10.00µL KQ2004497-04 10.00µL

Name: 8081/8082 Surrogate 0.5ppm — Inventory ID 206635 — Logbook Ref: PCB8-43N — Expires On: 07/21/2020

K2002652-011 10.00µL K2002652-012 10.00µL K2002652-013 10.00µL K2002652-014 10.00µL K2002652-015 10.00µL K2002652-016 10.00µL
K2002652-017 10.00µL K2002652-018 10.00µL K2002652-019 10.00µL K2002652-020 10.00µL K2002652-021 10.00µL KQ2004497-01 10.00µL
KQ2004497-02 10.00µL KQ2004497-03 10.00µL KQ2004497-04 10.00µL KQ2004497-05 10.00µL

Name: 8081 MS Chlor 10 ppm — Inventory ID 207092 — Logbook Ref: GCPS8-73F — Expires On: 08/14/2020

KQ2004497-03 10.00µL KQ2004497-04 10.00µL

Name: 8081 MS 0.5ppm — Inventory ID 208001 — Logbook Ref: GCPS8-74J — Expires On: 04/19/2020

KQ2004497-01 10.00µL KQ2004497-02 10.00µL

Preparation Information Benchsheet

Prep Run#: 356226
Team: Semivoa GC/JDUNFIELD

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3511

Status: Prepped
Prep Date/Time: 3/31/20 14:08

Preparation Steps

Step:	Extraction	Step:	Final Volume
Started:	3/31/20 14:08	Started:	3/31/20 17:05
Finished:	3/31/20 14:38	Finished:	3/31/20 17:05
By:	JDUNFIELD	By:	JDUNFIELD
Comments		Comments	

Comments: _____

Reviewed By: BGreer Date: 4/1/2020

Chain of Custody

Sneezy G1-H6

Relinquished By: J. Dunfield Date: 3.31.2020

Received By: L Munson Date: 4-18-20

Extracts Examined
(Yes) No

Preparation Information Benchsheet

Prep Run#: 356203
Team: Semivoa GC/JDUNFIELD
Number of Copies to make: 1

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3511

Status: Draft
Prep Date/Time: 3/31/20 11:11 AM

#	Lab Code	Client ID	B#	√	Method /Test	Matrix	Amt. Ext. mL	pH	Int. Vol	Final Vol mL	Surr Amt uL	Spike Amt uL
1	K2002652-011	MW-8-032520	.01	✓	8081B / Pest OC LL	Water	200	7	N/A	1	10	-
2	K2002652-012	MW-5-032520	.01	✓	8081B / Pest OC LL	Water	200	7		1		-
3	K2002652-013	MW-3-032520	.01	✓	8081B / Pest OC LL	Water	200	7		1		-
4	K2002652-014	MW-10-032520	.01	✓	8081B / Pest OC LL	Water	200	7		1		-
5	K2002652-015	MW-2-032620	.01	✓	8081B / Pest OC LL	Water	200	7		1		-
6	K2002652-016	MW-12-032620	.01	✓	8081B / Pest OC LL	Water	200	7		1		-
7	K2002652-017	MW-14-032620	.01	✓	8081B / Pest OC LL	Water	200	7		1		-
8	K2002652-018	MW-18-032620	.01	✓	8081B / Pest OC LL	Water	200	7		1		-
9	K2002652-019	MW-19-032620	.01	✓	8081B / Pest OC LL	Water	200	7		1		-
10	K2002652-020	MW-20-032620	.01	✓	8081B / Pest OC LL	Water	200	7		1		-
11	K2002652-021	MW-13-032520	.01	✓	8081B / Pest OC LL	Water	200	7		1		-
12	KQ2004462-01	LCS 81	-	-	8081B / Pest OC LL	Liquid	200	5		1		10
13	KQ2004462-02	DLCS 1	-	-	8081B / Pest OC LL	Liquid	200	5		1		10
14	KQ2004462-03	LCS T/C	-	-	8081B / Pest OC LL	Liquid	200	5		1		10/10
15	KQ2004462-04	DLCS 1	-	-	8081B / Pest OC LL	Liquid	200	5		1		1
16	KQ2004462-05	MB	-	-	8081B / Pest OC LL	Liquid	200	5	1	1	1	-

81: GCPS8-74J 0.5ppm xP 4-19-20 10uL syC.
TOX: GCPS8-69B 20ppm xO 6-3-20 10uL syC.
ChlOC: GCPS8-73F 10ppm xP 8-14-20 10uL syC.

Comments:

Surrogate ID: PC30-93N 0.5ppm xP 7/21/20 10uL syC.
Spike ID: See above list

Witnessed By: 3/31/20
Analyst: 3-31-20
Assisted By:

ALS Environmental
Extraction Analyst Notes

Service Request: K2002652 Prep Group: KQ2004462

Topic	Notes	Initials/Date
No Anomalies: X		JD 3/31/20
Sample Anomalies: □		
Organics Present (sticks, leafs, bugs): □		
Fuel Odors: □		
Sulfur Odors, Precipitate: □		
General Notes:		

Reviewed by: Jonathon Walter 12/19/18

EXT-NOTES r.0

Please feel free to contact me at 206.292.2078 with any questions regarding this Work Order, and we look forward to working with you.

Sincerely yours,
FLOYD | SNIDER

Pamela Osterhout
Geologist

ACCEPTANCE

3/6/2020

Signature — Date

Howard Boorse

Print Name

Encl.: Analytical Fee Estimate
Table 1 of RI 2019 Work Plan Addendum

Analyte	Method	Matrix	Unit Cost	Number of Samples	Subtotal
HCH-alpha	Low-Level USEPA Method 8081B (Extract method 3511)	Groun dwater	$295	22 (includes 20 samples, 1 field duplicate, and 1 MS/MSD)	$6,490
HCH-beta					
Lindane					
Aldrin					
Heptachlor					
Heptachlor Epoxide					
Chlordane					
Dieldrin					
Hexachlorobenzene					
Toxaphene					

ALS Environmental
Appendix from EXT-3511 Extracting Pest/PCB/PAH in Water
EPA Method 3511

Service Request # KQ002652 **Work Group # Pest:** KQ2004462
PCB: —
PAH: —

Solvent Lot # 238665

Extraction Start (time/date/initial): 14:08 3/31/20 JD

Extraction Stop (time/date/initial): 14:38 3/31/20 JD

NaCL Lot# 0000234677
Sulfate Lot # 2019040410

Carbon Clean-up (Ext-Car)(time/date/initial): — Carbon Lot # —
1:1 DCM/Hexane Lot # _____

Sulfuric Acid Clean-up (3665) (time/date/initial): — Acid Lot # —

Other Clean-up (type/time/date/initial) —
Lot# —

Pipette (5 mL) Lot # _____ Pipette (2 mL) Lot # _____
Pipette (1mL) 08719645

Completed by (time/date/initial): —

Pest Vial: yellow Vial Storage: Sneezy G1-H6
PCB Vial: — Vial Storage: —
PAH Vial: — Vial Storage: —

Archived Extract Storage: None

Additional Comments: _____

Bench Sheet Review Check List	
☑	Hold times met; if no, reason: _____
☑	Prep date, time, method, department, product code correct
☑	Spike information and Q.C. correct (insufficient volume or mass recorded if no Q.C.)
☑	Weights/Volumes and units correct on raw and final bench sheets
☑	Sample IDs have been checked - bottle numbers appended if required
☑	Names present for: started by, completed by, relinquished by, and witnessed by
☑	Extract storage recorded
☑	Additional prep sheet completely filled out (NA or line out blanks)
☑	All clean-ups have been noted on additional prep sheet

Preparation Information Benchsheet

Prep Run#: 356225
Team: Semivoa GC/JDUNFIELD
Number of Copies to make: 1

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3511

Status: Prepped
Prep Date/Time: 3/31/20 14:08

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	K2002652-001	MW-9-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
2	K2002652-002	MW-4-032520	.01	8081B/Pest OC ULL	6	Water	200mL	1.00mL	
3	K2002652-003	MW-104-032520	.01	8081B/Pest OC ULL	6	Water	200mL	1.00mL	
4	K2002652-004	MW-15-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
5	K2002652-005	MW-16-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
6	K2002652-006	MW-17-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
7	K2002652-007	MW-7-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
8	K2002652-008	MW-6-032520	.01	8081B/Pest OC ULL	5	Water	200mL	1.00mL	
9	K2002652-009	MW-1-032520	.01	8081B/Pest OC ULL	5	Water	200mL	1.00mL	
10	K2002652-010	MW-11-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
11	KQ2004496-01	K2002652-001 MS	.01	8081B/Pest OC ULL	7	Liquid	200mL	1.00mL	
12	KQ2004496-02	K2002652-001 DMS	.01	8081B/Pest OC ULL	7	Liquid	200mL	1.00mL	
13	KQ2004496-03	LCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
14	KQ2004496-04	K2002652-001 MS	.01	8081B/Pest OC ULL	7	Liquid	200mL	1.00mL	
15	KQ2004496-05	K2002652-001 DMS	.01	8081B/Pest OC ULL	7	Liquid	200mL	1.00mL	
16	KQ2004496-06	LCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
17	KQ2004496-07	MB		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	

Spiking Solutions

Name: 8081 MS Tox 20 ppm — Inventory ID 205213 — Logbook Ref: GCPS8-69B — Expires On: 06/03/2020

KQ2004496-04 10.00µL KQ2004496-05 10.00µL KQ2004496-06 10.00µL .

Name: 8081/8082 Surrogate 0.5ppm — Inventory ID 206635 — Logbook Ref: PCB8-43N — Expires On: 07/21/2020

K2002652-001 10.00µL K2002652-002 10.00µL K2002652-003 10.00µL K2002652-004 10.00µL K2002652-005 10.00µL K2002652-006 10.00µL
K2002652-007 10.00µL K2002652-008 10.00µL K2002652-009 10.00µL K2002652-010 10.00µL KQ2004496-01 10.00µL KQ2004496-02 10.00µL
KQ2004496-03 10.00µL KQ2004496-04 10.00µL KQ2004496-05 10.00µL KQ2004496-06 10.00µL KQ2004496-07 10.00µL

Name: 8081 MS Chlor 10 ppm — Inventory ID 207092 — Logbook Ref: GCPS8-73F — Expires On: 08/14/2020

KQ2004496-04 10.00µL KQ2004496-05 10.00µL KQ2004496-06 10.00µL

Name: 8081 MS 0.5ppm — Inventory ID 208001 — Logbook Ref: GCPS8-74J — Expires On: 04/19/2020

KQ2004496-01 10.00µL KQ2004496-02 10.00µL KQ2004496-03 10.00µL

Preparation Information Benchsheet

Prep Run#: 356225
Team: Semivoa GC/JDUNFIELD

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3511

Status: Prepped
Prep Date/Time: 3/31/20 14:08

Preparation Steps

Step:	Extraction	Step:	Final Volume
Started:	3/31/20 14:08	Started:	3/31/20 17:07
Finished:	3/31/20 14:38	Finished:	3/31/20 17:07
By:	JDUNFIELD	By:	JDUNFIELD
Comments		Comments	

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: [signature] Date: 3.31.2020

Received By: [signature] Date: 4-18-20

Extracts Examined
(Yes) No

Sherry E1-F7

Preparation Information Benchsheet

Prep Run#: 356226
Team: Semivoa GC/JDUNFIELD
Number of Copies to make: 1

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3511

Status: Prepped
Prep Date/Time: 3/31/20 14:08

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	K2002652-011	MW-8-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
2	K2002652-012	MW-5-032520	.01	8081B/Pest OC ULL	6	Water	200mL	1.00mL	
3	K2002652-013	MW-3-032520	.01	8081B/Pest OC ULL	6	Water	200mL	1.00mL	
4	K2002652-014	MW-10-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
5	K2002652-015	MW-2-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
6	K2002652-016	MW-12-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
7	K2002652-017	MW-14-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
8	K2002652-018	MW-18-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
9	K2002652-019	MW-19-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
10	K2002652-020	MW-20-032620	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
11	K2002652-021	MW-13-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
12	KQ2004497-01	LCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
13	KQ2004497-02	DLCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
14	KQ2004497-03	LCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
15	KQ2004497-04	DLCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
16	KQ2004497-05	MB		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	

Spiking Solutions

Name: 8081 MS Tox 20 ppm — Inventory ID 205213 — Logbook Ref: GCPS8-69B — Expires On: 06/03/2020

KQ2004497-03 10.00µL KQ2004497-04 10.00µL

Name: 8081/8082 Surrogate 0.5ppm — Inventory ID 206635 — Logbook Ref: PCB8-43N — Expires On: 07/21/2020

K2002652-011 10.00µL K2002652-012 10.00µL K2002652-013 10.00µL K2002652-014 10.00µL K2002652-015 10.00µL K2002652-016 10.00µL
K2002652-017 10.00µL K2002652-018 10.00µL K2002652-019 10.00µL K2002652-020 10.00µL K2002652-021 10.00µL KQ2004497-01 10.00µL
KQ2004497-02 10.00µL KQ2004497-03 10.00µL KQ2004497-04 10.00µL KQ2004497-05 10.00µL

Name: 8081 MS Chlor 10 ppm — Inventory ID 207092 — Logbook Ref: GCPS8-73F — Expires On: 08/14/2020

KQ2004497-03 10.00µL KQ2004497-04 10.00µL

Name: 8081 MS 0.5ppm — Inventory ID 208001 — Logbook Ref: GCPS8-74J — Expires On: 04/19/2020

KQ2004497-01 10.00µL KQ2004497-02 10.00µL

Preparation Information Benchsheet

Prep Run#: 356226
Team: Semivoa GC/JDUNFIELD

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3511

Status: Prepped
Prep Date/Time: 3/31/20 14:08

Preparation Steps

Step:	Extraction	Step:	Final Volume
Started:	3/31/20 14:08	Started:	3/31/20 17:05
Finished:	3/31/20 14:38	Finished:	3/31/20 17:05
By:	JDUNFIELD	By:	JDUNFIELD
Comments		Comments	

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Sneezy G1-HB

Relinquished By: _____ Date: 3/31/20

Received By: L Muresan Date: 4-18-20

Extracts Examined
(Yes) No

Preparation Information Benchsheet

Prep Run#: 356225
Team: Semivoa GC/JDUNFIELD
Number of Copies to make: 1

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3511

Status: Prepped
Prep Date/Time: 3/31/20 14:08

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	K2002652-001	MW-9-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
2	K2002652-002	MW-4-032520	.01	8081B/Pest OC ULL	6	Water	200mL	1.00mL	
3	K2002652-003	MW-104-032520	.01	8081B/Pest OC ULL	6	Water	200mL	1.00mL	
4	K2002652-004	MW-15-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
5	K2002652-005	MW-16-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
6	K2002652-006	MW-17-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
7	K2002652-007	MW-7-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
8	K2002652-008	MW-6-032520	.01	8081B/Pest OC ULL	5	Water	200mL	1.00mL	
9	K2002652-009	MW-1-032520	.01	8081B/Pest OC ULL	5	Water	200mL	1.00mL	
10	K2002652-010	MW-11-032520	.01	8081B/Pest OC ULL	7	Water	200mL	1.00mL	
11	KQ2004496-01	K2002652-001 MS	.01	8081B/Pest OC ULL	7	Liquid	200mL	1.00mL	
12	KQ2004496-02	K2002652-001 DMS	.01	8081B/Pest OC ULL	7	Liquid	200mL	1.00mL	
13	KQ2004496-03	LCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
14	KQ2004496-04	K2002652-001 MS	.01	8081B/Pest OC ULL	7	Liquid	200mL	1.00mL	
15	KQ2004496-05	K2002652-001 DMS	.01	8081B/Pest OC ULL	7	Liquid	200mL	1.00mL	
16	KQ2004496-06	LCS		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	
17	KQ2004496-07	MB		8081B/Pest OC ULL	5	Liquid	200mL	1.00mL	

Spiking Solutions

Name: 8081 MS Tox 20 ppm — Inventory ID 205213 — Logbook Ref: GCPS8-69B — Expires On: 06/03/2020

KQ2004496-04	10.00µL	KQ2004496-05	10.00µL	KQ2004496-06	10.00µL

Name: 8081/8082 Surrogate 0.5ppm — Inventory ID 206635 — Logbook Ref: PCB8-43N — Expires On: 07/21/2020

K2002652-001	10.00µL	K2002652-002	10.00µL	K2002652-003	10.00µL	K2002652-004	10.00µL	K2002652-005	10.00µL	K2002652-006	10.00µL
K2002652-007	10.00µL	K2002652-008	10.00µL	K2002652-009	10.00µL	K2002652-010	10.00µL	KQ2004496-01	10.00µL	KQ2004496-02	10.00µL
KQ2004496-03	10.00µL	KQ2004496-04	10.00µL	KQ2004496-05	10.00µL	KQ2004496-06	10.00µL	KQ2004496-07	10.00µL		

Name: 8081 MS Chlor 10 ppm — Inventory ID 207092 — Logbook Ref: GCPS8-73F — Expires On: 08/14/2020

KQ2004496-04	10.00µL	KQ2004496-05	10.00µL	KQ2004496-06	10.00µL

Name: 8081 MS 0.5ppm — Inventory ID 208001 — Logbook Ref: GCPS8-74J — Expires On: 04/19/2020

KQ2004496-01	10.00µL	KQ2004496-02	10.00µL	KQ2004496-03	10.00µL

Preparation Information Benchsheet

Prep Run#: 356225
Team: Semivoa GC/JDUNFIELD

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3511

Status: Prepped
Prep Date/Time: 3/31/20 14:08

Preparation Steps

Step:	Extraction	Step:	Final Volume
Started:	3/31/20 14:08	Started:	3/31/20 17:07
Finished:	3/31/20 14:38	Finished:	3/31/20 17:07
By:	JDUNFIELD	By:	JDUNFIELD
Comments		Comments	

Comments: _____

Reviewed By: BGreer Date: 4/1/2020

Chain of Custody

Relinquished By: J. Dunfield Date: 3.31.2020

Received By: LMuresan Date: 4-18-20

Extracts Examined: (Yes) No

Sheetz E1-F7

Preparation Information Benchsheet

Prep Run#: 356202
Team: Semivoa GC/JDUNFIELD
Number of Copies to make: 1

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3511

Status: Draft
Prep Date/Time: 3/31/20 10:57 AM

#	Lab Code	Client ID	B#	√	Method /Test	Matrix	Amt. Ext. mL	pH	Int. Vol	Final Vol mL	Surr Amt µL	Spike Amt µL
1	K2002652-001	MW-9-032520	.01	√	8081B / Pest OC LL	Water	200	7	N/A	1	10	—
2	K2002652-002	MW-4-032520	.01	√	8081B / Pest OC LL	Water	200	6		1		—
3	K2002652-003	MW-104-032520	.01	√	8081B / Pest OC LL	Water	200	6		1		—
4	K2002652-004	MW-15-032520	.01	√	8081B / Pest OC LL	Water	200	7		1		—
5	K2002652-005	MW-16-032520	.01	√	8081B / Pest OC LL	Water	200	7		1		—
6	K2002652-006	MW-17-032520	.01	√	8081B / Pest OC LL	Water	200	7		1		—
7	K2002652-007	MW-7-032520	.01	√	8081B / Pest OC LL	Water	200	7		1		—
8	K2002652-008	MW-6-032520	.01	√	8081B / Pest OC LL	Water	200	5		1		—
9	K2002652-009	MW-1-032520	.01	√	8081B / Pest OC LL	Water	200	5		1		—
10	K2002652-010	MW-11-032520	.01	√	8081B / Pest OC LL	Water	200	7		1		—
11	KQ2004459-01	K2002652-001 MS 81	.02	√	8081B / Pest OC LL	Liquid	200	7		1		10/10
12	KQ2004459-02	K2002652-001 DMS 81	.03	√	8081B / Pest OC LL	Liquid	200	7				
13	KQ2004459-03	LCS 81	—	-	8081B / Pest OC LL	Liquid	200	5		1		
14	KQ2004459-04	K2002652-001 MS T/C	.04	√	8081B / Pest OC LL	Liquid	200	7		1		10/10
15	KQ2004459-05	K2002652-001 DMS T/C	.05	√	8081B / Pest OC LL	Liquid	200	7		1		
16	KQ2004459-06	LCS T/C	—	-	8081B / Pest OC LL	Liquid	200	5		1		
17	KQ2004459-07	MB	-	-	8081B / Pest OC LL	Liquid	200	5		1		—

81: GC/MS8-745 0.5ppm xp 4-19-20 10 µL syr.
Tox: GC/88-693 200ppm xp 5-30-20 10 µL syr.
Chlor: GC/MS8-735 10ppm xp 8-14-20 10 µL syr.

Comments:

Surrogate ID: PCB8-43N 0.5ppm xp 7/21/20 10 µL syr. Spike ID: See above list

Witnessed By: 3/31/20

Analyst: 3/31/2020 Assisted By: —

ALS Environmental

Extraction Analyst Notes

Service Request: K2002652 Prep Group: KQ2004459

Topic	Notes	Initials/Date
No Anomalies: X		DD 3/31/20
Sample Anomalies: □		
Organics Present (sticks, leafs, bugs): □		
Fuel Odors: □		
Sulfur Odors, Precipitate: □		
General Notes:		

Please feel free to contact me at 206.292.2078 with any questions regarding this Work Order, and we look forward to working with you.

Sincerely yours,
FLOYD | SNIDER

Pamela Osterhout
Geologist

ACCEPTANCE

3/6/2020

Signature Date

Howard Boorse

Print Name

Encl.: Analytical Fee Estimate
Table 1 of RI 2019 Work Plan Addendum

Analyte	Method	Matrix	Unit Cost	Number of Samples	Subtotal
HCH-alpha	Low-Level USEPA Method 8081B (Extract method 3511)	Groundwater	$295	22 (includes 20 samples, 1 field duplicate, and 1 MS/MSD)	$6,490
HCH-beta					
Lindane					
Aldrin					
Heptachlor					
Heptachlor Epoxide					
Chlordane					
Dieldrin					
Hexachlorobenzene					
Toxaphene					

ALS Environmental
Appendix from EXT-3511 Extracting Pest/PCB/PAH in Water
EPA Method 3511

Service Request # K2002652 **Work Group # Pest:** KQ2004459
PCB: —
PAH: —

Solvent Lot # 238660

Extraction Start (time/date/initial): 14:08 3/31/20 JD

Extraction Stop (time/date/initial): 14:38 3/31/20 JD

NaCL Lot# 0000234677
Sulfate Lot #2019040410

Carbon Clean-up (Ext-Car)(time/date/initial): — Carbon Lot # —
1:1 DCM/Hexane Lot # —

Sulfuric Acid Clean-up (3665) (time/date/initial): — Acid Lot # —

Other Clean-up (type/time/date/initial) —
Lot# —

Pipette (5 mL) Lot # 22918647 Pipette (2 mL) Lot # 2111964G
Pipette (1mL) 08719645

Completed by (time/date/initial): —

Pest Vial: yellow Vial Storage: Solezye1-F7
PCB Vial: — Vial Storage: —
PAH Vial: — Vial Storage: —

Archived Extract Storage: None

Additional Comments: —

Bench Sheet Review Check List	
☑	Hold times met; if no, reason:
☑	Prep date, time, method, department, product code correct
☑	Spike information and Q.C. correct (insufficient volume or mass recorded if no Q.C.)
☑	Weights/Volumes and units correct on raw and final bench sheets
☑	Sample IDs have been checked - bottle numbers appended if required
☑	Names present for: started by, completed by, relinquished by, and witnessed by
☑	Extract storage recorded
☑	Additional prep sheet completely filled out (NA or line out blanks)
☑	All clean-ups have been noted on additional prep sheet

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F019.D\
Lab ID: K2002652-001
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 04:29:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	Endosulfan I	13.58			NR
	trans-Nonachlor	13.58			NR
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st SM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F019.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 04:29:00	**Vial:**	4
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-001	**Raw Units:**	ug/L

Bottle ID:	K2002652-001.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.0 c	1186087	5073340	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.0 c	1186087	5073340	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1186087	5073340	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06	79706	275108	3.777	3.364	76	67	67	14 - 160	Y
Tetrachloro-m-xylene	8.97 -0.01	7.26 -0.01	83184	305204	4.837	4.855	97	97	97	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	0.00	12.63	0	11566	0.000	0.155	0U	0.78J	0.44 U	Y
Heptachlor	0.00	9.92 -0.01	0	21214	0.000	0.267	0U	1.3J	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F019.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 04:29:00	**Vial:**	4
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-001	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	3845	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F019.D Vial: 13
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:29 am Operator: LM
Sample : K2002652-001 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:46:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.199	5.483	1186087	5073340	100.000	100.000
29)	1-Bromo-2...	6.199	5.483	1186087	5073340	100.000	100.000
36)	1-Bromo-2...	6.199	5.483	1186087	5073340	100.000	100.000
43)	1-Bromo-2...	6.199	5.483	1186087	5073340	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.972	7.263	83184	305204	4.837	4.855
28) s	Decachlor...	18.669	17.063	79706	275108	3.777	3.364
	Target Compounds						
8)	Heptachlor	0.000	9.923	0	21214	N.D.	0.267 #
10)	Isodrin	12.732	0.000	13132	0	0.805	N.D. #
13)	Endosulfan I	13.579	0.000	3912	0	0.214	N.D. #
15)	Dieldrin	0.000	12.633	0	11566	N.D.	0.155m#
18)	Endosulfa...	0.000	13.546	0	5274	N.D. d	0.082
24)	Methoxychlor	15.872	0.000	3227	0	0.358	N.D. d#
26)	2,4'-DDD	0.000	12.819	0	5651	N.D.	0.139 #
27)	2,4'-DDT	14.479f	0.000	2469	0	0.192	N.D. #
44)	Chlorpyrifos	12.096	0.000	3368	0	0.308	N.D. #
47)	trans-Non...	13.579	0.000	3912	0	0.196	N.D. #
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

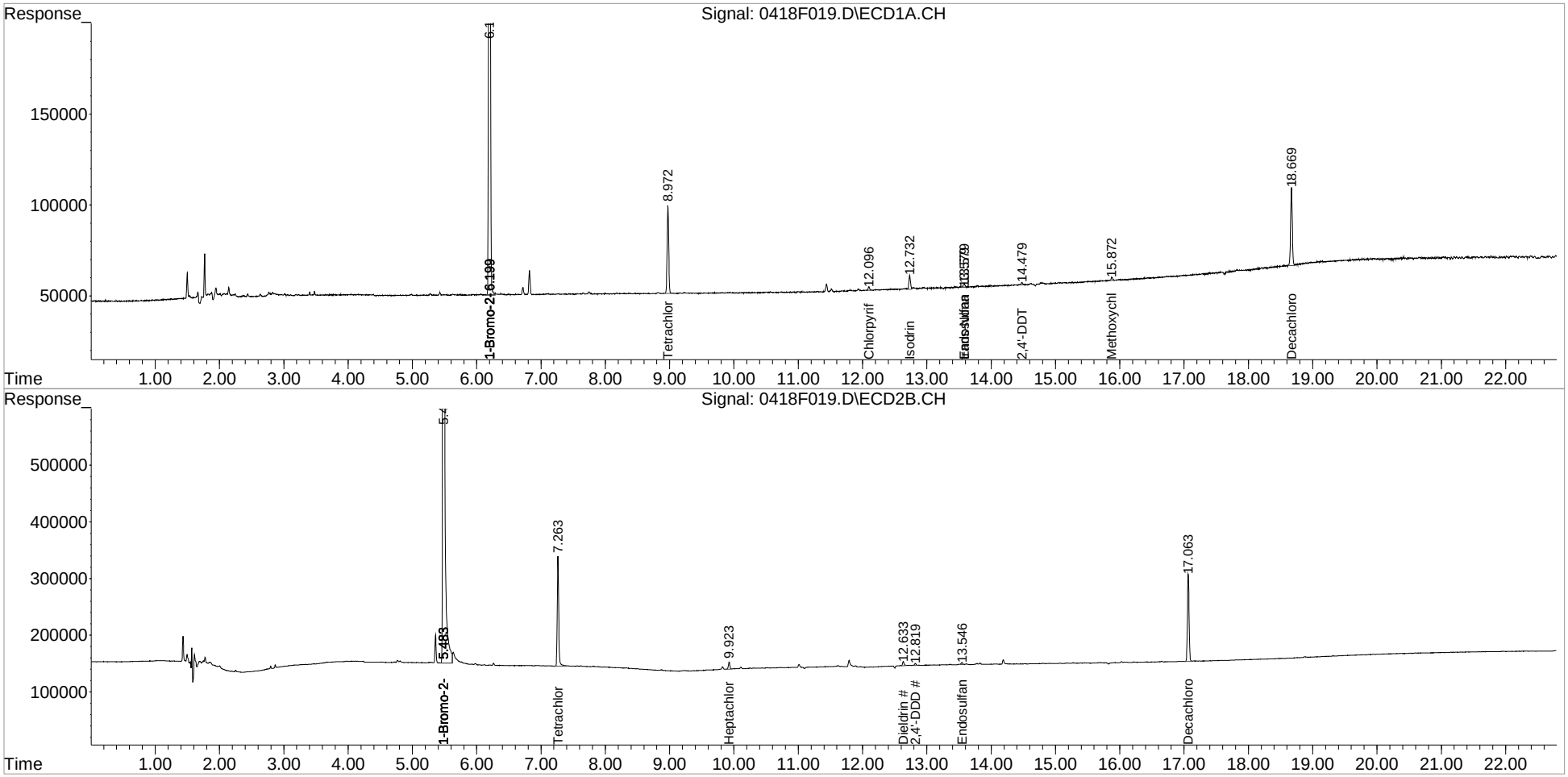
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F019.D Vial: 13
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:29 am Operator: LM
Sample : K2002652-001 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:46:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



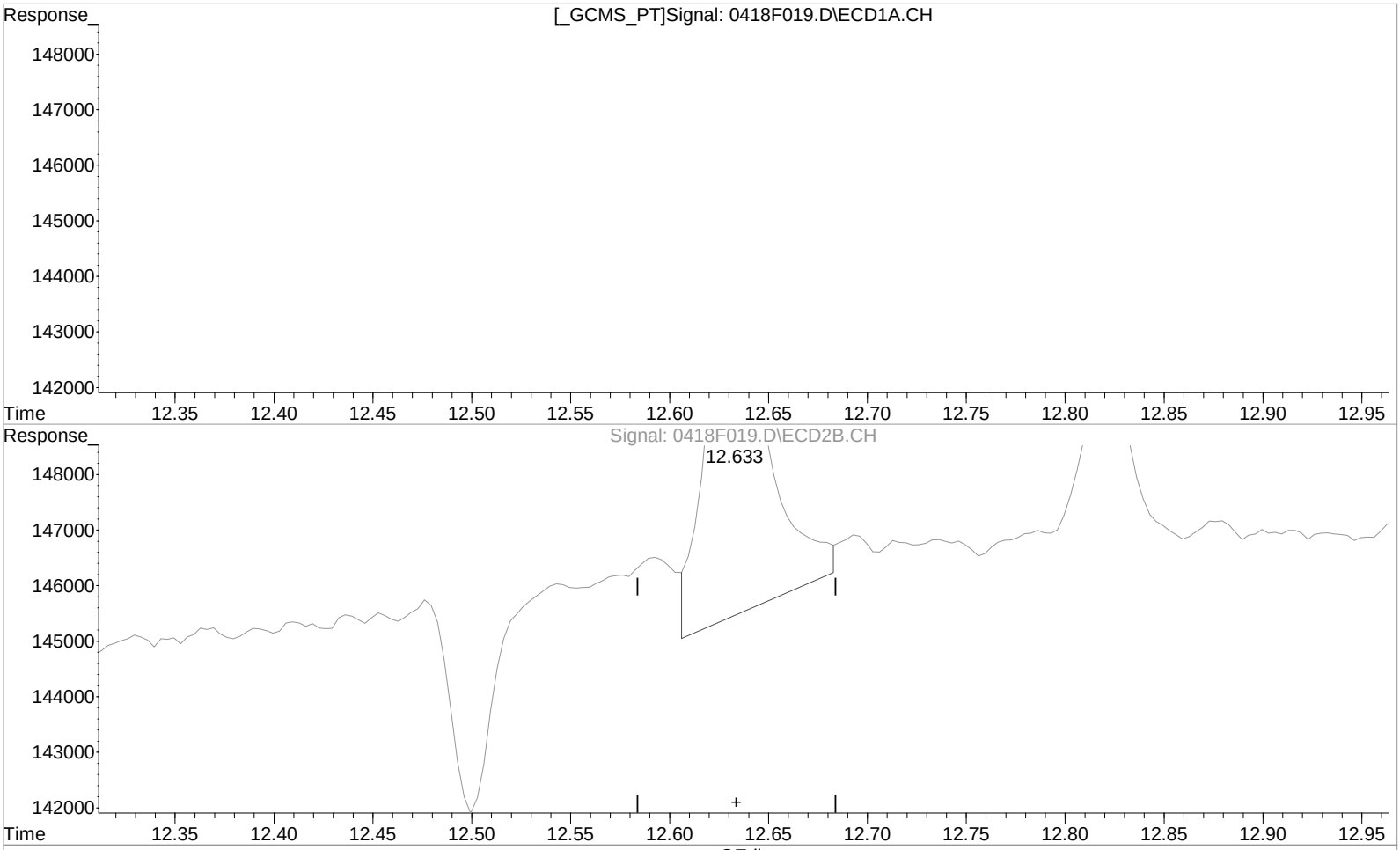
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F019.D Vial: 13
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:29 am Operator: LM
Sample : K2002652-001 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:43:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

0.000min 0.000 ug/L

response 0

Manual Integration:

Before

04/21/20

(15) Dieldrin #2

12.633min 0.201 ug/L

response 14956

(+) = Expected Retention Time

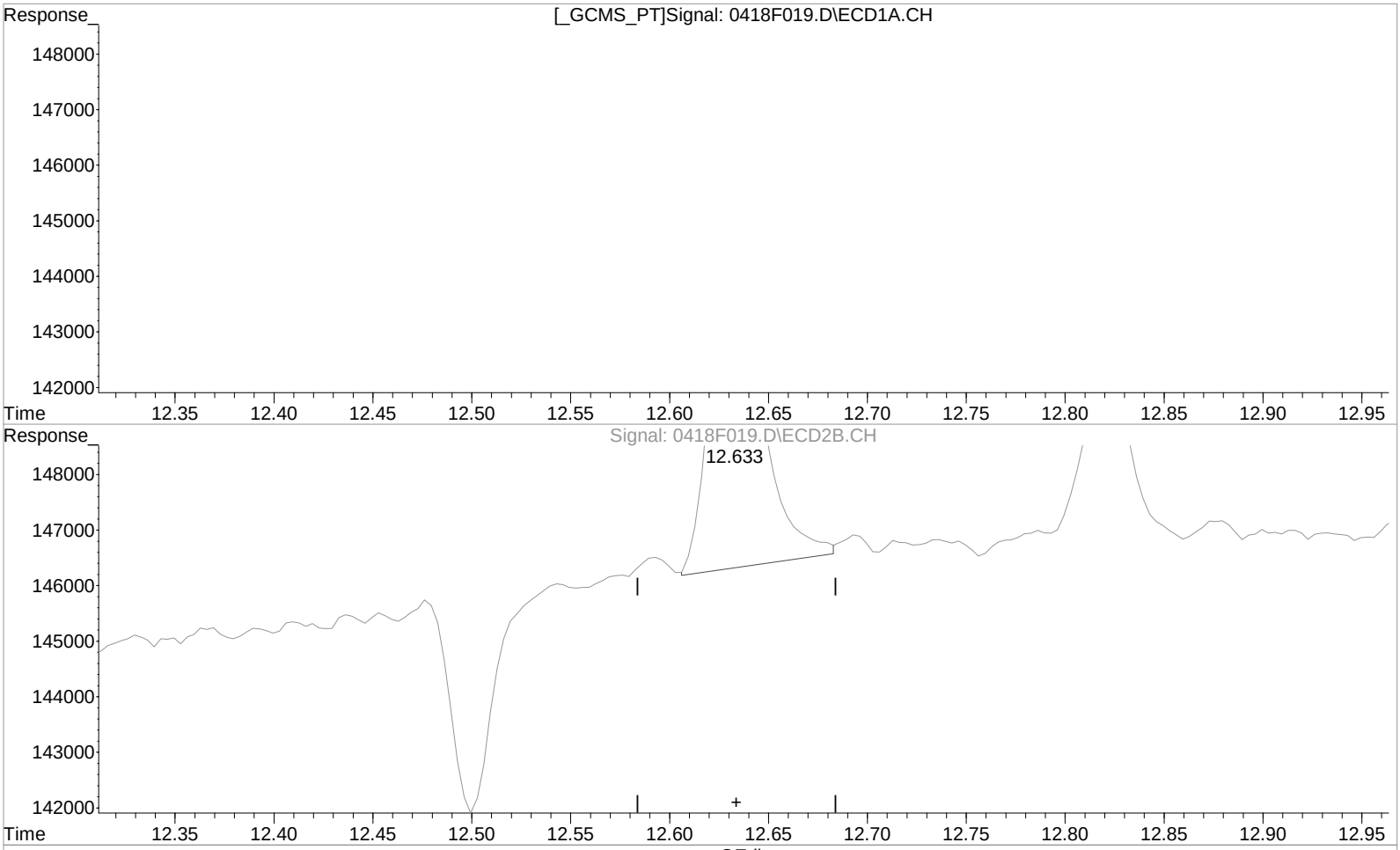
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F019.D Vial: 13
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:29 am Operator: LM
Sample : K2002652-001 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:43:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

0.000min 0.000 ug/L

response 0

Manual Integration:

After

Baseline correction

04/21/20

(15) Dieldrin #2

12.633min 0.155 ug/L m

response 11566

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F020.D\
Lab ID: K2002652-002.R01
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 04:59:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level		X
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Above Highest ICAL Level - DB XLB	gamma-BHC (Lindane)	20.900		10	dil
	Dieldrin	109.567		10	
Above Highest ICAL Level - DB-35MS	gamma-BHC (Lindane)	21.942		10	
	Dieldrin	142.692		10	
Analyte Coelutions - DB XLB	cis-Chlordane	13.53			NR
	trans-Chlordane	13.45			NR
	Chlordane {2}	11.70			
	Chlordane {4}	13.45			
	Chlordane {5}	13.53			
	Chlordane {6}	13.61			
	4,4'-DDD	14.65			NR
	Endosulfan I	13.61			NR
	Endosulfan II	14.81			NR
	Endrin Aldehyde	15.00			NR
	Heptachlor	11.70			
	cis-Nonachlor	14.65			NR
	trans-Nonachlor	13.61			NR
	Toxaphene {2}	14.81			
	Toxaphene {4}	15.00			
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			

Primary Review: _____

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB-35MS	cis-Chlordane	12.12			NR
	trans-Chlordane	11.97			NR
	Chlordane {4}	11.97			
	Chlordane {5}	12.02			
	Chlordane {6}	12.12			
	4,4'-DDD	13.39			NR
	2,4'-DDE	12.02			NR
	2,4'-DDT	13.22			NR
	Endrin Aldehyde	13.93			NR
	cis-Nonachlor	13.22			NR
	trans-Nonachlor	12.02			NR
	Toxaphene {1}	13.39			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F020.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 04:59:00	**Vial:**	5
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-002.R01	**Raw Units:**	ug/L

Bottle ID:	K2002652-002.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.0 c	1284057	5573825	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.0 c	1284057	5573825	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1284057	5573825	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria		Rpt?
Decachlorobiphenyl	18.67	17.07 +0.01	25094	90900	1.098	1.012	22	20	20	14 - 160		Y
Tetrachloro-m-xylene	8.98	7.26 -0.01	137528	256652	7.387	3.716	148	74	74	30 - 148	P	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.21	10.52	53943	100726	2.621	1.147	13	5.7	**5.7**	P	Y
alpha-BHC	9.82	8.50	18003	51059	0.841	0.578	4.2	2.9	**2.9**		Y
beta-BHC	11.08	9.78	31347	147734	2.738	3.526	14	18	**14**		Y
gamma-BHC (Lindane)	10.49	9.24	432548	1886607	20.900	21.942	100E	110E dil	**100** E		Y
Chlordane					152.9125	212.4165	760	1100	**760**		Y
Chlordane {1}	11.27	9.57	151793	475005	173.408	156.117	870	780			
Chlordane {2}	11.70 +0.0 c	11.66	49876	366515	44.981	176.635	220	880		i	
Chlordane {3}	12.26 +0.01	11.81	125342	309861	157.512	224.944	790	1100			
Chlordane {4}	13.45 c	11.97 c	502808	2033586	208.152	243.751	1000	1200			
Chlordane {5}	13.53 c	12.02 c	367143	1290054	183.752	252.542	920	1300			
Chlordane {6}	13.61 c	12.12 c	219528	1630962	149.670	220.510	750	1100			
Dieldrin	14.00	12.64 +0.01	2321363	11682552	109.567	142.692	550E	710E dil	**550** E		Y
Heptachlor	11.70 +0.0 c	9.93	36492	292802	1.641	3.353	8.2	17	**8.2**	P	Y
Heptachlor Epoxide	12.94 +0.01	11.60	15987	69142	0.739	0.803	3.7	4.0	**3.7**		Y
Hexachlorobenzene	9.99 +0.01	8.28	20884	7204	0.824	0.081	4.1Ui	0.41Ui	0.42 Ui		Y
Toxaphene					4166666667	0366666667	4000	5800	**4000**		Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F020.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 04:59:00	**Vial:**	5
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-002.R01	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.75		13.39	c	113584	894280	538.361	722.044	2700	3600		
Toxaphene {2}	14.81	c	13.46		158555	506807	830.840	531.859	4200	2700		P
Toxaphene {3}	14.93		13.59	-0.01	241980	1265360	636.351	1675.942	3200	8400		P
Toxaphene {4}	15.00	c	13.66	-0.01	224207	397686	876.710	1190.151	4400	6000		
Toxaphene {5}	15.34	-0.01	13.93	c	195064	680358	800.476	1019.796	4000	5100		
Toxaphene {6}	15.53	-0.01	15.43		79360	665850	1057.407	1842.430	5300	9200		P

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 28 16:50:34 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.200	5.484	1284057	5573825	100.000	100.000	
29)	1-Bromo-2...	6.200	5.484	1284057	5573825	100.000	100.000	
36)	1-Bromo-2...	6.200	5.484	1284057	5573825	100.000	100.000	
43)	1-Bromo-2...	6.200	5.484	1284057	5573825	100.000	100.000	
	System Monitoring Compounds							
2) s	Tetrachlo...	8.980	7.264	137528	256652	7.387	3.716	#
28) s	Decachlor...	18.674	17.068	25094	90900	1.098	1.012	
	Target Compounds							
3)	alpha-BHC	9.820	8.498	18003	51059	0.841	0.578	#
4)	Hexachlor...	9.994	8.281	20884	7204	0.824	0.081	#
5)	beta-BHC	11.080	9.781	31347	147734	2.738	3.526	#
6)	gamma-BHC...	10.490	9.244	432548	1886607	20.900	21.942	
7)	delta-BHC	11.597	10.304	12723	166502	0.608m	1.980	#
8)	Heptachlor	11.700	9.931	36492	292802	1.641m	3.353	#
9)	Aldrin	12.214	10.518	53943	100726	2.621	1.147m	#
10)	Isodrin	12.754	11.288f	211475	96912	11.974	1.318	#
11)	Heptachlo...	12.944	11.601	15987	69142	0.739	0.803m	
12)	gamma-Chl...	13.454	11.974	502808	2033586	23.229	24.421	
13)	Endosulfan I	13.614f	0.000	219528	0	11.118	N.D.	#
14)	alpha-Chl...	13.530	12.124	367143	1630962	17.039	19.336	
15)	Dieldrin	14.004	12.638	2321363	11682552	109.567	142.692	#
16)	4,4'-DDE	13.784	12.491	115909	254397	5.847	3.227m	#
17)	Endrin	14.370	13.114	200913	582270	10.390	7.472	#
18)	Endosulfa...	14.807	13.531	158555	404255	8.094	5.742	#
19)	4,4'-DDD	14.650	13.391	144577	985376	9.434	16.701	#
20)	Endrin Al...	14.997	13.931	224207	735190	13.203	12.610	
21)	Endosulfa...	15.470	14.248	346974	80949	17.383	1.166m	#
22)	4,4'-DDT	15.157	13.801	75923	1243445	4.715	21.860	#
23)	Endrin Ke...	16.160	15.191	185774	770543	8.674	9.278	
24)	Methoxychlor	15.914	14.898	52941	585896	5.422	18.557	#
25)	2,4'-DDE	13.204	12.021	18435	1290054	1.331	25.070	#
26)	2,4'-DDD	13.937	12.758f	161924	214973	13.316	4.817	#
27)	2,4'-DDT	14.447	13.218	208148	265792	14.959	5.493m	#
30)	Toxaphene	14.747	13.391	113584	894280	538.361	722.044m	#
31)	Toxaphene...	14.807	13.458	158555	506807	830.840	531.859m	#
32)	Toxaphene...	14.930	13.594	241980	1265360	636.351	1675.942m	#
33)	Toxaphene...	14.997	13.664	224207	397686	876.710	1190.151	#
34)	Toxaphene...	15.344	13.931	195064	680358	800.476m	1019.796m	#
35)	Toxaphene...	15.530	15.431	79360	665850	1057.407	1842.430	#
37)	Chlordane	11.270	9.568	151793	475005	173.408	156.117	
38)	Chlordane...	11.700	11.664	49876	366515	44.981	176.635	#
39)	Chlordane...	12.257	11.814	125342	309861	157.512	224.944	#
40)	Chlordane...	13.454	11.974	502808	2033586	208.152	243.751	
41)	Chlordane...	13.530	12.021	367143	1290054	183.752	252.542	#
42)	Chlordane...	13.614	12.124	219528	1630962	149.670	220.510	#
44)	Chlorpyrifos	12.120	10.891	57572	173688	4.865	4.965	
45)	Oxychlordane	12.877	11.408	121099	192287	5.921	2.442	#
46)	cis-Nonac...	14.650	13.218	144577	323823	6.722	3.942	#
47)	trans-Non...	13.614	12.021	219528	1290054	10.154	15.904	#

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 28 16:50:34 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
48)	Mirex	16.970f	15.364	8704	24923	0.486	0.402	
49)	HCE	0.000	3.431	0	4139	N.D.	0.032	#
52)	Perthane	14.090	12.904	55330	471945	90.544	231.114	#

SemiQuant Compounds - Not Calibrated on this Instrument

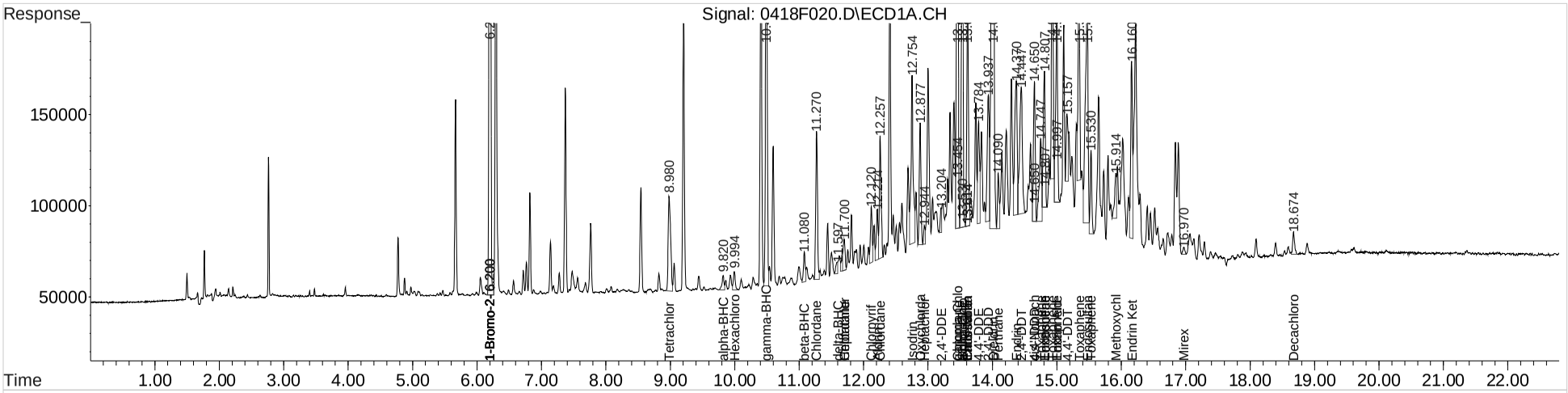
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
egration File signal 1: RTEINT.P
egration File signal 2: RTEINT2.P
Quant Time: Apr 28 16:50:34 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



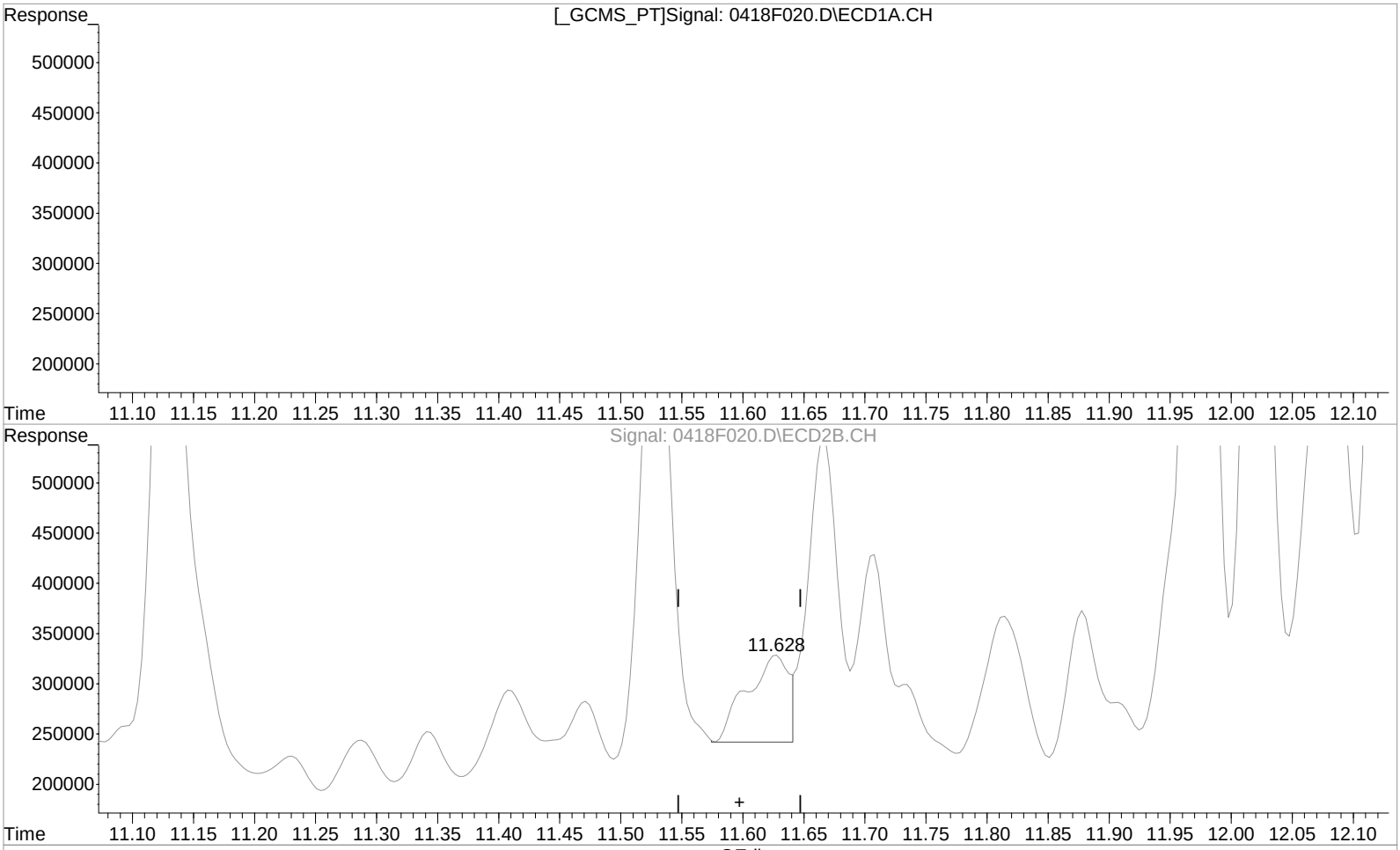
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(11) Heptachlor Epoxide

12.944min 0.739 ug/L

response 15987

Manual Integration:

Before

04/21/20

(11) Heptachlor Epoxide #2

11.628min 2.449 ug/L

response 210931

(+) = Expected Retention Time

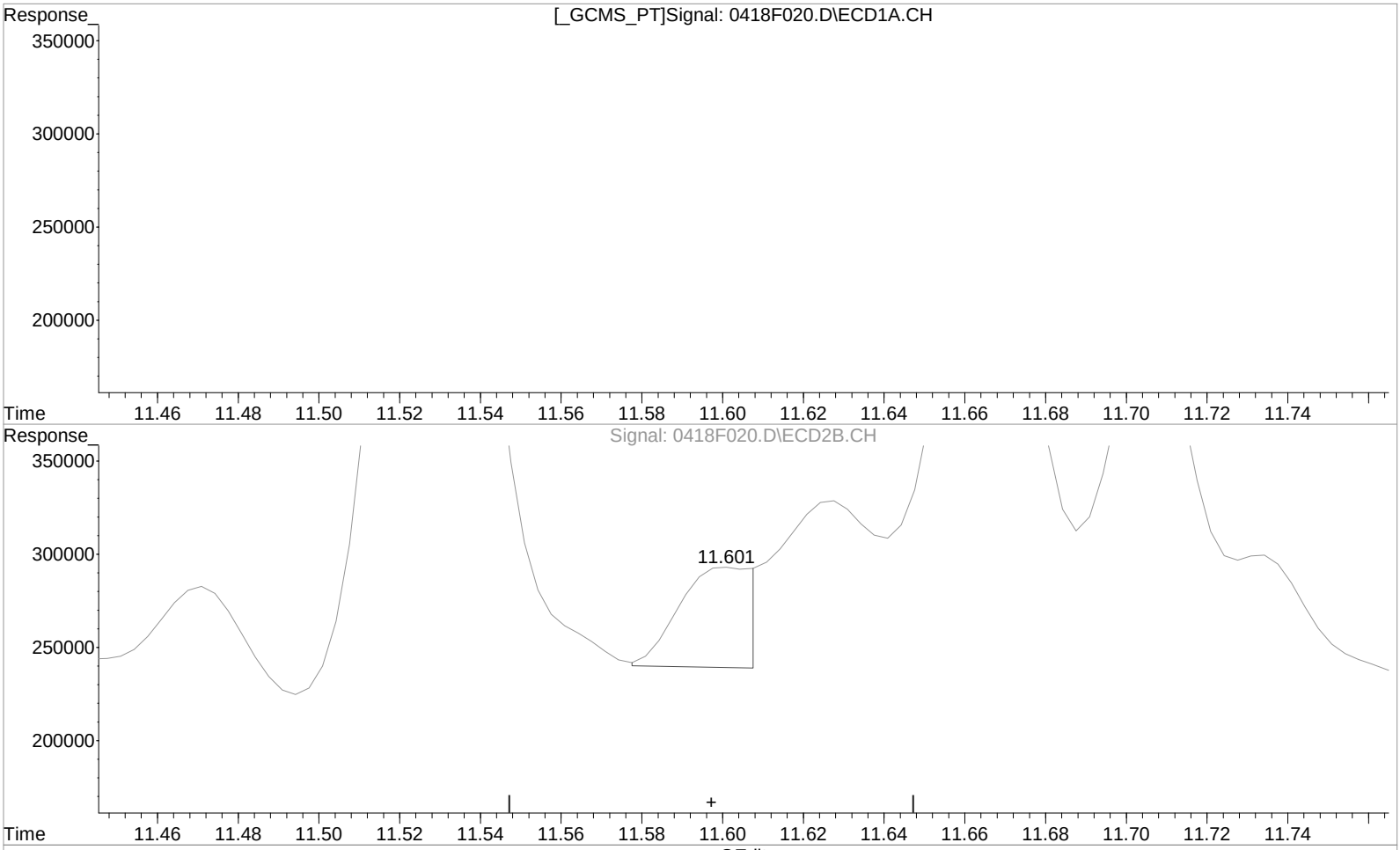
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(11) Heptachlor Epoxide

12.944min 0.739 ug/L

response 15987

Manual Integration:

After

Baseline correction

04/21/20

(11) Heptachlor Epoxide #2

11.601min 0.803 ug/L m

response 69142

(+) = Expected Retention Time

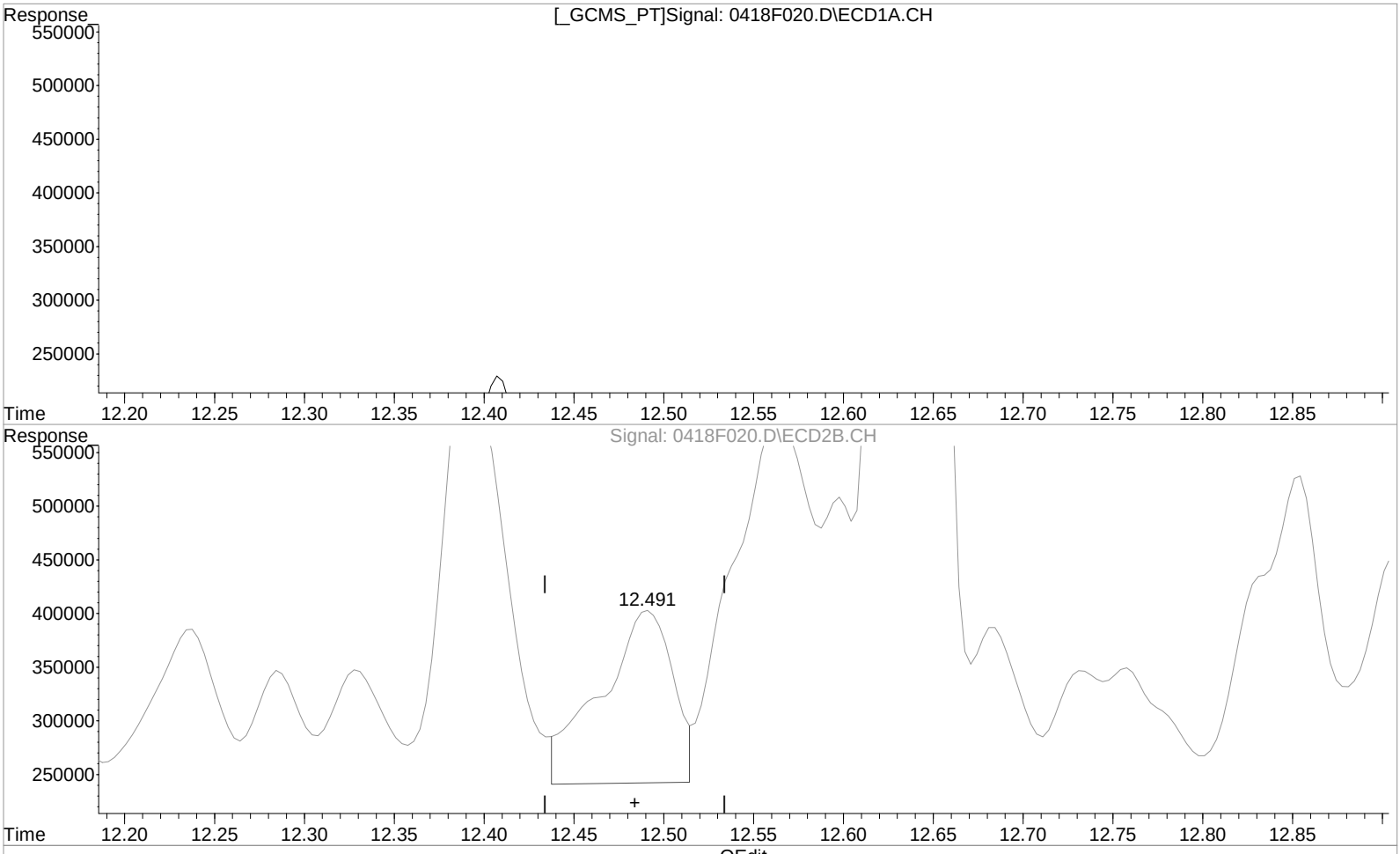
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.784min 5.847 ug/L

response 115909

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.491min 5.707 ug/L

response 449906

(+) = Expected Retention Time

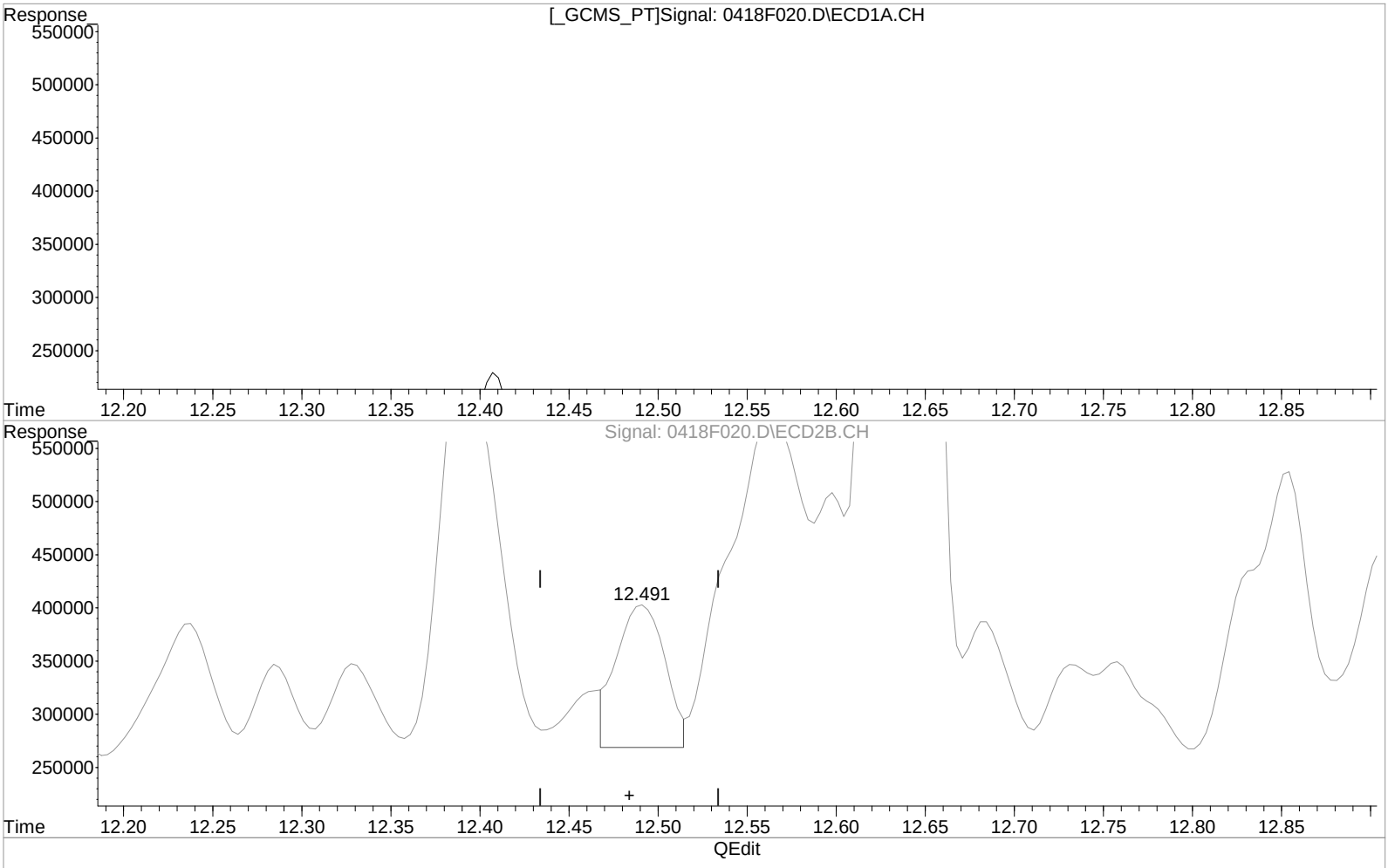
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.784min 5.847 ug/L

response 115909

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.491min 3.227 ug/L m

response 254397

(+) = Expected Retention Time

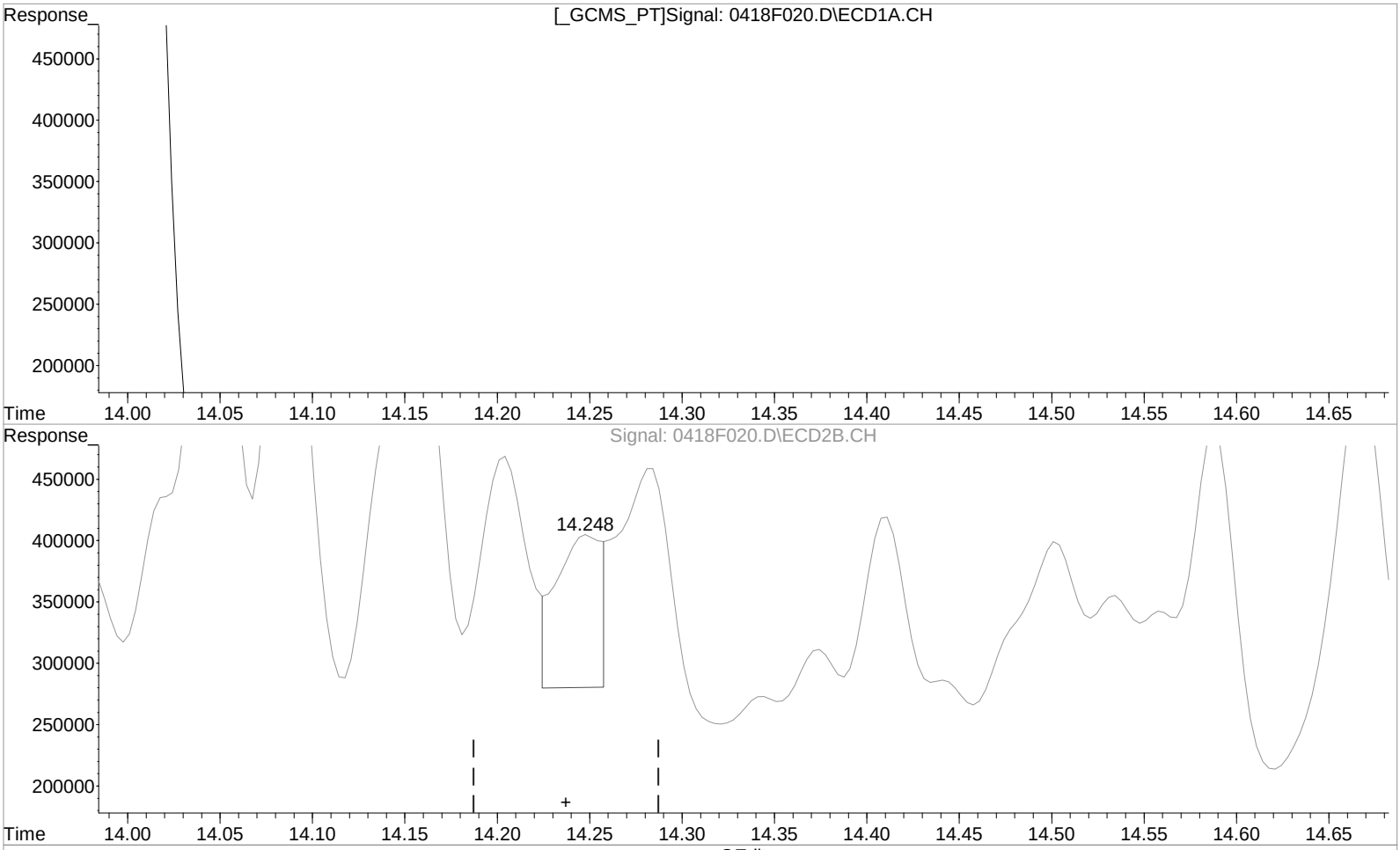
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(21) Endosulfan Sulfate

15.470min 17.383 ug/L

response 346974

Manual Integration:

Before

04/21/20

(21) Endosulfan Sulfate #2

14.248min 3.108 ug/L

response 215797

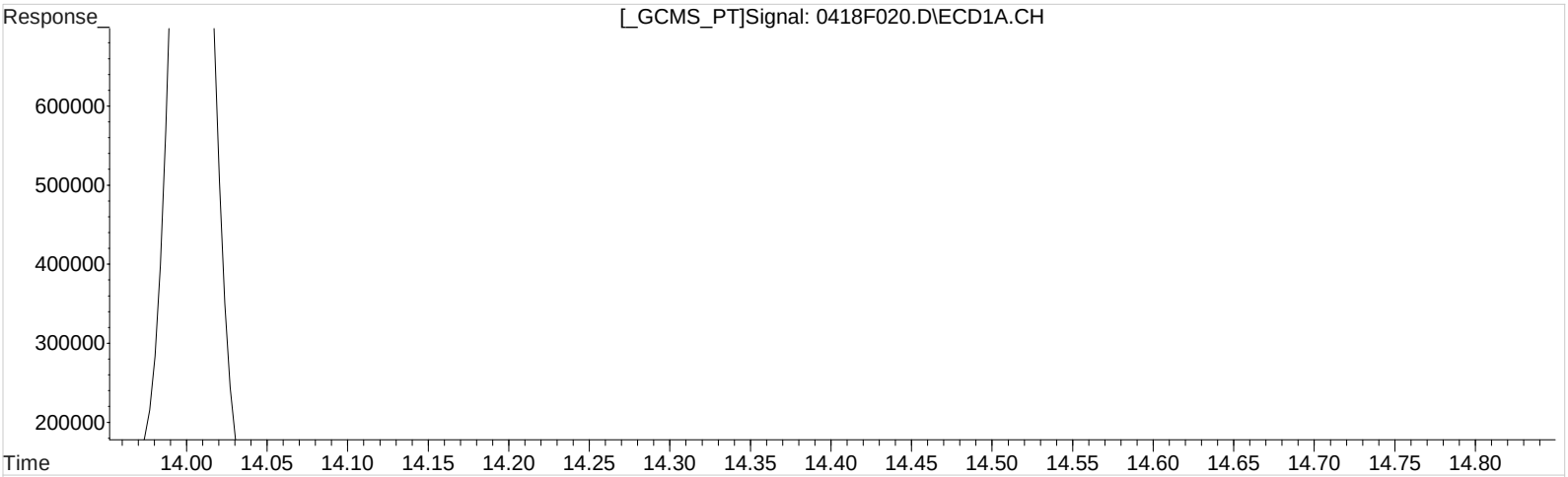
(+) = Expected Retention Time

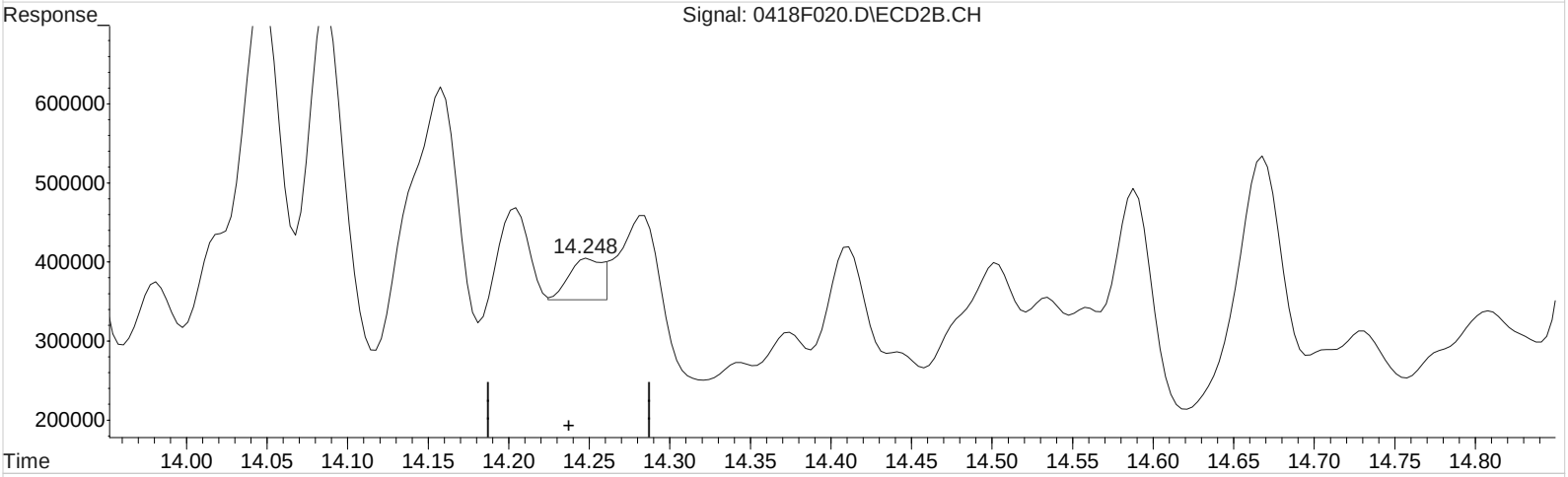
1st UA 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:01:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(21) Endosulfan Sulfate

15.470min 17.383 ug/L

response 346974

Manual Integration:

After

Baseline/Shoulder

04/28/20

(21) Endosulfan Sulfate #2

14.248min 1.166 ug/L m

response 80949

(+) = Expected Retention Time

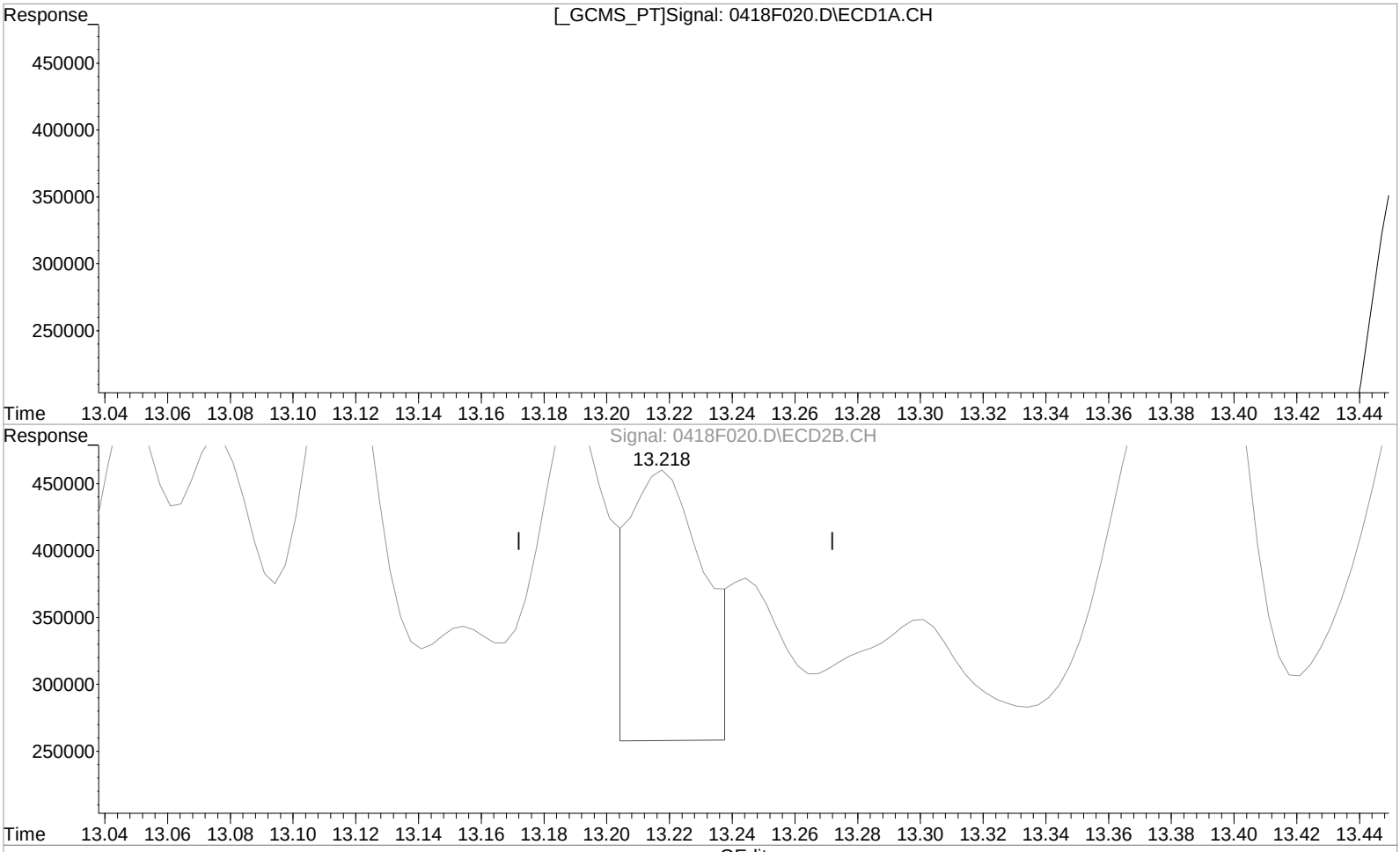
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.447min 14.959 ug/L

response 208148

(27) 2,4'-DDT #2

13.218min 6.692 ug/L

response 323823

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

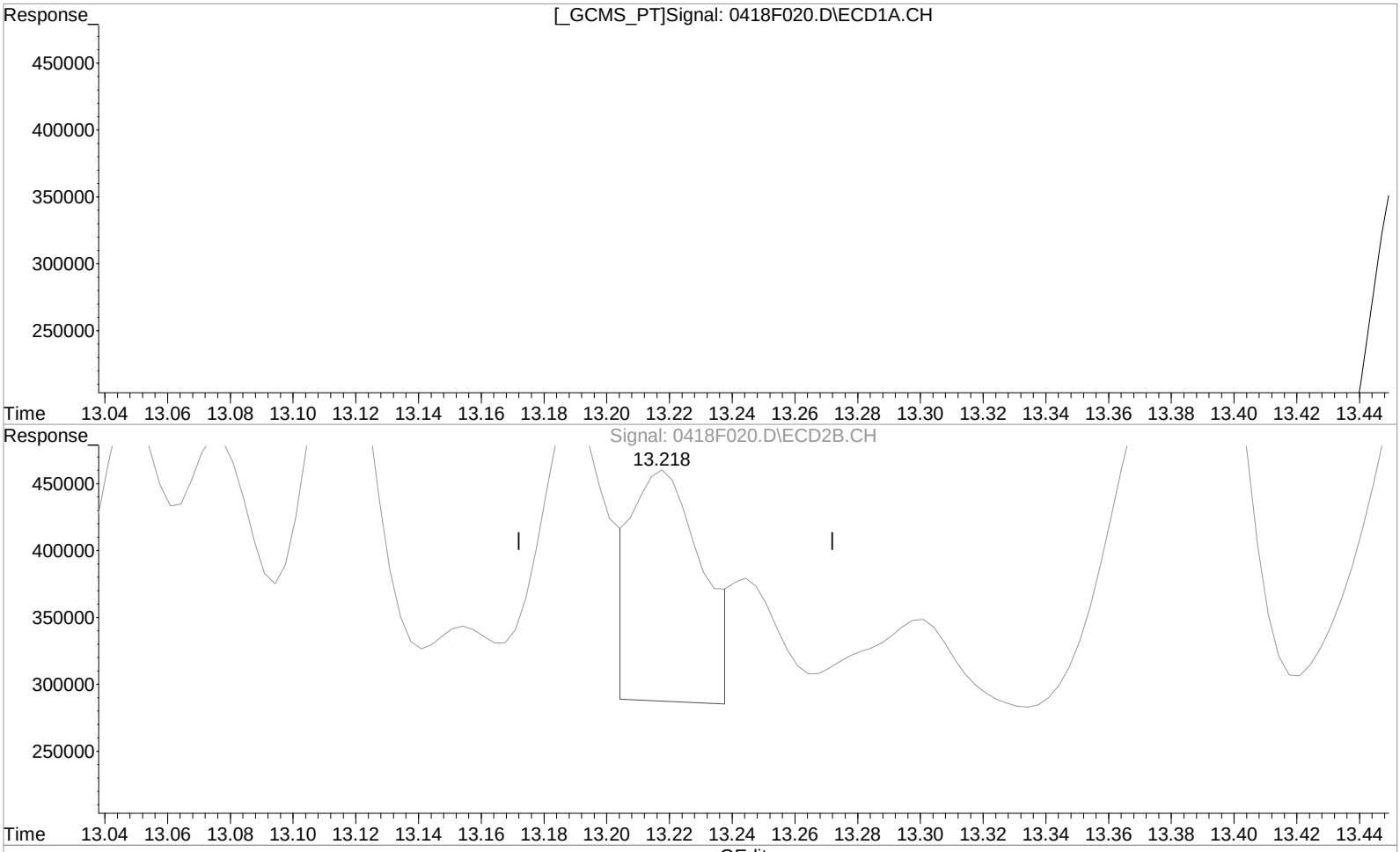
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.447min 14.959 ug/L

response 208148

Manual Integration:

After

Baseline correction

04/21/20

(27) 2,4'-DDT #2

13.218min 5.493 ug/L m

response 265792

(+) = Expected Retention Time

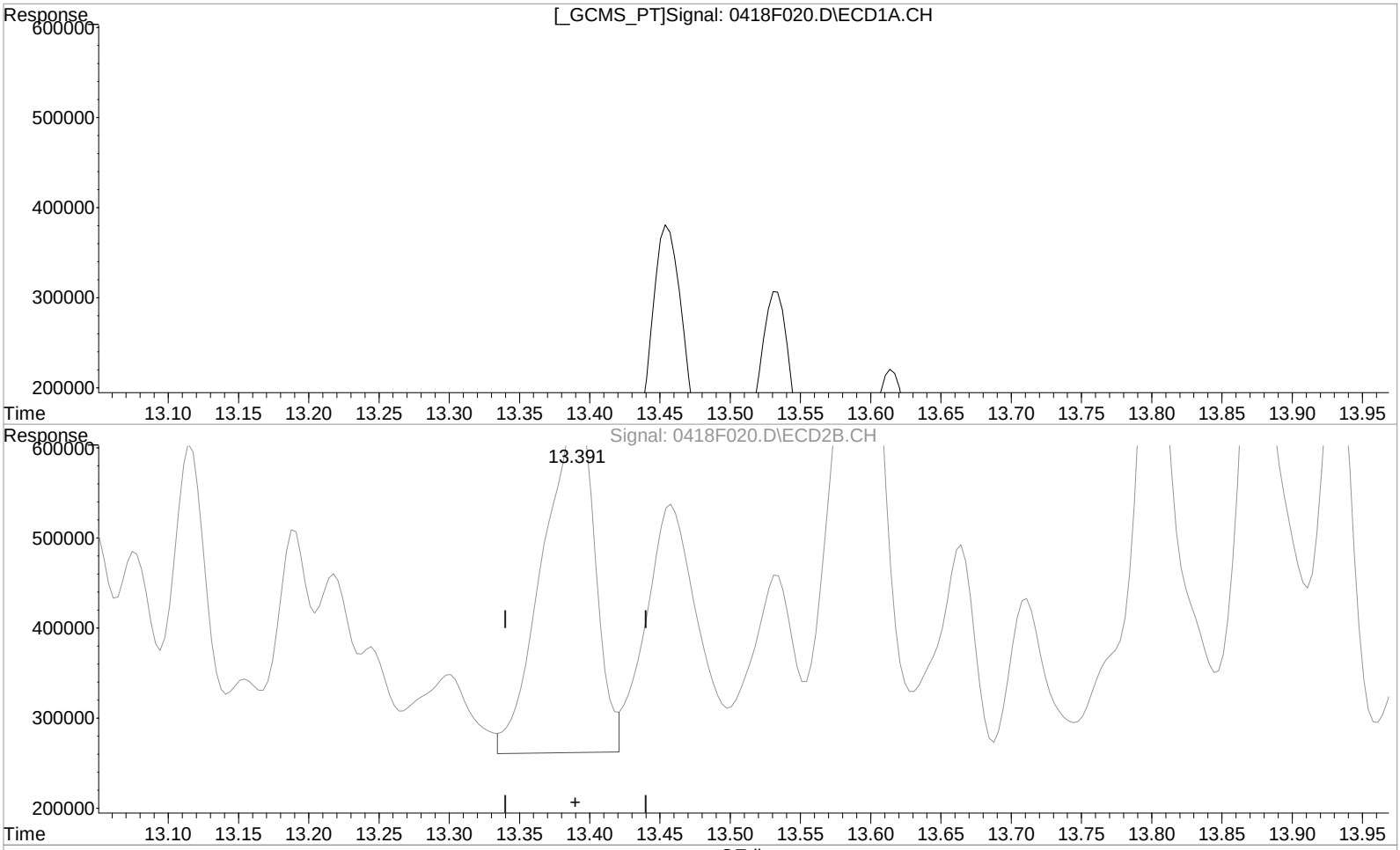
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.747min 538.361 ug/L

response 113584

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.391min 795.595 ug/L

response 985376

(+) = Expected Retention Time

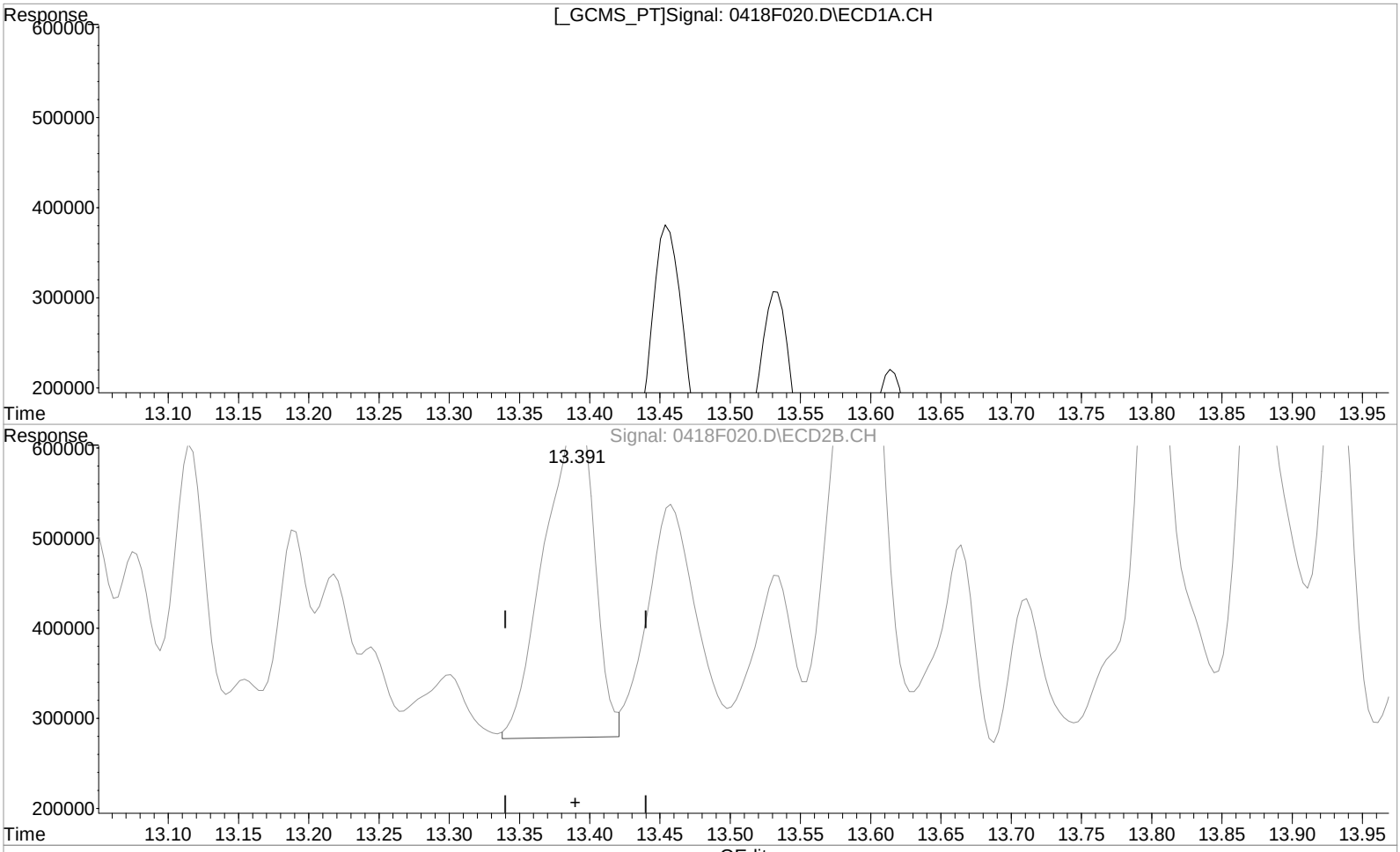
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.747min 538.361 ug/L

response 113584

Manual Integration:

After

Baseline correction

04/21/20

(30) Toxaphene #2

13.391min 722.044 ug/L m

response 894280

(+) = Expected Retention Time

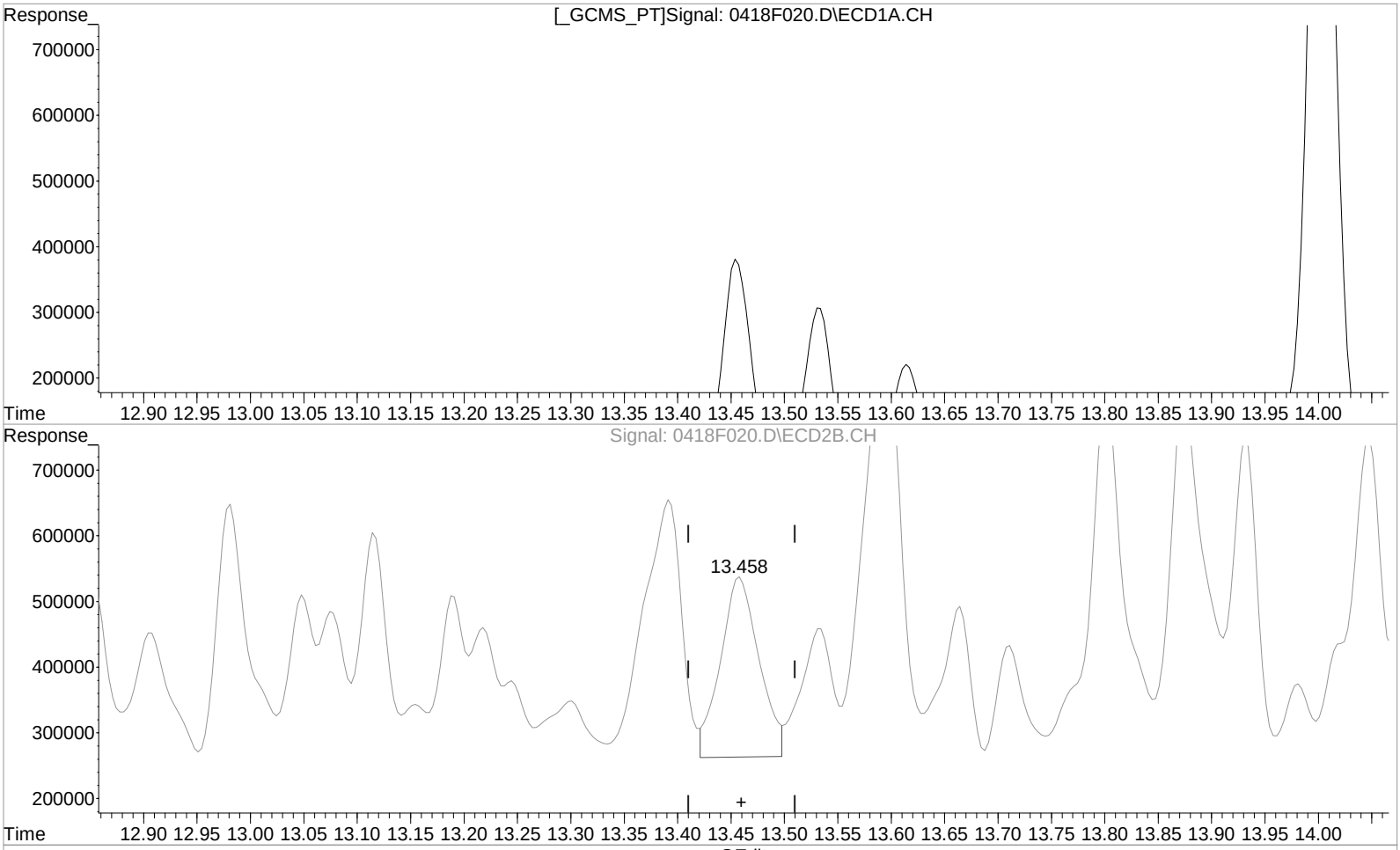
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.807min 830.840 ug/L

response 158555

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.458min 722.990 ug/L

response 688935

(+) = Expected Retention Time

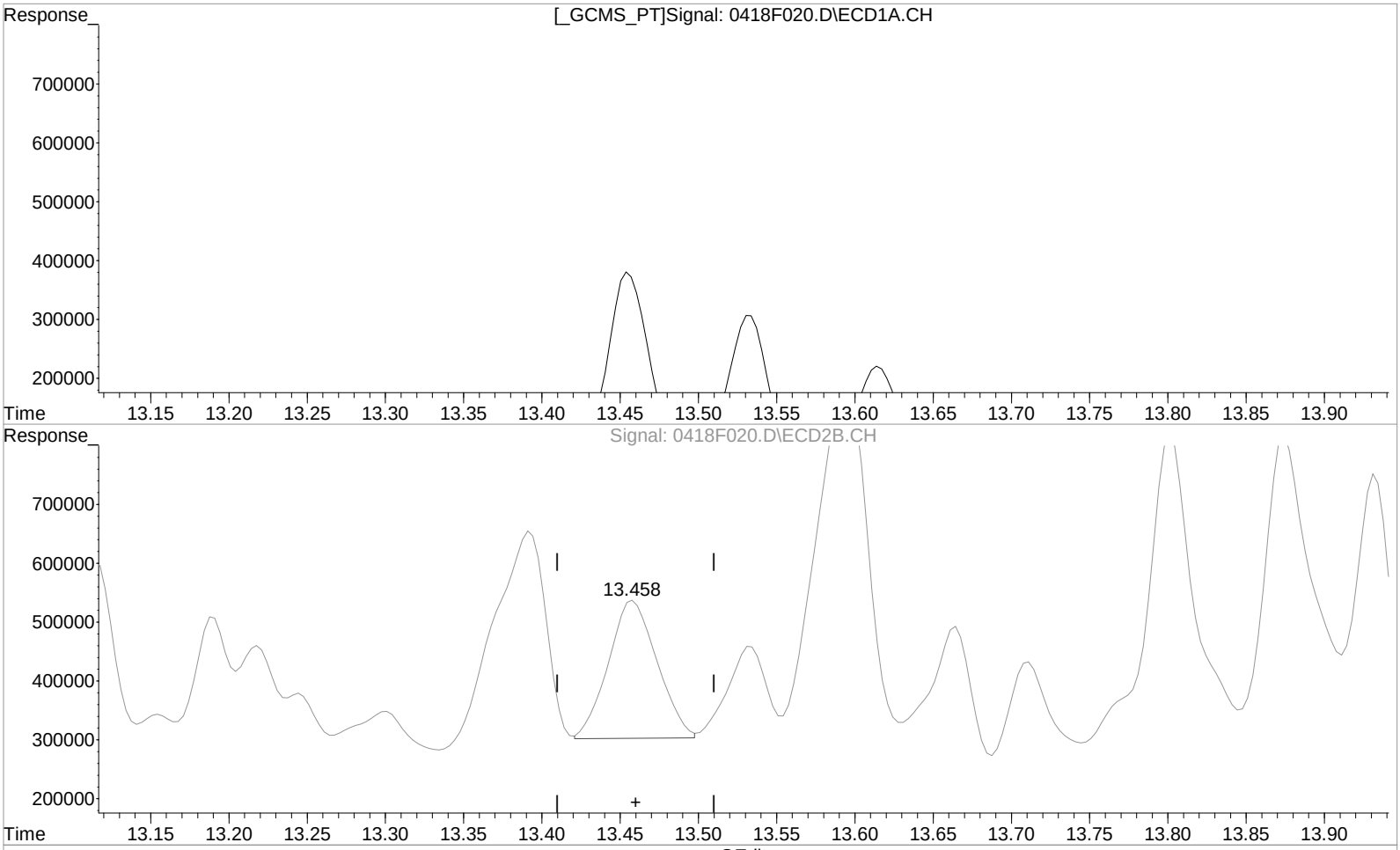
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.807min 830.840 ug/L

response 158555

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.458min 531.859 ug/L m

response 506807

(+) = Expected Retention Time

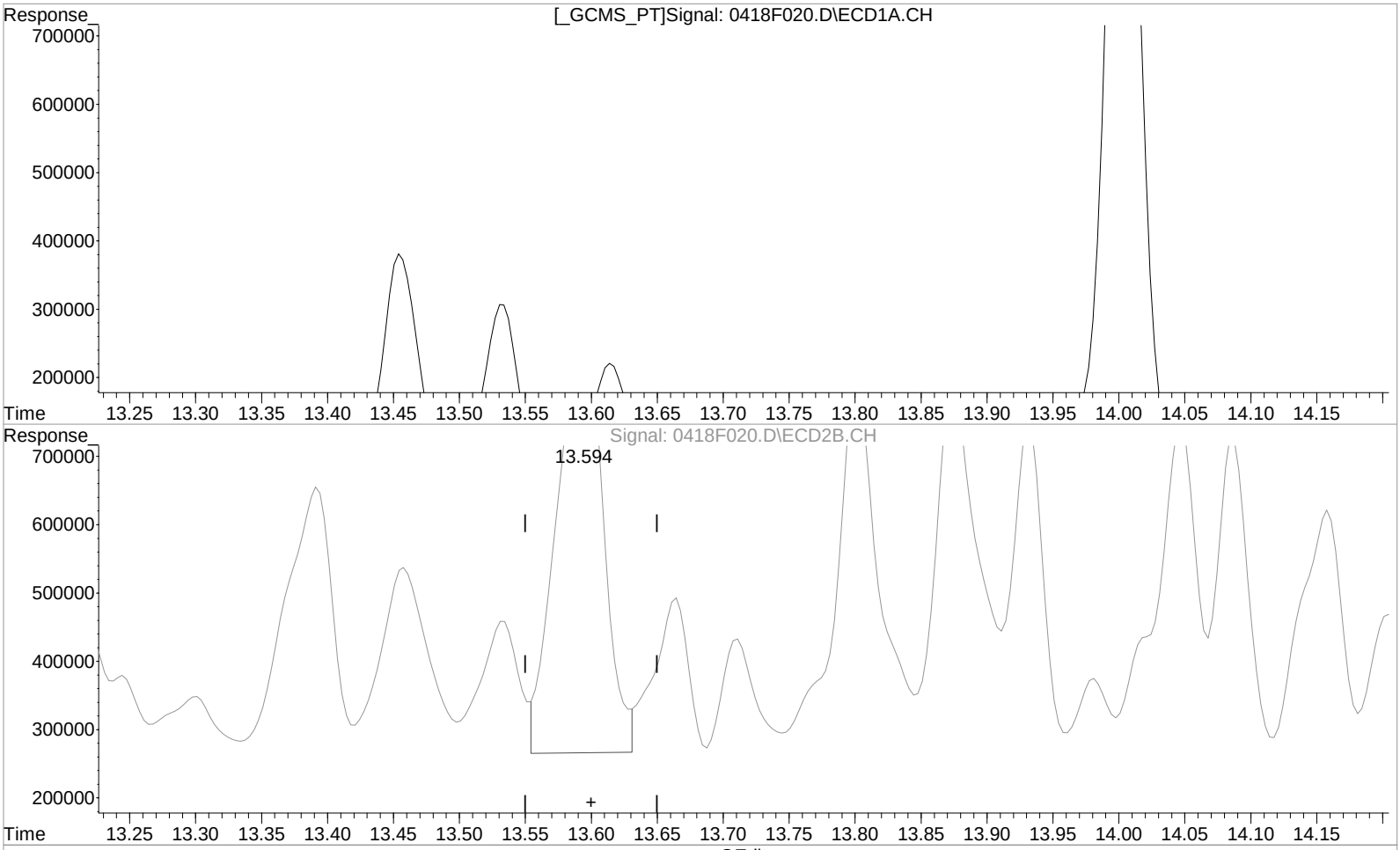
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.930min 636.351 ug/L

response 241980

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.594min -100.000 ug/L

response 1520040

(+) = Expected Retention Time

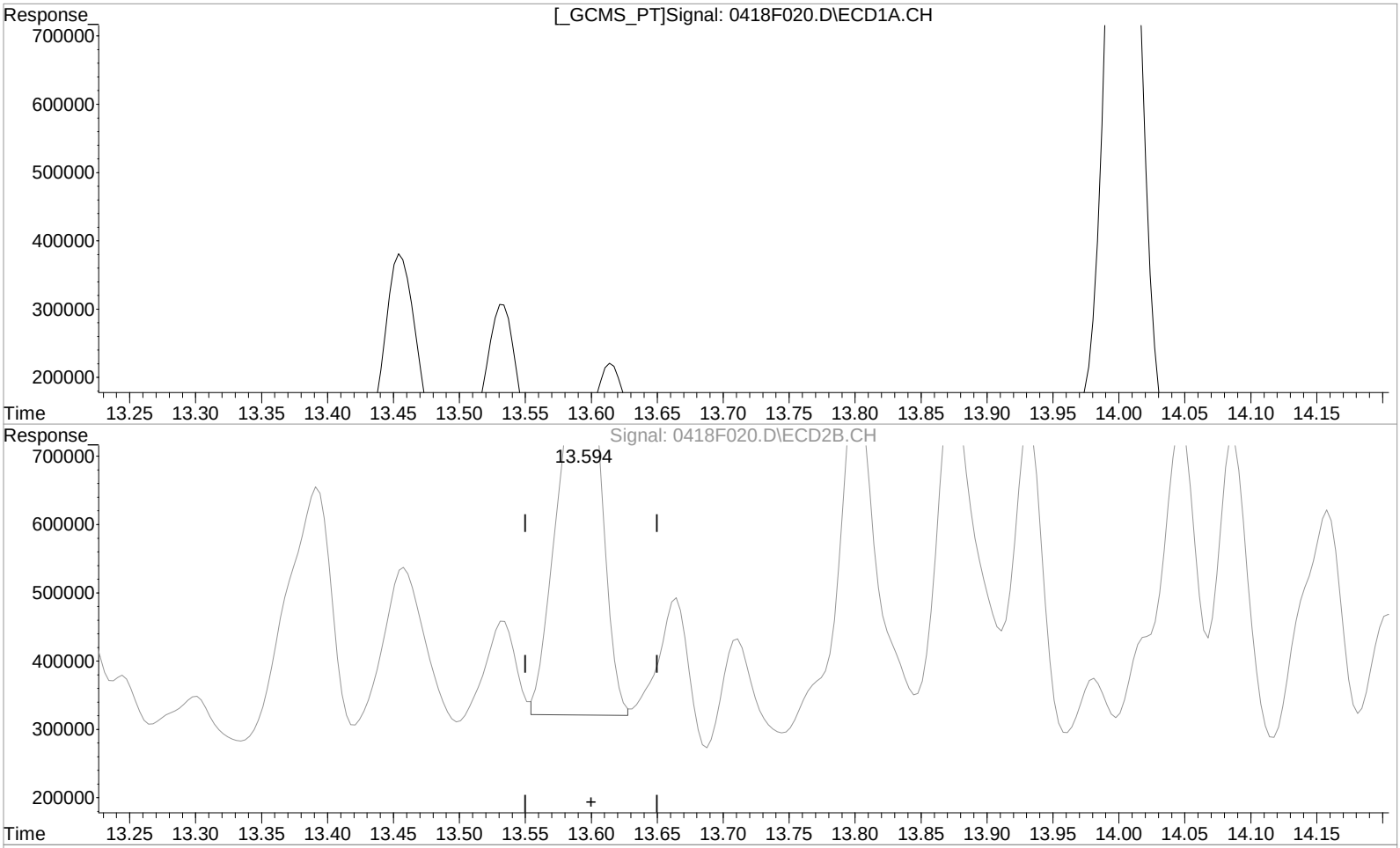
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.930min 636.351 ug/L

response 241980

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.594min 1675.942 ug/L m

response 1265360

(+) = Expected Retention Time

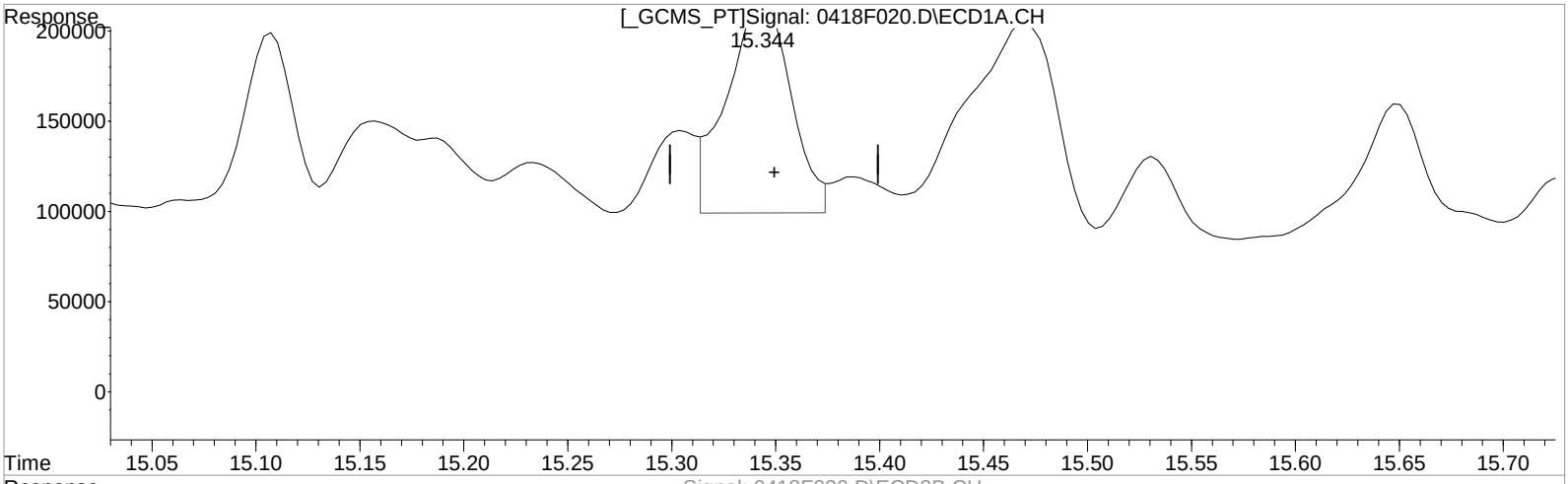
Quantitation Report (Qedit)

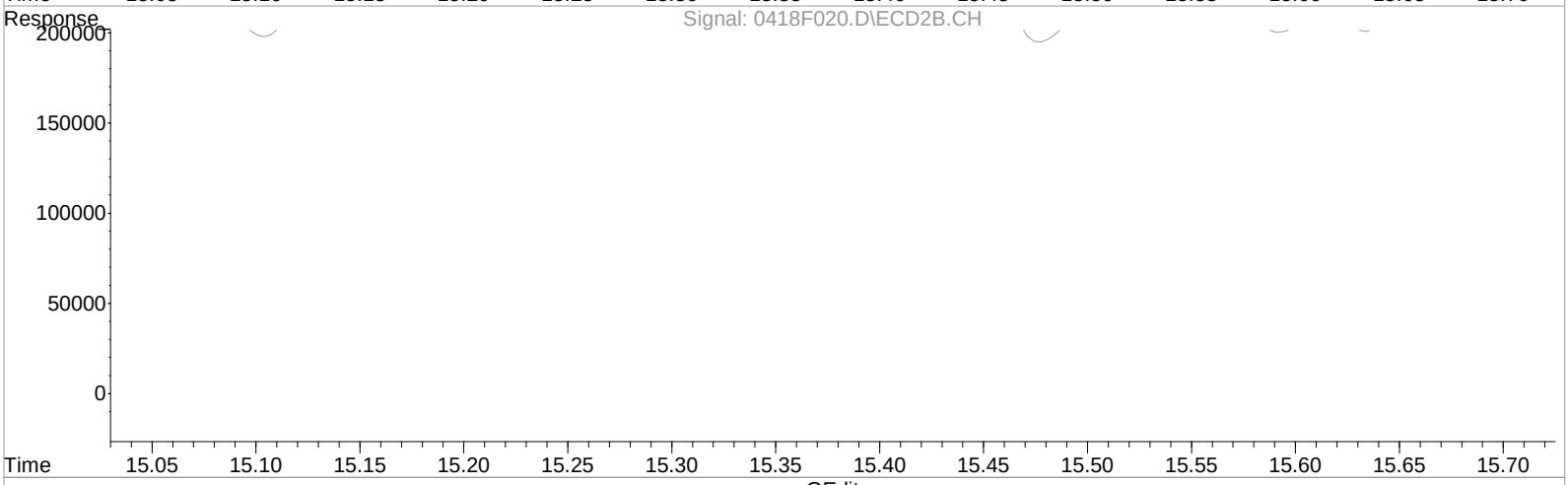
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.344min 1018.216 ug/L

response 248124

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.931min 1101.984 ug/L

response 735190

(+) = Expected Retention Time

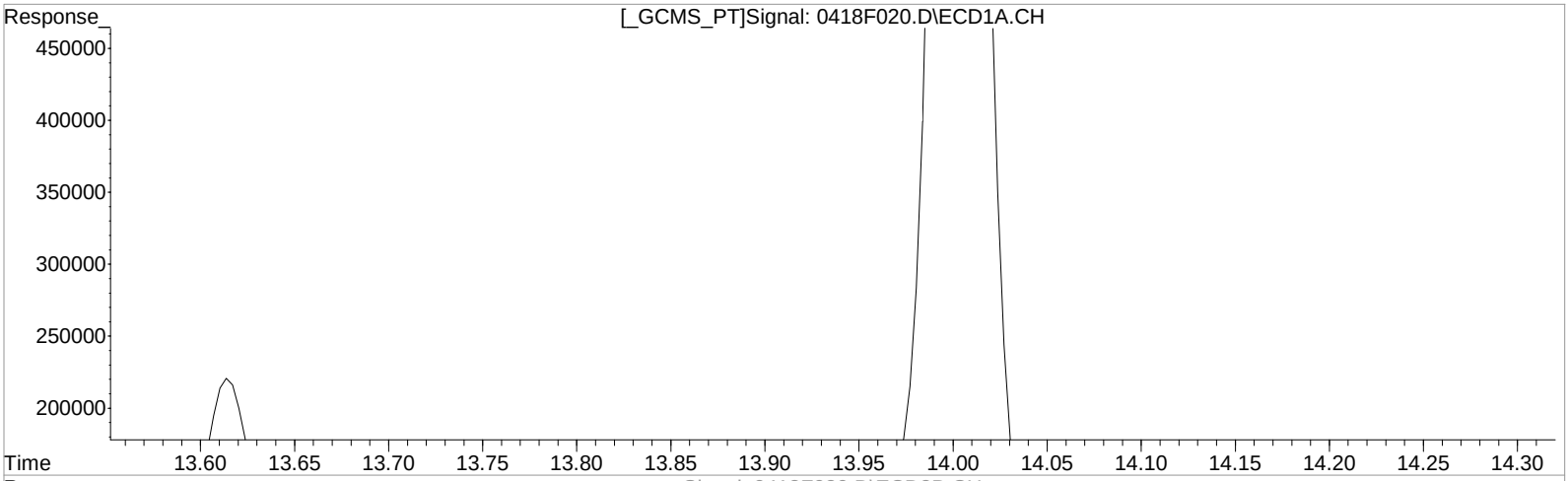
Quantitation Report (Qedit)

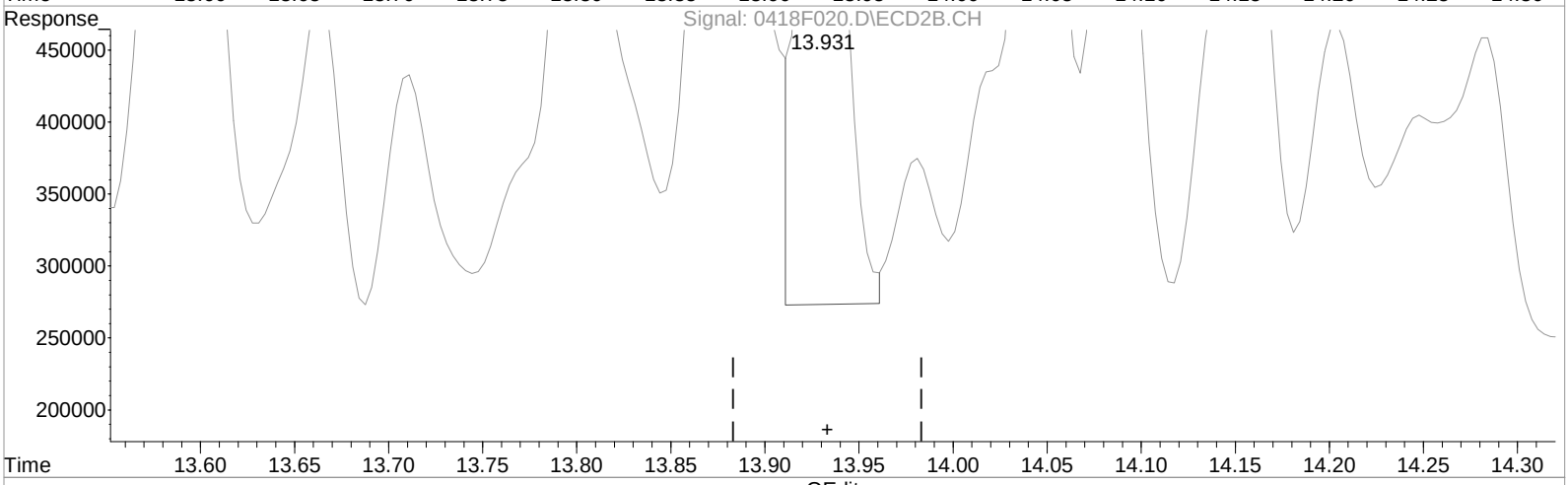
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.344min 800.476 ug/L m

response 195064

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.931min 1101.984 ug/L

response 735190

(+) = Expected Retention Time

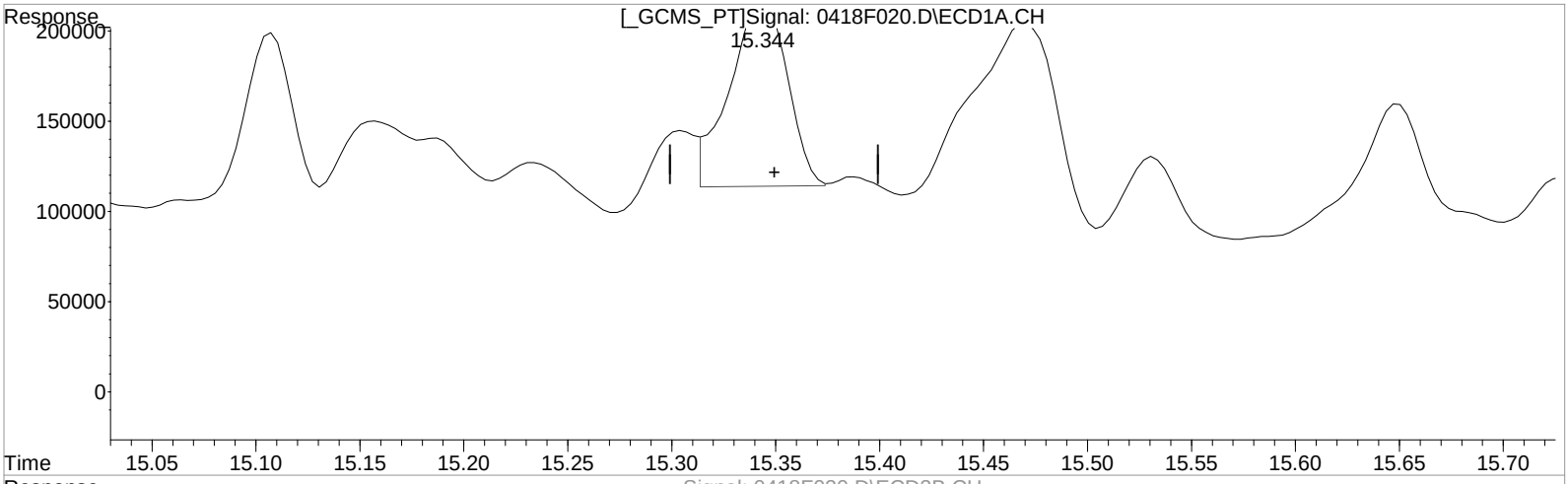
Quantitation Report (Qedit)

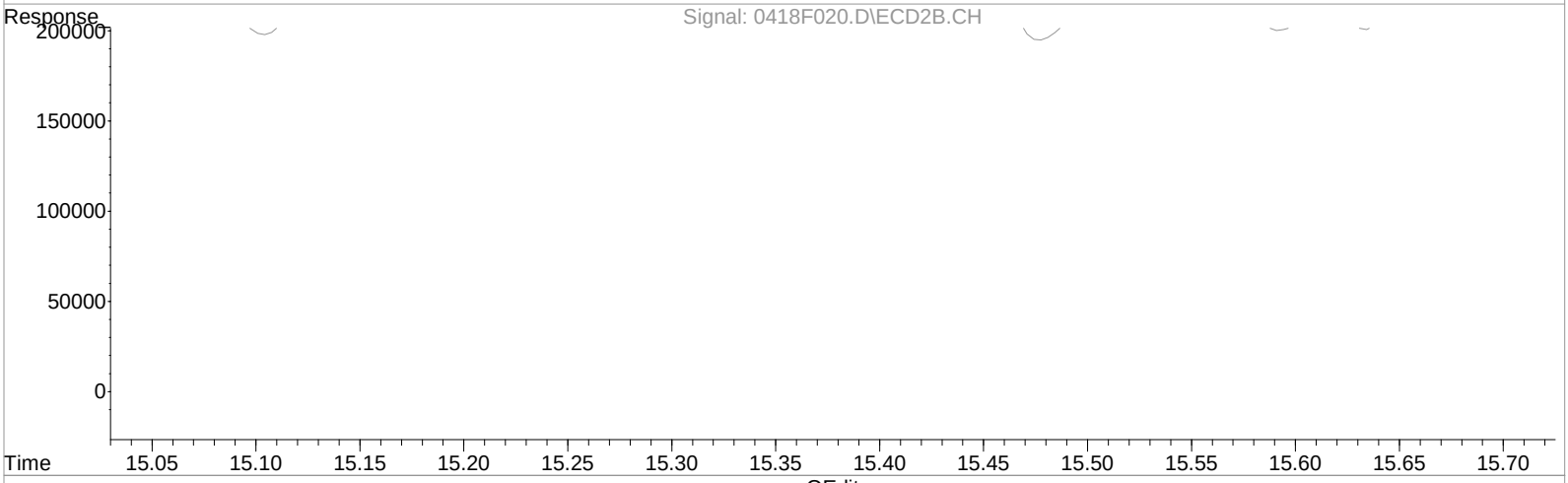
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.344min 800.476 ug/L m

response 195064

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.931min 1101.984 ug/L

response 735190

(+) = Expected Retention Time

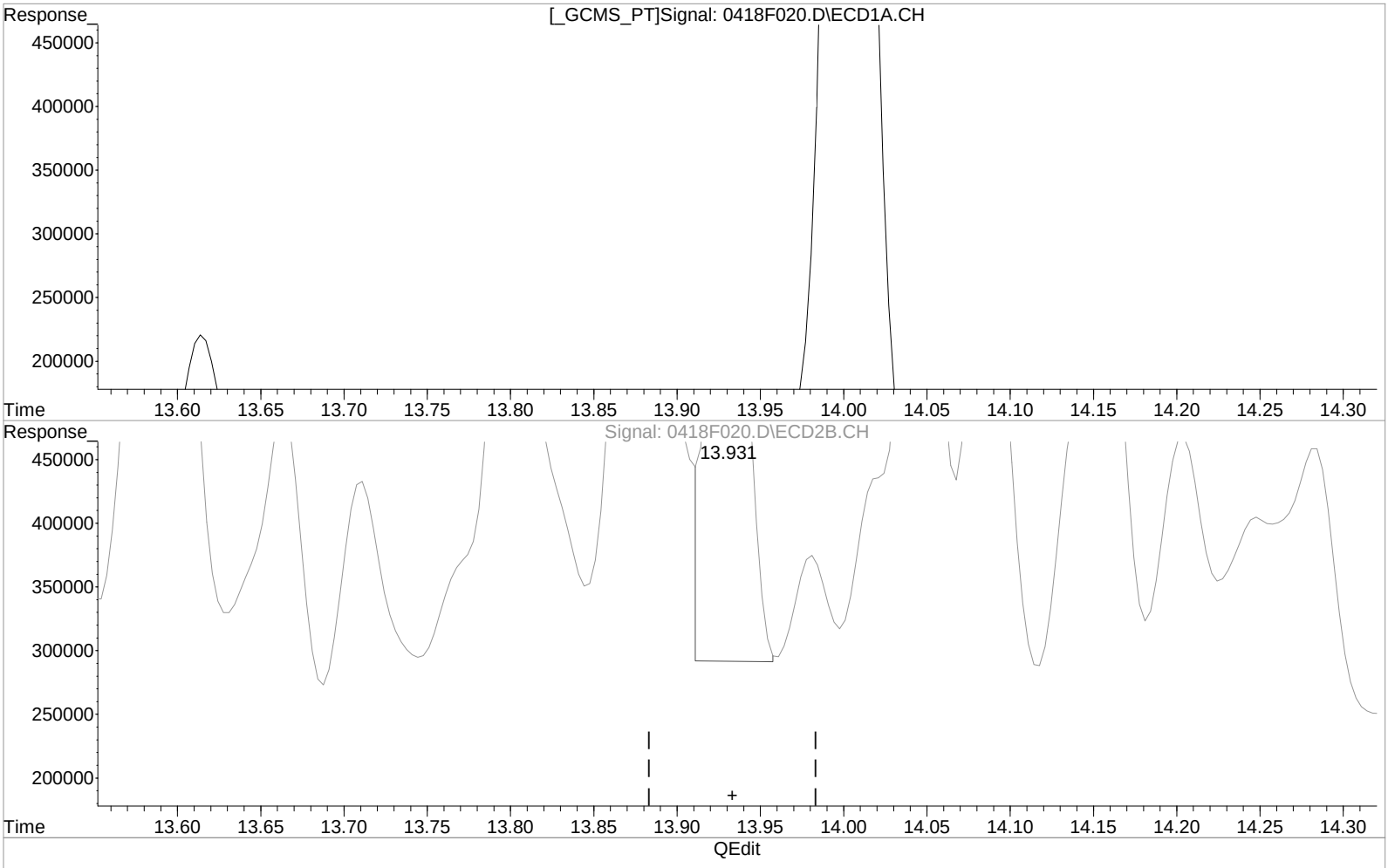
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.344min 800.476 ug/L m

response 195064

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.931min 1019.796 ug/L m

response 680358

(+) = Expected Retention Time

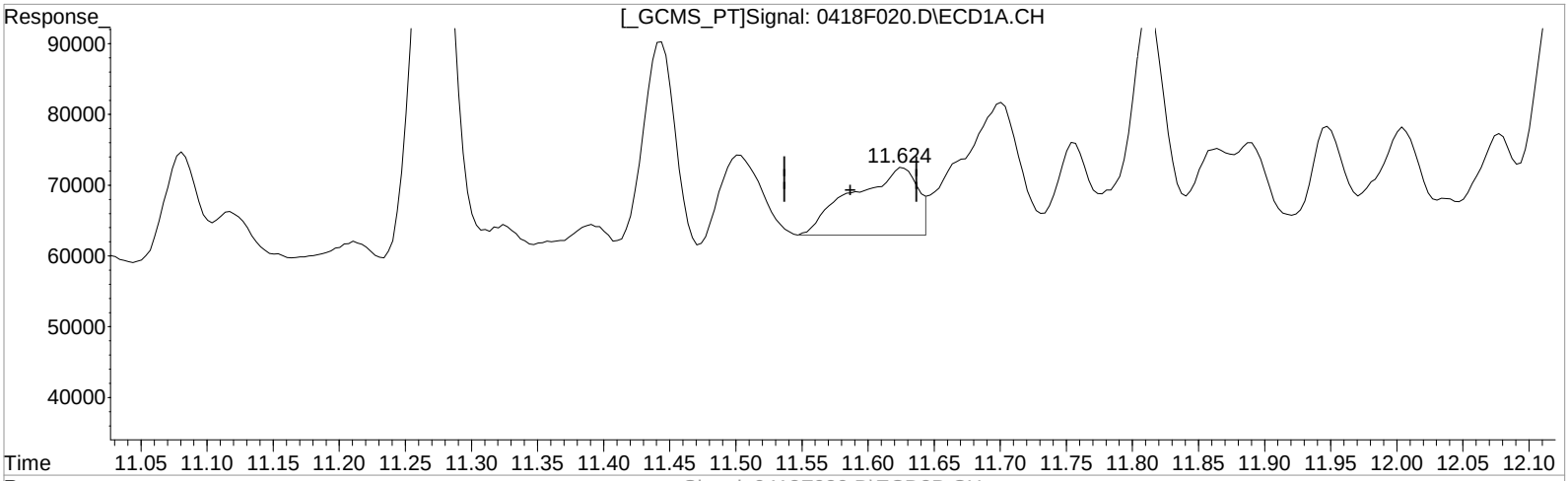
Quantitation Report (Qedit)

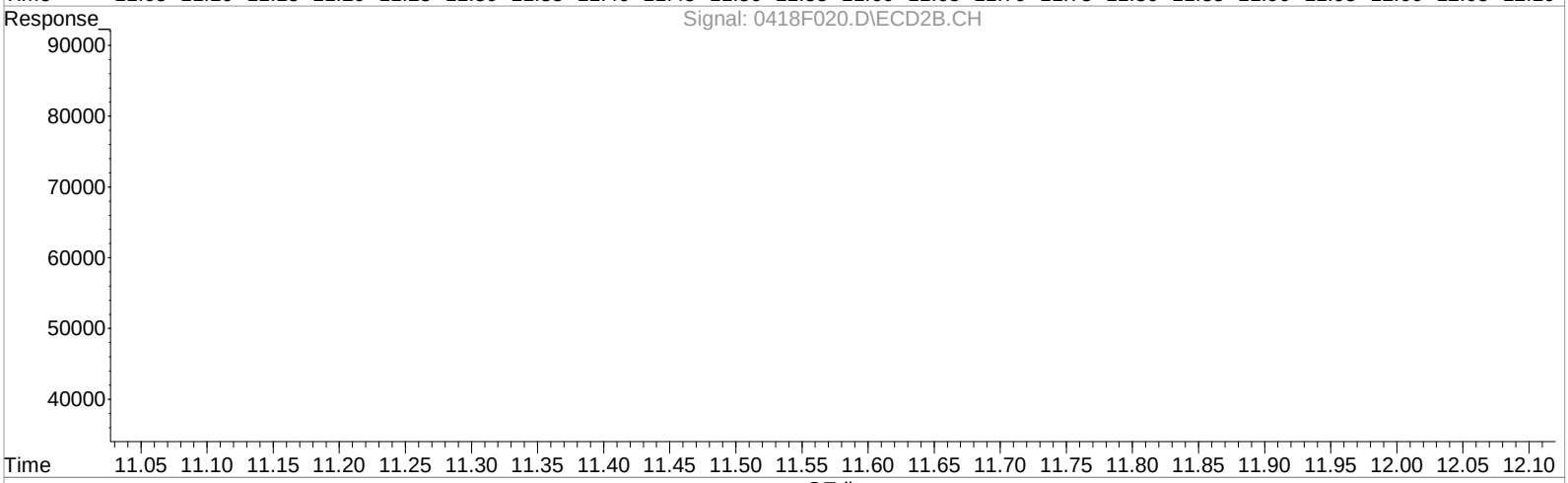
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(7) delta-BHC

11.624min 1.591 ug/L

response 33311

Manual Integration:

Before

04/21/20

(7) delta-BHC #2

10.304min 1.980 ug/L

response 166502

(+) = Expected Retention Time

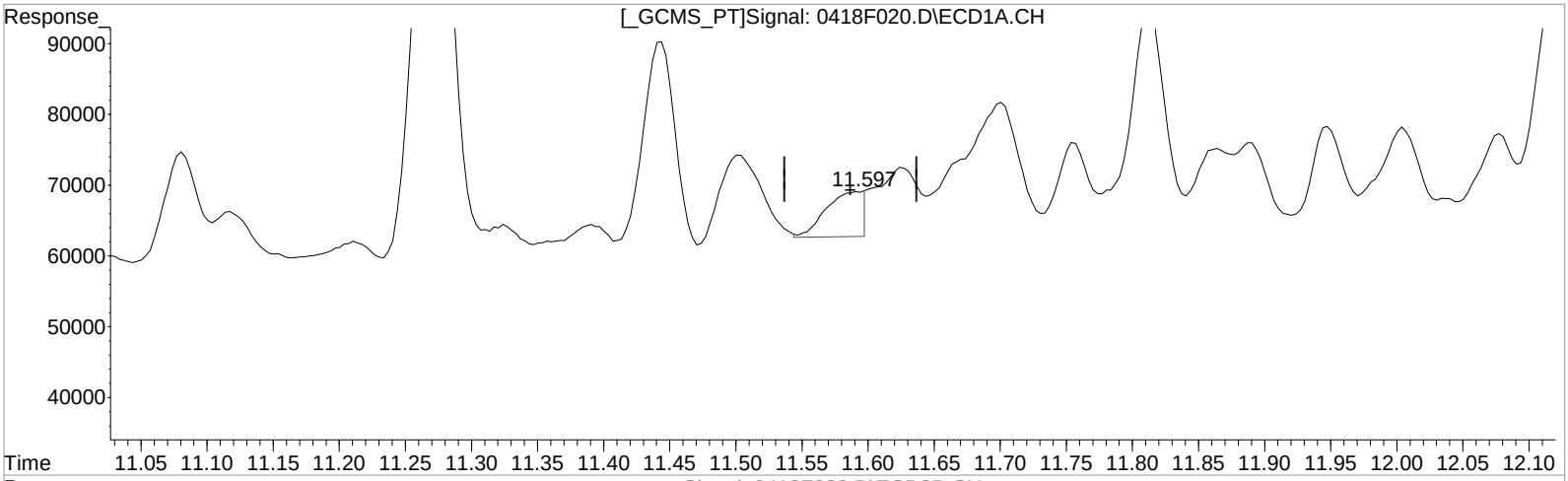
Quantitation Report (Qedit)

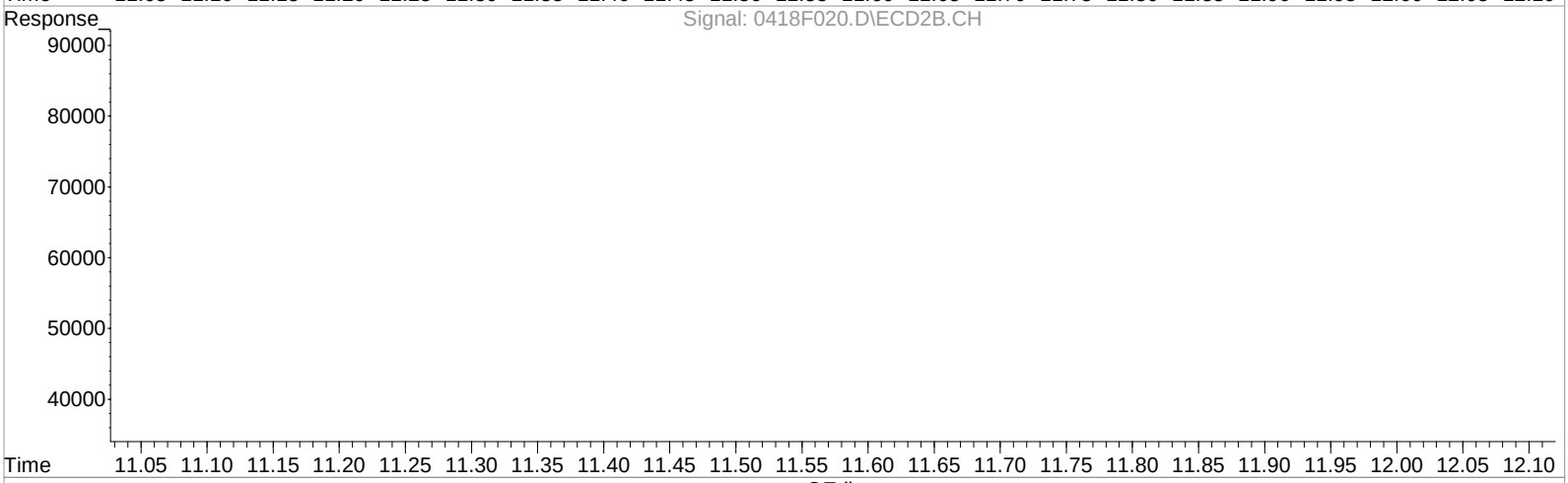
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(7) delta-BHC

11.597min 0.608 ug/L m

response 12723

Manual Integration:

After

Baseline correction

04/21/20

(7) delta-BHC #2

10.304min 1.980 ug/L

response 166502

(+) = Expected Retention Time

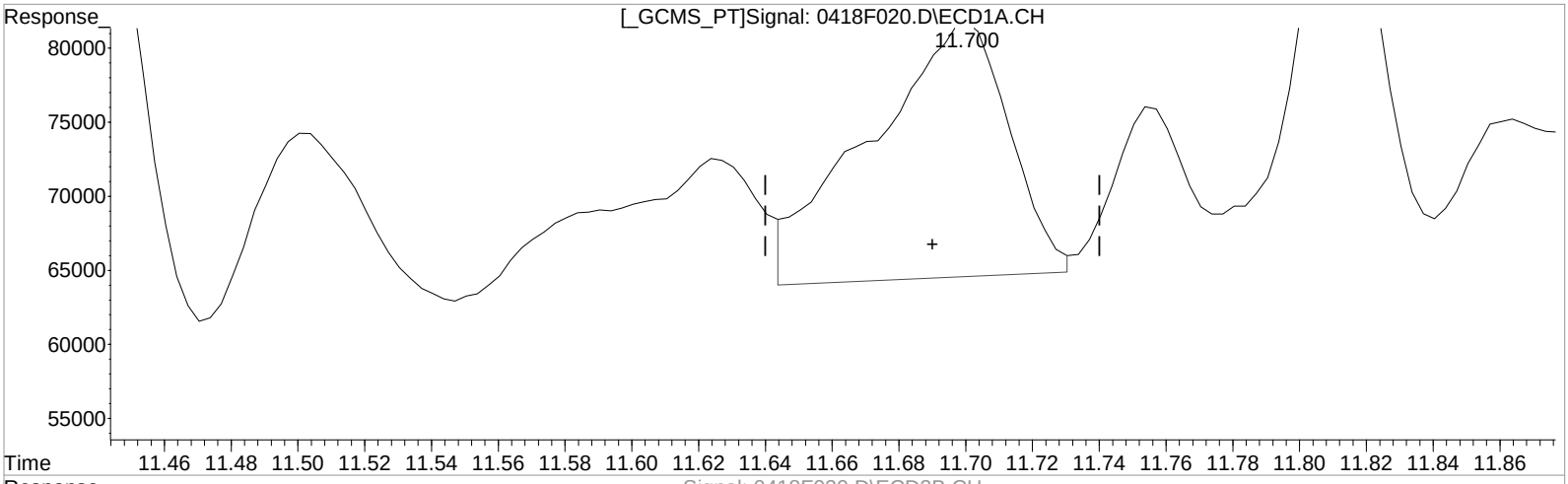
Quantitation Report (Qedit)

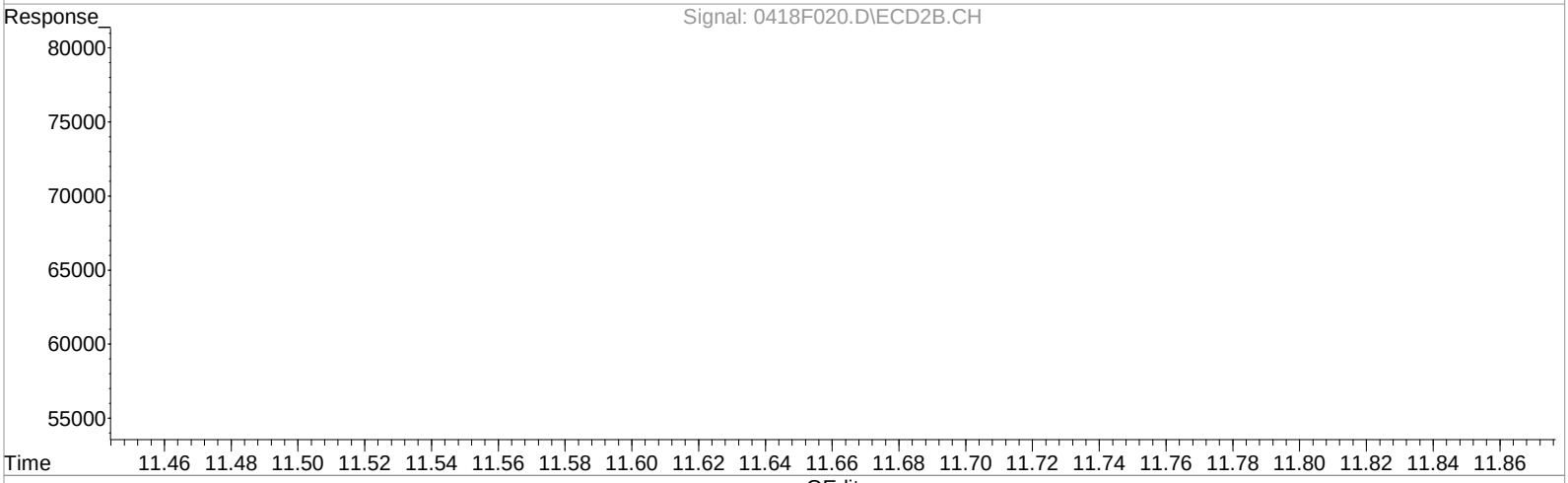
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(8) Heptachlor

11.700min 2.243 ug/L

response 49876

Manual Integration:

Before

04/21/20

(8) Heptachlor #2

9.931min 3.353 ug/L

response 292802

(+) = Expected Retention Time

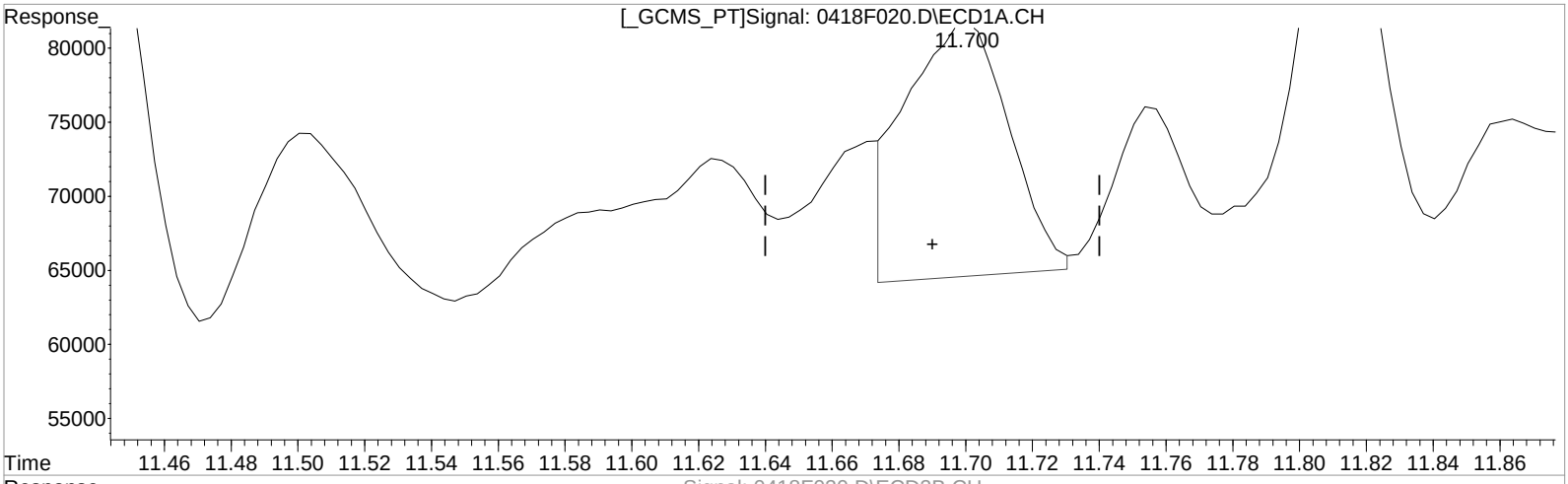
Quantitation Report (Qedit)

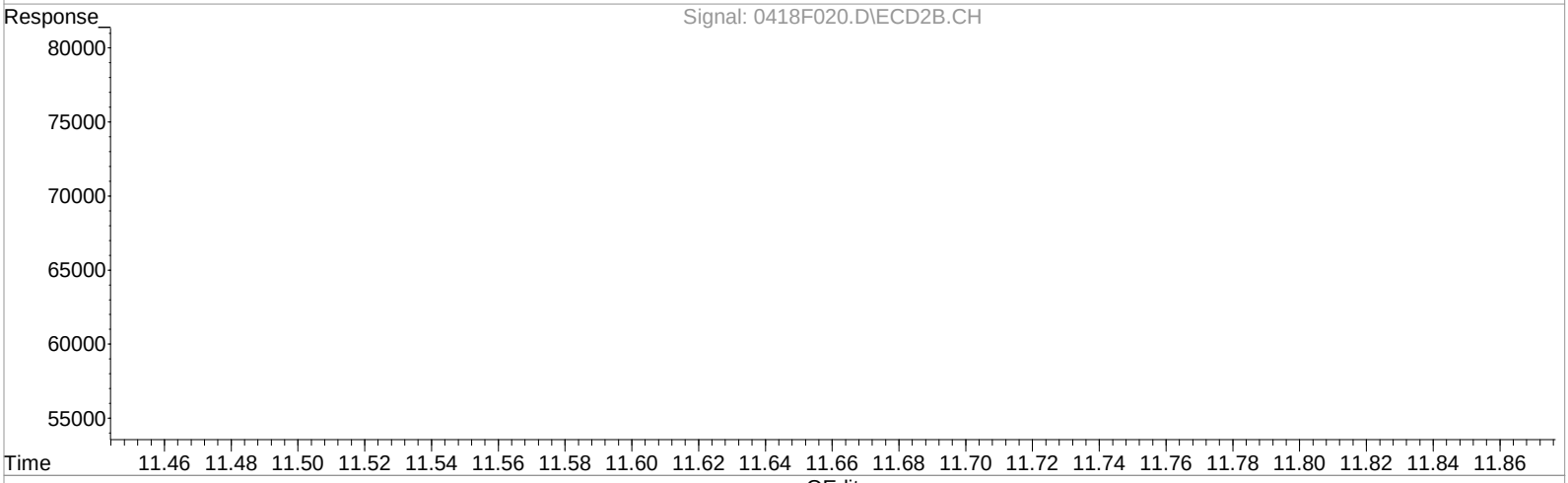
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(8) Heptachlor

11.700min 1.641 ug/L m

response 36492

Manual Integration:

After

Shoulder

04/21/20

(8) Heptachlor #2

9.931min 3.353 ug/L

response 292802

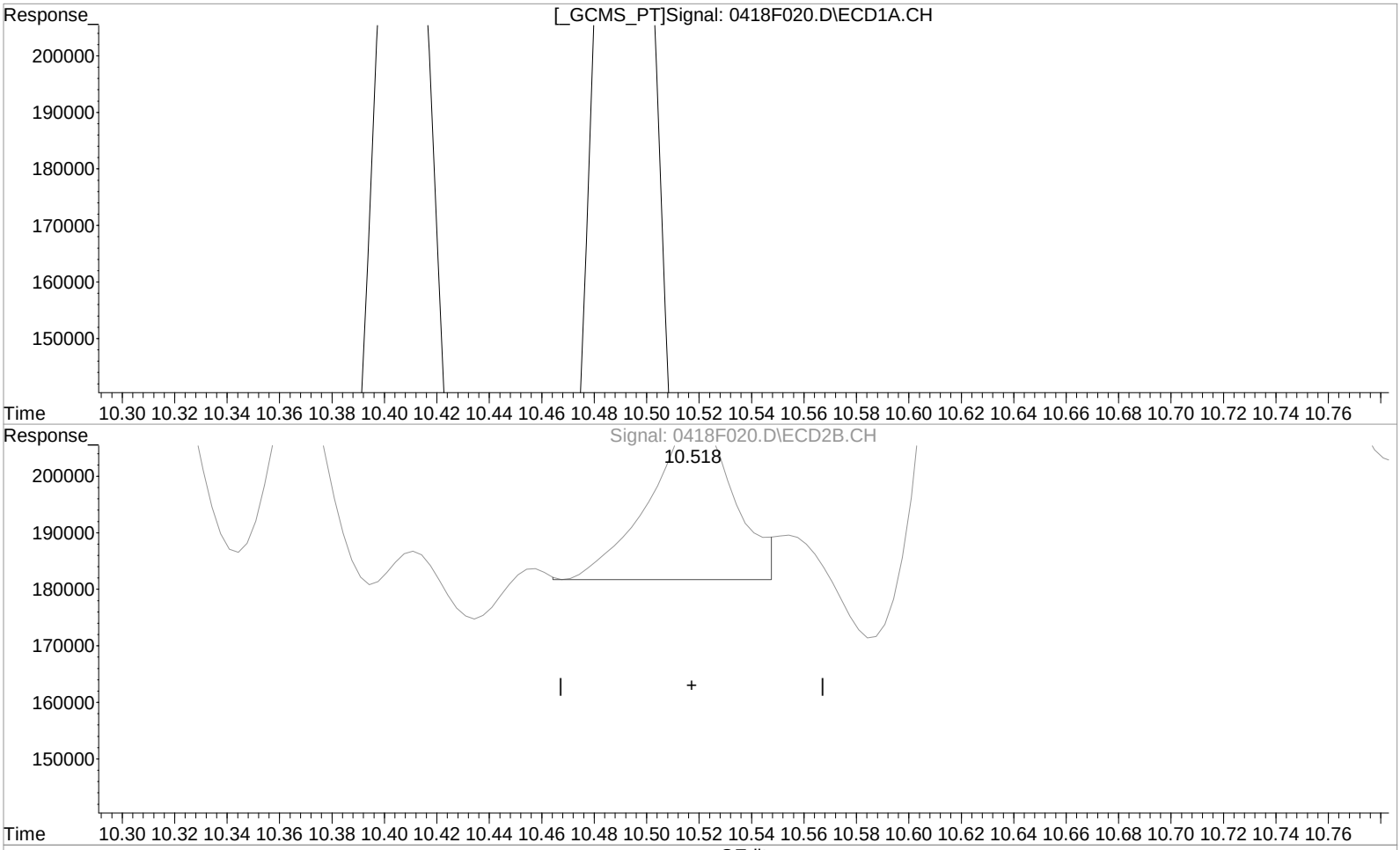
(+) = Expected Retention Time

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(9) Aldrin

12.214min 2.621 ug/L

response 53943

Manual Integration:

Before

04/21/20

(9) Aldrin #2

10.518min 0.723 ug/L

response 63536

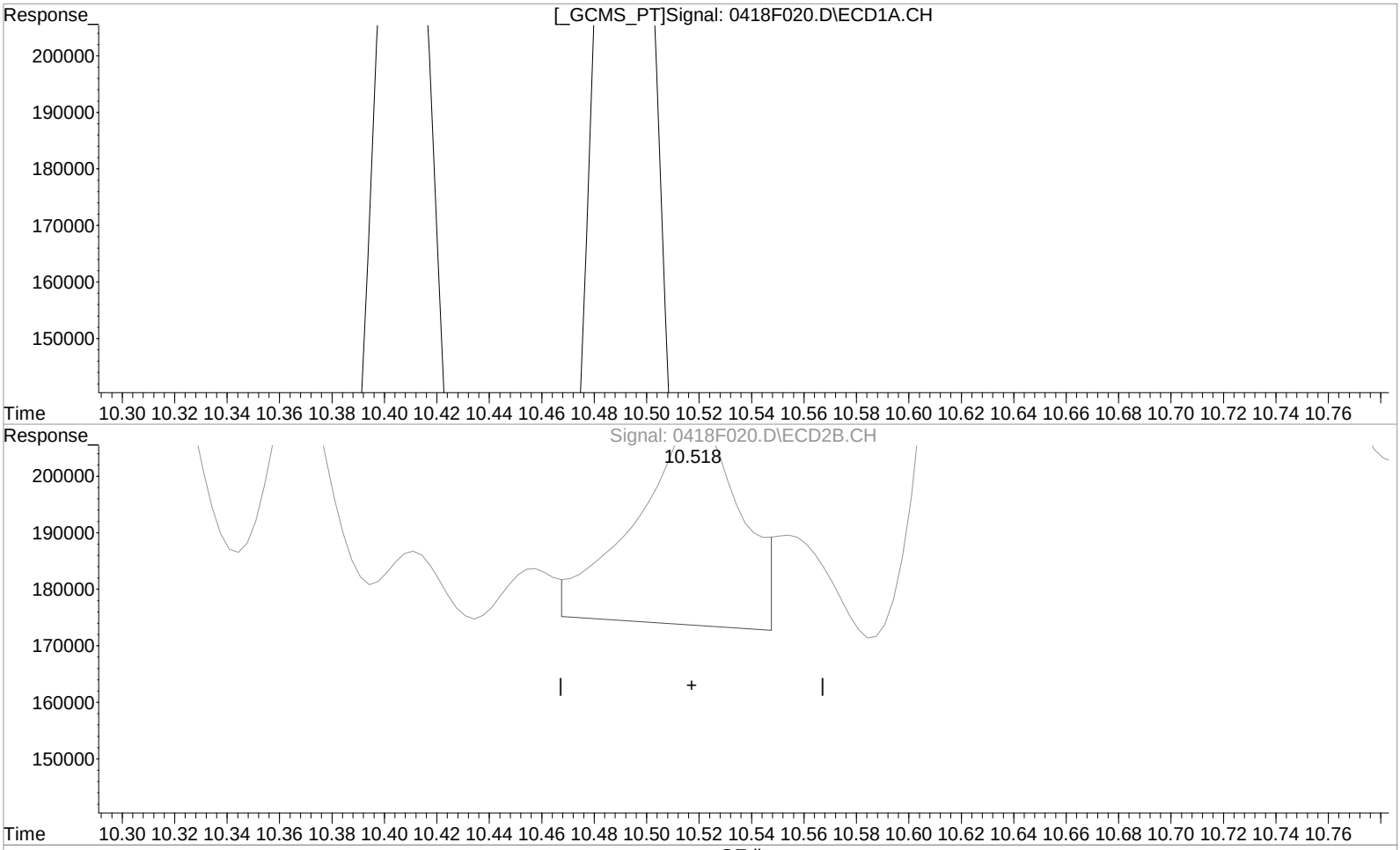
(+) = Expected Retention Time

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F020.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:59 am Operator: LM
Sample : K2002652-002 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:50:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(9) Aldrin

12.214min 2.621 ug/L

response 53943

Manual Integration:

After

Baseline correction

04/21/20

(9) Aldrin #2

10.518min 1.147 ug/L m

response 100726

(+) = Expected Retention Time

1st STM 04/25/20
2nd 04/27/20

Validation Report

Data File: J:\GC23\data\042220\0422F020.D\
Lab ID: K2002652-002
RunType: N/A
Matrix: Water

Date Acquired: 4/22/20 20:24:00
Batch ID: 677794
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	cis-Chlordane	13.52			NR
	trans-Chlordane	13.44			
	Chlordane {2}	11.69			
	Chlordane {4}	13.44			
	Chlordane {5}	13.52			
	Chlordane {6}	13.60			
	4,4'-DDD	14.64			
	Endosulfan I	13.60			
	Endosulfan II	14.79			
	Endrin Aldehyde	14.99			
	Heptachlor	11.69			
	cis-Nonachlor	14.64			
	trans-Nonachlor	13.60			
	Toxaphene {2}	14.79			
	Toxaphene {4}	14.99			
	1-Bromo-2-nitrobenzene	6.19			SA
	1-Bromo-2-nitrobenzene {2}	6.19			
	1-Bromo-2-nitrobenzene {3}	6.19			
	1-Bromo-2-nitrobenzene {4}	6.19			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.11			NR
	trans-Chlordane	11.96			
	Chlordane {4}	11.96			
	Chlordane {5}	12.01			

Primary Review: _____

Printed: 4/25/20 8:30
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/25/20
2nd 04/27/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Chlordane {6}	12.11			NR
	4,4'-DDD	13.38			
	2,4'-DDE	12.01			
	2,4'-DDT	13.23			
	Endrin Aldehyde	13.92			
	Mirex	15.42			
	cis-Nonachlor	13.23			
	trans-Nonachlor	12.01			
	Toxaphene {1}	13.38			
	Toxaphene {5}	13.92			
	Toxaphene {6}	15.42			
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st SM 04/25/20
2nd 04/27/20

Quantitation Report

Data File:	J:\GC23\data\042220\0422F020.D\	**Instrument:**	K-GC-23
Acqu Date:	4/22/20 20:24:00	**Vial:**	3
Run Type:	N/A	**Dilution:**	20
Lab ID:	K2002652-002	**Raw Units:**	ug/L

Bottle ID:	K2002652-002.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677794	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19	c	5.48	c	958700	4792824	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.19	c	5.48	c	958700	4792824	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.19	c	5.48	c	958700	4792824	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria		Rpt?
Decachlorobiphenyl	18.66	17.05	1221	5541	0.072	0.072	29	29	29	14 - 160		N
Tetrachloro-m-xylene	8.97	7.26	7329	14527	0.527	0.245	211*	98	98	30 - 148	P	N

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.20		10.51		2497	3432	0.162	0.045	16J	4.5U	16 U		N
alpha-BHC	0.00		0.00		0	0	0.000	0.000	0U	0U	5.0 U		N
beta-BHC	11.07		9.77		1470	10343	0.172	0.287	17J	29	**17** J	P	N
gamma-BHC (Lindane)	10.48		9.23		19949	90879	1.291	1.229	130	120	**120**		Y
Chlordane							10.663	6666666666	1100	1400	**1100**		N
Chlordane {1}	11.26		9.56		8080	29811	12.363	11.394	1200	1100			
Chlordane {2}	11.69	c	11.65		1453	28274	1.755	15.846	180	1600		i	
Chlordane {3}	12.25		11.80		6814	18609	11.469	15.711	1100	1600			
Chlordane {4}	13.44	c	11.96	c	26299	99223	14.582	13.831	1500	1400			
Chlordane {5}	13.52	c	12.01	c	19361	64841	12.979	14.762	1300	1500			
Chlordane {6}	13.60	c	12.11	c	11860	84416	10.830	13.273	1100	1300			
Dieldrin	13.99		12.62		116429	517138	7.360	7.346	740	730	**730**		Y
Heptachlor	11.69 +0.01	c	9.92 +0.01		1453	22148	0.088	0.295	8.8U	30J	13 U		N
Heptachlor Epoxide	0.00		0.00		0	0	0.000	0.000	0U	0U	5.8 U		N
Hexachlorobenzene	9.98 +0.01		0.00		1045	0	0.055	0.000	5.5J	0U	5.4 U		N
Toxaphene							3333333333	3333333333	4900	5900	**4900**		N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 8:30
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st 04/25/20
2nd 04/27/20

Data File:	J:\GC23\data\042220\0422F020.D\	**Instrument:**	K-GC-23
Acqu Date:	4/22/20 20:24:00	**Vial:**	3
Run Type:	N/A	**Dilution:**	20
Lab ID:	K2002652-002	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74		13.38	c	6337	47364	40.229	44.473	4000	4400		
Toxaphene {2}	14.79	c	13.44		8326	26383	58.435	32.199	5800	3200		P
Toxaphene {3}	14.92		13.58		12964	61823	45.662	55.948	4600	5600		
Toxaphene {4}	14.99	c	13.65		11180	22618	58.553	57.721	5900	5800		
Toxaphene {5}	15.33		13.92	c	9551	34598	52.495	60.310	5200	6000		
Toxaphene {6}	15.52		15.42	c	3658	32051	41.385	103.138	4100	10000		P

Prep Amount:	200 mL	**Dilution:**	20
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st 04/23/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 16:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.194	5.478	958700	4792824	100.000	100.000
29)	1-Bromo-2...	6.194	5.478	958700	4792824	100.000	100.000
36)	1-Bromo-2...	6.194	5.478	958700	4792824	100.000	100.000
43)	1-Bromo-2...	6.194	5.478	958700	4792824	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.970	7.258	7329	14527	0.527	0.245 #
28) s	Decachlor...	18.664	17.054	1221	5541	0.072m	0.072
	Target Compounds						
4)	Hexachlor...	9.984	0.000	1045	0	0.055	N.D. d#
5)	beta-BHC	11.070	9.771	1470	10343	0.172	0.287 #
6)	gamma-BHC...	10.480	9.234	19949	90879	1.291	1.229
7)	delta-BHC	11.587	10.294	1274	9123	0.082	0.126 #
8)	Heptachlor	11.690	9.921	1453	22148	0.088	0.295 #
9)	Aldrin	12.204	10.508	2497	3432	0.162	0.045 #
10)	Isodrin	12.744	11.328	10750	4491	0.815	0.071 #
12)	gamma-Chl...	13.444	11.964	26299	99223	1.627	1.386
13)	Endosulfan I	13.604	12.224f	11860	16813	0.804	0.261 #
14)	alpha-Chl...	13.520	12.114	19361	84416	1.203	1.164
15)	Dieldrin	13.990	12.624	116429	517138	7.360	7.346
16)	4,4'-DDE	13.820	12.481	3994	22669	0.270	0.334
17)	Endrin	14.360	13.104	9824	31107	0.680	0.464 #
18)	Endosulfa...	14.794	13.524	8326	26616	0.569	0.440
19)	4,4'-DDD	14.640	13.381	7536	49010	0.659	0.966m#
20)	Endrin Al...	14.990	13.921	11180	40698	0.882	0.812
21)	Endosulfa...	15.460	14.268f	16618	33340	1.115	0.558 #
22)	4,4'-DDT	15.147	13.791	5061	54961	0.421m	1.124m#
23)	Endrin Ke...	16.150	15.178	9604	40708	0.601	0.570
24)	Methoxychlor	15.904	14.884f	2641	22231	0.362m	0.819 #
25)	2,4'-DDE	13.217	12.011	2366	64841	0.229m	1.465 #
26)	2,4'-DDD	13.924	12.744f	7240	11150	0.797	0.291 #
27)	2,4'-DDT	14.434	13.234	11550	6119	1.112	0.147m#
30)	Toxaphene	14.737	13.381	6337	47364	40.229	44.473m
31)	Toxaphene...	14.794	13.444	8326	26383	58.435	32.199m#
32)	Toxaphene...	14.920	13.584	12964	61823	45.662m	55.948m
33)	Toxaphene...	14.990	13.651	11180	22618	58.553	57.721m
34)	Toxaphene...	15.334	13.921	9551	34598	52.495	60.310m
35)	Toxaphene...	15.520	15.418	3658	32051	41.385	103.138 #
37)	Chlordane	11.260	9.558	8080	29811	12.363	11.394
38)	Chlordane...	11.690	11.654	1453	28274	1.755	15.846 #
39)	Chlordane...	12.247	11.801	6814	18609	11.469	15.711 #
40)	Chlordane...	13.444	11.964	26299	99223	14.582	13.831
41)	Chlordane...	13.520	12.011	19361	64841	12.979	14.762
42)	Chlordane...	13.604	12.114	11860	84416	10.830	13.273
44)	Chlorpyrifos	12.110	10.878	2477	9077	0.280	0.302
45)	Oxychlordane	12.870	11.394	7043	12356	0.461	0.182 #
46)	cis-Nonac...	14.640	13.234	7536	6240	0.469	0.088m#
47)	trans-Non...	13.604	12.011	11860	64841	0.735	0.930 #
48)	Mirex	0.000	15.418f	0	32051	N.D.	0.600 #
52)	Perthane	14.080f	12.898	2911	25748	6.380	14.664 #

1st 04/23/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 16:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L

SemiQuant Compounds - Not Calibrated on this Instrument

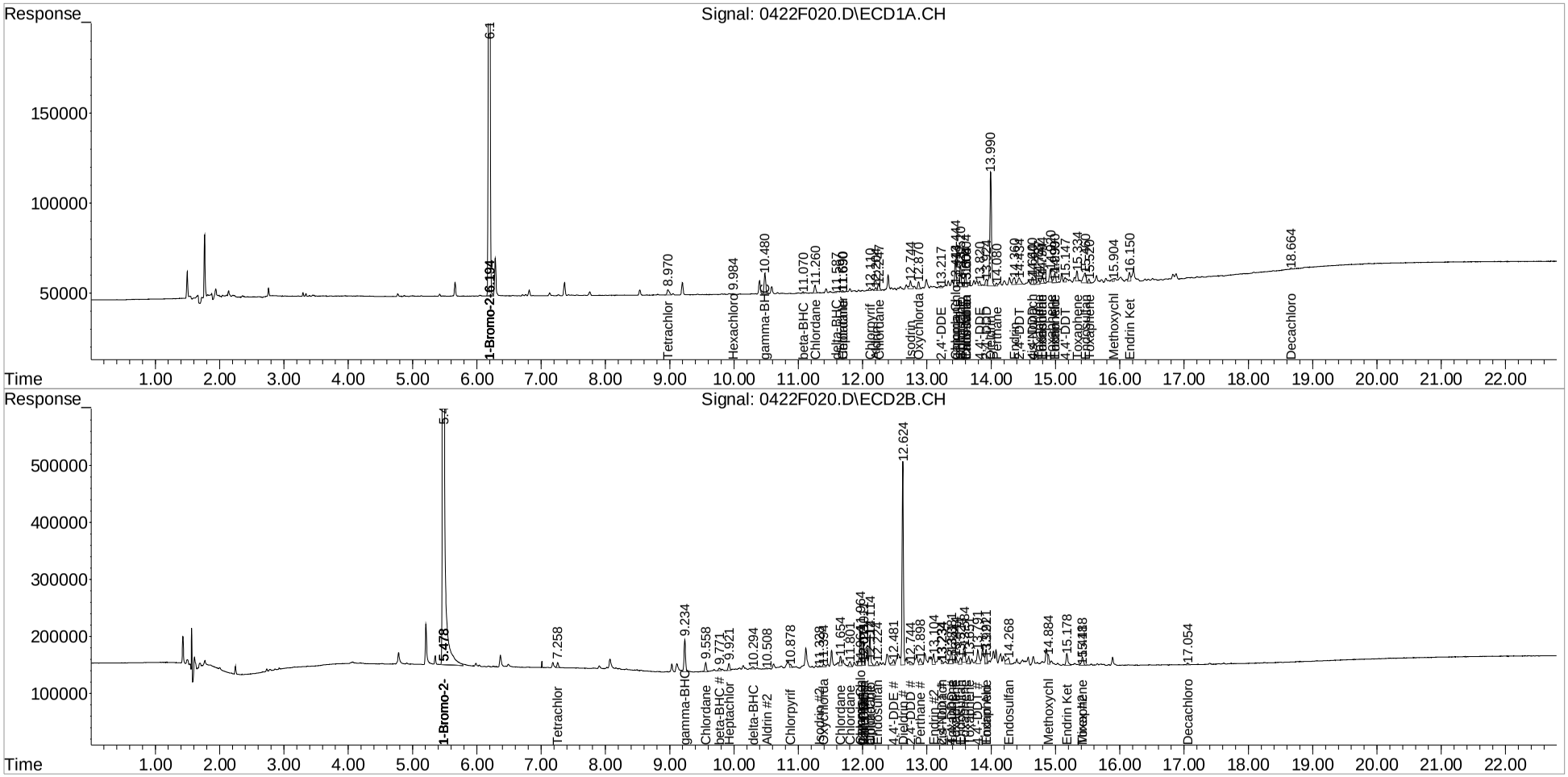
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
egration File signal 1: RTEINT.P
egration File signal 2: RTEINT2.P
Quant Time: Apr 23 16:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

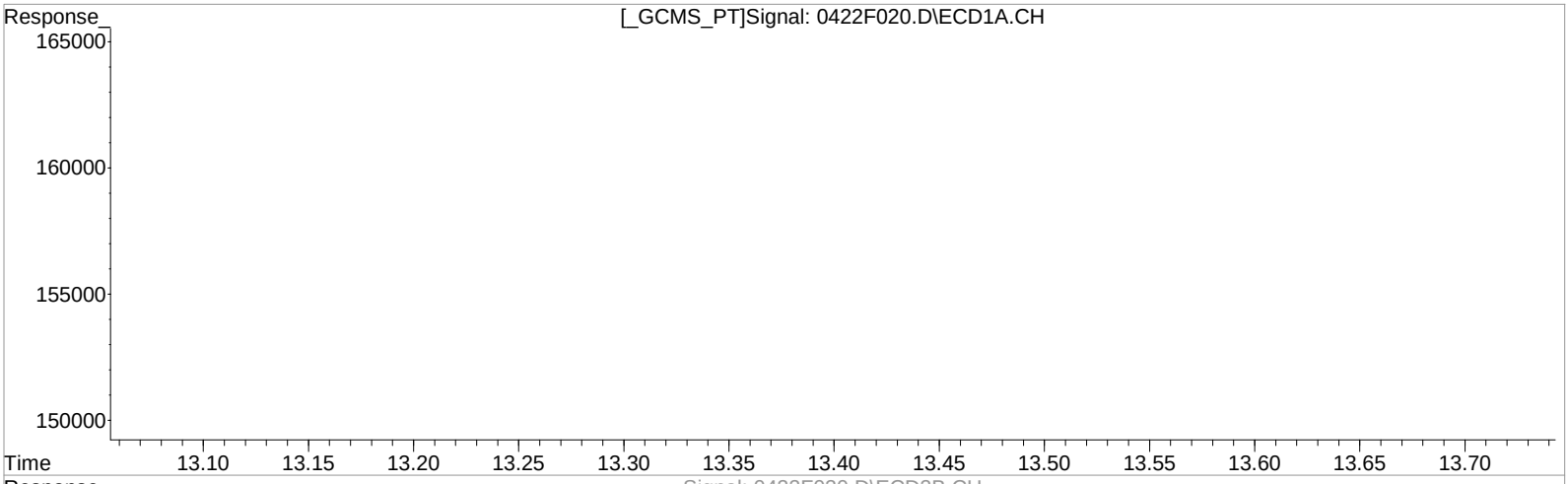
Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

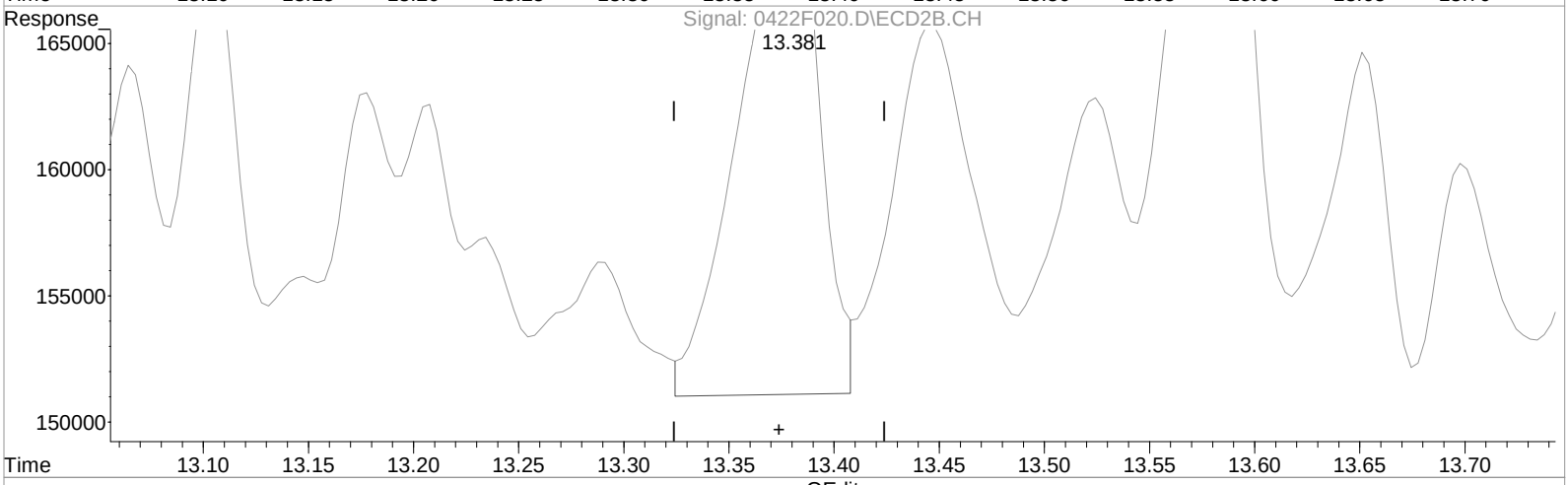


Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.640min 0.659 ug/L

response 7536

Manual Integration:

Before

04/23/20

(19) 4,4'-DDD #2

13.381min 1.055 ug/L

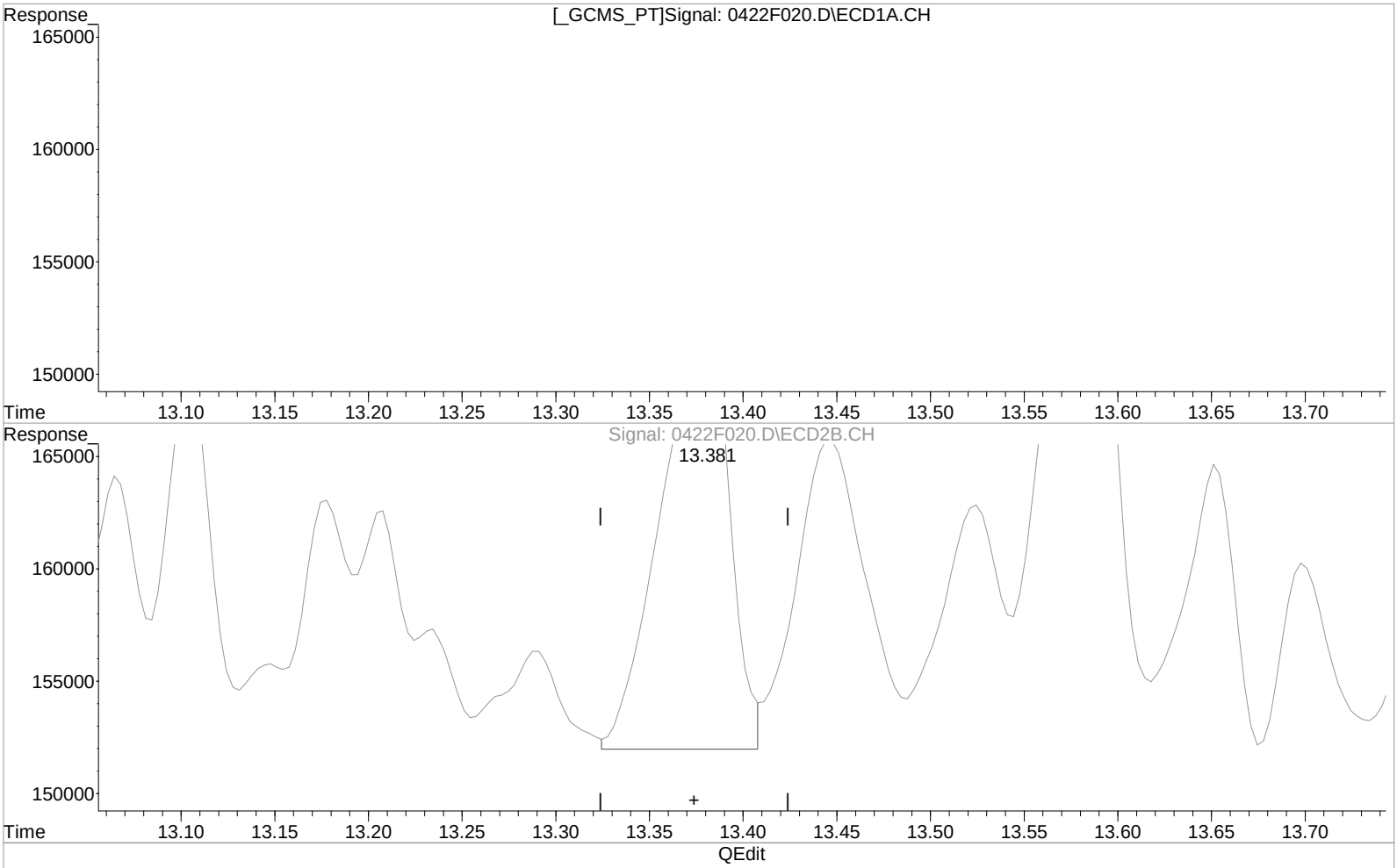
response 53498

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(19) 4,4'-DDD

14.640min 0.659 ug/L

response 7536

Manual Integration:

After

Baseline correction

04/23/20

(19) 4,4'-DDD #2

13.381min 0.966 ug/L m

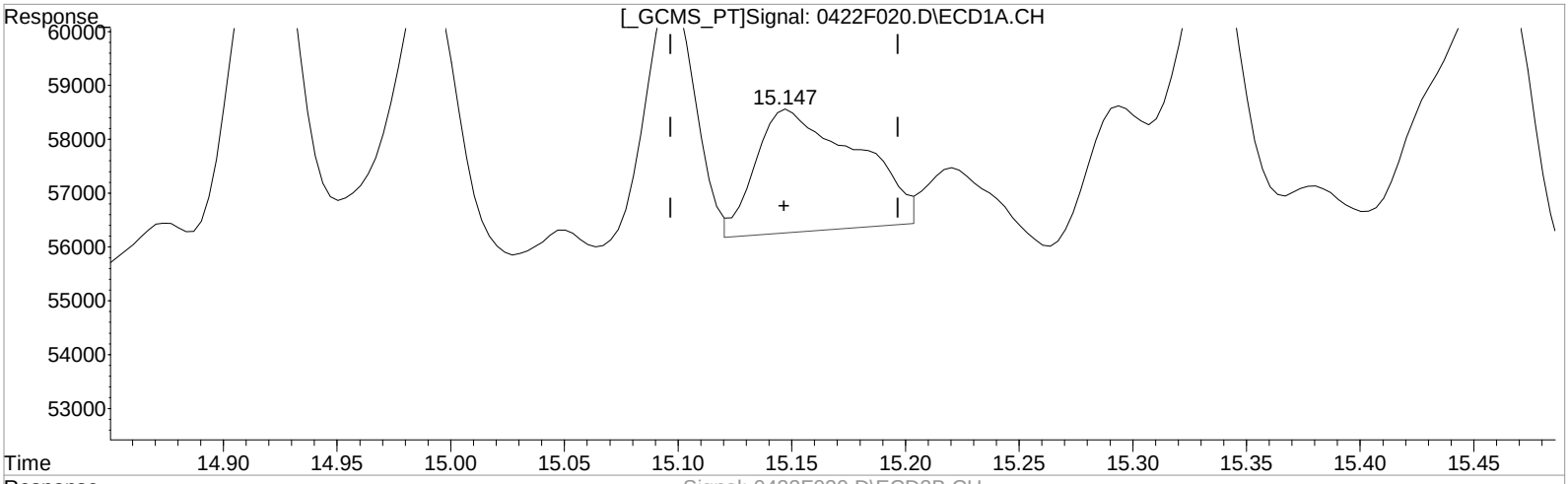
response 49010

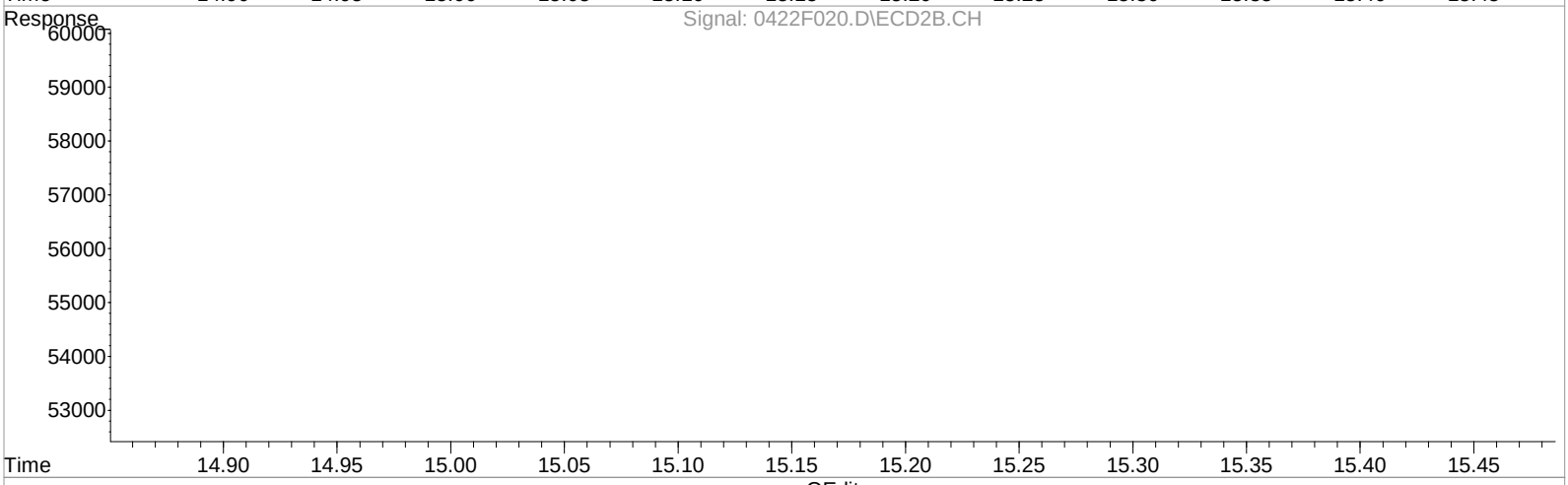
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.147min 0.592 ug/L

response 7114

Manual Integration:

Before

04/23/20

(22) 4,4'-DDT #2

13.791min 1.304 ug/L

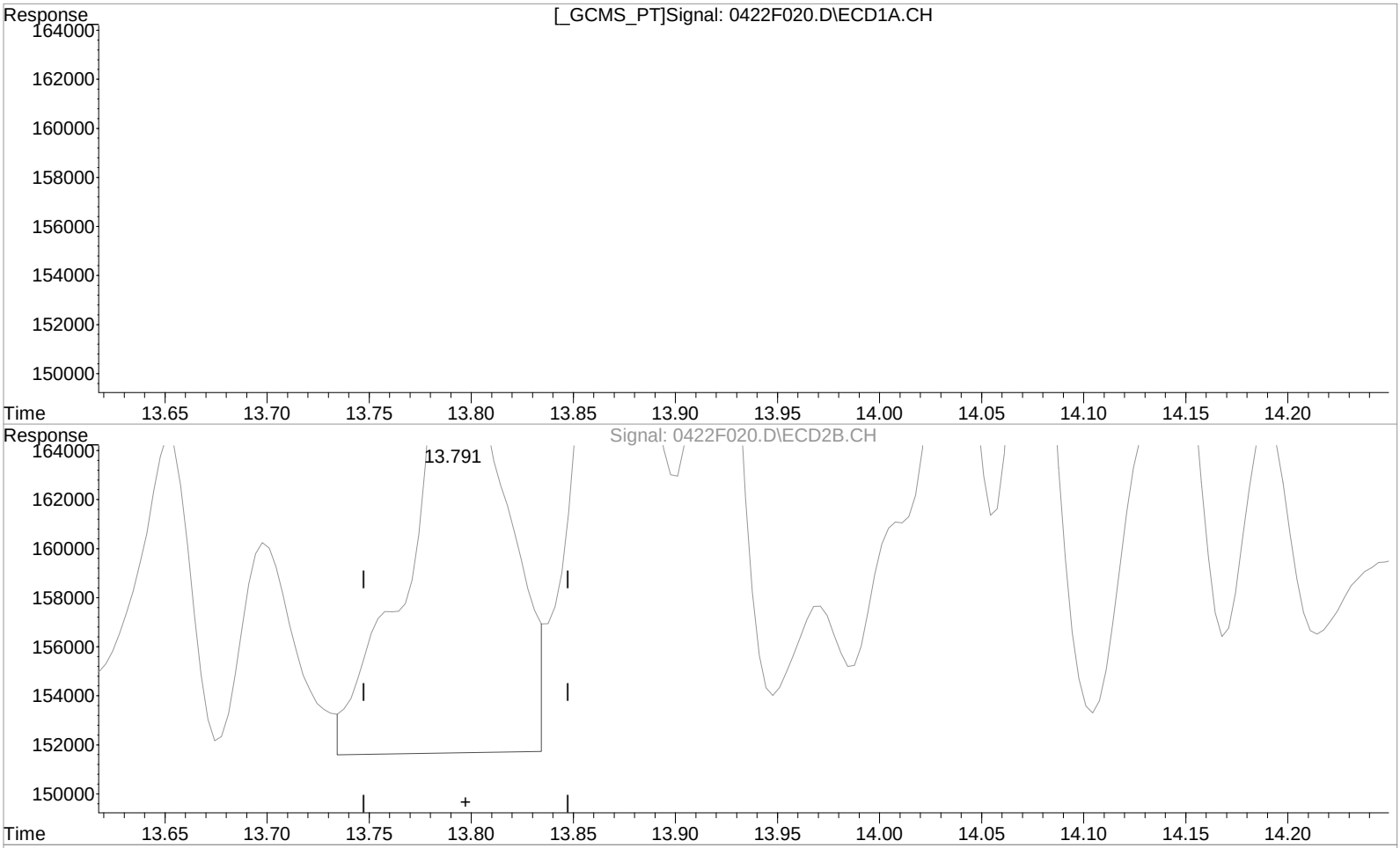
response 63780

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.147min 0.421 ug/L m

response 5061

Manual Integration:

Before

04/23/20

(22) 4,4'-DDT #2

13.791min 1.304 ug/L

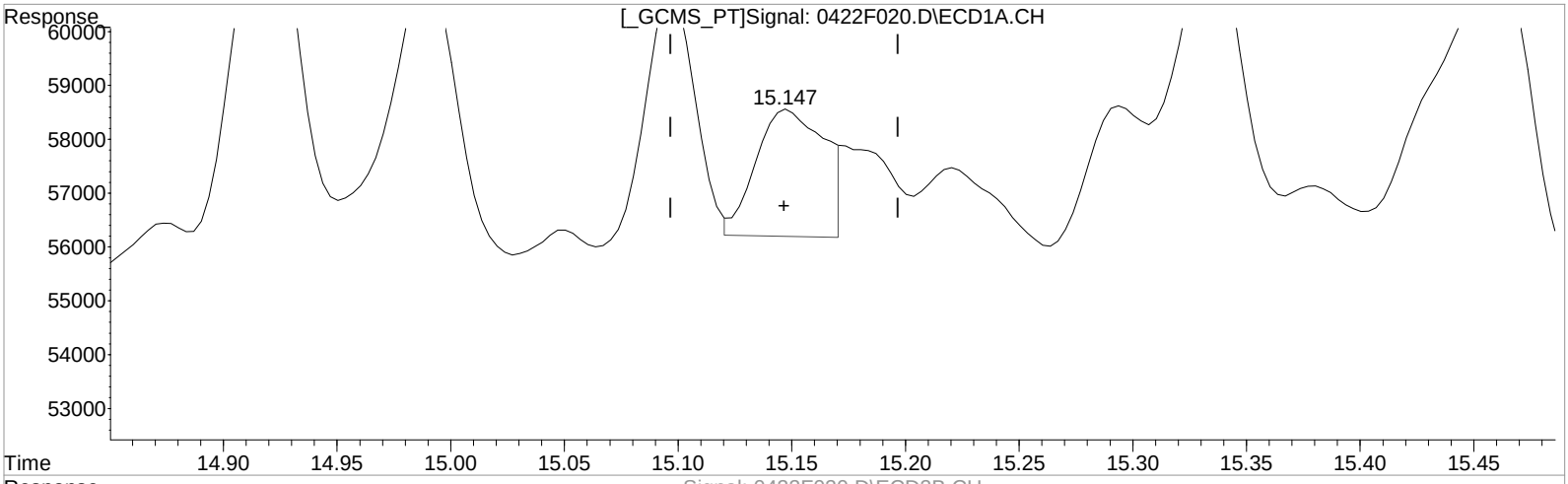
response 63780

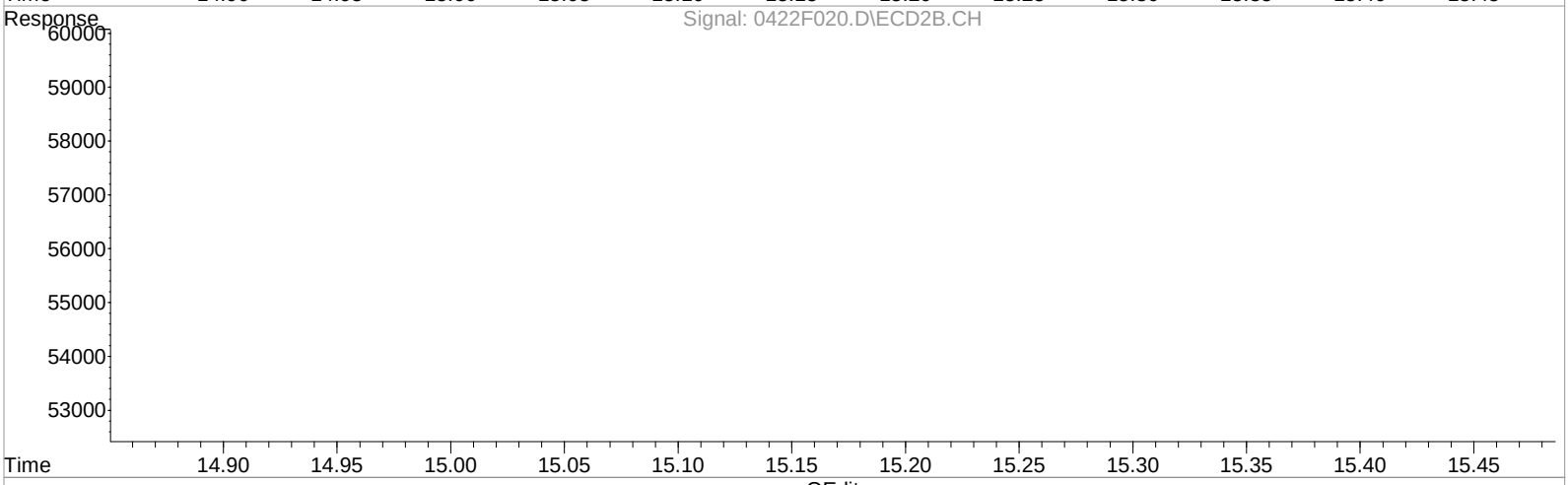
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.147min 0.421 ug/L m

response 5061

Manual Integration:

After

Shoulder

04/23/20

(22) 4,4'-DDT #2

13.791min 1.304 ug/L

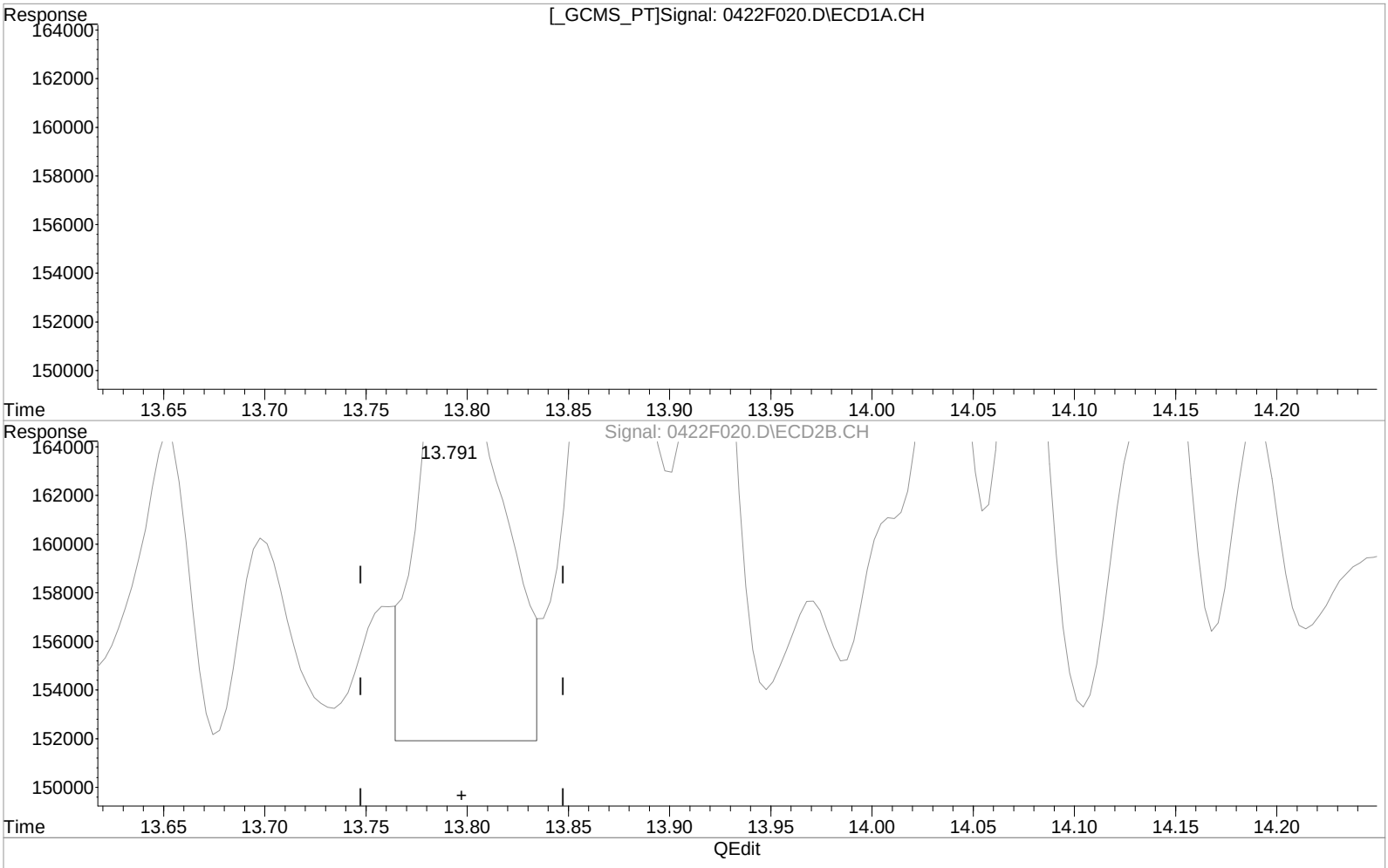
response 63780

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.147min 0.421 ug/L m

response 5061

Manual Integration:

After

Shoulder

04/23/20

(22) 4,4'-DDT #2

13.791min 1.124 ug/L m

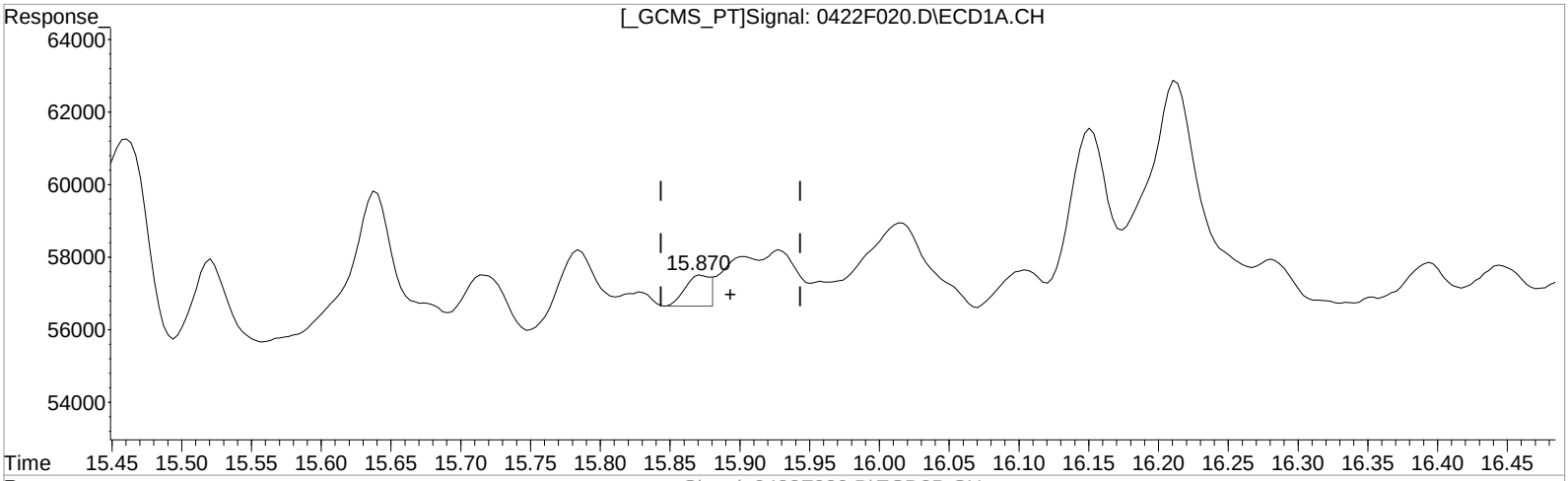
response 54961

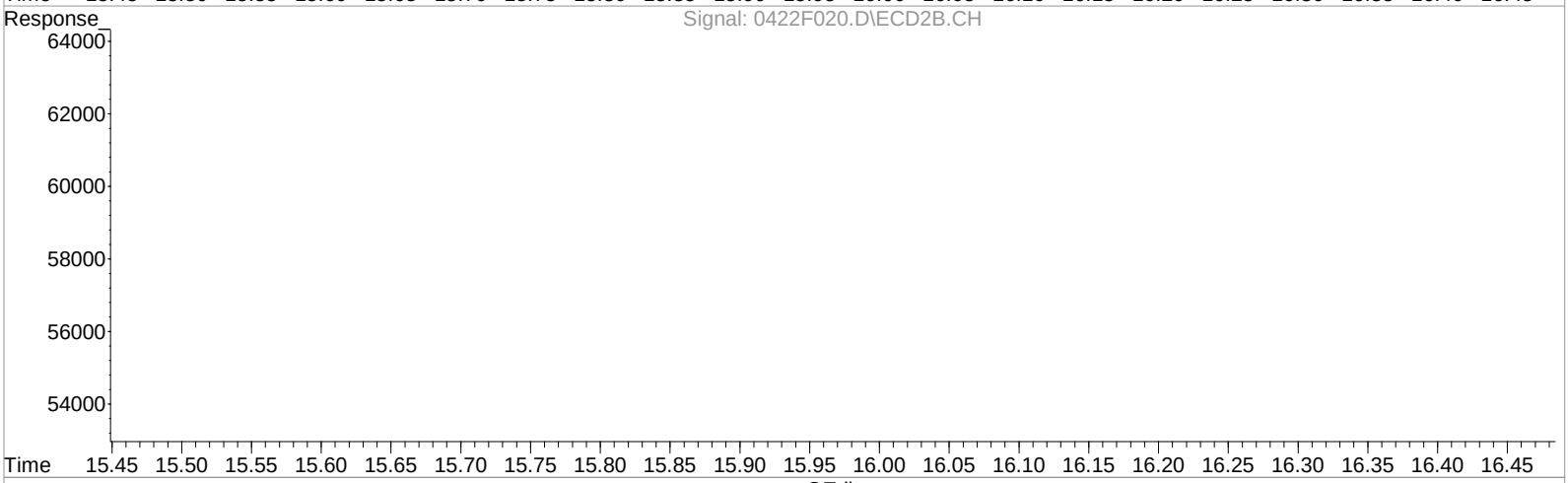
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.870min 0.157 ug/L

response 1146

Manual Integration:

Before

04/23/20

(24) Methoxychlor #2

14.884min 0.819 ug/L

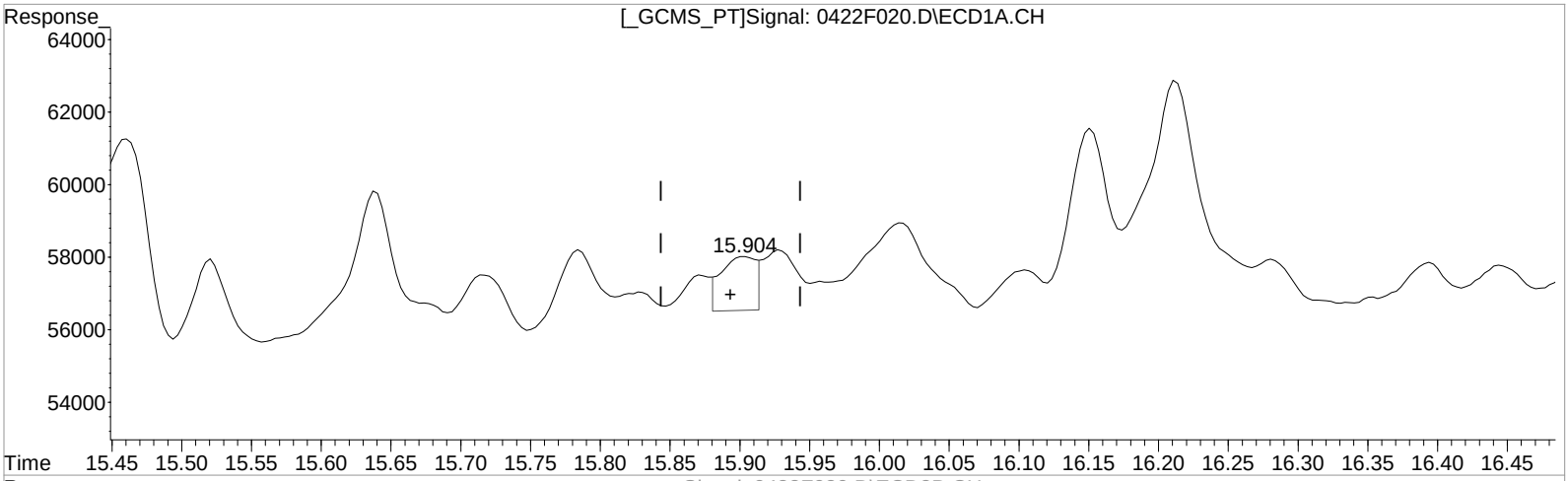
response 22231

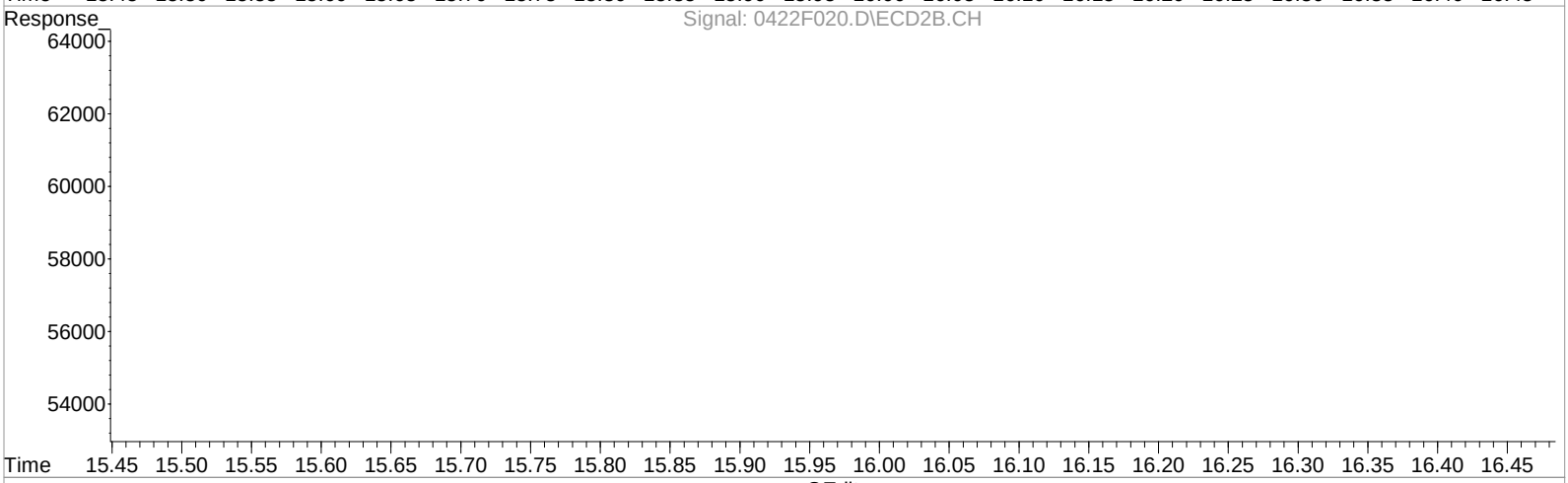
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.904min 0.362 ug/L m

response 2641

Manual Integration:

After

WRT

04/23/20

(24) Methoxychlor #2

14.884min 0.819 ug/L

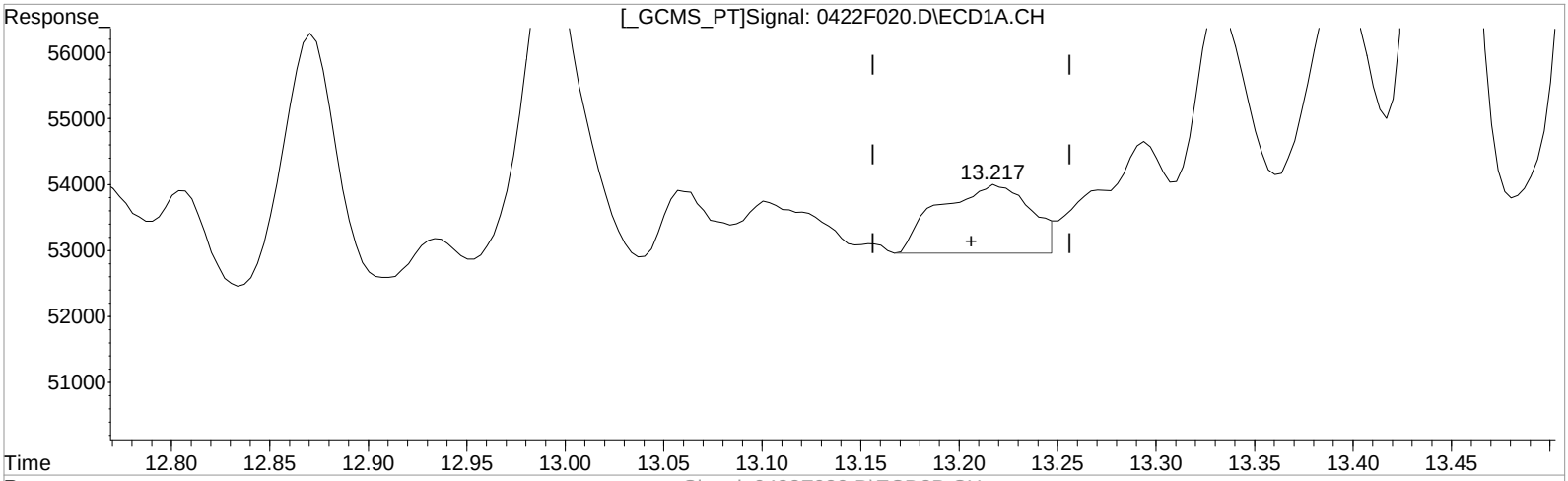
response 22231

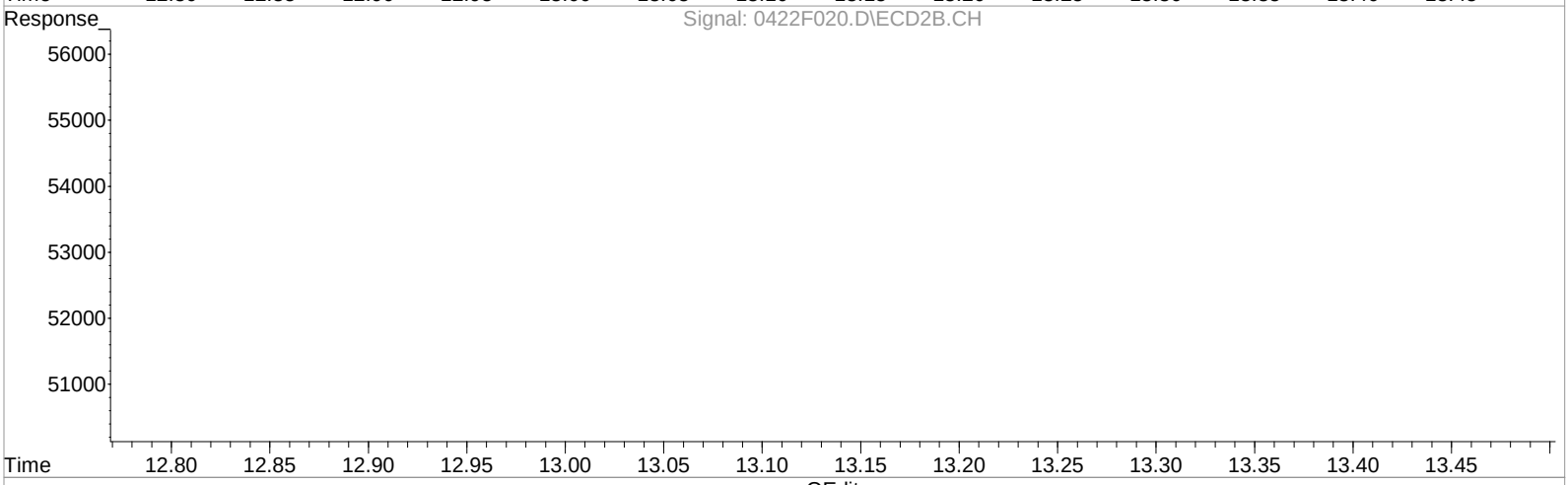
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.217min 0.326 ug/L

response 3372

Manual Integration:

Before

04/23/20

(25) 2,4'-DDE #2

12.011min 1.465 ug/L

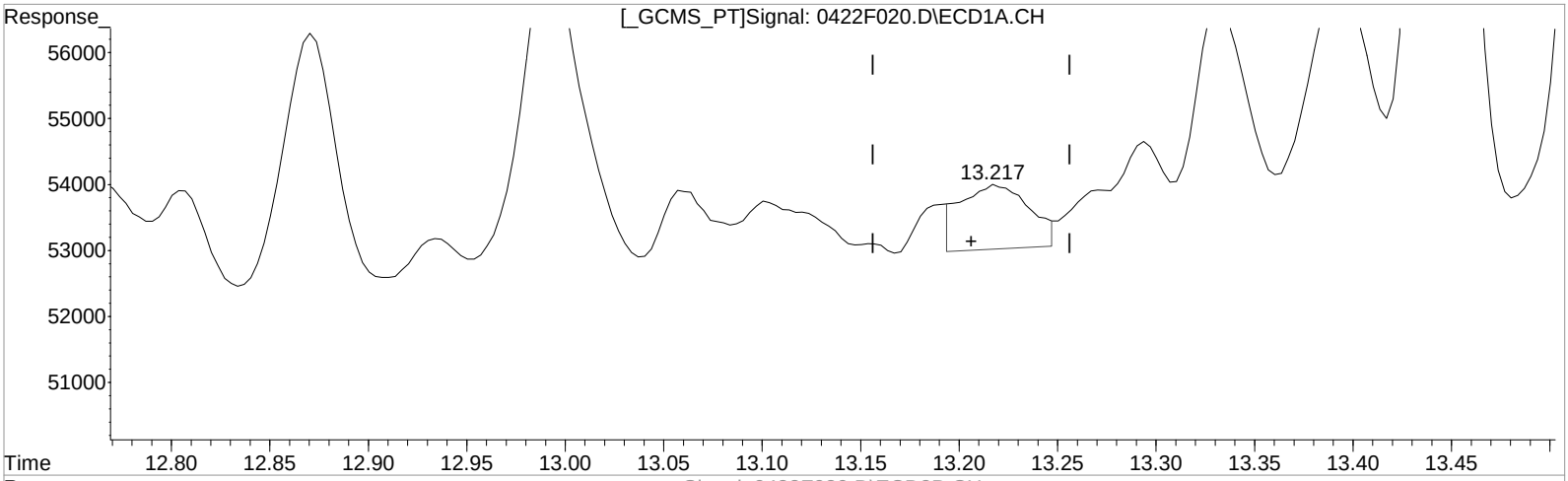
response 64841

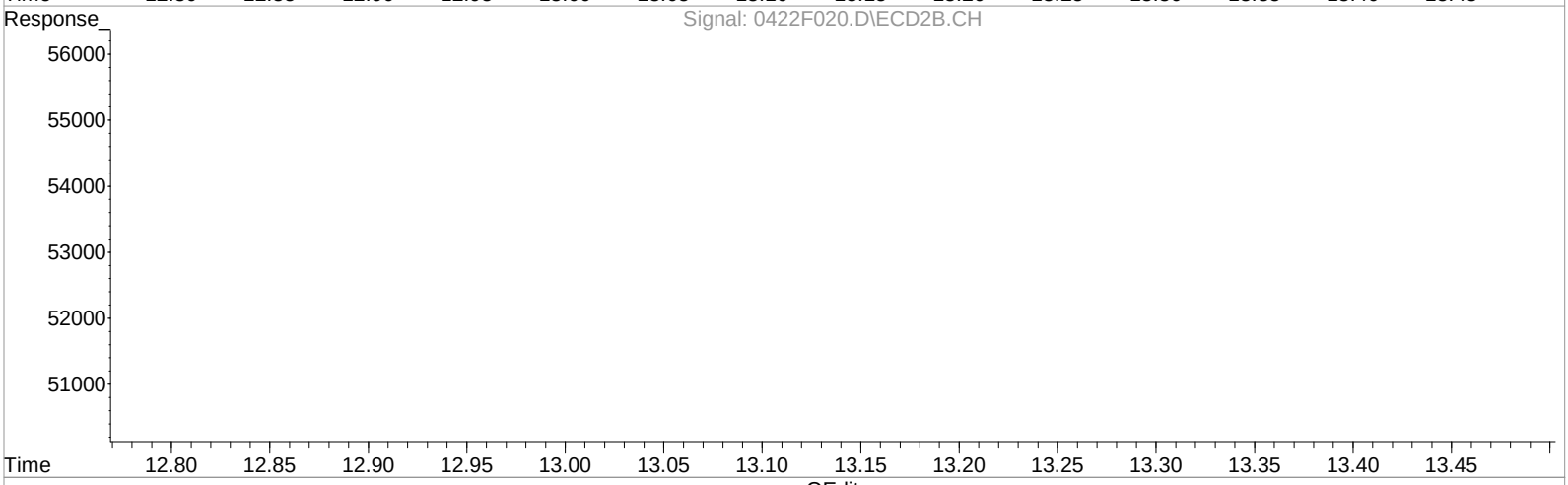
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.217min 0.229 ug/L m

response 2366

Manual Integration:

After

Shoulder

04/23/20

(25) 2,4'-DDE #2

12.011min 1.465 ug/L

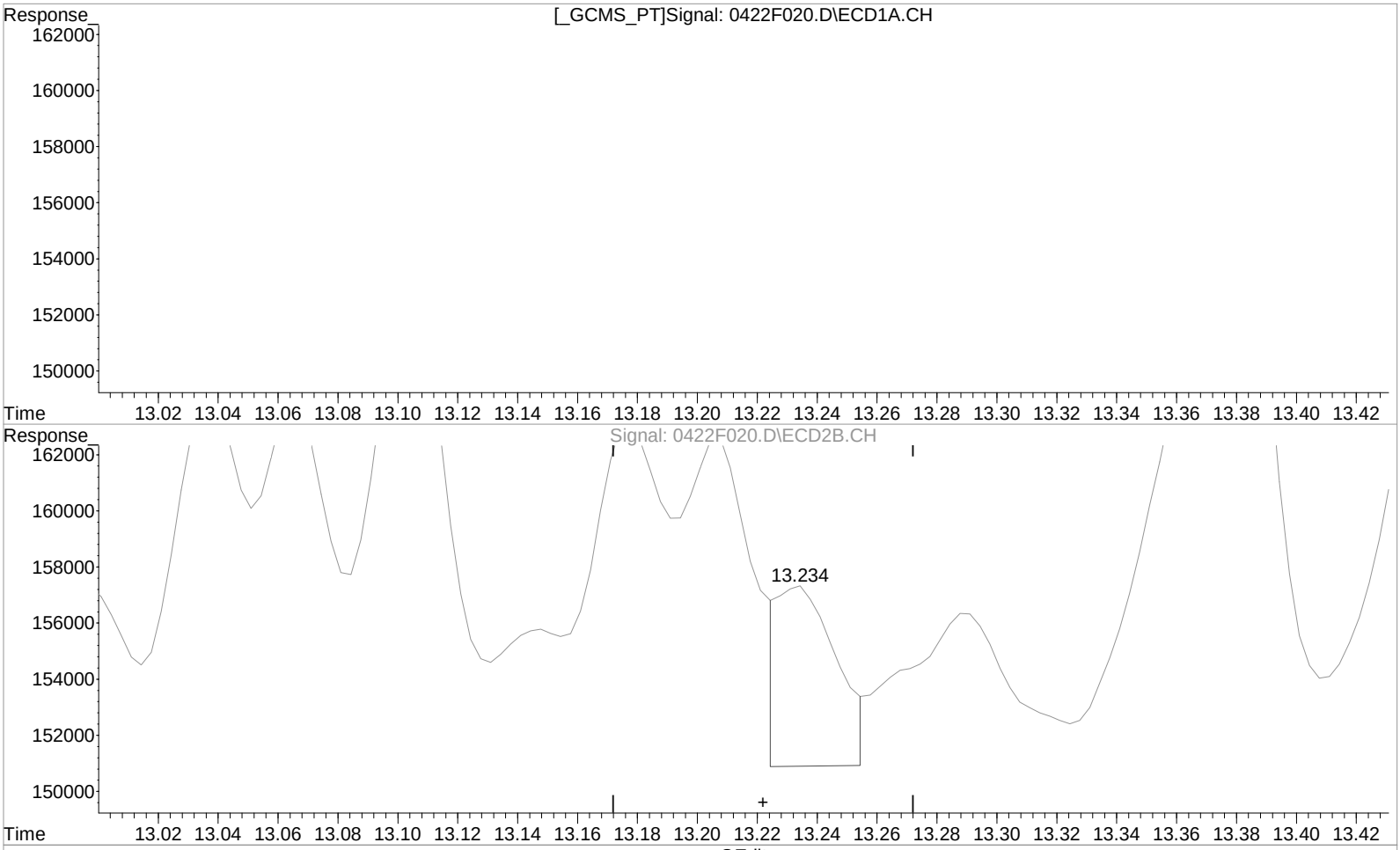
response 64841

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.434min 1.112 ug/L

response 11550

Manual Integration:

Before

04/23/20

(27) 2,4'-DDT #2

13.234min 0.208 ug/L

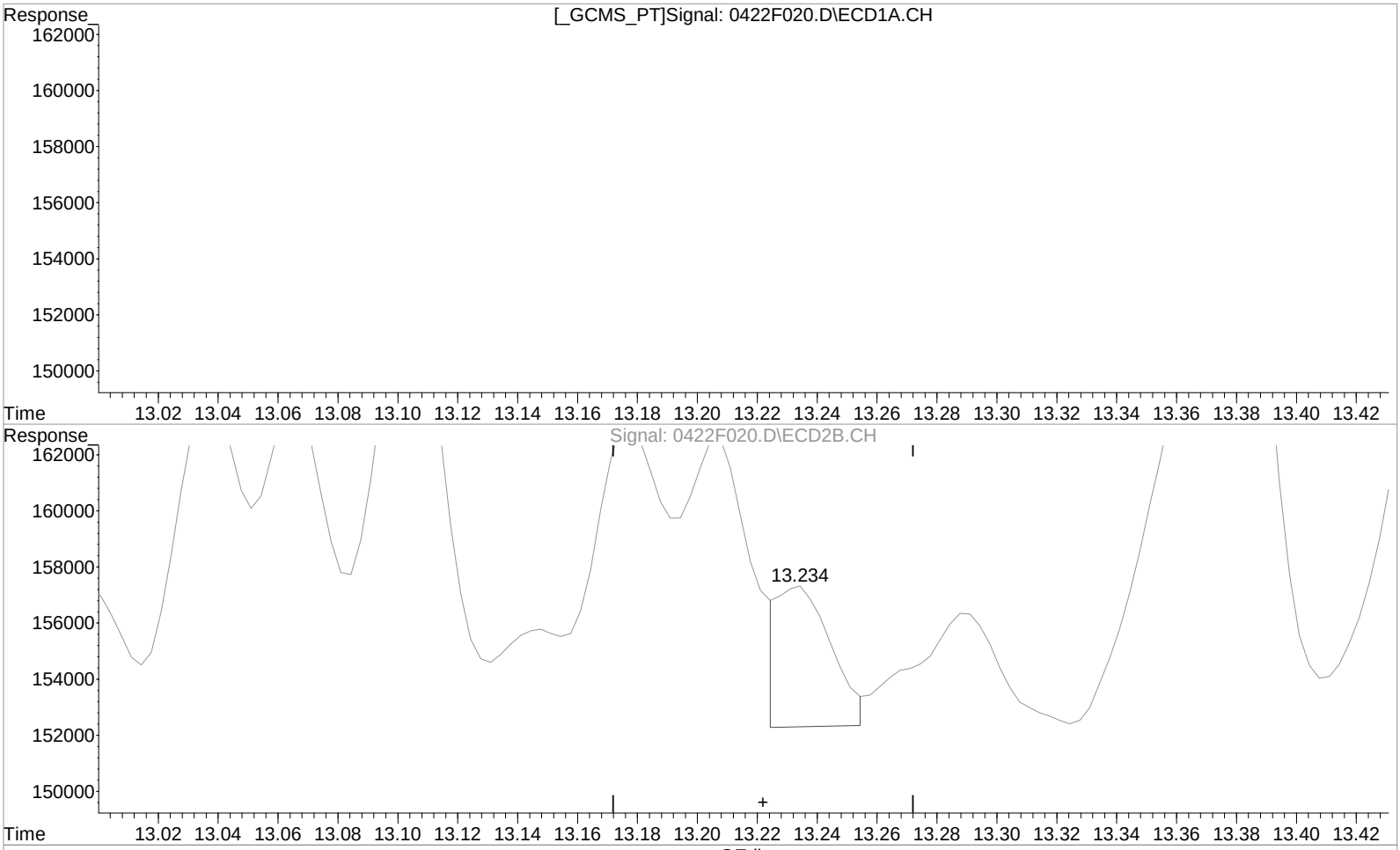
response 8653

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.434min 1.112 ug/L

response 11550

Manual Integration:

After

Baseline correction

04/23/20

(27) 2,4'-DDT #2

13.234min 0.147 ug/L m

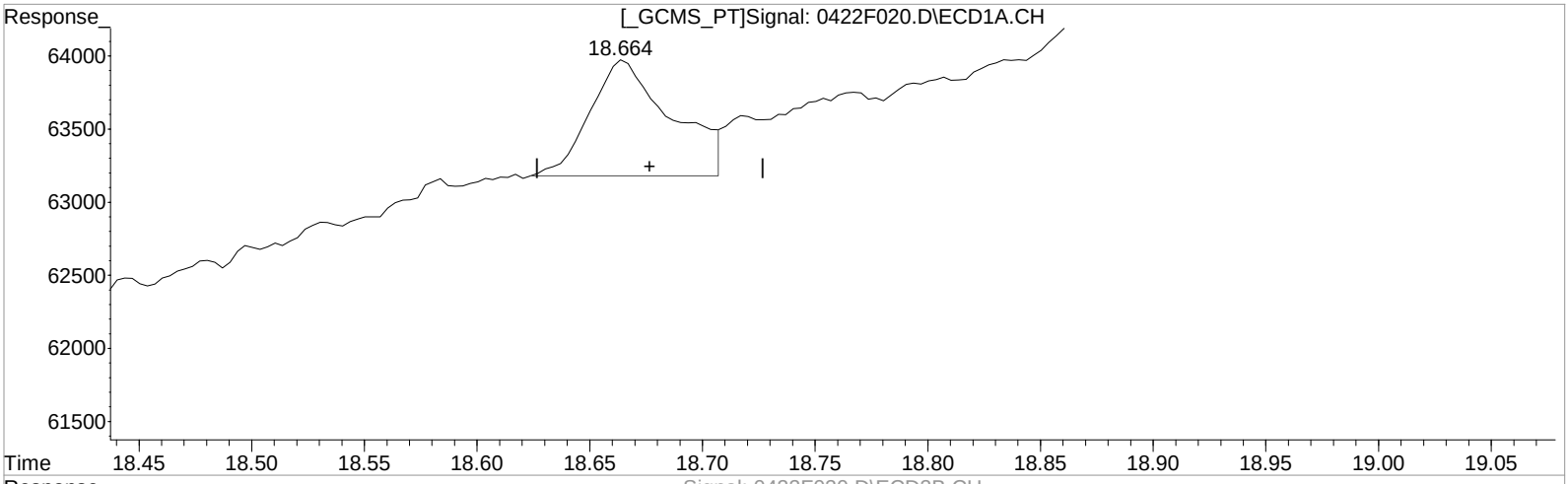
response 6119

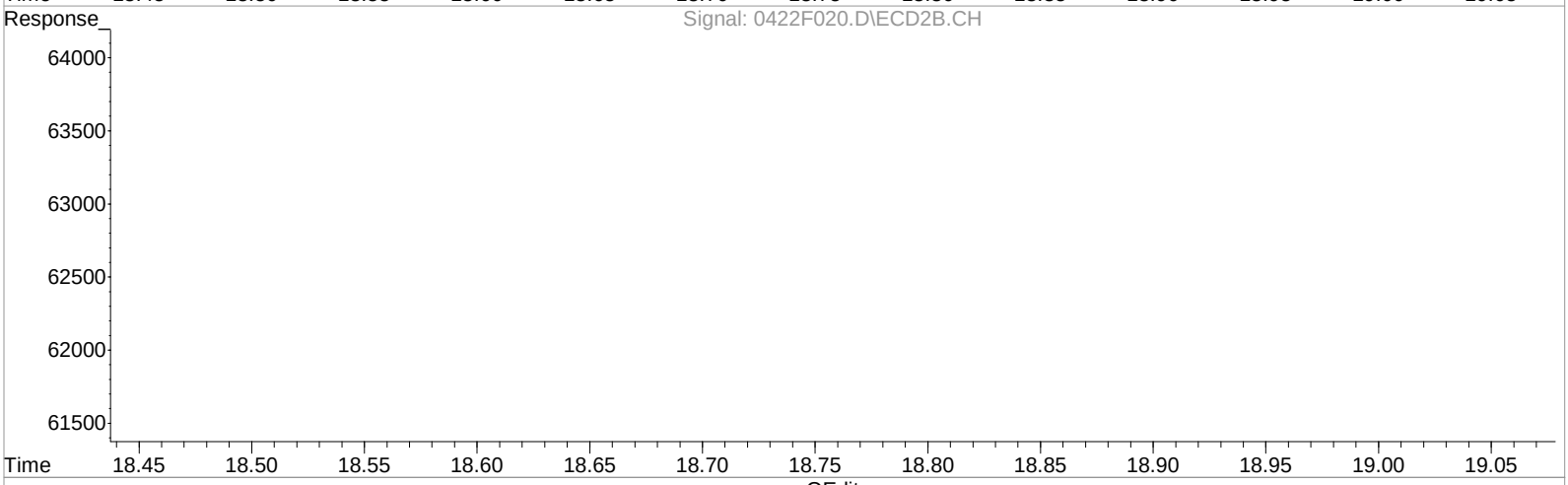
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.664min 0.117 ug/L

response 2002

Manual Integration:

Before

04/23/20

(28) Decachlorobiphenyl #2 (s)

17.054min 0.072 ug/L

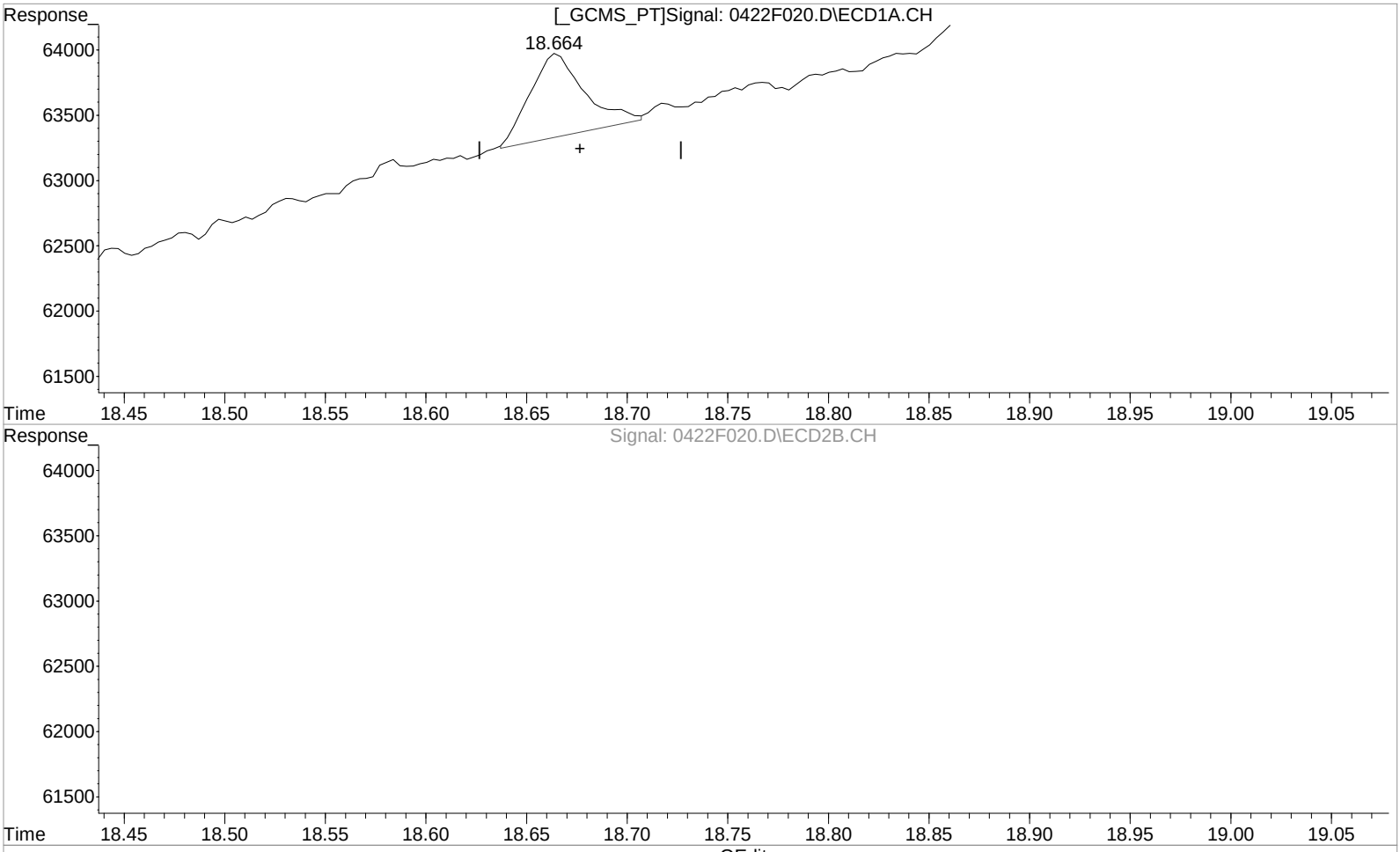
response 5541

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(28) Decachlorobiphenyl (s)

18.664min 0.072 ug/L m

response 1221

Manual Integration:

After

Baseline correction

04/23/20

(28) Decachlorobiphenyl #2 (s)

17.054min 0.072 ug/L

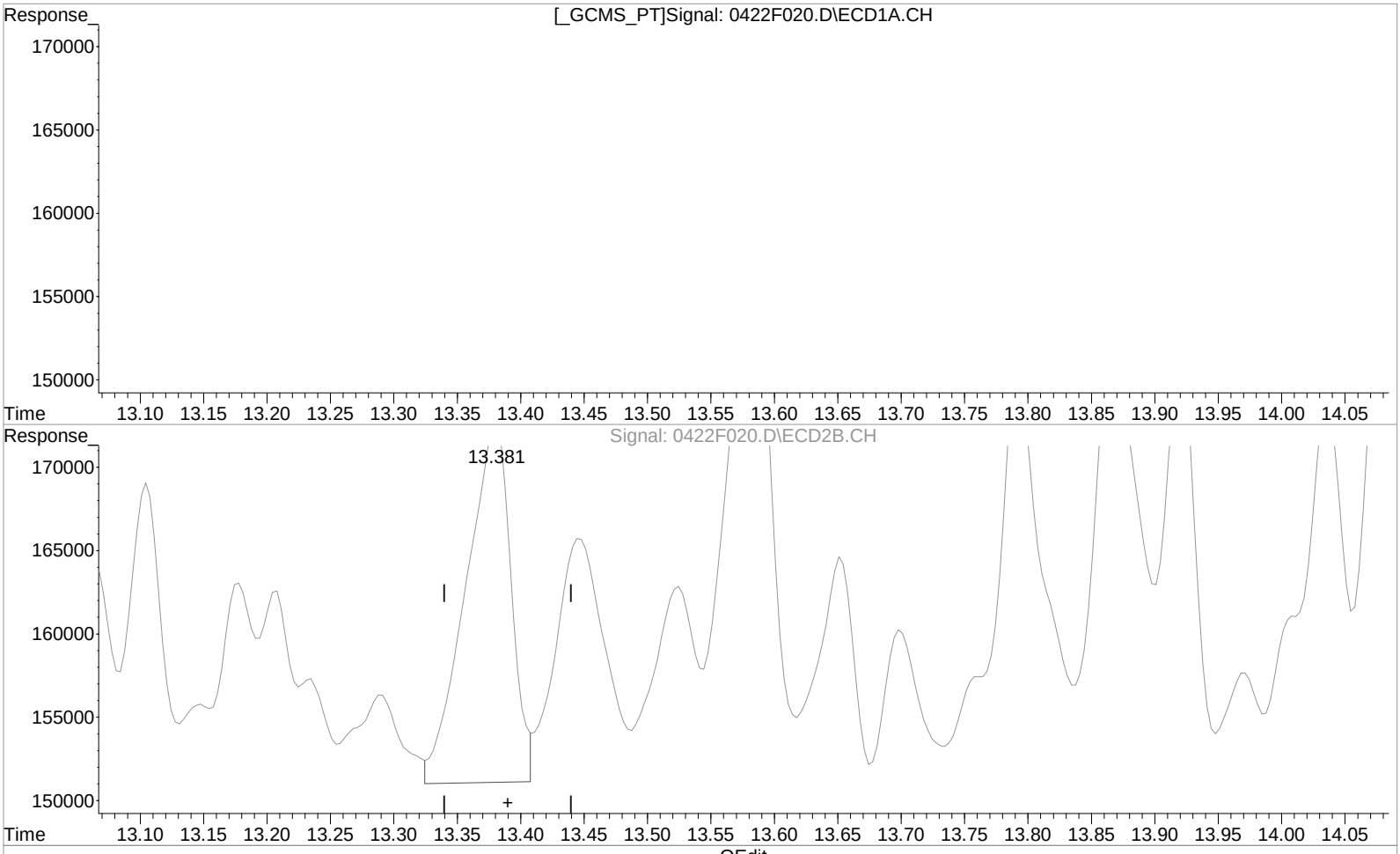
response 5541

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.737min 40.229 ug/L

response 6337

Manual Integration:

Before

04/23/20

(30) Toxaphene #2

13.381min 50.233 ug/L

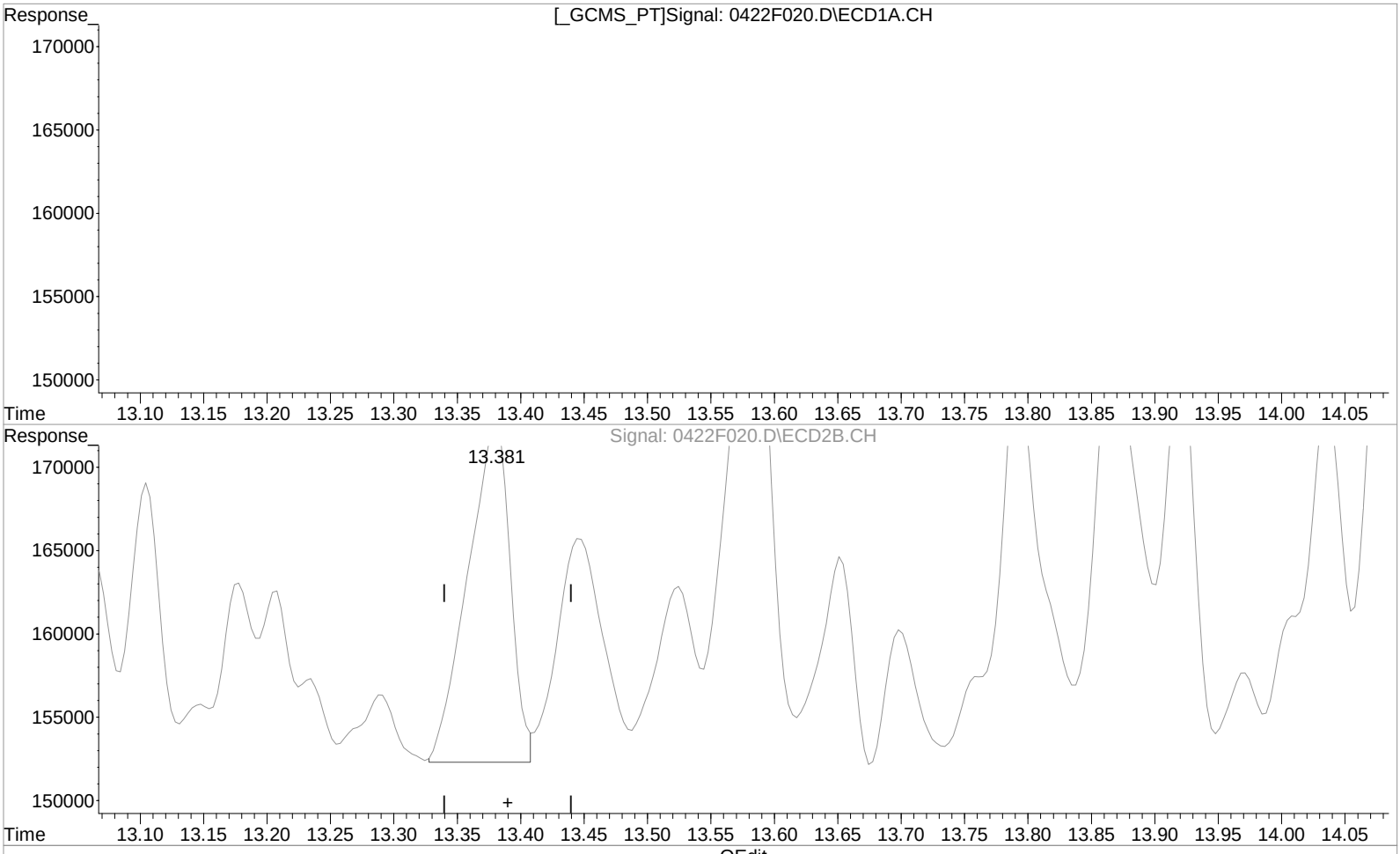
response 53498

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.737min 40.229 ug/L

response 6337

Manual Integration:

After

Baseline correction

04/23/20

(30) Toxaphene #2

13.381min 44.473 ug/L m

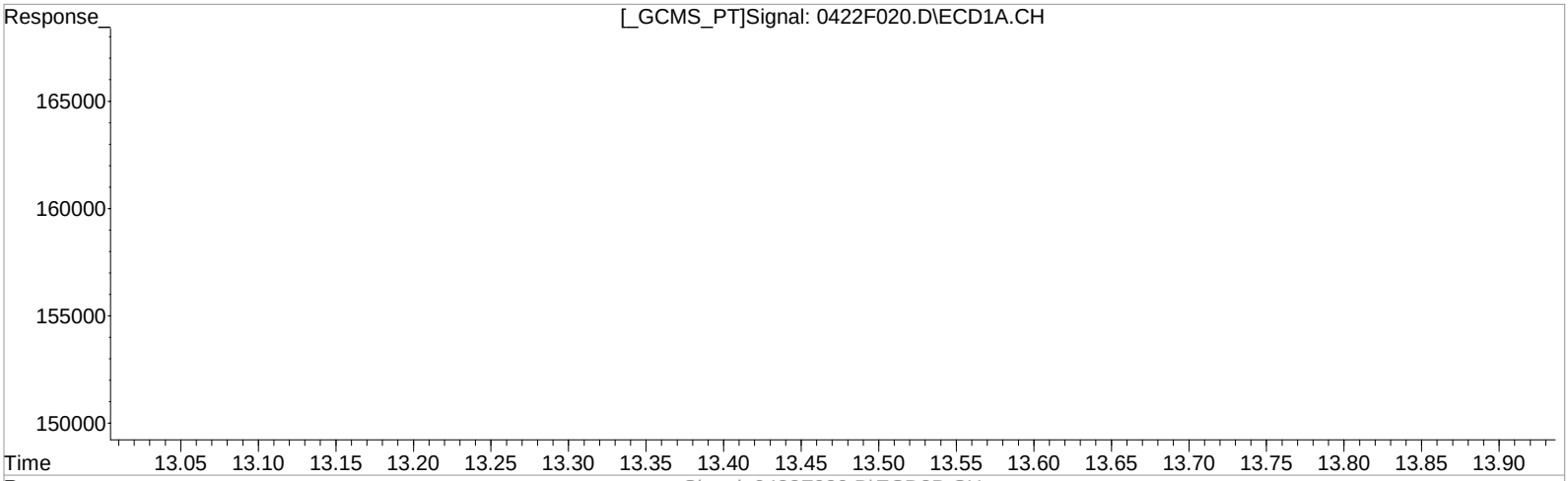
response 47364

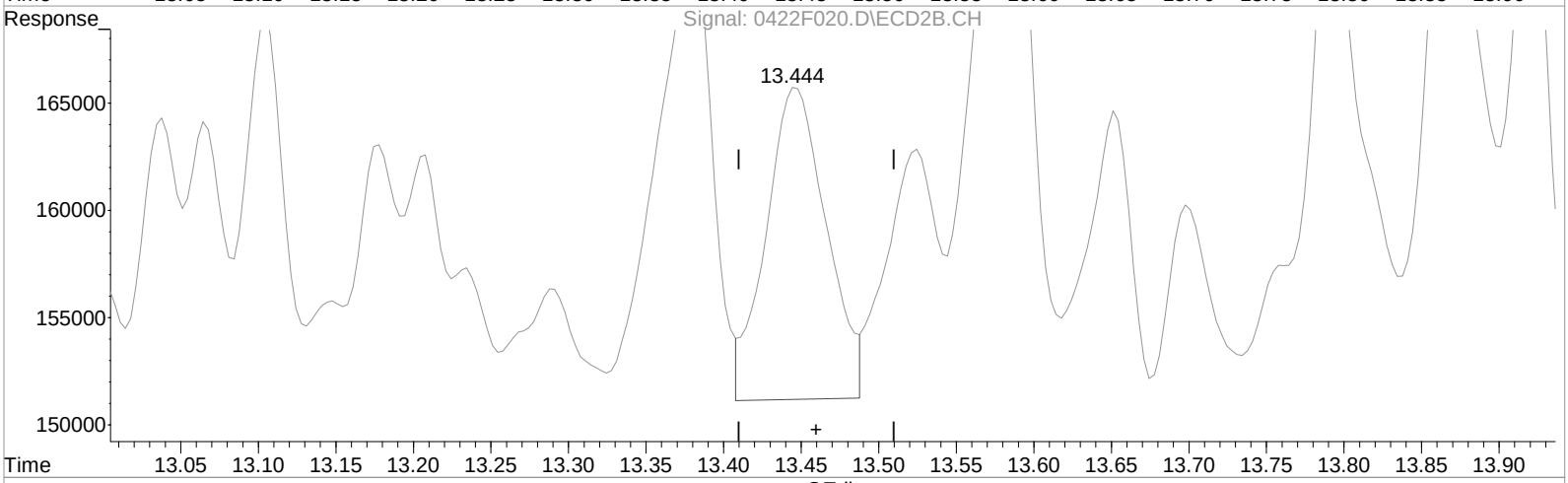
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.794min 58.435 ug/L

response 8326

Manual Integration:

Before

04/23/20

(31) Toxaphene {2} #2

13.444min 48.083 ug/L

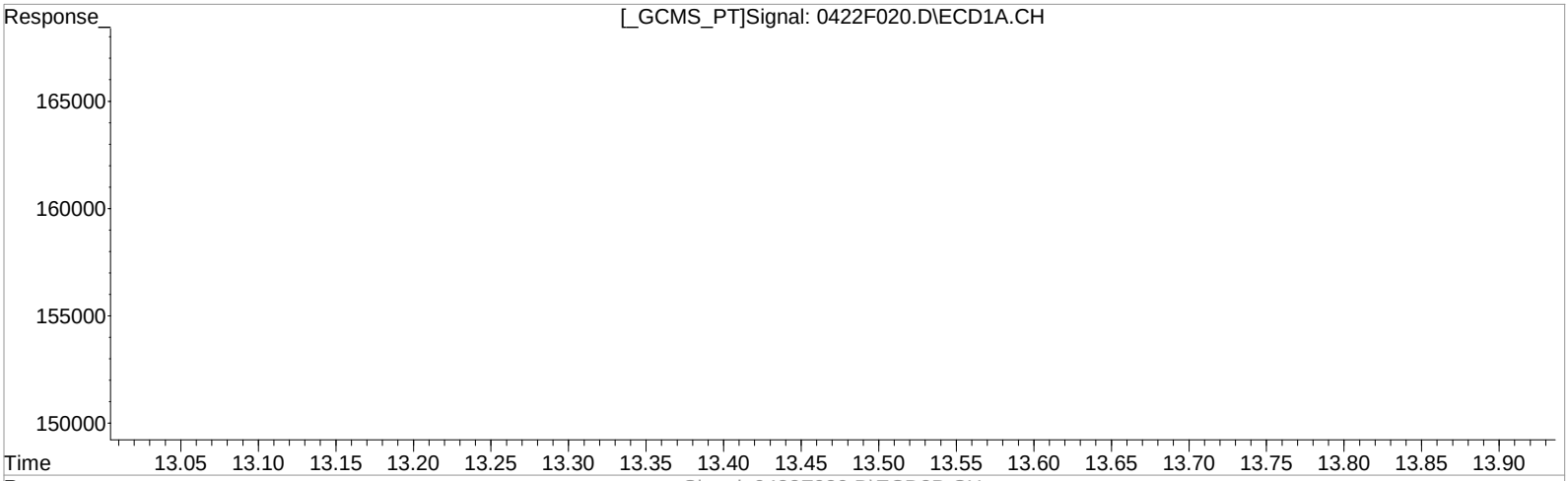
response 39398

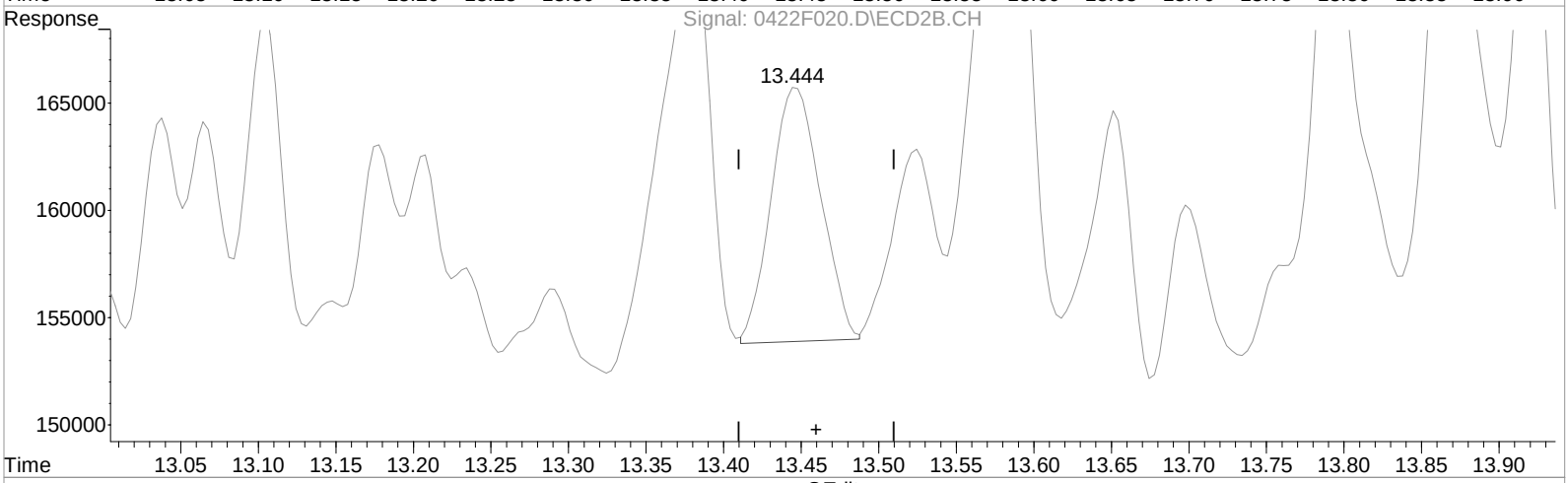
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.794min 58.435 ug/L

response 8326

Manual Integration:

After

Baseline correction

04/23/20

(31) Toxaphene {2} #2

13.444min 32.199 ug/L m

response 26383

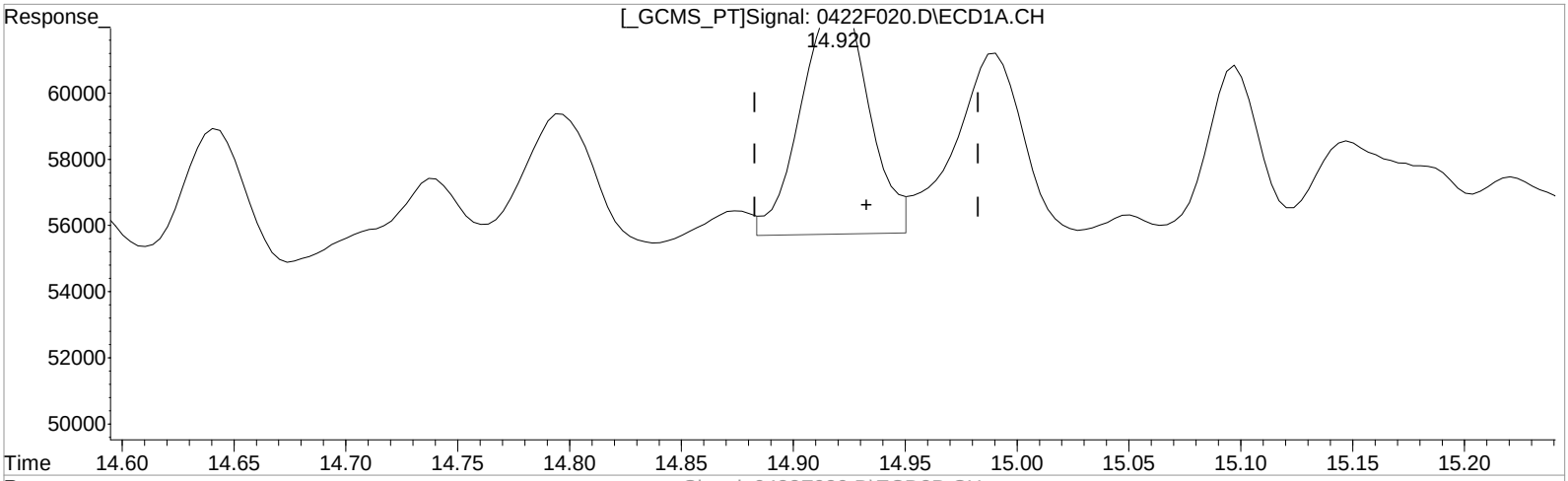
(+) = Expected Retention Time

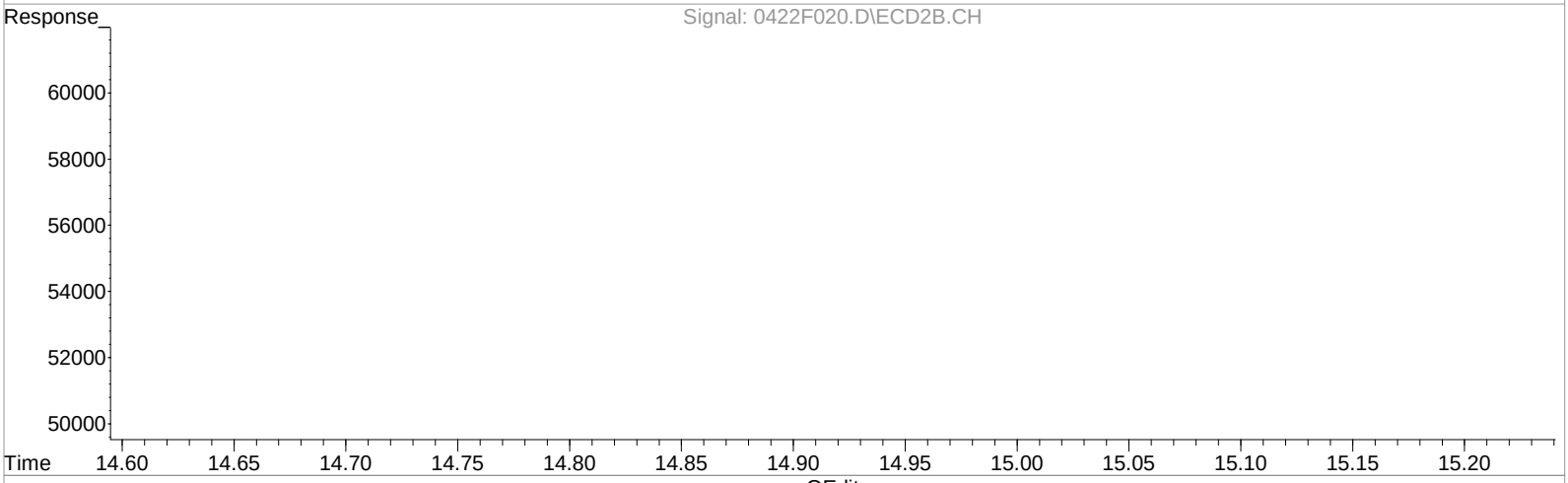
1st 04/23/20

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.920min 52.291 ug/L

response 14846

Manual Integration:

Before

04/23/20

(32) Toxaphene {3} #2

13.584min 71.706 ug/L

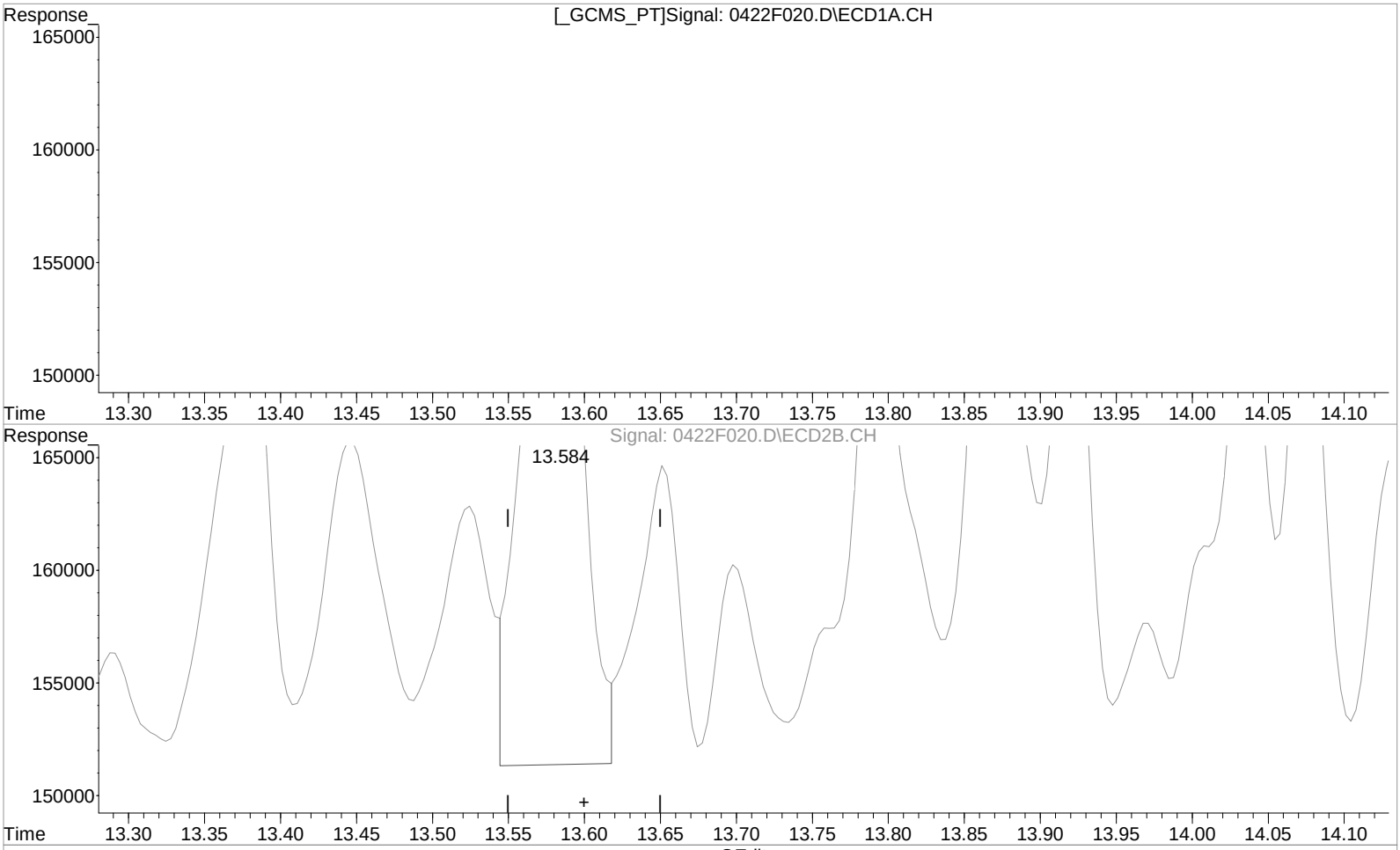
response 77324

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.920min 45.662 ug/L m

response 12964

Manual Integration:

Before

04/23/20

(32) Toxaphene {3} #2

13.584min 71.706 ug/L

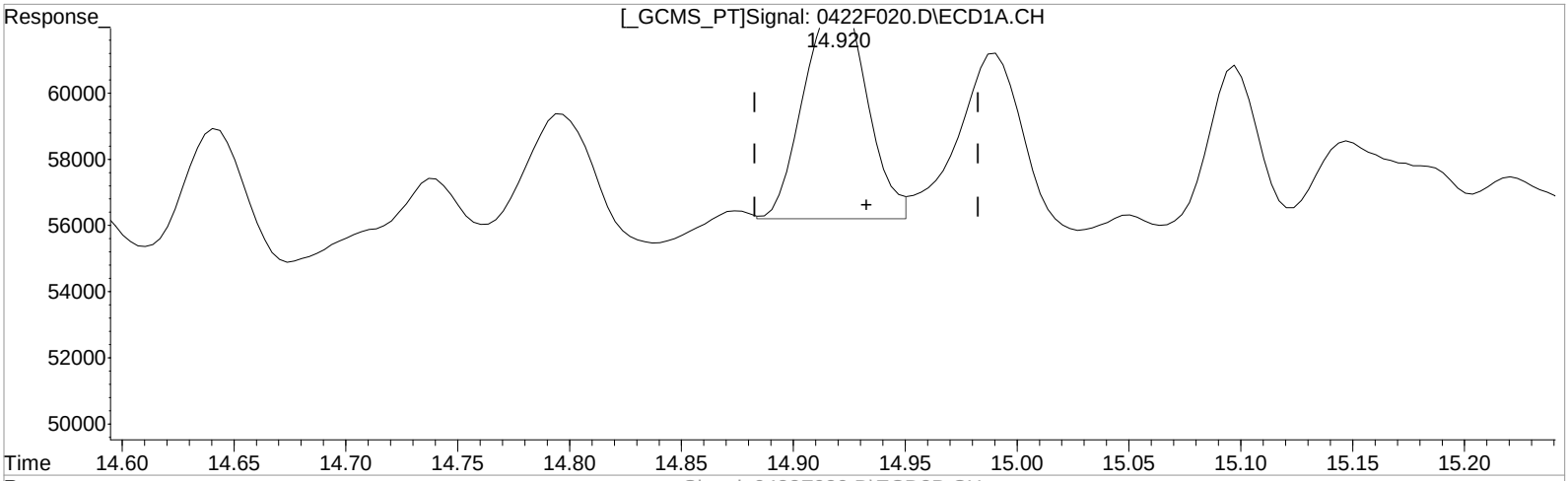
response 77324

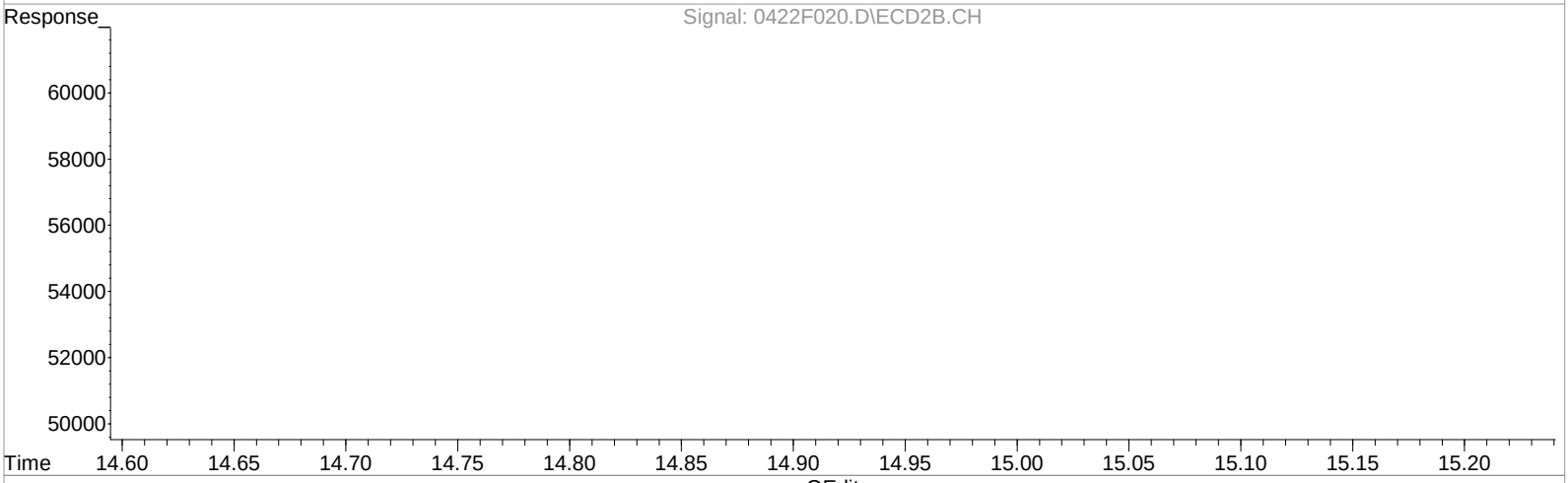
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.920min 45.662 ug/L m

response 12964

Manual Integration:

After

Baseline correction

04/23/20

(32) Toxaphene {3} #2

13.584min 71.706 ug/L

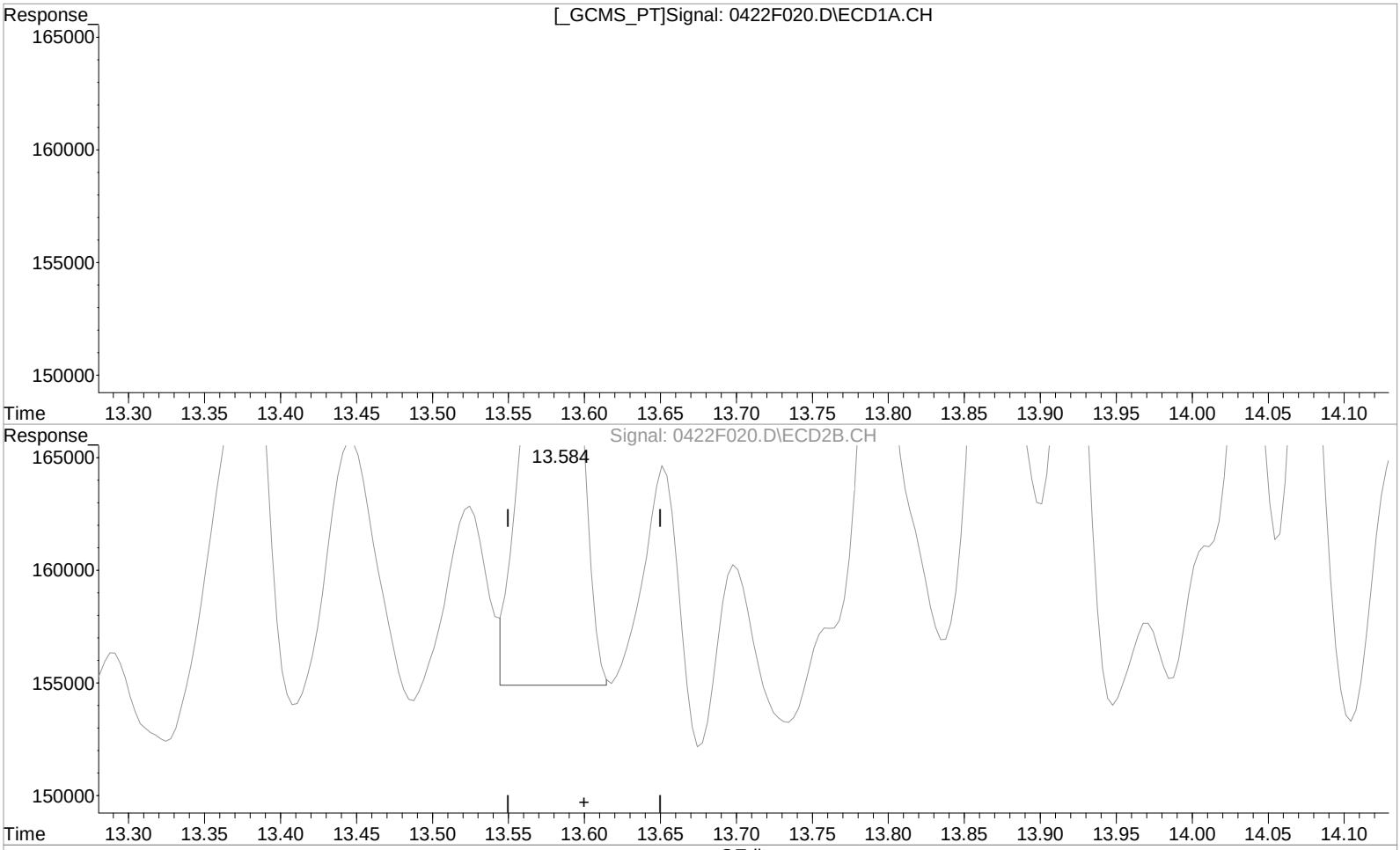
response 77324

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.920min 45.662 ug/L m

response 12964

Manual Integration:

After

Baseline correction

04/23/20

(32) Toxaphene {3} #2

13.584min 55.948 ug/L m

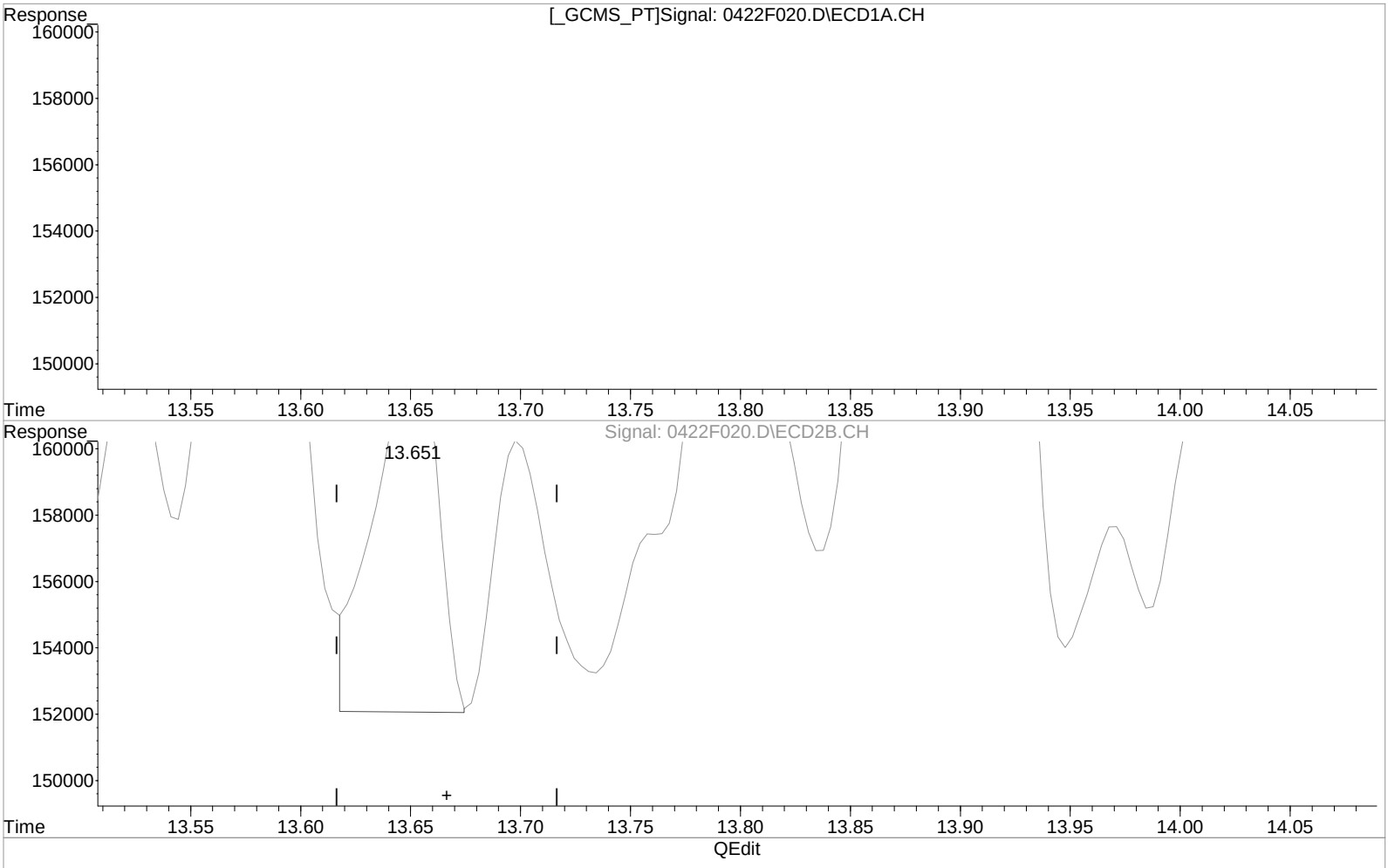
response 61823

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.990min 58.553 ug/L

response 11180

Manual Integration:

After

Accidentally deleted, reintegrated

04/23/20

(33) Toxaphene {4} #2

13.651min 57.721 ug/L m

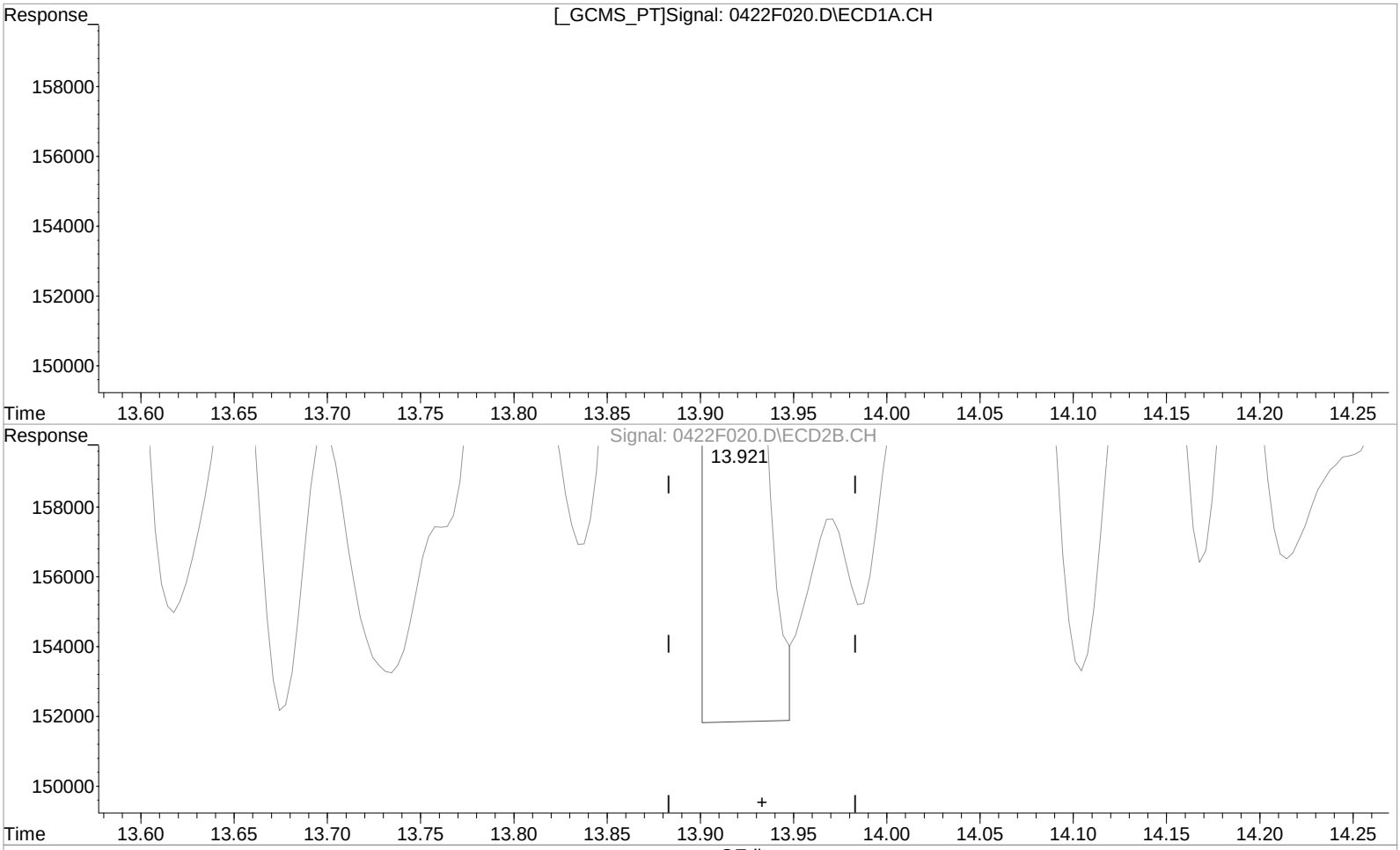
response 22618

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.334min 52.495 ug/L

response 9551

Manual Integration:

Before

04/23/20

(34) Toxaphene {5} #2

13.921min 70.943 ug/L

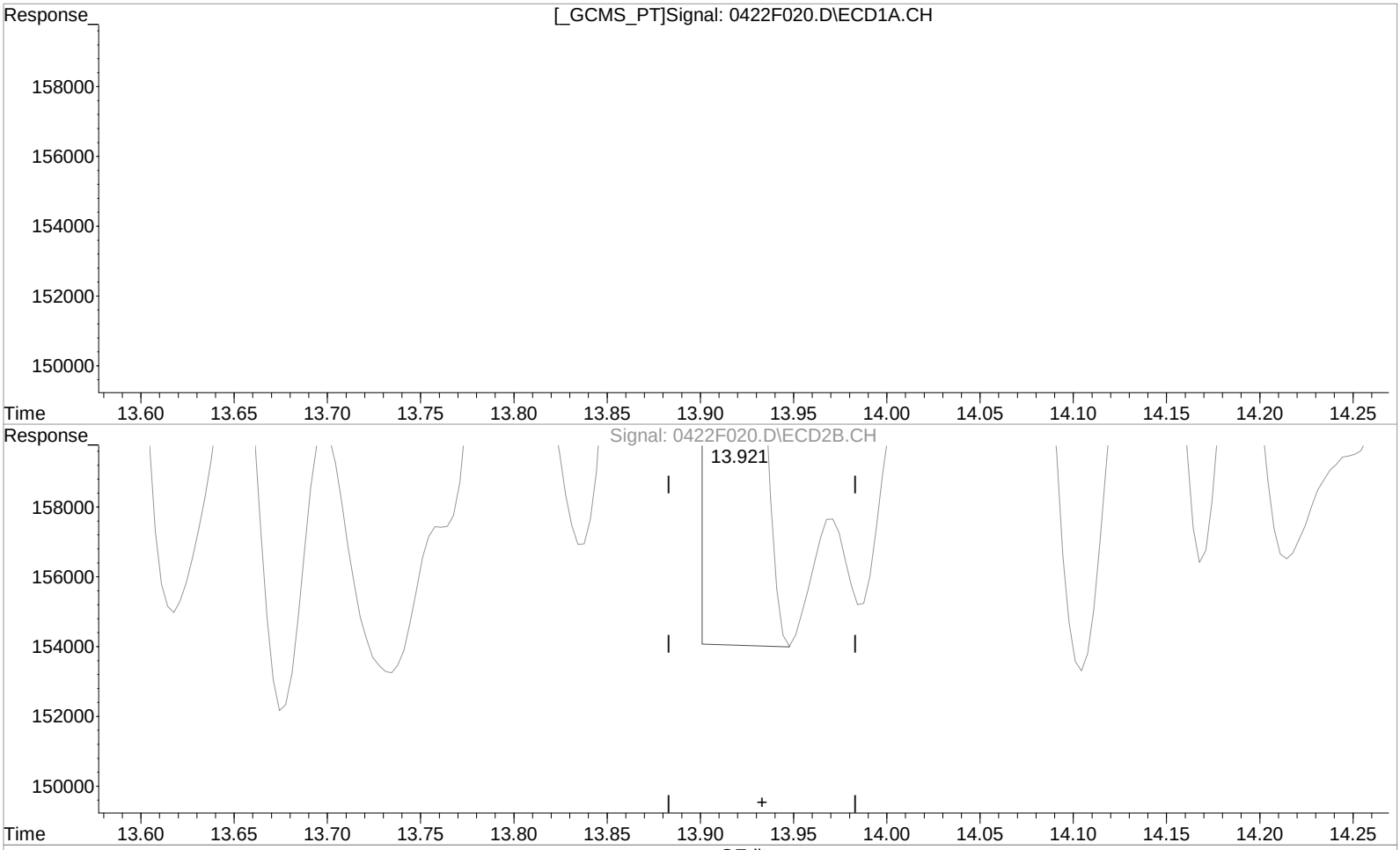
response 40698

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.334min 52.495 ug/L

response 9551

Manual Integration:

After

Baseline correction

04/23/20

(34) Toxaphene {5} #2

13.921min 60.310 ug/L m

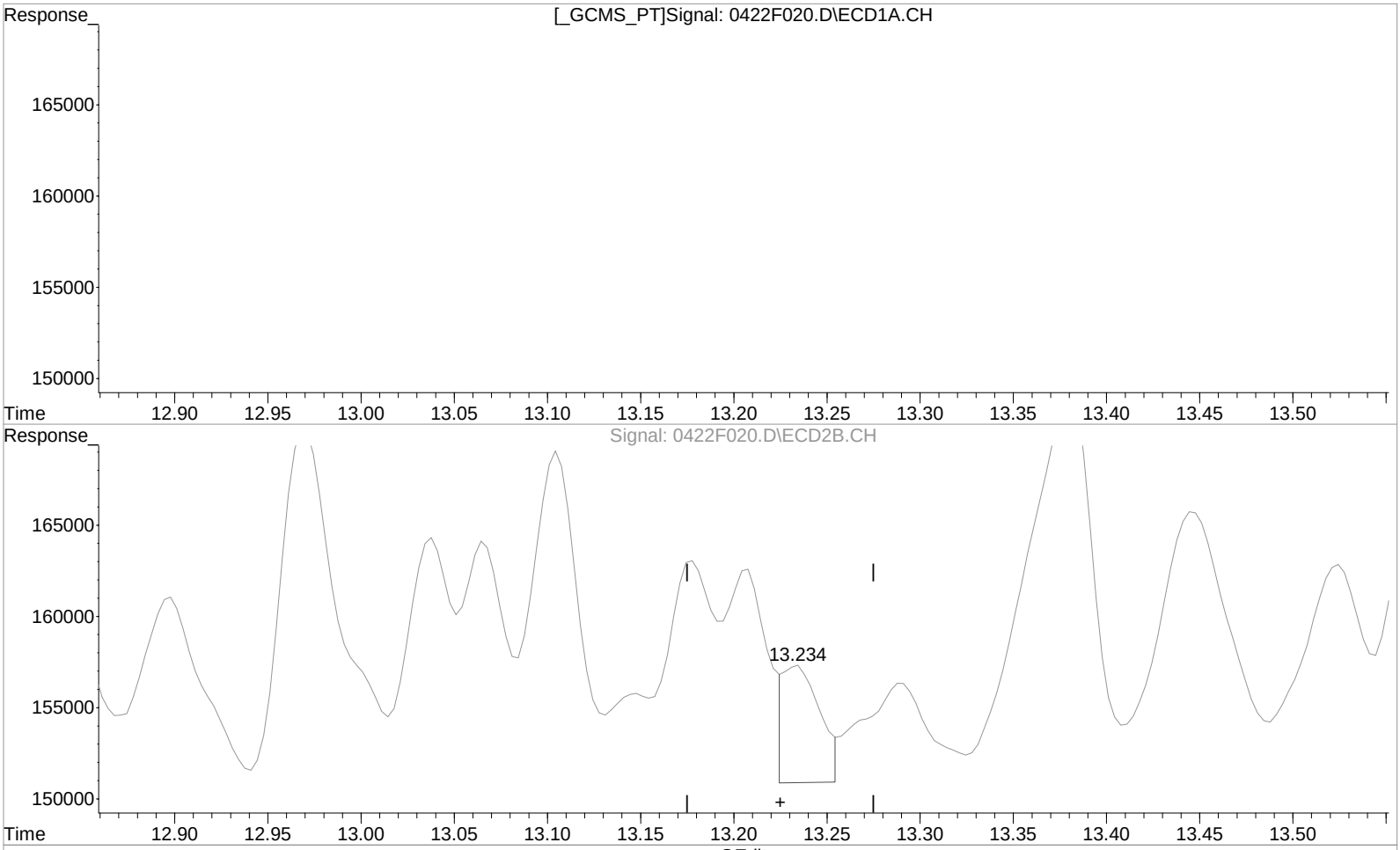
response 34598

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(46) cis-Nonachlor

14.640min 0.469 ug/L

response 7536

Manual Integration:

Before

04/23/20

(46) cis-Nonachlor #2

13.234min 0.123 ug/L

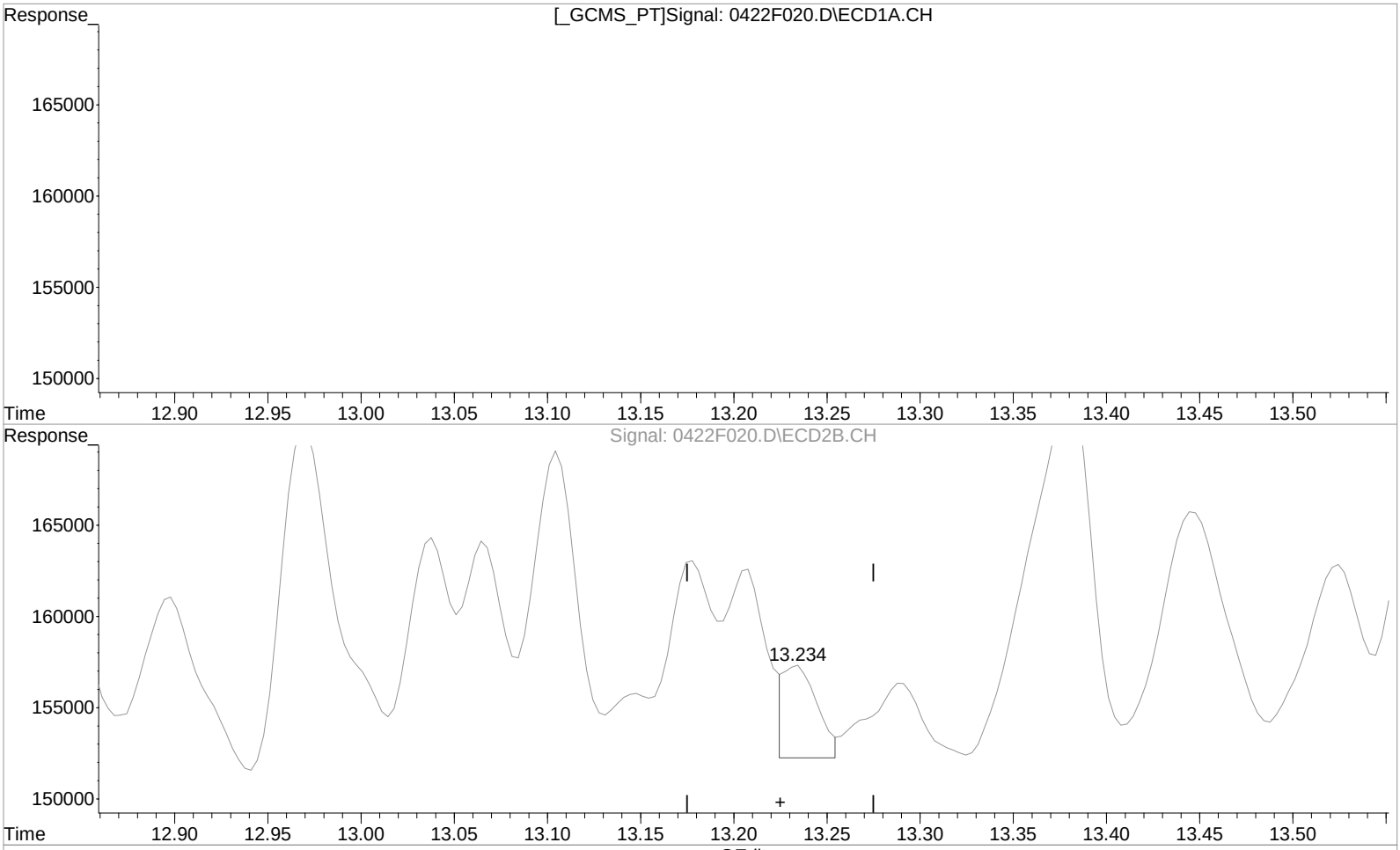
response 8653

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F020.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:24 pm Operator: LM
Sample : K2002652-002 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(46) cis-Nonachlor

14.640min 0.469 ug/L

response 7536

Manual Integration:

After

Baseline correction

04/23/20

(46) cis-Nonachlor #2

13.234min 0.088 ug/L m

response 6240

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F021.D\
Lab ID: K2002652-003.R01
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 05:29:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level		X
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Above Highest ICAL Level - DB XLB	gamma-BHC (Lindane)	21.792		10	dil
	Dieldrin	110.257		10	dil
Above Highest ICAL Level - DB-35MS	gamma-BHC (Lindane)	23.555		10	dil
	Dieldrin	143.109		10	dil
Analyte Coelutions - DB XLB	cis-Chlordane	13.53			see Quant Report
	trans-Chlordane	13.45			
	Chlordane {2}	11.70			
	Chlordane {4}	13.45			
	Chlordane {5}	13.53			
	Chlordane {6}	13.61			
	4,4'-DDD	14.65			
	Endosulfan II	14.81			
	Endrin Aldehyde	15.00			
	Heptachlor	11.70			
	cis-Nonachlor	14.65			
	trans-Nonachlor	13.61			
	Toxaphene {2}	14.81			
	Toxaphene {4}	15.00			
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.12			see Quant Report

Primary Review: _____

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	trans-Chlordane	11.97			see Quant Report
	Chlordane {4}	11.97			
	Chlordane {5}	12.02			
	Chlordane {6}	12.12			
	4,4'-DDD	13.39			
	2,4'-DDE	12.02			
	2,4'-DDT	13.22			
	Endrin Aldehyde	13.93			
	cis-Nonachlor	13.22			
	trans-Nonachlor	12.02			
	Toxaphene {1}	13.39			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F021.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 05:29:00	**Vial:**	6
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-003.R01	**Raw Units:**	ug/L

Bottle ID:	K2002652-003.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1159146	4978718	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1159146	4978718	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1159146	4978718	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria		Rpt?
Decachlorobiphenyl	18.67	17.07 +0.01	32138	100721	1.558	1.255	31	25	25	14 - 160		Y
Tetrachloro-m-xylene	8.98	7.27	113408	246320	6.748	3.993	135	80	80	30 - 148	P	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.21	10.52	45829	92130	2.466	1.174	12	5.9	**5.9**	P	Y
alpha-BHC	9.82	8.50	14947	47285	0.773	0.599	3.9	3.0	**3.0**		Y
beta-BHC	11.08	9.78	27712	164699	2.681	4.401	13	22	**13**	P	Y
gamma-BHC (Lindane)	10.49	9.24	407141	1809036	21.792	23.555	110E	120E dil	**110** E		Y
Chlordane					153.2945	228.615	770	1100	**770**		Y
Chlordane {1}	11.27	9.57	136591	453268	172.856	166.780	860	830			
Chlordane {2}	11.70 +0.01 c	11.66	39365	494970	39.328	267.054	200	1300		i	
Chlordane {3}	12.26 +0.01	11.81	113075	284723	157.409	231.402	790	1200		P	
Chlordane {4}	13.45 c	11.97 c	455780	1787303	209.016	239.838	1000	1200			
Chlordane {5}	13.53 c	12.02 c	335648	1146280	186.092	251.219	930	1300			
Chlordane {6}	13.61 c	12.12 c	205317	1423052	155.066	215.397	780	1100			
Dieldrin	14.00	12.64 +0.01	2108755	10465740	110.257	143.109	550E	720E dil	**550** E		Y
Heptachlor	11.70 +0.01 c	9.93	39365	288152	1.961	3.694	9.8	18	**9.8**	P	Y
Heptachlor Epoxide	12.95 +0.02	11.61 +0.01	17201	83569	0.880	1.086	4.4	5.4	**4.4**		Y
Hexachlorobenzene	9.99 +0.01	8.28	16559	6476	0.723	0.082	3.6Ui	0.41Ui	0.42 Ui		Y
Toxaphene					1666666667	1141.733	4000	5700	**4000**		Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F021.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 05:29:00	**Vial:**	6
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-003.R01	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.75		13.39	c	108379	802431	569.046	725.327	2800	3600		
Toxaphene {2}	14.81	c	13.46		155139	447868	900.543	526.186	4500	2600		P
Toxaphene {3}	14.93		13.59	-0.01	217794	1107993	634.467	1603.442	3200	8000		P
Toxaphene {4}	15.00	c	13.66	-0.01	226950	347535	983.067	1154.882	4900	5800		
Toxaphene {5}	15.34	-0.01	13.93	c	157895	604132	717.771	1013.779	3600	5100		
Toxaphene {6}	15.53	-0.01	15.43		69137	589707	992.236	1826.782	5000	9100		P

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:23:32 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.199	5.482	1159146	4978718	100.000	100.000
29)	1-Bromo-2...	6.199	5.482	1159146	4978718	100.000	100.000
36)	1-Bromo-2...	6.199	5.482	1159146	4978718	100.000	100.000
43)	1-Bromo-2...	6.199	5.482	1159146	4978718	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.979	7.266	113408	246320	6.748	3.993 #
28) s	Decachlor...	18.669	17.066	32138	100721	1.558	1.255
	Target Compounds						
3)	alpha-BHC	9.819	8.499	14947	47285	0.773	0.599
4)	Hexachlor...	9.992	8.276	16559	6476	0.723	0.082 #
5)	beta-BHC	11.079	9.779	27712	164699	2.681	4.401 #
6)	gamma-BHC...	10.489	9.242	407141	1809036	21.792	23.555
7)	delta-BHC	11.589	10.302	12571	170265	0.665	2.267 #
8)	Heptachlor	11.695	9.929	39365	288152	1.961	3.694 #
9)	Aldrin	12.209	10.519	45829	92130	2.466	1.174m#
10)	Isodrin	12.752	11.339f	209634	97683	13.149	1.488m#
11)	Heptachlo...	12.945	11.606	17201	83569	0.880	1.086m
12)	gamma-Chl...	13.452	11.972	455780	1960930	23.325	26.363
14)	alpha-Chl...	13.528	12.122	335648	1356916	17.256	18.010m
15)	Dieldrin	14.002	12.636	2108755	10465740	110.257	143.109m#
16)	4,4'-DDE	13.825	12.489	88406	201993	4.940	2.869m#
17)	Endrin	14.368	13.112	177472	502667	10.167	7.222m#
18)	Endosulfa...	14.805	13.532	155139	360386	8.773	5.730m#
19)	4,4'-DDD	14.649	13.389	131326	1021383	9.493	19.381 #
20)	Endrin Al...	14.995	13.929	226950	714710	14.805	13.724
21)	Endosulfa...	15.469	14.246	306648	284893	17.019	4.594 #
22)	4,4'-DDT	15.152	13.799	110317	1291093	7.590	25.411 #
23)	Endrin Ke...	16.155	15.186	175782	802415	9.092	10.816
24)	Methoxychlor	15.909	14.896	49569	436945	5.624	15.493 #
25)	2,4'-DDE	13.198	12.019	23966	1168149	1.917	25.415m#
26)	2,4'-DDD	13.932	0.000	153546	0	13.988	N.D. d#
27)	2,4'-DDT	14.445	13.216	181517	251692	14.451	5.823m#
30)	Toxaphene	14.749	13.389	108379	802431	569.046	725.327m#
31)	Toxaphene...	14.805	13.456	155139	447868	900.543	526.186m#
32)	Toxaphene...	14.925	13.592	217794	1107993	634.467m	1603.442m#
33)	Toxaphene...	14.995	13.659	226950	347535	983.067	1154.882m
34)	Toxaphene...	15.342	13.929	157895	604132	717.771m	1013.779m#
35)	Toxaphene...	15.528	15.429	69137	589707	992.236	1826.782 #
37)	Chlordane	11.269	9.569	136591	453268	172.856	166.780
38)	Chlordane...	11.695	11.662	39365	494970	39.328	267.054m#
39)	Chlordane...	12.255	11.812	113075	284723	157.409	231.402m#
40)	Chlordane...	13.452	11.972	455780	1787303	209.016	239.838m
41)	Chlordane...	13.528	12.019	335648	1146280	186.092	251.219m#
42)	Chlordane...	13.612	12.122	205317	1423052	155.066	215.397m#
44)	Chlorpyrifos	12.115	10.889	50139	159039	4.693	5.090m
45)	Oxychlordane	12.879	11.409	113268	200181	6.134	2.846m#
46)	cis-Nonac...	14.649	13.216	131326	221740	6.764	3.022m#
47)	trans-Non...	13.612	12.019	205317	1137376	10.520	15.697m#
48)	Mirex	16.965f	15.362	7032	21807	0.435	0.393m

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:23:32 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
52)	Perthane	14.089	12.902	48203	354506	87.382	194.354m#

SemiQuant Compounds - Not Calibrated on this Instrument

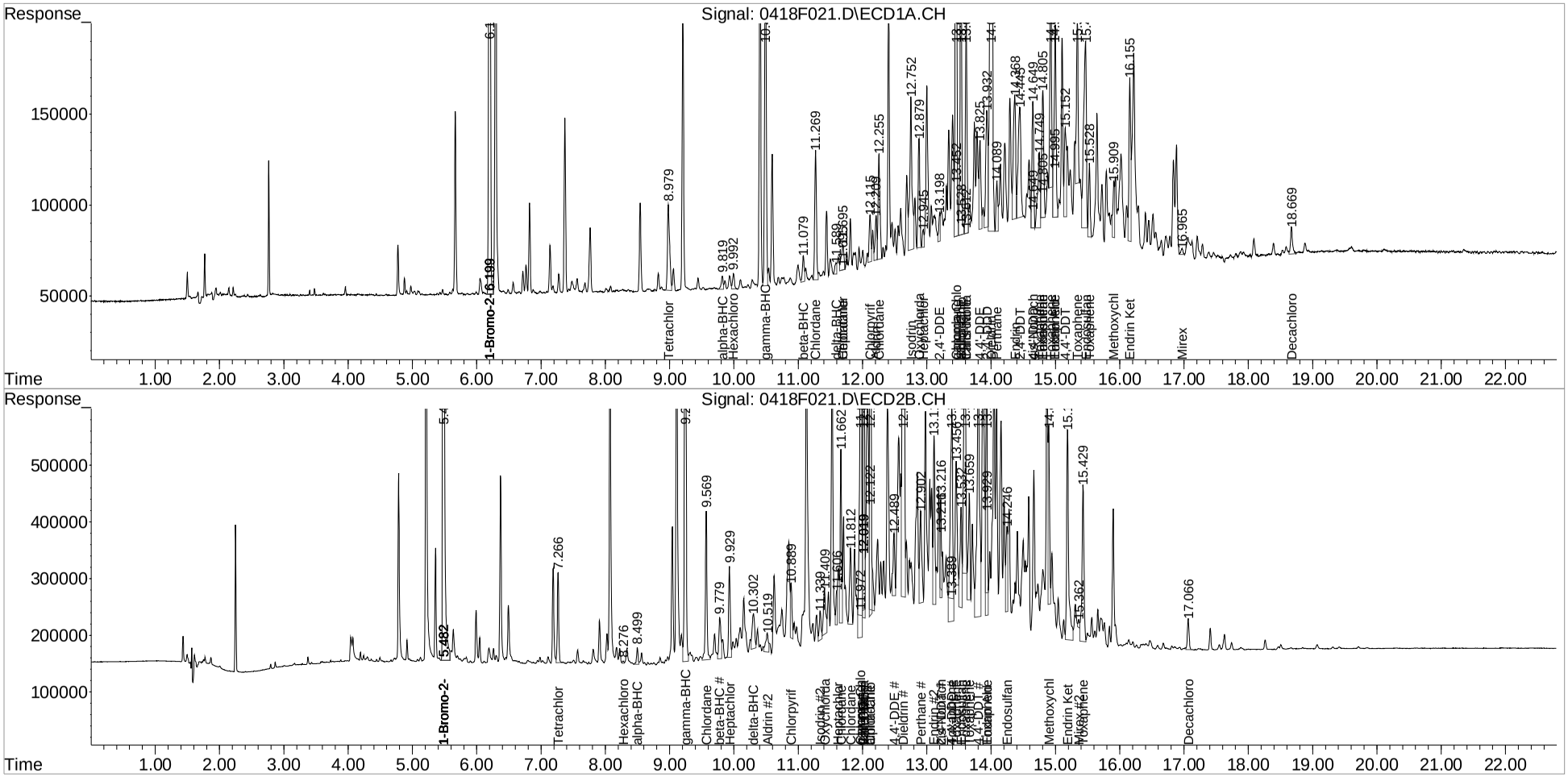
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
egration File signal 1: RTEINT.P
egration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:23:32 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



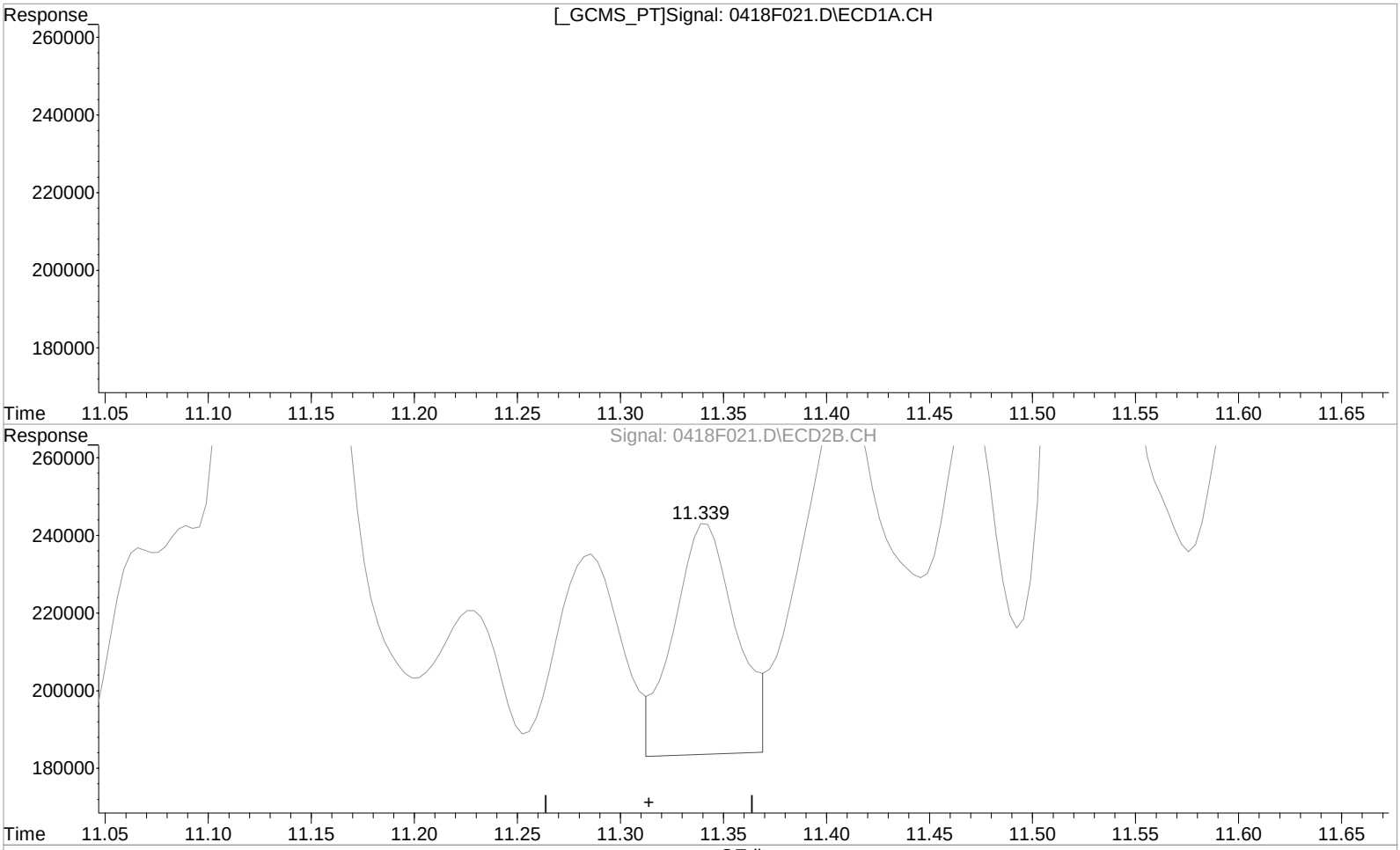
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(10) Isodrin

12.752min 13.149 ug/L

response 209634

Manual Integration:

Before

04/21/20

(10) Isodrin #2

11.339min 1.897 ug/L

response 124589

(+) = Expected Retention Time

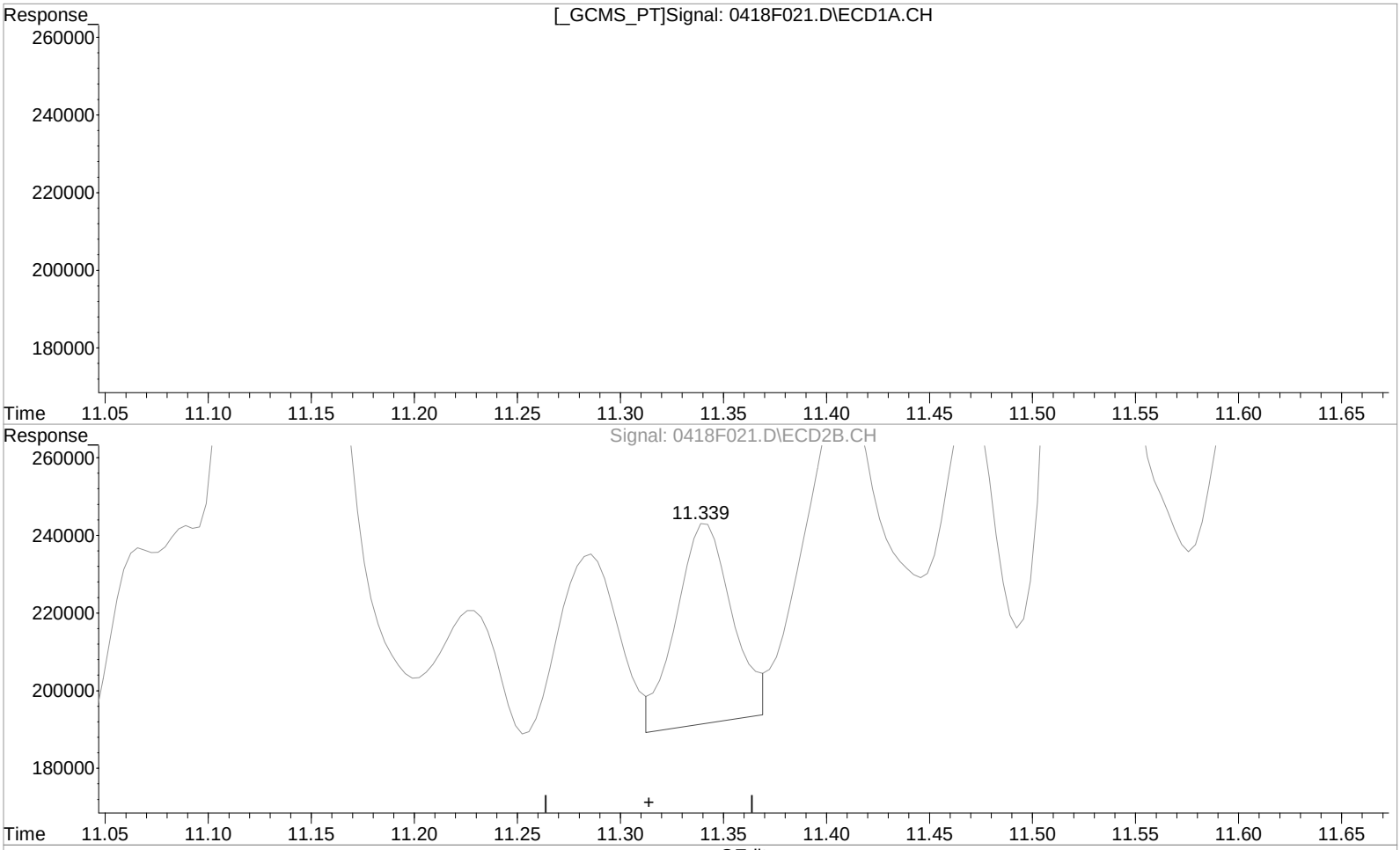
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(10) Isodrin

12.752min 13.149 ug/L

response 209634

Manual Integration:

After

Baseline correction

04/21/20

(10) Isodrin #2

11.339min 1.488 ug/L m

response 97683

(+) = Expected Retention Time

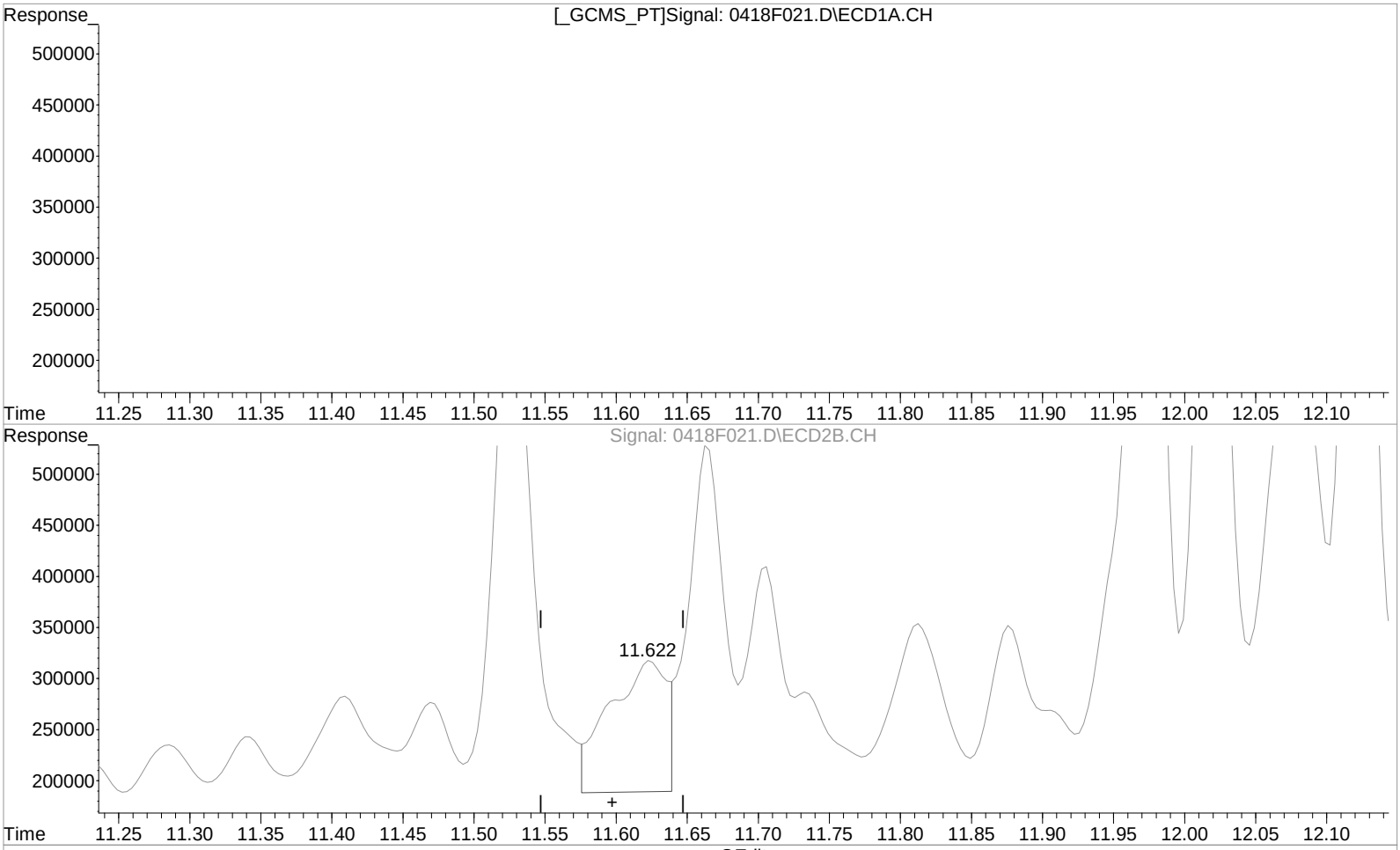
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(11) Heptachlor Epoxide

12.945min 0.880 ug/L

response 17201

Manual Integration:

Before

04/21/20

(11) Heptachlor Epoxide #2

11.622min 4.755 ug/L

response 365799

(+) = Expected Retention Time

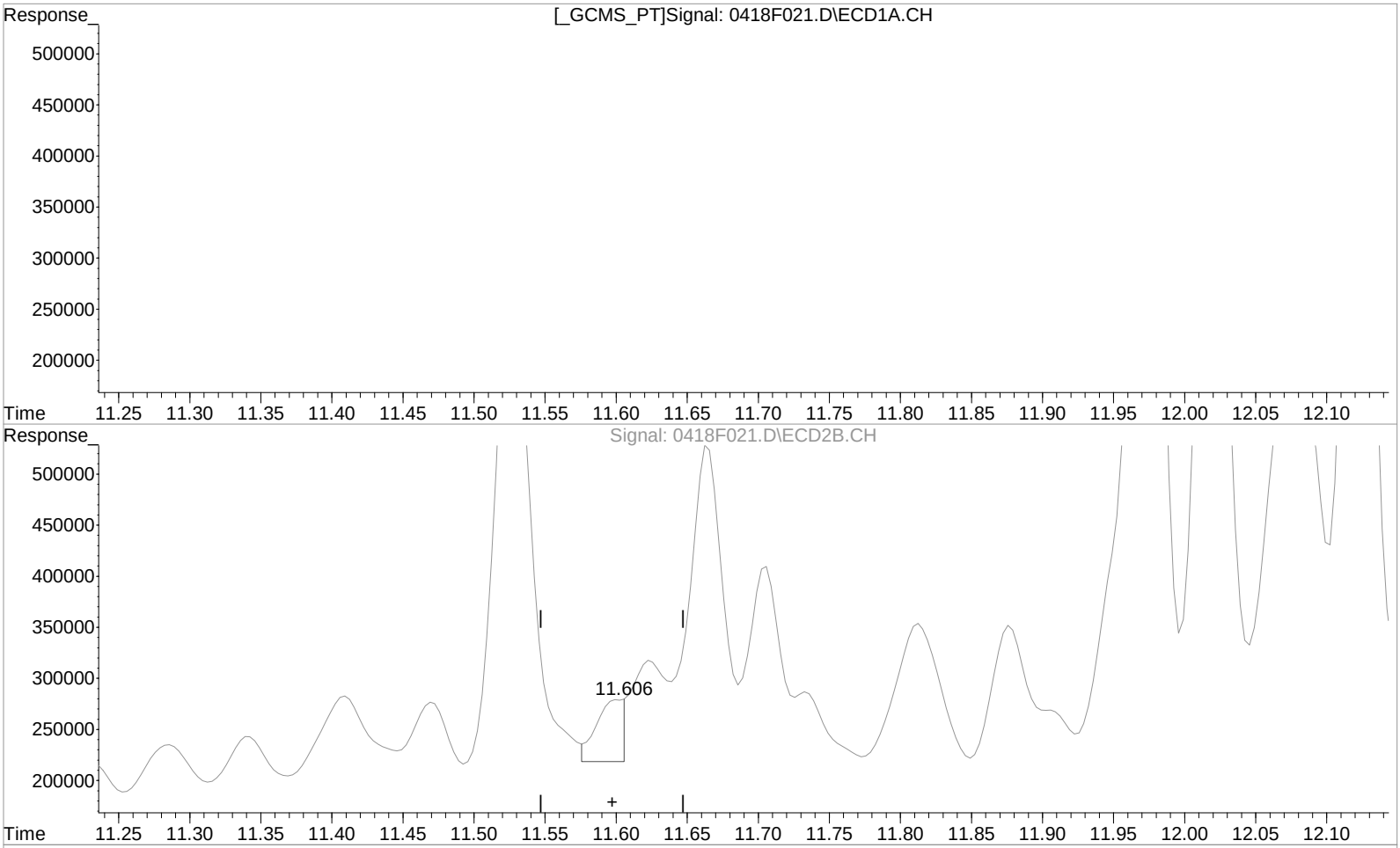
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(11) Heptachlor Epoxide

12.945min 0.880 ug/L

response 17201

Manual Integration:

After

Shoulder

04/21/20

(11) Heptachlor Epoxide #2

11.606min 1.086 ug/L m

response 83569

(+) = Expected Retention Time

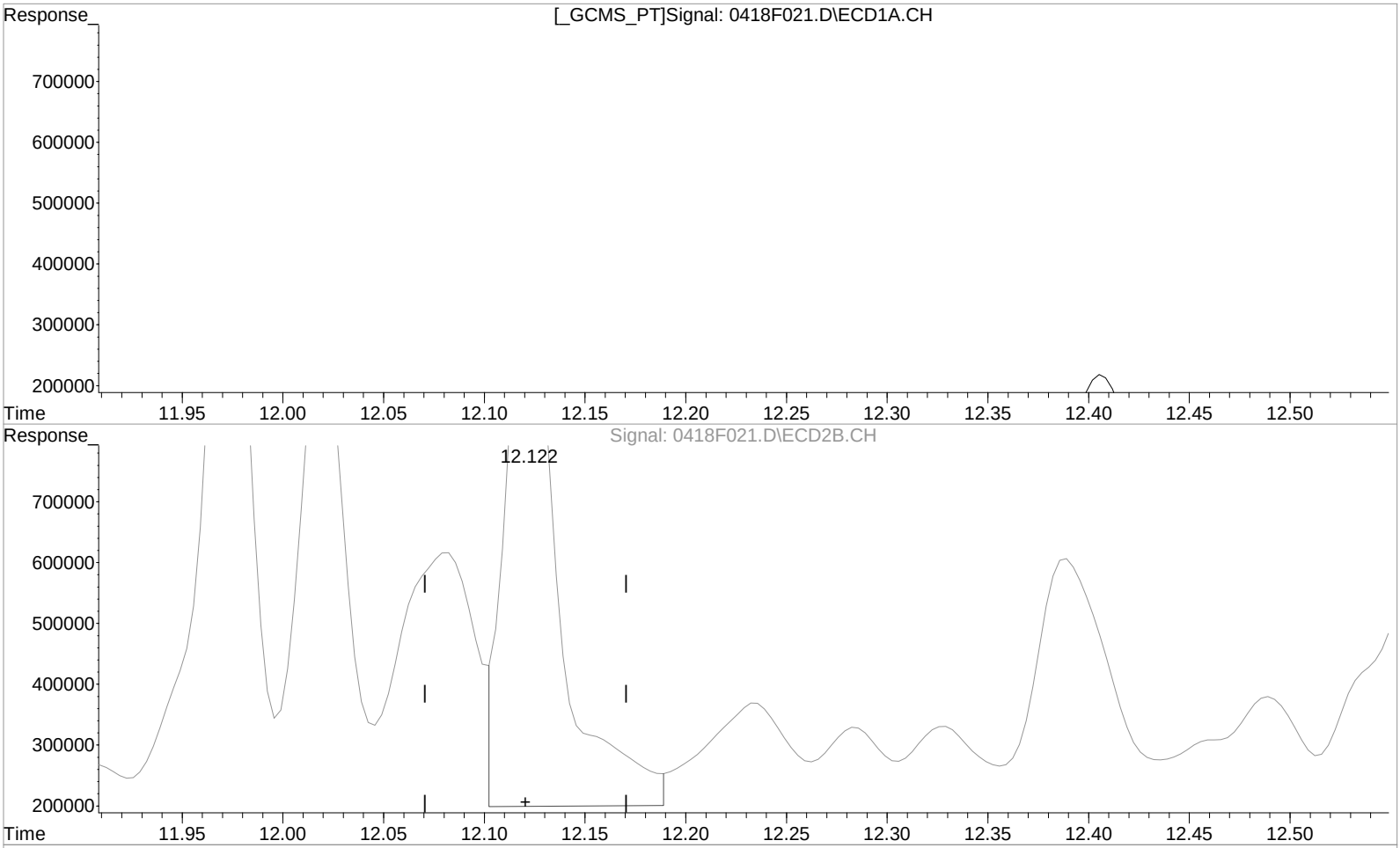
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(14) alpha-Chlordane

13.528min 17.256 ug/L

response 335648

Manual Integration:

Before

04/21/20

(14) alpha-Chlordane #2

12.122min 22.000 ug/L

response 1657603

(+) = Expected Retention Time

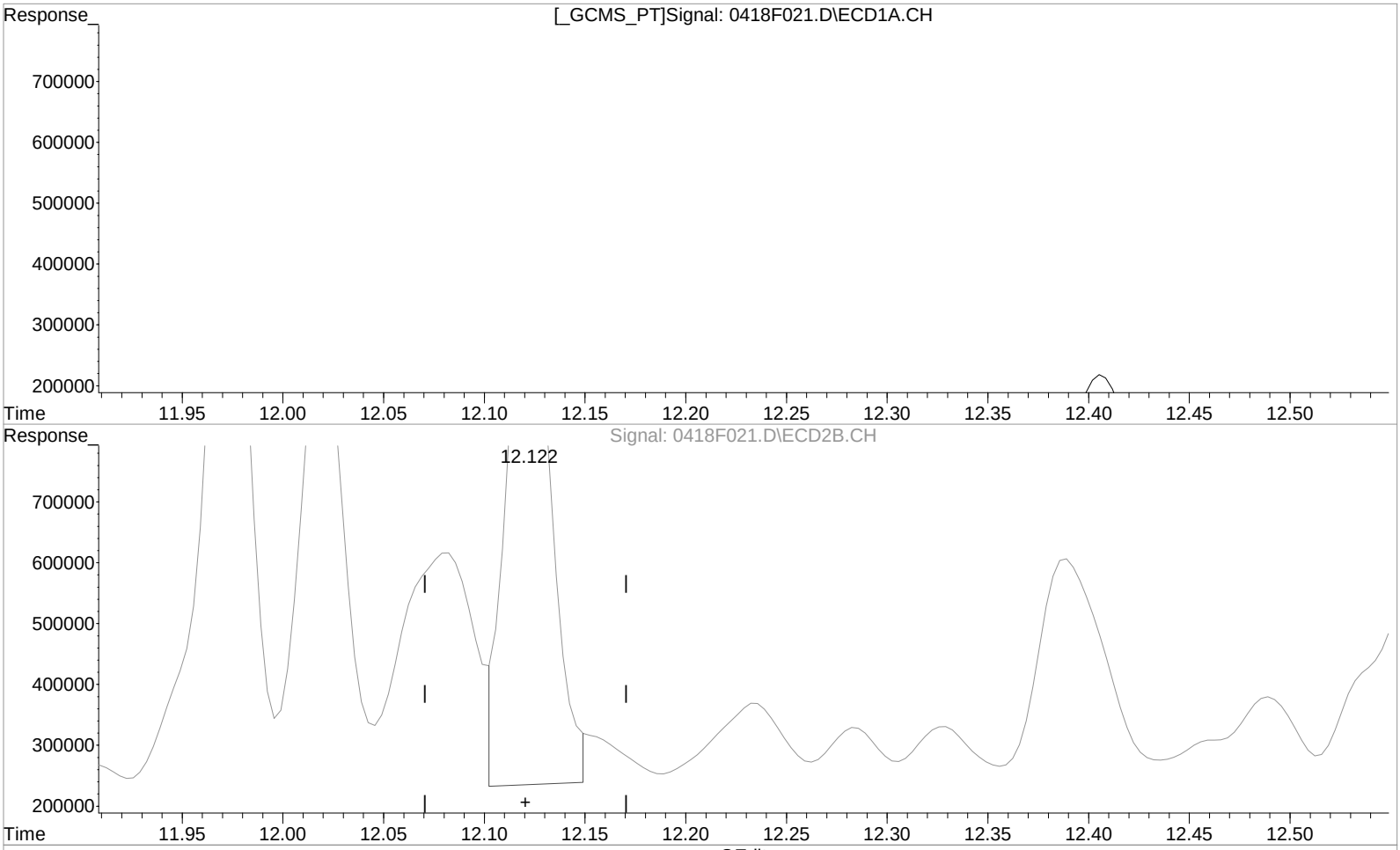
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(14) alpha-Chlordane

13.528min 17.256 ug/L

response 335648

Manual Integration:

After

Baseline correction

04/21/20

(14) alpha-Chlordane #2

12.122min 18.010 ug/L m

response 1356916

(+) = Expected Retention Time

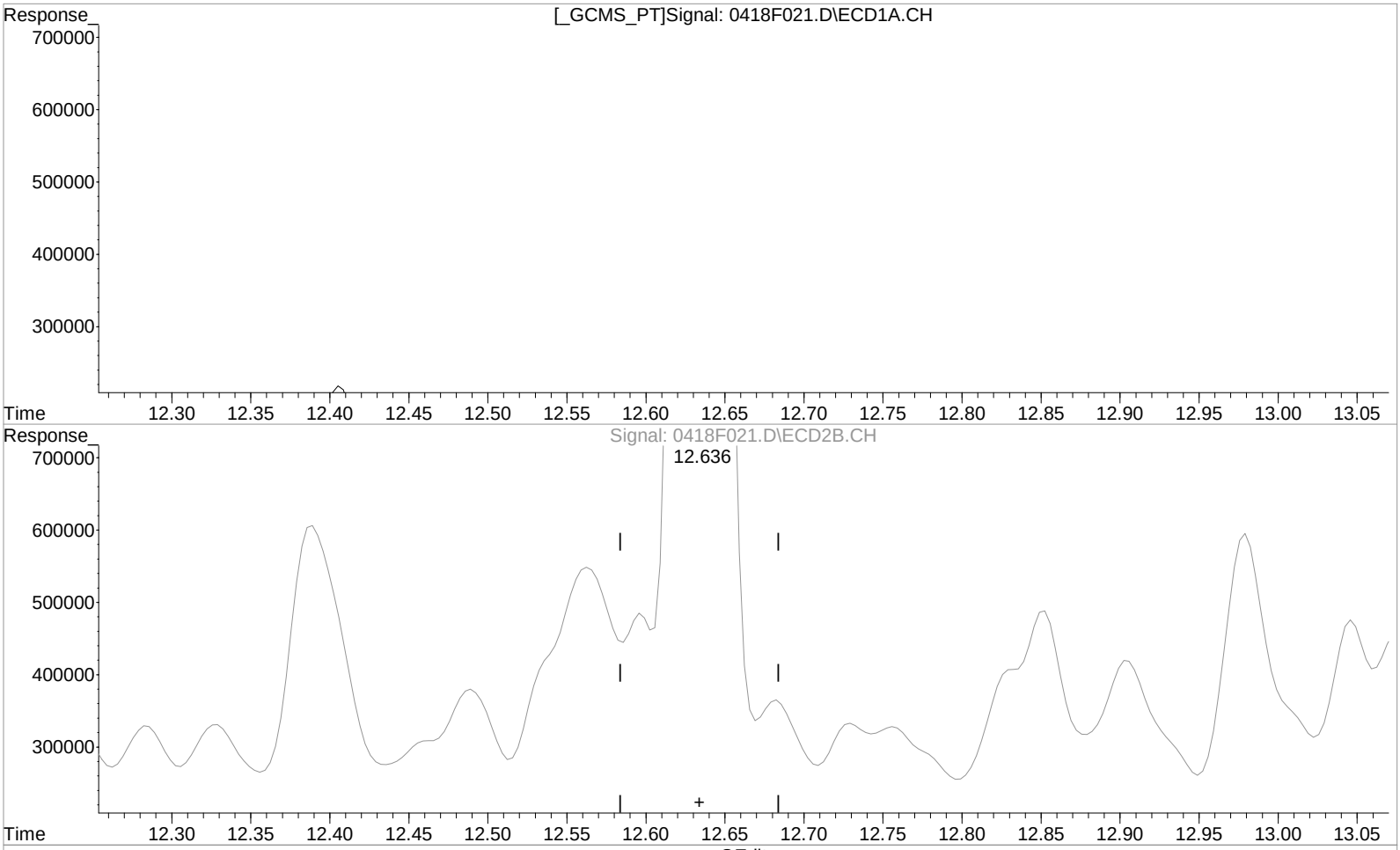
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

14.002min 110.257 ug/L

response 2108755

Manual Integration:

Before

04/21/20

(15) Dieldrin #2

12.636min 146.492 ug/L

response 10713181

(+) = Expected Retention Time

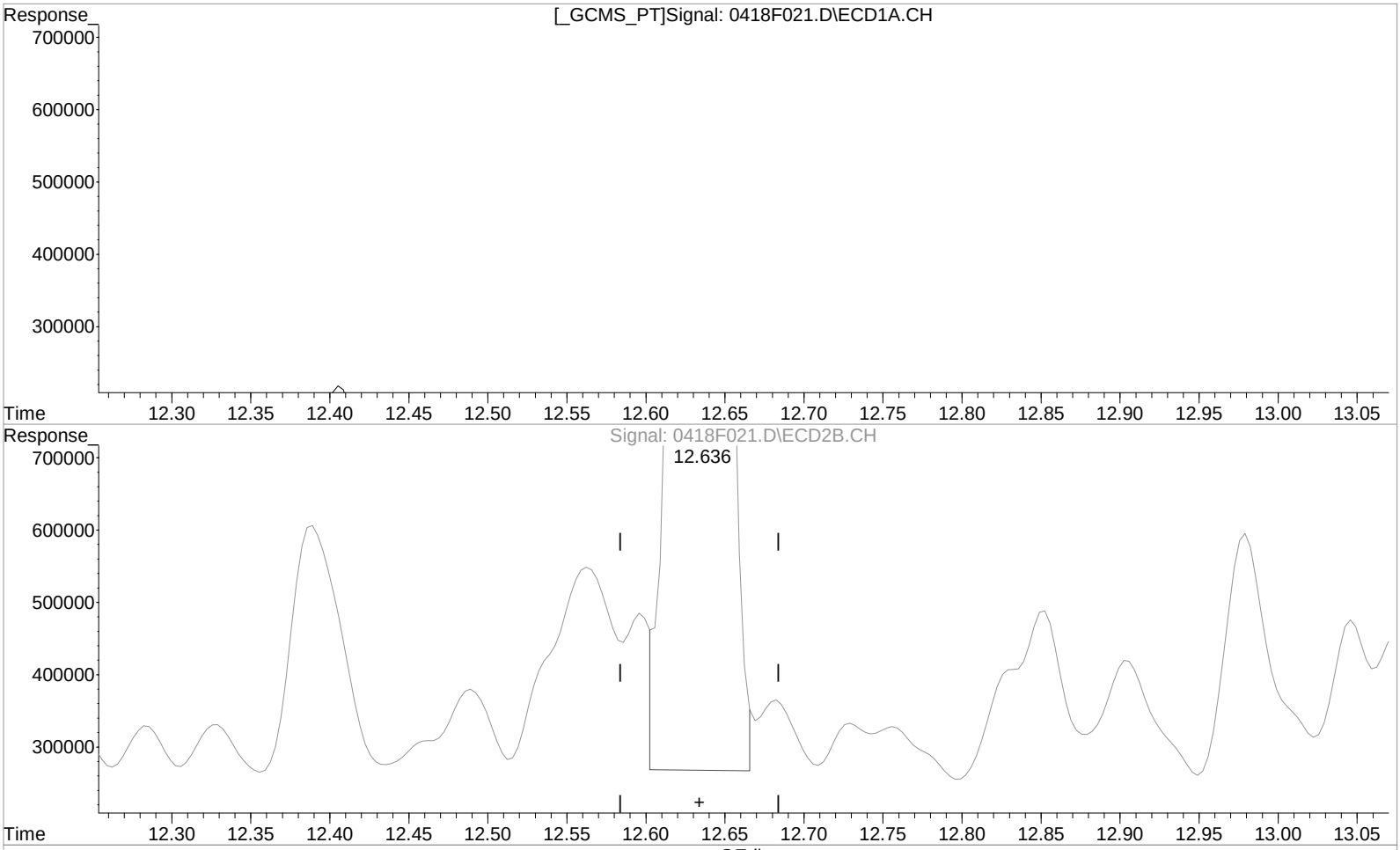
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

14.002min 110.257 ug/L

response 2108755

Manual Integration:

After

Baseline correction

04/21/20

(15) Dieldrin #2

12.636min 143.109 ug/L m

response 10465740

(+) = Expected Retention Time

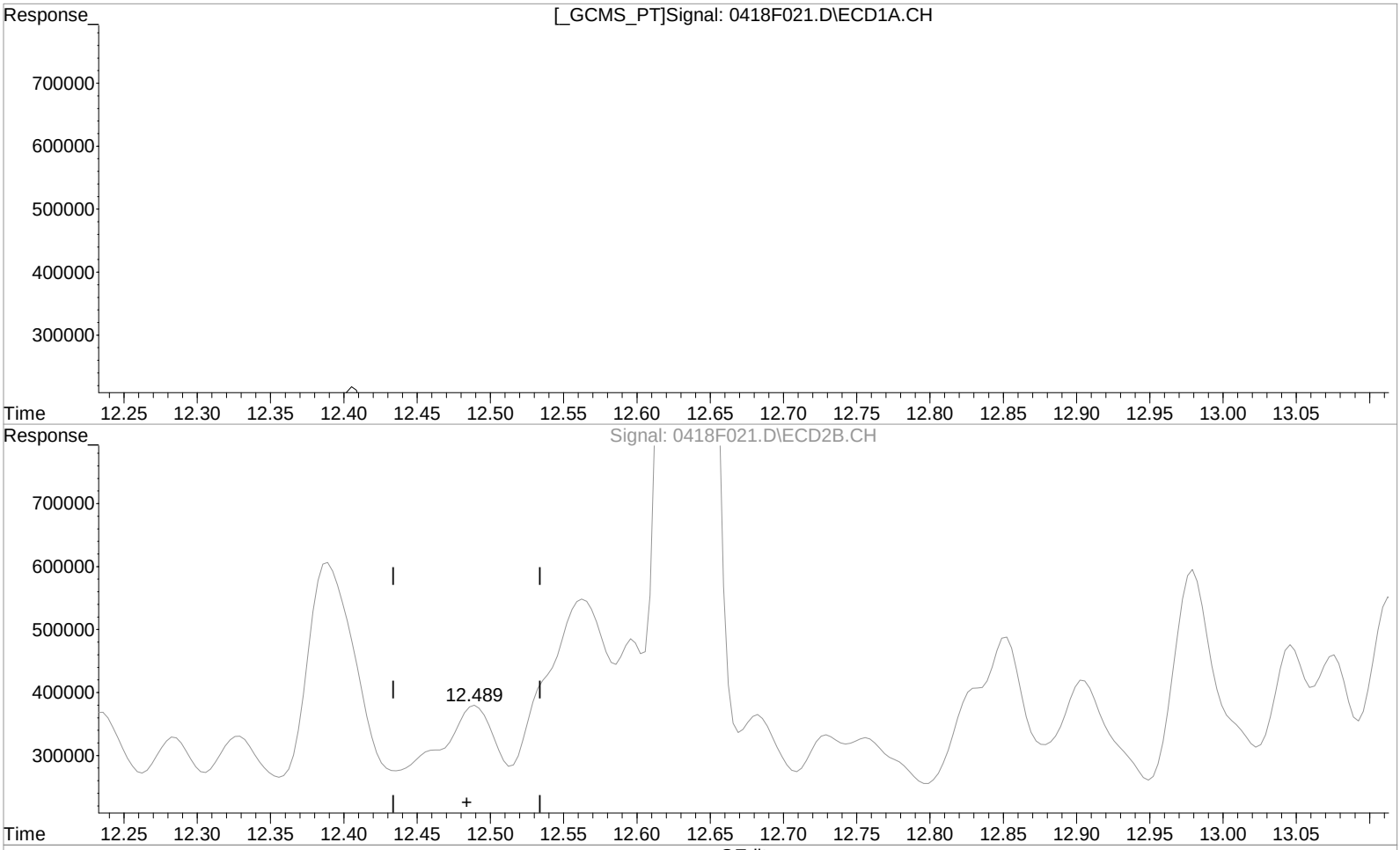
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.825min 4.940 ug/L

response 88406

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.489min 7.580 ug/L

response 533757

(+) = Expected Retention Time

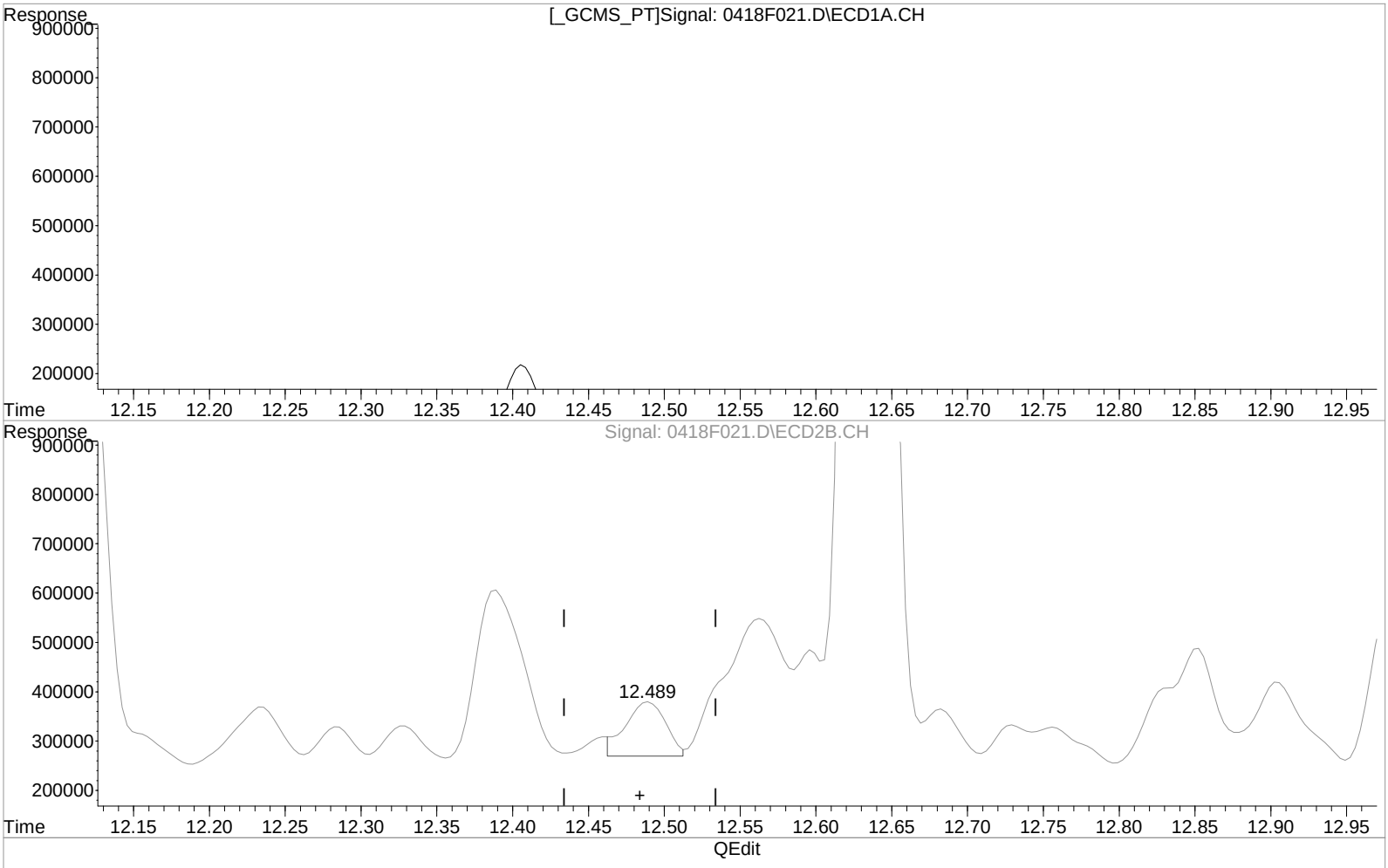
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(16) 4,4'-DDE

13.825min 4.940 ug/L

response 88406

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.489min 2.869 ug/L m

response 201993

(+) = Expected Retention Time

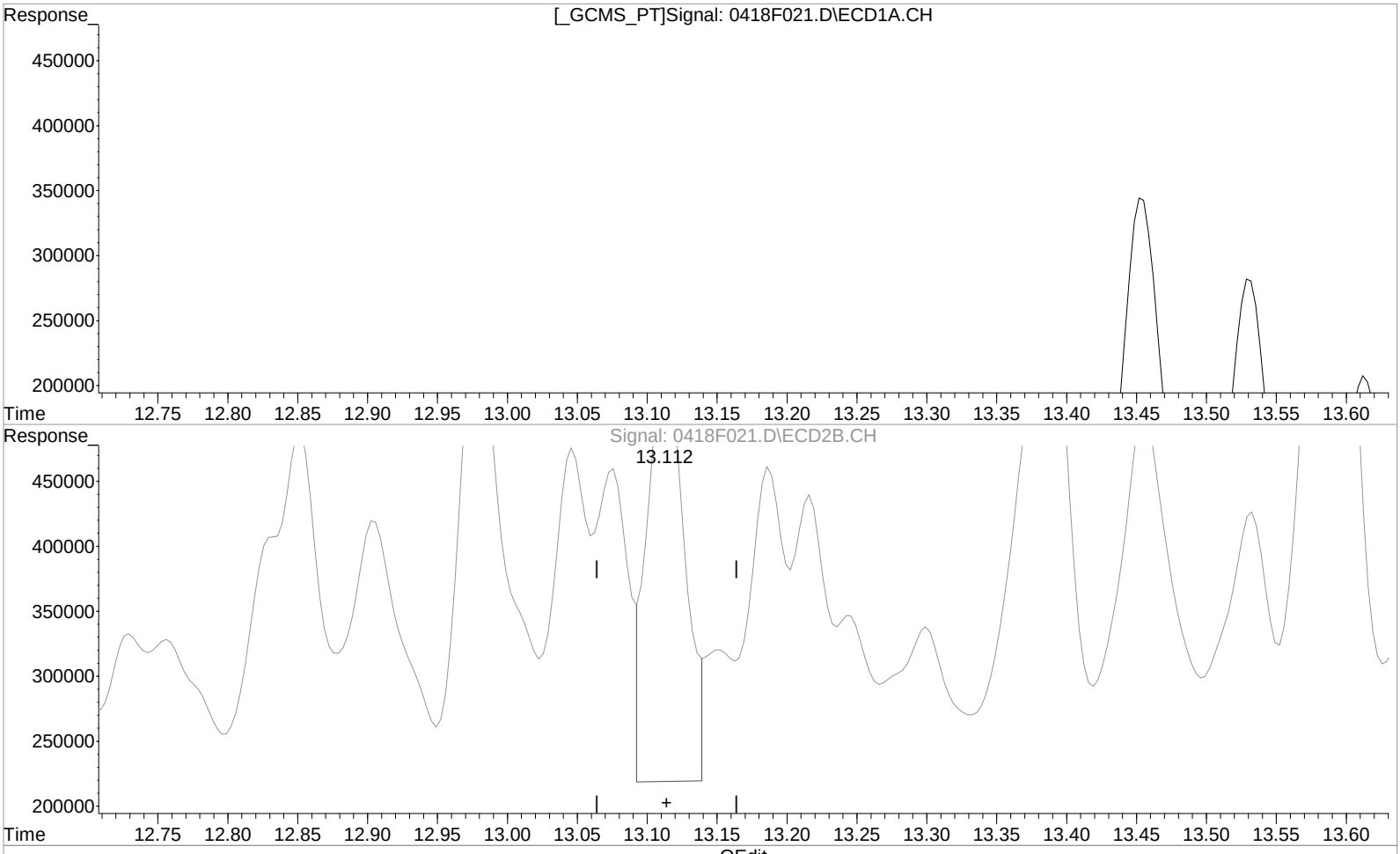
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(17) Endrin

14.368min 10.167 ug/L

response 177472

Manual Integration:

Before

04/21/20

(17) Endrin #2

13.112min 8.633 ug/L

response 600925

(+) = Expected Retention Time

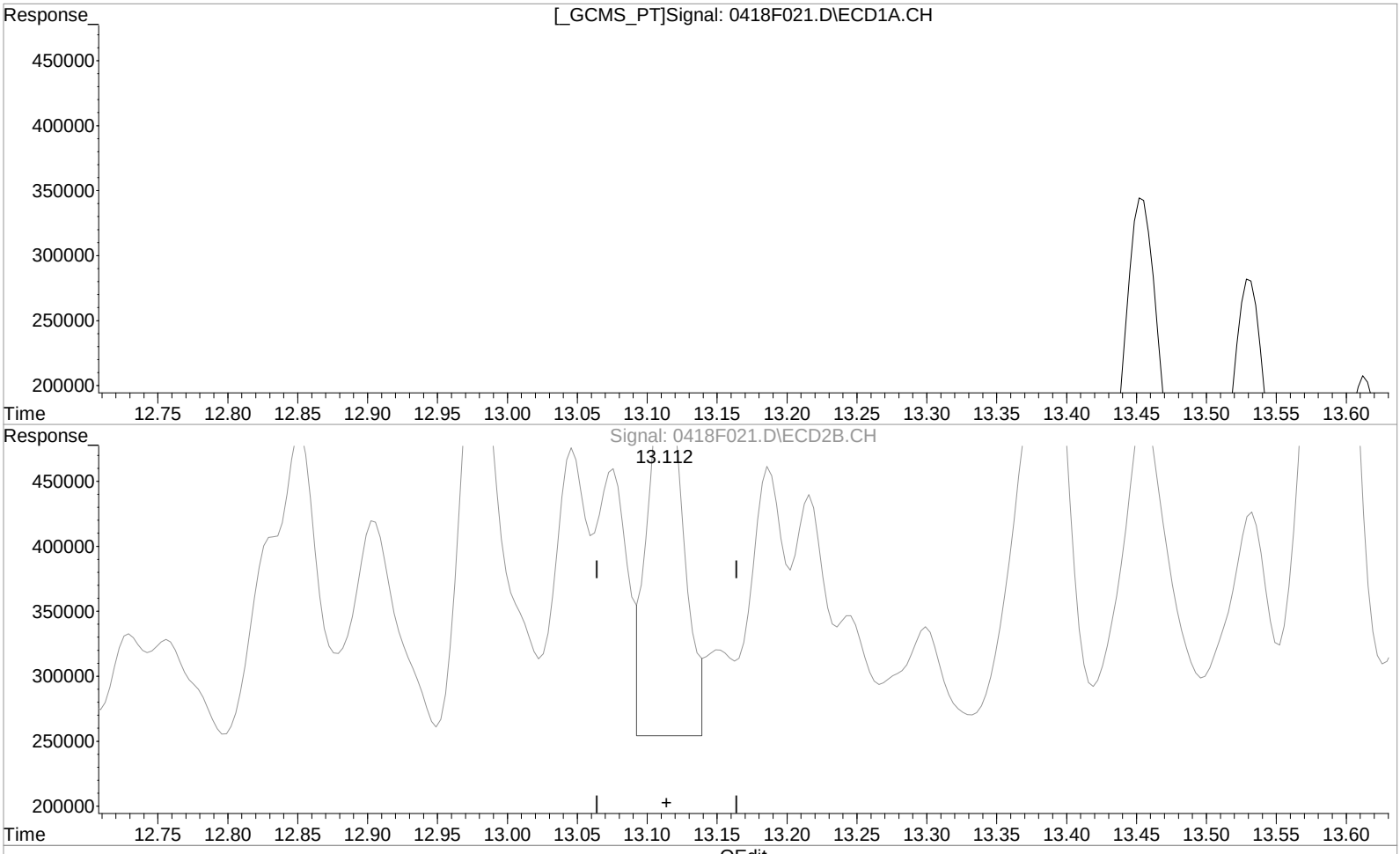
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(17) Endrin

14.368min 10.167 ug/L

response 177472

Manual Integration:

After

Baseline correction

04/21/20

(17) Endrin #2

13.112min 7.222 ug/L m

response 502667

(+) = Expected Retention Time

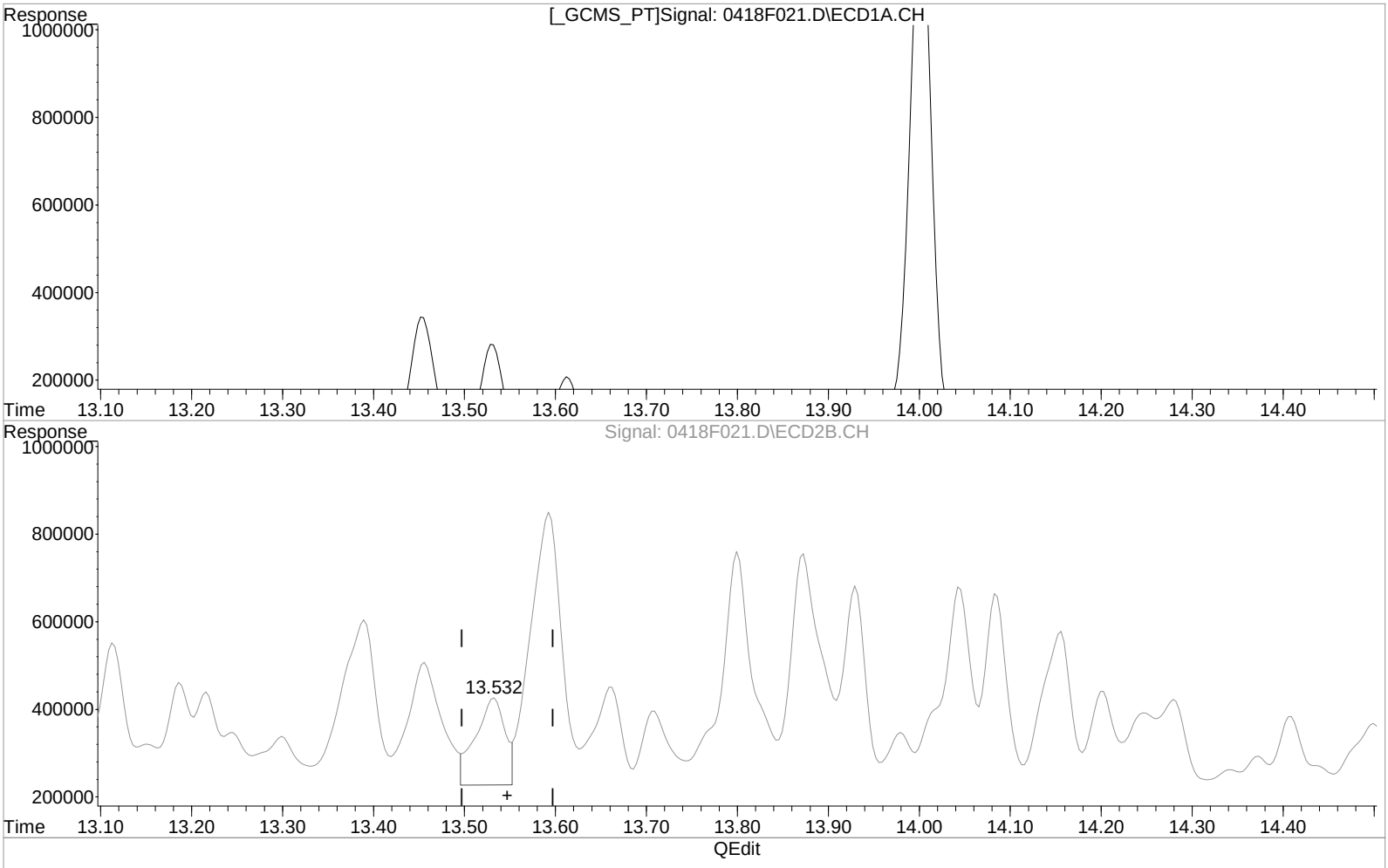
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.805min 8.773 ug/L

response 155139

(18) Endosulfan II #2

13.532min 7.165 ug/L

response 450591

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

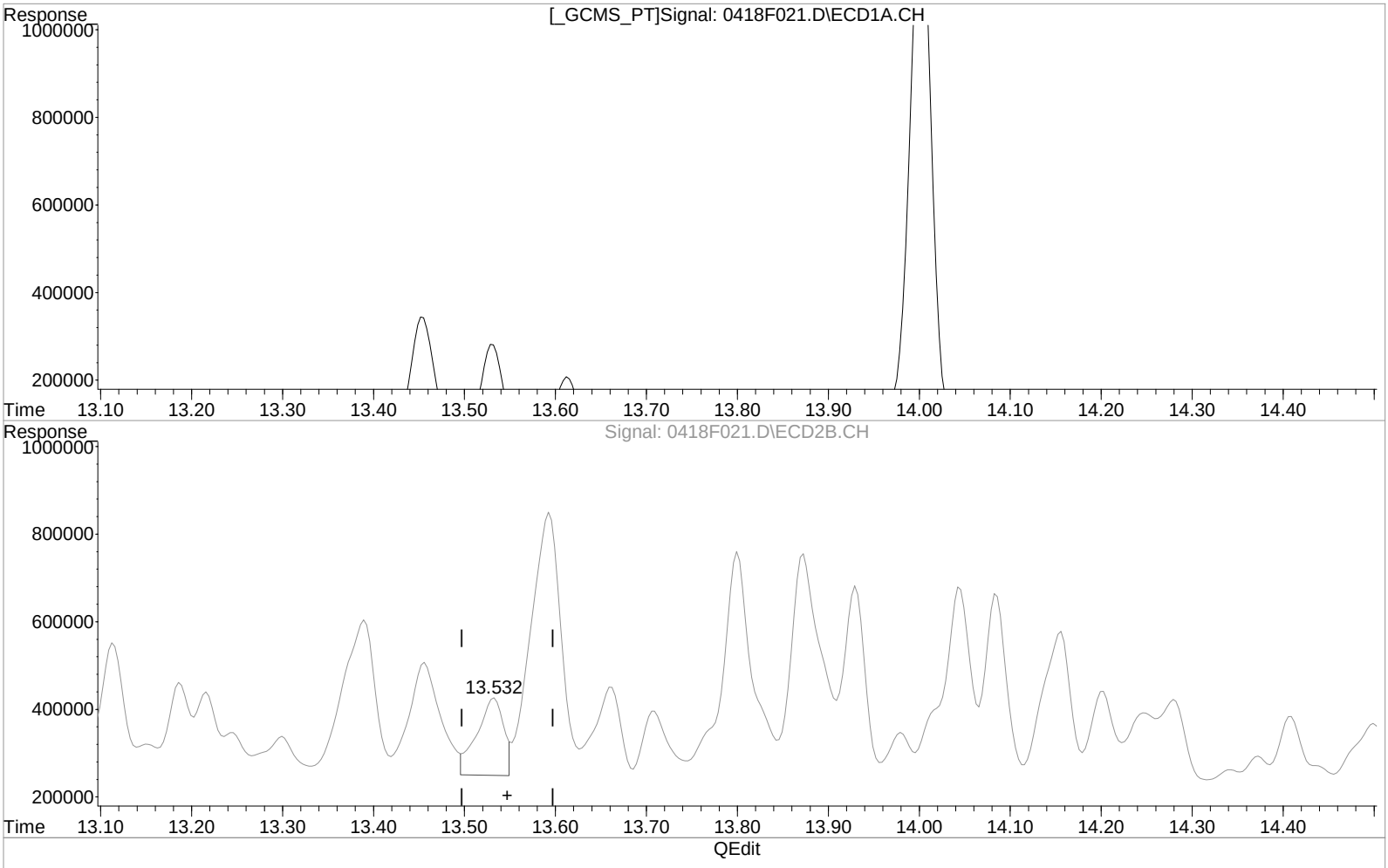
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.805min 8.773 ug/L

response 155139

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.532min 5.730 ug/L m

response 360386

(+) = Expected Retention Time

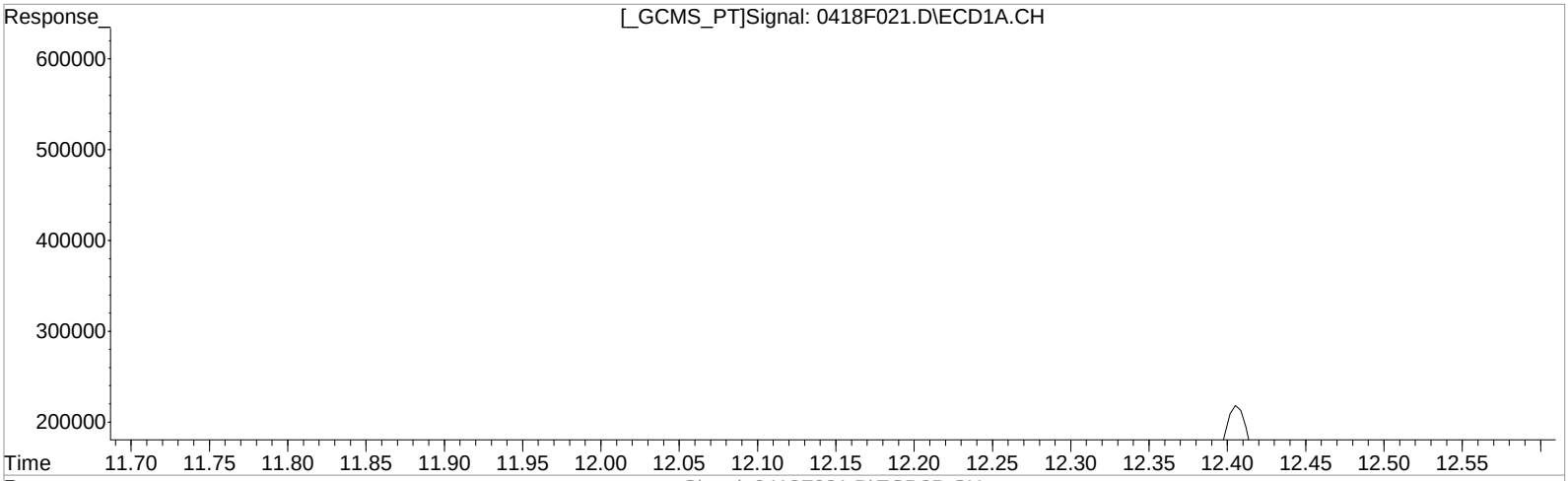
Quantitation Report (Qedit)

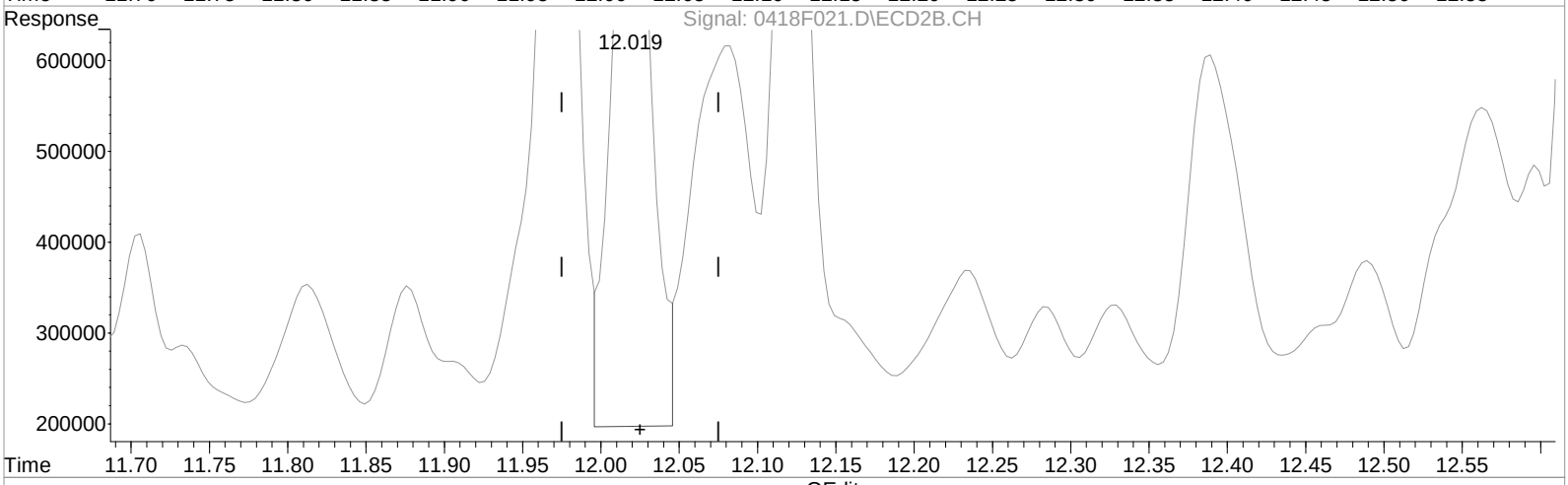
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.198min 1.917 ug/L

response 23966

Manual Integration:

Before

04/21/20

(25) 2,4'-DDE #2

12.019min 28.050 ug/L

response 1289306

(+) = Expected Retention Time

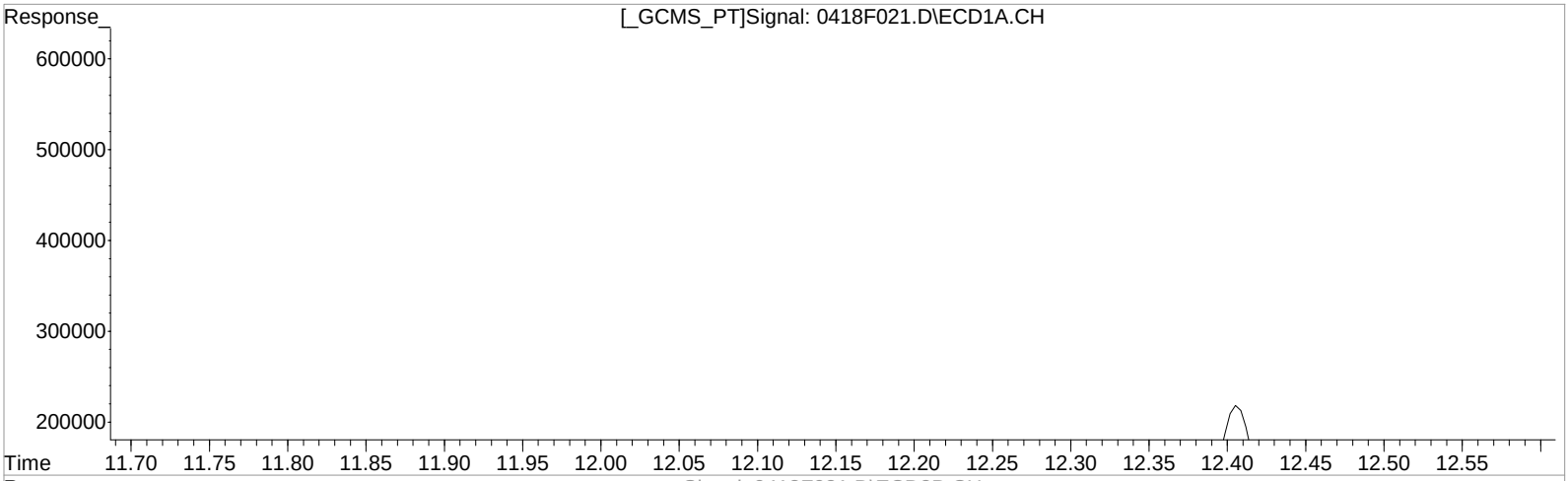
Quantitation Report (Qedit)

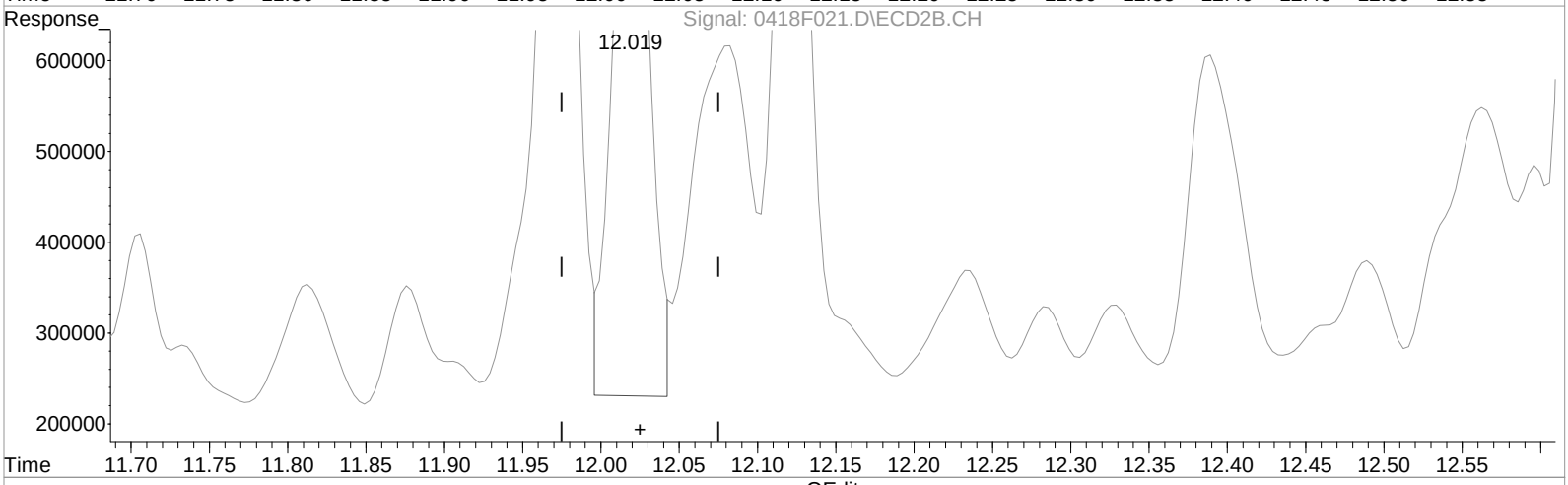
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.198min 1.917 ug/L

response 23966

(25) 2,4'-DDE #2

12.019min 25.415 ug/L m

response 1168149

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

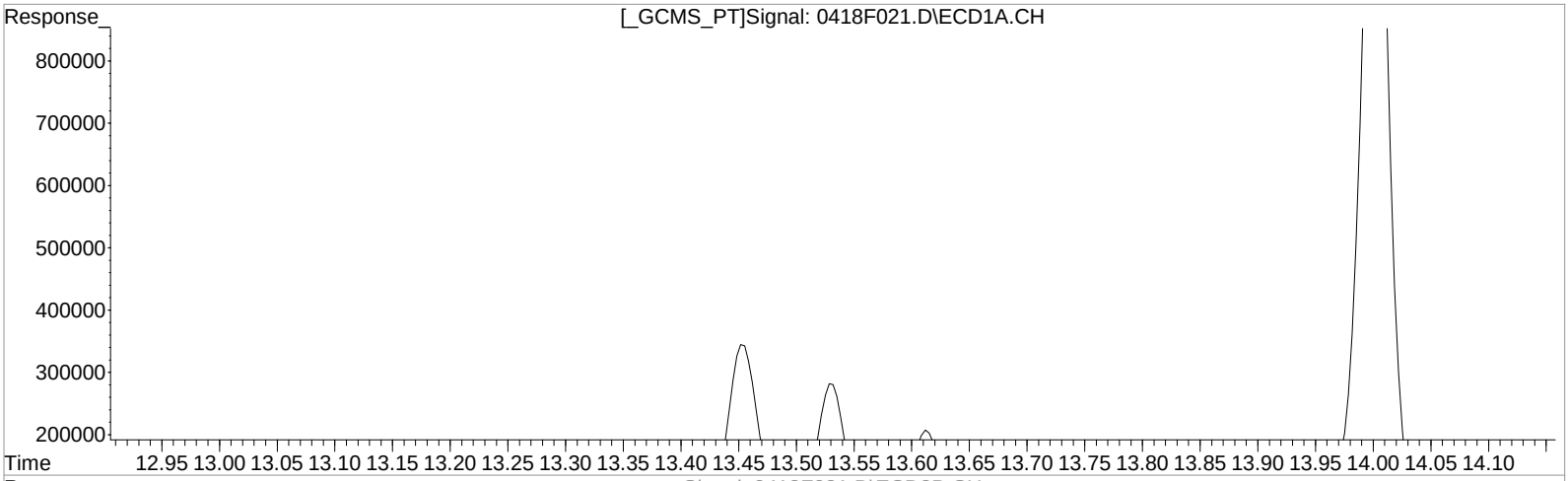
Quantitation Report (Qedit)

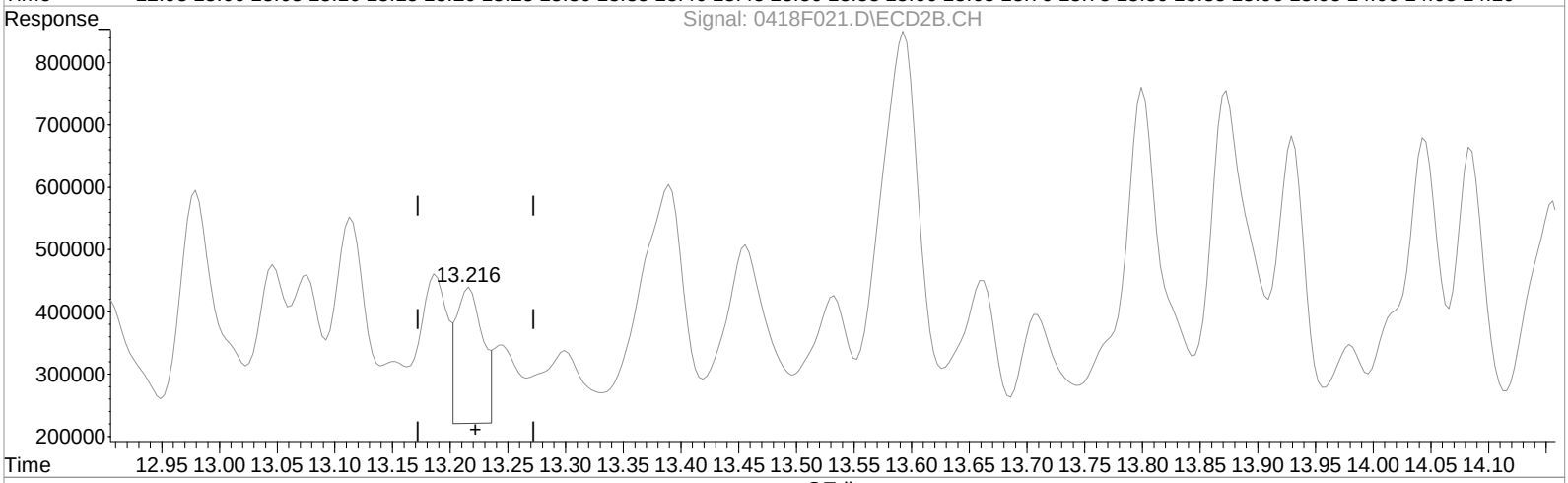
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.445min 14.451 ug/L

response 181517

(27) 2,4'-DDT #2

13.216min 7.906 ug/L

response 341746

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

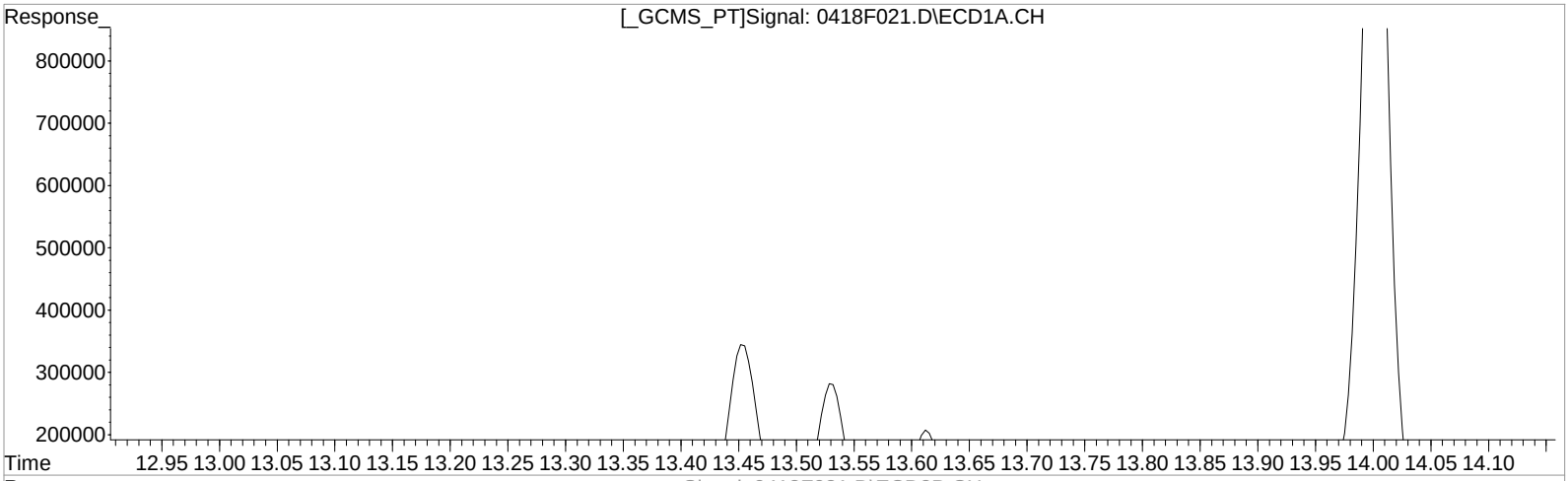
Quantitation Report (Qedit)

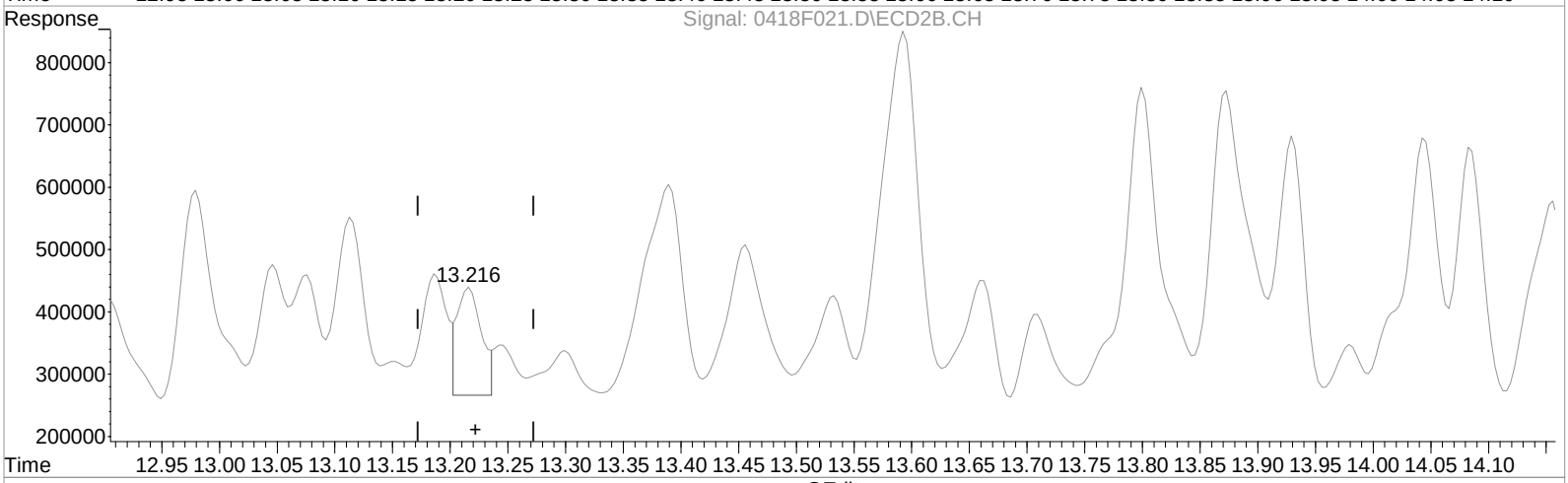
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.445min 14.451 ug/L

response 181517

(27) 2,4'-DDT #2

13.216min 5.823 ug/L m

response 251692

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

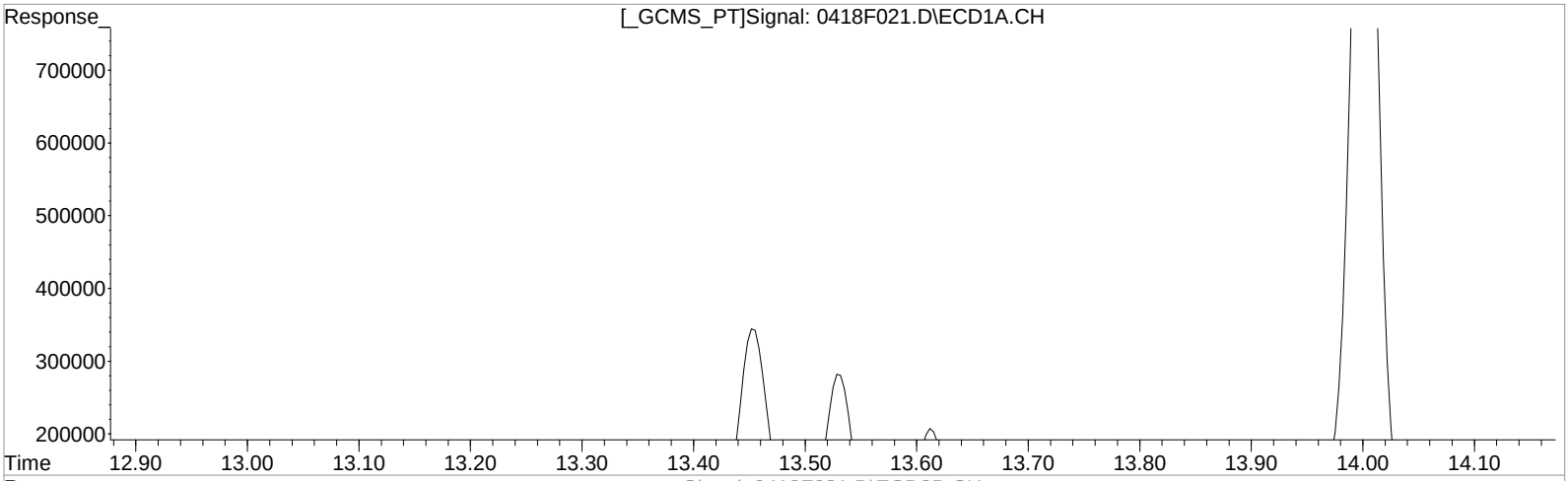
Quantitation Report (Qedit)

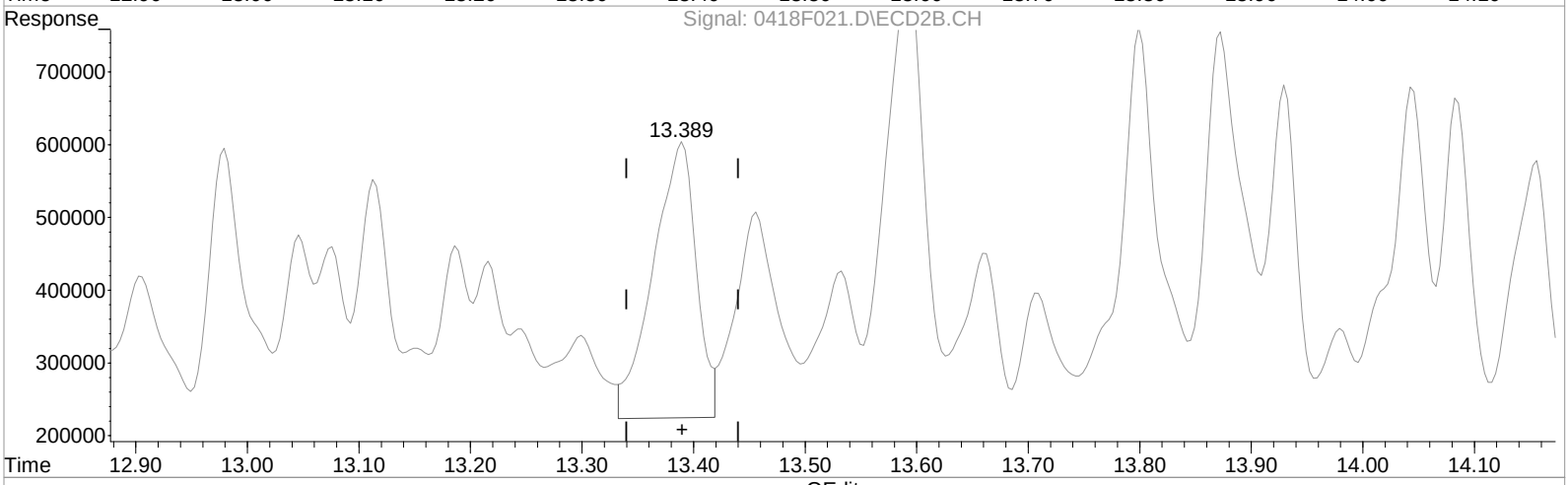
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.749min 569.046 ug/L

response 108379

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.389min 923.240 ug/L

response 1021383

(+) = Expected Retention Time

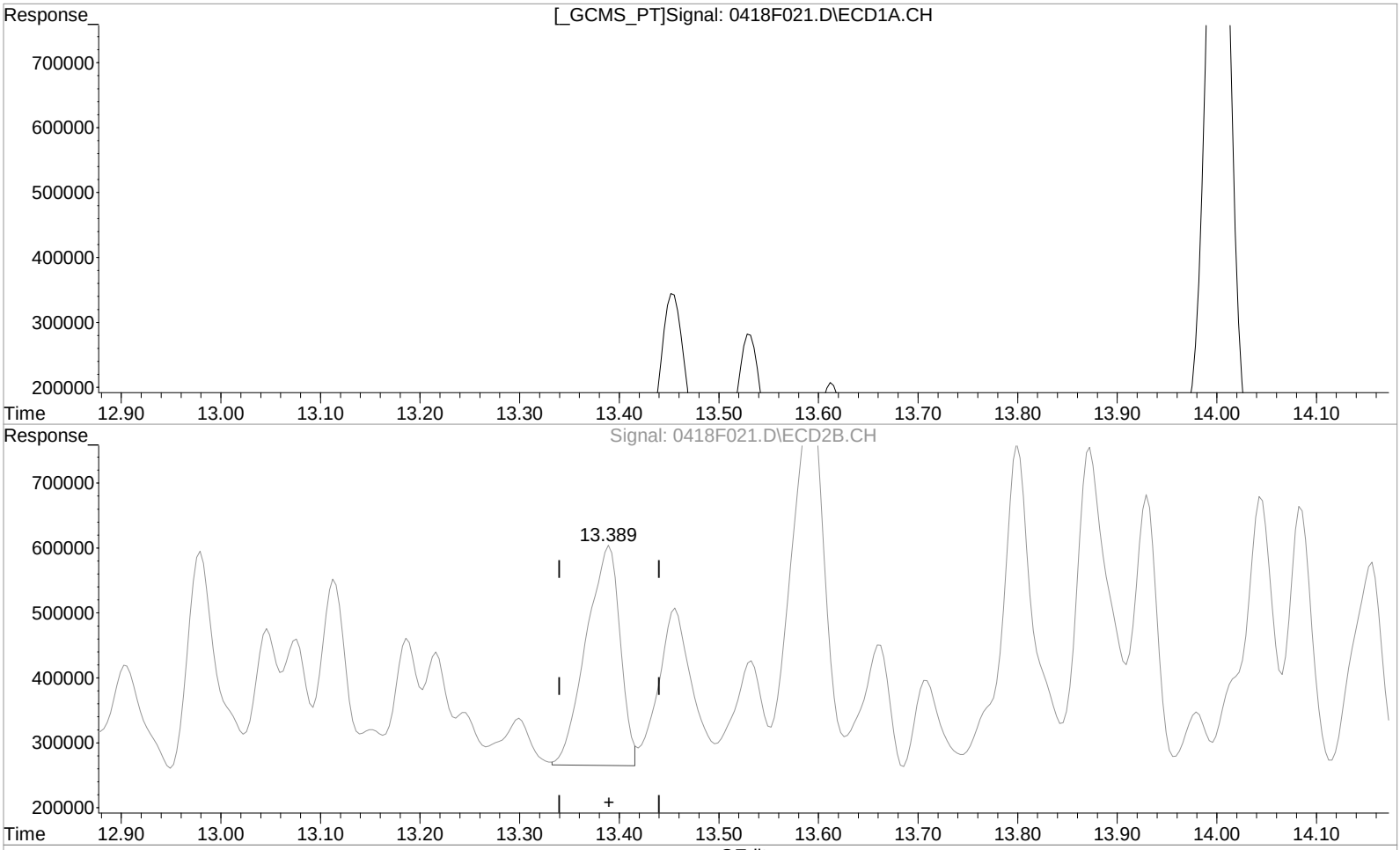
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.749min 569.046 ug/L

response 108379

Manual Integration:

After

Baseline correction

04/21/20

(30) Toxaphene #2

13.389min 725.327 ug/L m

response 802431

(+) = Expected Retention Time

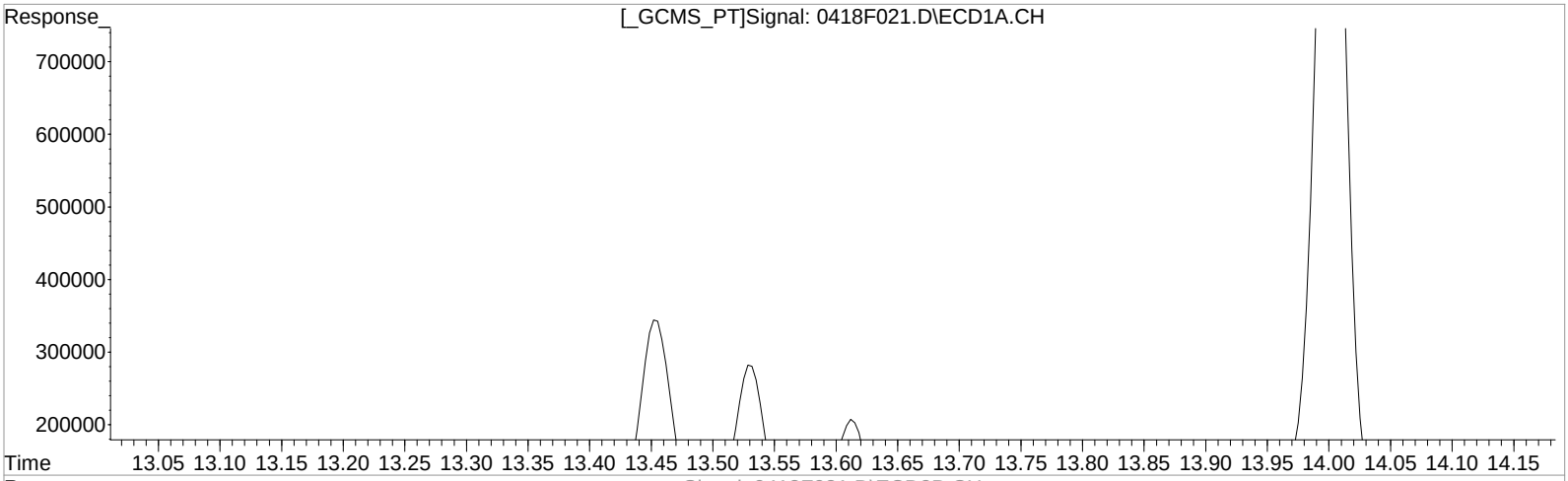
Quantitation Report (Qedit)

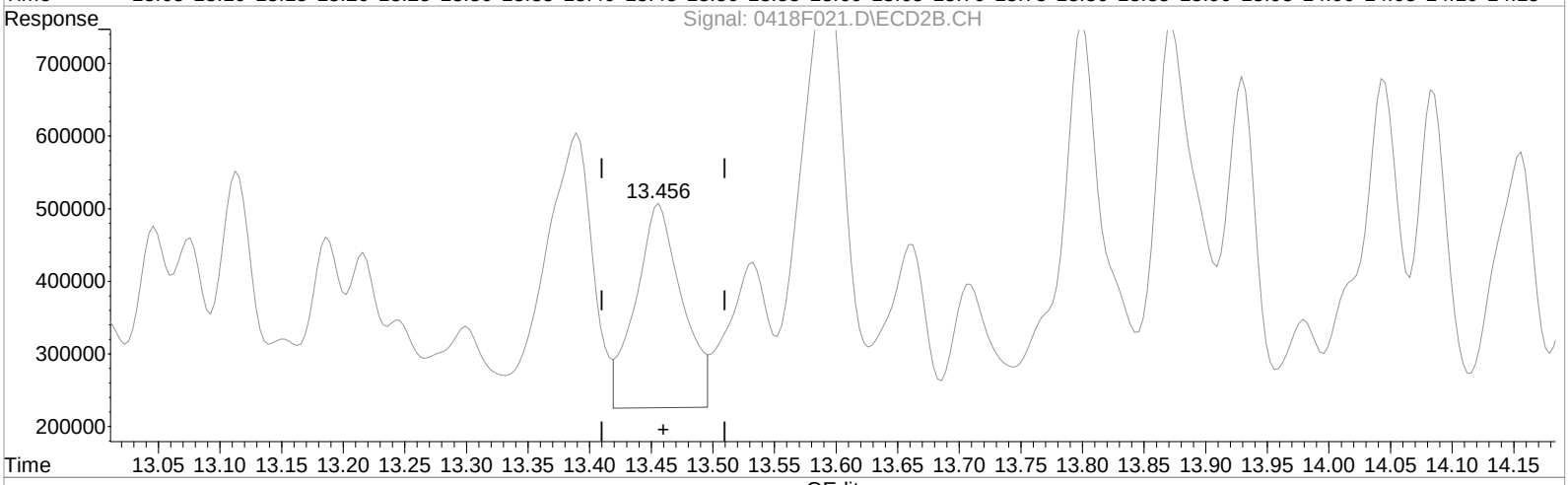
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.805min 900.543 ug/L

response 155139

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.456min 864.111 ug/L

response 735495

(+) = Expected Retention Time

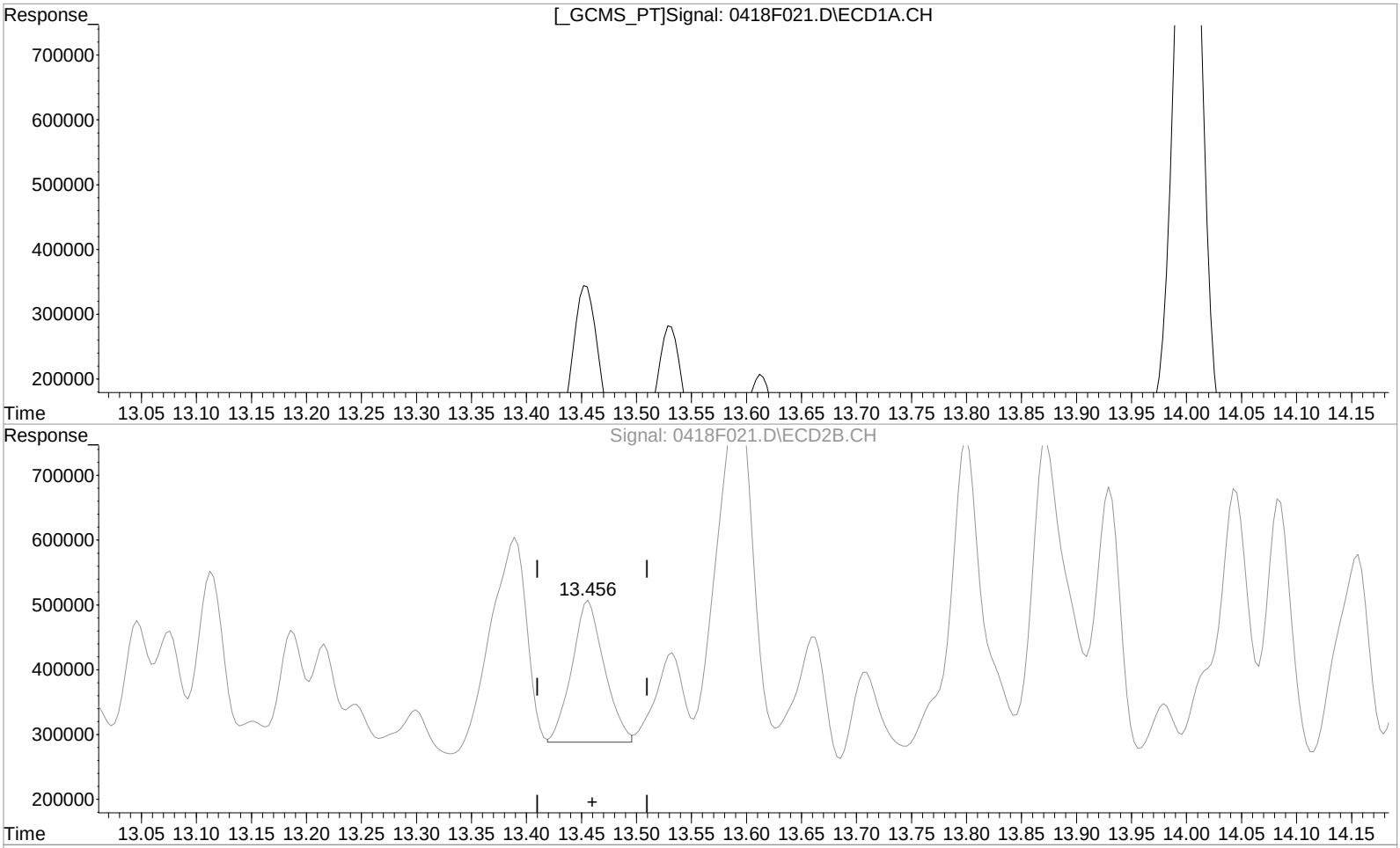
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.805min 900.543 ug/L

response 155139

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.456min 526.186 ug/L m

response 447868

(+) = Expected Retention Time

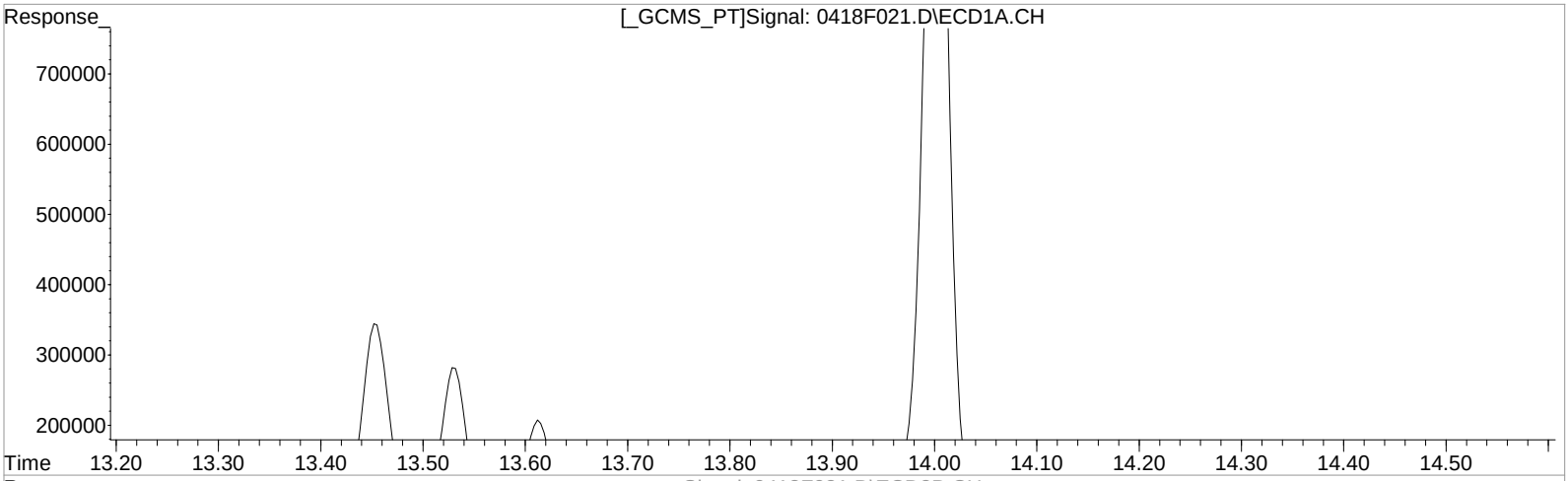
Quantitation Report (Qedit)

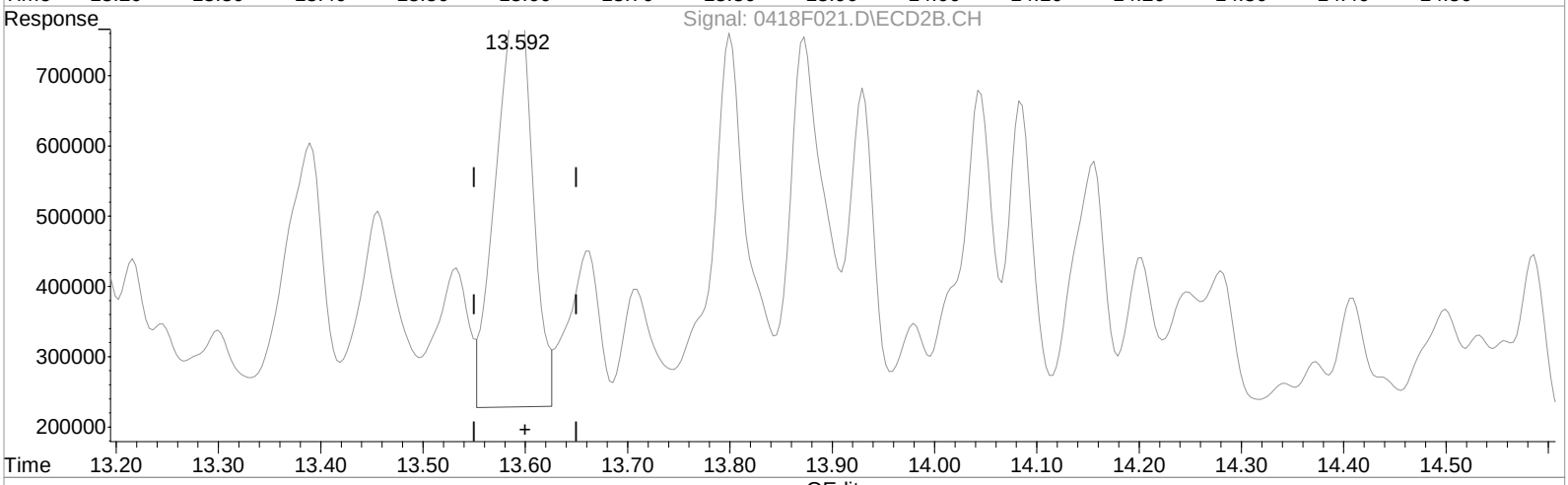
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.925min 816.411 ug/L

response 280250

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.592min -100.000 ug/L

response 1463333

(+) = Expected Retention Time

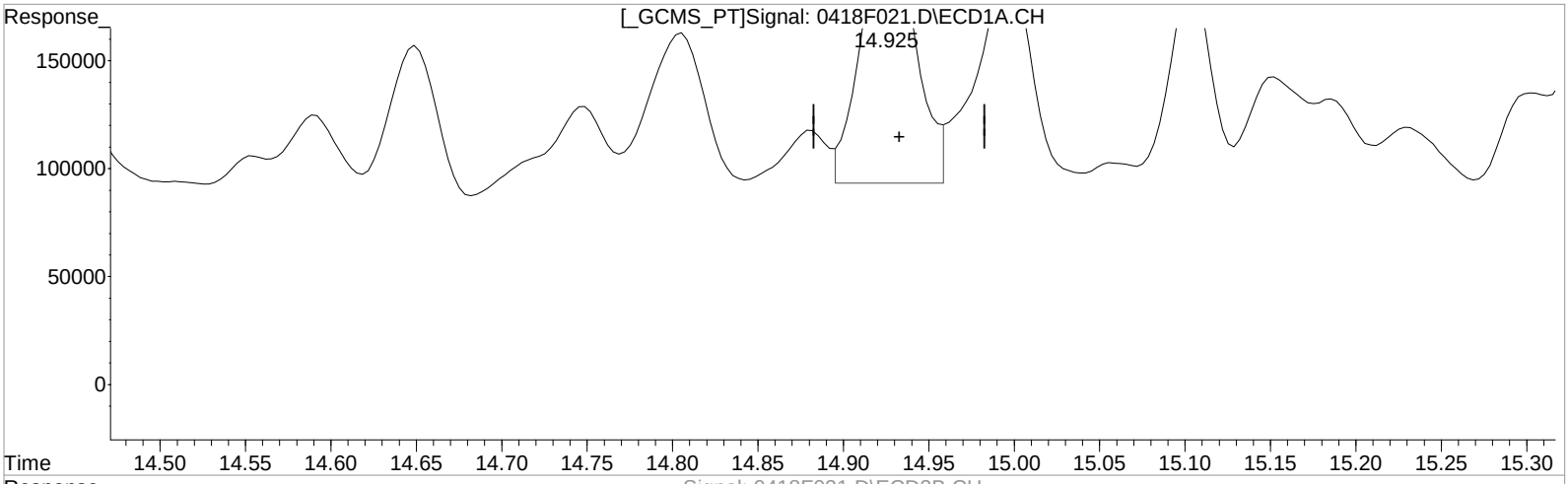
Quantitation Report (Qedit)

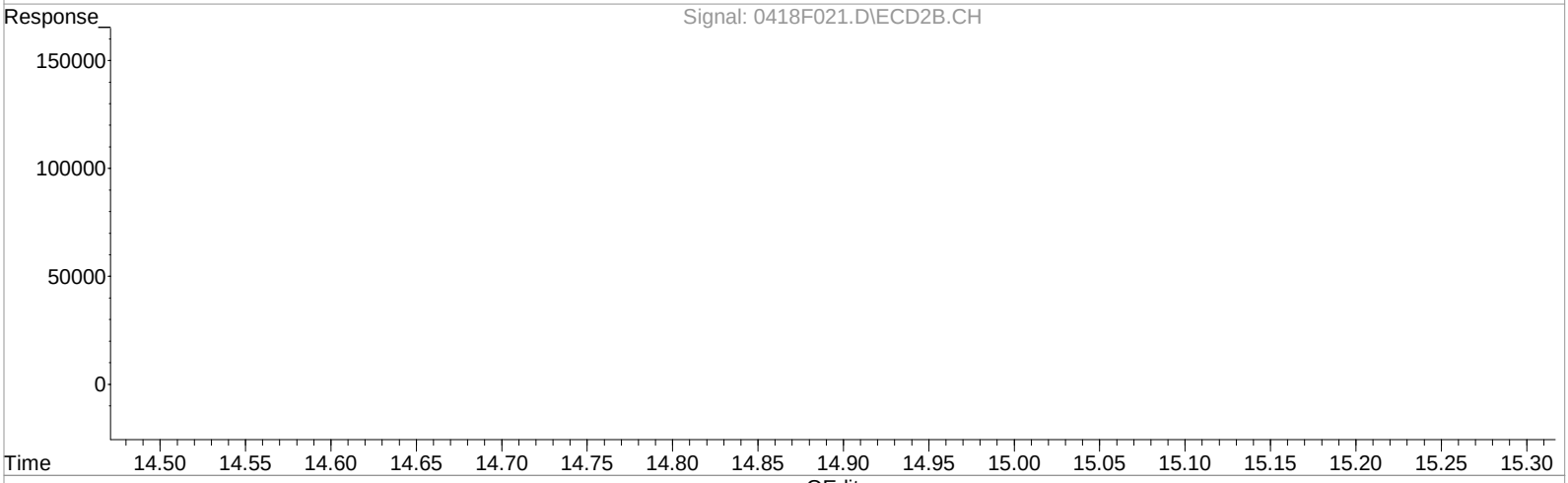
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.925min 816.411 ug/L

response 280250

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.592min 1603.442 ug/L m

response 1107993

(+) = Expected Retention Time

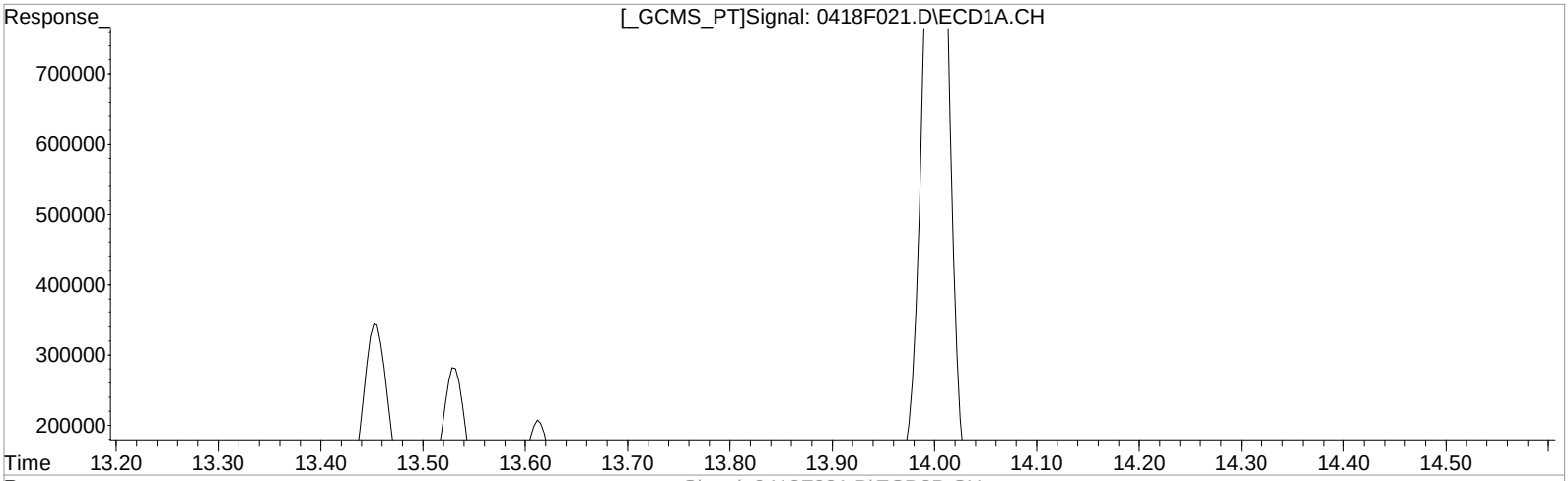
Quantitation Report (Qedit)

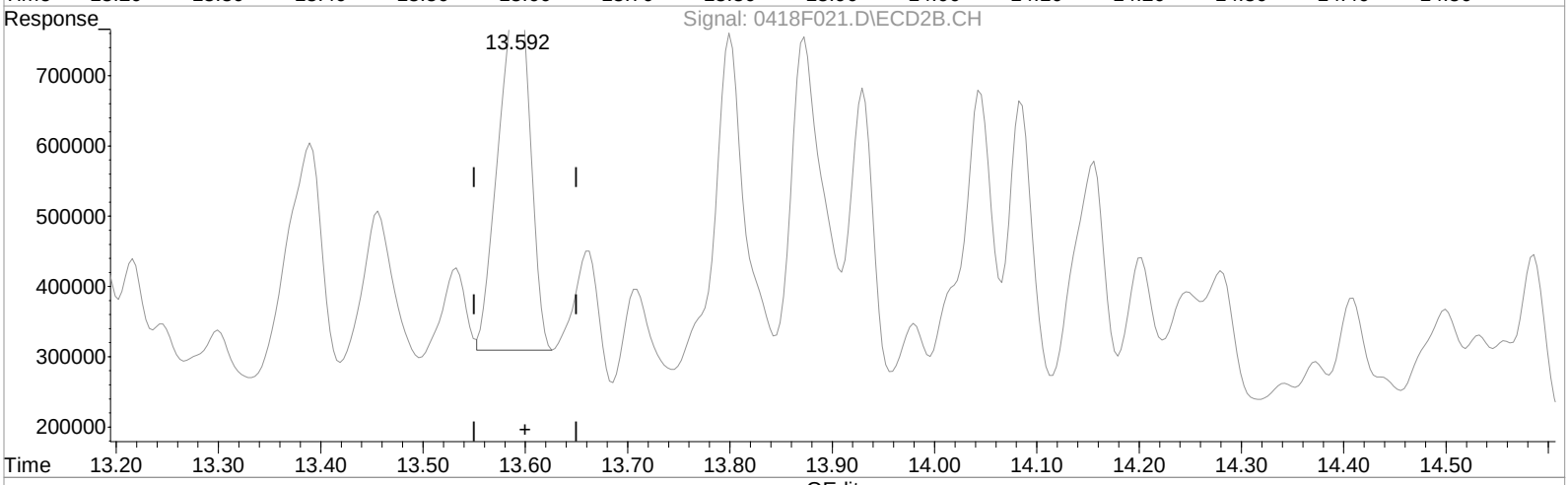
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.925min 816.411 ug/L

response 280250

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.592min 1603.442 ug/L m

response 1107993

(+) = Expected Retention Time

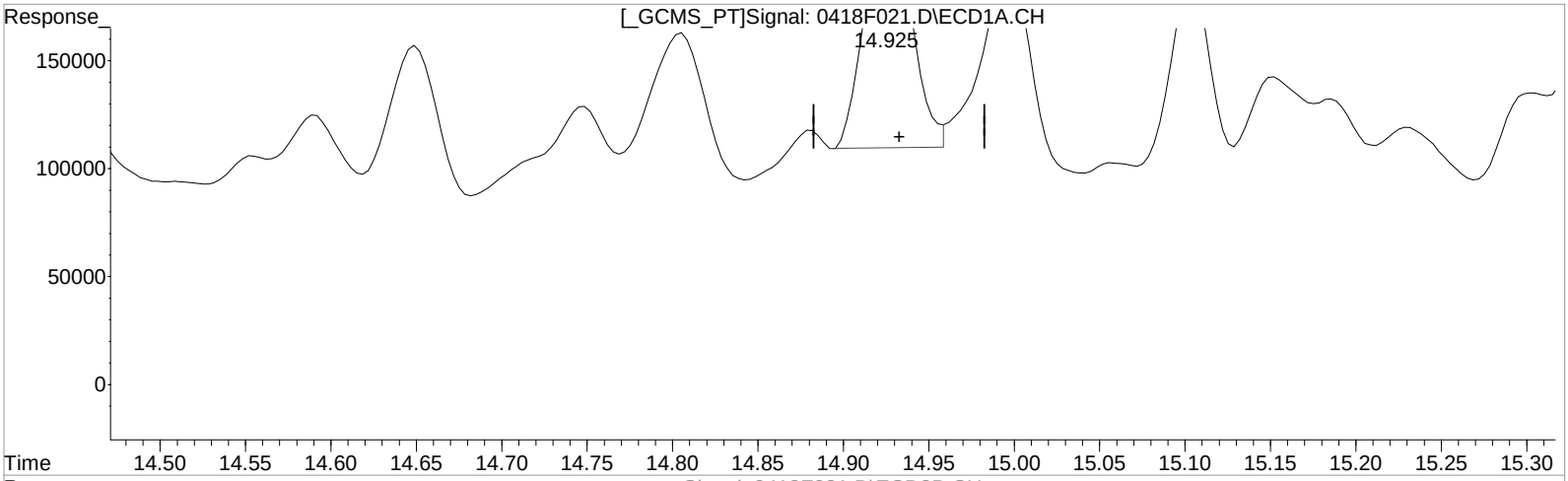
Quantitation Report (Qedit)

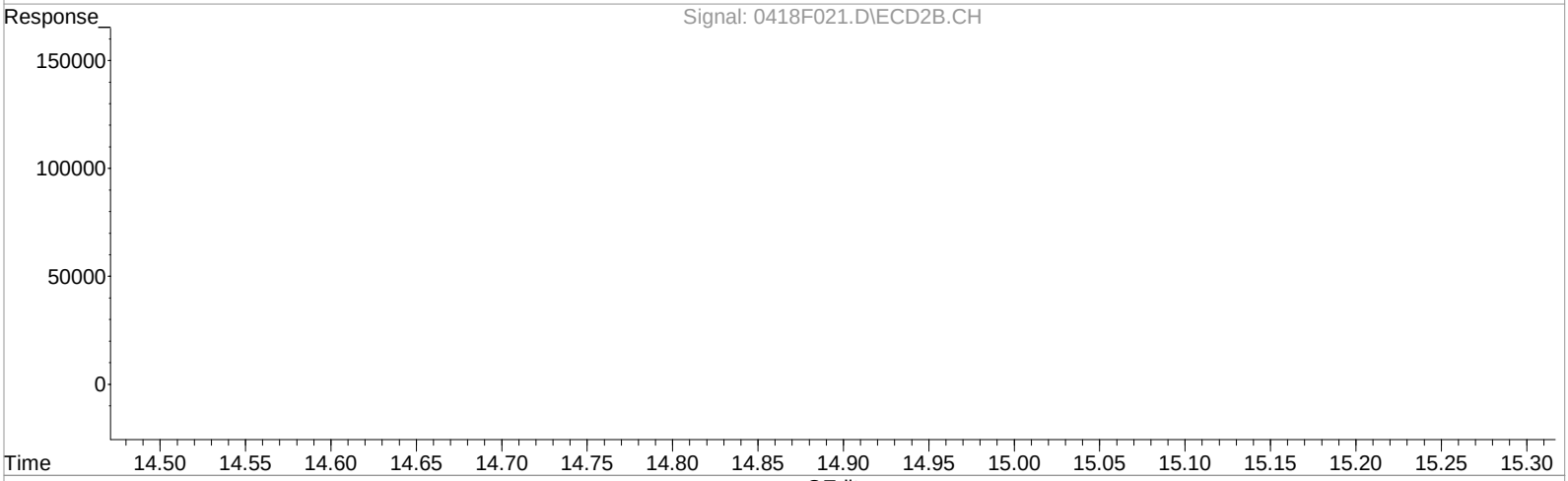
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.925min 634.467 ug/L m

response 217794

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.592min 1603.442 ug/L m

response 1107993

(+) = Expected Retention Time

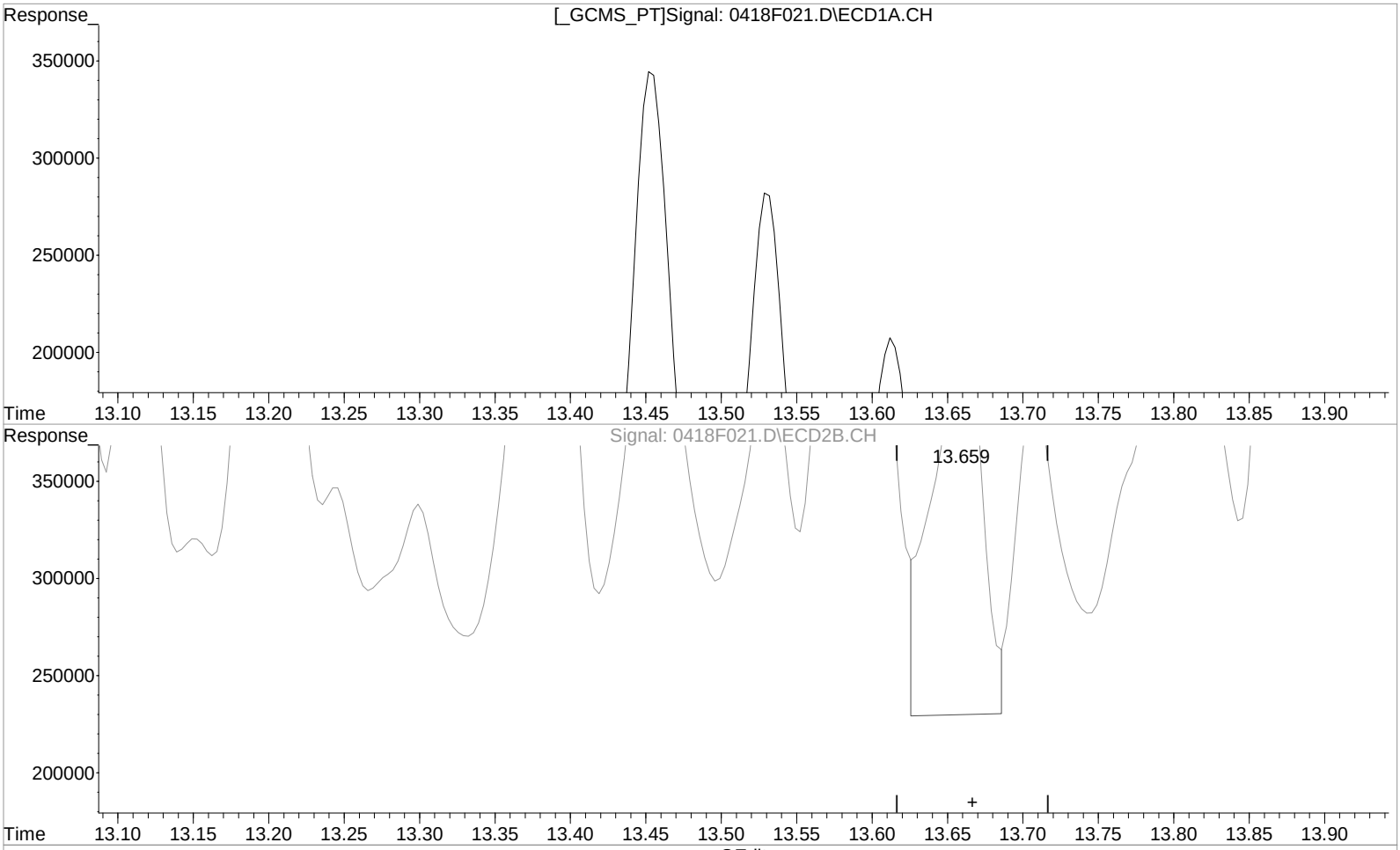
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.995min 983.067 ug/L

response 226950

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.659min 1833.144 ug/L

response 465680

(+) = Expected Retention Time

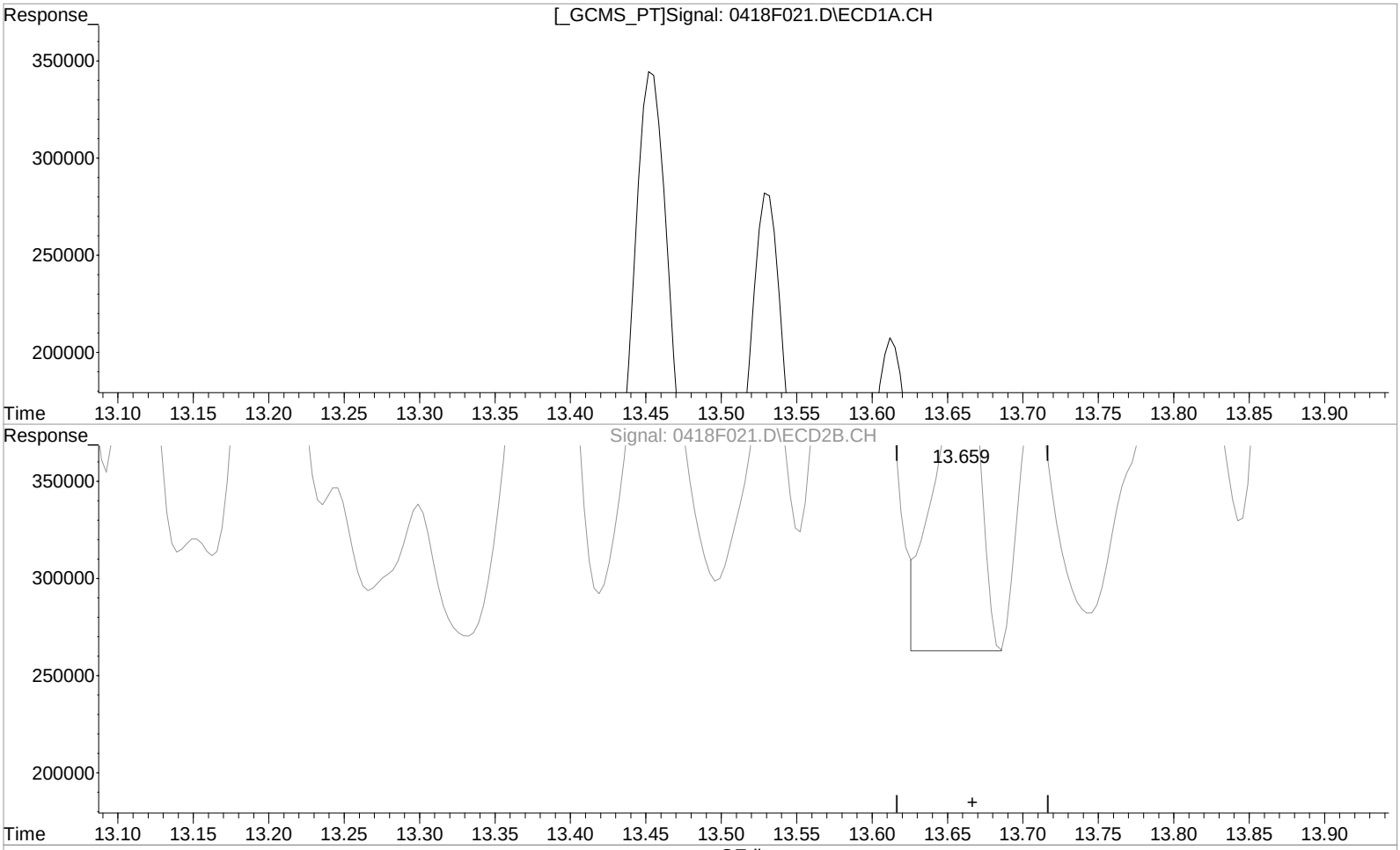
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.995min 983.067 ug/L

response 226950

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.659min 1154.882 ug/L m

response 347535

(+) = Expected Retention Time

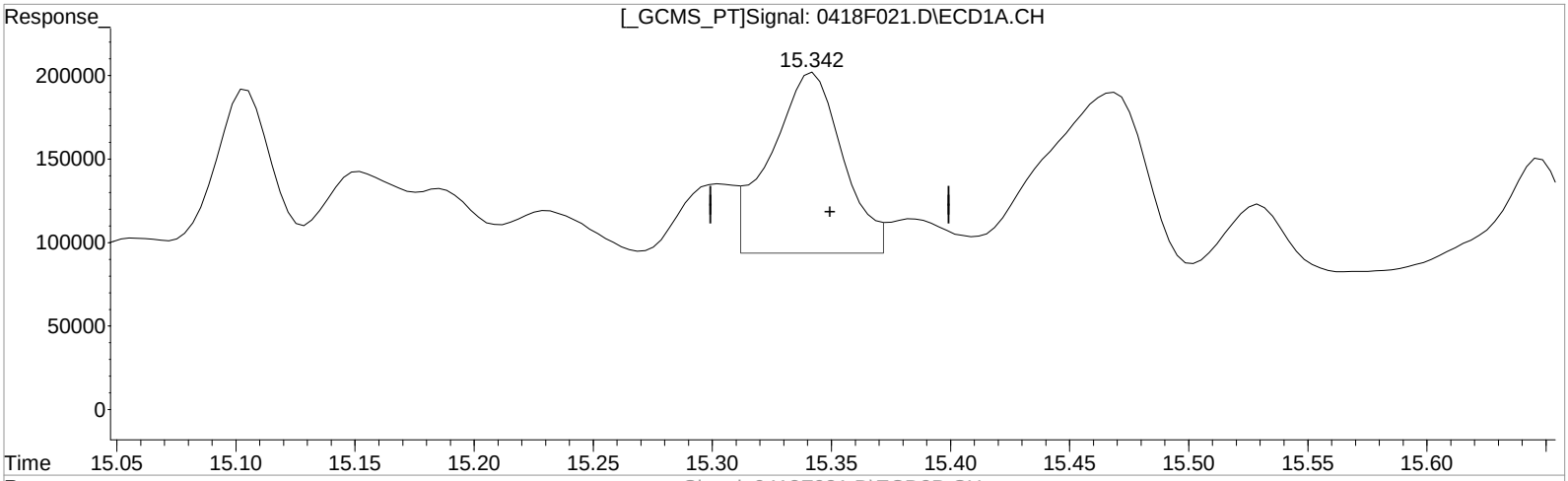
Quantitation Report (Qedit)

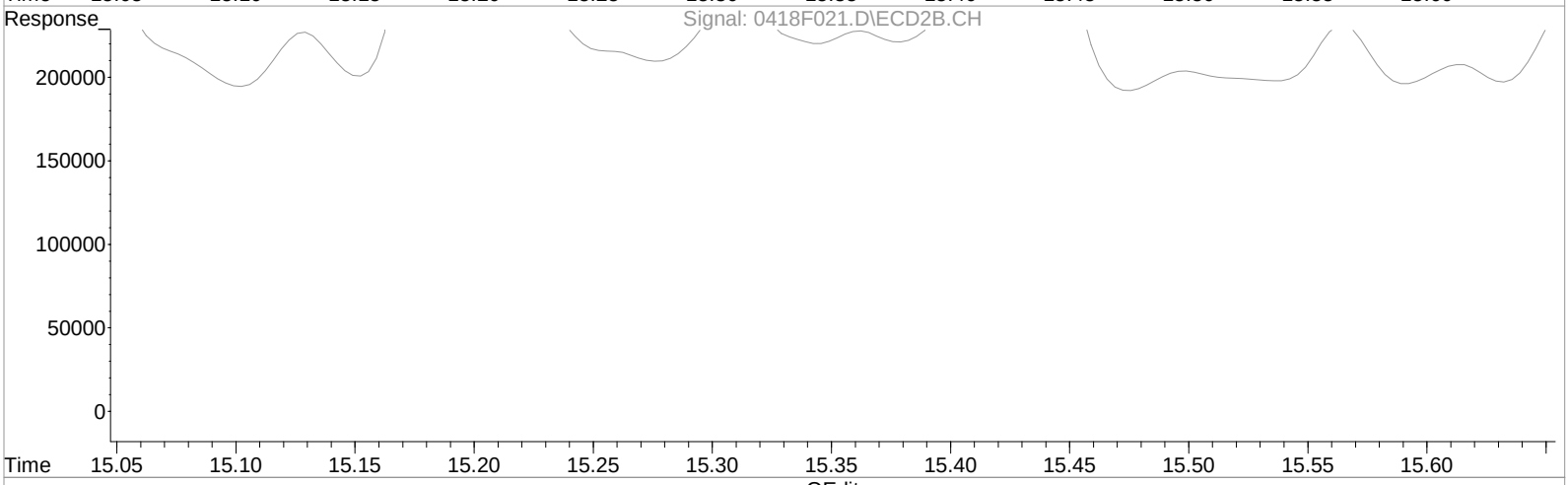
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.342min 1017.889 ug/L

response 223915

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.929min 1199.337 ug/L

response 714710

(+) = Expected Retention Time

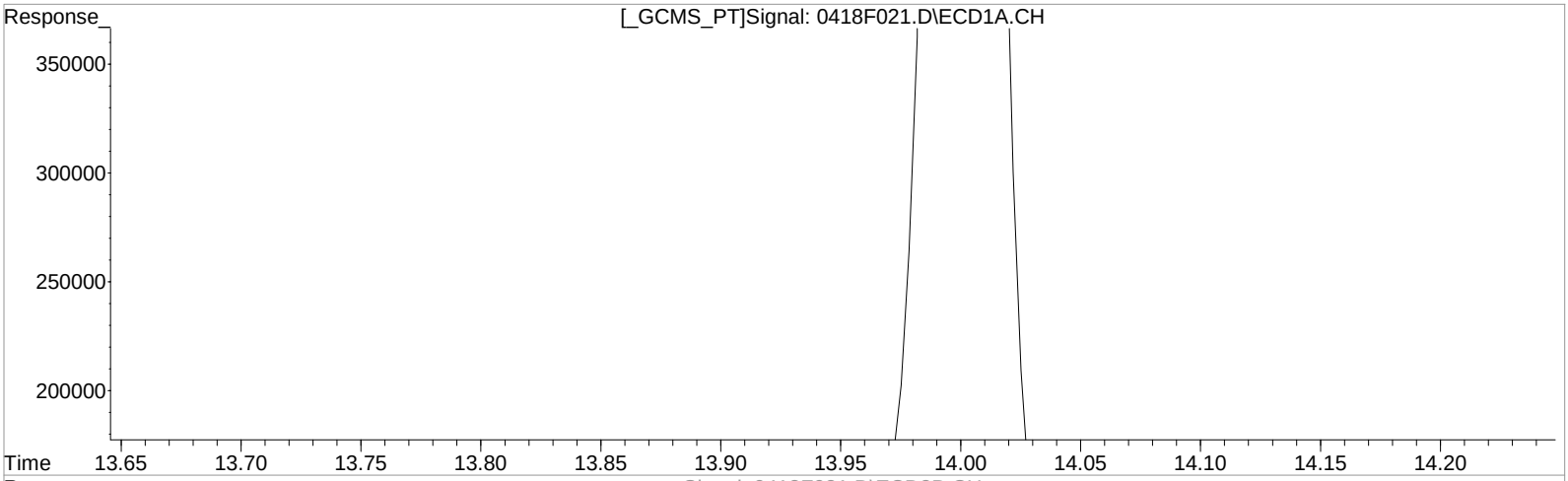
Quantitation Report (Qedit)

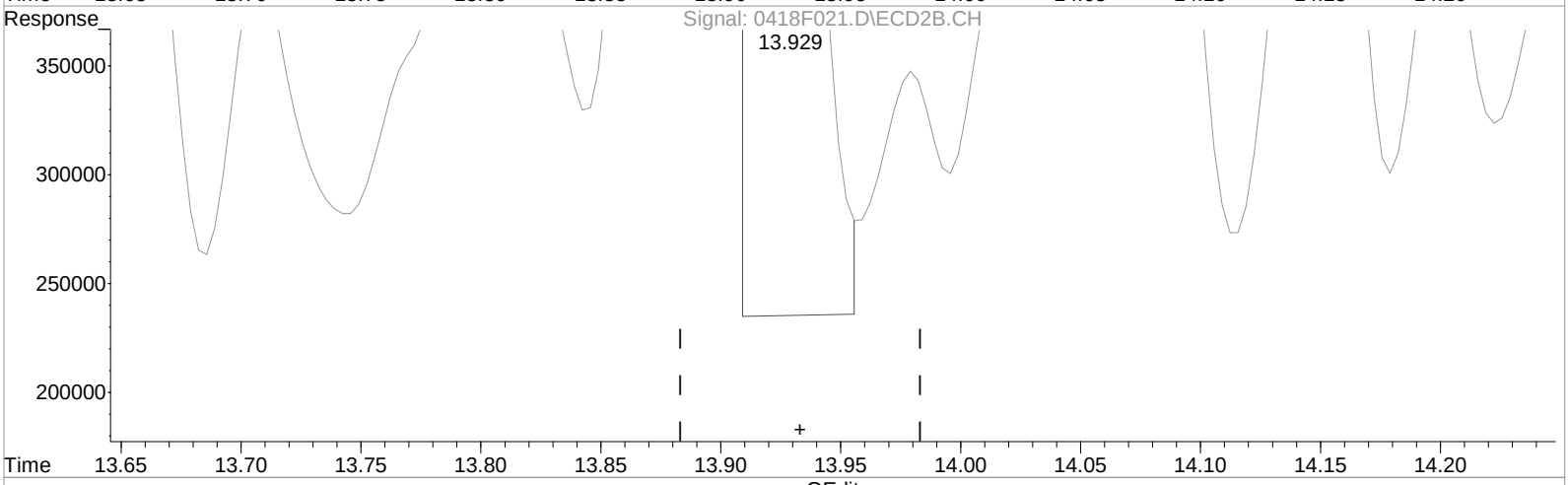
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.342min 717.771 ug/L m

response 157895

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.929min 1199.337 ug/L

response 714710

(+) = Expected Retention Time

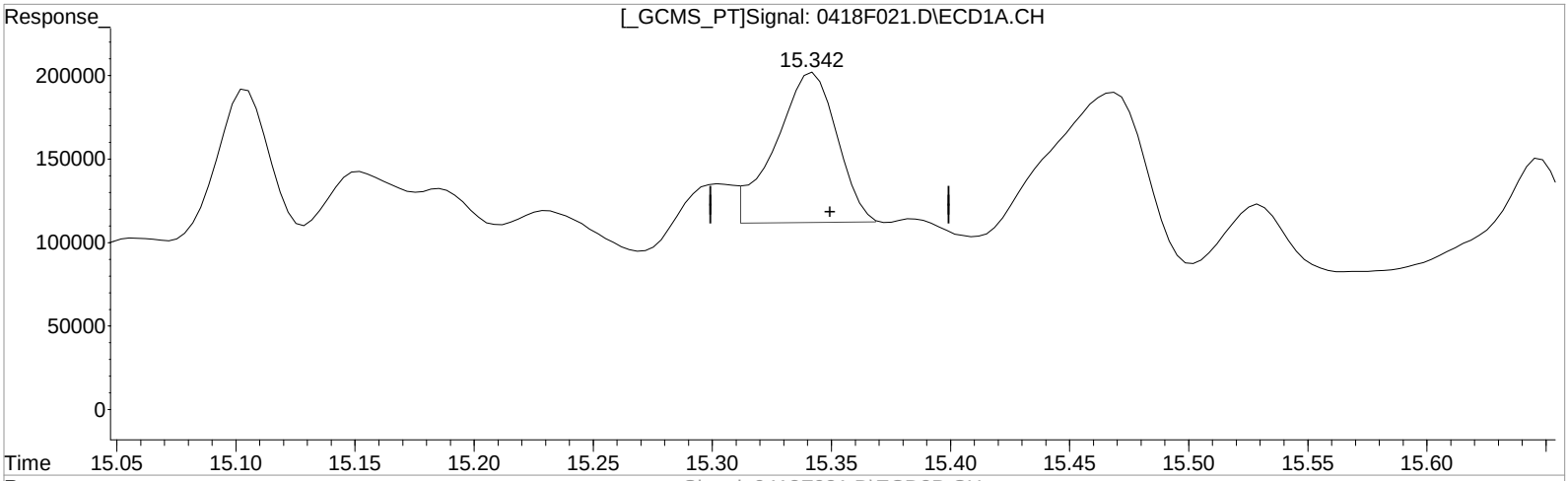
Quantitation Report (Qedit)

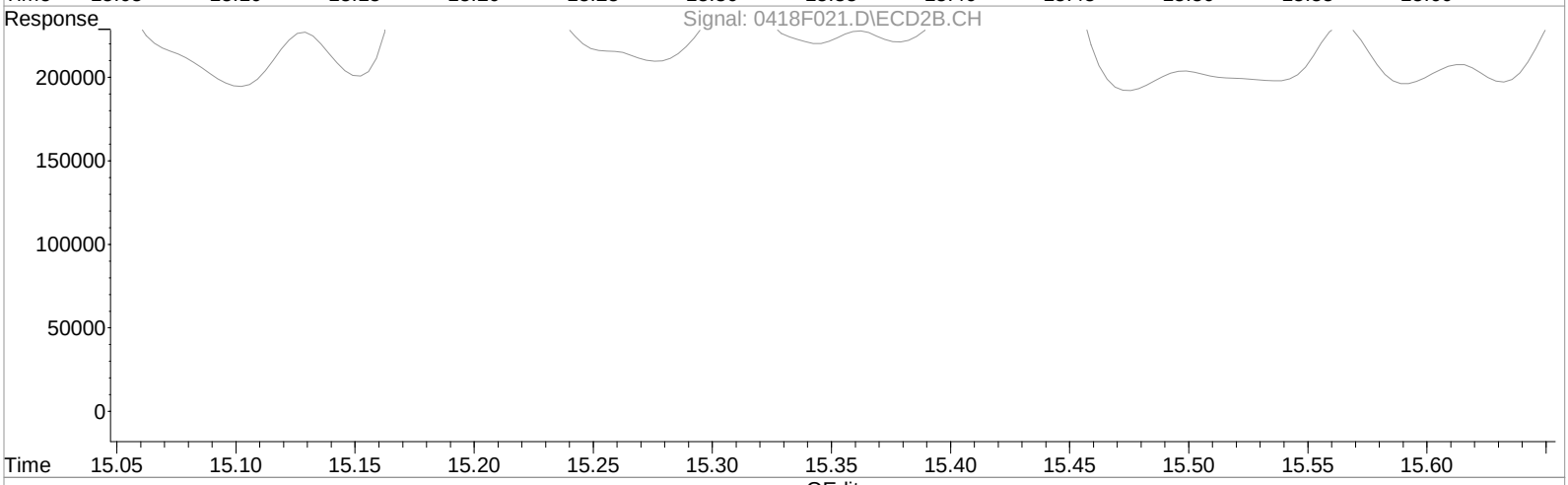
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.342min 717.771 ug/L m

response 157895

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.929min 1199.337 ug/L

response 714710

(+) = Expected Retention Time

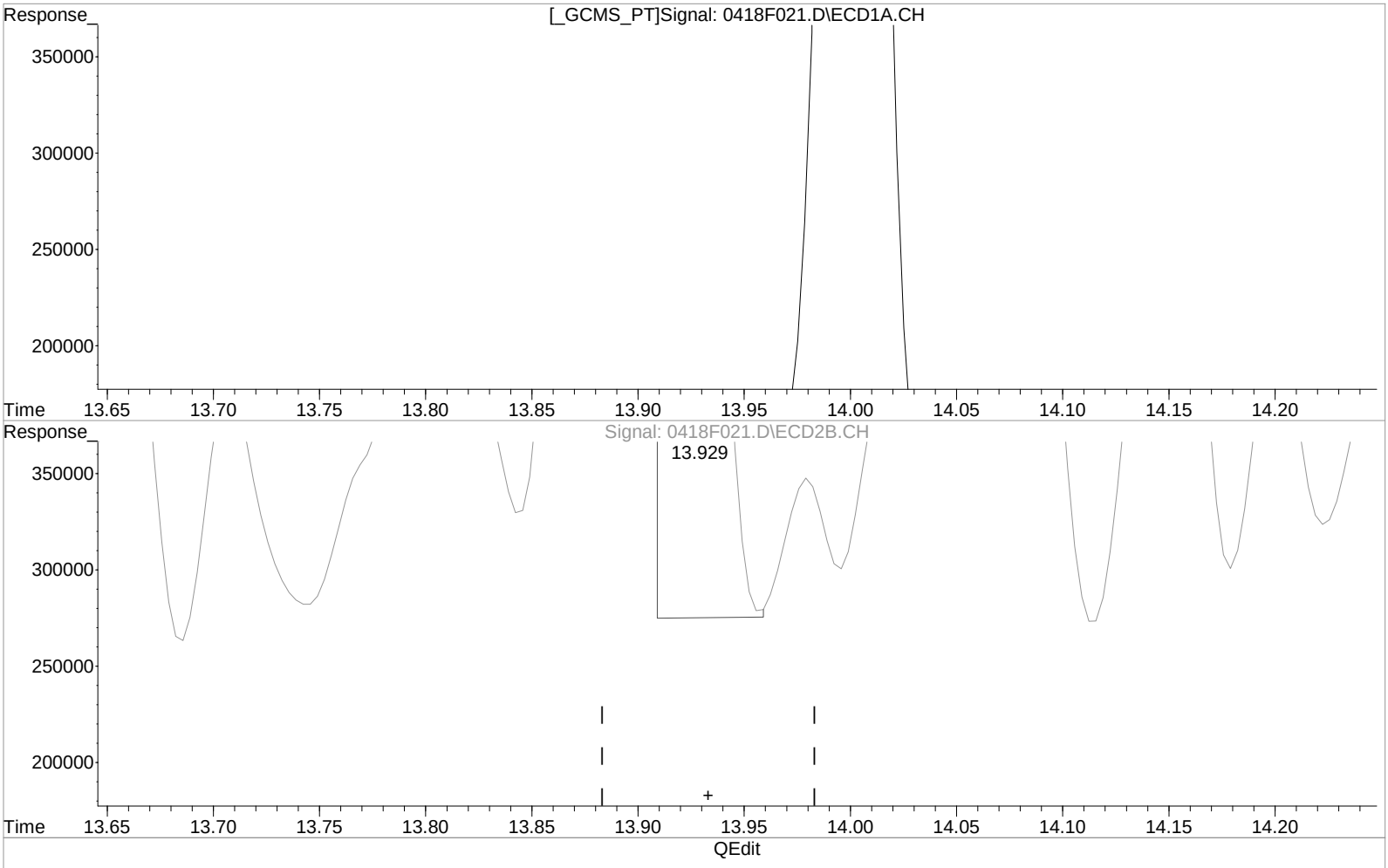
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.342min 717.771 ug/L m

response 157895

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.929min 1013.779 ug/L m

response 604132

(+) = Expected Retention Time

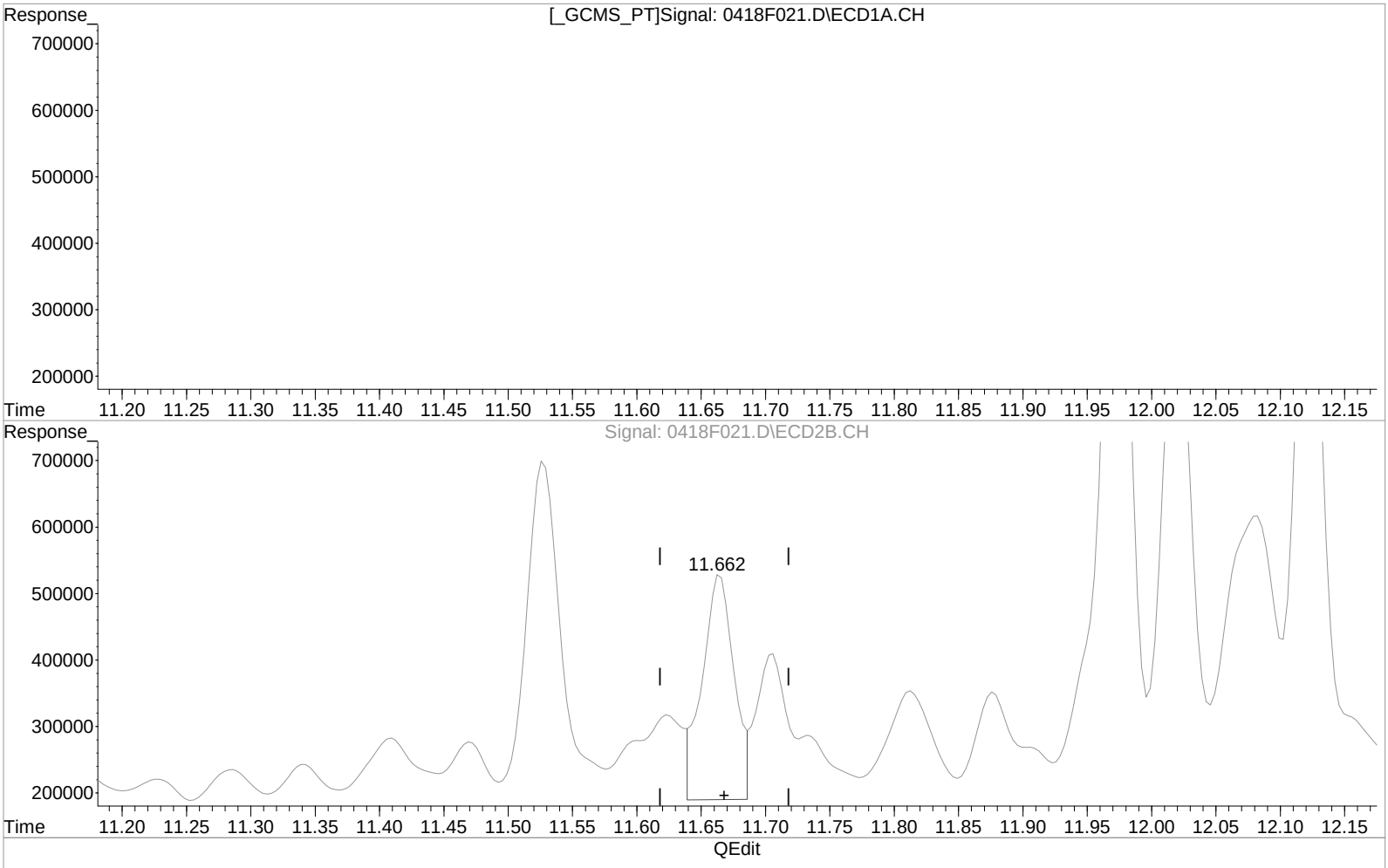
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(38) Chlordane {2}

11.695min 39.328 ug/L

response 39365

Manual Integration:

Before

04/21/20

(38) Chlordane {2} #2

11.662min 314.599 ug/L

response 583092

(+) = Expected Retention Time

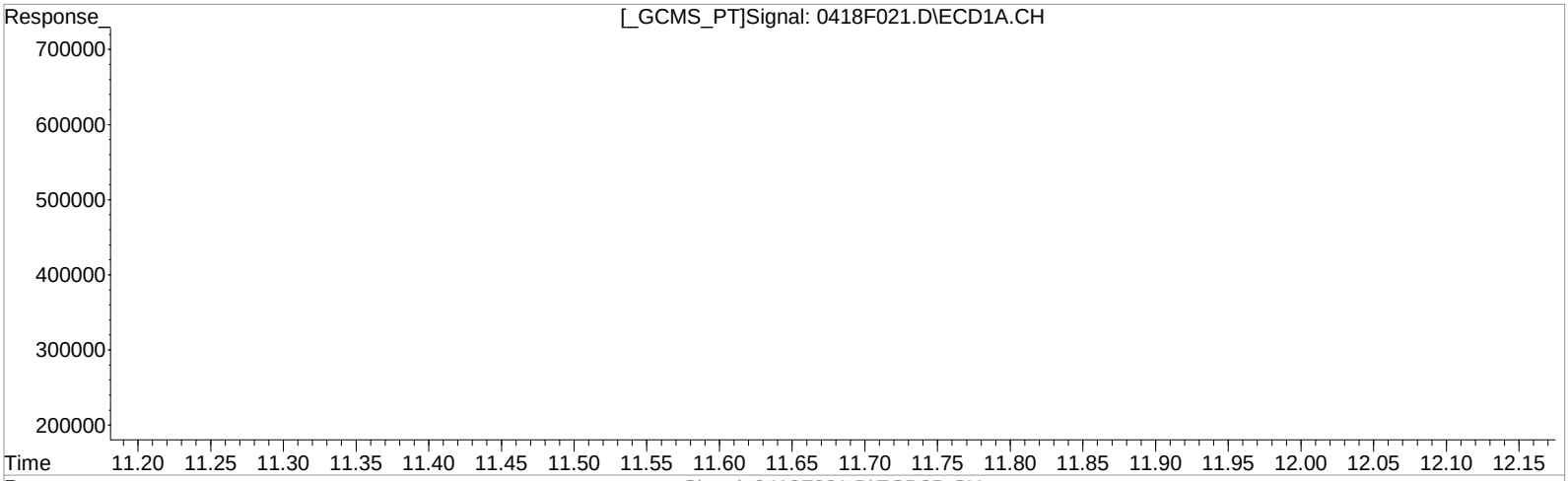
Quantitation Report (Qedit)

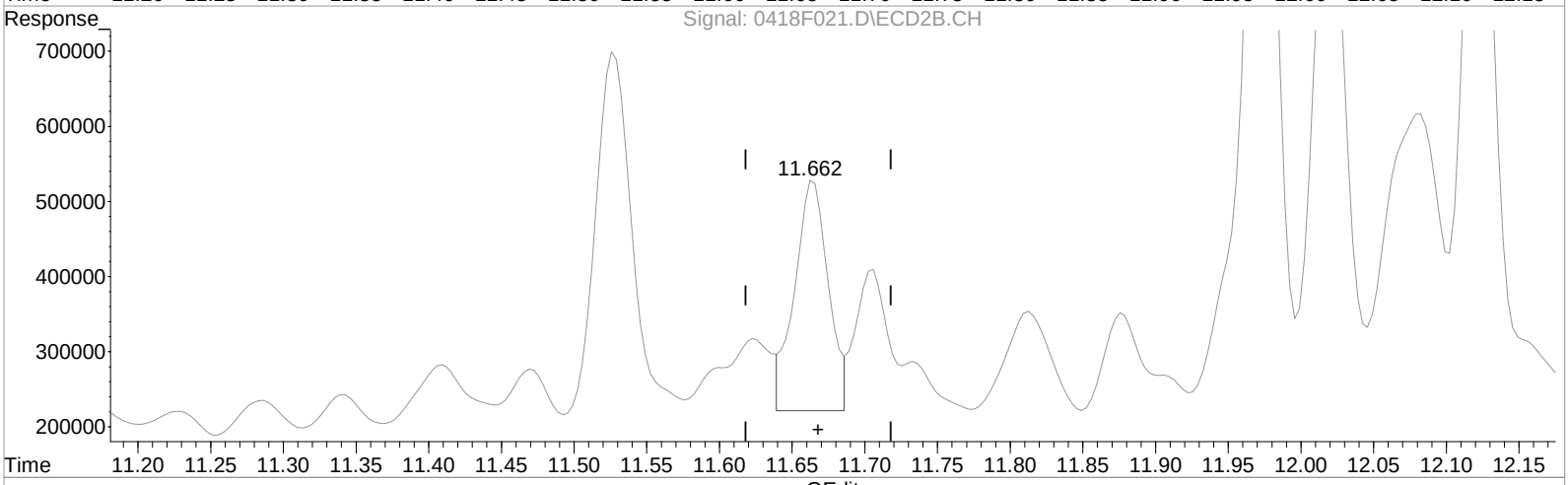
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.695min 39.328 ug/L

response 39365

(38) Chlordane {2} #2

11.662min 267.054 ug/L m

response 494970

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

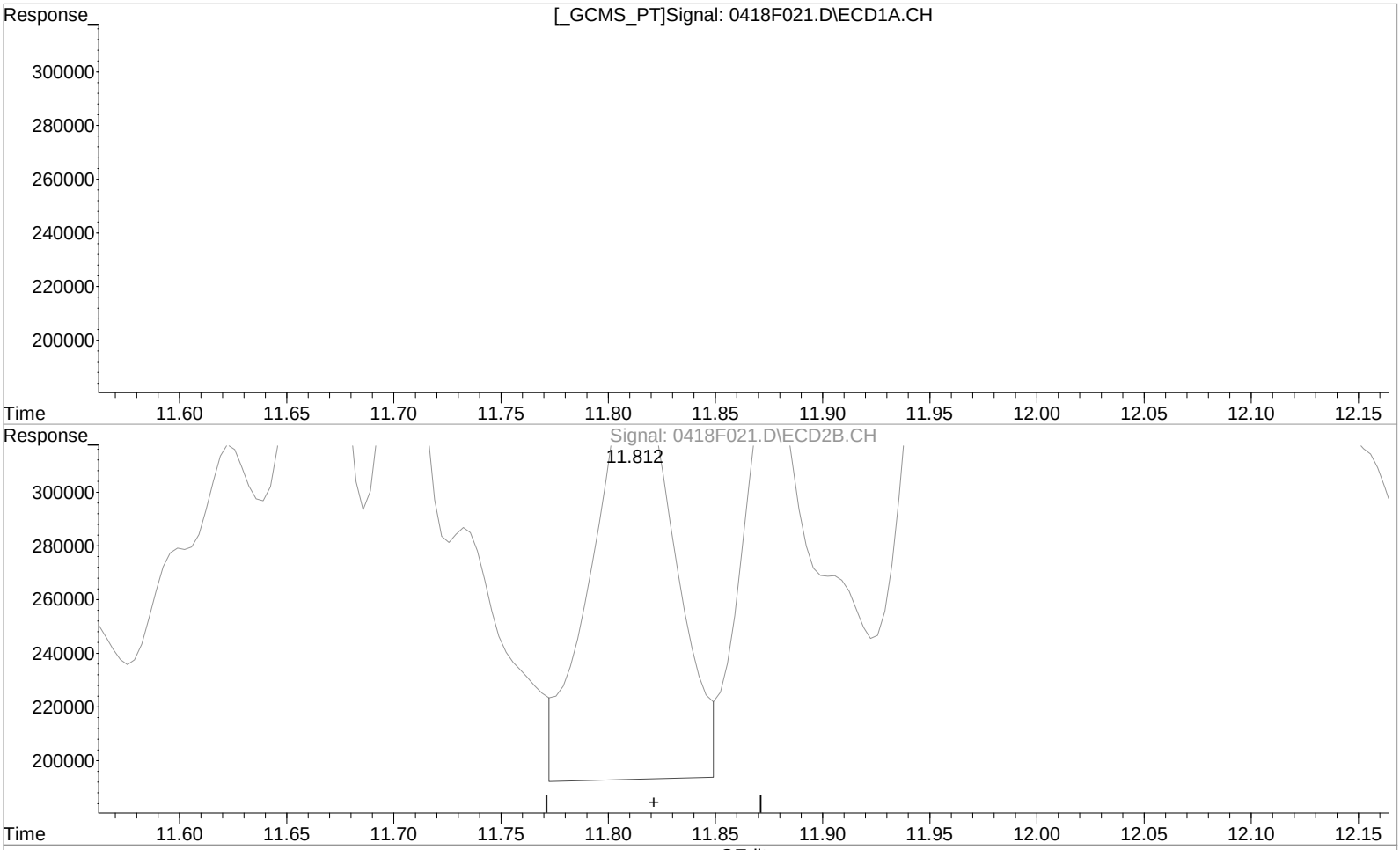
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(39) Chlordane {3}

12.255min 157.409 ug/L

response 113075

Manual Integration:

Before

04/21/20

(39) Chlordane {3} #2

11.812min 330.333 ug/L

response 406451

(+) = Expected Retention Time

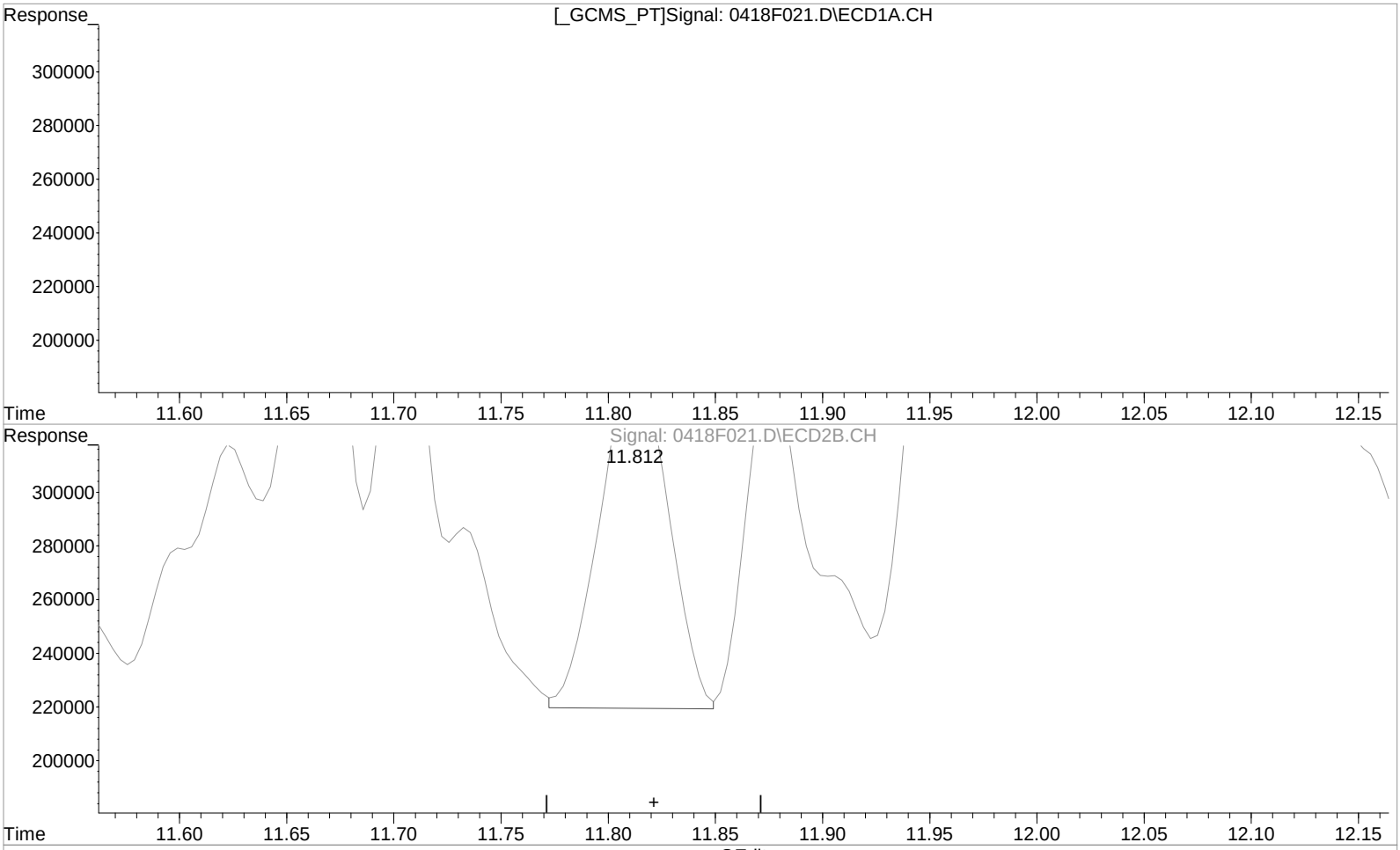
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(39) Chlordane {3}

12.255min 157.409 ug/L

response 113075

Manual Integration:

After

Baseline correction

04/21/20

(39) Chlordane {3} #2

11.812min 231.402 ug/L m

response 284723

(+) = Expected Retention Time

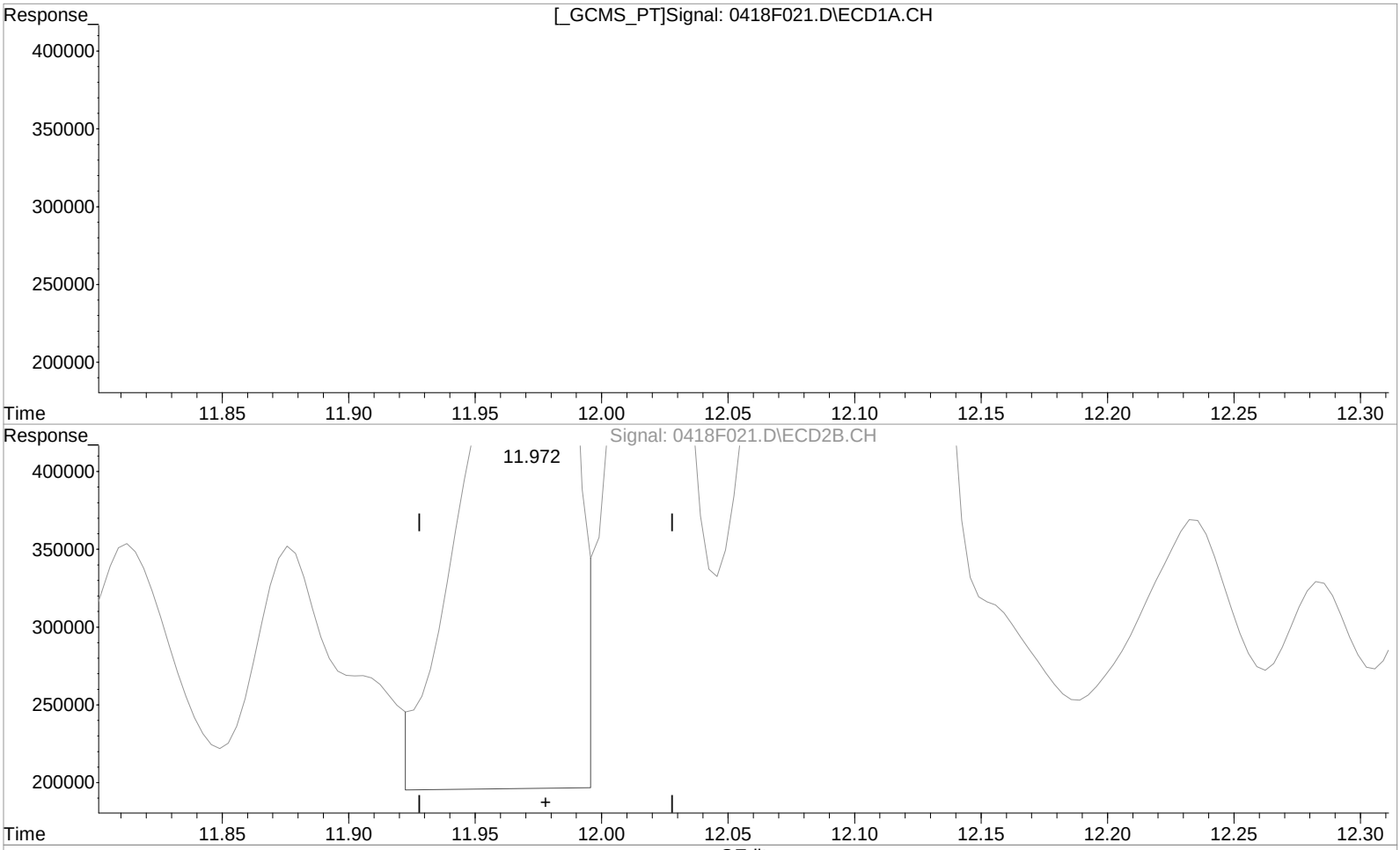
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(40) Chlordane {4}

13.452min 209.016 ug/L

response 455780

Manual Integration:

Before

04/21/20

(40) Chlordane {4} #2

11.972min 263.137 ug/L

response 1960930

(+) = Expected Retention Time

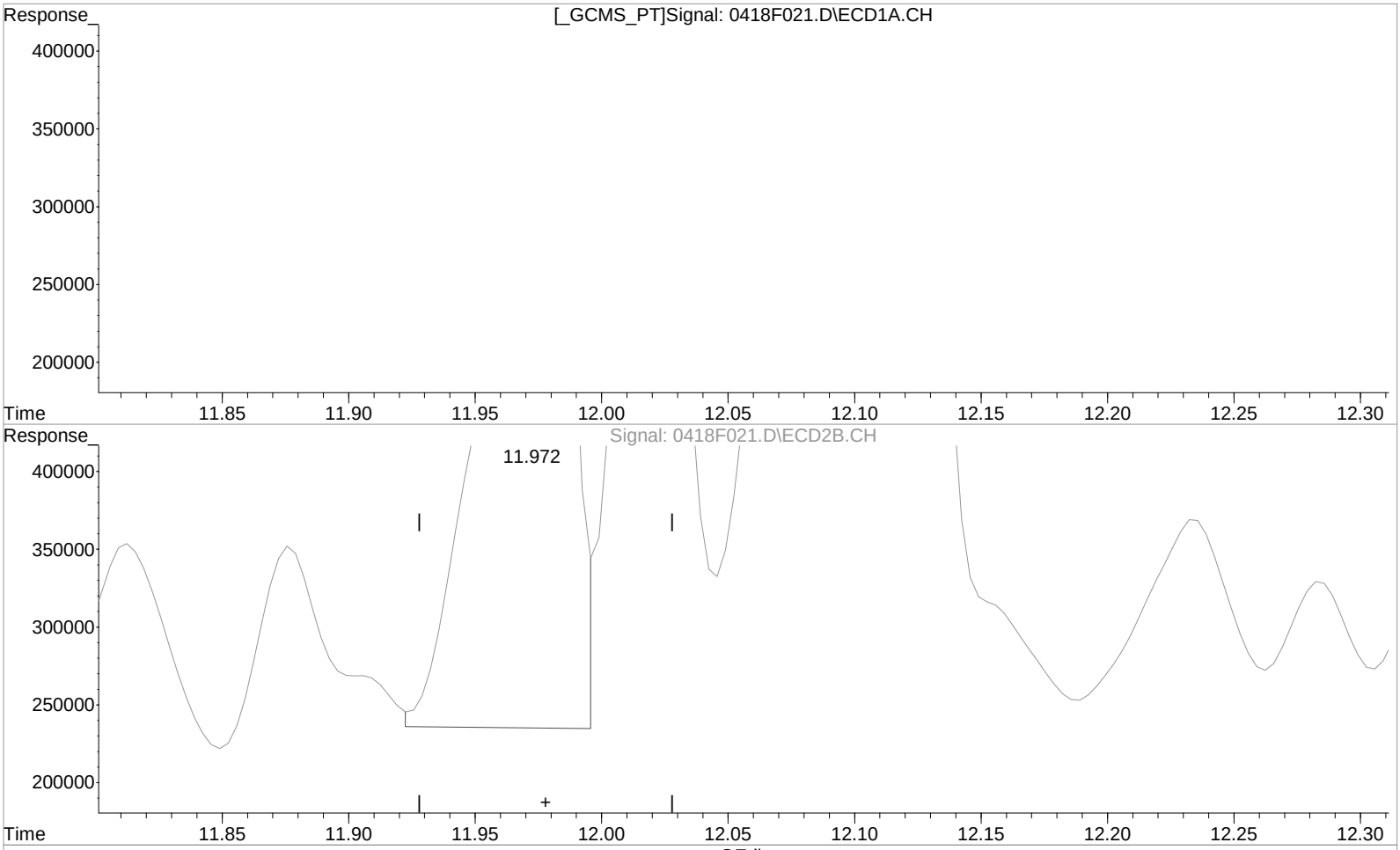
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(40) Chlordane {4}

13.452min 209.016 ug/L

response 455780

Manual Integration:

After

Baseline correction

04/21/20

(40) Chlordane {4} #2

11.972min 239.838 ug/L m

response 1787303

(+) = Expected Retention Time

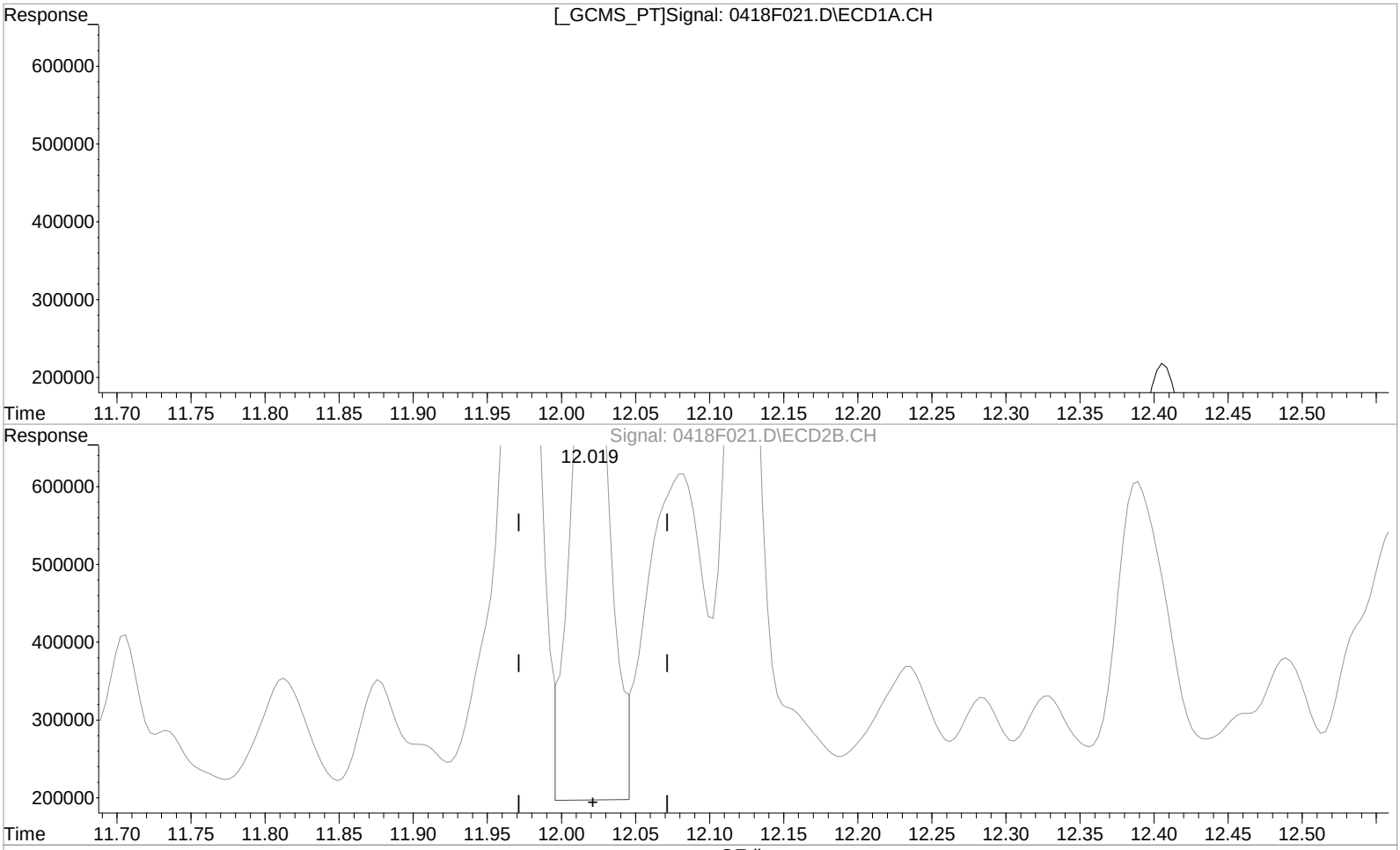
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(41) Chlordane {5}

13.528min 186.092 ug/L

response 335648

Manual Integration:

Before

04/21/20

(41) Chlordane {5} #2

12.019min 282.565 ug/L

response 1289306

(+) = Expected Retention Time

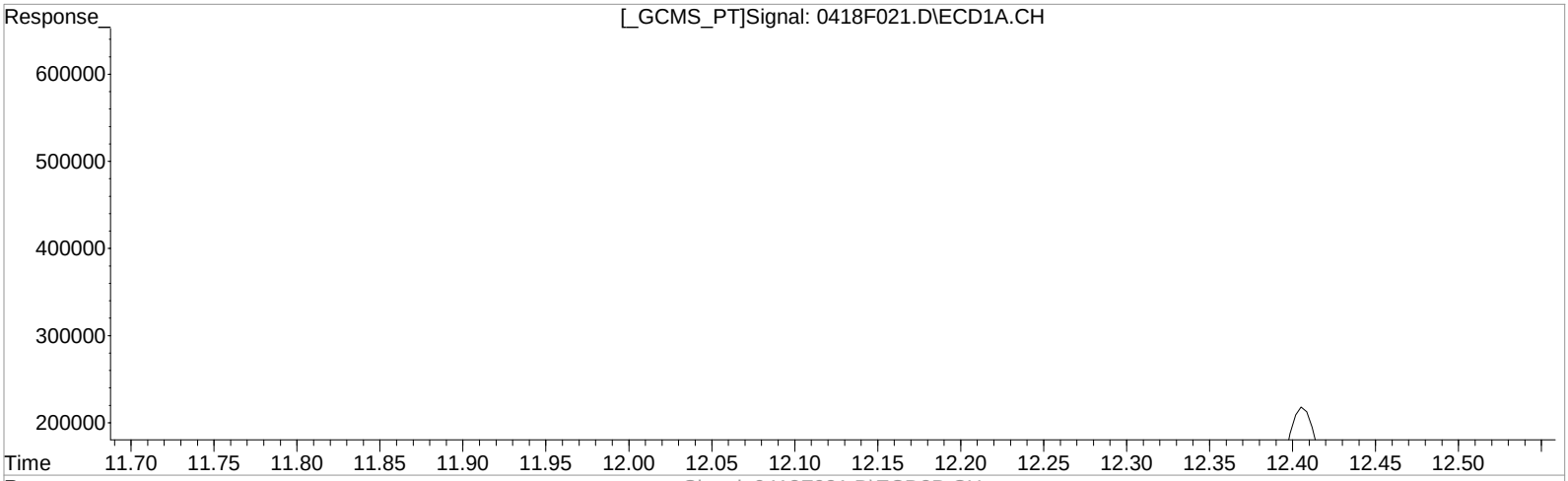
Quantitation Report (Qedit)

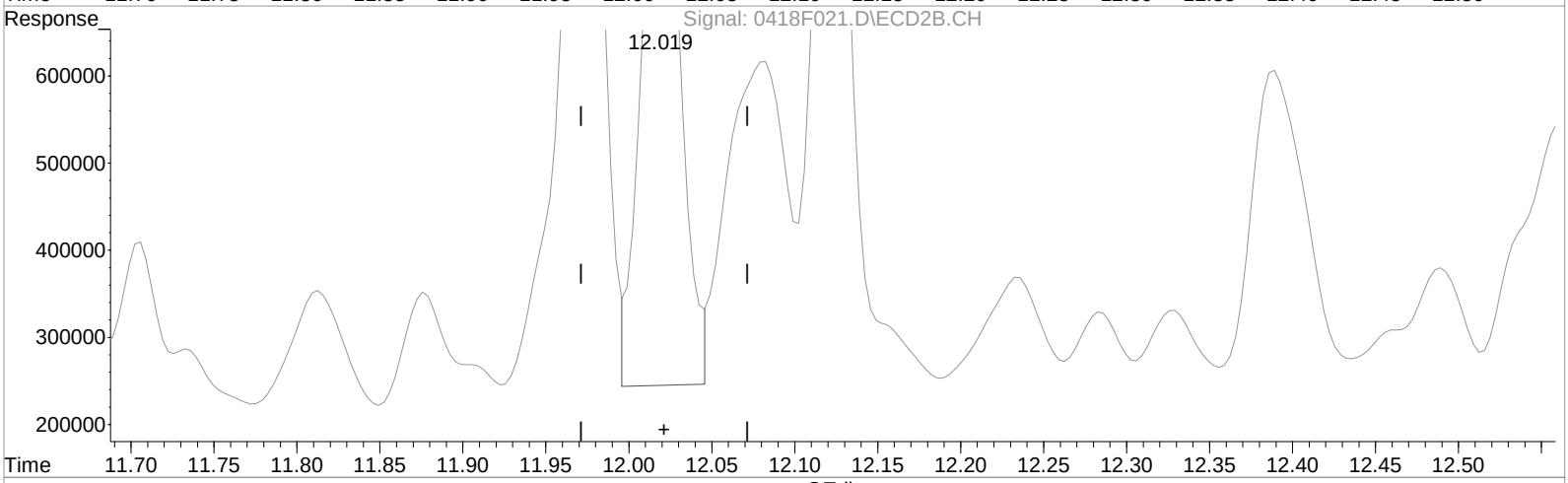
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.528min 186.092 ug/L

response 335648

(41) Chlordane {5} #2

12.019min 251.219 ug/L m

response 1146280

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

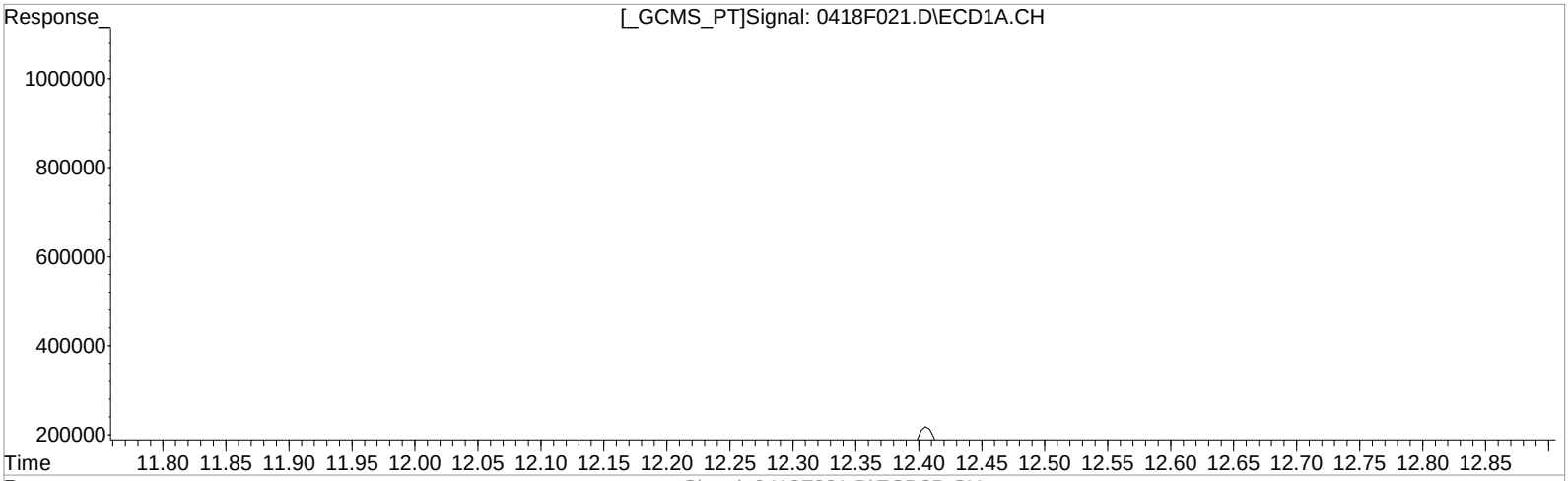
Quantitation Report (Qedit)

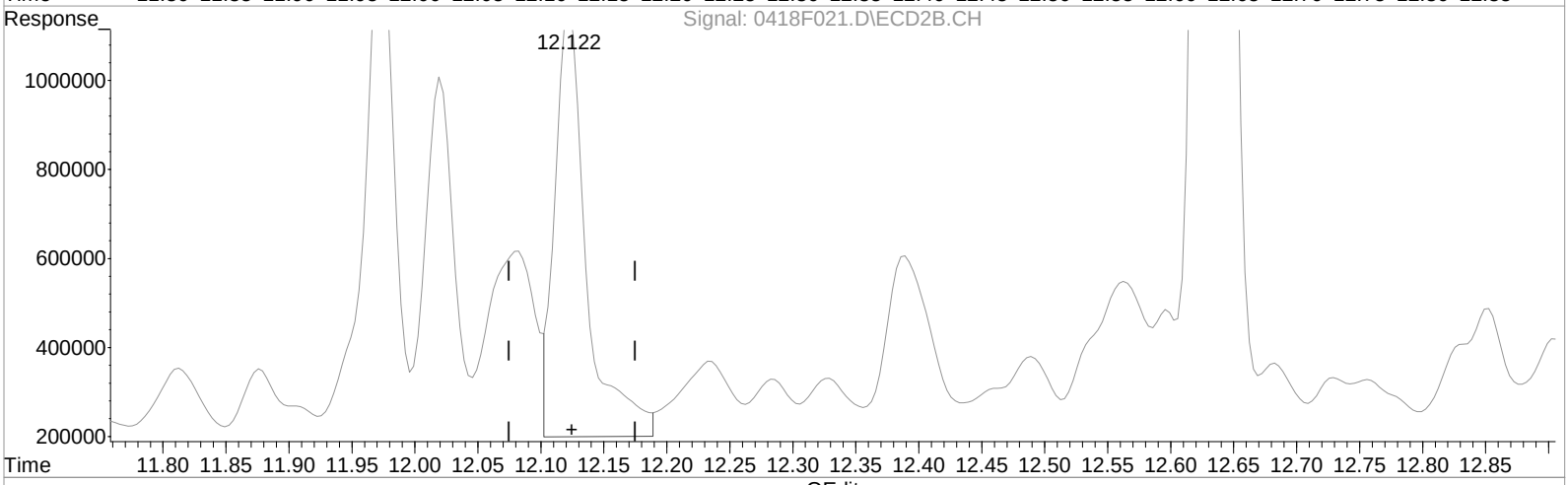
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.612min 155.066 ug/L

response 205317

Manual Integration:

Before

04/21/20

(42) Chlordane {6} #2

12.122min 250.900 ug/L

response 1657603

(+) = Expected Retention Time

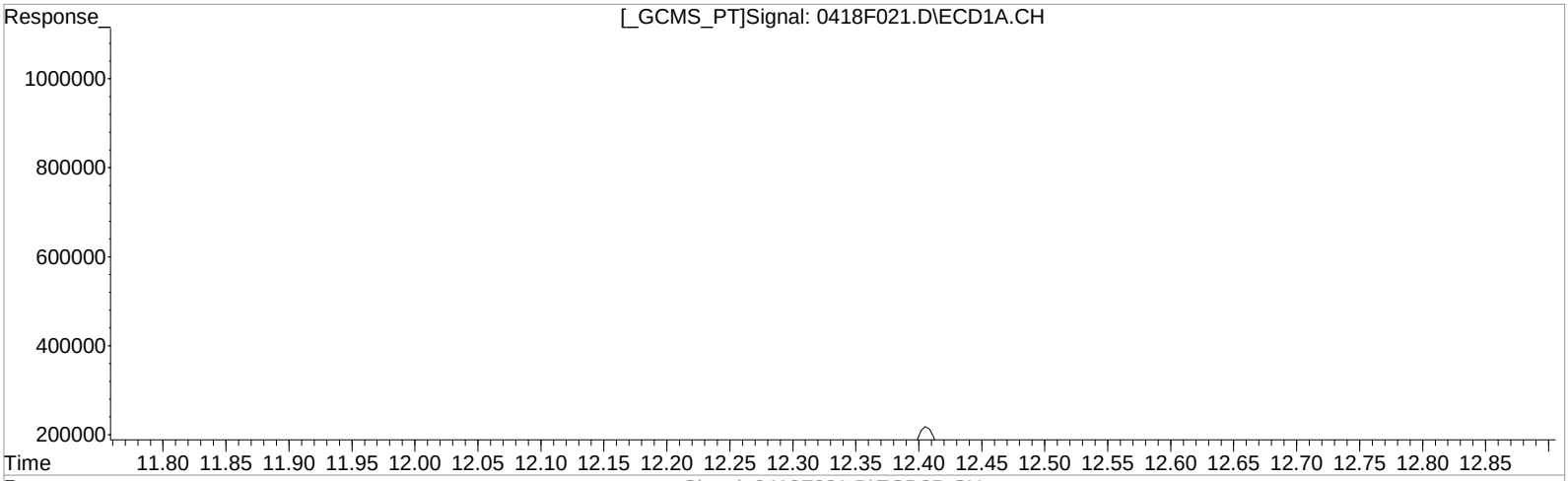
Quantitation Report (Qedit)

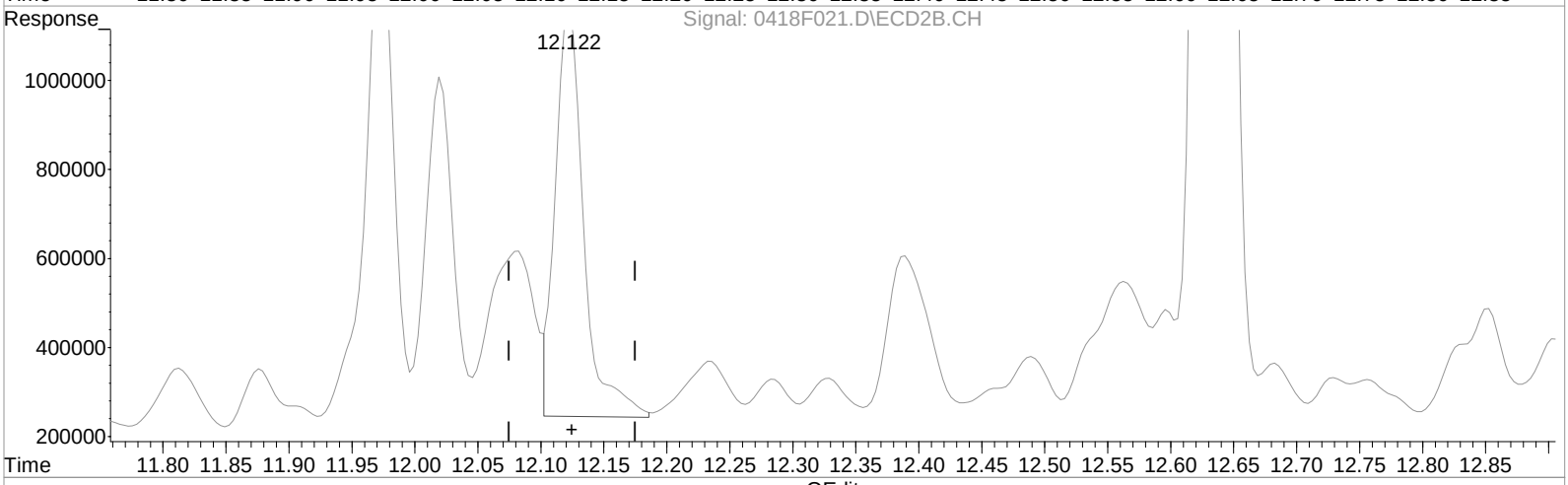
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.612min 155.066 ug/L

response 205317

Manual Integration:

After

Baseline correction

04/21/20

(42) Chlordane {6} #2

12.122min 215.397 ug/L m

response 1423052

(+) = Expected Retention Time

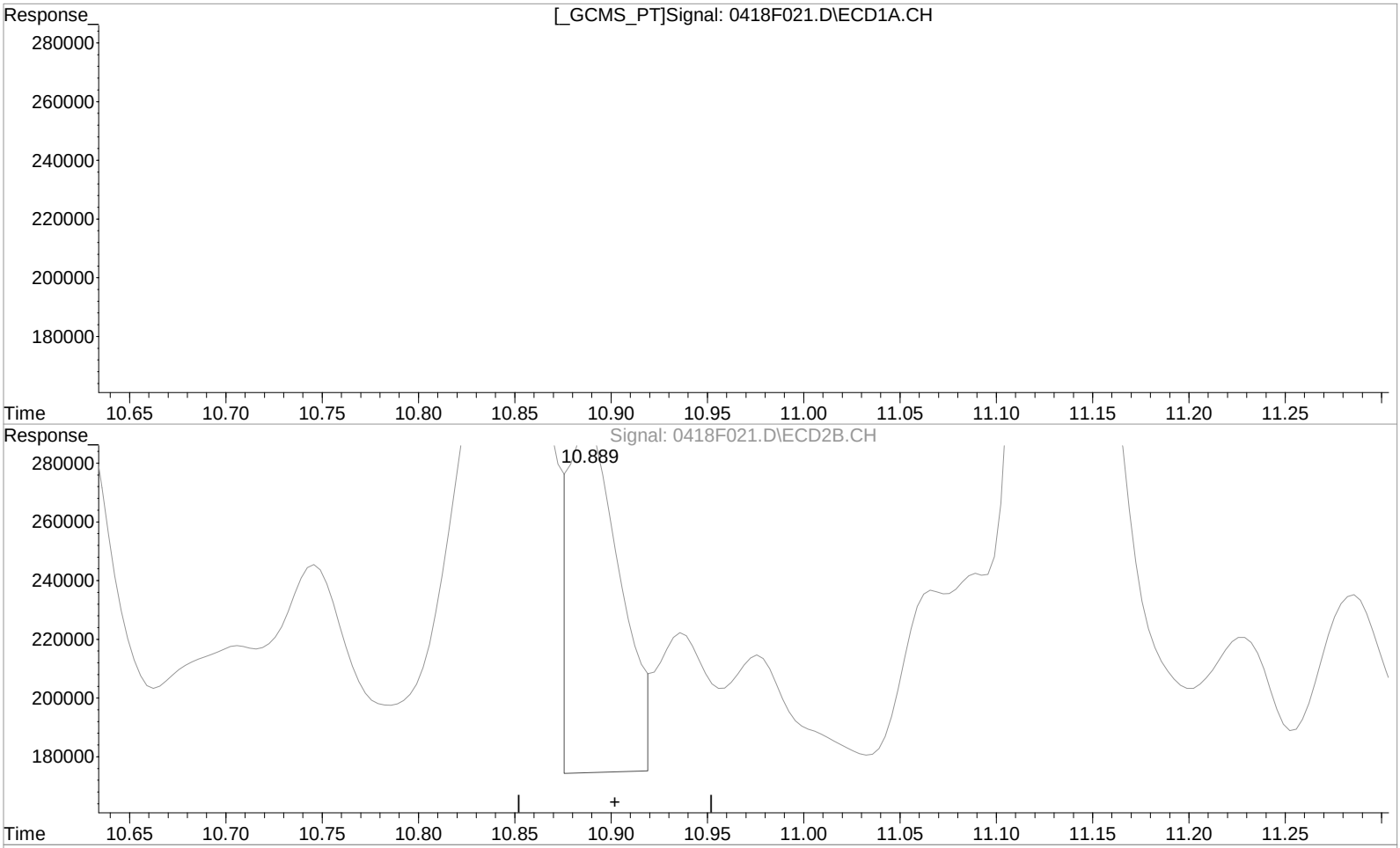
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(44) Chlorpyrifos

12.115min 4.693 ug/L

response 50139

Manual Integration:

Before

04/21/20

(44) Chlorpyrifos #2

10.889min 6.751 ug/L

response 210961

(+) = Expected Retention Time

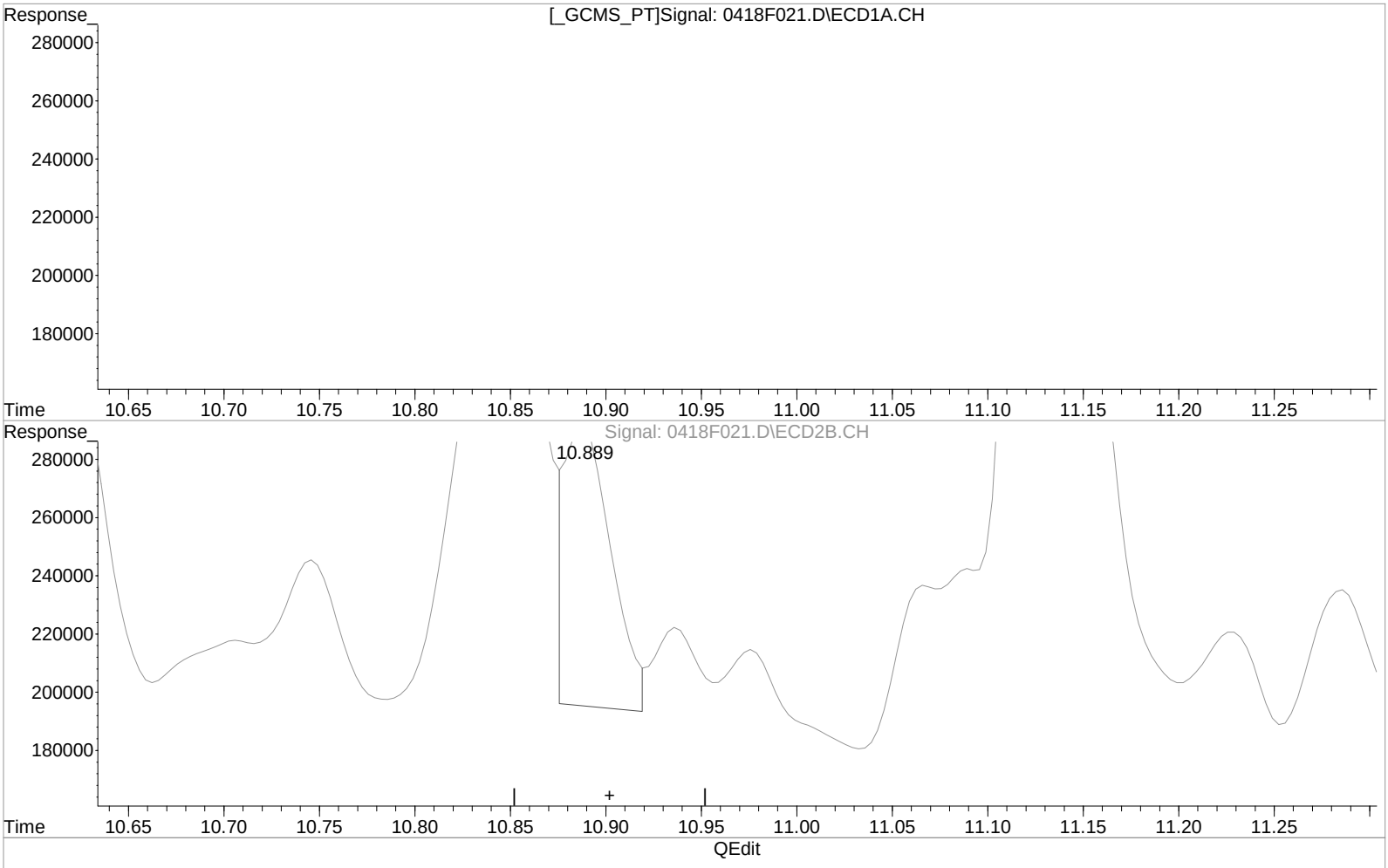
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(44) Chlorpyrifos

12.115min 4.693 ug/L

response 50139

Manual Integration:

After

Baseline correction

04/21/20

(44) Chlorpyrifos #2

10.889min 5.090 ug/L m

response 159039

(+) = Expected Retention Time

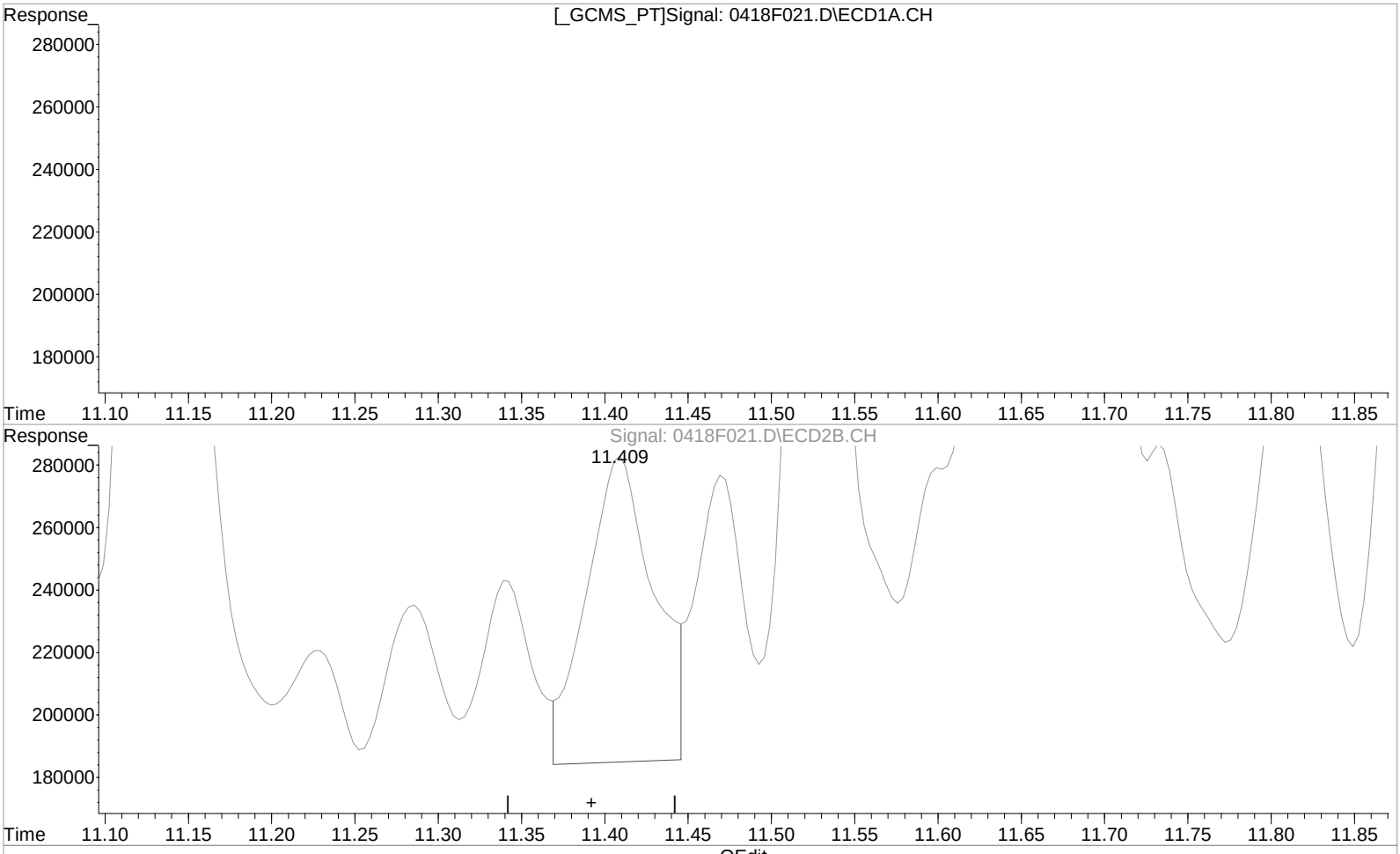
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(45) Oxychlordane

12.879min 6.134 ug/L

response 113268

Manual Integration:

Before

04/21/20

(45) Oxychlordane #2

11.409min 3.941 ug/L

response 277188

(+) = Expected Retention Time

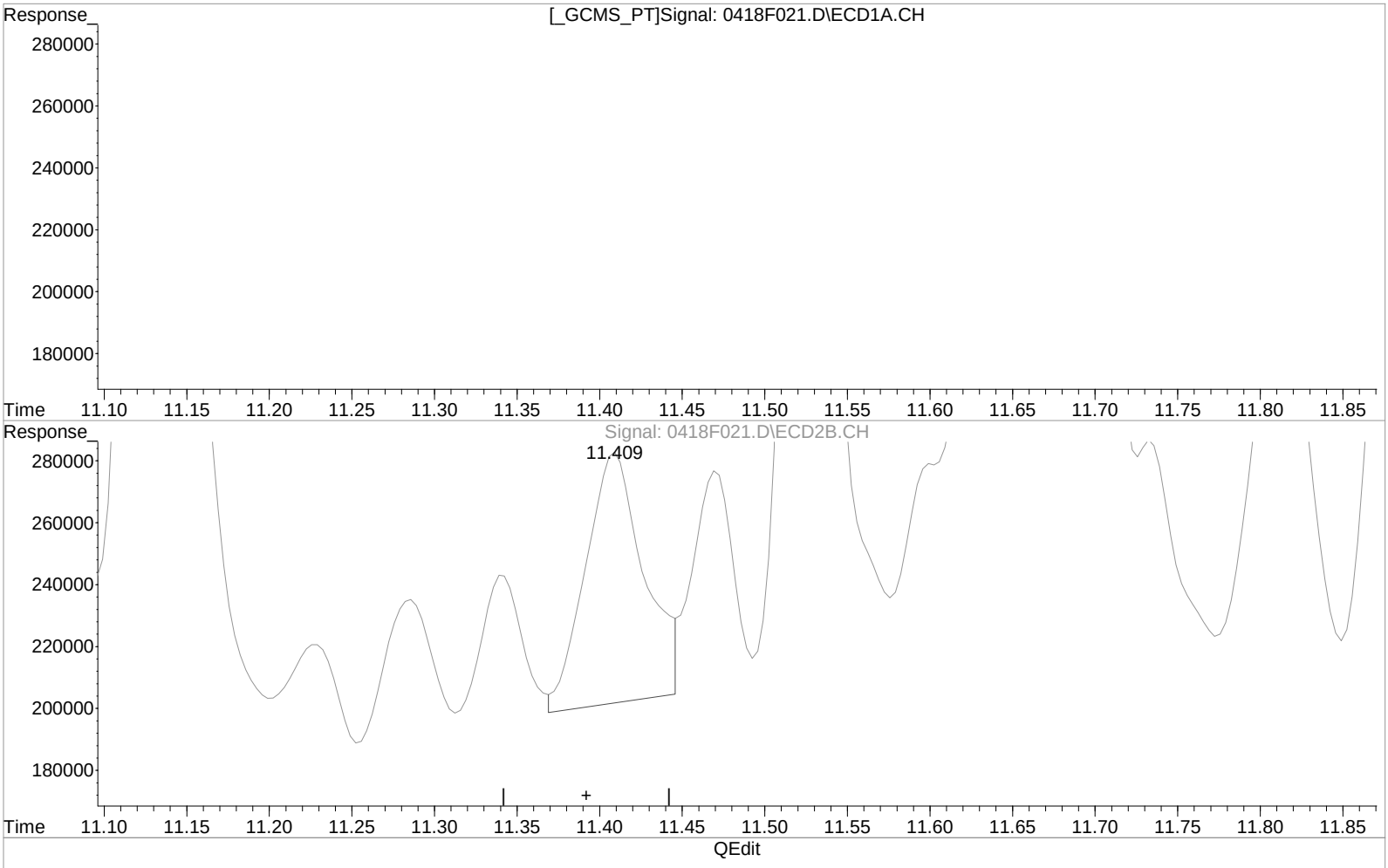
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(45) Oxychlordane

12.879min 6.134 ug/L

response 113268

(45) Oxychlordane #2

11.409min 2.846 ug/L m

response 200181

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

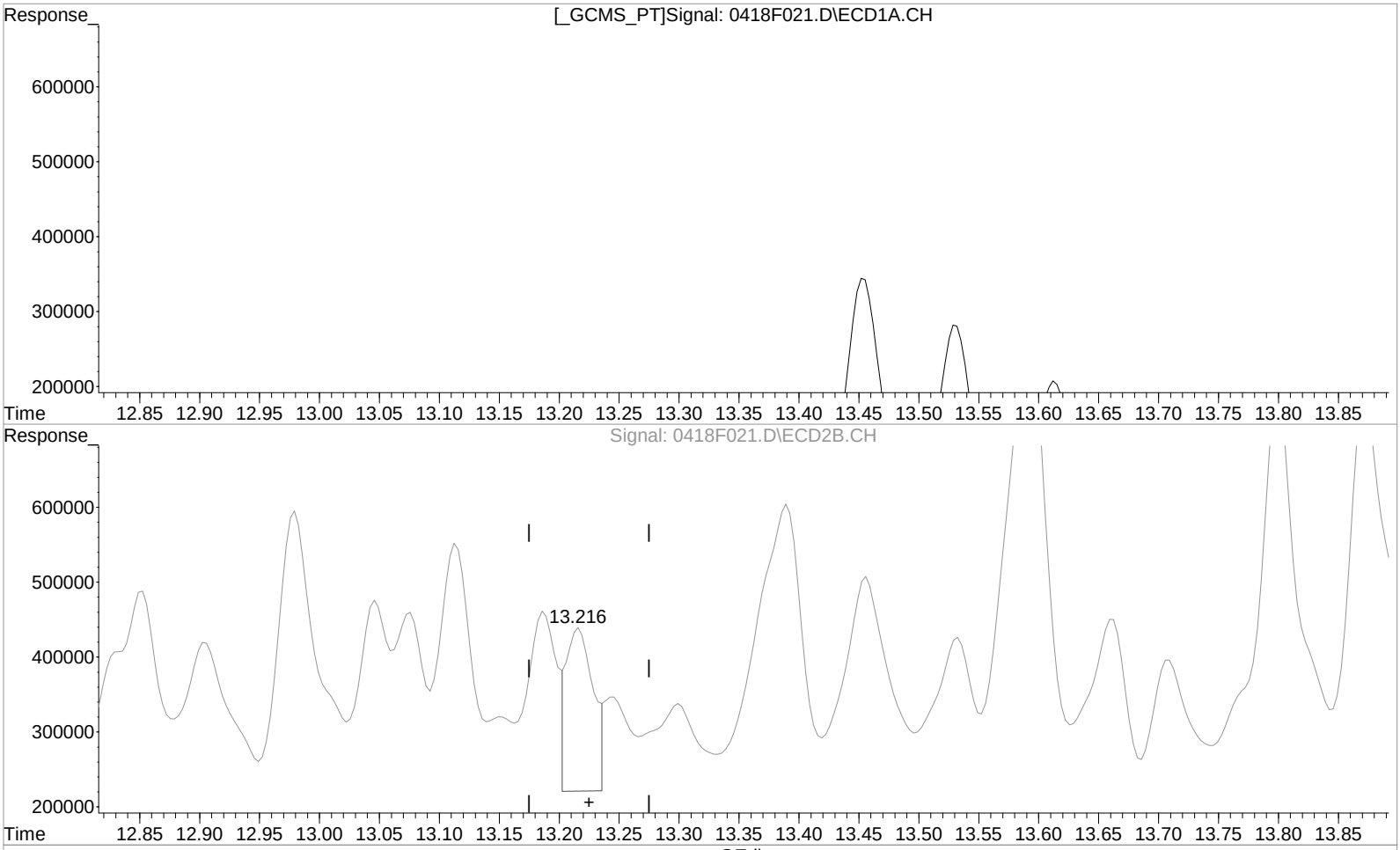
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(46) cis-Nonachlor

14.649min 6.764 ug/L

response 131326

Manual Integration:

Before

04/21/20

(46) cis-Nonachlor #2

13.216min 4.658 ug/L

response 341746

(+) = Expected Retention Time

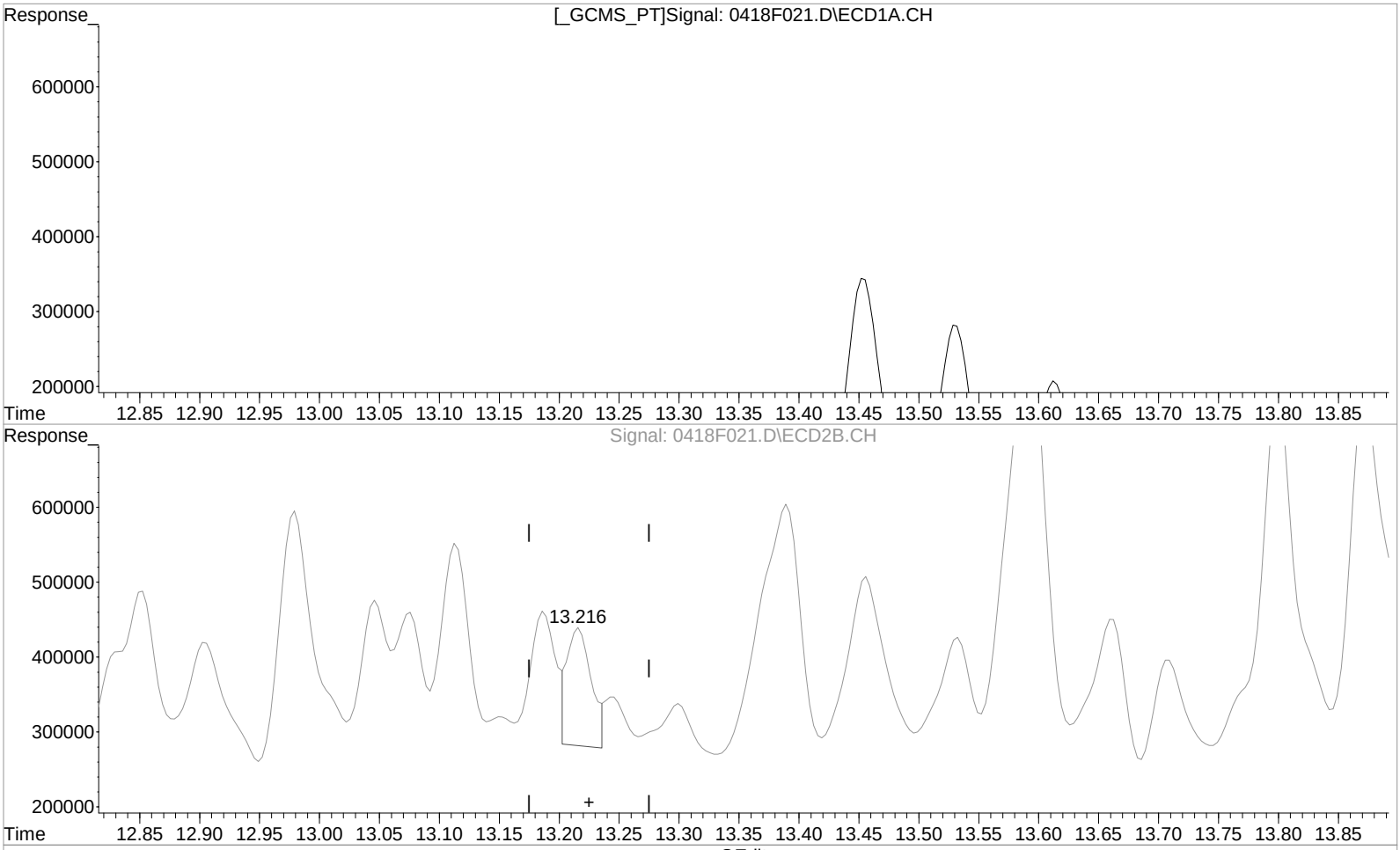
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(46) cis-Nonachlor

14.649min 6.764 ug/L

response 131326

Manual Integration:

After

Baseline correction

04/21/20

(46) cis-Nonachlor #2

13.216min 3.022 ug/L m

response 221740

(+) = Expected Retention Time

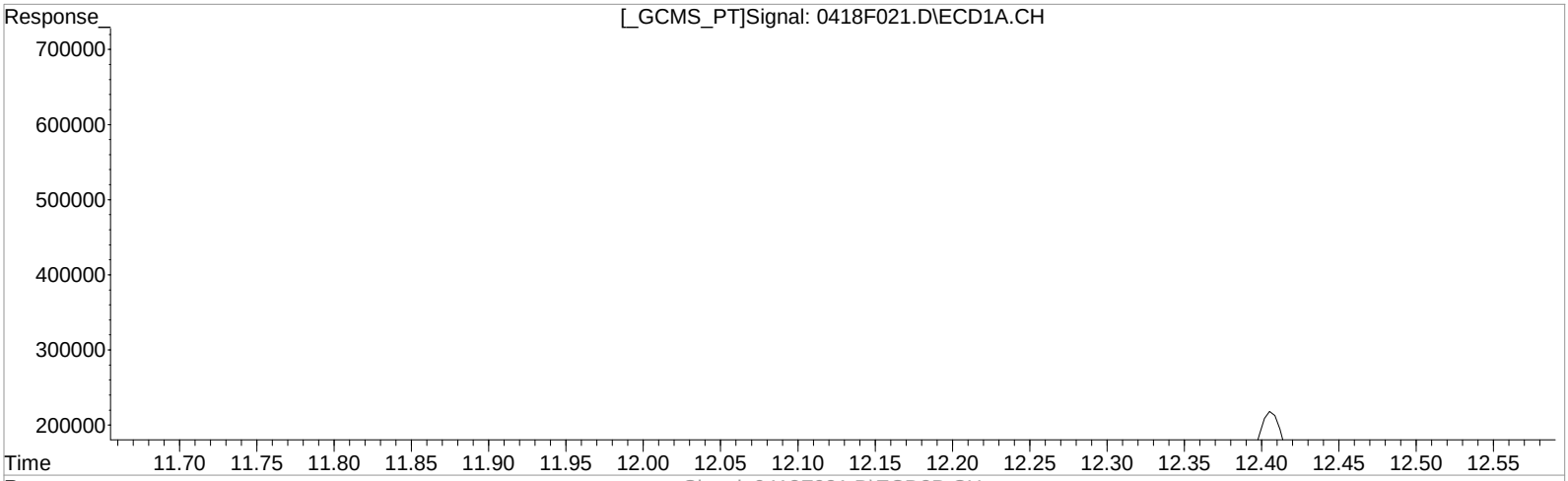
Quantitation Report (Qedit)

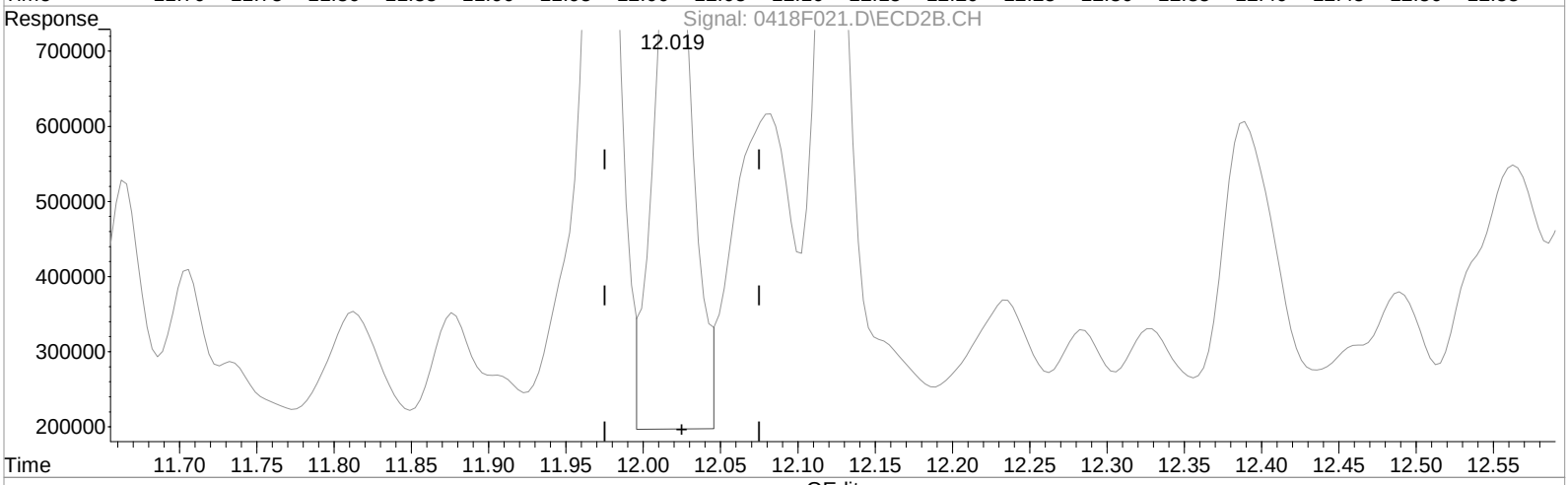
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(47) trans-Nonachlor

13.612min 10.520 ug/L

response 205317

Manual Integration:

Before

04/21/20

(47) trans-Nonachlor #2

12.019min 17.794 ug/L

response 1289306

(+) = Expected Retention Time

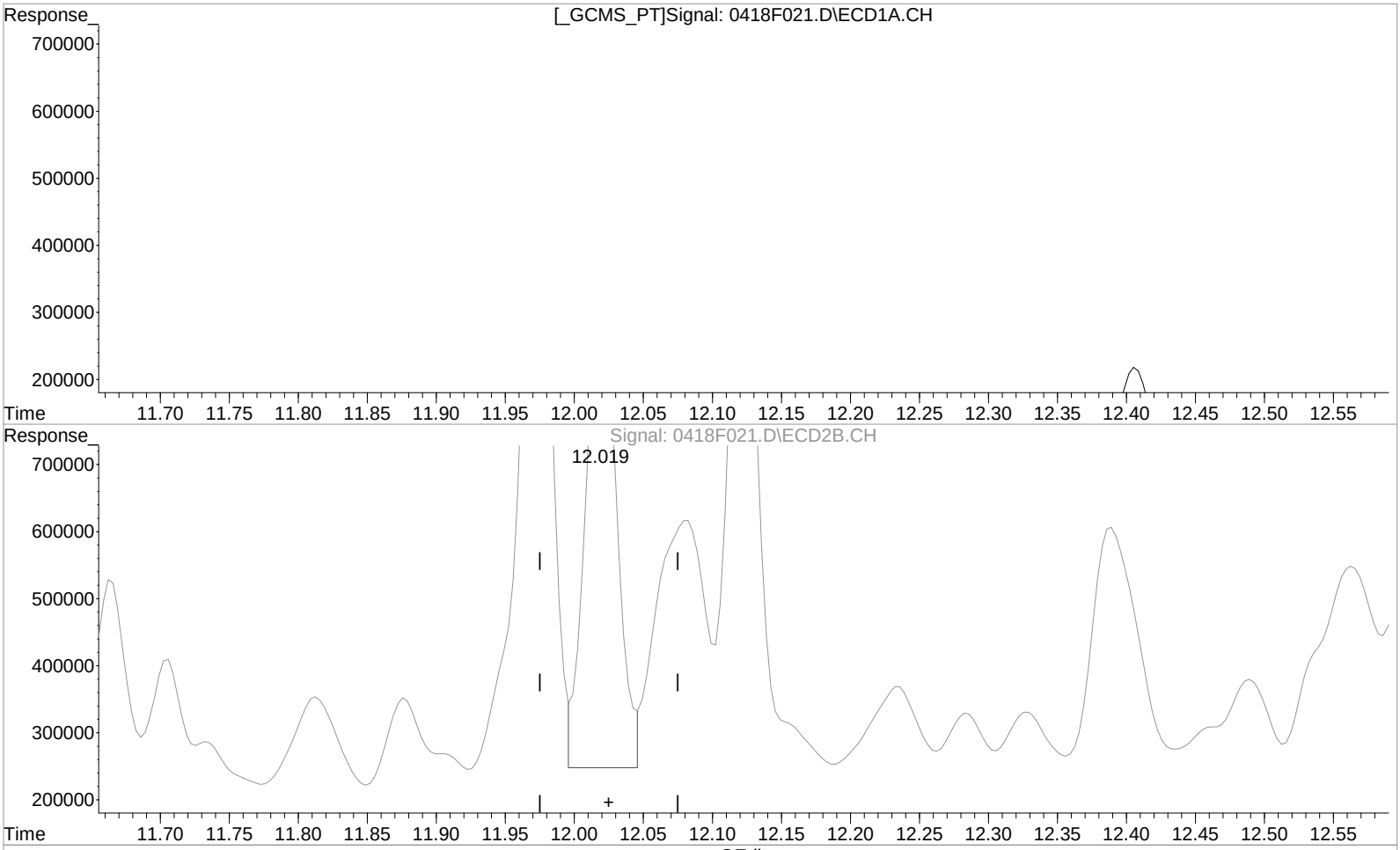
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(47) trans-Nonachlor

13.612min 10.520 ug/L

response 205317

Manual Integration:

After

Baseline correction

04/21/20

(47) trans-Nonachlor #2

12.019min 15.697 ug/L m

response 1137376

(+) = Expected Retention Time

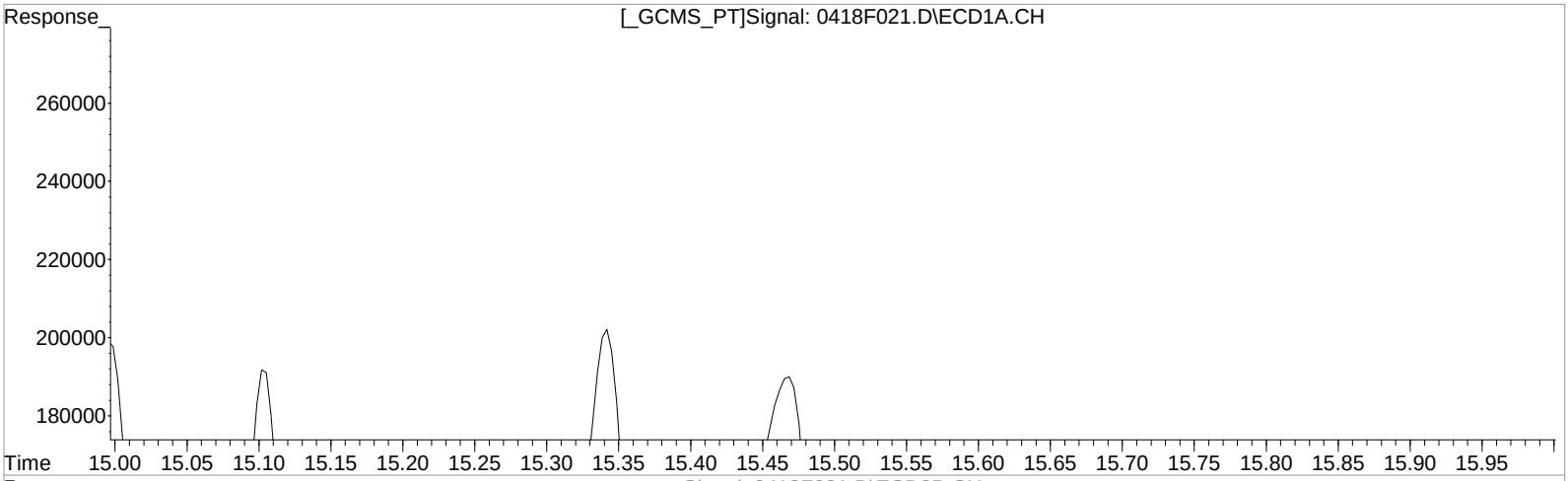
Quantitation Report (Qedit)

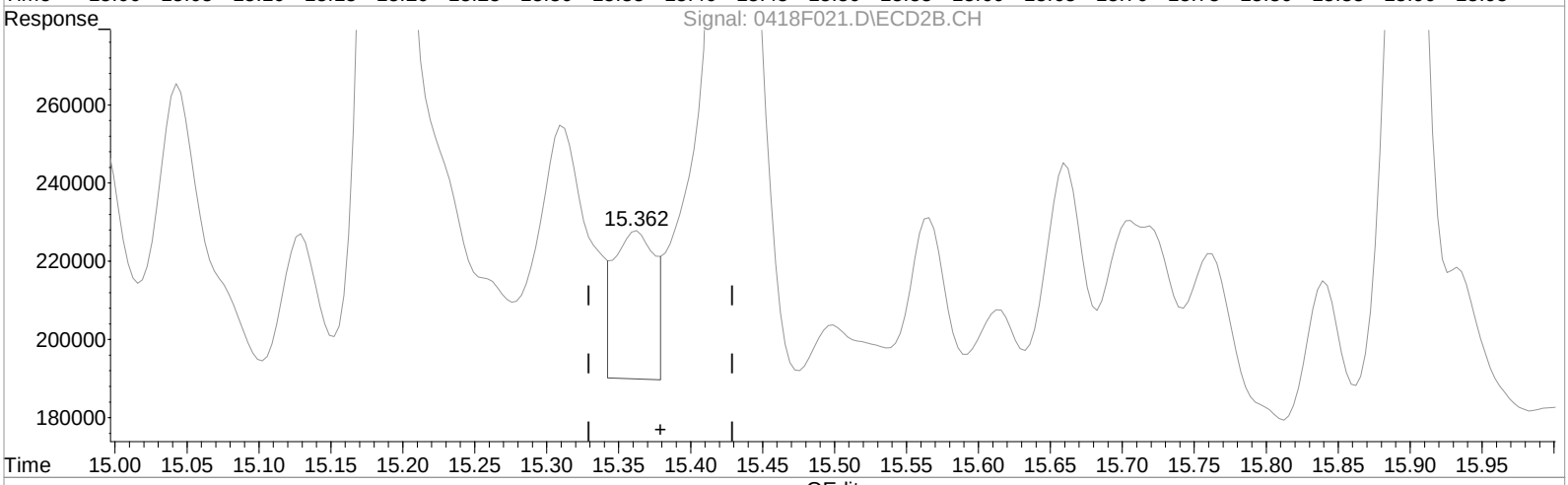
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(48) Mirex

16.965min 0.435 ug/L

response 7032

Manual Integration:

Before

04/21/20

(48) Mirex #2

15.362min 1.348 ug/L

response 74735

(+) = Expected Retention Time

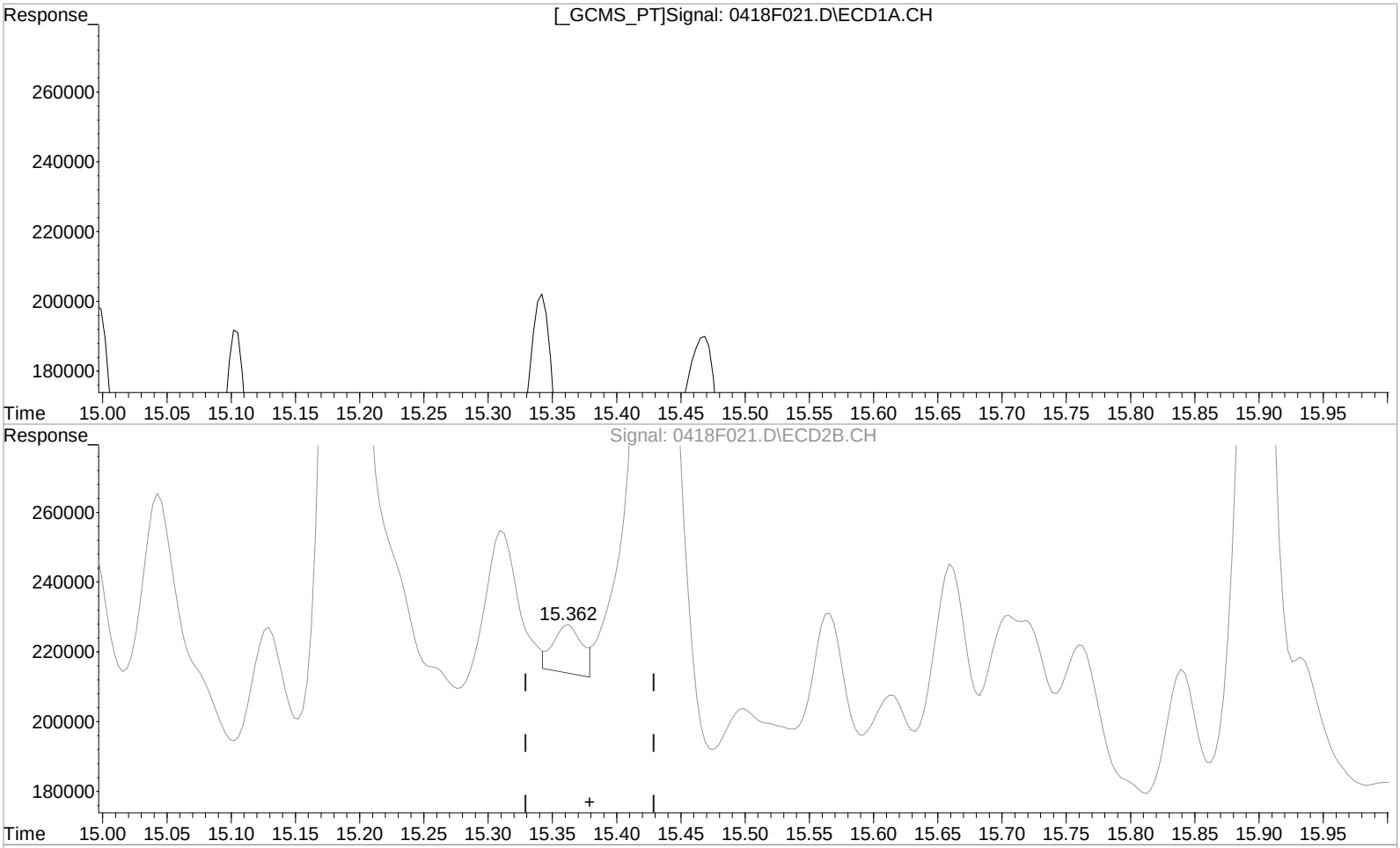
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(48) Mirex

16.965min 0.435 ug/L

response 7032

Manual Integration:

After

Baseline correction

04/21/20

(48) Mirex #2

15.362min 0.393 ug/L m

response 21807

(+) = Expected Retention Time

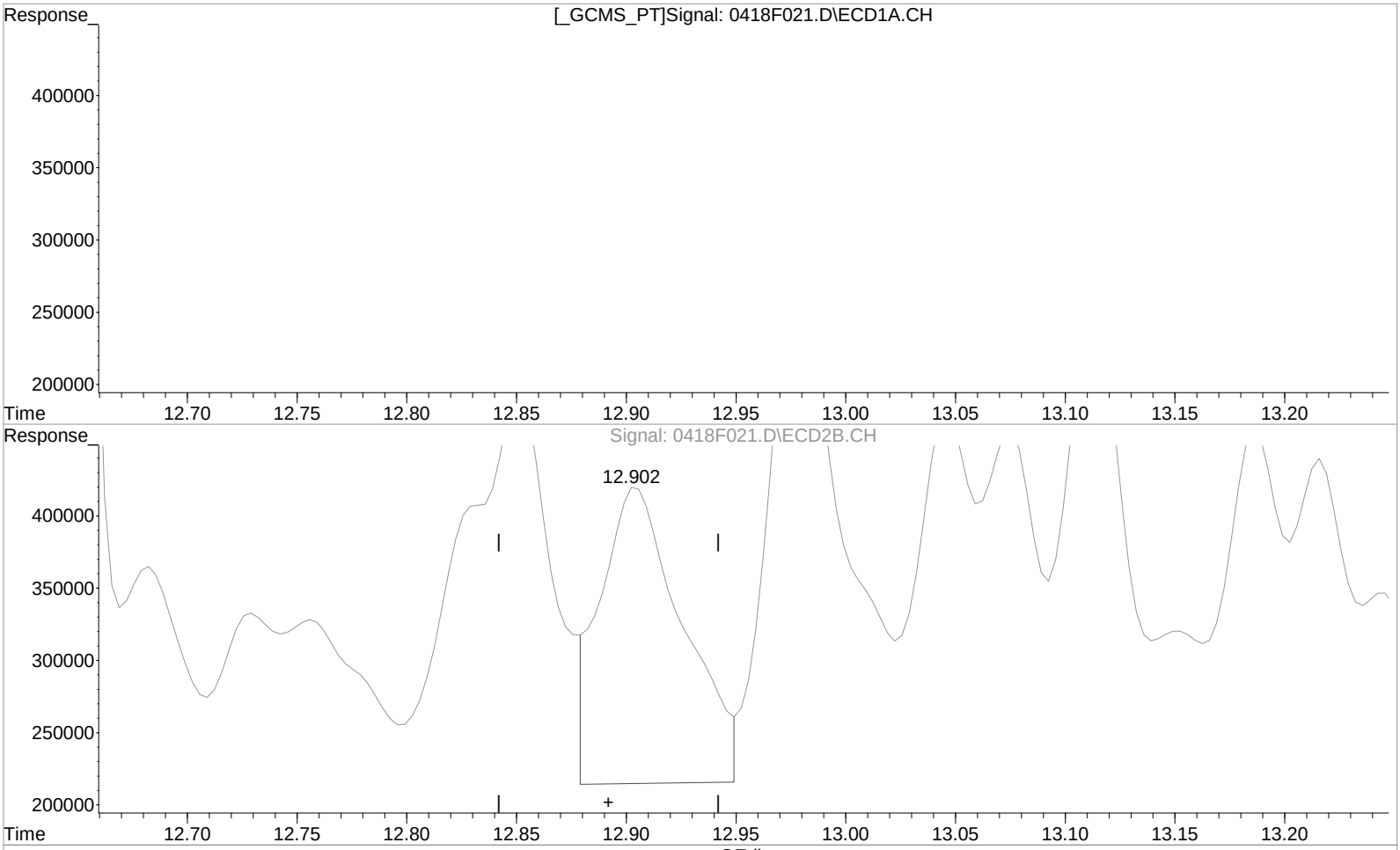
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(52) Perthane

14.089min 87.382 ug/L

response 48203

Manual Integration:

Before

04/21/20

(52) Perthane #2

12.902min 291.635 ug/L

response 531948

(+) = Expected Retention Time

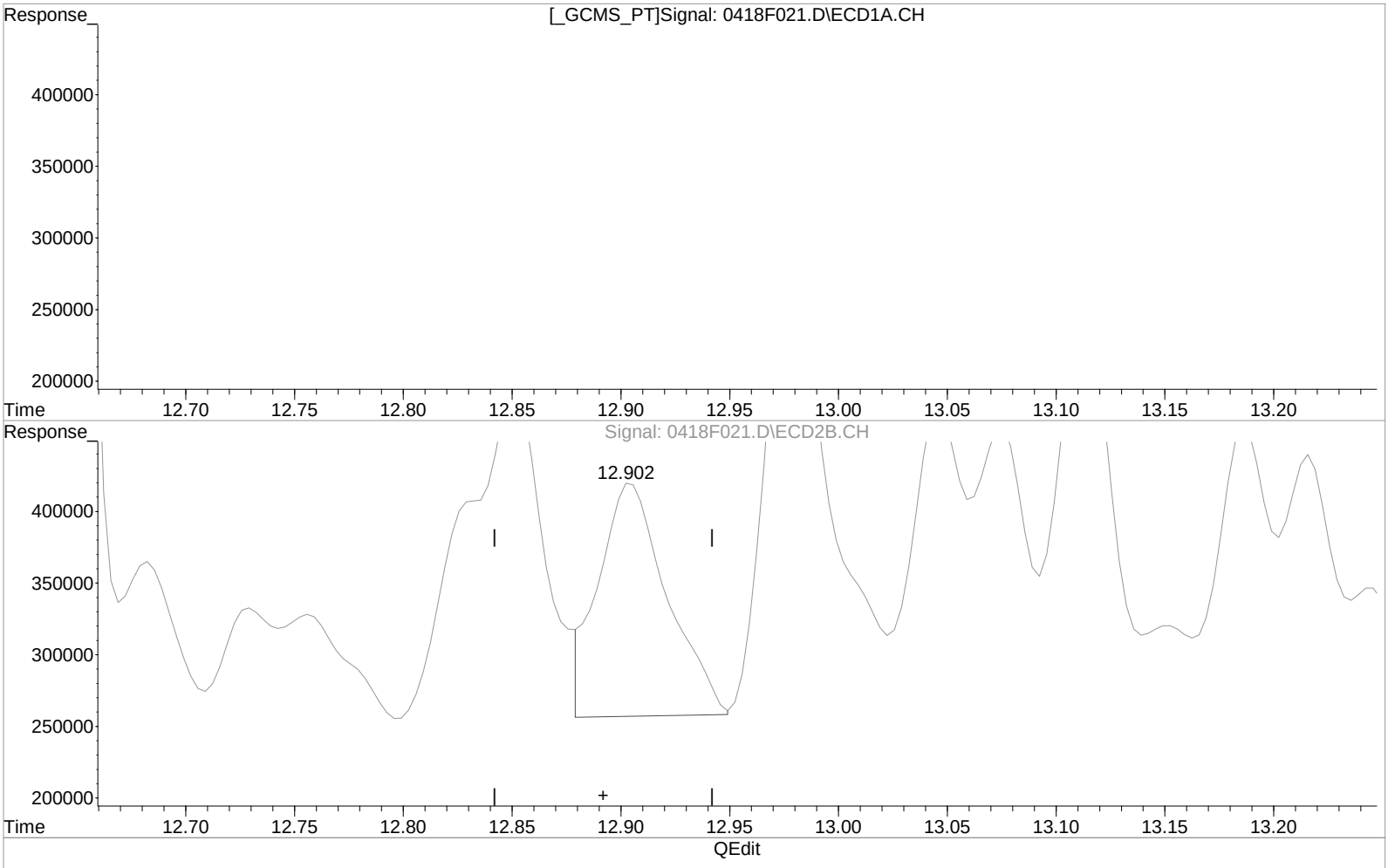
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(52) Perthane

14.089min 87.382 ug/L

response 48203

(52) Perthane #2

12.902min 194.354 ug/L m

response 354506

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

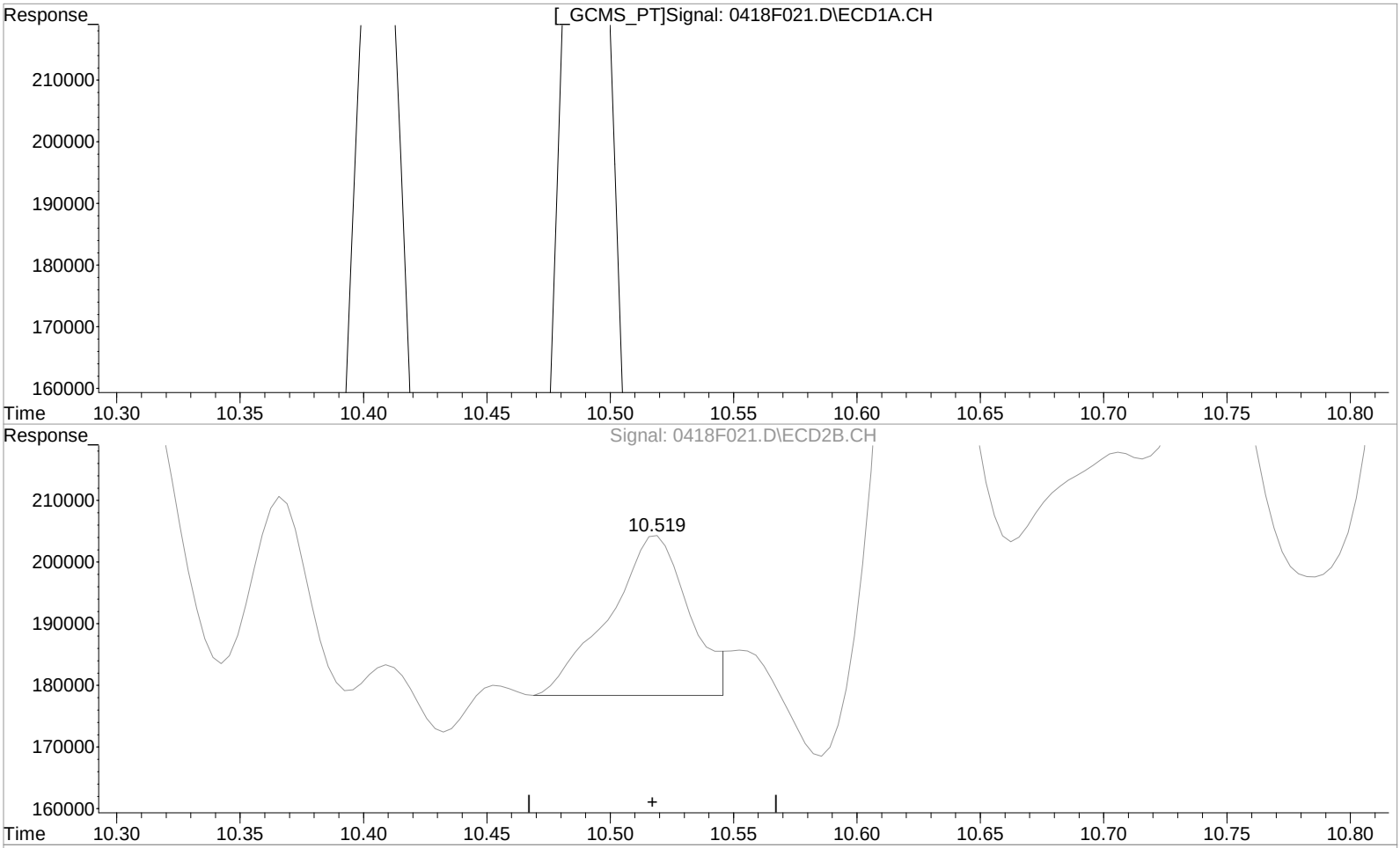
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(9) Aldrin

12.209min 2.466 ug/L

response 45829

Manual Integration:

Before

04/21/20

(9) Aldrin #2

10.519min 0.743 ug/L

response 58332

(+) = Expected Retention Time

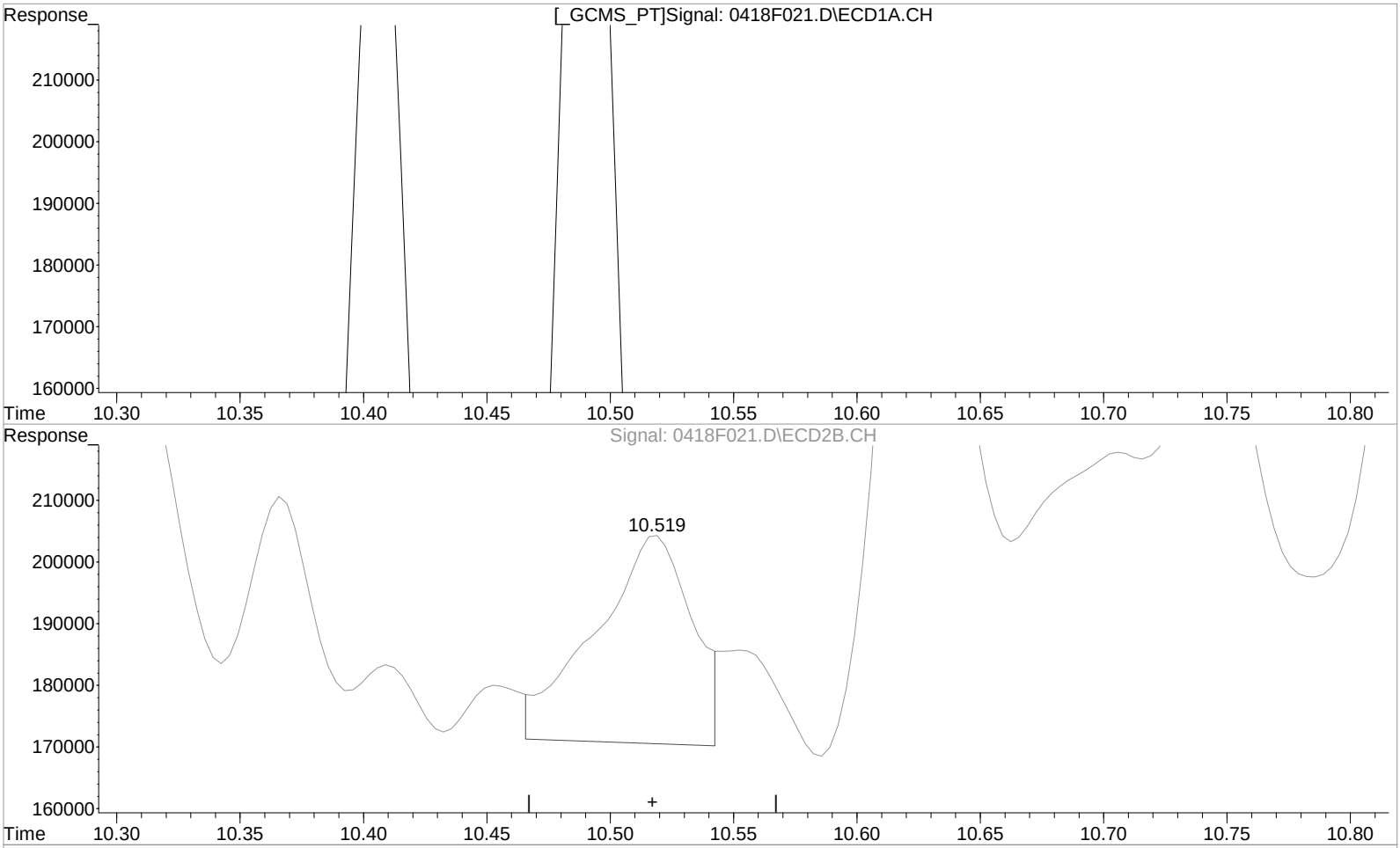
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F021.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:29 am Operator: LM
Sample : K2002652-003 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:03:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(9) Aldrin

12.209min 2.466 ug/L

response 45829

Manual Integration:

After

Baseline correction

04/21/20

(9) Aldrin #2

10.519min 1.174 ug/L m

response 92130

(+) = Expected Retention Time

1st STM 04/25/20
2nd 04/27/20

Validation Report

Data File: J:\GC23\data\042220\0422F021.D\
Lab ID: K2002652-003
RunType: N/A
Matrix: Water

Date Acquired: 4/22/20 20:53:00
Batch ID: 677794
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	cis-Chlordane	13.52			CEND
	trans-Chlordane	13.44			
	Chlordane {2}	11.69			
	Chlordane {4}	13.44			
	Chlordane {5}	13.52			
	Chlordane {6}	13.60			
	4,4'-DDD	14.64			
	Endosulfan I	13.60			
	Endosulfan II	14.80			
	Endrin Aldehyde	14.99			
	Heptachlor	11.69			
	cis-Nonachlor	14.64			
	trans-Nonachlor	13.60			
	Toxaphene {2}	14.80			
	Toxaphene {4}	14.99			
	1-Bromo-2-nitrobenzene	6.19			SA
	1-Bromo-2-nitrobenzene {2}	6.19			
	1-Bromo-2-nitrobenzene {3}	6.19			
	1-Bromo-2-nitrobenzene {4}	6.19			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.11			CEND
	trans-Chlordane	11.96			
	Chlordane {4}	11.96			
	Chlordane {5}	12.01			

Primary Review: _____

Printed: 4/25/20 8:30
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/25/20
2nd 04/27/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Chlordane {6}	12.11			NR
	4,4'-DDD	13.38			
	2,4'-DDE	12.01			
	2,4'-DDT	13.23			
	Endrin Aldehyde	13.92			
	Mirex	15.42			
	cis-Nonachlor	13.23			
	trans-Nonachlor	12.01			
	Toxaphene {1}	13.38			
	Toxaphene {5}	13.92			
	Toxaphene {6}	15.42			
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/25/20
2nd 04/27/20

Quantitation Report

Data File:	J:\GC23\data\042220\0422F021.D\	**Instrument:**	K-GC-23
Acqu Date:	4/22/20 20:53:00	**Vial:**	4
Run Type:	N/A	**Dilution:**	20
Lab ID:	K2002652-003	**Raw Units:**	ug/L

Bottle ID:	K2002652-003.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677794	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19	c	5.48	c	943828	4639130	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.19	c	5.48	c	943828	4639130	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.19	c	5.48	c	943828	4639130	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria		Rpt?
Decachlorobiphenyl	18.66	17.06 +0.01	1374	5821	0.082	0.078	33	31	31	14 - 160		N
Tetrachloro-m-xylene	8.97	7.26	6553	15192	0.479	0.264	192*	106	106	30 - 148	P	N

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.20		10.50 -0.01		2429	3356	0.161	0.046	16J	4.6U	16 U		N
alpha-BHC	0.00		0.00		0	0	0.000	0.000	0U	0U	5.0 U		N
beta-BHC	11.07		9.77		1308	10550	0.155	0.303	16J	30	**16** J	P	N
gamma-BHC (Lindane)	10.48		9.23		19144	88771	1.258	1.240	130	120	**120**		Y
Chlordane							6666666666	3333333333	1000	1400	**1000**		N
Chlordane {1}	11.26		9.56		7665	26501	11.913	10.465	1200	1000			
Chlordane {2}	11.69	c	11.65		1711	27992	2.099	16.208	210	1600		i	
Chlordane {3}	12.25		11.80		6084	17307	10.402	15.095	1000	1500		P	
Chlordane {4}	13.44	c	11.96	c	23258	96964	13.099	13.964	1300	1400			
Chlordane {5}	13.52	c	12.01	c	17843	62376	12.149	14.671	1200	1500			
Chlordane {6}	13.60	c	12.11	c	11415	80851	10.588	13.134	1100	1300			
Dieldrin	13.99		12.62		109497	481802	7.031	7.070	700	710	**700**		Y
Heptachlor	11.69 +0.01	c	9.92 +0.01		1392	22805	0.085	0.314	8.5U	31J	13 U		N
Heptachlor Epoxide	12.93 +0.01		11.59		964	4241	0.061	0.059	6.1J	5.9J	**5.9** J		N
Hexachlorobenzene	0.00		0.00		0	0	0.000	0.000	0U	0U	5.4 U		N
Toxaphene							3333333333	55.897	4600	5600	**4600**		N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 8:30
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/25/20
2nd 04/27/20

Data File:	J:\GC23\data\042220\0422F021.D\	**Instrument:**	K-GC-23
Acqu Date:	4/22/20 20:53:00	**Vial:**	4
Run Type:	N/A	**Dilution:**	20
Lab ID:	K2002652-003	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74		13.38	c	6265	43576	40.399	42.272	4000	4200		
Toxaphene {2}	14.80	c	13.45		7859	23695	56.027	29.876	5600	3000		P
Toxaphene {3}	14.92		13.58		11948	54710	42.747	50.584	4300	5100		
Toxaphene {4}	14.99	c	13.65		9445	21544	50.246	56.710	5000	5700		
Toxaphene {5}	15.33		13.92	c	8938	33797	49.900	60.865	5000	6100		
Toxaphene {6}	15.52		15.42	c	3389	28598	38.666	95.075	3900	9500		P

Prep Amount:	200 mL	**Dilution:**	20
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 8:30
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st 04/23/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 16:19:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.193	5.477	943828	4639130	100.000	100.000
29)	1-Bromo-2...	6.193	5.477	943828	4639130	100.000	100.000
36)	1-Bromo-2...	6.193	5.477	943828	4639130	100.000	100.000
43)	1-Bromo-2...	6.193	5.477	943828	4639130	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.970	7.257	6553	15192	0.479	0.264 #
28) s	Decachlor...	18.663	17.057	1374	5821	0.082m	0.078
	Target Compounds						
5)	beta-BHC	11.070	9.771	1308	10550	0.155	0.303 #
6)	gamma-BHC...	10.480	9.234	19144	88771	1.258	1.240
7)	delta-BHC	11.577	10.291	1238	11838	0.080	0.169m#
8)	Heptachlor	11.687	9.917	1392	22805	0.085m	0.314 #
9)	Aldrin	12.200	10.504	2429	3356	0.161	0.046 #
10)	Isodrin	12.743	11.331	10138	4258	0.781	0.070 #
11)	Heptachlo...	12.930	11.587	964	4241	0.061m	0.059m
12)	gamma-Chl...	13.443	11.964	23258	96964	1.462	1.399
13)	Endosulfan I	13.603	12.224f	11415	19011	0.786	0.304 #
14)	alpha-Chl...	13.520	12.114	17843	80851	1.127	1.152
15)	Dieldrin	13.990	12.624	109497	481802	7.031	7.070
16)	4,4'-DDE	13.820	12.484	3796	15873	0.260	0.242m
17)	Endrin	14.360	13.104	5377	25821	0.378m	0.398m
18)	Endosulfa...	14.797	13.534	7859	32347	0.546	0.552m
19)	4,4'-DDD	14.640	13.381	7039	46635	0.625	0.950m#
20)	Endrin Al...	14.987	13.917	9445	40711	0.757	0.839
21)	Endosulfa...	15.460	14.237	15199	14553	1.036	0.252 #
22)	4,4'-DDT	15.147	13.791	4597	59156	0.388m	1.250m#
23)	Endrin Ke...	16.147	15.177	8791	39045	0.558	0.565
24)	Methoxychlor	15.870	14.934	12675	11960	1.766	0.455m#
25)	2,4'-DDE	13.190	12.011	1118	62376	0.110	1.456 #
26)	2,4'-DDD	13.923	12.757	7178	4746	0.803	0.128m#
27)	2,4'-DDT	14.433	13.234	9021	8172	0.882	0.203 #
30)	Toxaphene	14.737	13.381	6265	43576	40.399	42.272m
31)	Toxaphene...	14.797	13.447	7859	23695	56.027	29.876m#
32)	Toxaphene...	14.917	13.581	11948	54710	42.747	50.584m
33)	Toxaphene...	14.987	13.651	9445	21544	50.246	56.710m
34)	Toxaphene...	15.333	13.917	8938	33797	49.900	60.865m
35)	Toxaphene...	15.517	15.421	3389	28598	38.666	95.075 #
37)	Chlordane	11.257	9.557	7665	26501	11.913	10.465
38)	Chlordane...	11.687	11.654	1711	27992	2.099	16.208 #
39)	Chlordane...	12.247	11.801	6084	17307	10.402	15.095 #
40)	Chlordane...	13.443	11.964	23258	96964	13.099	13.964
41)	Chlordane...	13.520	12.011	17843	62376	12.149	14.671
42)	Chlordane...	13.603	12.114	11415	80851	10.588	13.134
44)	Chlorpyrifos	12.110	10.877	2295	9824	0.264	0.337 #
45)	Oxychlordane	12.867	11.397	6815	12094	0.453	0.185 #
46)	cis-Nonac...	14.640	13.234	7039	4238	0.445	0.062m#
47)	trans-Non...	13.603	12.011	11415	62376	0.718	0.924 #
48)	Mirex	0.000	15.421f	0	28598	N.D. d	0.554
52)	Perthane	14.133f	12.894	2716	20644	6.047	12.146m#

Quantitation Report (QT Reviewed)

1st 04/23/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 16:19:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L

SemiQuant Compounds - Not Calibrated on this Instrument

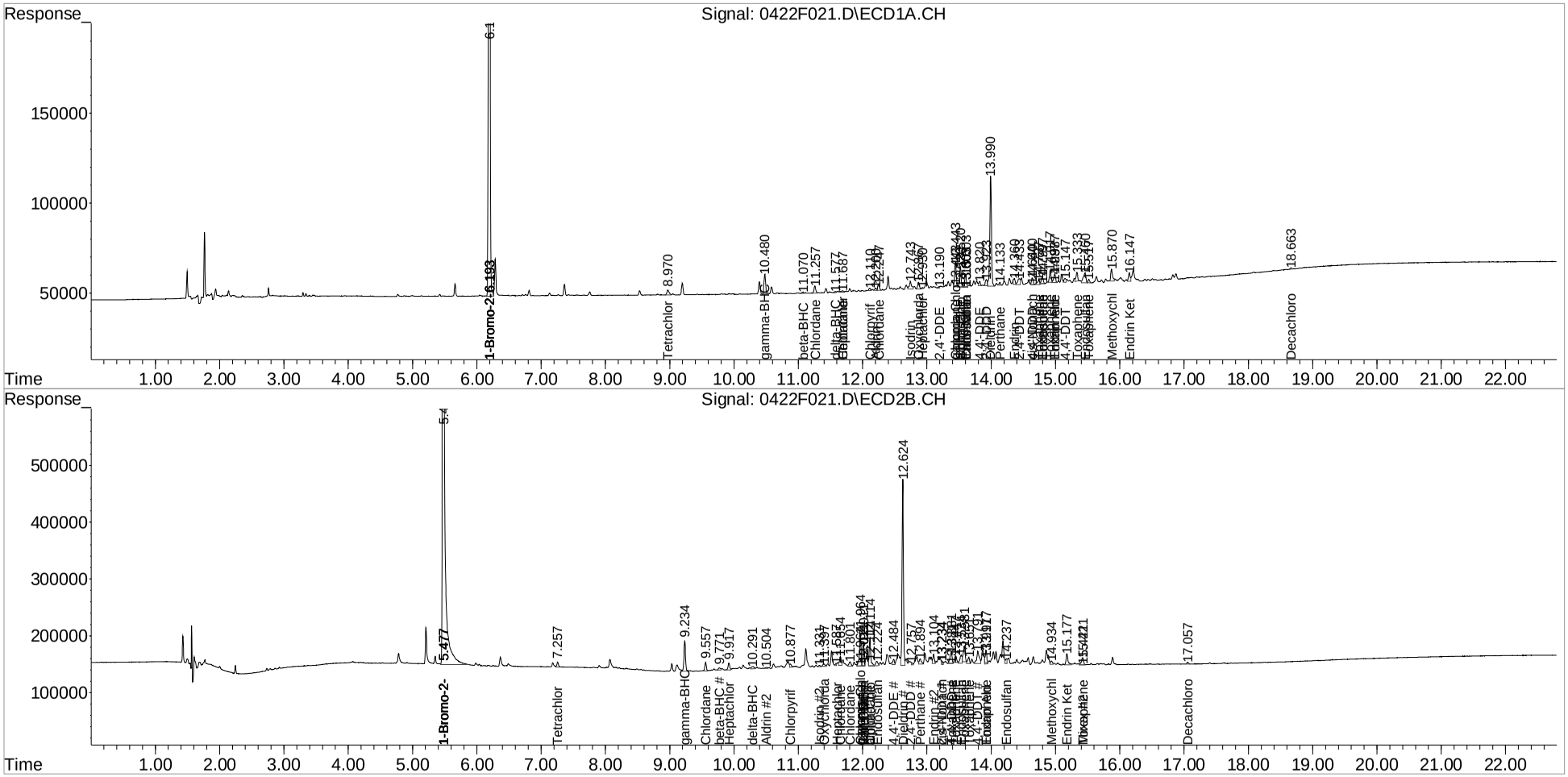
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
egration File signal 1: RTEINT.P
egration File signal 2: RTEINT2.P
Quant Time: Apr 23 16:19:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

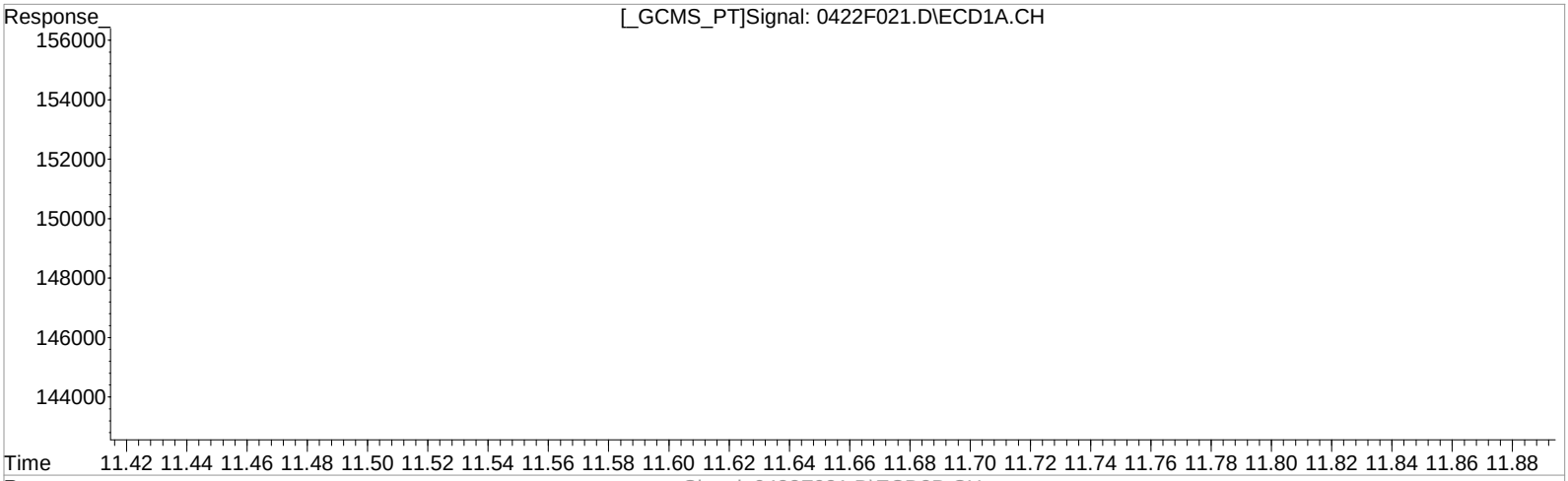
Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

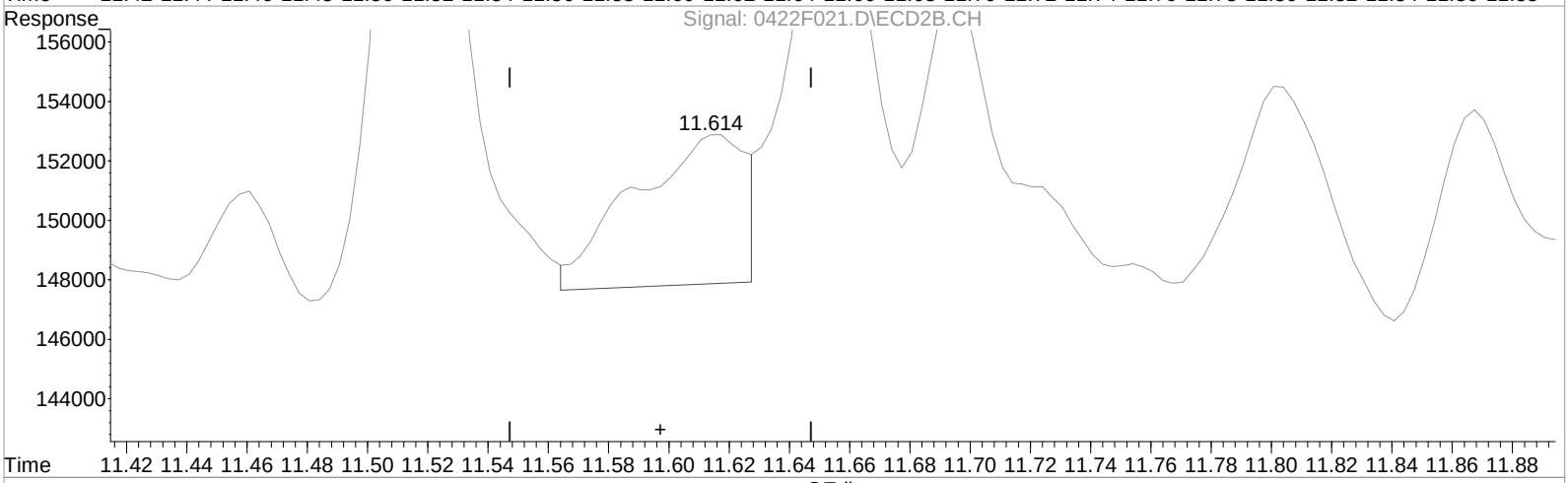


Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(11) Heptachlor Epoxide

0.000min 0.000 ug/L

response 0

Manual Integration:

Before

04/23/20

(11) Heptachlor Epoxide #2

11.614min 0.183 ug/L

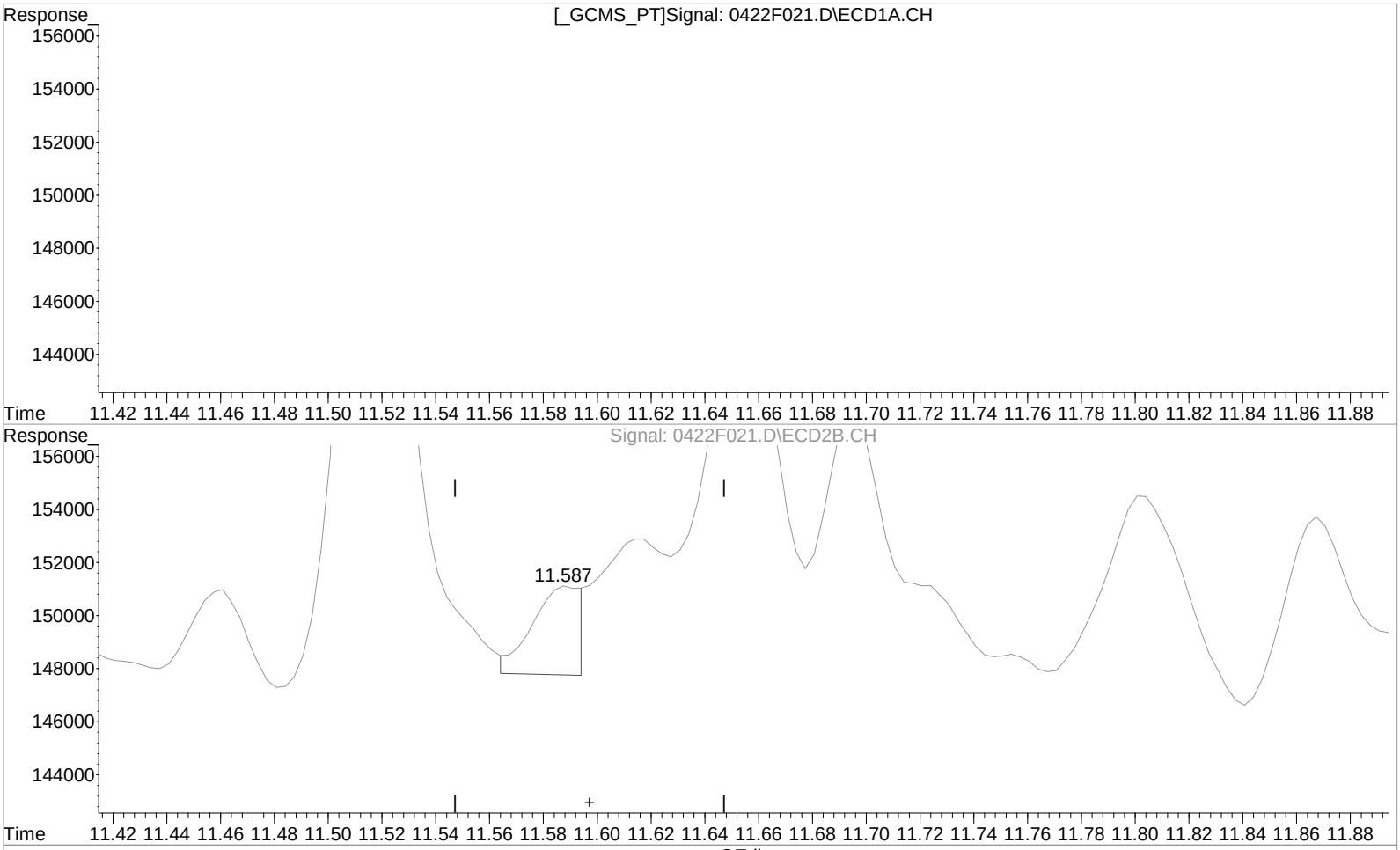
response 13099

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(11) Heptachlor Epoxide

0.000min 0.000 ug/L

response 0

Manual Integration:

After

WRT

04/23/20

(11) Heptachlor Epoxide #2

11.587min 0.059 ug/L m

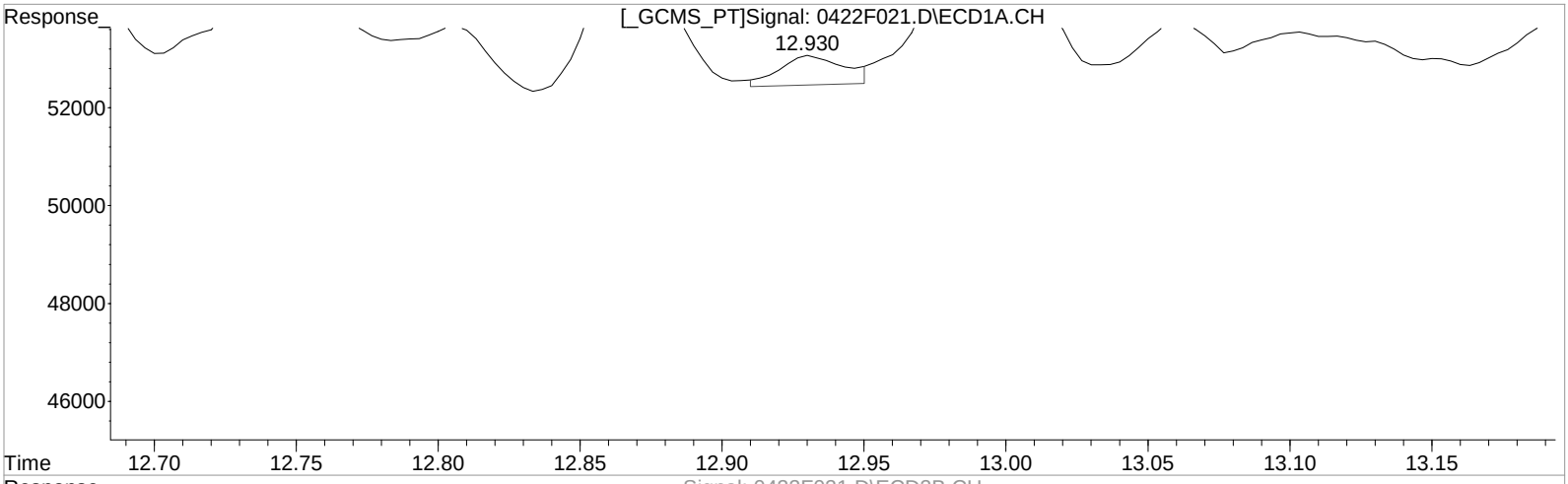
response 4241

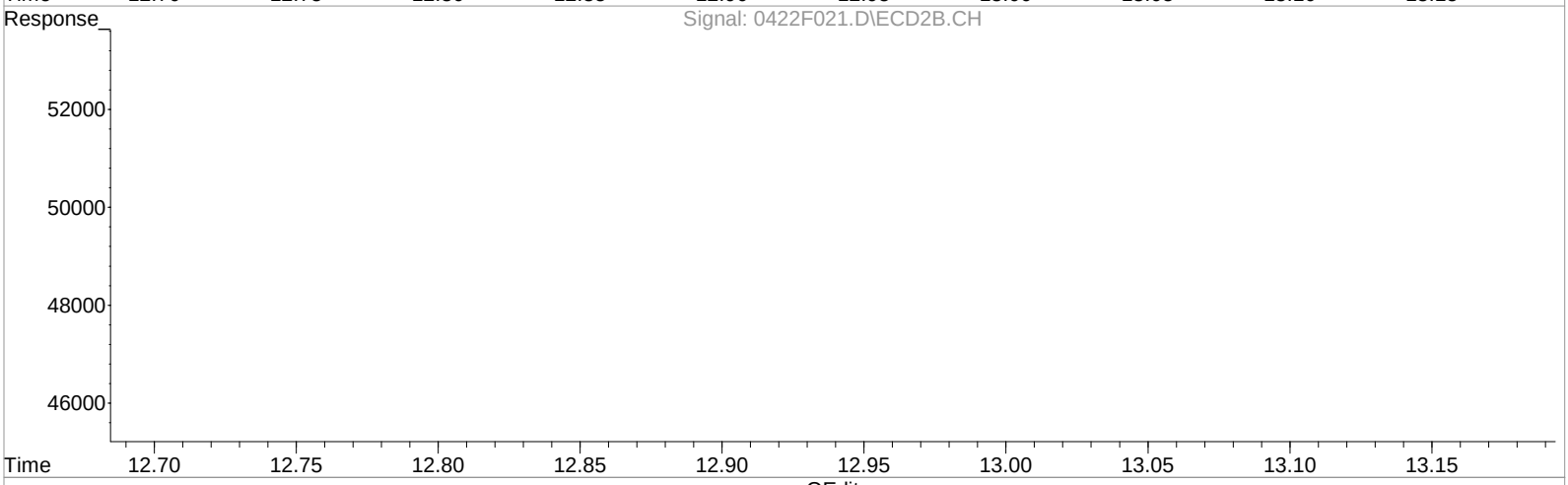
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(11) Heptachlor Epoxide

12.930min 0.061 ug/L m

response 964

Manual Integration:

After

Missed peak

04/23/20

(11) Heptachlor Epoxide #2

11.587min 0.059 ug/L m

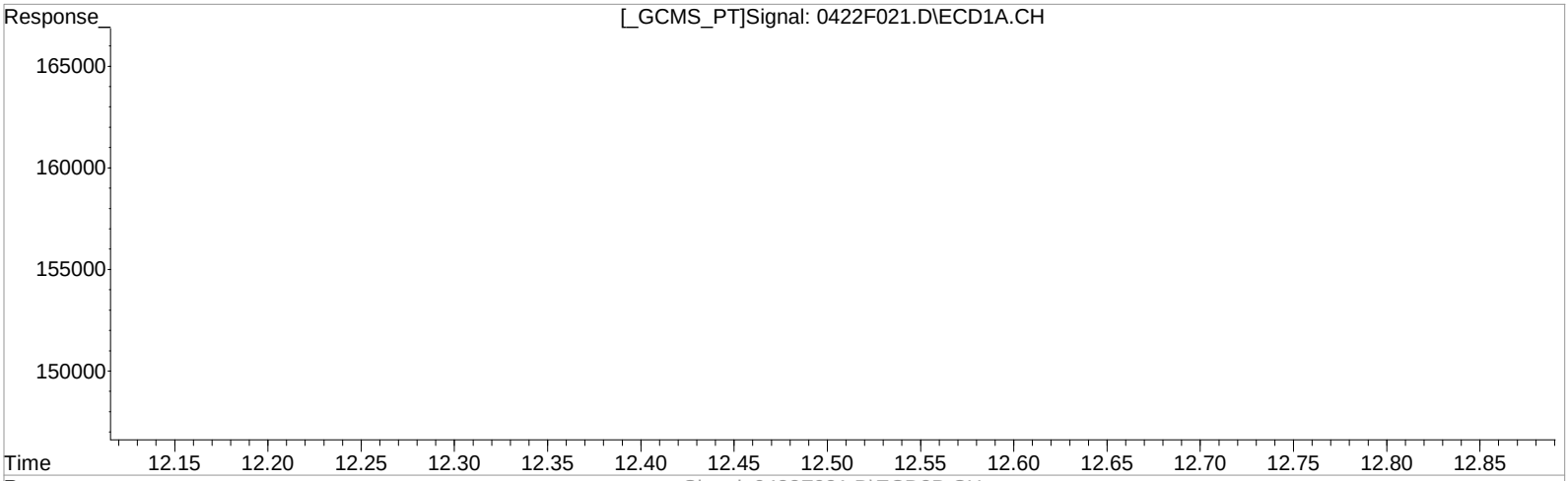
response 4241

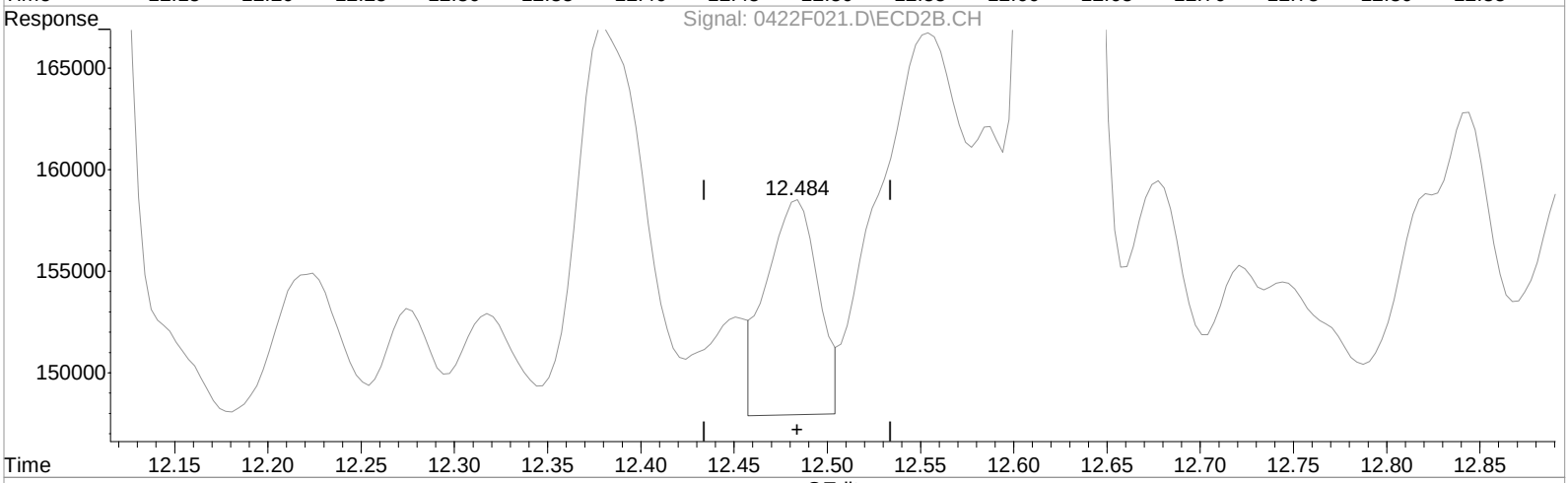
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.820min 0.260 ug/L

response 3796

Manual Integration:

Before

04/23/20

(16) 4,4'-DDE #2

12.484min 0.311 ug/L

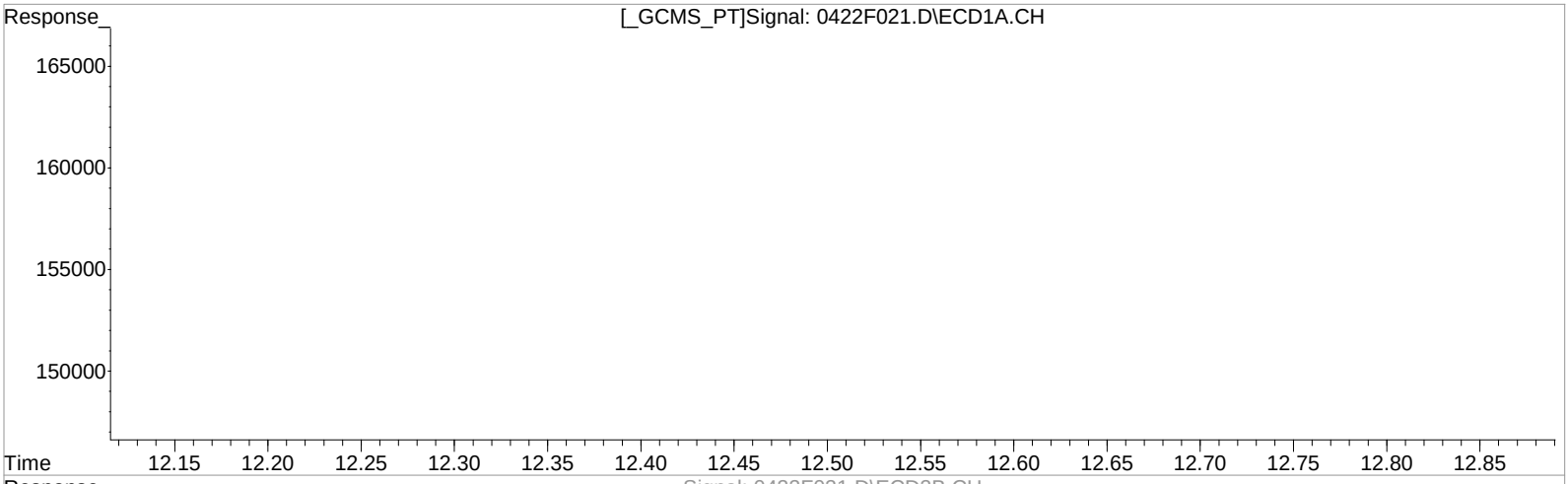
response 20391

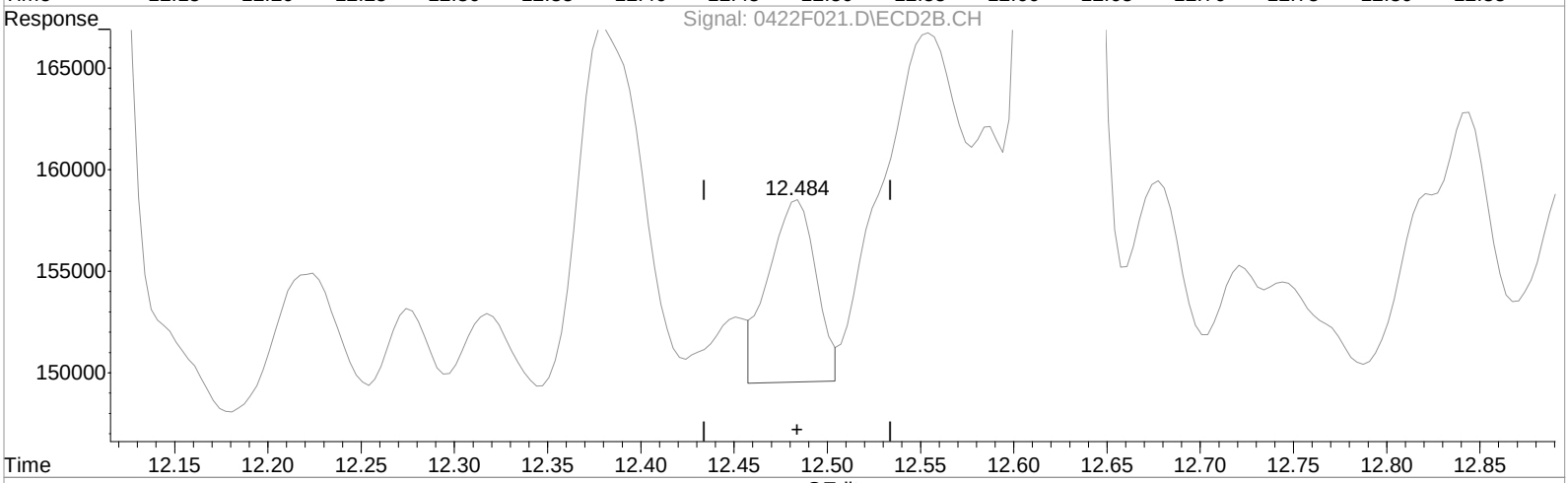
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.820min 0.260 ug/L

response 3796

Manual Integration:

After

Baseline correction

04/23/20

(16) 4,4'-DDE #2

12.484min 0.242 ug/L m

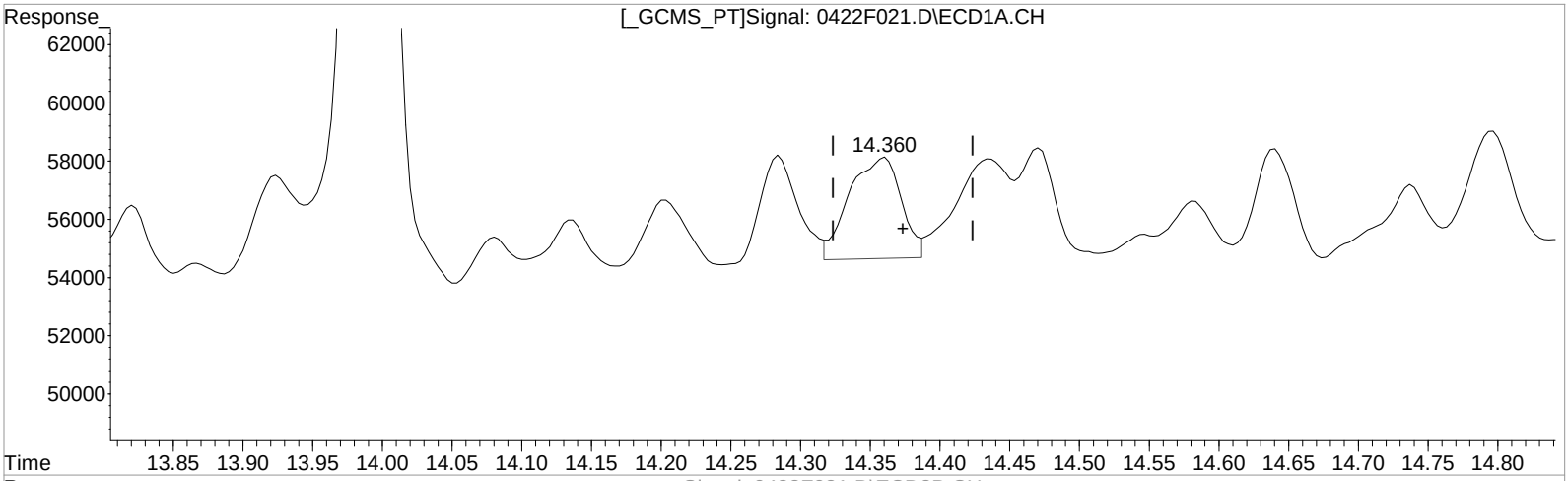
response 15873

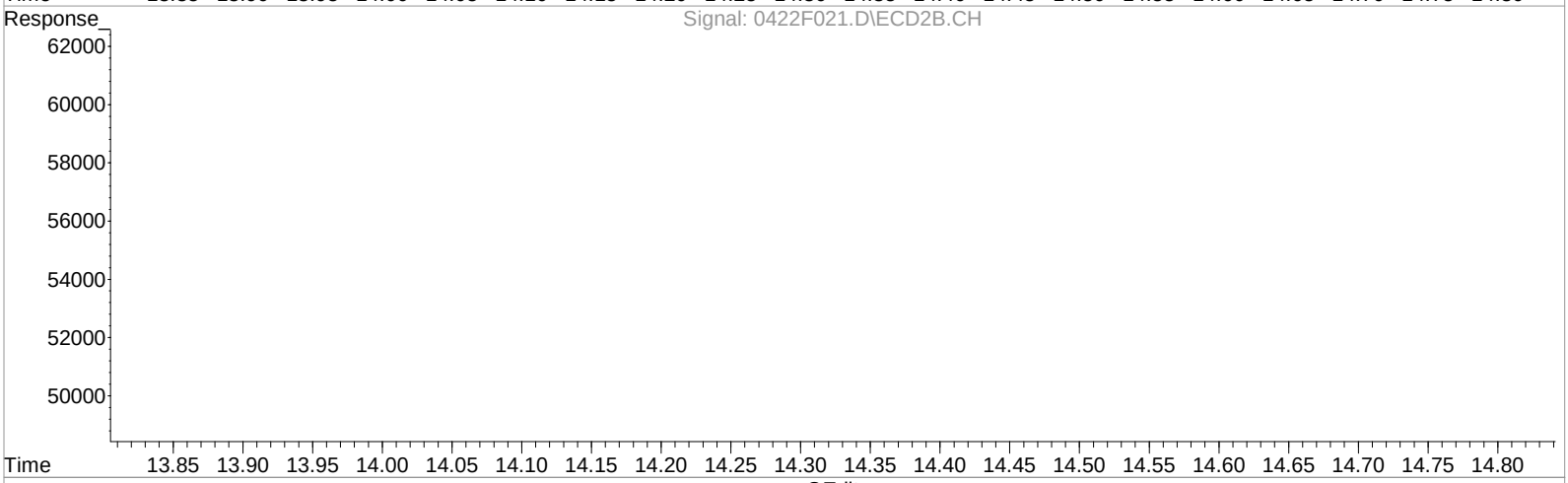
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(17) Endrin

14.360min 0.635 ug/L

response 9023

Manual Integration:

Before

04/23/20

(17) Endrin #2

13.104min 0.488 ug/L

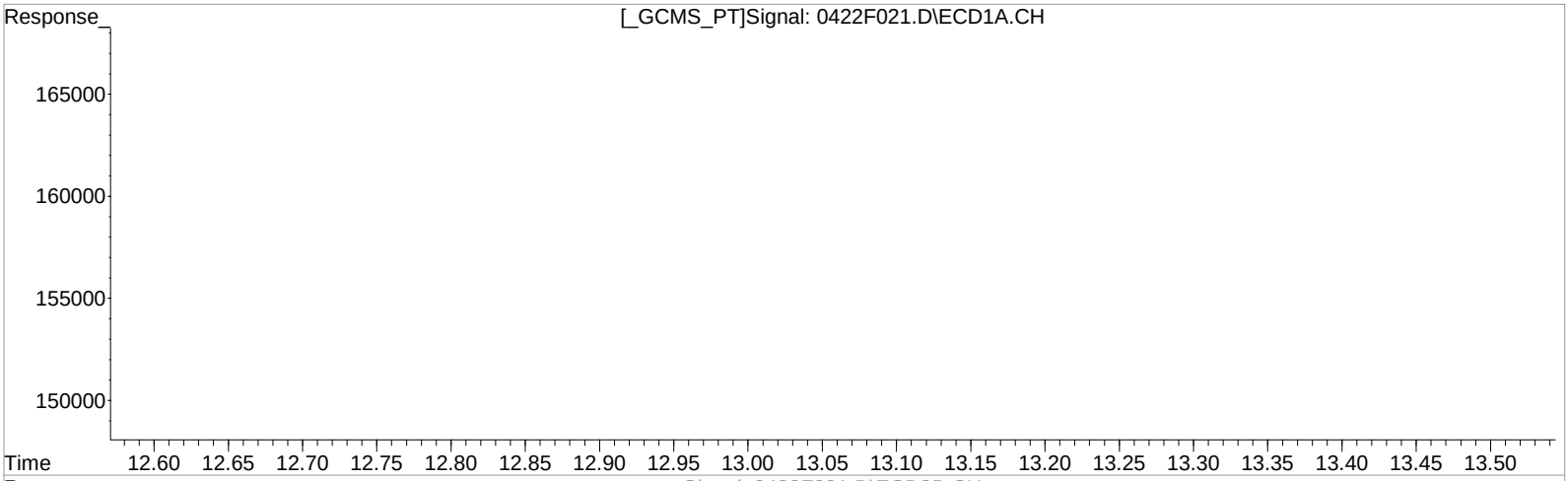
response 31677

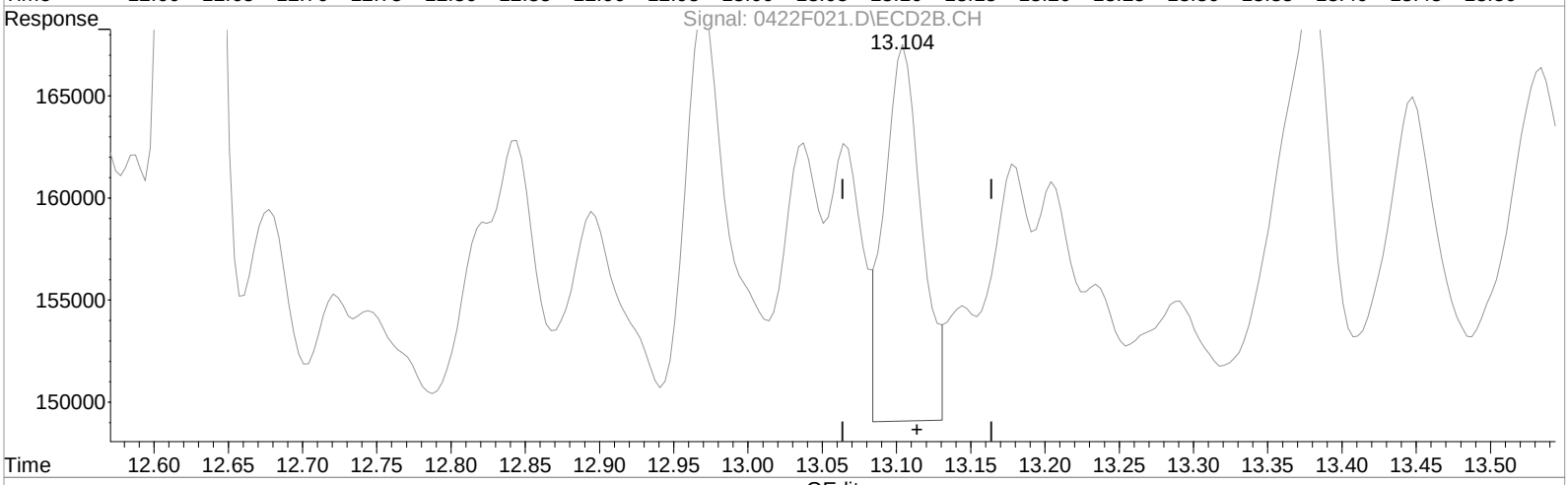
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(17) Endrin

14.360min 0.378 ug/L m

response 5377

Manual Integration:

Before

04/23/20

(17) Endrin #2

13.104min 0.488 ug/L

response 31677

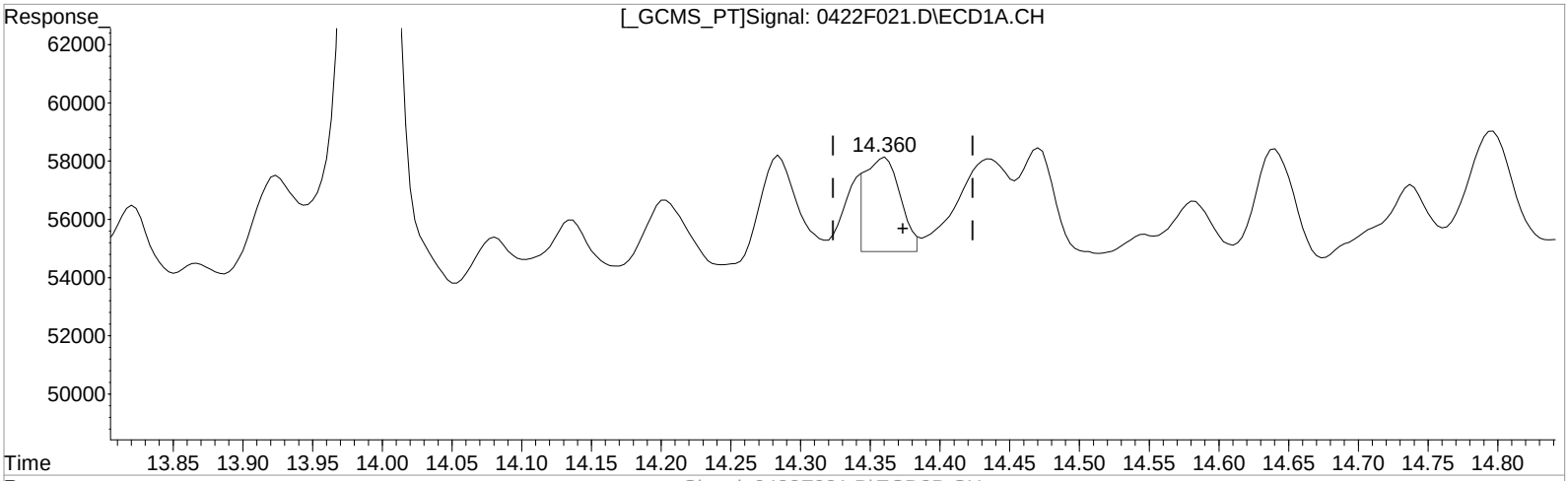
(+) = Expected Retention Time

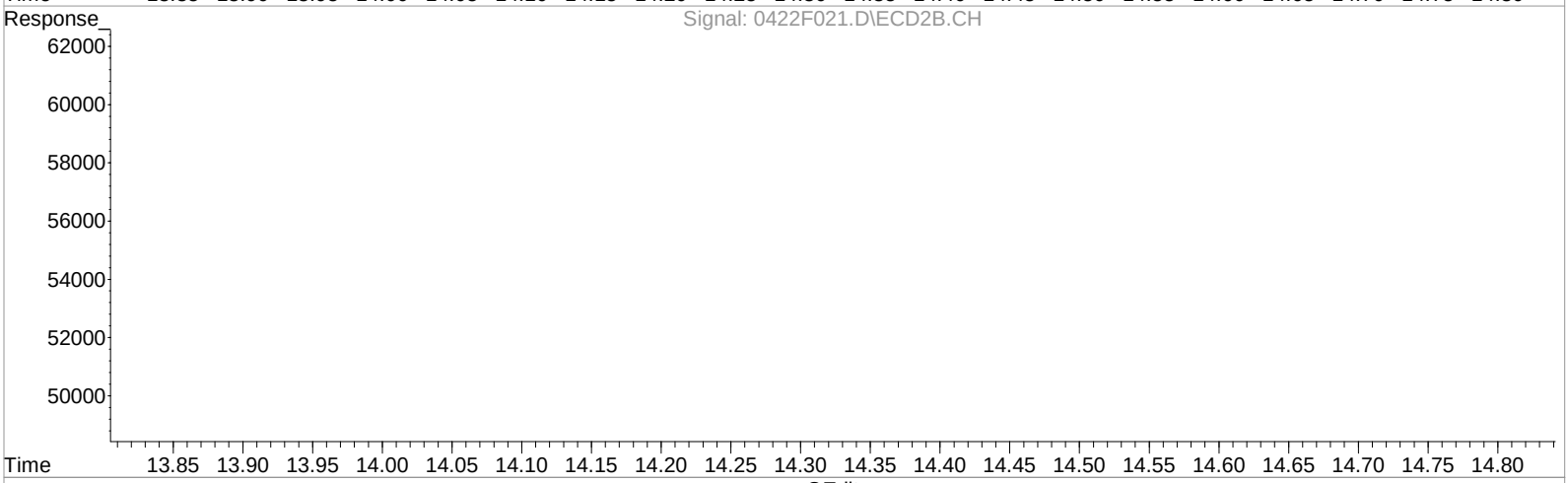
1st 04/23/20

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(17) Endrin

14.360min 0.378 ug/L m

response 5377

Manual Integration:

After

Shoulder

04/23/20

(17) Endrin #2

13.104min 0.488 ug/L

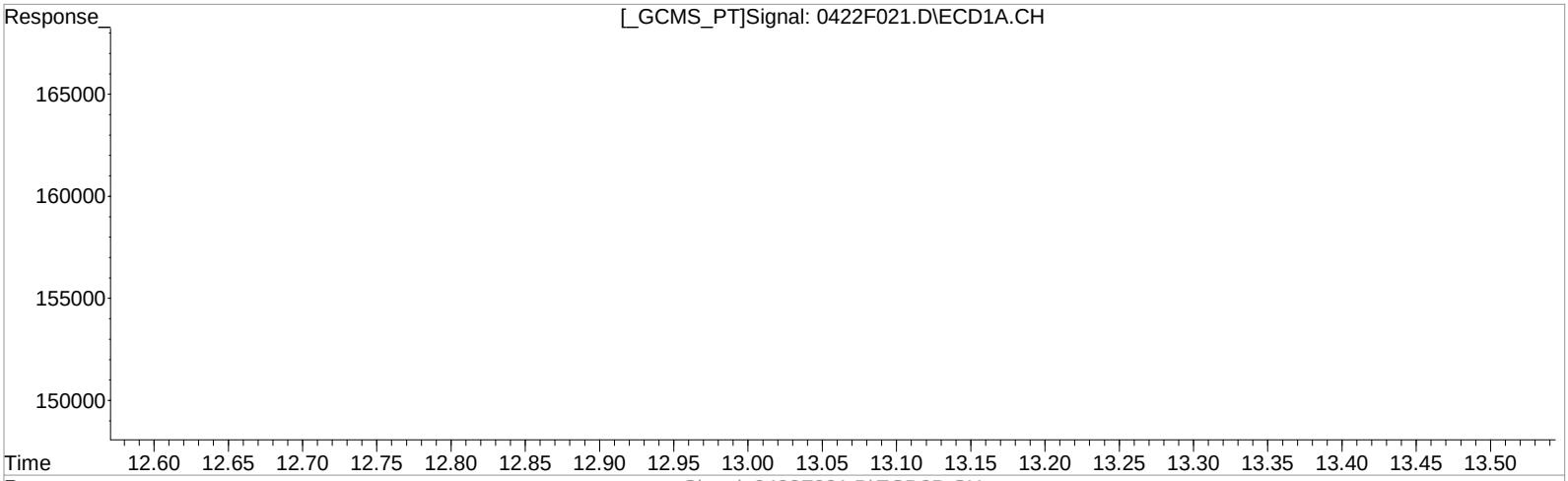
response 31677

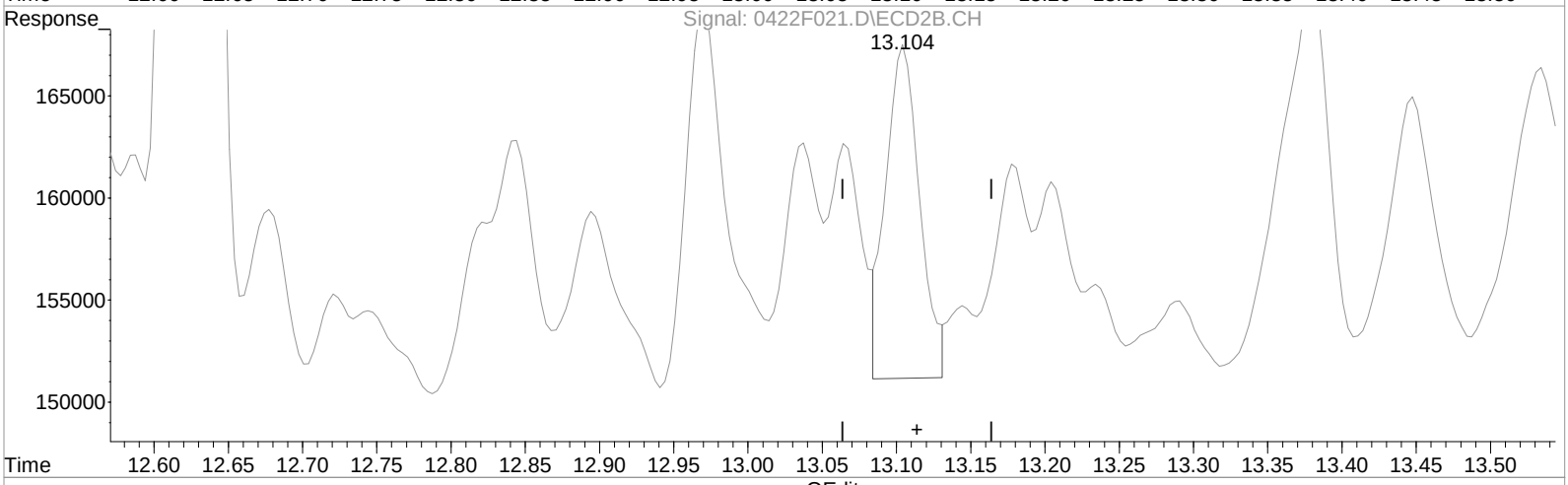
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(17) Endrin

14.360min 0.378 ug/L m

response 5377

Manual Integration:

After

Baseline correction

04/23/20

(17) Endrin #2

13.104min 0.398 ug/L m

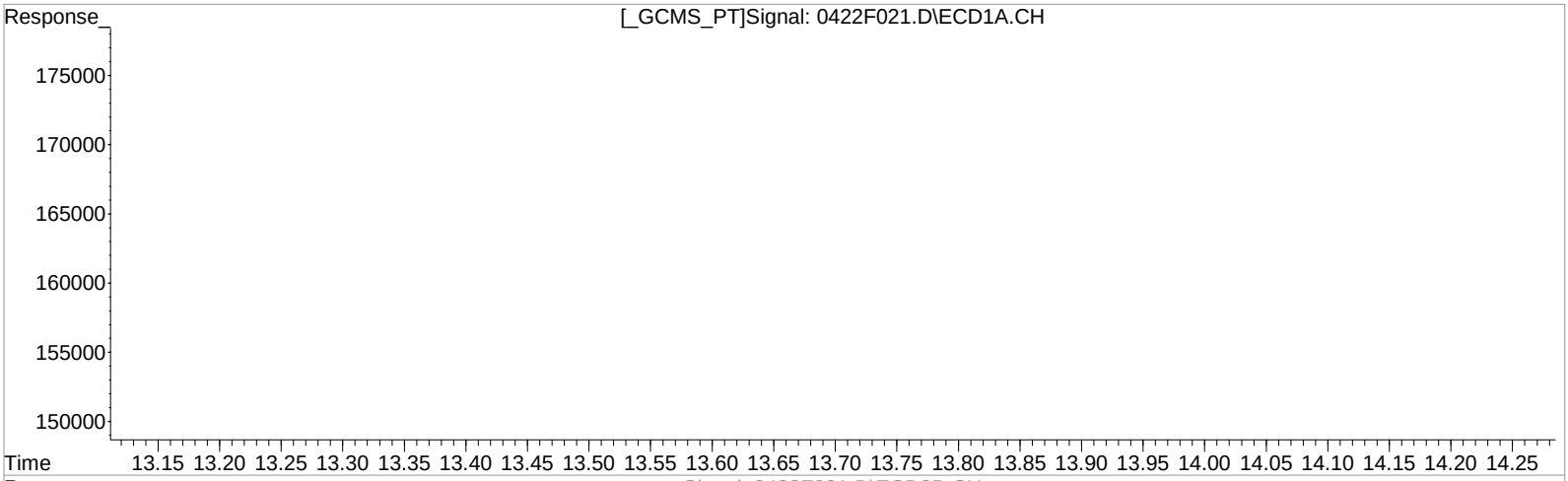
response 25821

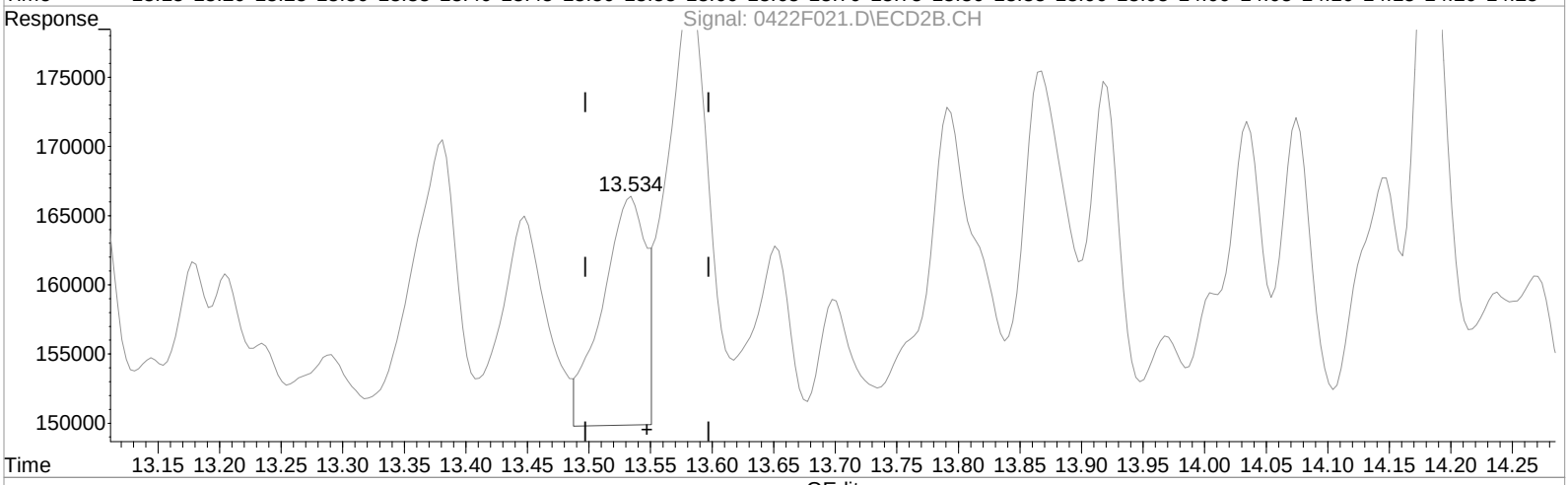
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.797min 0.546 ug/L

response 7859

Manual Integration:

Before

04/23/20

(18) Endosulfan II #2

13.534min 0.710 ug/L

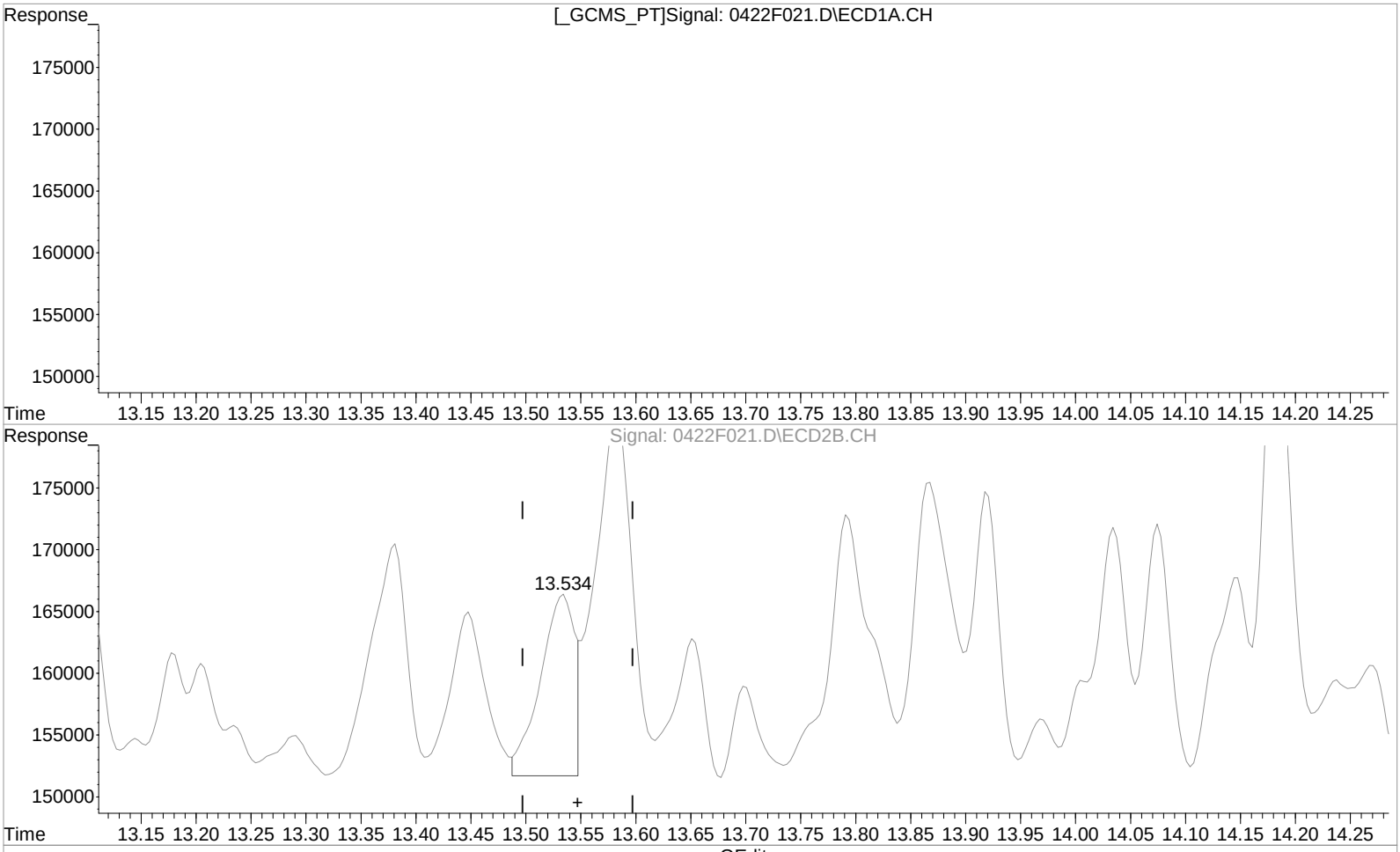
response 41606

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(18) Endosulfan II

14.797min 0.546 ug/L

response 7859

Manual Integration:

After

Baseline correction

04/23/20

(18) Endosulfan II #2

13.534min 0.552 ug/L m

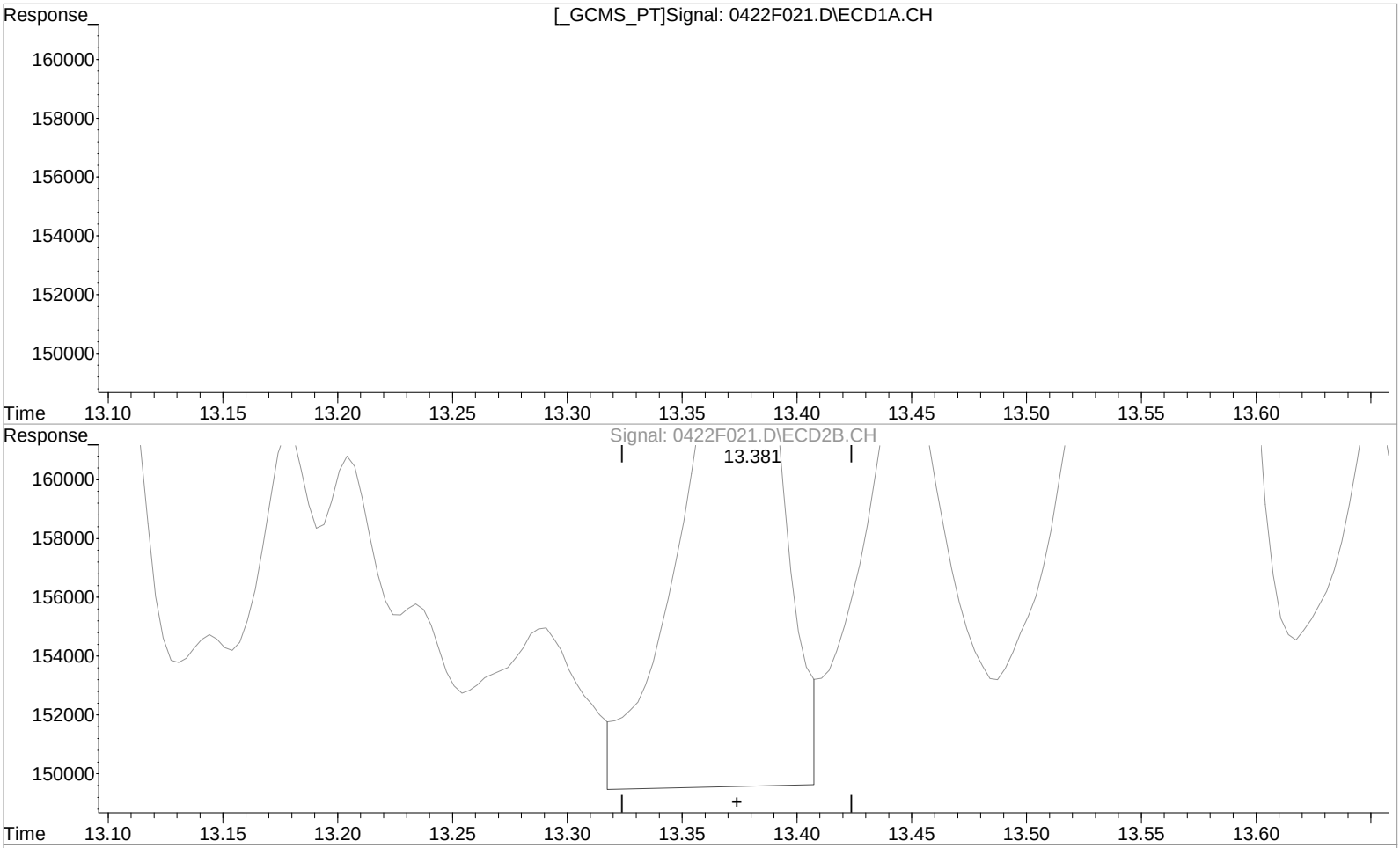
response 32347

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(19) 4,4'-DDD

14.640min 0.625 ug/L

response 7039

Manual Integration:

Before

04/23/20

(19) 4,4'-DDD #2

13.381min 1.114 ug/L

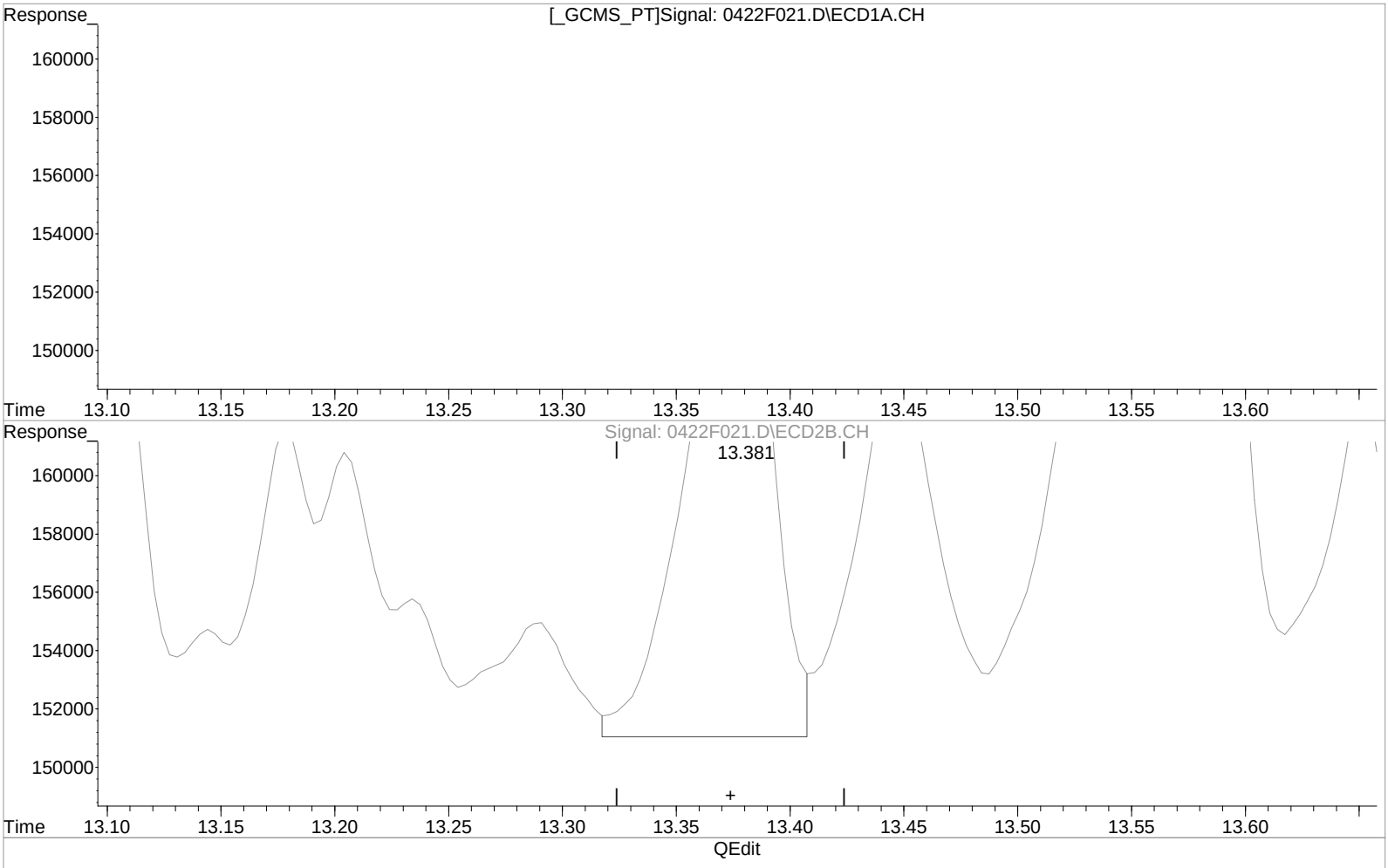
response 54716

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(19) 4,4'-DDD

14.640min 0.625 ug/L

response 7039

Manual Integration:

After

Baseline correction

04/23/20

(19) 4,4'-DDD #2

13.381min 0.950 ug/L m

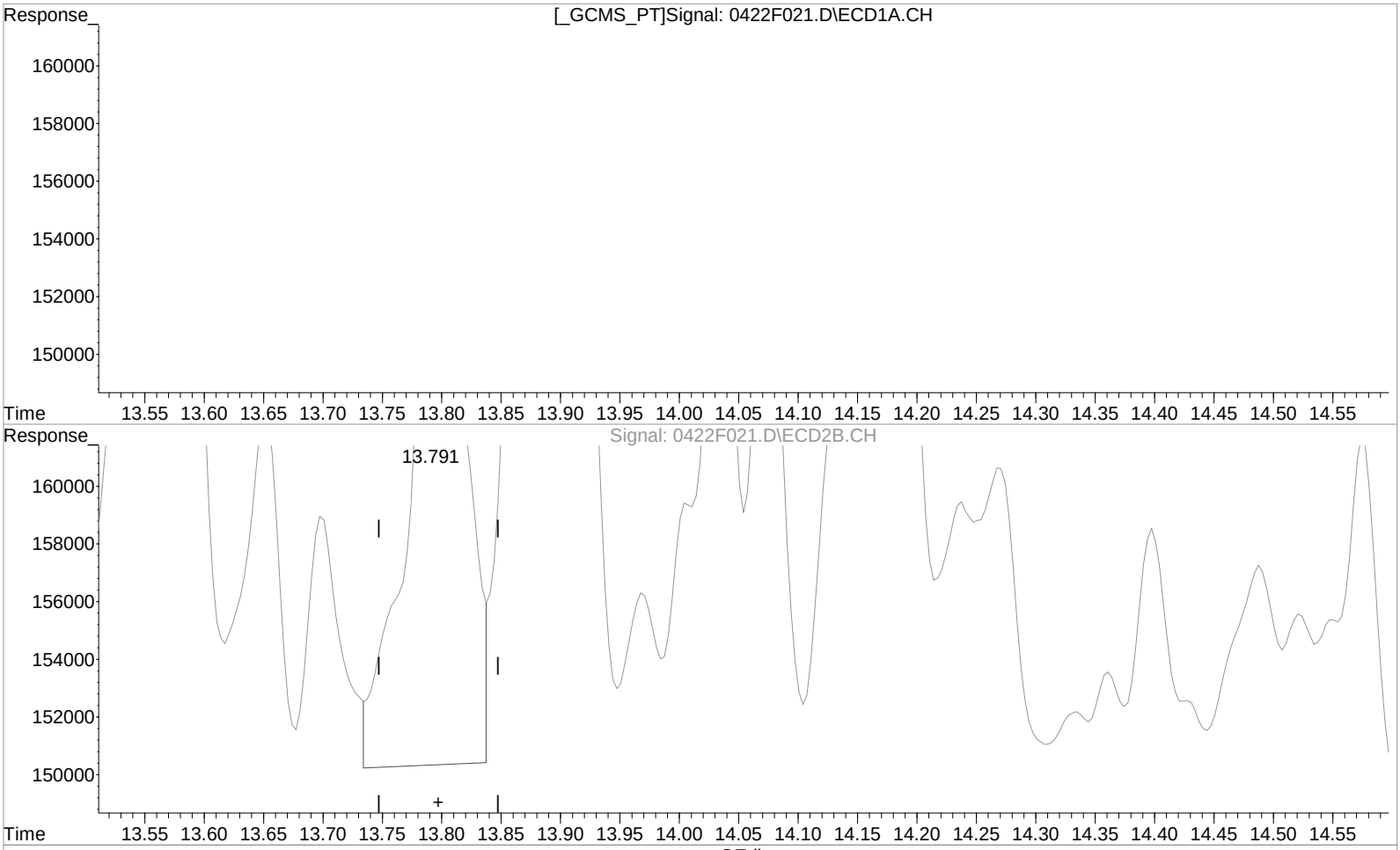
response 46635

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.147min 0.306 ug/L

response 3626

Manual Integration:

Before

04/23/20

(22) 4,4'-DDT #2

13.791min 1.395 ug/L

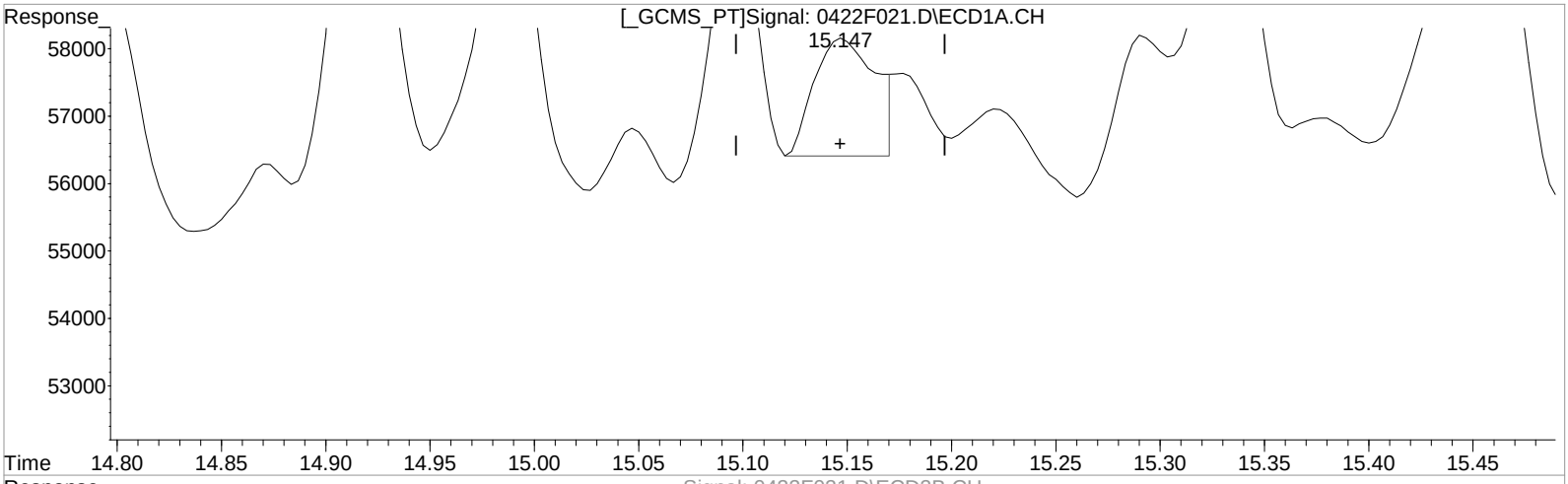
response 66025

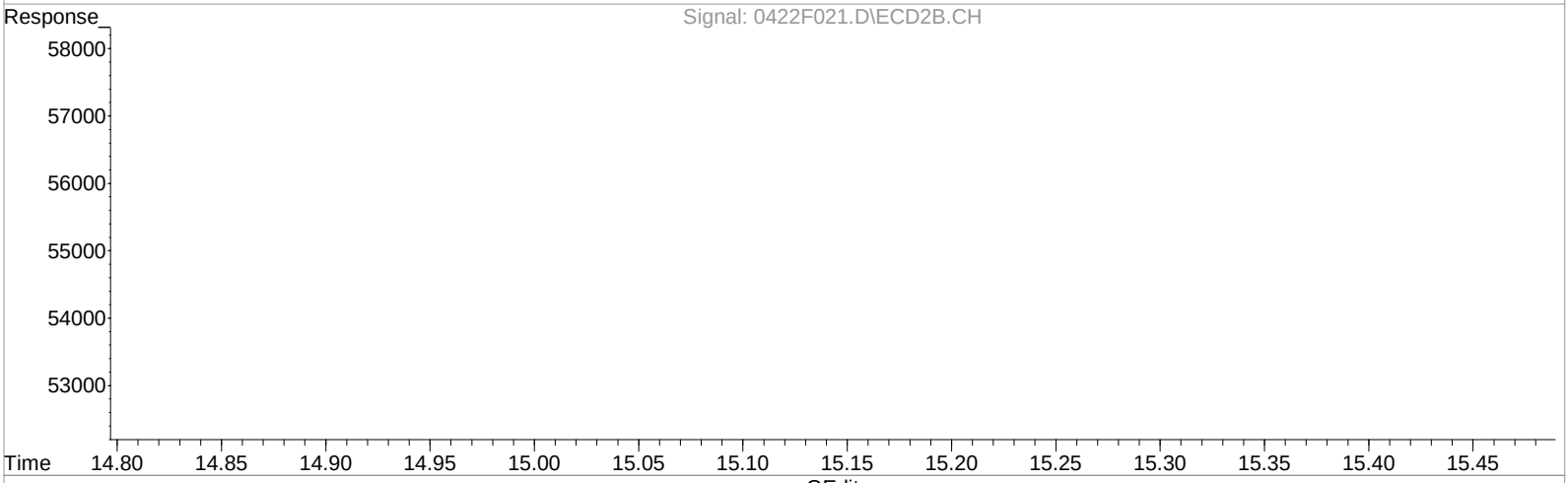
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.147min 0.306 ug/L

response 3626

Manual Integration:

Before

04/23/20

(22) 4,4'-DDT #2

13.791min 1.250 ug/L m

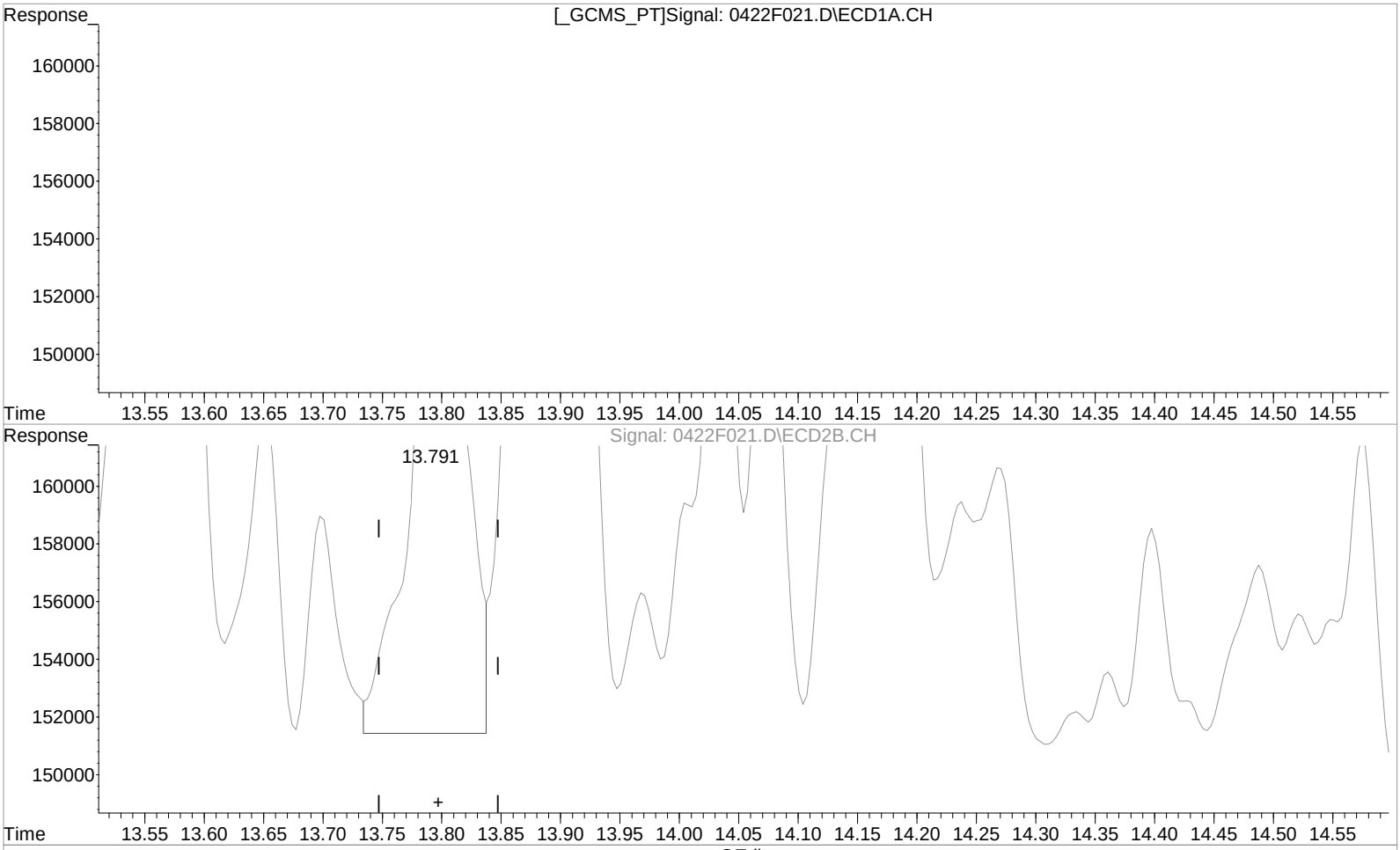
response 59156

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.147min 0.306 ug/L

response 3626

Manual Integration:

After

Baseline correction

04/23/20

(22) 4,4'-DDT #2

13.791min 1.250 ug/L m

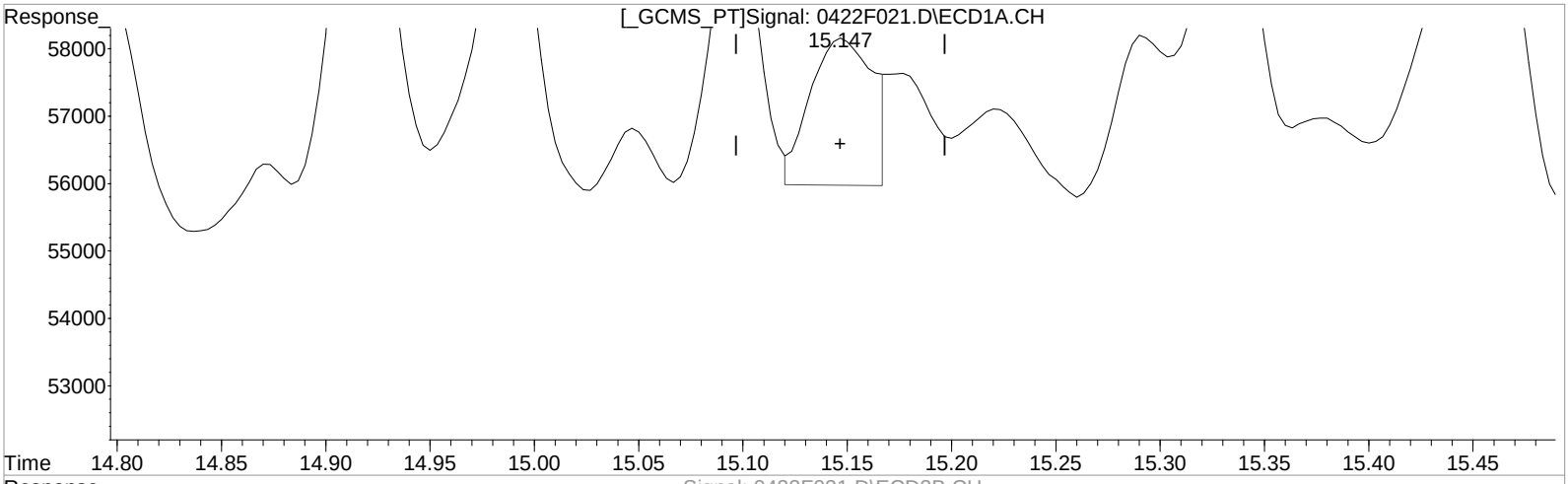
response 59156

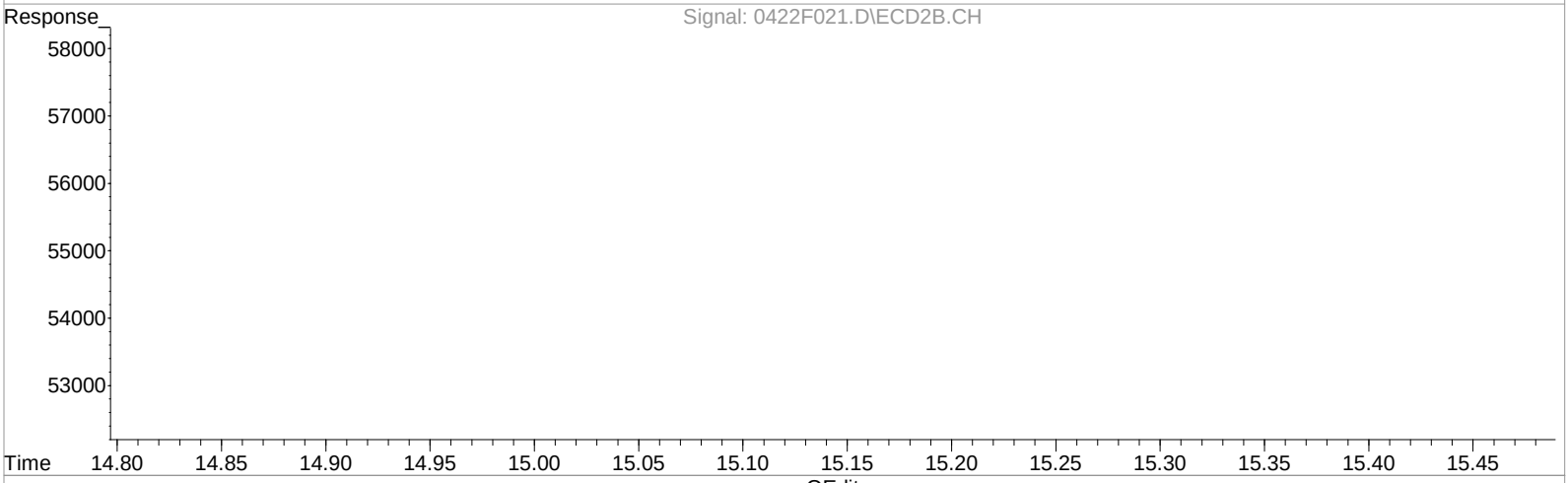
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.147min 0.388 ug/L m

response 4597

Manual Integration:

After

Baseline correction

04/23/20

(22) 4,4'-DDT #2

13.791min 1.250 ug/L m

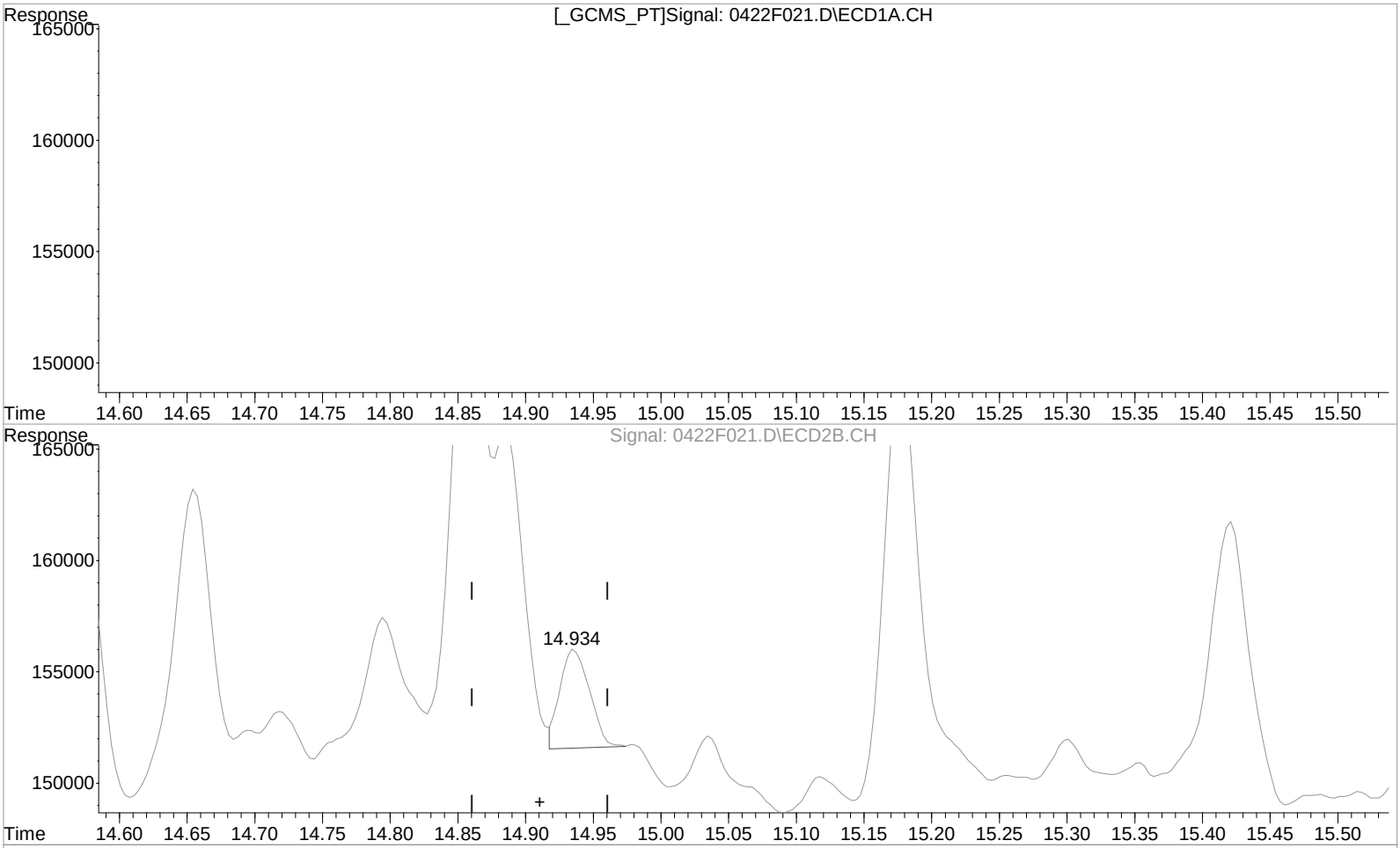
response 59156

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(24) Methoxychlor

15.870min 1.766 ug/L

response 12675

Manual Integration:

Before

04/23/20

(24) Methoxychlor #2

14.934min 0.256 ug/L

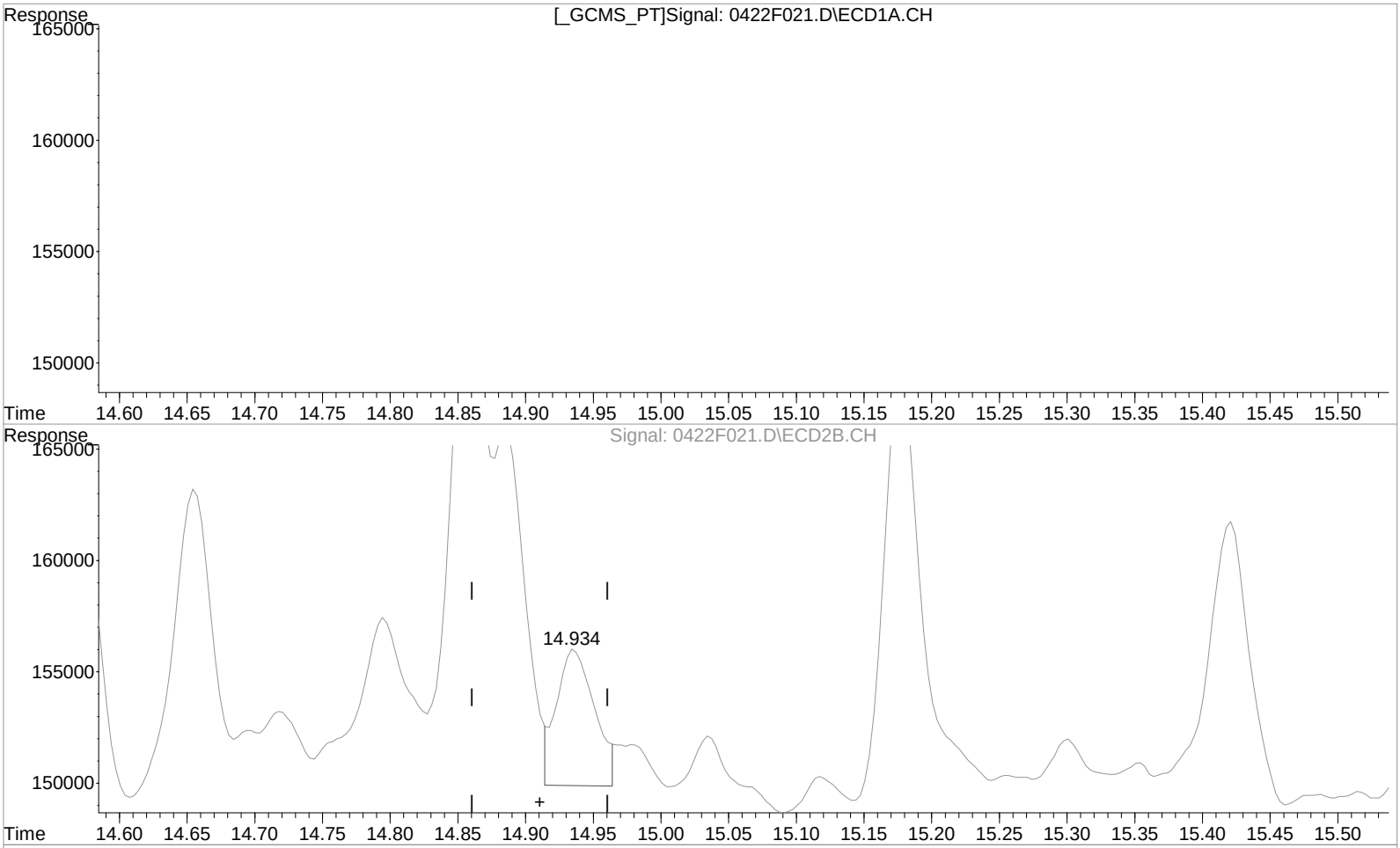
response 6718

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(24) Methoxychlor

15.870min 1.766 ug/L

response 12675

Manual Integration:

After

Baseline correction

04/23/20

(24) Methoxychlor #2

14.934min 0.455 ug/L m

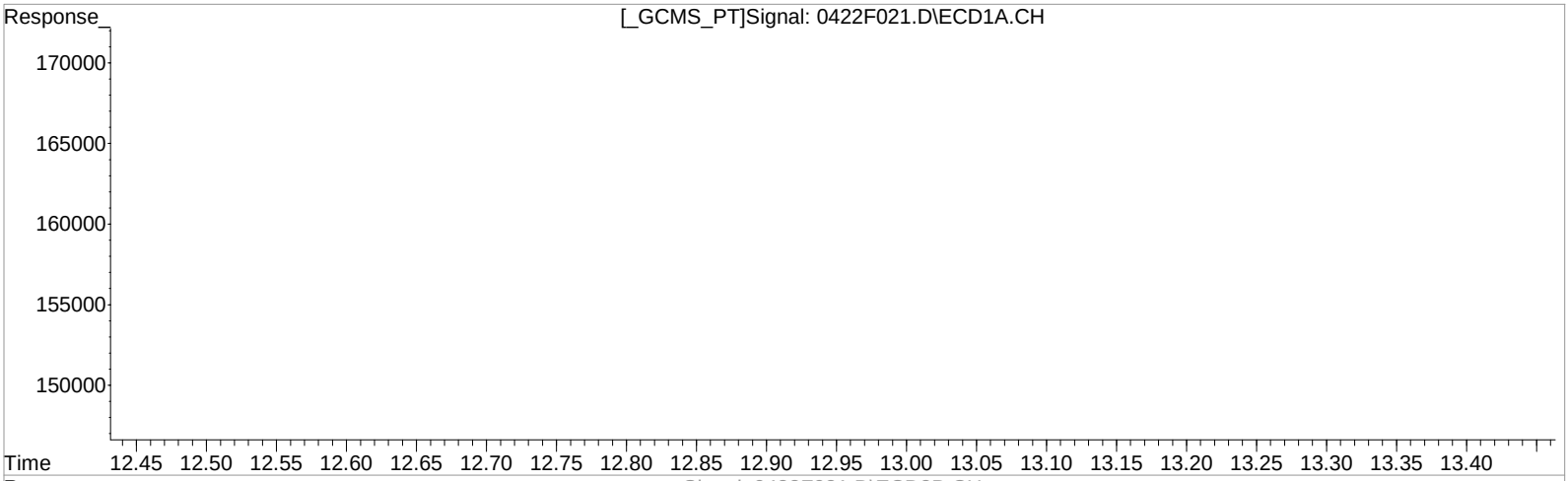
response 11960

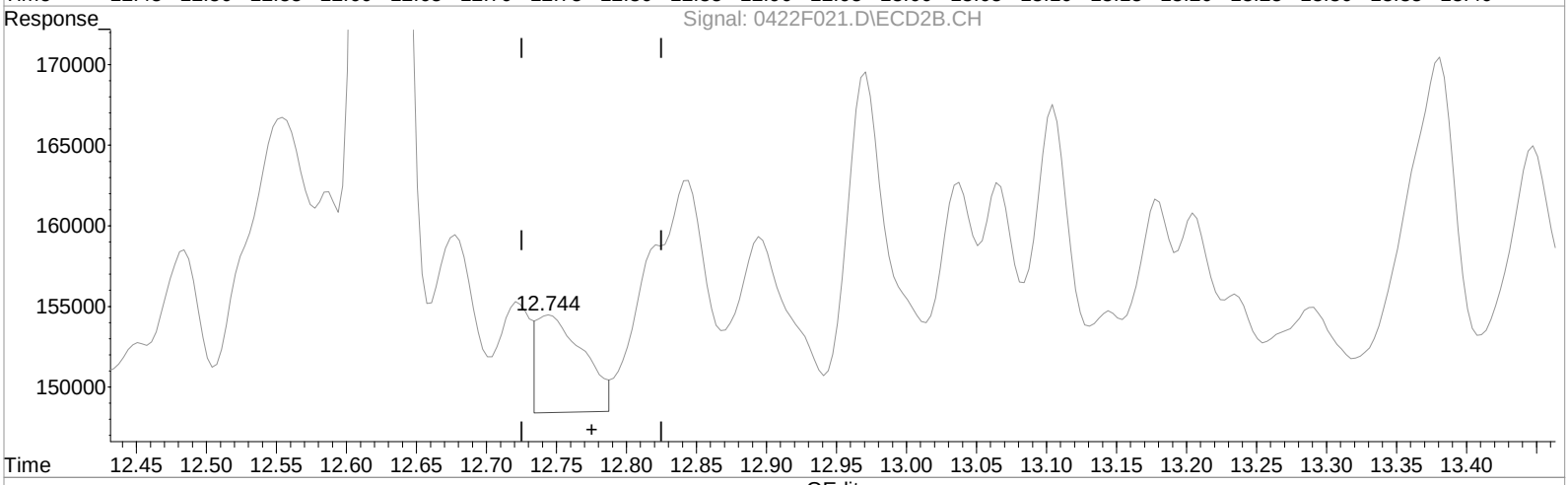
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.923min 0.803 ug/L

response 7178

Manual Integration:

Before

04/23/20

(26) 2,4'-DDD #2

12.744min 0.367 ug/L

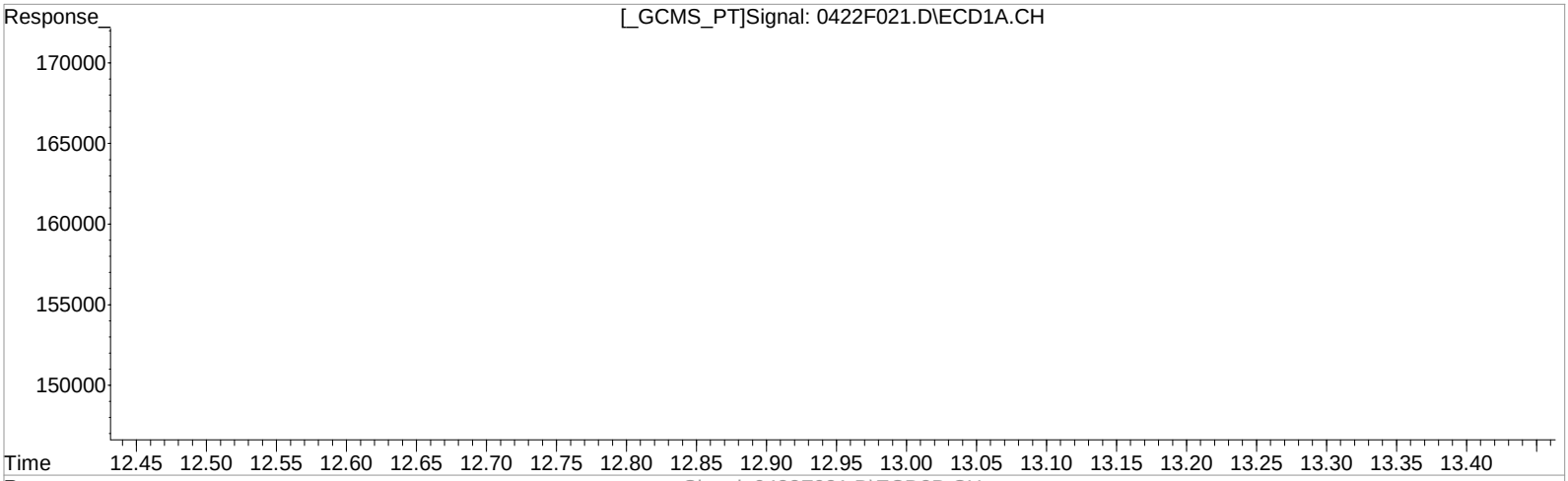
response 13638

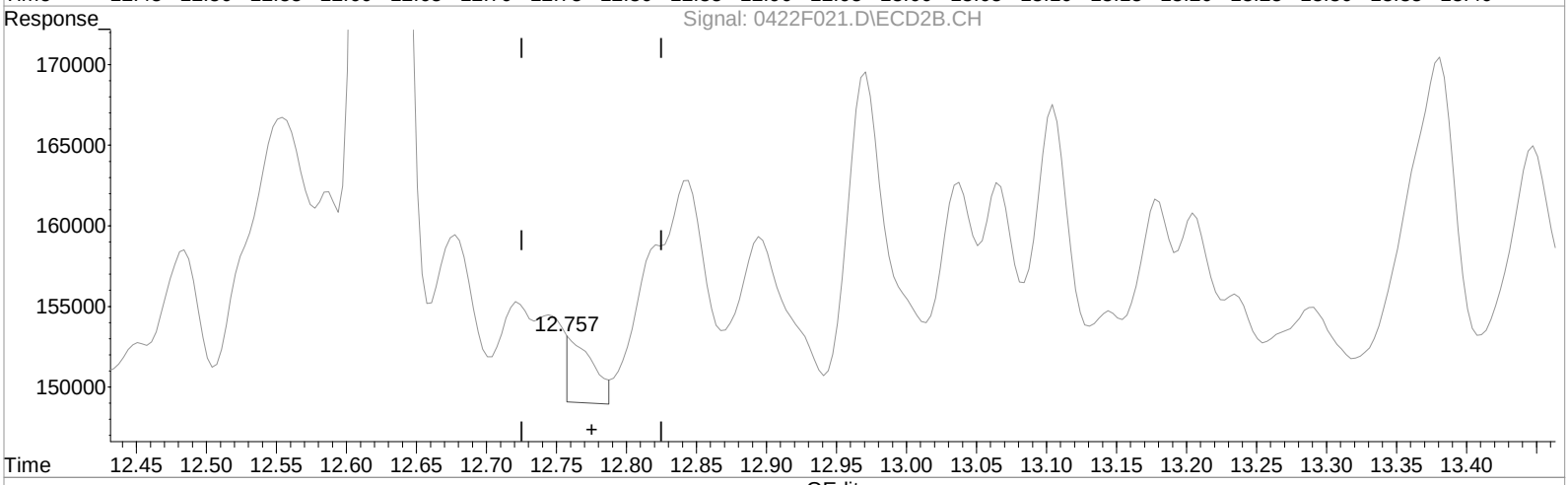
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.923min 0.803 ug/L

response 7178

Manual Integration:

After

WRT

04/23/20

(26) 2,4'-DDD #2

12.757min 0.128 ug/L m

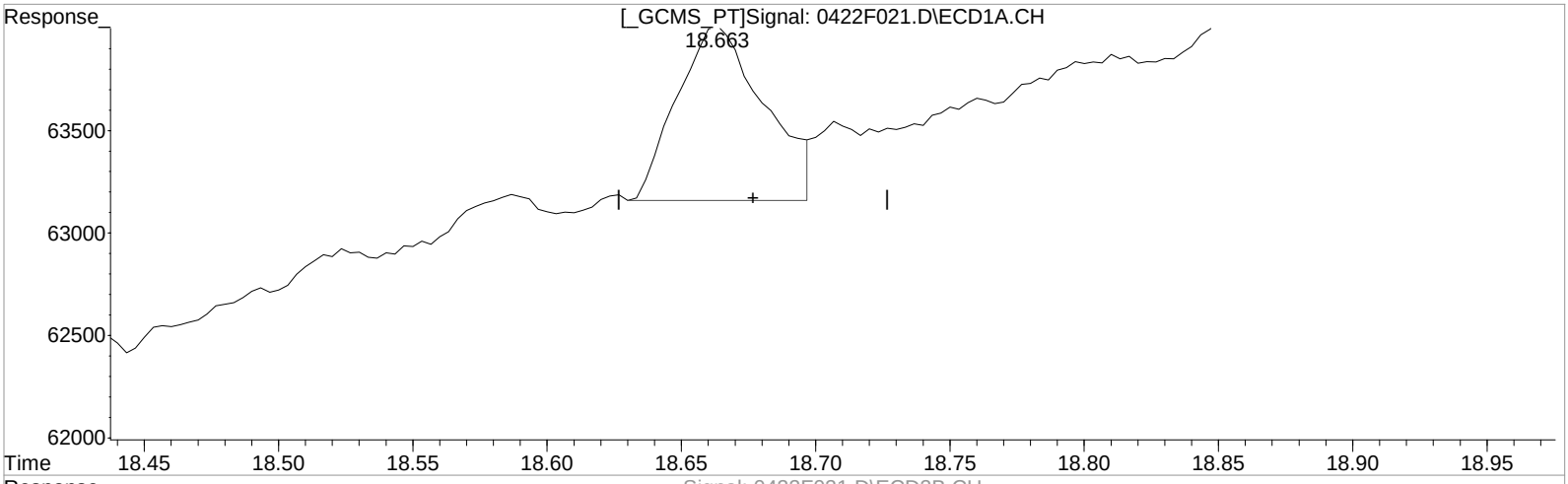
response 4746

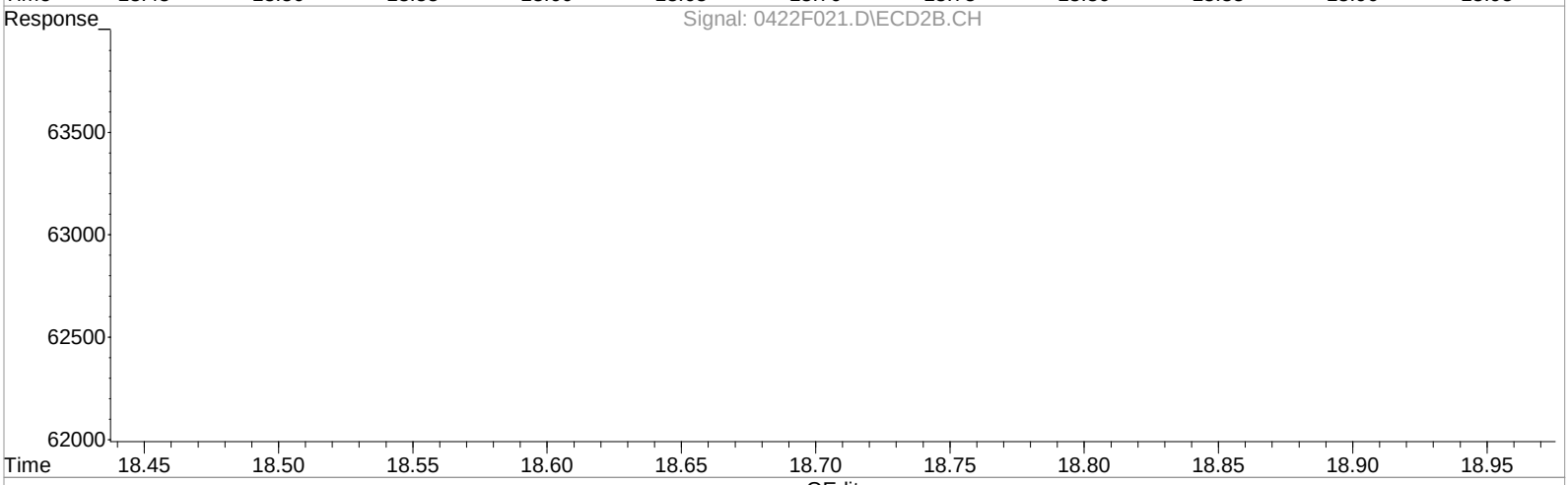
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.663min 0.115 ug/L

response 1934

Manual Integration:

Before

04/23/20

(28) Decachlorobiphenyl #2 (s)

17.057min 0.078 ug/L

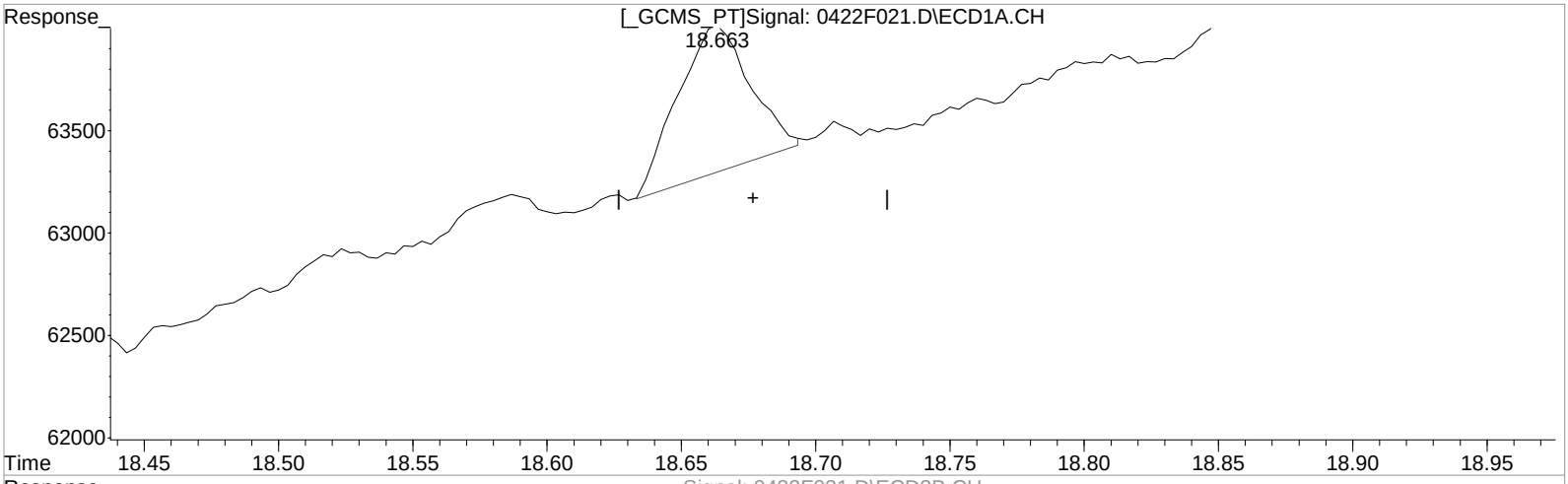
response 5821

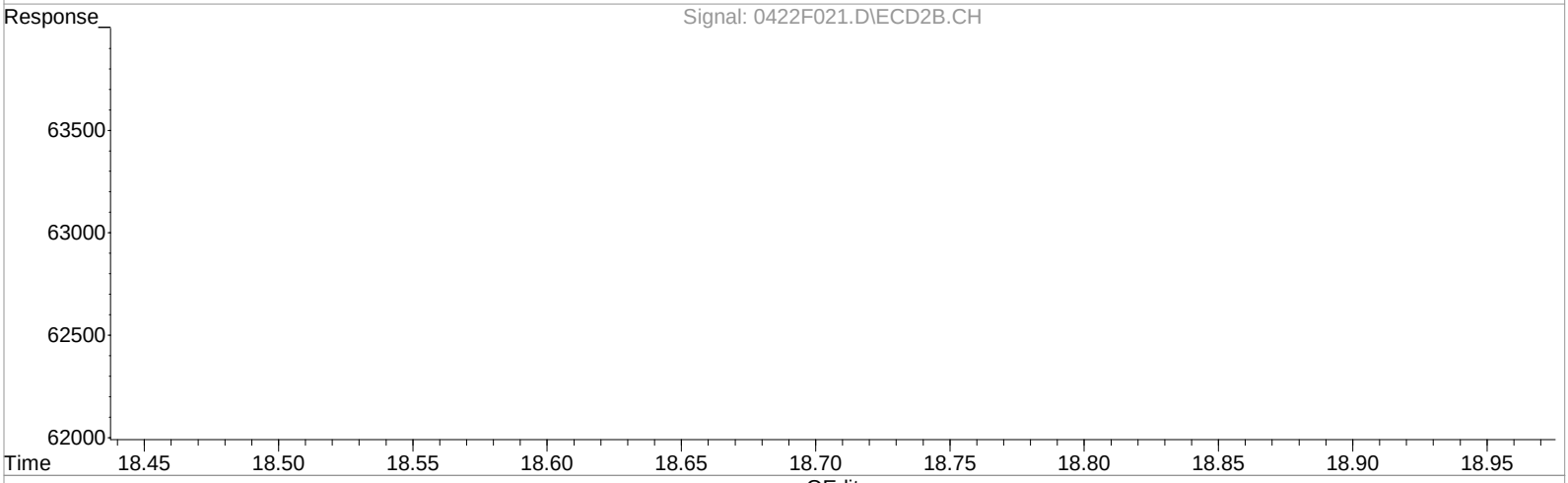
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.663min 0.082 ug/L m

response 1374

Manual Integration:

After

Baseline correction

04/23/20

(28) Decachlorobiphenyl #2 (s)

17.057min 0.078 ug/L

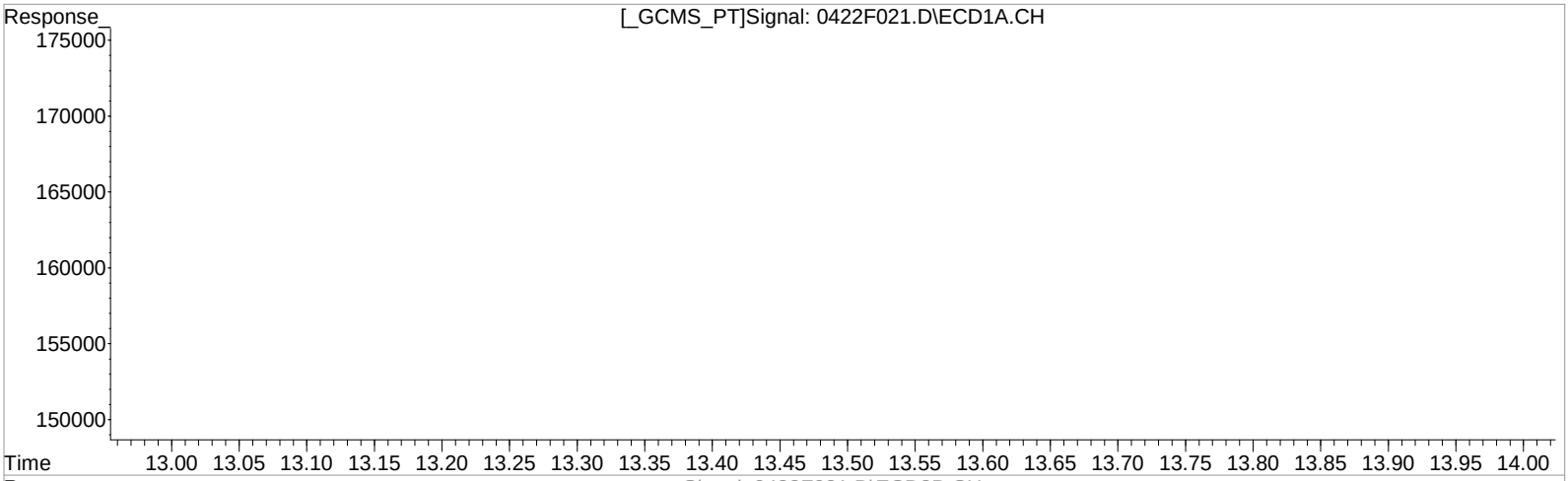
response 5821

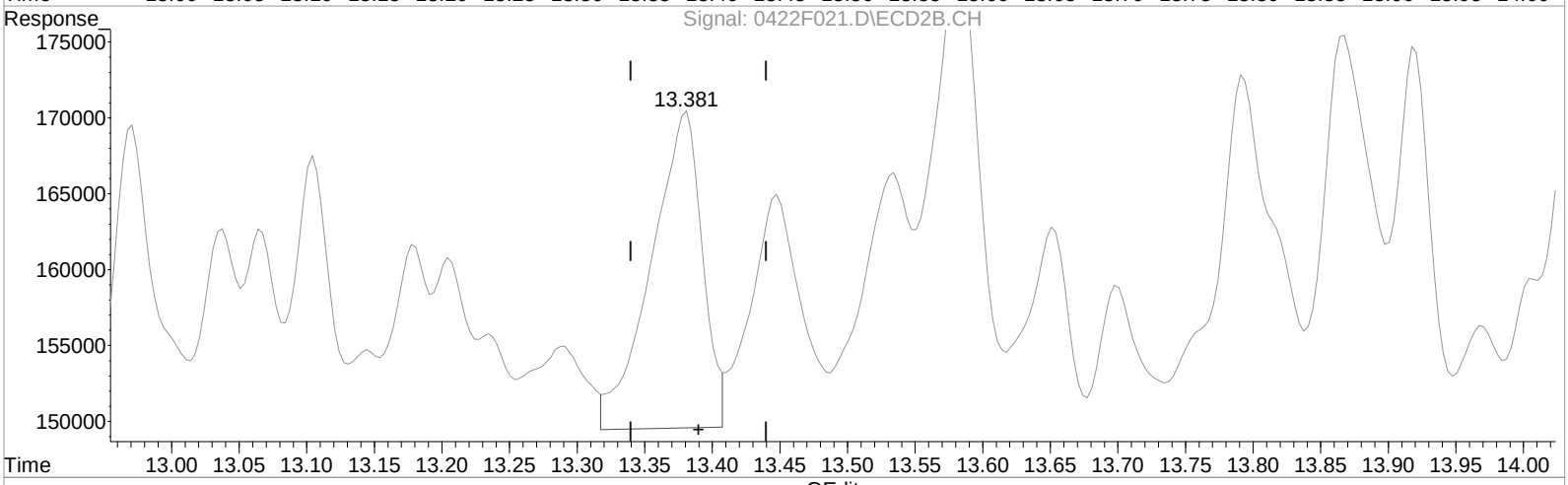
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.737min 40.399 ug/L

response 6265

Manual Integration:

Before

04/23/20

(30) Toxaphene #2

13.381min 53.079 ug/L

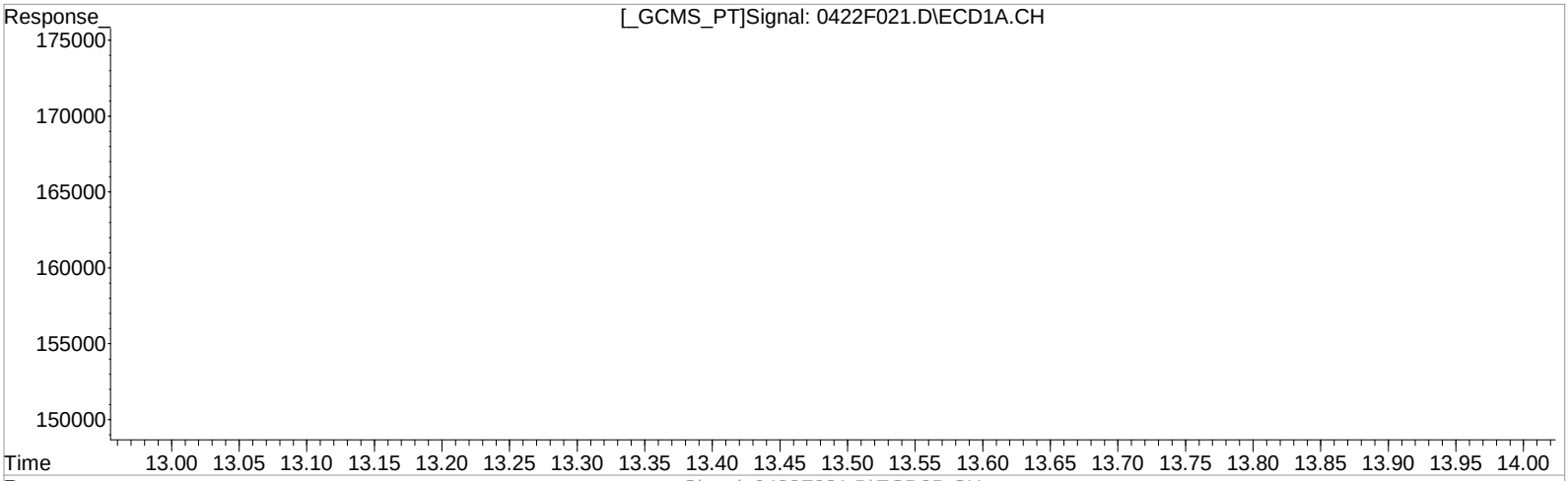
response 54716

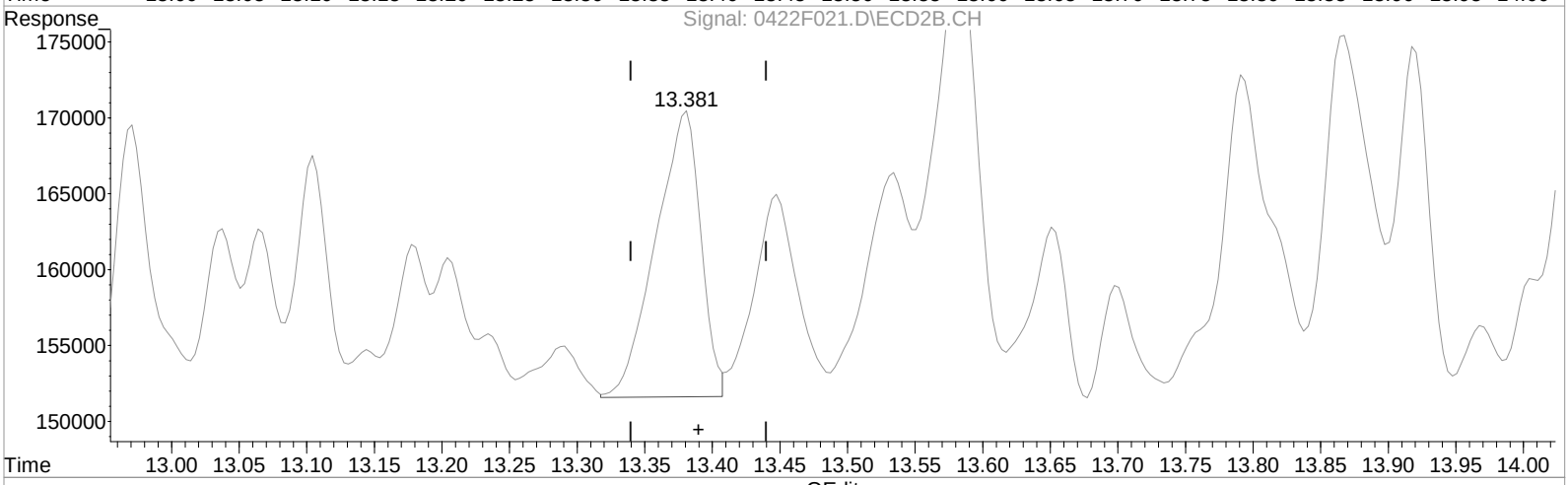
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.737min 40.399 ug/L

response 6265

Manual Integration:

After

Baseline correction

04/23/20

(30) Toxaphene #2

13.381min 42.272 ug/L m

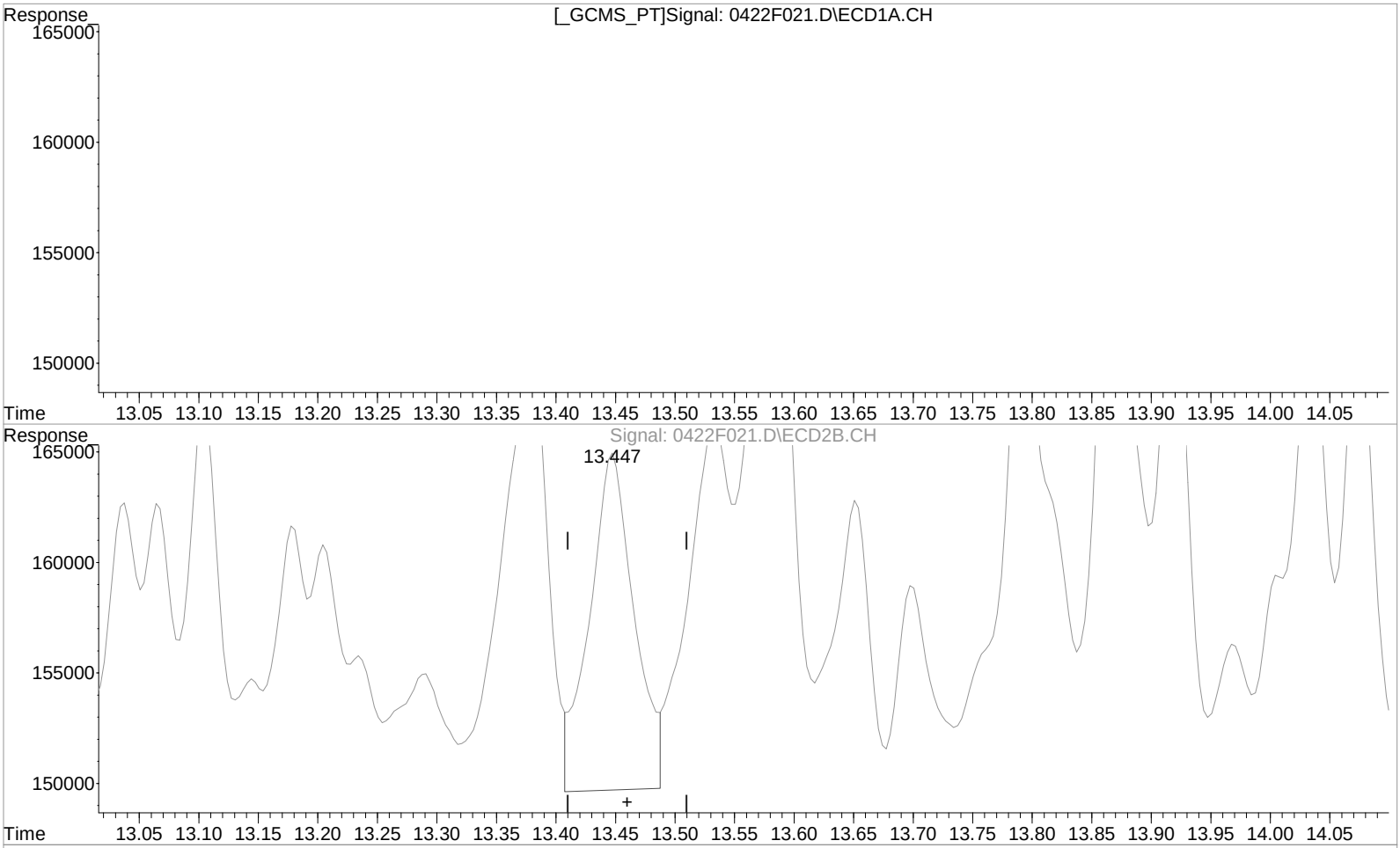
response 43576

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.797min 56.027 ug/L

response 7859

Manual Integration:

Before

04/23/20

(31) Toxaphene {2} #2

13.447min 49.977 ug/L

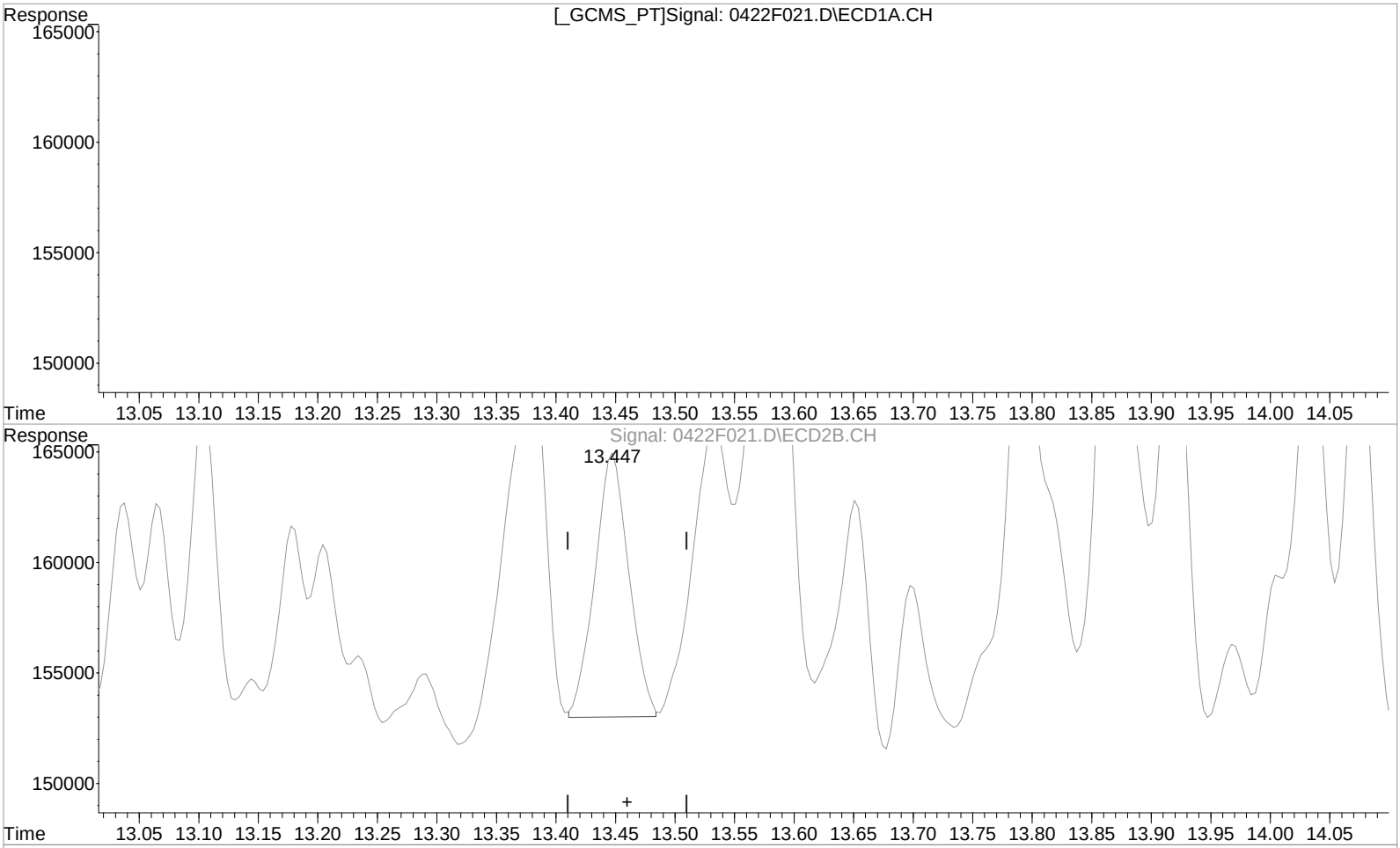
response 39637

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.797min 56.027 ug/L

response 7859

Manual Integration:

After

Baseline correction

04/23/20

(31) Toxaphene {2} #2

13.447min 29.876 ug/L m

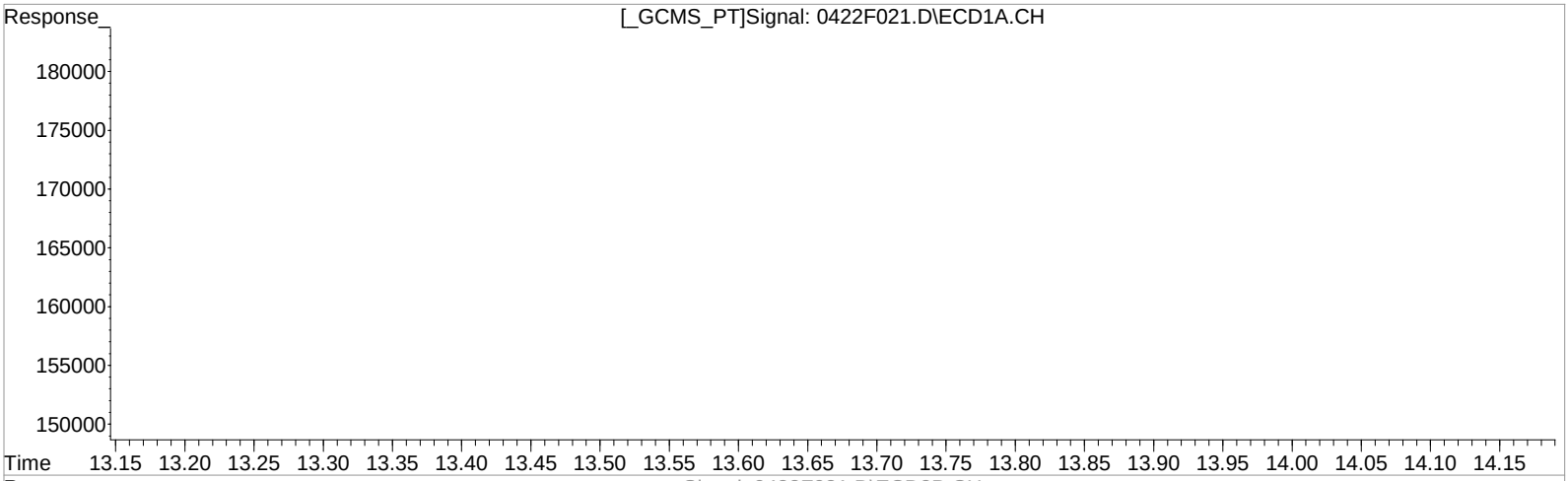
response 23695

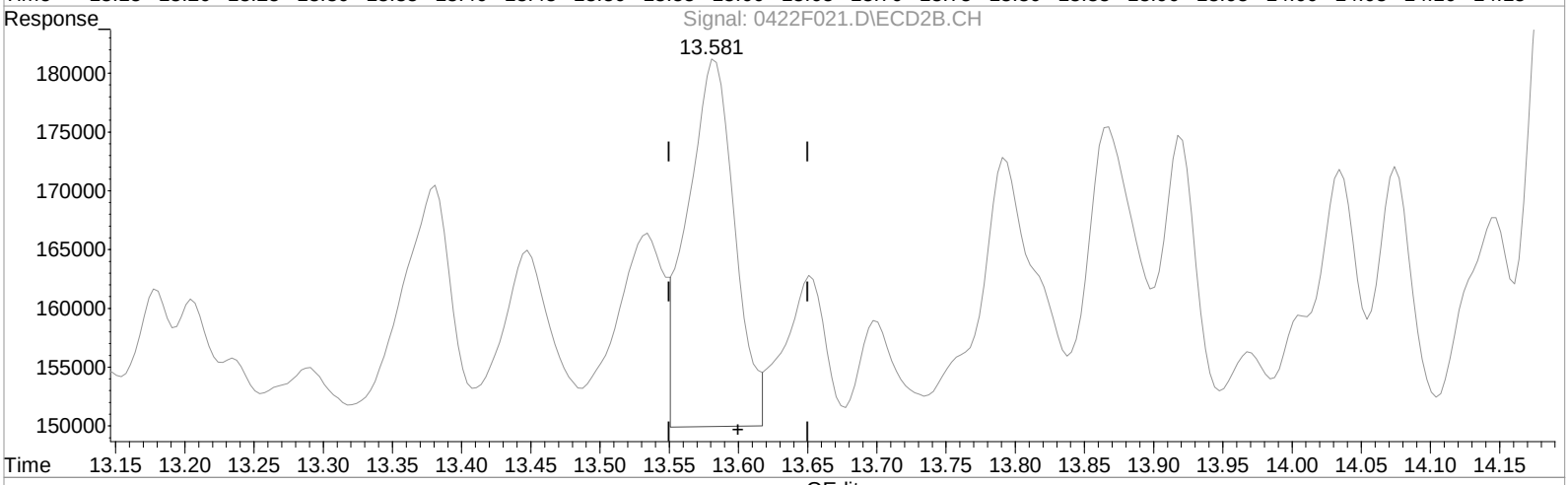
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.917min 42.747 ug/L

response 11948

Manual Integration:

Before

04/23/20

(32) Toxaphene {3} #2

13.581min 69.936 ug/L

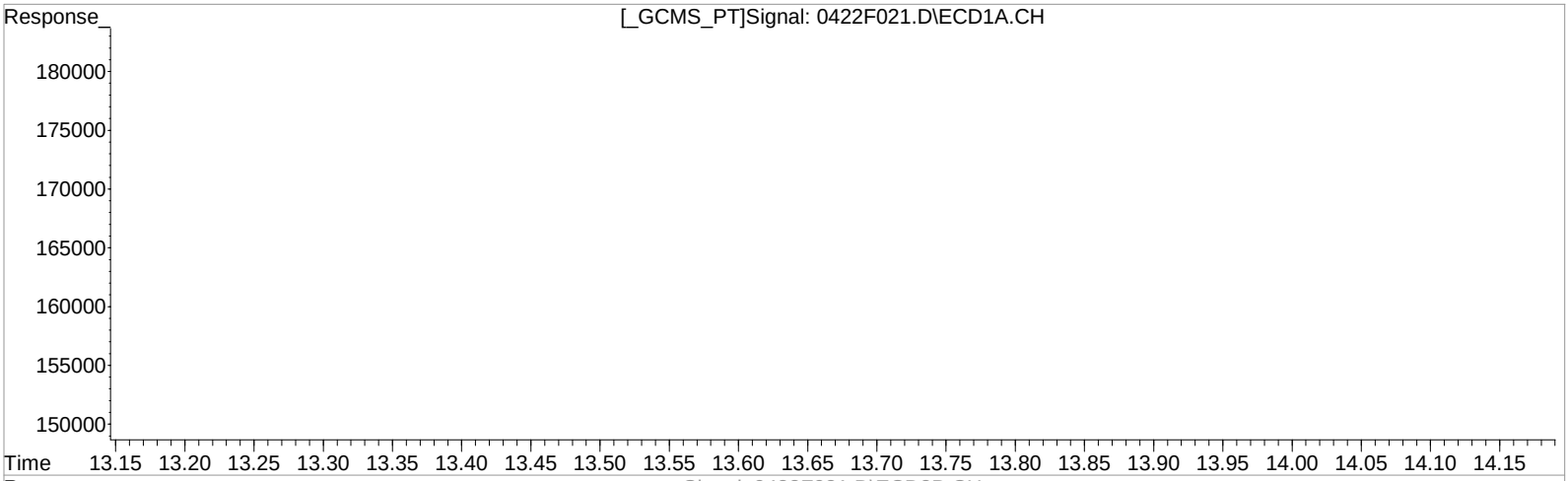
response 73165

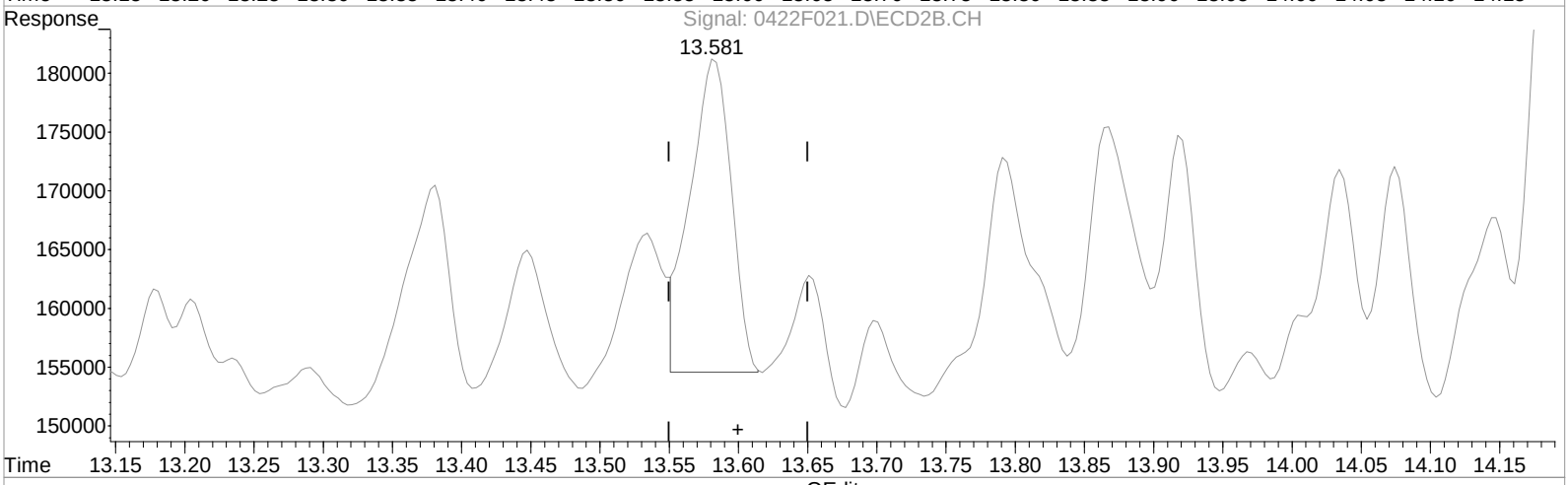
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.917min 42.747 ug/L

response 11948

Manual Integration:

After

Baseline correction

04/23/20

(32) Toxaphene {3} #2

13.581min 50.584 ug/L m

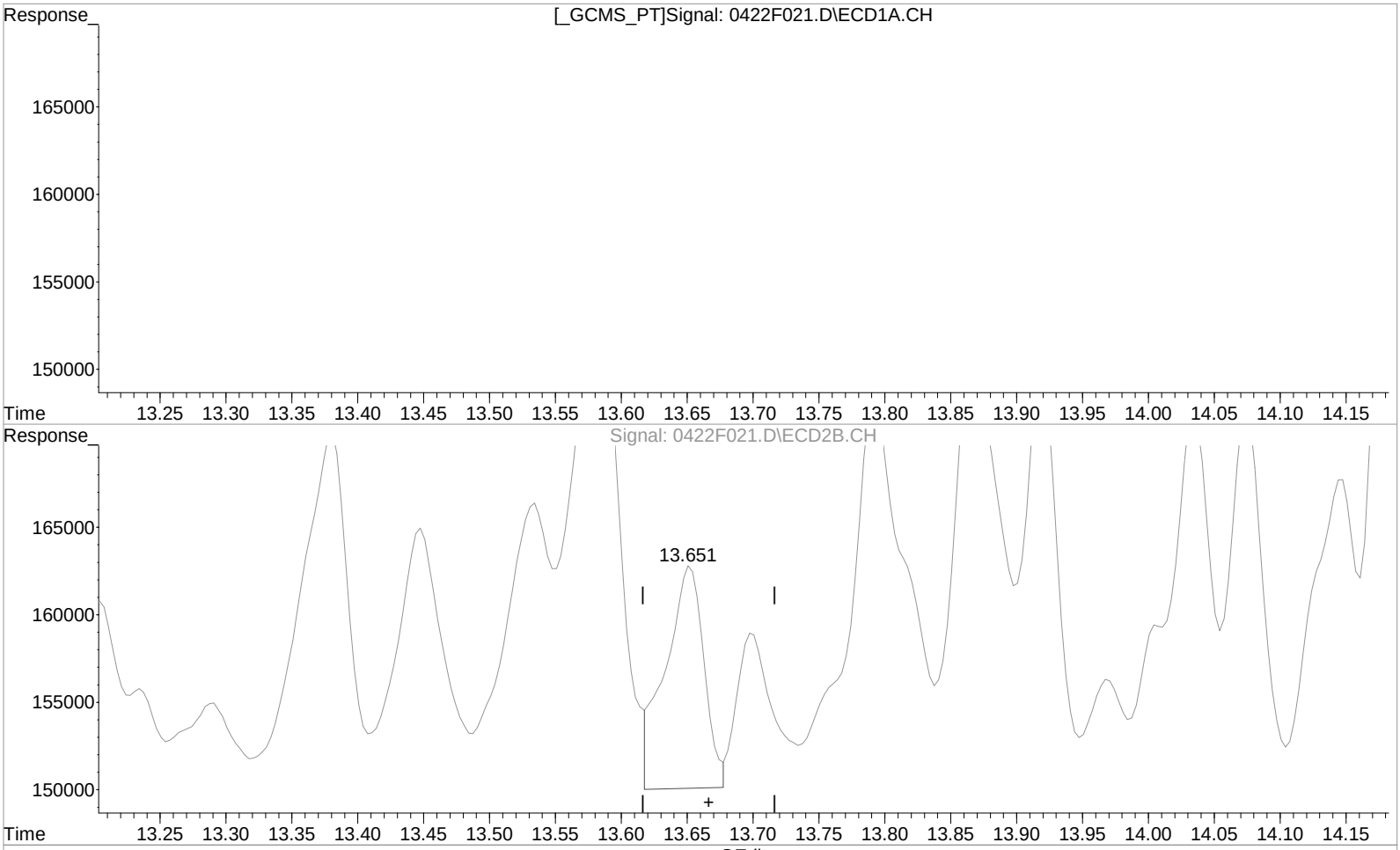
response 54710

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.987min 50.246 ug/L

response 9445

Manual Integration:

Before

04/23/20

(33) Toxaphene {4} #2

13.651min 69.112 ug/L

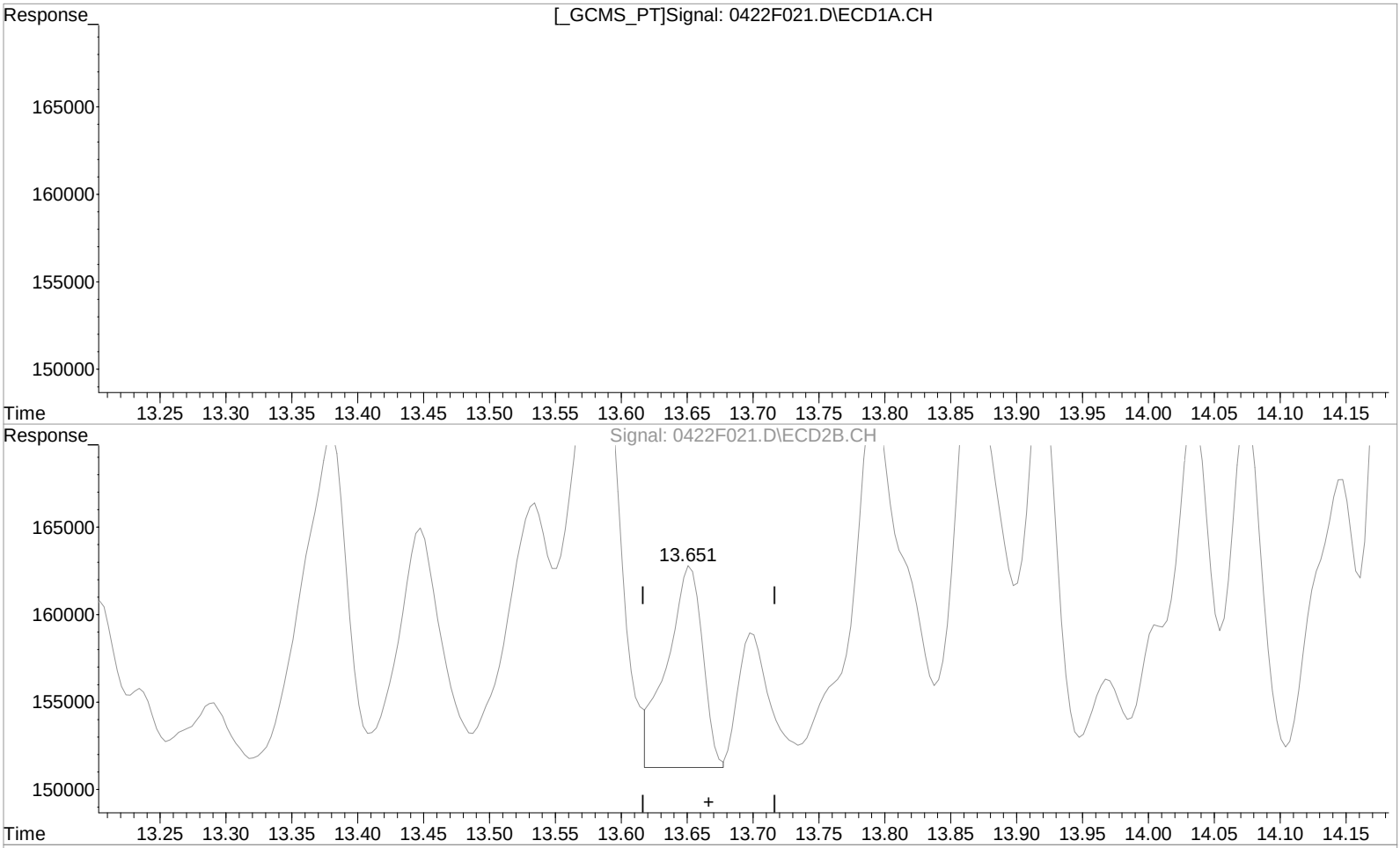
response 25814

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(33) Toxaphene {4}

14.987min 50.246 ug/L

response 9445

Manual Integration:

After

Baseline correction

04/23/20

(33) Toxaphene {4} #2

13.651min 56.710 ug/L m

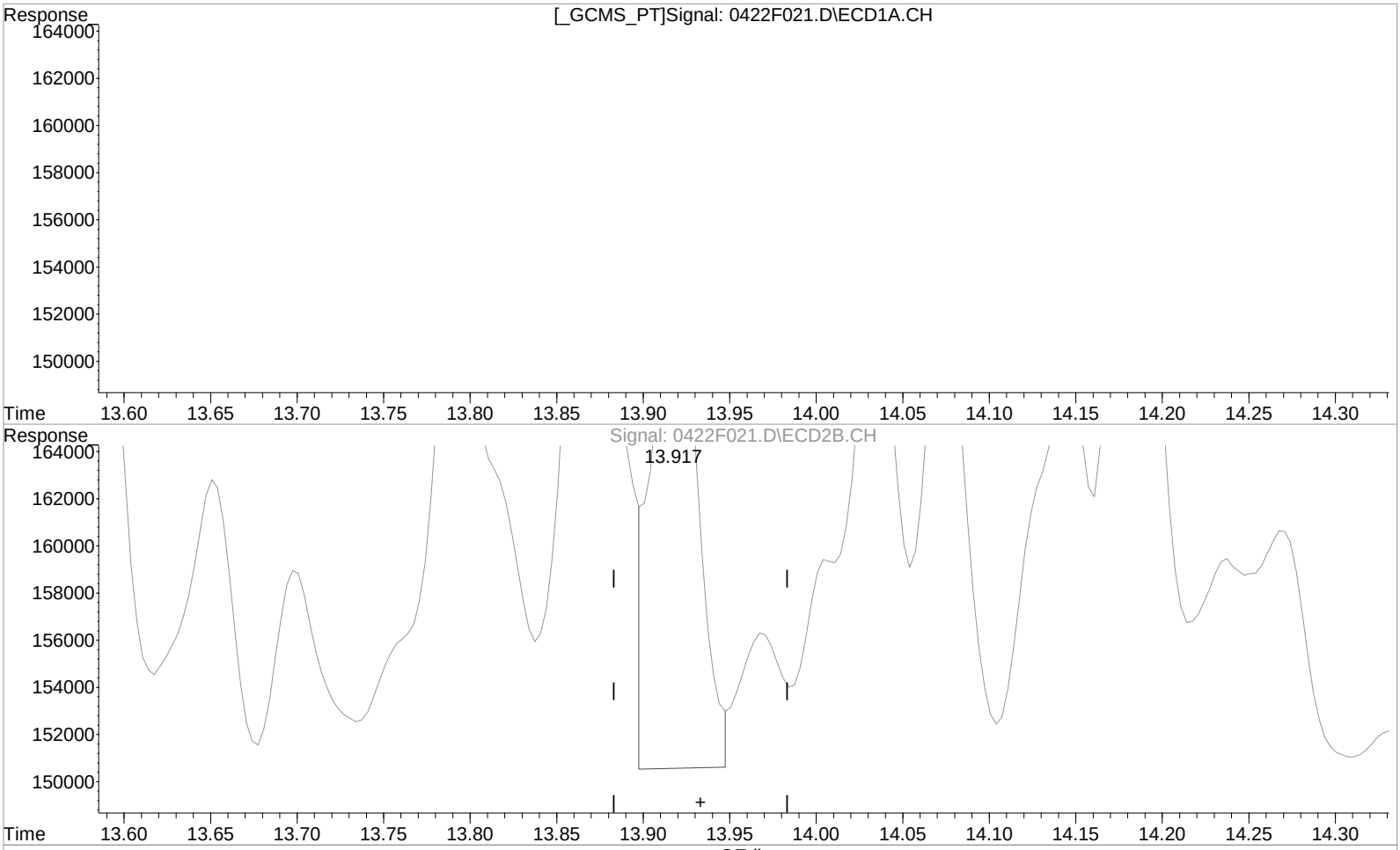
response 21544

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.333min 49.900 ug/L

response 8938

Manual Integration:

Before

04/23/20

(34) Toxaphene {5} #2

13.917min 73.317 ug/L

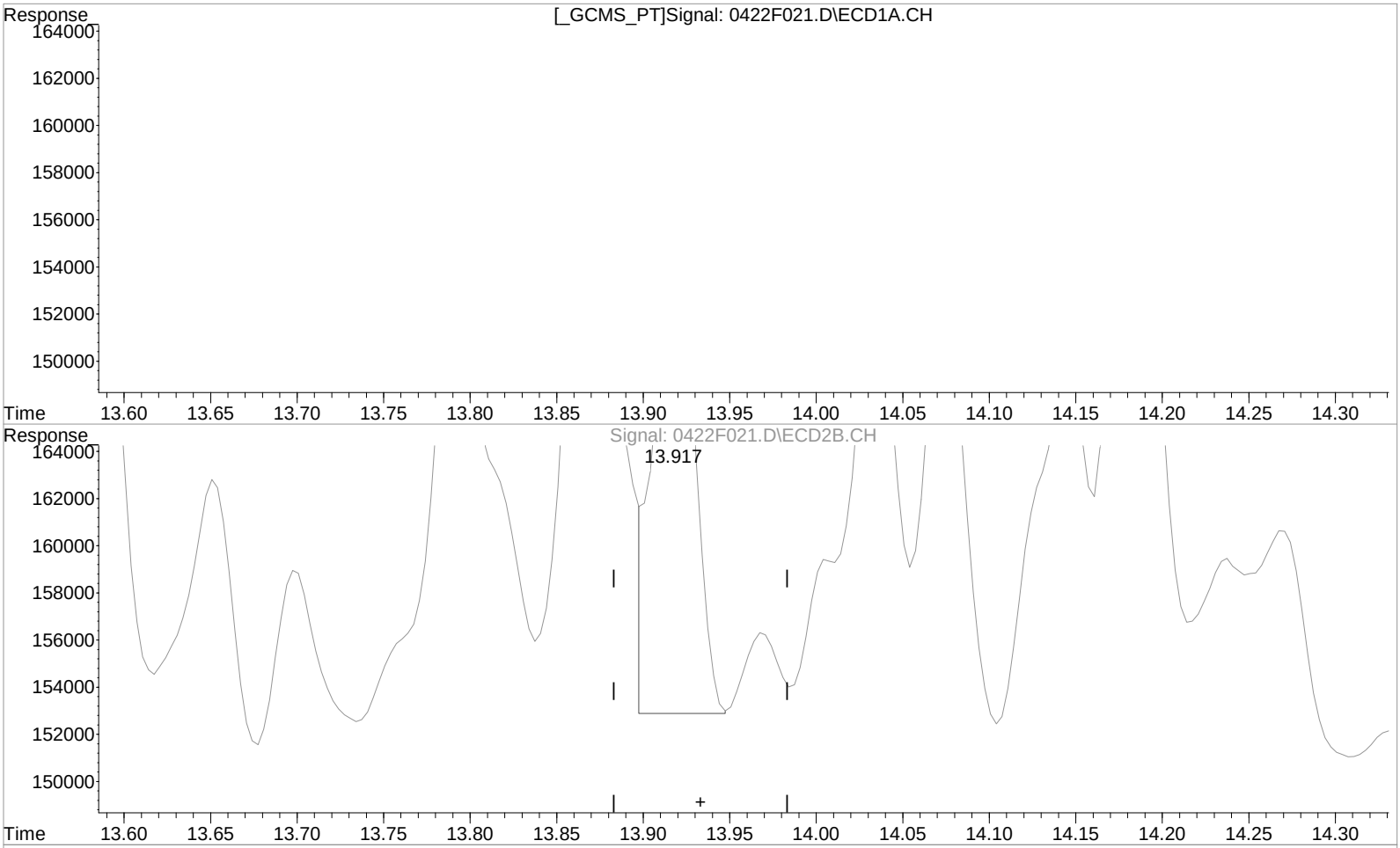
response 40711

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.333min 49.900 ug/L

response 8938

Manual Integration:

After

Baseline correction

04/23/20

(34) Toxaphene {5} #2

13.917min 60.865 ug/L m

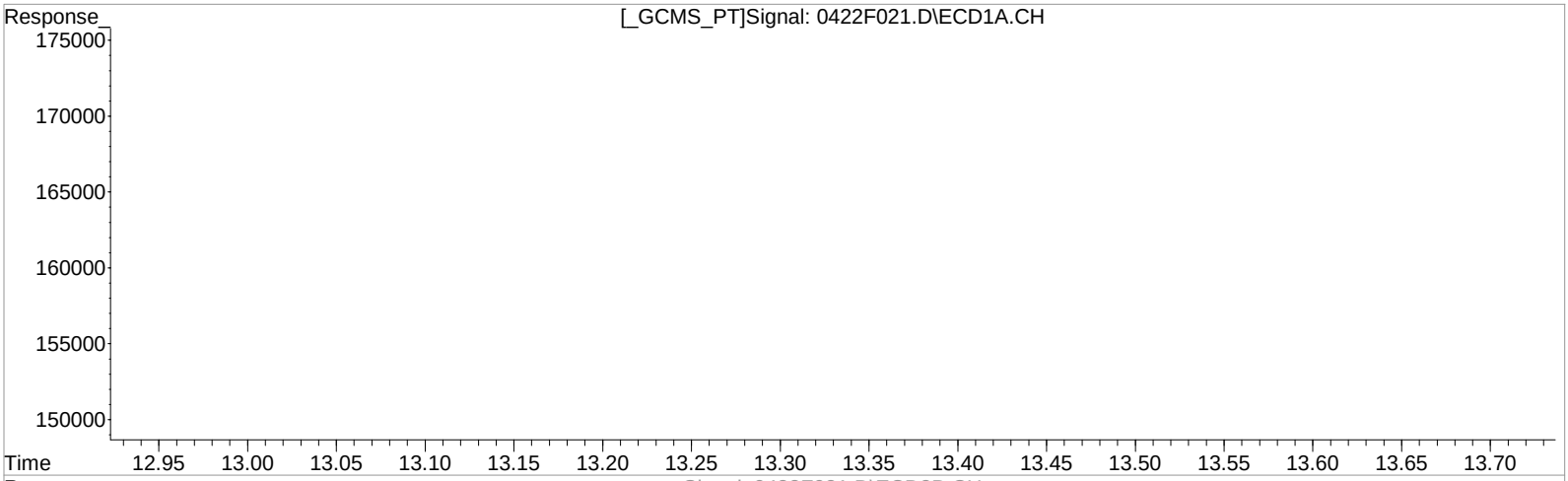
response 33797

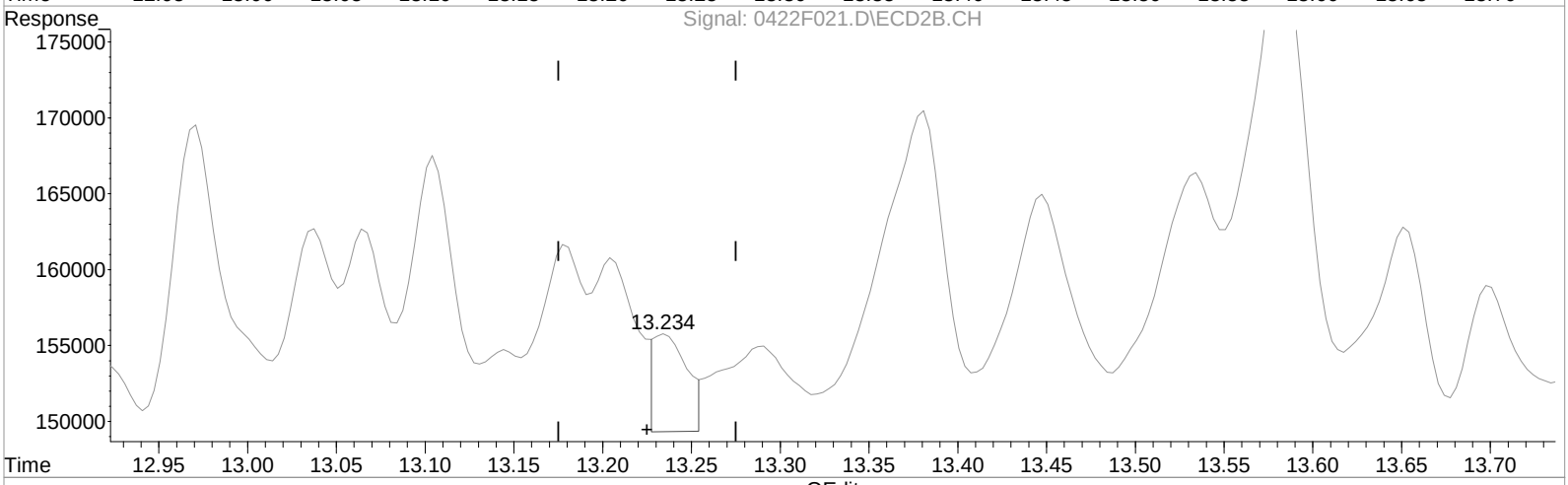
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.640min 0.445 ug/L

response 7039

Manual Integration:

Before

04/23/20

(46) cis-Nonachlor #2

13.234min 0.120 ug/L

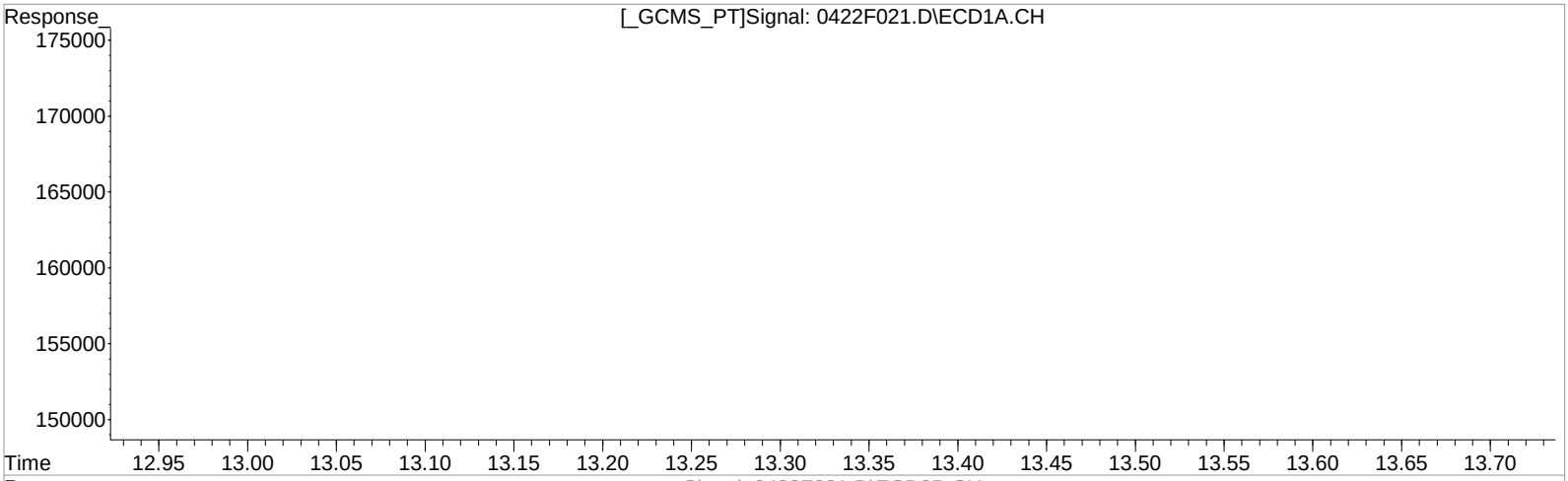
response 8172

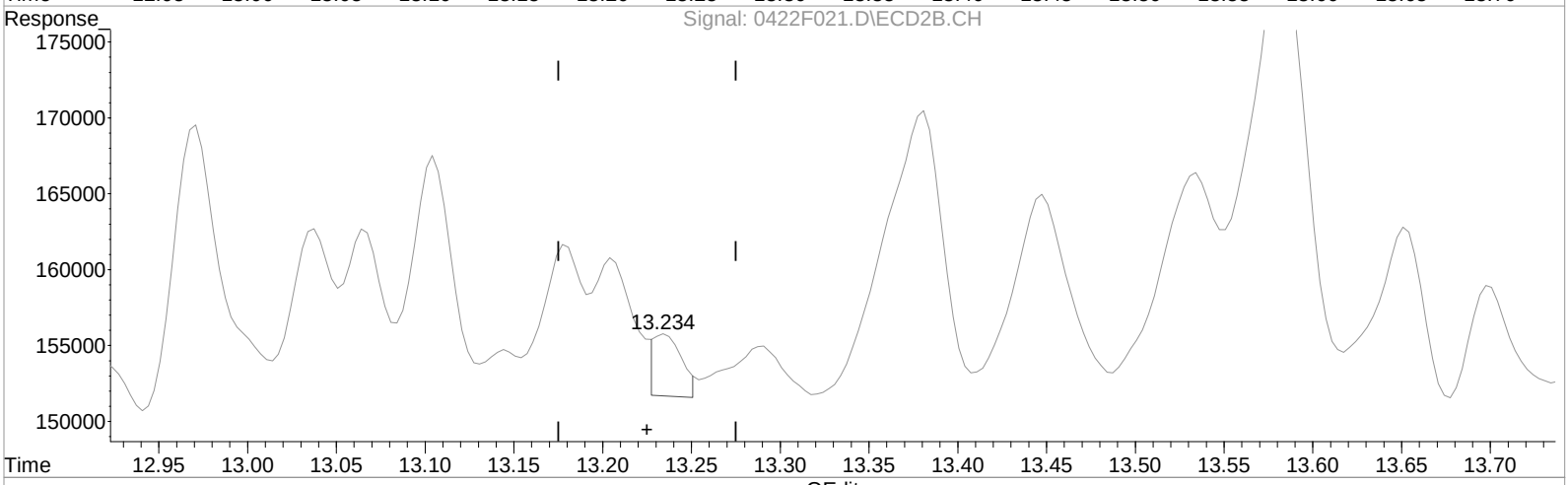
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.640min 0.445 ug/L

response 7039

Manual Integration:

After

Baseline correction

04/23/20

(46) cis-Nonachlor #2

13.234min 0.062 ug/L m

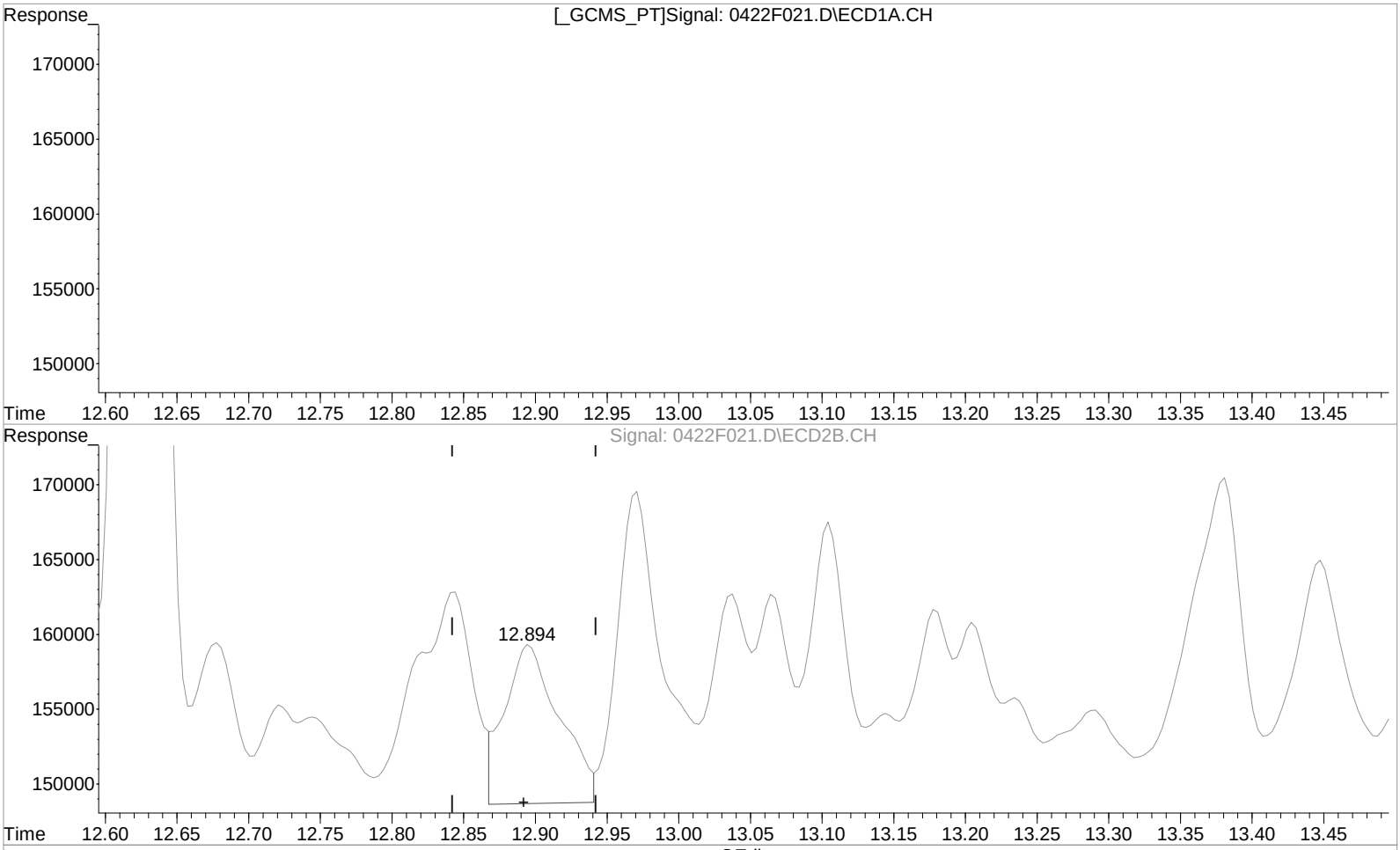
response 4238

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(52) Perthane

14.133min 6.047 ug/L

response 2716

Manual Integration:

Before

04/23/20

(52) Perthane #2

12.894min 16.534 ug/L

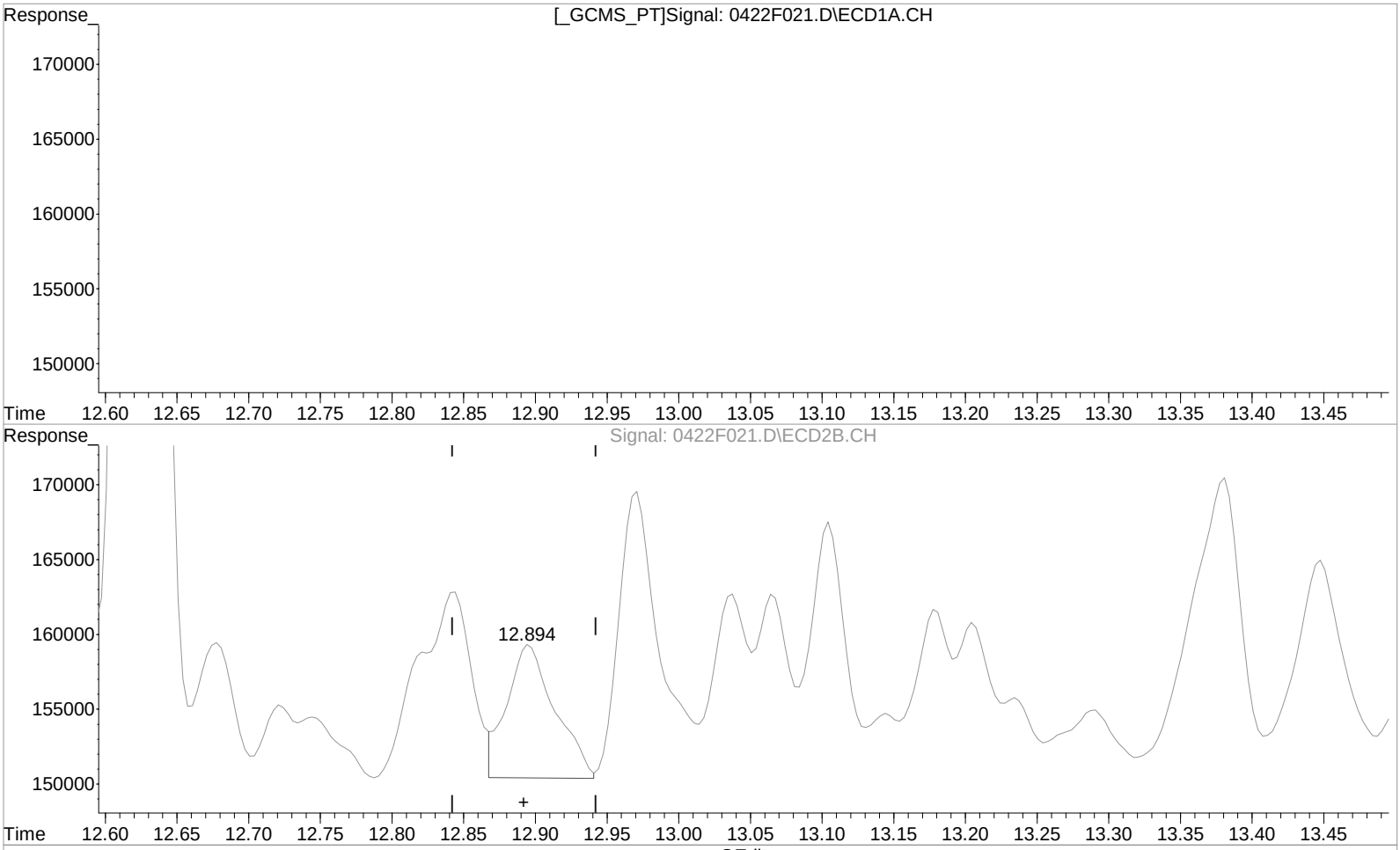
response 28102

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(52) Perthane

14.133min 6.047 ug/L

response 2716

Manual Integration:

After

Baseline correction

04/23/20

(52) Perthane #2

12.894min 12.146 ug/L m

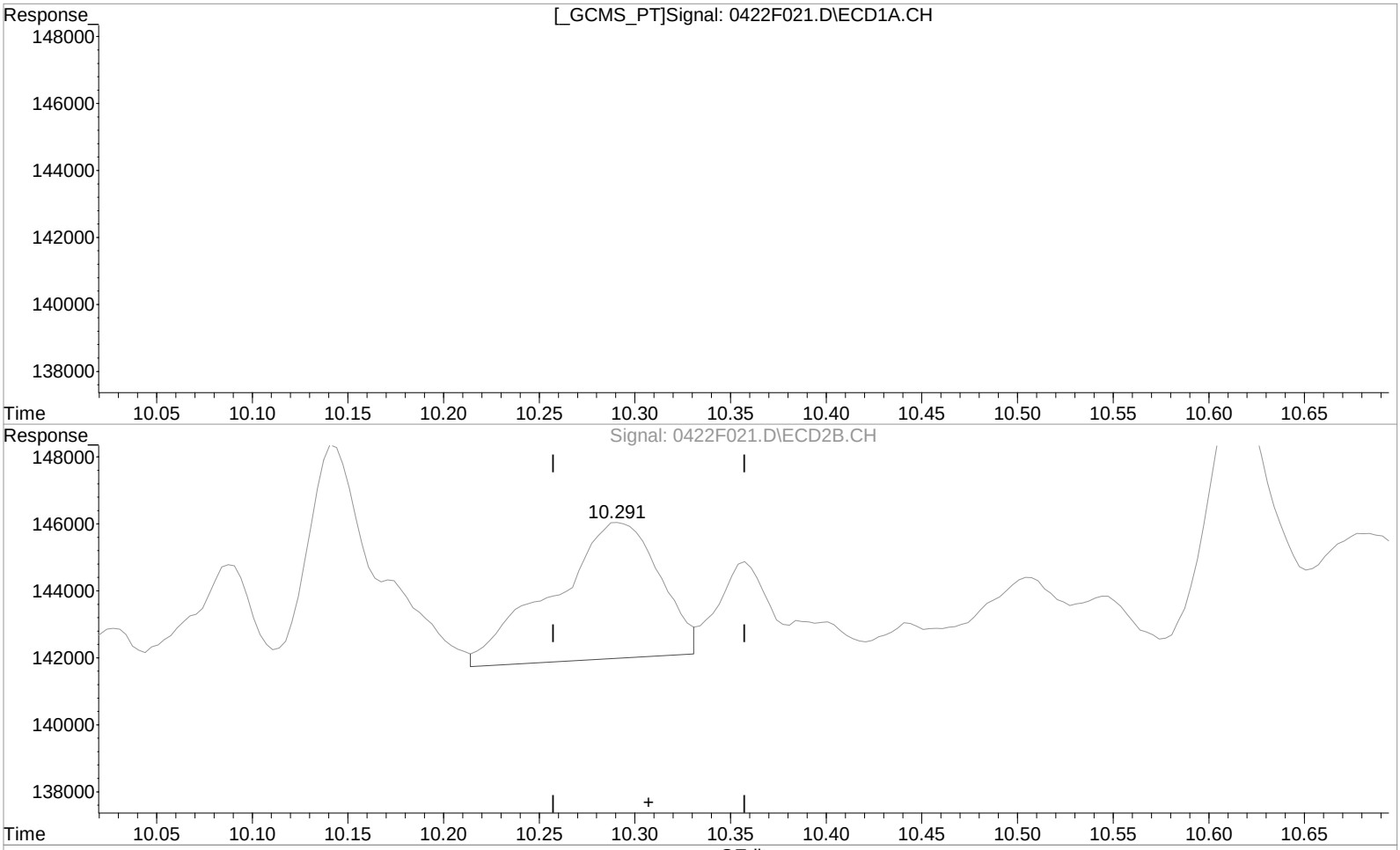
response 20644

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(7) delta-BHC

11.577min 0.080 ug/L

response 1238

Manual Integration:

Before

04/23/20

(7) delta-BHC #2

10.291min 0.226 ug/L

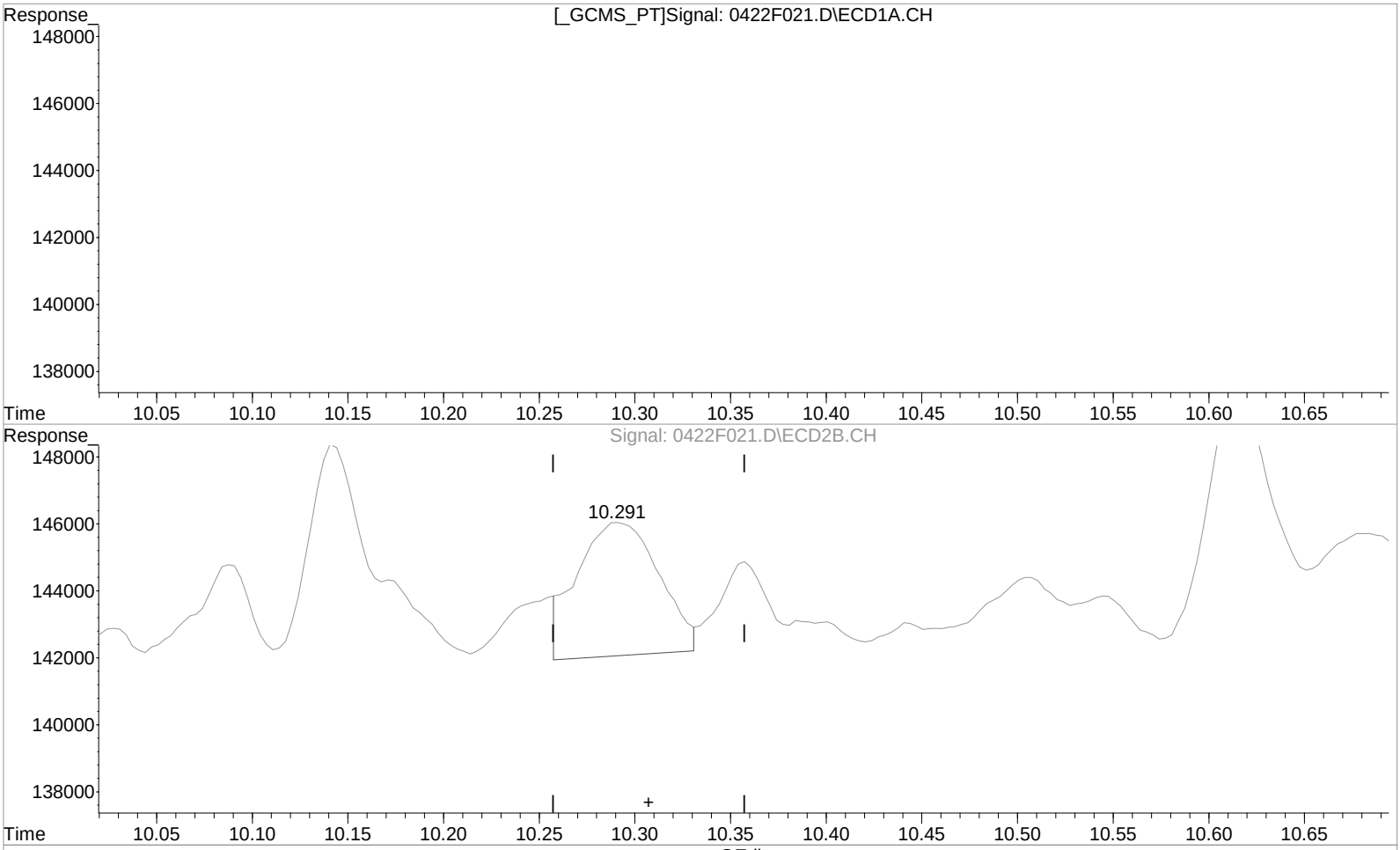
response 15795

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(7) delta-BHC

11.577min 0.080 ug/L

response 1238

Manual Integration:

After

Shoulder

04/23/20

(7) delta-BHC #2

10.291min 0.169 ug/L m

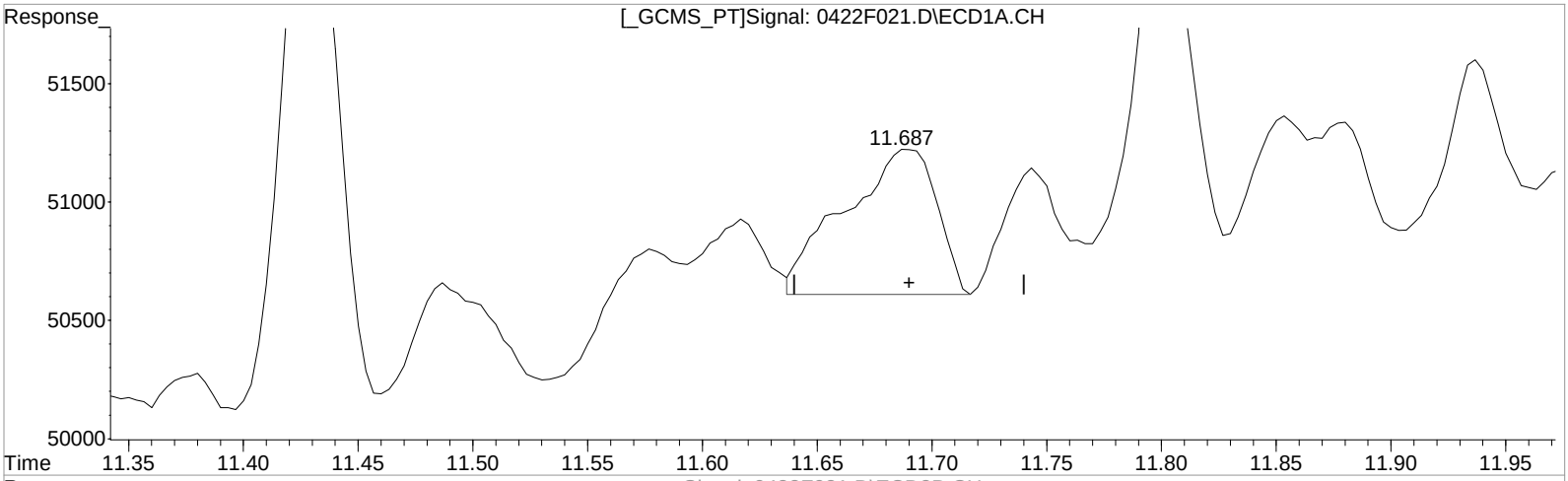
response 11838

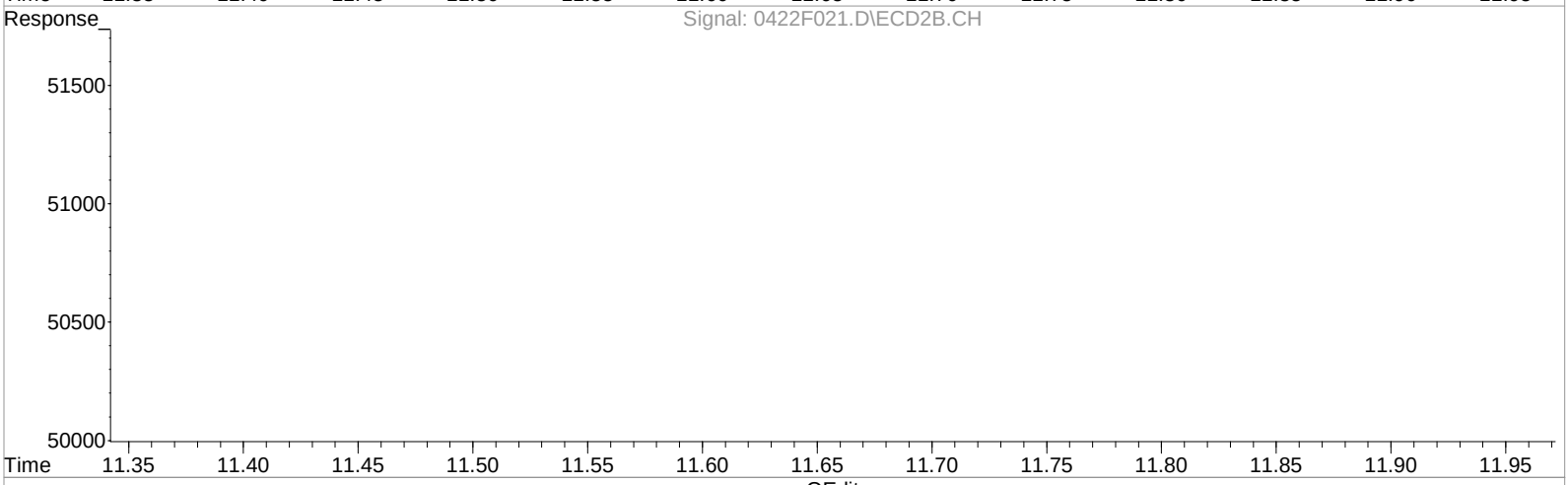
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(8) Heptachlor

11.687min 0.105 ug/L

response 1711

Manual Integration:

Before

04/23/20

(8) Heptachlor #2

9.917min 0.314 ug/L

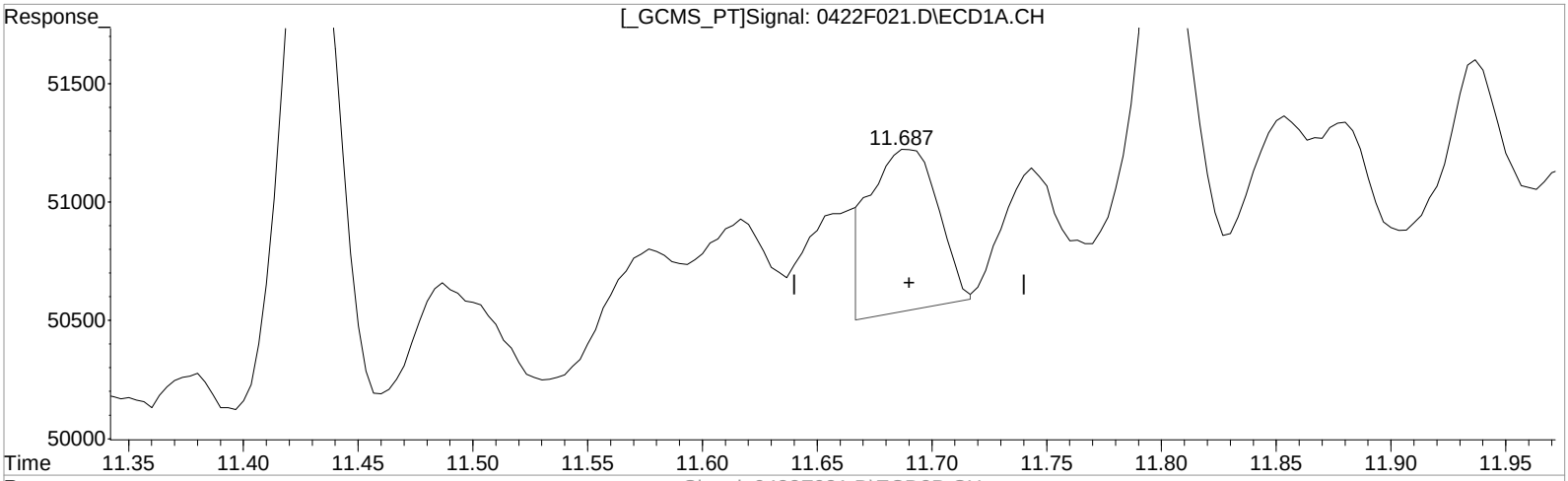
response 22805

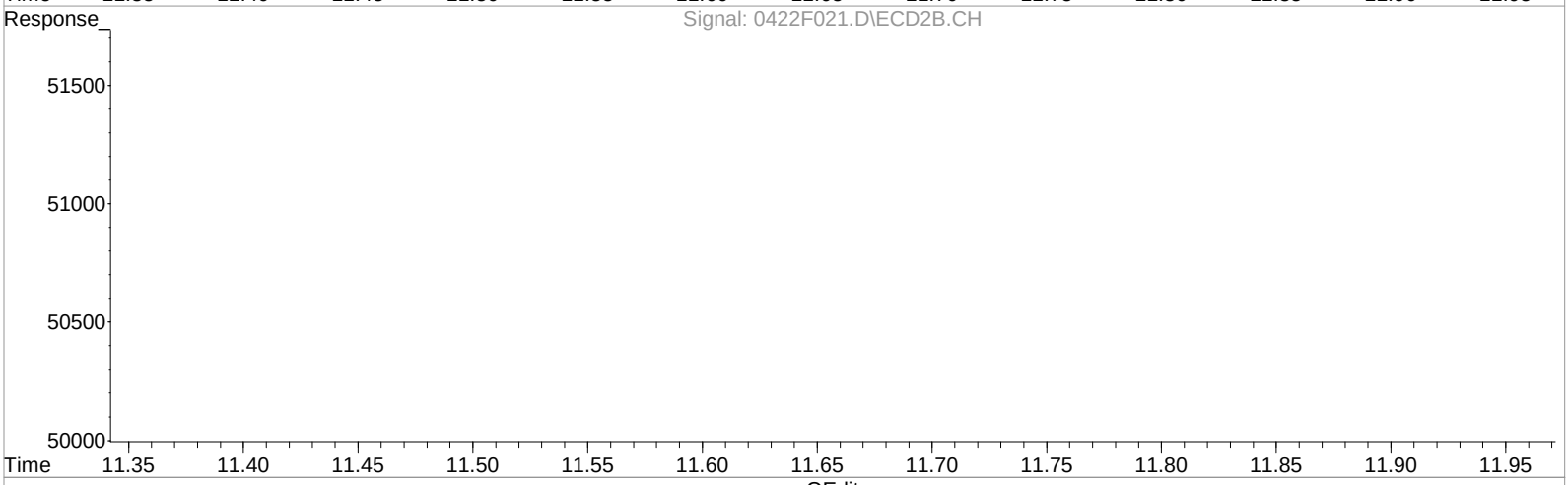
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F021.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 8:53 pm Operator: LM
Sample : K2002652-003 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(8) Heptachlor

11.687min 0.085 ug/L m

response 1392

Manual Integration:

After

Shoulder

04/23/20

(8) Heptachlor #2

9.917min 0.314 ug/L

response 22805

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F022.D\
Lab ID: K2002652-004
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 05:58:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	Endosulfan I	13.58			CEND
	trans-Nonachlor	13.58			CEND
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F022.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 05:58:00	**Vial:**	7
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-004	**Raw Units:**	ug/L

Bottle ID:	K2002652-004.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.48	-0.0 c	1213204	5205580	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.48	-0.0 c	1213204	5205580	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.48	c	1213204	5205580	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07 +0.01	55909	188122	2.590	2.242	52	45	45	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.27	79904	293175	4.543	4.545	91	91	91	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	9.79 +0.01	0	5761	0.000	0.147	0U	0.74J	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	0.00	12.63	0	6978	0.000	0.091	0U	0.46J	0.44 U	Y
Heptachlor	0.00	9.93	0	14159	0.000	0.174	0U	0.87J	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F022.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 05:58:00	**Vial:**	7
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-004	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F022.D Vial: 16
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:58 am Operator: LM
Sample : K2002652-004 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:43:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.200	5.484	1213204	5205580	100.000	100.000
29)	1-Bromo-2...	6.200	5.484	1213204	5205580	100.000	100.000
36)	1-Bromo-2...	6.200	5.484	1213204	5205580	100.000	100.000
43)	1-Bromo-2...	6.200	5.484	1213204	5205580	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.976	7.267	79904	293175	4.543	4.545
28) s	Decachlor...	18.670	17.067	55909	188122	2.590	2.242
	Target Compounds						
5)	beta-BHC	0.000	9.794	0	5761	N.D.	0.147 #
8)	Heptachlor	0.000	9.930	0	14159	N.D.	0.174 #
13)	Endosulfan I	13.583	0.000	2598	0	0.139	N.D. d#
15)	Dieldrin	0.000	12.634	0	6978	N.D.	0.091 #
18)	Endosulfa...	0.000	13.547	0	121390	N.D. d	1.846
20)	Endrin Al...	15.003	13.874f	3151	16482	0.196	0.303 #
21)	Endosulfa...	0.000	14.190f	0	195247	N.D.	3.011 #
22)	4,4'-DDT	15.106f	13.810	4480	10761	0.294	0.203m#
24)	Methoxychlor	15.880	0.000	44571	0	4.832	N.D. d#
26)	2,4'-DDD	0.000	12.824	0	7421	N.D.	0.178m#
27)	2,4'-DDT	14.480f	0.000	39264	0	2.987	N.D. d#
47)	trans-Non...	13.583	0.000	2598	0	0.127	N.D. #
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

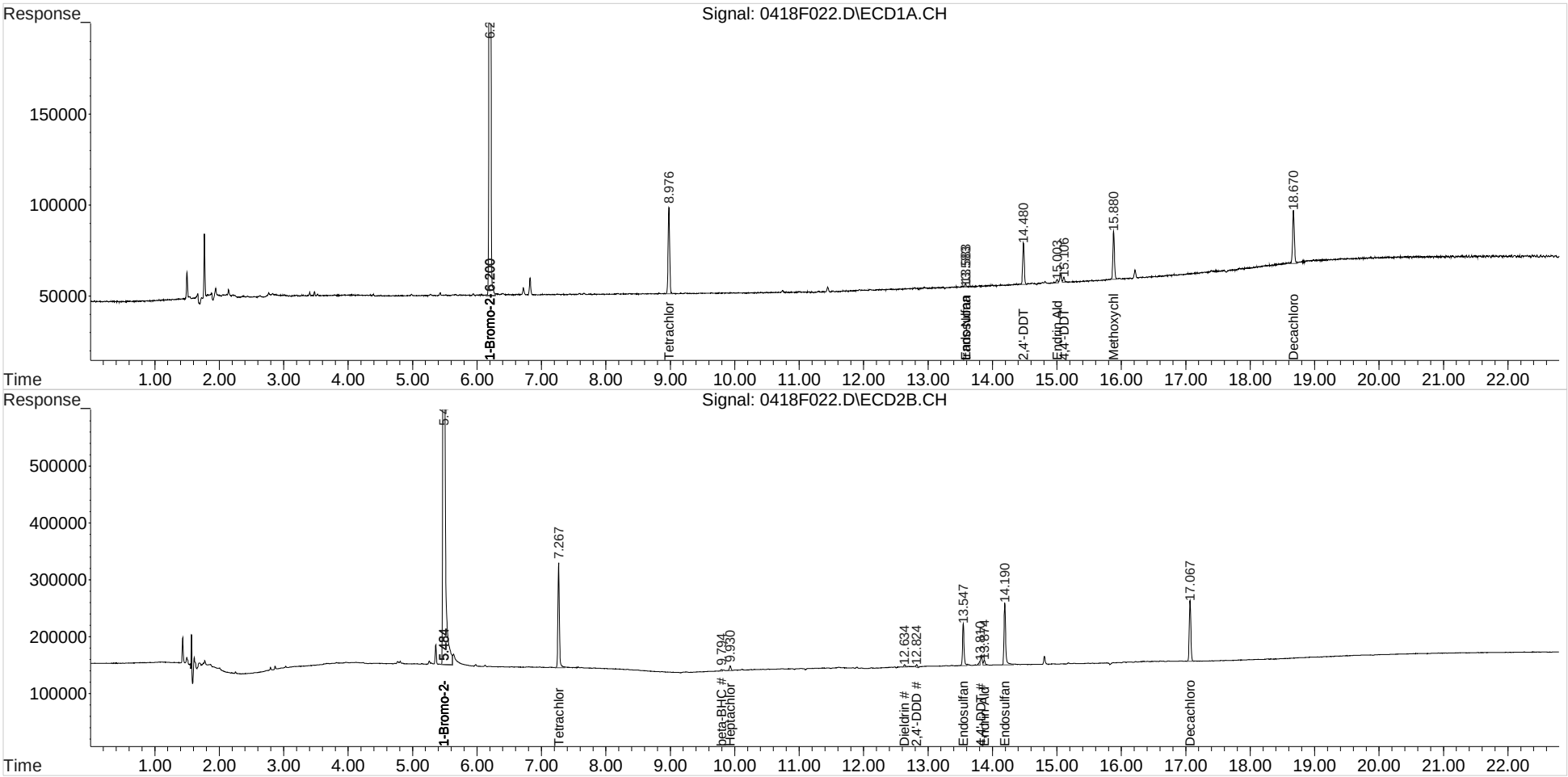
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F022.D Vial: 16
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:58 am Operator: LM
Sample : K2002652-004 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:43:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



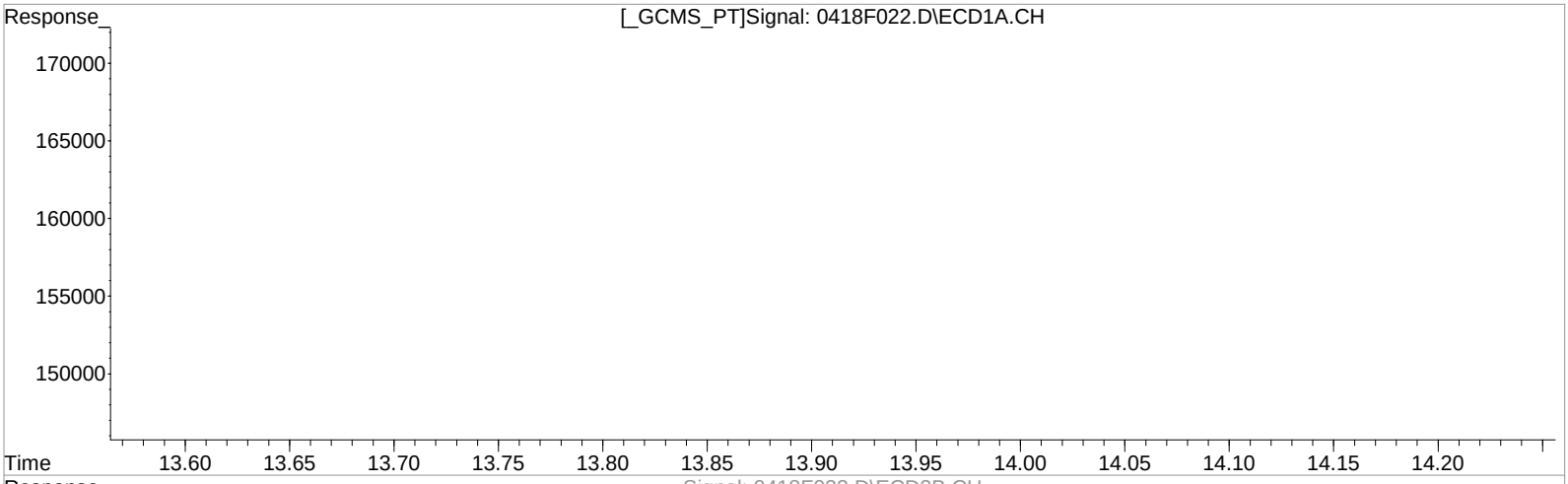
Quantitation Report (Qedit)

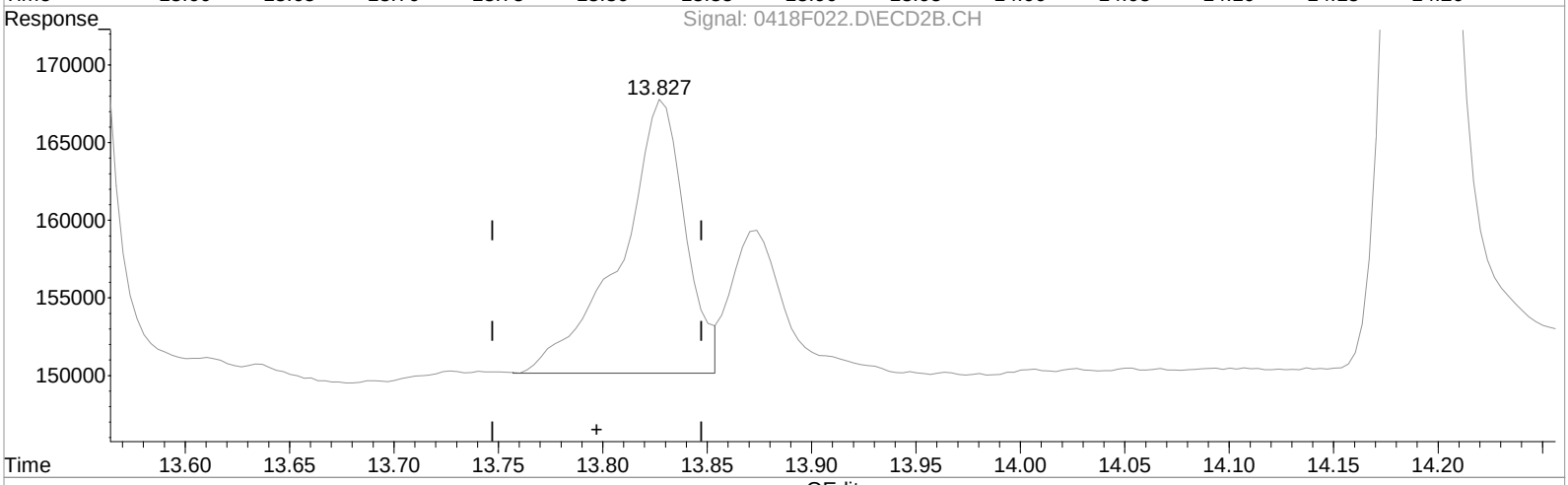
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F022.D Vial: 16
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:58 am Operator: LM
Sample : K2002652-004 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:38:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.106min 0.294 ug/L

response 4480

Manual Integration:

Before

04/21/20

(22) 4,4'-DDT #2

13.827min 0.712 ug/L

response 37834

(+) = Expected Retention Time

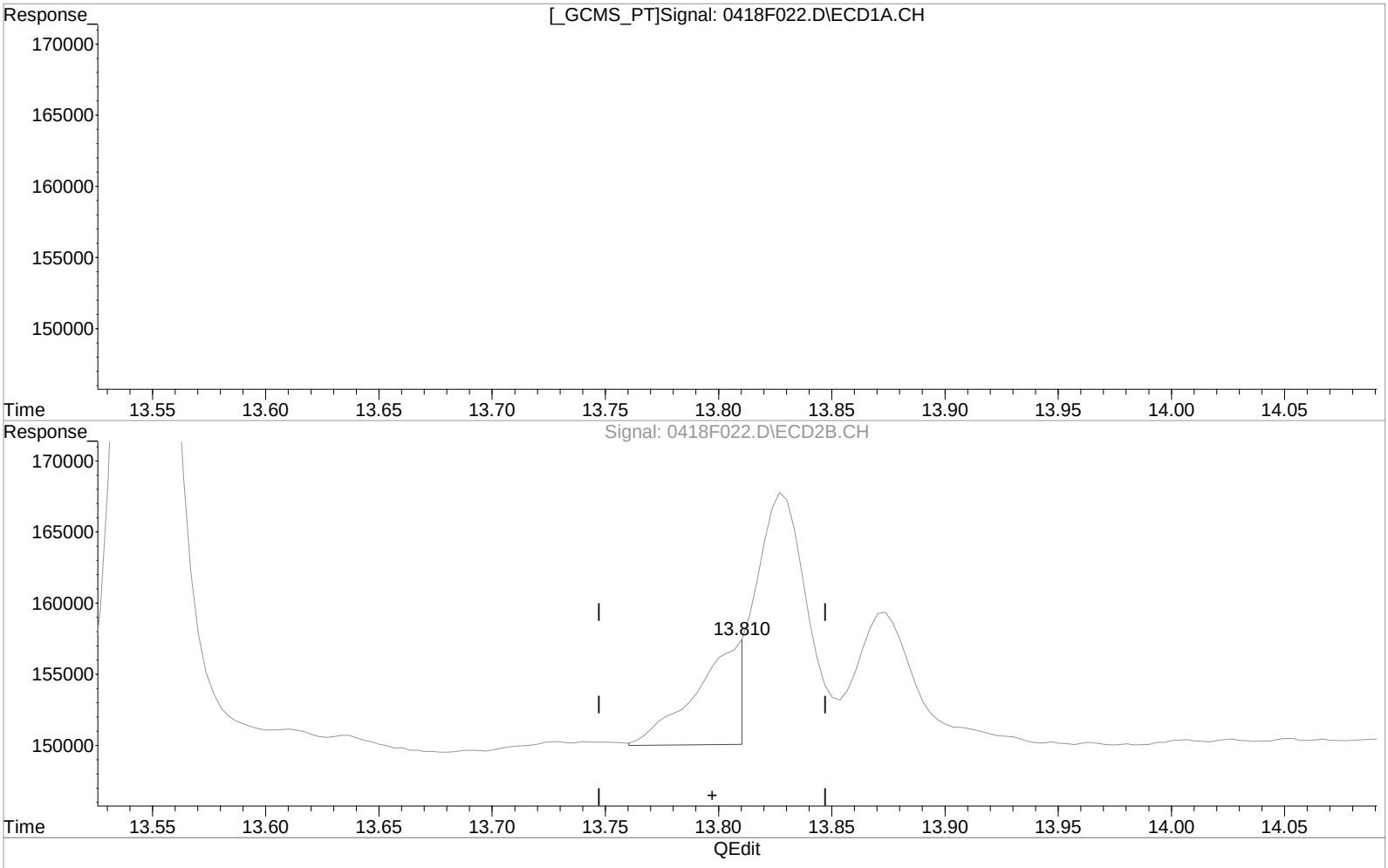
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F022.D Vial: 16
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:58 am Operator: LM
Sample : K2002652-004 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:38:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.106min 0.294 ug/L

response 4480

Manual Integration:

After

Shoulder

04/21/20

(22) 4,4'-DDT #2

13.810min 0.203 ug/L m

response 10761

(+) = Expected Retention Time

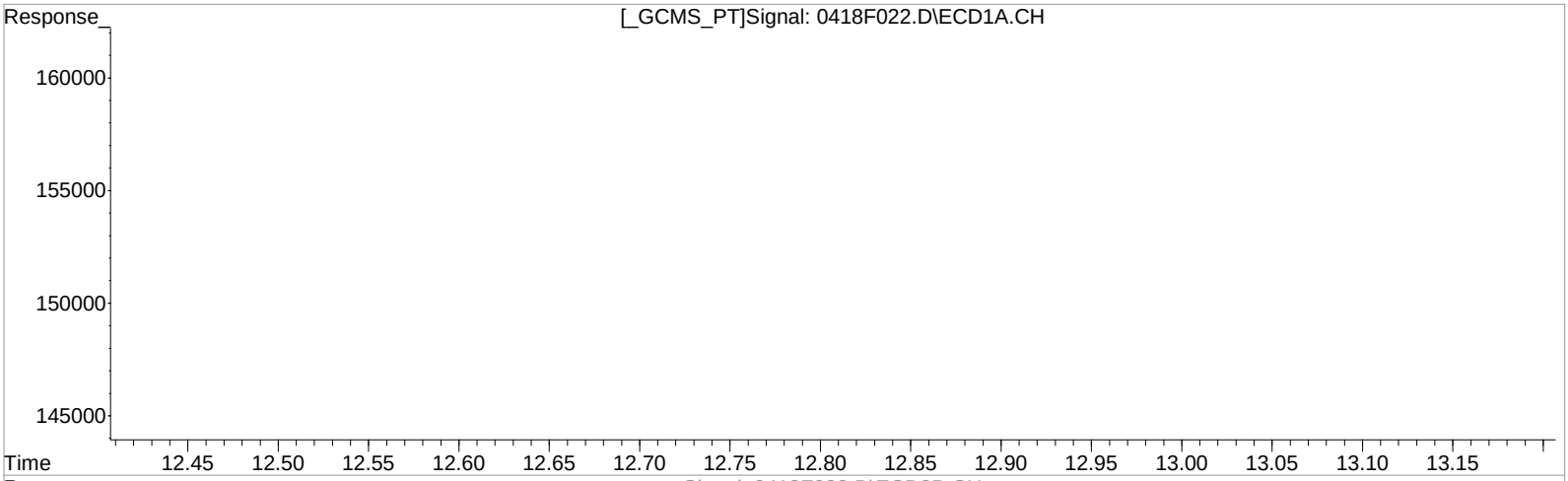
Quantitation Report (Qedit)

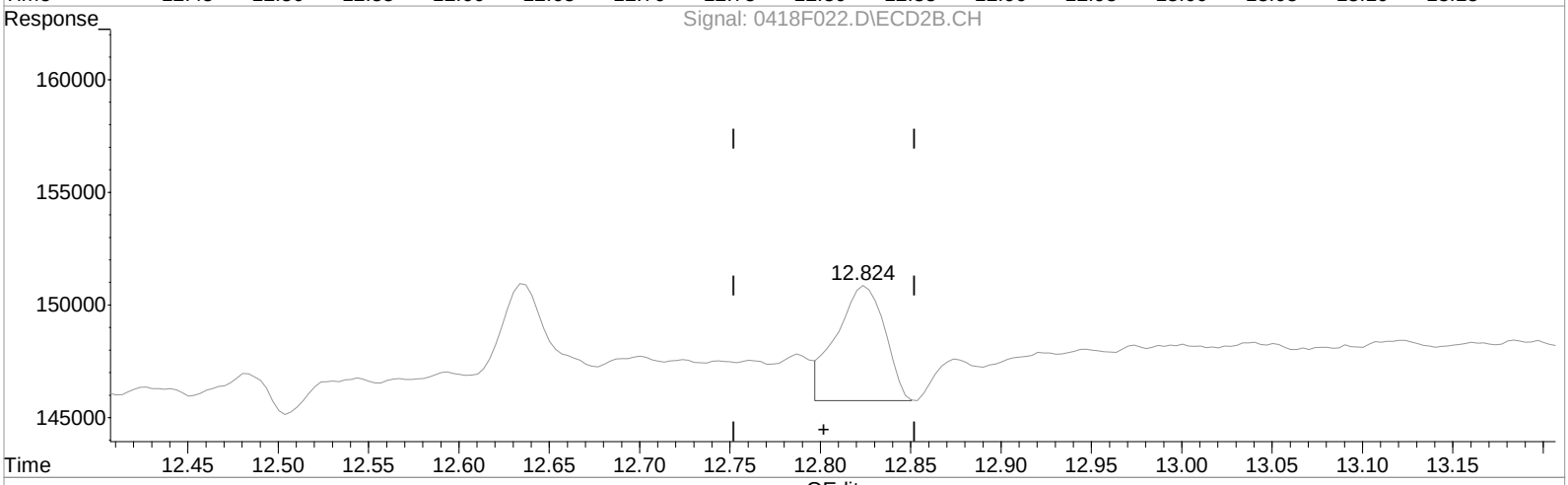
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F022.D Vial: 16
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:58 am Operator: LM
Sample : K2002652-004 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:38:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

0.000min 0.000 ug/L

response 0

Manual Integration:

Before

04/21/20

(26) 2,4'-DDD #2

12.824min 0.225 ug/L

response 9391

(+) = Expected Retention Time

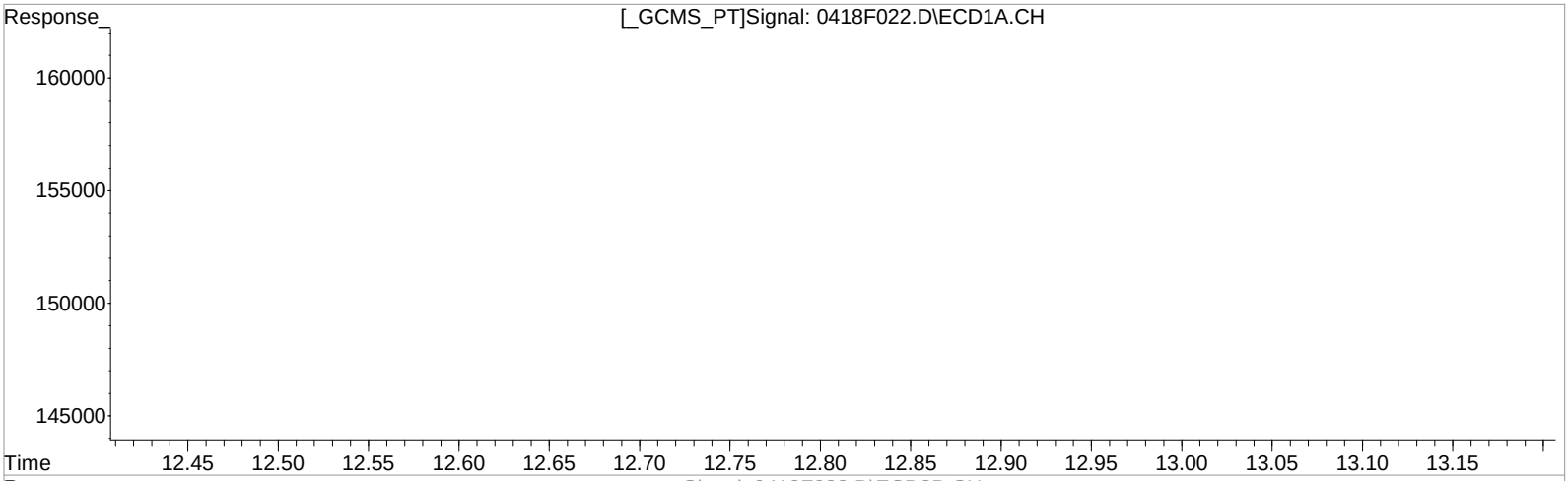
Quantitation Report (Qedit)

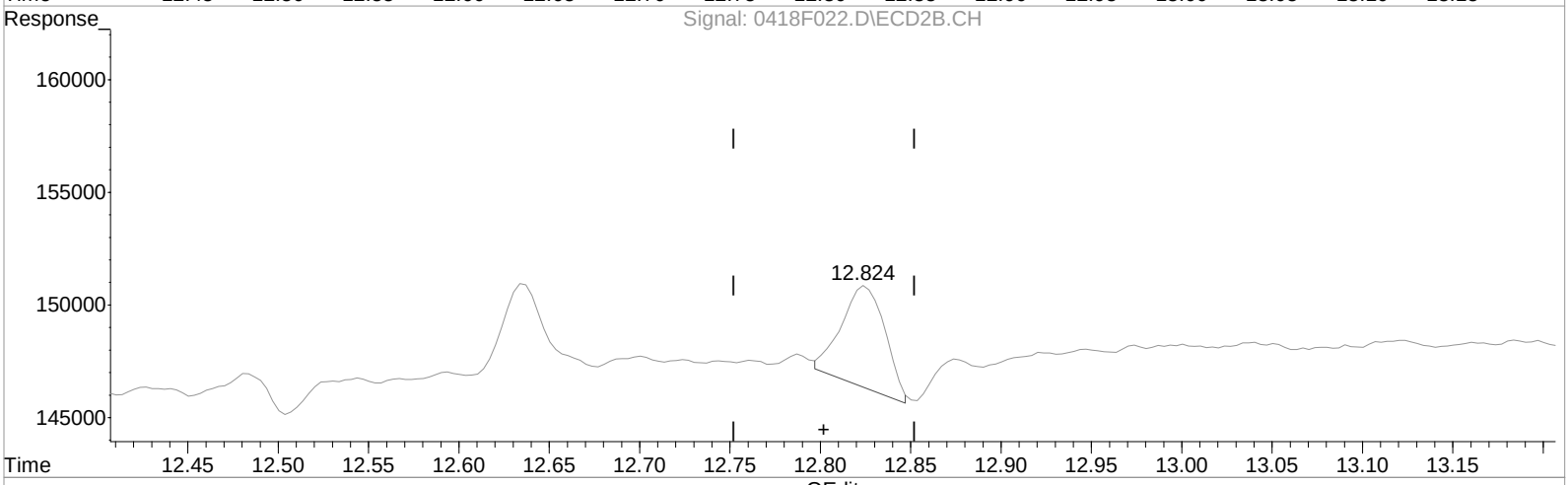
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F022.D Vial: 16
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:58 am Operator: LM
Sample : K2002652-004 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:38:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

0.000min 0.000 ug/L

response 0

Manual Integration:

After

Baseline correction

04/21/20

(26) 2,4'-DDD #2

12.824min 0.178 ug/L m

response 7421

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F023.D\
Lab ID: K2002652-005
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 06:28:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level		X
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Above Highest ICAL Level - DB XLB	Dieldrin	15.142		10	dil
Above Highest ICAL Level - DB-35MS	Dieldrin	15.233		10	dil
Analyte Coelutions - DB XLB	cis-Chlordane	13.53			see Quant Report
	trans-Chlordane	13.46			
	Chlordane {4}	13.46			
	Chlordane {5}	13.53			
	Chlordane {6}	13.61			
	4,4'-DDD	14.65			
	Endosulfan I	13.61			
	Endosulfan II	14.81			
	Endrin Aldehyde	15.00			
	cis-Nonachlor	14.65			
	trans-Nonachlor	13.61			
	Toxaphene {2}	14.81			
	Toxaphene {4}	15.00			
	1-Bromo-2-nitrobenzene	6.20			
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			SA
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.12			
	trans-Chlordane	11.97			
	Chlordane {4}	11.97			
	Chlordane {5}	12.02			see Quant Report

Primary Review: _____

Secondary Review: _____

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Chlordane {6}	12.12			see Quant Report
	4,4'-DDD	13.39			
	2,4'-DDE	12.02			
	2,4'-DDT	13.22			
	Endrin Aldehyde	13.93			
	cis-Nonachlor	13.22			
	trans-Nonachlor	12.02			
	Toxaphene {1}	13.39			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			SA
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F023.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 06:28:00	**Vial:**	8
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-005	**Raw Units:**	ug/L

Bottle ID:	K2002652-005.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1061728	4511428	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1061728	4511428	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1061728	4511428	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06	61542	215840	3.258	2.968	65	59	59	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.27	86267	306759	5.604	5.487	112	110	110	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	12.21	10.51 -0.01	14988	5991	0.881	0.084	4.4	0.42U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	11.08	9.78	8923	41366	0.942	1.220	4.7	6.1	**4.7**	Y
gamma-BHC (Lindane)	10.49	9.24	11610	47405	0.678	0.681	3.4	3.4	**3.4**	Y
Chlordane					42.352	3333333333	210	260	**210**	Y
Chlordane {1}	11.27	9.57	24657	80701	34.067	32.770	170	160		
Chlordane {2}	0.00	11.67 +0.01	0	124995	0.000	74.424	0	370		
Chlordane {3}	12.26 +0.01	11.82 +0.01	29331	82367	44.577	73.876	220	370		P
Chlordane {4}	13.46 +0.01 c	11.97 c	101948	290231	51.042	42.980	260	210		
Chlordane {5}	13.53 c	12.02 c	82686	197741	50.049	47.826	250	240		
Chlordane {6}	13.61 c	12.12 c	38839	262376	32.025	43.828	160	220		
Dieldrin	14.00	12.64 +0.01	265269	1009442	15.142	15.233	76E	76E	dil **76** E	Y
Heptachlor	11.70 +0.01	9.93	3045	104938	0.166	1.485	0.83Ui	7.4Ui	0.89 Ui	Y
Heptachlor Epoxide	12.94 +0.01	11.60	6786	32946	0.379	0.473	1.9	2.4	**1.9**	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					6166666667	2833333333	1200	1200	**1200**	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F023.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 06:28:00	**Vial:**	8
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-005	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74	-0.01	13.39	c	47789	200605	273.940	200.111	1400	1000		
Toxaphene {2}	14.81	c	13.46		57265	98889	362.909	128.216	1800	640		P
Toxaphene {3}	14.93		13.59	-0.01	57395	297896	182.542	330.605	910	1700		P
Toxaphene {4}	15.00	c	13.66	-0.01	36376	87842	172.025	263.946	860	1300		P
Toxaphene {5}	15.34	-0.01	13.93	c	41018	138304	203.571	256.124	1000	1300		
Toxaphene {6}	15.53	-0.01	15.43		20395	93831	239.590	320.775	1200	1600		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:49:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.199	5.483	1061728	4511428	100.000	100.000
29)	1-Bromo-2...	6.199	5.483	1061728	4511428	100.000	100.000
36)	1-Bromo-2...	6.199	5.483	1061728	4511428	100.000	100.000
43)	1-Bromo-2...	6.199	5.483	1061728	4511428	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.976	7.266	86267	306759	5.604	5.487
28) s	Decachlor...	18.669	17.063	61542	215840	3.258	2.968
	Target Compounds						
5)	beta-BHC	11.076	9.780	8923	41366	0.942	1.220 #
6)	gamma-BHC...	10.489	9.243	11610	47405	0.678	0.681m
7)	delta-BHC	11.596	10.296	4454	29820	0.257	0.438 #
8)	Heptachlor	11.702	9.930	3045	104938	0.166	1.485 #
9)	Aldrin	12.212	10.506	14988	5991	0.881	0.084 #
10)	Isodrin	12.729	11.340f	17129	32209	1.173	0.541 #
11)	Heptachlo...	12.936	11.596	6786	32946	0.379	0.473m
12)	gamma-Chl...	13.456	11.973	93871	291015	5.245m	4.318m
13)	Endosulfan I	13.612f	12.233f	39855	67011	2.441m	1.104m#
14)	alpha-Chl...	13.529	12.123	69459	258248	3.899m	3.783m
15)	Dieldrin	13.999	12.636	265269	1009442	15.142	15.233
16)	4,4'-DDE	13.829	12.493	28978	14298	1.768m	0.224m#
17)	Endrin	14.352	13.113	29521	61917	1.846m	0.982m#
18)	Endosulfa...	14.806	13.543	57265	311267	3.535	5.462m#
19)	4,4'-DDD	14.652	13.390	36805	204194	2.905	4.276m#
20)	Endrin Al...	14.996	13.930	63279	157685	4.507	3.341m#
21)	Endosulfa...	15.466	14.246	75097	216213	4.550	3.848
22)	4,4'-DDT	15.159	13.770f	17615	38132	1.323	0.828m#
23)	Endrin Ke...	16.156	15.186	10531	79209	0.595	1.178 #
24)	Methoxychlor	15.876	14.893	72230	83823	8.947	3.280 #
25)	2,4'-DDE	13.219	12.020	24320	206424	2.124	4.956m#
26)	2,4'-DDD	13.929	12.836f	42338	60881	4.211m	1.686m#
27)	2,4'-DDT	14.442	13.216	32195	18863	2.798m	0.482m#
30)	Toxaphene	14.742	13.390	47789	200605	273.940	200.111m#
31)	Toxaphene...	14.806	13.456	57265	98889	362.909	128.216m#
32)	Toxaphene...	14.926	13.593	57395	297896	182.542m	330.605m#
33)	Toxaphene...	14.996	13.663	36376	87842	172.025m	263.946m#
34)	Toxaphene...	15.339	13.930	41018	138304	203.571m	256.124m#
35)	Toxaphene...	15.526	15.430	20395	93831	239.590	320.775 #
37)	Chlordane	11.269	9.570	24657	80701	34.067	32.770
38)	Chlordane...	0.000	11.666	0	124995	N.D. d	74.424m
39)	Chlordane...	12.256	11.816	29331	82367	44.577	73.876 #
40)	Chlordane...	13.456	11.973	101948	290231	51.042	42.980m
41)	Chlordane...	13.529	12.020	82686	197741	50.049	47.826m
42)	Chlordane...	13.612	12.123	38839	262376	32.025m	43.828m#
44)	Chlorpyrifos	12.112	10.886	13468	33615	1.376	1.187
45)	Oxychlordane	12.876	11.406	34474	73695	2.038	1.156 #
46)	cis-Nonac...	14.652	13.216	36805	17343	2.070	0.261m#
47)	trans-Non...	13.612	12.020	40762	195117	2.280m	2.972m#
52)	Perthane	14.092	12.906	10649	62209	21.076	37.638m#

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:49:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
SemiQuant Compounds - Not Calibrated on this Instrument						

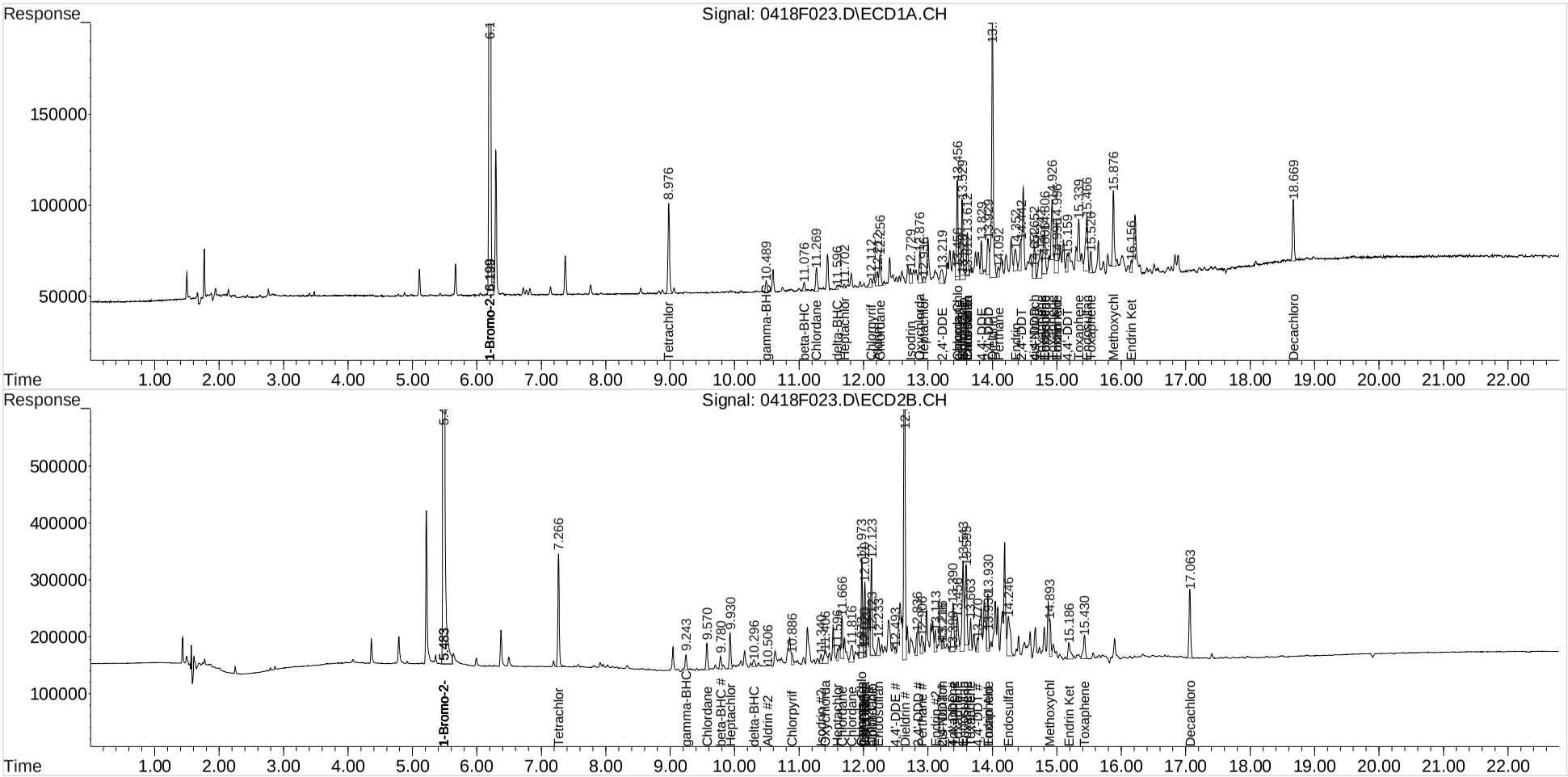
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:49:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



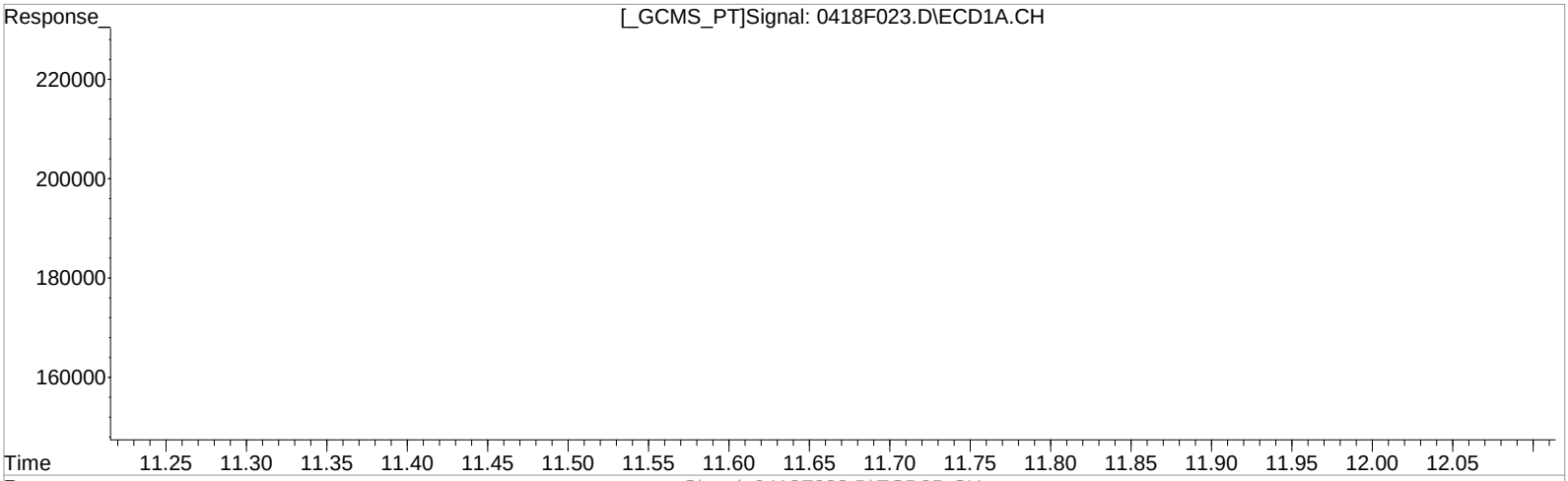
Quantitation Report (Qedit)

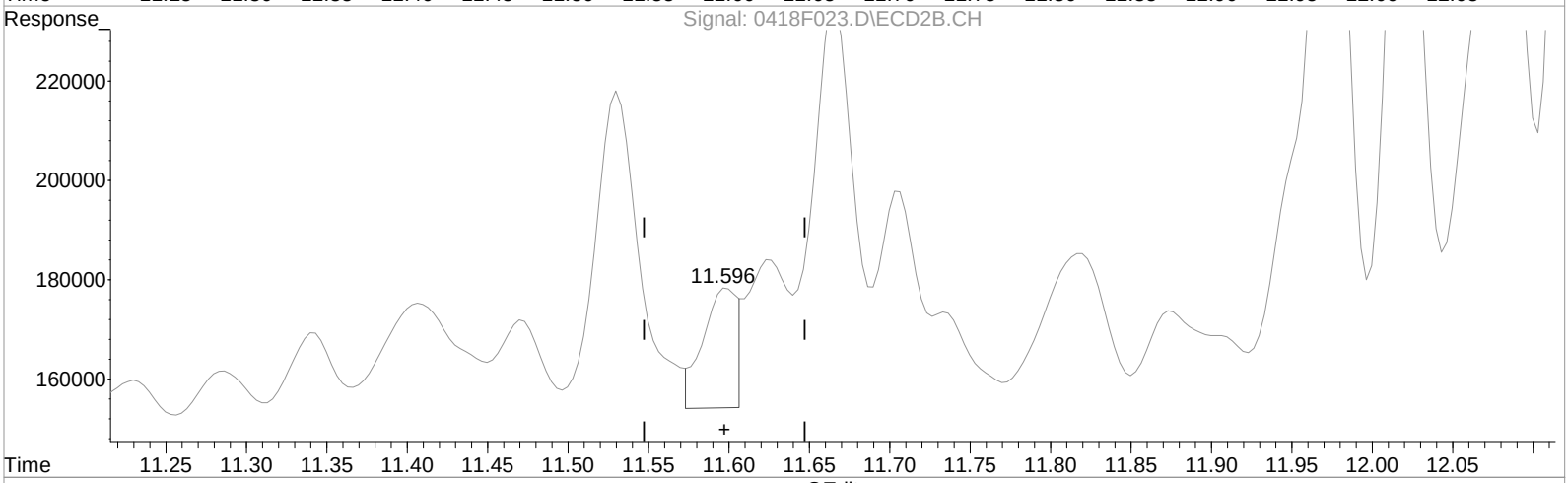
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(11) Heptachlor Epoxide

12.936min 0.379 ug/L

response 6786

Manual Integration:

Before

04/21/20

(11) Heptachlor Epoxide #2

11.596min 0.526 ug/L

response 36657

(+) = Expected Retention Time

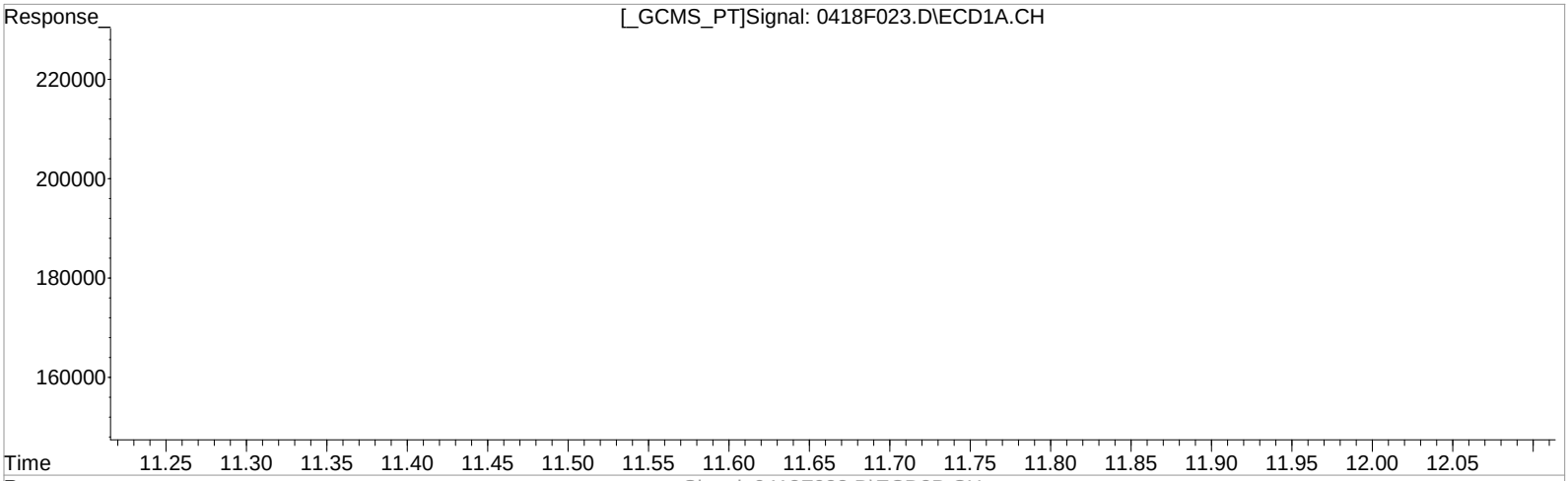
Quantitation Report (Qedit)

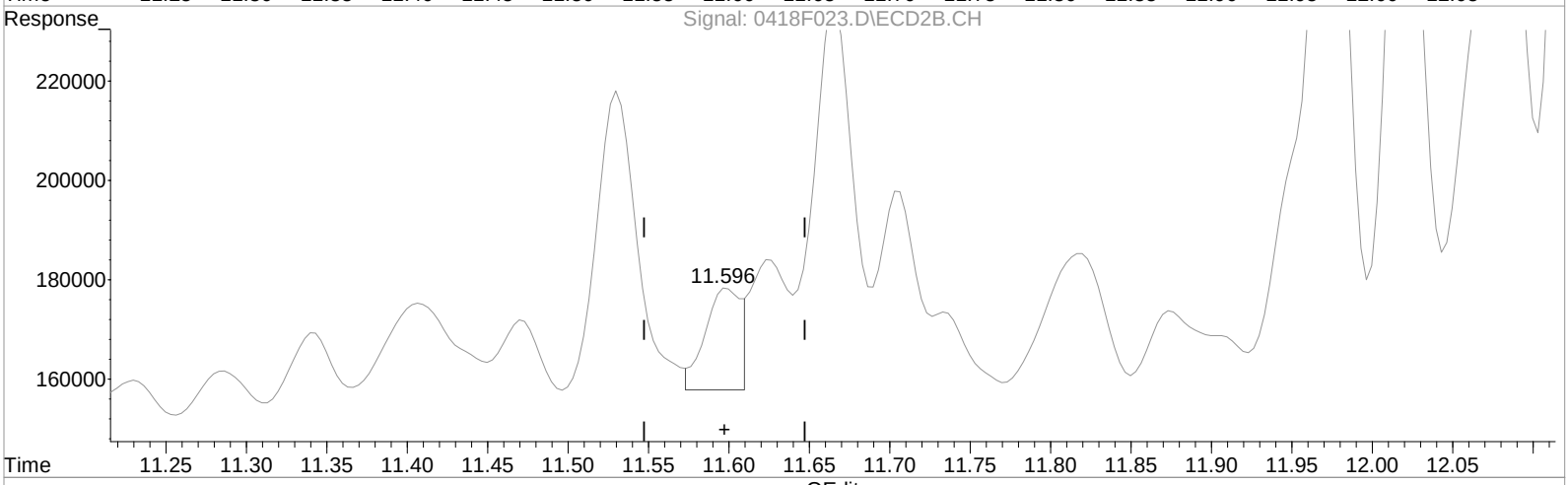
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(11) Heptachlor Epoxide

12.936min 0.379 ug/L

response 6786

Manual Integration:

After

Baseline correction

04/21/20

(11) Heptachlor Epoxide #2

11.596min 0.473 ug/L m

response 32946

(+) = Expected Retention Time

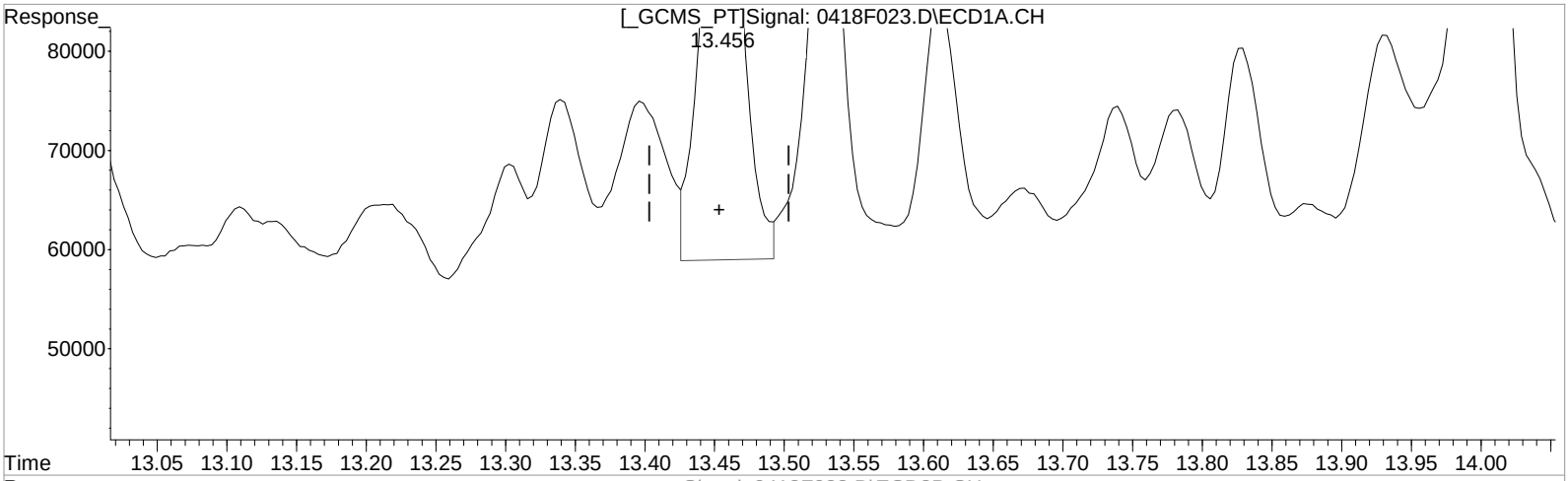
Quantitation Report (Qedit)

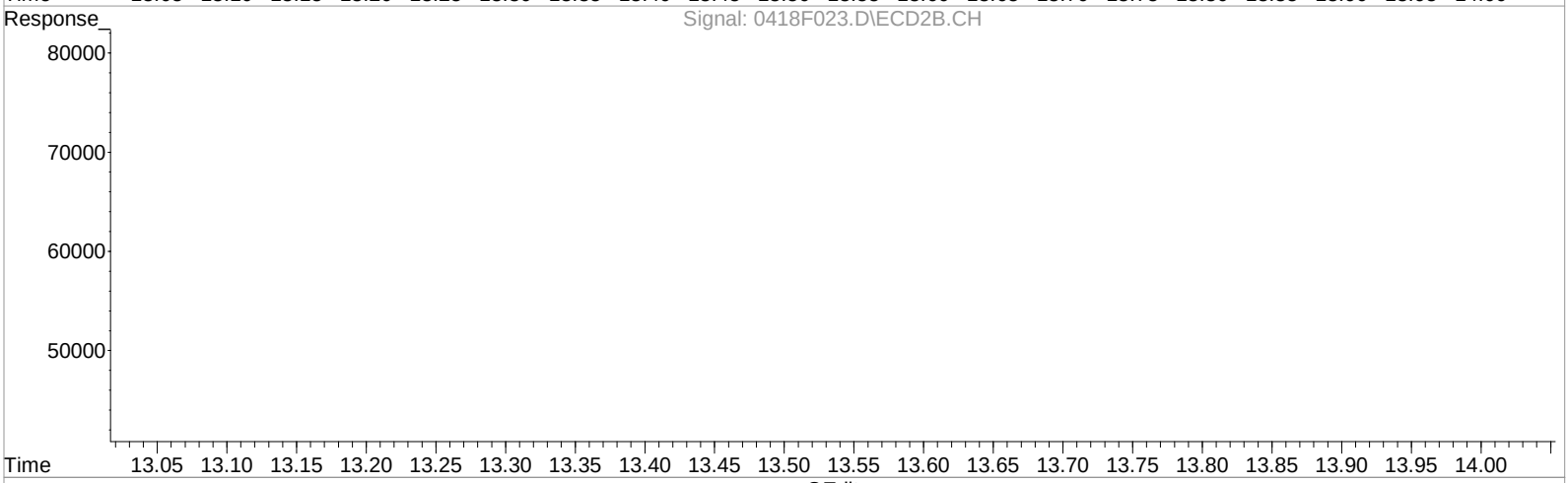
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(12) gamma-Chlordane

13.456min 5.696 ug/L

response 101948

Manual Integration:

Before

04/21/20

(12) gamma-Chlordane #2

11.973min 4.742 ug/L

response 319641

(+) = Expected Retention Time

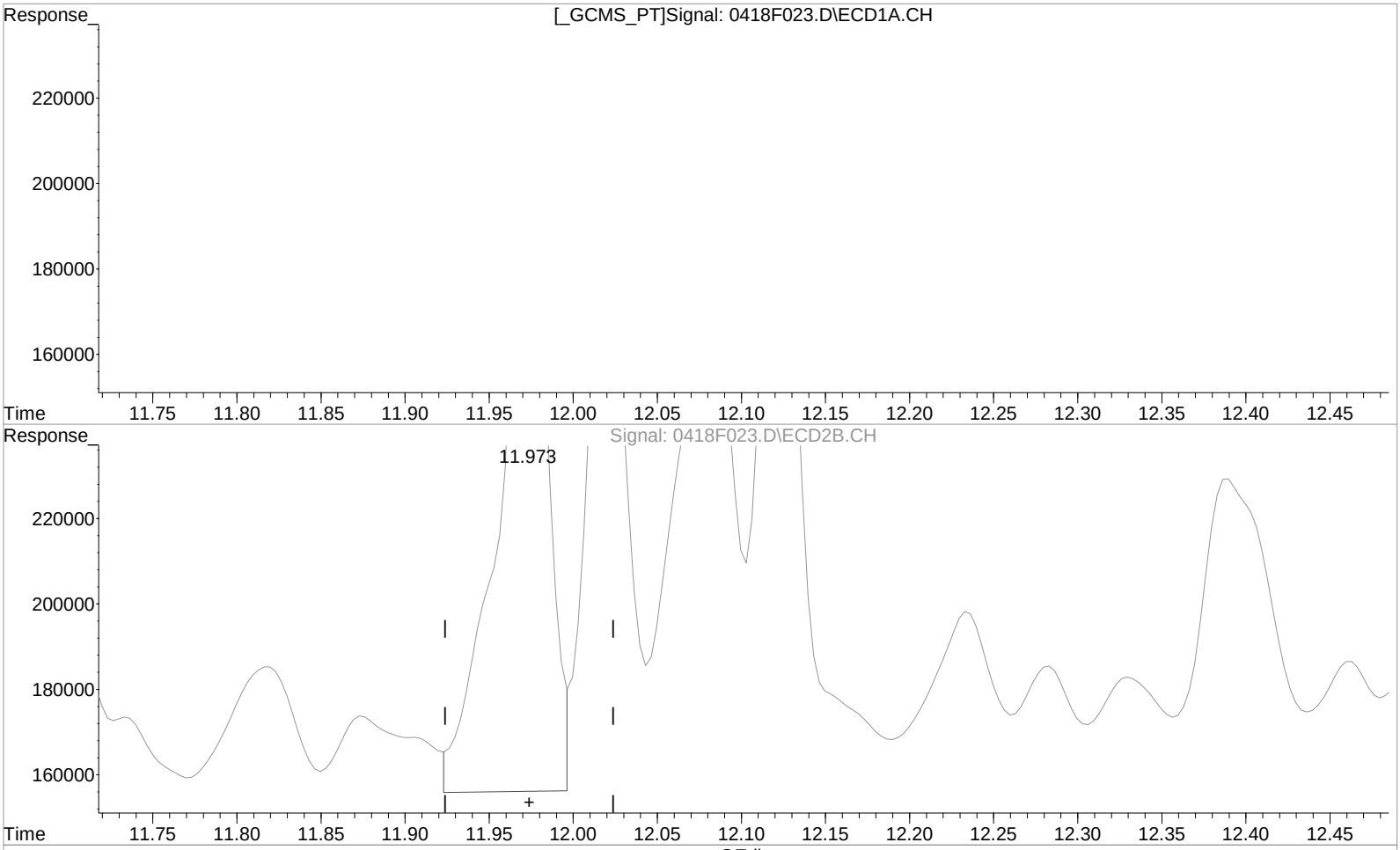
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(12) gamma-Chlordane

13.456min 5.245 ug/L m

response 93871

Manual Integration:

Before

04/21/20

(12) gamma-Chlordane #2

11.973min 4.742 ug/L

response 319641

(+) = Expected Retention Time

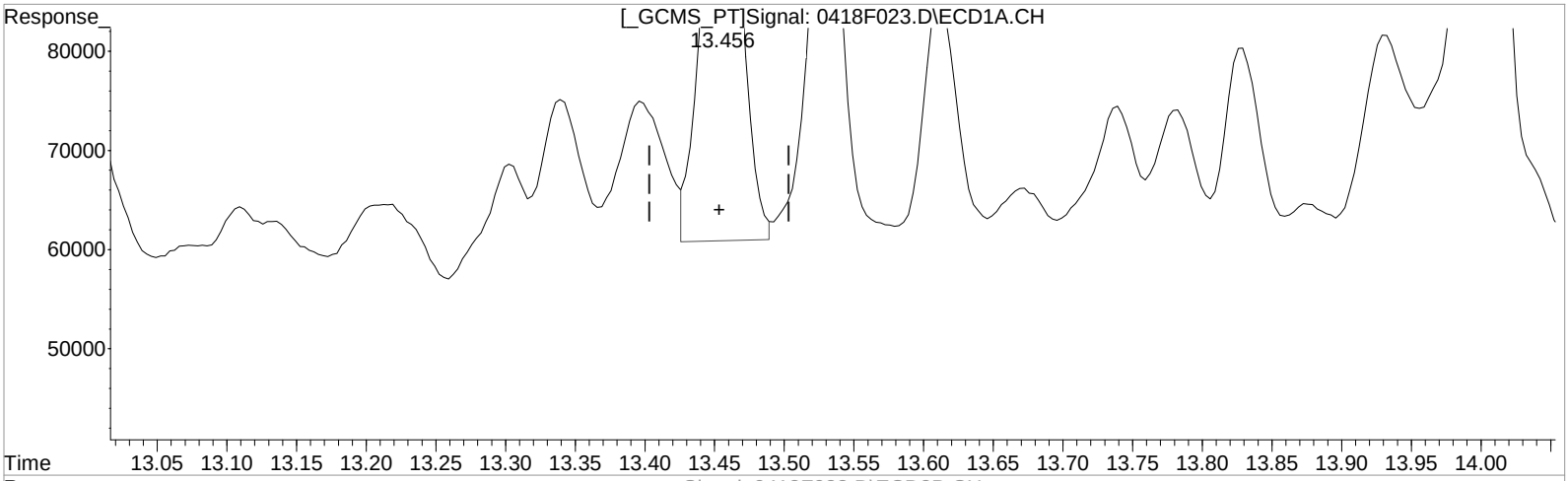
Quantitation Report (Qedit)

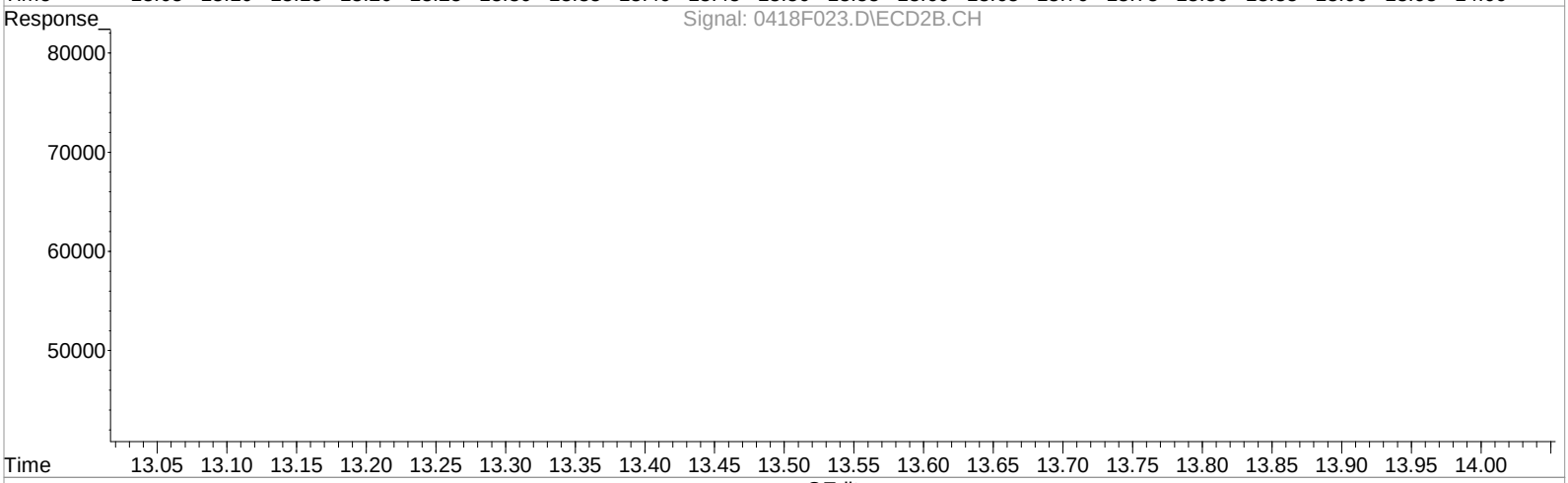
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(12) gamma-Chlordane

13.456min 5.245 ug/L m

response 93871

Manual Integration:

After

Baseline correction

04/21/20

(12) gamma-Chlordane #2

11.973min 4.742 ug/L

response 319641

(+) = Expected Retention Time

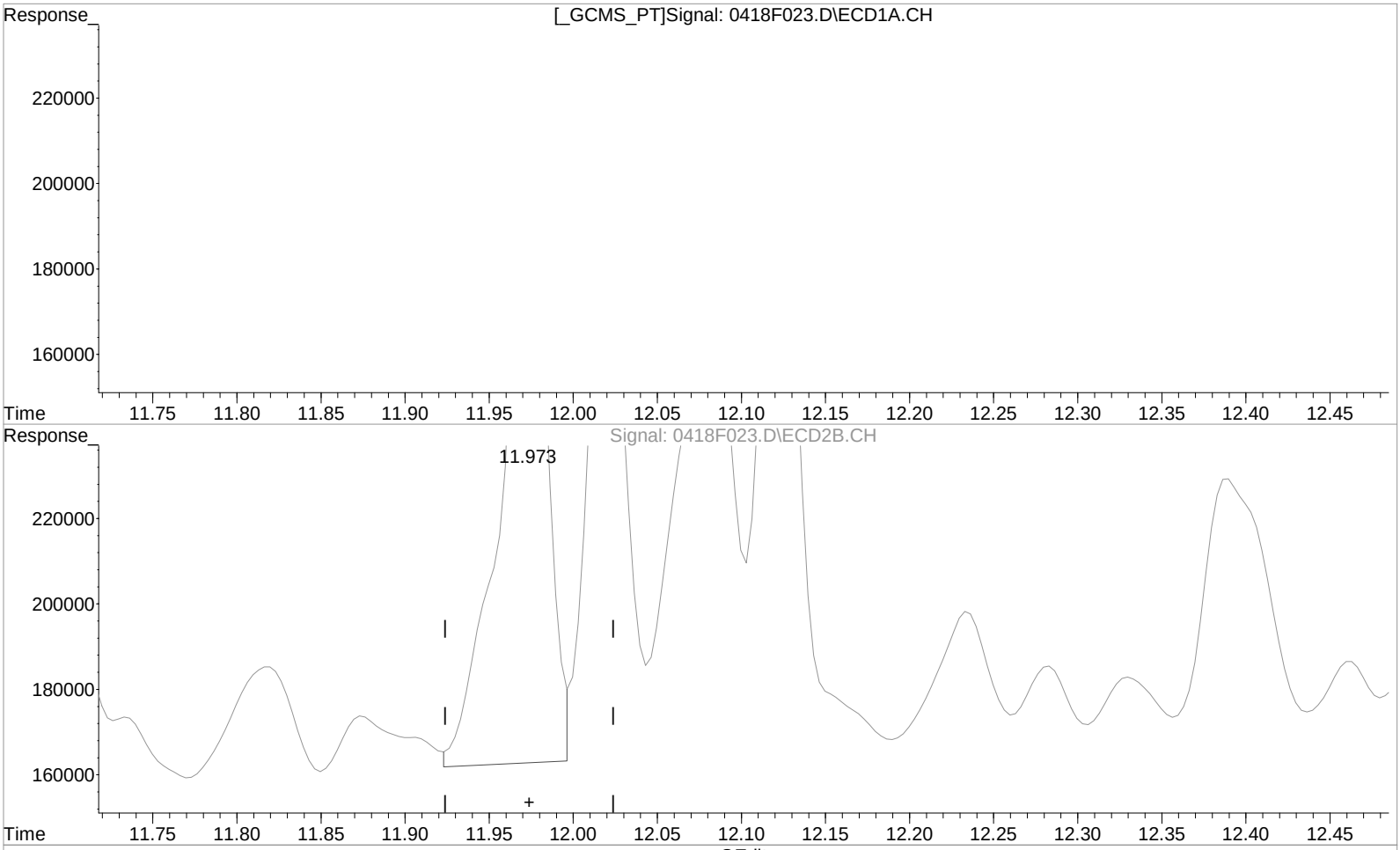
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(12) gamma-Chlordane

13.456min 5.245 ug/L m

response 93871

Manual Integration:

After

Split peak

04/21/20

(12) gamma-Chlordane #2

11.973min 4.318 ug/L m

response 291015

(+) = Expected Retention Time

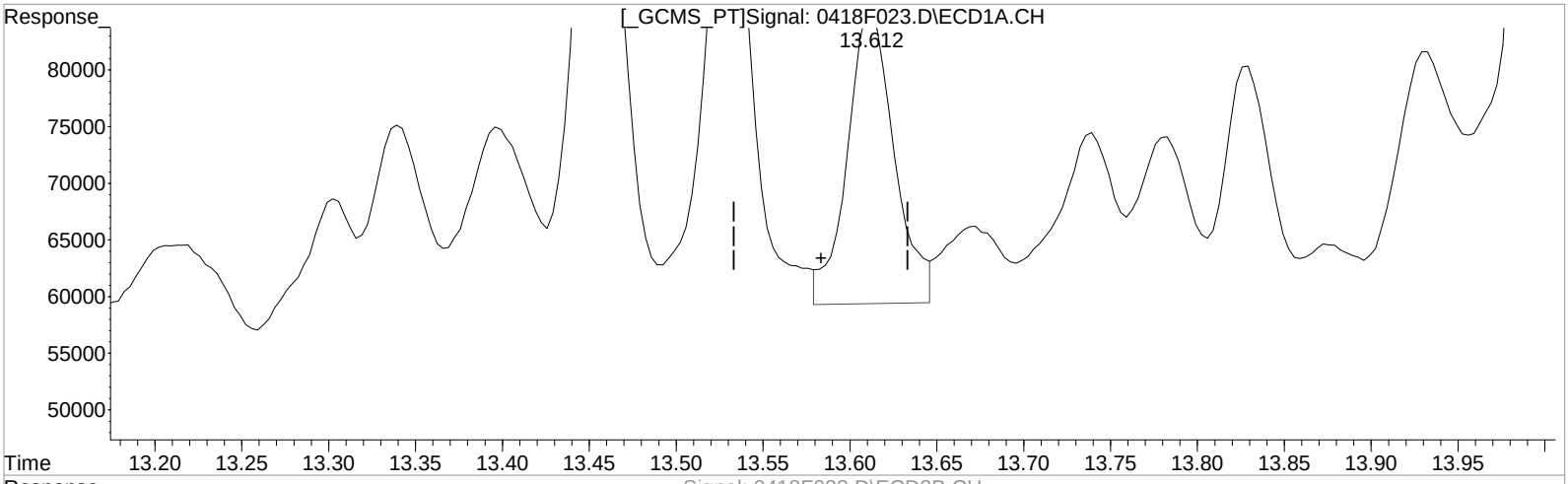
Quantitation Report (Qedit)

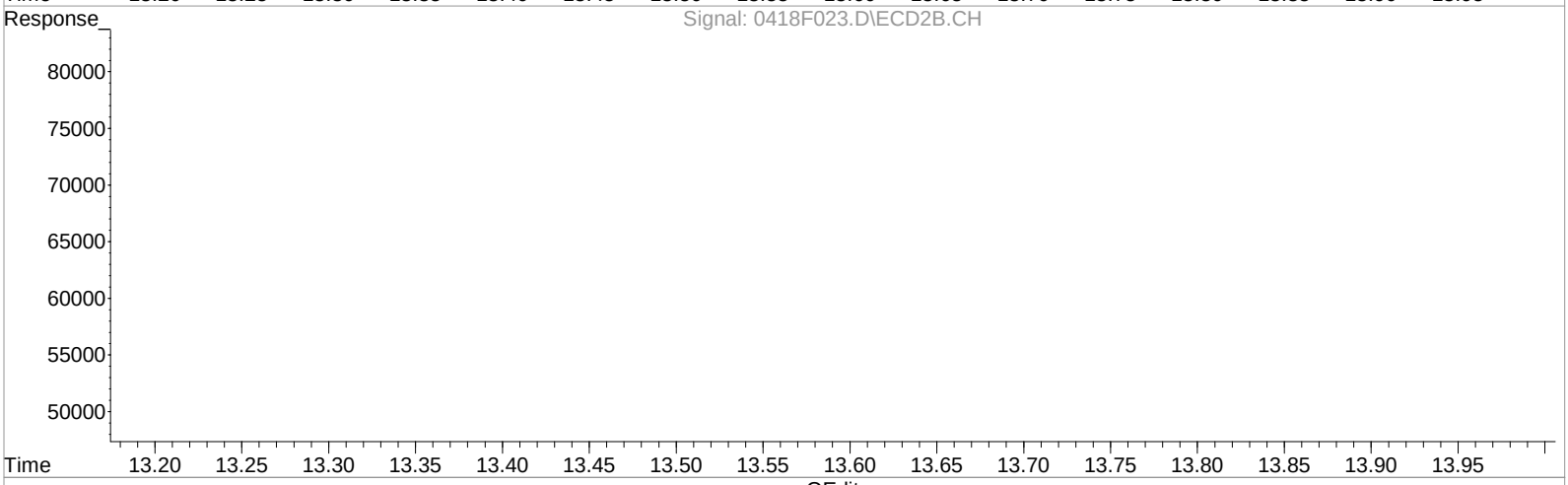
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(13) Endosulfan I

13.612min 2.968 ug/L

response 48460

Manual Integration:

Before

04/21/20

(13) Endosulfan I #2

12.233min 1.765 ug/L

response 107180

(+) = Expected Retention Time

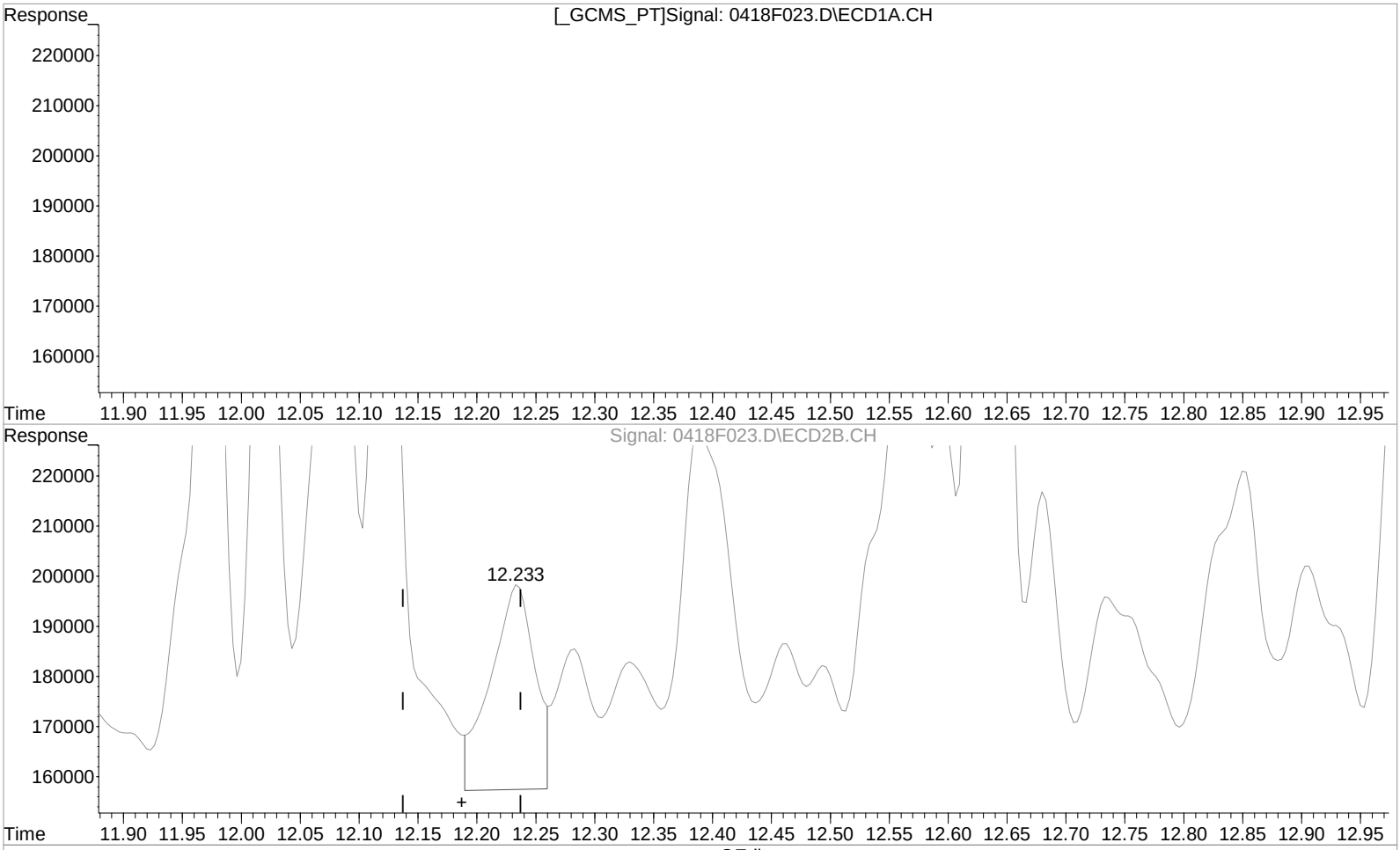
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(13) Endosulfan I

13.612min 2.441 ug/L m

response 39855

Manual Integration:

Before

04/21/20

(13) Endosulfan I #2

12.233min 1.765 ug/L

response 107180

(+) = Expected Retention Time

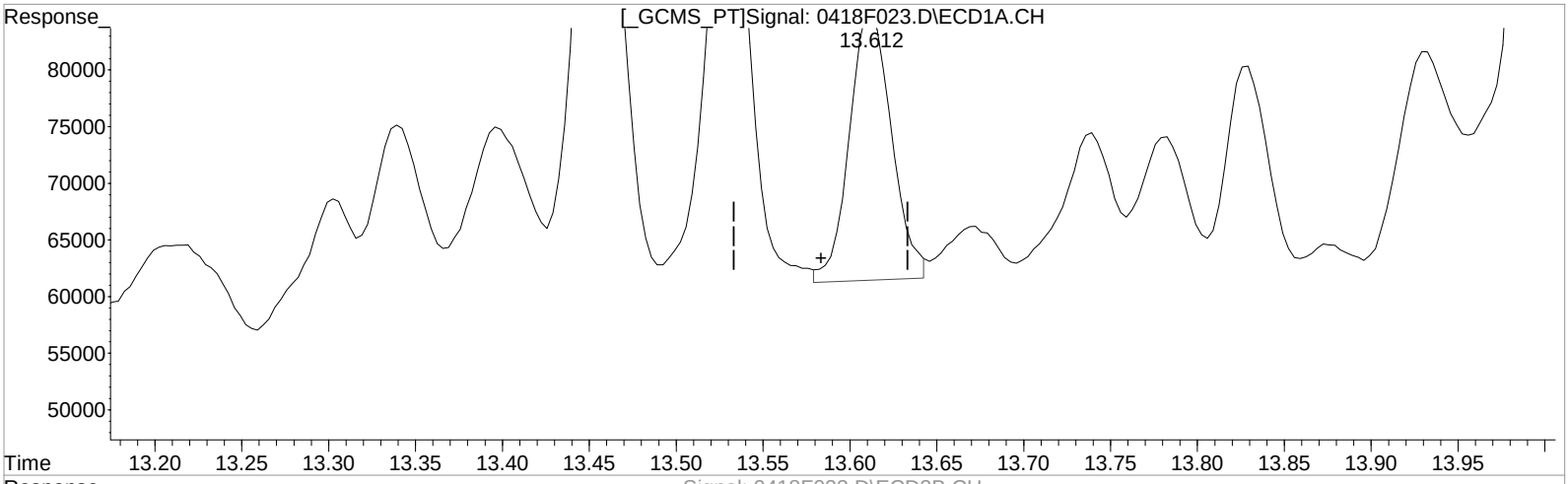
Quantitation Report (Qedit)

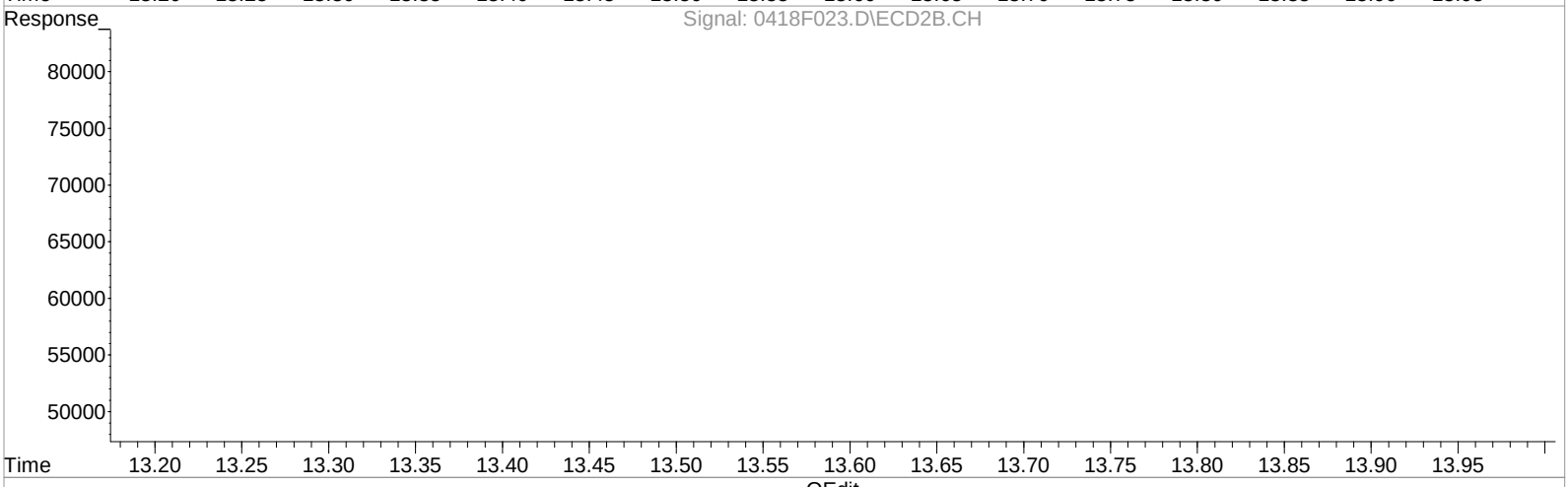
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(13) Endosulfan I

13.612min 2.441 ug/L m

response 39855

Manual Integration:

After

Baseline correction

04/21/20

(13) Endosulfan I #2

12.233min 1.765 ug/L

response 107180

(+) = Expected Retention Time

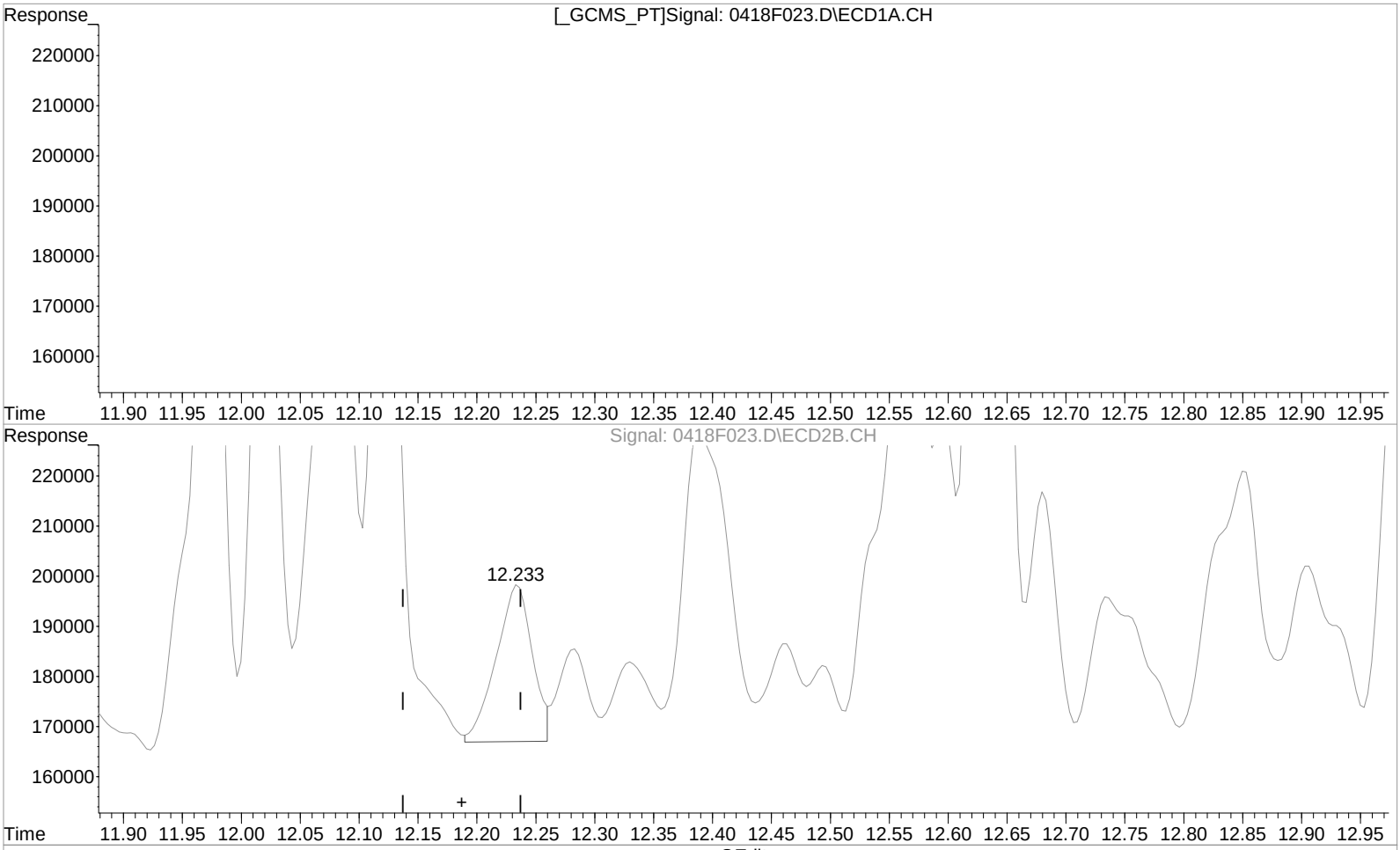
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(13) Endosulfan I

13.612min 2.441 ug/L m

response 39855

Manual Integration:

After

Baseline correction

04/21/20

(13) Endosulfan I #2

12.233min 1.104 ug/L m

response 67011

(+) = Expected Retention Time

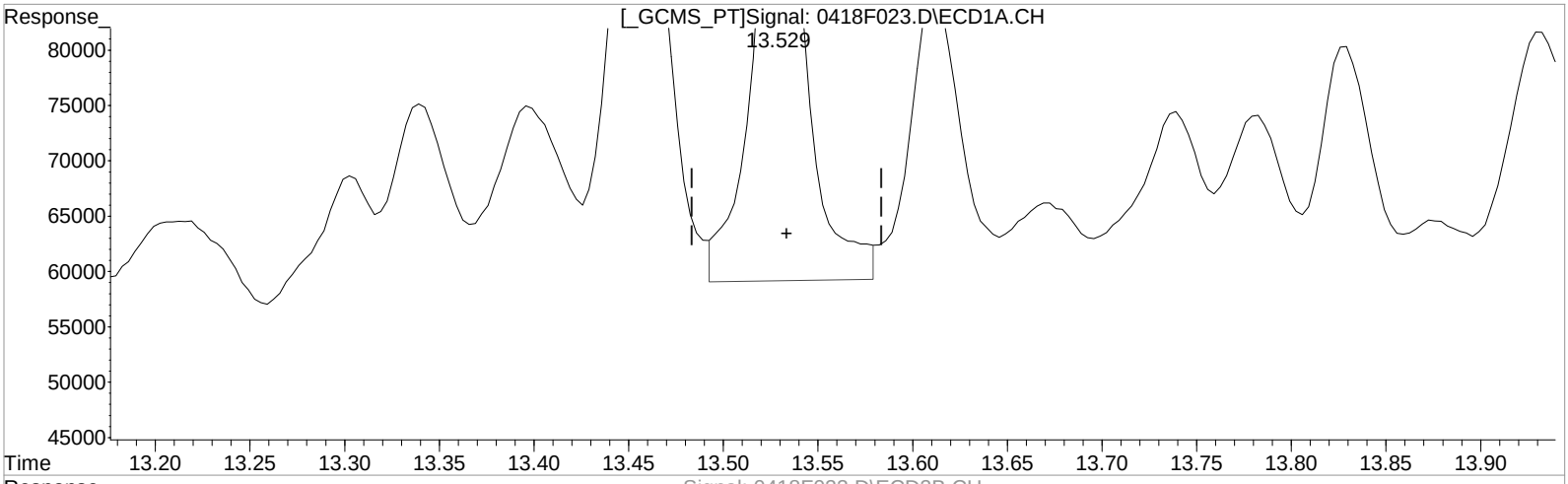
Quantitation Report (Qedit)

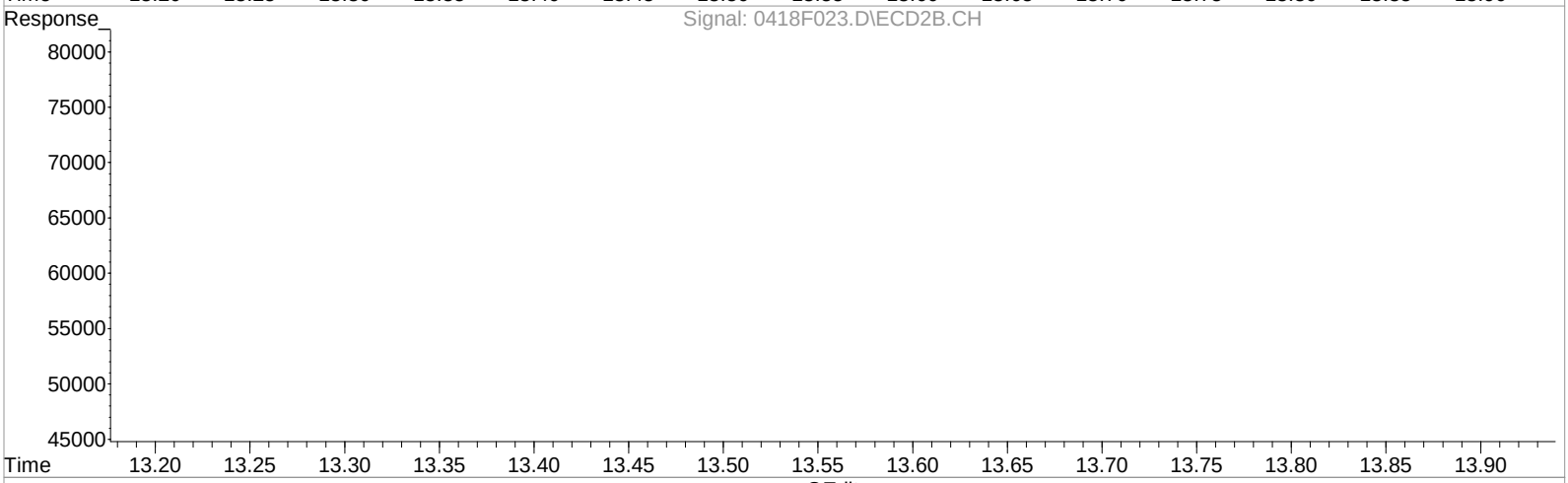
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(14) alpha-Chlordane

13.529min 4.641 ug/L

response 82686

Manual Integration:

Before

04/21/20

(14) alpha-Chlordane #2

12.123min 4.601 ug/L

response 314137

(+) = Expected Retention Time

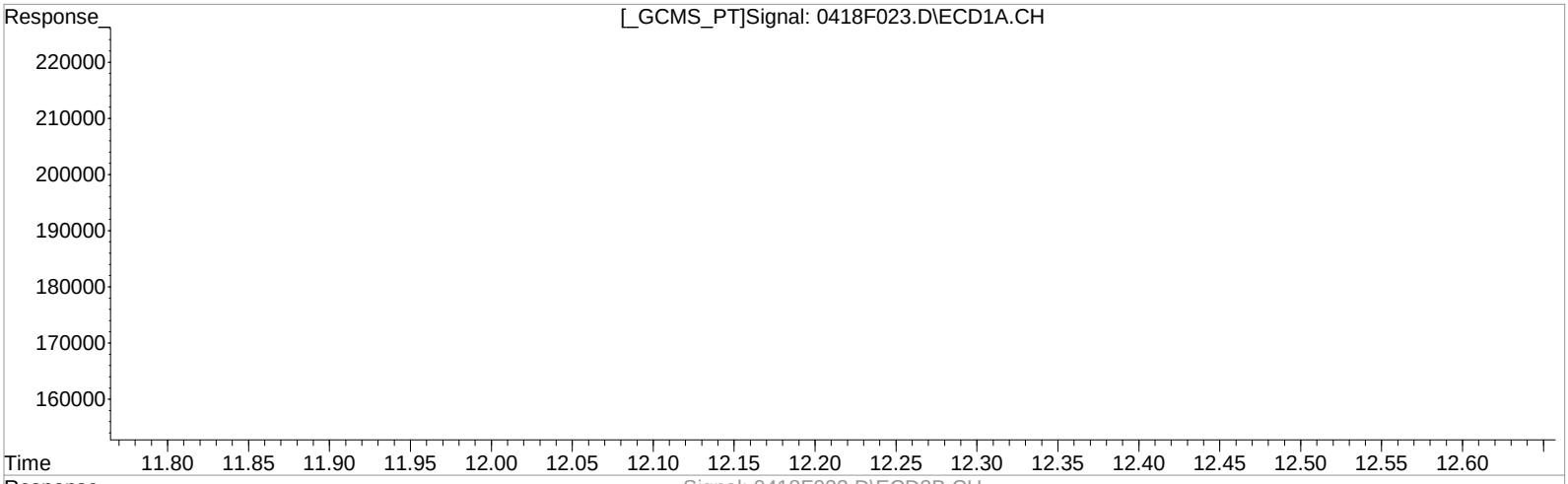
Quantitation Report (Qedit)

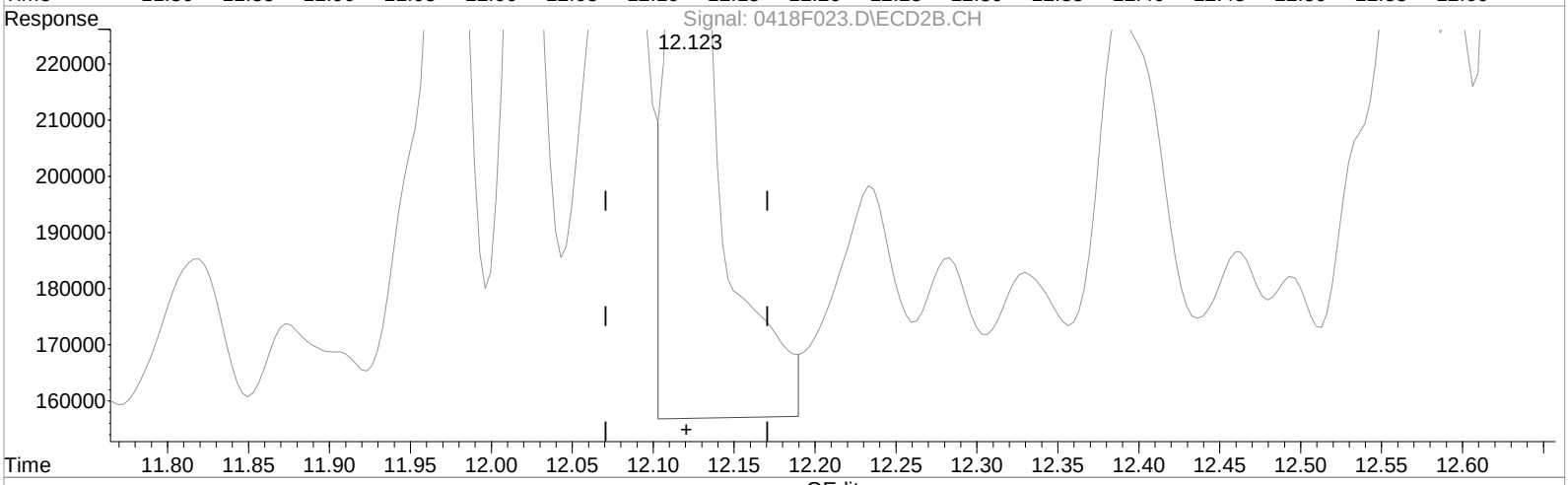
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(14) alpha-Chlordane

13.529min 3.899 ug/L m

response 69459

Manual Integration:

Before

04/21/20

(14) alpha-Chlordane #2

12.123min 4.601 ug/L

response 314137

(+) = Expected Retention Time

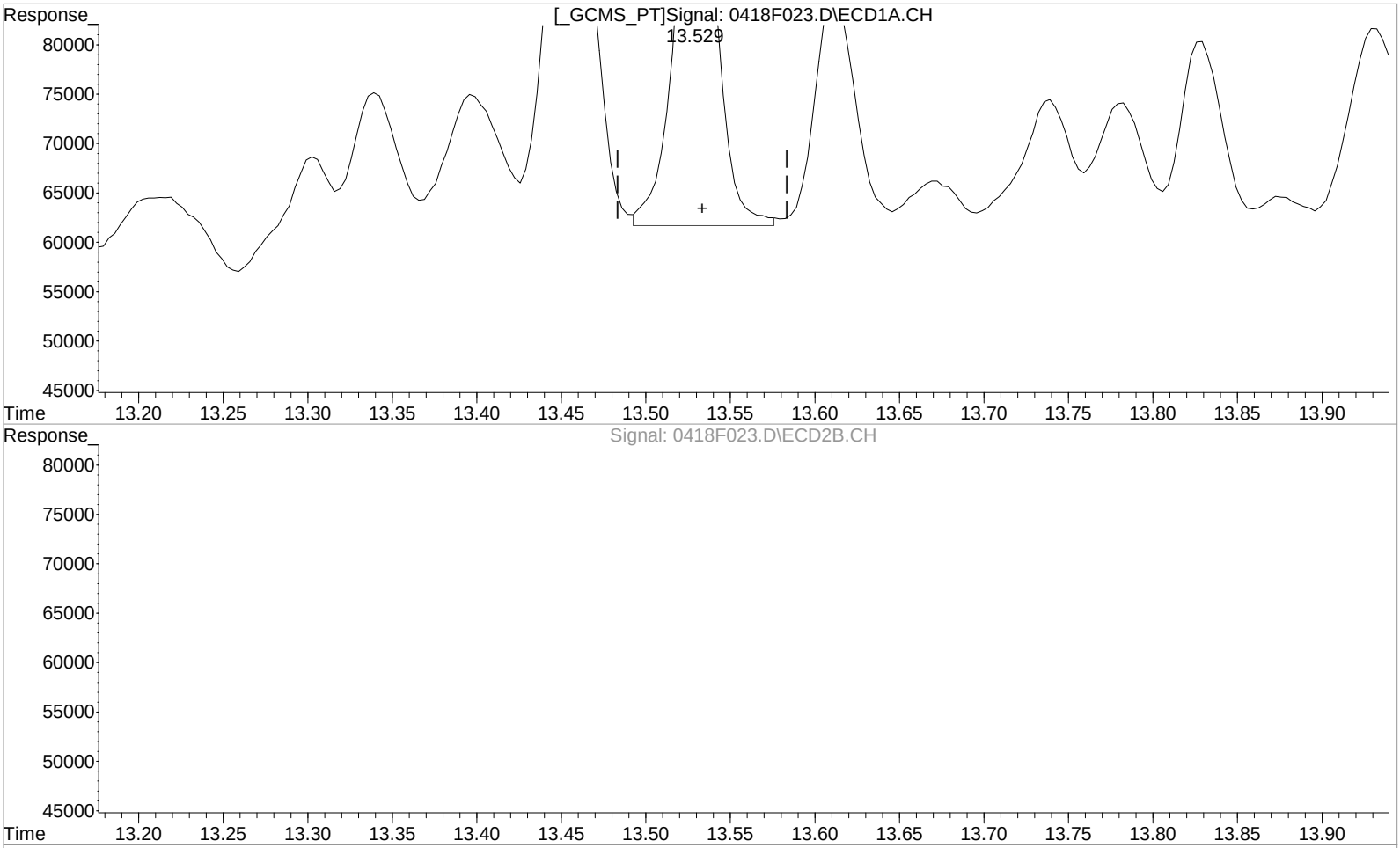
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(14) alpha-Chlordane

13.529min 3.899 ug/L m

response 69459

Manual Integration:

After

Baseline correction

04/21/20

(14) alpha-Chlordane #2

12.123min 4.601 ug/L

response 314137

(+) = Expected Retention Time

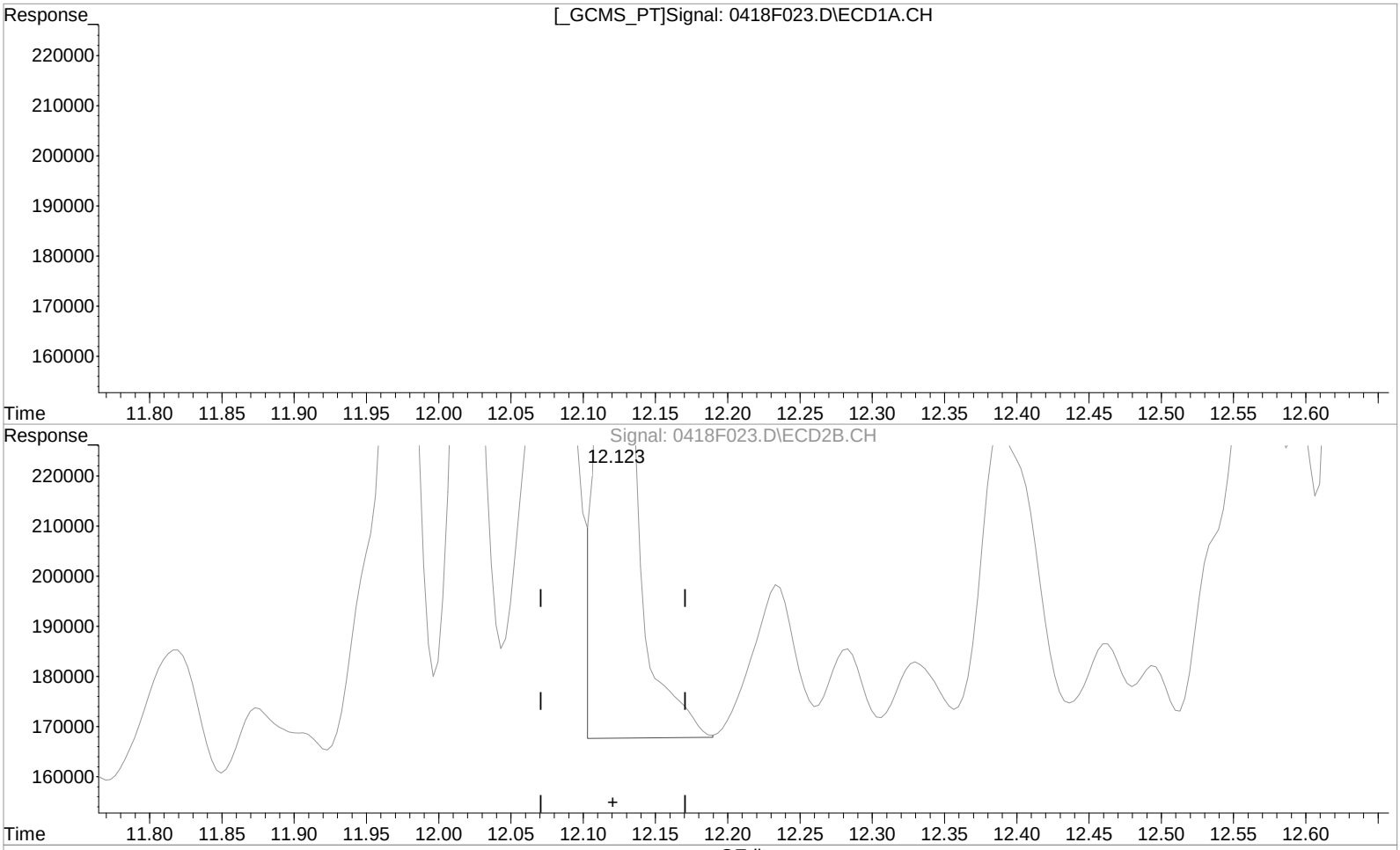
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(14) alpha-Chlordane

13.529min 3.899 ug/L m

response 69459

(14) alpha-Chlordane #2

12.123min 3.783 ug/L m

response 258248

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

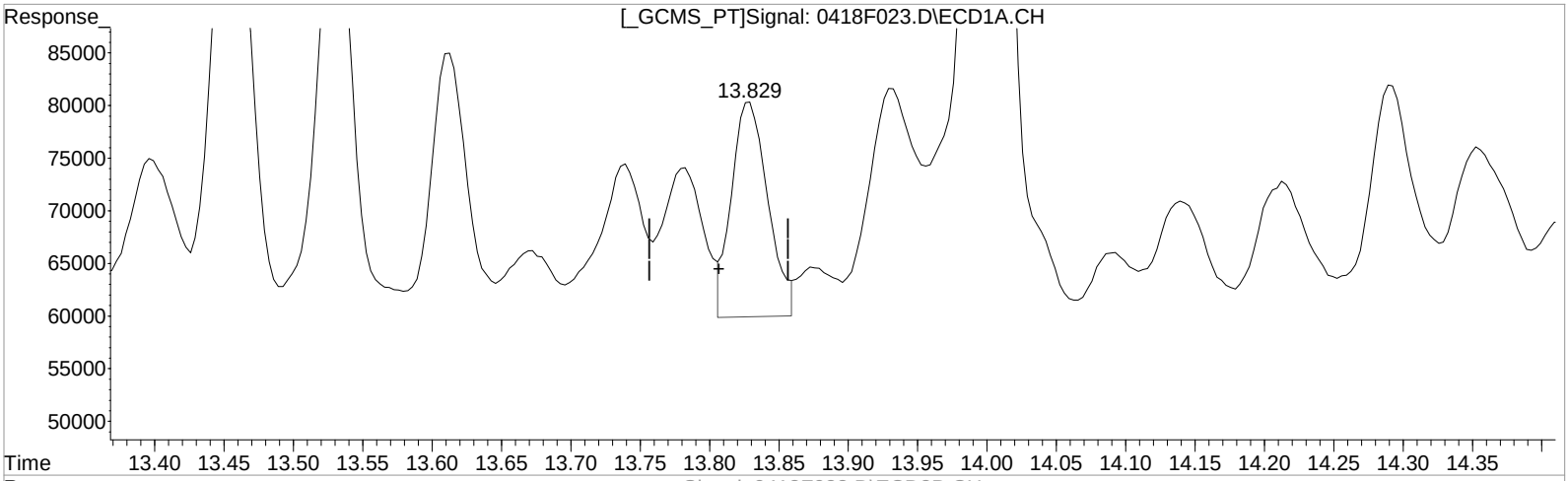
Quantitation Report (Qedit)

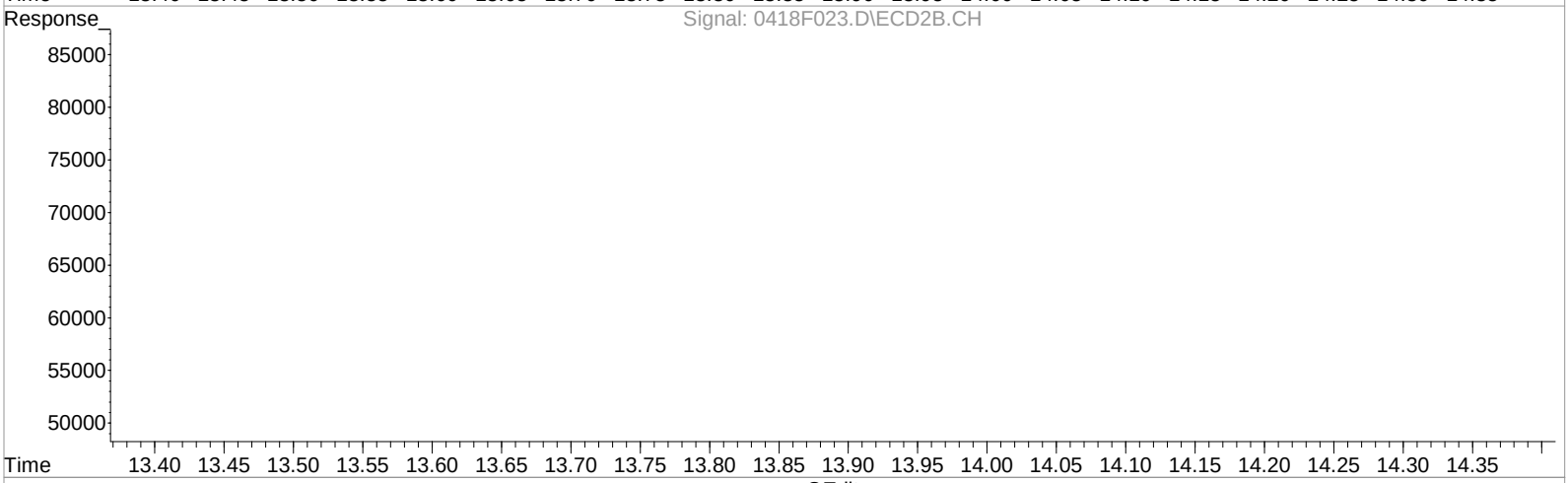
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.829min 2.271 ug/L

response 37226

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.493min 0.611 ug/L

response 39005

(+) = Expected Retention Time

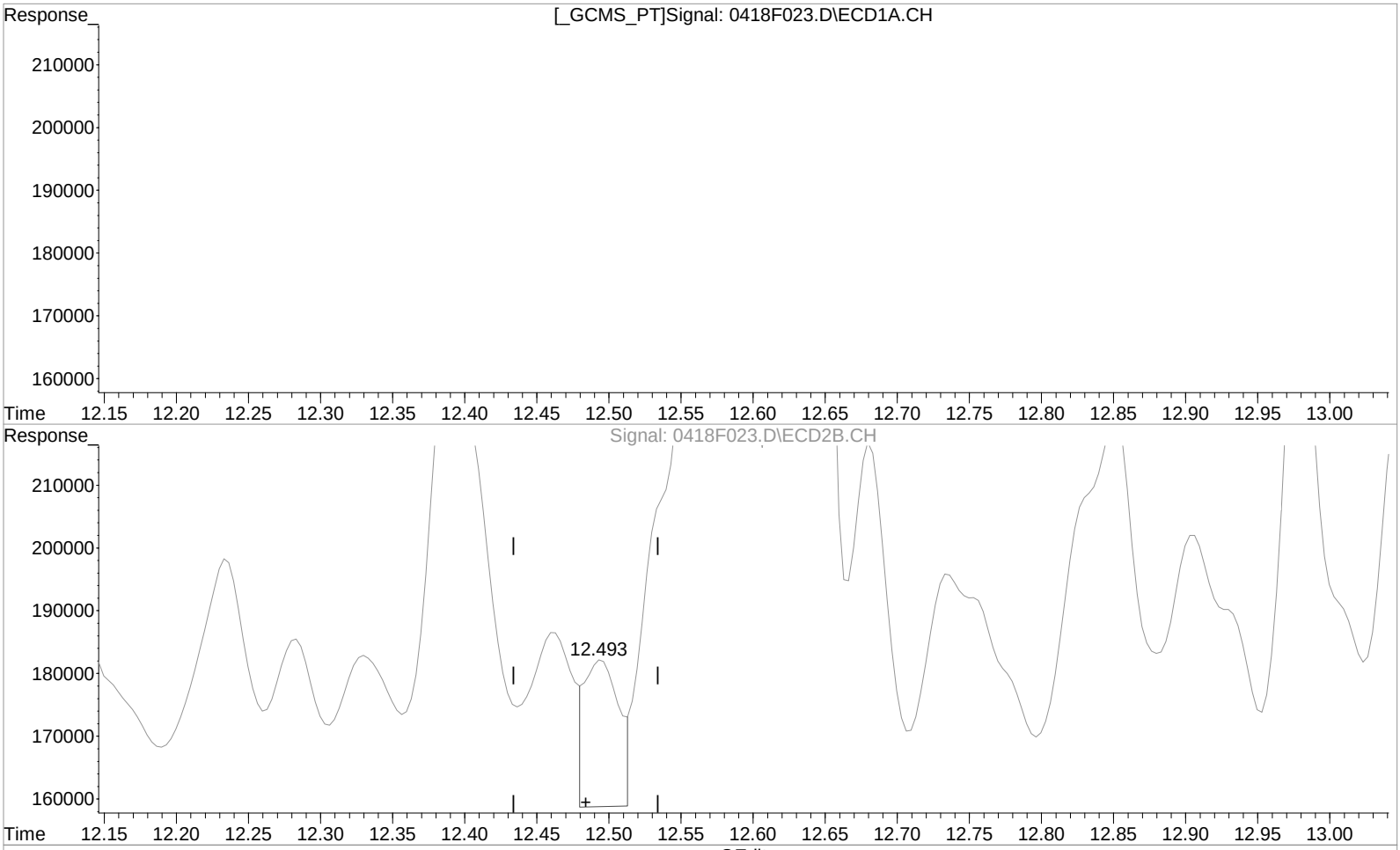
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.829min 1.768 ug/L m

response 28978

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.493min 0.611 ug/L

response 39005

(+) = Expected Retention Time

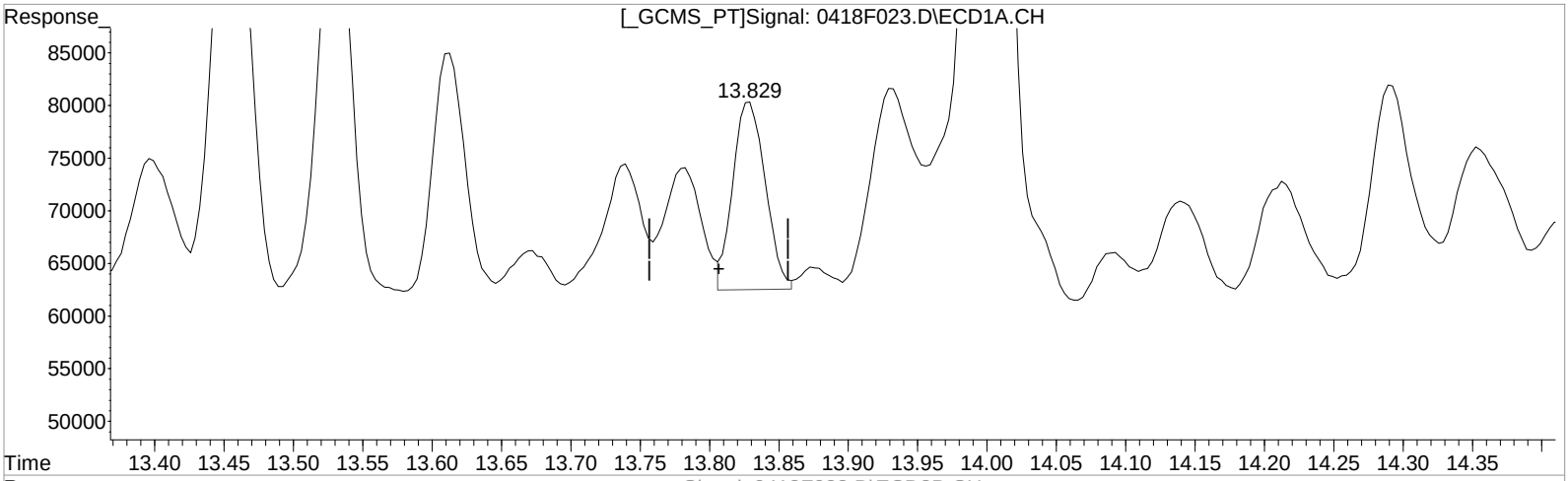
Quantitation Report (Qedit)

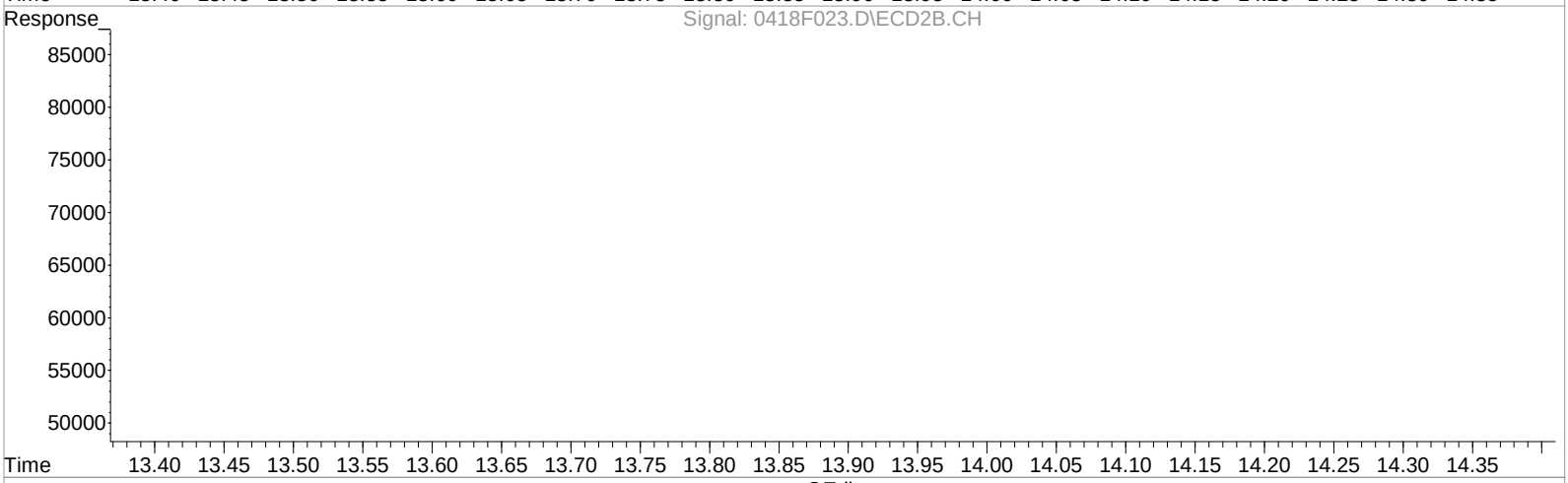
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.829min 1.768 ug/L m

response 28978

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.493min 0.611 ug/L

response 39005

(+) = Expected Retention Time

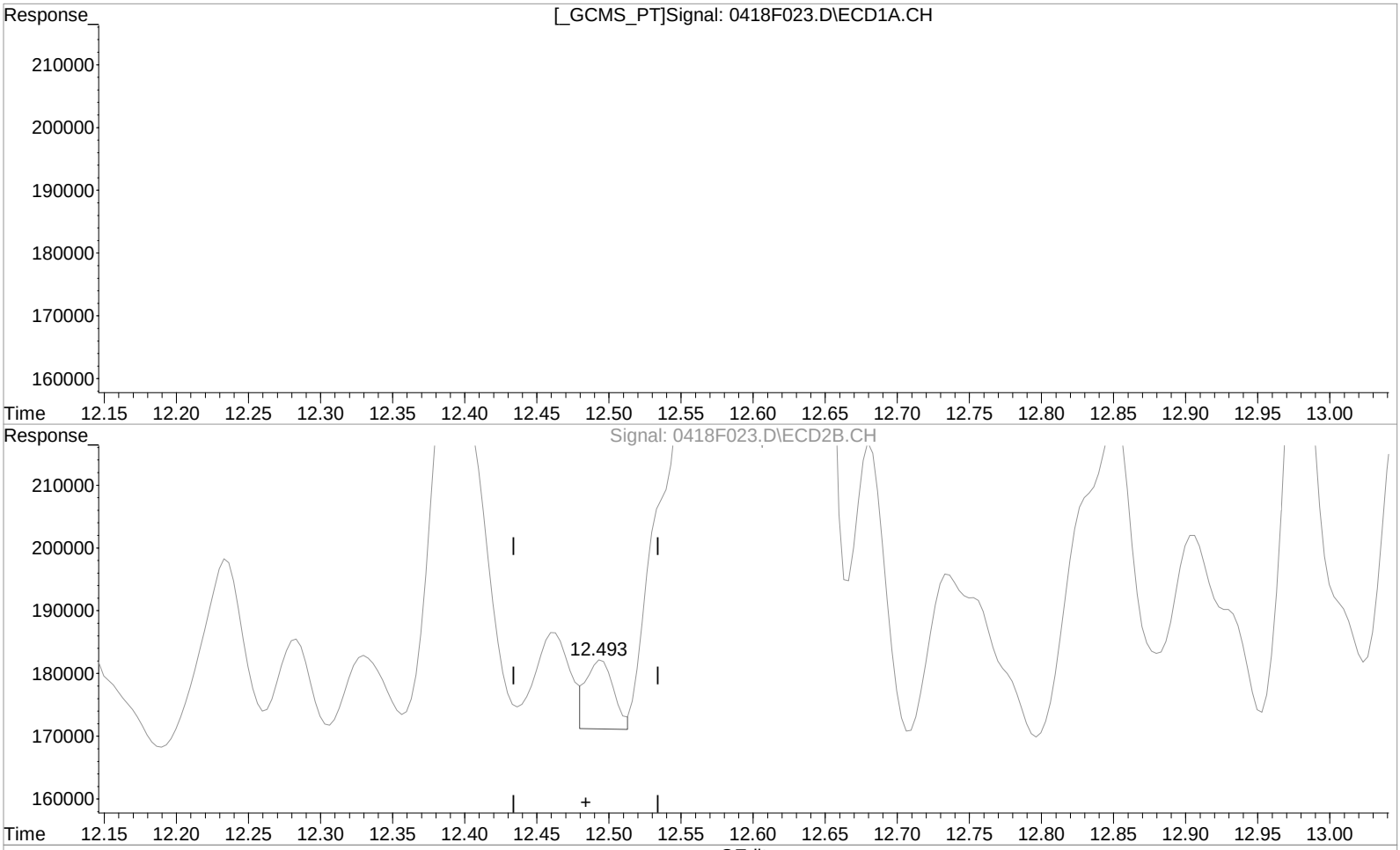
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(16) 4,4'-DDE

13.829min 1.768 ug/L m

response 28978

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.493min 0.224 ug/L m

response 14298

(+) = Expected Retention Time

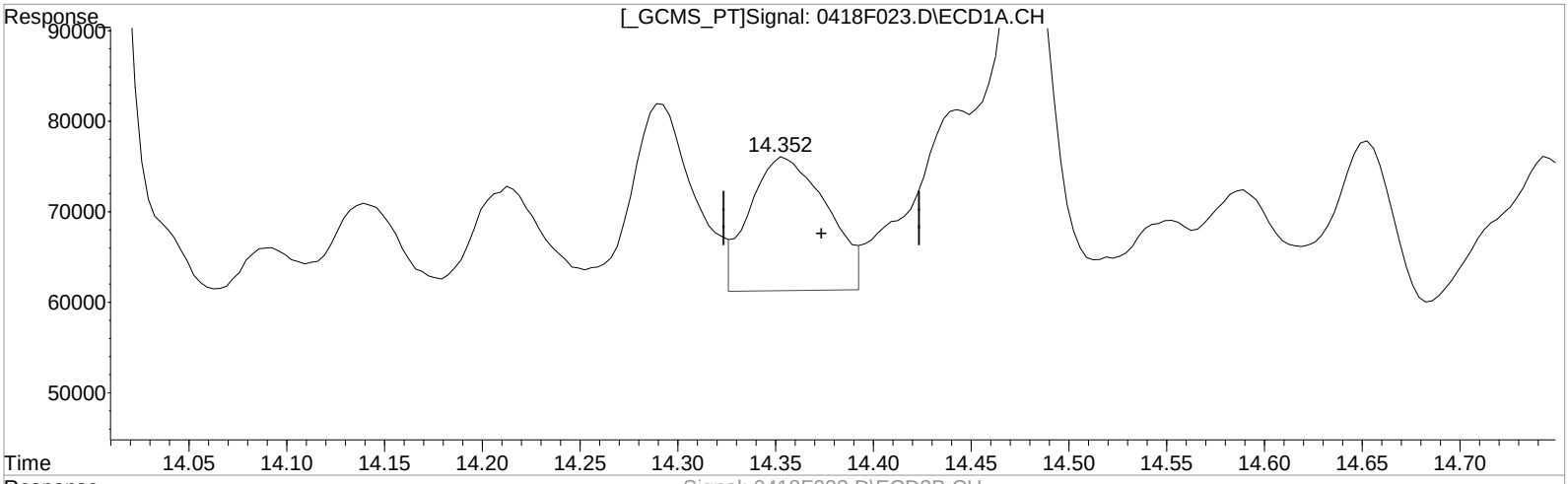
Quantitation Report (Qedit)

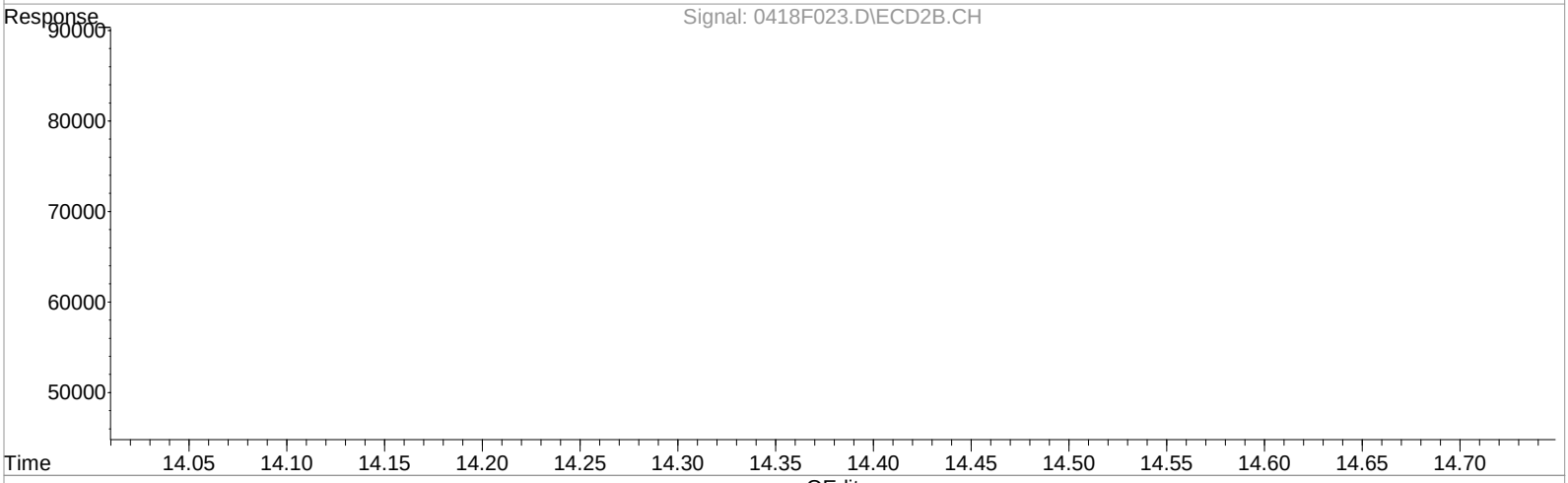
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(17) Endrin

14.352min 2.543 ug/L

response 40659

Manual Integration:

Before

04/21/20

(17) Endrin #2

13.113min 1.494 ug/L

response 94204

(+) = Expected Retention Time

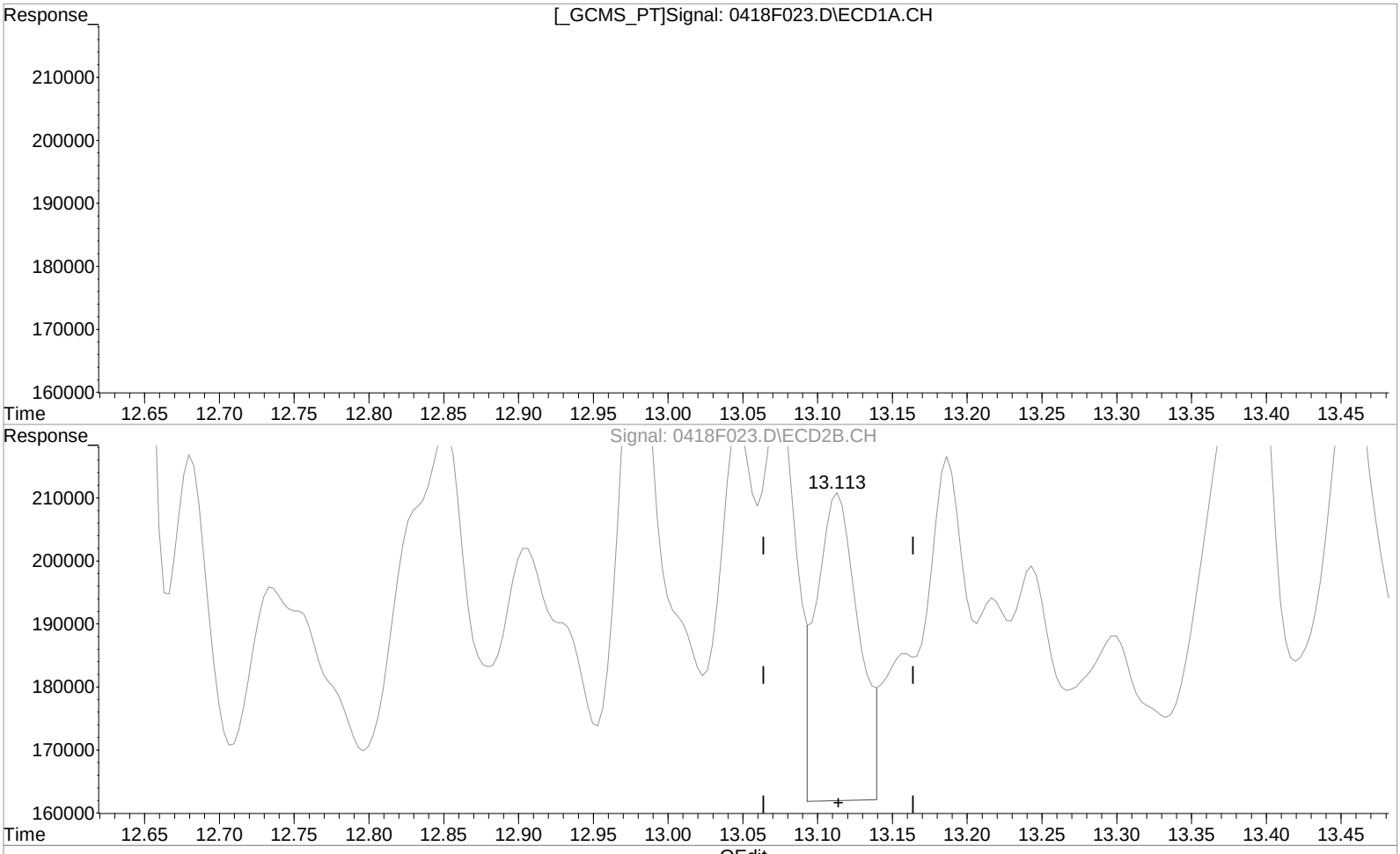
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(17) Endrin

14.352min 1.846 ug/L m

response 29521

Manual Integration:

Before

04/21/20

(17) Endrin #2

13.113min 1.494 ug/L

response 94204

(+) = Expected Retention Time

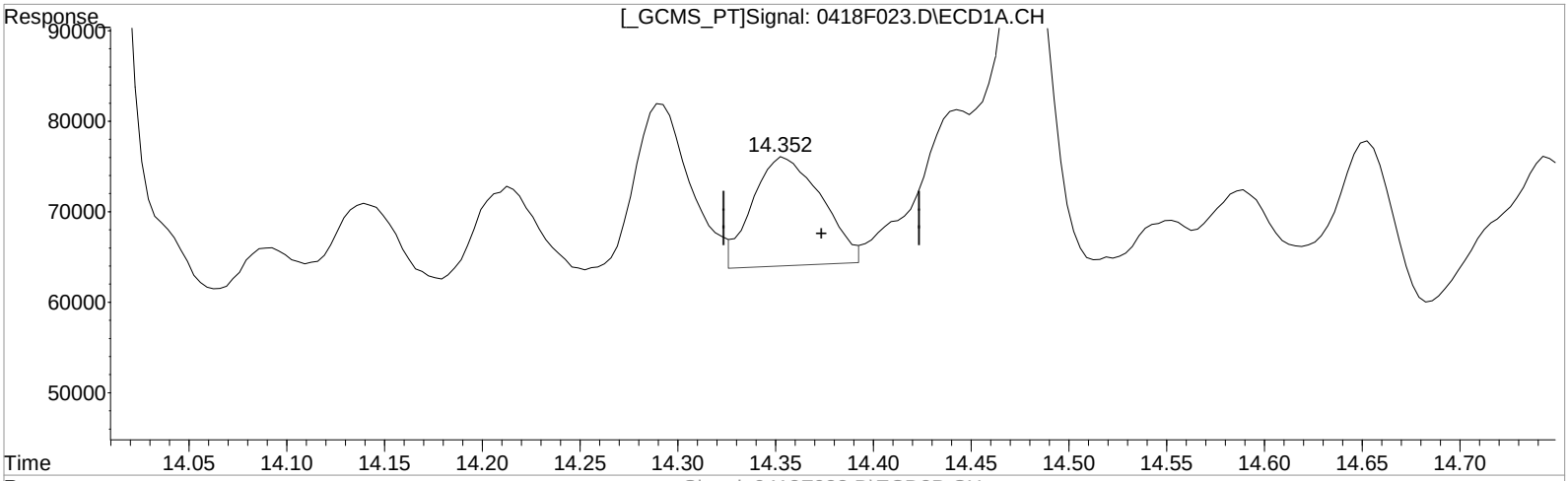
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(17) Endrin

14.352min 1.846 ug/L m

response 29521

Manual Integration:

After

Baseline correction

04/21/20

(17) Endrin #2

13.113min 1.494 ug/L

response 94204

(+) = Expected Retention Time

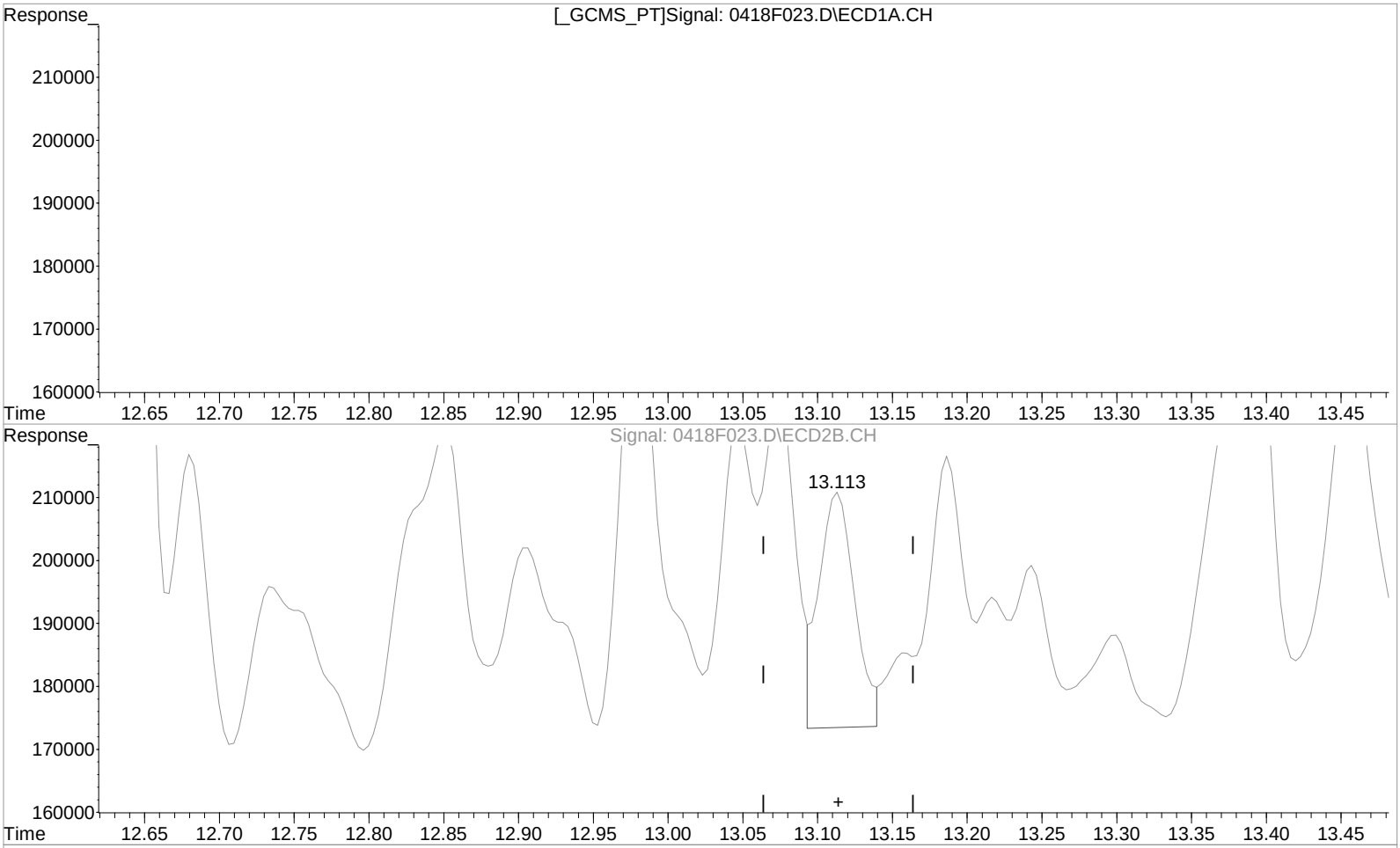
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(17) Endrin

14.352min 1.846 ug/L m

response 29521

(17) Endrin #2

13.113min 0.982 ug/L m

response 61917

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

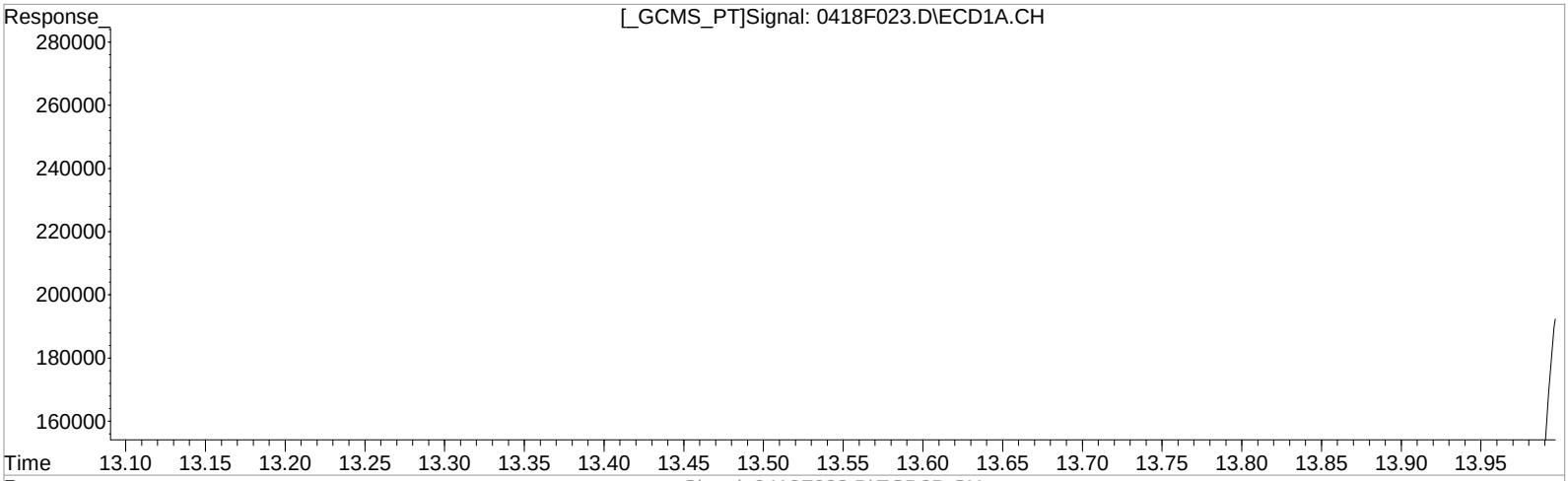
Quantitation Report (Qedit)

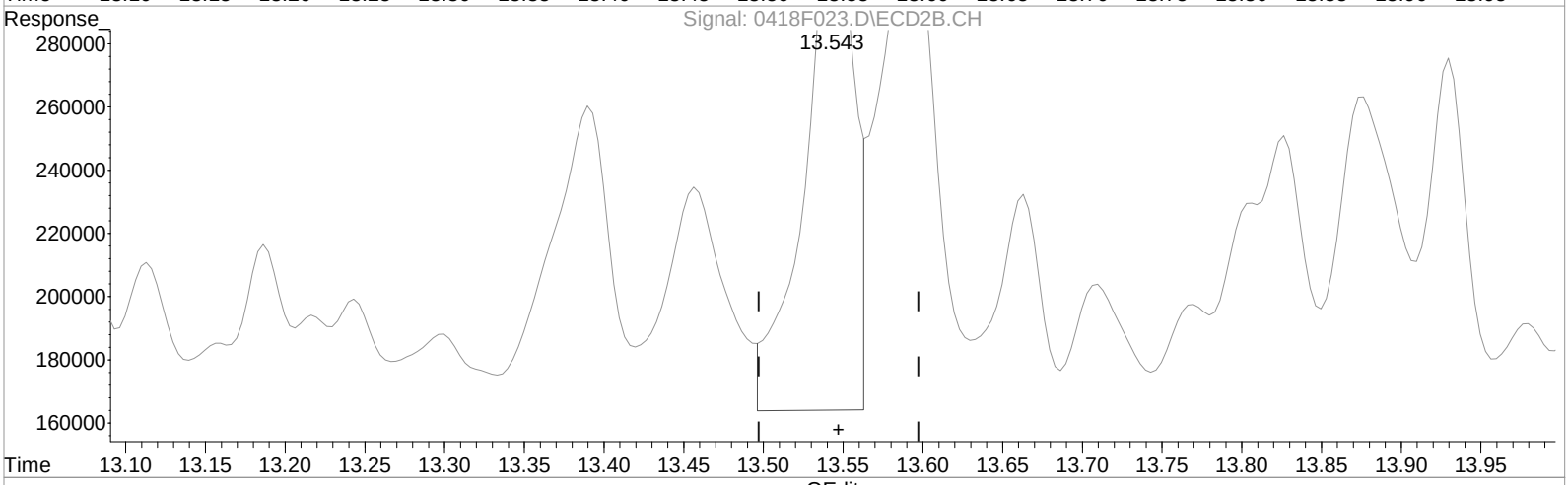
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.806min 3.535 ug/L

response 57265

(18) Endosulfan II #2

13.543min 6.197 ug/L

response 353135

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

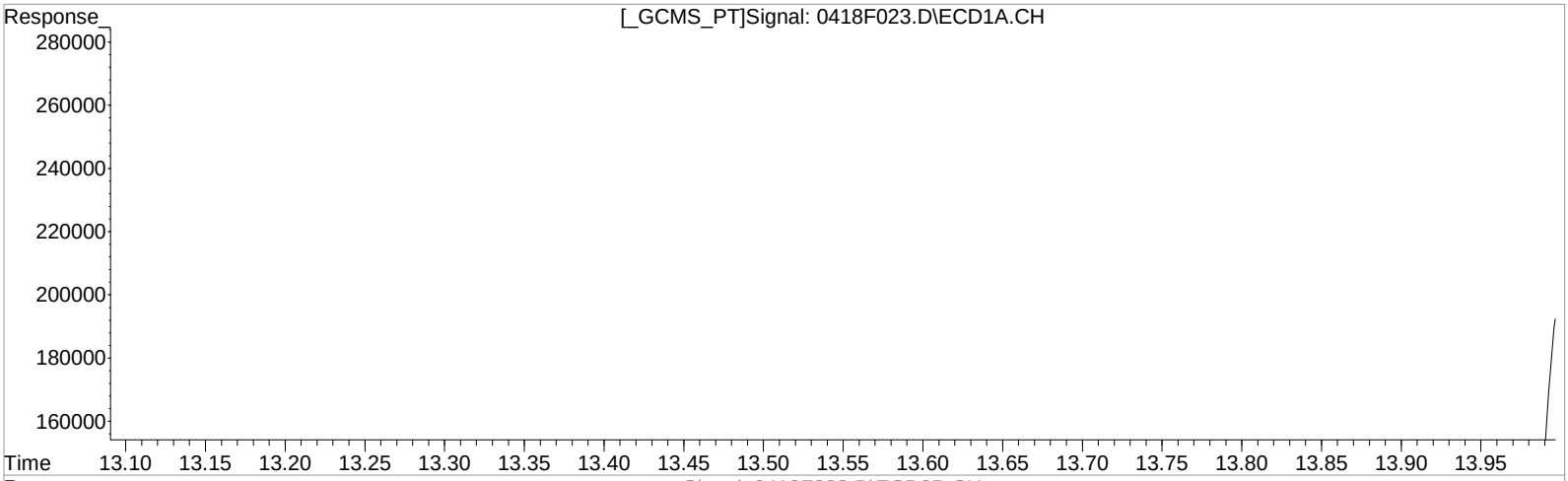
Quantitation Report (Qedit)

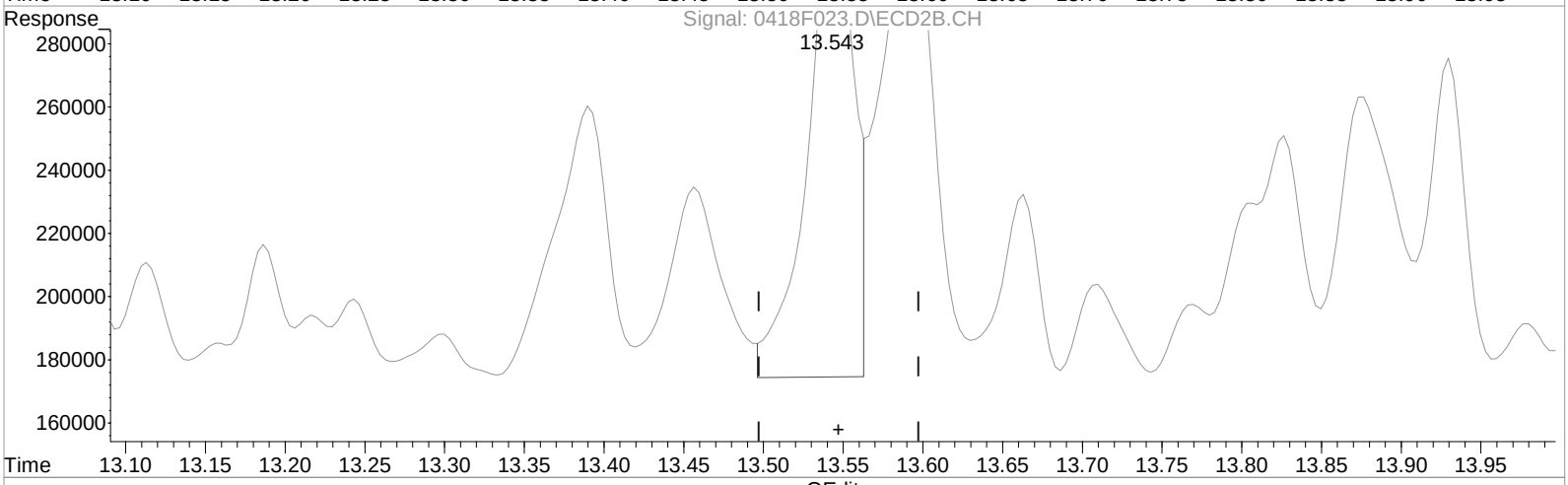
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.806min 3.535 ug/L

response 57265

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.543min 5.462 ug/L m

response 311267

(+) = Expected Retention Time

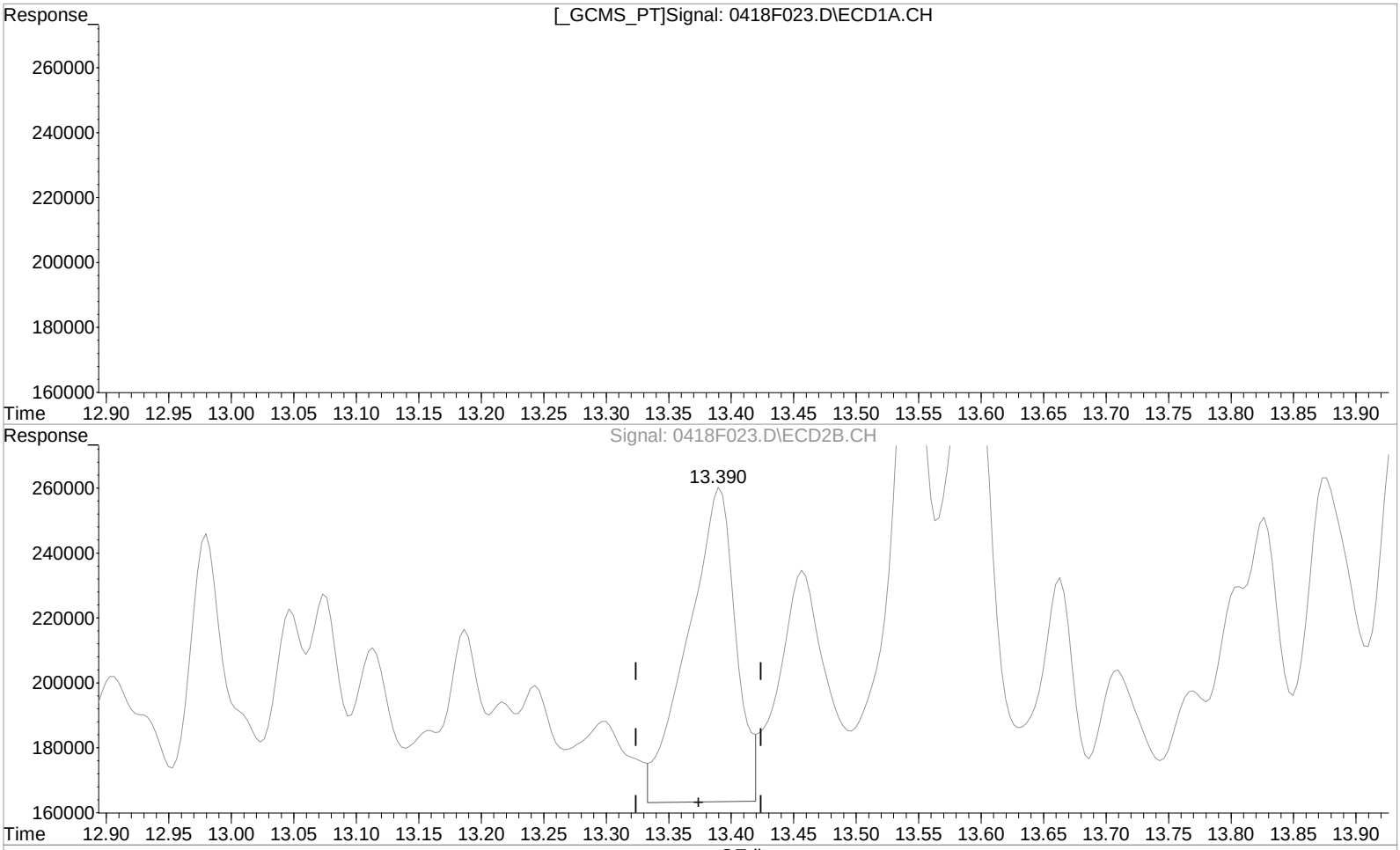
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(19) 4,4'-DDD

14.652min 2.905 ug/L

response 36805

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.390min 5.409 ug/L

response 258284

(+) = Expected Retention Time

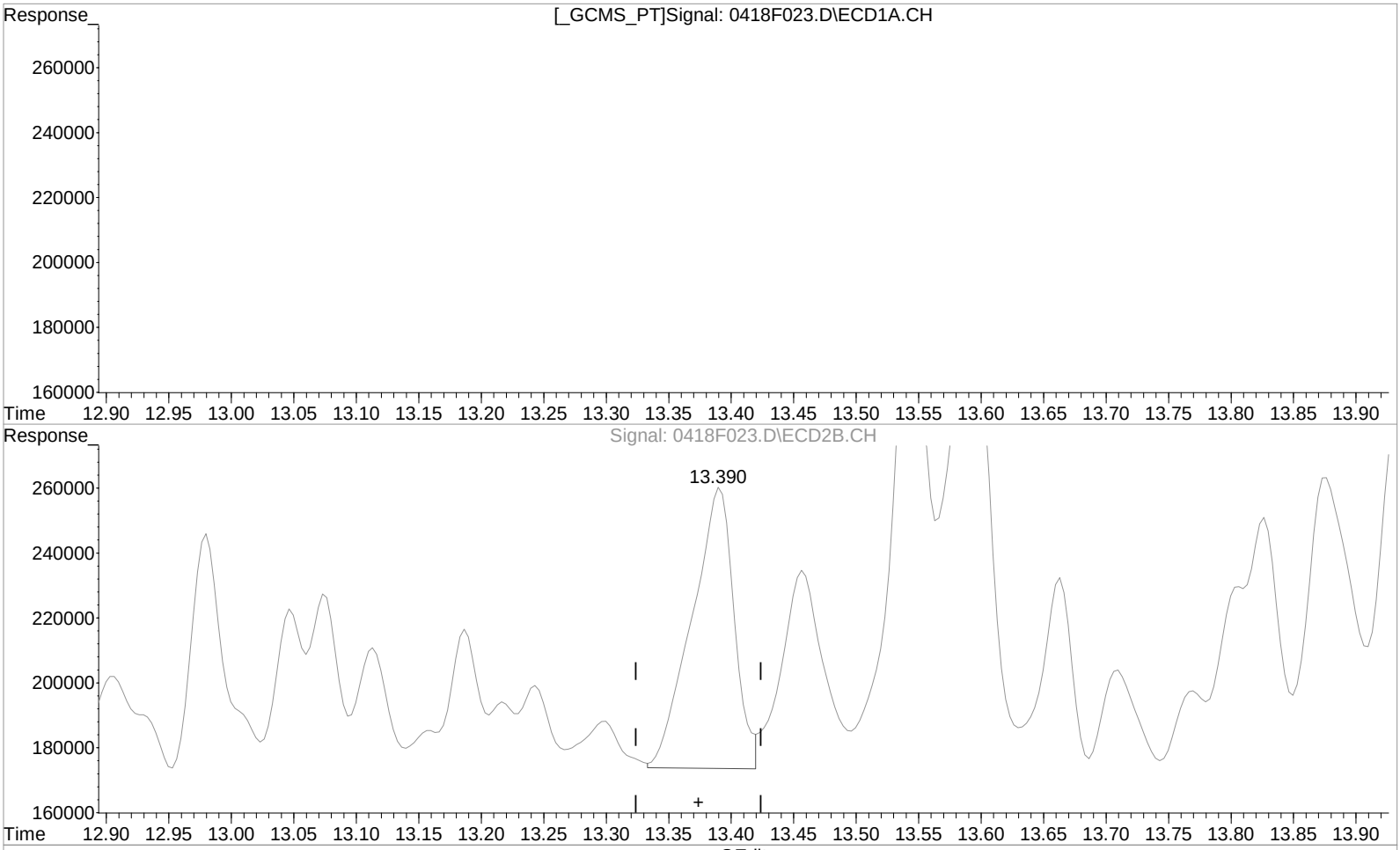
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(19) 4,4'-DDD

14.652min 2.905 ug/L

response 36805

Manual Integration:

After

Baseline correction

04/21/20

(19) 4,4'-DDD #2

13.390min 4.276 ug/L m

response 204194

(+) = Expected Retention Time

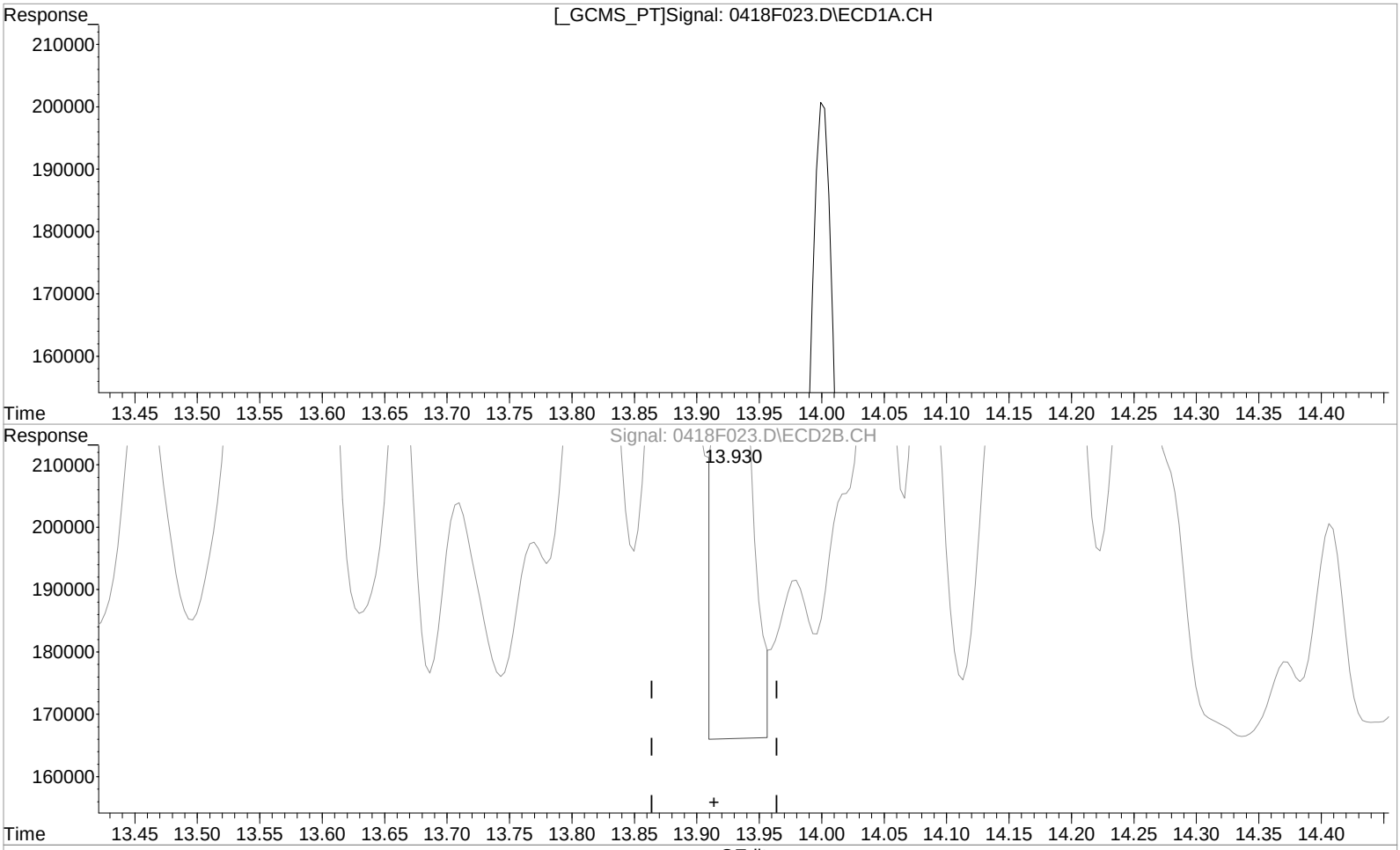
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.996min 4.507 ug/L

response 63279

Manual Integration:

Before

04/21/20

(20) Endrin Aldehyde #2

13.930min 3.712 ug/L

response 175183

(+) = Expected Retention Time

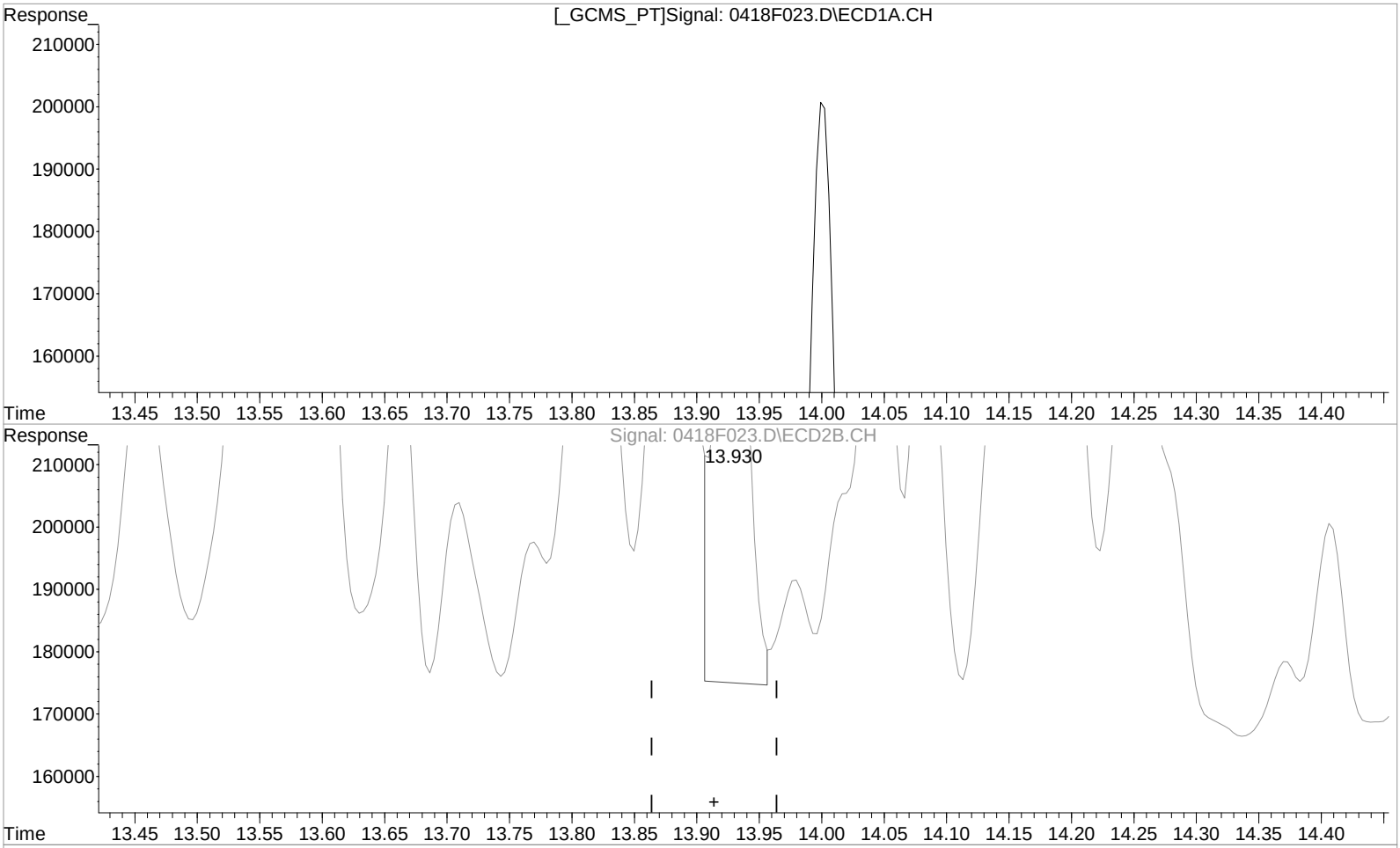
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.996min 4.507 ug/L

response 63279

Manual Integration:

After

Baseline correction

04/21/20

(20) Endrin Aldehyde #2

13.930min 3.341 ug/L m

response 157685

(+) = Expected Retention Time

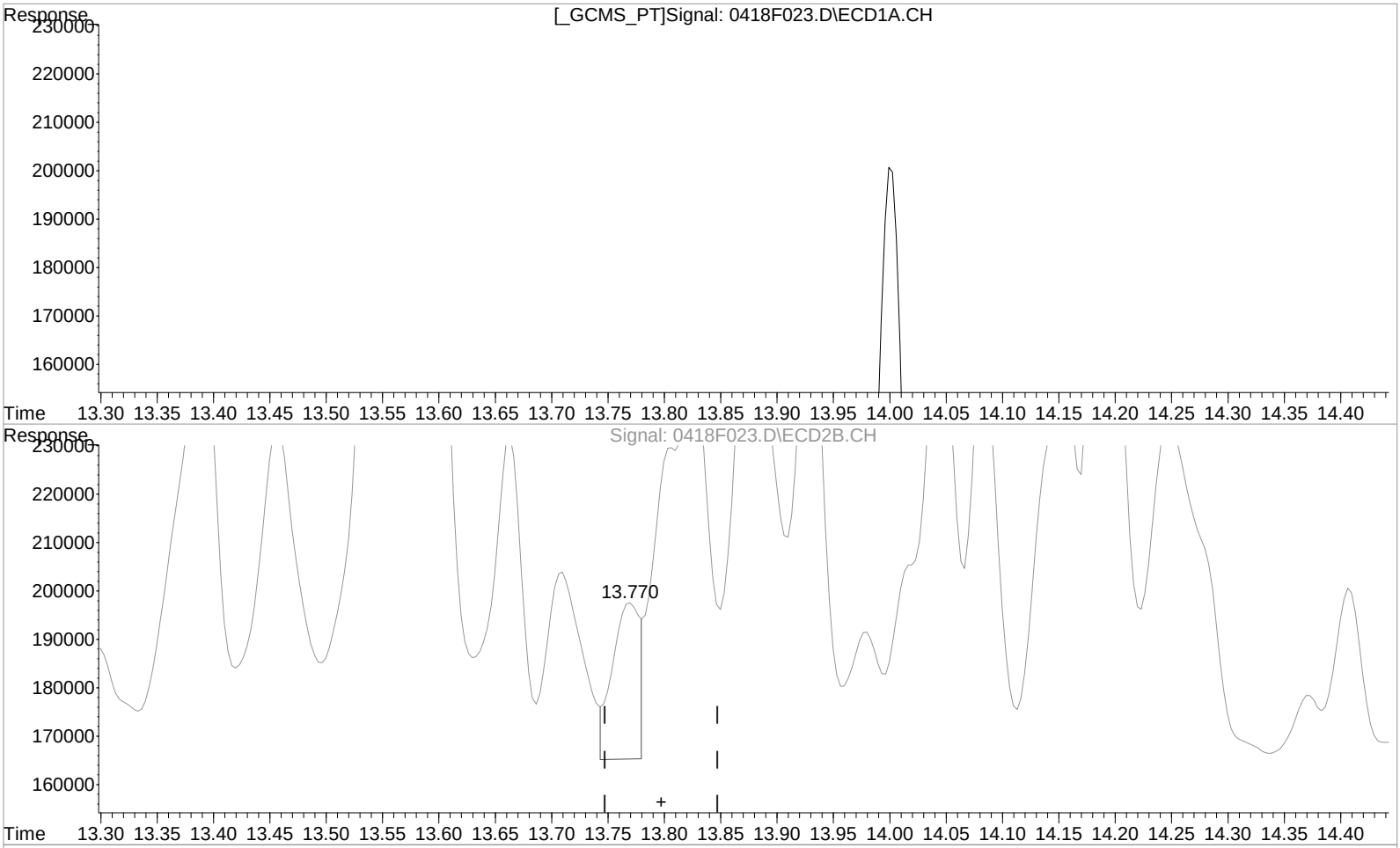
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.159min 1.323 ug/L

response 17615

Manual Integration:

Before

04/21/20

(22) 4,4'-DDT #2

13.770min 1.206 ug/L

response 55505

(+) = Expected Retention Time

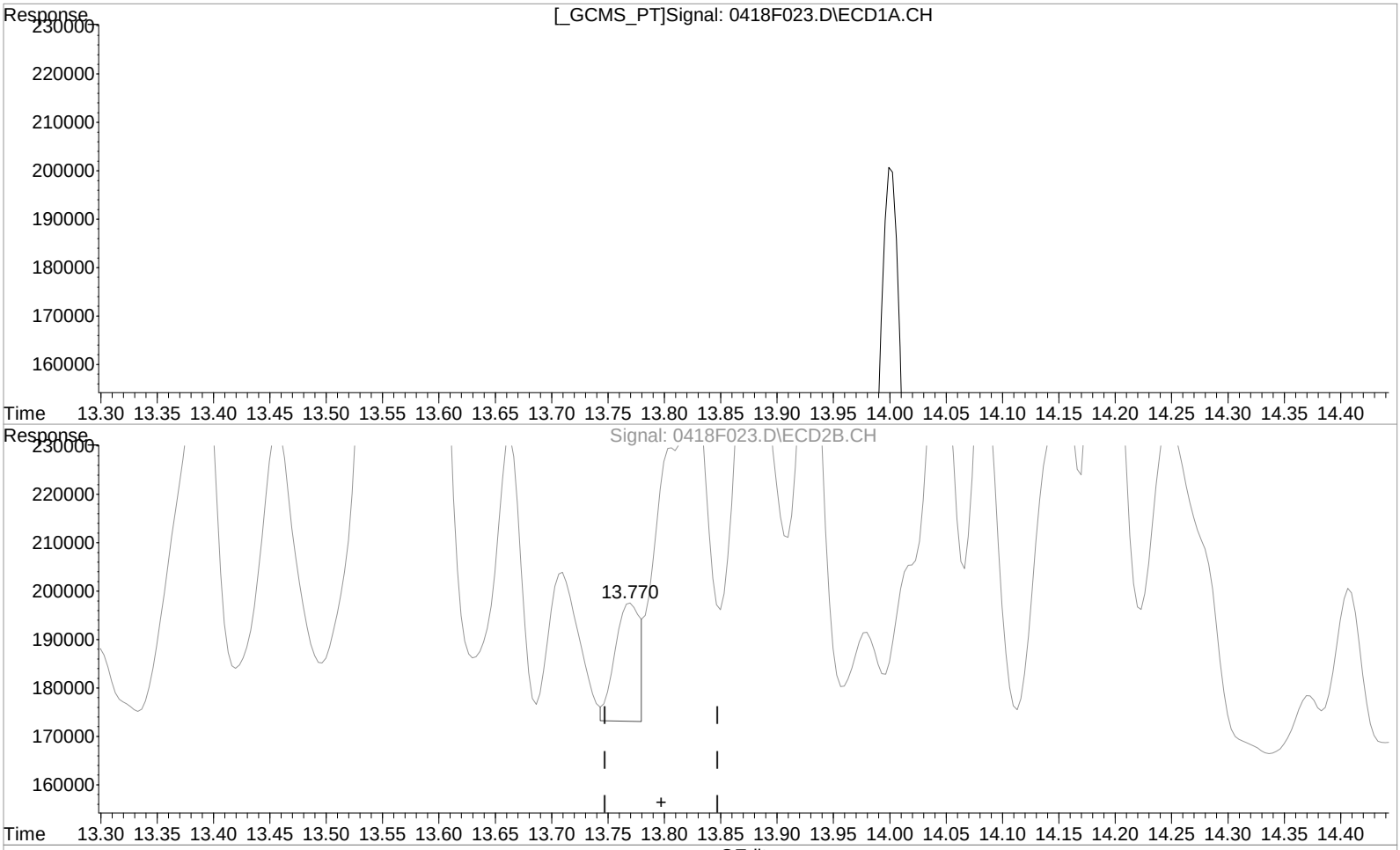
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.159min 1.323 ug/L

response 17615

Manual Integration:

After

Baseline correction

04/21/20

(22) 4,4'-DDT #2

13.770min 0.828 ug/L m

response 38132

(+) = Expected Retention Time

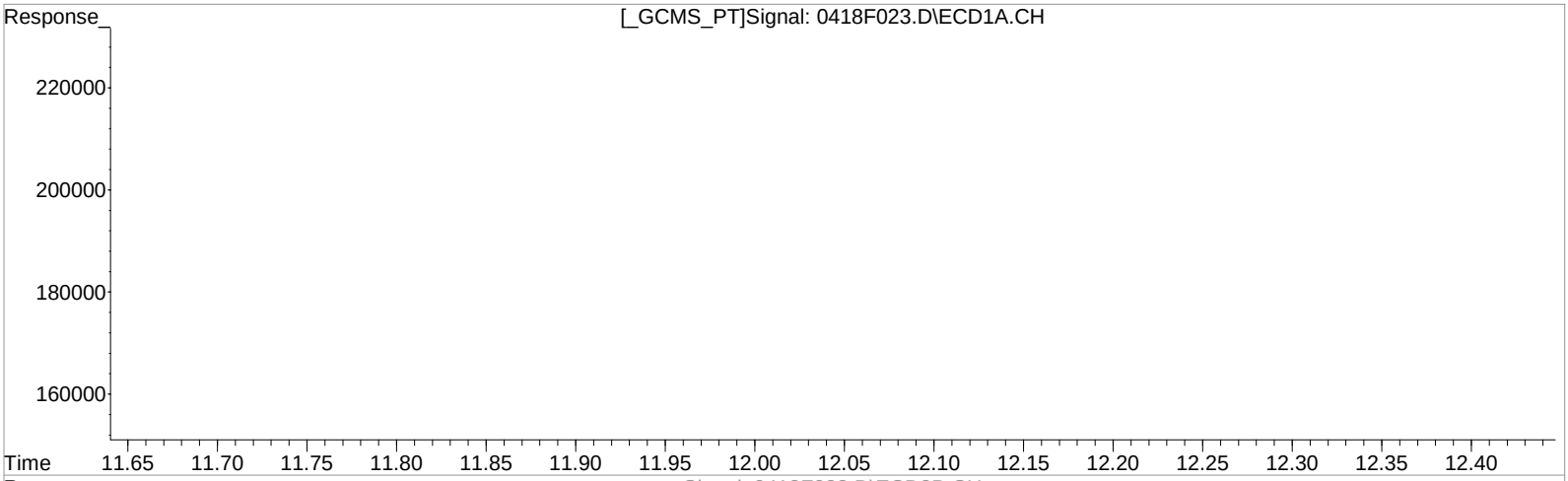
Quantitation Report (Qedit)

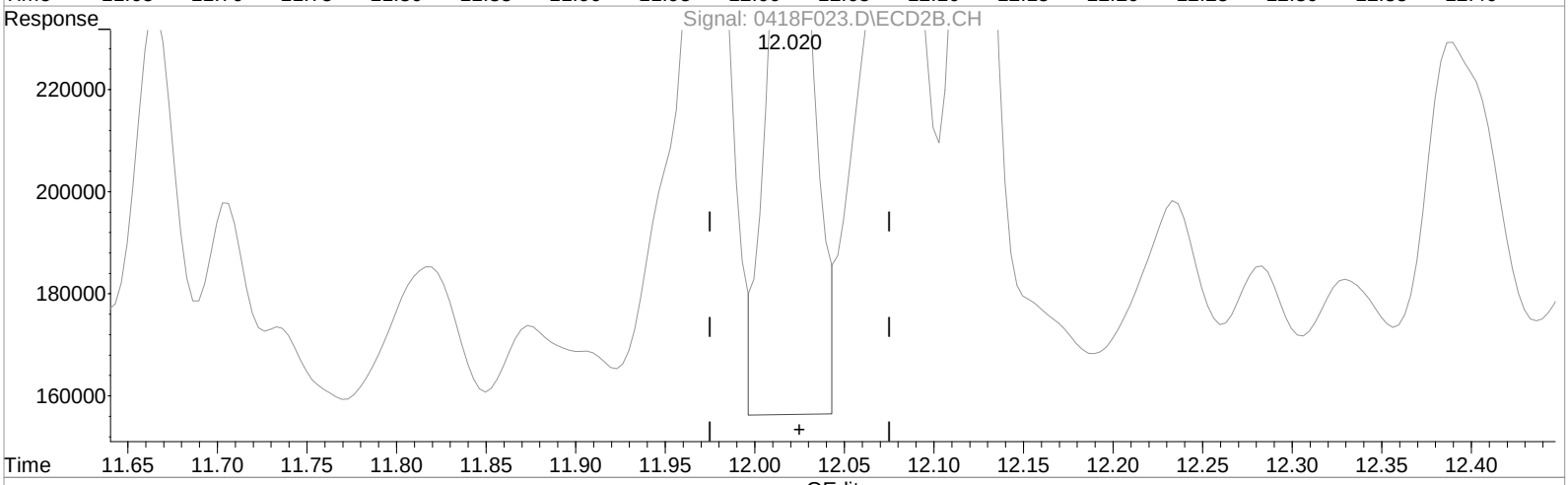
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.219min 2.124 ug/L

response 24320

Manual Integration:

Before

04/21/20

(25) 2,4'-DDE #2

12.020min 5.364 ug/L

response 223411

(+) = Expected Retention Time

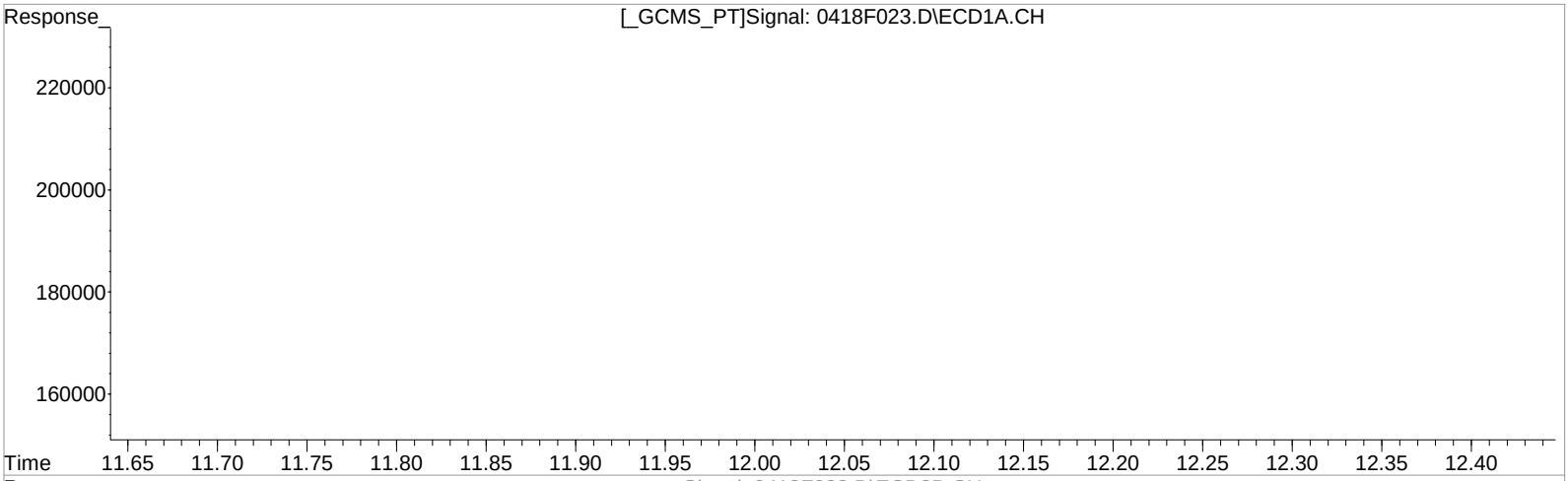
Quantitation Report (Qedit)

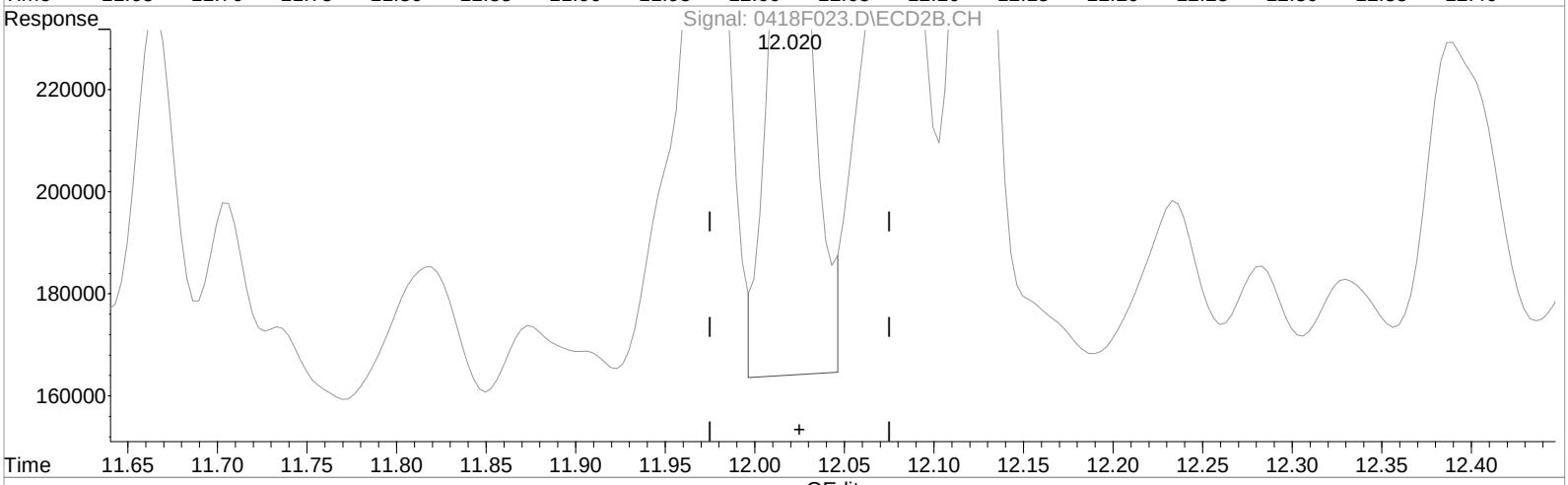
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.219min 2.124 ug/L

response 24320

Manual Integration:

After

Baseline correction

04/21/20

(25) 2,4'-DDE #2

12.020min 4.956 ug/L m

response 206424

(+) = Expected Retention Time

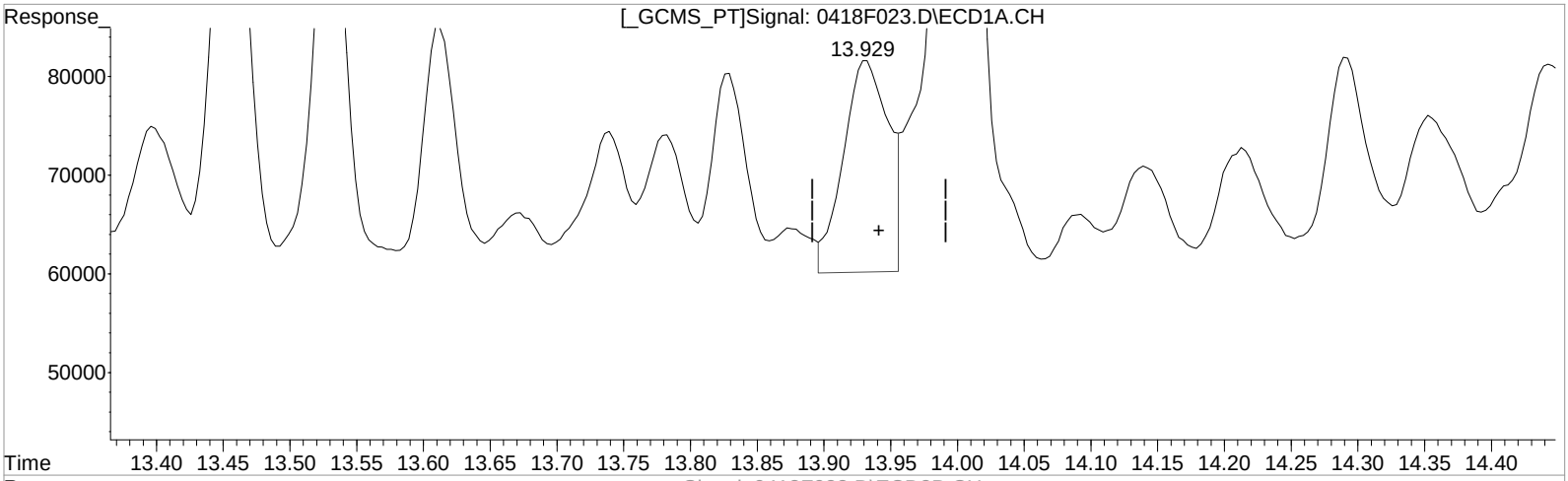
Quantitation Report (Qedit)

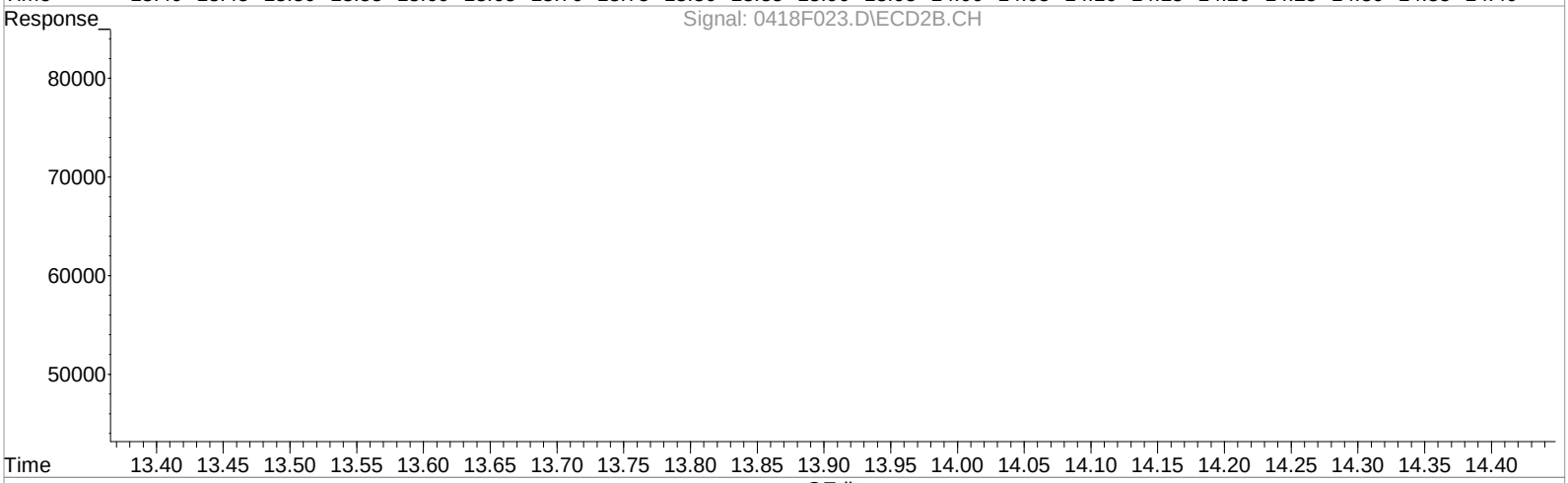
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.929min 5.117 ug/L

response 51453

Manual Integration:

Before

04/21/20

(26) 2,4'-DDD #2

12.850min 5.212 ug/L

response 188260

(+) = Expected Retention Time

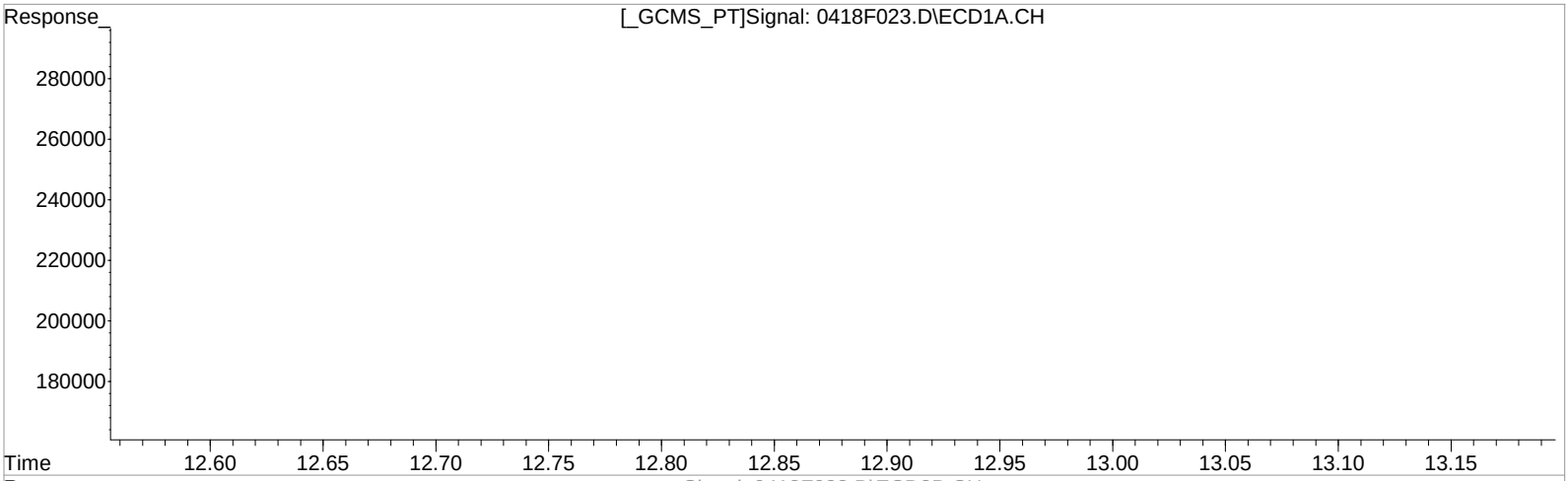
Quantitation Report (Qedit)

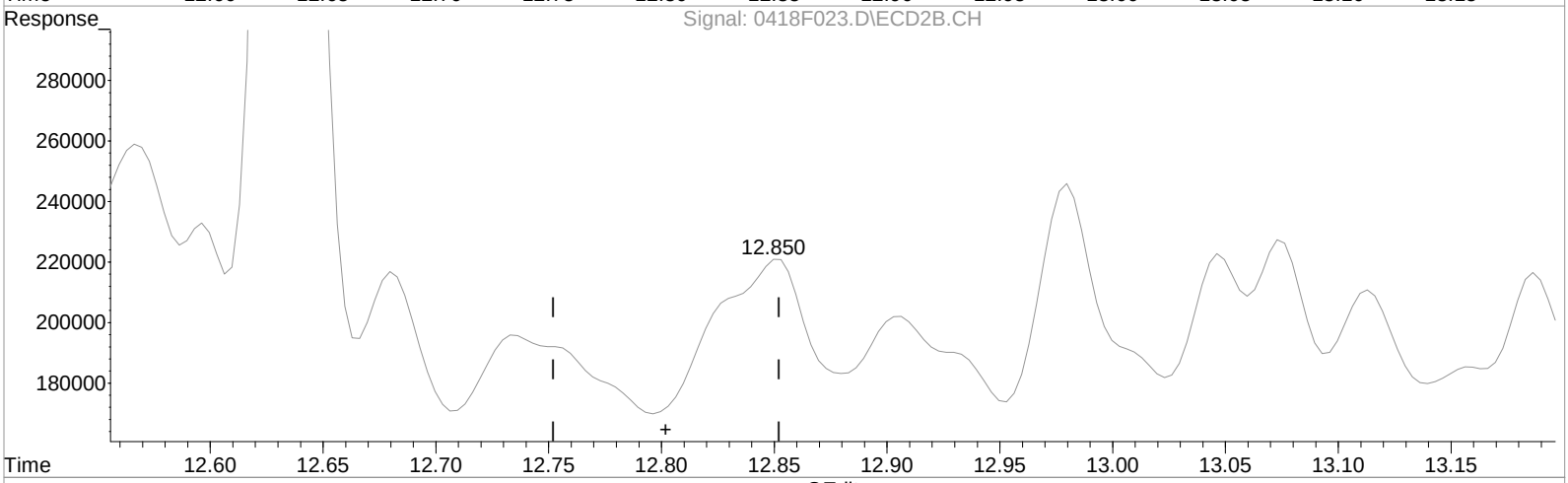
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.929min 4.211 ug/L m

response 42338

(26) 2,4'-DDD #2

12.850min 5.212 ug/L

response 188260

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

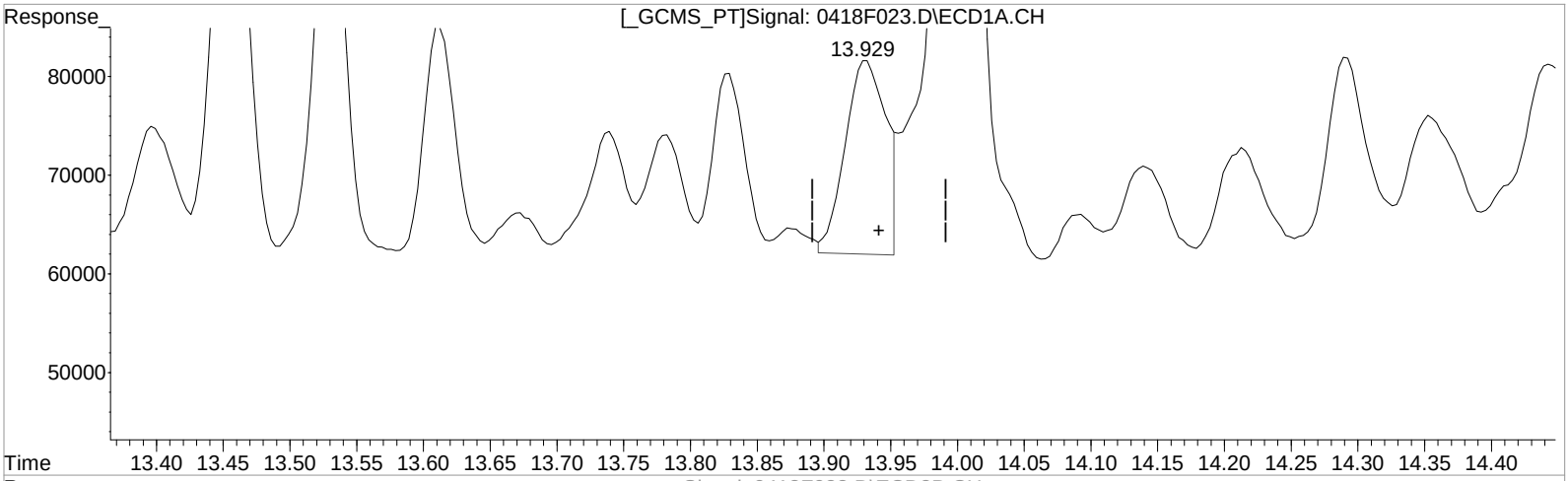
Quantitation Report (Qedit)

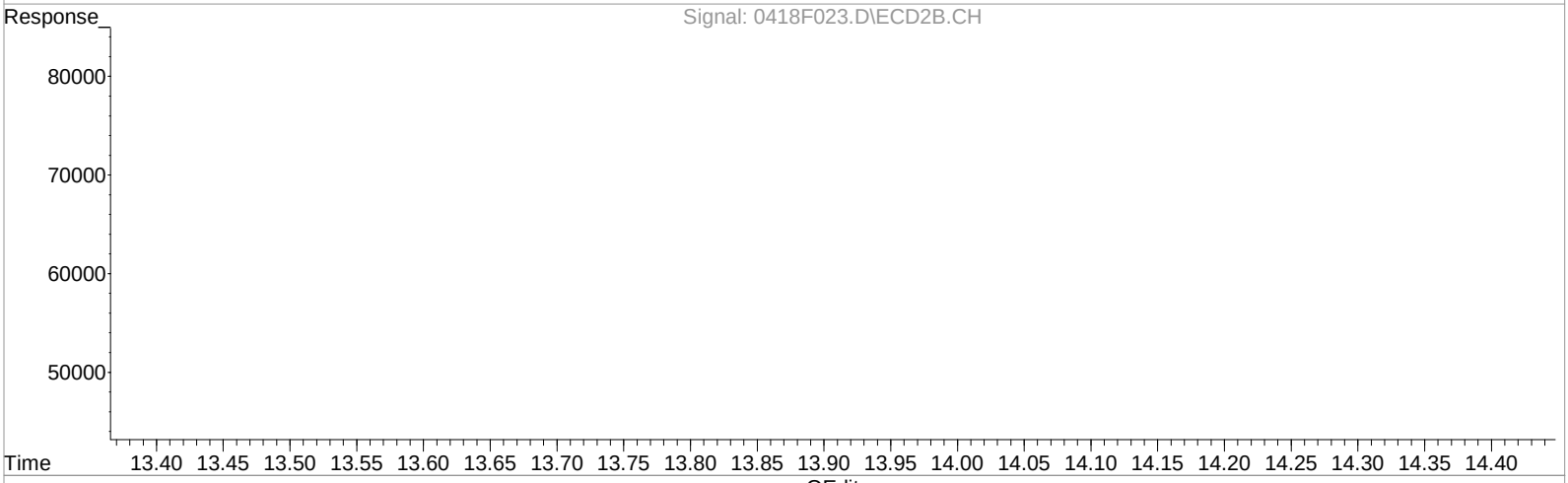
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.929min 4.211 ug/L m

response 42338

Manual Integration:

After

Baseline correction

04/21/20

(26) 2,4'-DDD #2

12.850min 5.212 ug/L

response 188260

(+) = Expected Retention Time

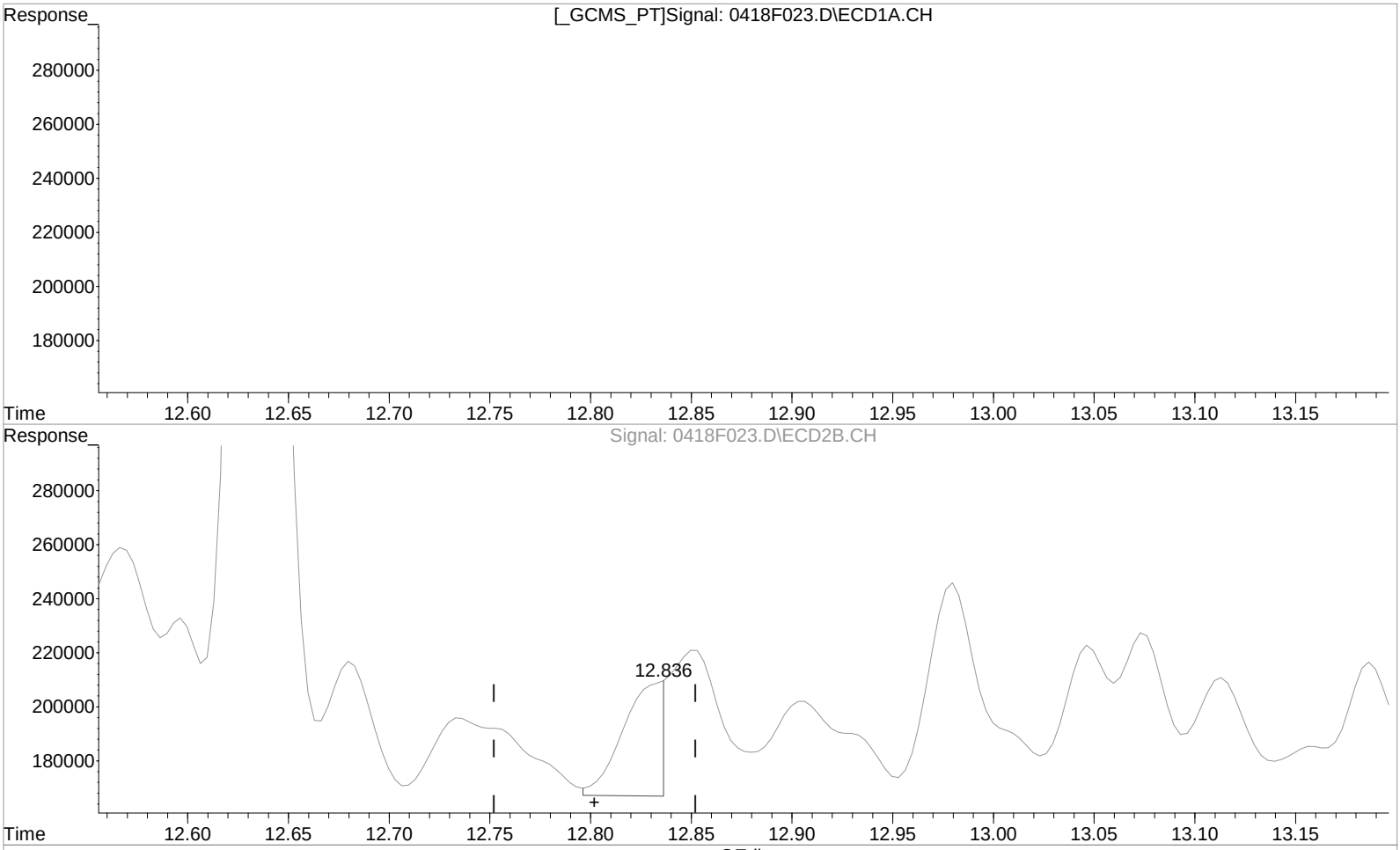
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(26) 2,4'-DDD

13.929min 4.211 ug/L m

response 42338

(26) 2,4'-DDD #2

12.836min 1.686 ug/L m

response 60881

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

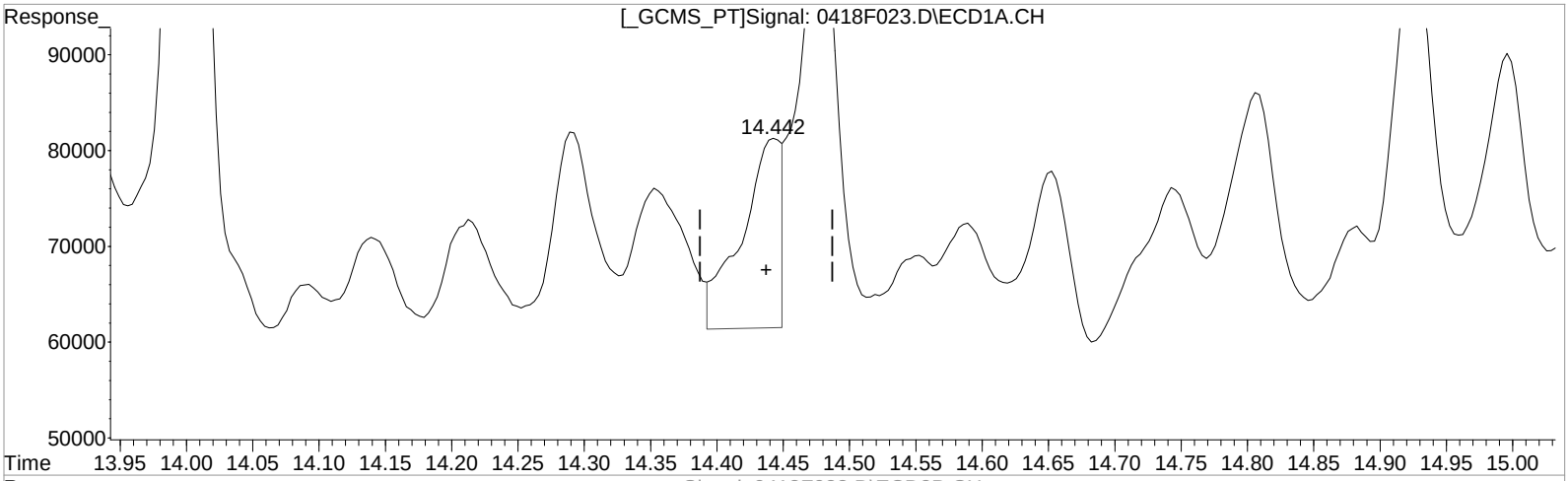
Quantitation Report (Qedit)

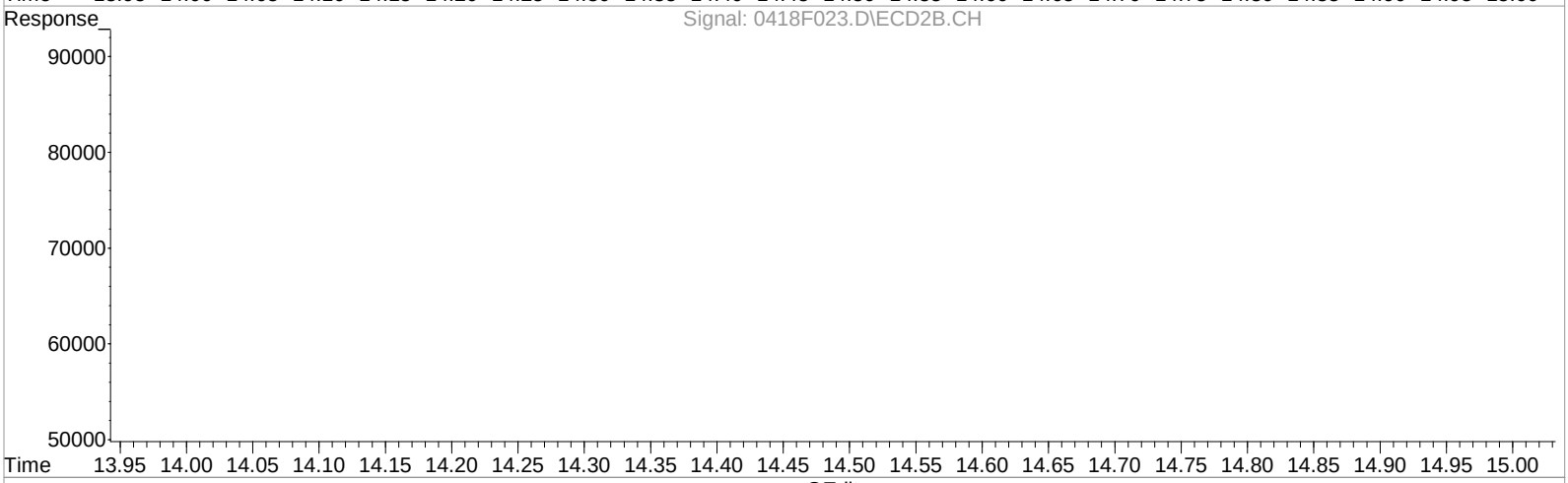
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.442min 3.611 ug/L

response 41545

Manual Integration:

Before

04/21/20

(27) 2,4'-DDT #2

13.216min 1.062 ug/L

response 41603

(+) = Expected Retention Time

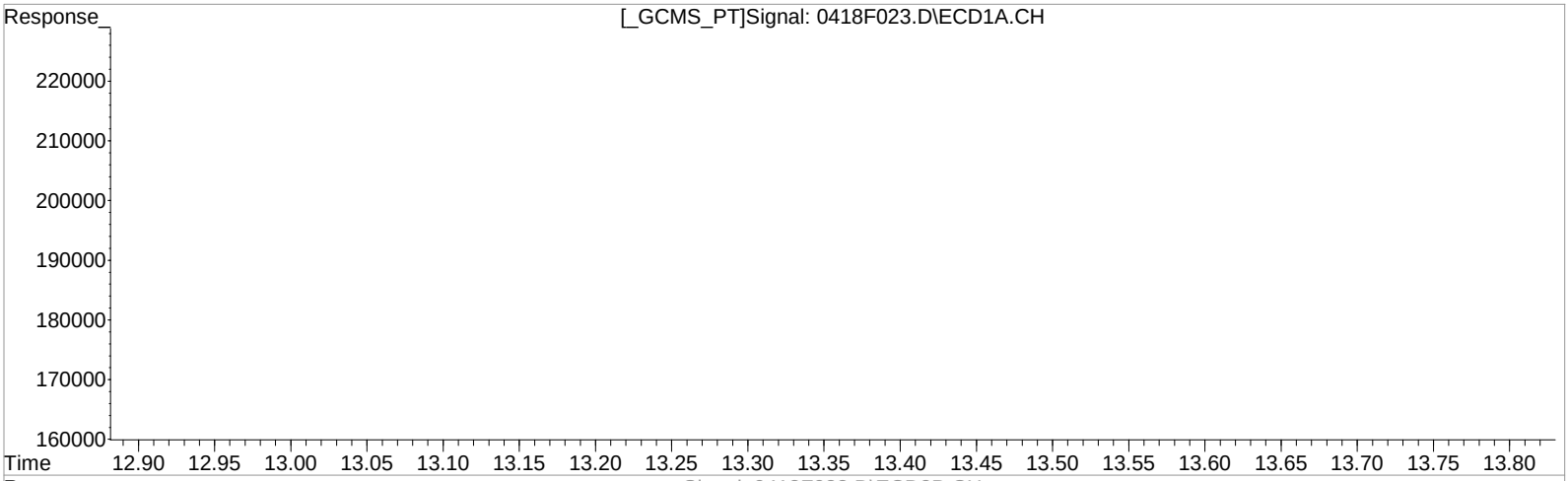
Quantitation Report (Qedit)

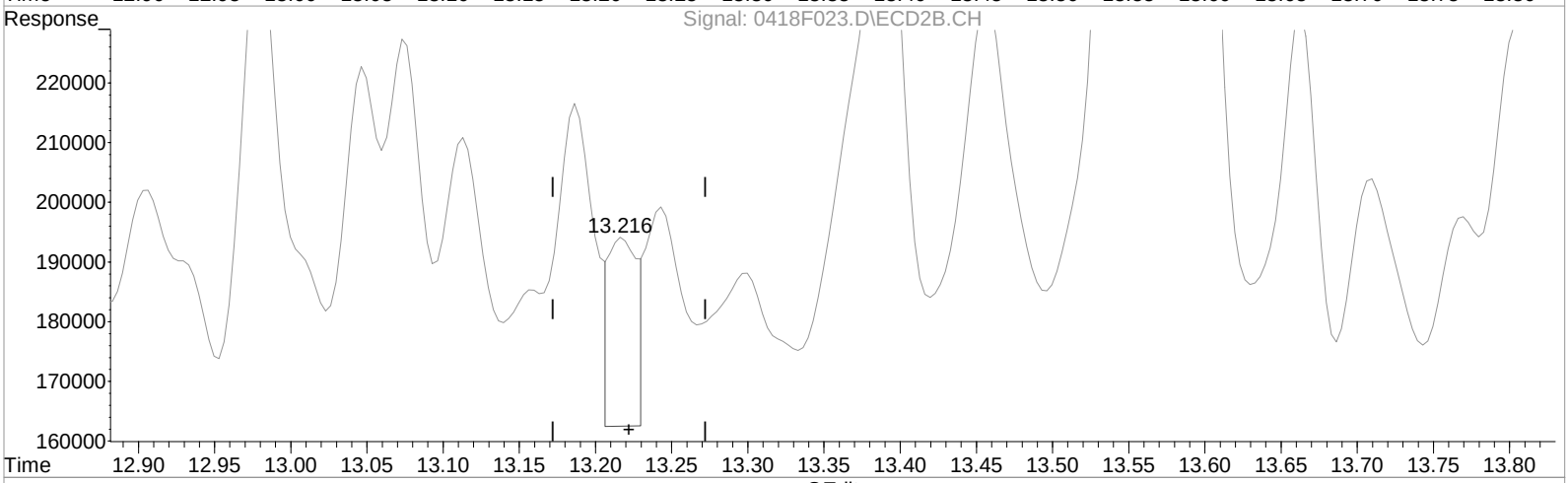
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.442min 2.798 ug/L m

response 32195

Manual Integration:

Before

04/21/20

(27) 2,4'-DDT #2

13.216min 1.062 ug/L

response 41603

(+) = Expected Retention Time

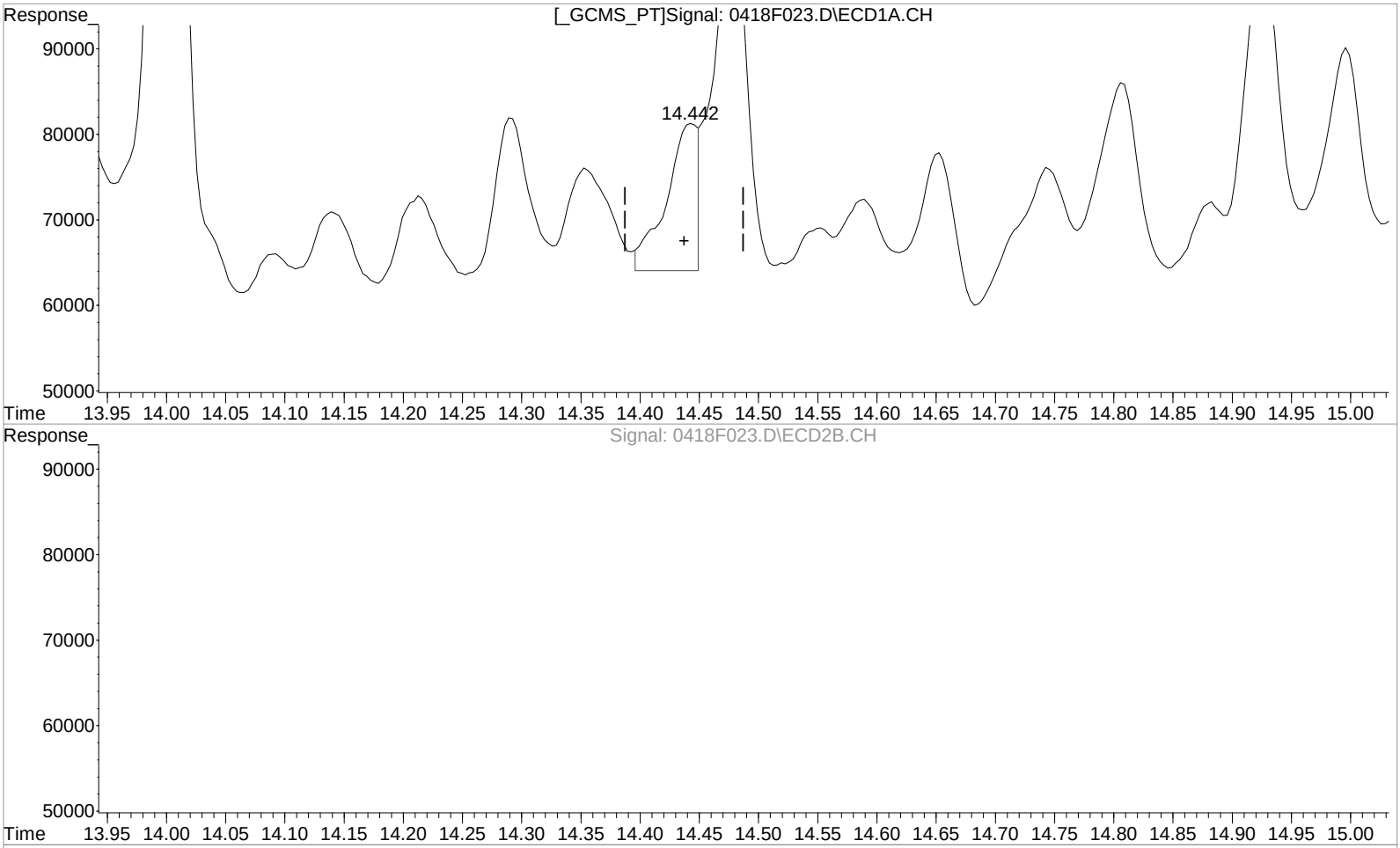
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.442min 2.798 ug/L m

response 32195

Manual Integration:

After

Baseline correction

04/21/20

(27) 2,4'-DDT #2

13.216min 1.062 ug/L

response 41603

(+) = Expected Retention Time

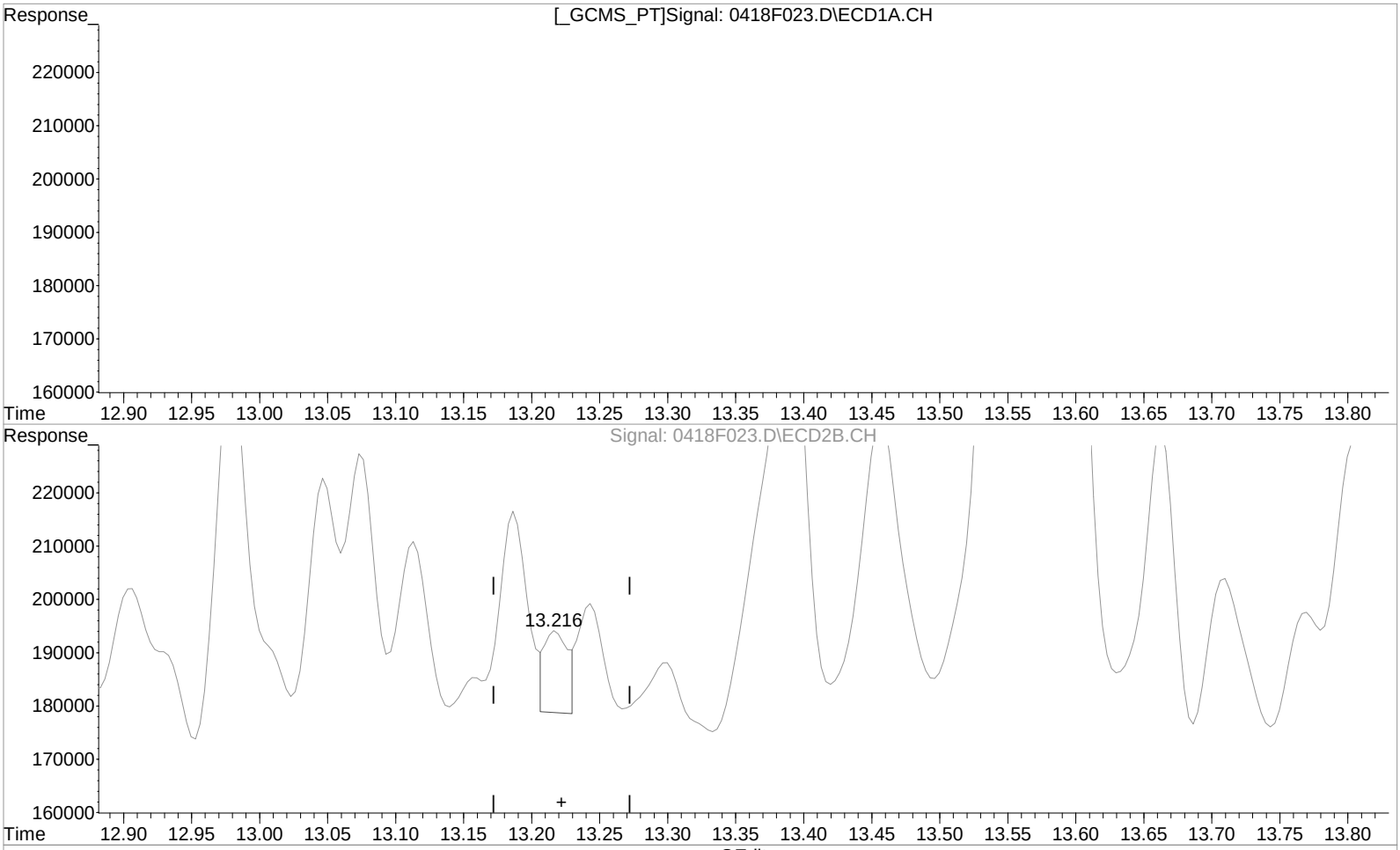
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.442min 2.798 ug/L m

response 32195

(27) 2,4'-DDT #2

13.216min 0.482 ug/L m

response 18863

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

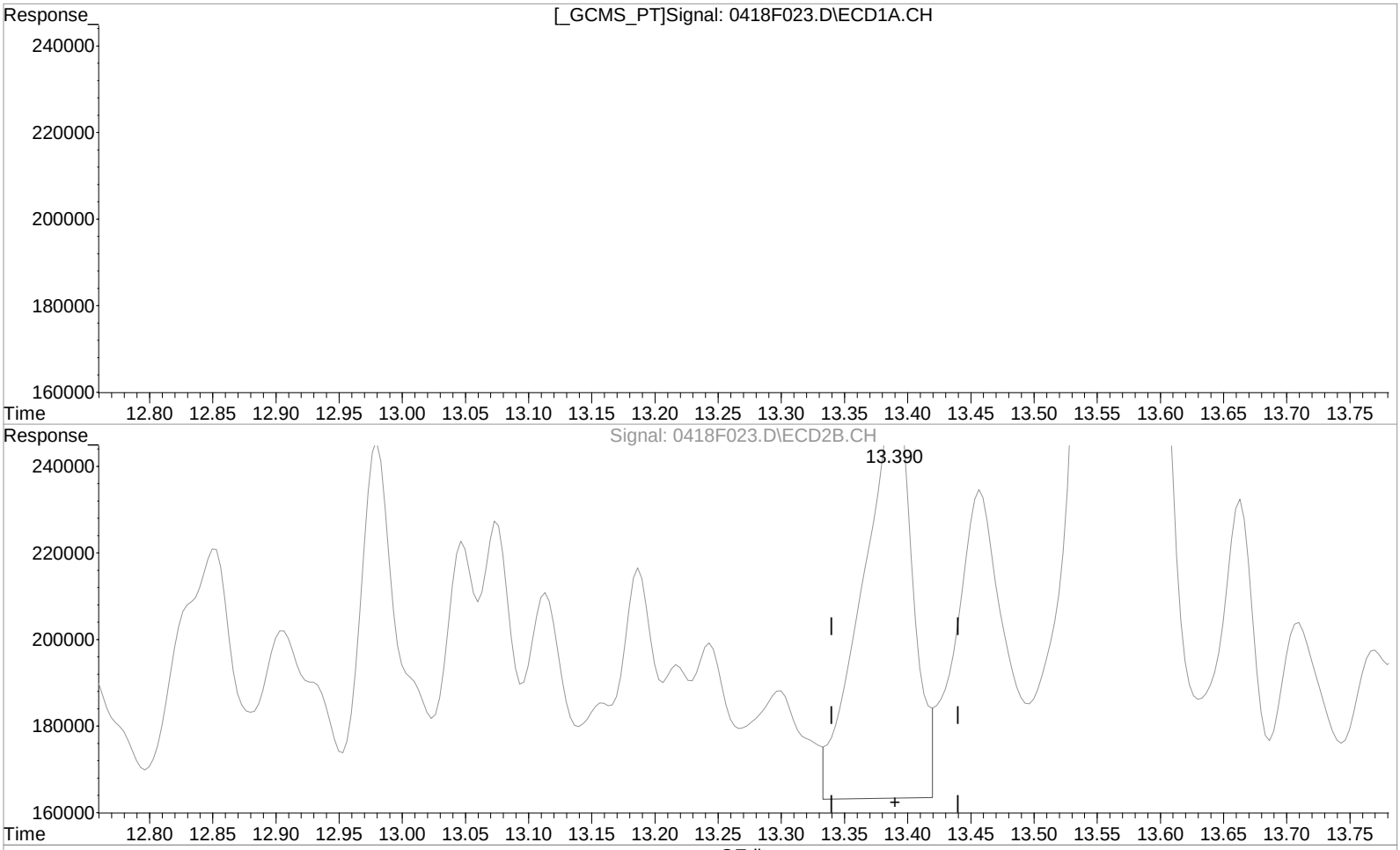
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.742min 273.940 ug/L

response 47789

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.390min 257.648 ug/L

response 258284

(+) = Expected Retention Time

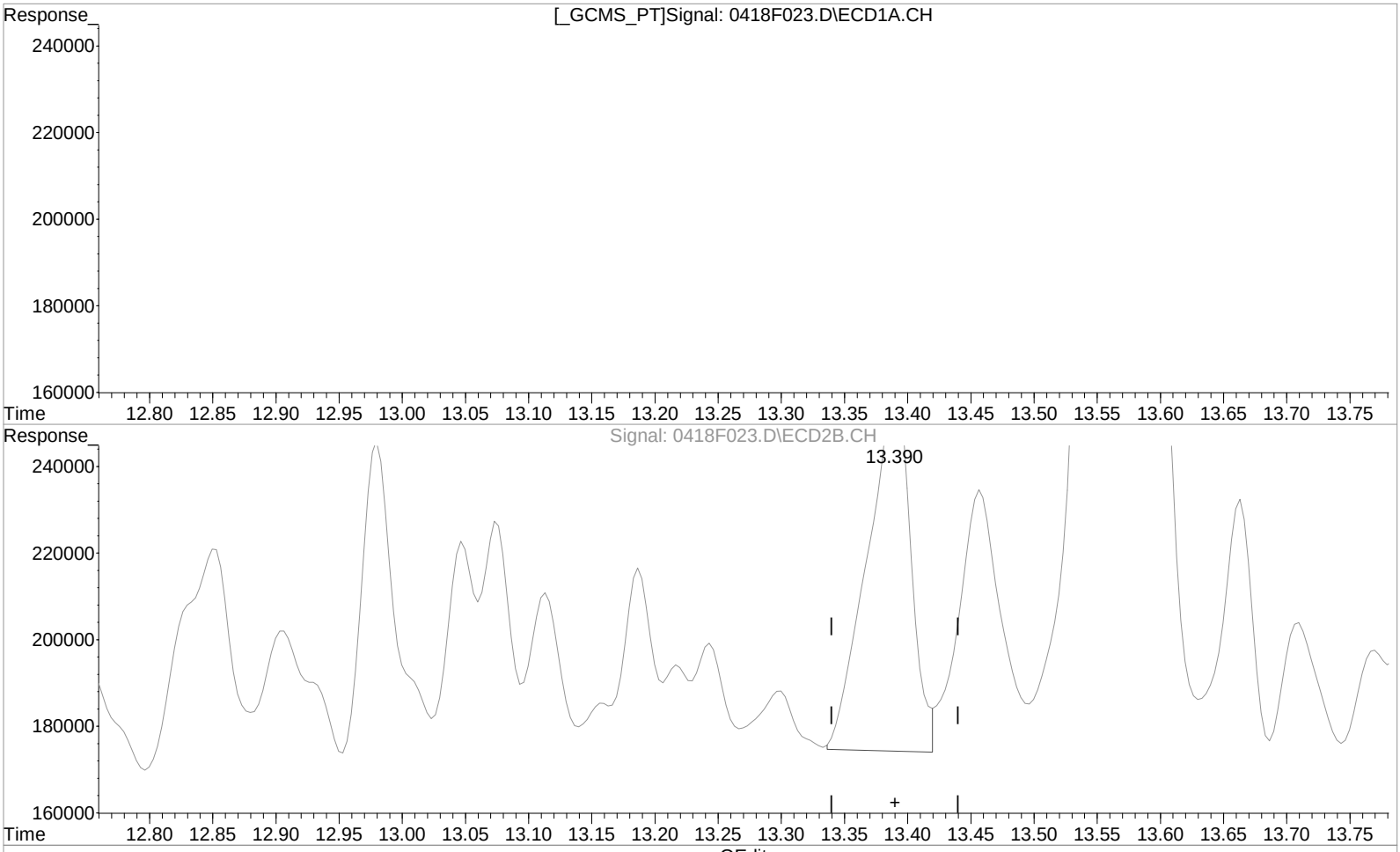
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.742min 273.940 ug/L

response 47789

(30) Toxaphene #2

13.390min 200.111 ug/L m

response 200605

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

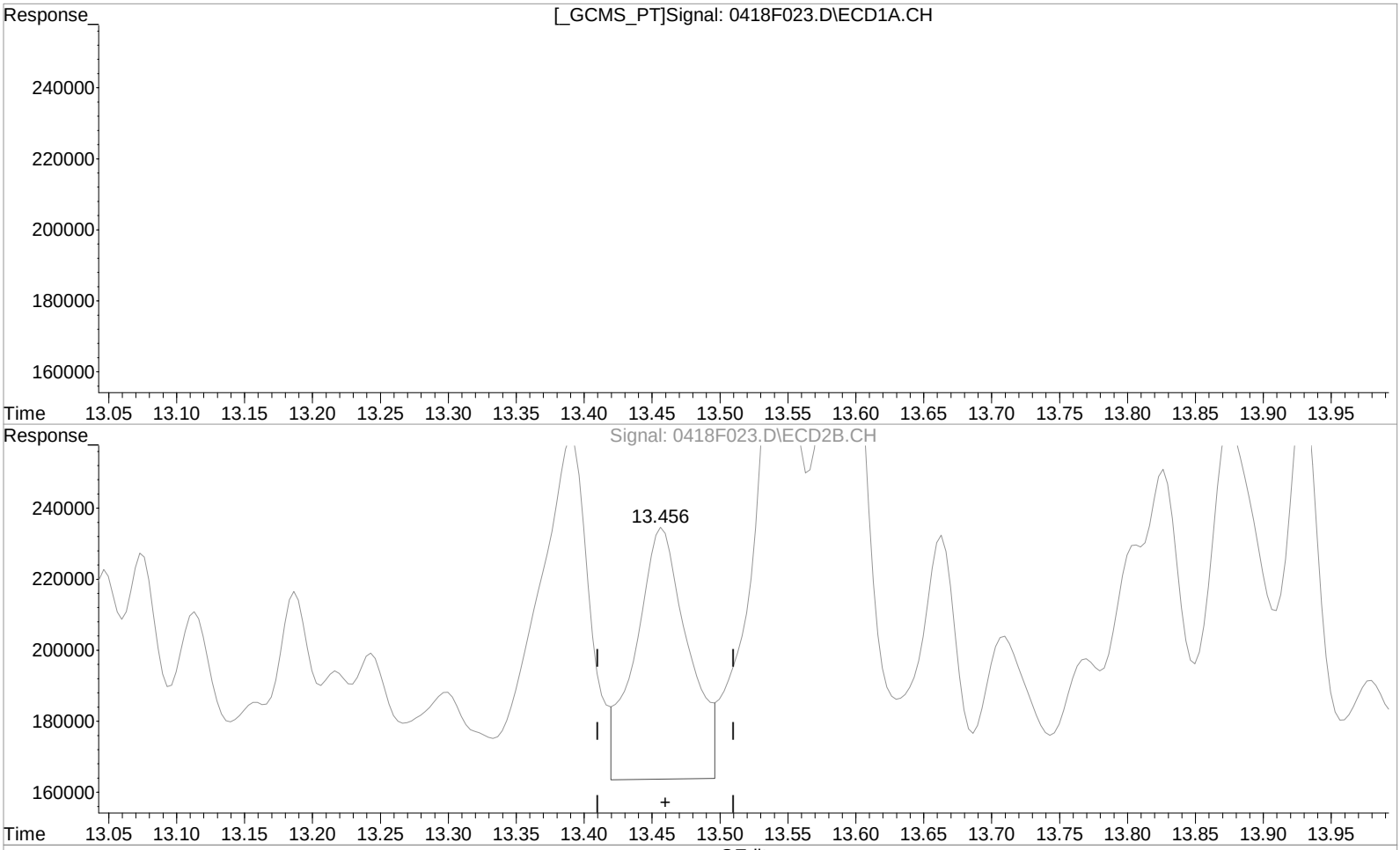
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.806min 362.909 ug/L

response 57265

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.456min 245.823 ug/L

response 189596

(+) = Expected Retention Time

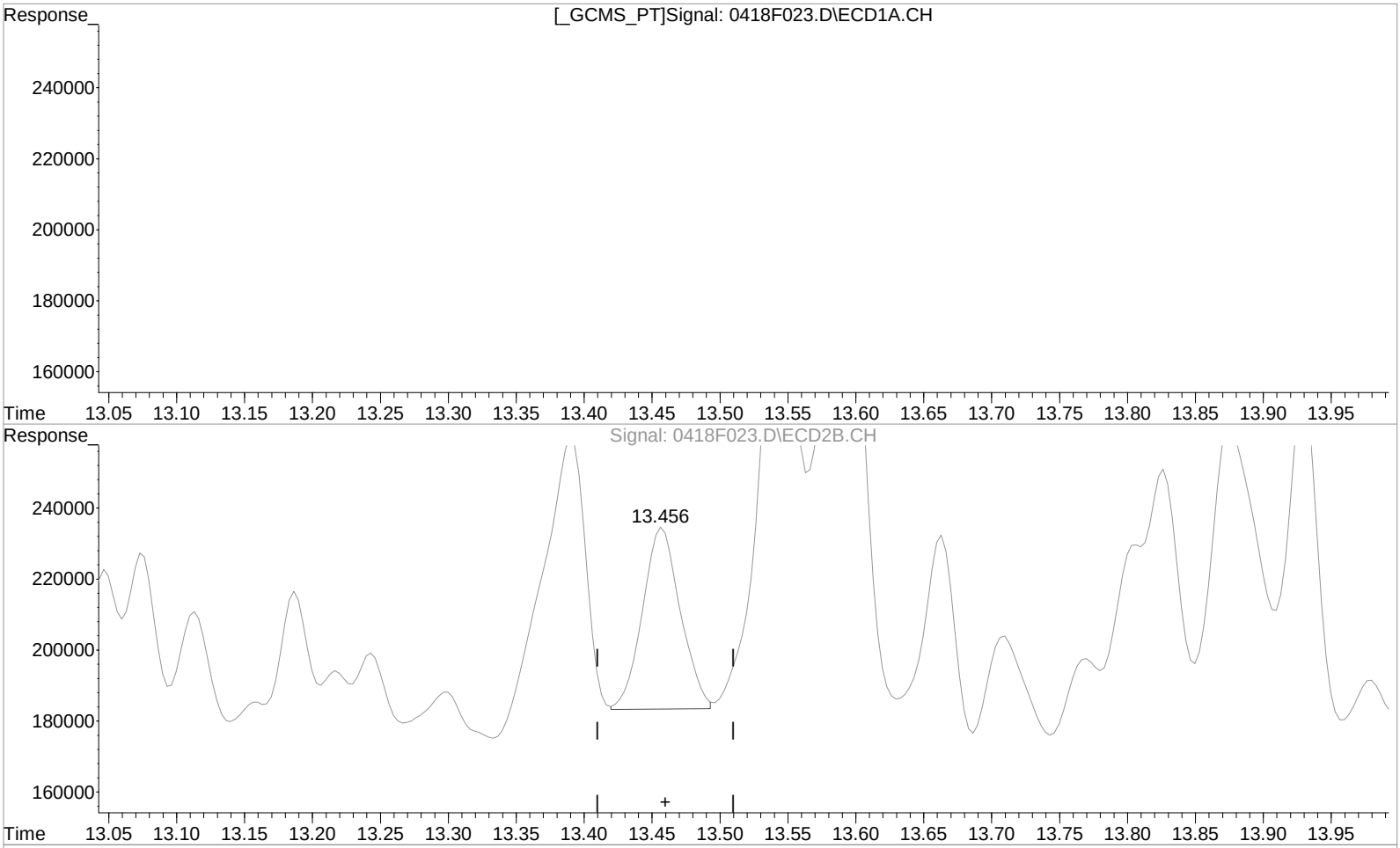
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.806min 362.909 ug/L

response 57265

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.456min 128.216 ug/L m

response 98889

(+) = Expected Retention Time

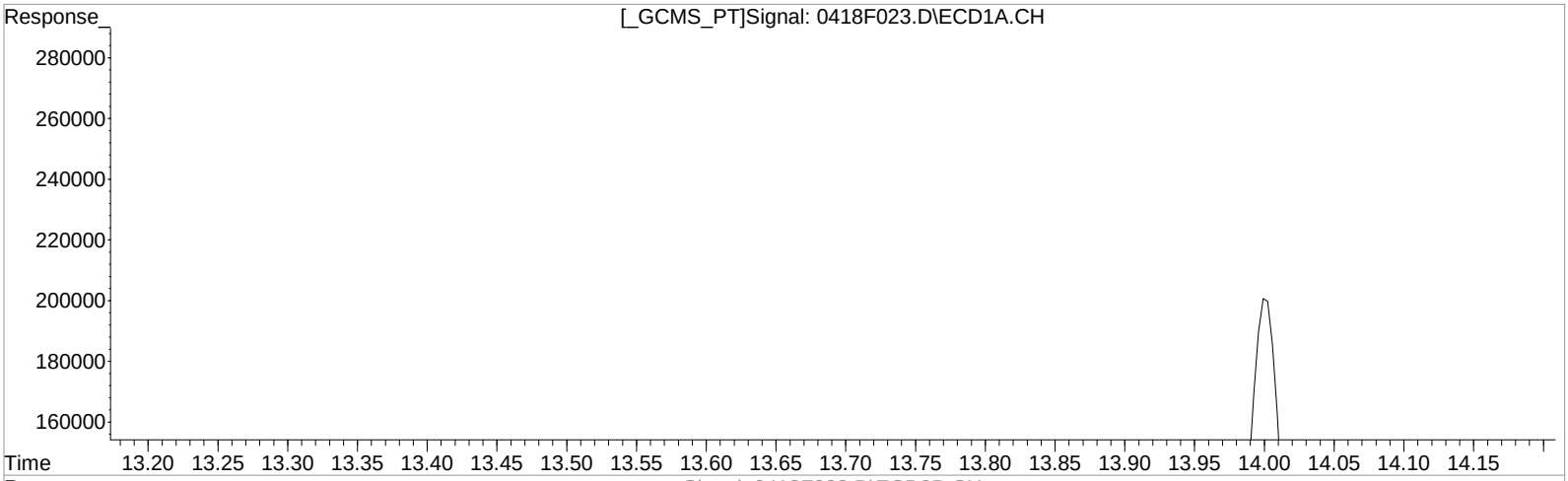
Quantitation Report (Qedit)

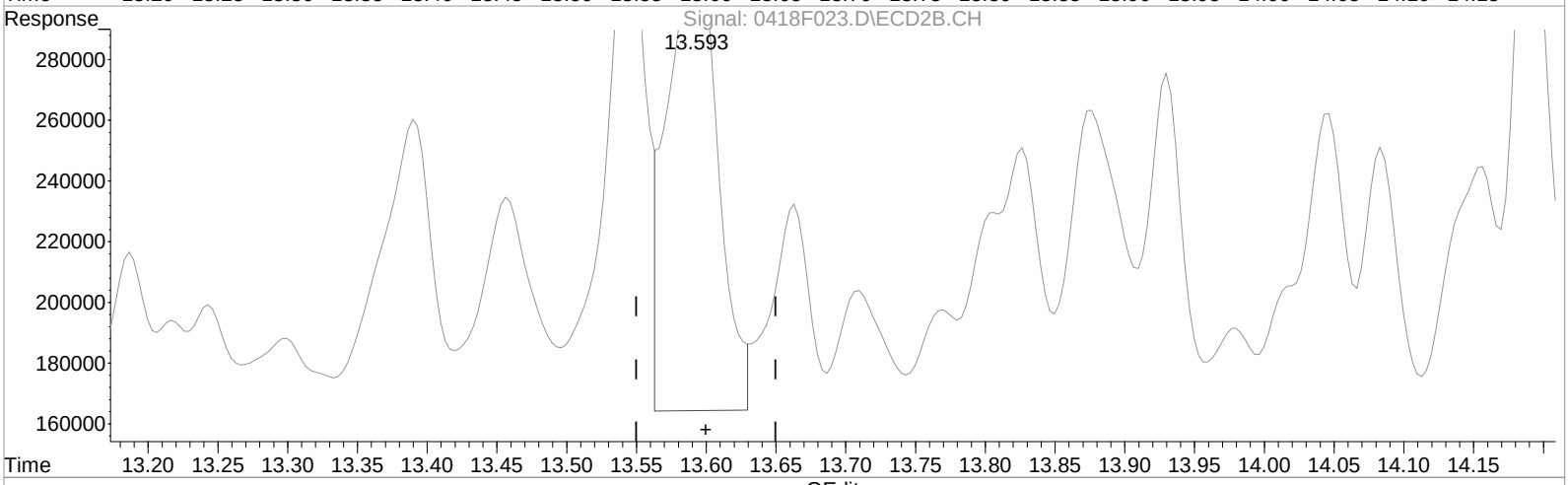
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.926min 277.033 ug/L

response 87105

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.593min 436.887 ug/L

response 382332

(+) = Expected Retention Time

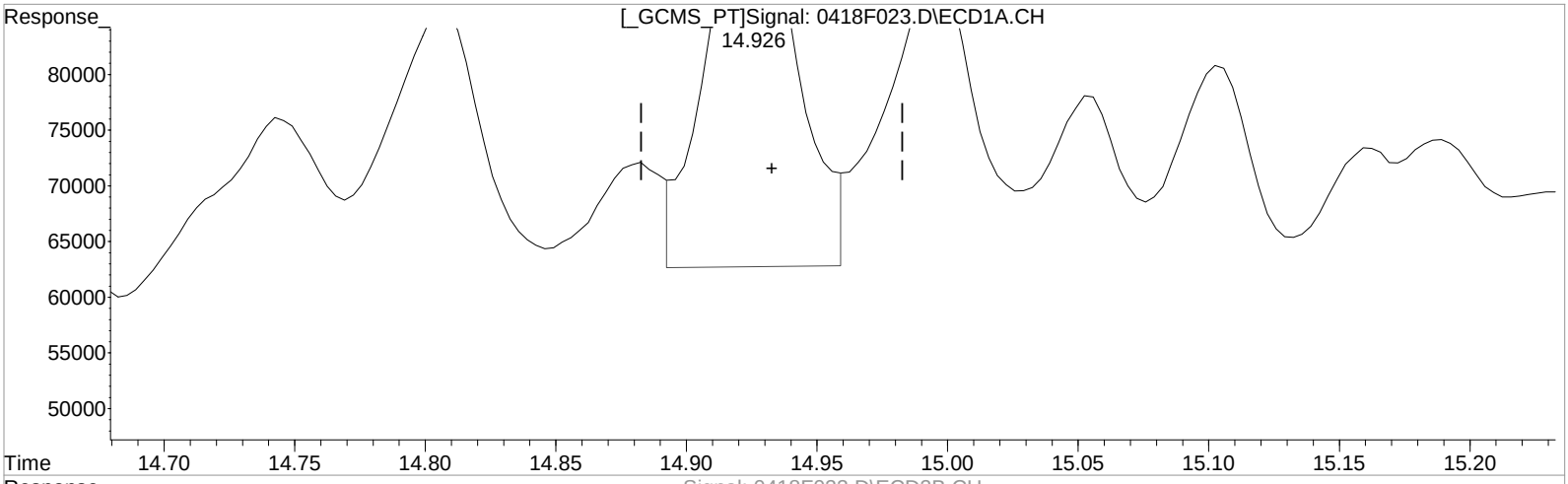
Quantitation Report (Qedit)

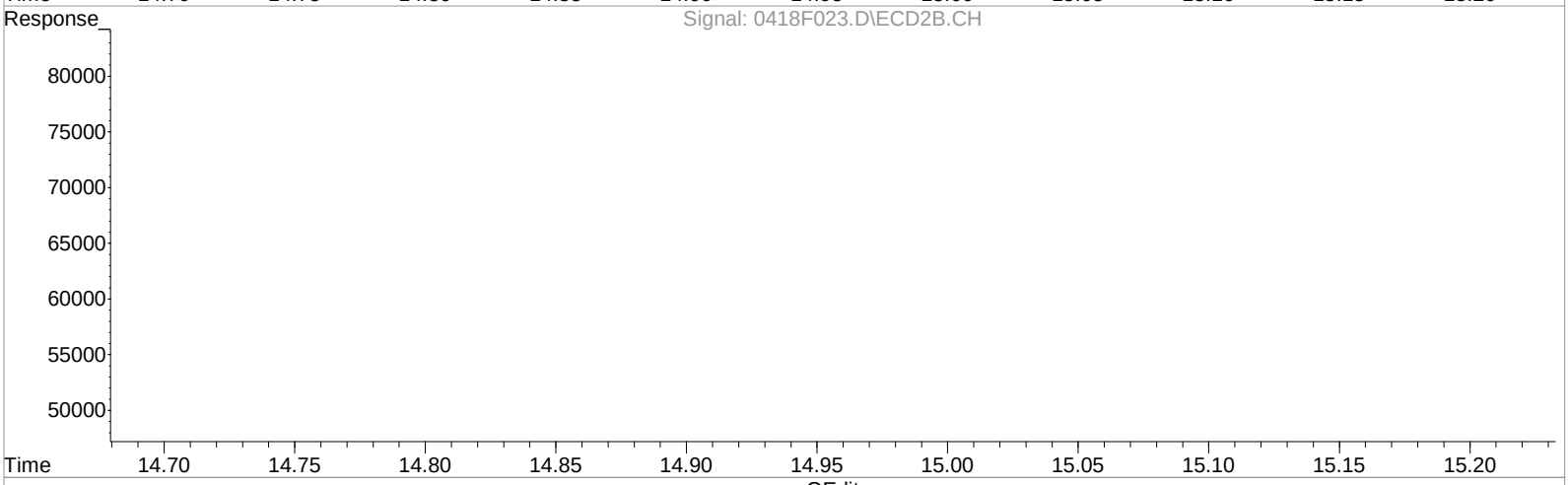
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.926min 277.033 ug/L

response 87105

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.593min 330.605 ug/L m

response 297896

(+) = Expected Retention Time

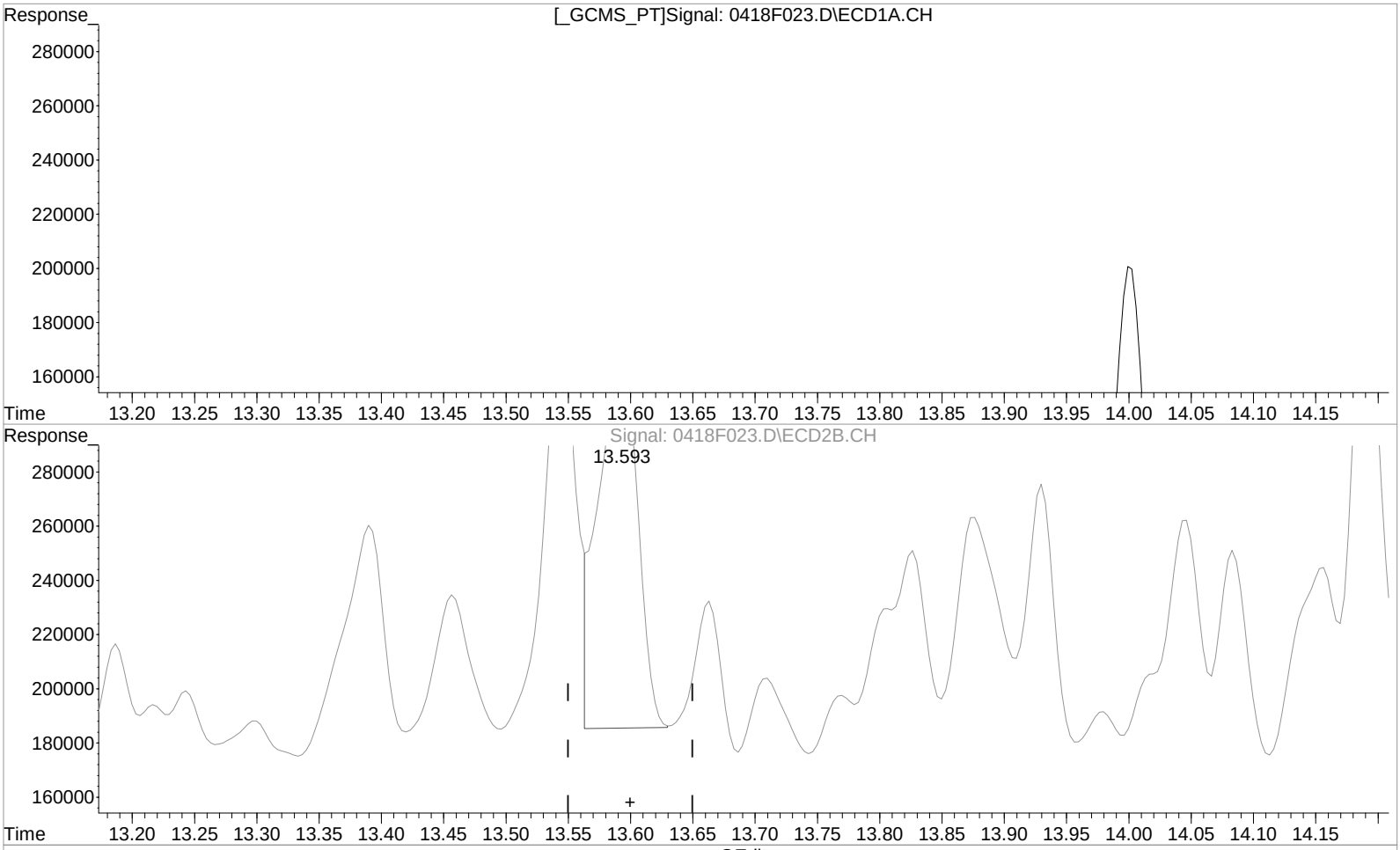
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.926min 277.033 ug/L

response 87105

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.593min 330.605 ug/L m

response 297896

(+) = Expected Retention Time

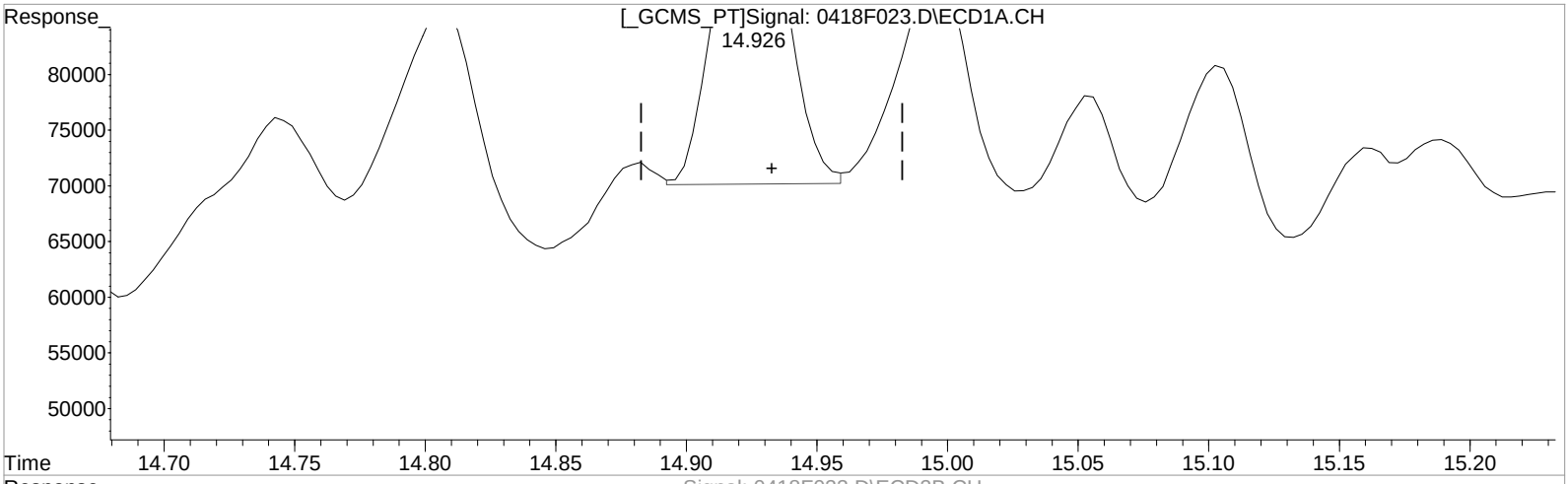
Quantitation Report (Qedit)

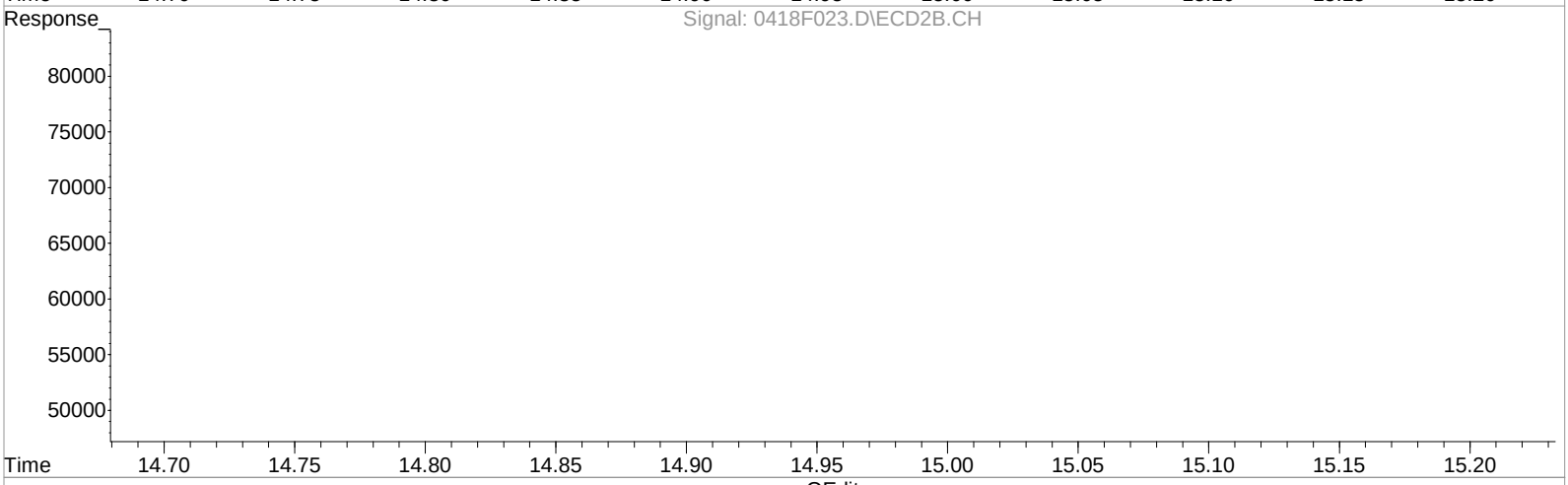
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.926min 182.542 ug/L m

response 57395

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.593min 330.605 ug/L m

response 297896

(+) = Expected Retention Time

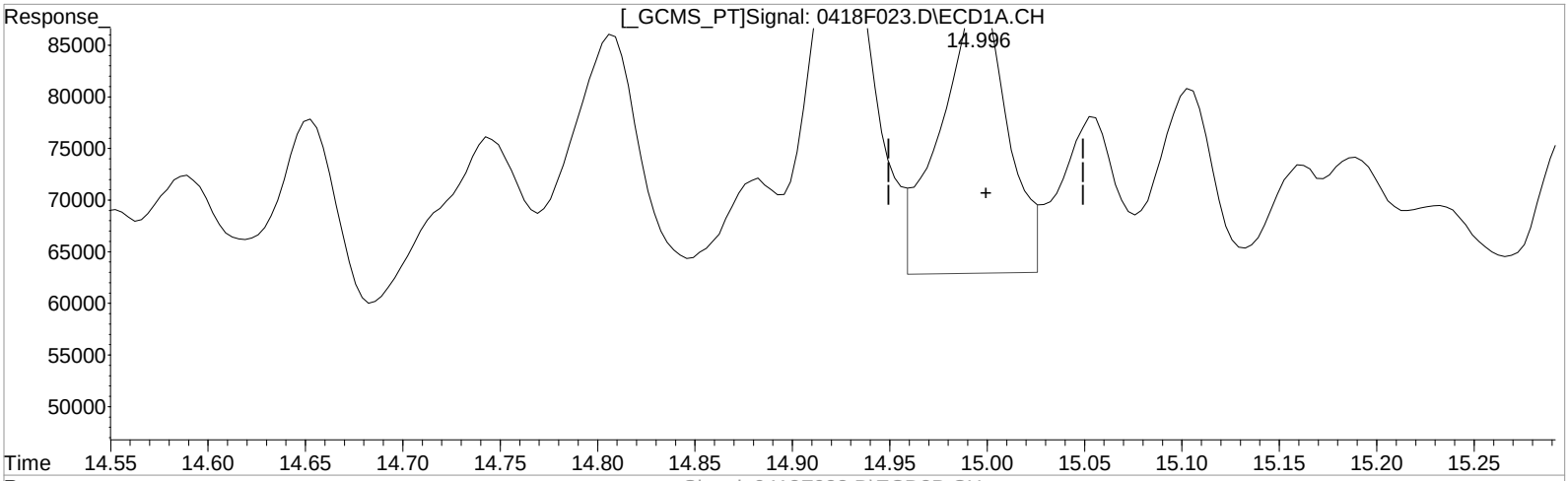
Quantitation Report (Qedit)

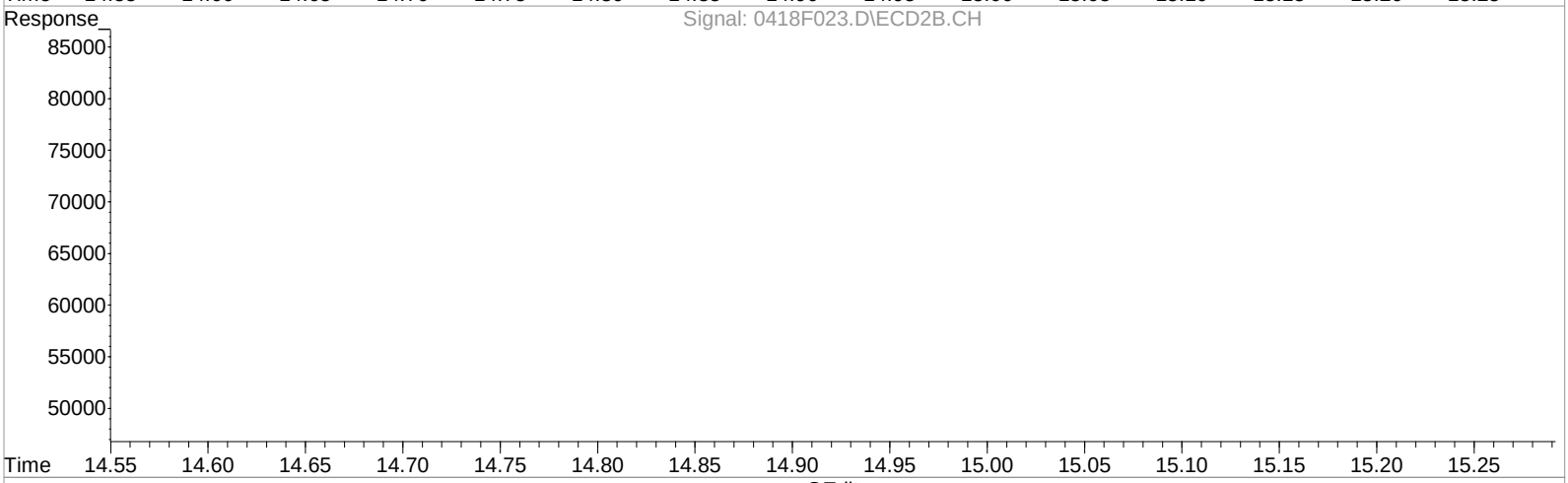
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.996min 299.252 ug/L

response 63279

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.663min 394.510 ug/L

response 127258

(+) = Expected Retention Time

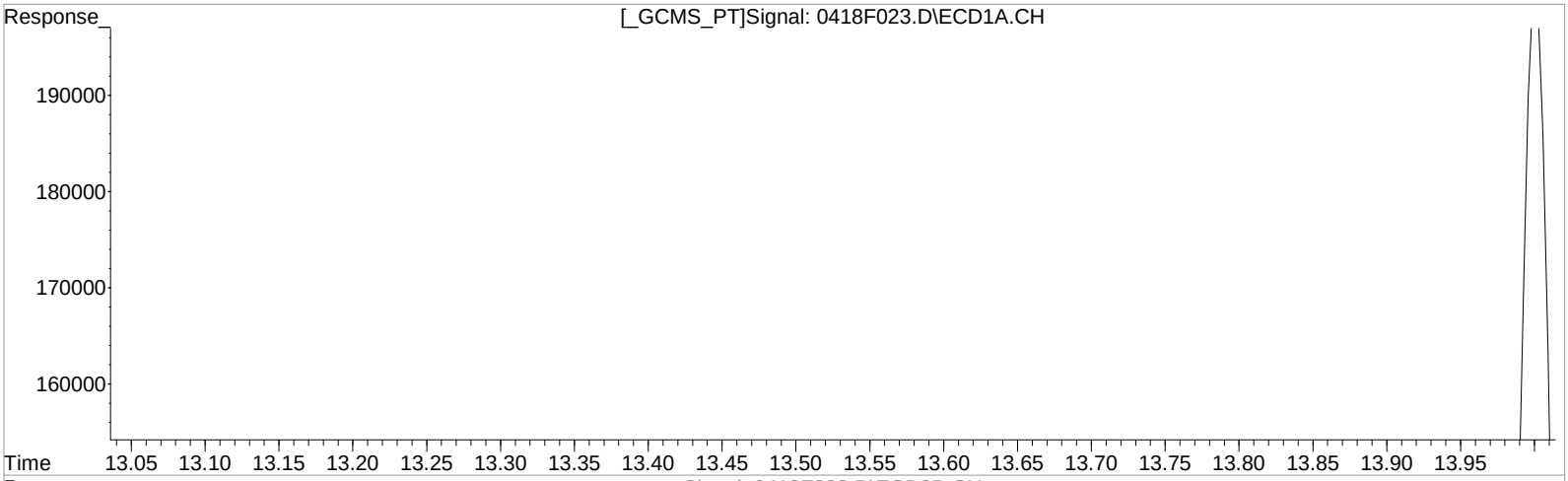
Quantitation Report (Qedit)

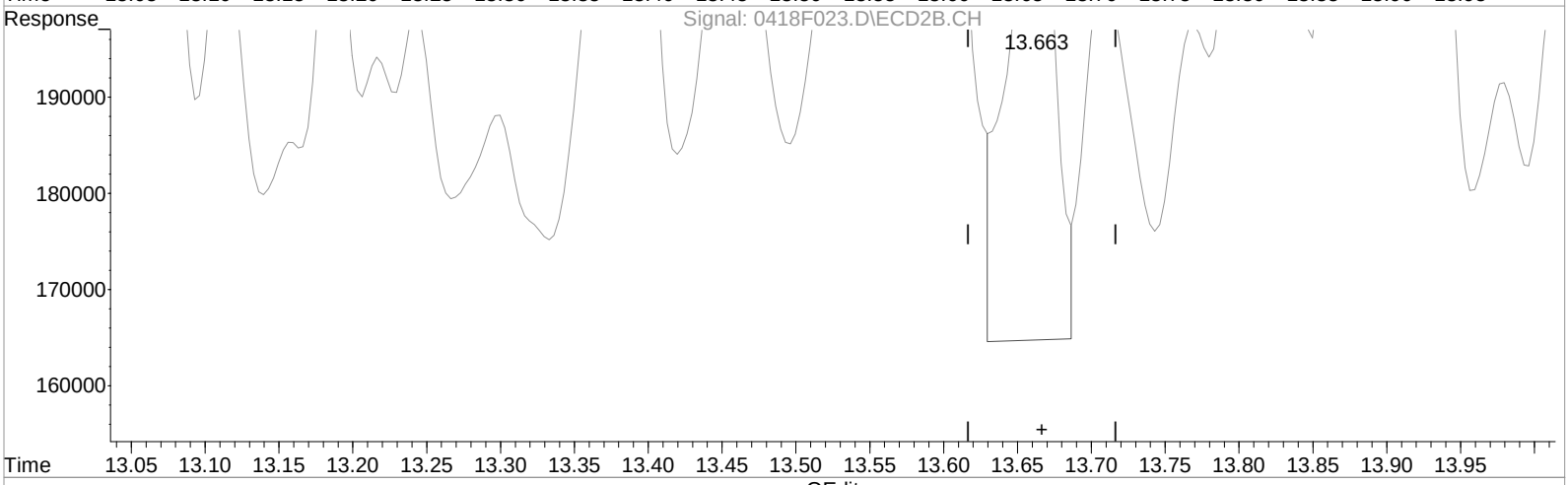
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.996min 172.025 ug/L m

response 36376

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.663min 394.510 ug/L

response 127258

(+) = Expected Retention Time

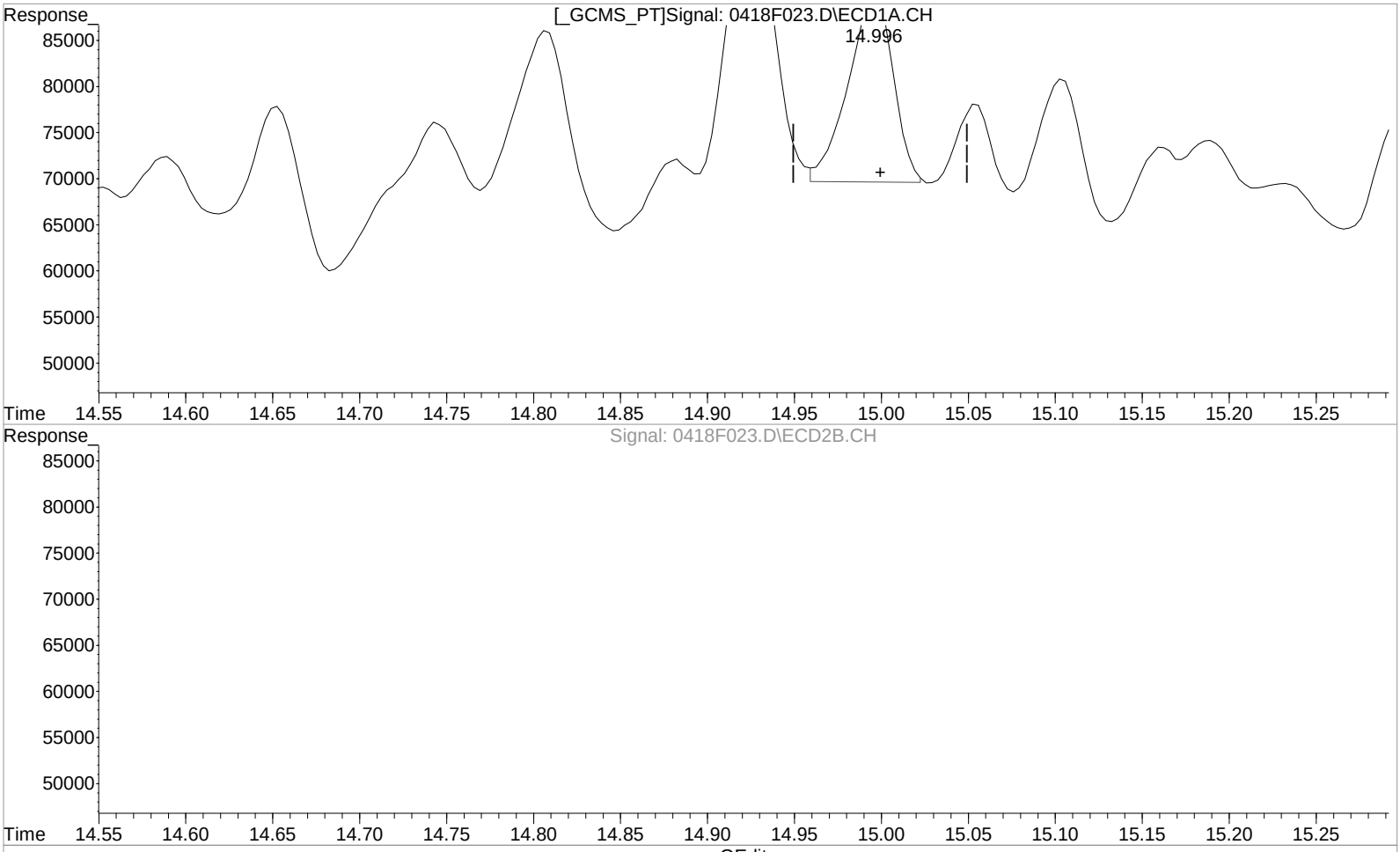
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.996min 172.025 ug/L m

response 36376

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.663min 394.510 ug/L

response 127258

(+) = Expected Retention Time

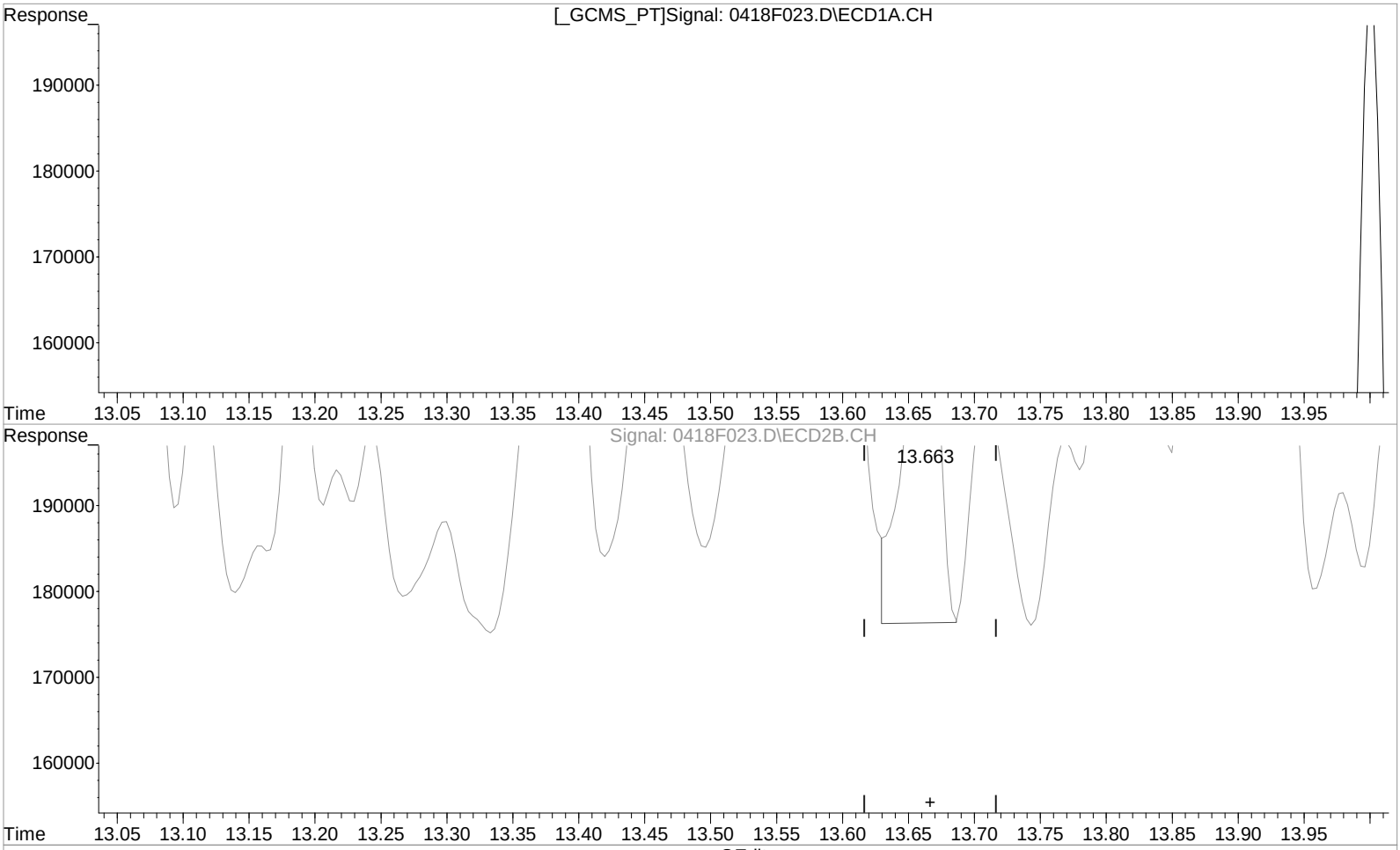
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.996min 172.025 ug/L m

response 36376

(33) Toxaphene {4} #2

13.663min 263.946 ug/L m

response 87842

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

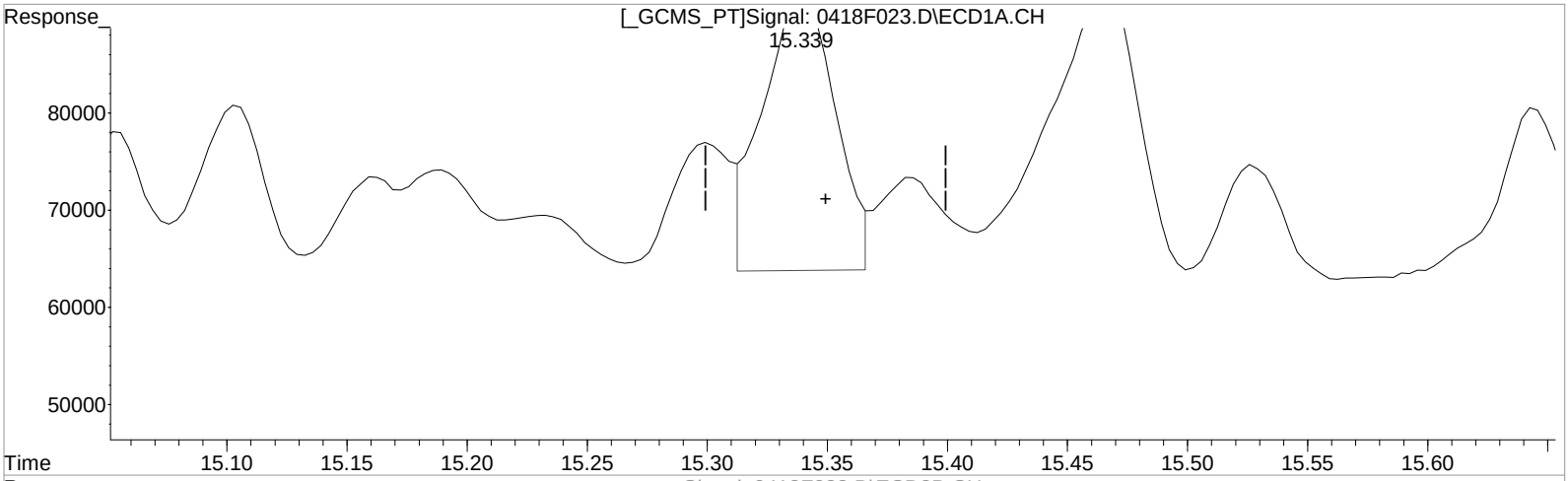
Quantitation Report (Qedit)

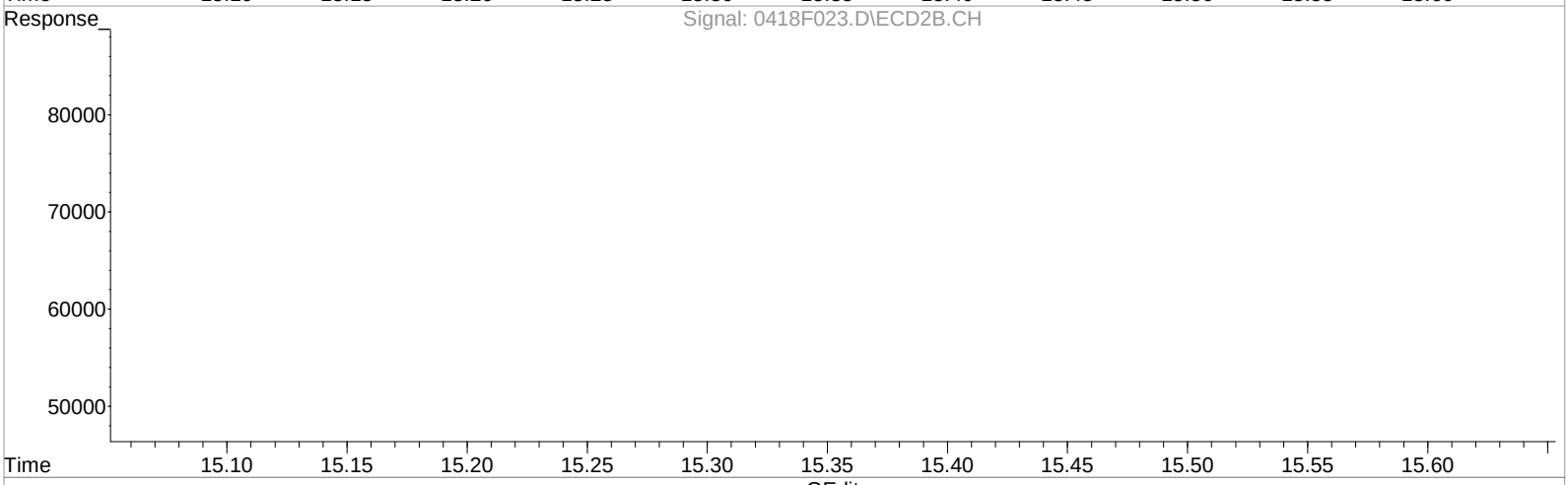
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.339min 293.610 ug/L

response 59160

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.930min 324.419 ug/L

response 175183

(+) = Expected Retention Time

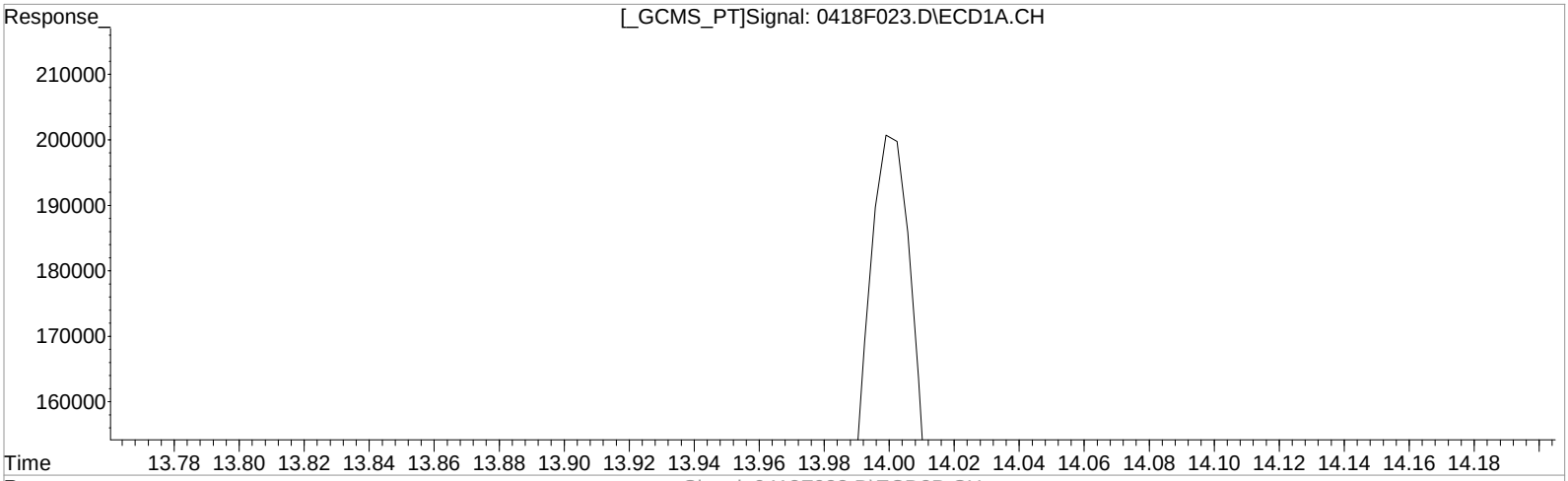
Quantitation Report (Qedit)

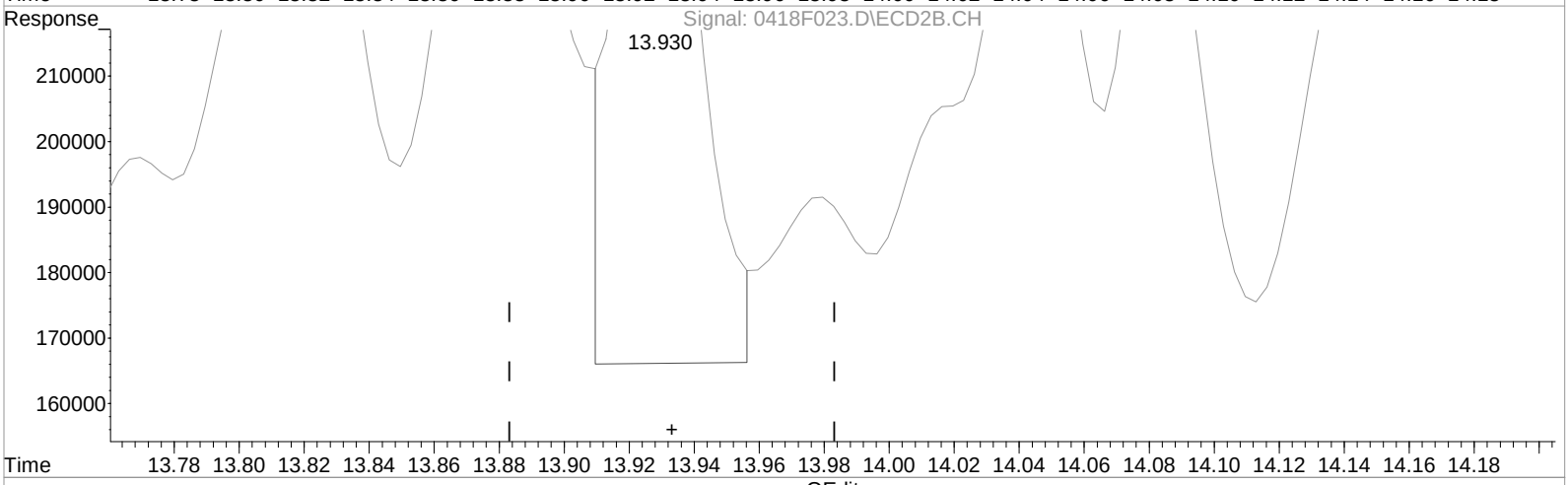
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.339min 203.571 ug/L m

response 41018

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.930min 324.419 ug/L

response 175183

(+) = Expected Retention Time

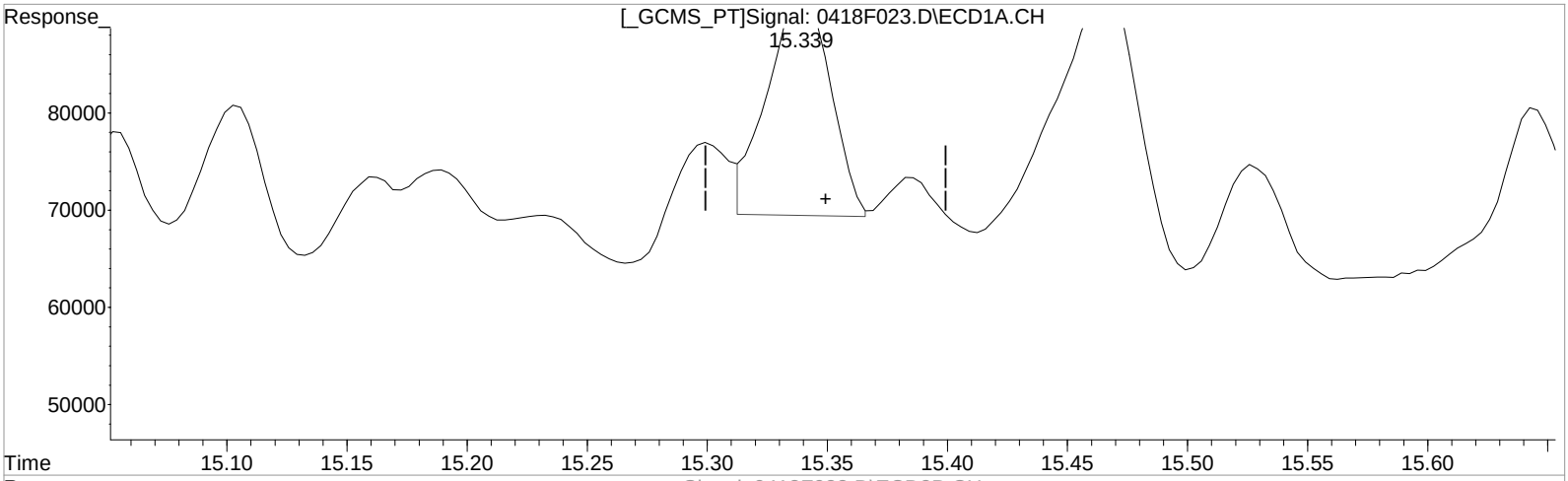
Quantitation Report (Qedit)

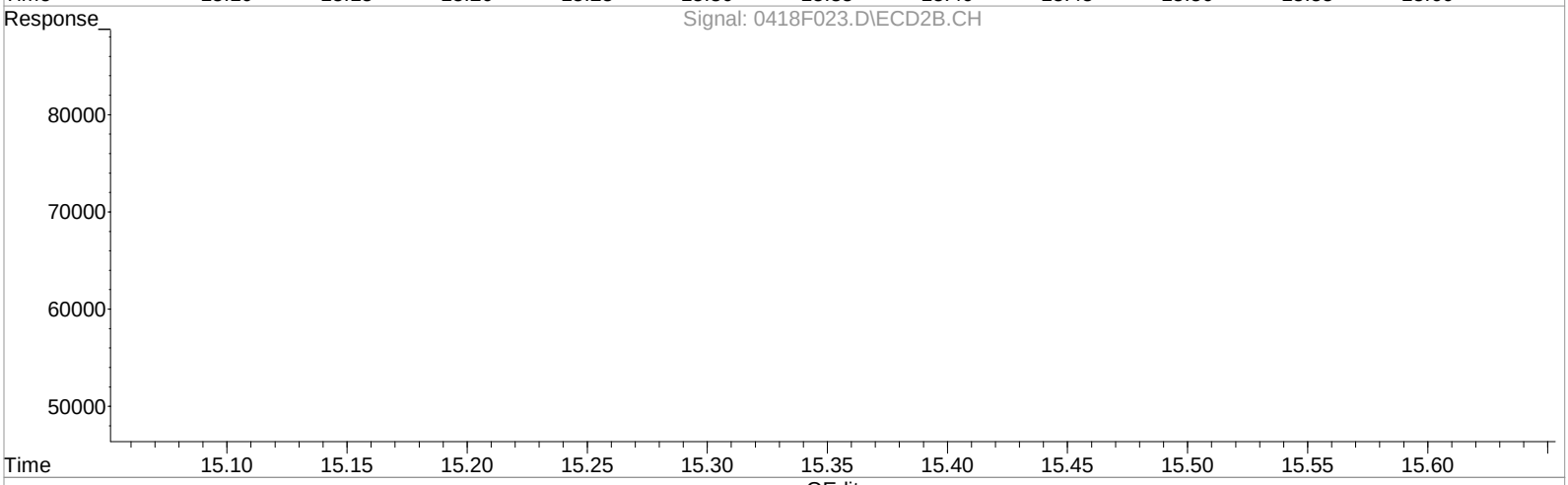
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.339min 203.571 ug/L m

response 41018

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.930min 324.419 ug/L

response 175183

(+) = Expected Retention Time

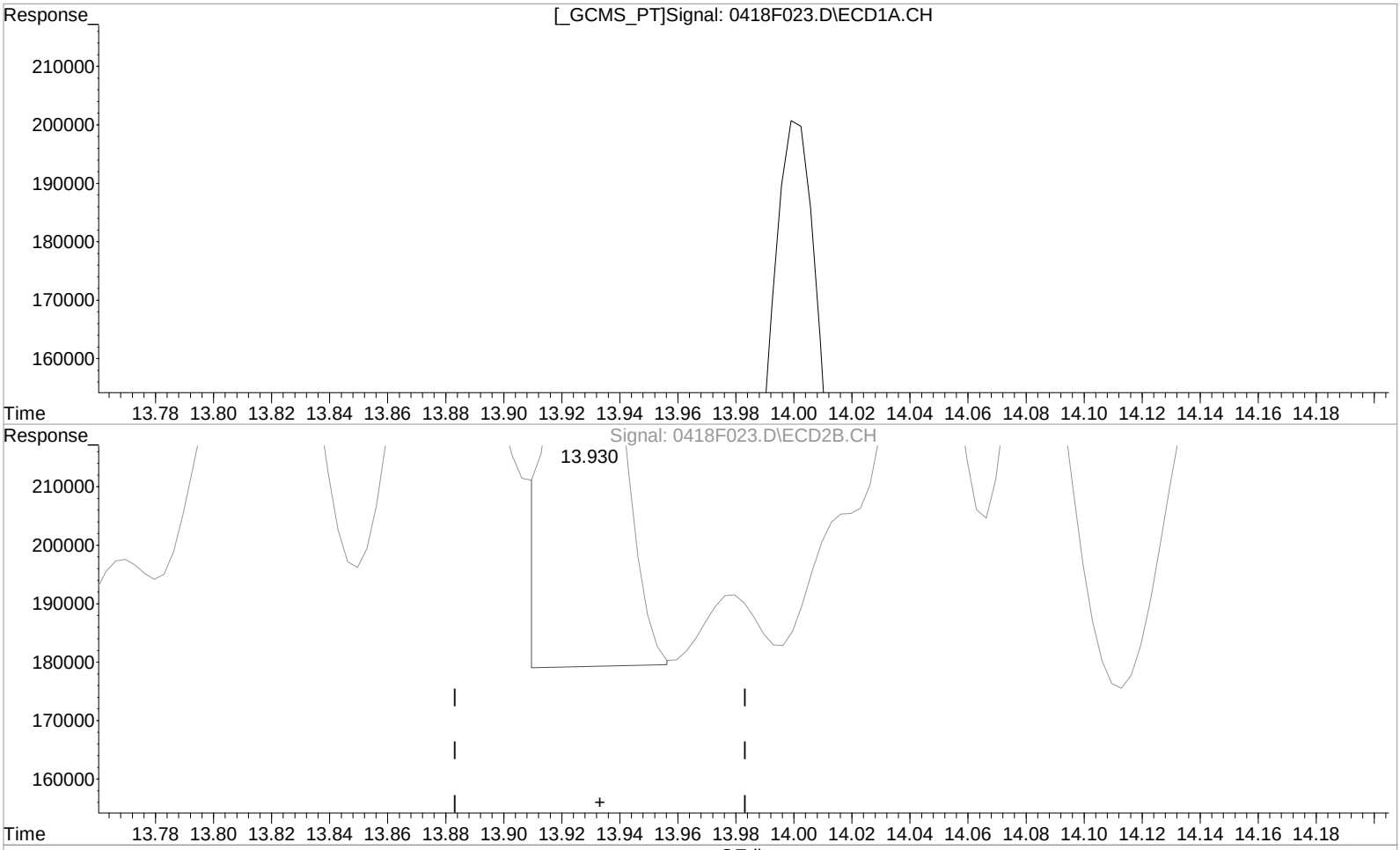
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.339min 203.571 ug/L m

response 41018

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.930min 256.124 ug/L m

response 138304

(+) = Expected Retention Time

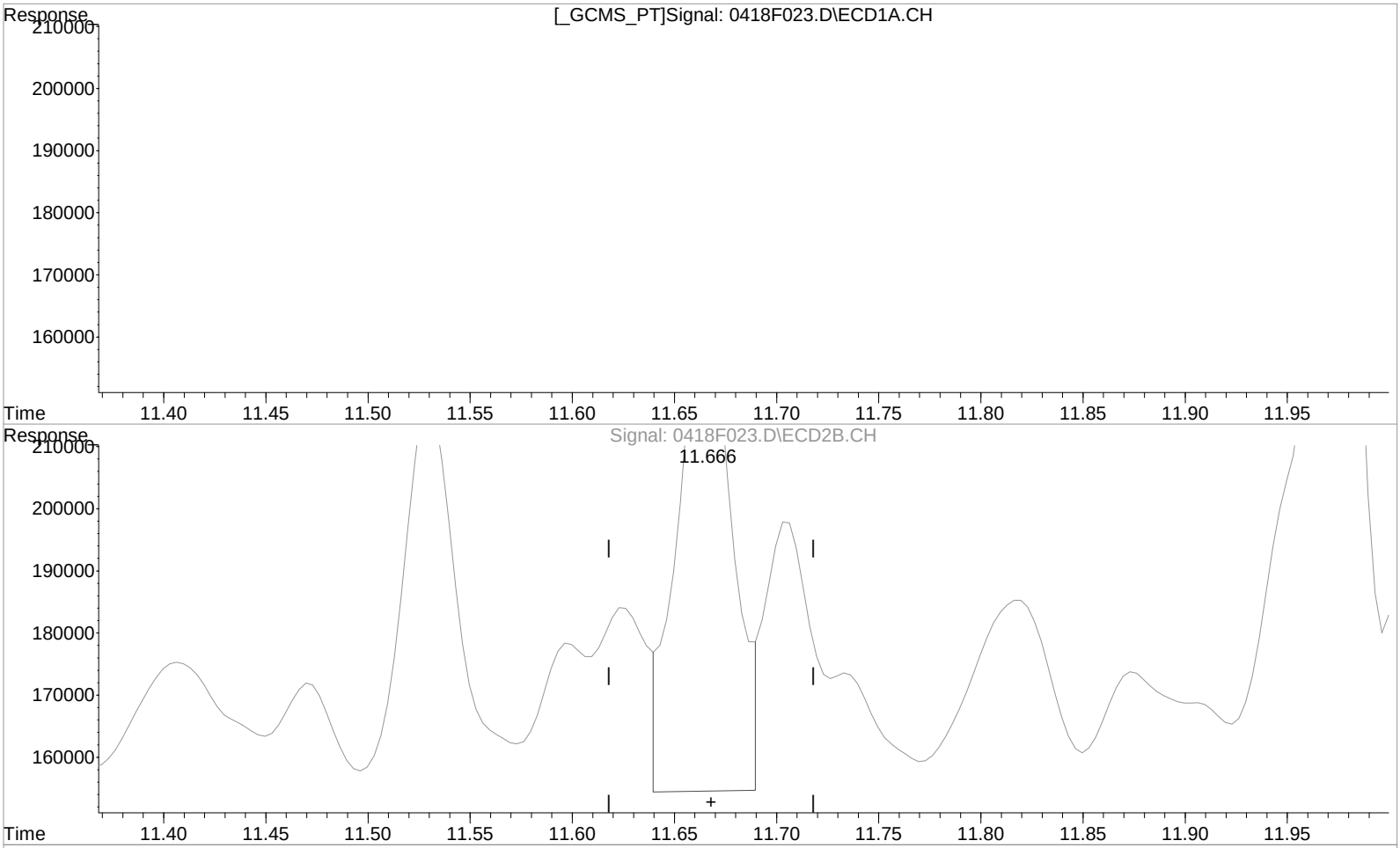
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(38) Chlordane {2}

11.702min 3.321 ug/L

response 3045

(38) Chlordane {2} #2

11.666min 86.969 ug/L

response 146063

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

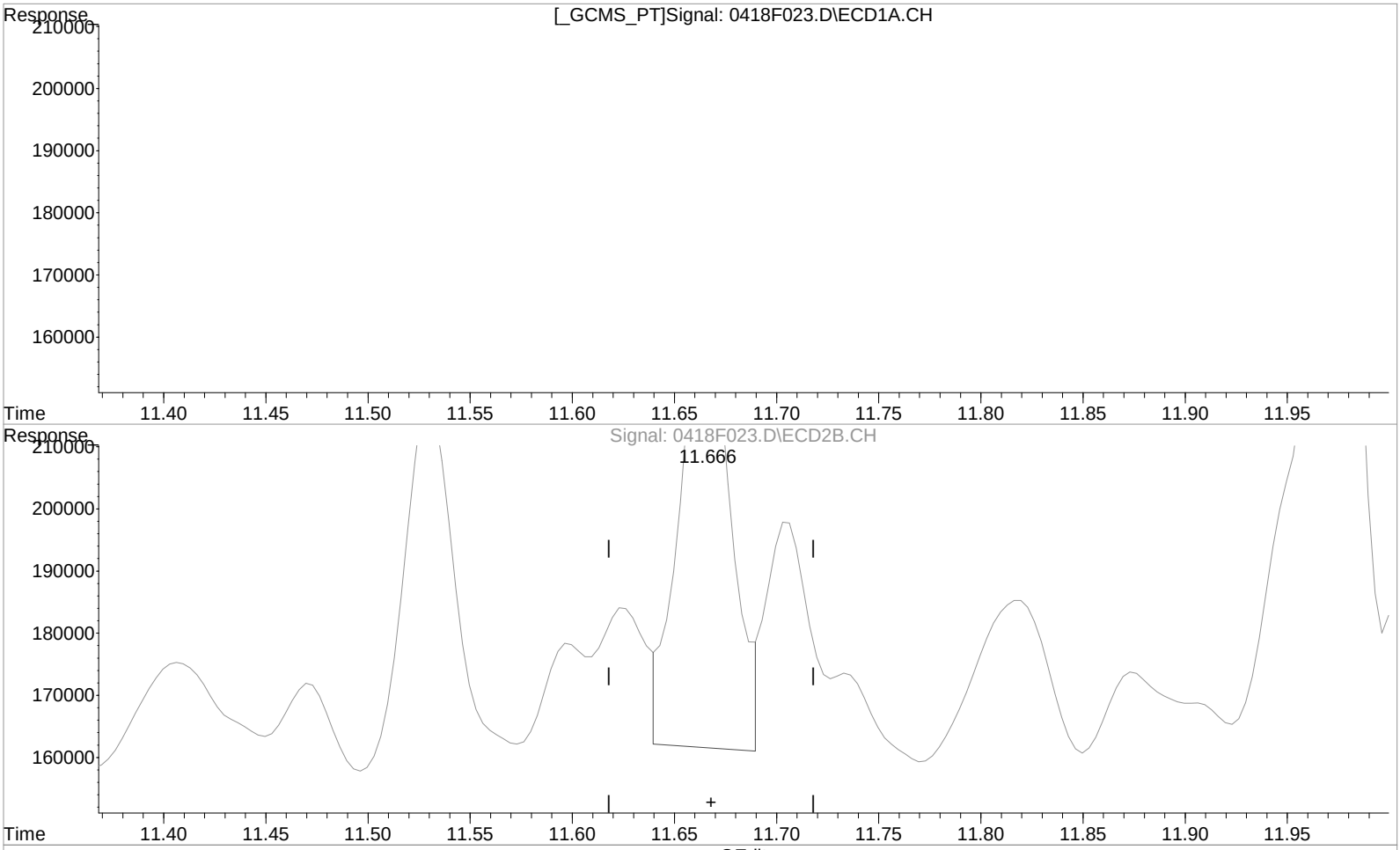
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(38) Chlordane {2}

11.702min 3.321 ug/L

response 3045

Manual Integration:

After

Baseline correction

04/21/20

(38) Chlordane {2} #2

11.666min 74.424 ug/L m

response 124995

(+) = Expected Retention Time

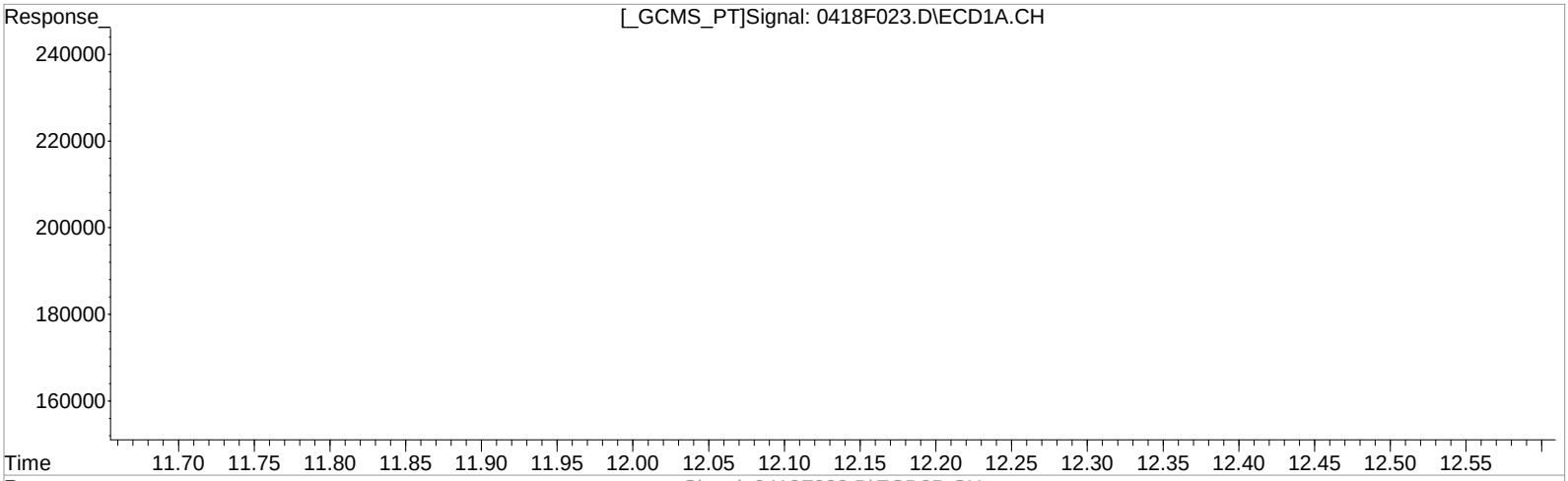
Quantitation Report (Qedit)

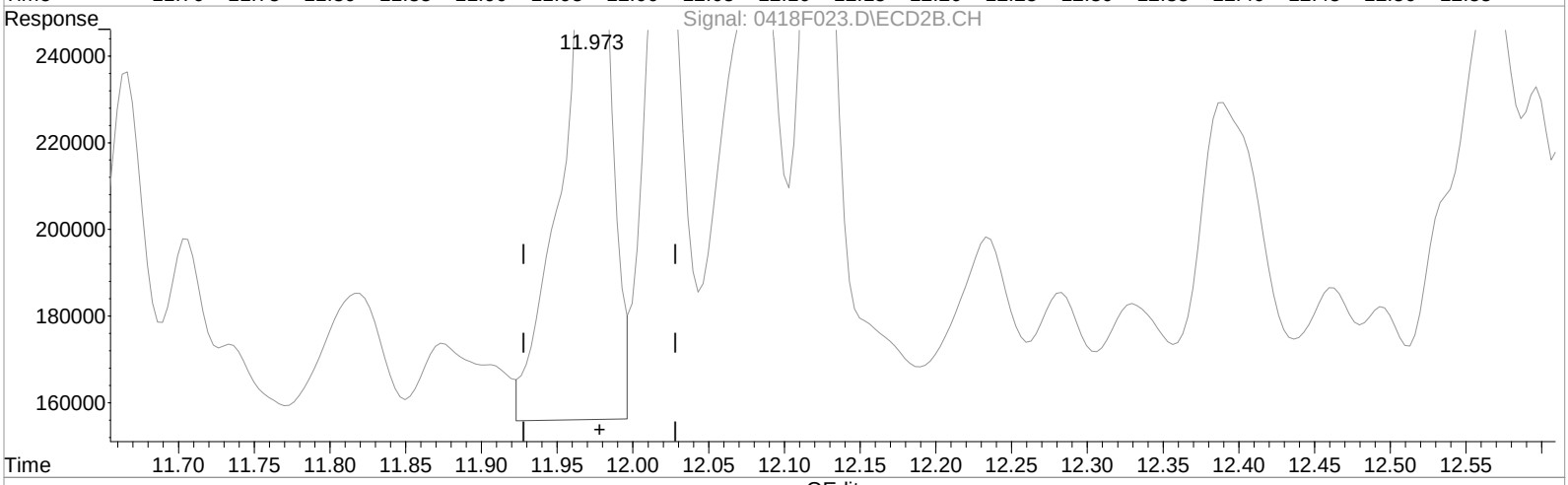
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.456min 51.042 ug/L

response 101948

(40) Chlordane {4} #2

11.973min 47.335 ug/L

response 319641

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

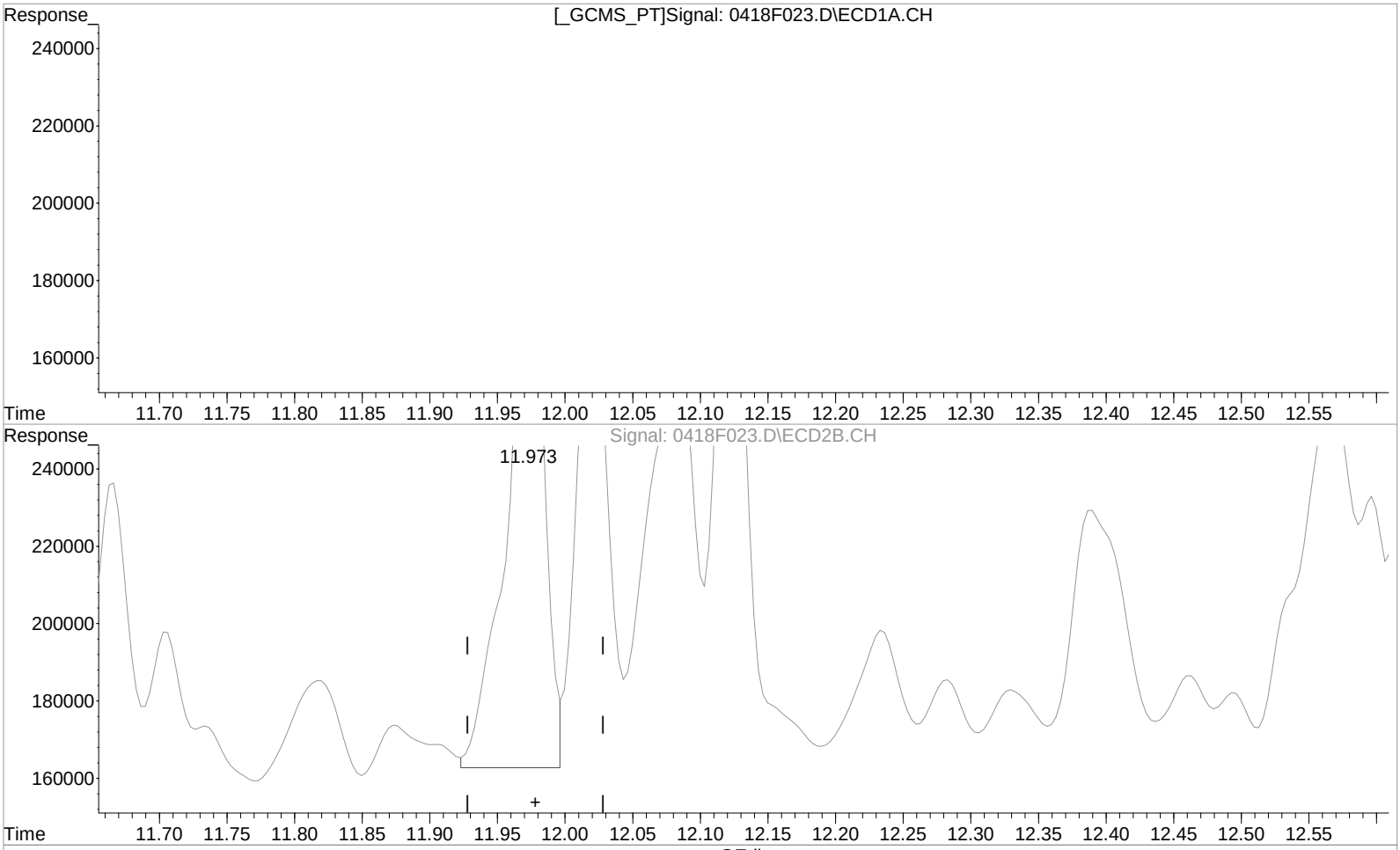
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(40) Chlordane {4}

13.456min 51.042 ug/L

response 101948

(40) Chlordane {4} #2

11.973min 42.980 ug/L m

response 290231

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

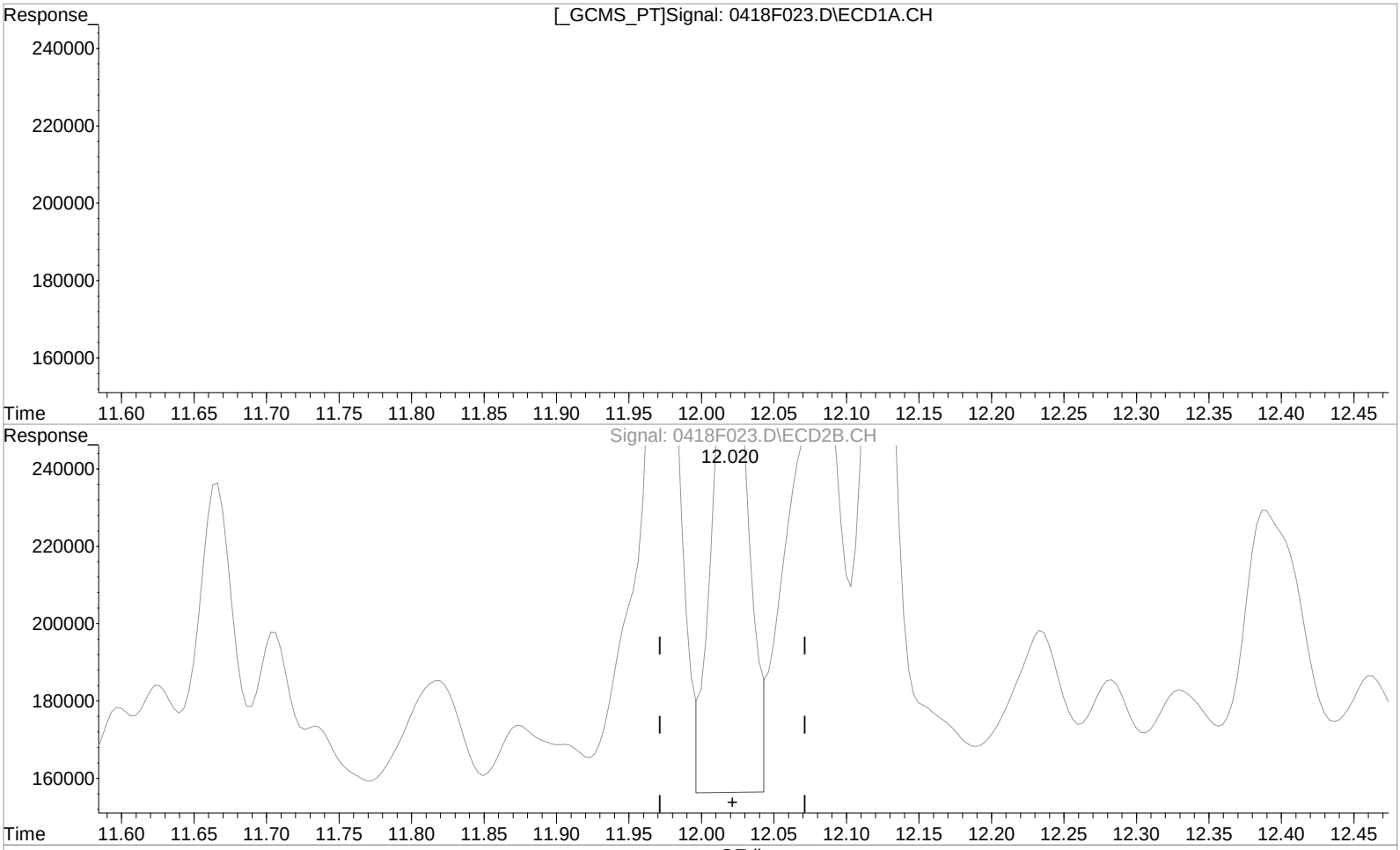
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(41) Chlordane {5}

13.529min 50.049 ug/L

response 82686

Manual Integration:

Before

04/21/20

(41) Chlordane {5} #2

12.020min 54.034 ug/L

response 223411

(+) = Expected Retention Time

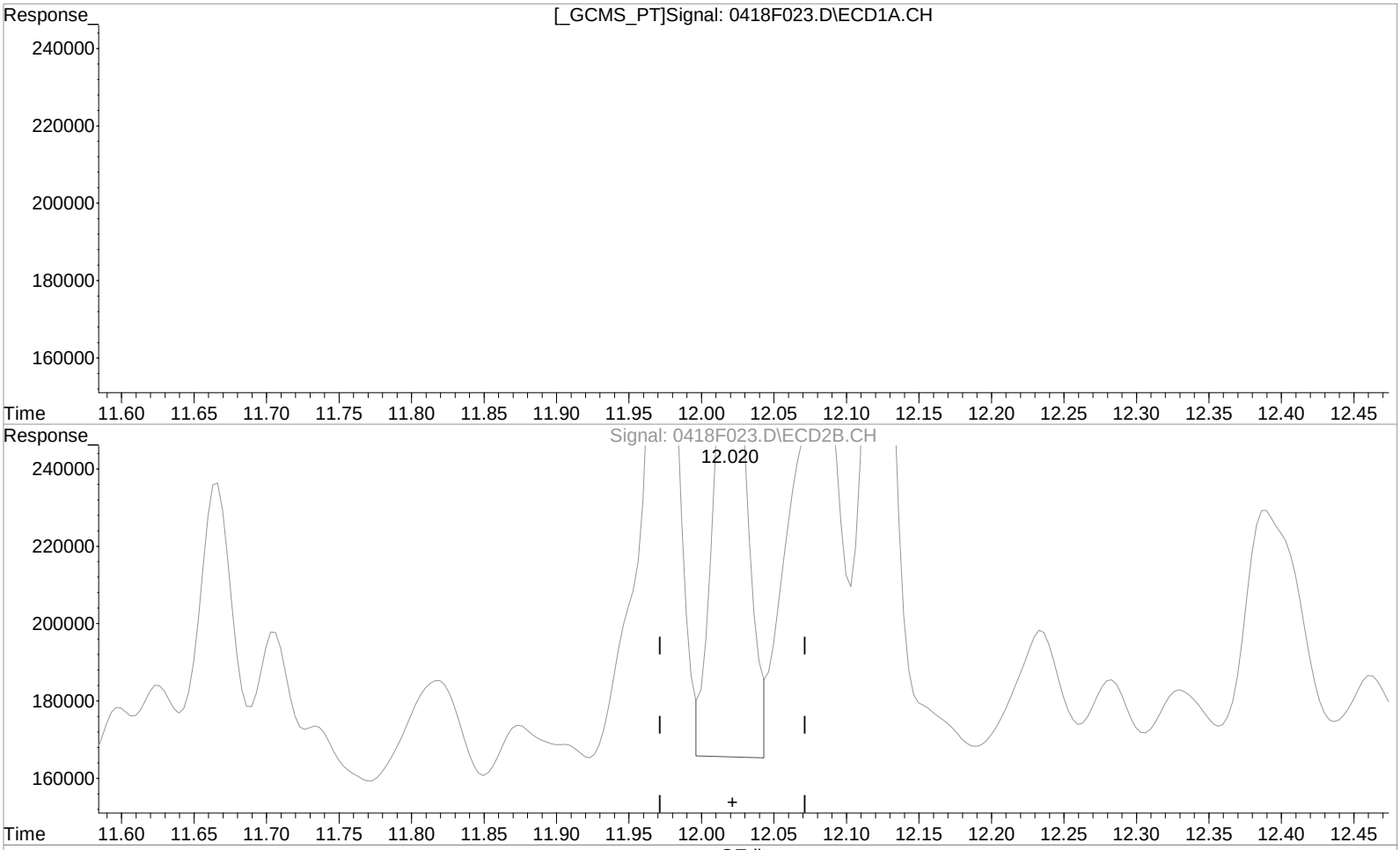
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(41) Chlordane {5}

13.529min 50.049 ug/L

response 82686

(41) Chlordane {5} #2

12.020min 47.826 ug/L m

response 197741

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

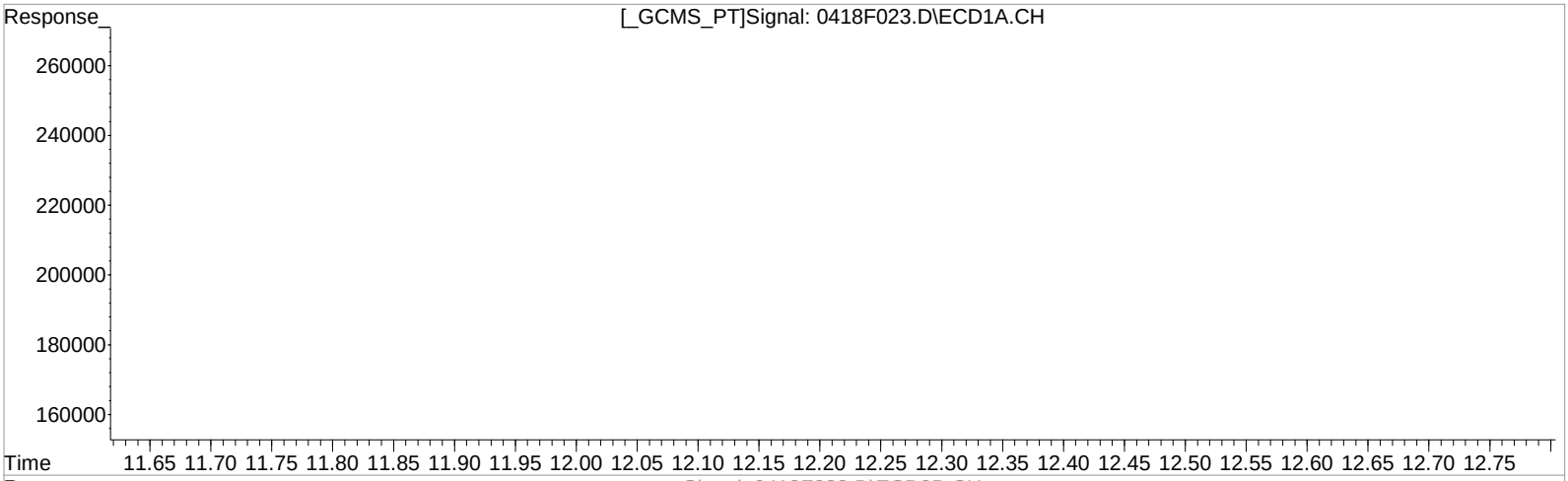
Quantitation Report (Qedit)

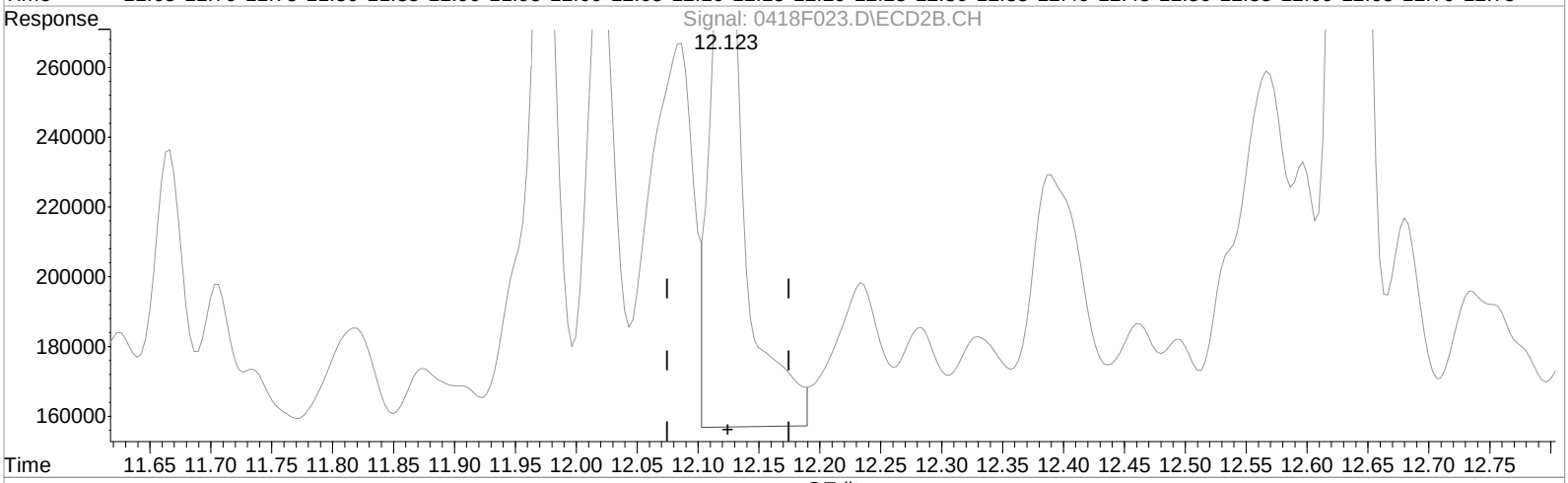
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.612min 39.958 ug/L

response 48460

Manual Integration:

Before

04/21/20

(42) Chlordane {6} #2

12.123min 52.474 ug/L

response 314137

(+) = Expected Retention Time

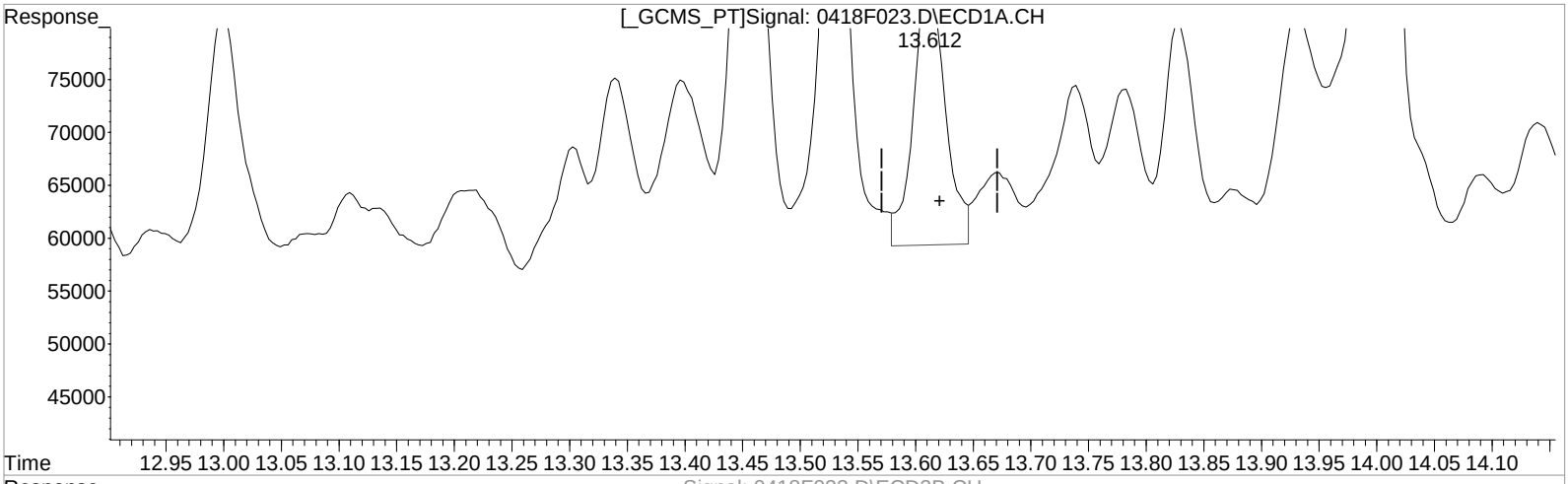
Quantitation Report (Qedit)

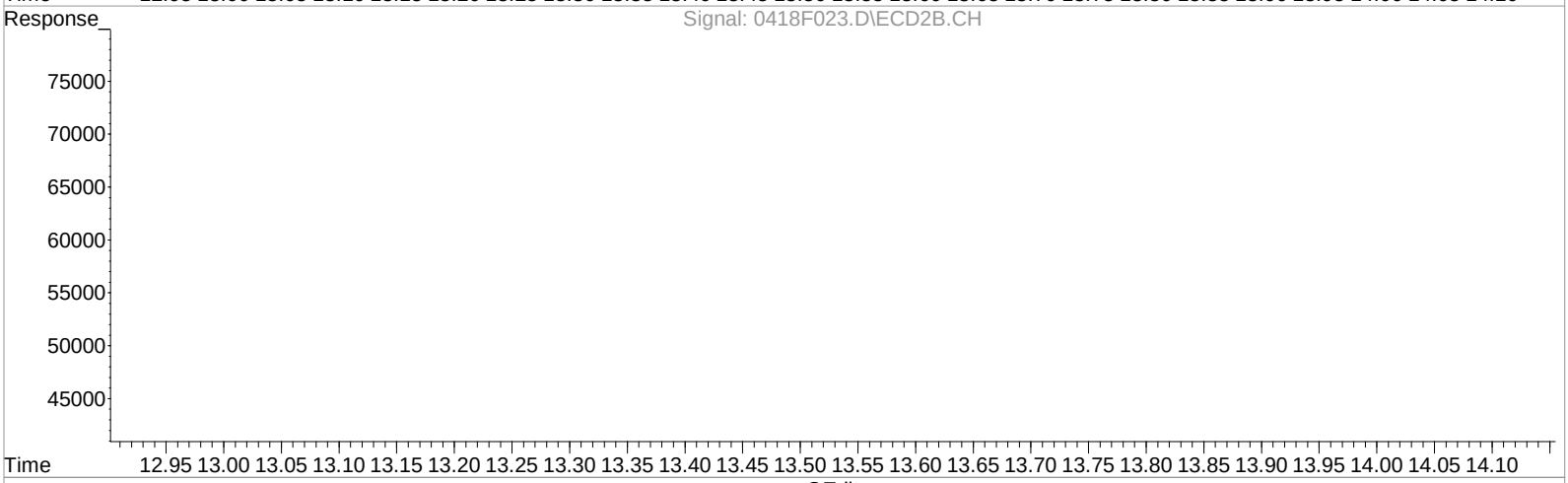
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.612min 39.958 ug/L

response 48460

Manual Integration:

Before

04/21/20

(42) Chlordane {6} #2

12.123min 43.828 ug/L m

response 262376

(+) = Expected Retention Time

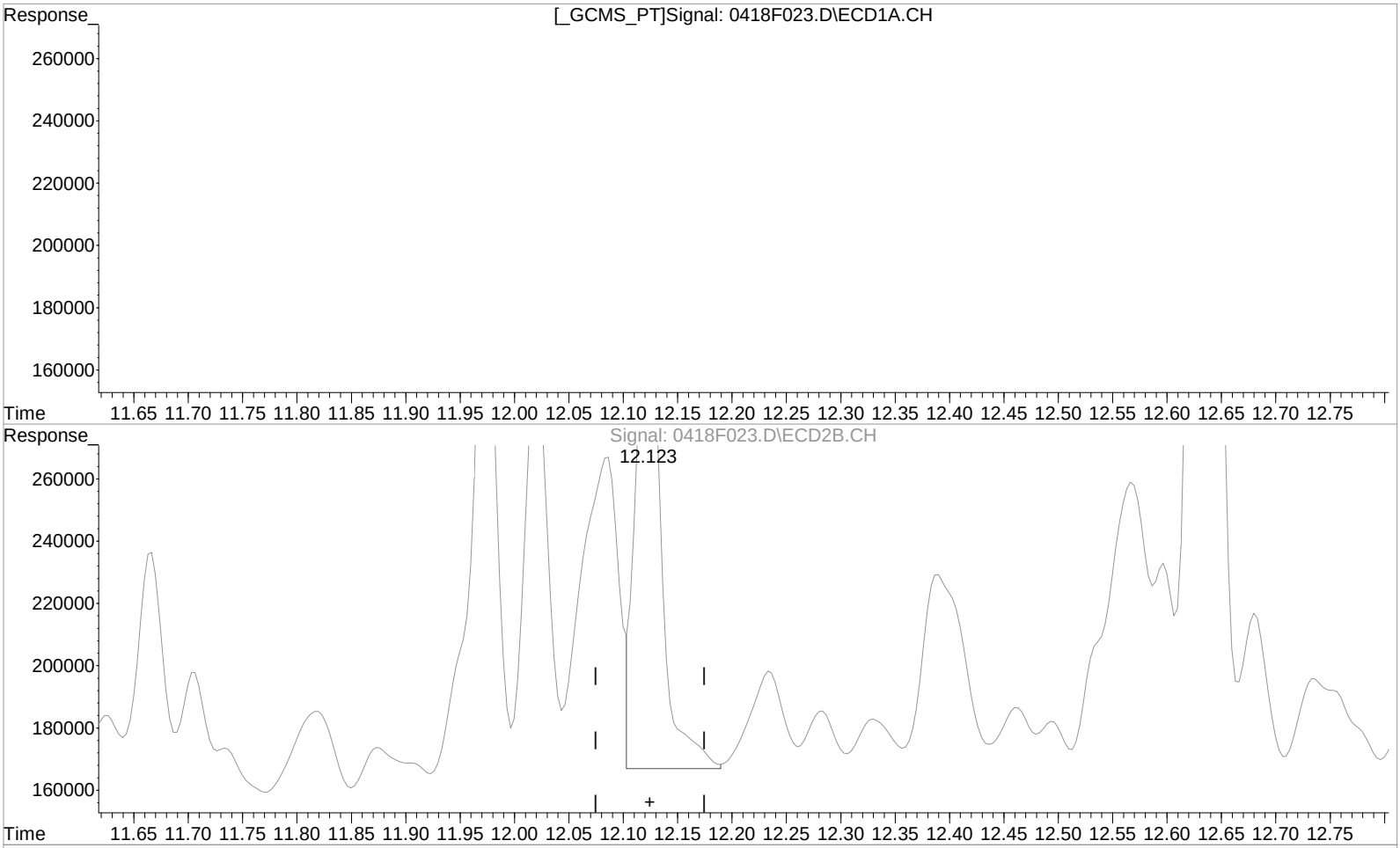
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(42) Chlordane {6}

13.612min 39.958 ug/L

response 48460

Manual Integration:

After

Baseline correction

04/21/20

(42) Chlordane {6} #2

12.123min 43.828 ug/L m

response 262376

(+) = Expected Retention Time

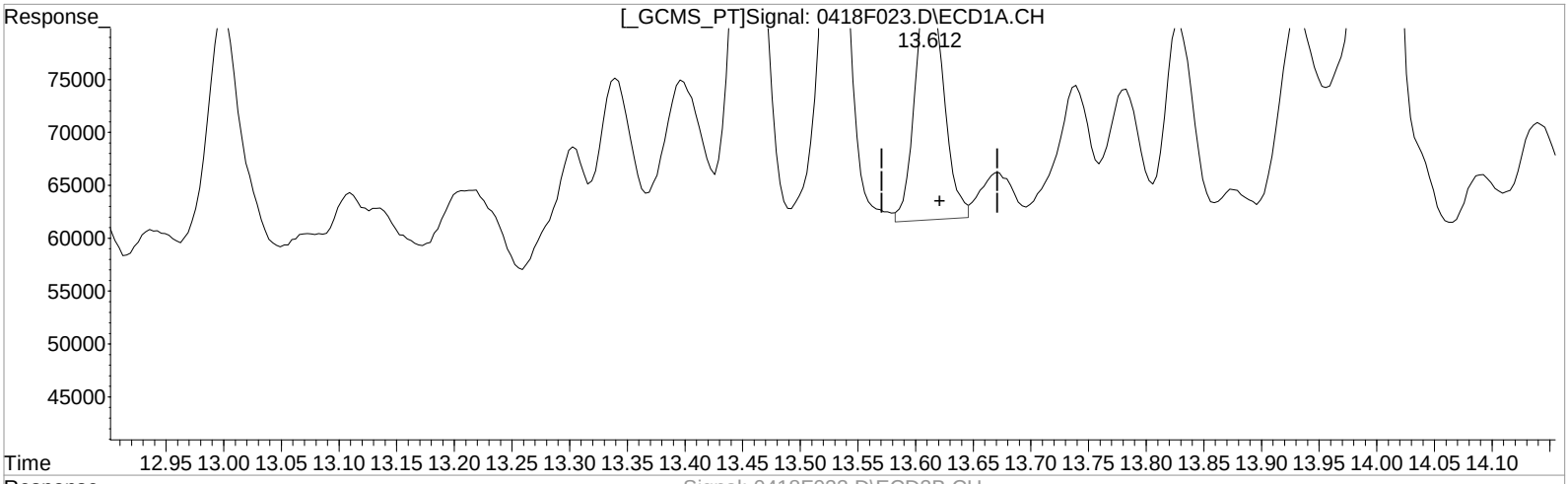
Quantitation Report (Qedit)

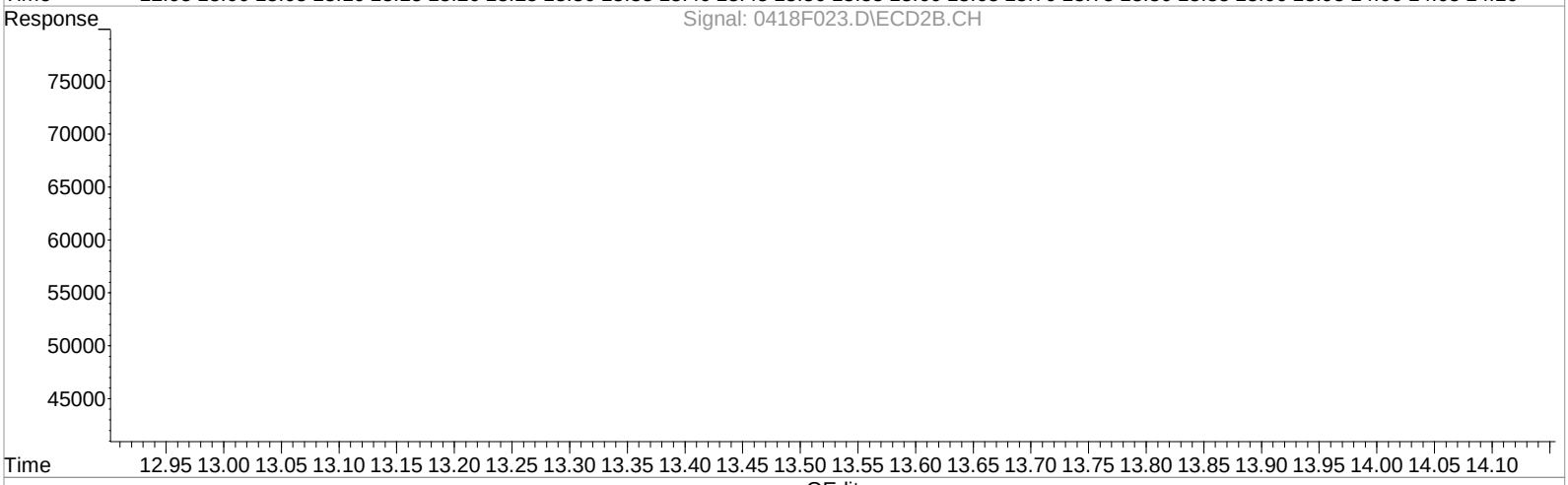
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.612min 32.025 ug/L m

response 38839

Manual Integration:

After

Baseline correction

04/21/20

(42) Chlordane {6} #2

12.123min 43.828 ug/L m

response 262376

(+) = Expected Retention Time

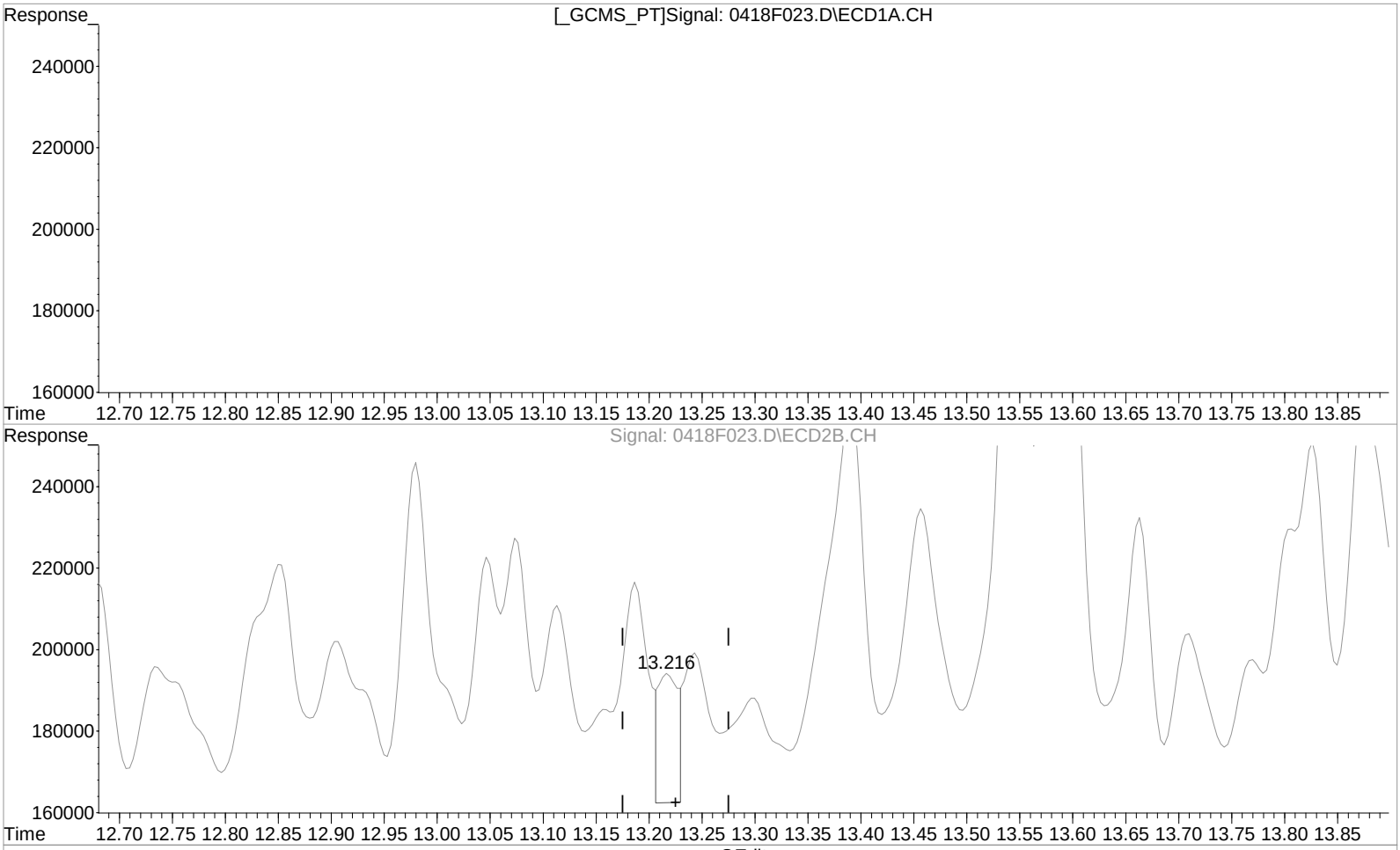
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(46) cis-Nonachlor

14.652min 2.070 ug/L

response 36805

Manual Integration:

Before

04/21/20

(46) cis-Nonachlor #2

13.216min 0.626 ug/L

response 41603

(+) = Expected Retention Time

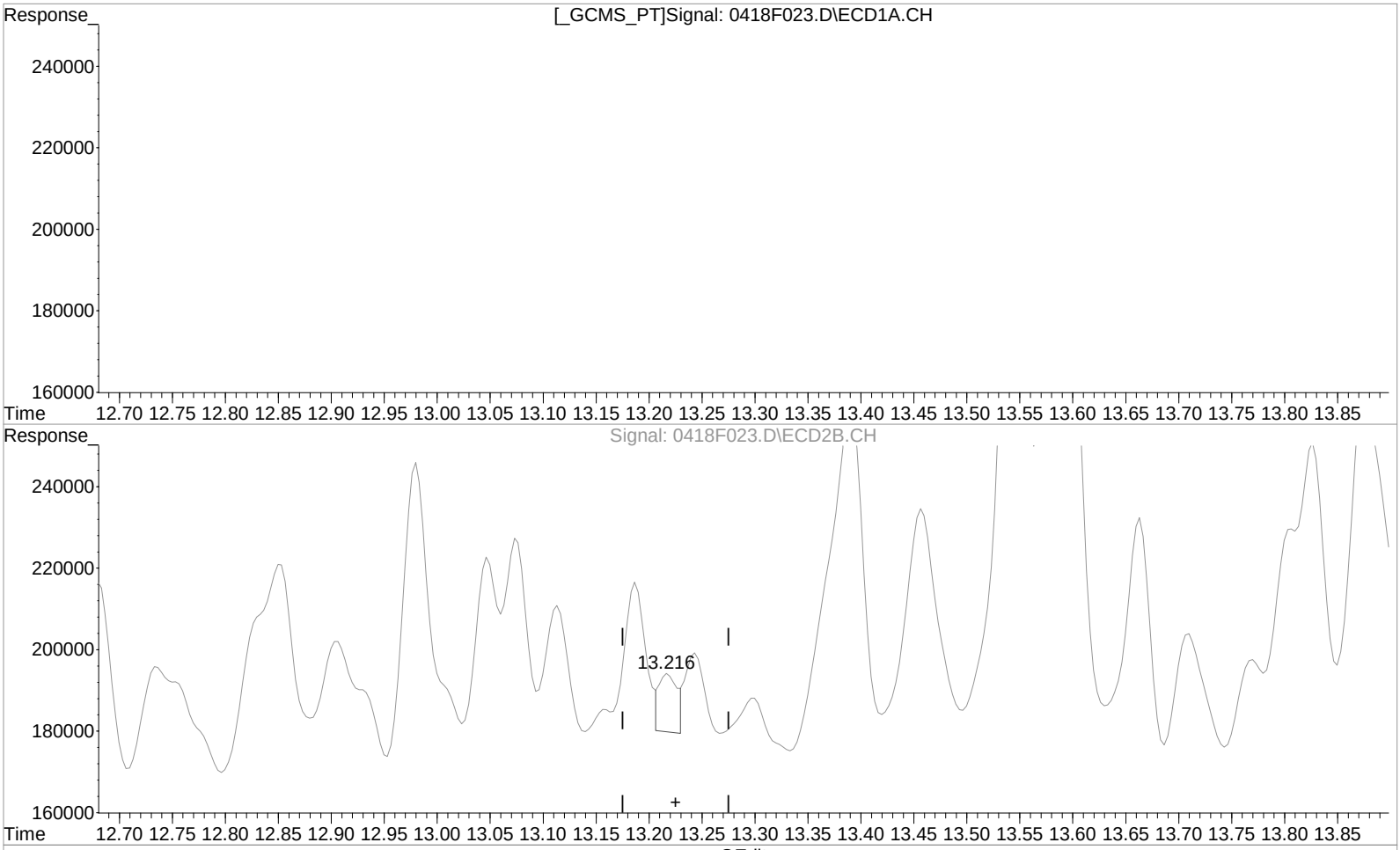
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(46) cis-Nonachlor

14.652min 2.070 ug/L

response 36805

Manual Integration:

After

Baseline correction

04/21/20

(46) cis-Nonachlor #2

13.216min 0.261 ug/L m

response 17343

(+) = Expected Retention Time

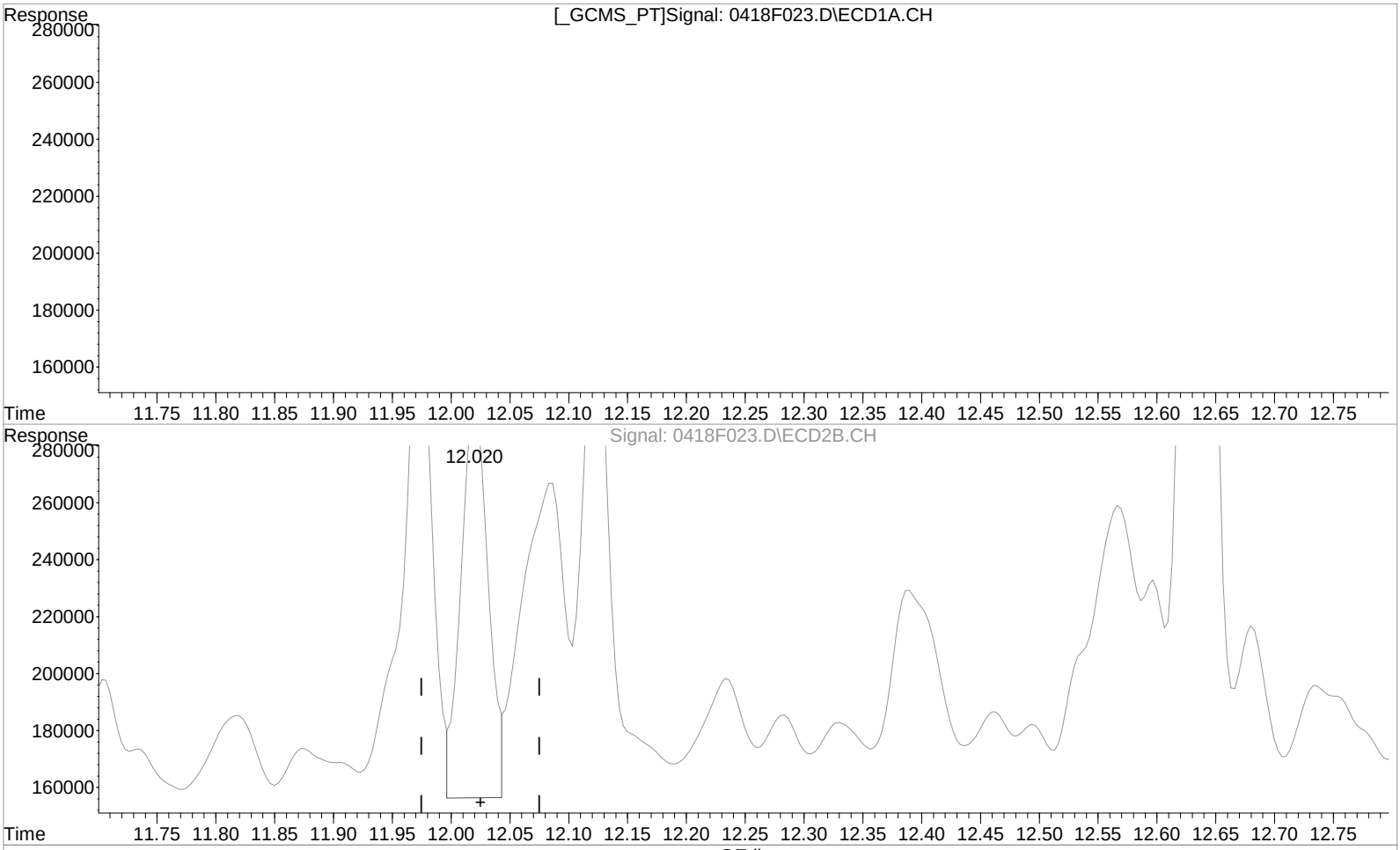
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(47) trans-Nonachlor

13.612min 2.711 ug/L

response 48460

Manual Integration:

Before

04/21/20

(47) trans-Nonachlor #2

12.020min 3.403 ug/L

response 223411

(+) = Expected Retention Time

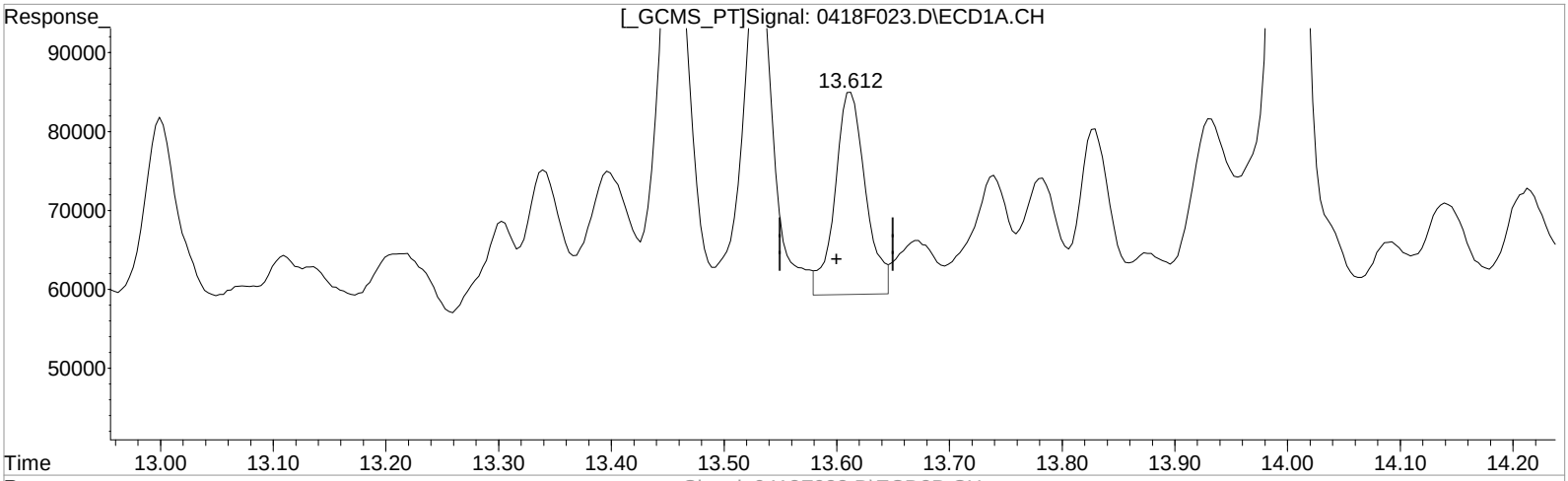
Quantitation Report (Qedit)

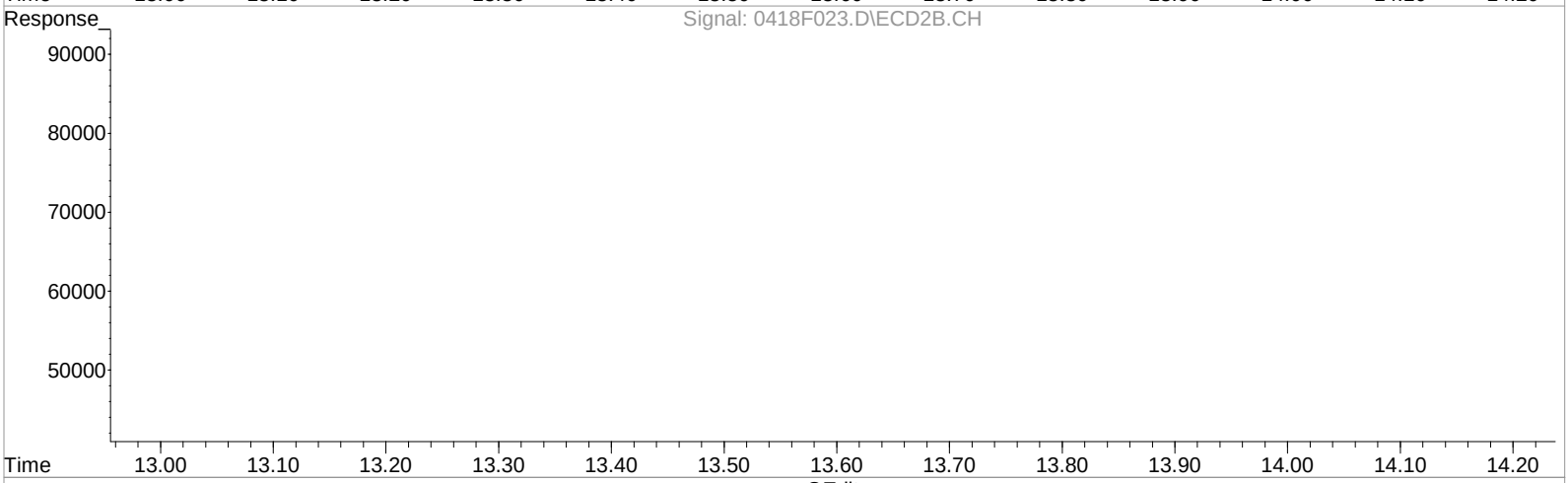
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(47) trans-Nonachlor

13.612min 2.711 ug/L

response 48460

Manual Integration:

Before

04/21/20

(47) trans-Nonachlor #2

12.020min 2.972 ug/L m

response 195117

(+) = Expected Retention Time

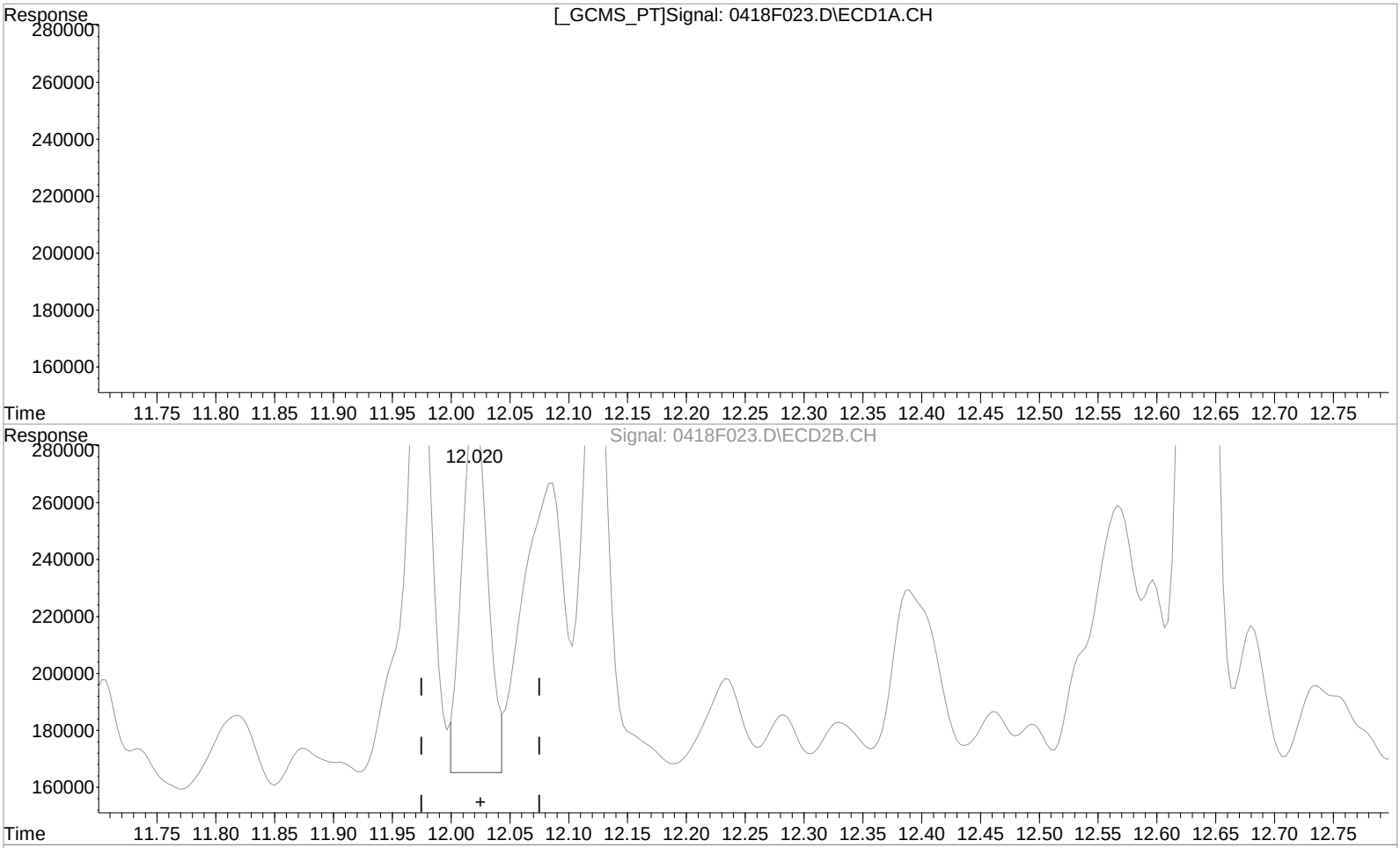
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(47) trans-Nonachlor

13.612min 2.711 ug/L

response 48460

Manual Integration:

After

Baseline correction

04/21/20

(47) trans-Nonachlor #2

12.020min 2.972 ug/L m

response 195117

(+) = Expected Retention Time

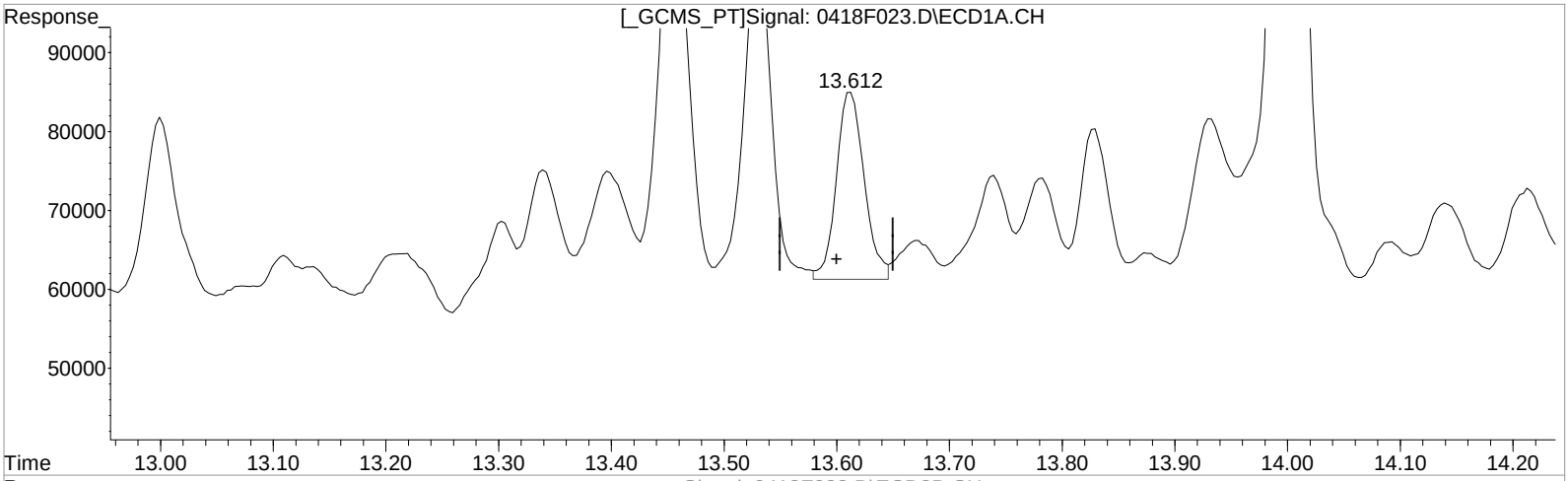
Quantitation Report (Qedit)

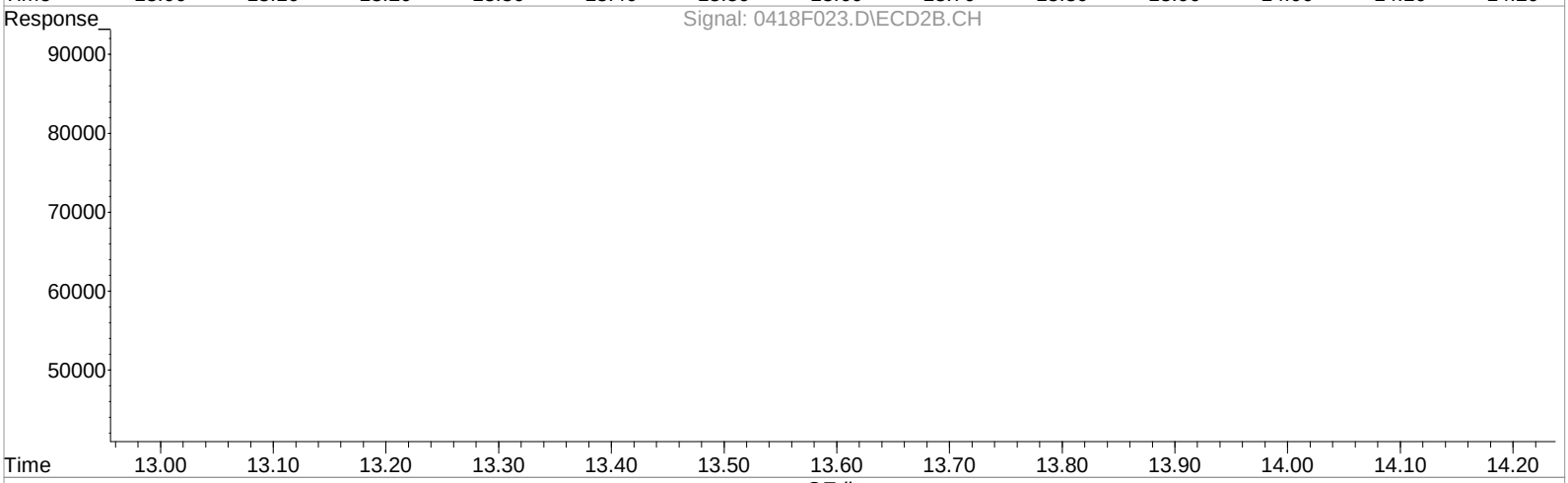
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(47) trans-Nonachlor

13.612min 2.280 ug/L m

response 40762

Manual Integration:

After

Baseline correction

04/21/20

(47) trans-Nonachlor #2

12.020min 2.972 ug/L m

response 195117

(+) = Expected Retention Time

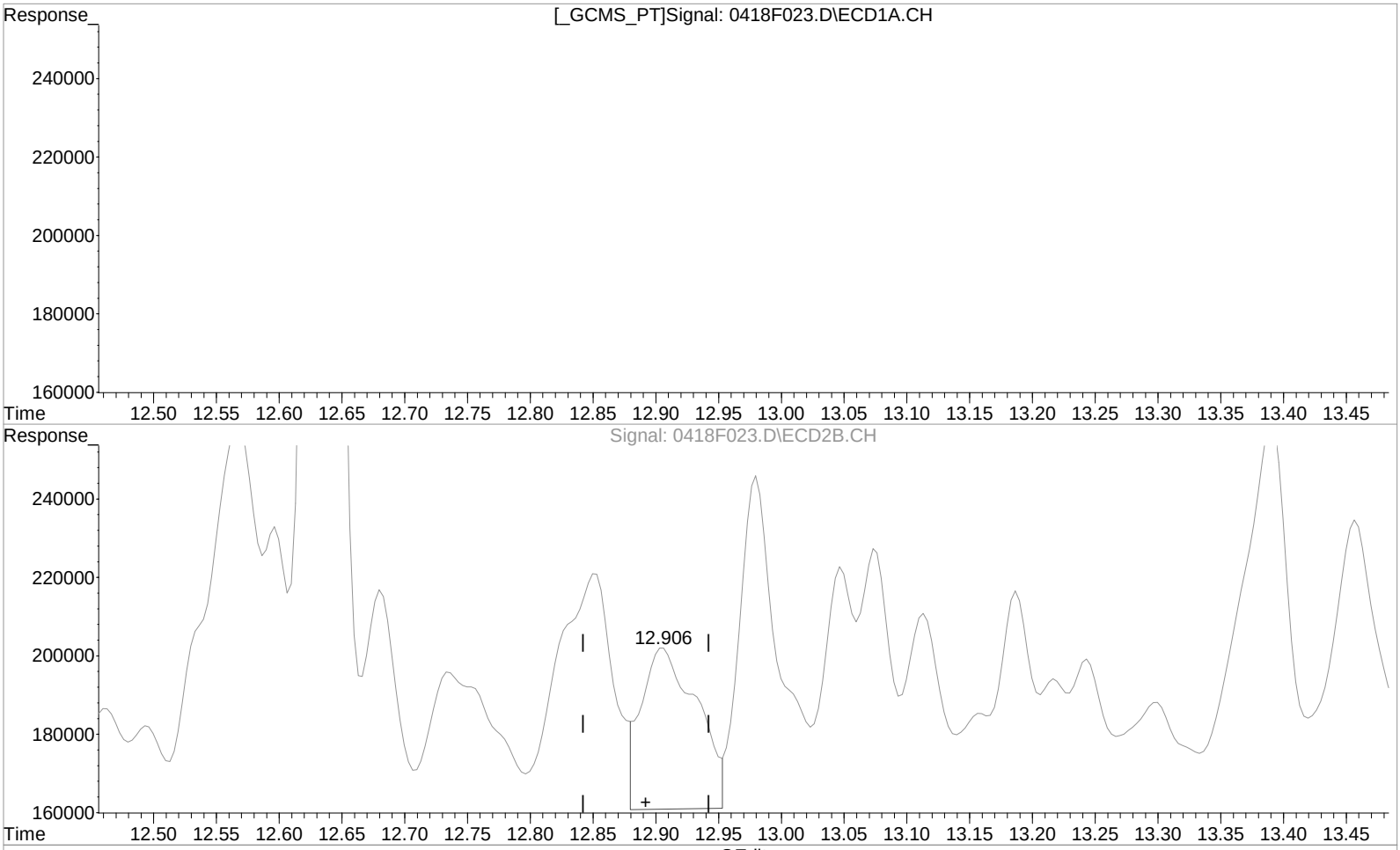
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(52) Perthane

14.092min 21.076 ug/L

response 10649

Manual Integration:

Before

04/21/20

(52) Perthane #2

12.906min 76.524 ug/L

response 126480

(+) = Expected Retention Time

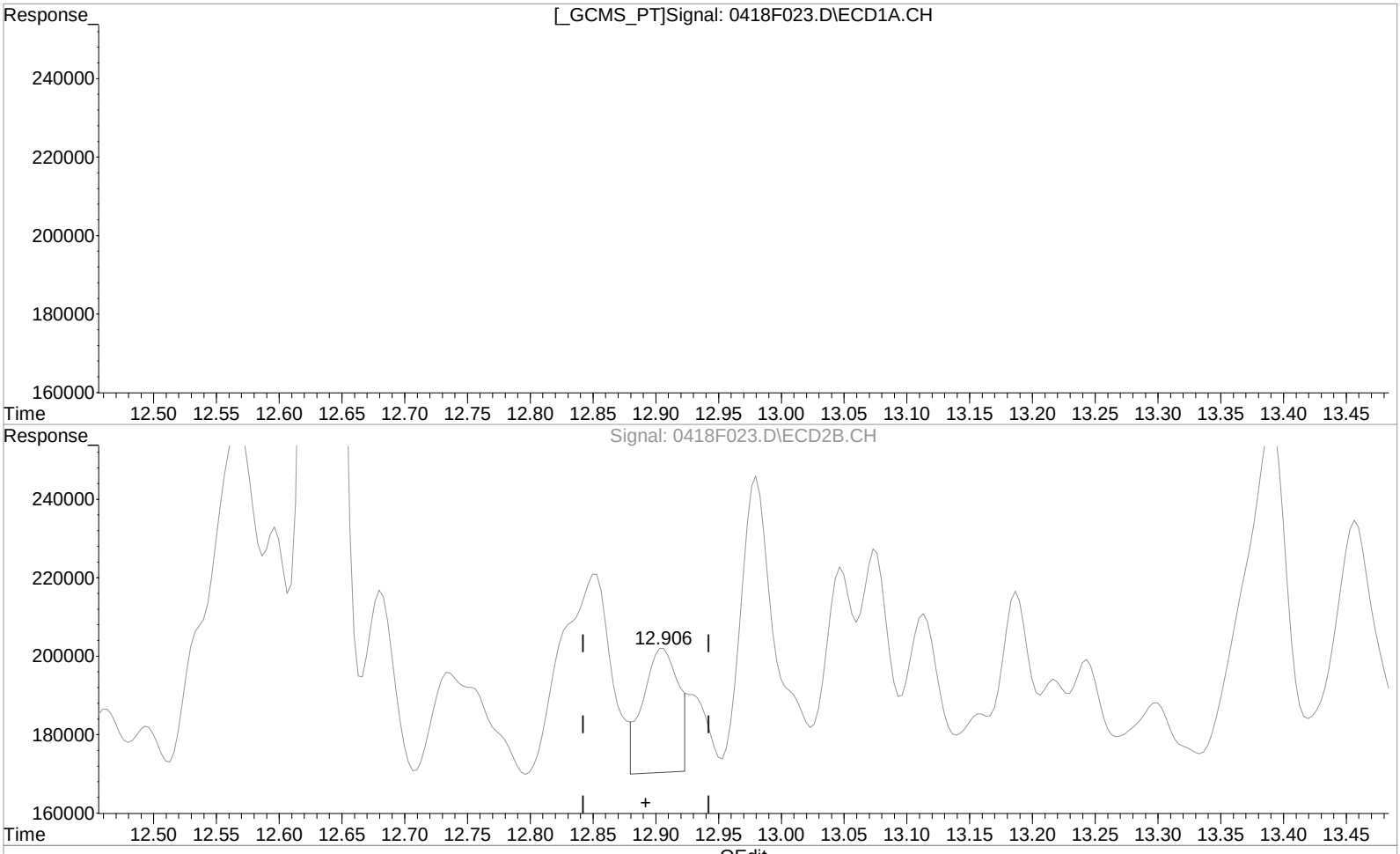
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(52) Perthane

14.092min 21.076 ug/L

response 10649

(52) Perthane #2

12.906min 37.638 ug/L m

response 62209

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

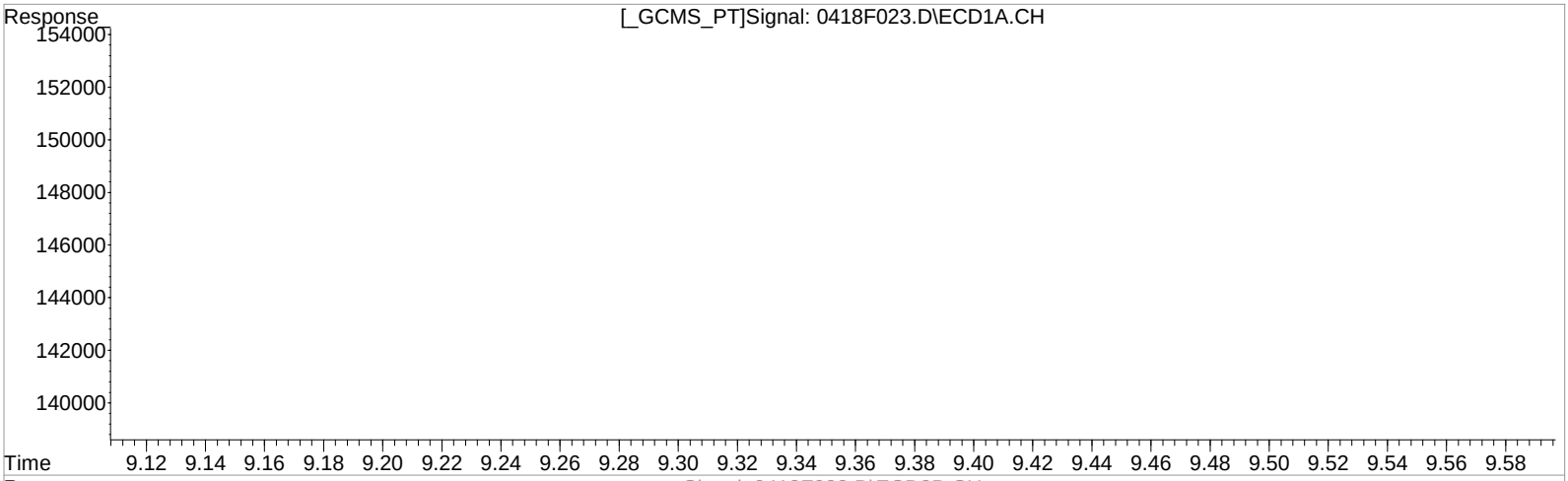
Quantitation Report (Qedit)

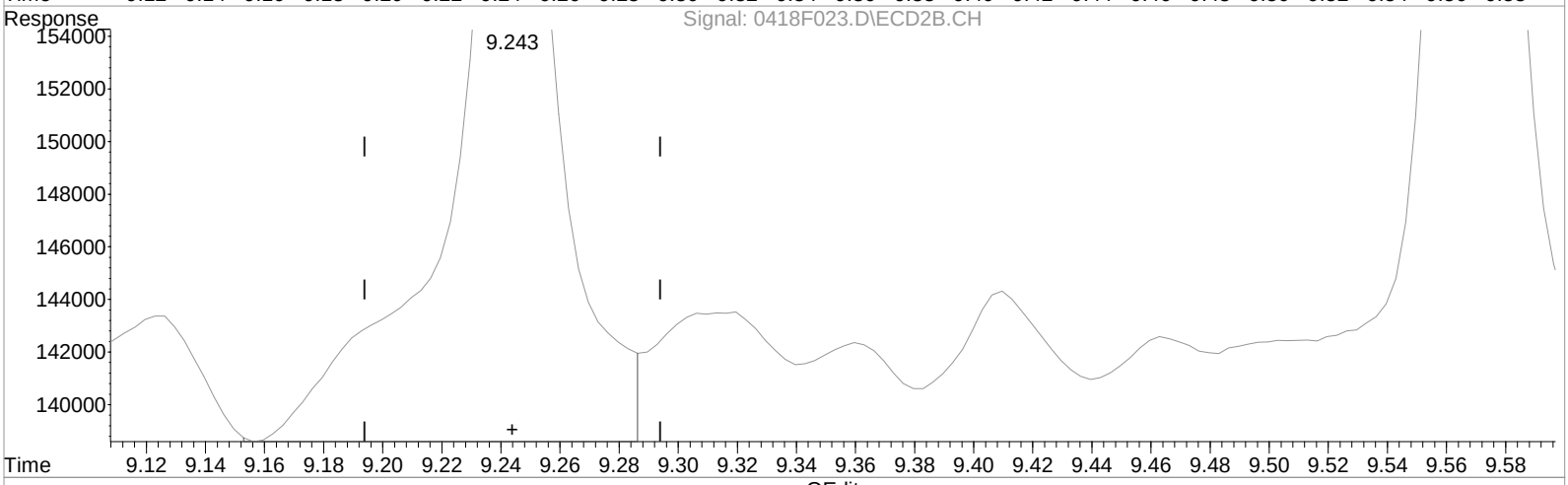
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(6) gamma-BHC (Lindane)

10.489min 0.678 ug/L

response 11610

Manual Integration:

Before

04/21/20

(6) gamma-BHC (Lindane) #2

9.243min 1.001 ug/L

response 69658

(+) = Expected Retention Time

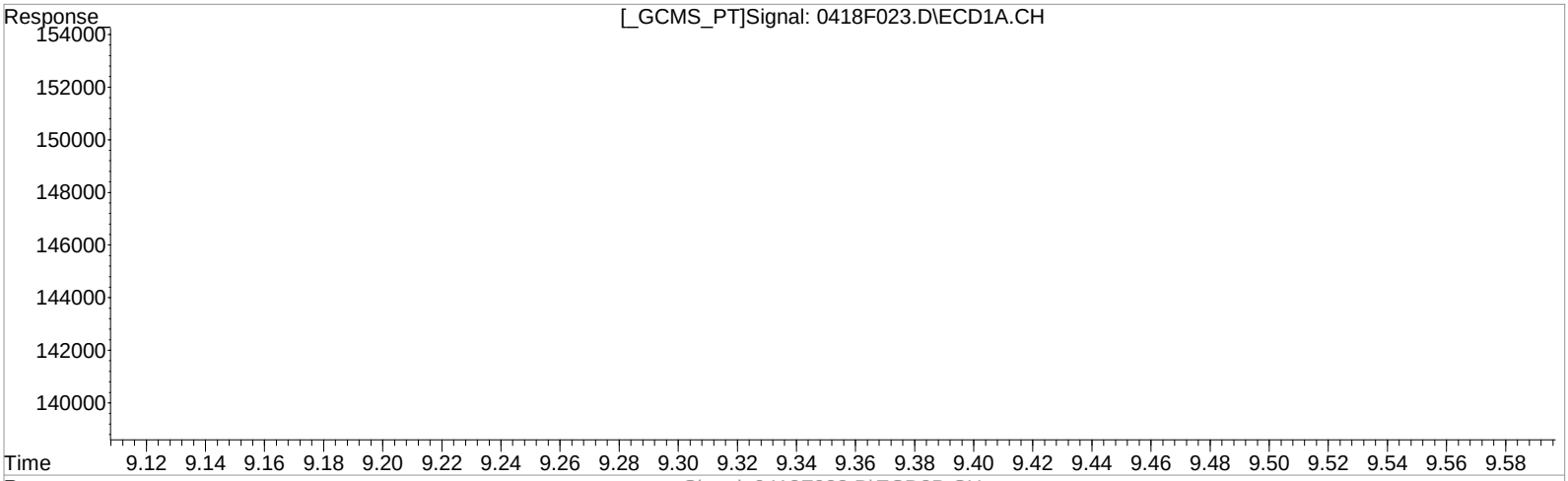
Quantitation Report (Qedit)

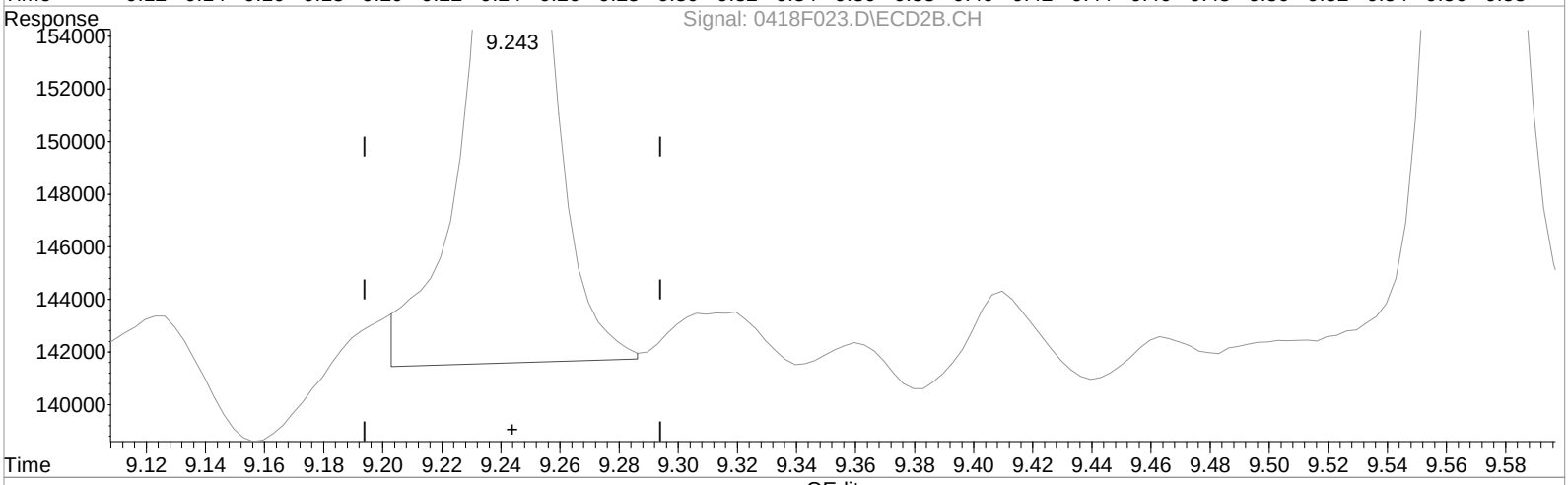
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F023.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:28 am Operator: LM
Sample : K2002652-005 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 10:45:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(6) gamma-BHC (Lindane)

10.489min 0.678 ug/L

response 11610

Manual Integration:

After

Baseline correction

04/21/20

(6) gamma-BHC (Lindane) #2

9.243min 0.681 ug/L m

response 47405

(+) = Expected Retention Time

1st STM 04/25/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\042420B\0424F032.D\
Lab ID: K2002652-005
RunType: N/A
Matrix: Water

Date Acquired: 4/25/20 08:41:00
Batch ID: 678037
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	cis-Chlordane	13.52			NR
	trans-Chlordane	13.44			
	Chlordane {4}	13.44			
	Chlordane {5}	13.52			
	Chlordane {6}	13.60			
	4,4'-DDD	14.64			
	Endosulfan I	13.60			
	Endosulfan II	14.79			
	Endrin Aldehyde	14.98			
	cis-Nonachlor	14.64			
	trans-Nonachlor	13.60			
	Toxaphene {2}	14.79			
	Toxaphene {4}	14.98			
	1-Bromo-2-nitrobenzene	6.19			
	1-Bromo-2-nitrobenzene {2}	6.19			
	1-Bromo-2-nitrobenzene {3}	6.19			
	1-Bromo-2-nitrobenzene {4}	6.19			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.11			
	trans-Chlordane	11.96			
	Chlordane {4}	11.96			
	Chlordane {5}	12.01			
	Chlordane {6}	12.11			
	4,4'-DDD	13.38			

Primary Review: _____

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st SM 04/25/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	2,4'-DDE	12.01			
	Endrin Aldehyde	13.91			
	trans-Nonachlor	12.01			
	Toxaphene {1}	13.38			
	Toxaphene {5}	13.91			SA
	1-Bromo-2-nitrobenzene	5.47			
	1-Bromo-2-nitrobenzene {2}	5.47			
	1-Bromo-2-nitrobenzene {3}	5.47			
	1-Bromo-2-nitrobenzene {4}	5.47			

Primary Review: _____

Secondary Review: _____

1st STM 04/25/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\042420B\0424F032.D\	**Instrument:**	K-GC-23
Acqu Date:	4/25/20 08:41:00	**Vial:**	2
Run Type:	N/A	**Dilution:**	5
Lab ID:	K2002652-005	**Raw Units:**	ug/L

Bottle ID:	K2002652-005.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	678037	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19	c	5.47	c	1047749	4966860	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.19	c	5.47	c	1047749	4966860	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.19	c	5.47	c	1047749	4966860	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.66	17.05	14961	54137	0.802	0.676	80	68	68	14 - 160	N
Tetrachloro-m-xylene	8.96	7.25	19768	75844	1.301	1.232	130	123	123	30 - 148	N

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.20		10.50		2934	3587	0.175	0.046	4.4J	1.2U	3.9 U		N
alpha-BHC	0.00		8.48	-0.01	0	2435	0.000	0.031	0U	0.78U	1.3 U		N
beta-BHC	11.07	+0.01	9.77	+0.01	2026	14526	0.217	0.389	5.4	9.7	**5.4**	P	N
gamma-BHC (Lindane)	10.48	+0.01	9.23		2456	15578	0.145	0.203	3.6J	5.1J	**3.6** J		N
Chlordane							9.6246	10.7645	240	270	**240**		N
Chlordane {1}	11.25		9.56		6146	20926	8.605	7.718	220	190			
Chlordane {2}	0.00		11.65		0	31625	0.000	17.104	0	430			
Chlordane {3}	12.24		11.80		6526	15916	10.051	12.966	250	320			
Chlordane {4}	13.44	c	11.96	c	23122	70536	11.731	9.488	290	240			
Chlordane {5}	13.52	c	12.01	c	16987	43107	10.419	9.470	260	240	'Dieldrin Only		
Chlordane {6}	13.60	c	12.11	c	8757	51680	7.317	7.841	180	200			
Dieldrin	13.99		12.62		58928	221266	3.409	3.033	85	76	**76**		Y
Heptachlor	0.00		9.92	+0.01	0	30753	0.000	0.395	0Ui	9.9Ui	3.1 Ui		N
Heptachlor Epoxide	0.00		11.59	+0.01	0	7016	0.000	0.091	0U	2.3J	1.5 U		N
Hexachlorobenzene	0.00		8.23	-0.04	0	712	0.000	0.009	0U	0.23U	1.4 U		N
Toxaphene							62.6685	61.396	1600	1500	**1600**		N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/25/20
2nd TP 04/28/20

Data File:	J:\GC23\data\042420B\0424F032.D\	**Instrument:**	K-GC-23
Acqu Date:	4/25/20 08:41:00	**Vial:**	2
Run Type:	N/A	**Dilution:**	5
Lab ID:	K2002652-005	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.73		13.38	c	13649	55768	79.284	50.530	2000	1300		P
Toxaphene {2}	14.79	c	13.44		11550	37136	74.173	43.734	1900	1100		P
Toxaphene {3}	14.91		13.58		16916	78227	54.518	69.831	1400	1700		
Toxaphene {4}	14.98	c	13.65		12051	24485	57.751	60.553	1400	1500		
Toxaphene {5}	15.33		13.91	c	11860	39226	59.646	65.981	1500	1600		
Toxaphene {6}	15.51		15.41		4797	25038	50.639	77.747	1300	1900		

Prep Amount:	200 mL	**Dilution:**	5
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (Not Reviewed)

1st SM 04/25/20
2nd TP 04/28/20

Data File : J:\GC23\data\042420B\0424F032.D Vial: 16
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 8:41 am Operator: SM
Sample : K2002652-005@5X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 11:28:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.191	5.475	1047749	4966860	100.000	100.000	
29)	1-Bromo-2...	6.191	5.475	1047749	4966860	100.000	100.000	
36)	1-Bromo-2...	6.191	5.475	1047749	4966860	100.000	100.000	
43)	1-Bromo-2...	6.191	5.475	1047749	4966860	100.000	100.000	
	System Monitoring Compounds							
2) s	Tetrachlo...	8.964	7.255	19768	75844	1.301	1.232	
28) s	Decachlor...	18.658	17.052	14961	54137	0.802	0.676	
	Target Compounds							
3)	alpha-BHC	0.000	8.482	0	2435	N.D.	0.031	#
4)	Hexachlor...	0.000	8.228f	0	712	N.D.	0.009	#
5)	beta-BHC	11.068	9.768	2026	14526	0.217	0.389	#
6)	gamma-BHC...	10.478	9.232	2456	15578	0.145	0.203	#
7)	delta-BHC	11.581	10.282	1190	6822	0.070	0.091	#
8)	Heptachlor	0.000	9.918	0	30753	N.D.	0.395	#
9)	Aldrin	12.204	10.502	2934	3587	0.175	0.046	#
10)	Isodrin	0.000	11.272f	0	2497	N.D.	0.038	#
11)	Heptachlo...	0.000	11.588	0	7016	N.D.	0.091	#
12)	gamma-Chl...	13.441	11.962	23122	70536	1.309	0.951	#
13)	Endosulfan I	13.598f	12.222f	8757	16204	0.544	0.242	#
14)	alpha-Chl...	13.518	12.112	16987	51680	0.966	0.688	#
15)	Dieldrin	13.988	12.622	58928	221266	3.409	3.033	
16)	4,4'-DDE	13.768	12.475	4927	3164	0.305	0.045	#
17)	Endrin	14.341	13.102	5819	12264	0.369	0.177	#
18)	Endosulfa...	14.794	13.532	11550	167738	0.723	2.673	#
19)	4,4'-DDD	14.641	13.378	9961	55768	0.797	1.061	#
20)	Endrin Al...	14.981	13.915	12051	39226	0.870	0.755	
21)	Endosulfa...	15.454	14.232	17096	57681	1.050	0.932	
22)	4,4'-DDT	15.151	13.755f	3489	9817	0.266	0.194	#
23)	Endrin Ke...	16.144	15.175	2294	21277	0.131	0.287	#
24)	Methoxychlor	15.864	14.882	28094	19991	3.526	0.711	#
25)	2,4'-DDE	13.191	12.008	7802	43107	0.690	0.940	#
26)	2,4'-DDD	13.918	12.812f	9197	56327	0.927	1.417	#
27)	2,4'-DDT	14.468f	13.232	50192	6867	4.421	0.159	#
30)	Toxaphene	14.731	13.378	13649	55768	79.284	50.530	#
31)	Toxaphene...	14.794	13.442	11550	37136	74.173	43.734	#
32)	Toxaphene...	14.911	13.578	16916	78227	54.518	69.831	#
33)	Toxaphene...	14.981	13.648	12051	24485	57.751	60.553	
34)	Toxaphene...	15.328	13.915	11860	39226	59.646	65.981	
35)	Toxaphene...	15.514	15.415	4797	25038	50.639	77.747	#
37)	Chlordane	11.254f	9.558	6146	20926	8.605	7.718	
38)	Chlordane...	0.000	11.652	0	31625	N.D.	17.104	#
39)	Chlordane...	12.241	11.805	6526	15916	10.051	12.966	#
40)	Chlordane...	13.441	11.962	23122	70536	11.731	9.488	
41)	Chlordane...	13.518	12.008	16987	43107	10.419	9.470	
42)	Chlordane...	13.598	12.112	8757	51680	7.317	7.841	
44)	Chlorpyrifos	12.094	10.878	3577	5694	0.370	0.183	#
45)	Oxychlordane	12.864	11.395f	6638	12491	0.398	0.178	#
46)	cis-Nonac...	14.641	13.205	9961	5036	0.568	0.069	#
47)	trans-Non...	13.598	12.008	8757	43107	0.496	0.596	

Quantitation Report (Not Reviewed)

1st SM 04/25/20
2nd TP 04/28/20

Data File : J:\GC23\data\042420B\0424F032.D Vial: 16
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 8:41 am Operator: SM
Sample : K2002652-005@5X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 11:28:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
48)	Mirex	0.000	15.328	0	8044	N.D.	0.145	#
50)	HCBD	0.000	3.952f	0	1389	N.D.	0.015	#
52)	Perthane	14.078	12.892	1995	18741	4.001	10.299	#

SemiQuant Compounds - Not Calibrated on this Instrument

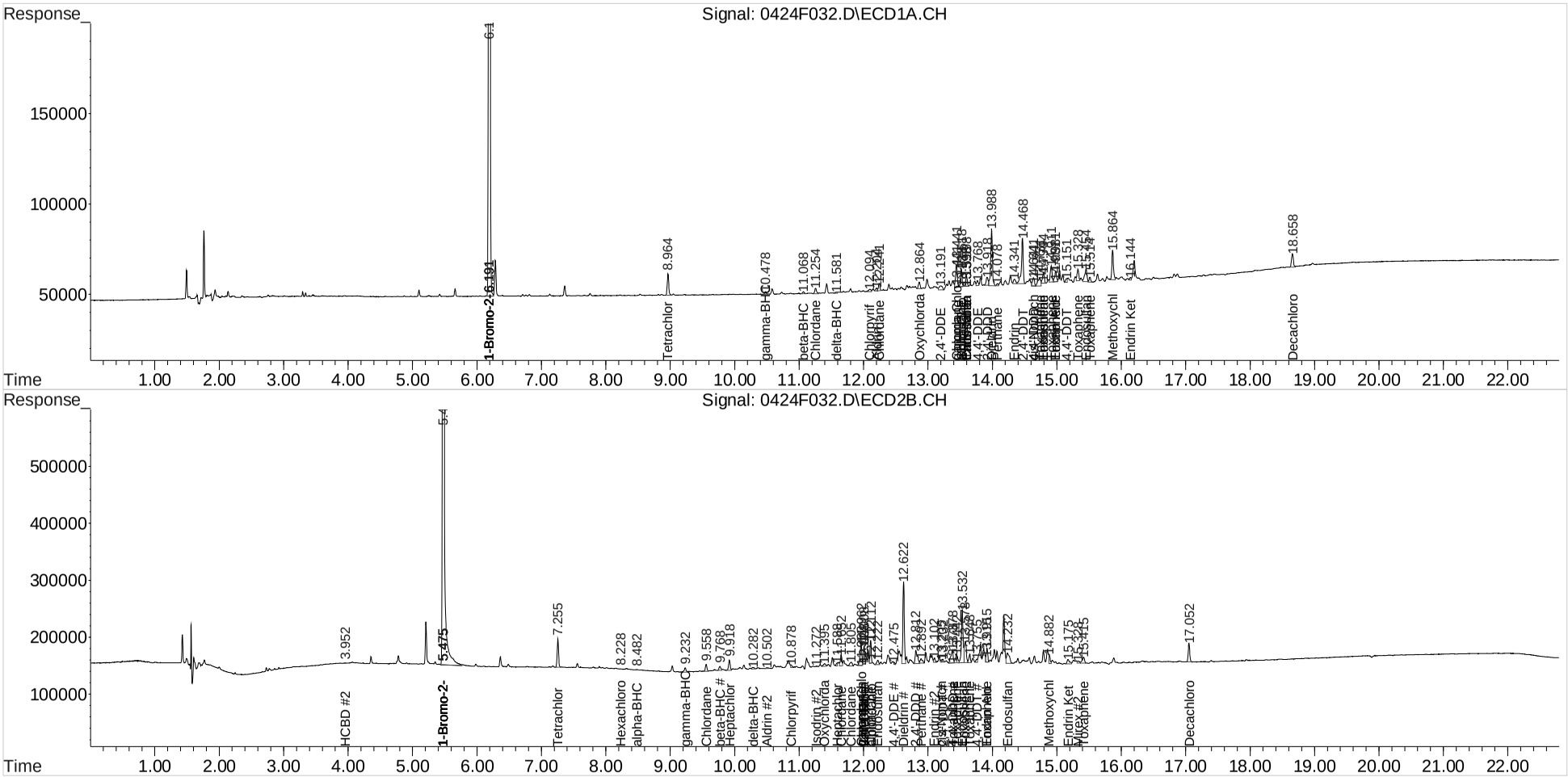
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : J:\GC23\data\042420B\0424F032.D Vial: 16
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 8:41 am Operator: SM
Sample : K2002652-005@5X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 11:28:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F024.D\
Lab ID: K2002652-006
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 06:57:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F024.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 06:57:00	**Vial:**	9
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-006	**Raw Units:**	ug/L

Bottle ID:	K2002652-006.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.48	-0.0 c	1144860	4915999	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.48	-0.0 c	1144860	4915999	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.48	c	1144860	4915999	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06		88514	313265	4.345	3.953	87	79	79	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.26	-0.01	83653	308448	5.040	5.063	101	101	101	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00		0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	8.49	-0.01	0	8354	0.000	0.107	0U	0.54J	0.25 U	Y
beta-BHC	0.00	9.78		0	8183	0.000	0.221	0U	1.1	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00		0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane						0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00		0	0	0.000	0.000	0	0		
Dieldrin	0.00	0.00		0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00	9.93		0	80193	0.000	1.041	0U	5.2	0.61 U	Y
Heptachlor Epoxide	0.00	0.00		0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	9.98	0.00		2251	0	0.100	0.000	0.50J	0U	0.27 U	Y
Toxaphene						0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F024.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 06:57:00	**Vial:**	9
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-006	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F024.D Vial: 18
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:57 am Operator: LM
Sample : K2002652-006 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:16 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.200	5.484	1144860	4915999	100.000	100.000
29)	1-Bromo-2...	6.200	5.484	1144860	4915999	100.000	100.000
36)	1-Bromo-2...	6.200	5.484	1144860	4915999	100.000	100.000
43)	1-Bromo-2...	6.200	5.484	1144860	4915999	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.977	7.264	83653	308448	5.040	5.063
28) s	Decachlor...	18.670	17.064	88514	313265	4.345m	3.953
	Target Compounds						
3)	alpha-BHC	0.000	8.494	0	8354	N.D.	0.107 #
4)	Hexachlor...	9.984	0.000	2251	0	0.100	N.D. d#
5)	beta-BHC	0.000	9.777	0	8183	N.D.	0.221 #
8)	Heptachlor	0.000	9.931	0	80193	N.D. d	1.041
13)	Endosulfan I	0.000	12.158f	0	5174	N.D. d	0.078
18)	Endosulfa...	14.807	13.541	5434	8961	0.311	0.144 #
20)	Endrin Al...	15.000	13.921	4772	4344	0.315	0.084 #
22)	4,4'-DDT	15.104f	13.804	6322	14224	0.440	0.284 #
23)	Endrin Ke...	0.000	15.178	0	6166	N.D.	0.084 #
24)	Methoxychlor	15.877	0.000	4038	0	0.464	N.D. #
25)	2,4'-DDE	13.220	0.000	3347	0	0.271	N.D. d#
26)	2,4'-DDD	0.000	12.824	0	5496	N.D. d	0.140
27)	2,4'-DDT	0.000	13.227	0	6387	N.D. d	0.150
44)	Chlorpyrifos	12.107	0.000	4328	0	0.410	N.D. #
52)	Perthane	14.067f	12.878	1911	5977	3.507	3.319
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

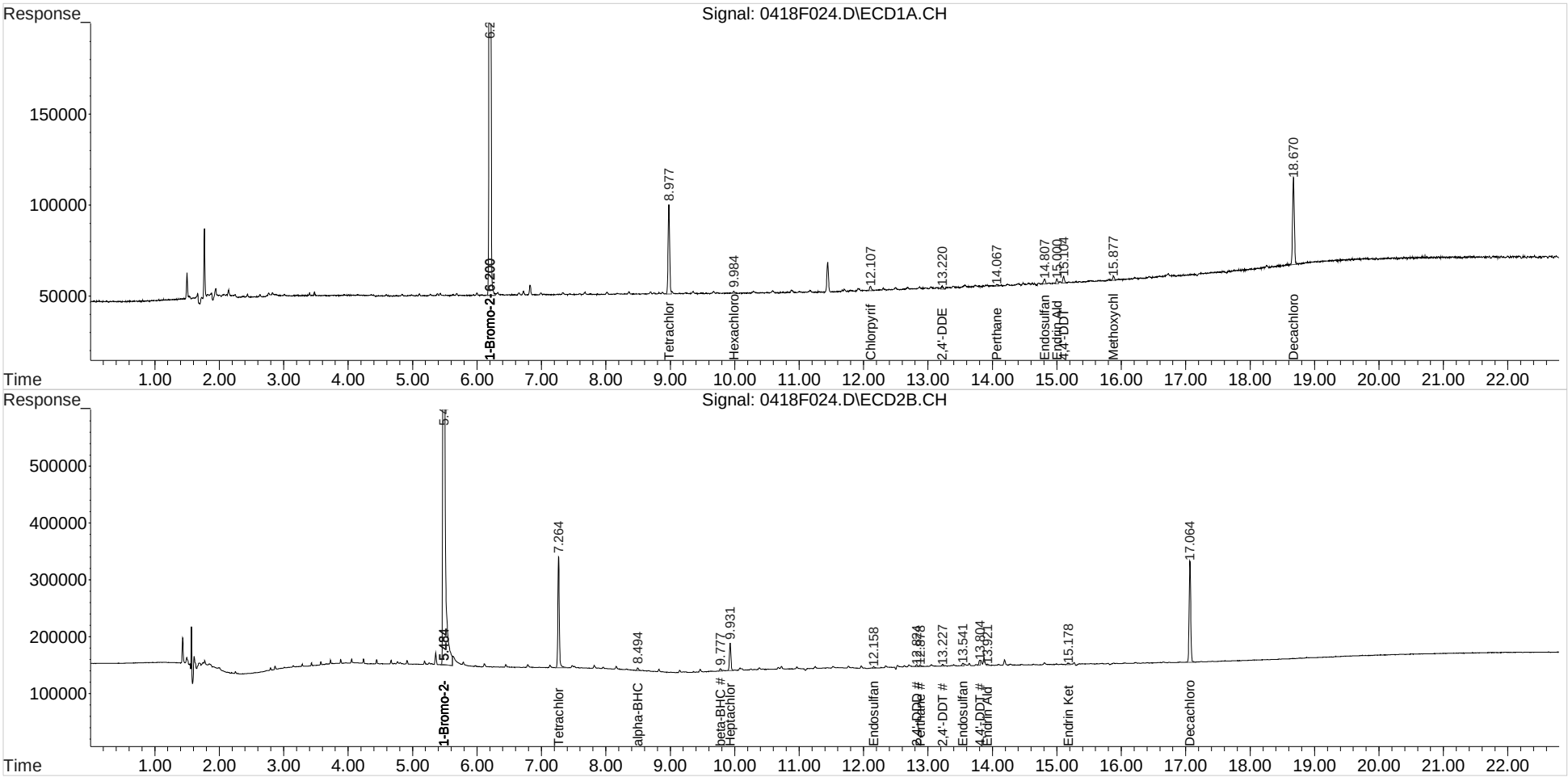
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F024.D Vial: 18
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:57 am Operator: LM
Sample : K2002652-006 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:16 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



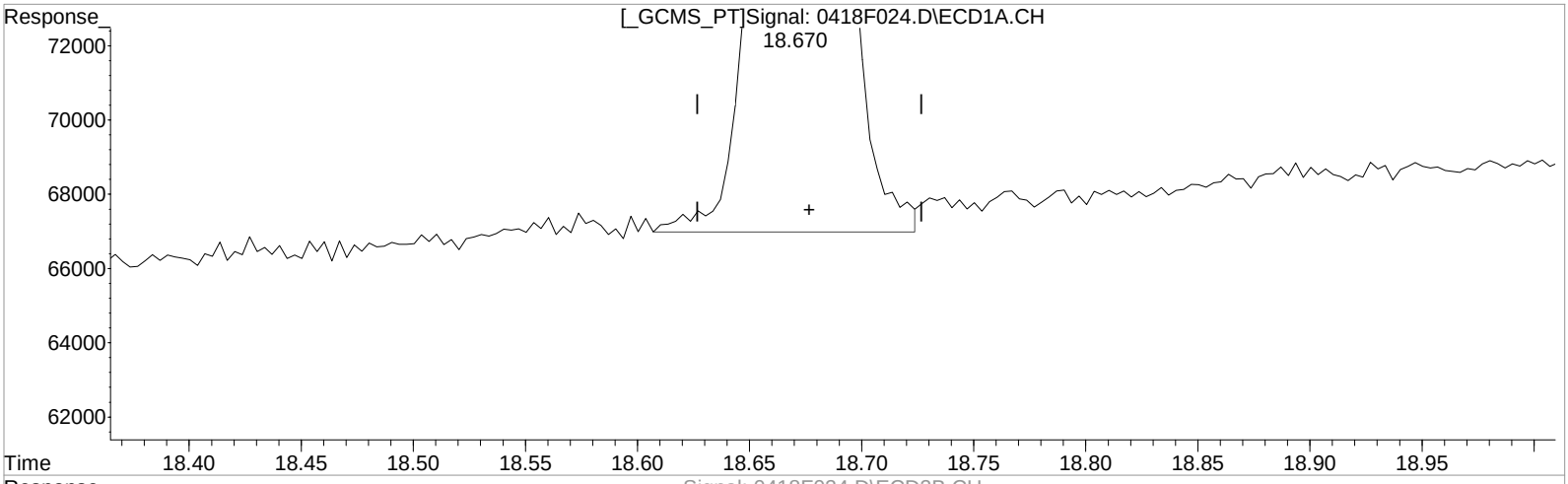
Quantitation Report (Qedit)

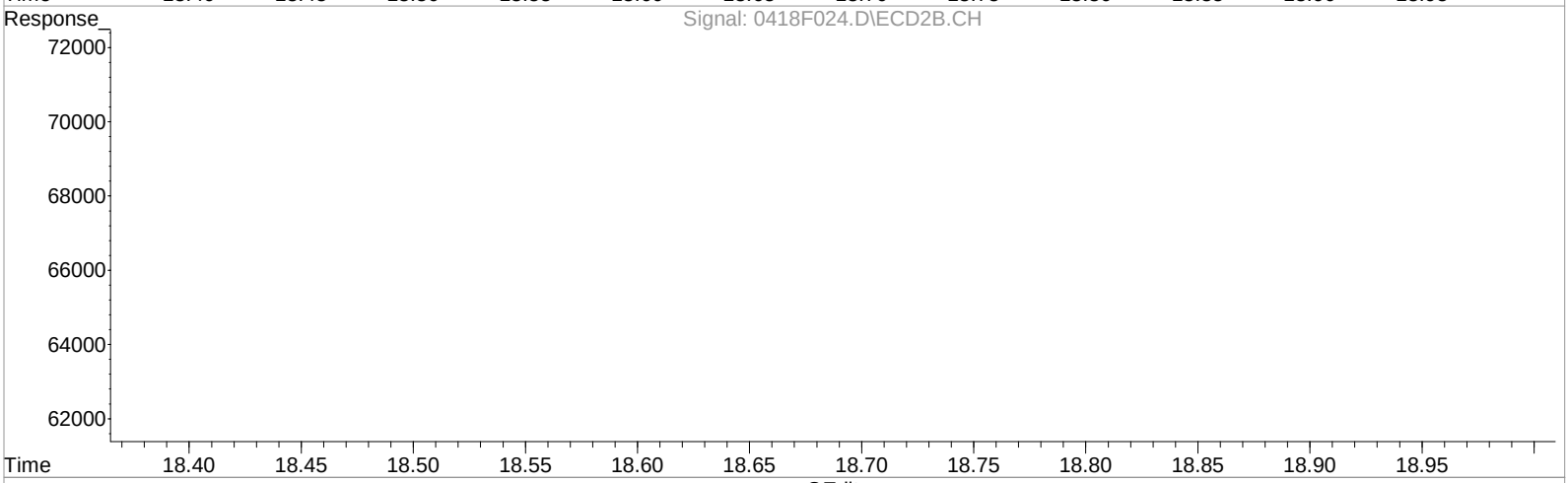
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F024.D Vial: 18
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:57 am Operator: LM
Sample : K2002652-006 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:01:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.670min 4.465 ug/L

response 90949

Manual Integration:

Before

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.064min 3.953 ug/L

response 313265

(+) = Expected Retention Time

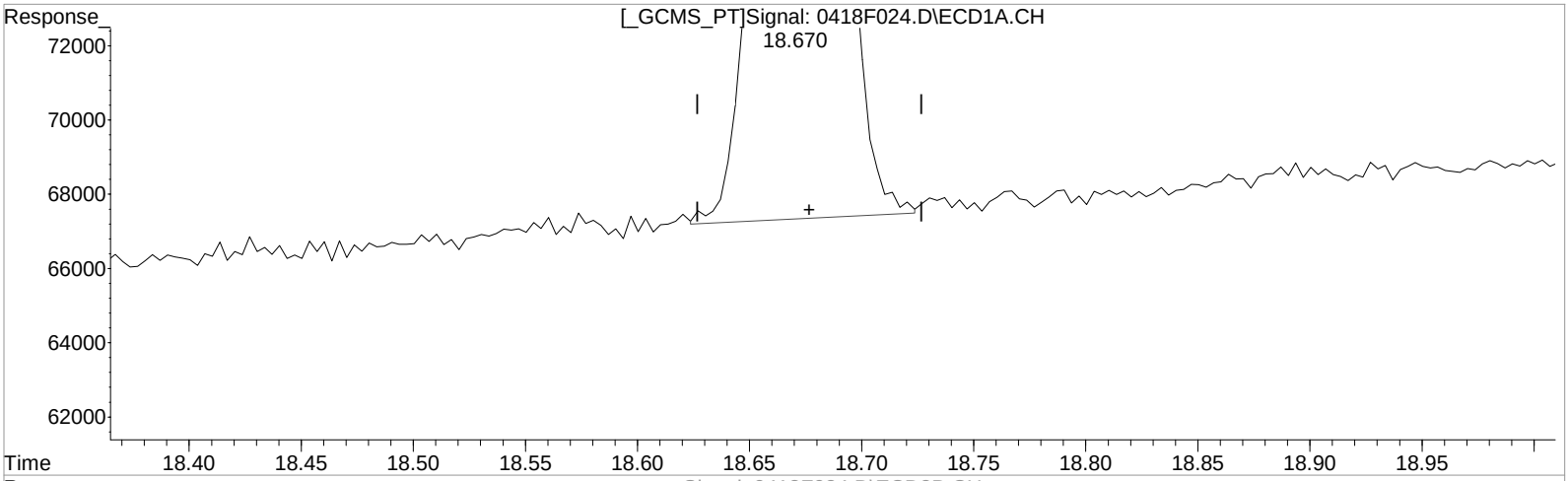
Quantitation Report (Qedit)

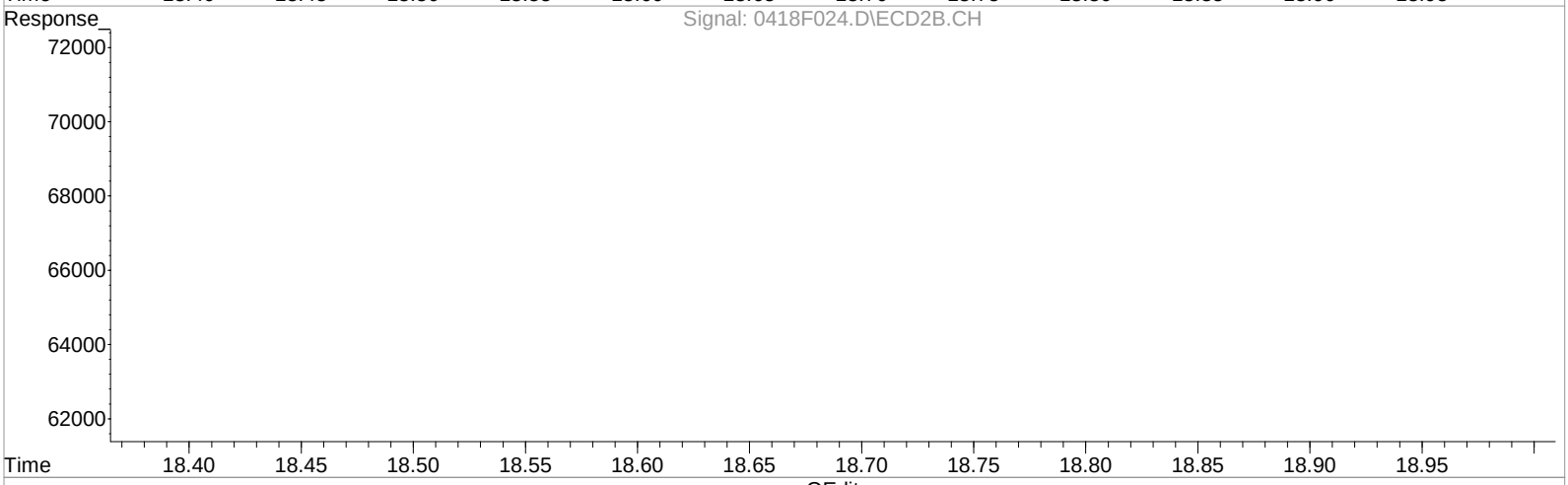
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F024.D Vial: 18
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:57 am Operator: LM
Sample : K2002652-006 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:01:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.670min 4.345 ug/L m

response 88514

Manual Integration:

After

Baseline correction

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.064min 3.953 ug/L

response 313265

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F025.D\
Lab ID: K2002652-007
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 07:27:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	cis-Chlordane	13.52			see Quant Report
	trans-Chlordane	13.45			
	Chlordane {2}	11.66			
	Chlordane {4}	13.45			
	Chlordane {5}	13.52			
	Chlordane {6}	13.61			
	4,4'-DDD	14.64			
	Endosulfan I	13.61			
	Endosulfan II	14.81			
	Endrin Aldehyde	14.99			
	Heptachlor	11.66			
	cis-Nonachlor	14.64			
	trans-Nonachlor	13.61			
	Toxaphene {2}	14.81			
	Toxaphene {4}	14.99			
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.12			see Quant Report
	trans-Chlordane	11.97			
	Chlordane {4}	11.97			
	Chlordane {5}	12.01			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Chlordane {6}	12.12			see Quant Report
	4,4'-DDD	13.39			
	2,4'-DDE	12.01			
	2,4'-DDT	13.21			
	Endrin Aldehyde	13.93			
	cis-Nonachlor	13.21			
	trans-Nonachlor	12.01			
	Toxaphene {1}	13.39			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st SM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F025.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 07:27:00	**Vial:**	10
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-007	**Raw Units:**	ug/L

Bottle ID:	K2002652-007.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01c	1161025	4991164	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01c	1161025	4991164	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1161025	4991164	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria		Rpt?
Decachlorobiphenyl	18.67	17.06	84656	293708	4.098	3.650	82	73	73	14 - 160		Y
Tetrachloro-m-xylene	8.98	7.26 -0.01	235283	346497	13.977	5.602	280*	112	112	30 - 148	P	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U		Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U		Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U		Y
gamma-BHC (Lindane)	10.48 -0.01	9.24	2673	5310	0.143	0.069	0.72J	0.35U	0.60 U		Y
Chlordane					5.4895	7.53	27	38	**27**		Y
Chlordane {1}	11.30 +0.03	9.57	2310	12860	2.919	4.720	15	24		P	
Chlordane {2}	11.66 -0.01c	11.66	1502	8890	1.498	4.785	7.5	24		i	
Chlordane {3}	12.25	11.81	2435	15486	3.384	12.554	17	63		i	
Chlordane {4}	13.45 c	11.97 c	18849	58150	8.630	7.784	43	39			
Chlordane {5}	13.52 -0.01c	12.01 -0.01c	14374	38945	7.956	8.514	40	43			
Chlordane {6}	13.61 c	12.12 c	11339	45191	8.550	6.823	43	34			
Dieldrin	13.99 -0.01	12.63	27271	93720	1.424	1.278	7.1	6.4	**6.4**		Y
Heptachlor	11.66 -0.01c	9.92 -0.01	1502	102854	0.075	1.315	0.38U	6.6	0.61 U		Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U		Y
Hexachlorobenzene	9.99 +0.01	0.00	1900	0	0.083	0.000	0.42J	0U	0.27 U		Y
Toxaphene					1666666667	21.114	150	110	**110**		Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F025.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 07:27:00	**Vial:**	10
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-007	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74 -0.01	13.39 c	1005	17316	5.268	15.613	26	78		i
Toxaphene {2}	14.81 c	13.45 -0.01	14022	12444	81.262	14.584	410	73		i
Toxaphene {3}	14.92 -0.01	13.59 -0.01	6159	17095	17.913	10.407	90	52		P
Toxaphene {4}	14.99 -0.01 c	13.65 -0.02	4904	7655	21.208	15.215	110	76		
Toxaphene {5}	15.34 -0.01	13.93 c	5301	16613	24.059	27.808	120	140		
Toxaphene {6}	15.52 -0.02	15.43	3859	13934	35.445	43.057	180	220		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:11:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.197	5.481	1161025	4991164	100.000	100.000
29)	1-Bromo-2...	6.197	5.481	1161025	4991164	100.000	100.000
36)	1-Bromo-2...	6.197	5.481	1161025	4991164	100.000	100.000
43)	1-Bromo-2...	6.197	5.481	1161025	4991164	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.984	7.264	235283	346497	13.977	5.602 #
28) s	Decachlor...	18.667	17.061	84656	293708	4.098m	3.650
	Target Compounds						
4)	Hexachlor...	9.994	0.000	1900	0	0.083	N.D. d#
6)	gamma-BHC...	10.480	9.237	2673	5310	0.143	0.069m#
8)	Heptachlor	11.664f	9.924	1502	102854	0.075	1.315m#
10)	Isodrin	12.724	0.000	3708	0	0.232	N.D. d#
12)	gamma-Chl...	13.447	11.967	18849	58150	0.963	0.780
13)	Endosulfan I	13.607	0.000	11339	0	0.635	N.D. d#
14)	alpha-Chl...	13.524	12.117	14374	45191	0.738	0.598
15)	Dieldrin	13.994	12.631	27271	93720	1.424	1.278
16)	4,4'-DDE	13.824	12.474	2596	6587	0.145	0.093m#
17)	Endrin	14.364	13.111	3373	7345	0.193	0.105 #
18)	Endosulfa...	14.807	13.531	14022	33620	0.792	0.533m#
19)	4,4'-DDD	14.640	13.387	7592	17316	0.548m	0.328 #
20)	Endrin Al...	14.994	13.927	4904	16613	0.319	0.318
21)	Endosulfa...	15.464	14.244	5357	3289	0.297	0.053 #
22)	4,4'-DDT	15.157	13.797	4159	18385	0.286	0.361 #
23)	Endrin Ke...	16.150	15.181	1271	10082	0.066	0.136 #
24)	Methoxychlor	15.897	14.897	1467	4234	0.166	0.150m
25)	2,4'-DDE	0.000	12.014	0	38945	N.D. d	0.845
26)	2,4'-DDD	13.930	12.821	5299	10907	0.482	0.273 #
27)	2,4'-DDT	0.000	13.211	0	14818	N.D.	0.342 #
30)	Toxaphene	14.740	13.387	1005	17316	5.268m	15.613 #
31)	Toxaphene...	14.807	13.451	14022	12444	81.262	14.584 #
32)	Toxaphene...	14.920	13.587	6159	17095	17.913	10.407 #
33)	Toxaphene...	14.994	13.654	4904	7655	21.208	15.215 #
34)	Toxaphene...	15.337	13.927	5301	16613	24.059	27.808
35)	Toxaphene...	15.520	15.427	3859	13934	35.445	43.057
37)	Chlordane	11.297	9.571	2310	12860	2.919	4.720 #
38)	Chlordane...	11.664f	11.661	1502	8890	1.498	4.785m#
39)	Chlordane...	12.247	11.811	2435	15486	3.384	12.554 #
40)	Chlordane...	13.447	11.967	18849	58150	8.630	7.784
41)	Chlordane...	13.524	12.014	14374	38945	7.956	8.514
42)	Chlordane...	13.607	12.117	11339	45191	8.550	6.823
44)	Chlorpyrifos	12.094	0.000	5561	0	0.520	N.D. d#
45)	Oxychlordane	12.870	0.000	3669	0	0.198	N.D. d#
46)	cis-Nonac...	14.640	13.211	7772	14818	0.400m	0.201 #
47)	trans-Non...	13.607	12.014	11339	38945	0.580	0.536
52)	Perthane	14.137f	12.901	2178	5961	3.942	3.260
	SemiQuant Compounds - Not Calibrated on this Instrument						

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:11:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

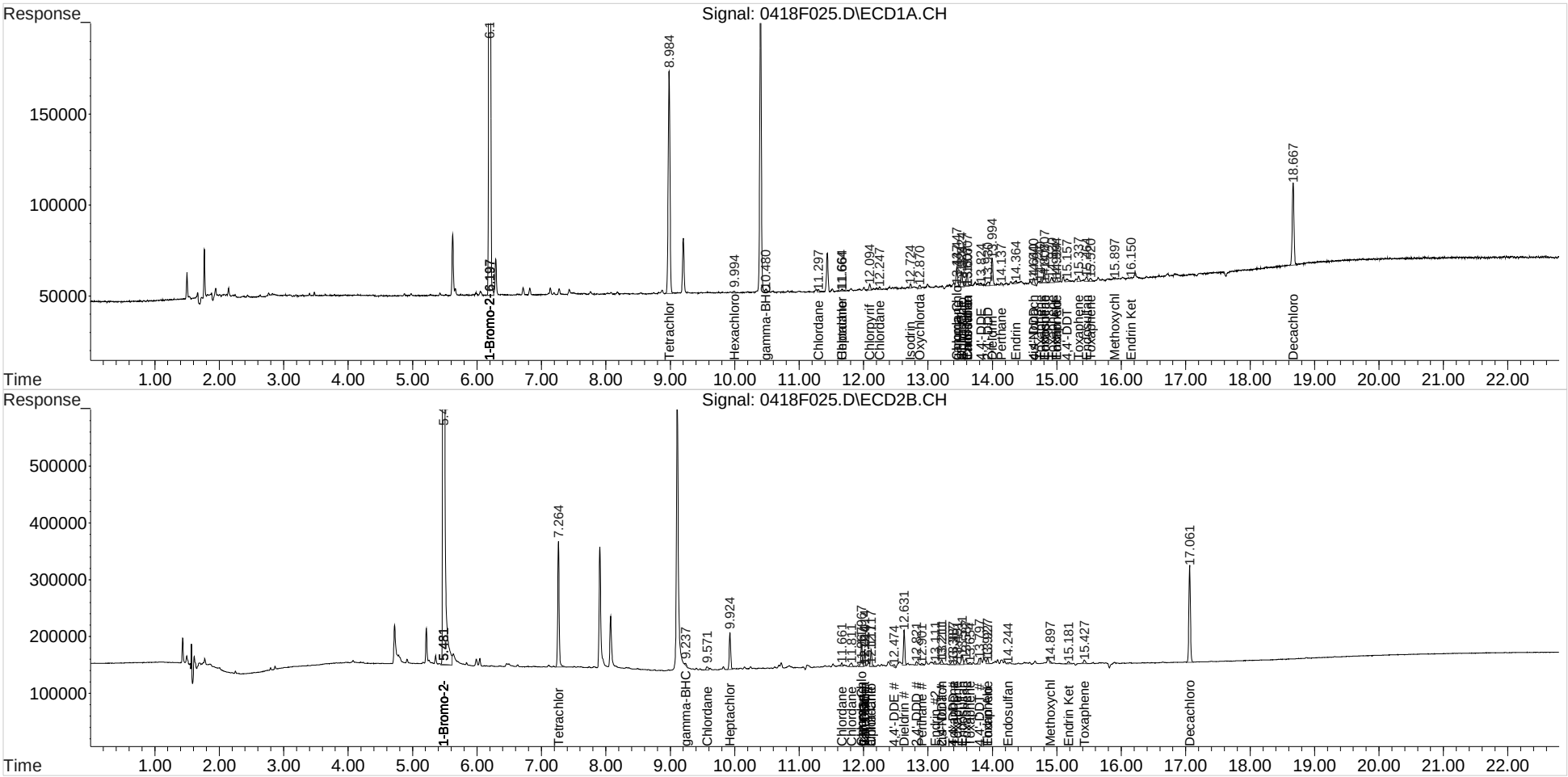
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:11:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



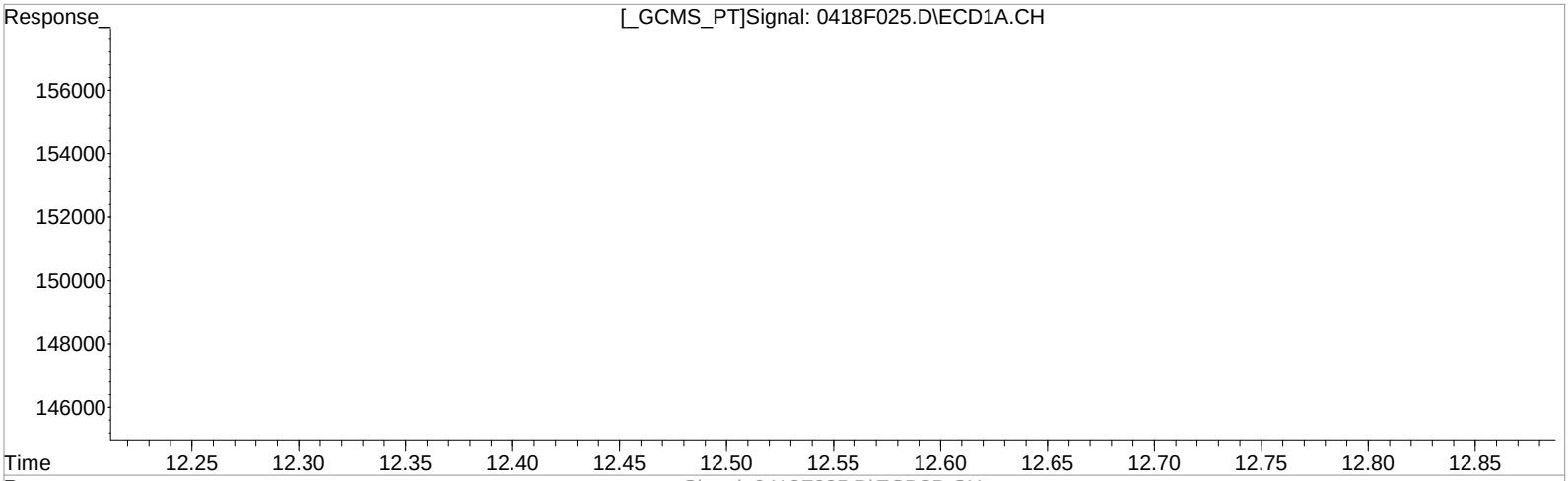
Quantitation Report (Qedit)

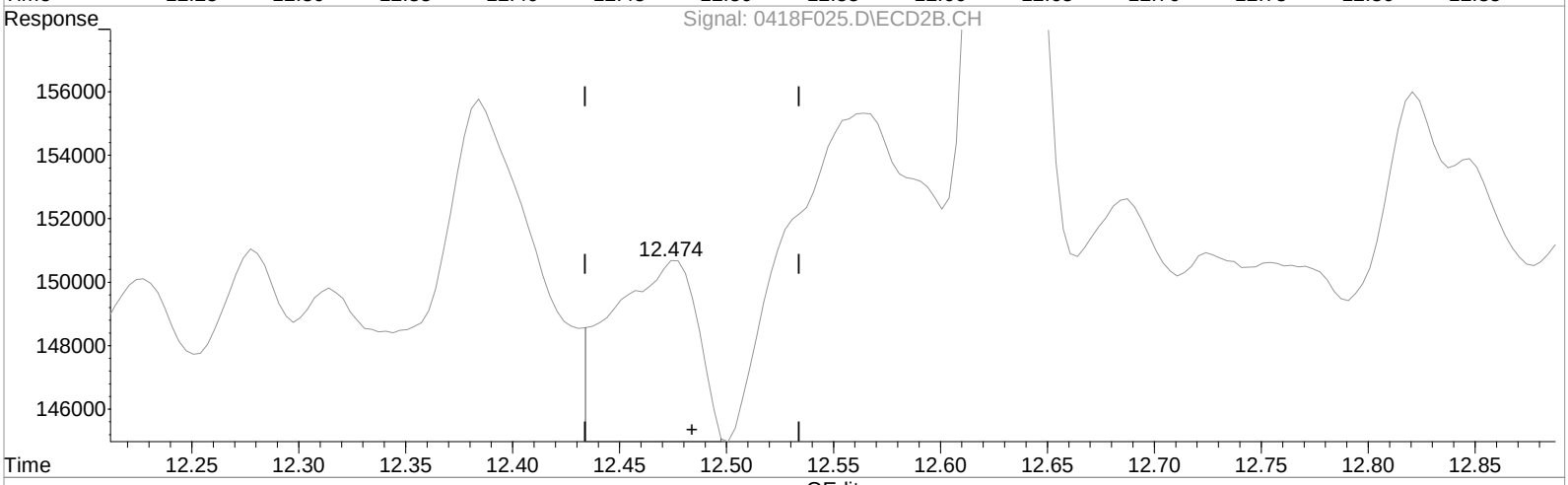
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.824min 0.145 ug/L

response 2596

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.474min 0.219 ug/L

response 15484

(+) = Expected Retention Time

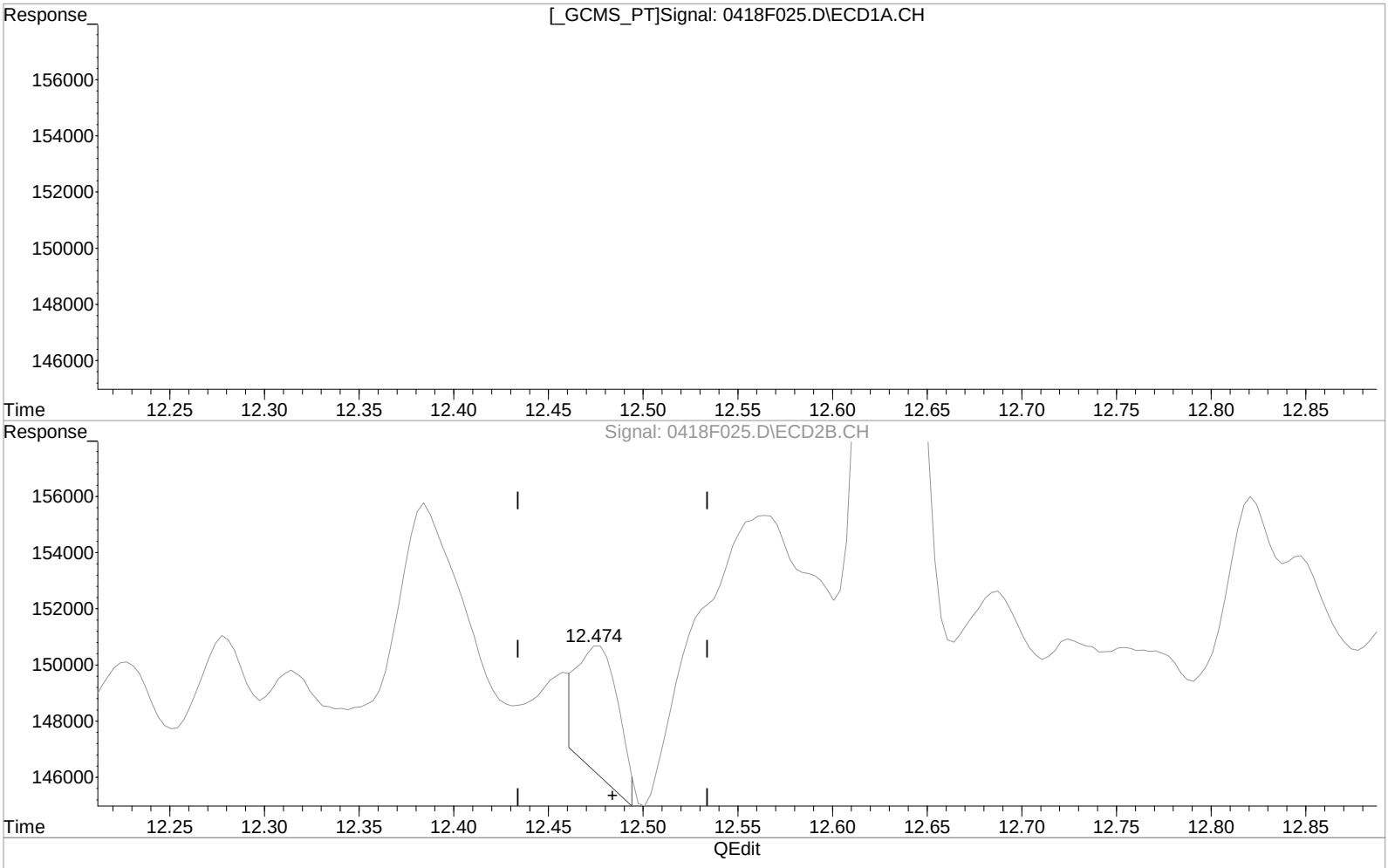
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(16) 4,4'-DDE

13.824min 0.145 ug/L

response 2596

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.474min 0.093 ug/L m

response 6587

(+) = Expected Retention Time

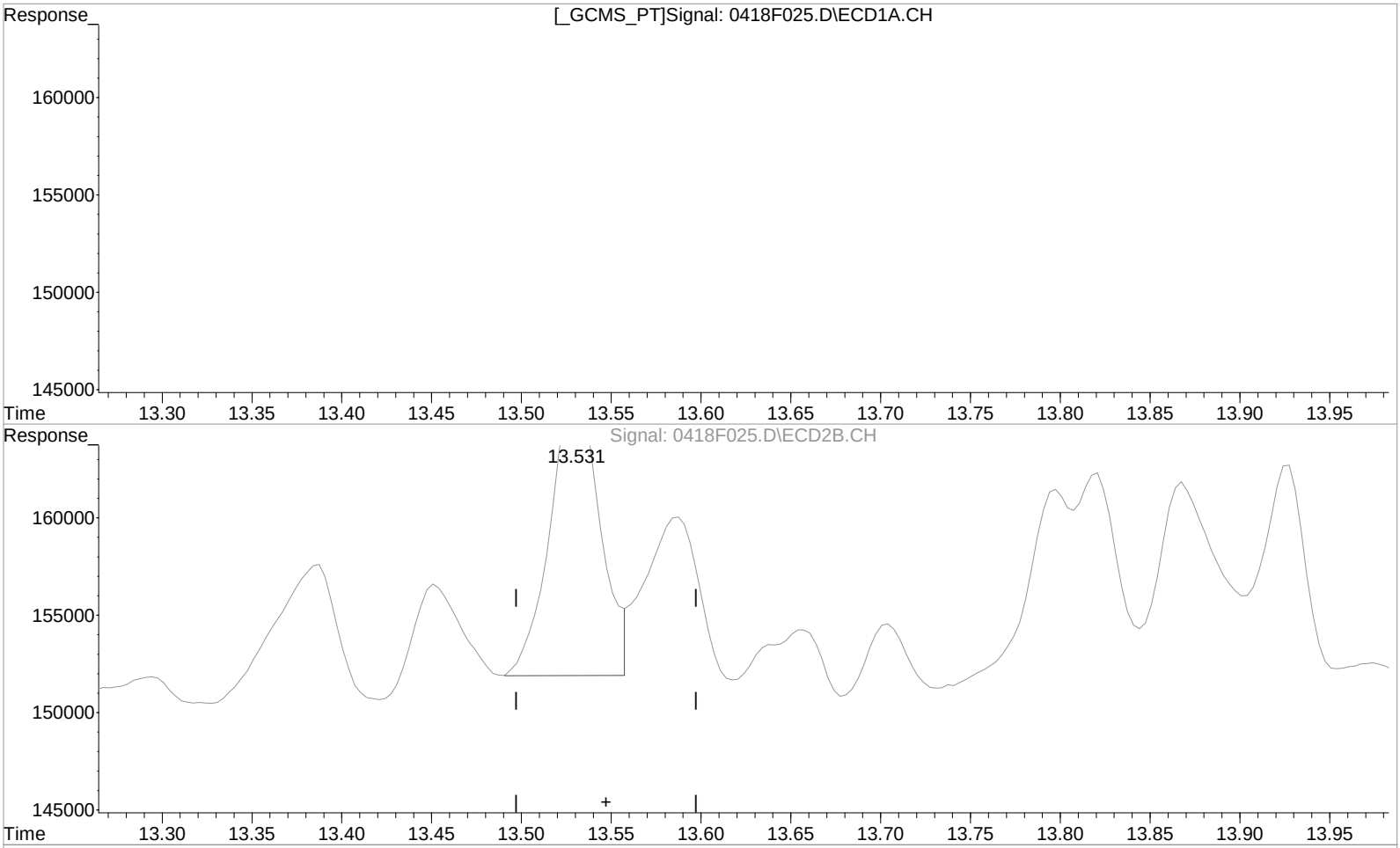
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.807min 0.792 ug/L

response 14022

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.531min 0.456 ug/L

response 28736

(+) = Expected Retention Time

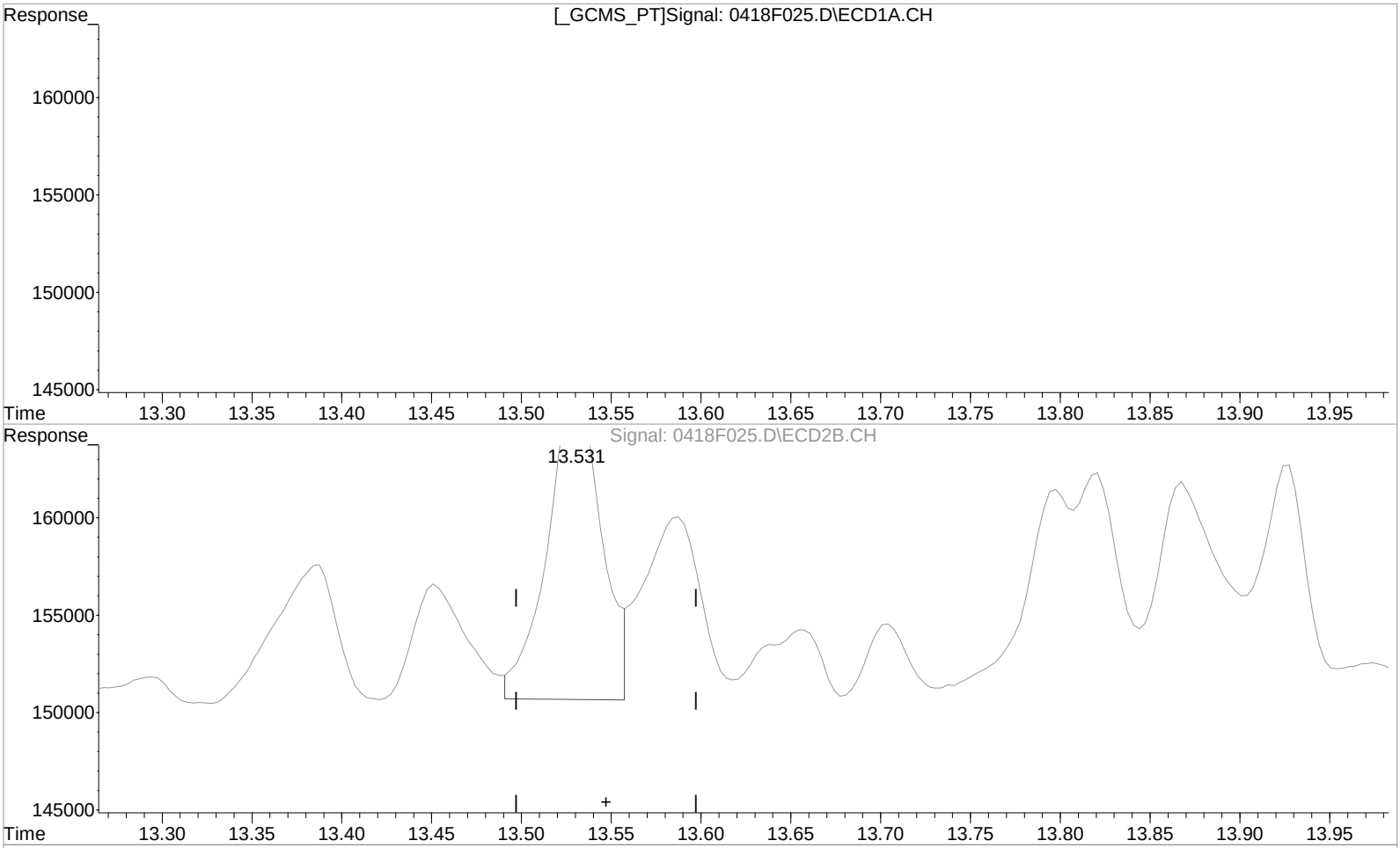
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.807min 0.792 ug/L

response 14022

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.531min 0.533 ug/L m

response 33620

(+) = Expected Retention Time

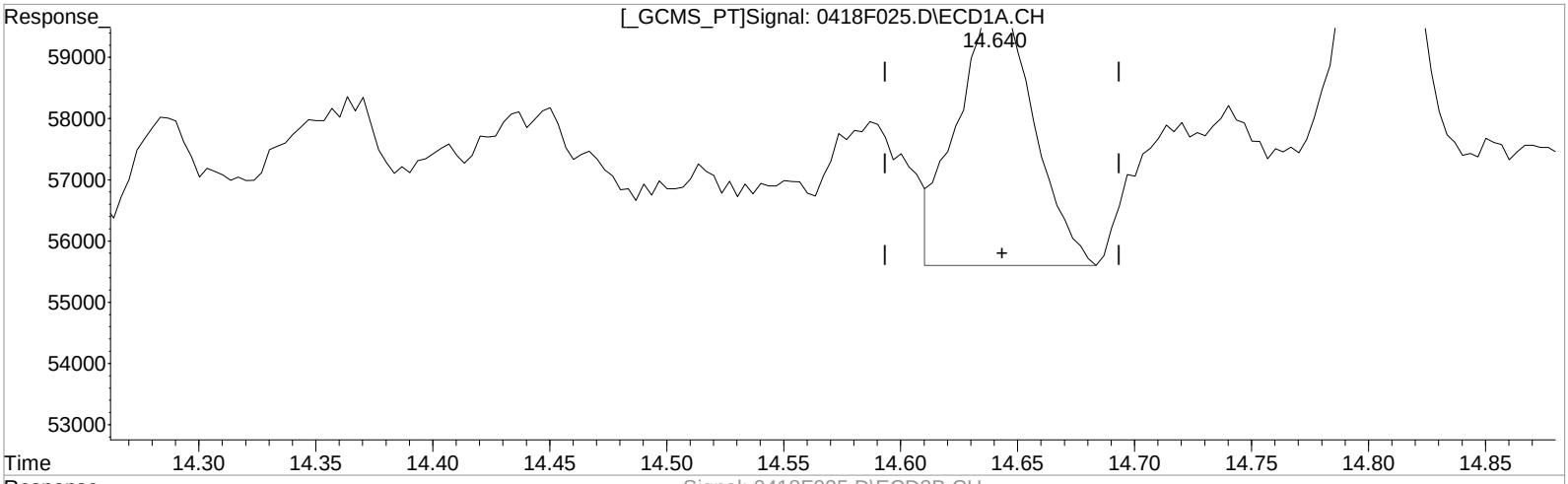
Quantitation Report (Qedit)

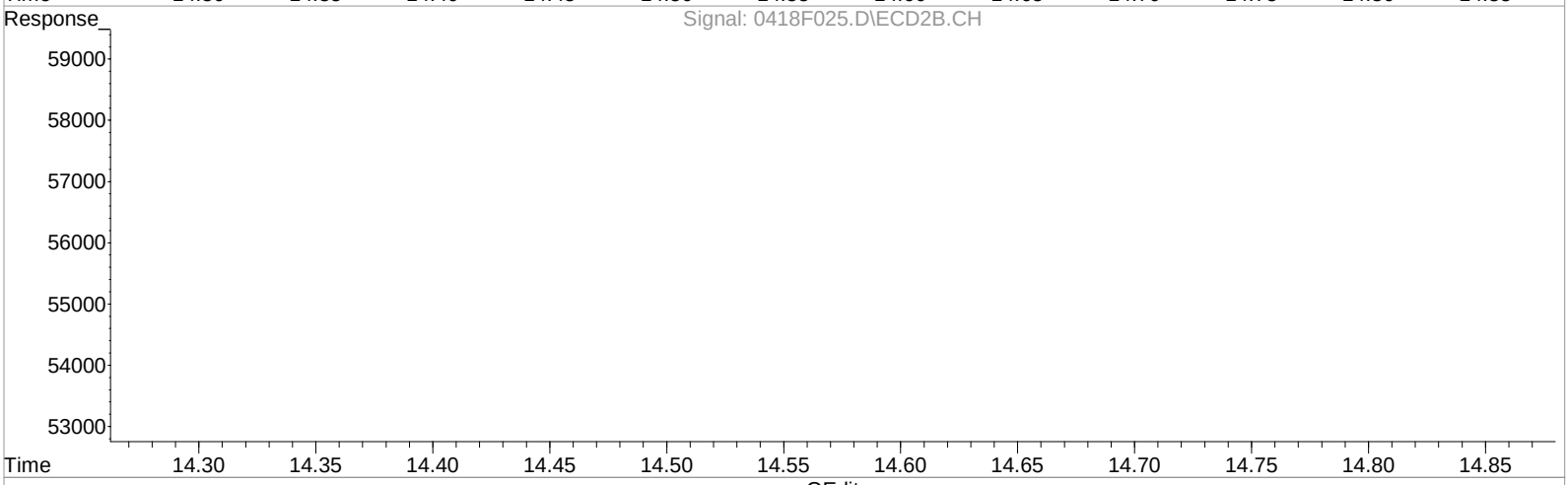
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.640min 0.697 ug/L

response 9658

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.387min 0.328 ug/L

response 17316

(+) = Expected Retention Time

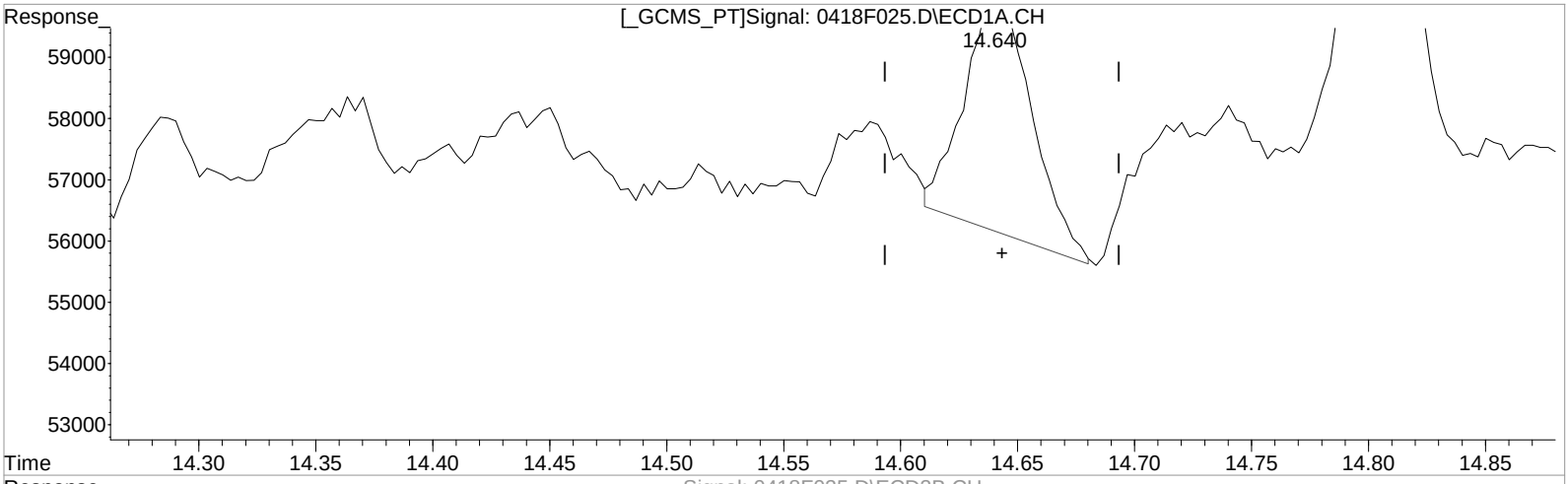
Quantitation Report (Qedit)

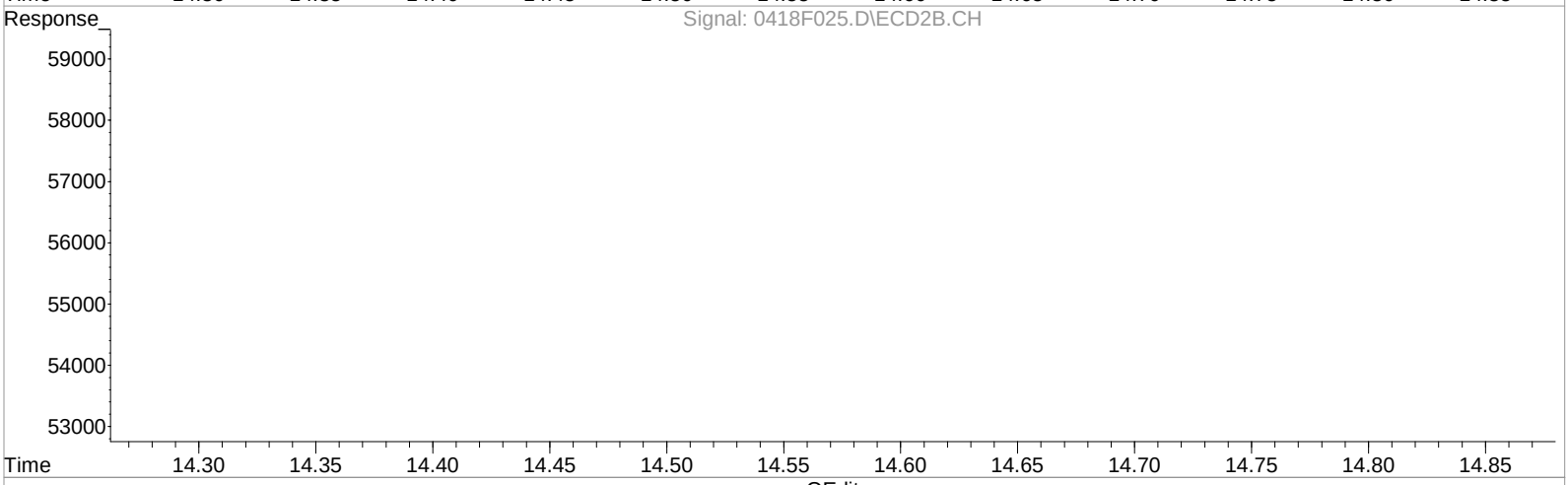
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.640min 0.548 ug/L m

response 7592

Manual Integration:

After

Baseline correction

04/21/20

(19) 4,4'-DDD #2

13.387min 0.328 ug/L

response 17316

(+) = Expected Retention Time

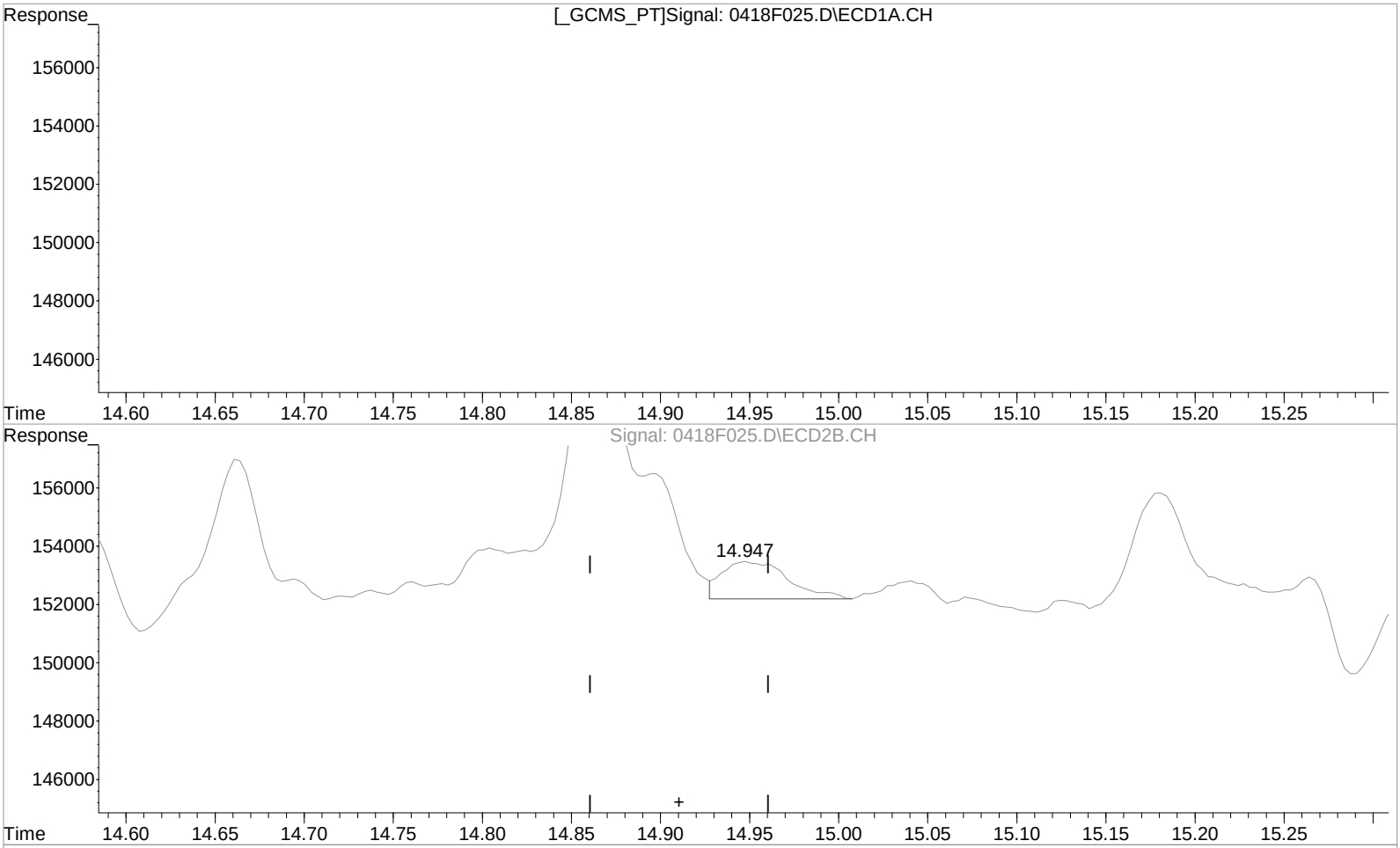
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(24) Methoxychlor

15.897min 0.166 ug/L

response 1467

Manual Integration:

Before

04/21/20

(24) Methoxychlor #2

14.947min 0.116 ug/L

response 3276

(+) = Expected Retention Time

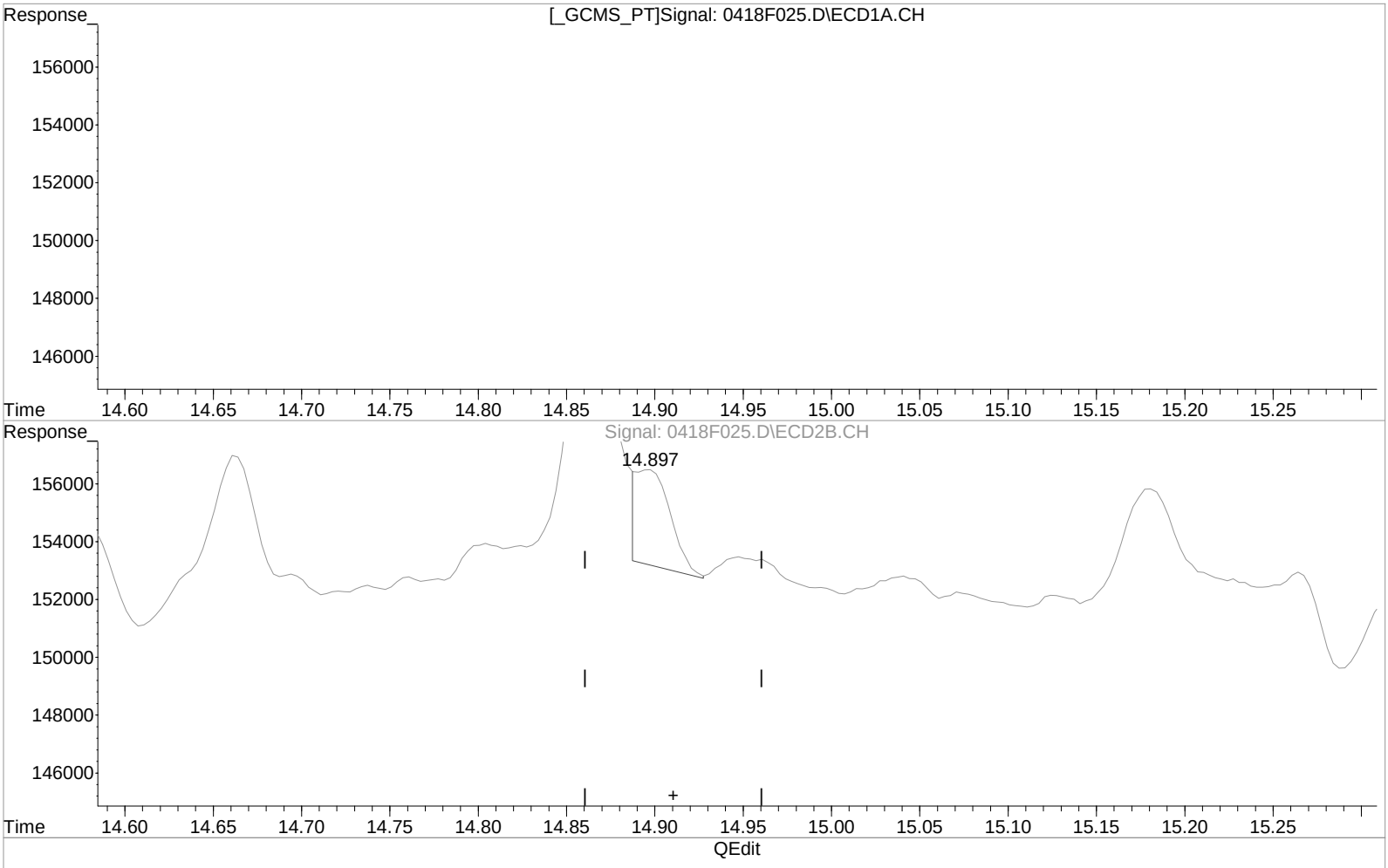
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(24) Methoxychlor

15.897min 0.166 ug/L

response 1467

Manual Integration:

After

WRT

04/21/20

(24) Methoxychlor #2

14.897min 0.150 ug/L m

response 4234

(+) = Expected Retention Time

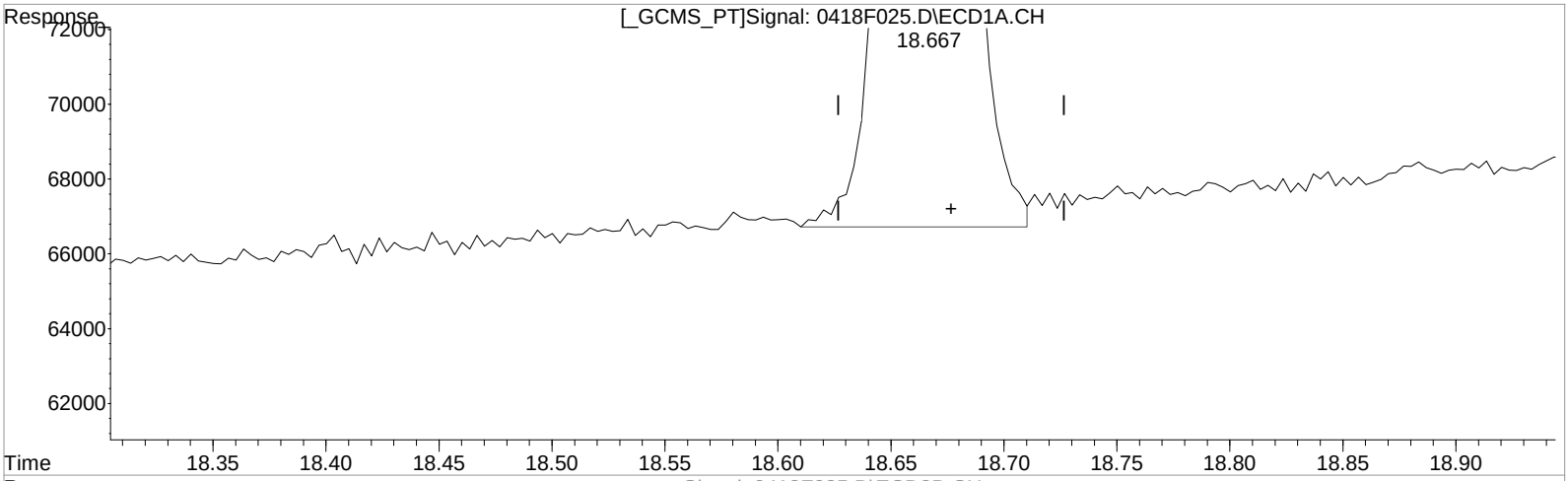
Quantitation Report (Qedit)

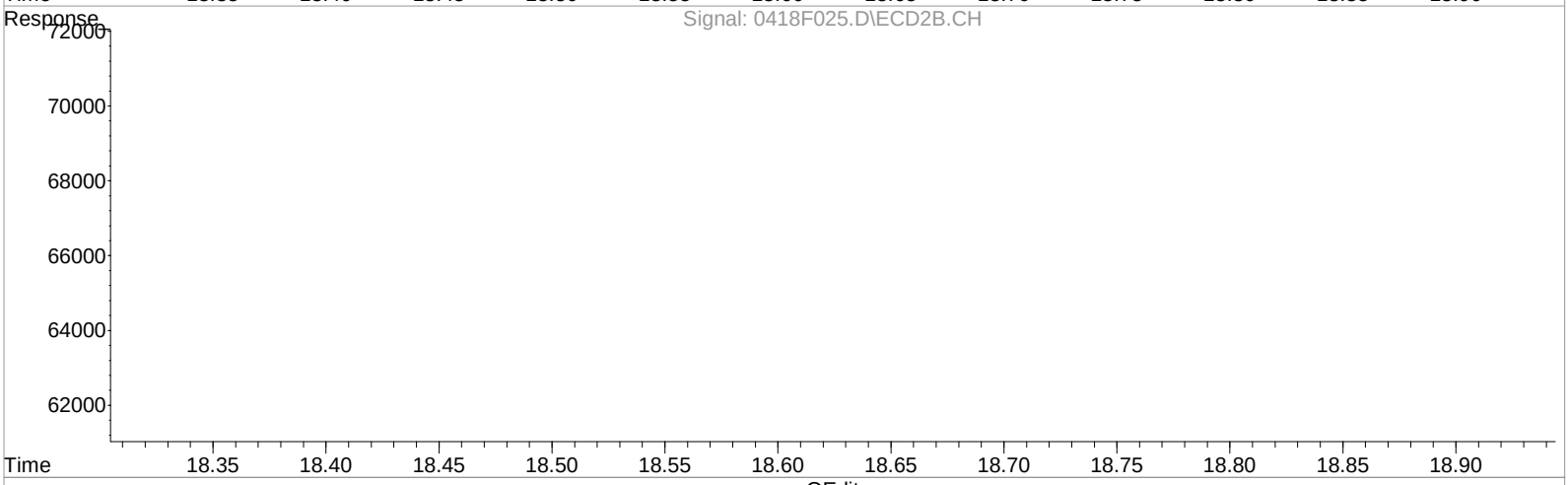
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.667min 4.179 ug/L

response 86331

Manual Integration:

Before

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.061min 3.650 ug/L

response 293708

(+) = Expected Retention Time

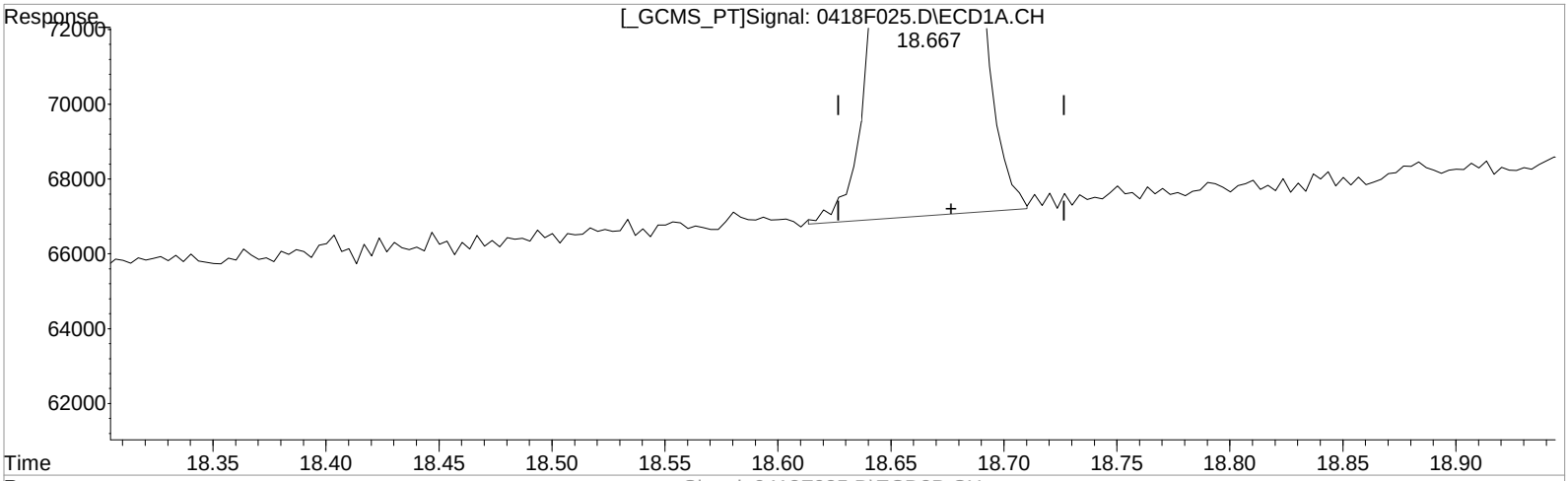
Quantitation Report (Qedit)

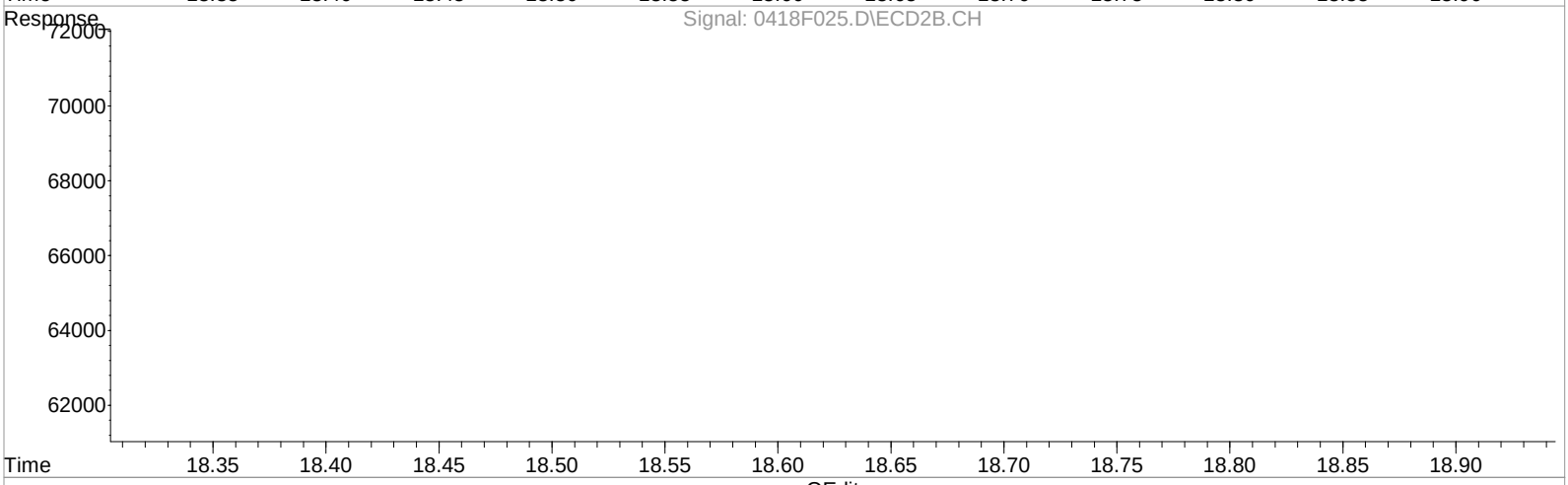
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.667min 4.098 ug/L m

response 84656

Manual Integration:

After

Baseline correction

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.061min 3.650 ug/L

response 293708

(+) = Expected Retention Time

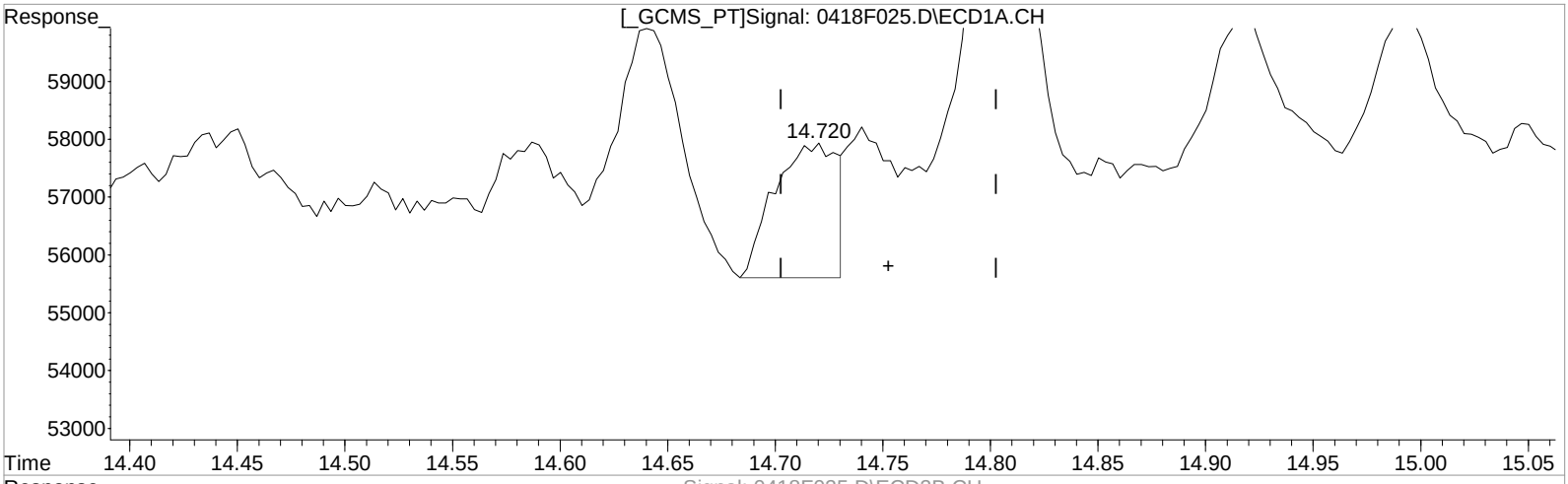
Quantitation Report (Qedit)

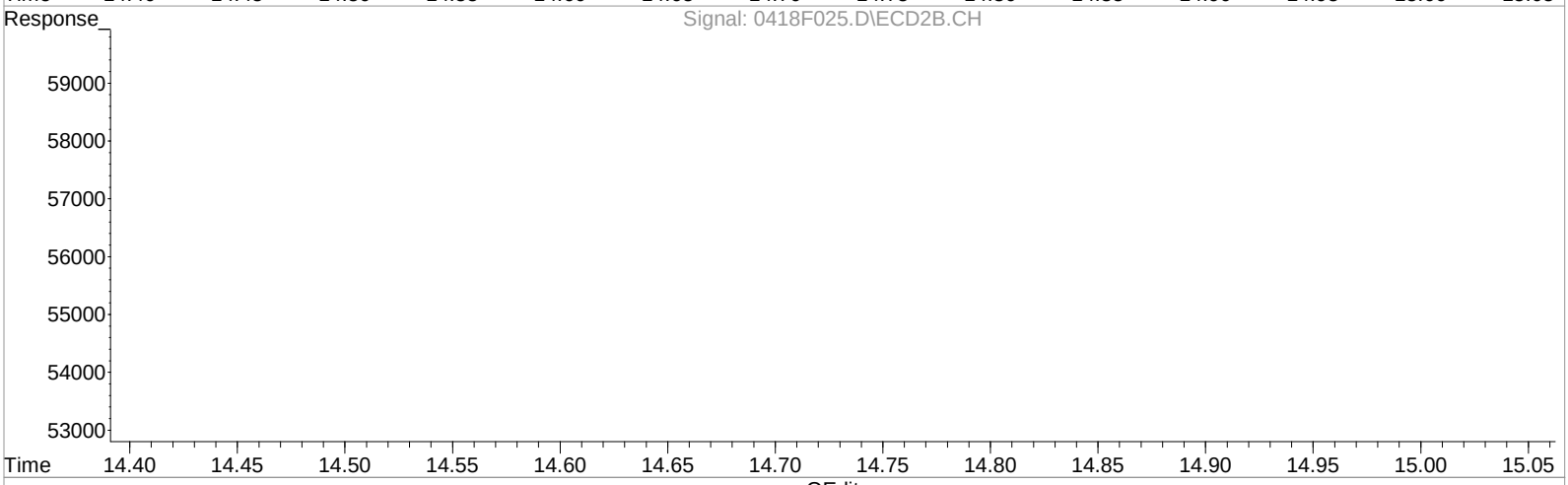
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.720min 24.795 ug/L

response 4730

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.387min 15.613 ug/L

response 17316

(+) = Expected Retention Time

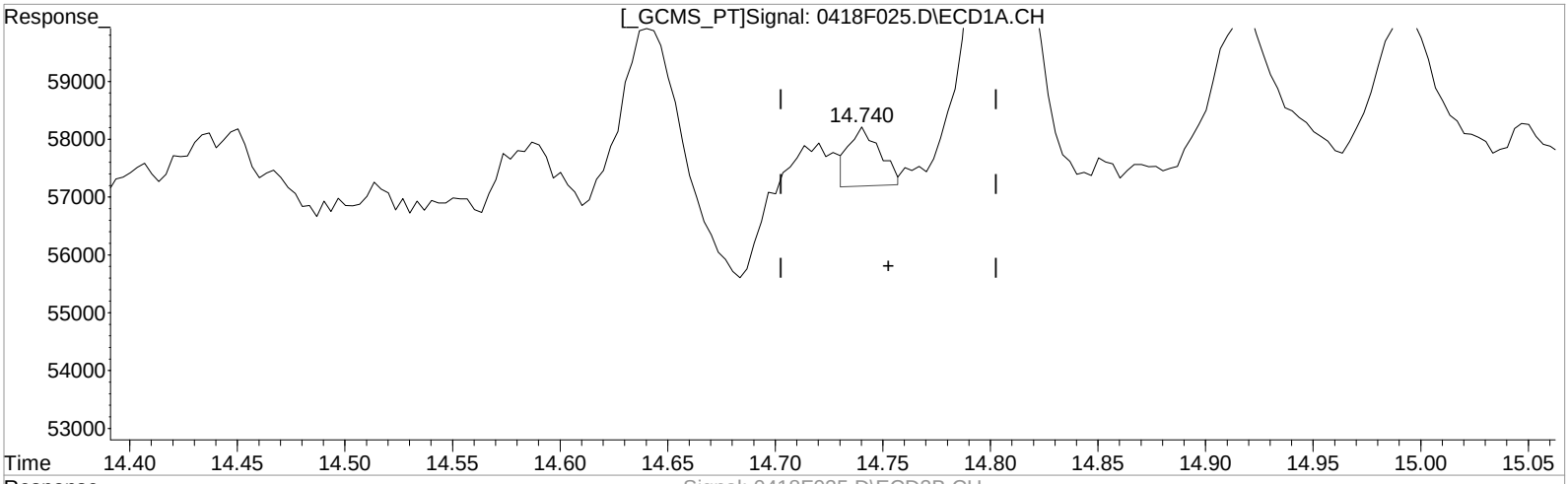
Quantitation Report (Qedit)

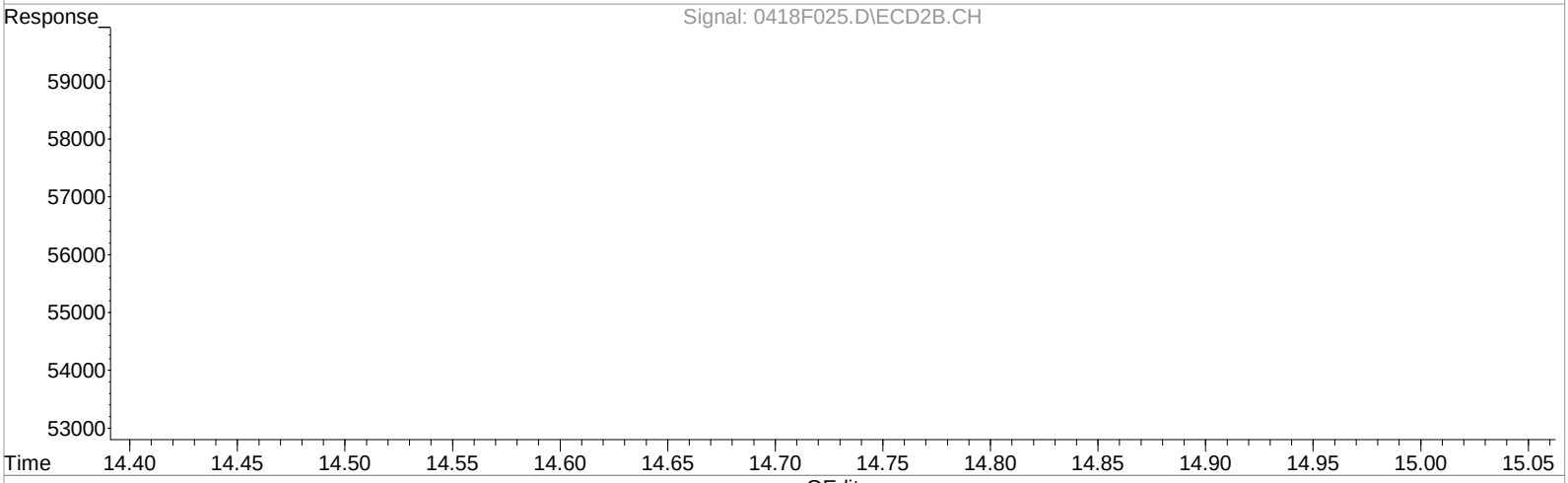
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.740min 5.268 ug/L m

response 1005

Manual Integration:

After

Baseline correction

04/21/20

(30) Toxaphene #2

13.387min 15.613 ug/L

response 17316

(+) = Expected Retention Time

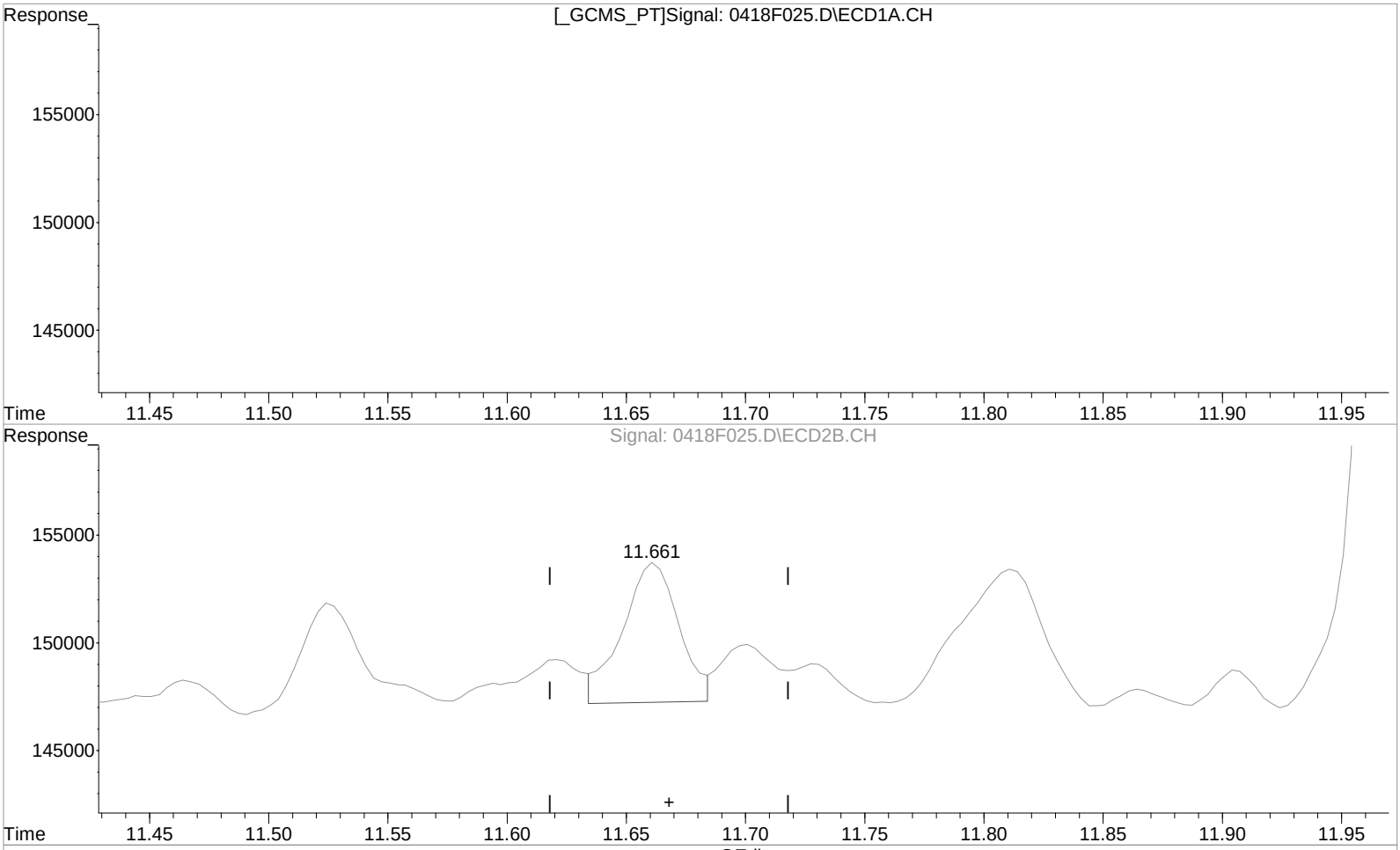
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(38) Chlordane {2}

11.664min 1.498 ug/L

response 1502

Manual Integration:

Before

04/21/20

(38) Chlordane {2} #2

11.661min 5.730 ug/L

response 10647

(+) = Expected Retention Time

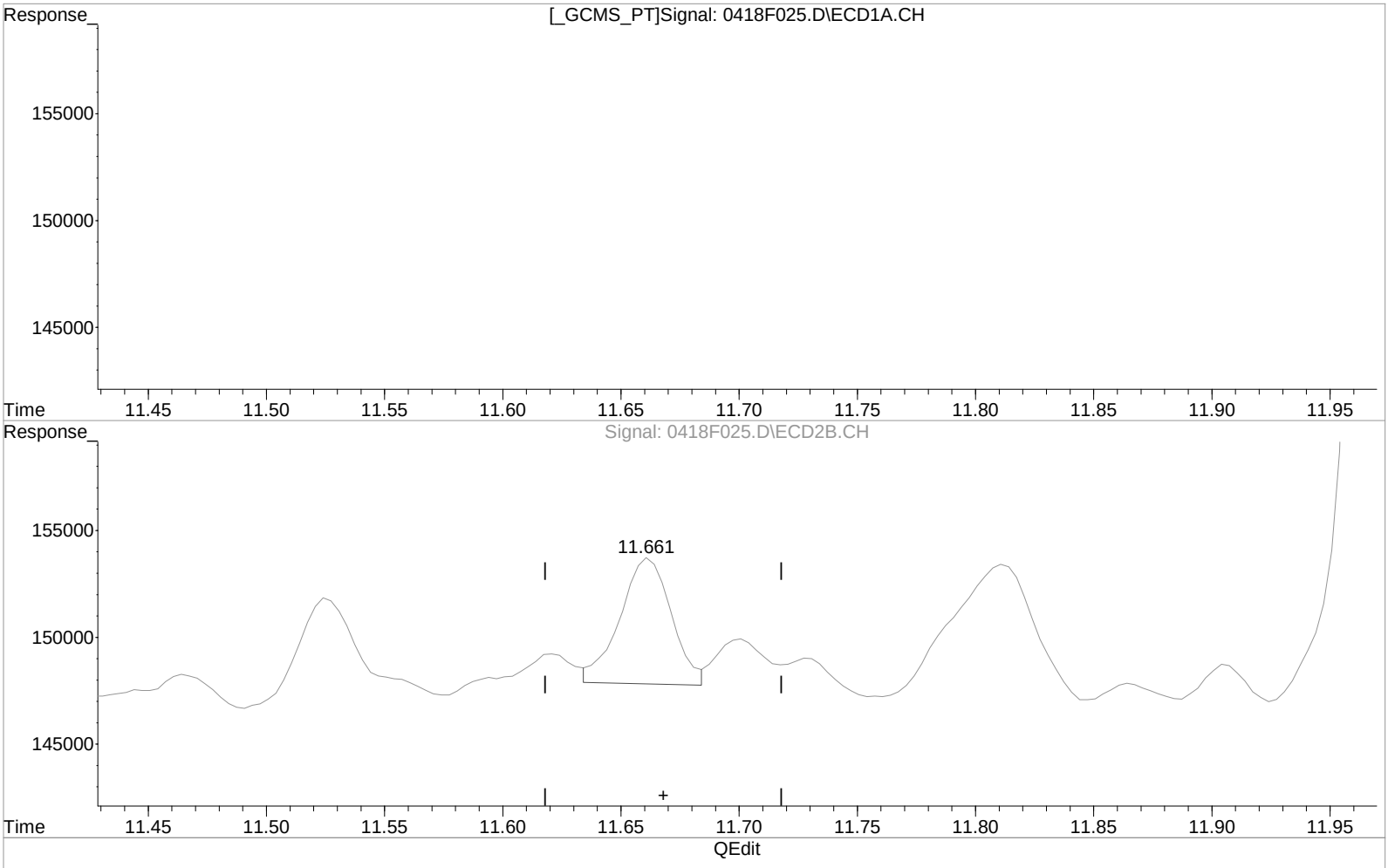
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(38) Chlordane {2}

11.664min 1.498 ug/L

response 1502

(38) Chlordane {2} #2

11.661min 4.785 ug/L m

response 8890

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

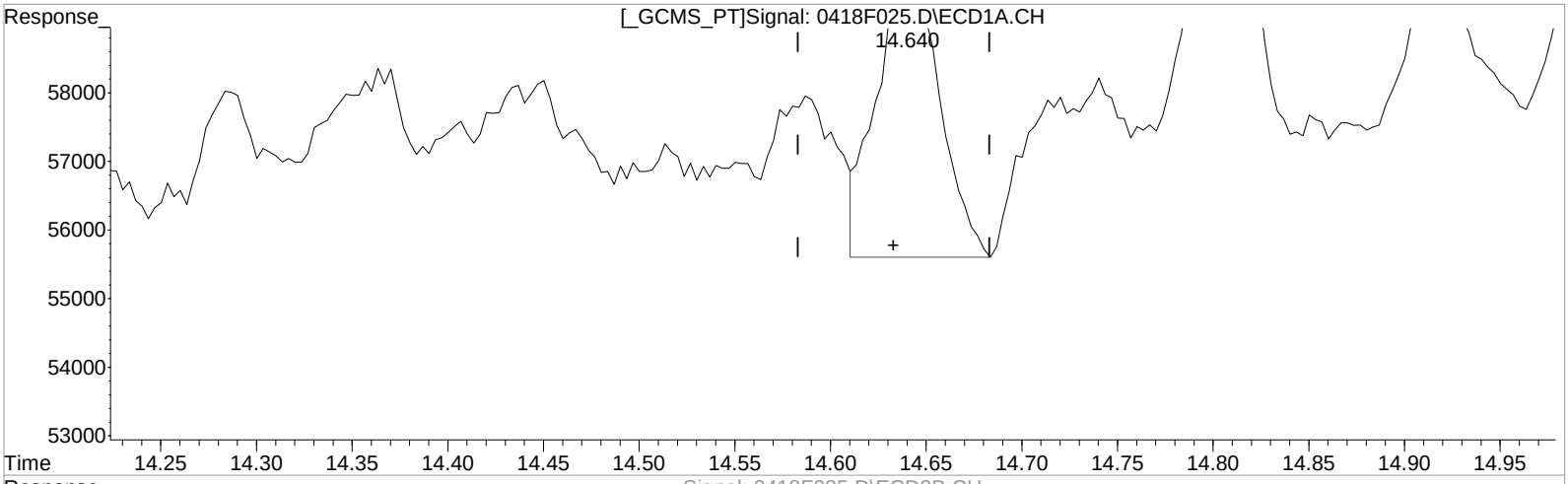
Quantitation Report (Qedit)

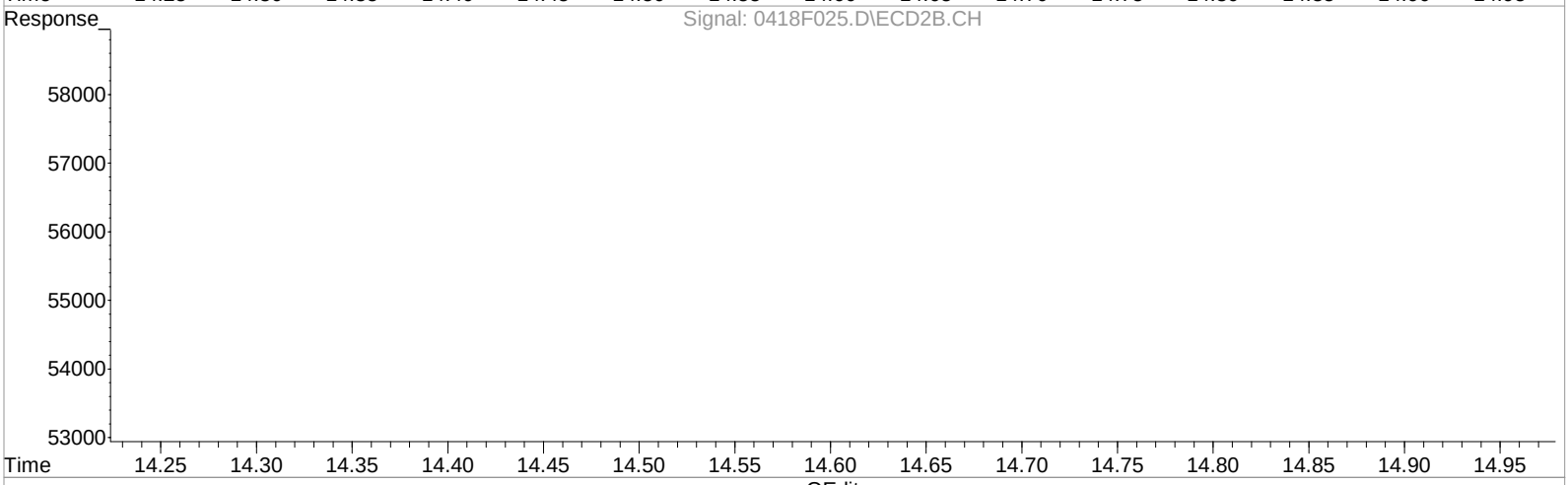
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.640min 0.497 ug/L

response 9658

Manual Integration:

Before

04/21/20

(46) cis-Nonachlor #2

13.211min 0.201 ug/L

response 14818

(+) = Expected Retention Time

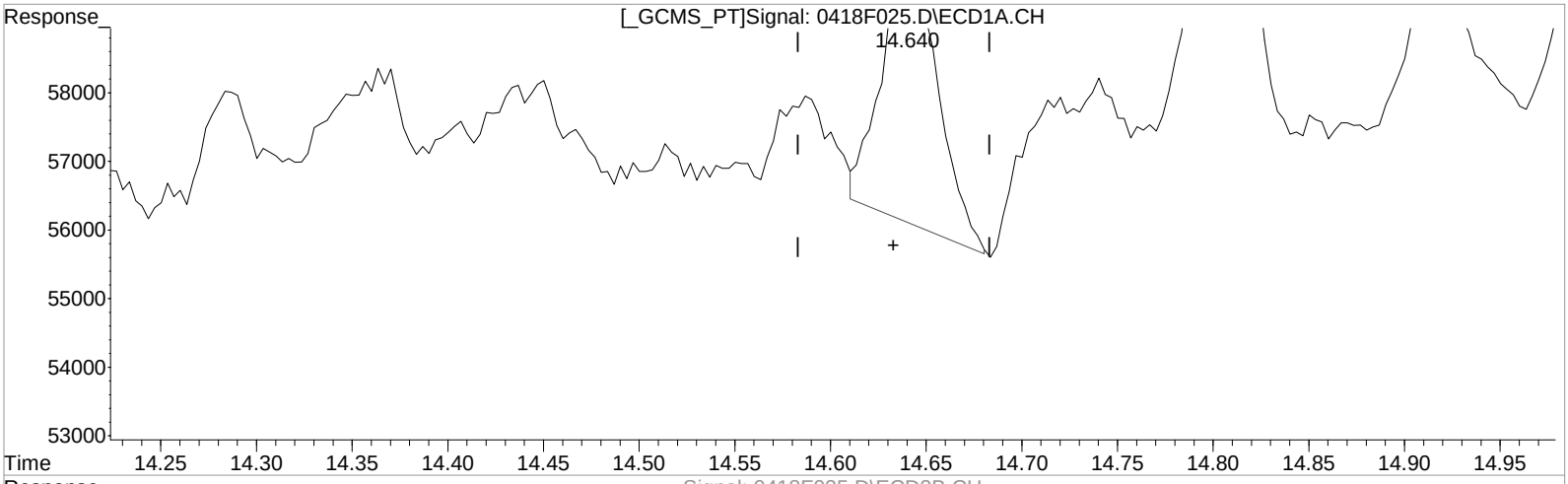
Quantitation Report (Qedit)

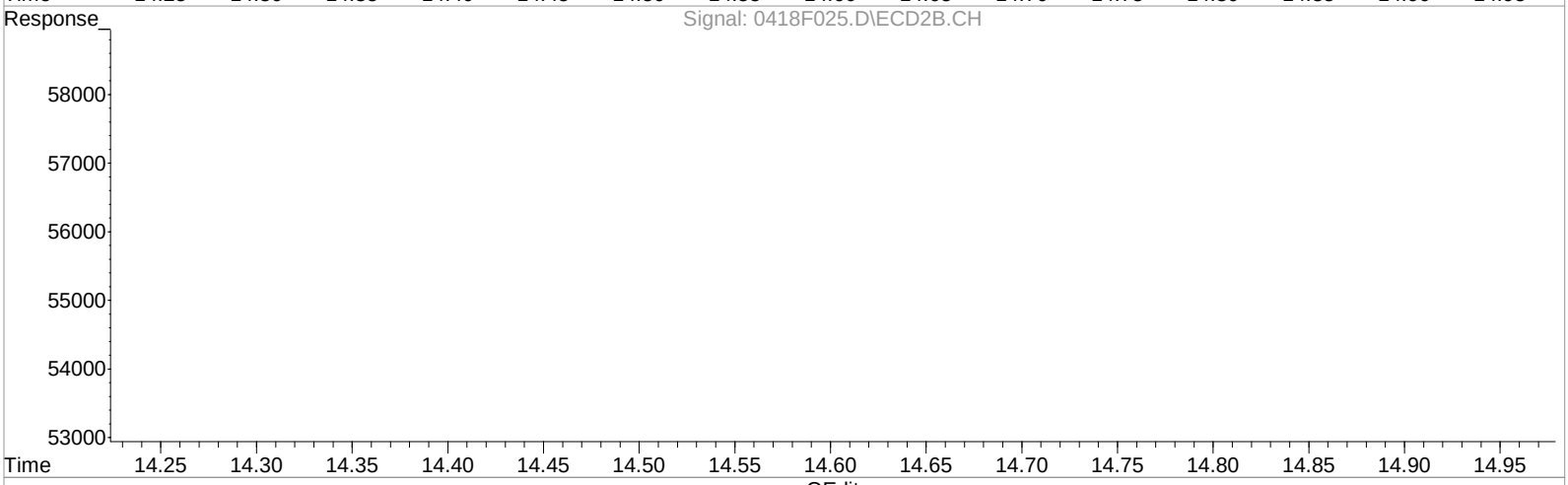
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.640min 0.400 ug/L m

response 7772

Manual Integration:

After

Baseline correction

04/21/20

(46) cis-Nonachlor #2

13.211min 0.201 ug/L

response 14818

(+) = Expected Retention Time

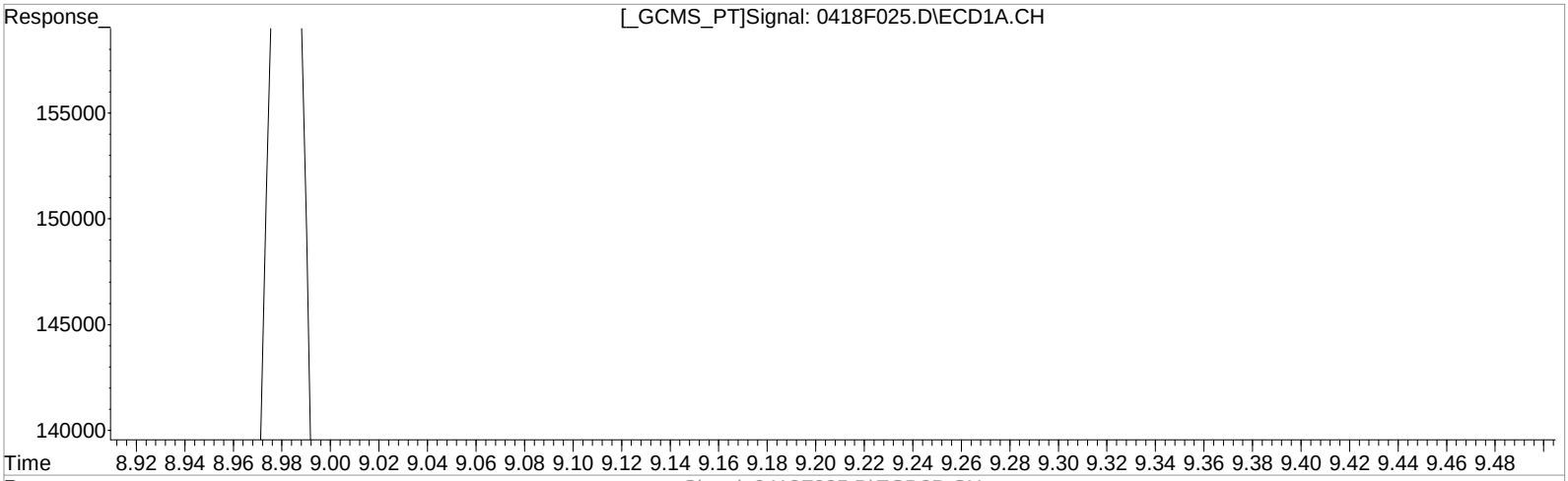
Quantitation Report (Qedit)

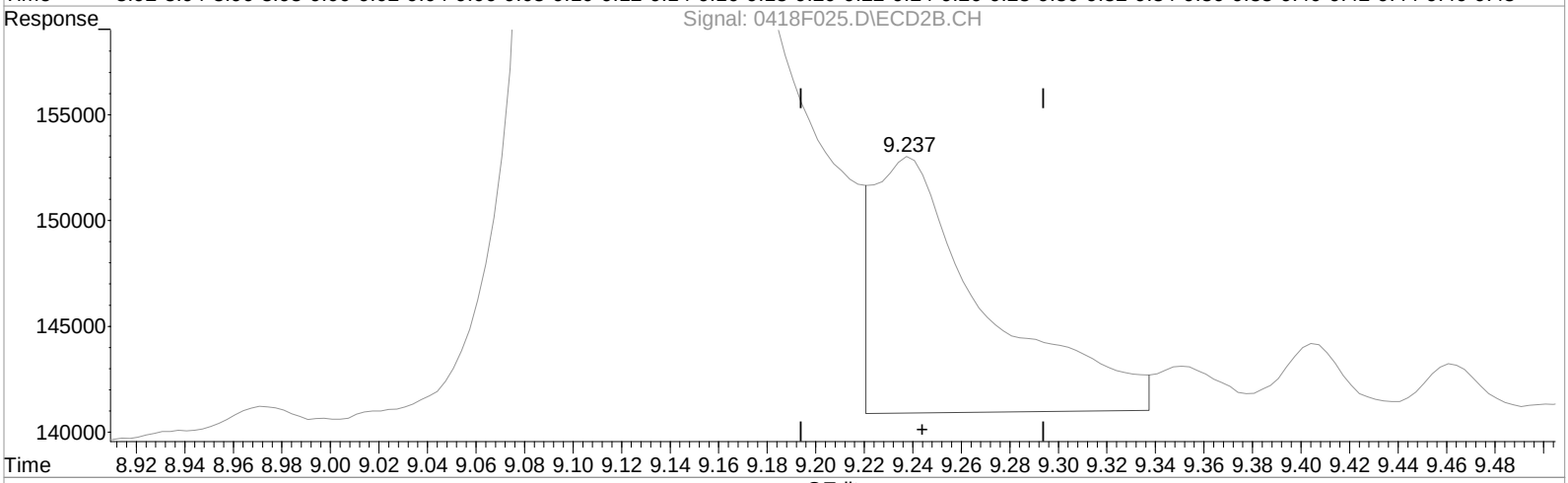
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(6) gamma-BHC (Lindane)

10.480min 0.143 ug/L

response 2673

Manual Integration:

Before

04/21/20

(6) gamma-BHC (Lindane) #2

9.237min 0.498 ug/L

response 38318

(+) = Expected Retention Time

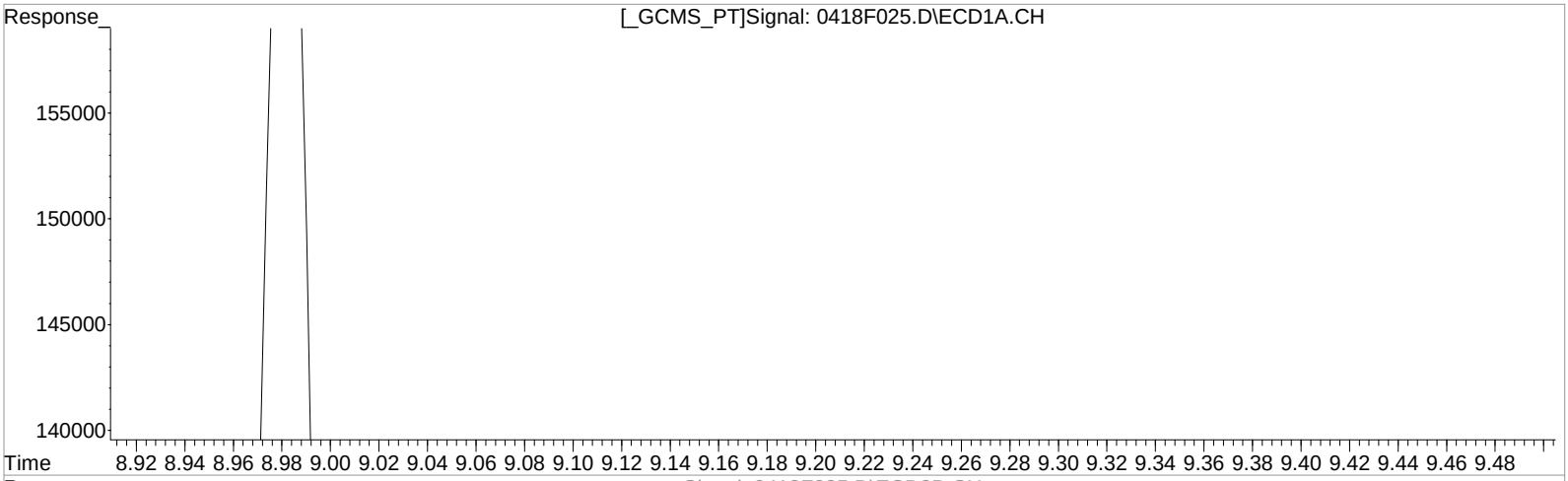
Quantitation Report (Qedit)

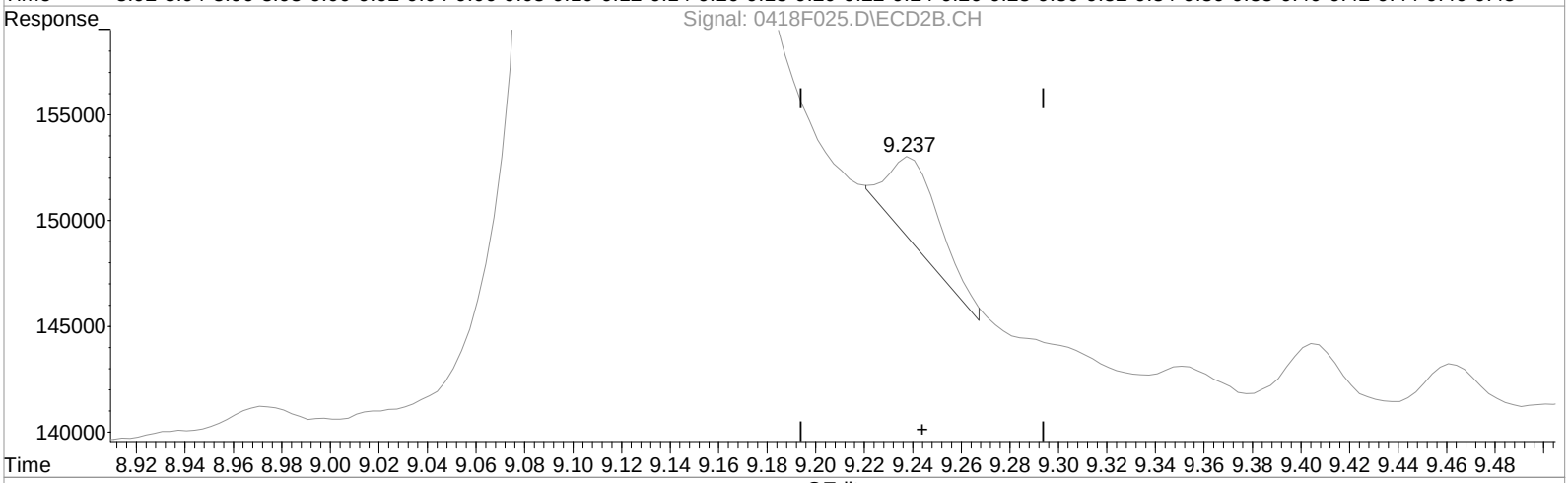
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(6) gamma-BHC (Lindane)

10.480min 0.143 ug/L

response 2673

Manual Integration:

After

Baseline correction

04/21/20

(6) gamma-BHC (Lindane) #2

9.237min 0.069 ug/L m

response 5310

(+) = Expected Retention Time

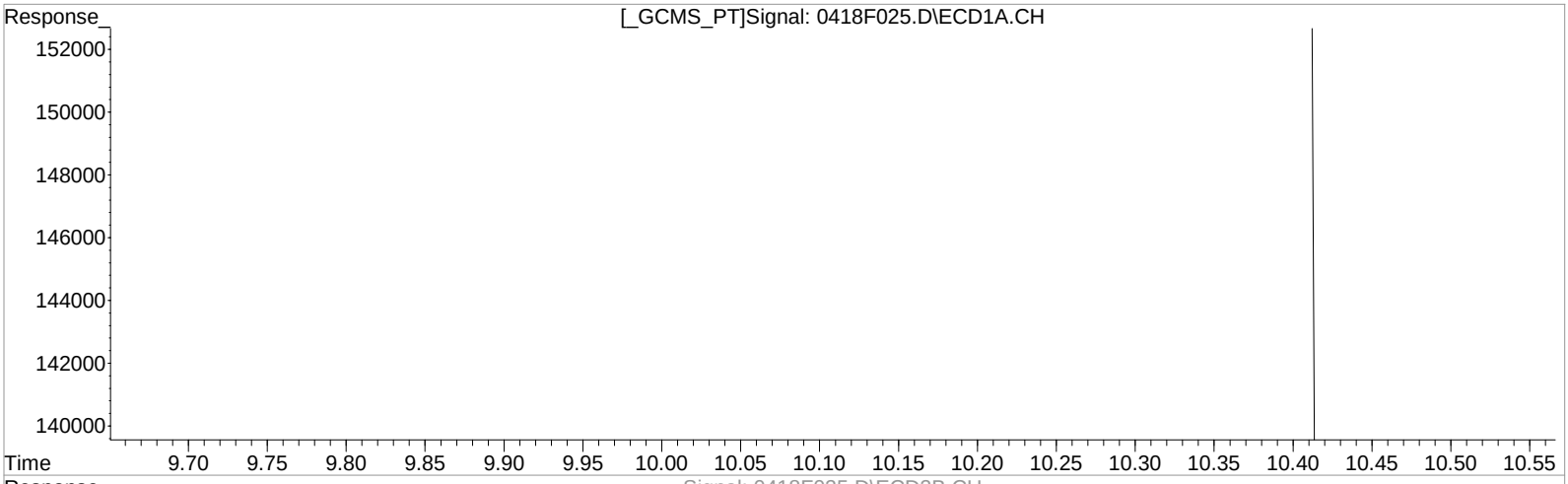
Quantitation Report (Qedit)

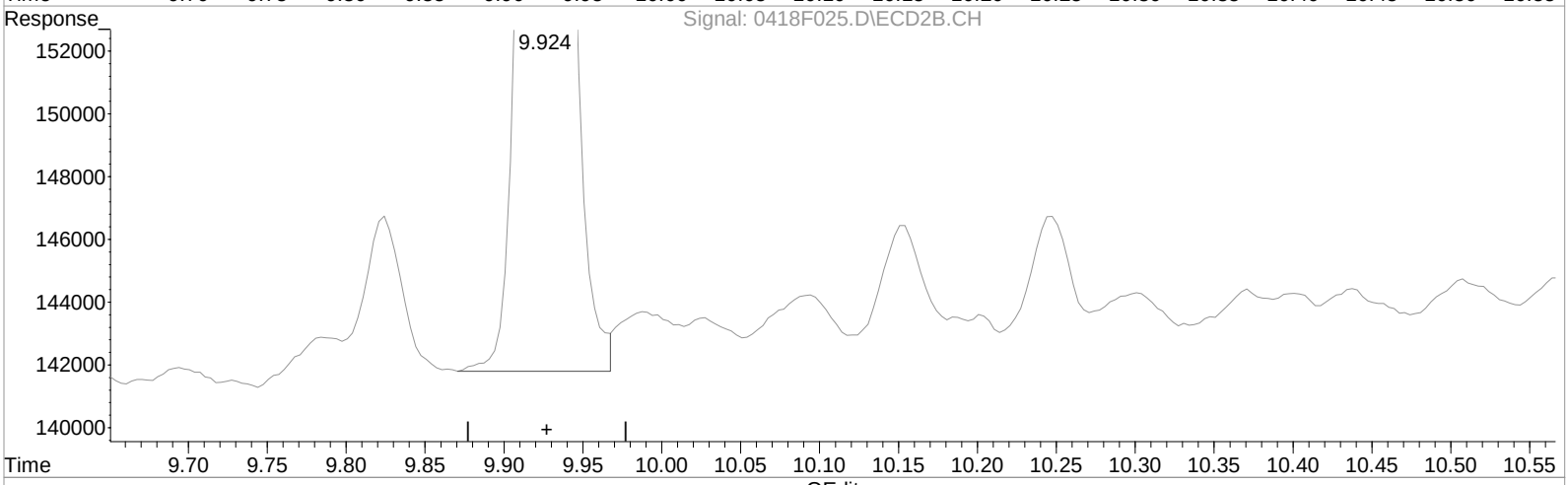
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(8) Heptachlor

11.664min 0.075 ug/L

response 1502

Manual Integration:

Before

04/21/20

(8) Heptachlor #2

9.924min 1.342 ug/L

response 104951

(+) = Expected Retention Time

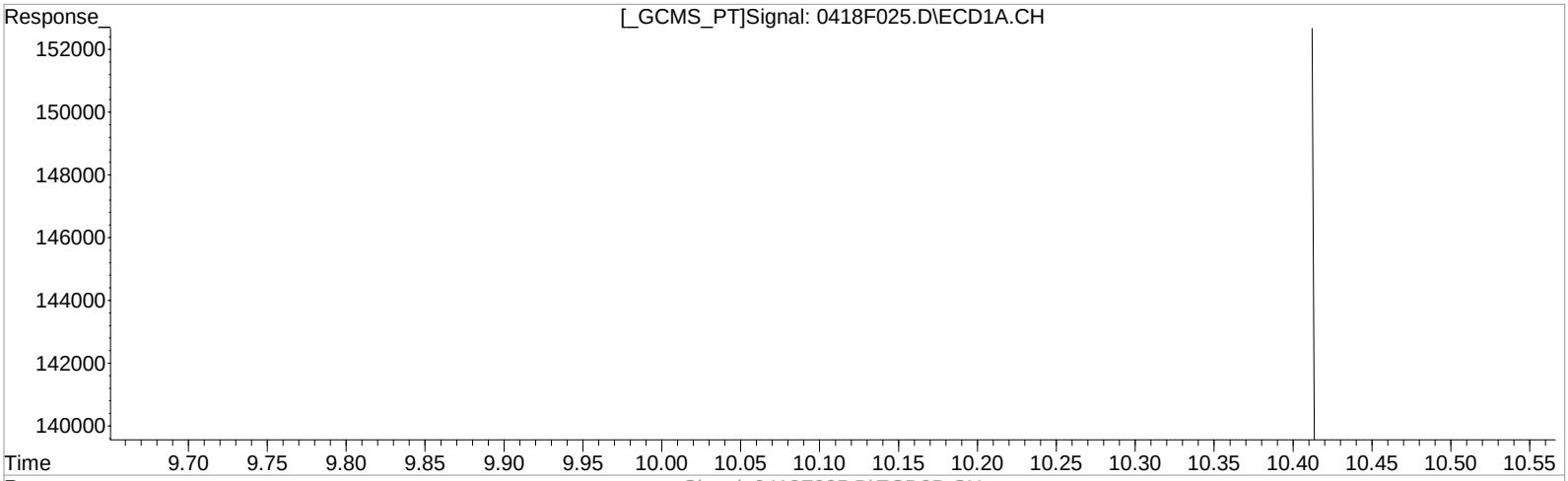
Quantitation Report (Qedit)

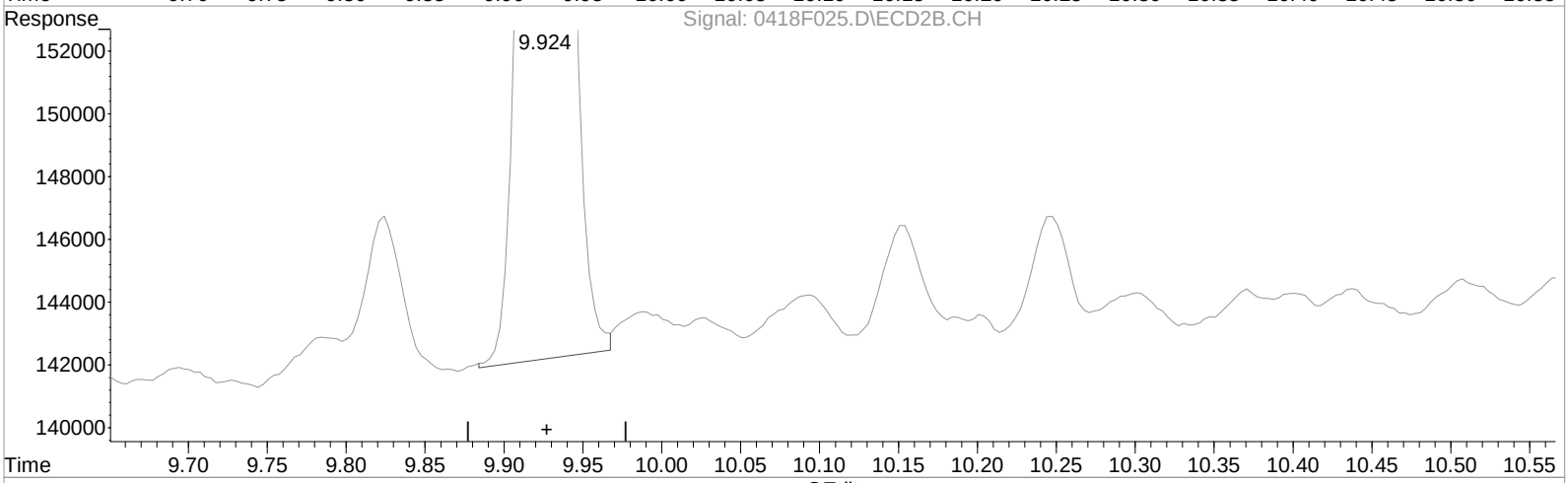
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F025.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:27 am Operator: LM
Sample : K2002652-007 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:04:54 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(8) Heptachlor

11.664min 0.075 ug/L

response 1502

Manual Integration:

After

Baseline correction

04/21/20

(8) Heptachlor #2

9.924min 1.315 ug/L m

response 102854

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F026.D\
Lab ID: K2002652-008.R01
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 07:57:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level		X
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Above Highest ICAL Level - DB XLB	Dieldrin	90.906		10	dil
Above Highest ICAL Level - DB-35MS	Dieldrin	118.512		10	dil
Analyte Coelutions - DB XLB	cis-Chlordane	13.53			dil
	trans-Chlordane	13.45			see Quant Report
	Chlordane {4}	13.45			
	Chlordane {5}	13.53			SA
	Chlordane {6}	13.61			
	4,4'-DDD	14.65			
	Endosulfan I	13.61			
	Endosulfan II	14.81			
	Endrin Aldehyde	14.99			
	cis-Nonachlor	14.65			
	trans-Nonachlor	13.61			
	Toxaphene {2}	14.81			
	Toxaphene {4}	14.99			
	1-Bromo-2-nitrobenzene	6.20			
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			SA
Analyte Coelutions - DB-35MS	cis-Chlordane	12.12			
	trans-Chlordane	11.97			
	Chlordane {4}	11.97			
	Chlordane {5}	12.02			see Quant Report

Primary Review: _____

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Chlordane {6}	12.12			see Quant Report
	4,4'-DDD	13.39			
	2,4'-DDE	12.02			
	2,4'-DDT	13.24			
	Endrin Aldehyde	13.93			
	cis-Nonachlor	13.24			
	trans-Nonachlor	12.02			
	Toxaphene {1}	13.39			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			SA

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F026.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 07:57:00	**Vial:**	11
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-008.R01	**Raw Units:**	ug/L

Bottle ID:	K2002652-008.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1079864	4554870	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1079864	4554870	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1079864	4554870	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06	74439	269739	3.874	3.674	77	73	73	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.27	92707	289233	5.921	5.124	118	102	102	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.21	10.50 -0.02	34911	6010	2.017	0.084	10	0.42U	0.77 U		Y
alpha-BHC	9.82	8.50	22832	63532	1.268	0.880	6.3	4.4	**4.4**		Y
beta-BHC	11.08	9.78	7971	49137	0.828	1.435	4.1	7.2	**4.1**	P	Y
gamma-BHC (Lindane)	10.49	9.24	125765	507769	7.226	7.227	36	36	**36**		Y
Chlordane					287.7606	6333333333	1400	1500	**1400**		Y
Chlordane {1}	11.27	9.57	336727	588292	457.414	236.605	2300	1200		P	
Chlordane {2}	0.00	11.66	0	648840	0.000	382.647	0	1900			
Chlordane {3}	12.25	11.82 +0.01	156137	347598	233.313	308.790	1200	1500			
Chlordane {4}	13.45 c	11.97 c	567586	2303937	279.399	337.934	1400	1700			
Chlordane {5}	13.53 c	12.02 c	501053	1019434	298.192	244.209	1500	1200			
Chlordane {6}	13.61 c	12.12 c	210294	2096447	170.485	346.853	850	1700		P	
Dieldrin	14.00	12.63	1619732	7929125	90.906	118.512	450E	590E	'dil **590** E		Y
Heptachlor	11.71 +0.02	9.94 +0.01	11305	801134	0.605	11.227	3.0Ui	56Ui	3.1 Ui		Y
Heptachlor Epoxide	12.94 +0.01	11.60	20558	180055	1.129	2.558	5.6	13	**5.6**	P	Y
Hexachlorobenzene	9.99 +0.01	8.27 -0.01	5245	4586	0.246	0.063	1.2Ui	0.32Ui	0.37 Ui		Y
Toxaphene					1606.8294	2739.289	8000	14000	**8000**	P	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F026.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 07:57:00	**Vial:**	11
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-008.R01	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.75		13.39	c	240572	1585901	1355.866	1566.908	6800	7800		
Toxaphene {2}	14.81	c	13.45	-0.01	251891	1194861	1569.515	1534.435	7800	7700		
Toxaphene {3}	14.93		0.00		318059	2625477	994.580	0.000	5000	0		
Toxaphene {4}	14.99	-0.01 c	0.00		362672	614034	1686.305	0.000	8400	0		
Toxaphene {5}	15.34	-0.01	13.93	c	497555	1466457	2427.881	2689.815	12000	13000		
Toxaphene {6}	0.00		15.43		130666	1525676	0.000	5165.998	0	26000		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:55:42 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.200	5.484	1079864	4554870	100.000	100.000
29)	1-Bromo-2...	6.200	5.484	1079864	4554870	100.000	100.000
36)	1-Bromo-2...	6.200	5.484	1079864	4554870	100.000	100.000
43)	1-Bromo-2...	6.200	5.484	1079864	4554870	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.977	7.267	92707	289233	5.921	5.124
28) s	Decachlor...	18.670	17.064	74439	269739	3.874	3.674
	Target Compounds						
3)	alpha-BHC	9.820	8.501	22832	63532	1.268	0.880 #
4)	Hexachlor...	9.990	8.271	5245	4586	0.246	0.063 #
5)	beta-BHC	11.077	9.784	7971	49137	0.828	1.435 #
6)	gamma-BHC...	10.490	9.244	125765	507769	7.226	7.227
7)	delta-BHC	11.597	10.301	5193	106596	0.295m	1.552m#
8)	Heptachlor	11.707	9.937	11305	801134	0.605	11.227 #
9)	Aldrin	12.214	10.504	34911	6010	2.017	0.084m#
10)	Isodrin	12.727	11.341f	62977	121911	4.240	2.029 #
11)	Heptachlo...	12.940	11.601	20558	180055	1.129m	2.558 #
12)	gamma-Chl...	13.454	11.974	635734	2394539	34.923m	35.188m
13)	Endosulfan I	13.610f	12.221f	217013	85129	13.068m	1.389m#
14)	alpha-Chl...	13.530	12.124	500696	1990715	27.631m	28.880m
15)	Dieldrin	14.000	12.634	1619732	7929125	90.906m	118.512m#
16)	4,4'-DDE	13.827	12.494	91077	82856	5.463m	1.286m#
17)	Endrin	14.354	13.111	312612	428959	19.224m	6.736m#
18)	Endosulfa...	14.807	13.537	350675	1223855	21.285m	21.271m
19)	4,4'-DDD	14.654	13.387	208398	1668223	16.170m	34.600m#
20)	Endrin Al...	14.994	13.931	397374	1540050	27.826m	32.323m
21)	Endosulfa...	15.470	14.224	856905	671980	51.049m	11.844 #
22)	4,4'-DDT	15.184f	13.804	296543	998248	21.900m	21.475m
23)	Endrin Ke...	16.154	15.191	132865	289785	7.376	4.270m#
24)	Methoxychlor	15.880	14.894	469527	2382962	57.183	92.358 #
25)	2,4'-DDE	13.200	12.021	91730	1020786	7.876m	24.275m#
26)	2,4'-DDD	13.930	12.764f	231383	133839	22.626m	3.670m#
27)	2,4'-DDT	14.440	13.244	319457	373189	27.299m	9.437m#
30)	Toxaphene	14.747	13.387	240572	1585901	1355.866m	1566.908m
31)	Toxaphene...	14.807	13.454	251891	1194861	1569.515m	1534.435m
32)	Toxaphene...	14.927	13.594	318059	2625477	994.580m	BelowCalm#
33)	Toxaphene...	14.994	13.661	362672	614034	1686.305m	BelowCalm#
34)	Toxaphene...	15.340	13.931	497555	1466457	2427.881m	2689.815m
35)	Toxaphene...	15.527	15.427	130666	1525676	BelowCalm	5165.998
37)	Chlordane	11.267	9.571	336727	588292	457.414	236.605 #
38)	Chlordane...	0.000	11.664	0	648840	N.D. d	382.647m
39)	Chlordane...	12.254	11.817	156137	347598	233.313	308.790m#
40)	Chlordane...	13.454	11.974	567586	2303937	279.399m	337.934m
41)	Chlordane...	13.530	12.021	501053	1019434	298.192m	244.209m
42)	Chlordane...	13.610	12.124	210294	2096447	170.485m	346.853m#
44)	Chlorpyrifos	12.114	10.894	36173	120482	3.634	4.214
45)	Oxychlordane	12.874	11.407	94205	138325	5.477	2.150 #
46)	cis-Nonac...	14.654	13.244	193512	395231	10.698m	5.888m#
47)	trans-Non...	13.610	12.021	205795	1080184	11.318m	16.295m#

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:55:42 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
48)	Mirex	16.964f	15.364	35178	270974	2.336	5.342 #
50)	HCBD	4.974f	0.000	10297	0	0.477	N.D. d#
52)	Perthane	14.087	12.901	48648	1078674	94.663m	646.402m#

SemiQuant Compounds - Not Calibrated on this Instrument

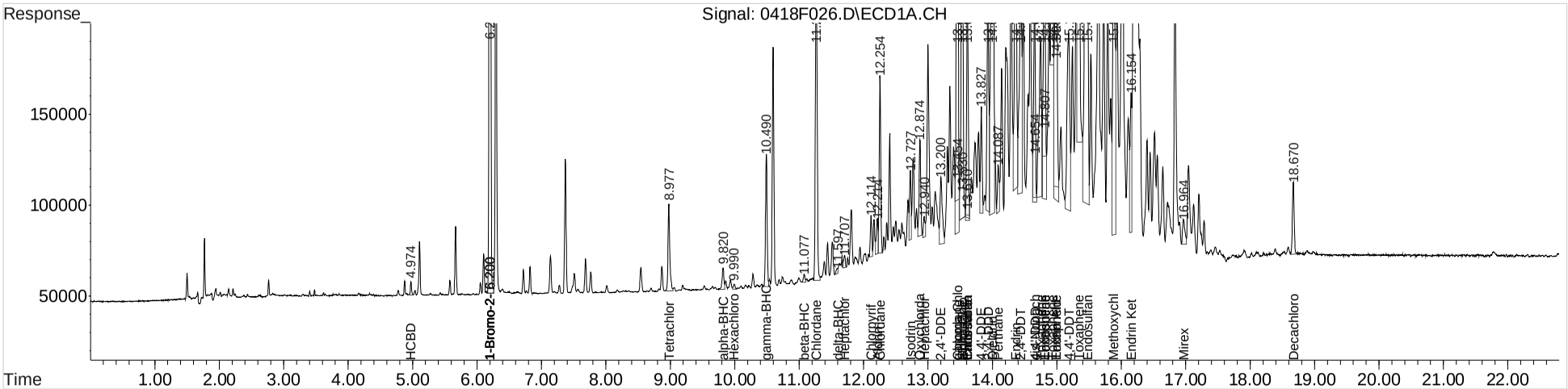
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
egration File signal 1: RTEINT.P
egration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:55:42 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



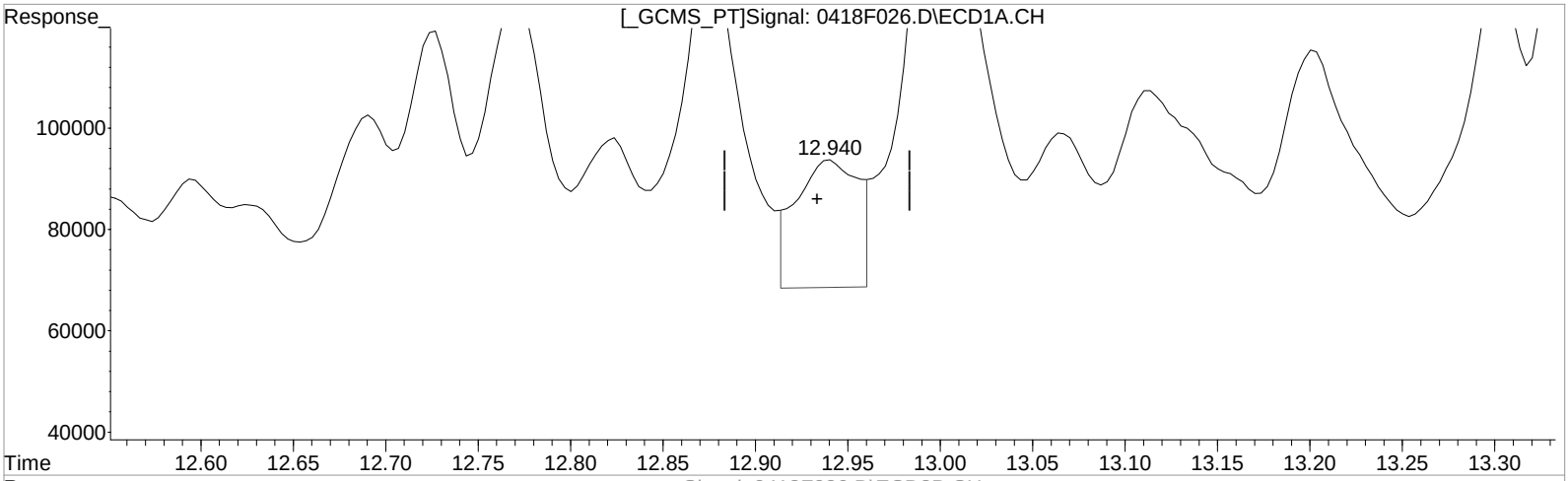
Quantitation Report (Qedit)

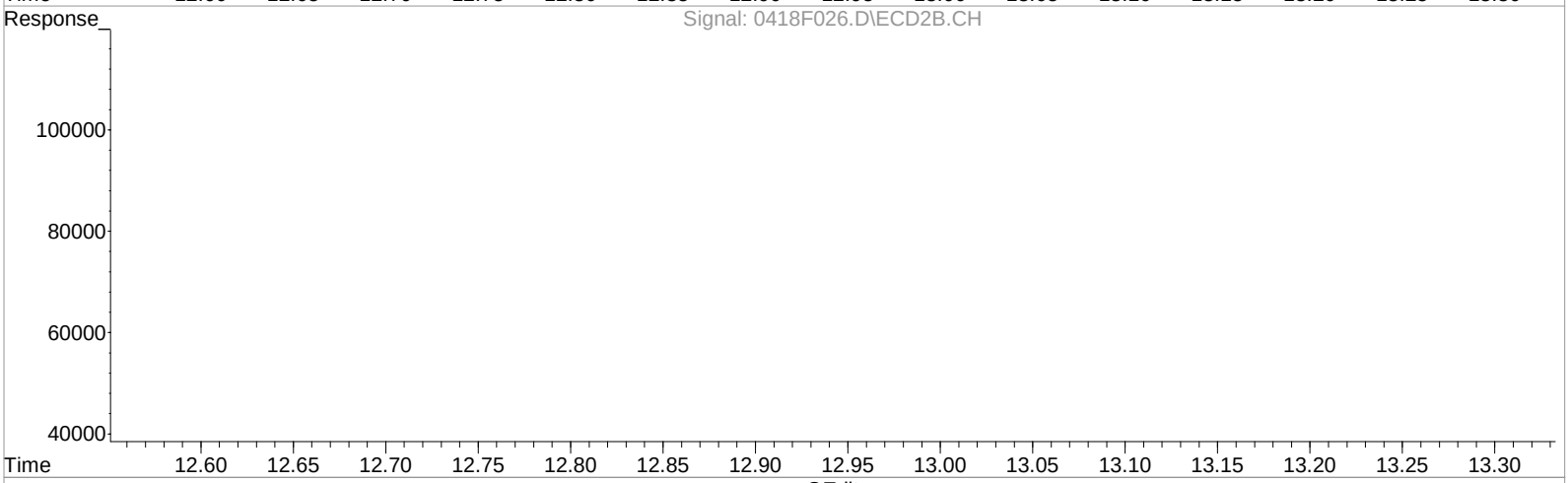
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(11) Heptachlor Epoxide

12.940min 3.286 ug/L

response 59810

Manual Integration:

Before

04/21/20

(11) Heptachlor Epoxide #2

11.601min 2.558 ug/L

response 180055

(+) = Expected Retention Time

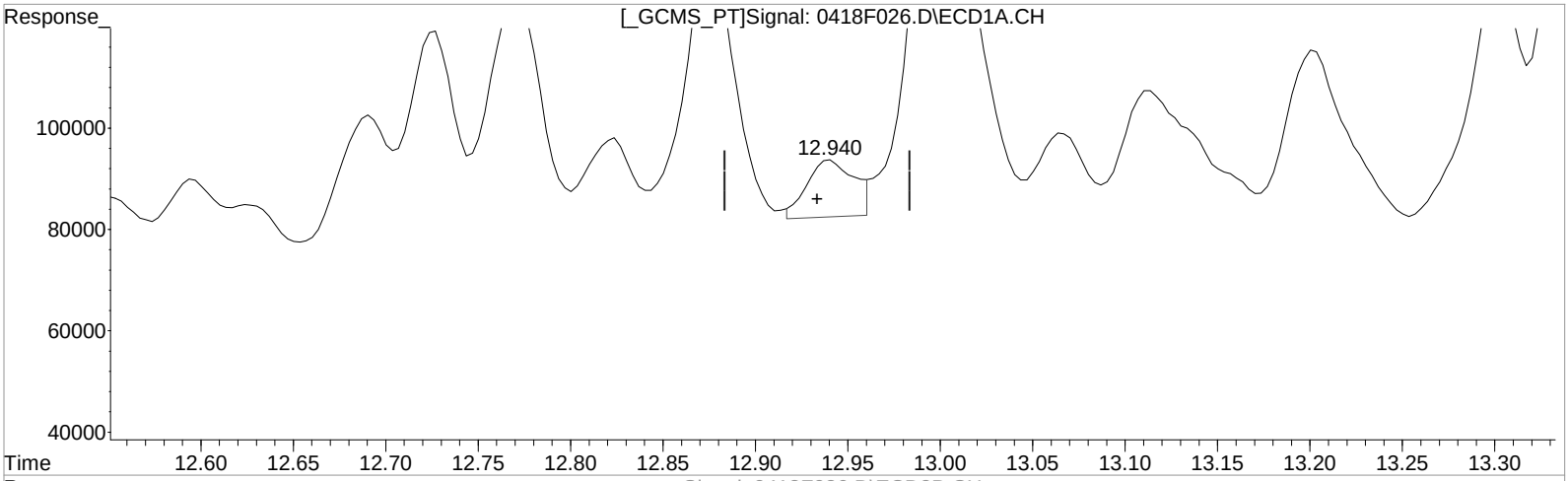
Quantitation Report (Qedit)

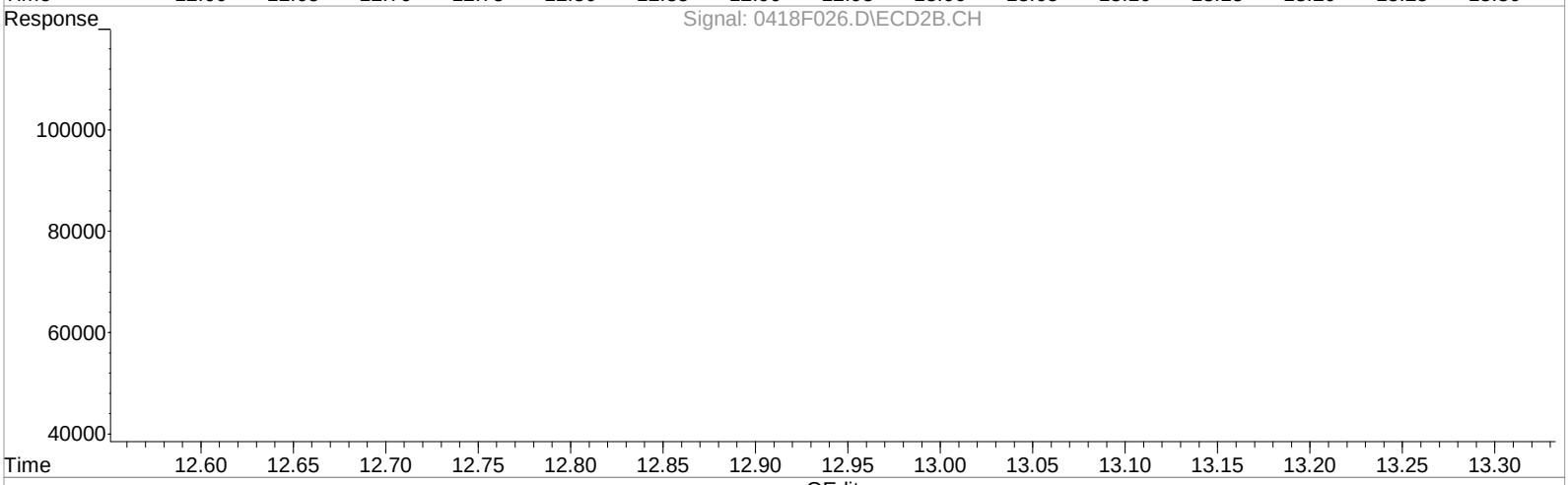
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(11) Heptachlor Epoxide

12.940min 1.129 ug/L m

response 20558

Manual Integration:

After

Baseline correction

04/21/20

(11) Heptachlor Epoxide #2

11.601min 2.558 ug/L

response 180055

(+) = Expected Retention Time

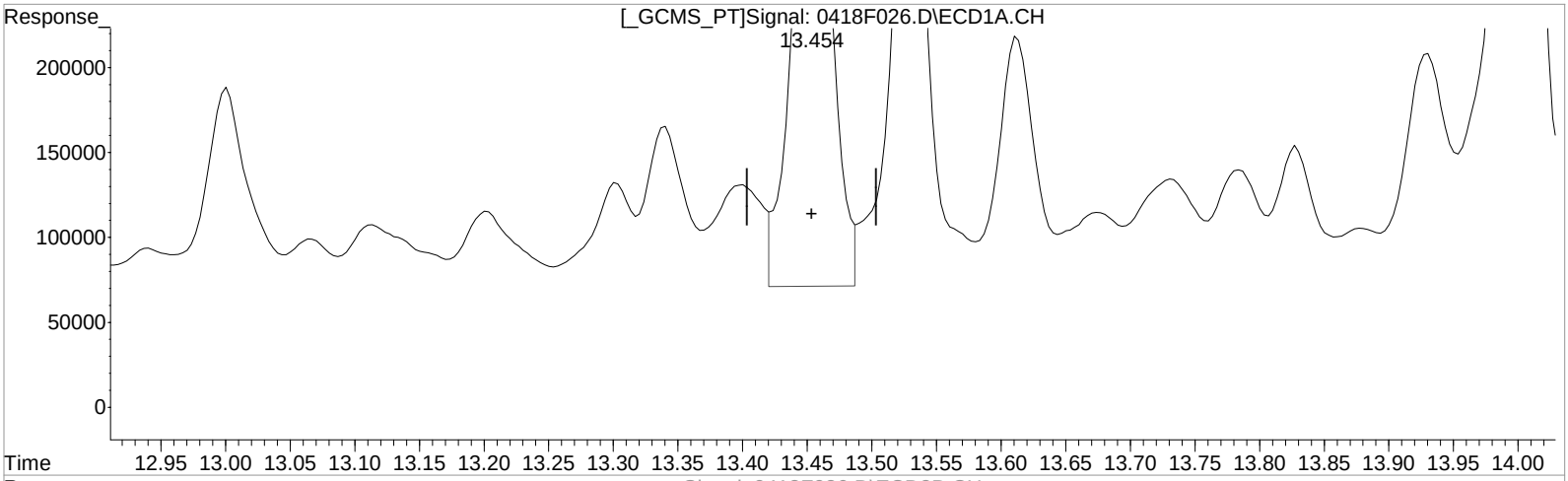
Quantitation Report (Qedit)

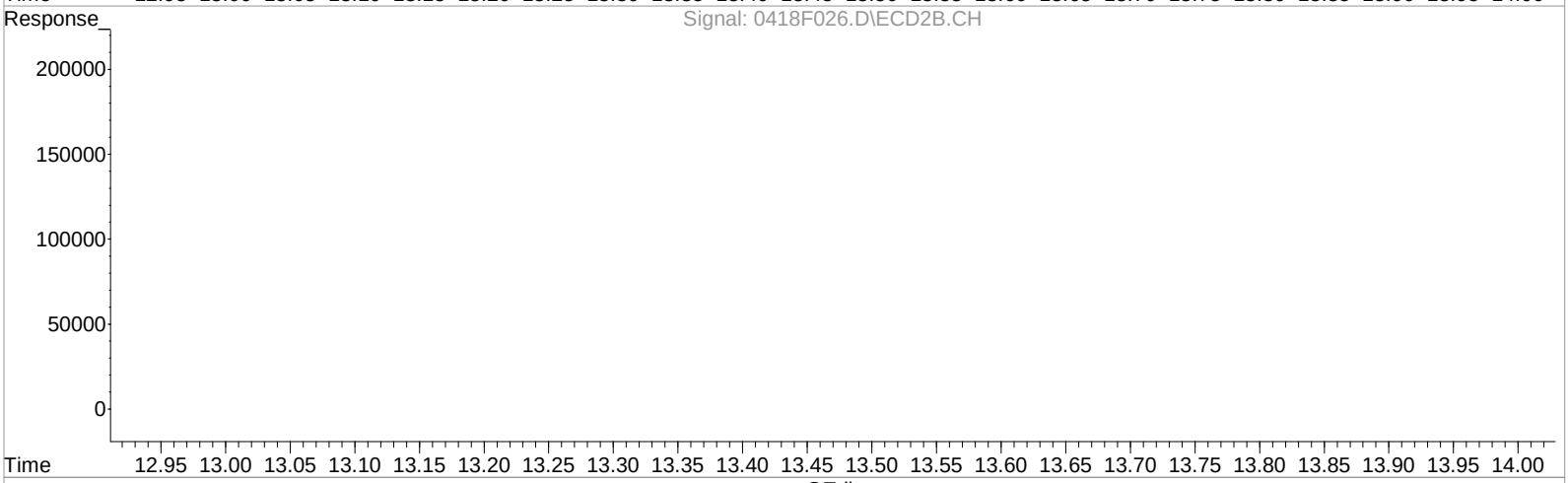
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(12) gamma-Chlordane

13.454min 38.095 ug/L

response 693482

Manual Integration:

Before

04/21/20

(12) gamma-Chlordane #2

11.974min 36.804 ug/L

response 2504516

(+) = Expected Retention Time

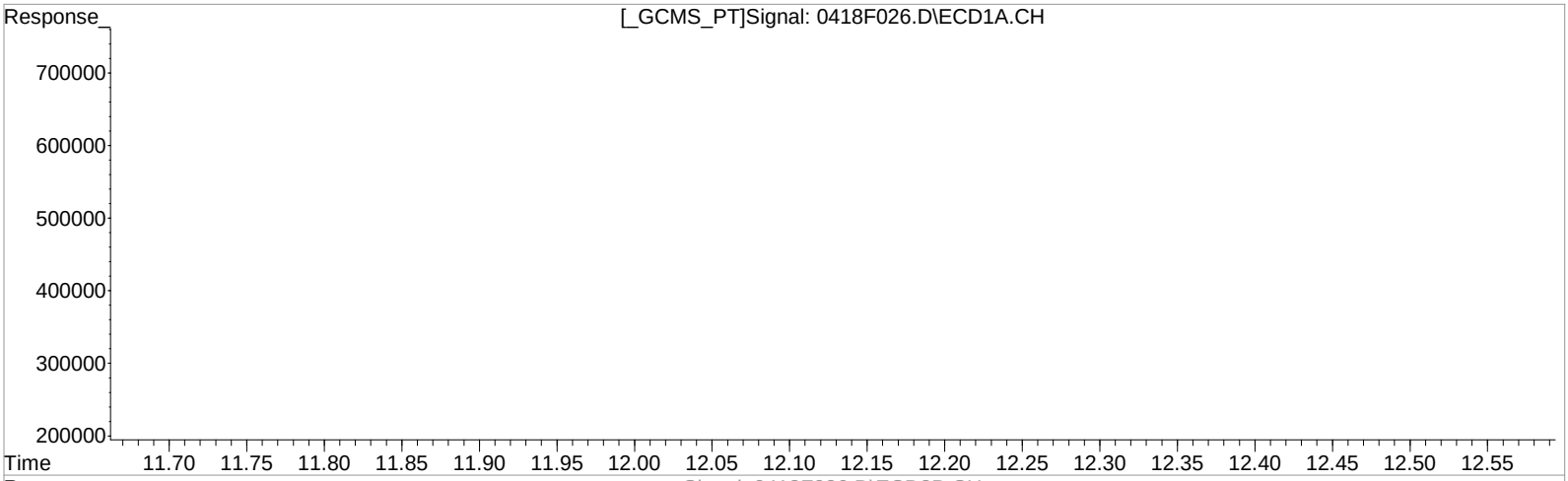
Quantitation Report (Qedit)

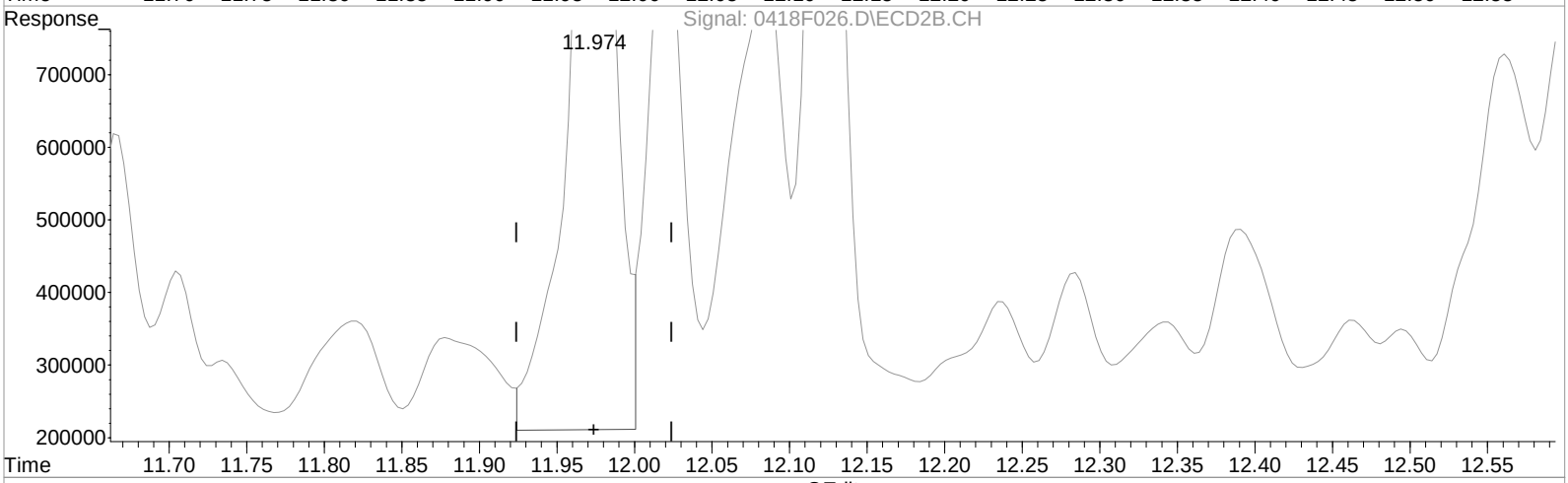
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(12) gamma-Chlordane

13.454min 34.923 ug/L m

response 635734

Manual Integration:

Before

04/21/20

(12) gamma-Chlordane #2

11.974min 36.804 ug/L

response 2504516

(+) = Expected Retention Time

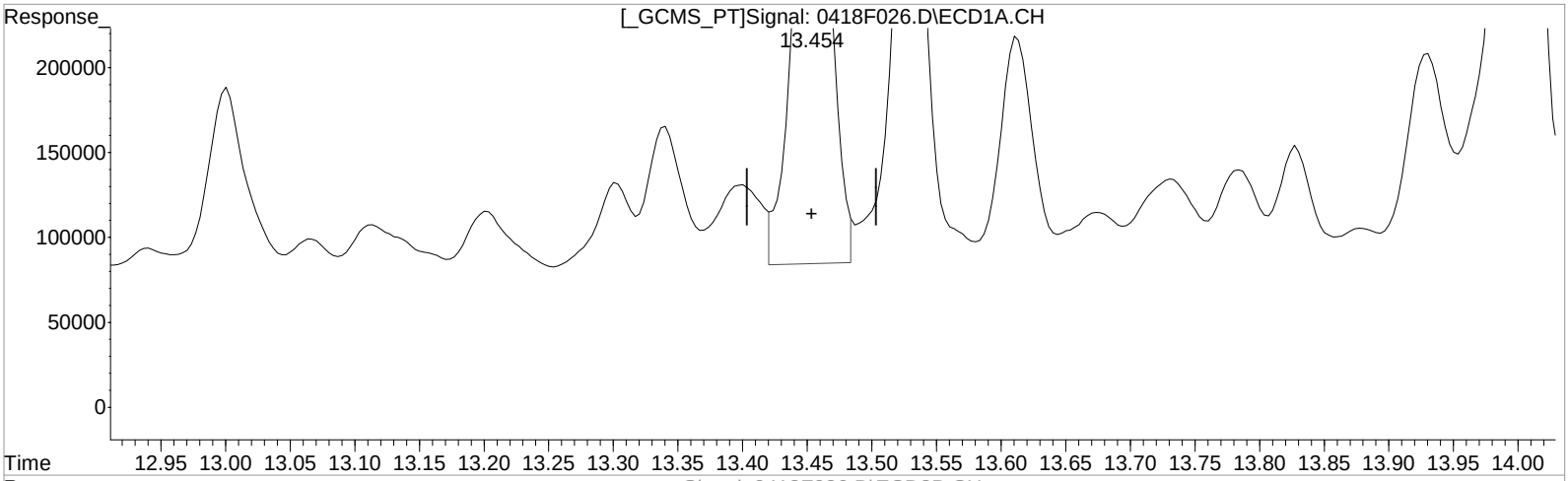
Quantitation Report (Qedit)

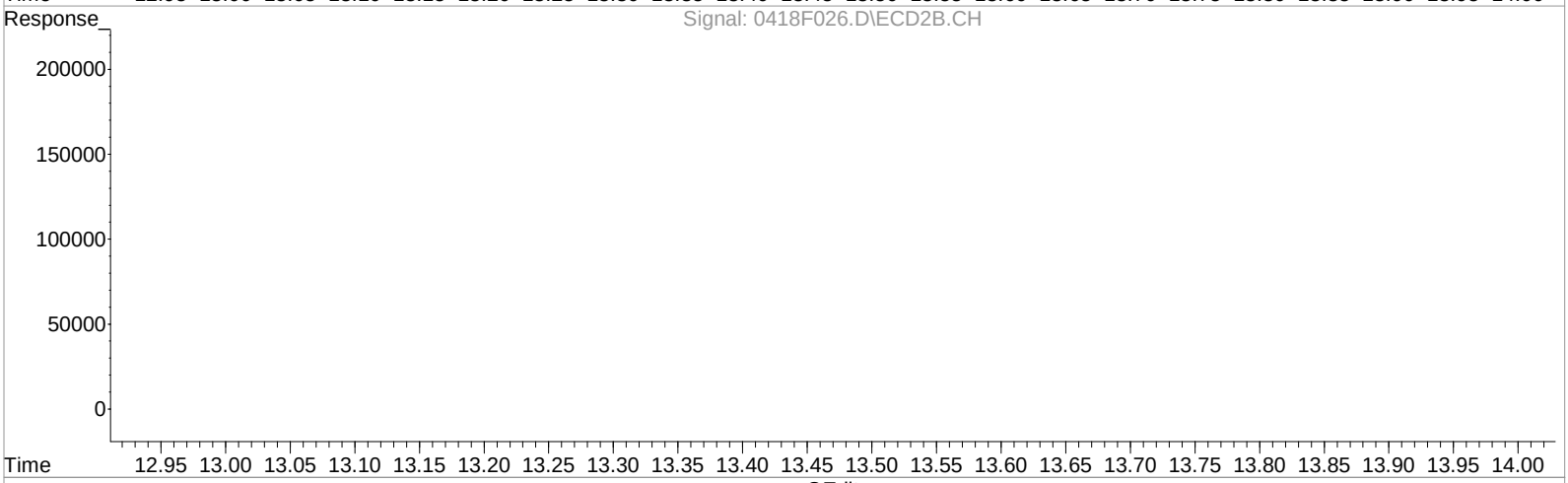
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(12) gamma-Chlordane

13.454min 34.923 ug/L m

response 635734

Manual Integration:

After

Baseline correction

04/21/20

(12) gamma-Chlordane #2

11.974min 36.804 ug/L

response 2504516

(+) = Expected Retention Time

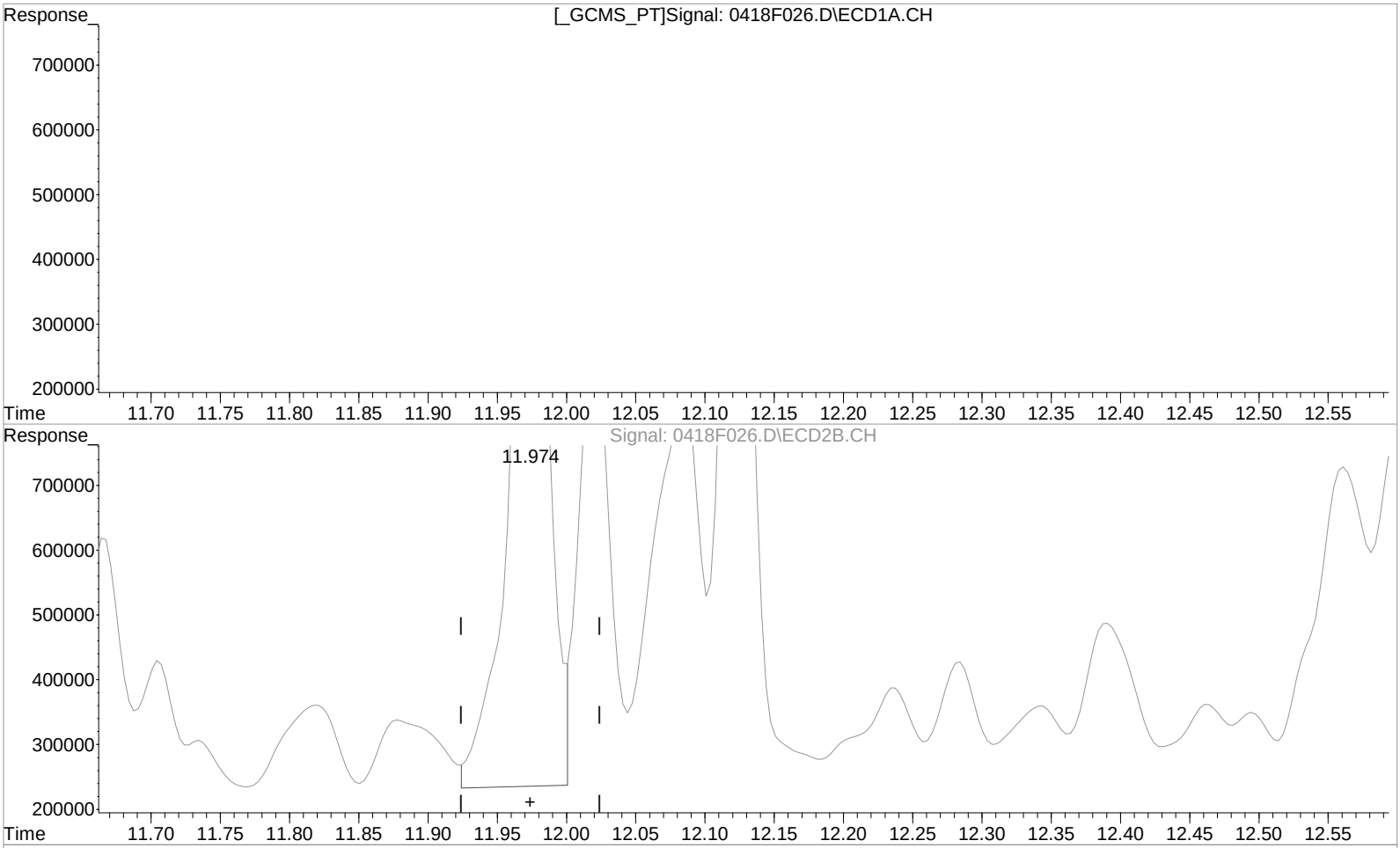
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(12) gamma-Chlordane

13.454min 34.923 ug/L m

response 635734

(12) gamma-Chlordane #2

11.974min 35.188 ug/L m

response 2394539

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

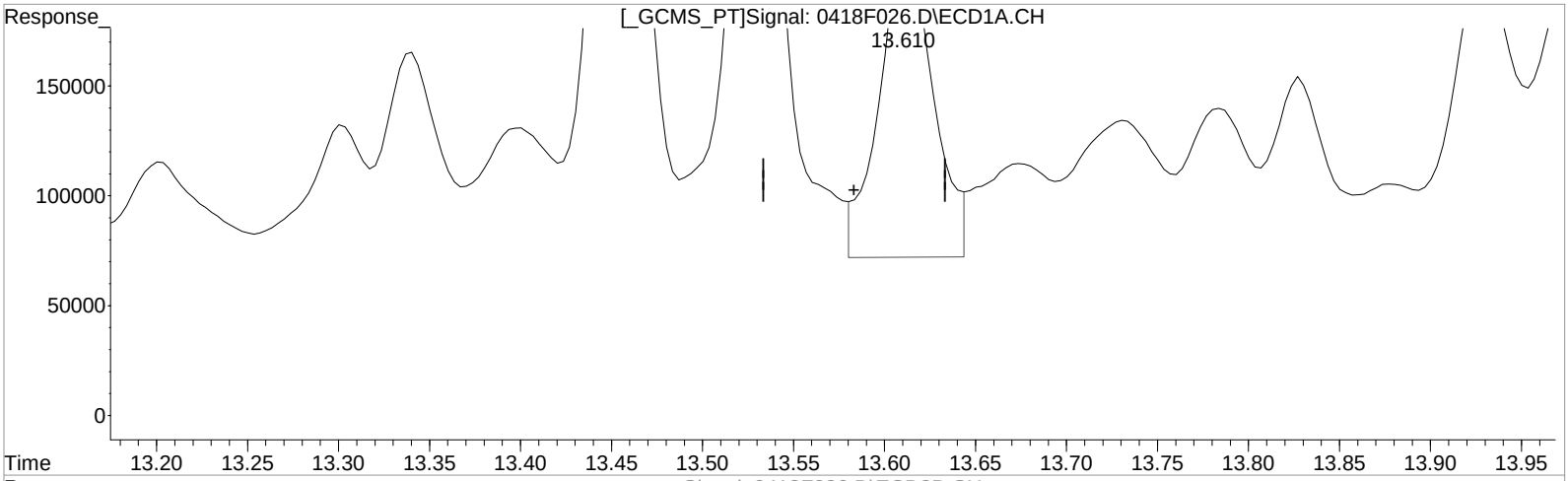
Quantitation Report (Qedit)

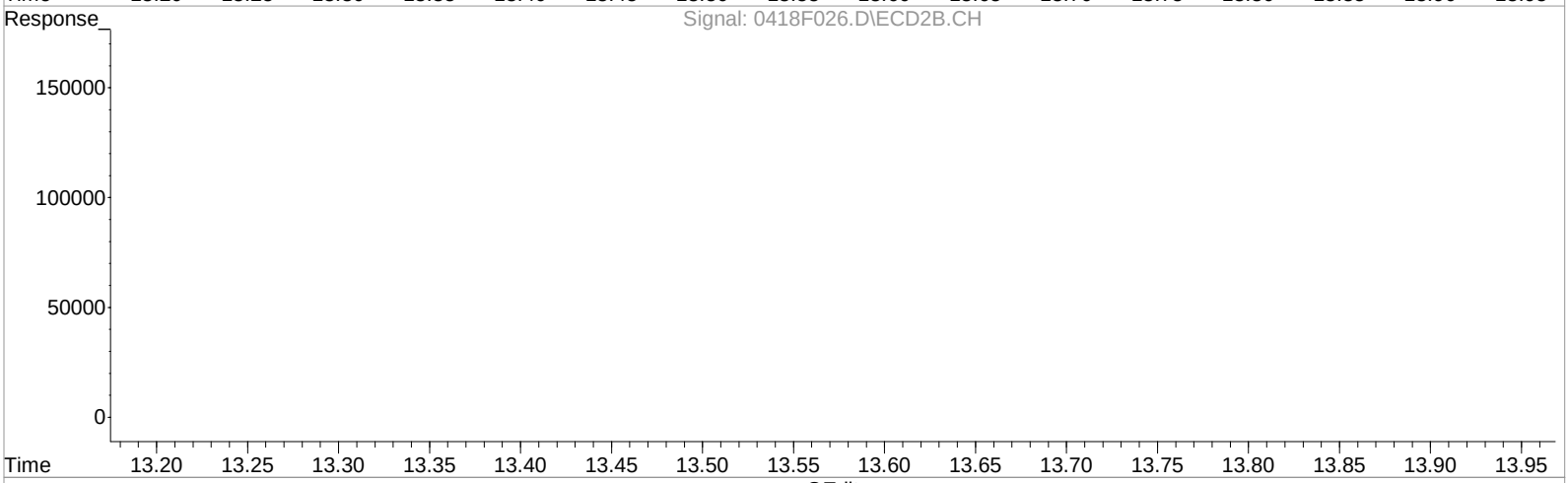
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(13) Endosulfan I

13.610min 17.550 ug/L

response 291430

Manual Integration:

Before

04/21/20

(13) Endosulfan I #2

12.234min 8.218 ug/L

response 503765

(+) = Expected Retention Time

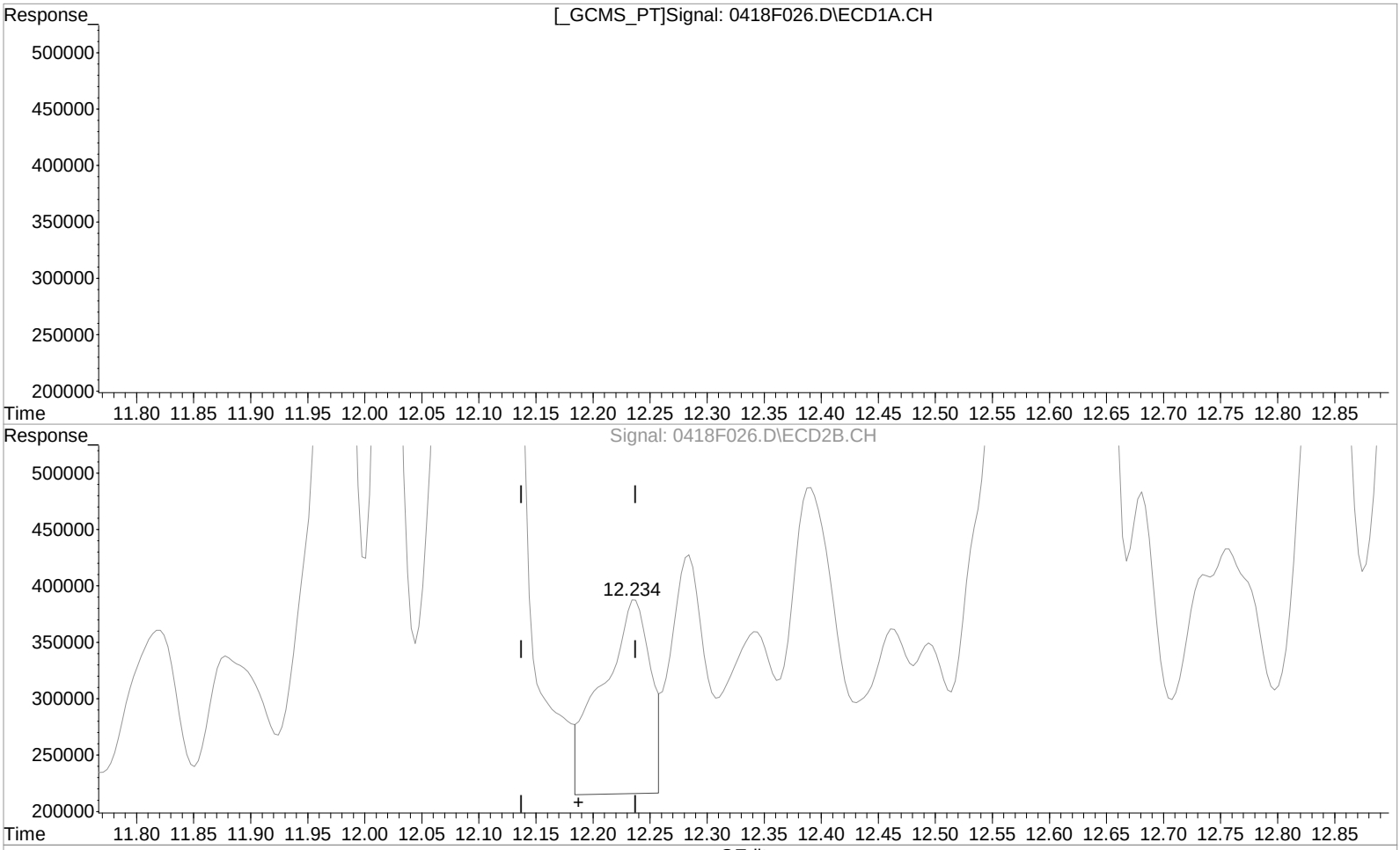
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(13) Endosulfan I

13.610min 13.068 ug/L m

response 217013

Manual Integration:

Before

04/21/20

(13) Endosulfan I #2

12.234min 8.218 ug/L

response 503765

(+) = Expected Retention Time

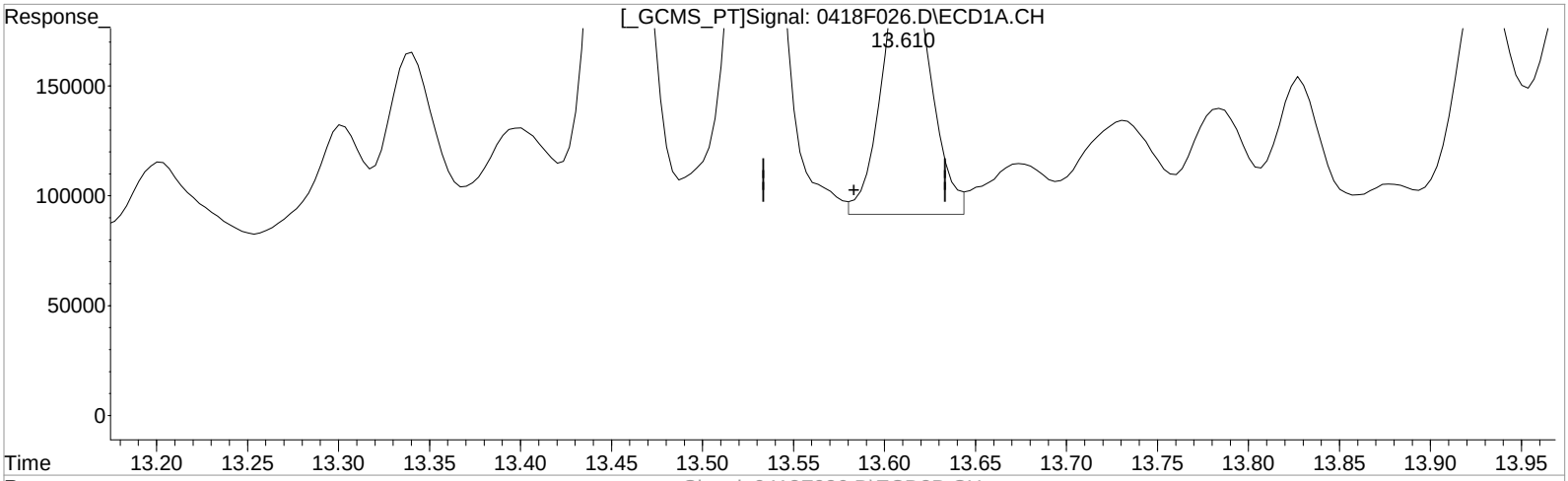
Quantitation Report (Qedit)

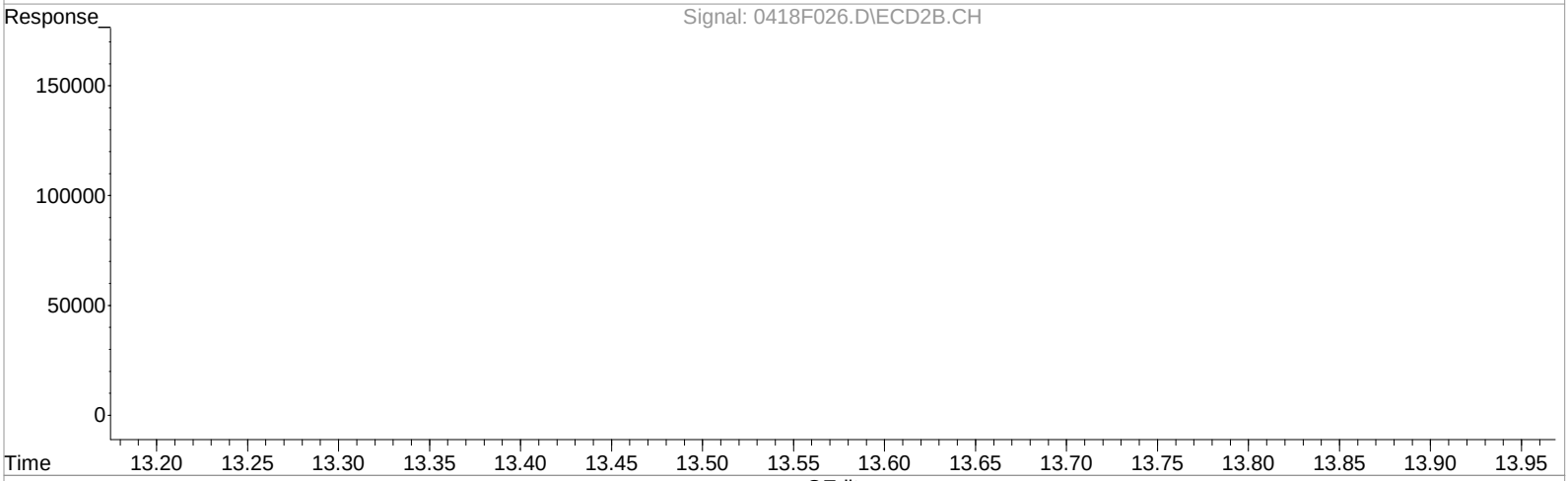
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(13) Endosulfan I

13.610min 13.068 ug/L m

response 217013

Manual Integration:

After

Baseline correction

04/21/20

(13) Endosulfan I #2

12.234min 8.218 ug/L

response 503765

(+) = Expected Retention Time

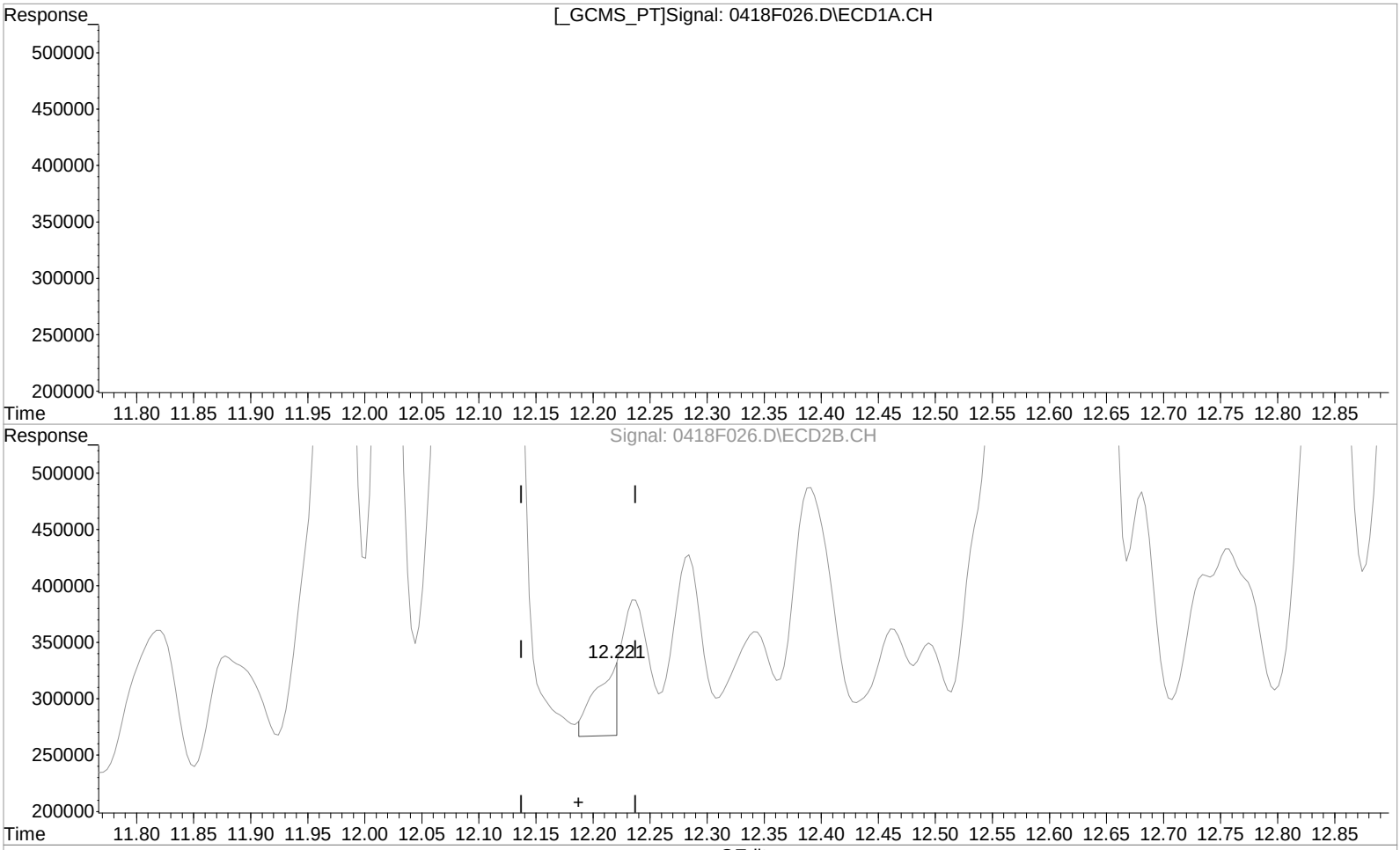
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(13) Endosulfan I

13.610min 13.068 ug/L m

response 217013

Manual Integration:

After

Shoulder

04/21/20

(13) Endosulfan I #2

12.221min 1.389 ug/L m

response 85129

(+) = Expected Retention Time

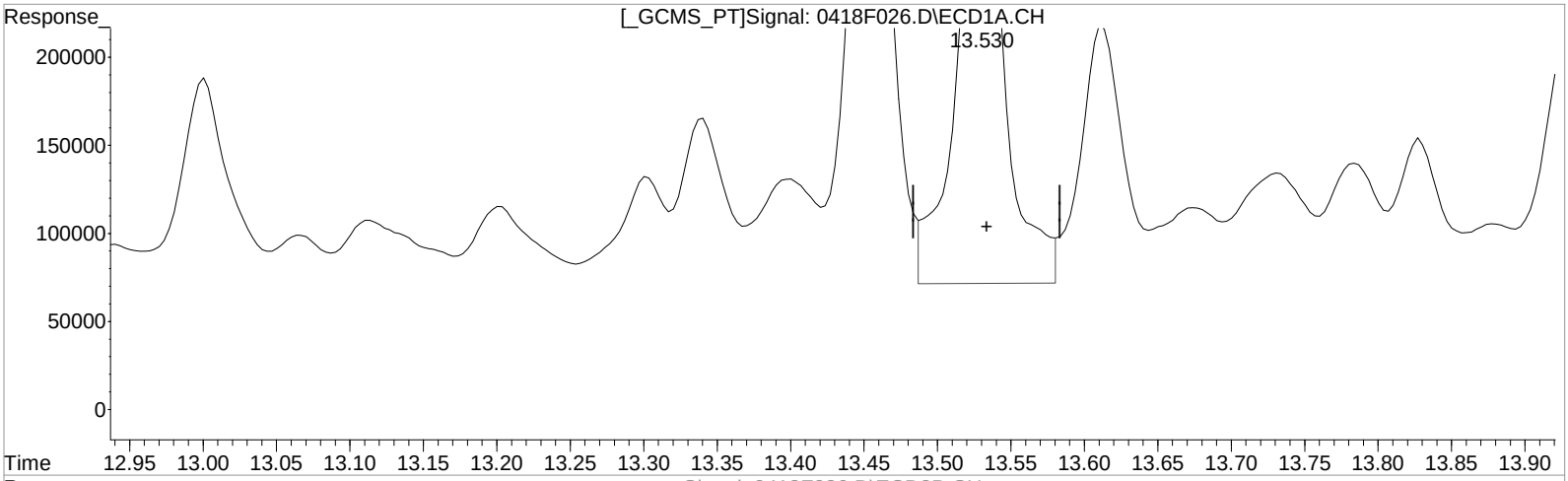
Quantitation Report (Qedit)

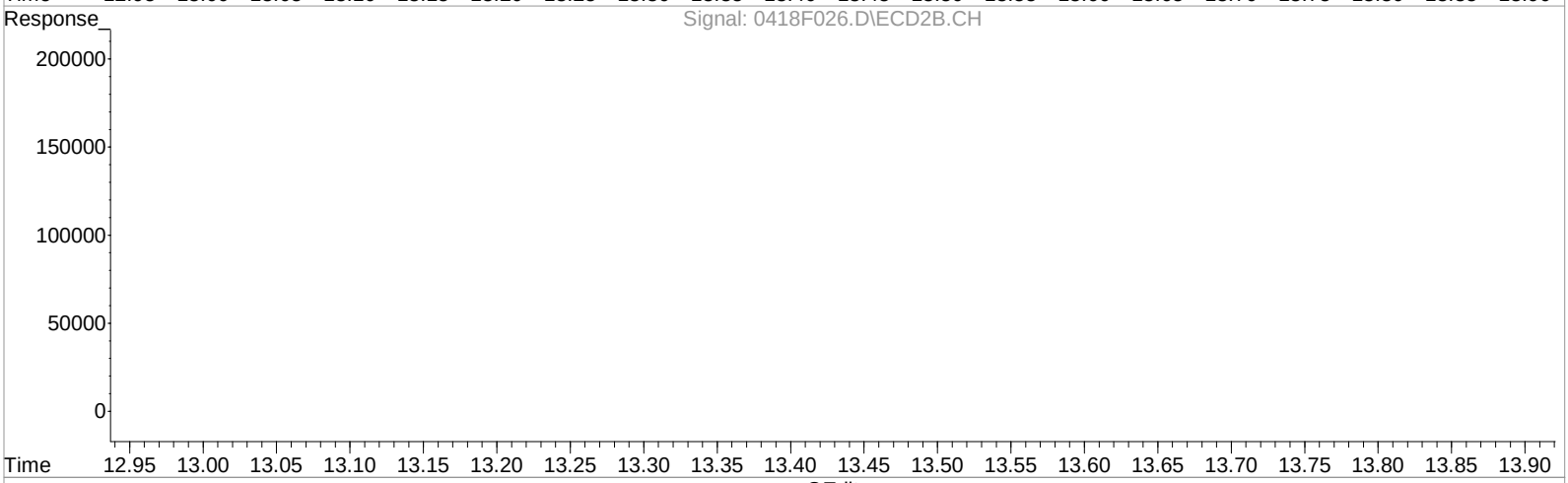
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(14) alpha-Chlordane

13.530min 34.218 ug/L

response 620042

Manual Integration:

Before

04/21/20

(14) alpha-Chlordane #2

12.124min 33.311 ug/L

response 2296140

(+) = Expected Retention Time

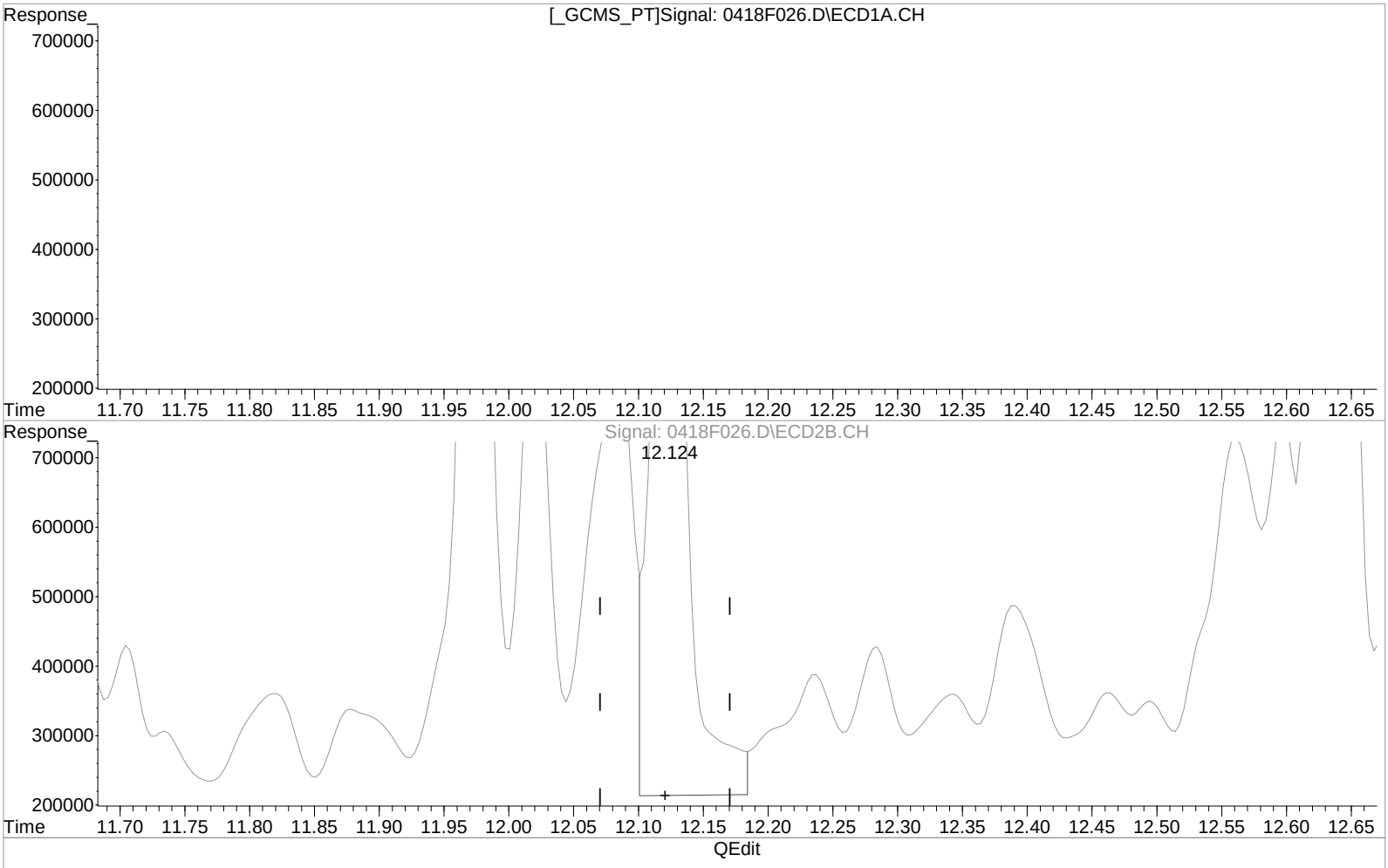
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(14) alpha-Chlordane

13.530min 27.631 ug/L m

response 500696

Manual Integration:

Before

04/21/20

(14) alpha-Chlordane #2

12.124min 33.311 ug/L

response 2296140

(+) = Expected Retention Time

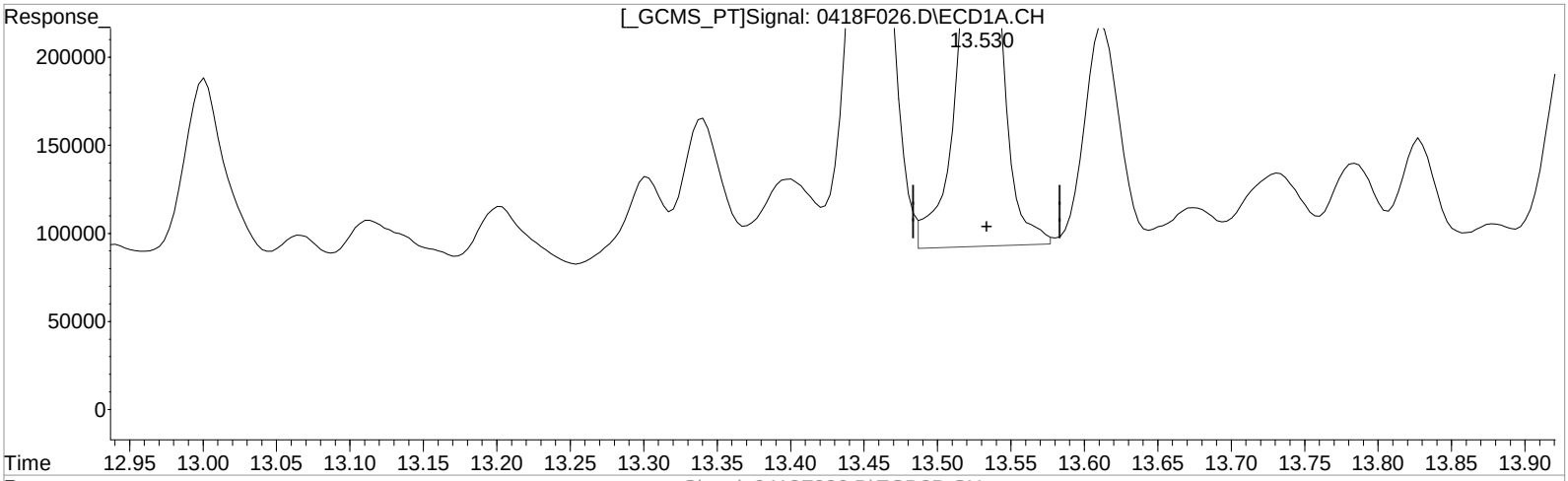
Quantitation Report (Qedit)

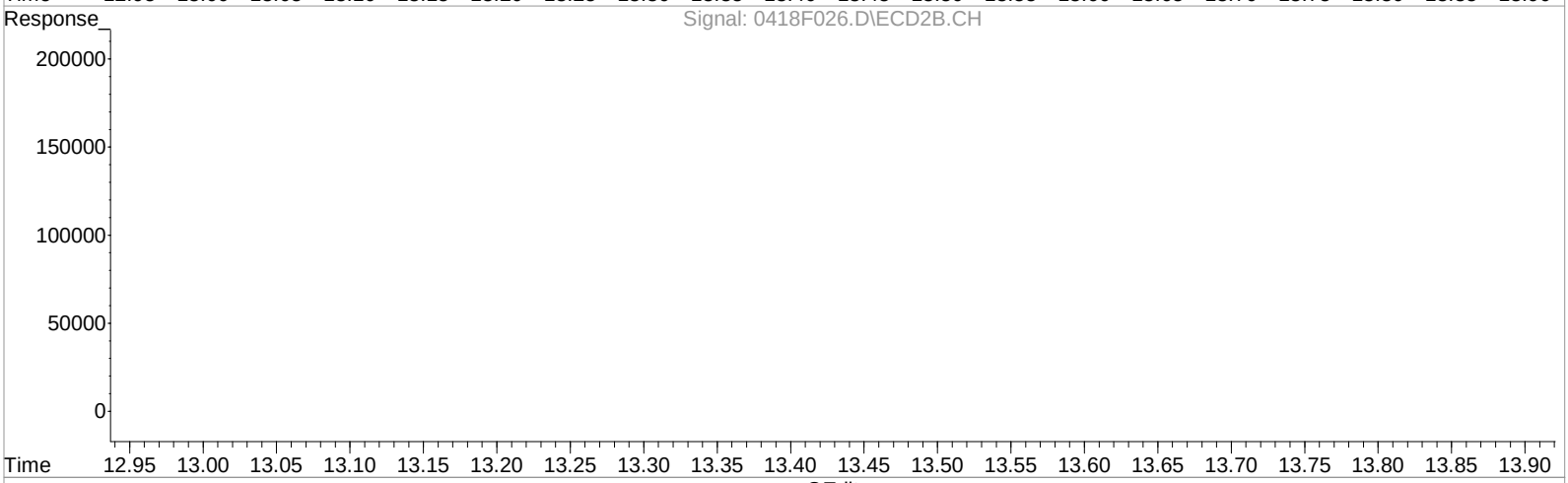
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(14) alpha-Chlordane

13.530min 27.631 ug/L m

response 500696

Manual Integration:

After

Baseline correction

04/21/20

(14) alpha-Chlordane #2

12.124min 33.311 ug/L

response 2296140

(+) = Expected Retention Time

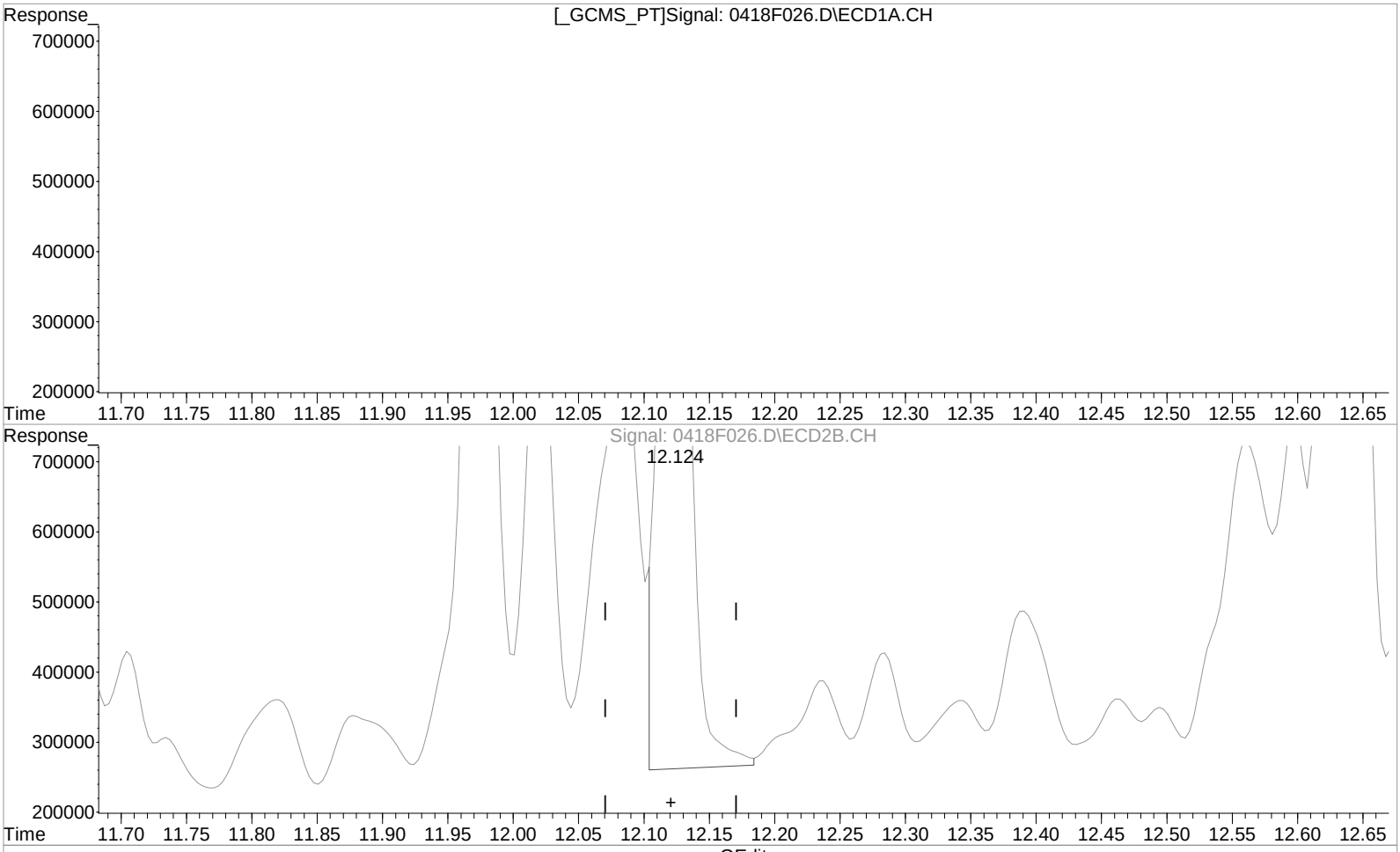
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(14) alpha-Chlordane

13.530min 27.631 ug/L m

response 500696

Manual Integration:

After

Baseline correction

04/21/20

(14) alpha-Chlordane #2

12.124min 28.880 ug/L m

response 1990715

(+) = Expected Retention Time

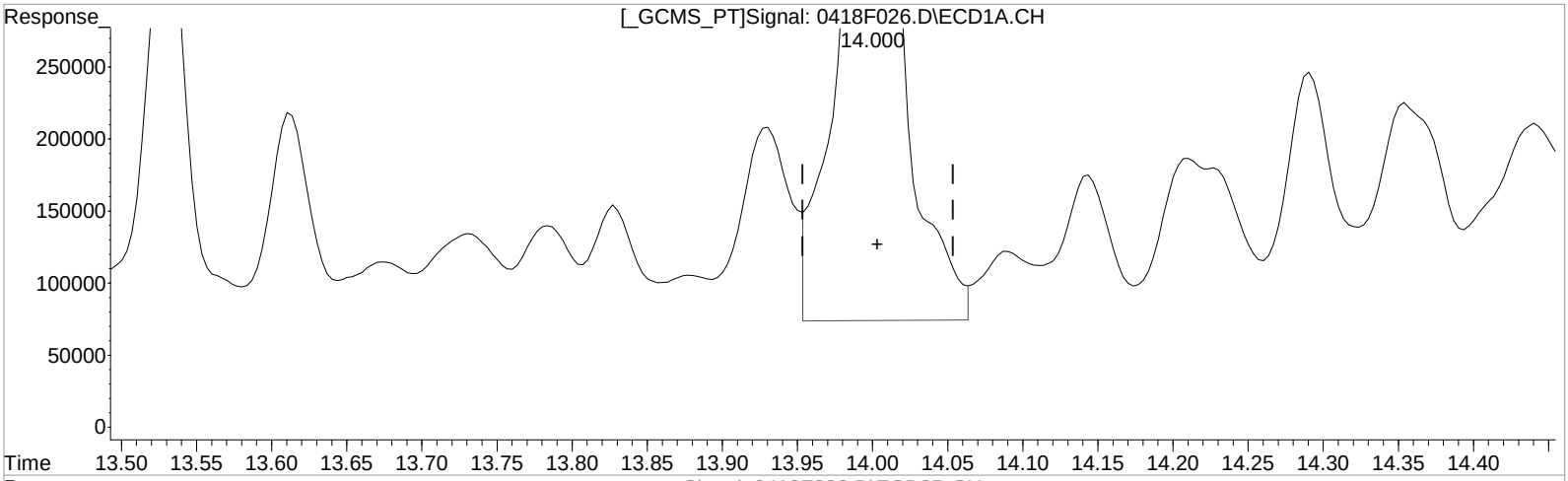
Quantitation Report (Qedit)

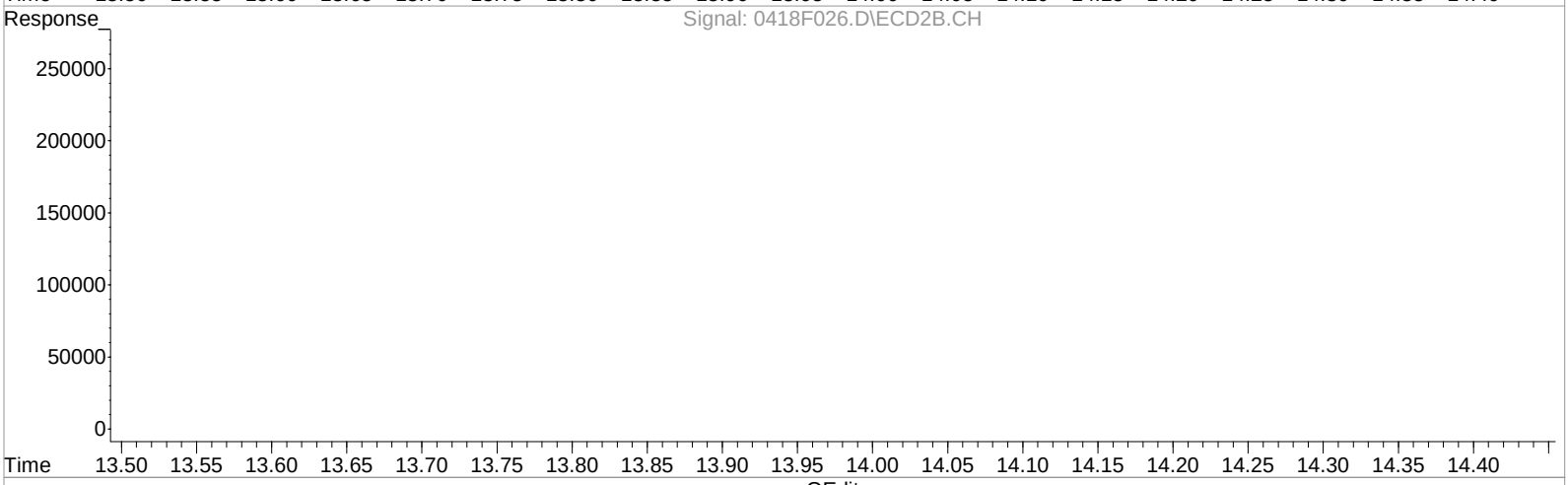
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(15) Dieldrin

14.000min 101.182 ug/L

response 1802828

Manual Integration:

Before

04/21/20

(15) Dieldrin #2

12.634min 122.167 ug/L

response 8173661

(+) = Expected Retention Time

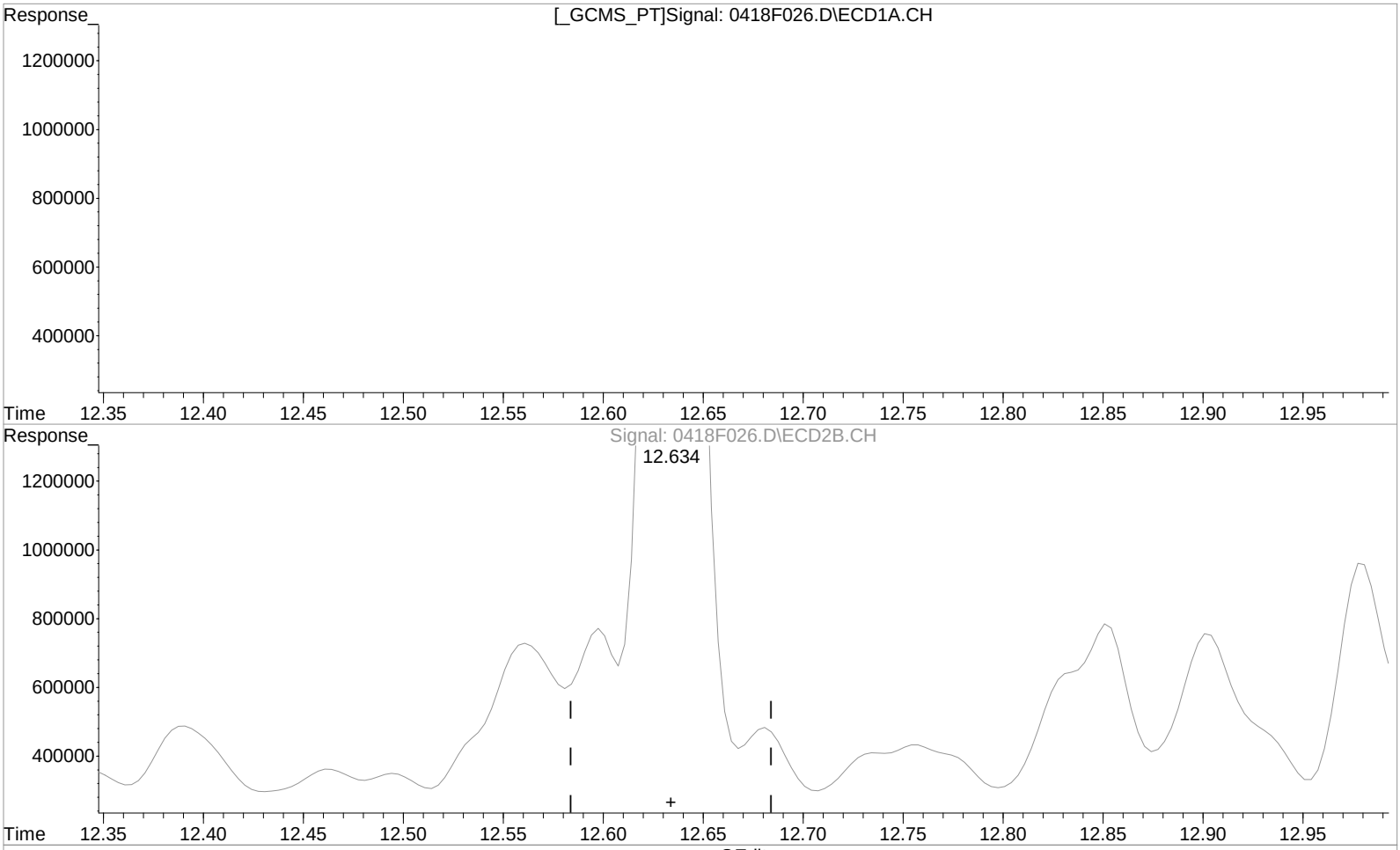
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

14.000min 90.906 ug/L m

response 1619732

Manual Integration:

Before

04/21/20

(15) Dieldrin #2

12.634min 122.167 ug/L

response 8173661

(+) = Expected Retention Time

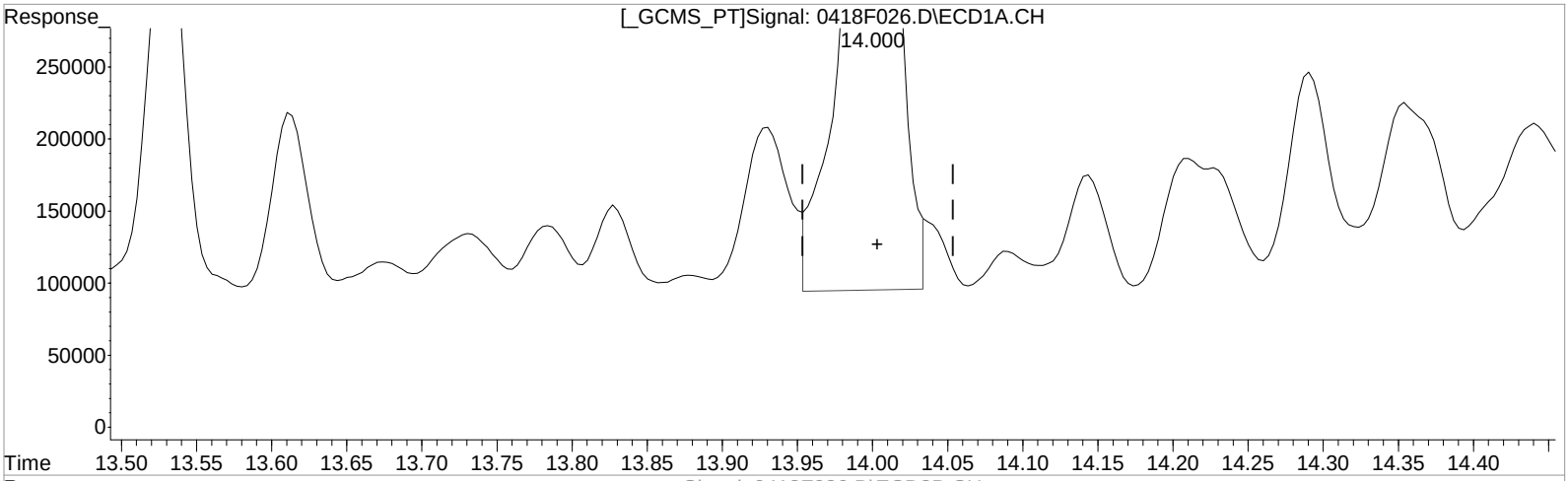
Quantitation Report (Qedit)

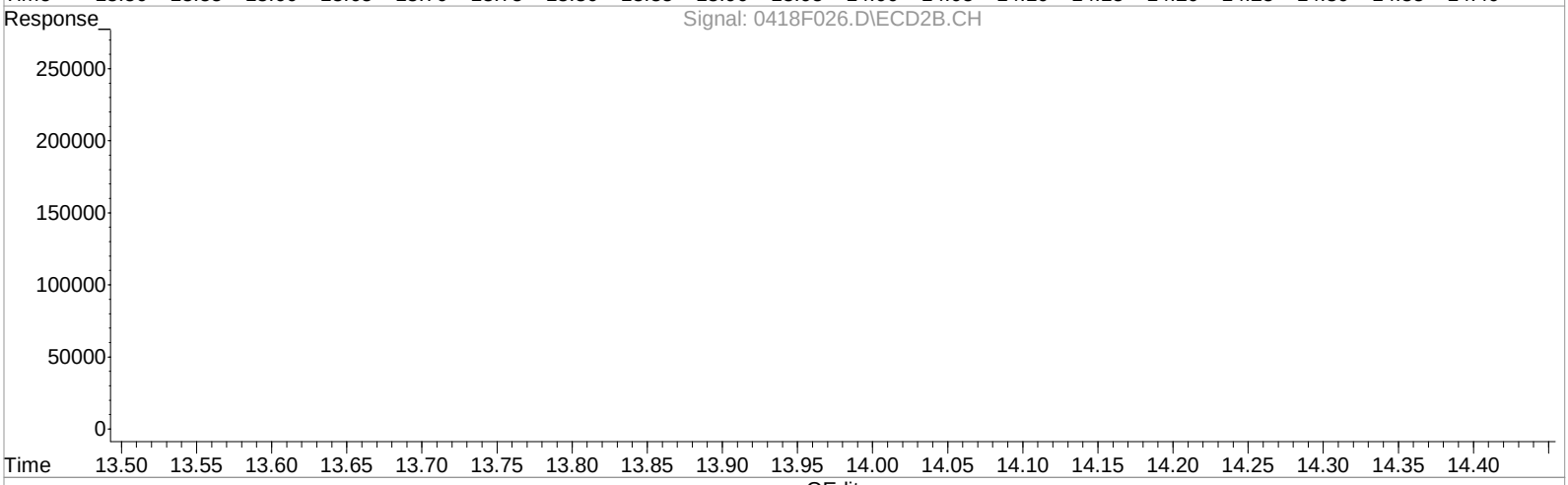
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(15) Dieldrin

14.000min 90.906 ug/L m

response 1619732

Manual Integration:

After

Shoulder

04/21/20

(15) Dieldrin #2

12.634min 122.167 ug/L

response 8173661

(+) = Expected Retention Time

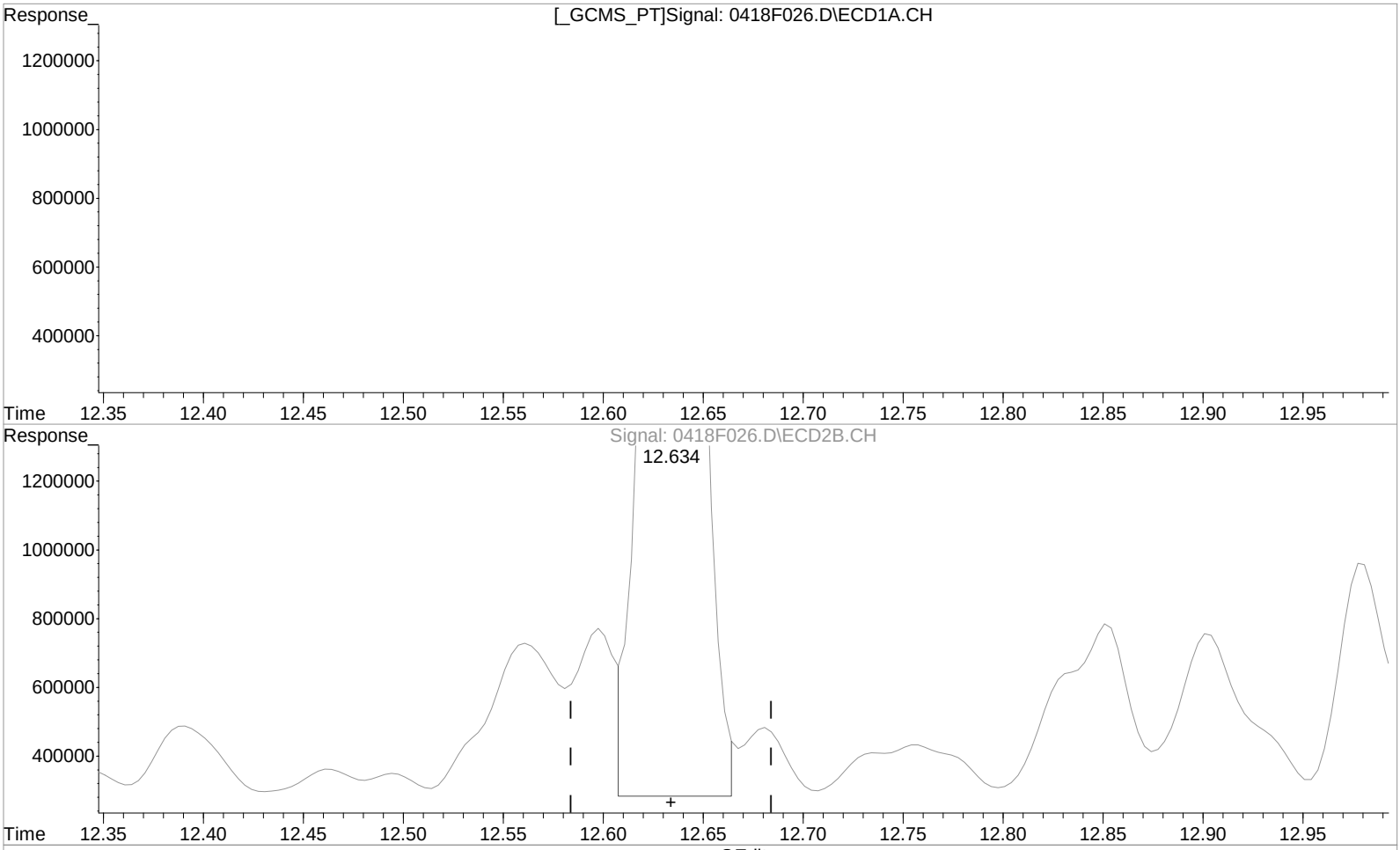
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

14.000min 90.906 ug/L m

response 1619732

Manual Integration:

After

Baseline correction

04/21/20

(15) Dieldrin #2

12.634min 118.512 ug/L m

response 7929125

(+) = Expected Retention Time

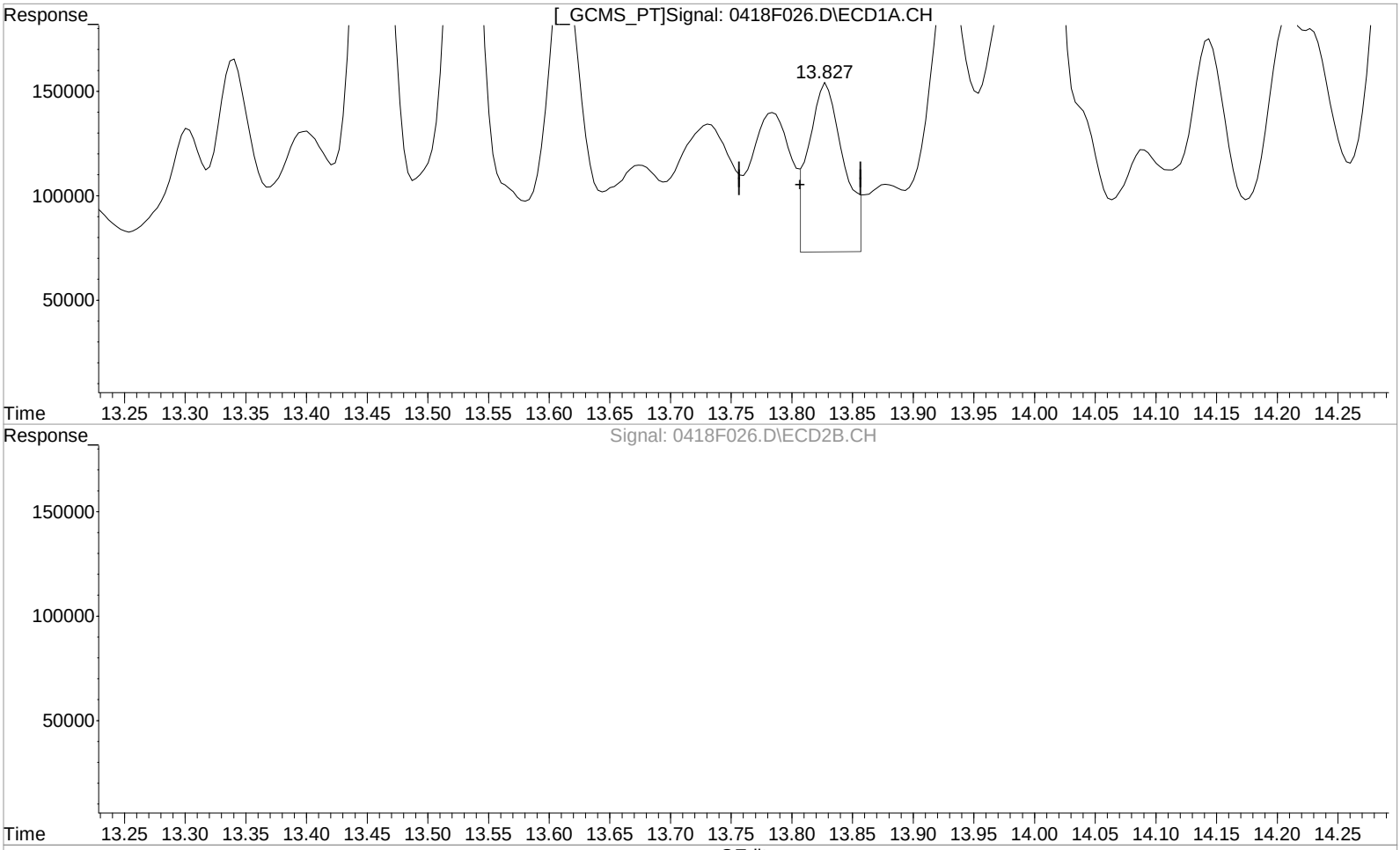
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.827min 9.549 ug/L

response 159213

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.494min 3.445 ug/L

response 221897

(+) = Expected Retention Time

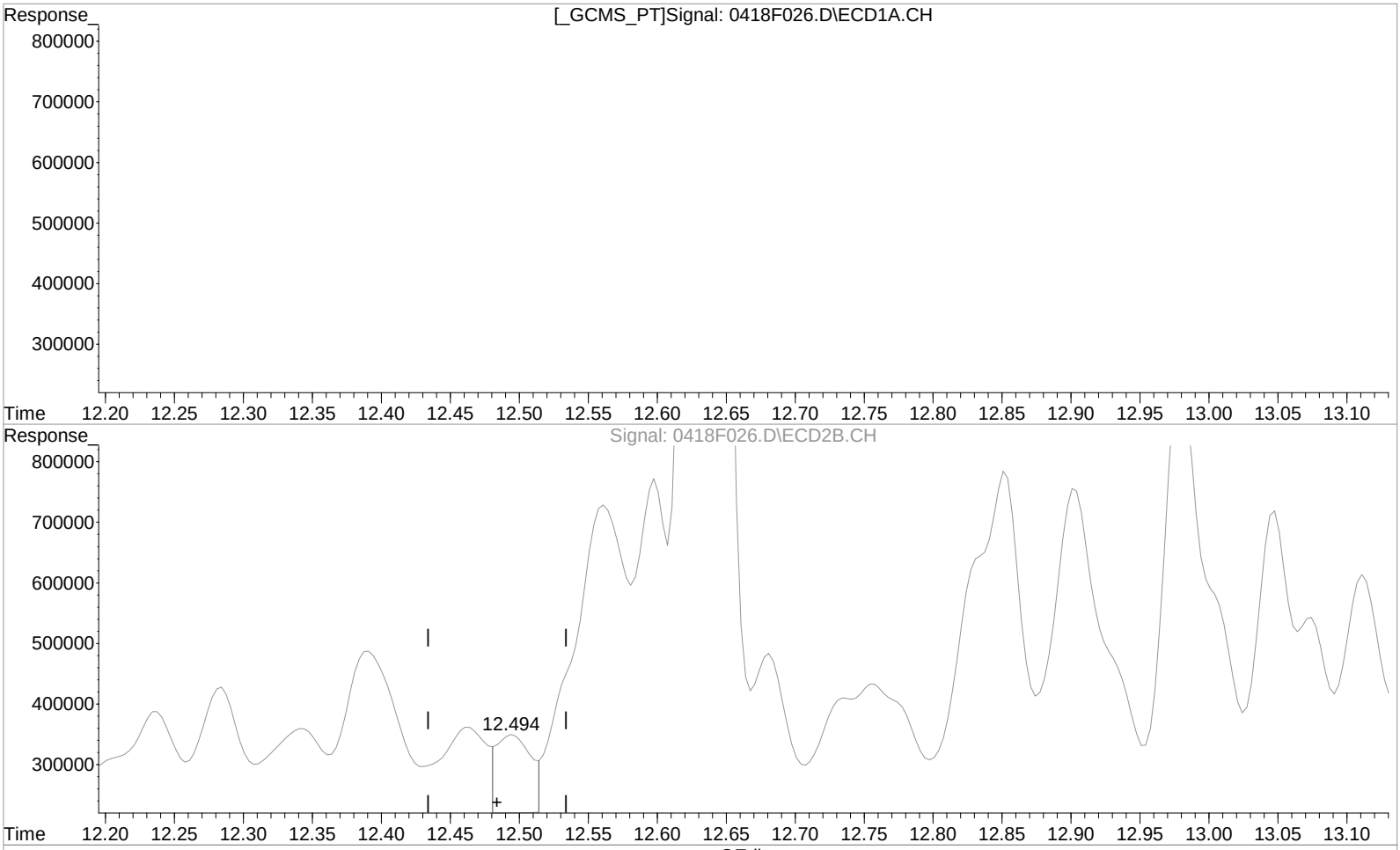
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.827min 5.463 ug/L m

response 91077

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.494min 3.445 ug/L

response 221897

(+) = Expected Retention Time

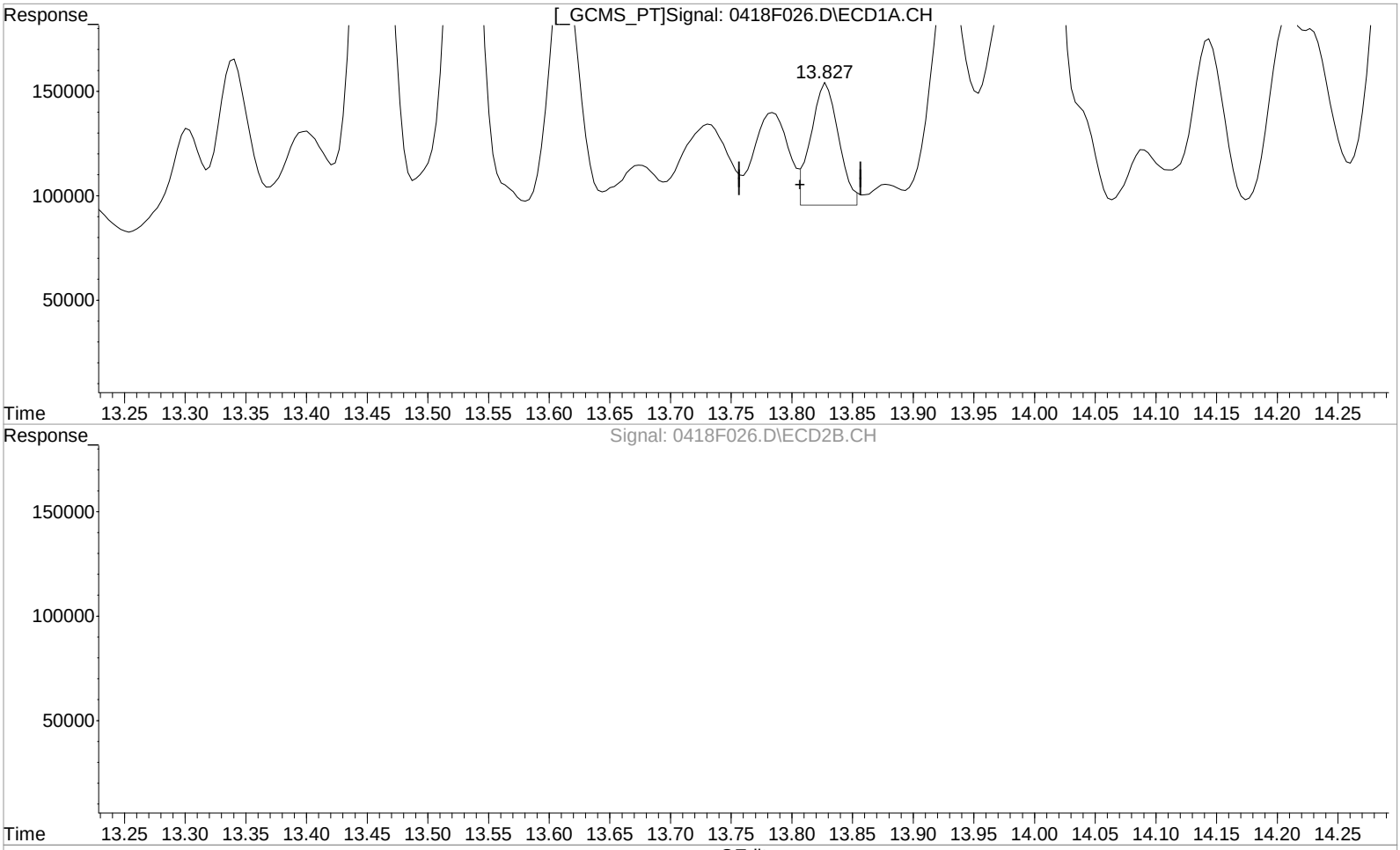
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.827min 5.463 ug/L m

response 91077

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.494min 3.445 ug/L

response 221897

(+) = Expected Retention Time

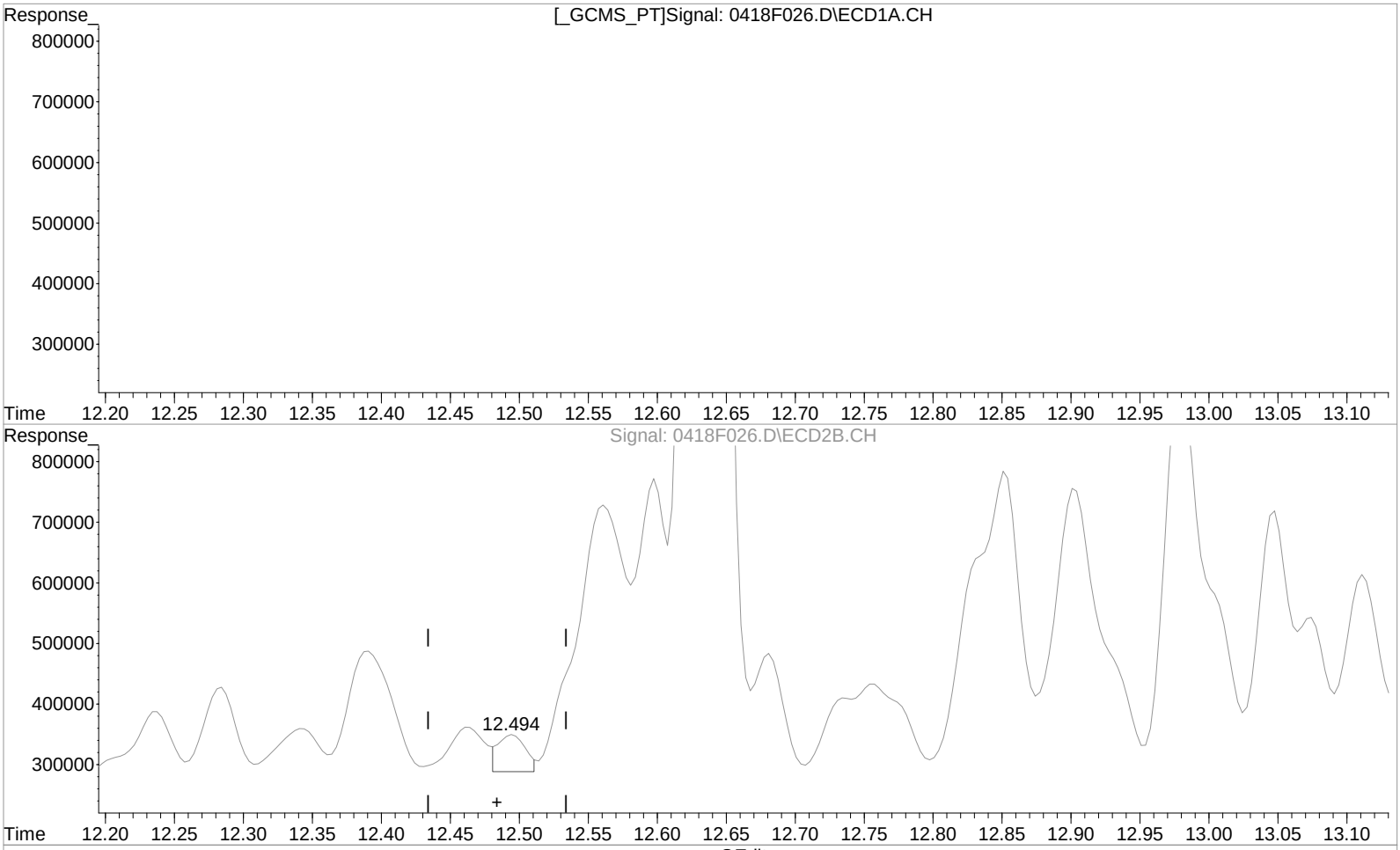
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.827min 5.463 ug/L m

response 91077

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.494min 1.286 ug/L m

response 82856

(+) = Expected Retention Time

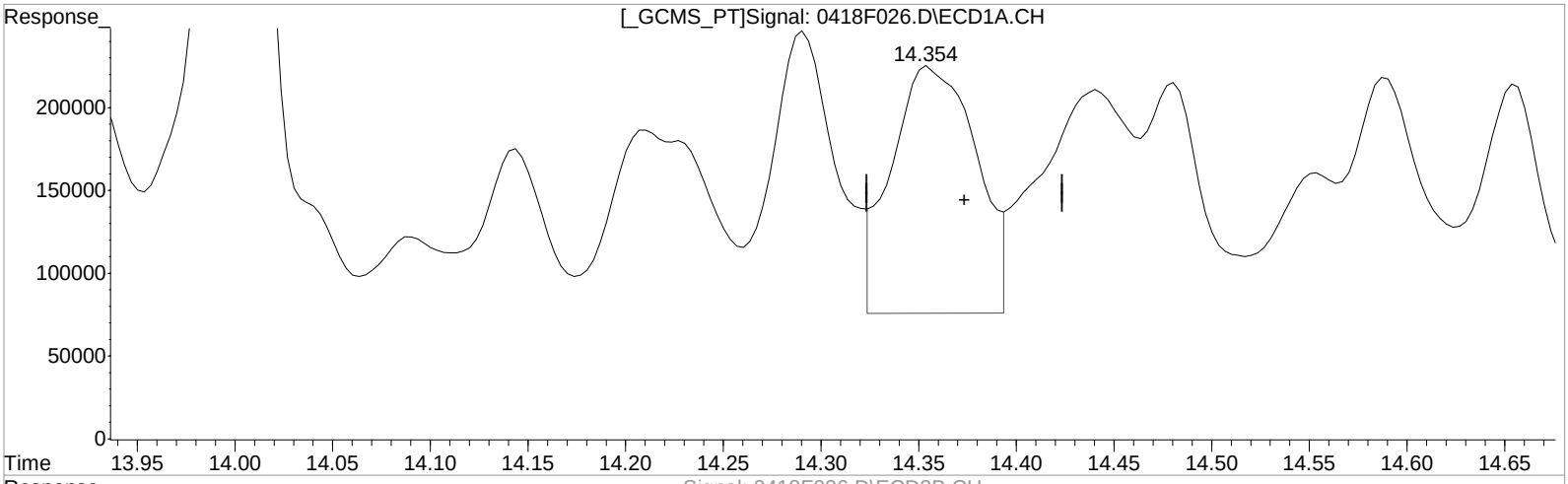
Quantitation Report (Qedit)

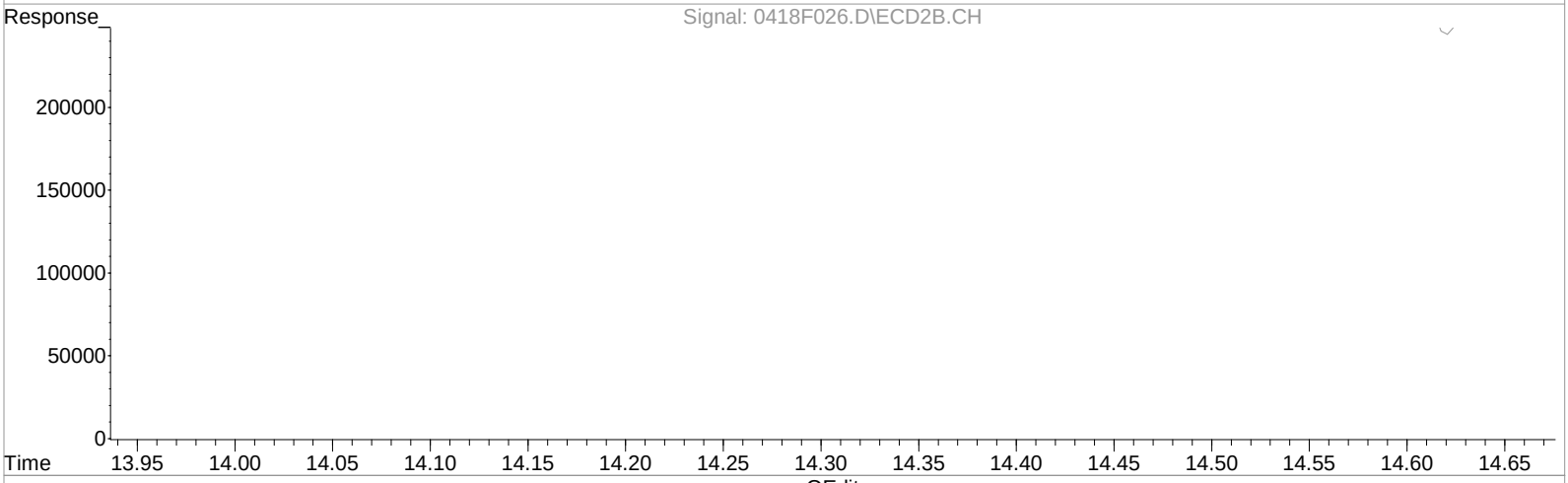
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(17) Endrin

14.354min 27.795 ug/L

response 451998

Manual Integration:

Before

04/21/20

(17) Endrin #2

13.111min 11.362 ug/L

response 723499

(+) = Expected Retention Time

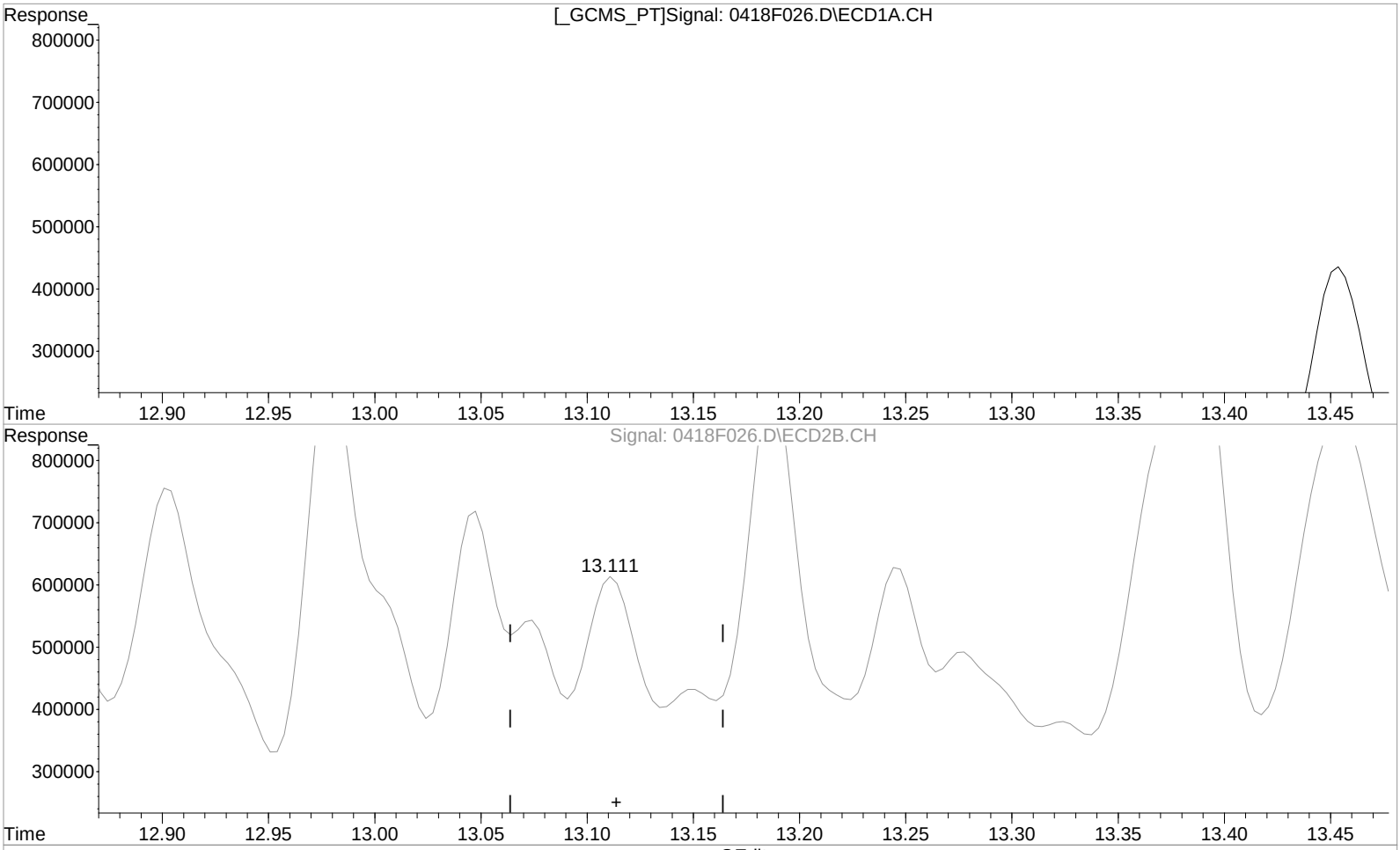
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(17) Endrin

14.354min 19.224 ug/L m

response 312612

(17) Endrin #2

13.111min 11.362 ug/L

response 723499

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

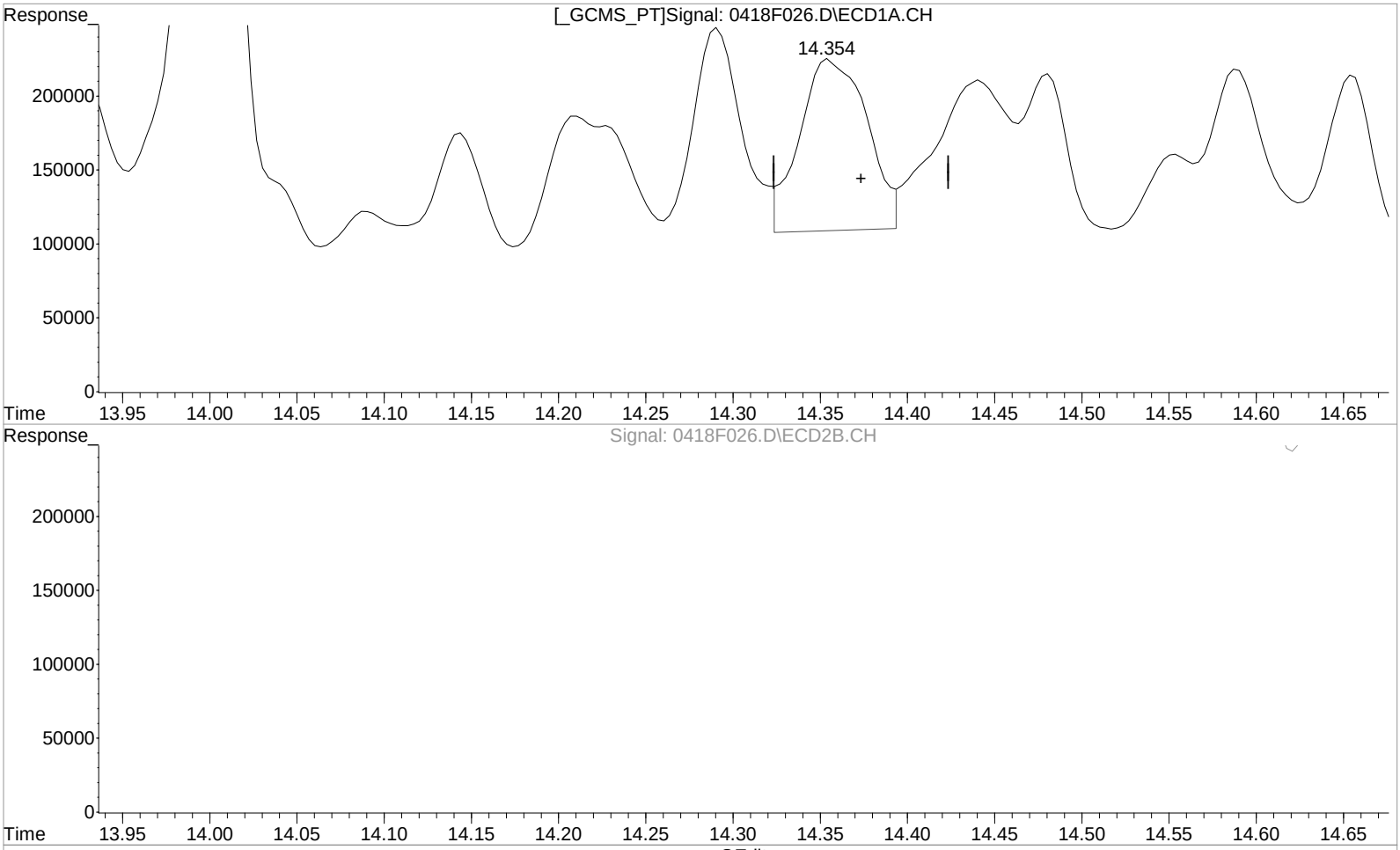
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(17) Endrin

14.354min 19.224 ug/L m

response 312612

Manual Integration:

After

Baseline correction

04/21/20

(17) Endrin #2

13.111min 11.362 ug/L

response 723499

(+) = Expected Retention Time

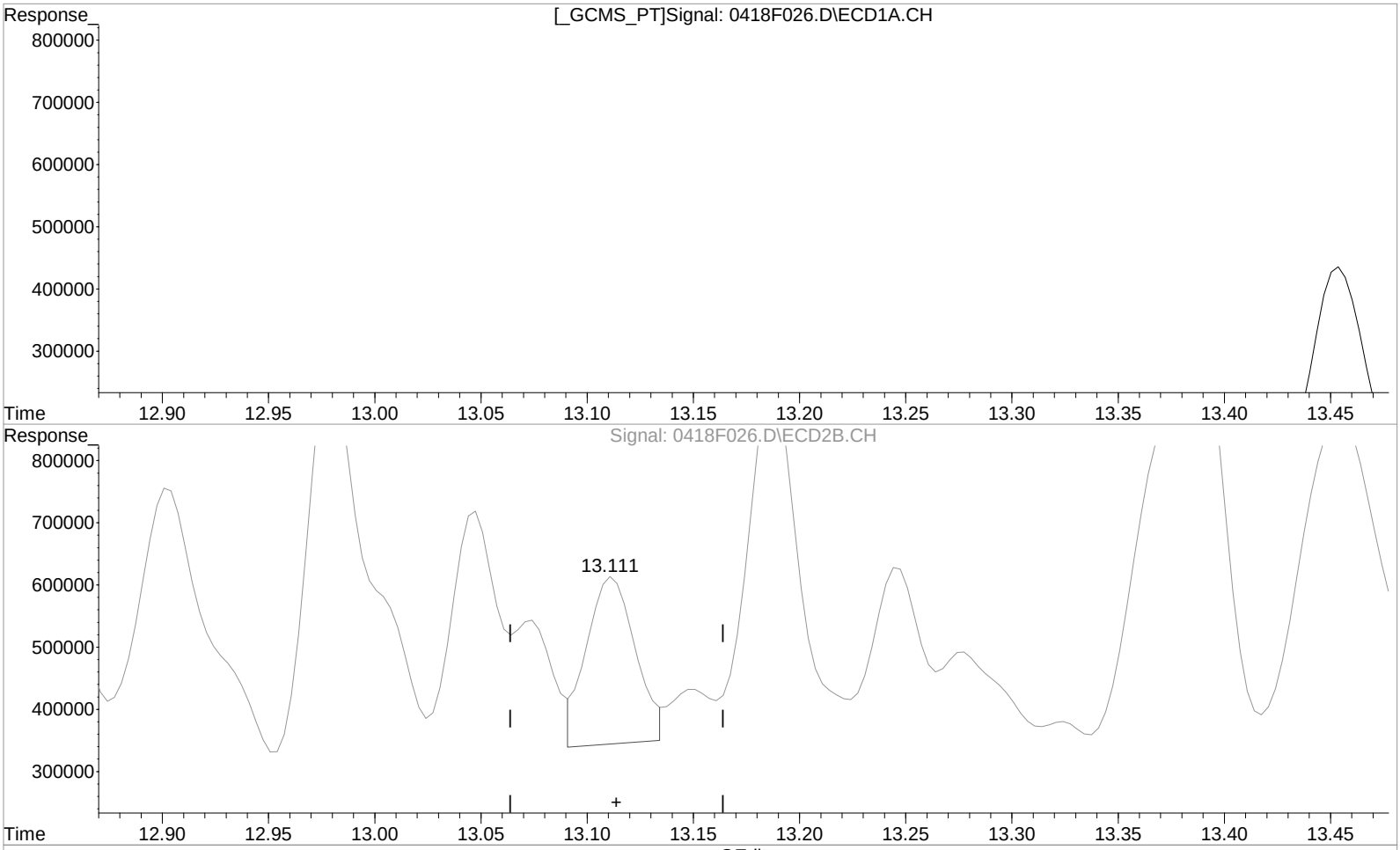
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(17) Endrin

14.354min 19.224 ug/L m

response 312612

(17) Endrin #2

13.111min 6.736 ug/L m

response 428959

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

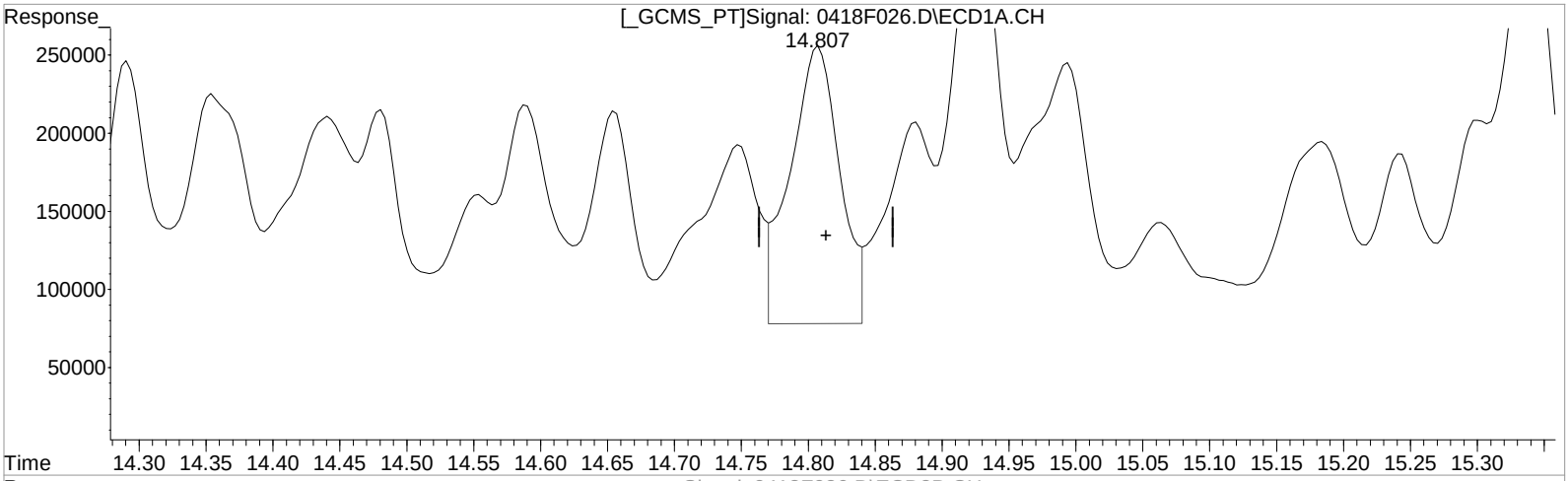
Quantitation Report (Qedit)

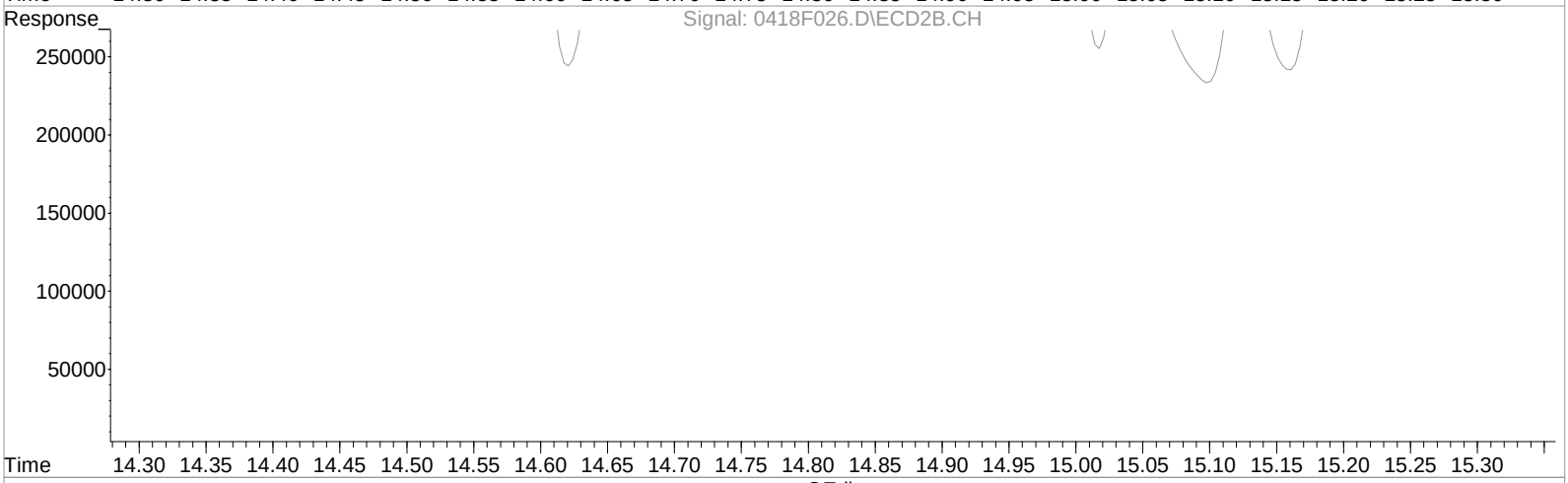
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.807min 27.734 ug/L

response 456921

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.537min 28.314 ug/L

response 1629107

(+) = Expected Retention Time

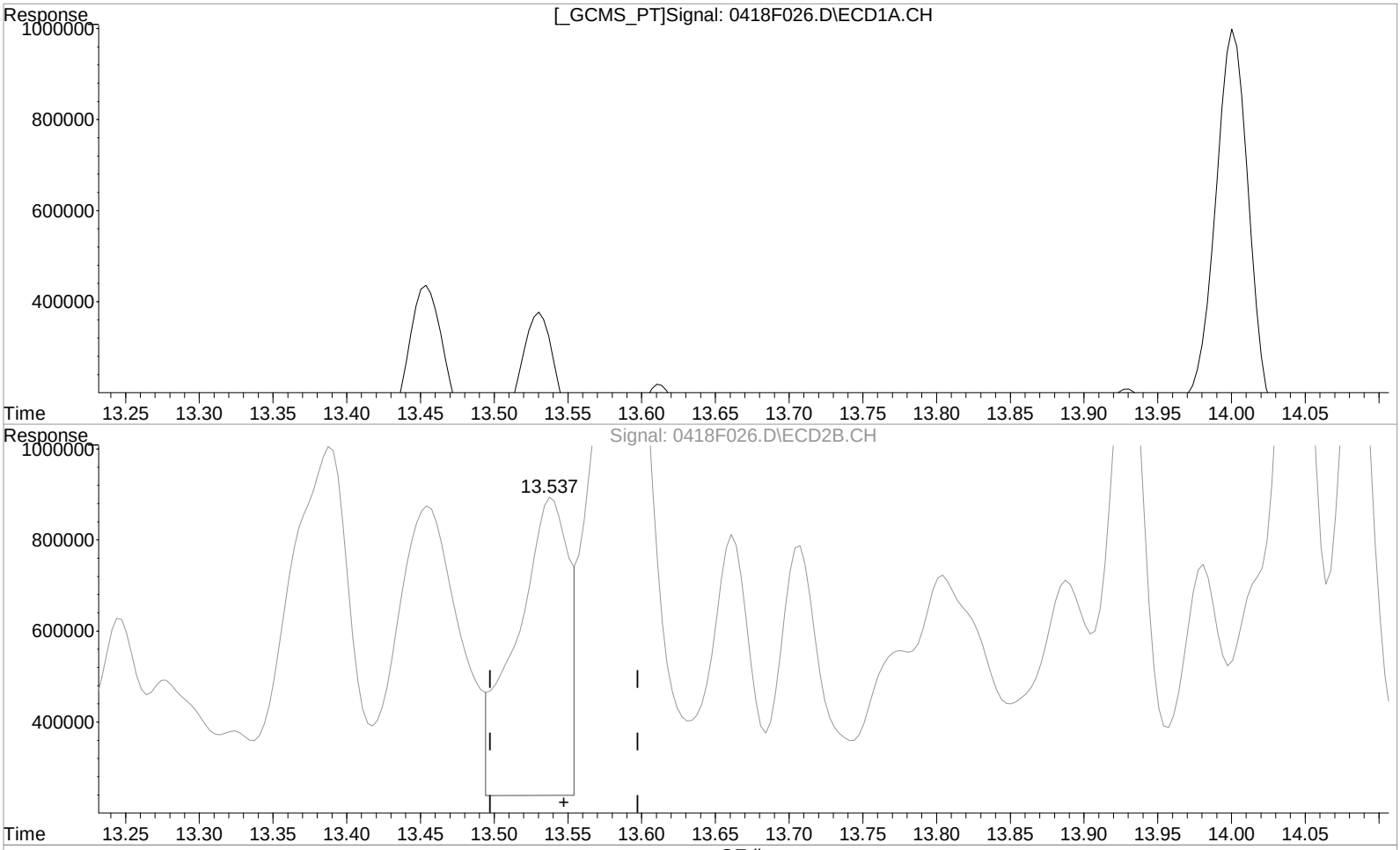
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.807min 21.285 ug/L m

response 350675

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.537min 28.314 ug/L

response 1629107

(+) = Expected Retention Time

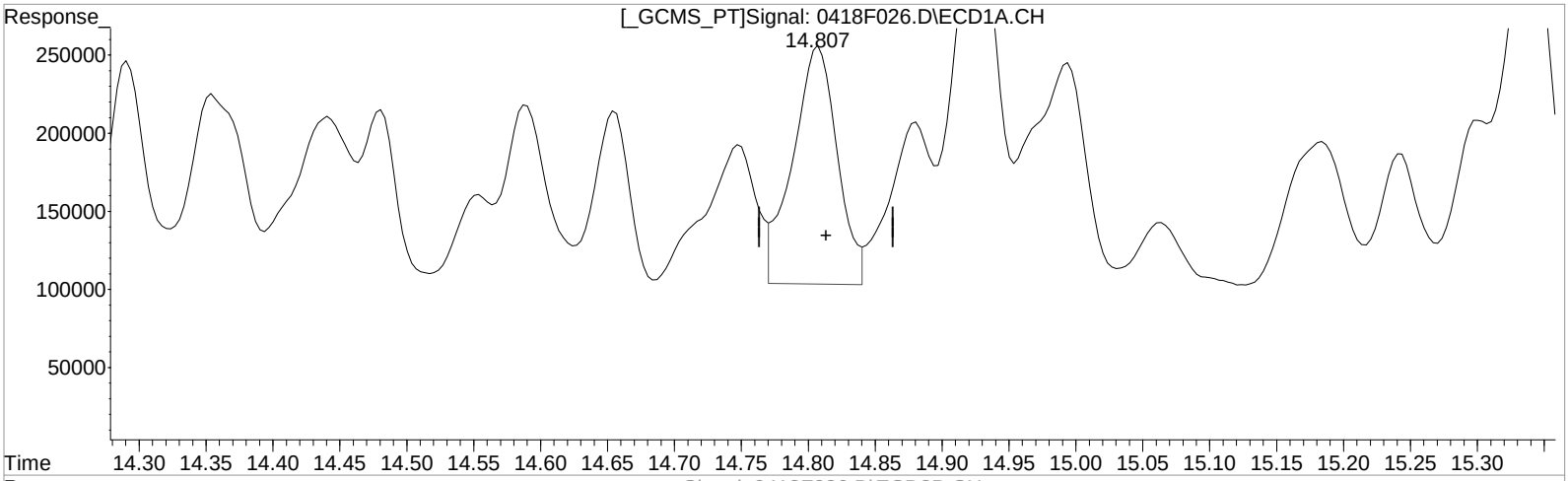
Quantitation Report (Qedit)

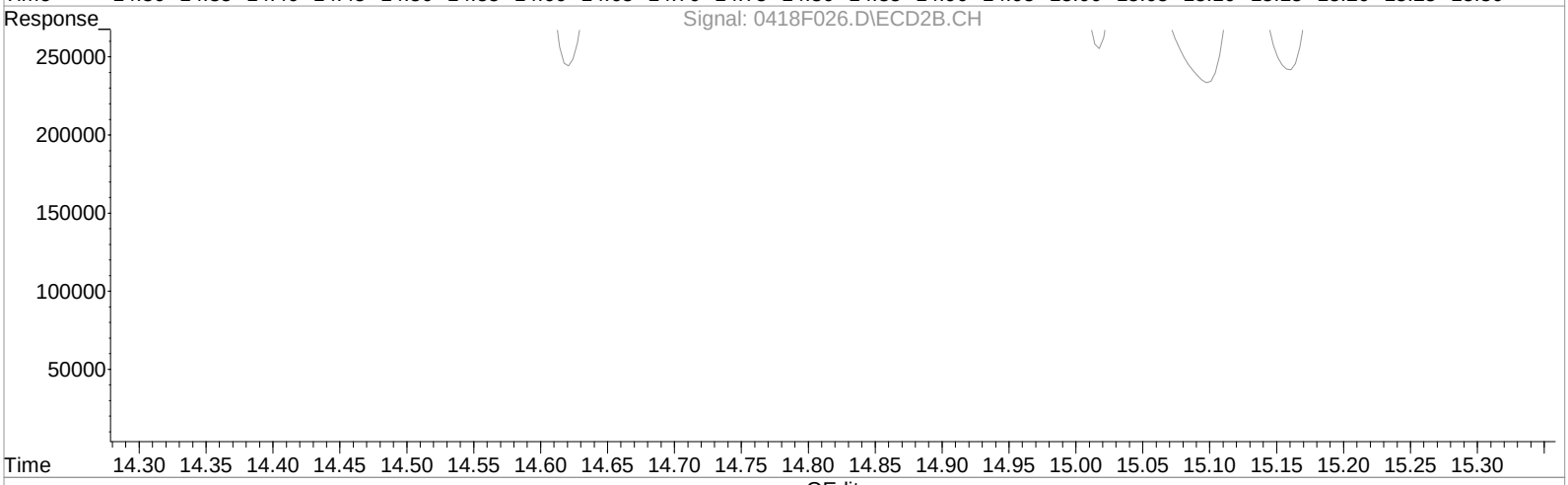
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.807min 21.285 ug/L m

response 350675

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.537min 28.314 ug/L

response 1629107

(+) = Expected Retention Time

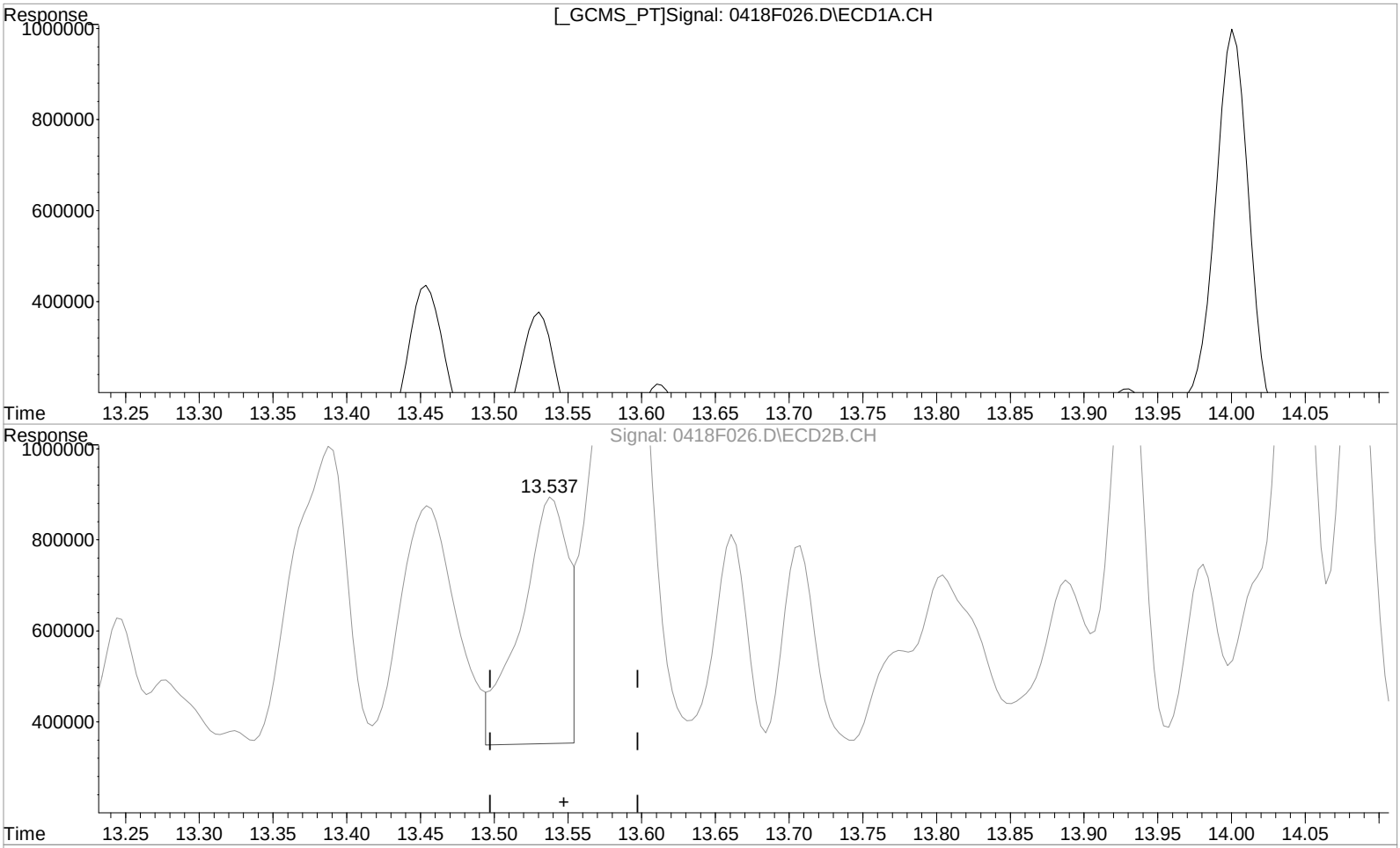
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.807min 21.285 ug/L m

response 350675

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.537min 21.271 ug/L m

response 1223855

(+) = Expected Retention Time

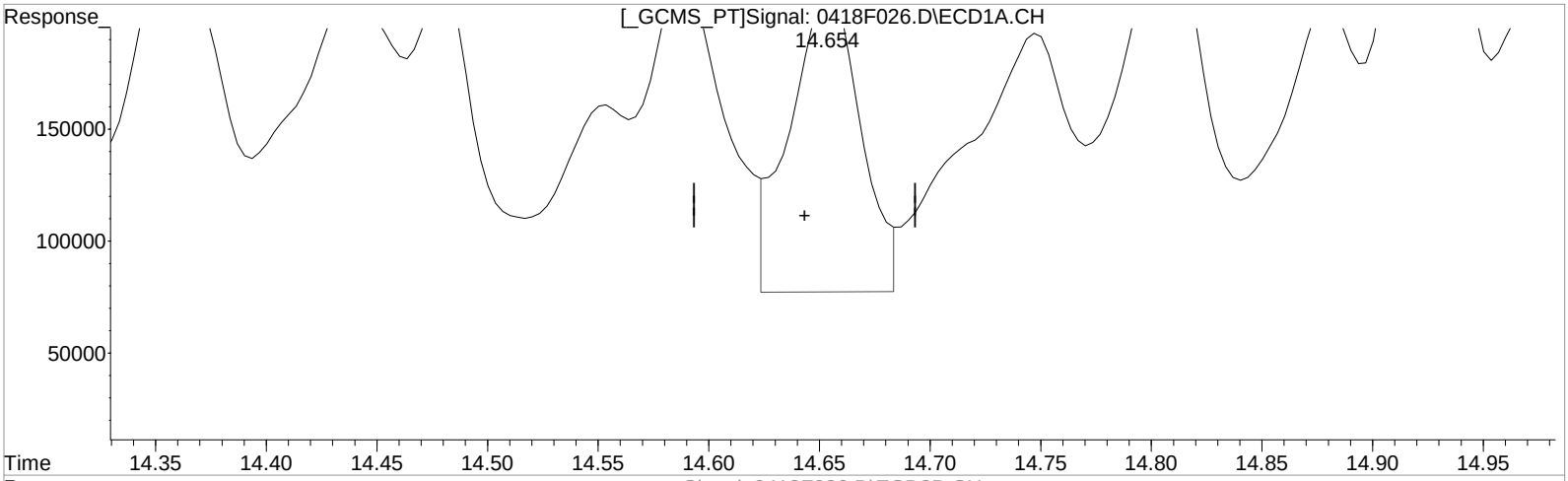
Quantitation Report (Qedit)

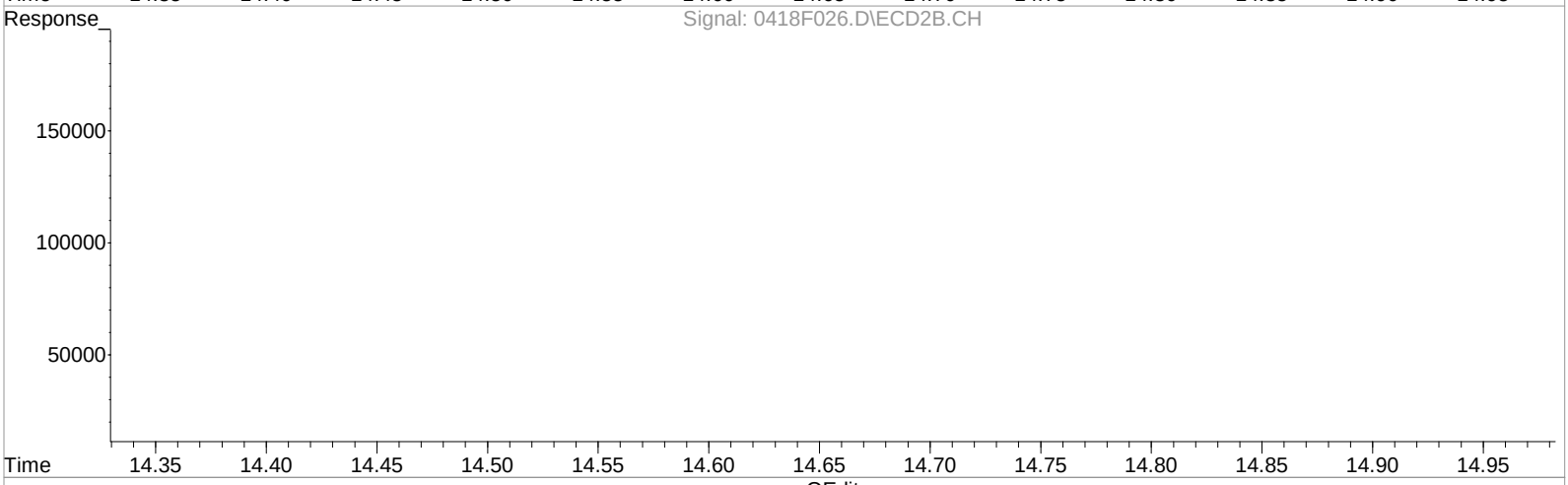
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.654min 22.887 ug/L

response 294960

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.387min 45.265 ug/L

response 2182407

(+) = Expected Retention Time

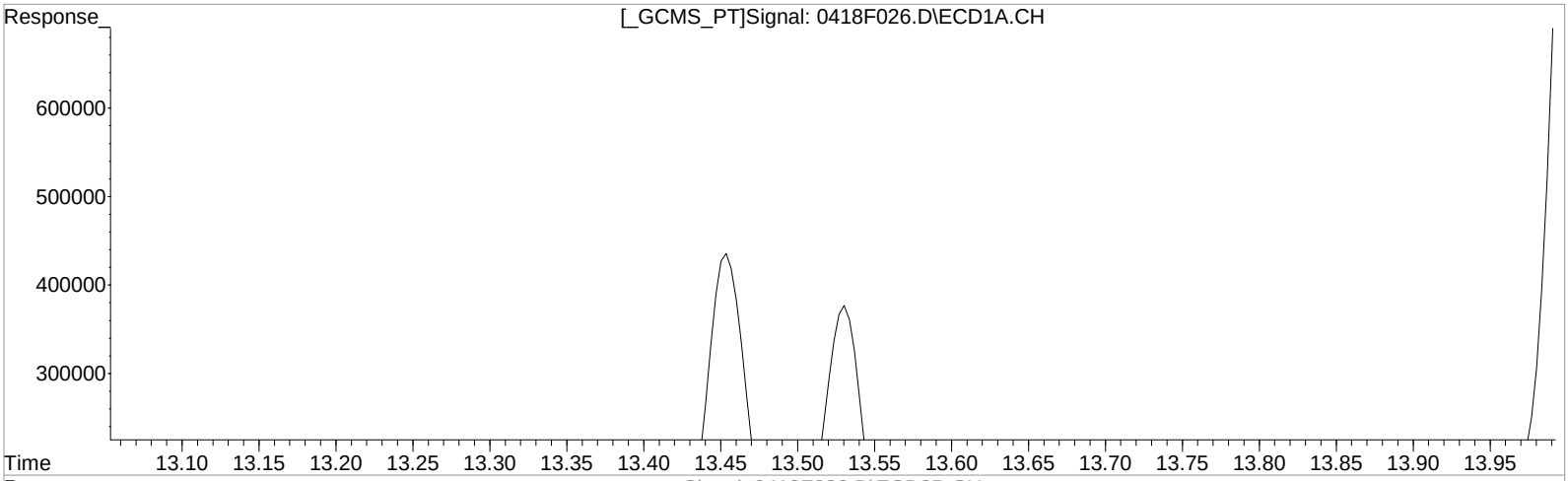
Quantitation Report (Qedit)

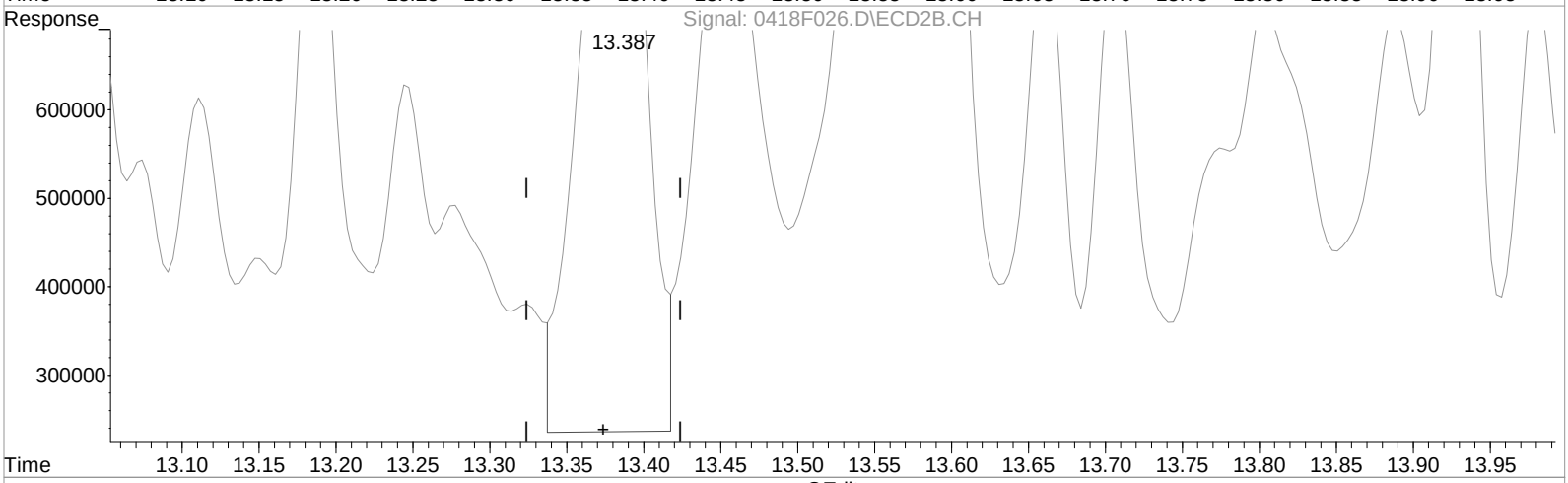
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.654min 16.170 ug/L m

response 208398

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.387min 45.265 ug/L

response 2182407

(+) = Expected Retention Time

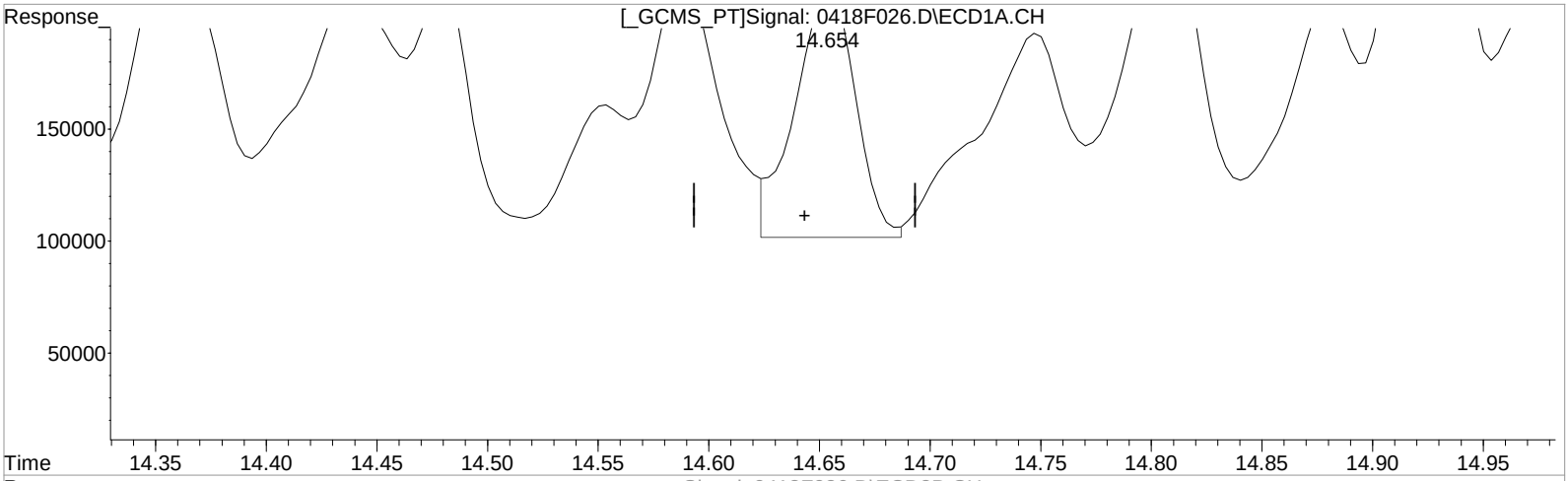
Quantitation Report (Qedit)

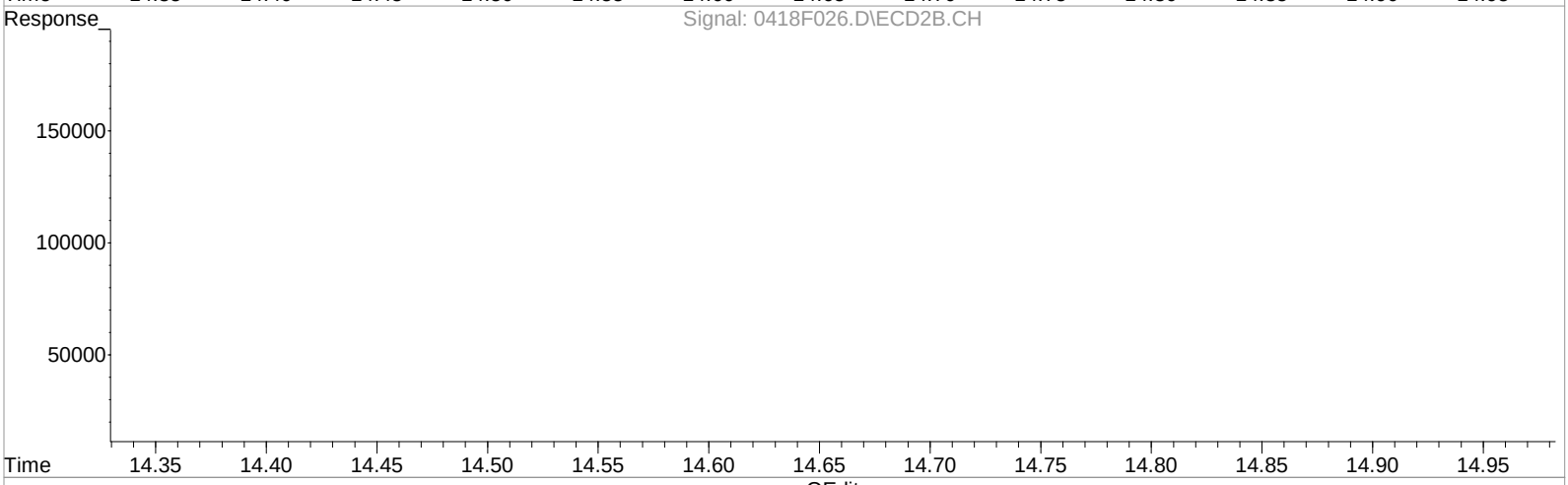
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.654min 16.170 ug/L m

response 208398

(19) 4,4'-DDD #2

13.387min 45.265 ug/L

response 2182407

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

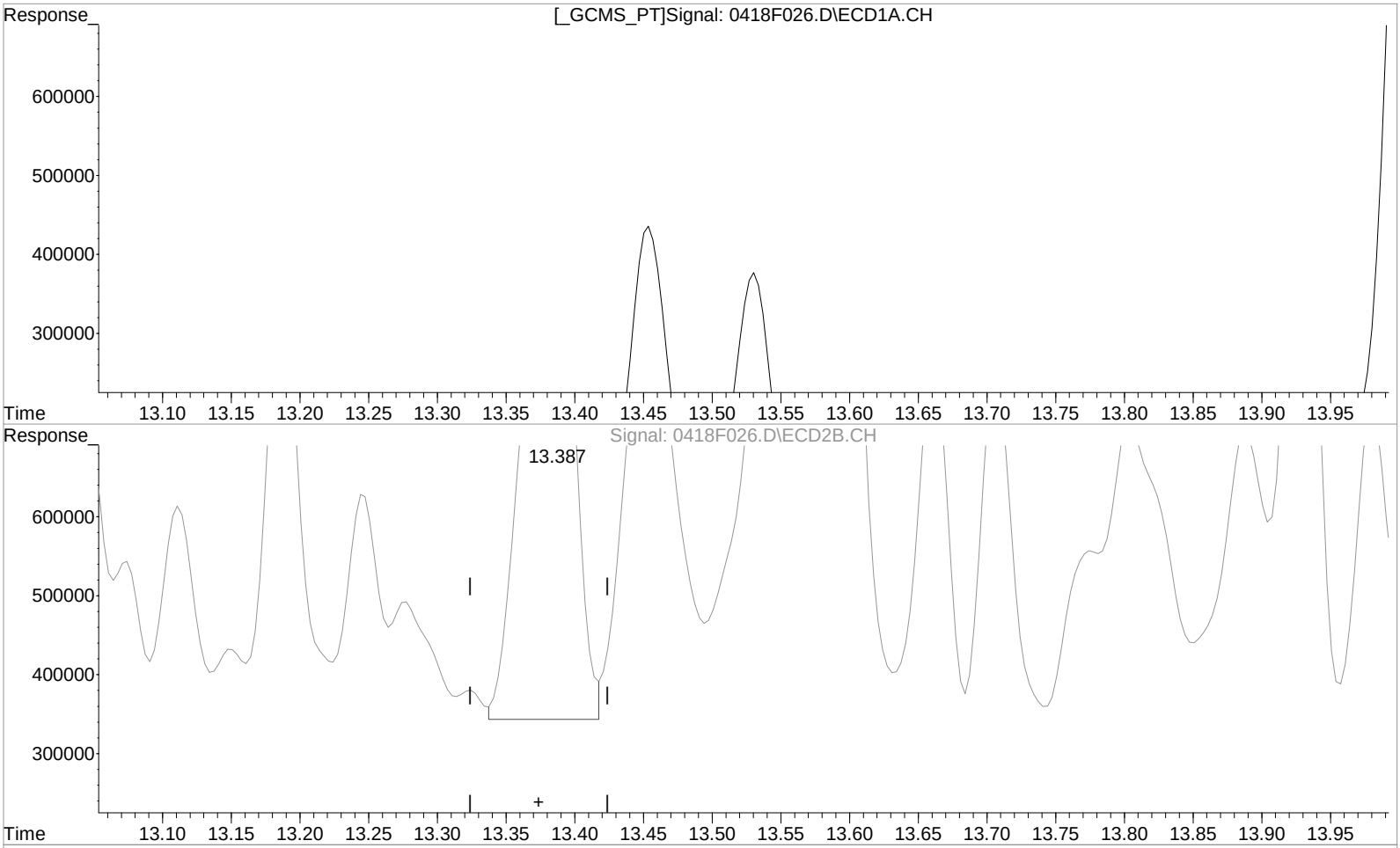
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(19) 4,4'-DDD

14.654min 16.170 ug/L m

response 208398

Manual Integration:

After

Baseline correction

04/21/20

(19) 4,4'-DDD #2

13.387min 34.600 ug/L m

response 1668223

(+) = Expected Retention Time

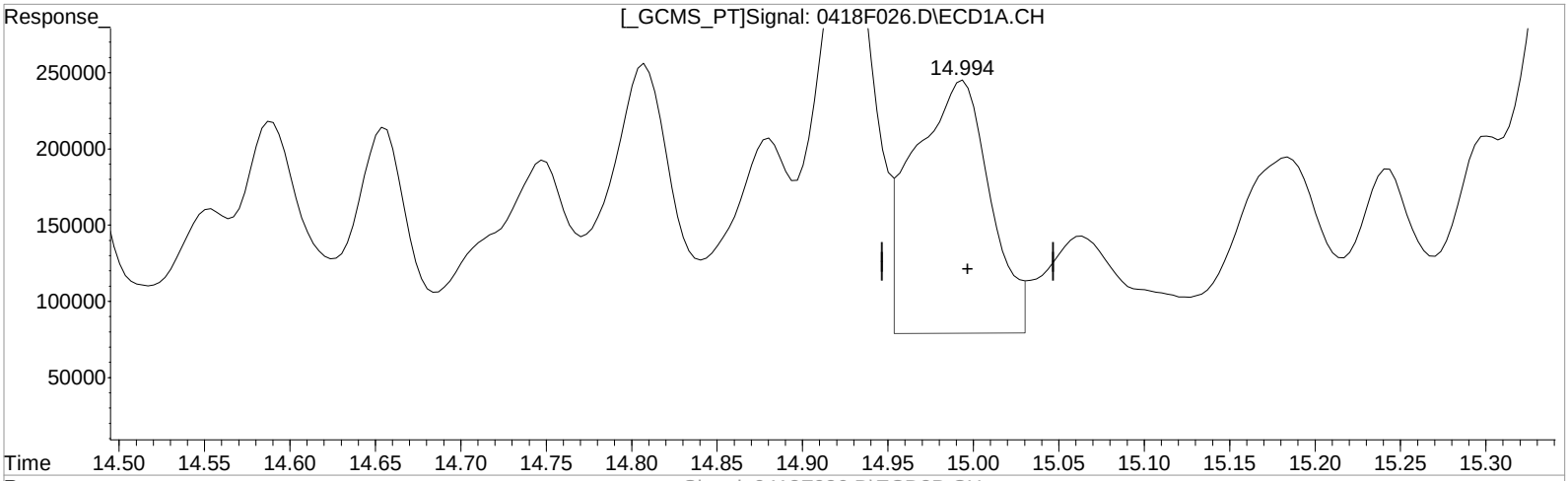
Quantitation Report (Qedit)

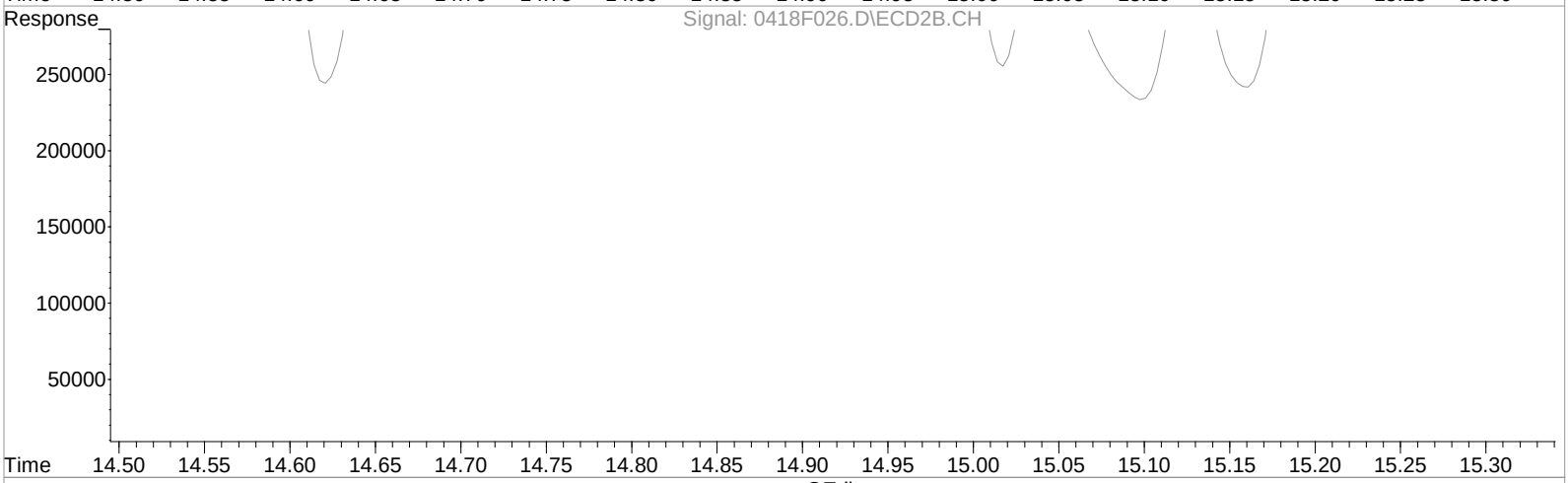
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

14.994min 35.422 ug/L

response 505854

Manual Integration:

Before

04/21/20

(20) Endrin Aldehyde #2

13.931min 39.357 ug/L

response 1875178

(+) = Expected Retention Time

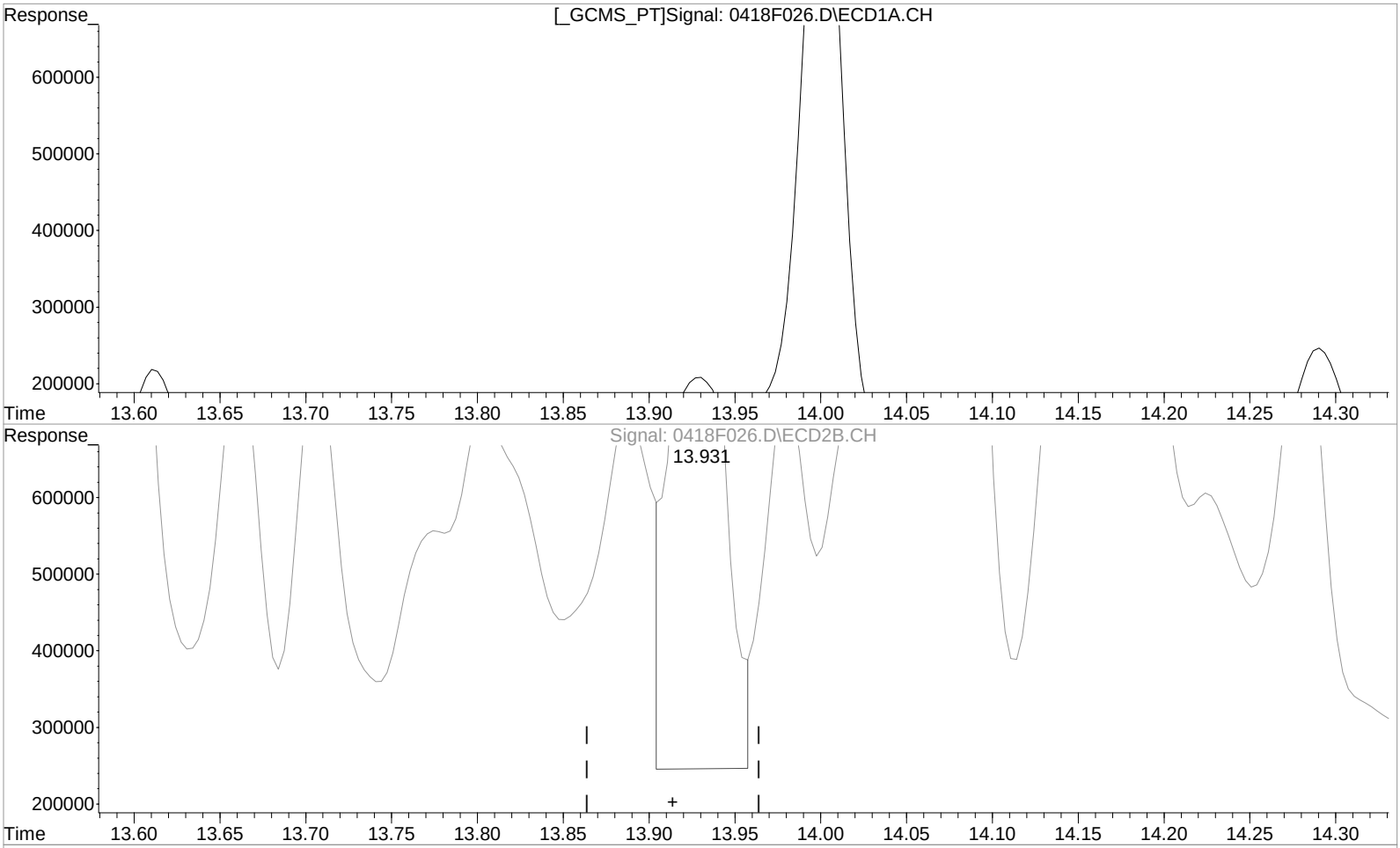
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.994min 27.826 ug/L m

response 397374

Manual Integration:

Before

04/21/20

(20) Endrin Aldehyde #2

13.931min 39.357 ug/L

response 1875178

(+) = Expected Retention Time

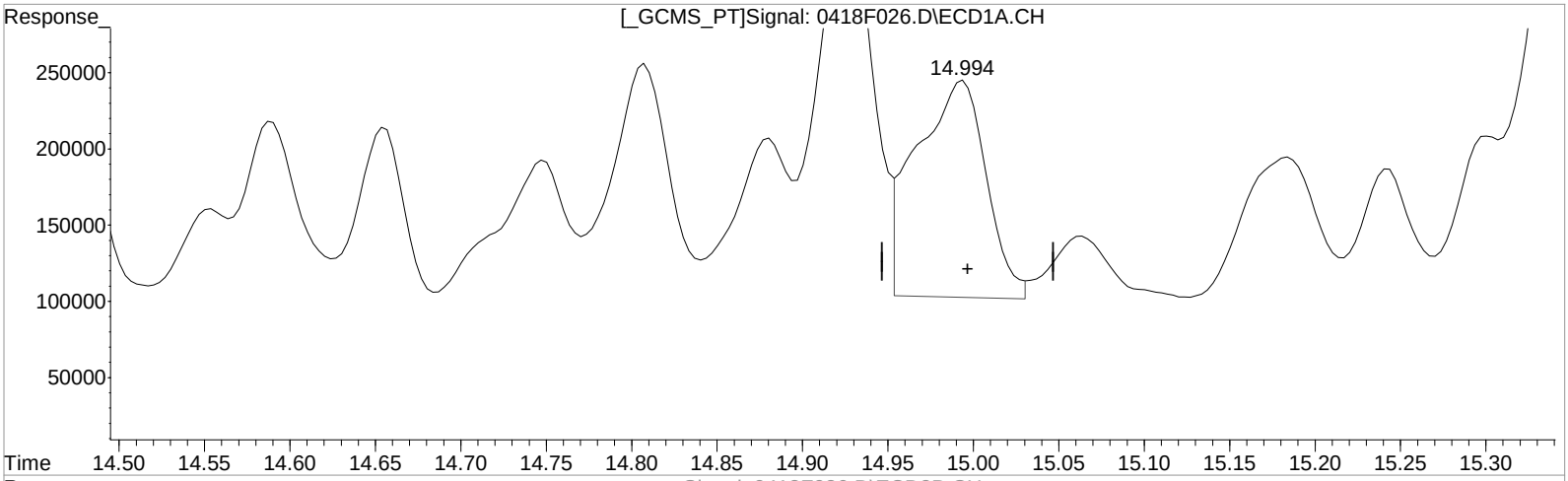
Quantitation Report (Qedit)

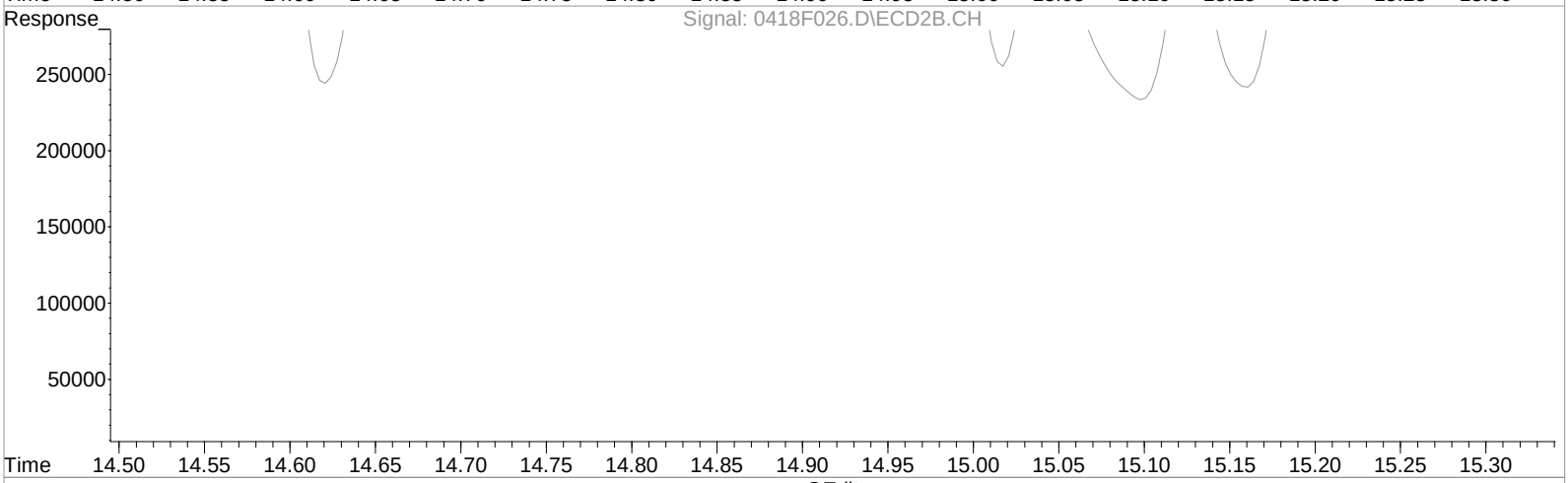
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

14.994min 27.826 ug/L m

response 397374

Manual Integration:

After

Baseline correction

04/21/20

(20) Endrin Aldehyde #2

13.931min 39.357 ug/L

response 1875178

(+) = Expected Retention Time

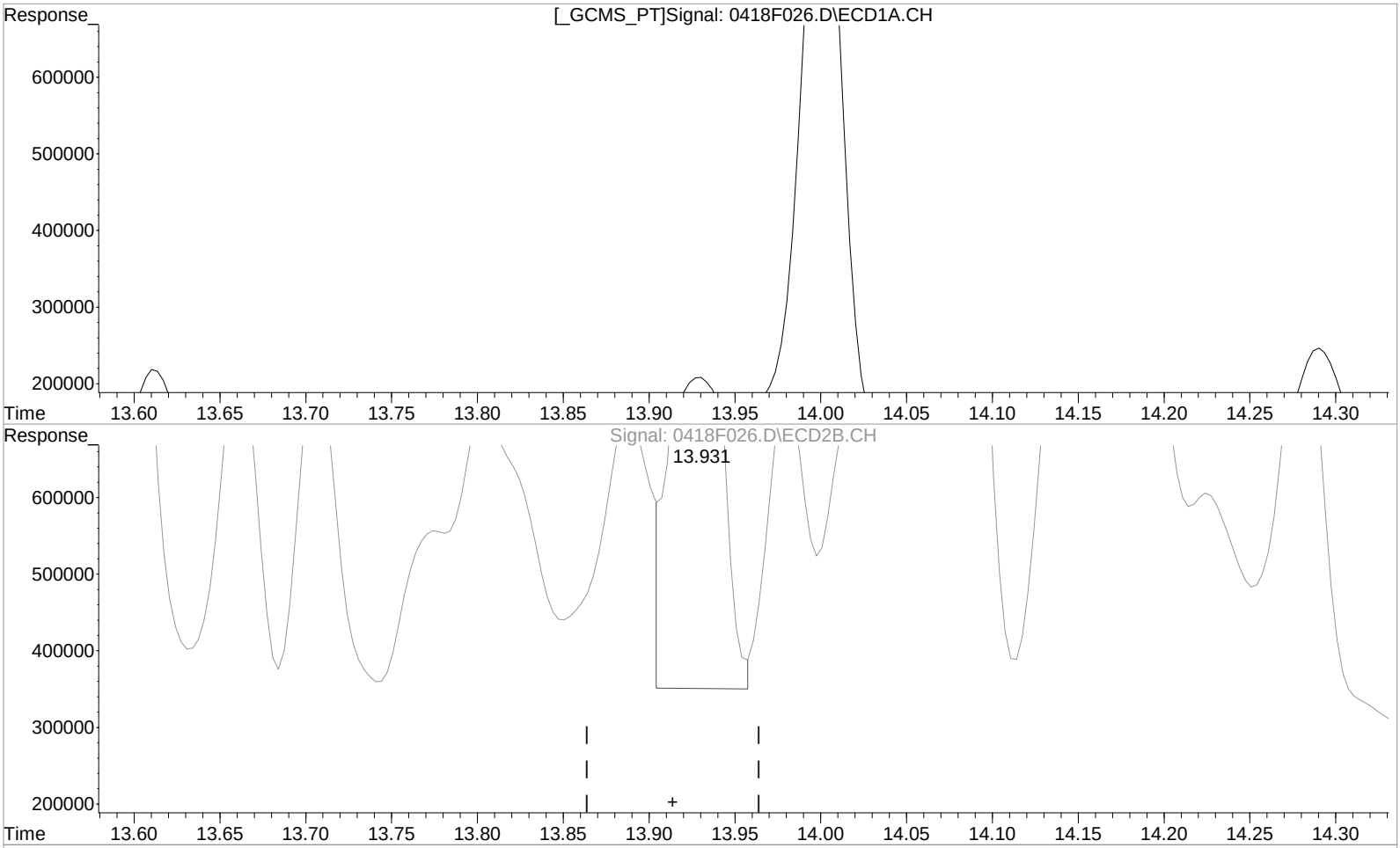
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(20) Endrin Aldehyde

14.994min 27.826 ug/L m

response 397374

Manual Integration:

After

Baseline correction

04/21/20

(20) Endrin Aldehyde #2

13.931min 32.323 ug/L m

response 1540050

(+) = Expected Retention Time

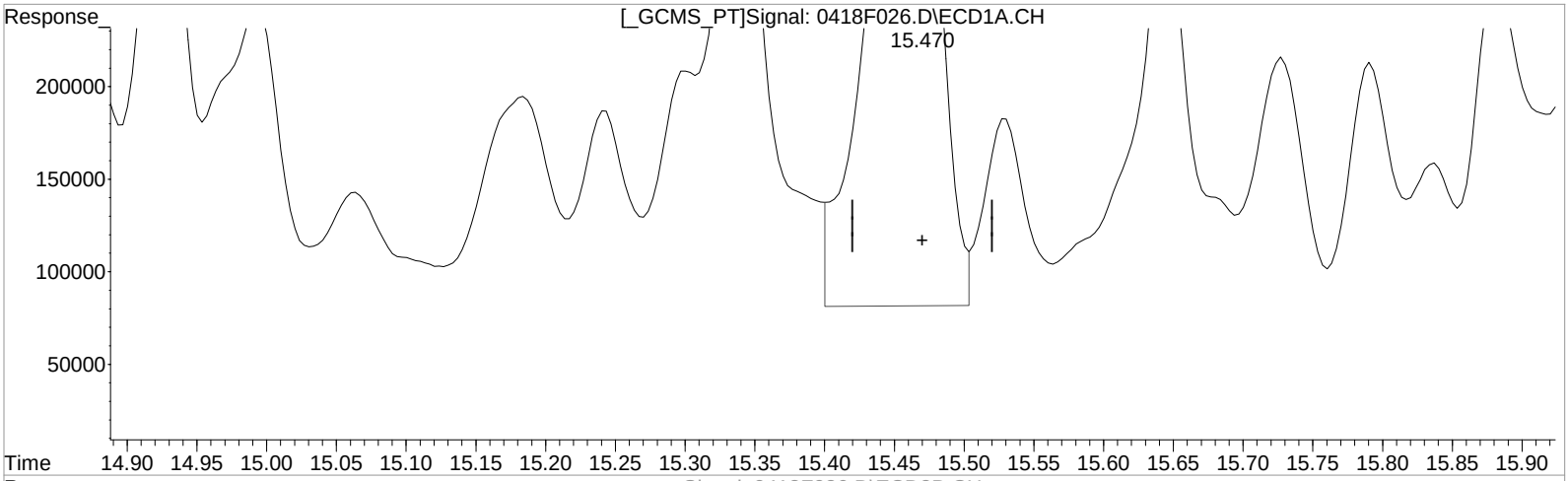
Quantitation Report (Qedit)

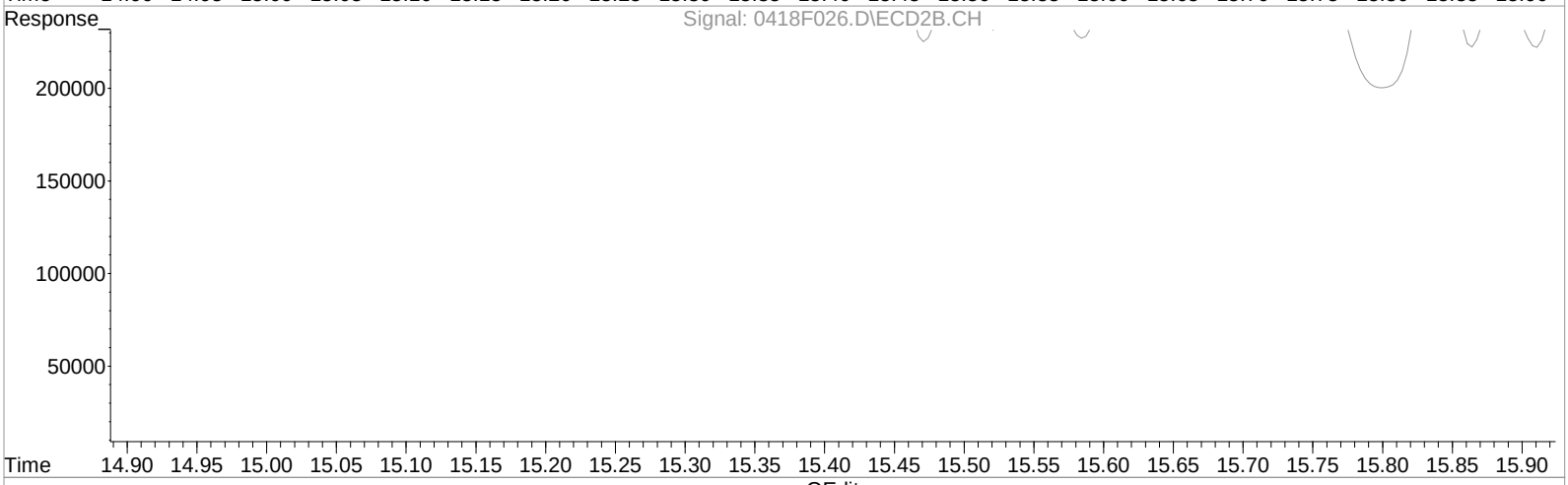
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(21) Endosulfan Sulfate

15.470min 58.286 ug/L

response 978388

Manual Integration:

Before

04/21/20

(21) Endosulfan Sulfate #2

14.224min 11.844 ug/L

response 671980

(+) = Expected Retention Time

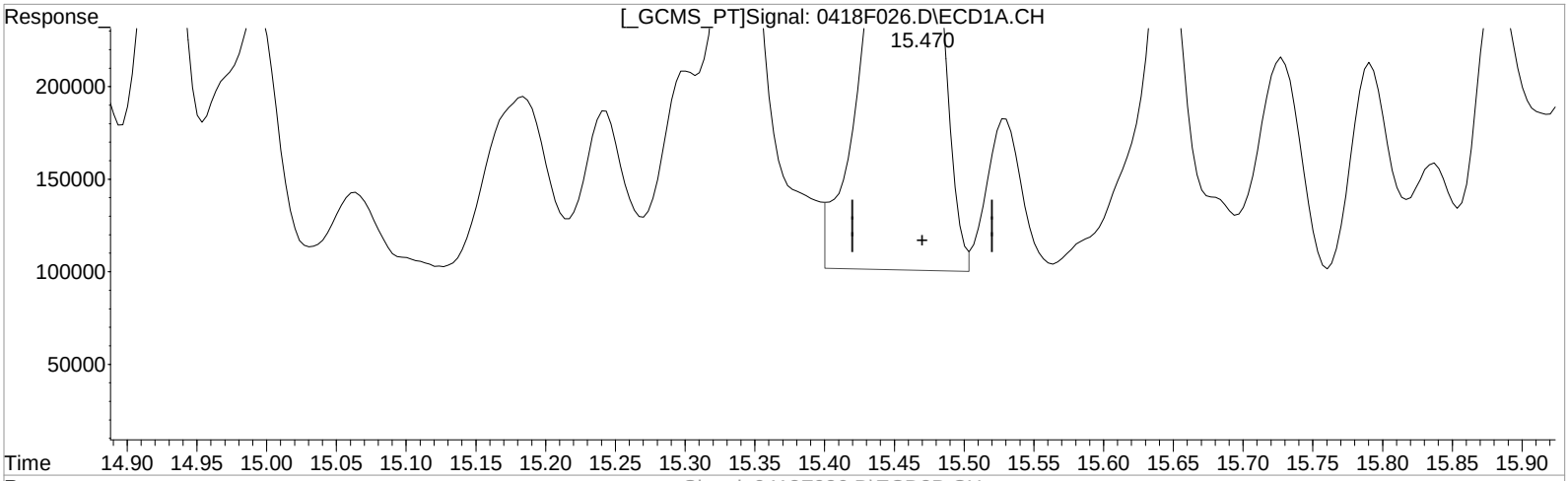
Quantitation Report (Qedit)

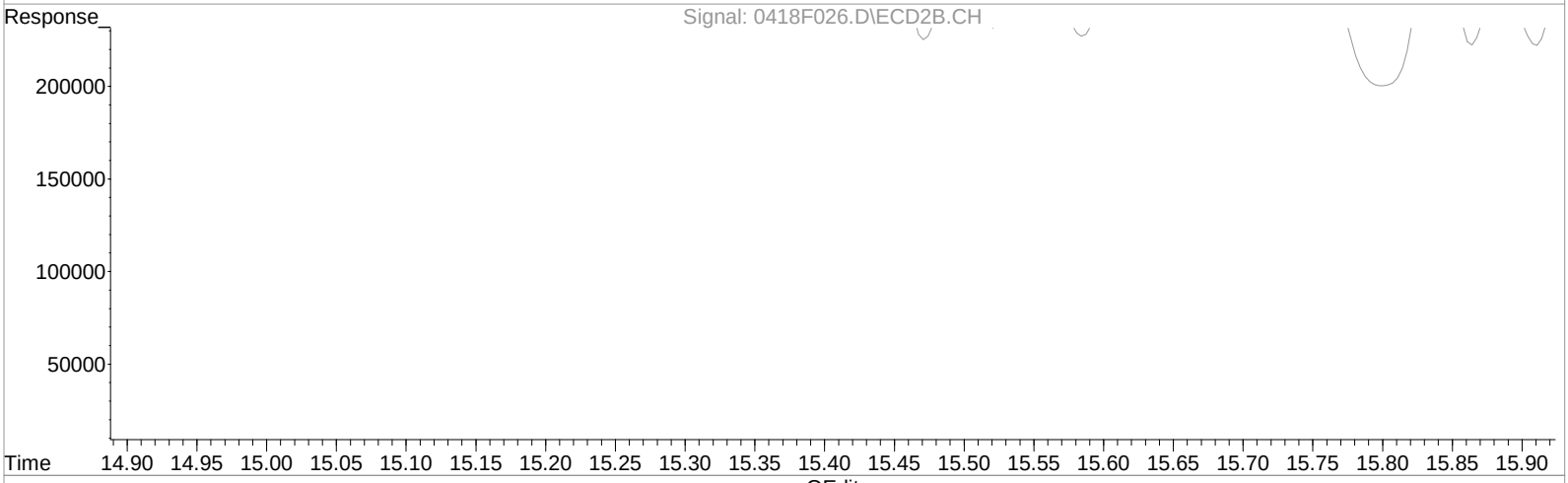
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(21) Endosulfan Sulfate

15.470min 51.049 ug/L m

response 856905

Manual Integration:

After

Baseline correction

04/21/20

(21) Endosulfan Sulfate #2

14.224min 11.844 ug/L

response 671980

(+) = Expected Retention Time

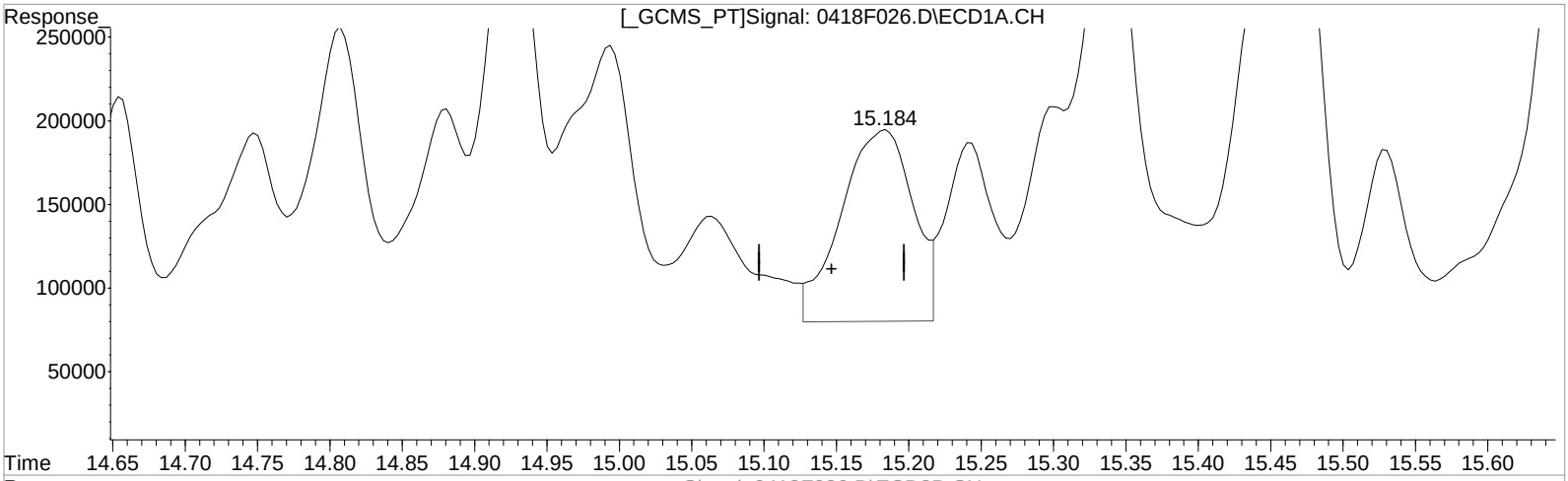
Quantitation Report (Qedit)

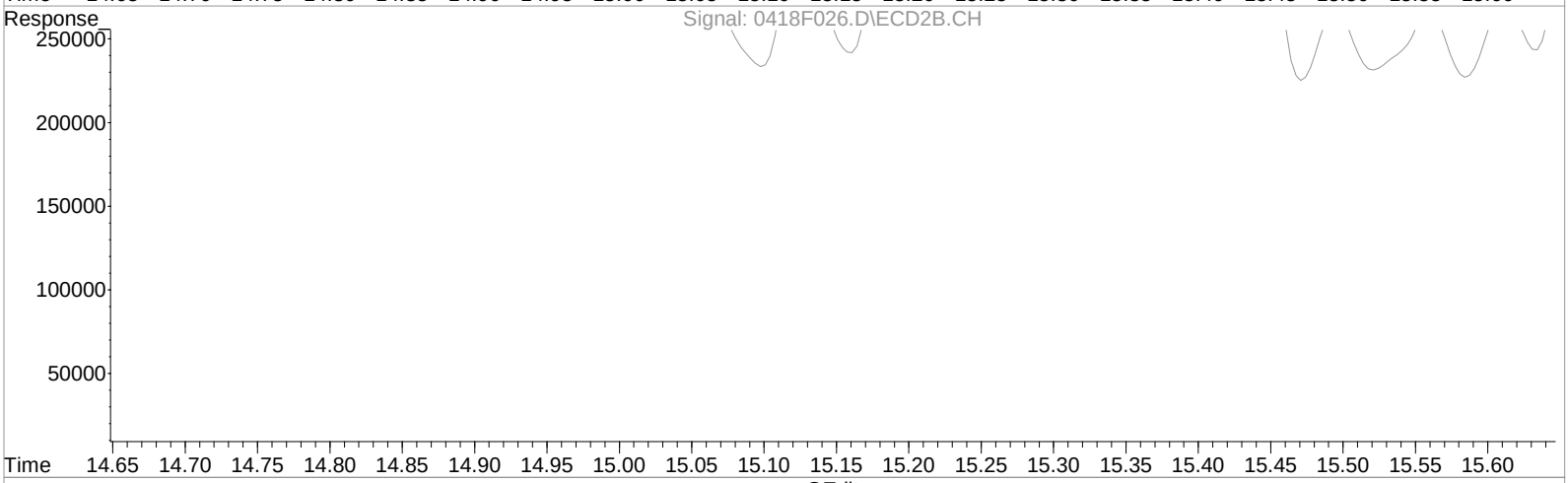
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.184min 29.385 ug/L

response 397893

Manual Integration:

Before

04/21/20

(22) 4,4'-DDT #2

13.804min 44.316 ug/L

response 2059959

(+) = Expected Retention Time

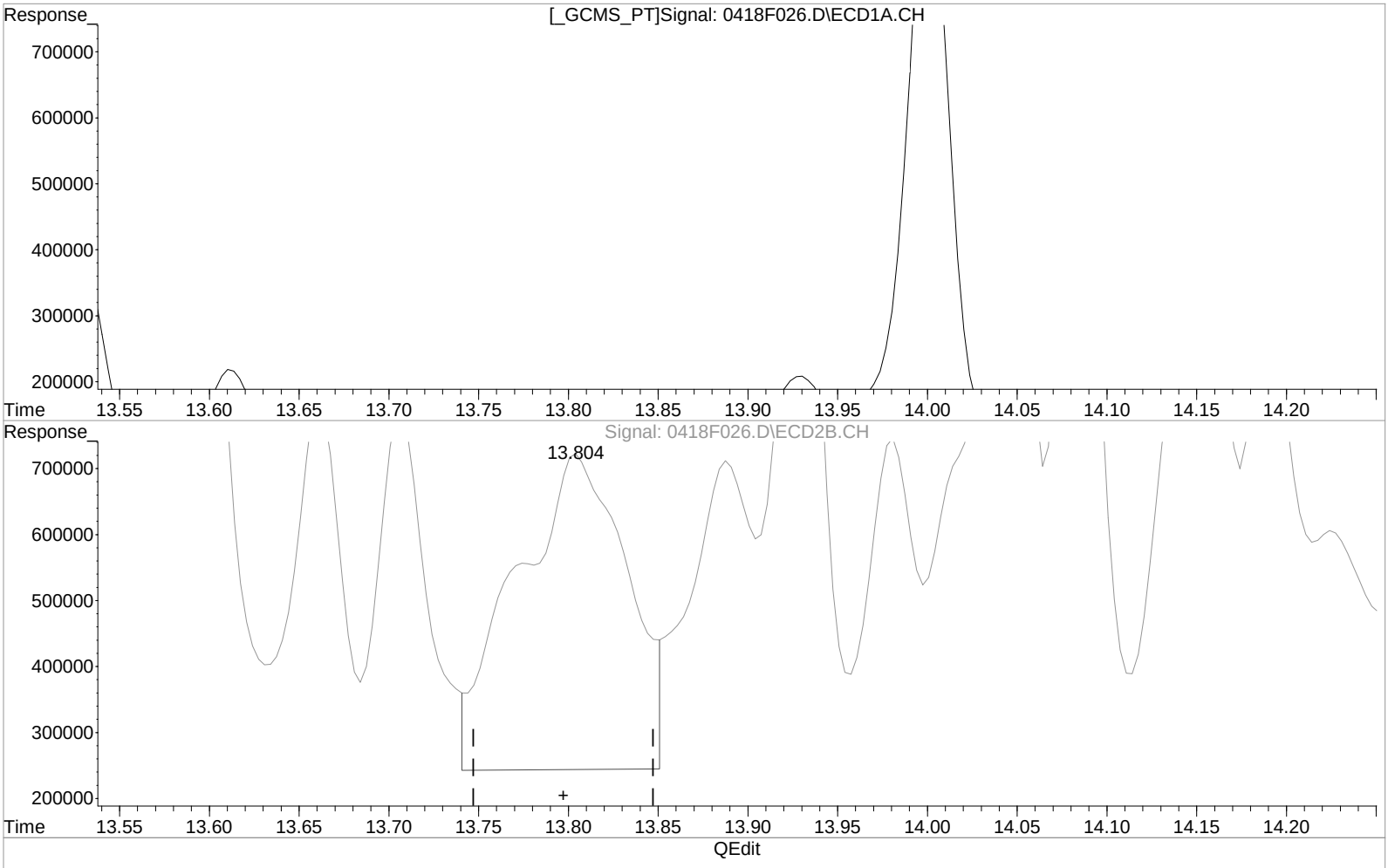
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.184min 21.900 ug/L m

response 296543

(22) 4,4'-DDT #2

13.804min 44.316 ug/L

response 2059959

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

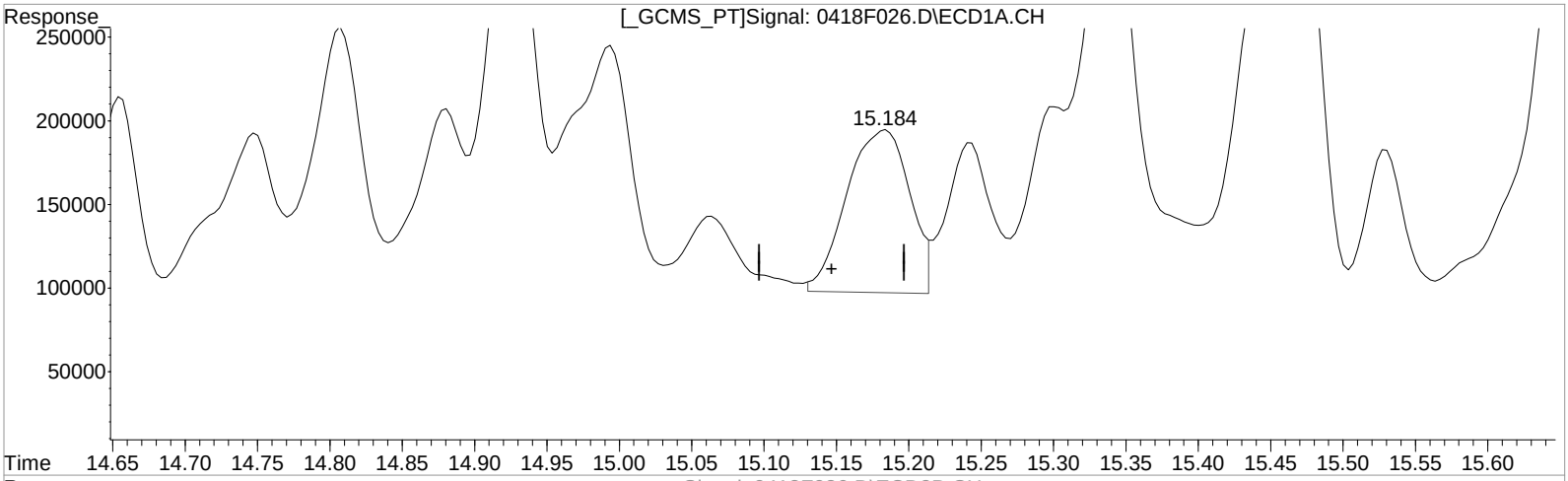
Quantitation Report (Qedit)

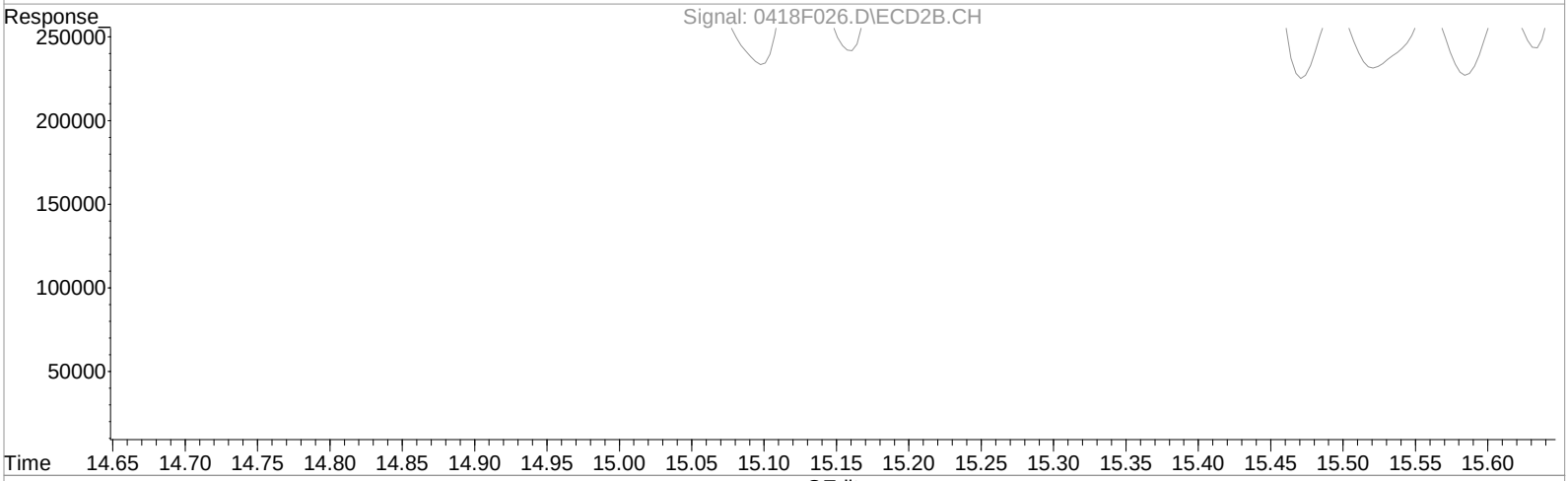
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.184min 21.900 ug/L m

response 296543

(22) 4,4'-DDT #2

13.804min 44.316 ug/L

response 2059959

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

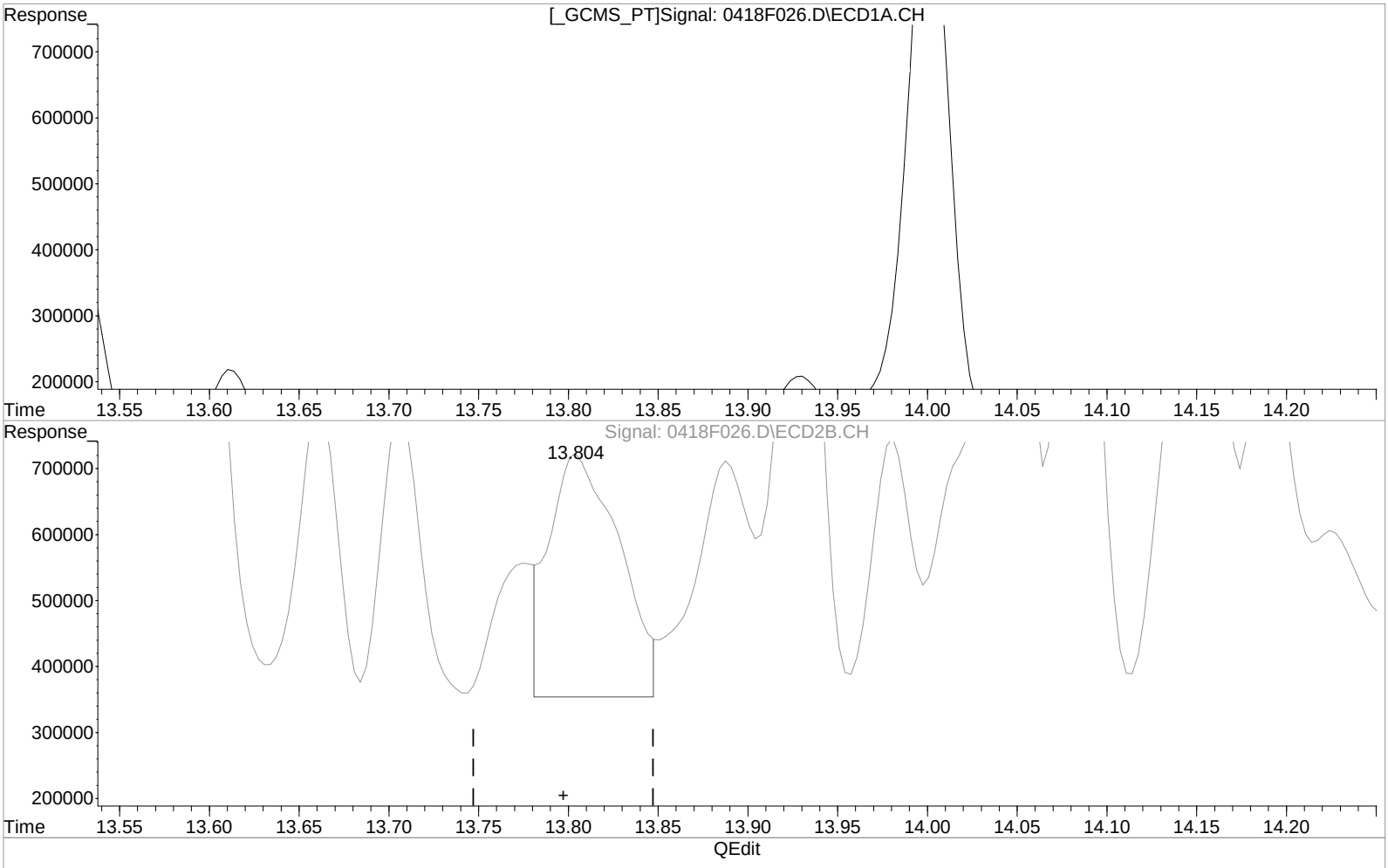
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.184min 21.900 ug/L m

response 296543

(22) 4,4'-DDT #2

13.804min 21.475 ug/L m

response 998248

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

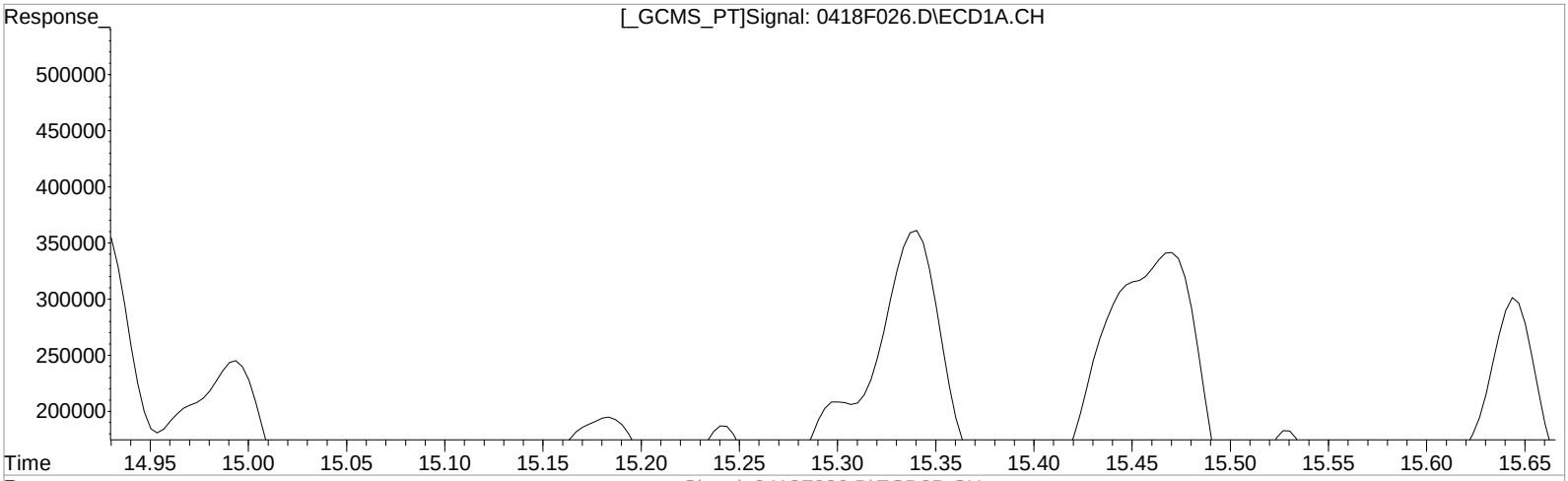
Quantitation Report (Qedit)

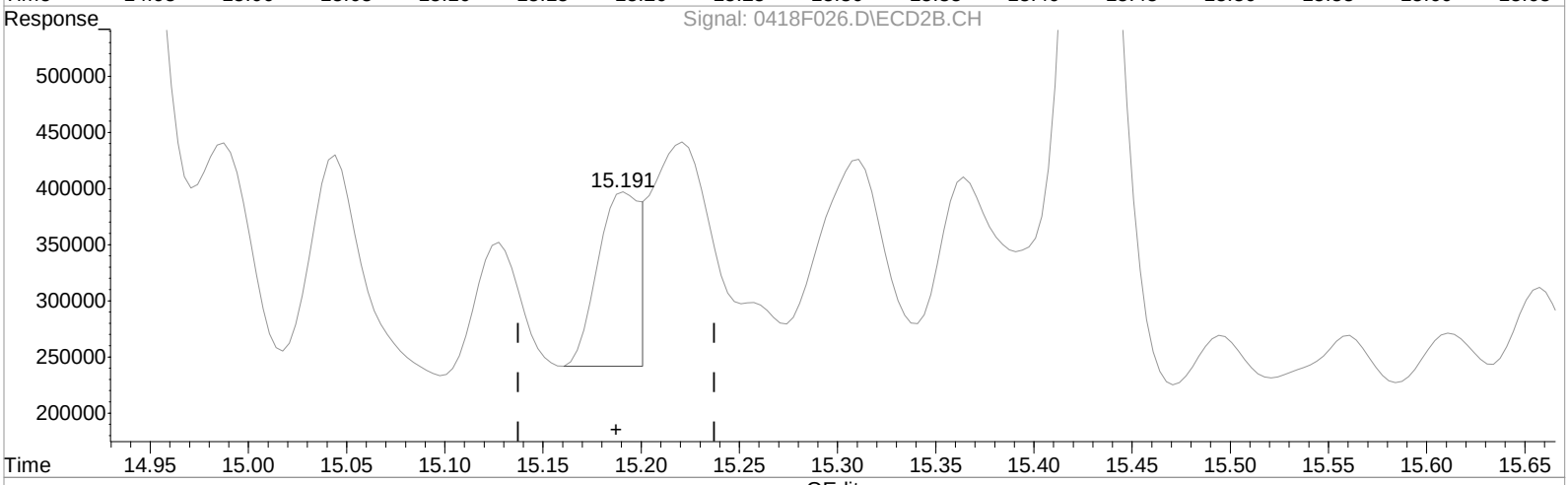
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(23) Endrin Ketone

16.154min 7.376 ug/L

response 132865

Manual Integration:

Before

04/21/20

(23) Endrin Ketone #2

15.191min 3.562 ug/L

response 241725

(+) = Expected Retention Time

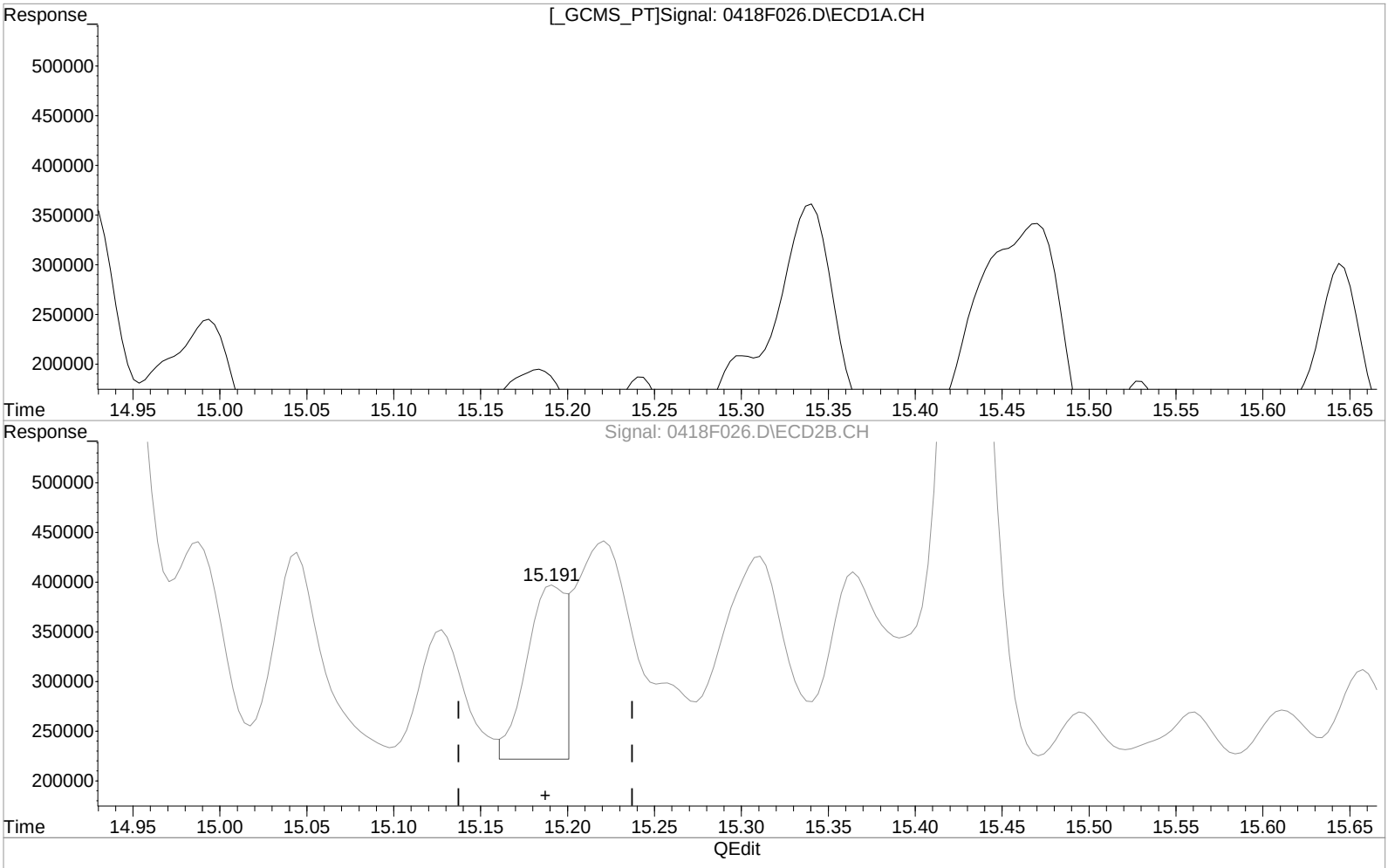
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(23) Endrin Ketone

16.154min 7.376 ug/L

response 132865

Manual Integration:

After

Baseline correction

04/21/20

(23) Endrin Ketone #2

15.191min 4.270 ug/L m

response 289785

(+) = Expected Retention Time

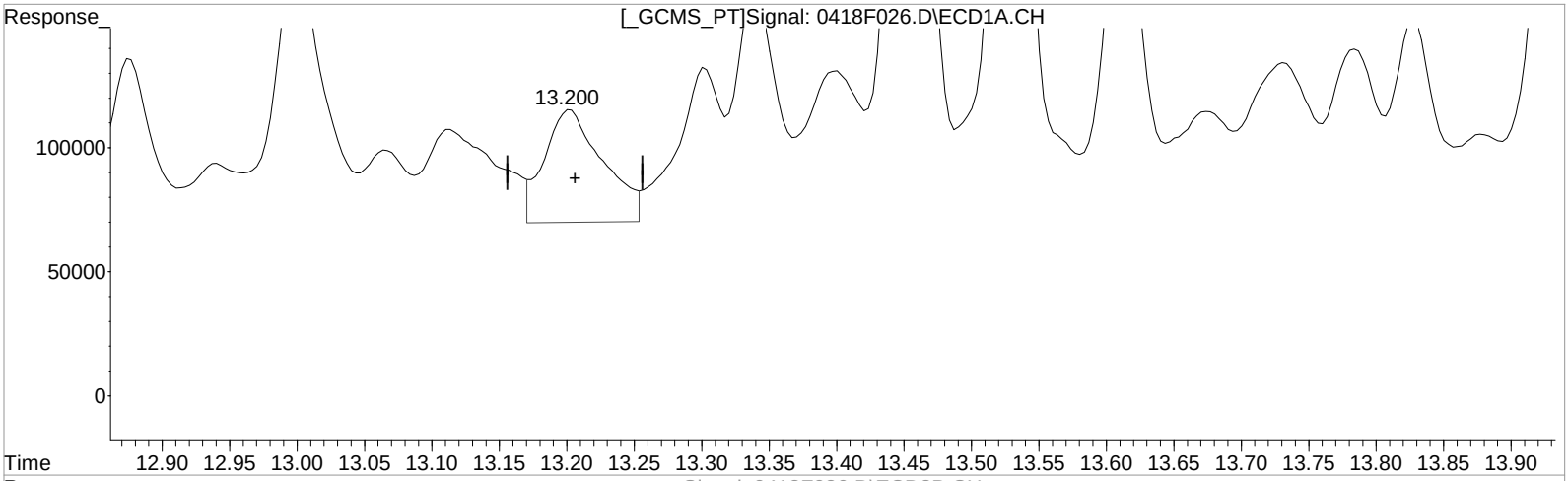
Quantitation Report (Qedit)

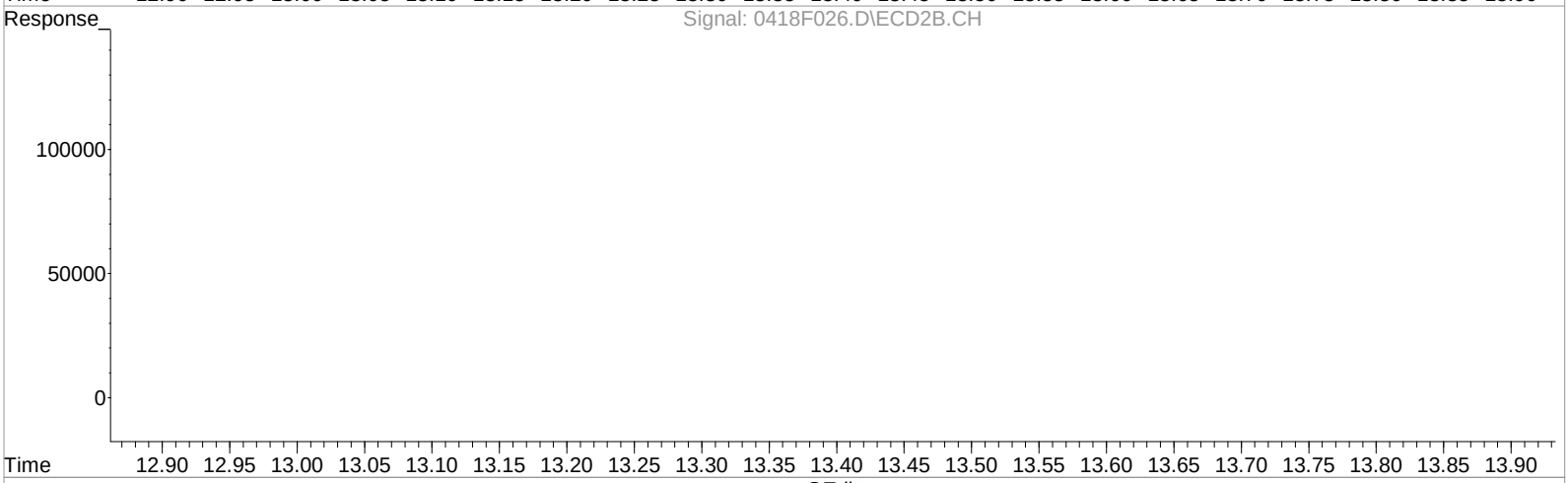
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.200min 11.785 ug/L

response 137262

Manual Integration:

Before

04/21/20

(25) 2,4'-DDE #2

12.021min 27.446 ug/L

response 1154116

(+) = Expected Retention Time

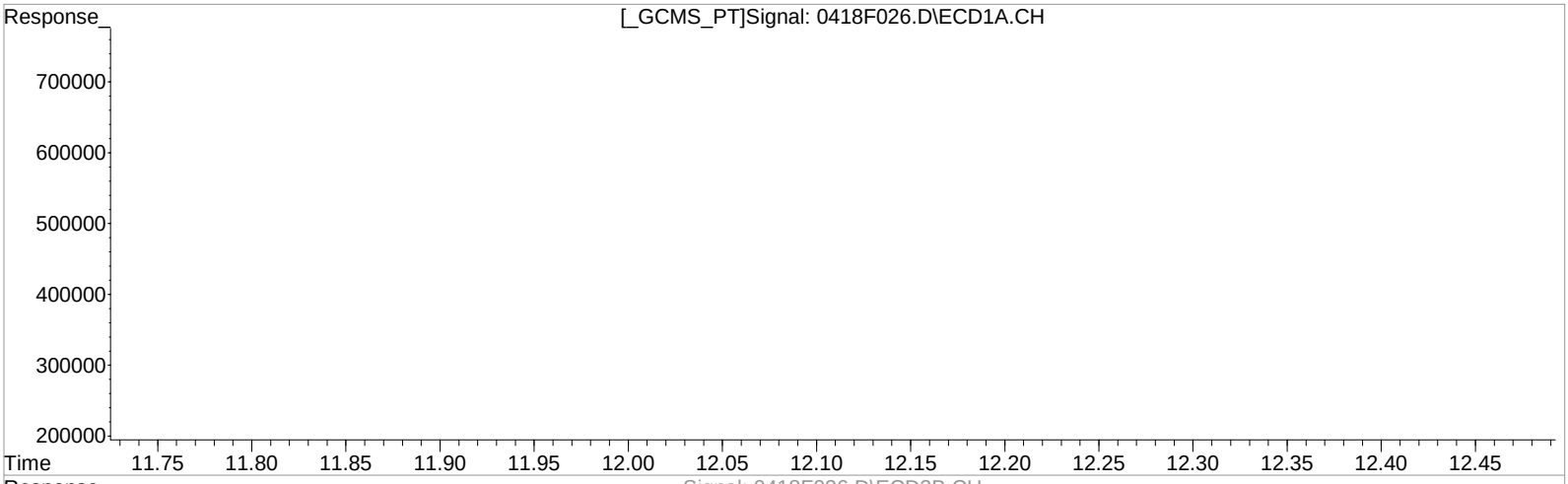
Quantitation Report (Qedit)

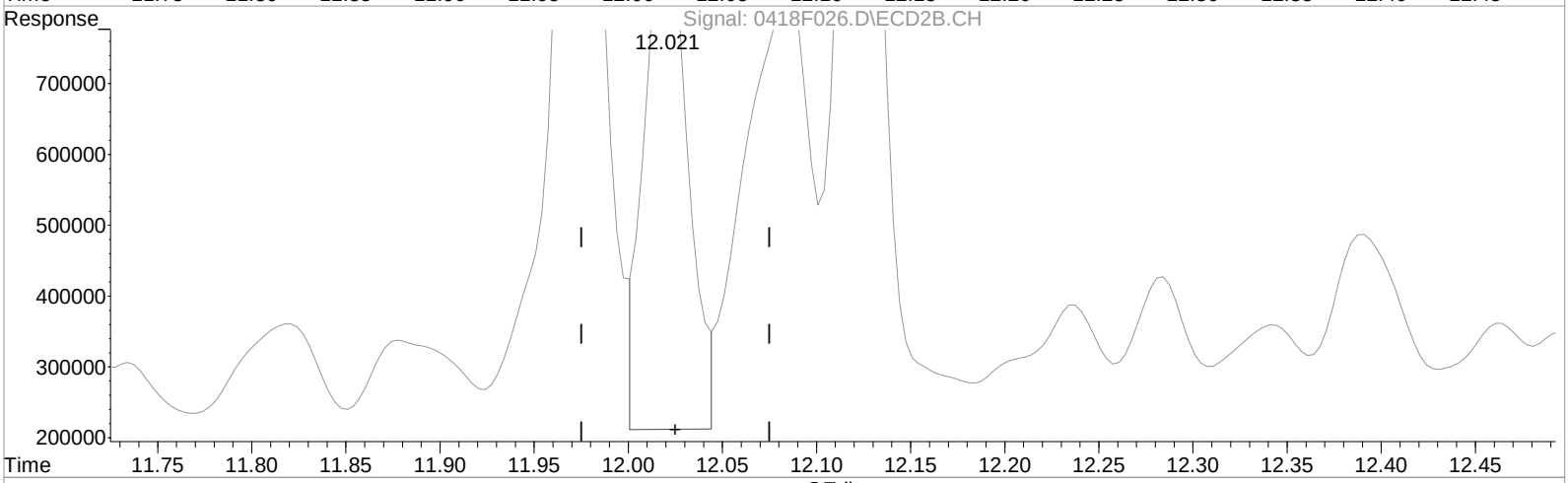
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.200min 7.876 ug/L m

response 91730

Manual Integration:

Before

04/21/20

(25) 2,4'-DDE #2

12.021min 27.446 ug/L

response 1154116

(+) = Expected Retention Time

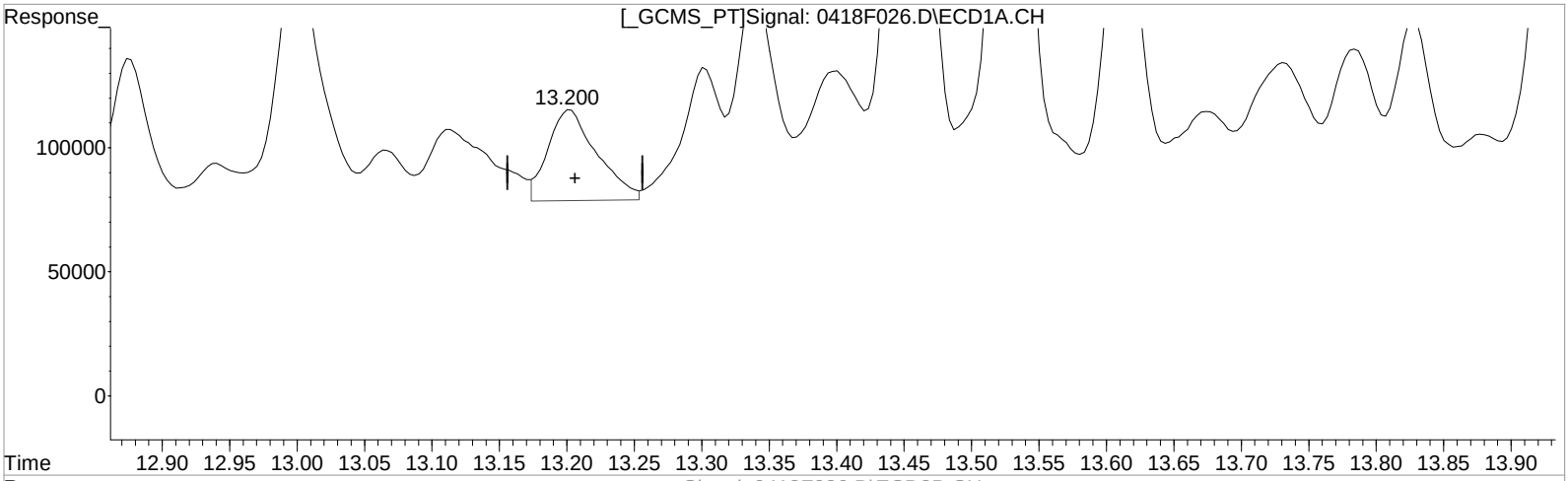
Quantitation Report (Qedit)

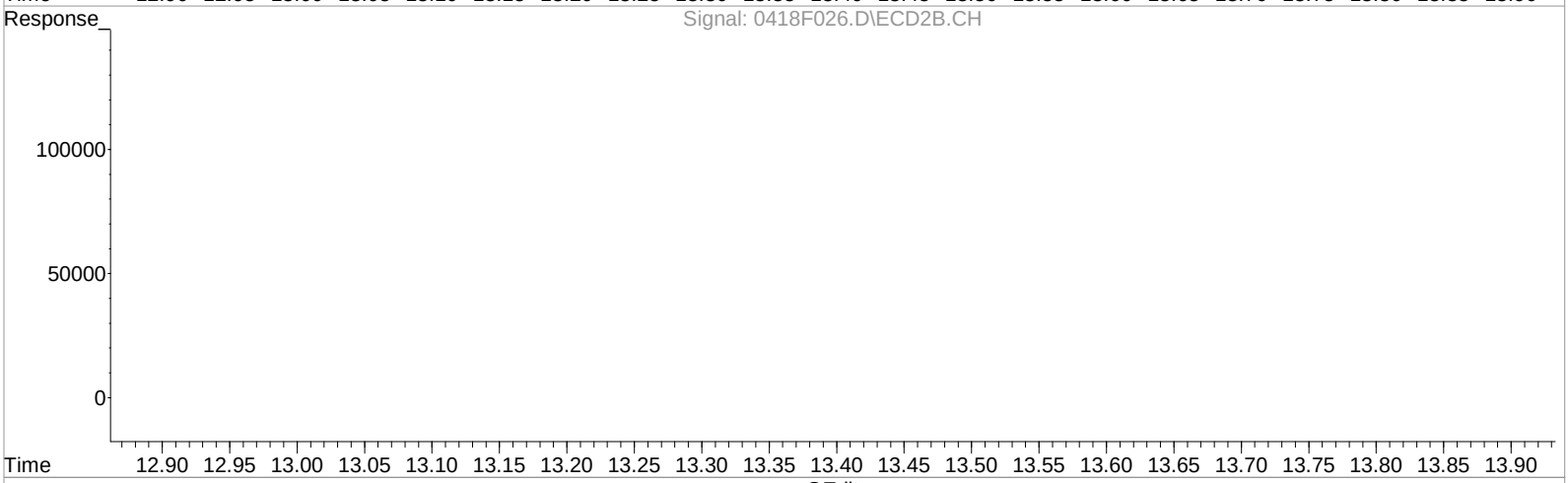
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.200min 7.876 ug/L m

response 91730

Manual Integration:

After

Baseline correction

04/21/20

(25) 2,4'-DDE #2

12.021min 27.446 ug/L

response 1154116

(+) = Expected Retention Time

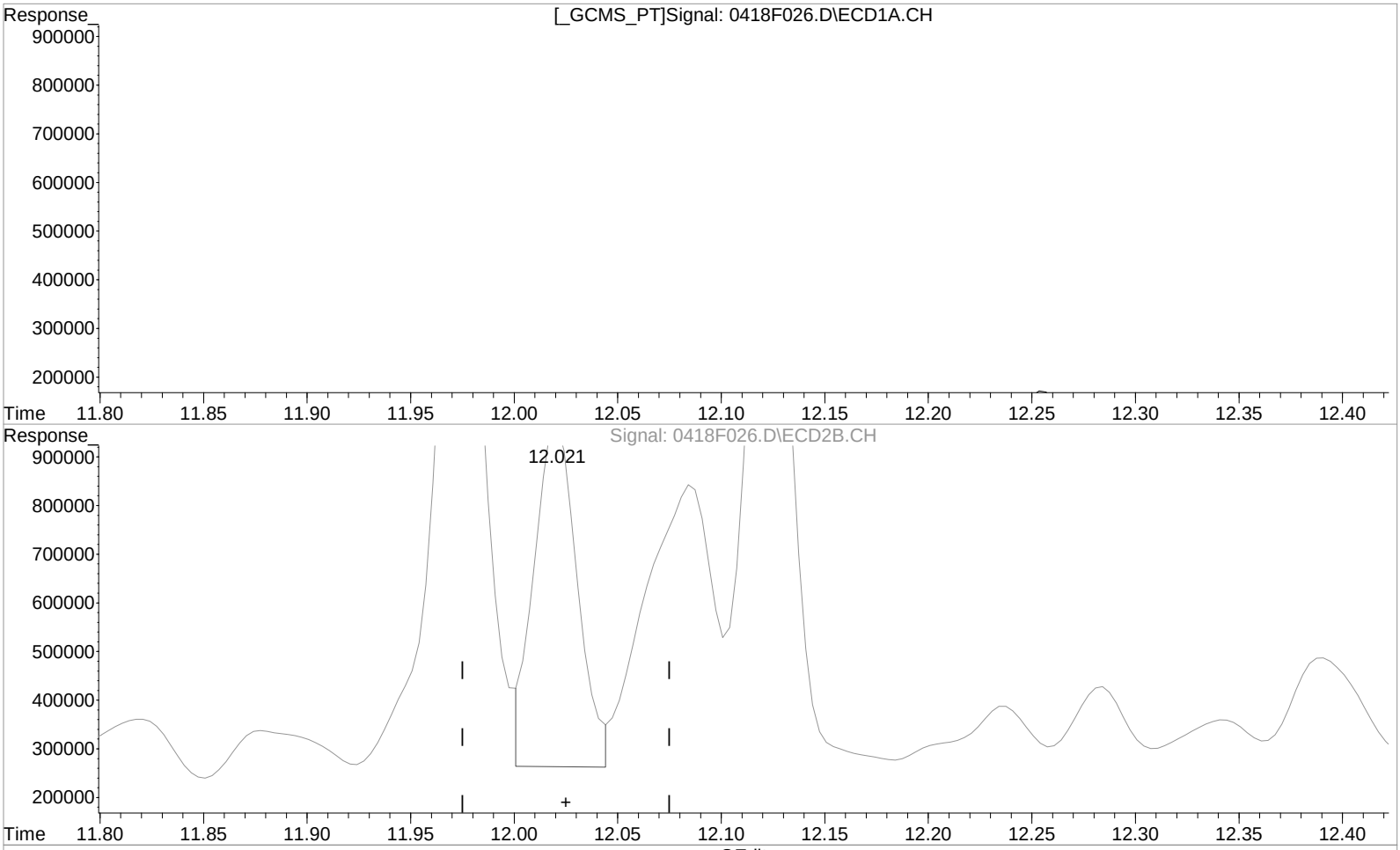
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(25) 2,4'-DDE

13.200min 7.876 ug/L m

response 91730

Manual Integration:

After

Baseline correction

04/21/20

(25) 2,4'-DDE #2

12.021min 24.275 ug/L m

response 1020786

(+) = Expected Retention Time

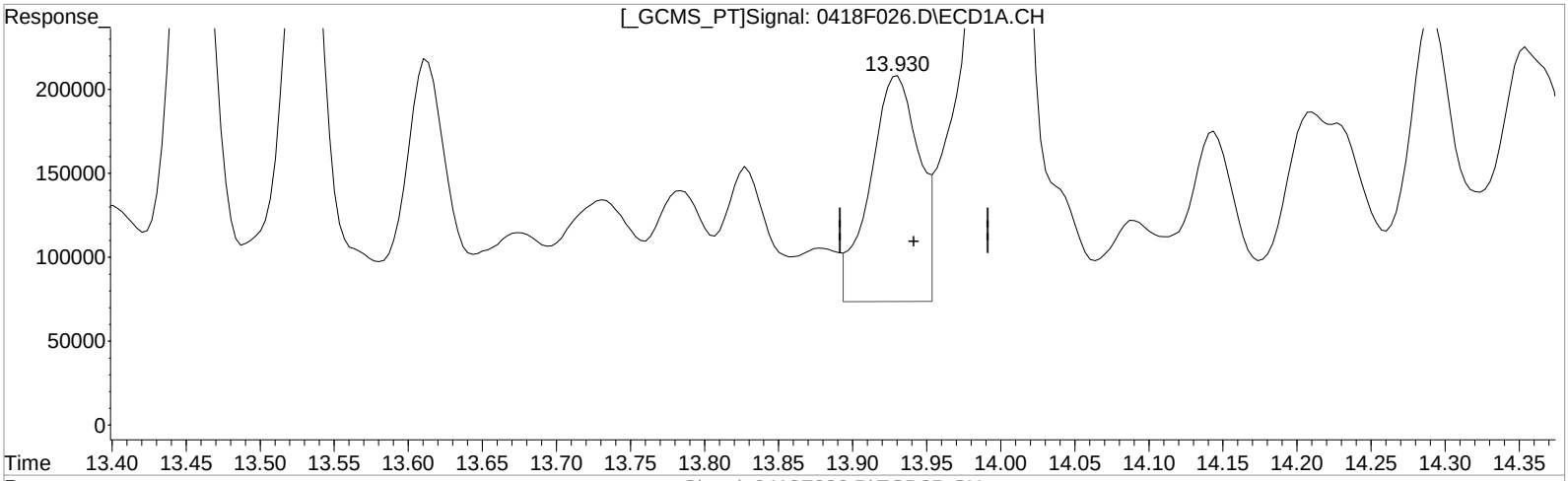
Quantitation Report (Qedit)

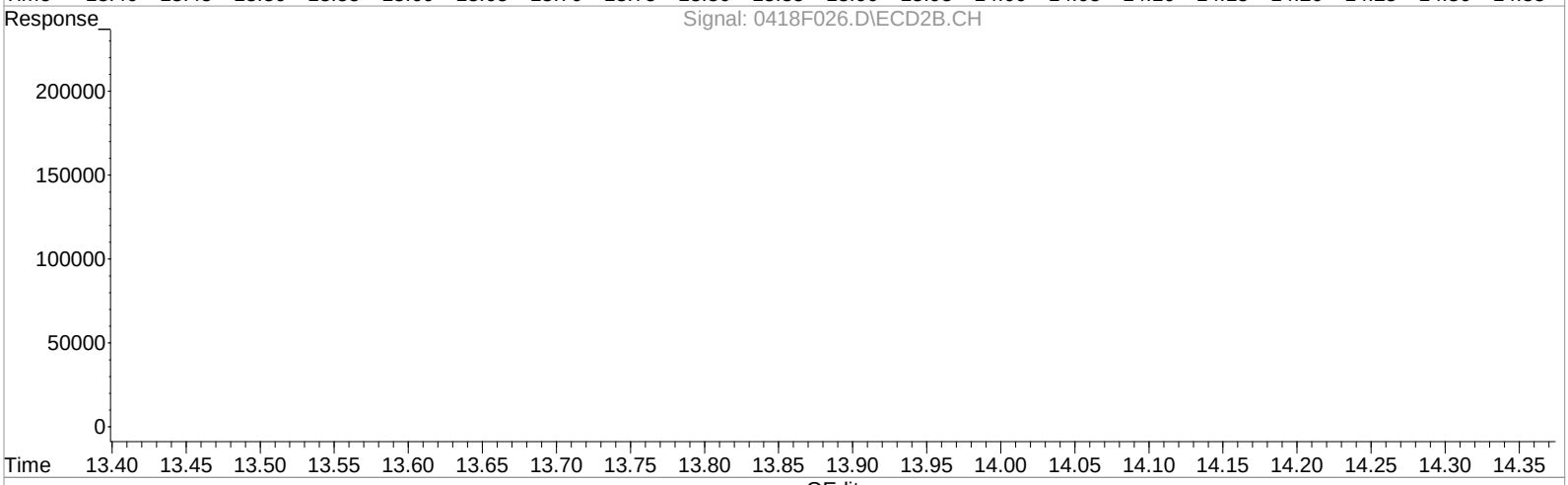
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.930min 30.931 ug/L

response 316312

Manual Integration:

Before

04/21/20

(26) 2,4'-DDD #2

12.754min 23.304 ug/L

response 849812

(+) = Expected Retention Time

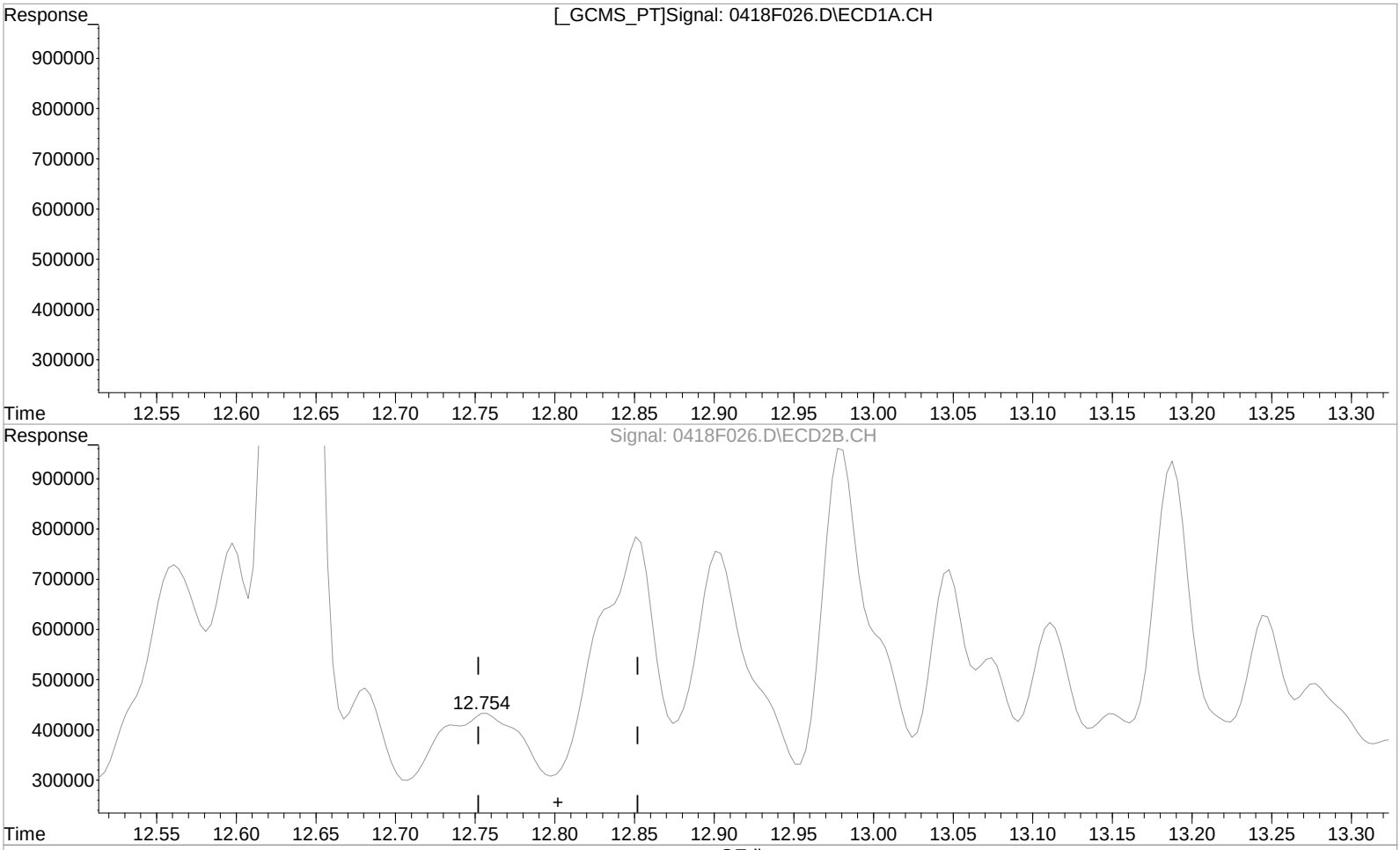
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(26) 2,4'-DDD

13.930min 22.626 ug/L m

response 231383

(26) 2,4'-DDD #2

12.754min 23.304 ug/L

response 849812

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

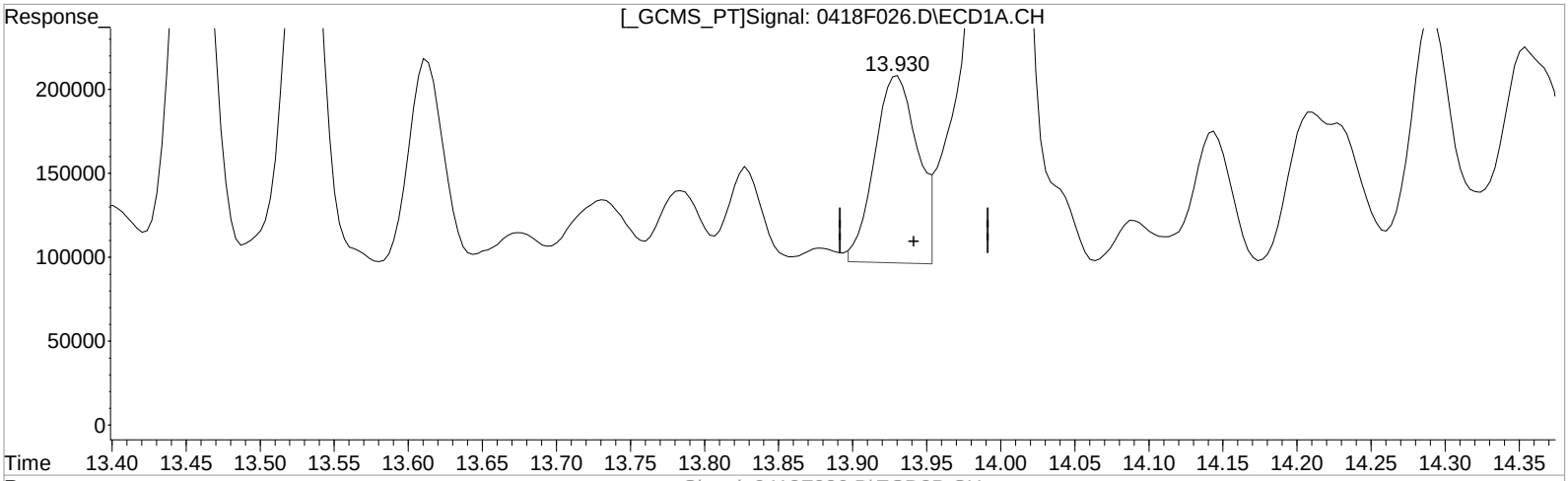
Quantitation Report (Qedit)

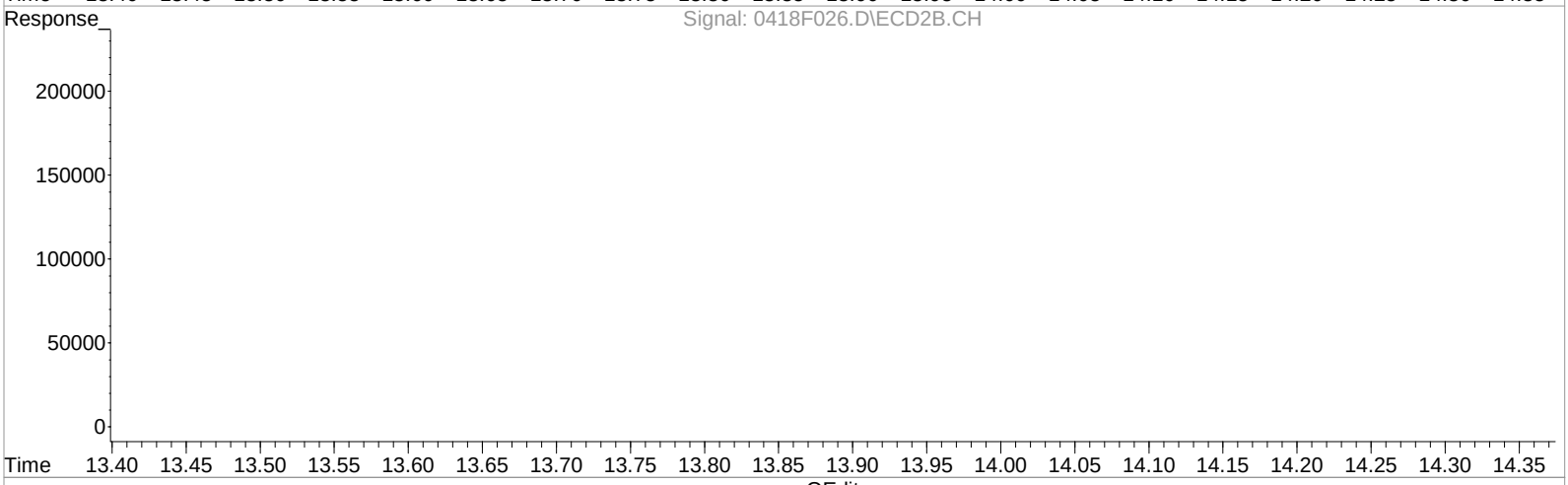
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.930min 22.626 ug/L m

response 231383

Manual Integration:

After

Baseline correction

04/21/20

(26) 2,4'-DDD #2

12.754min 23.304 ug/L

response 849812

(+) = Expected Retention Time

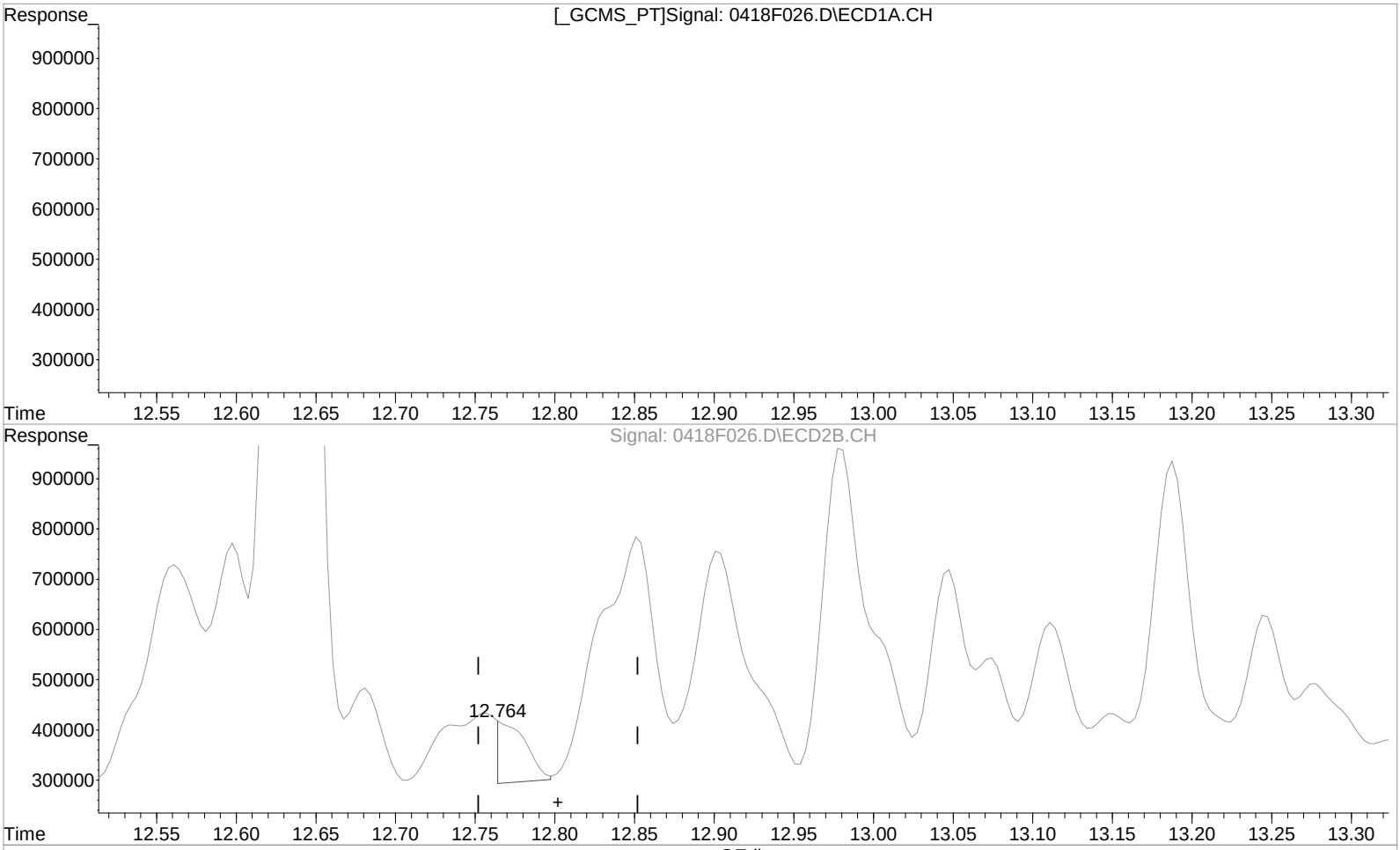
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(26) 2,4'-DDD

13.930min 22.626 ug/L m

response 231383

Manual Integration:

After

Shoulder

04/21/20

(26) 2,4'-DDD #2

12.764min 3.670 ug/L m

response 133839

(+) = Expected Retention Time

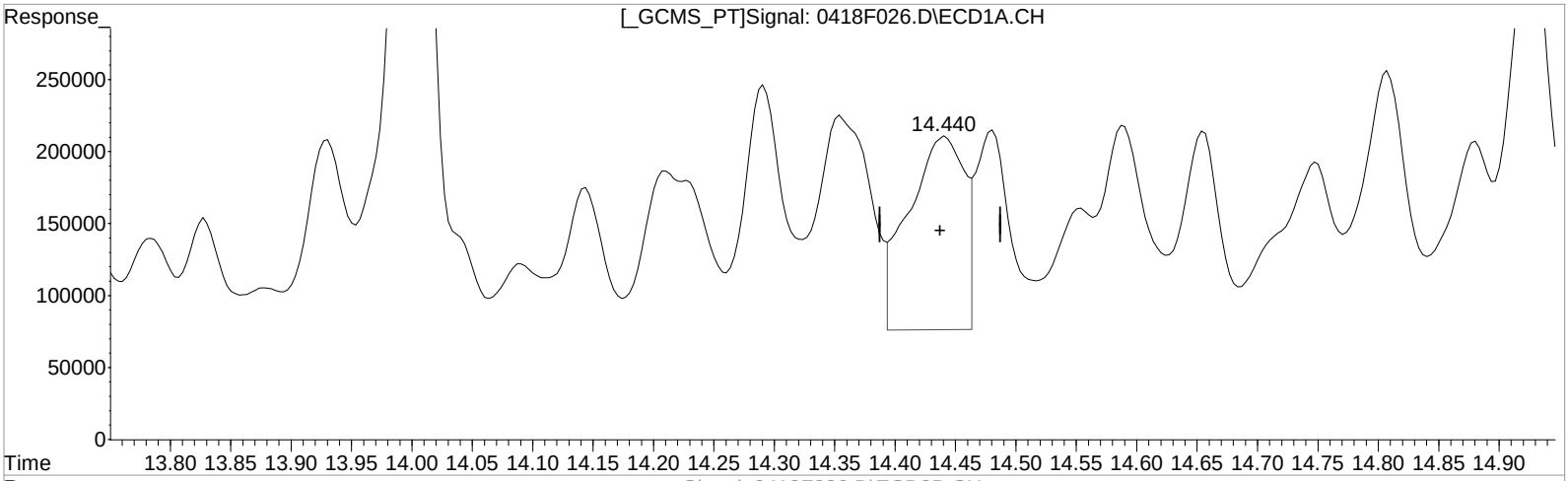
Quantitation Report (Qedit)

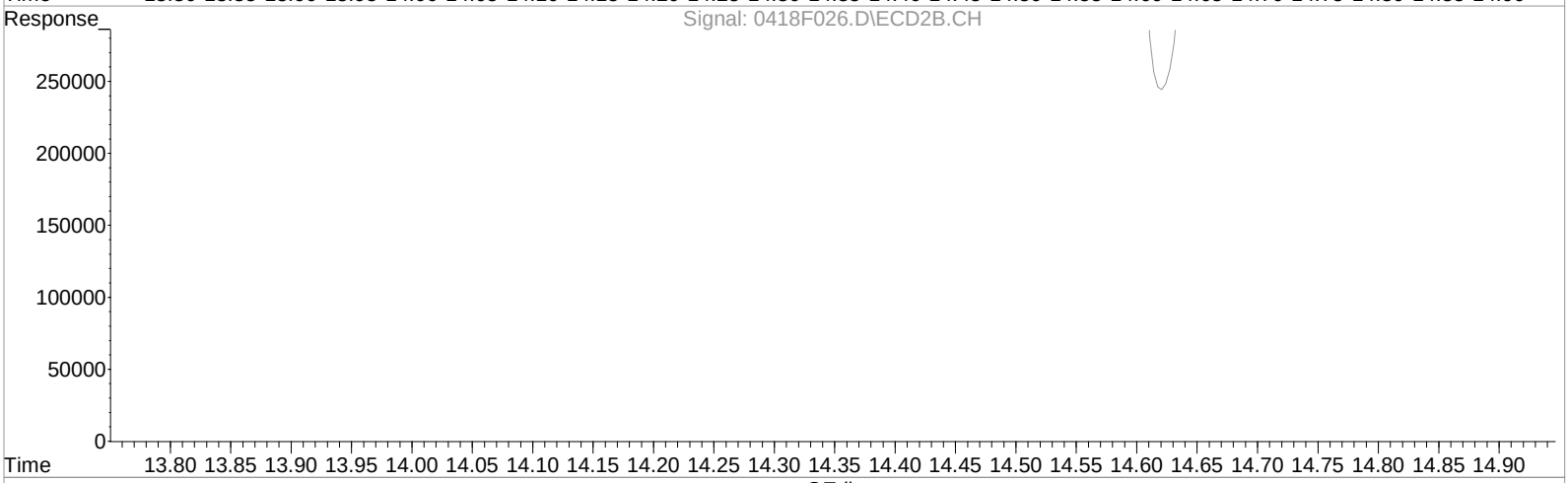
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.440min 37.629 ug/L

response 440334

Manual Integration:

Before

04/21/20

(27) 2,4'-DDT #2

13.244min 18.031 ug/L

response 713023

(+) = Expected Retention Time

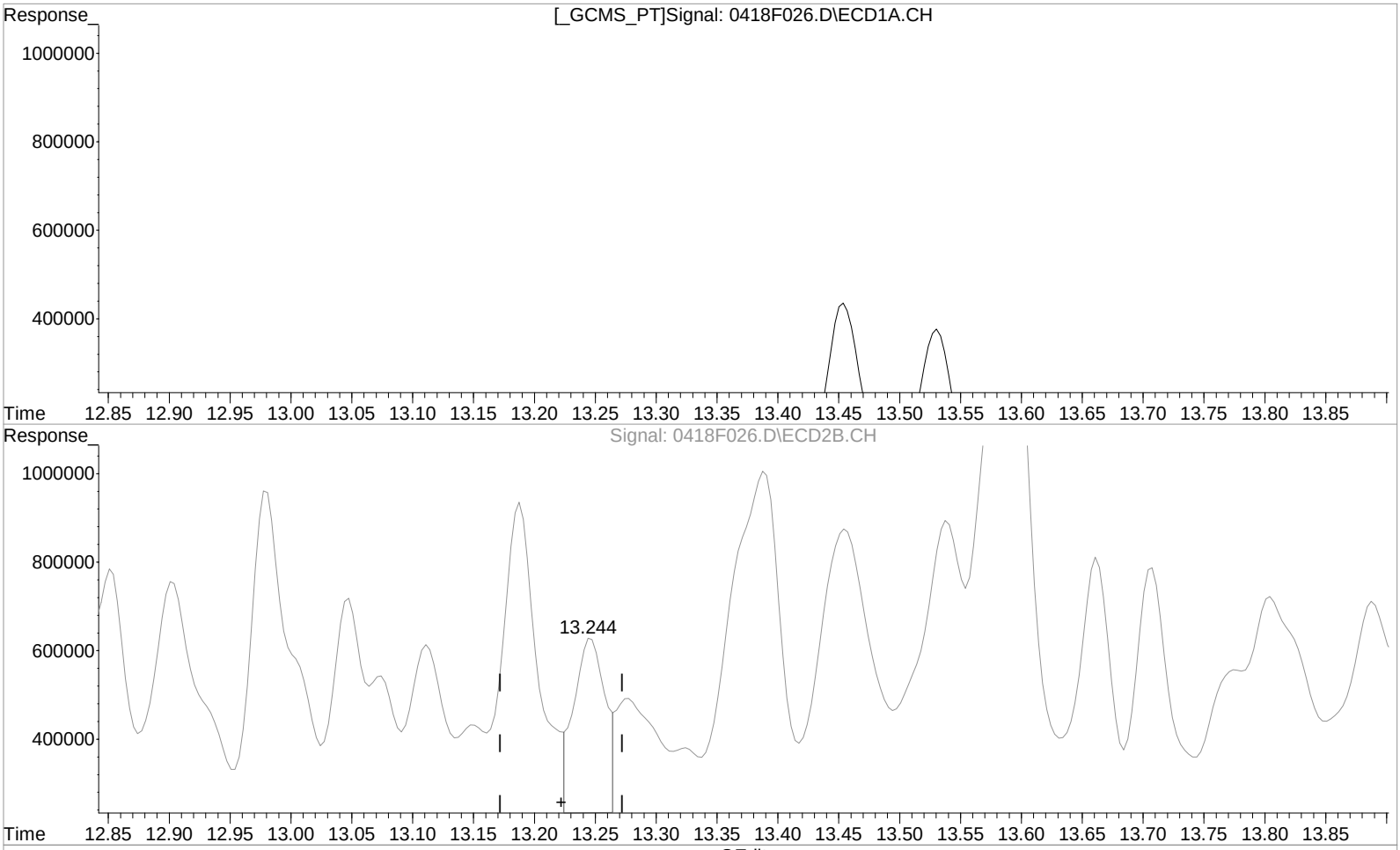
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.440min 27.299 ug/L m

response 319457

(27) 2,4'-DDT #2

13.244min 18.031 ug/L

response 713023

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

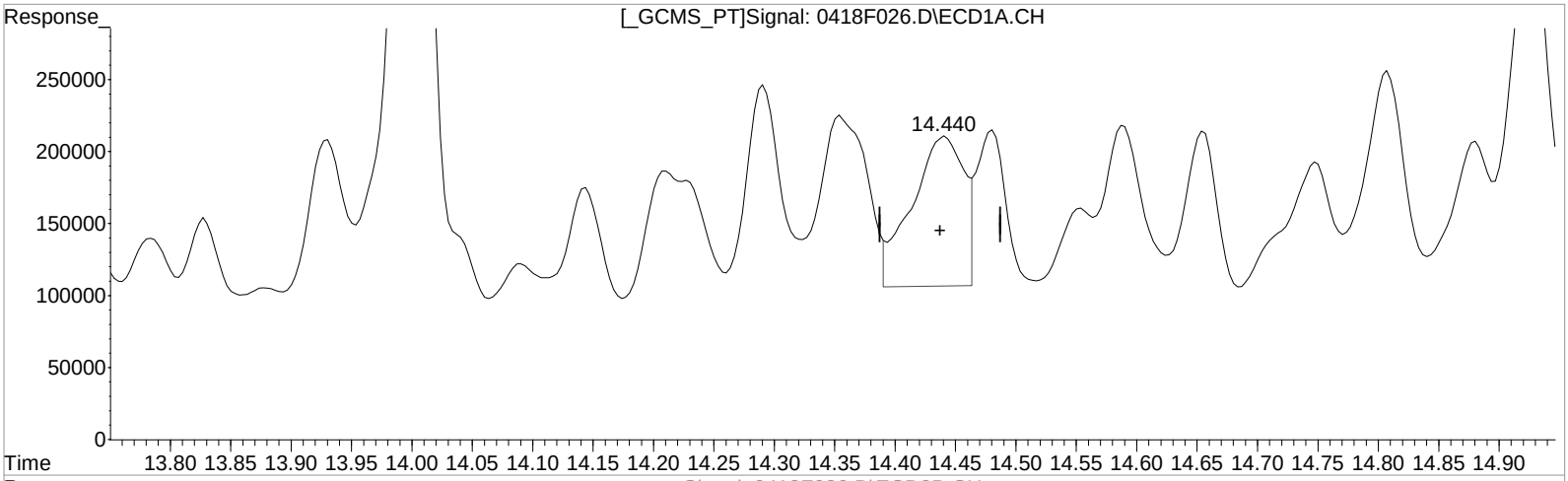
Quantitation Report (Qedit)

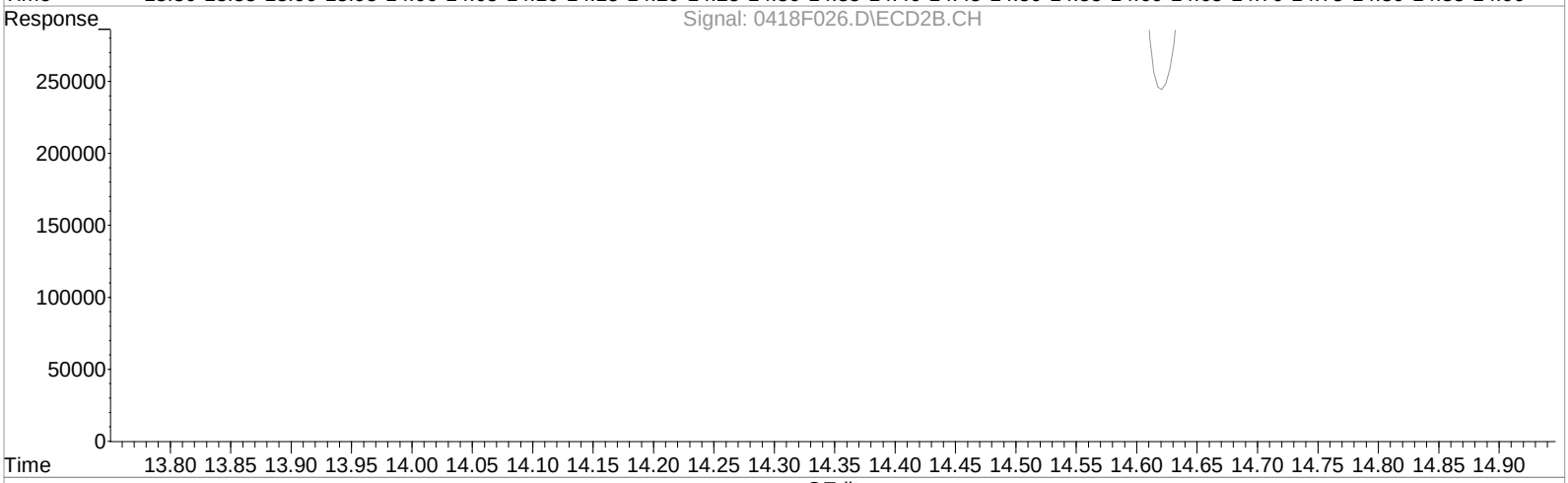
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.440min 27.299 ug/L m

response 319457

Manual Integration:

After

Baseline correction

04/21/20

(27) 2,4'-DDT #2

13.244min 18.031 ug/L

response 713023

(+) = Expected Retention Time

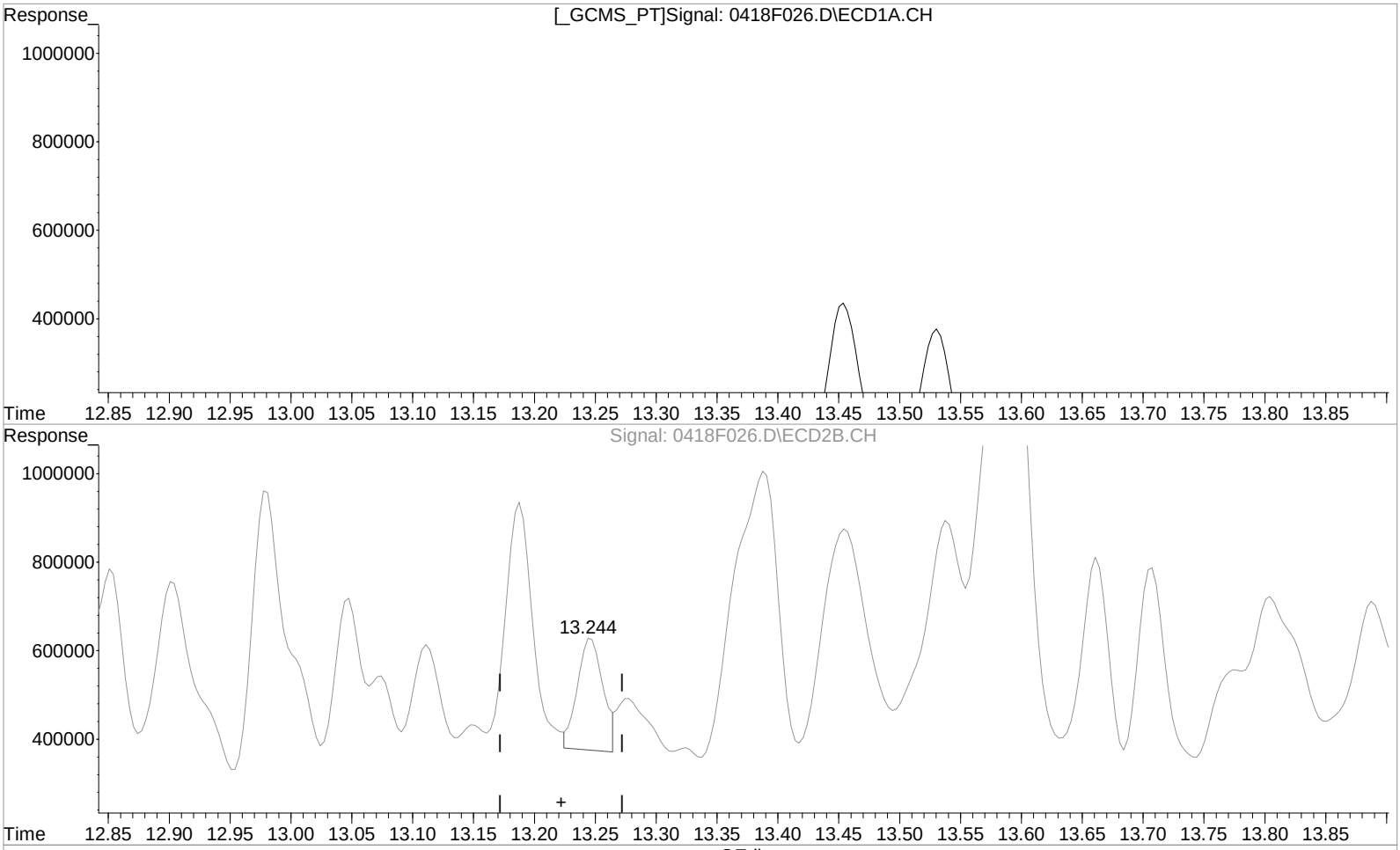
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.440min 27.299 ug/L m

response 319457

(27) 2,4'-DDT #2

13.244min 9.437 ug/L m

response 373189

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

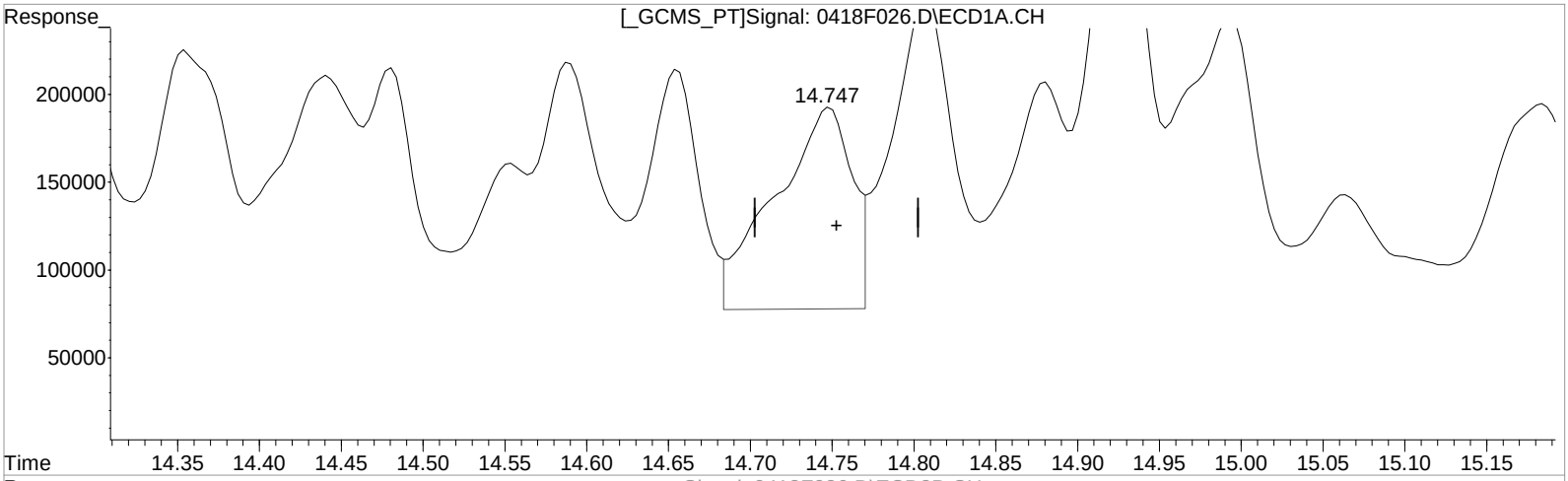
Quantitation Report (Qedit)

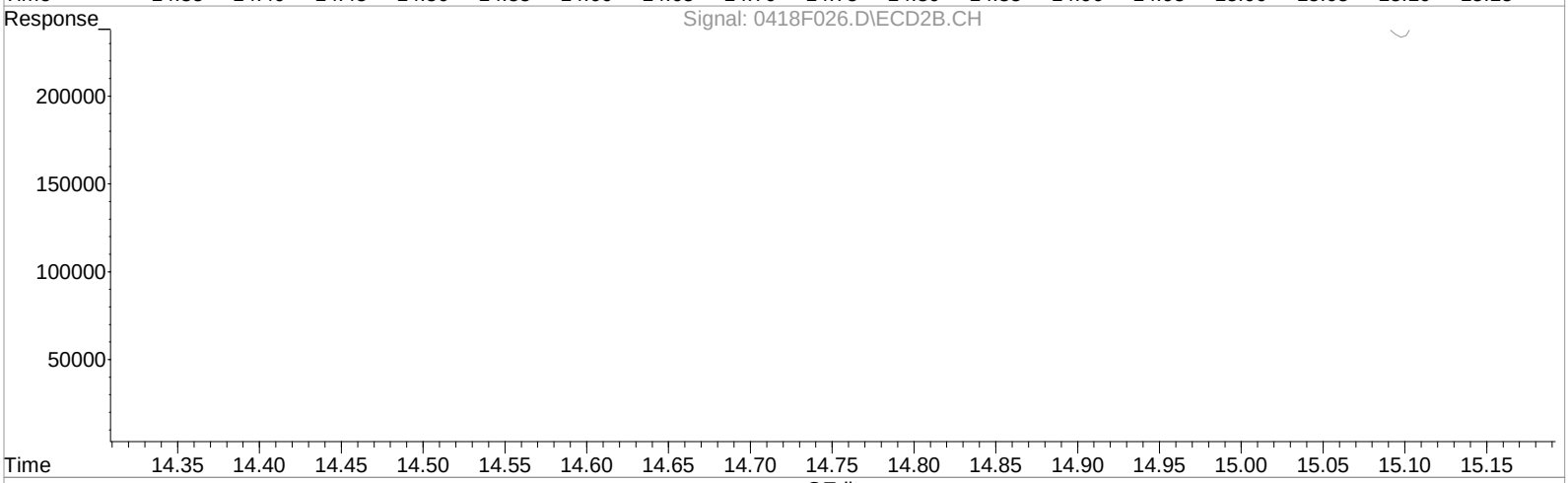
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.747min 2142.083 ug/L

response 380071

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.387min 2156.270 ug/L

response 2182407

(+) = Expected Retention Time

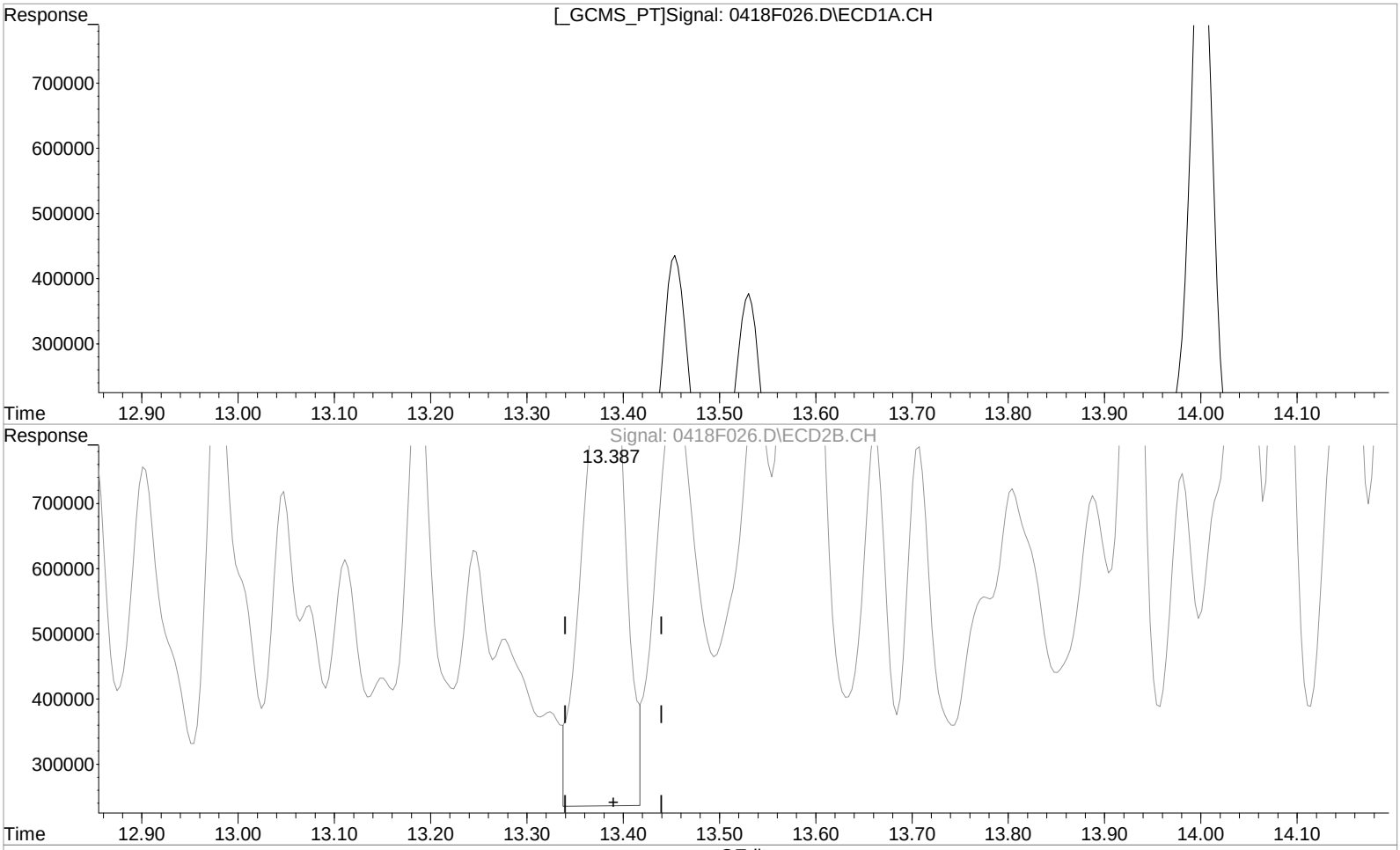
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.747min 1355.866 ug/L m

response 240572

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.387min 2156.270 ug/L

response 2182407

(+) = Expected Retention Time

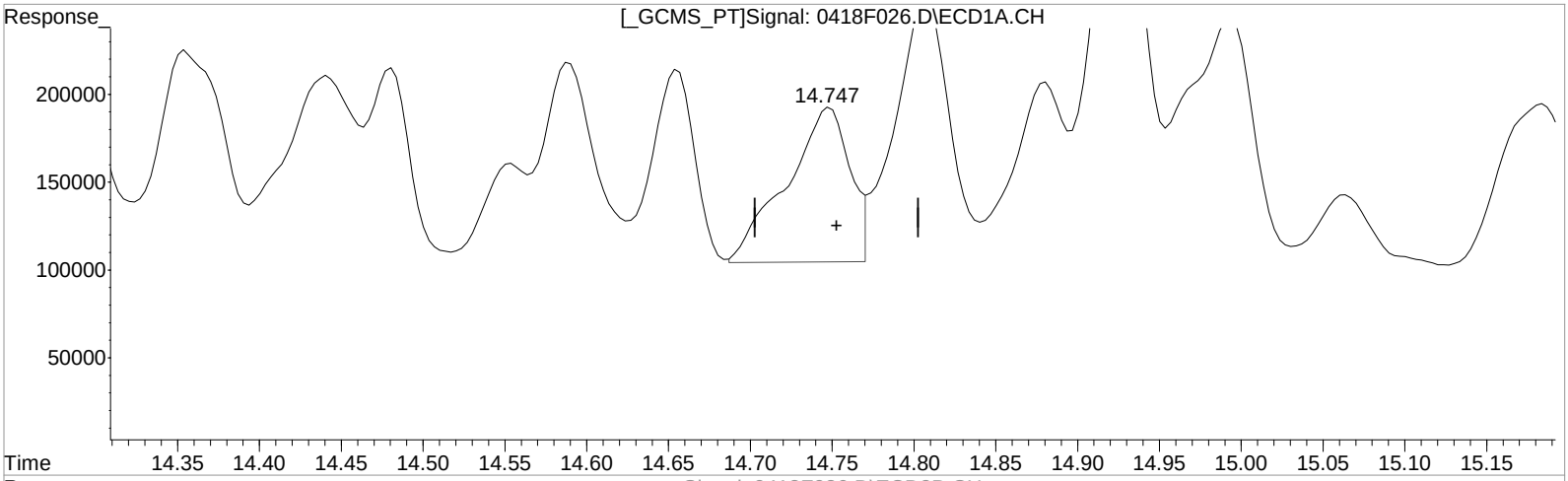
Quantitation Report (Qedit)

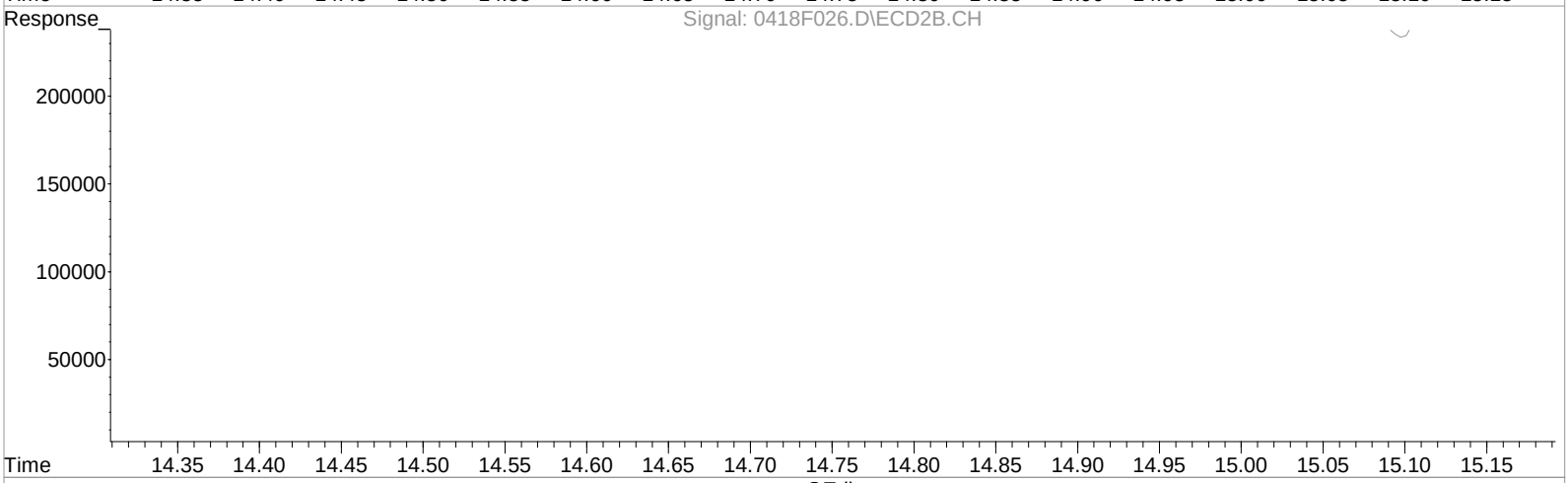
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.747min 1355.866 ug/L m

response 240572

Manual Integration:

After

Baseline correction

04/21/20

(30) Toxaphene #2

13.387min 2156.270 ug/L

response 2182407

(+) = Expected Retention Time

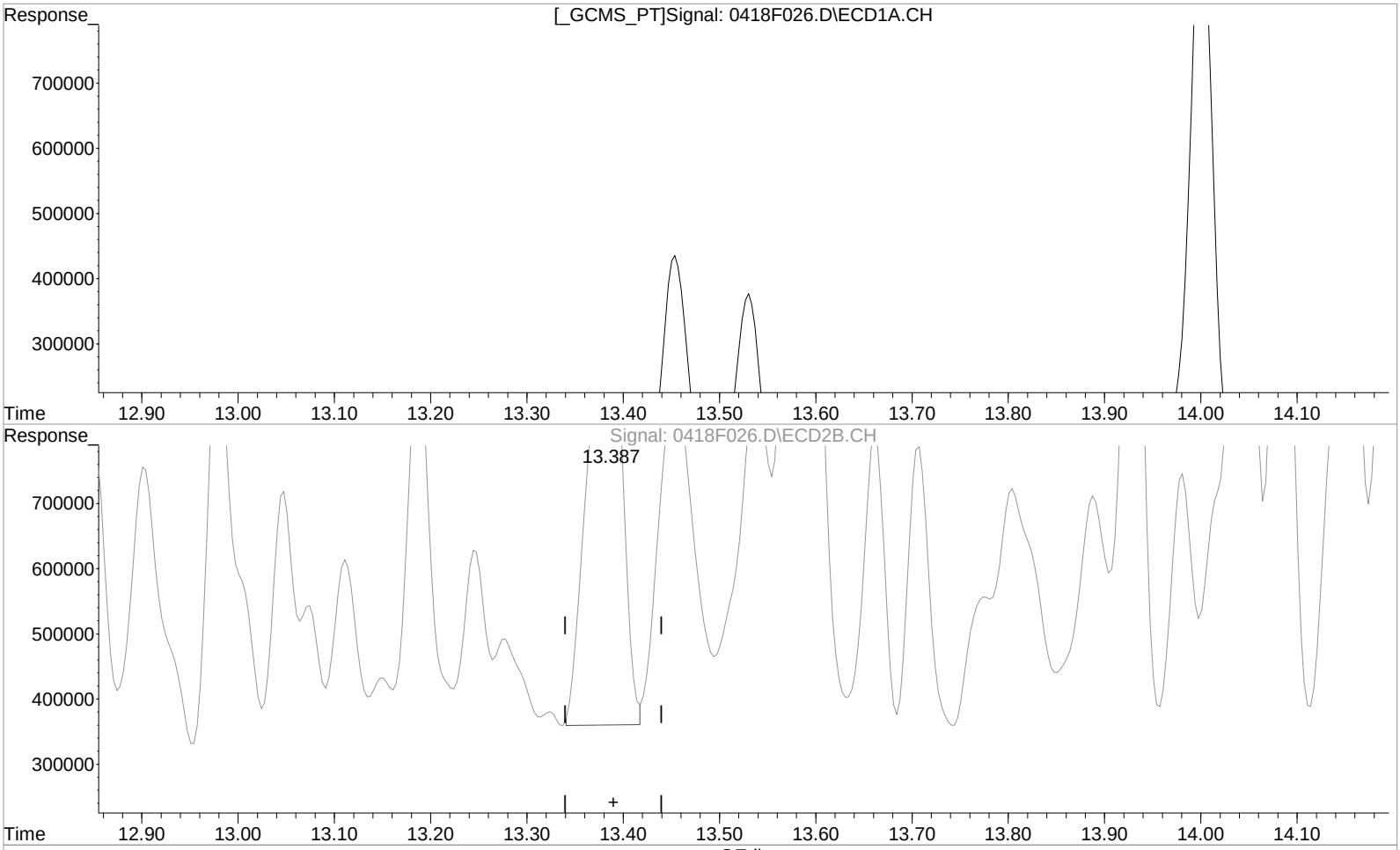
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.747min 1355.866 ug/L m

response 240572

Manual Integration:

After

Baseline correction

04/21/20

(30) Toxaphene #2

13.387min 1566.908 ug/L m

response 1585901

(+) = Expected Retention Time

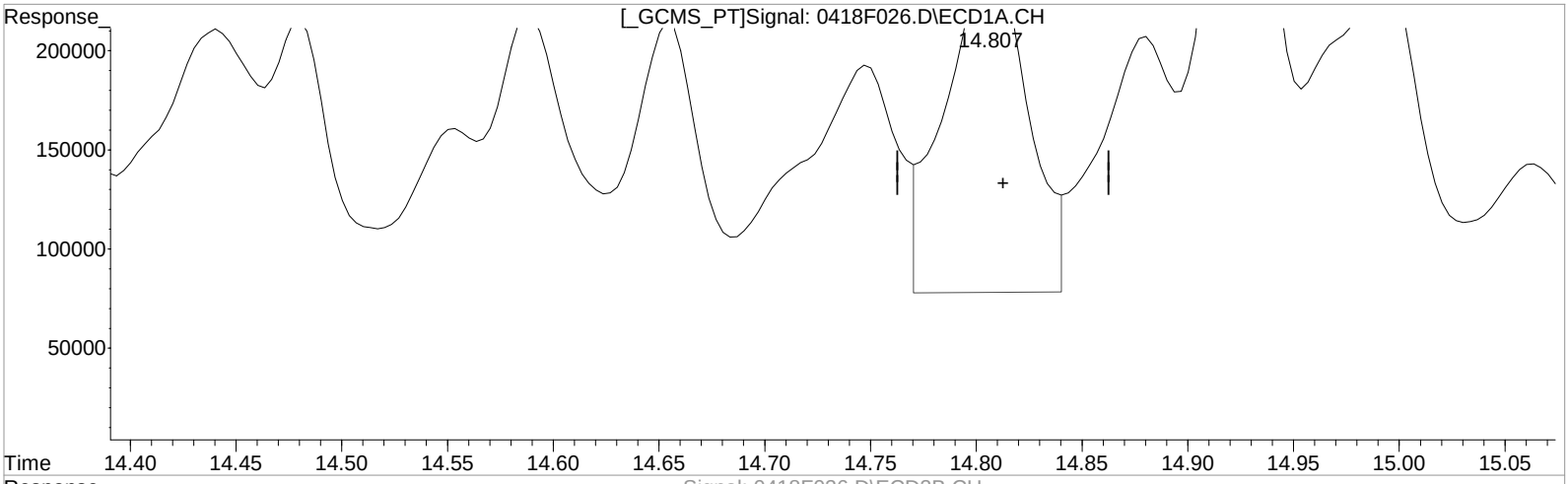
Quantitation Report (Qedit)

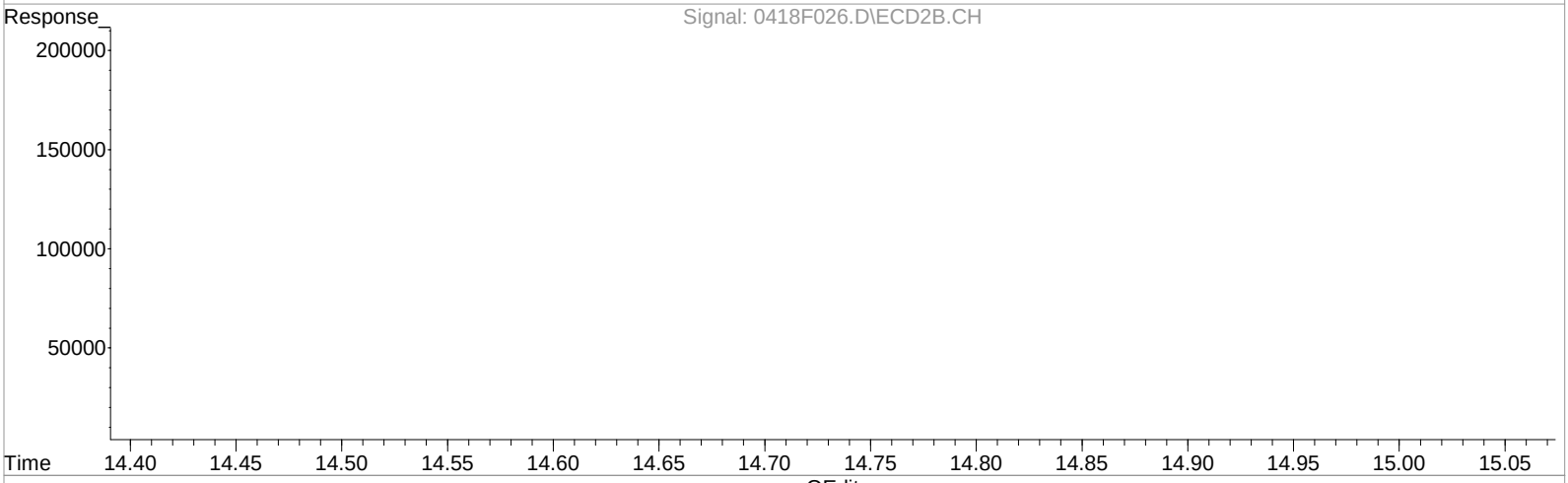
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.807min 2847.042 ug/L

response 456921

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.454min 2428.482 ug/L

response 1891053

(+) = Expected Retention Time

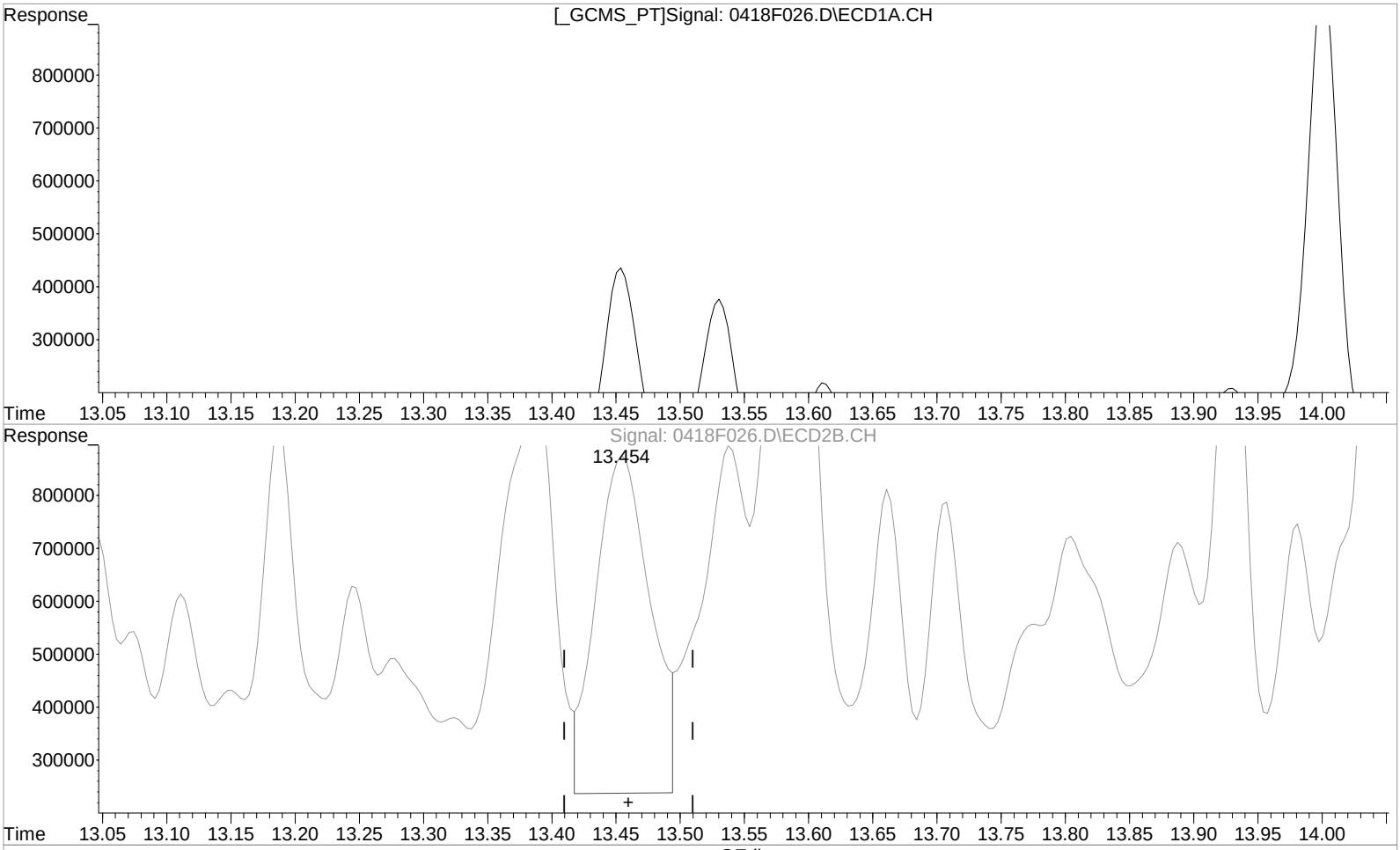
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.807min 1569.515 ug/L m

response 251891

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.454min 2428.482 ug/L

response 1891053

(+) = Expected Retention Time

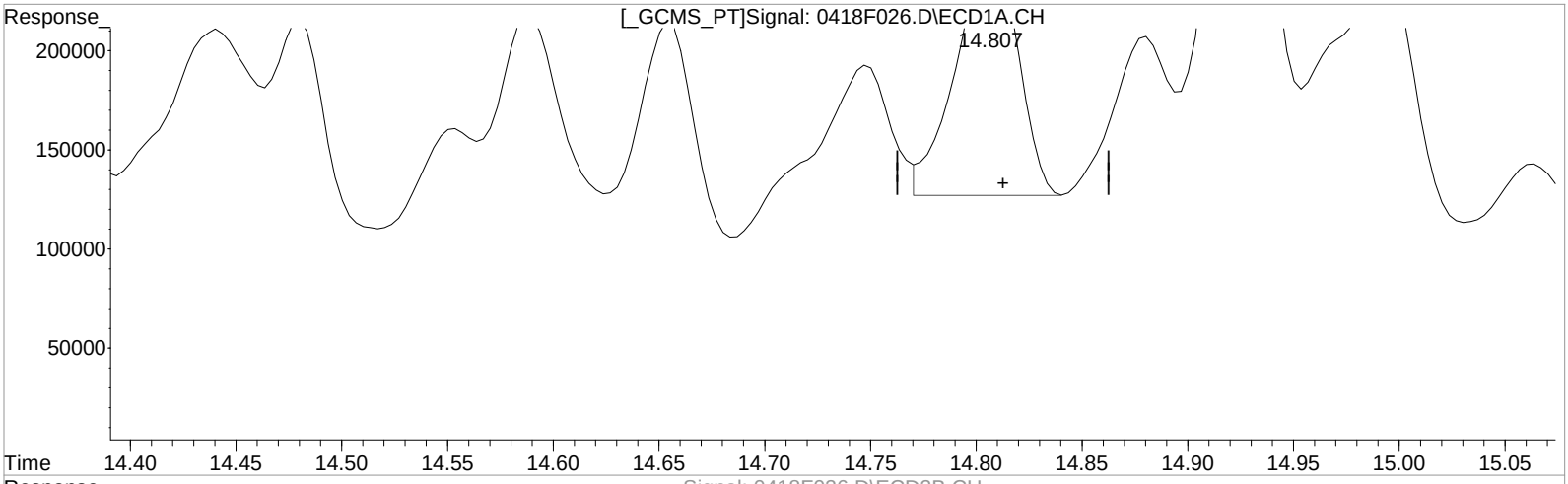
Quantitation Report (Qedit)

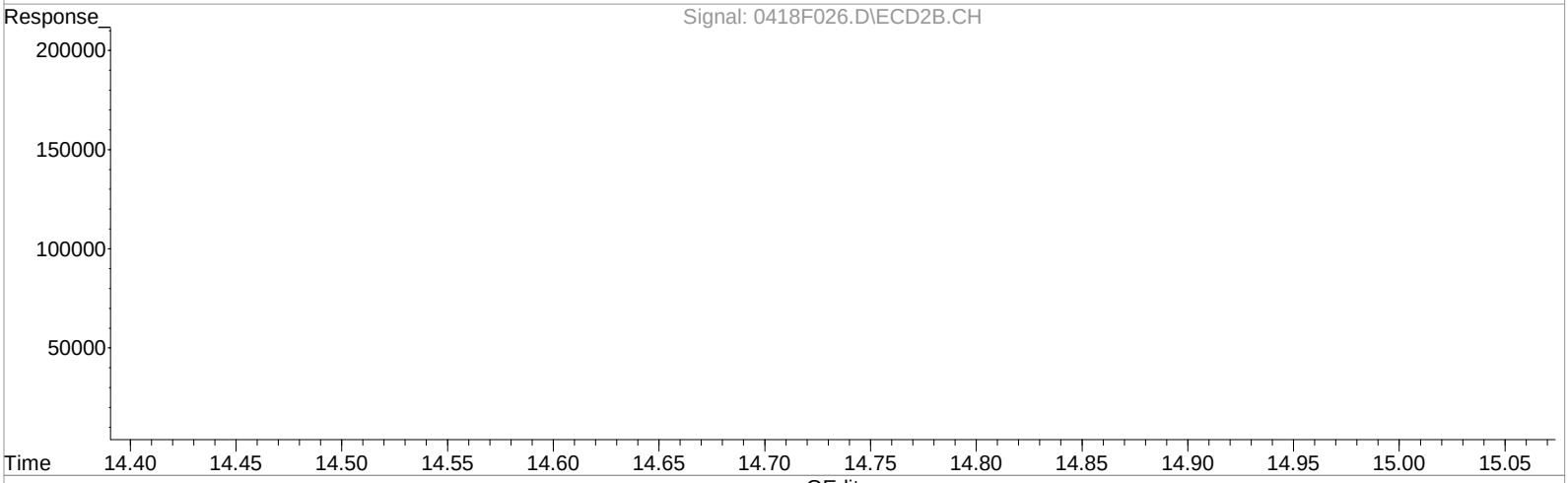
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.807min 1569.515 ug/L m

response 251891

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.454min 2428.482 ug/L

response 1891053

(+) = Expected Retention Time

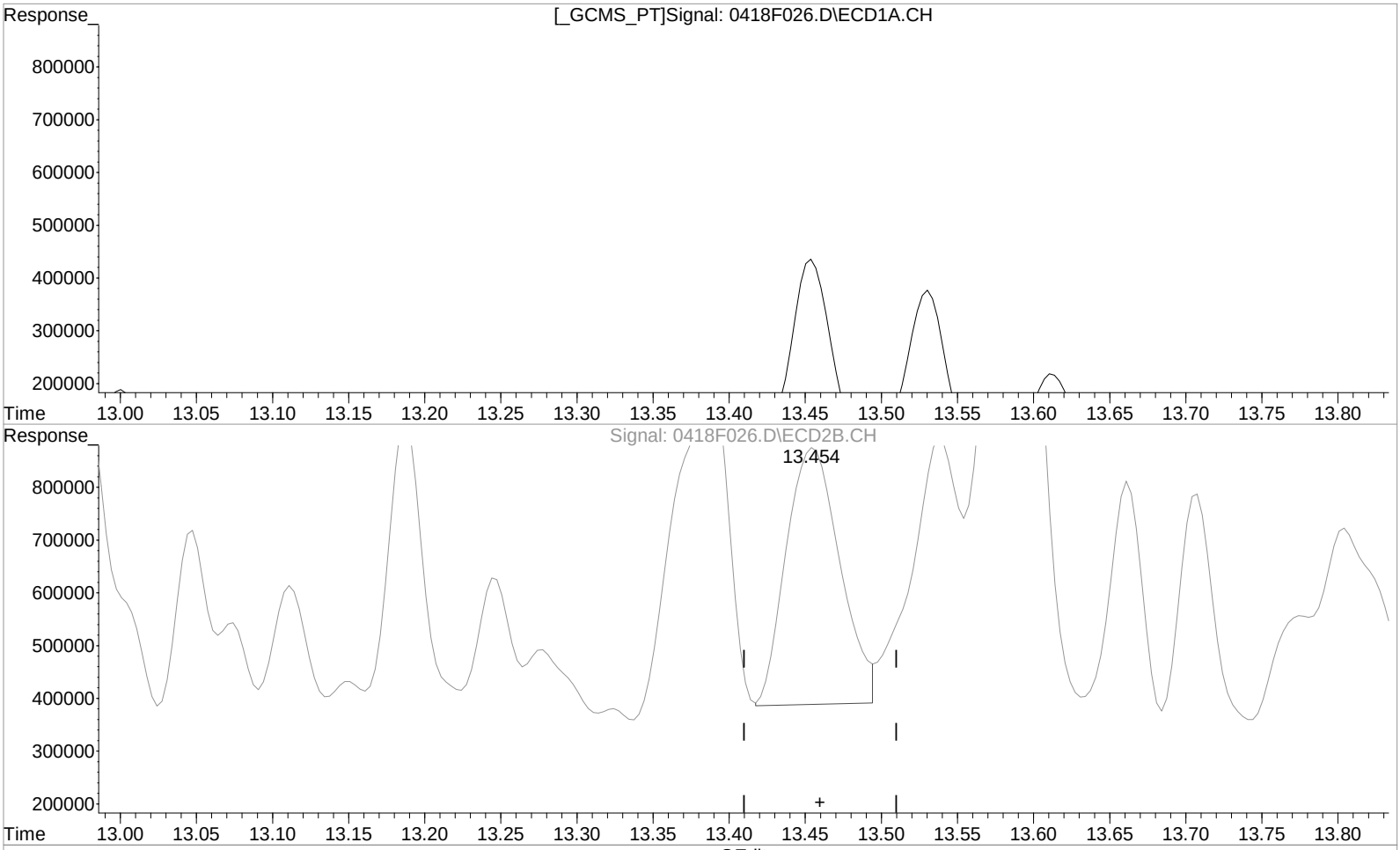
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.807min 1569.515 ug/L m

response 251891

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.454min 1534.435 ug/L m

response 1194861

(+) = Expected Retention Time

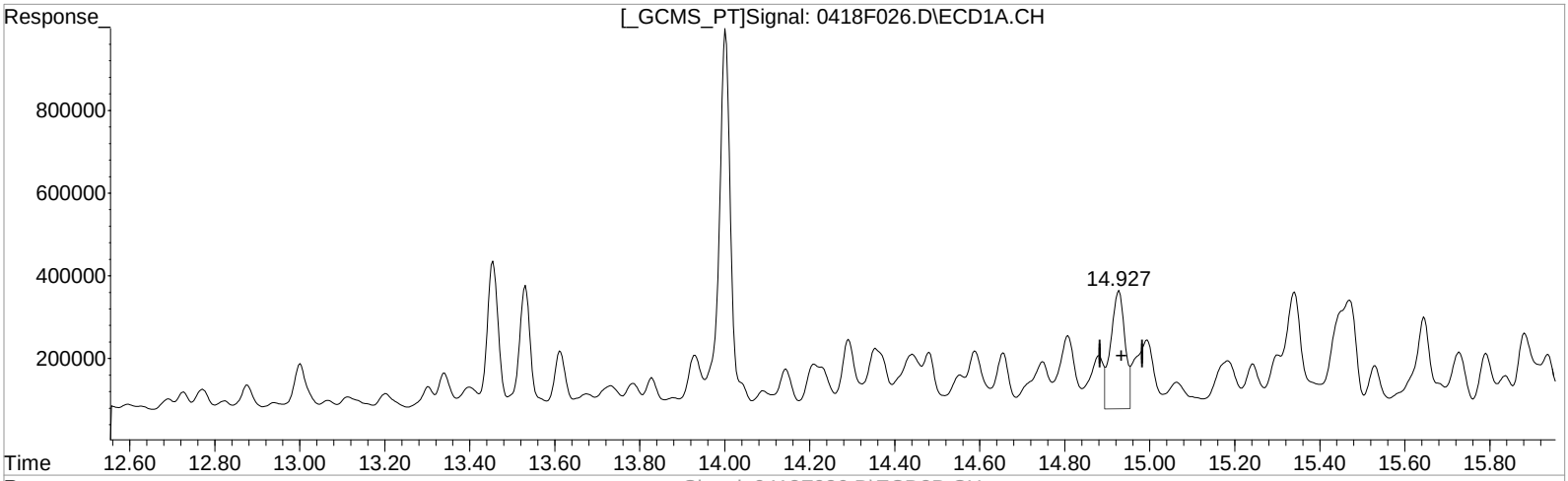
Quantitation Report (Qedit)

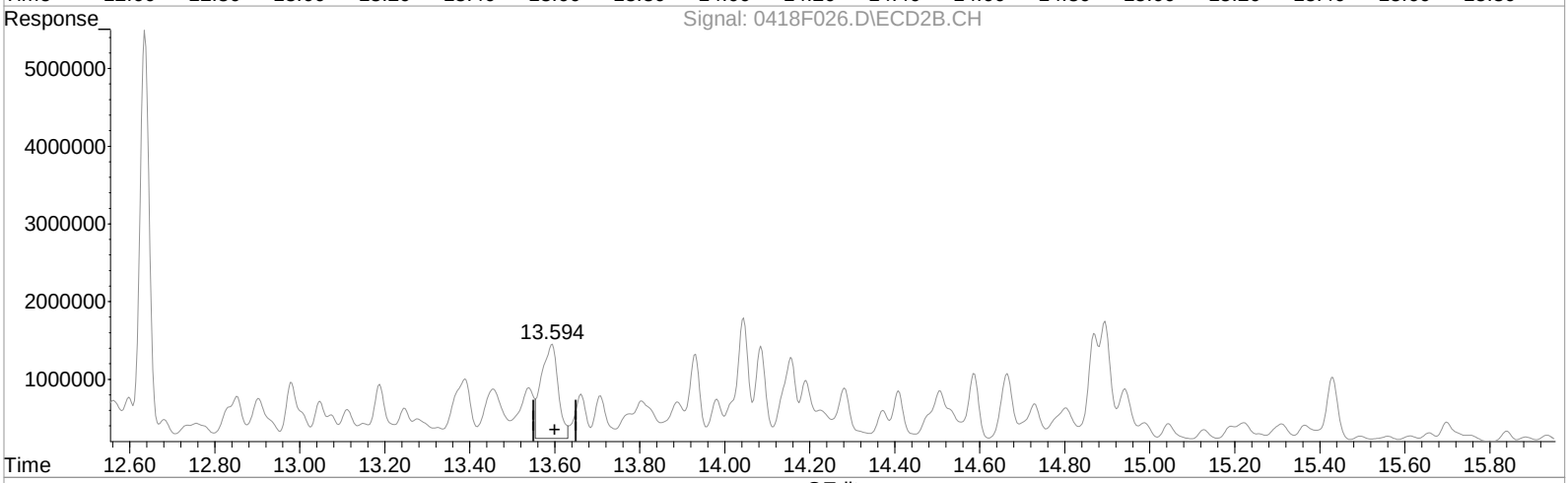
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.927min 2101.409 ug/L

response 672014

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.594min -100.000 ug/L

response 3352916

(+) = Expected Retention Time

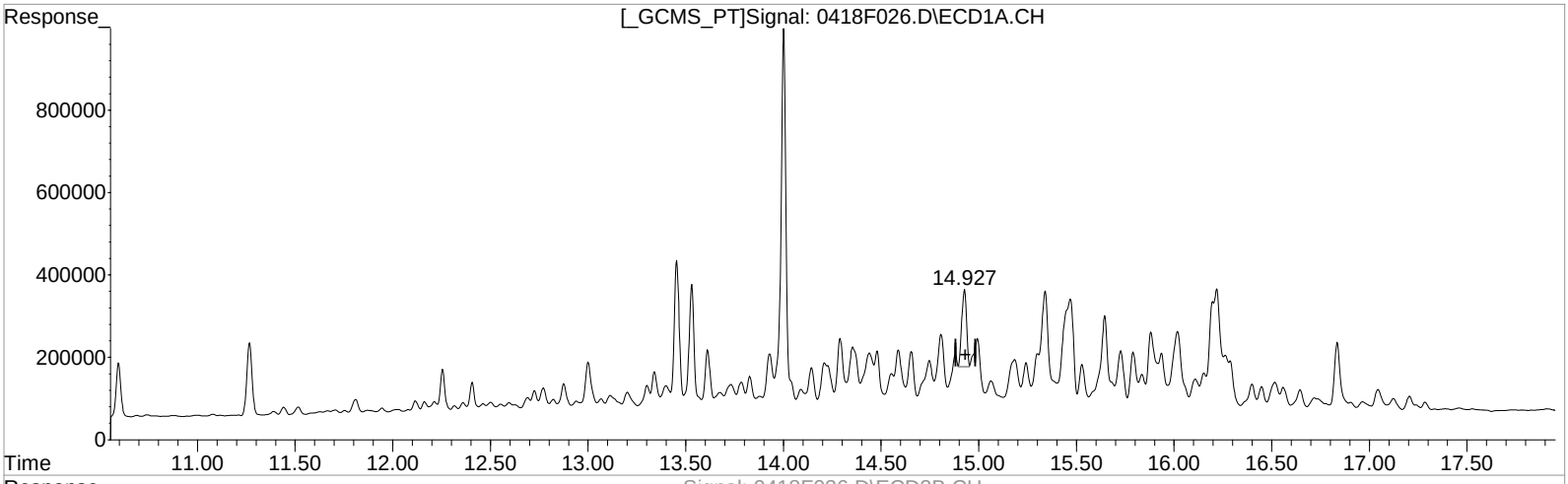
Quantitation Report (Qedit)

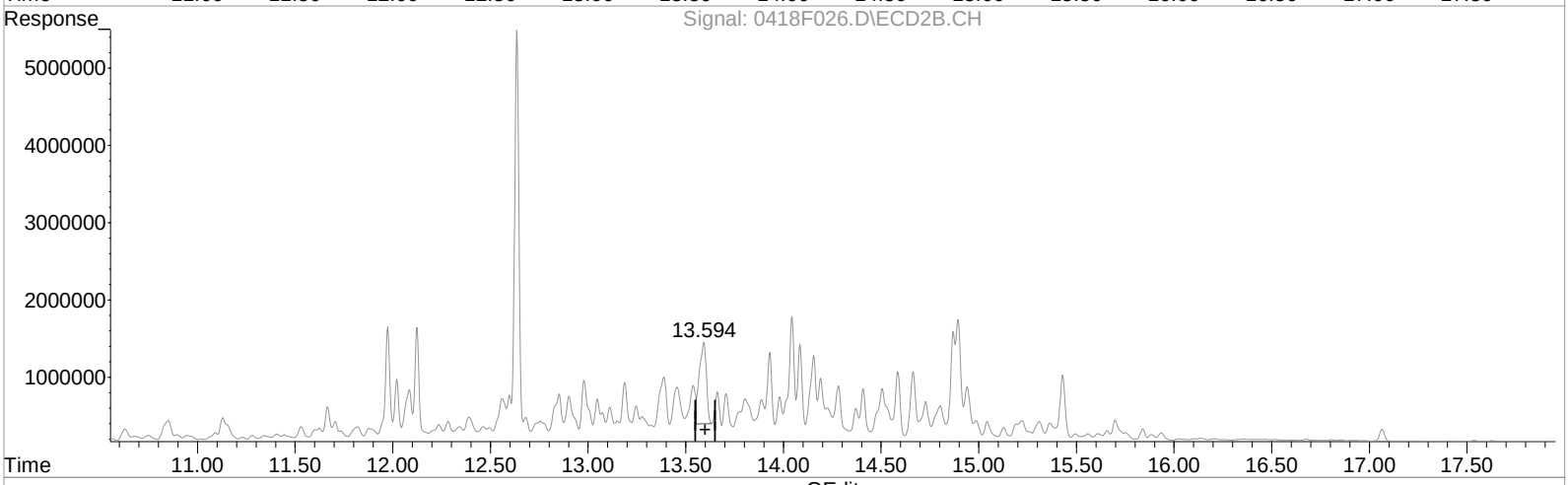
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.927min 994.580 ug/L m

response 318059

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.594min -100.000 ug/L m

response 2625477

(+) = Expected Retention Time

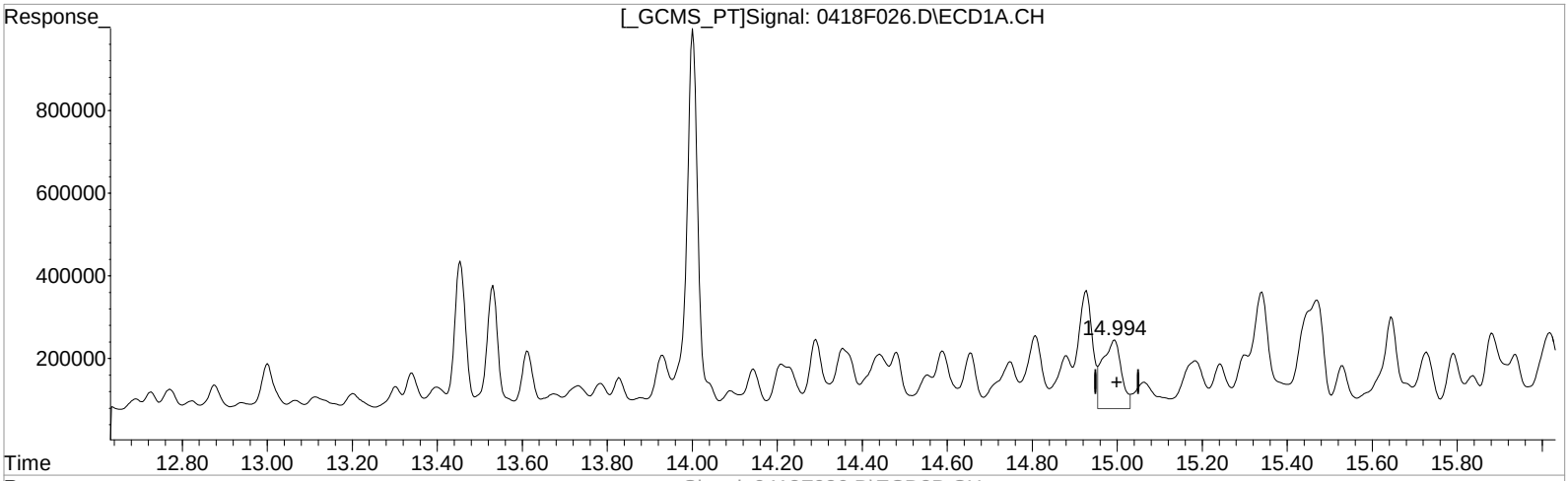
Quantitation Report (Qedit)

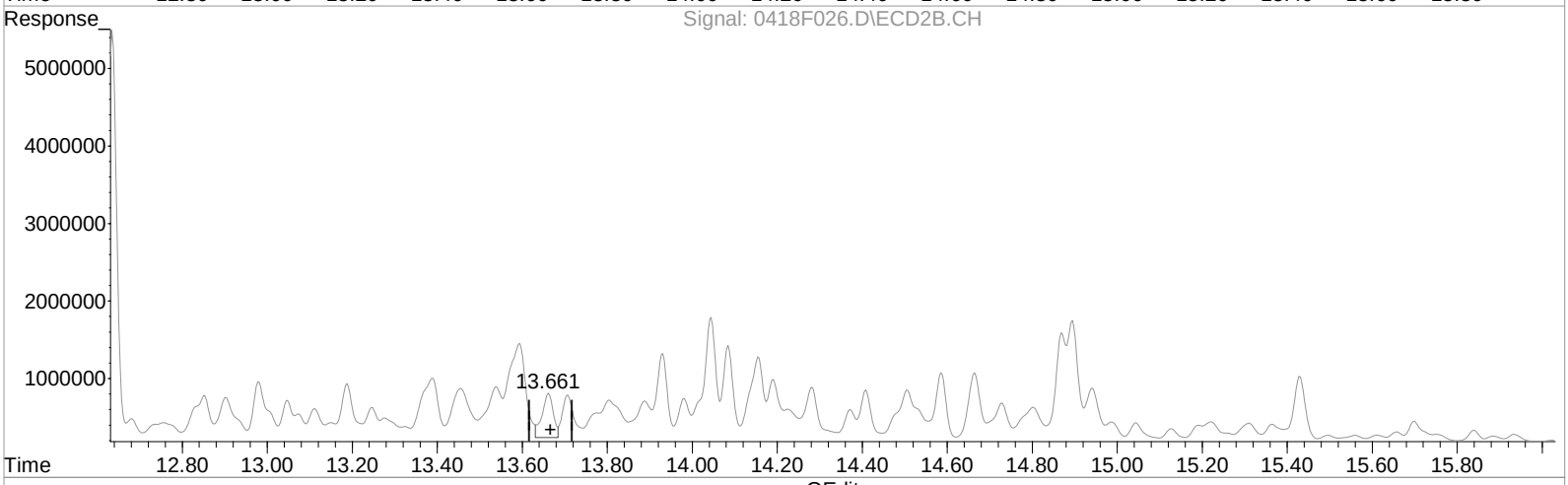
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.994min 2352.054 ug/L

response 505854

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.661min -100.000 ug/L

response 1048736

(+) = Expected Retention Time

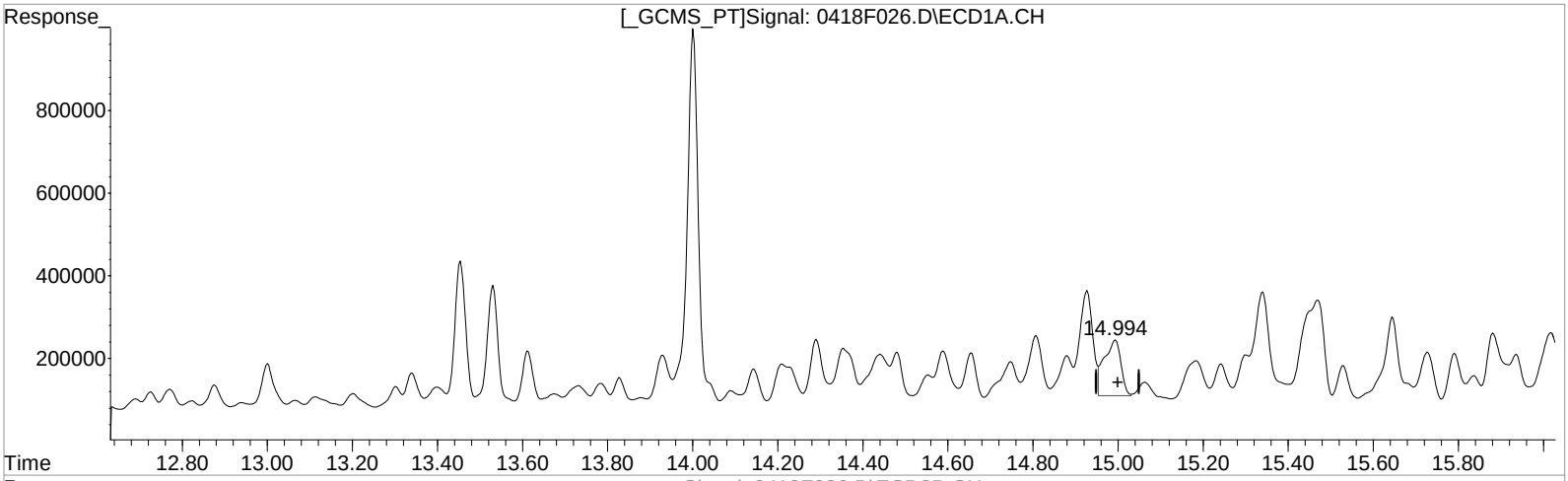
Quantitation Report (Qedit)

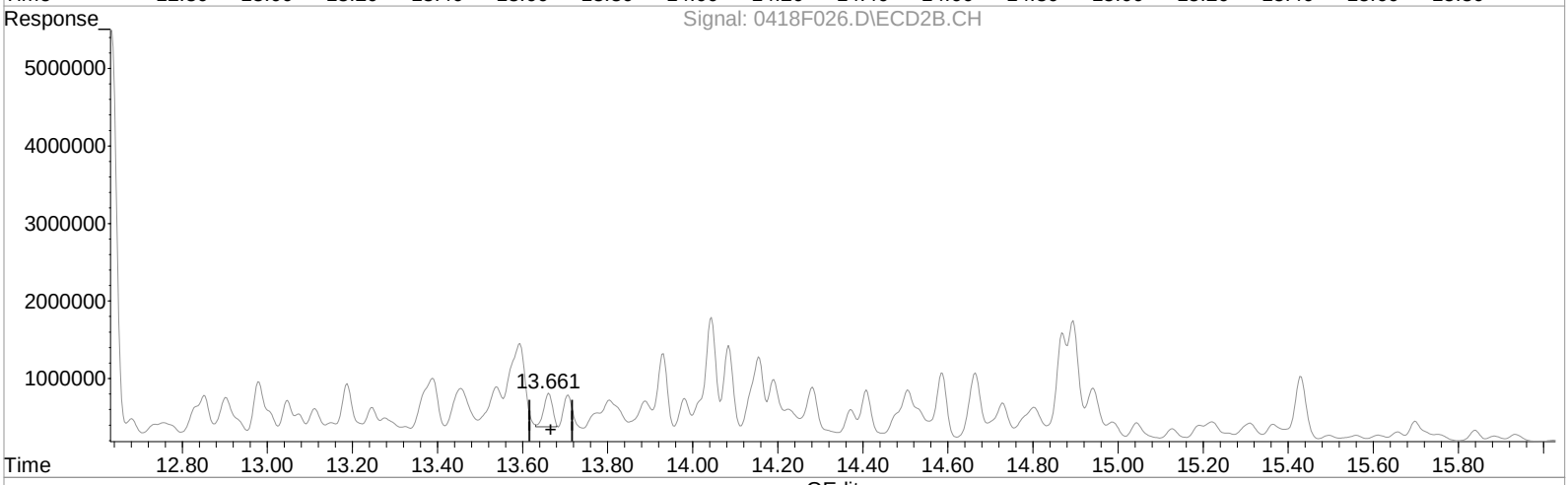
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.994min 1686.305 ug/L m

response 362672

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.661min -100.000 ug/L m

response 614034

(+) = Expected Retention Time

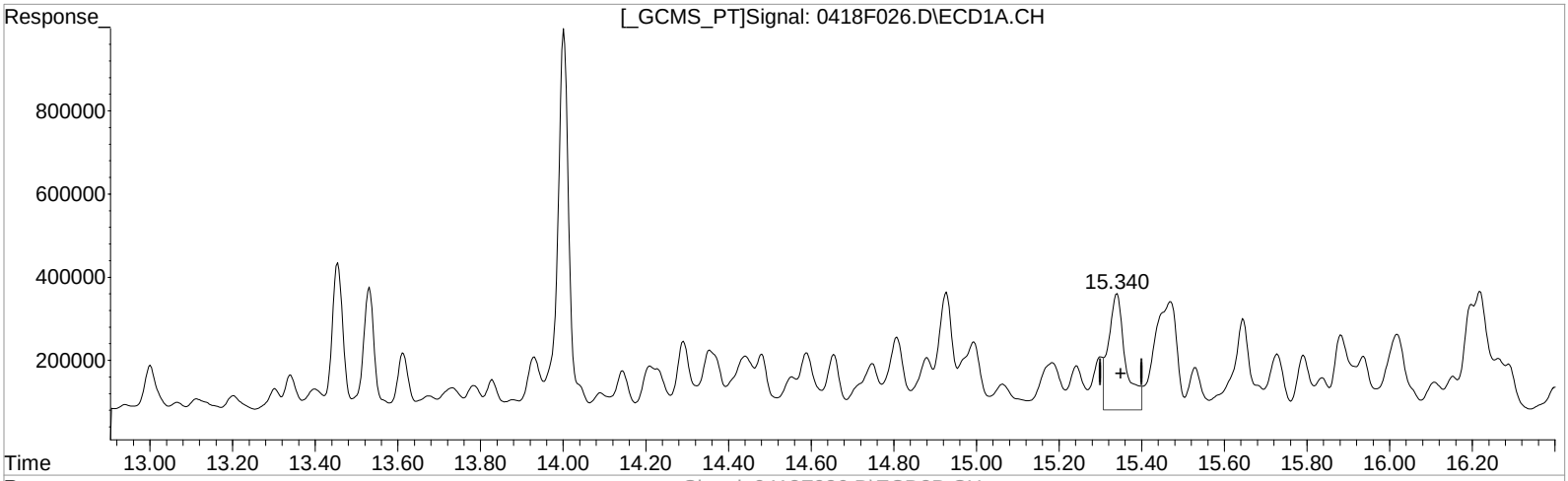
Quantitation Report (Qedit)

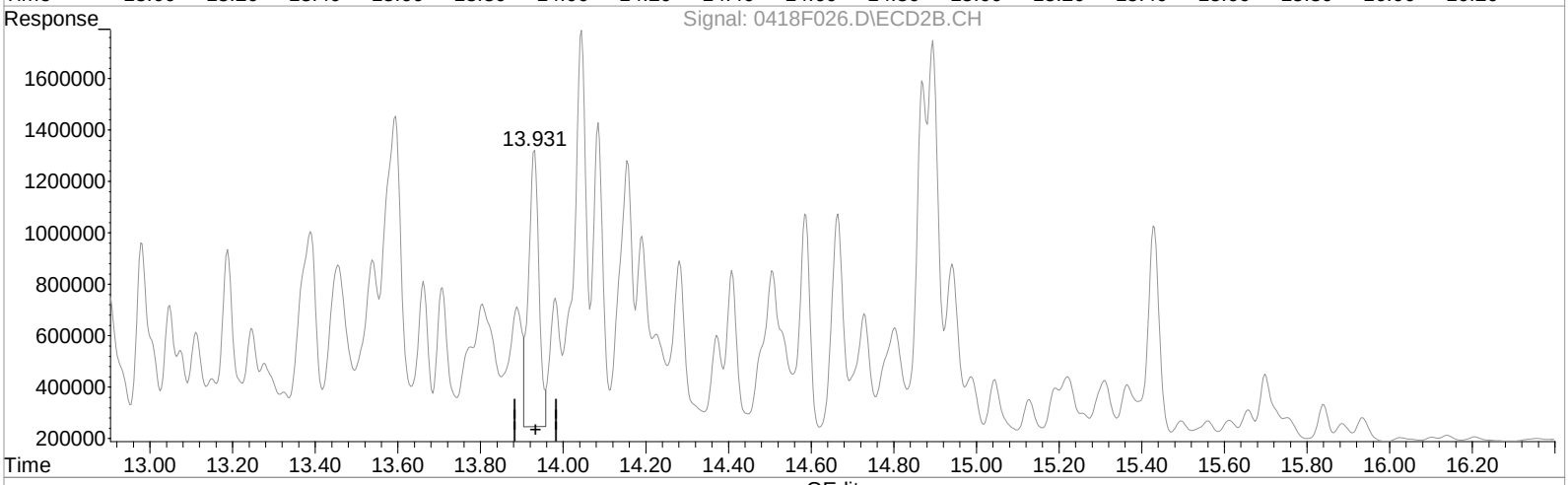
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.340min 3897.111 ug/L

response 798650

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.931min 3439.502 ug/L

response 1875178

(+) = Expected Retention Time

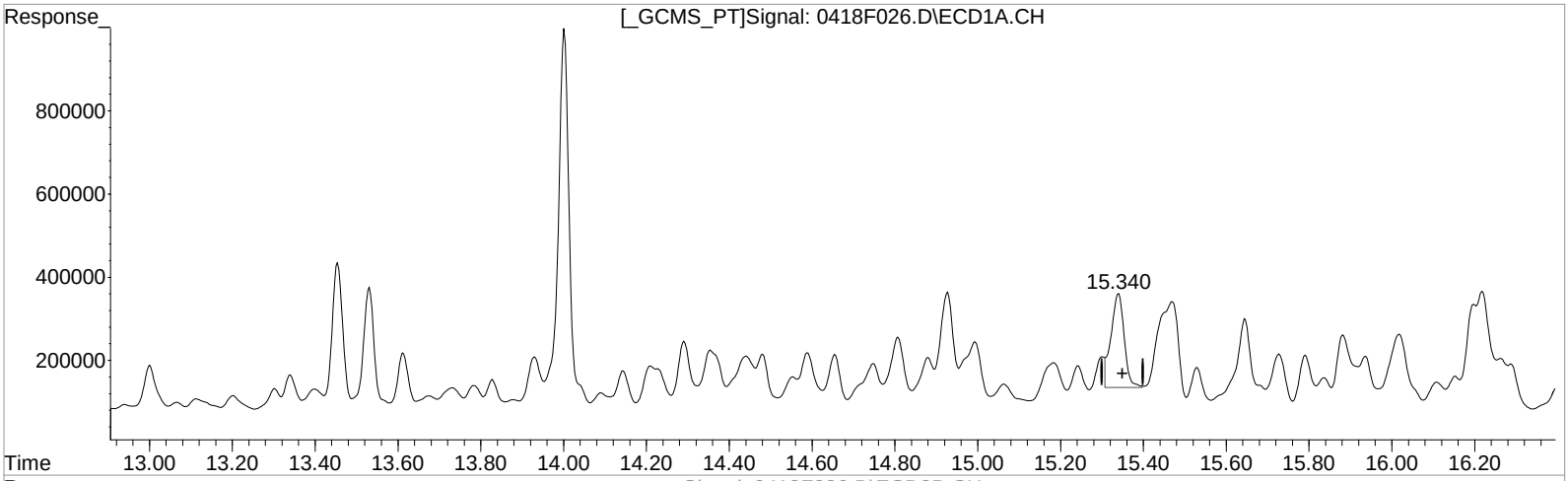
Quantitation Report (Qedit)

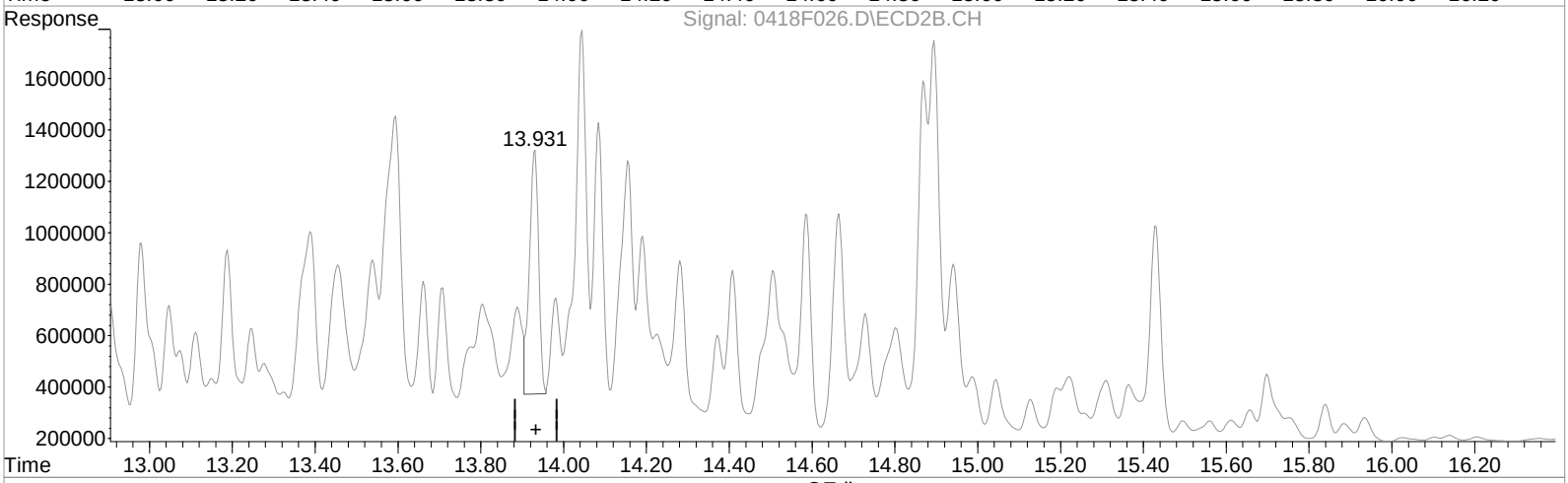
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.340min 2427.881 ug/L m

response 497555

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.931min 2689.815 ug/L m

response 1466457

(+) = Expected Retention Time

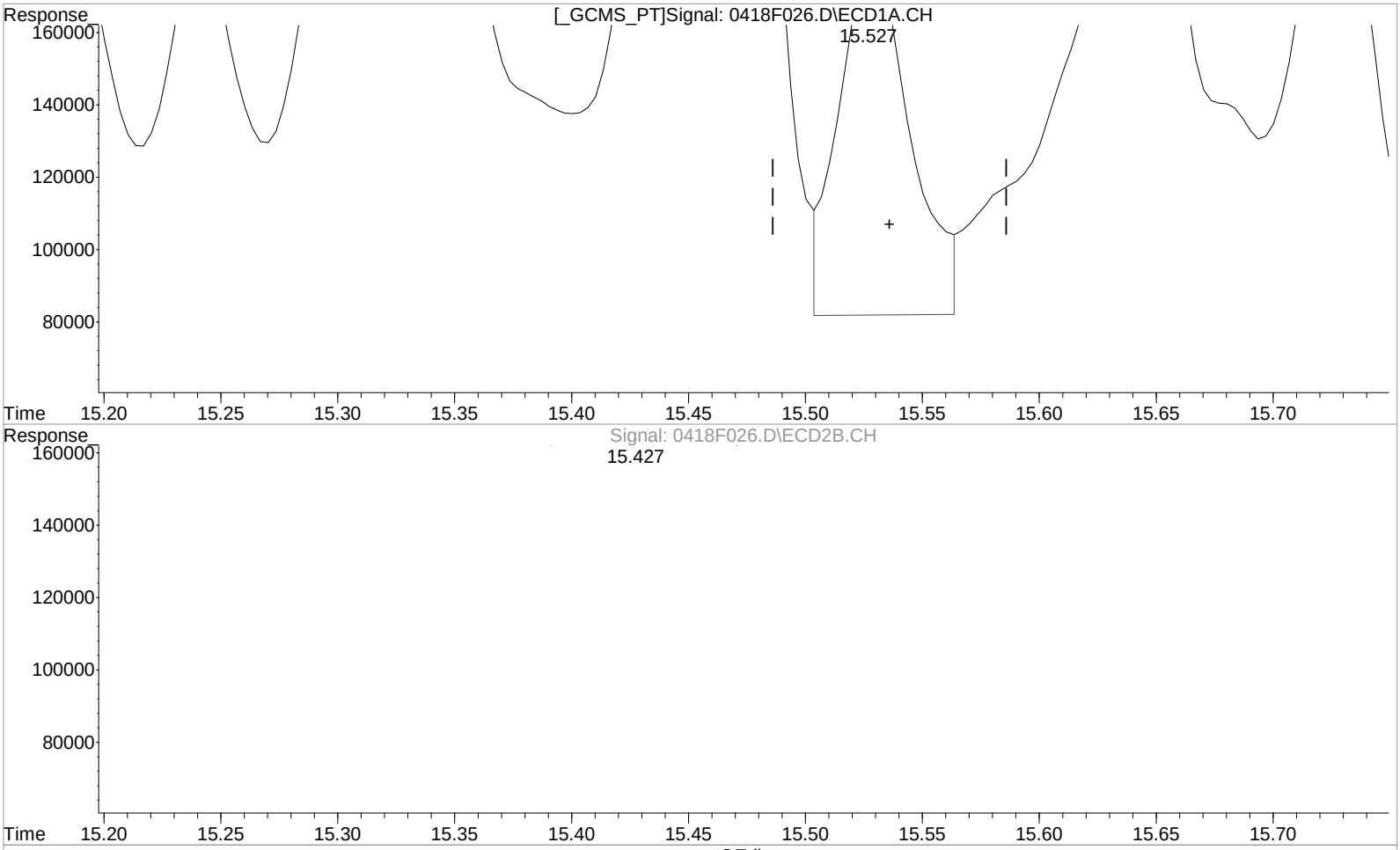
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(35) Toxaphene {6}

15.527min -100.000 ug/L

response 208919

Manual Integration:

Before

04/21/20

(35) Toxaphene {6} #2

15.427min 5165.998 ug/L

response 1525676

(+) = Expected Retention Time

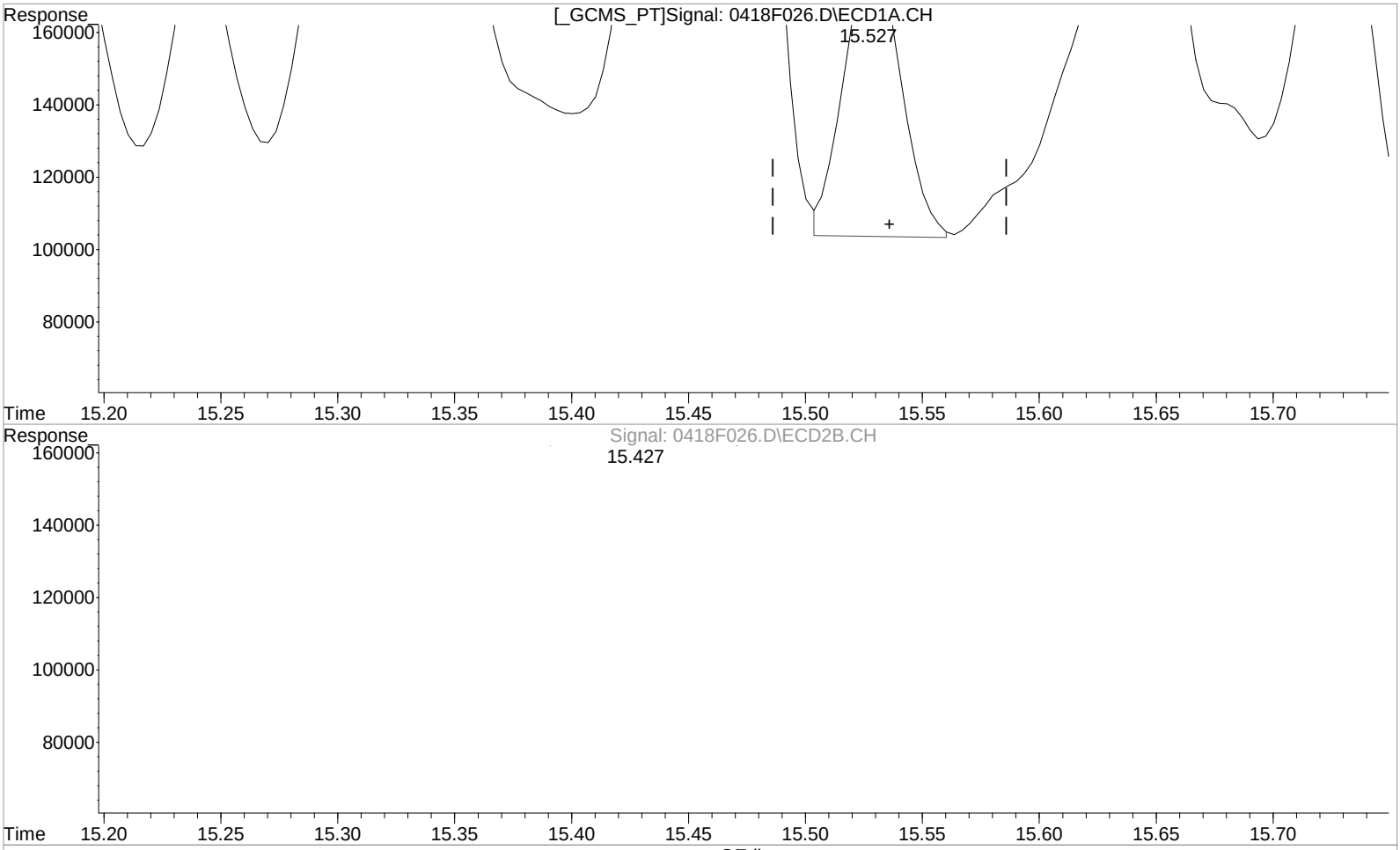
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(35) Toxaphene {6}

15.527min -100.000 ug/L m

response 130666

Manual Integration:

After

Baseline correction

04/21/20

(35) Toxaphene {6} #2

15.427min 5165.998 ug/L

response 1525676

(+) = Expected Retention Time

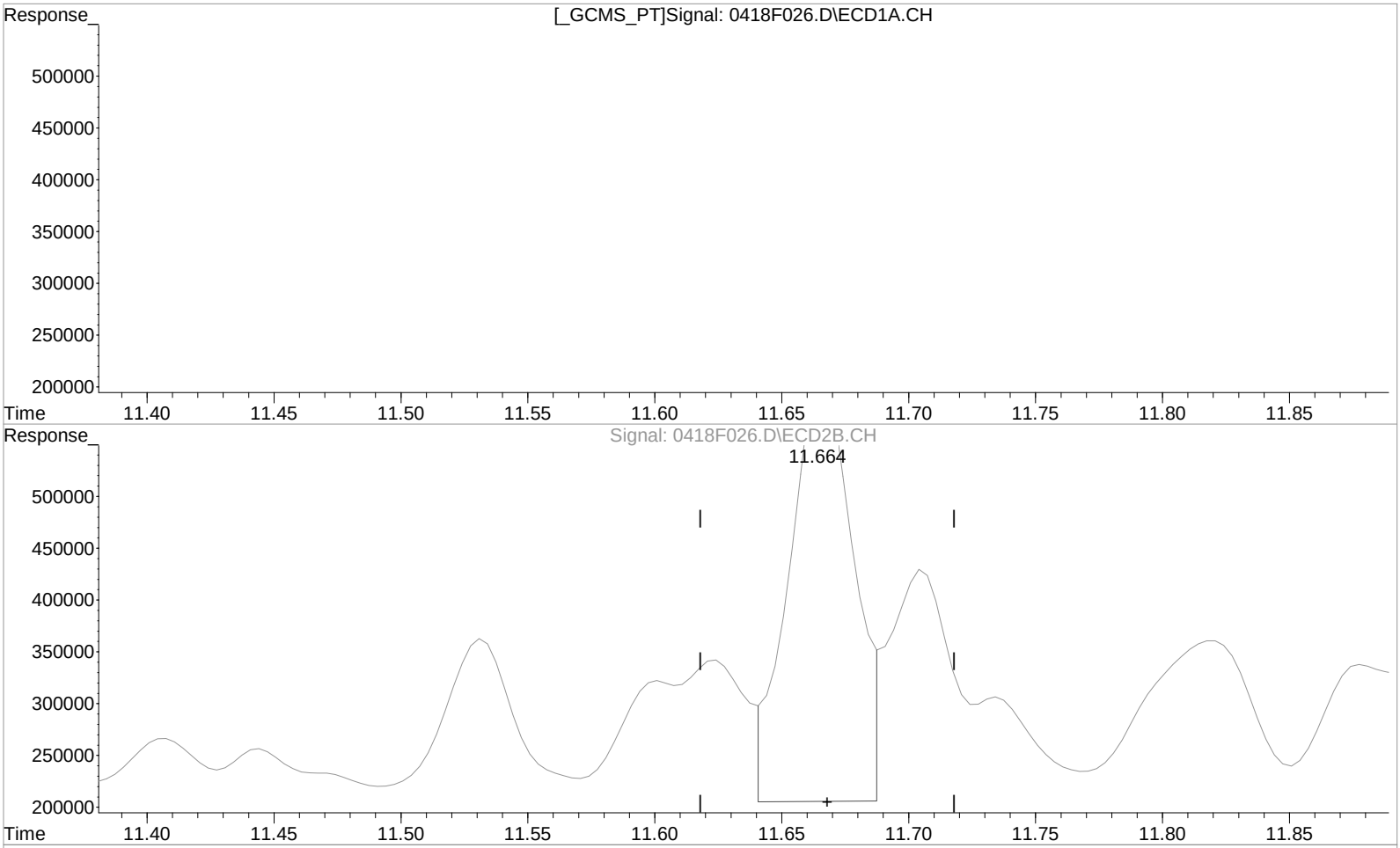
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(38) Chlordane {2}

11.707min 12.123 ug/L

response 11305

(38) Chlordane {2} #2

11.664min 426.411 ug/L

response 723048

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

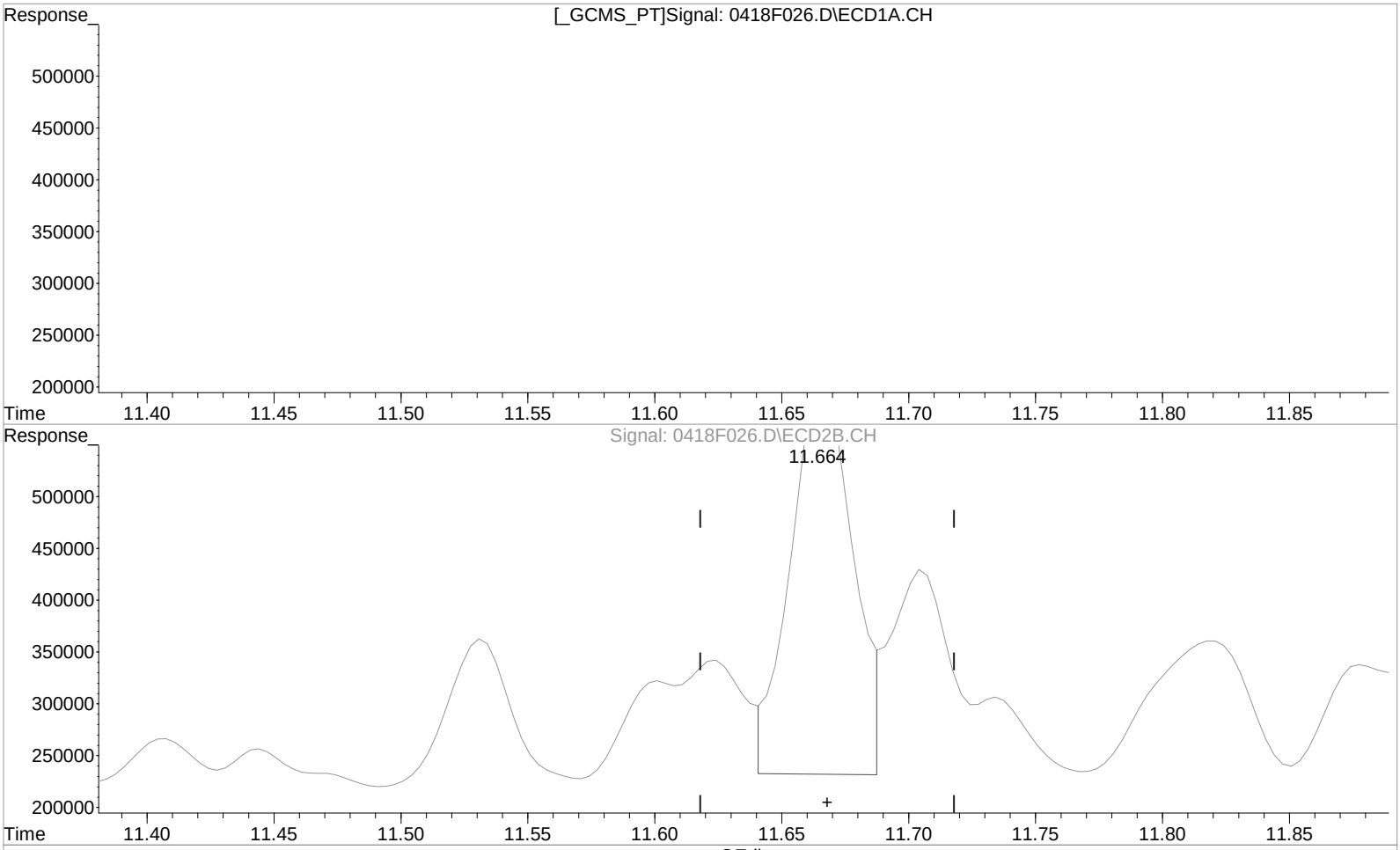
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(38) Chlordane {2}

11.707min 12.123 ug/L

response 11305

(38) Chlordane {2} #2

11.664min 382.647 ug/L m

response 648840

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

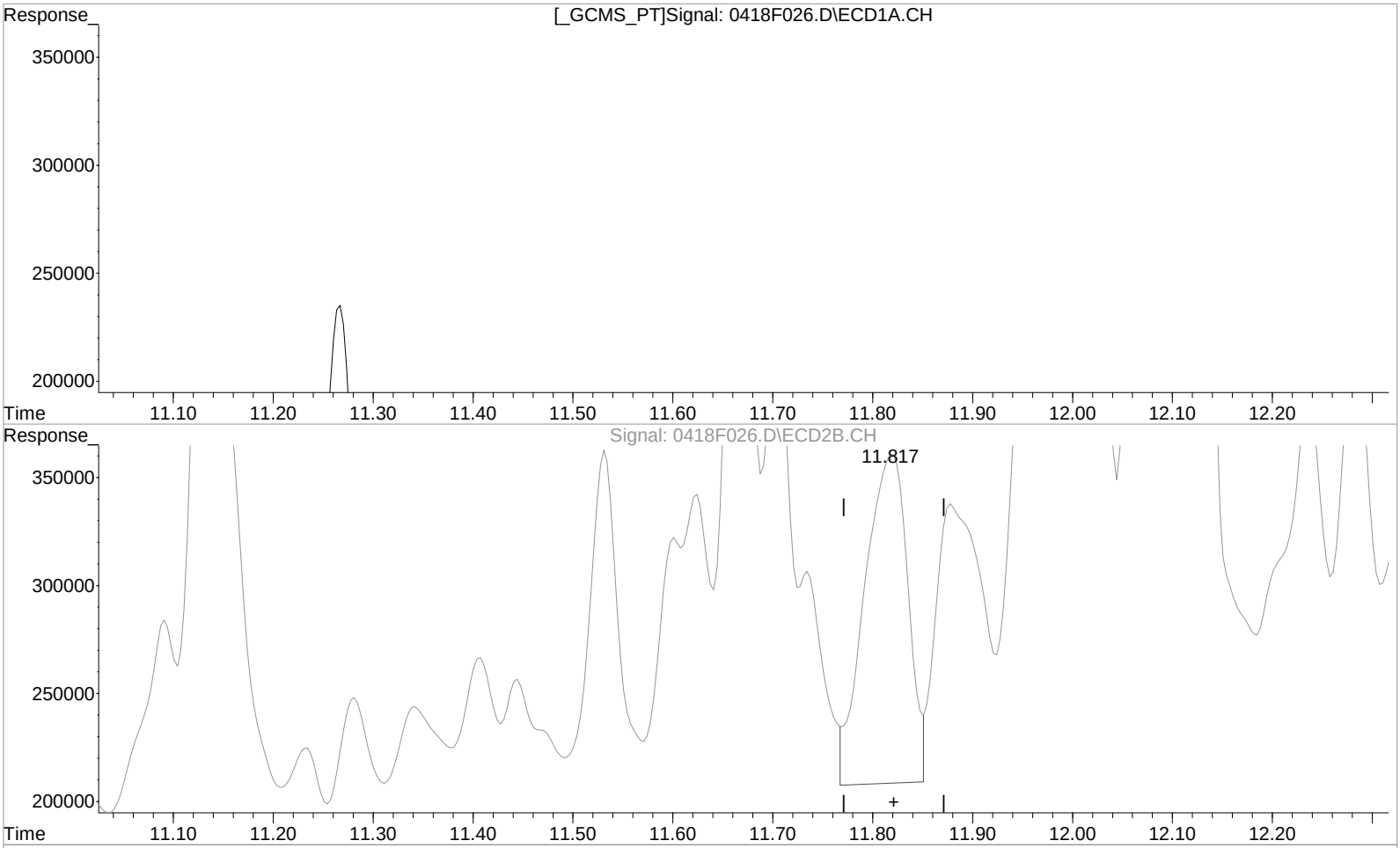
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(39) Chlordane {3}

12.254min 233.313 ug/L

response 156137

Manual Integration:

Before

04/21/20

(39) Chlordane {3} #2

11.817min 408.372 ug/L

response 459695

(+) = Expected Retention Time

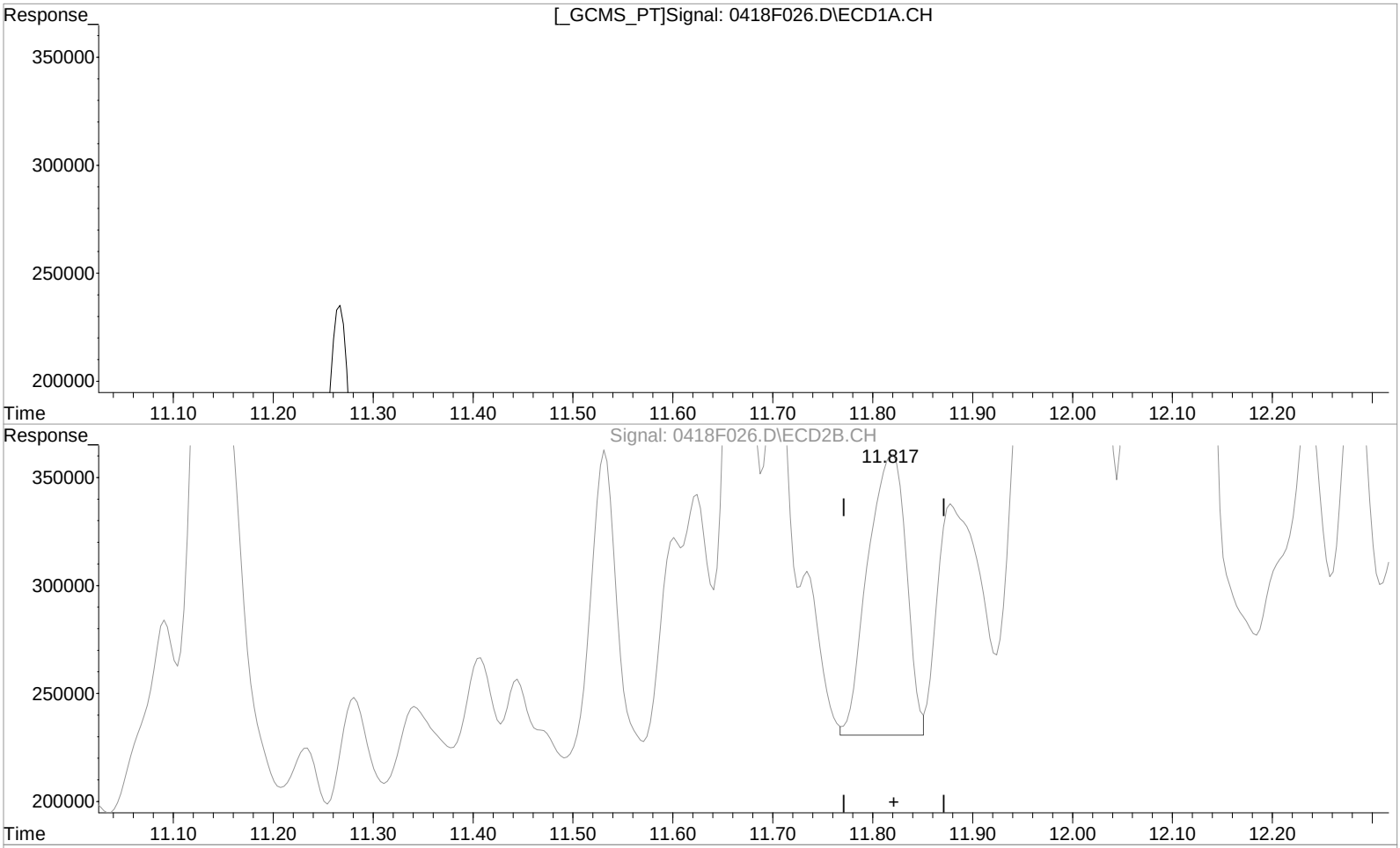
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(39) Chlordane {3}

12.254min 233.313 ug/L

response 156137

(39) Chlordane {3} #2

11.817min 308.790 ug/L m

response 347598

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

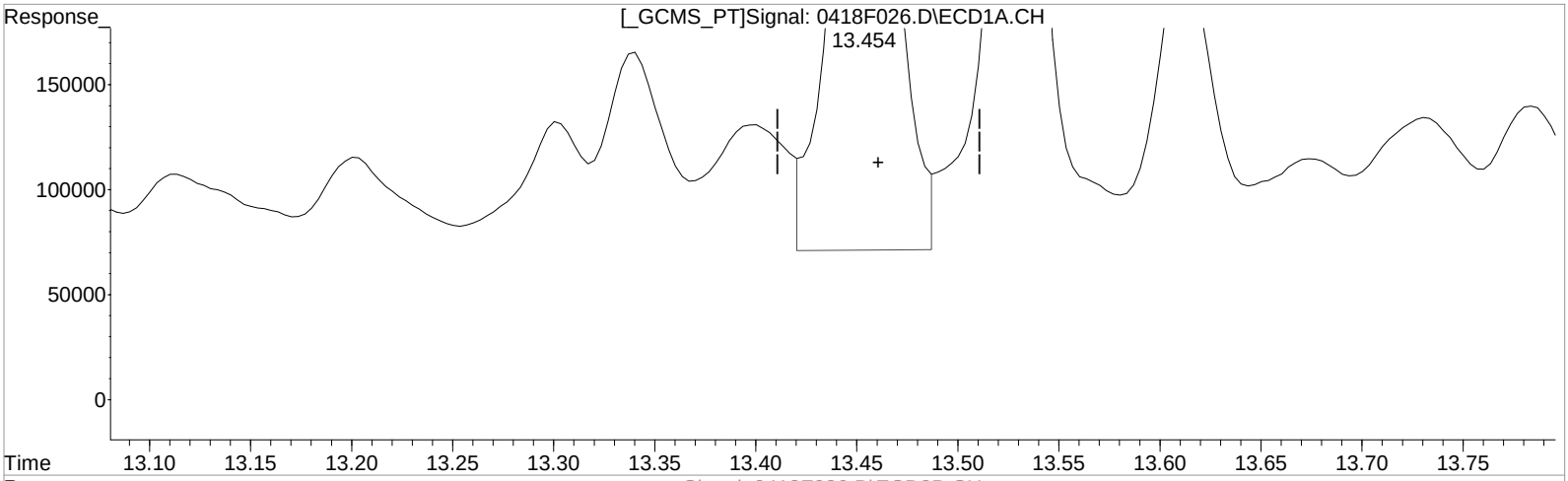
Quantitation Report (Qedit)

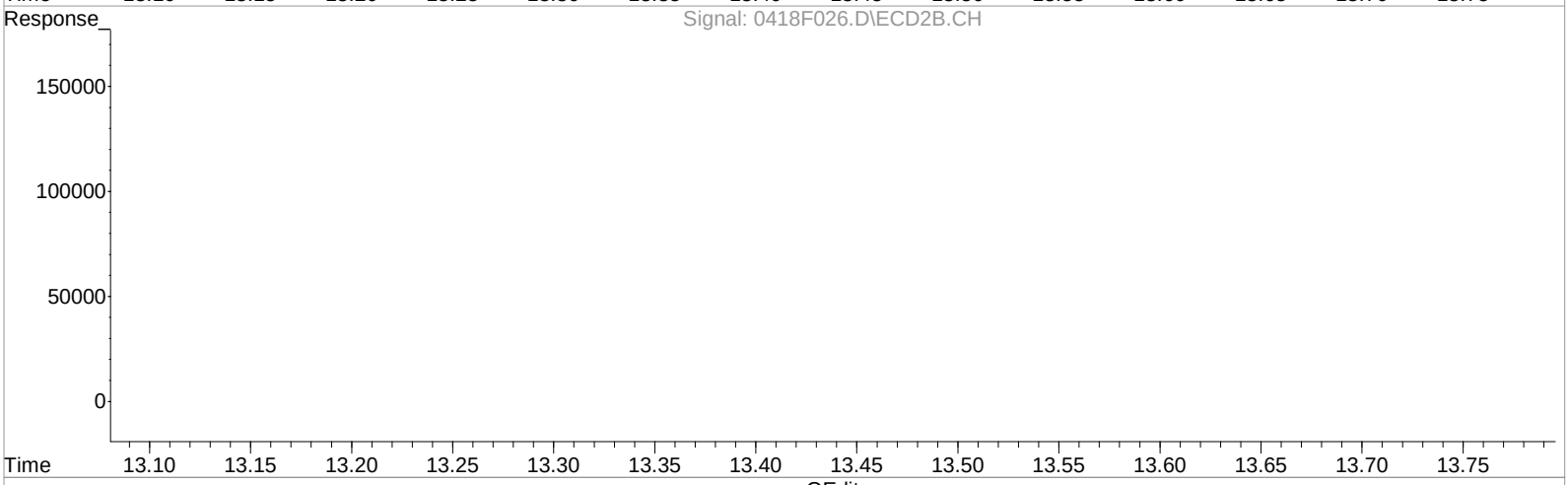
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.454min 341.373 ug/L

response 693482

Manual Integration:

Before

04/21/20

(40) Chlordane {4} #2

11.974min 367.354 ug/L

response 2504516

(+) = Expected Retention Time

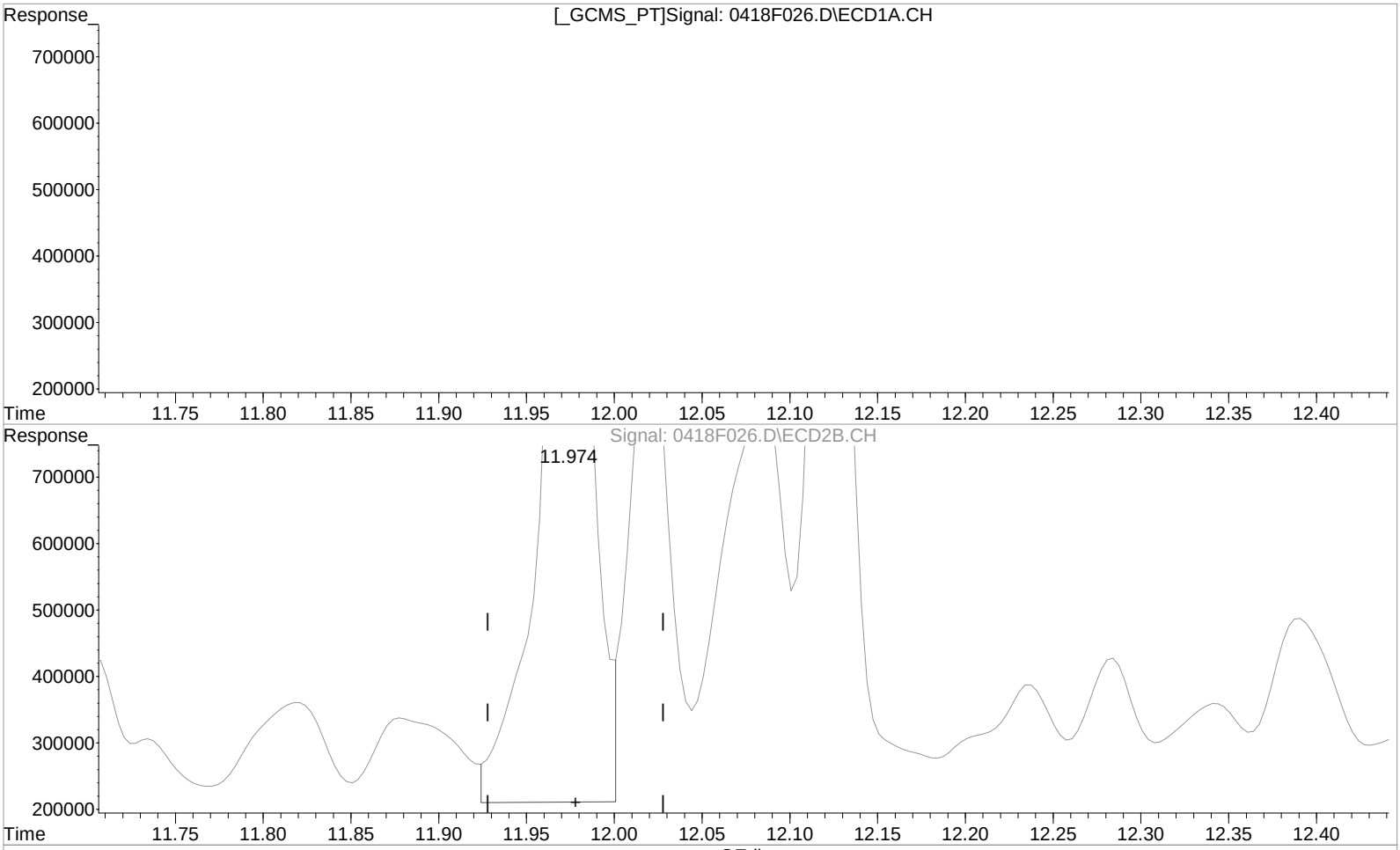
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(40) Chlordane {4}

13.454min 279.399 ug/L m

response 567586

Manual Integration:

Before

04/21/20

(40) Chlordane {4} #2

11.974min 367.354 ug/L

response 2504516

(+) = Expected Retention Time

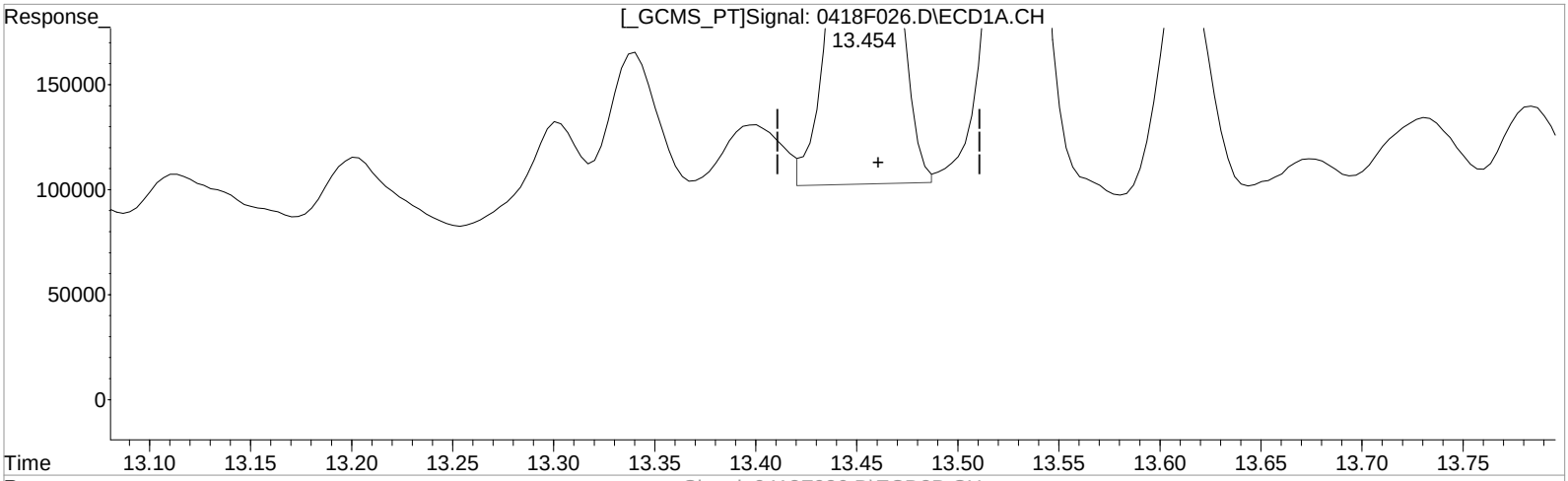
Quantitation Report (Qedit)

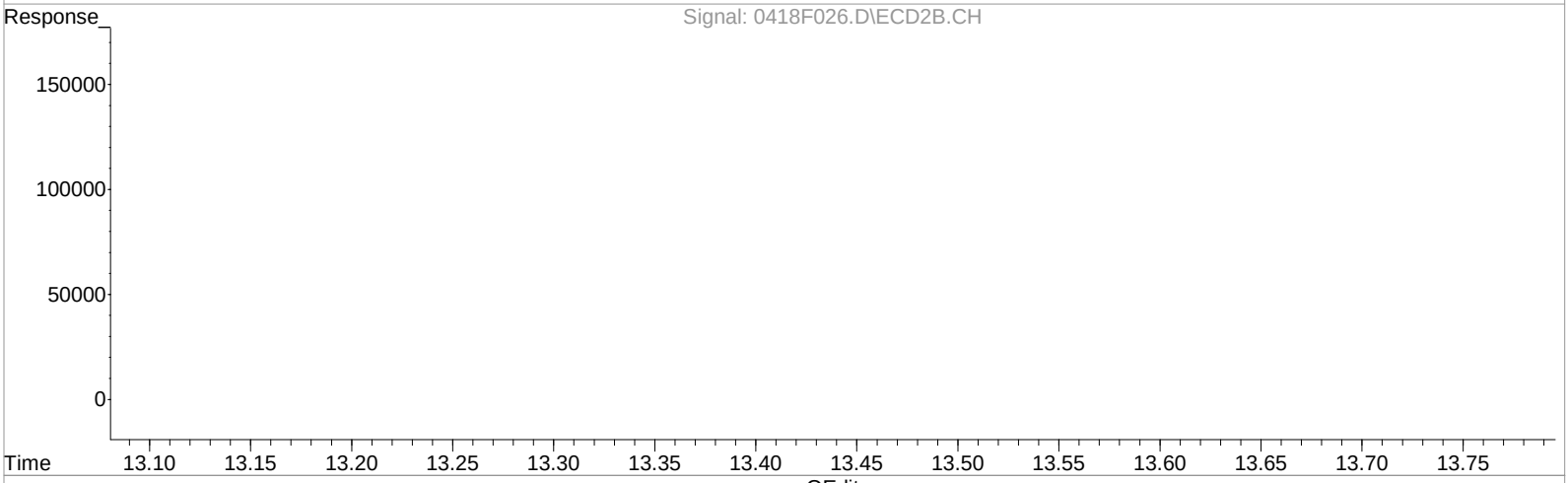
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.454min 279.399 ug/L m

response 567586

Manual Integration:

After

Baseline correction

04/21/20

(40) Chlordane {4} #2

11.974min 367.354 ug/L

response 2504516

(+) = Expected Retention Time

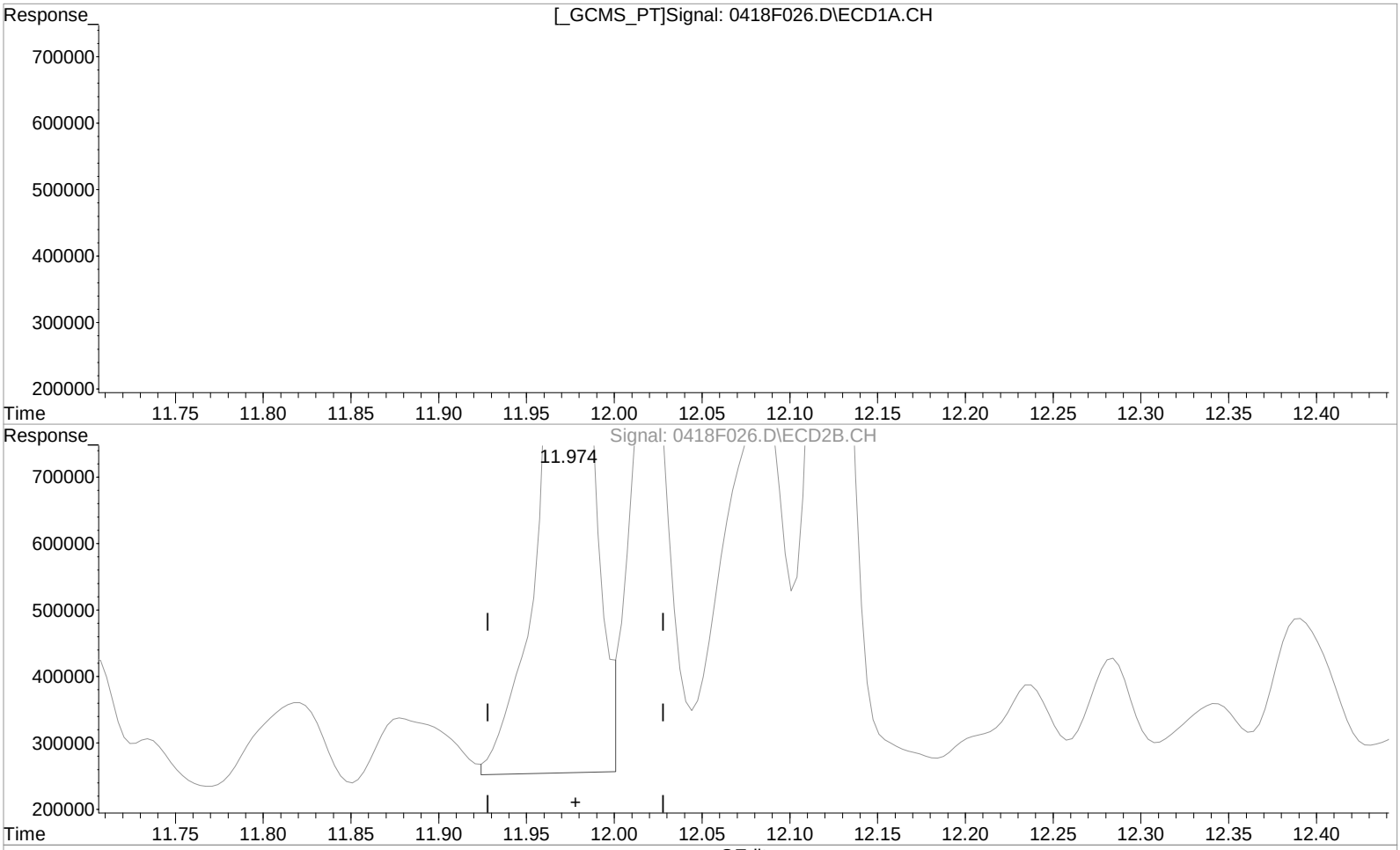
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(40) Chlordane {4}

13.454min 279.399 ug/L m

response 567586

(40) Chlordane {4} #2

11.974min 337.934 ug/L m

response 2303937

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

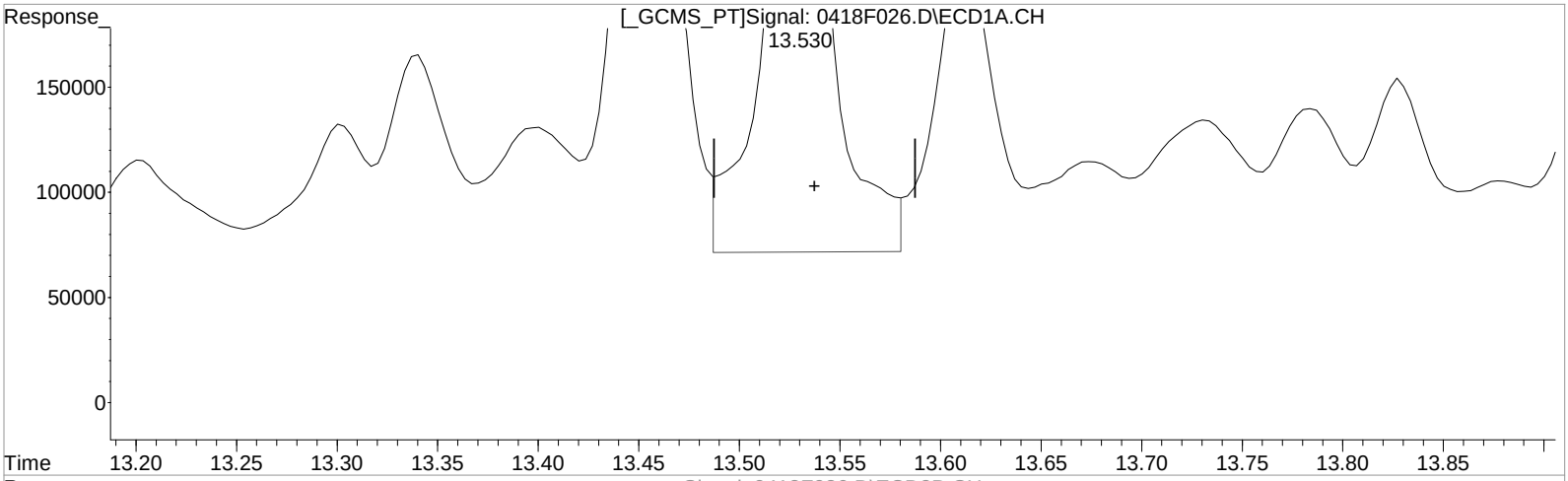
Quantitation Report (Qedit)

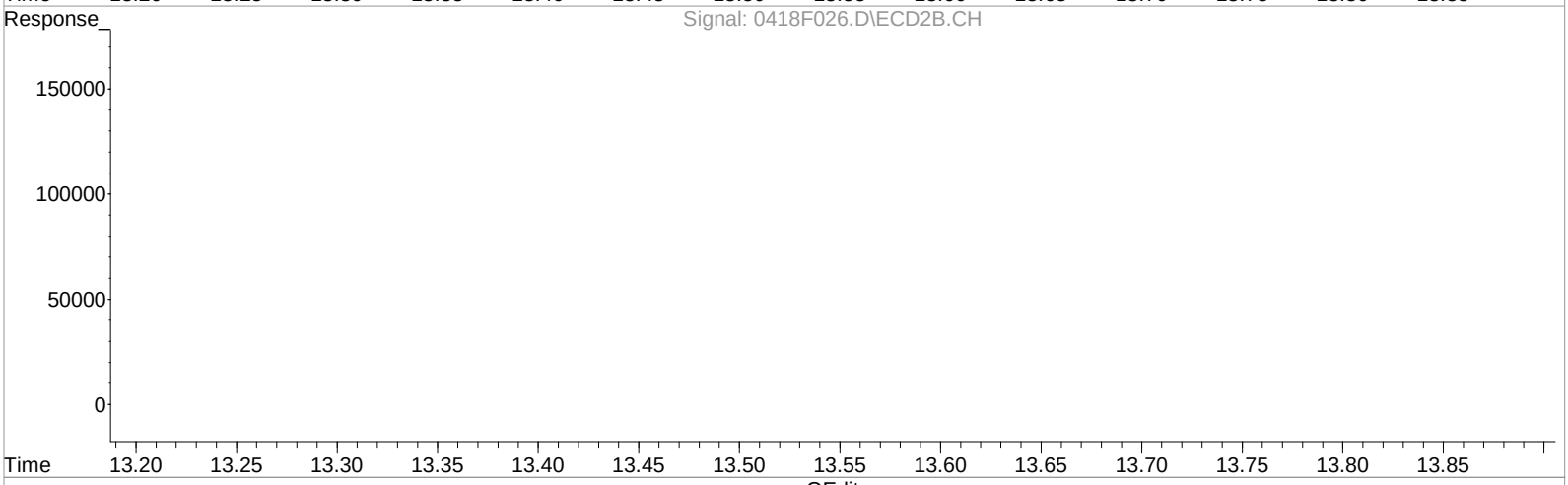
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.530min 369.006 ug/L

response 620042

Manual Integration:

Before

04/21/20

(41) Chlordane {5} #2

12.021min 276.473 ug/L

response 1154116

(+) = Expected Retention Time

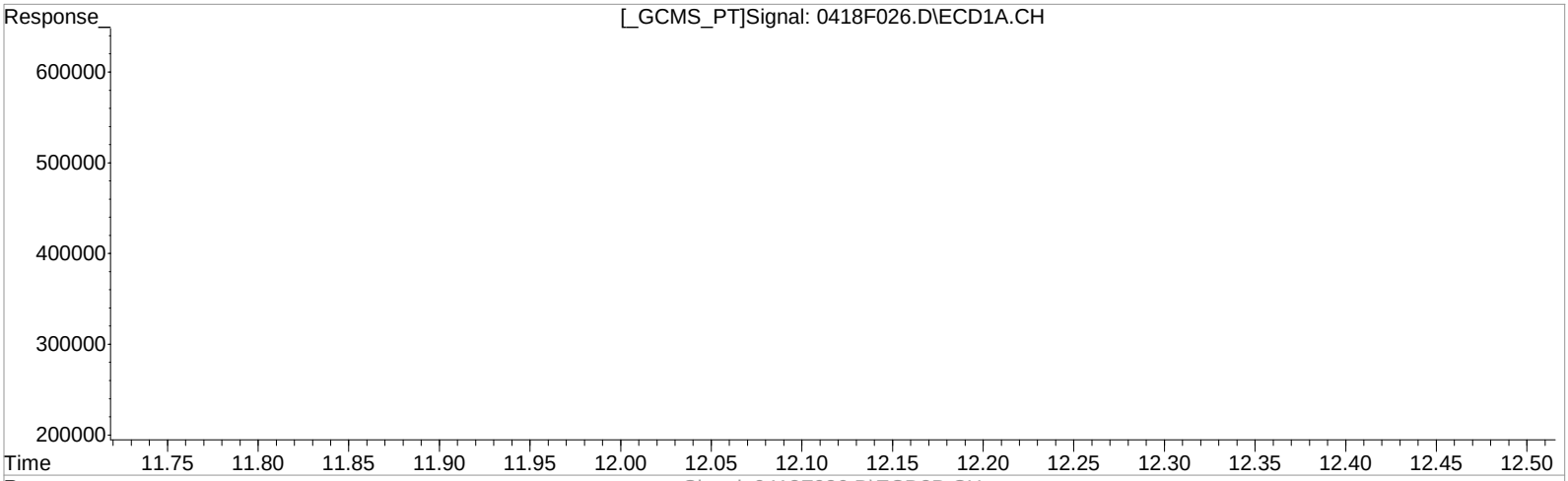
Quantitation Report (Qedit)

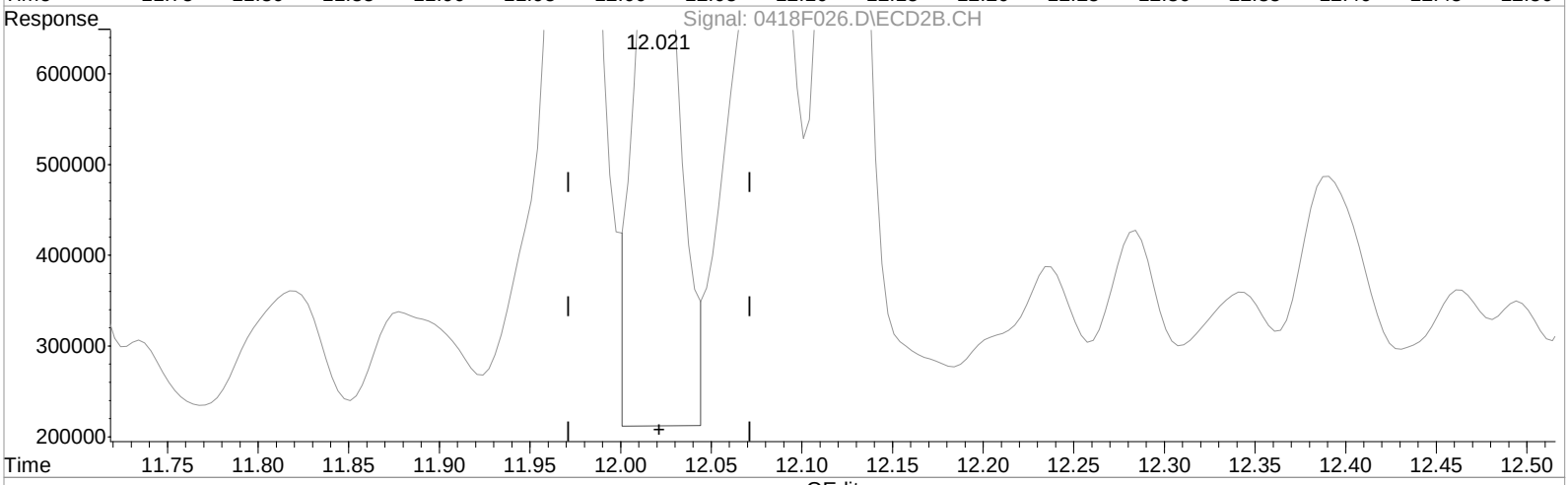
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.530min 298.192 ug/L m

response 501053

Manual Integration:

Before

04/21/20

(41) Chlordane {5} #2

12.021min 276.473 ug/L

response 1154116

(+) = Expected Retention Time

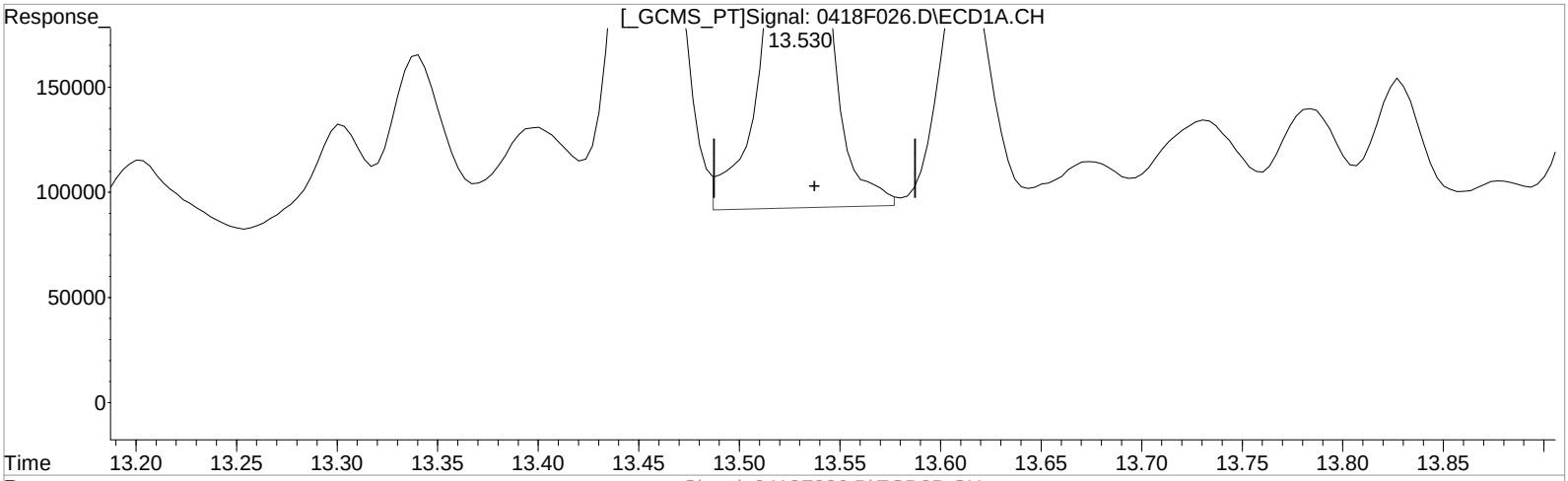
Quantitation Report (Qedit)

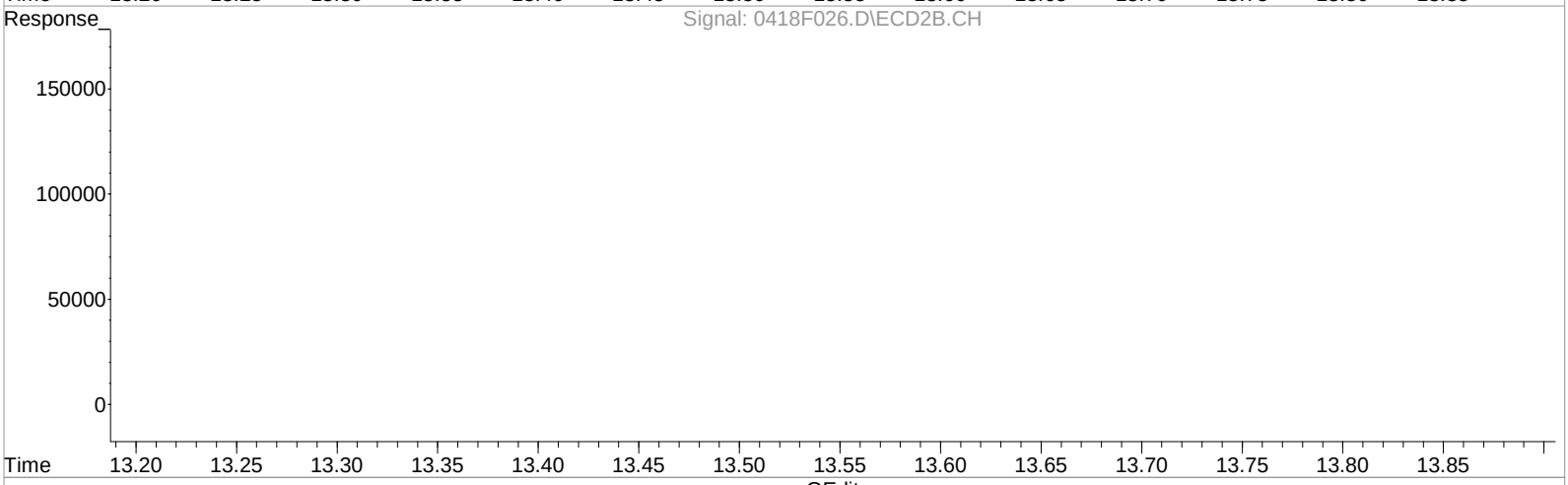
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.530min 298.192 ug/L m

response 501053

Manual Integration:

After

Baseline correction

04/21/20

(41) Chlordane {5} #2

12.021min 276.473 ug/L

response 1154116

(+) = Expected Retention Time

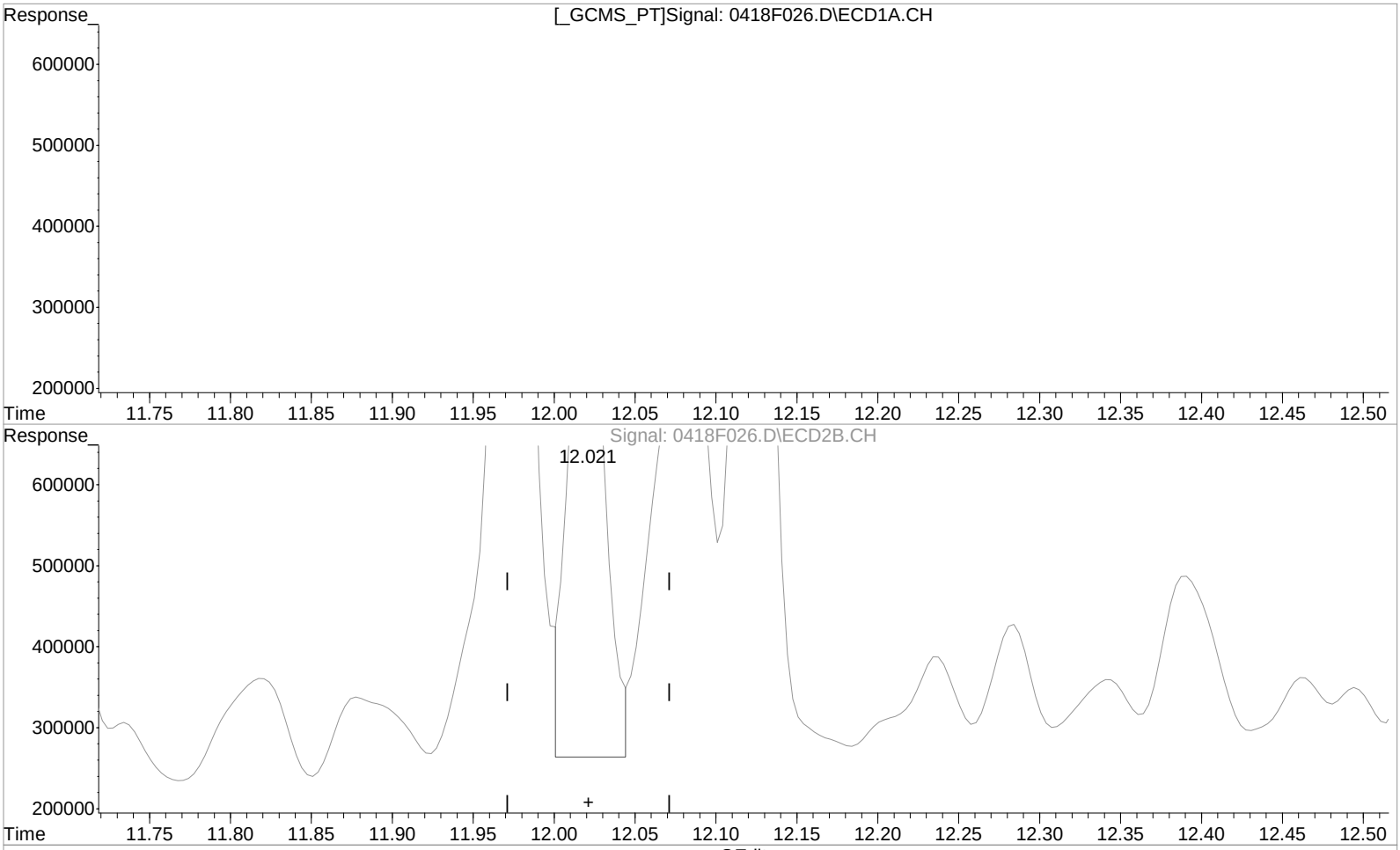
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(41) Chlordane {5}

13.530min 298.192 ug/L m

response 501053

Manual Integration:

After

Baseline correction

04/21/20

(41) Chlordane {5} #2

12.021min 244.209 ug/L m

response 1019434

(+) = Expected Retention Time

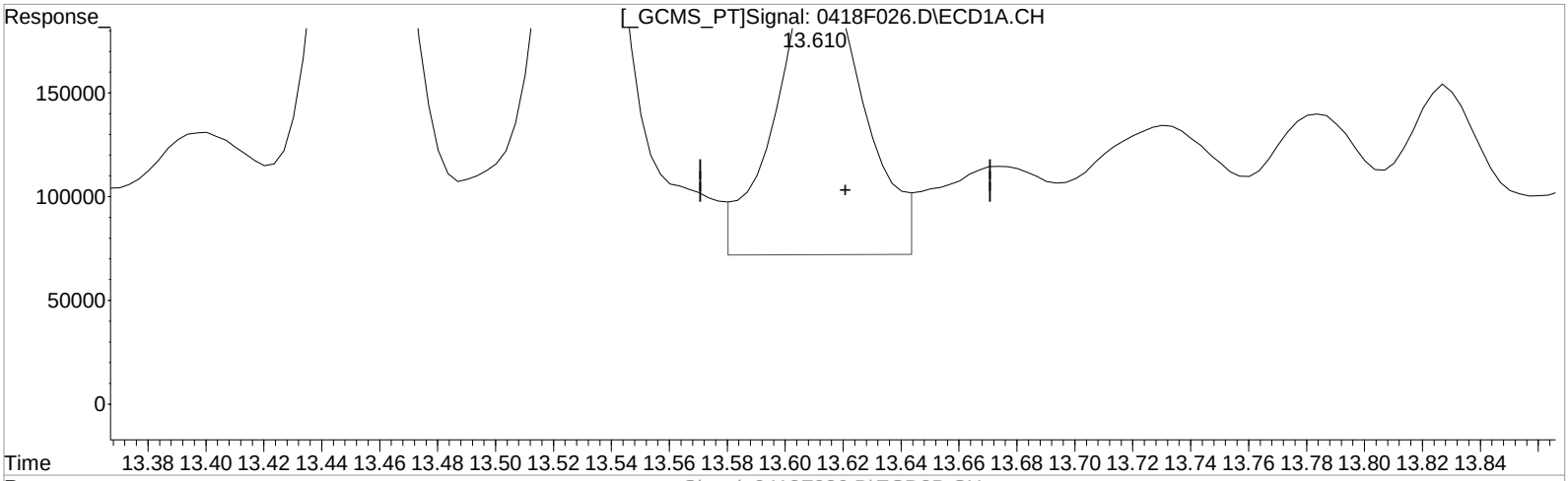
Quantitation Report (Qedit)

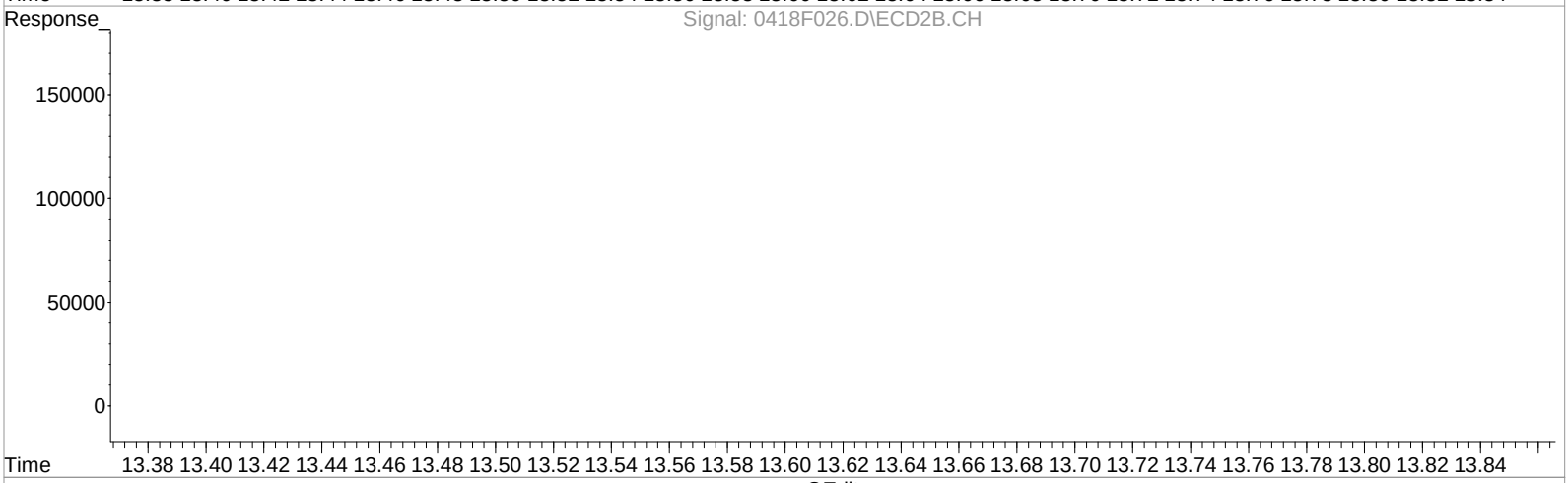
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.610min 236.262 ug/L

response 291430

Manual Integration:

Before

04/21/20

(42) Chlordane {6} #2

12.124min 379.891 ug/L

response 2296140

(+) = Expected Retention Time

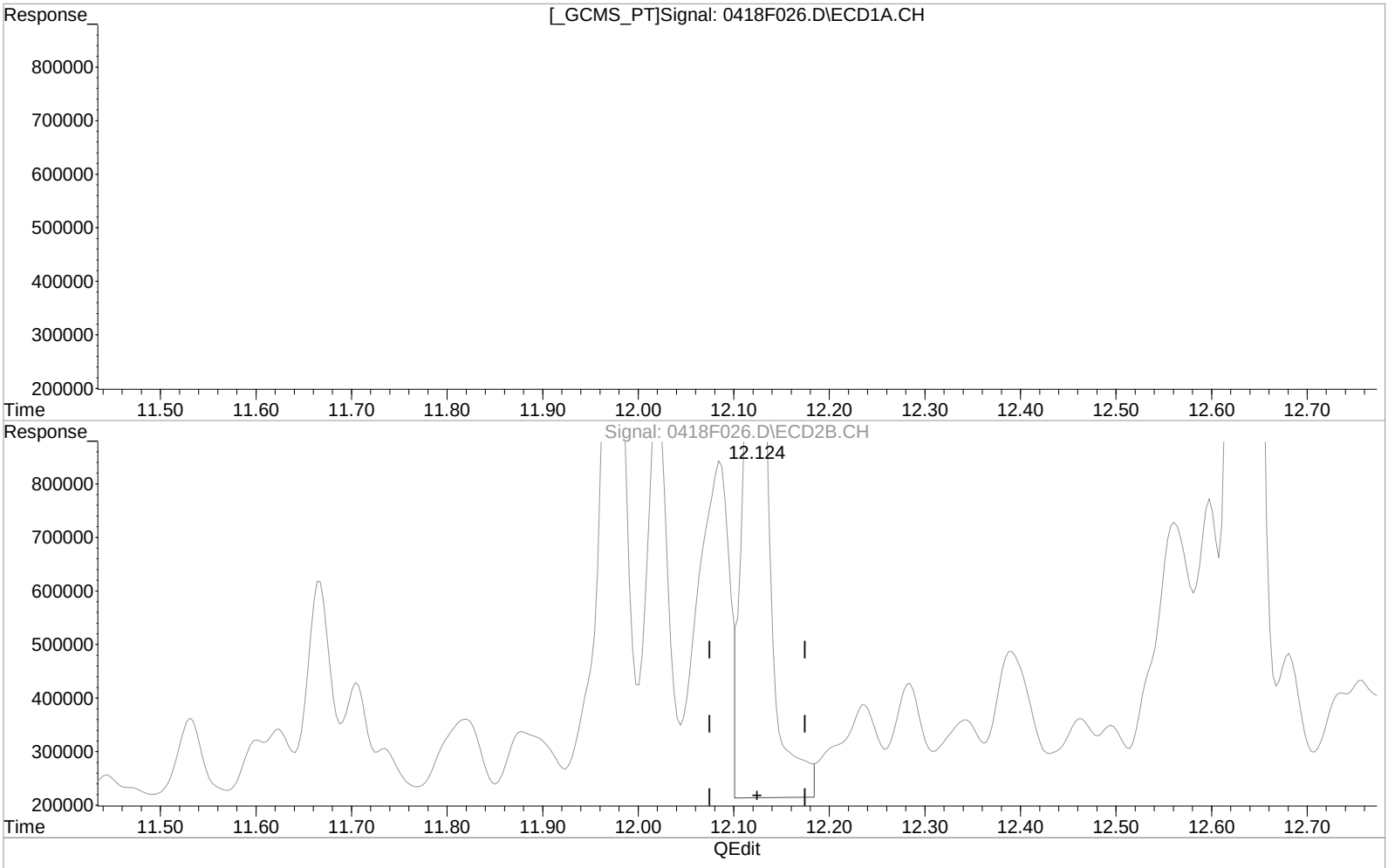
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(42) Chlordane {6}

13.610min 170.485 ug/L m

response 210294

Manual Integration:

Before

04/21/20

(42) Chlordane {6} #2

12.124min 379.891 ug/L

response 2296140

(+) = Expected Retention Time

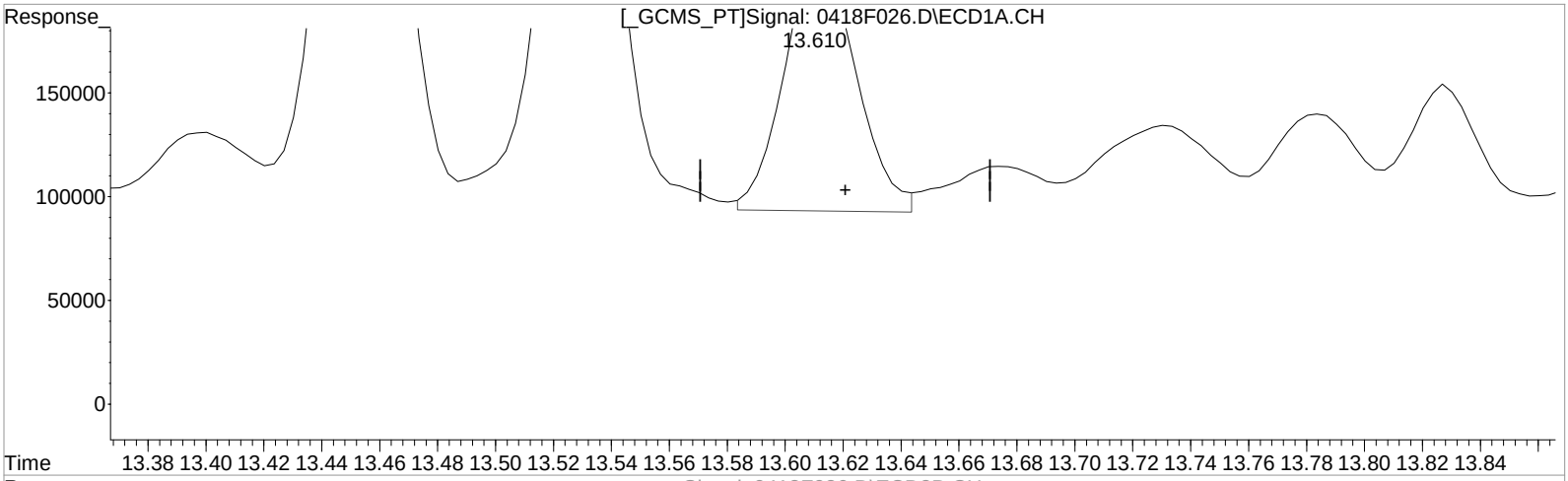
Quantitation Report (Qedit)

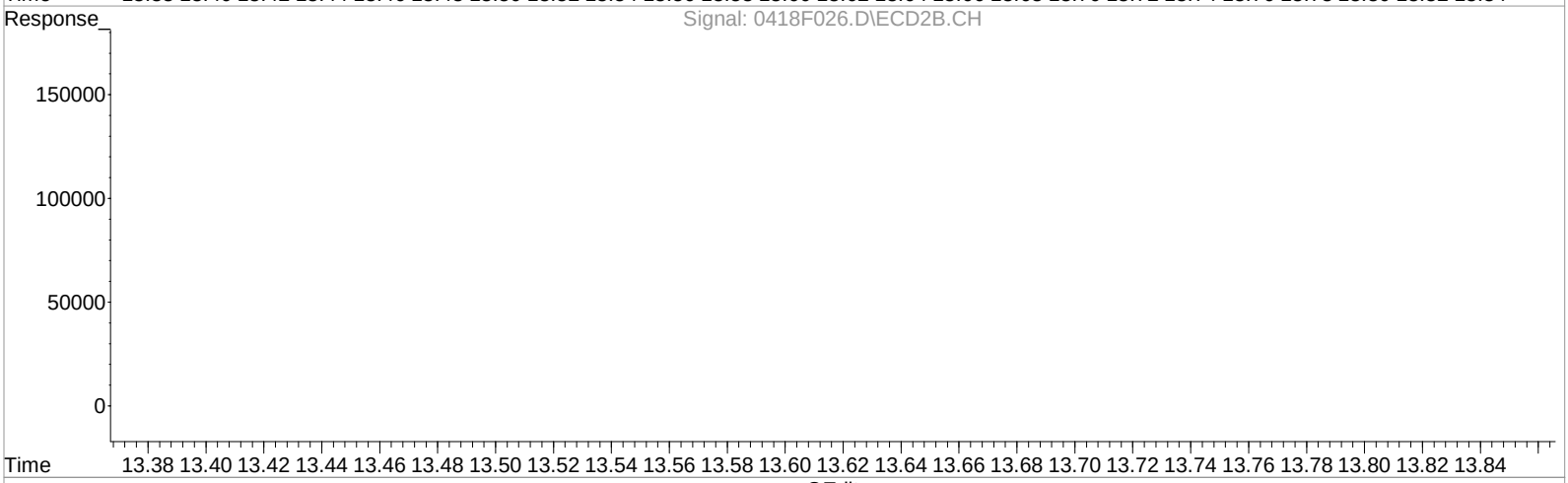
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.610min 170.485 ug/L m

response 210294

Manual Integration:

After

Baseline correction

04/21/20

(42) Chlordane {6} #2

12.124min 379.891 ug/L

response 2296140

(+) = Expected Retention Time

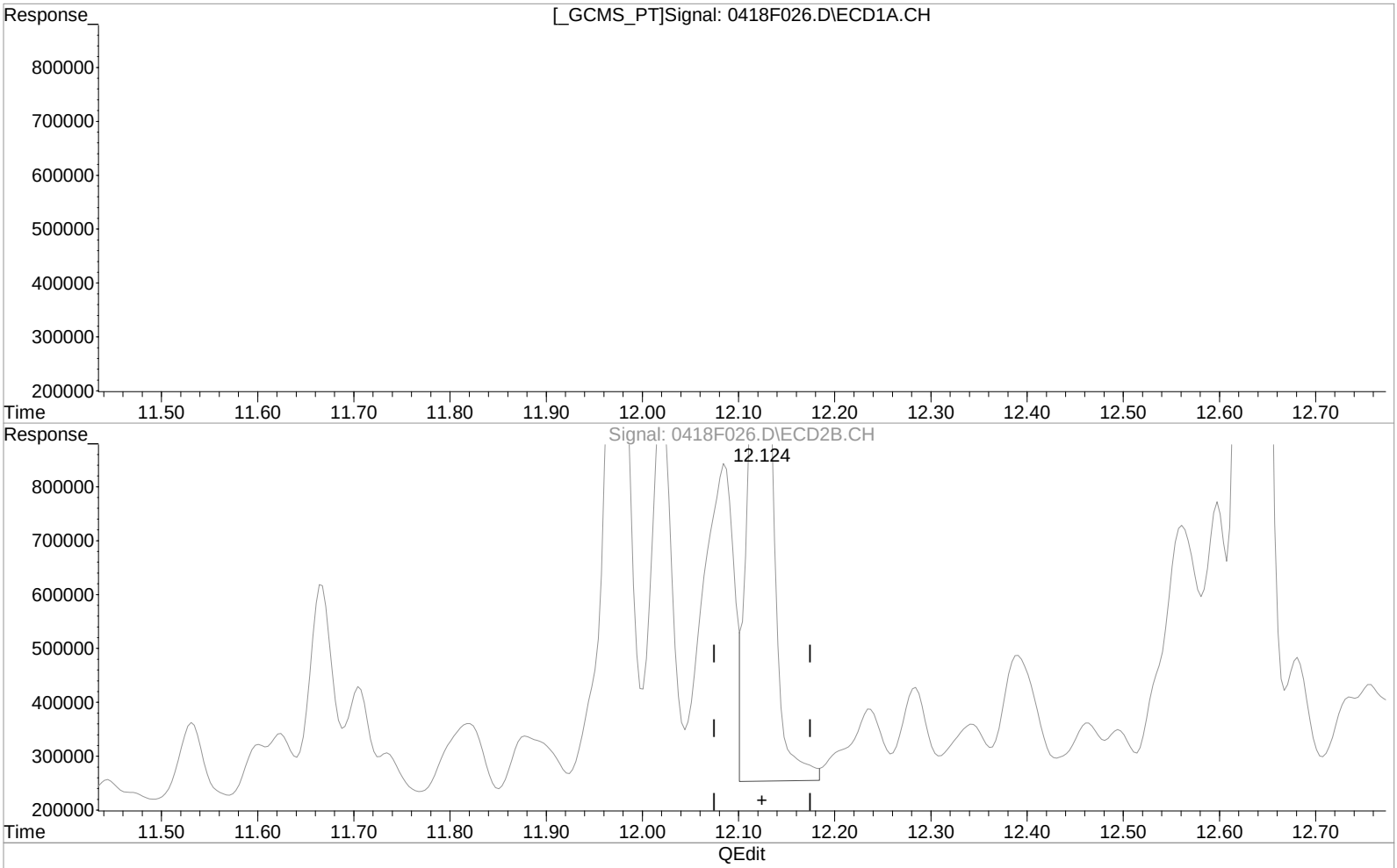
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(42) Chlordane {6}

13.610min 170.485 ug/L m

response 210294

Manual Integration:

After

Baseline correction

04/21/20

(42) Chlordane {6} #2

12.124min 346.853 ug/L m

response 2096447

(+) = Expected Retention Time

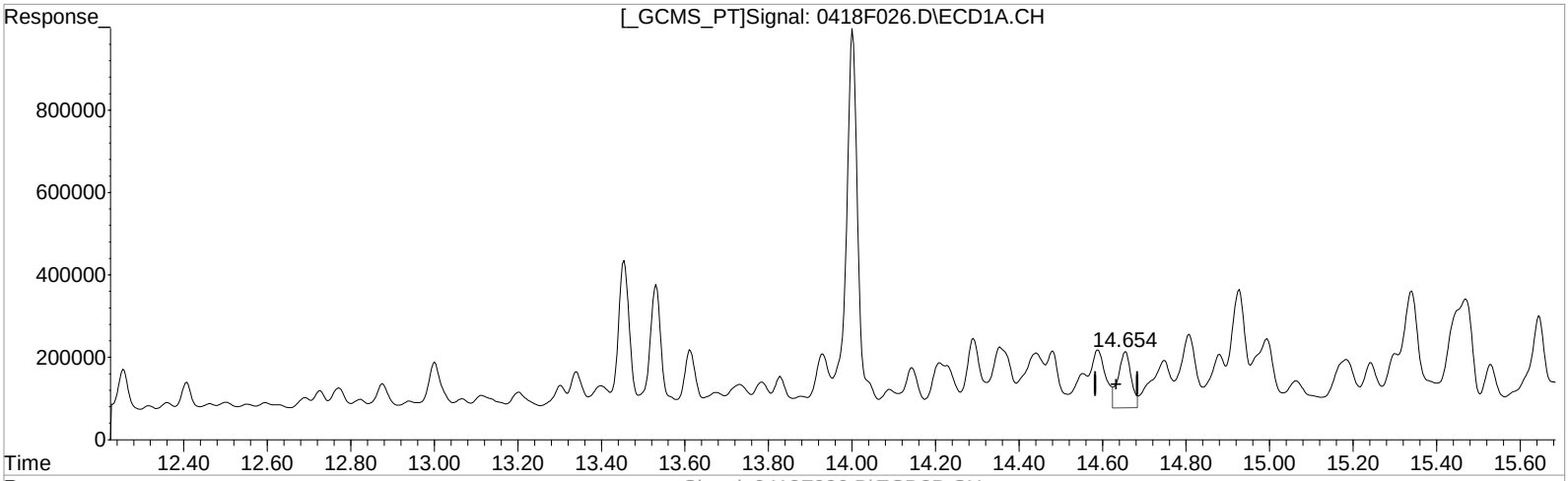
Quantitation Report (Qedit)

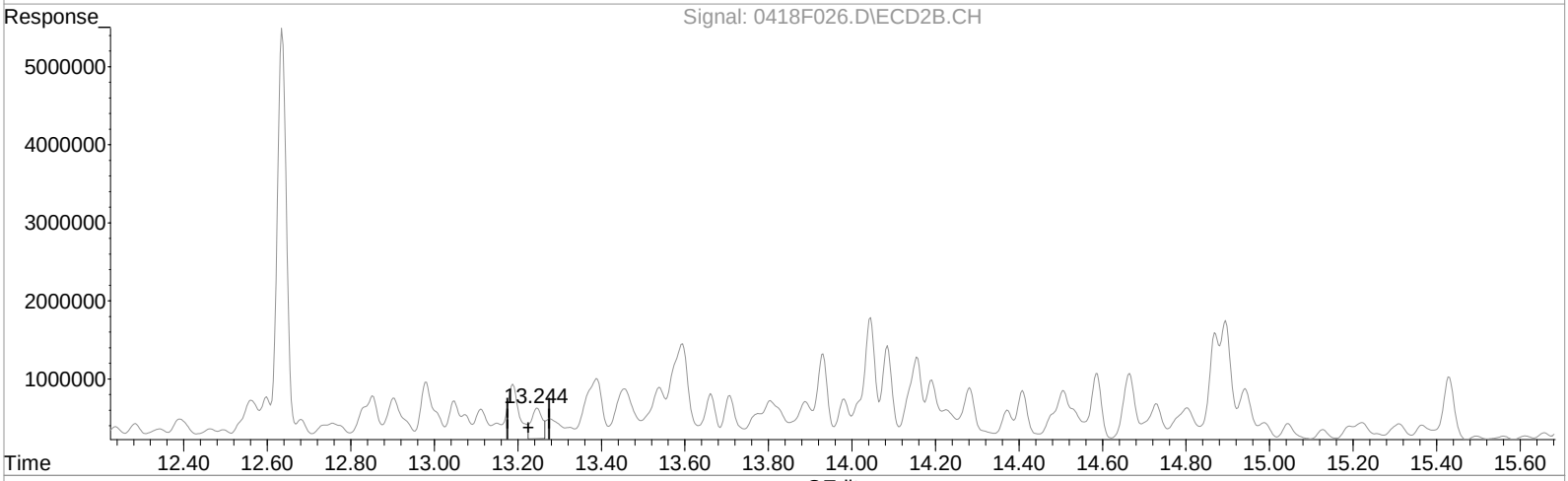
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.654min 16.307 ug/L

response 294960

(46) cis-Nonachlor #2

13.244min 10.622 ug/L

response 713023

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

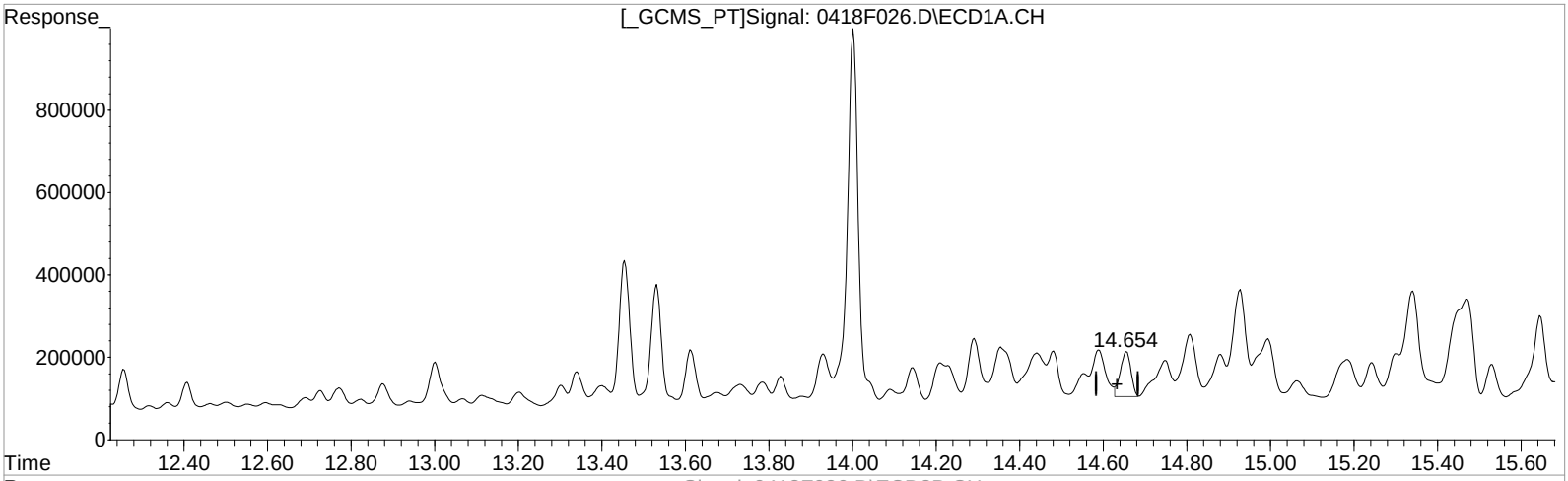
Quantitation Report (Qedit)

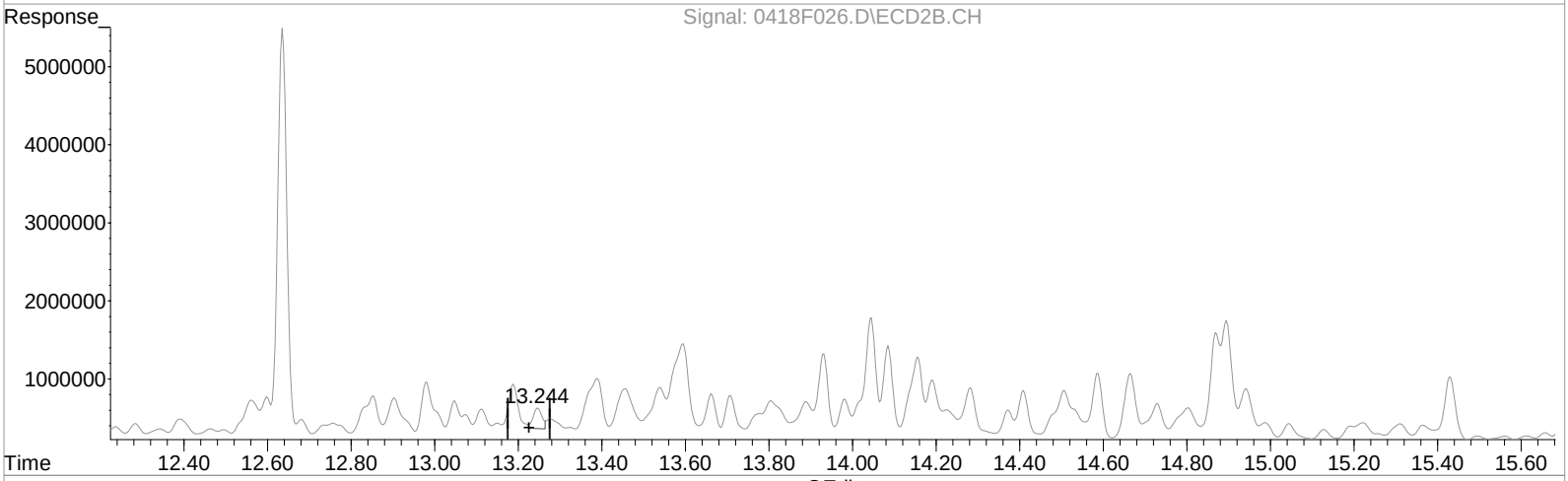
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.654min 10.698 ug/L m

response 193512

(46) cis-Nonachlor #2

13.244min 5.888 ug/L m

response 395231

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

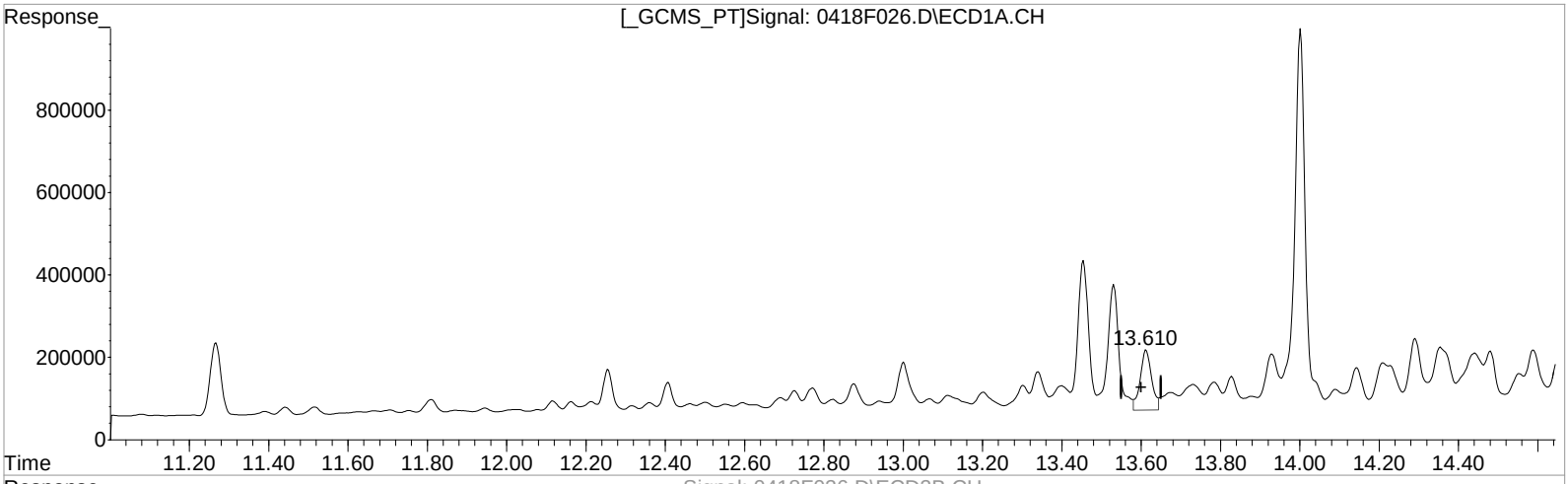
Quantitation Report (Qedit)

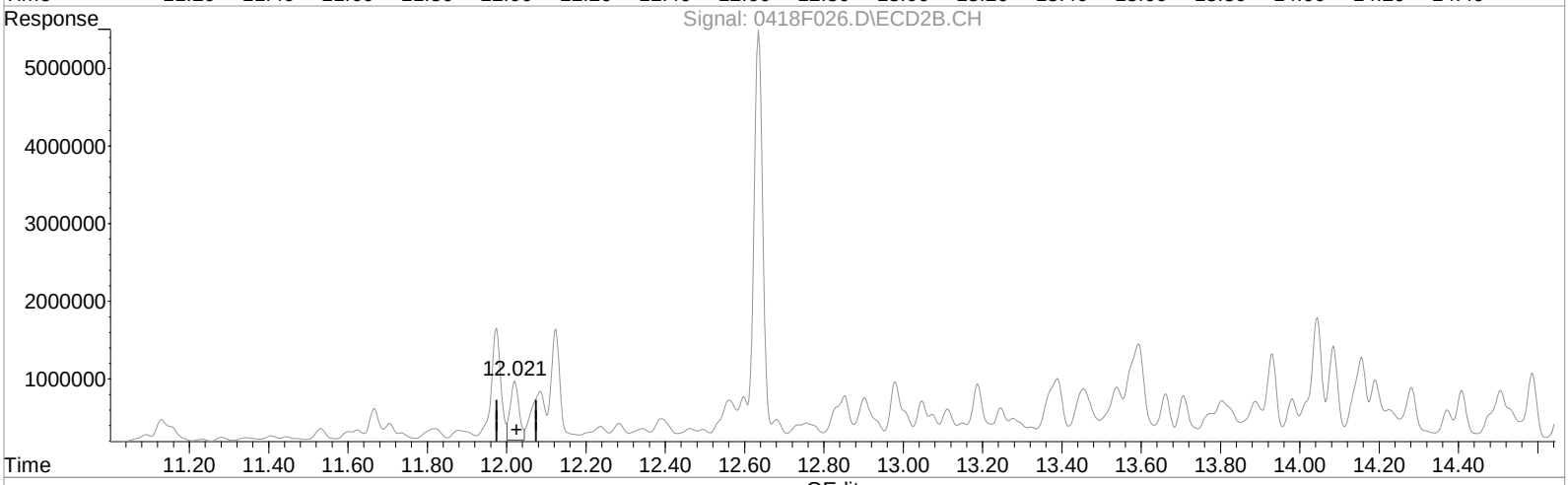
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(47) trans-Nonachlor

13.610min 16.028 ug/L

response 291430

(47) trans-Nonachlor #2

12.021min 17.411 ug/L

response 1154116

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

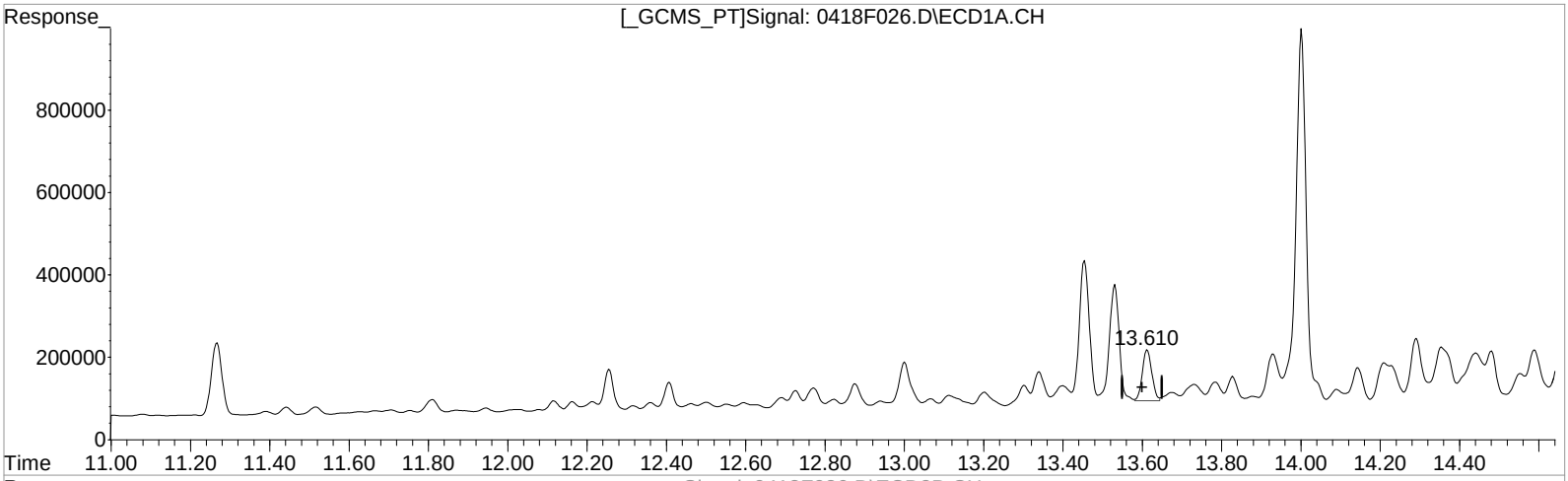
Quantitation Report (Qedit)

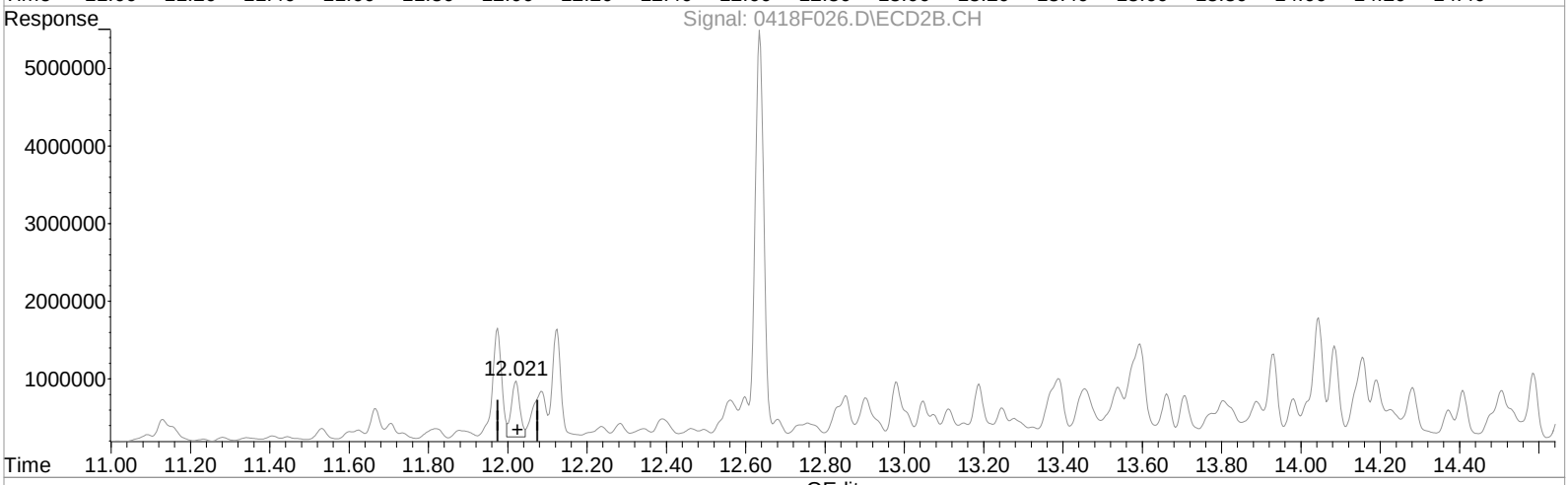
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(47) trans-Nonachlor

13.610min 11.318 ug/L m

response 205795

(47) trans-Nonachlor #2

12.021min 16.295 ug/L m

response 1080184

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

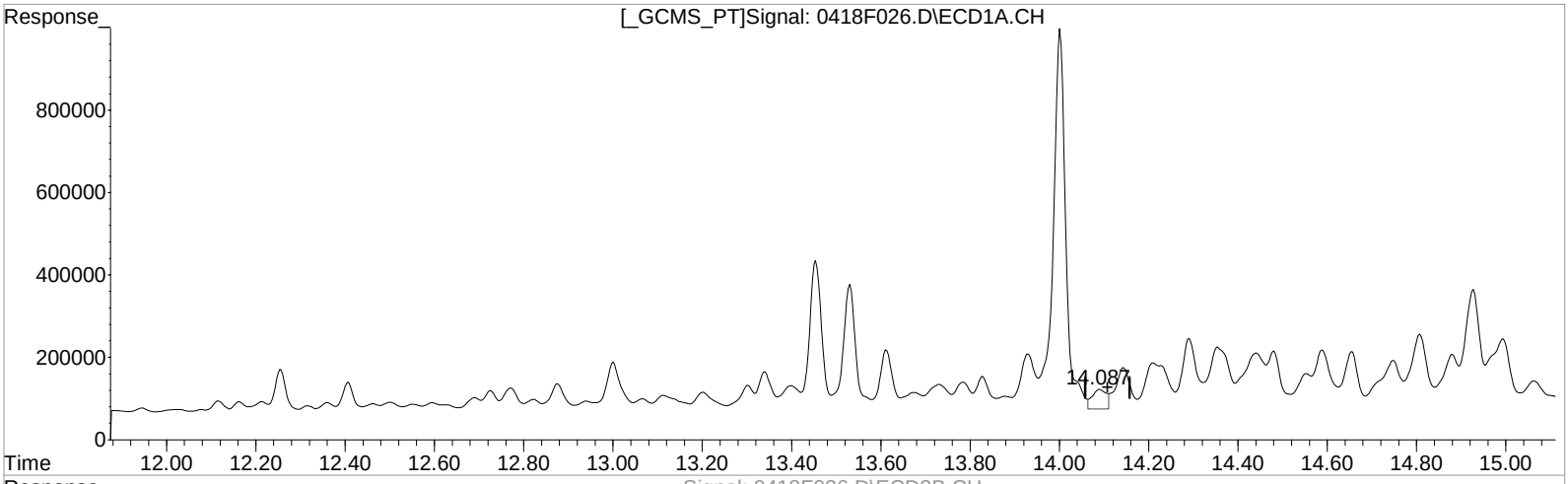
Quantitation Report (Qedit)

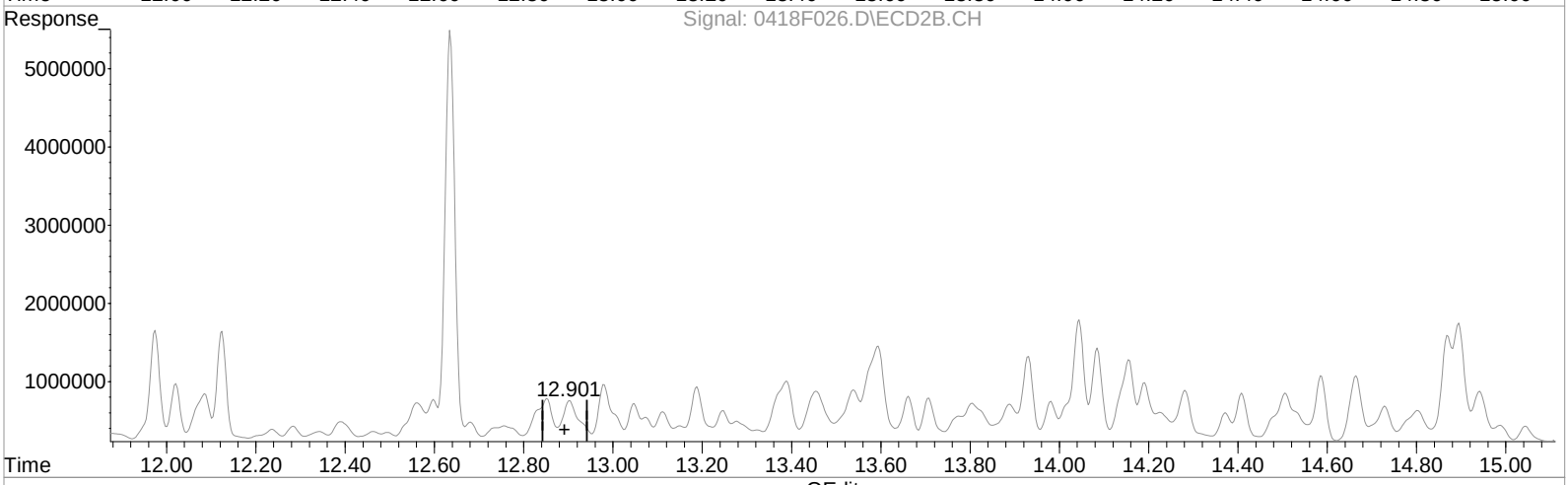
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(52) Perthane

14.087min 211.897 ug/L

response 108895

Manual Integration:

Before

04/21/20

(52) Perthane #2

12.901min 844.474 ug/L

response 1409203

(+) = Expected Retention Time

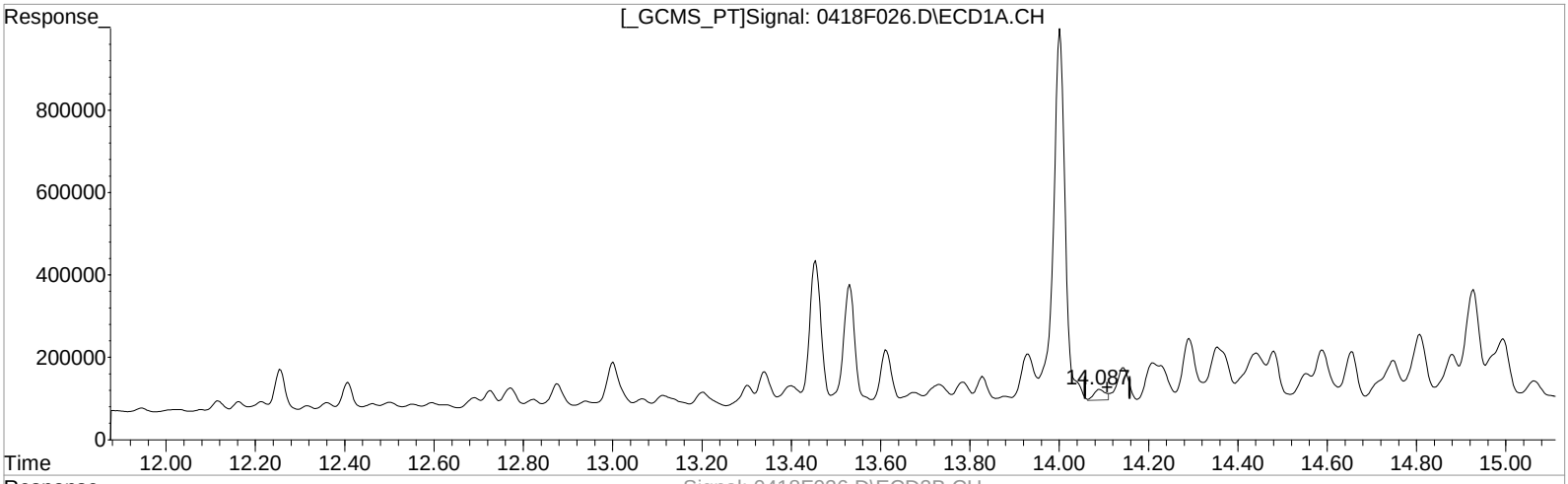
Quantitation Report (Qedit)

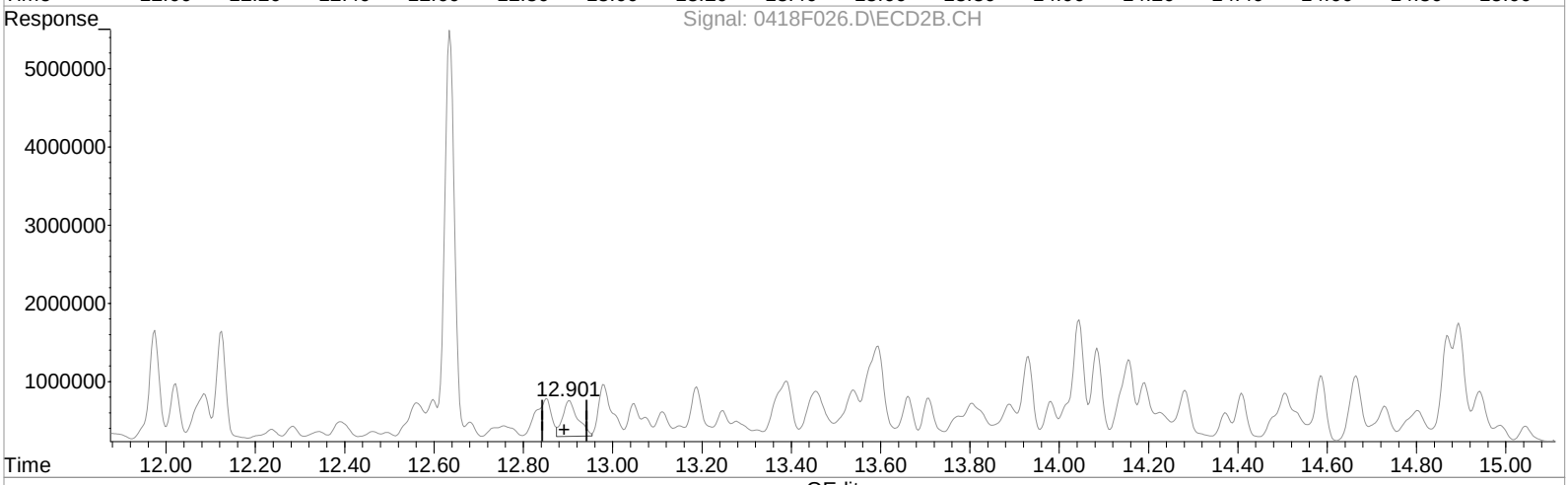
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(52) Perthane

14.087min 94.663 ug/L m

response 48648

(52) Perthane #2

12.901min 646.402 ug/L m

response 1078674

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

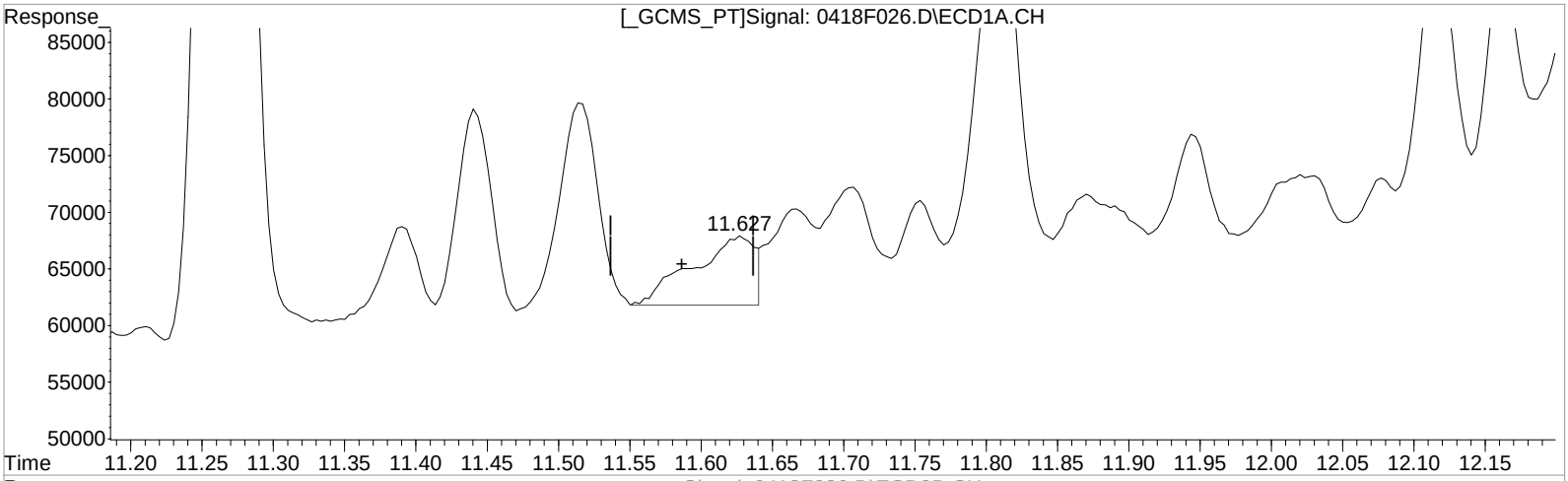
Quantitation Report (Qedit)

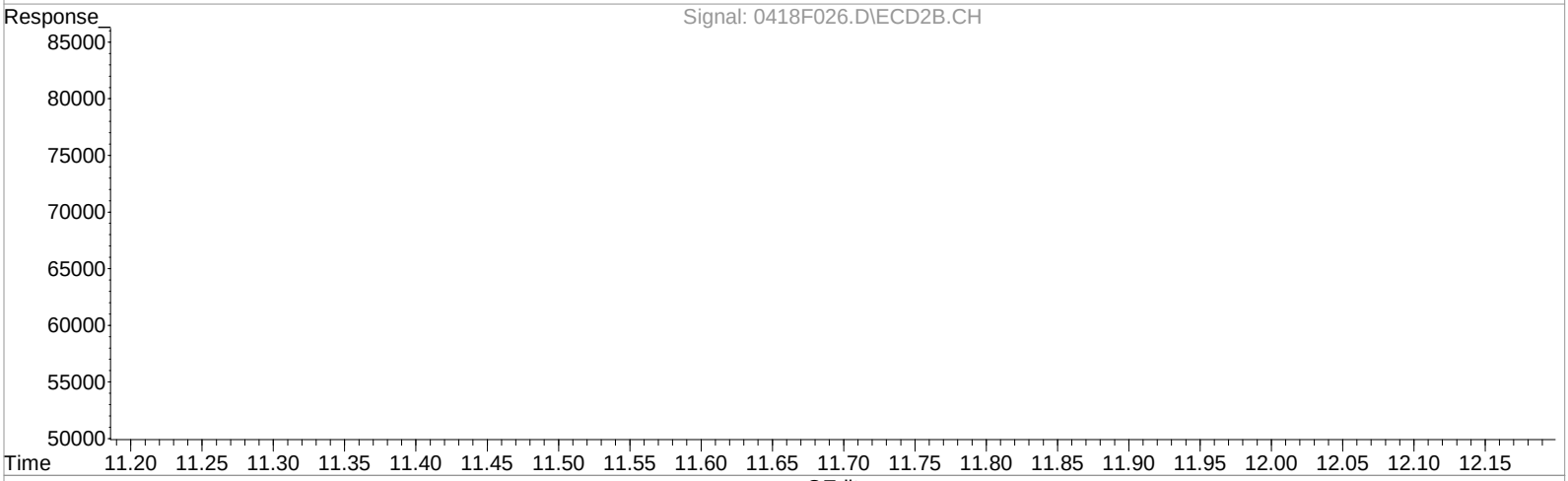
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(7) delta-BHC

11.627min 1.059 ug/L

response 18642

Manual Integration:

Before

04/21/20

(7) delta-BHC #2

10.301min 1.148 ug/L

response 78889

(+) = Expected Retention Time

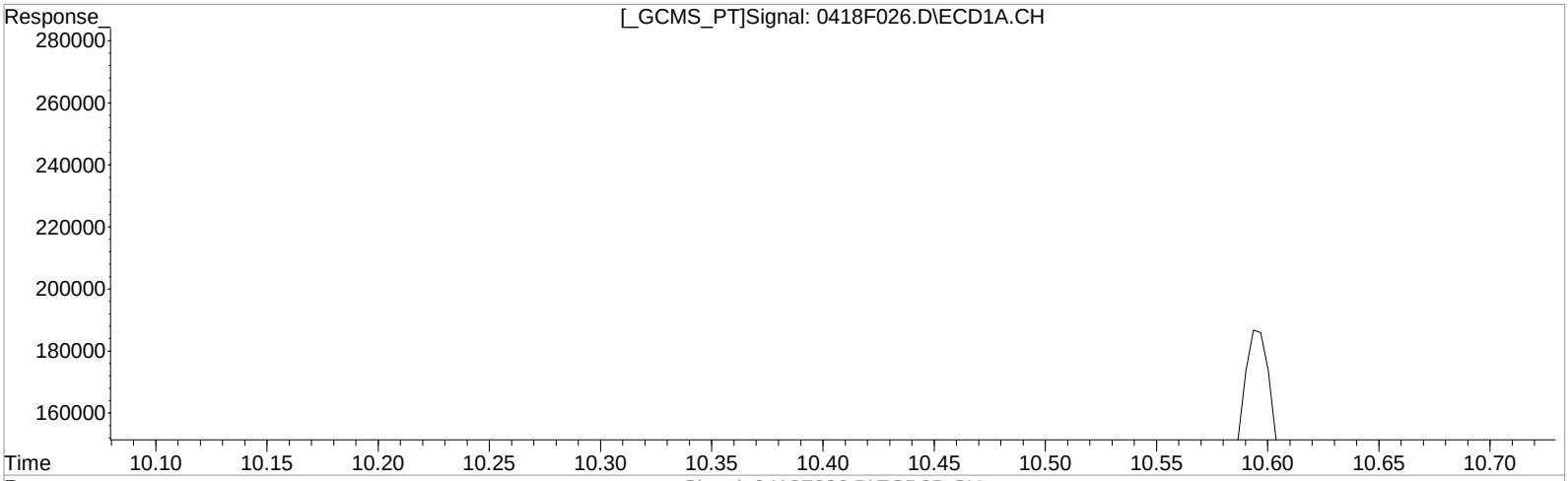
Quantitation Report (Qedit)

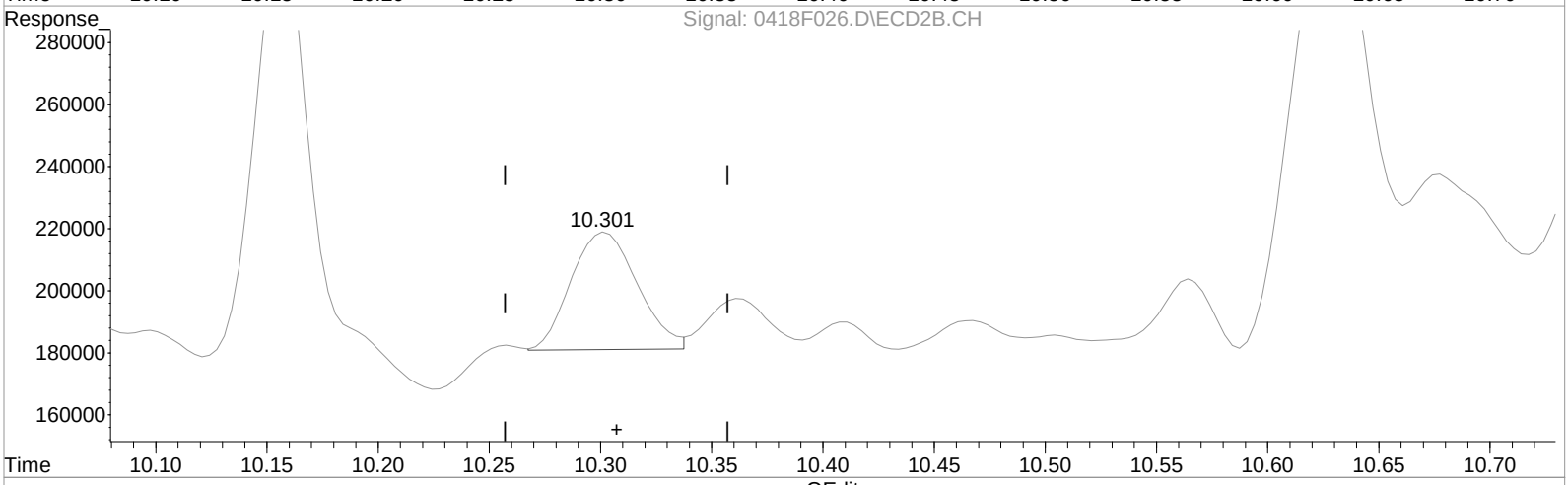
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(7) delta-BHC

11.597min 0.295 ug/L m

response 5193

(7) delta-BHC #2

10.301min 1.148 ug/L

response 78889

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

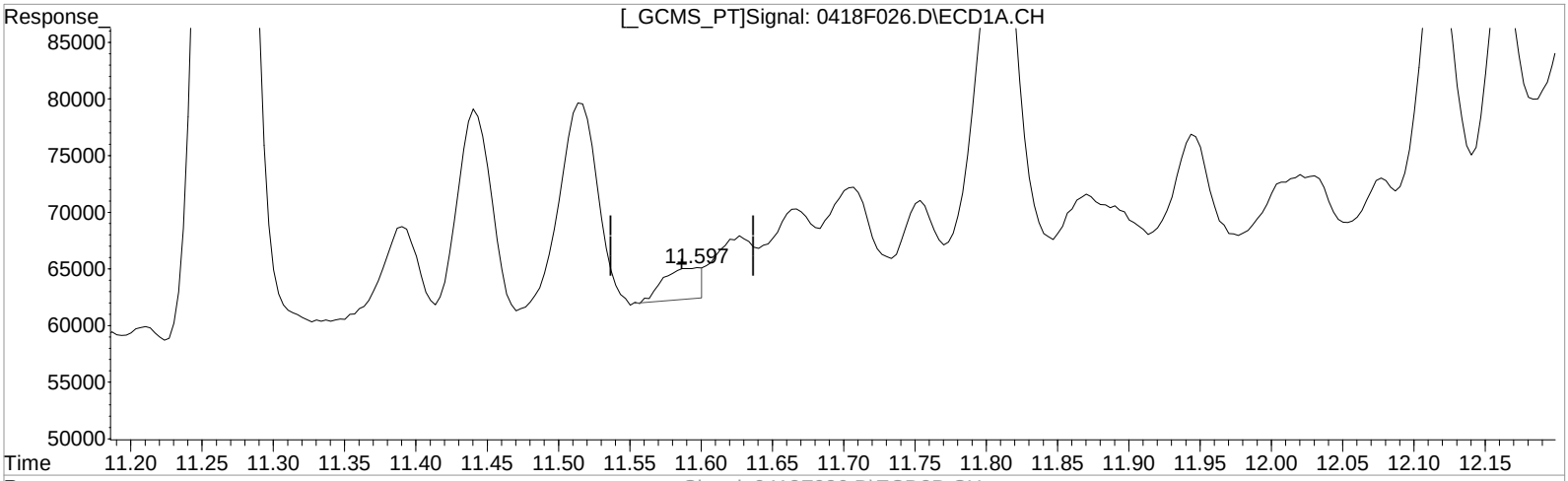
Quantitation Report (Qedit)

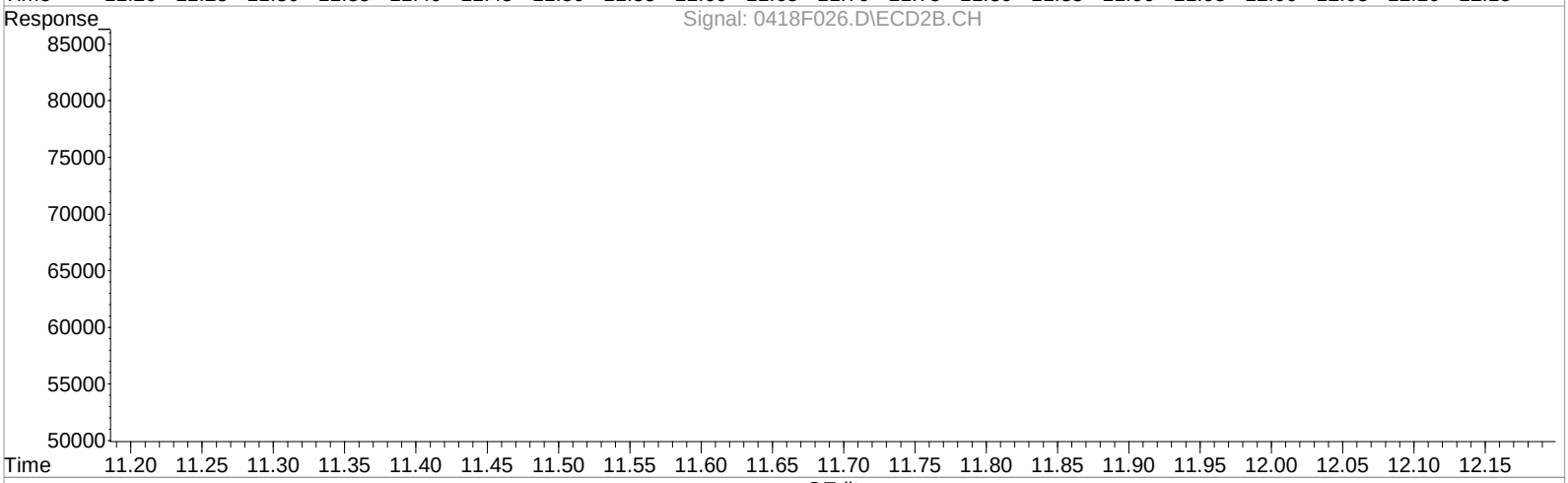
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(7) delta-BHC

11.597min 0.295 ug/L m

response 5193

Manual Integration:

After

Baseline correction

04/21/20

(7) delta-BHC #2

10.301min 1.148 ug/L

response 78889

(+) = Expected Retention Time

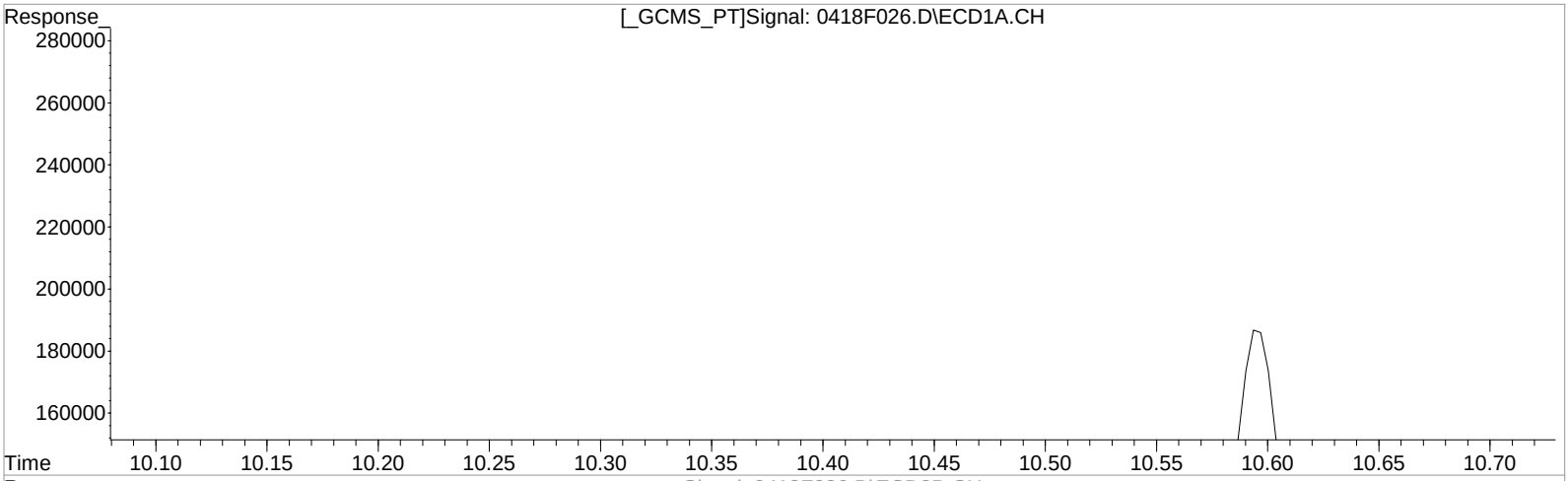
Quantitation Report (Qedit)

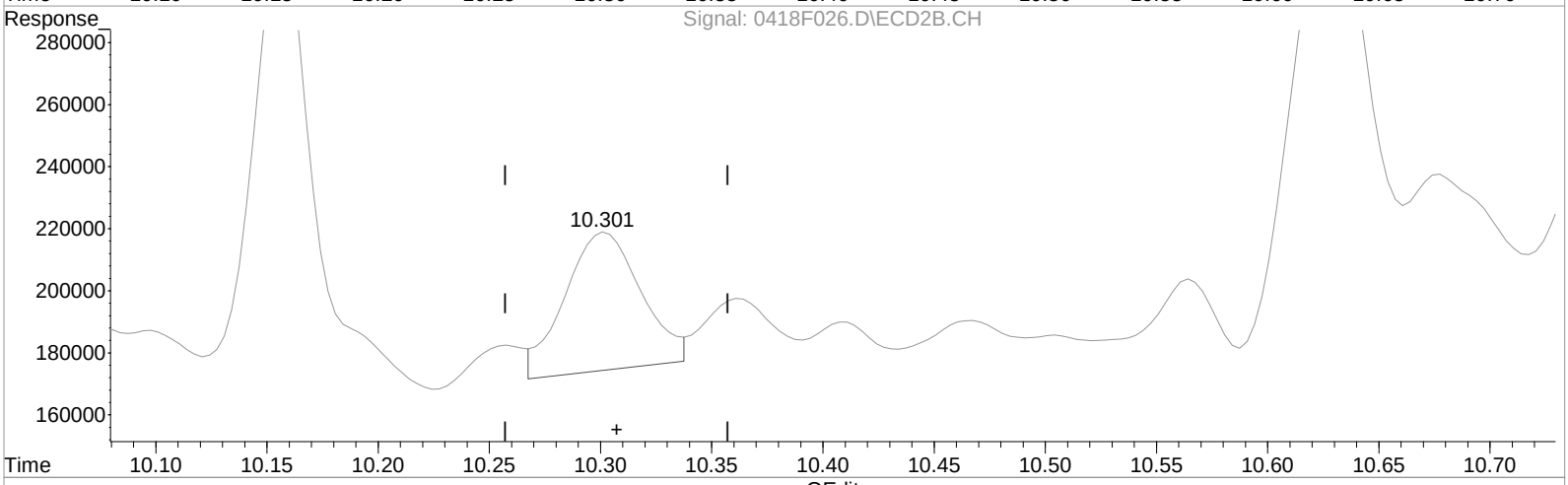
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(7) delta-BHC

11.597min 0.295 ug/L m

response 5193

Manual Integration:

After

Baseline correction

04/21/20

(7) delta-BHC #2

10.301min 1.552 ug/L m

response 106596

(+) = Expected Retention Time

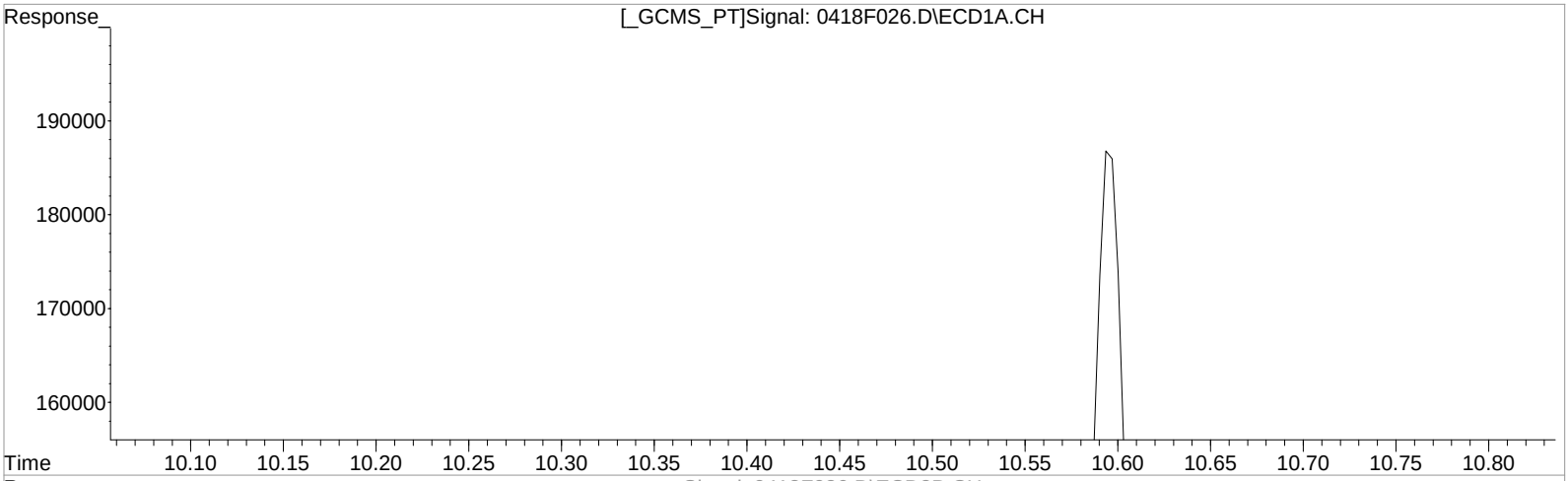
Quantitation Report (Qedit)

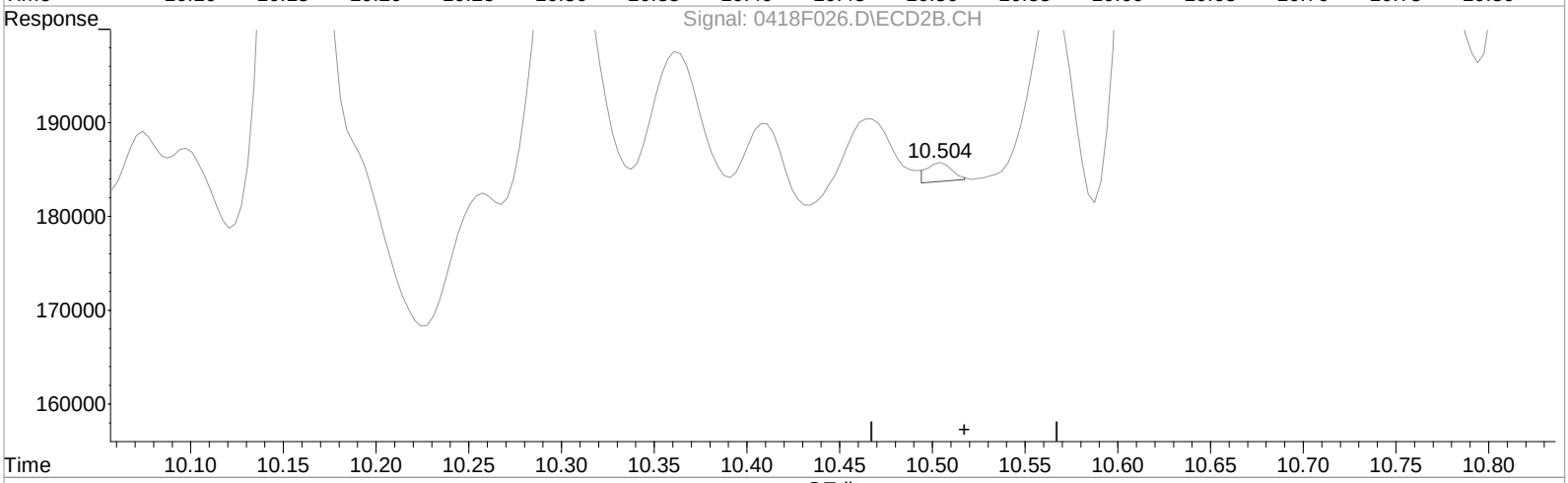
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(9) Aldrin

12.214min 2.017 ug/L

response 34911

Manual Integration:

Before

04/21/20

(9) Aldrin #2

10.504min 0.026 ug/L

response 1846

(+) = Expected Retention Time

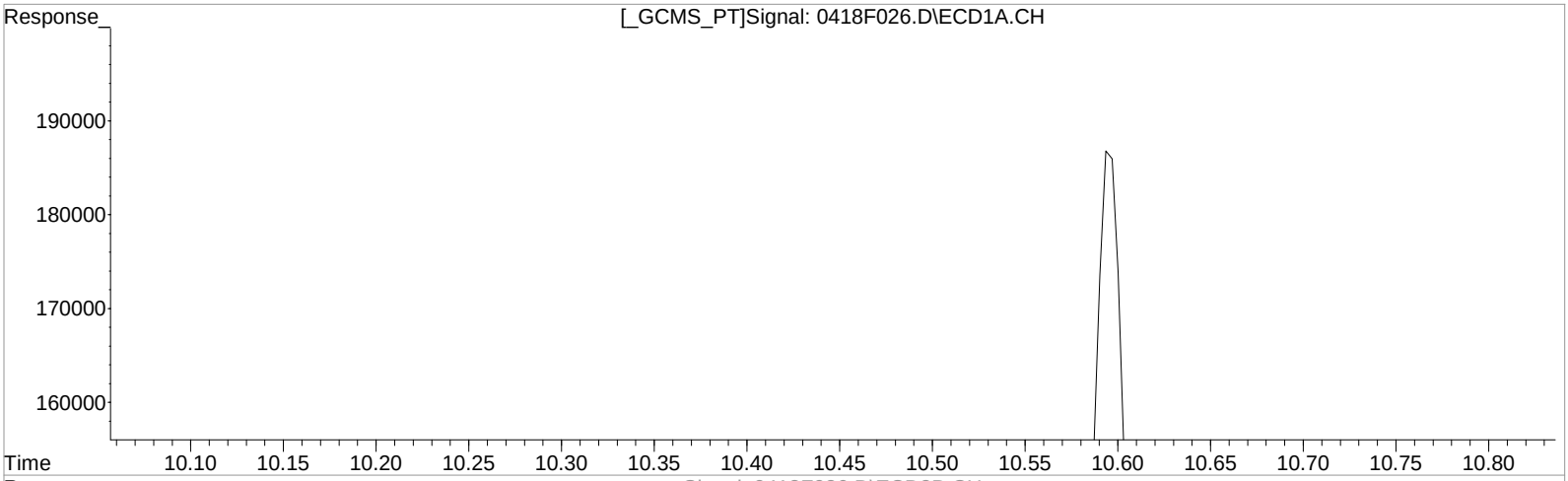
Quantitation Report (Qedit)

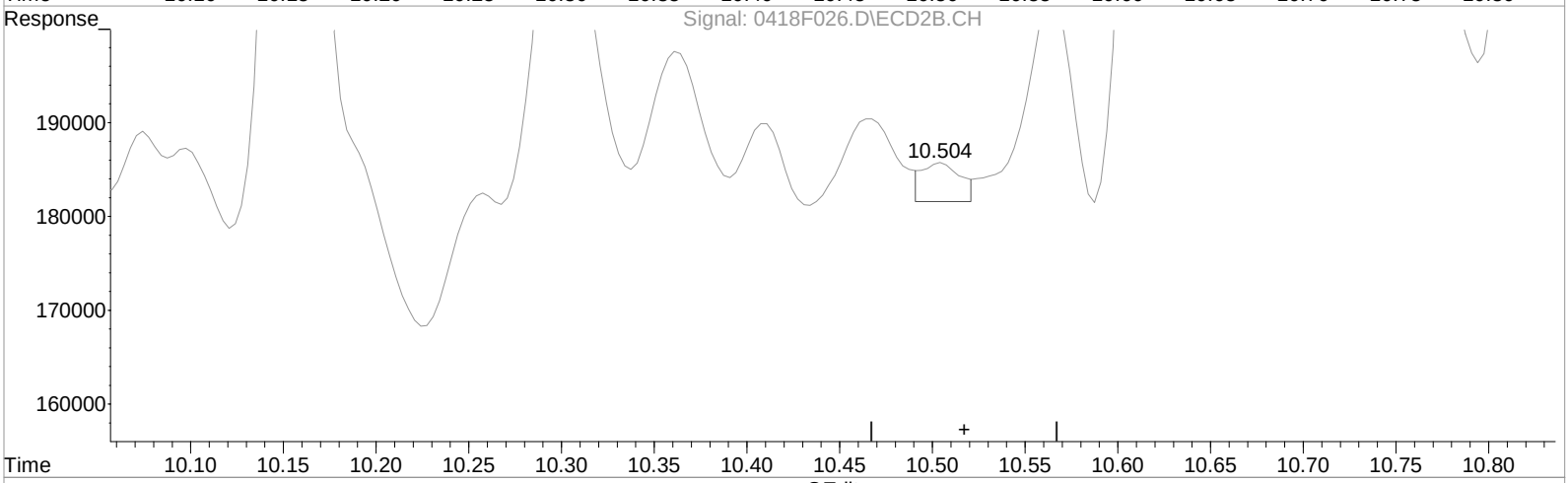
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F026.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:57 am Operator: LM
Sample : K2002652-008 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:15:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(9) Aldrin

12.214min 2.017 ug/L

response 34911

(9) Aldrin #2

10.504min 0.084 ug/L m

response 6010

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

1st STM 04/25/20
2nd 04/27/20

Validation Report

Data File: J:\GC23\data\042220\0422F022.D\
Lab ID: K2002652-008
RunType: N/A
Matrix: Water

Date Acquired: 4/22/20 21:23:00
Batch ID: 677794
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	cis-Chlordane	13.52			NR
	trans-Chlordane	13.44			
	Chlordane {4}	13.44			
	Chlordane {5}	13.52			
	Chlordane {6}	13.60			
	4,4'-DDD	14.64			
	Endosulfan I	13.60			
	Endosulfan II	14.80			
	Endrin Aldehyde	14.98			
	cis-Nonachlor	14.64			
	trans-Nonachlor	13.60			
	Toxaphene {2}	14.80			
	Toxaphene {4}	14.98			
	1-Bromo-2-nitrobenzene	6.19			SA
	1-Bromo-2-nitrobenzene {2}	6.19			
	1-Bromo-2-nitrobenzene {3}	6.19			
	1-Bromo-2-nitrobenzene {4}	6.19			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.11			NR
	trans-Chlordane	11.96			
	Chlordane {4}	11.96			
	Chlordane {5}	12.01			
	Chlordane {6}	12.11			
	4,4'-DDD	13.38			

Primary Review: _____

Secondary Review: _____

1st STM 04/25/20
2nd 04/27/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	2,4'-DDE	12.01			NR
	2,4'-DDT	13.23			
	Endrin Aldehyde	13.92			
	cis-Nonachlor	13.23			
	trans-Nonachlor	12.01			
	Toxaphene {1}	13.38			
	Toxaphene {5}	13.92			
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/25/20
2nd 04/27/20

Quantitation Report

Data File:	J:\GC23\data\042220\0422F022.D\	**Instrument:**	K-GC-23
Acqu Date:	4/22/20 21:23:00	**Vial:**	5
Run Type:	N/A	**Dilution:**	20
Lab ID:	K2002652-008	**Raw Units:**	ug/L

Bottle ID:	K2002652-008.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677794	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19	c	5.48	c	949965	4593462	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.19	c	5.48	c	949965	4593462	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.19	c	5.48	c	949965	4593462	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.66	17.05	4078	16941	0.241	0.229	96	92	92	14 - 160	N
Tetrachloro-m-xylene	8.97	7.25 -0.01	5216	17443	0.379	0.306	152*	122	122	30 - 148	N

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	12.20	0.00	2282	0	0.150	0.000	15U	0U	16 U	N
alpha-BHC	9.81	8.49	1272	7236	0.080	0.099	8.0J	9.9J	**8.0** J	N
beta-BHC	0.00	9.77	0	7484	0.000	0.217	0U	22	3.4 U	N
gamma-BHC (Lindane)	10.48	9.23	6647	29017	0.434	0.410	43	41	**41**	N
Chlordane					18.9854	17.1135	1900	1700	**1700**	N
Chlordane {1}	11.25	9.56	20191	37078	31.178	14.787	3100	1500	P	
Chlordane {2}	0.00	11.65	0	30167	0.000	17.641	0	1800		
Chlordane {3}	12.25	11.81	9167	22901	15.571	20.173	1600	2000		
Chlordane {4}	13.44 c	11.96 c	33521	122188	18.757	17.772	1900	1800		
Chlordane {5}	13.52 c	12.01 c	27671	59901	18.720	14.229	1900	1400		
Chlordane {6}	13.60 c	12.11 c	11612	110200	10.701	18.079	1100	1800	P	
Dieldrin	13.99	12.62	88938	373995	5.674	5.543	570	550	**550**	Y
Heptachlor	0.00	9.93 +0.02	0	59279	0.000	0.824	0U	82	13 U	N
Heptachlor Epoxide	0.00	11.59	0	6354	0.000	0.090	0U	9.0J	5.8 U	N
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	5.4 U	N
Toxaphene					96.1865	127.762	9600	13000	**9600**	N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 8:30
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/25/20
2nd 04/27/20

Data File:	J:\GC23\data\042220\0422F022.D\	**Instrument:**	K-GC-23
Acqu Date:	4/22/20 21:23:00	**Vial:**	5
Run Type:	N/A	**Dilution:**	20
Lab ID:	K2002652-008	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74		13.38	c	12818	87239	82.121	85.470	8200	8500		
Toxaphene {2}	14.80	c	13.44		14088	60214	99.785	76.677	10000	7700		
Toxaphene {3}	14.92		13.58		18201	125765	64.698	127.381	6500	13000		P
Toxaphene {4}	14.98	c	13.65		20434	37808	108.003	105.365	11000	11000		
Toxaphene {5}	15.33		13.92	c	25243	73535	140.020	133.747	14000	13000		
Toxaphene {6}	15.52		15.41		6812	70864	82.492	237.932	8200	24000		P

Prep Amount:	200 mL	**Dilution:**	20
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 8:30
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st 04/25/20
2nd 04/27/20

1st 04/25/20
2nd 04/27/20

Quantitation Report (QT Reviewed)

1st 04/23/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 16:39:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.190	5.478	949965	4593462	100.000	100.000
29)	1-Bromo-2...	6.190	5.478	949965	4593462	100.000	100.000
36)	1-Bromo-2...	6.190	5.478	949965	4593462	100.000	100.000
43)	1-Bromo-2...	6.190	5.478	949965	4593462	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.967	7.254	5216	17443	0.379	0.306
28) s	Decachlor...	18.657	17.051	4078	16941	0.241m	0.229
	Target Compounds						
3)	alpha-BHC	9.810	8.488	1272	7236	0.080	0.099
5)	beta-BHC	0.000	9.768	0	7484	N.D.	0.217 #
6)	gamma-BHC...	10.480	9.231	6647	29017	0.434	0.410
7)	delta-BHC	11.584	10.288	1021	9179	0.066	0.132m#
8)	Heptachlor	0.000	9.928	0	59279	N.D.	0.824 #
9)	Aldrin	12.204	0.000	2282	0	0.150	N.D. d#
10)	Isodrin	12.764	11.324	4827	8348	0.369	0.138m#
11)	Heptachlo...	0.000	11.588	0	6354	N.D.	0.090 #
12)	gamma-Chl...	13.444	11.961	33521	122188	2.093	1.780
13)	Endosulfan I	13.604	12.224f	11612	17310	0.795	0.280 #
14)	alpha-Chl...	13.520	12.111	27671	110200	1.736	1.585
15)	Dieldrin	13.990	12.624	88938	373995	5.674	5.543
16)	4,4'-DDE	13.817	12.484	4585	10603	0.313	0.163 #
17)	Endrin	14.340f	13.101	17101	28293	1.195	0.441 #
18)	Endosulfa...	14.797	13.531	18466	73470	1.274	1.266
19)	4,4'-DDD	14.644	13.378	10018	56754	0.884	1.167m#
20)	Endrin Al...	14.984	13.918	20434	91093	1.627	1.896
21)	Endosulfa...	15.457	14.268f	23318	61072	1.579m	1.067 #
22)	4,4'-DDT	15.170	13.791	14550	32182	1.221	0.687m#
23)	Endrin Ke...	16.140	15.174	6022	15343	0.380m	0.224m#
24)	Methoxychlor	15.870	14.931	20559	57121	2.846	2.195m
25)	2,4'-DDE	13.190	12.008	3501	59901	0.342	1.413 #
26)	2,4'-DDD	13.920	12.754	10945	7016	1.217	0.191m#
27)	2,4'-DDT	14.427	13.234	15272	20991	1.484	0.526m#
30)	Toxaphene	14.737	13.378	12818	87239	82.121	85.470
31)	Toxaphene...	14.797	13.441	14088	60214	99.785m	76.677m
32)	Toxaphene...	14.917	13.581	18201	125765	64.698m	127.381m#
33)	Toxaphene...	14.984	13.651	20434	37808	108.003	105.365
34)	Toxaphene...	15.330	13.918	25243	73535	140.020	133.747m
35)	Toxaphene...	15.517	15.414	6812	70864	82.492	237.932m#
37)	Chlordane	11.254f	9.558	20191	37078	31.178	14.787 #
38)	Chlordane...	0.000	11.654	0	30167	N.D.	17.641 #
39)	Chlordane...	12.247	11.808	9167	22901	15.571	20.173 #
40)	Chlordane...	13.444	11.961	33521	122188	18.757	17.772
41)	Chlordane...	13.520	12.008	27671	59901	18.720	14.229
42)	Chlordane...	13.604	12.111	11612	110200	10.701	18.079 #
44)	Chlorpyrifos	12.107	10.878	2256	7713	0.258	0.268
45)	Oxychlordane	12.867	11.391	6588	6501	0.435	0.100 #
46)	cis-Nonac...	14.644	13.234	10018	26901	0.630	0.397 #
47)	trans-Non...	13.604	12.008	11612	59901	0.726	0.896
48)	Mirex	17.030f	15.351f	4883	16689	0.369	0.326m

Quantitation Report (QT Reviewed)

1st 04/23/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 16:39:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
52)	Perthane	14.134f	12.891	7438	57073	16.453	33.914	#

SemiQuant Compounds - Not Calibrated on this Instrument

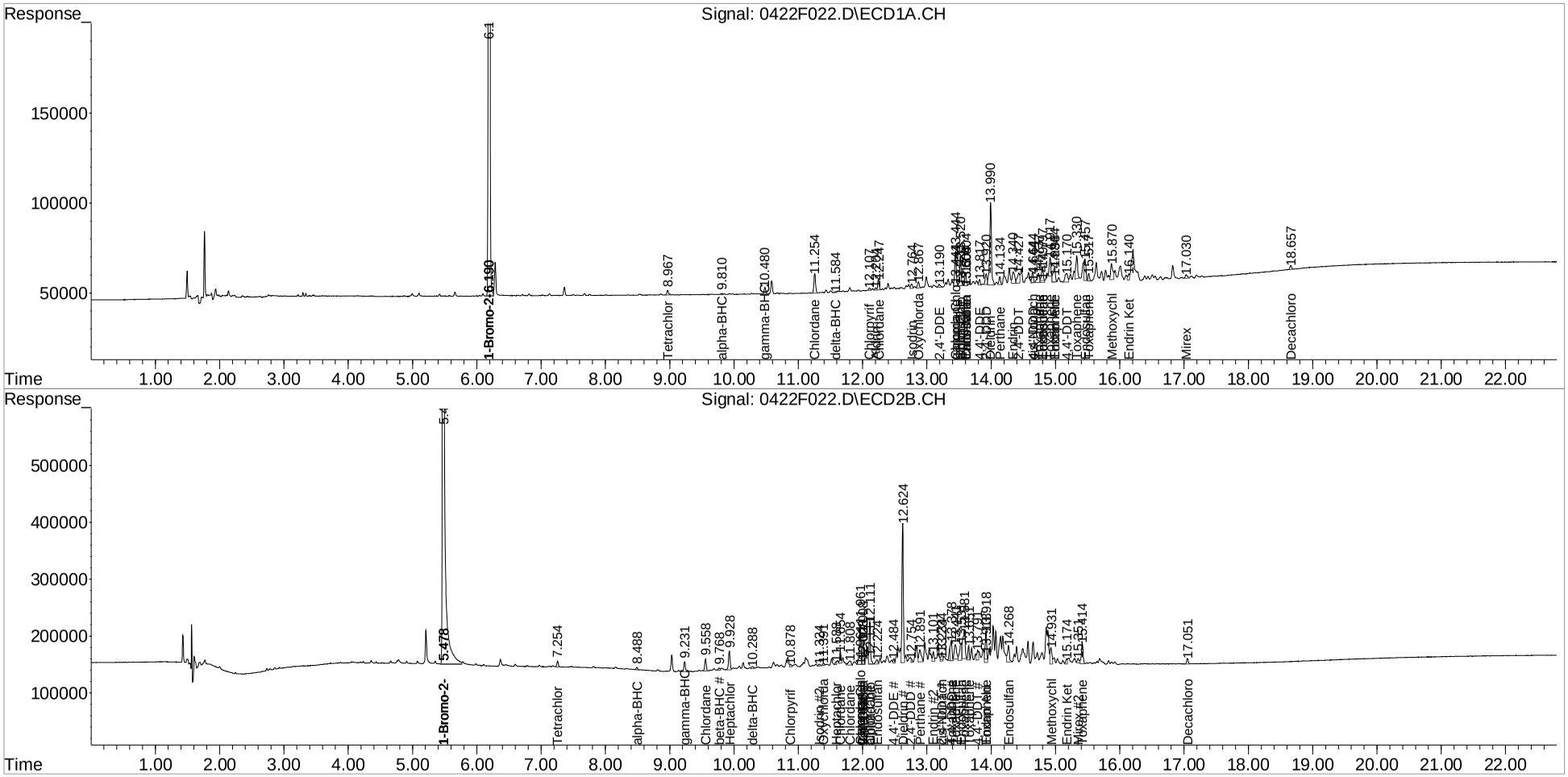
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
egration File signal 1: RTEINT.P
egration File signal 2: RTEINT2.P
Quant Time: Apr 23 16:39:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

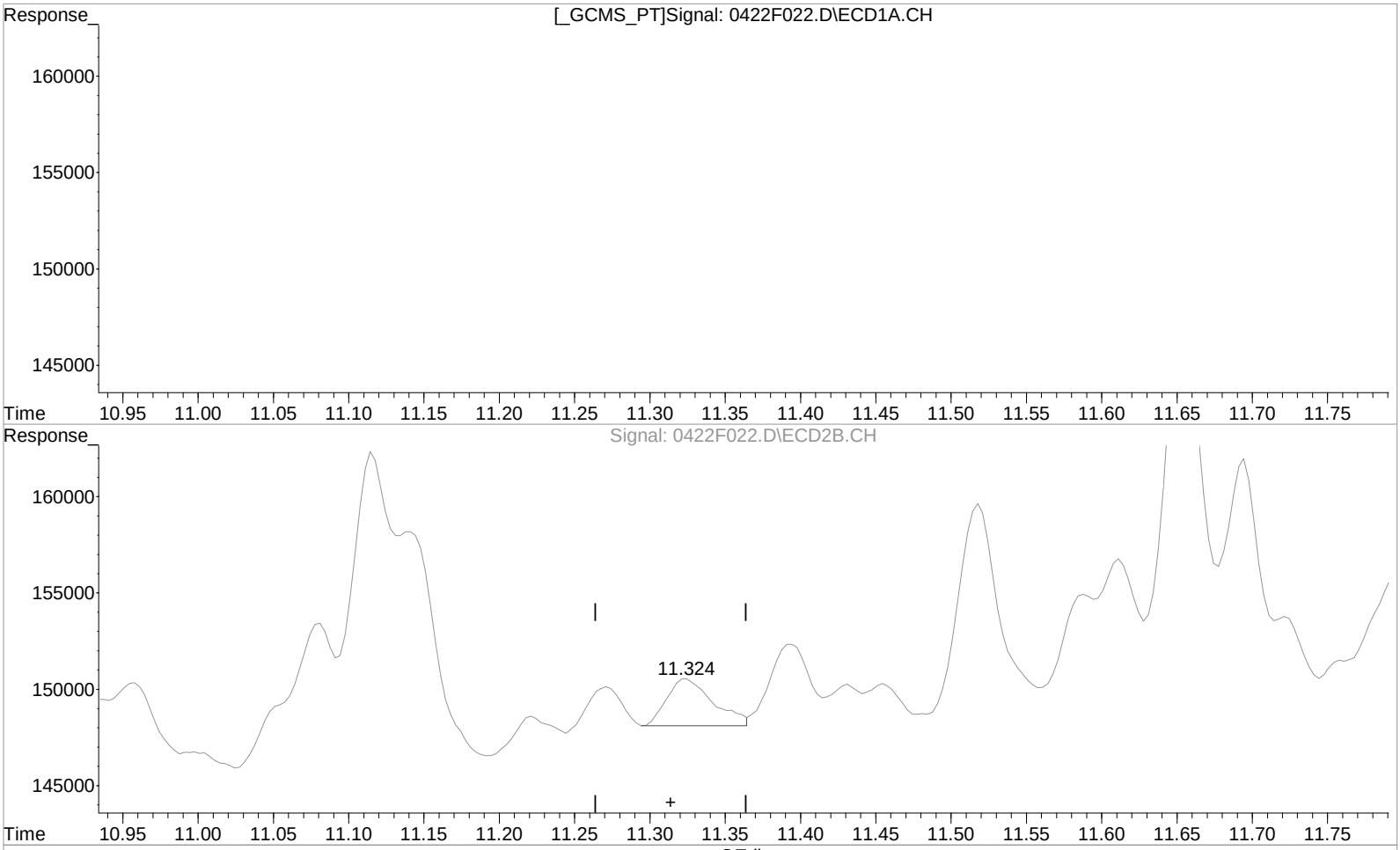
Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(10) Isodrin

12.764min 0.369 ug/L

response 4827

Manual Integration:

Before

04/23/20

(10) Isodrin #2

11.324min 0.086 ug/L

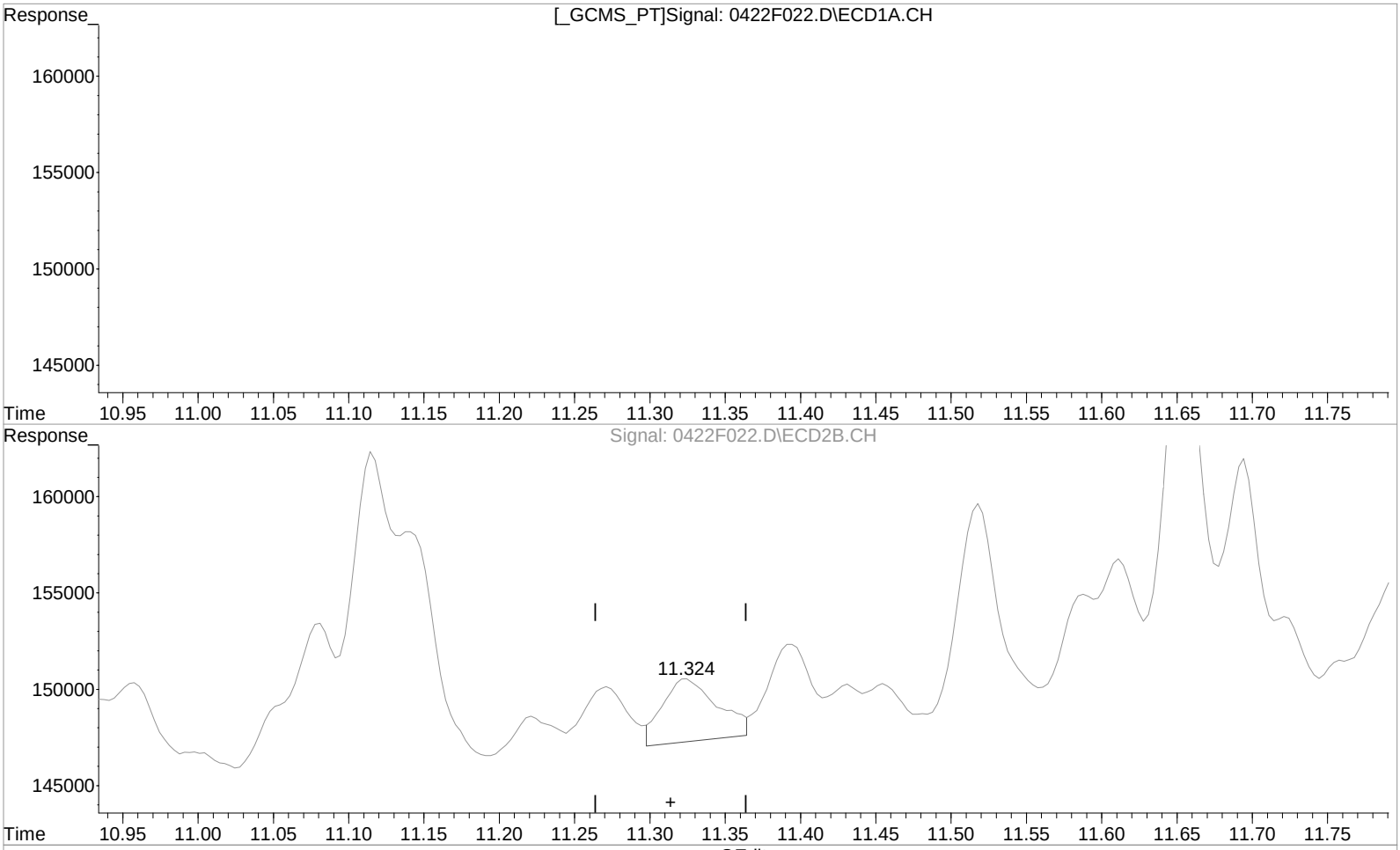
response 5213

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(10) Isodrin

12.764min 0.369 ug/L

response 4827

Manual Integration:

After

Baseline correction

04/23/20

(10) Isodrin #2

11.324min 0.138 ug/L m

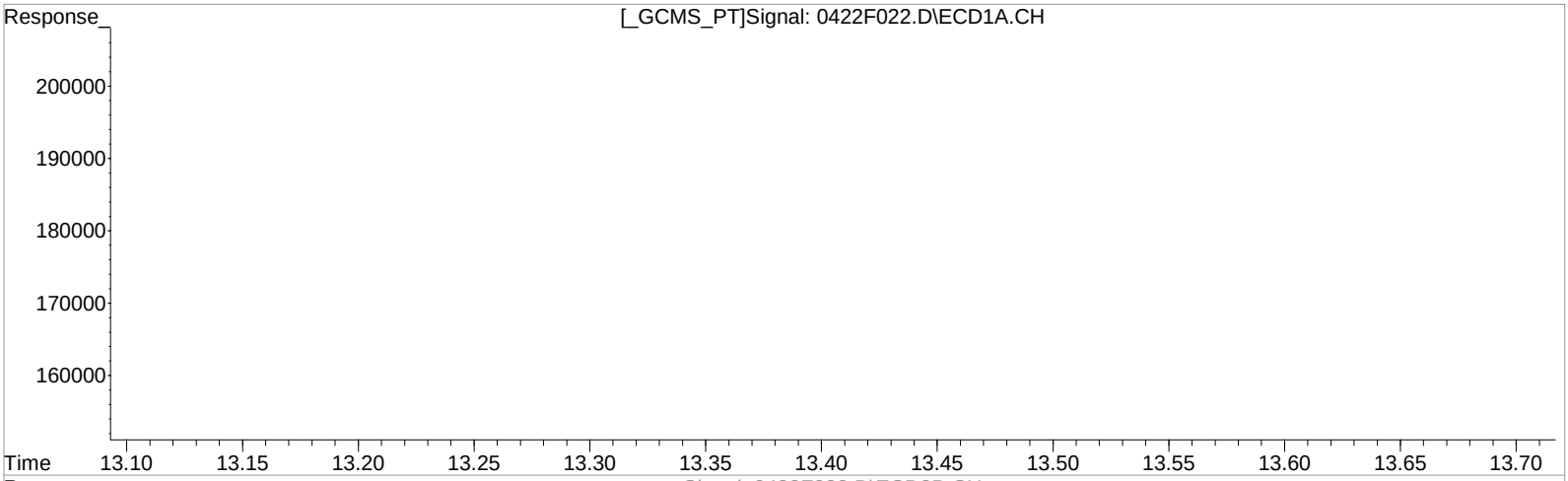
response 8348

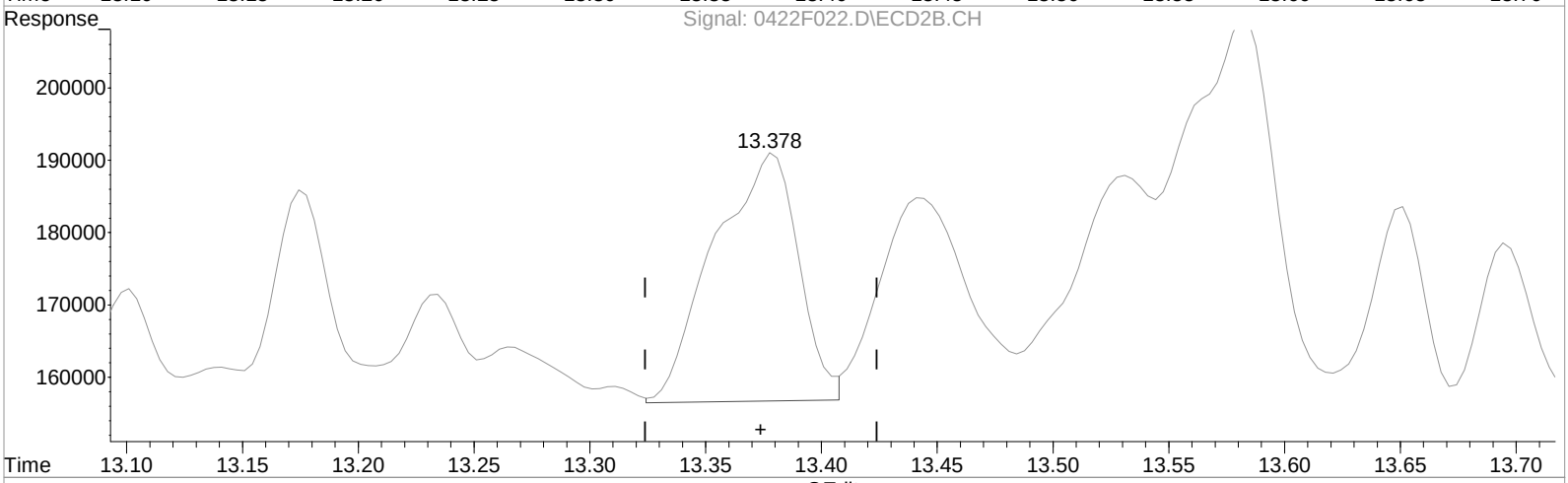
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.644min 0.884 ug/L

response 10018

Manual Integration:

Before

04/23/20

(19) 4,4'-DDD #2

13.378min 1.794 ug/L

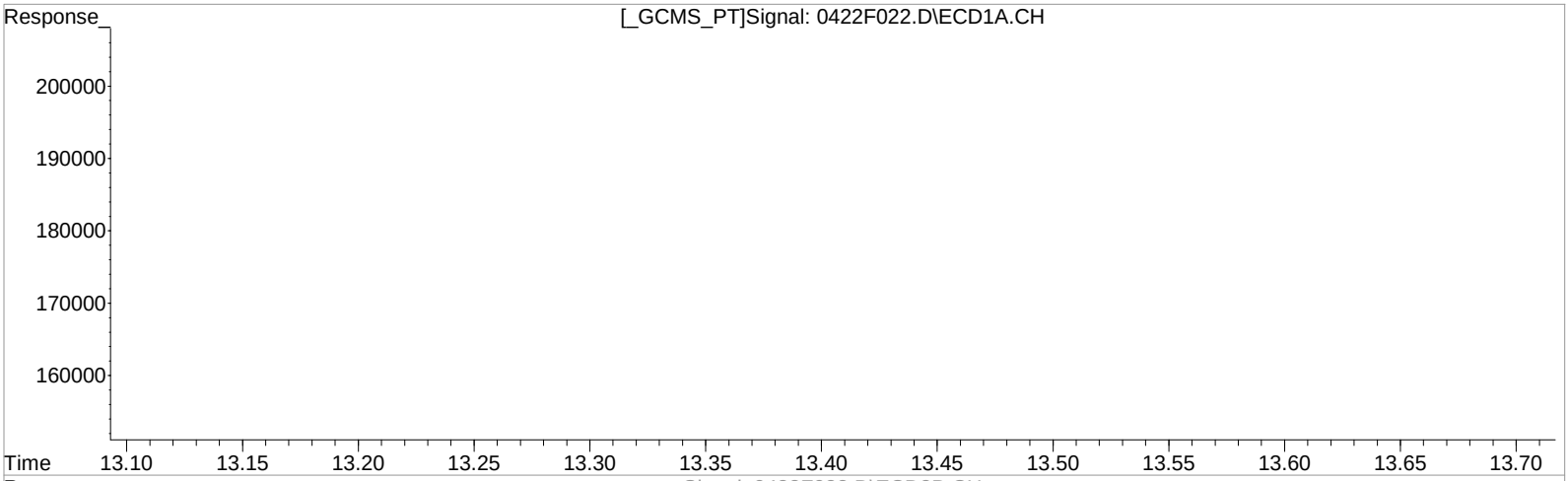
response 87239

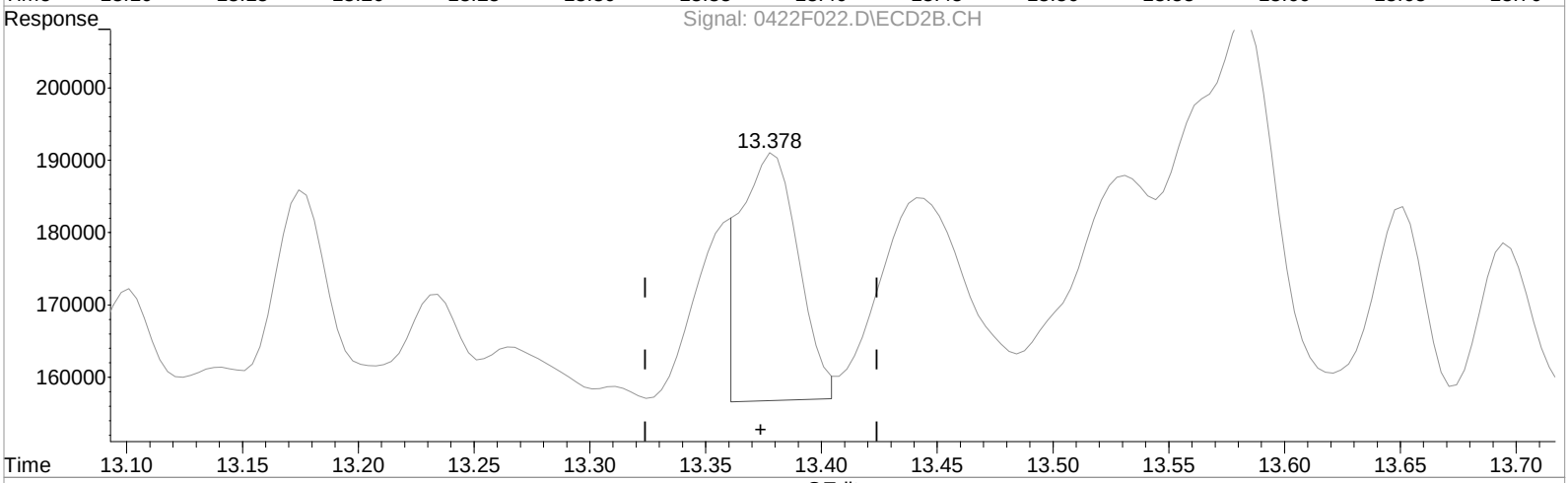
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.644min 0.884 ug/L

response 10018

Manual Integration:

After

Shoulder

04/23/20

(19) 4,4'-DDD #2

13.378min 1.167 ug/L m

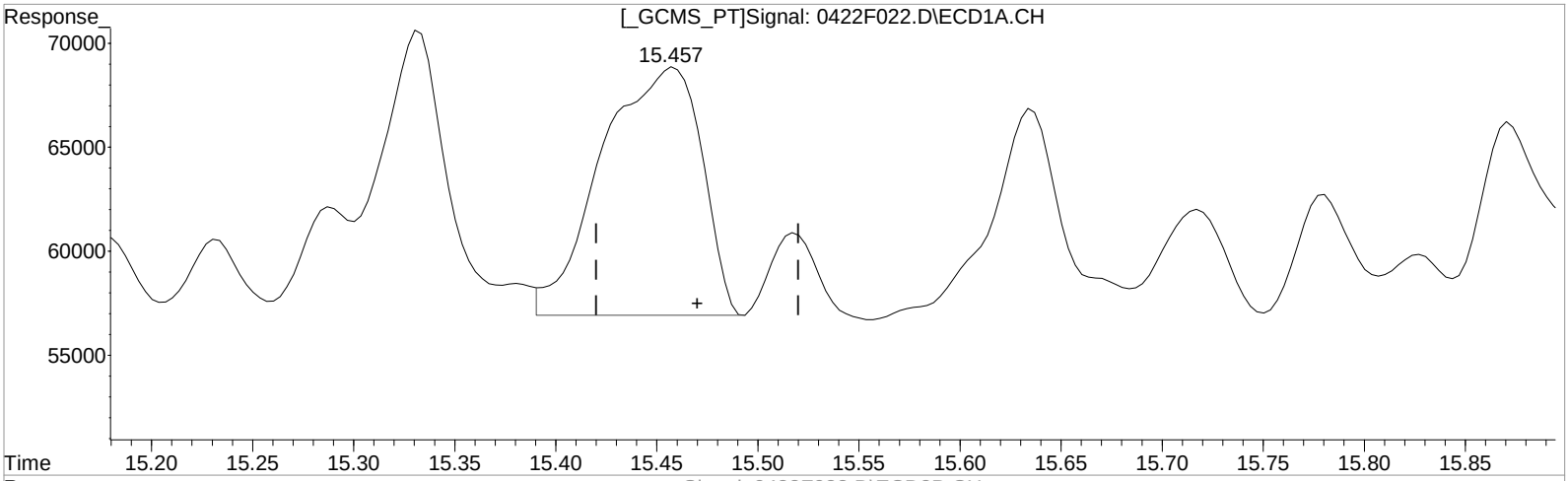
response 56754

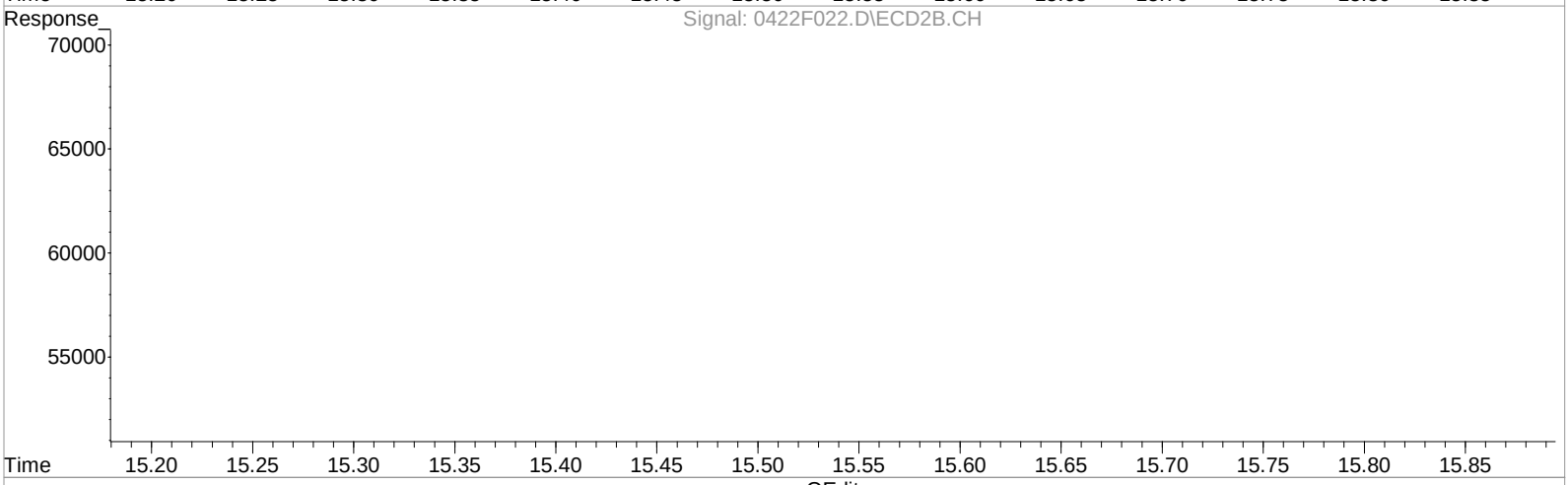
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(21) Endosulfan Sulfate

15.457min 2.775 ug/L

response 40985

Manual Integration:

Before

04/23/20

(21) Endosulfan Sulfate #2

14.268min 1.067 ug/L

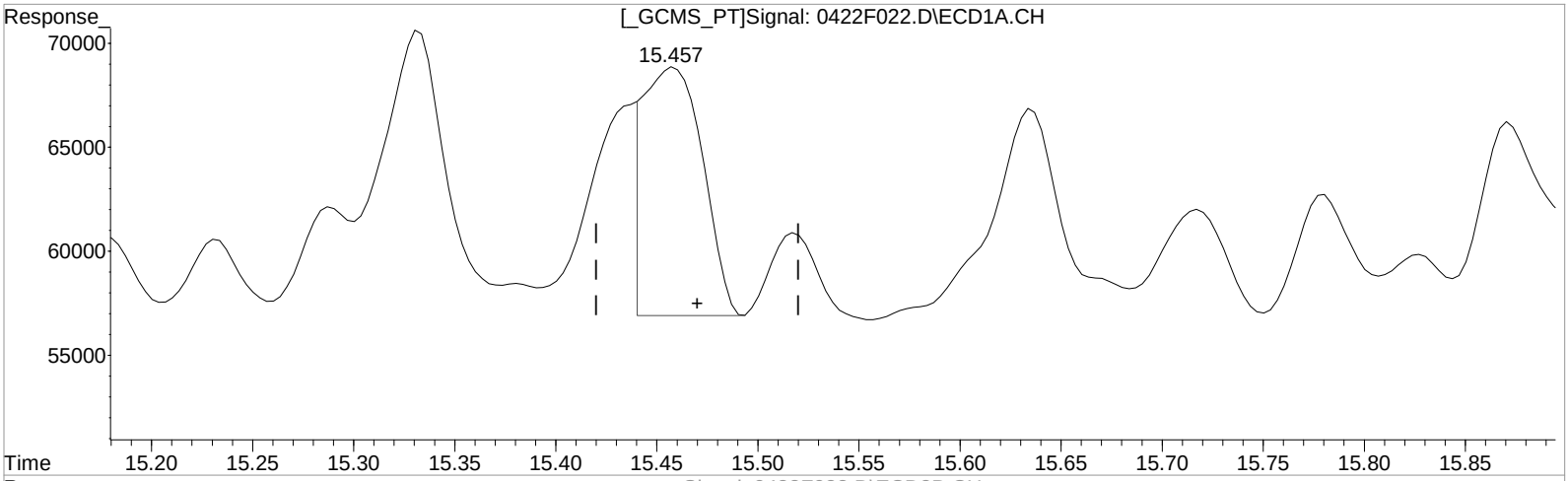
response 61072

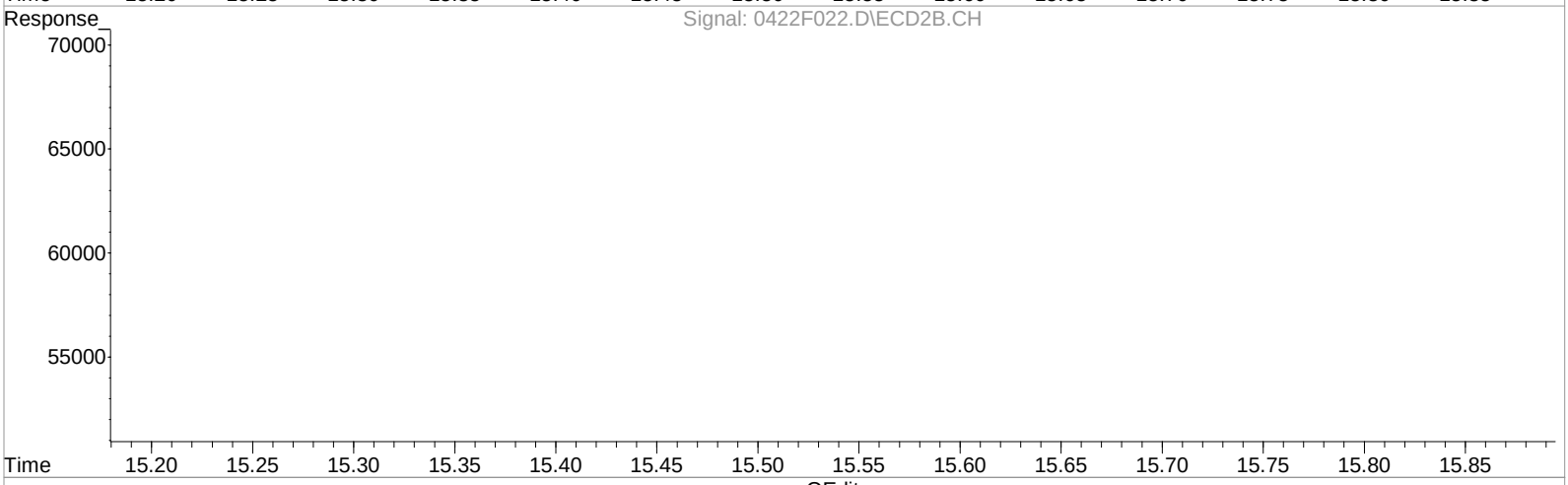
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(21) Endosulfan Sulfate

15.457min 1.579 ug/L m

response 23318

Manual Integration:

After

Shoulder

04/23/20

(21) Endosulfan Sulfate #2

14.268min 1.067 ug/L

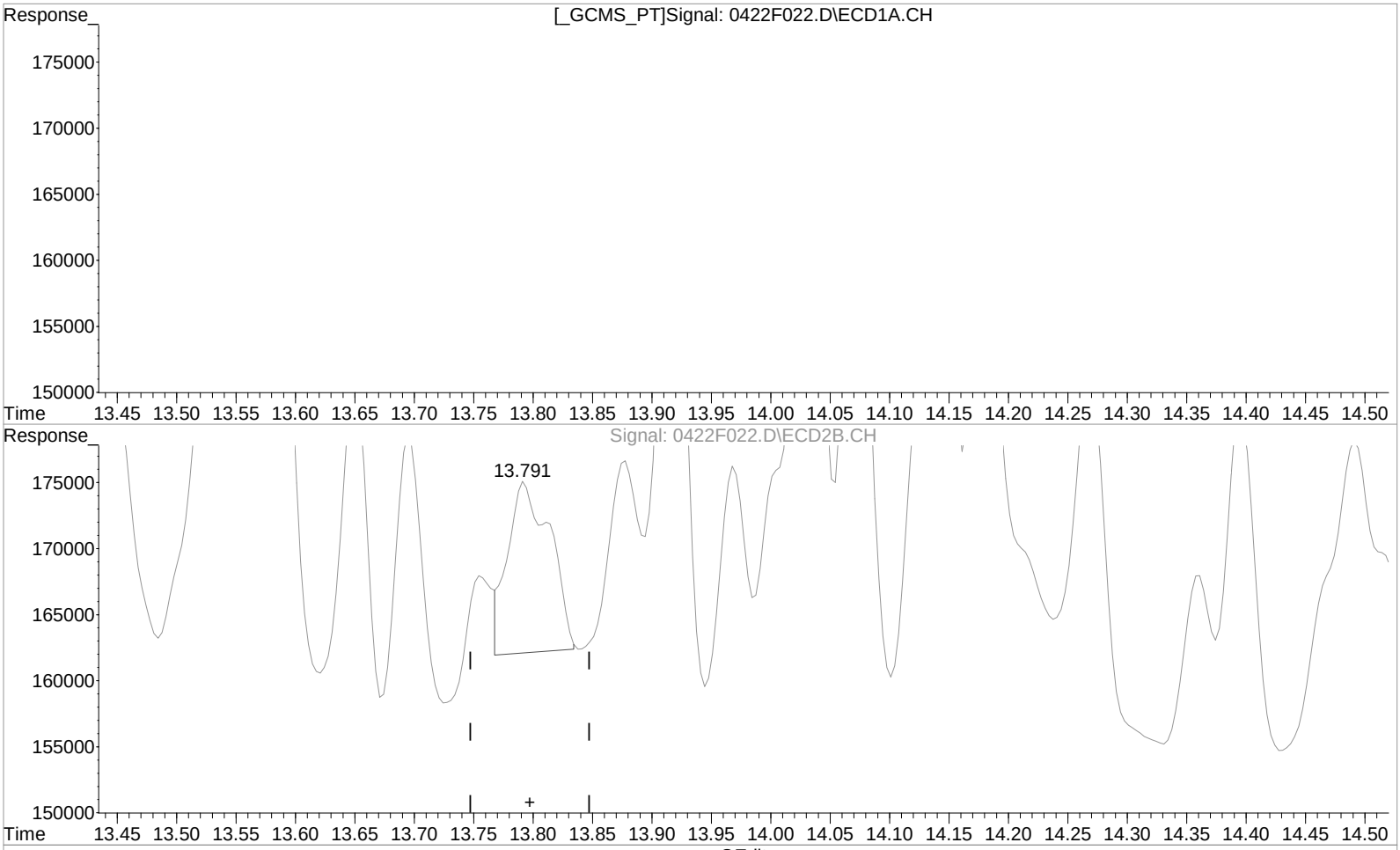
response 61072

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.170min 1.221 ug/L

response 14550

Manual Integration:

Before

04/23/20

(22) 4,4'-DDT #2

13.791min 0.685 ug/L

response 32100

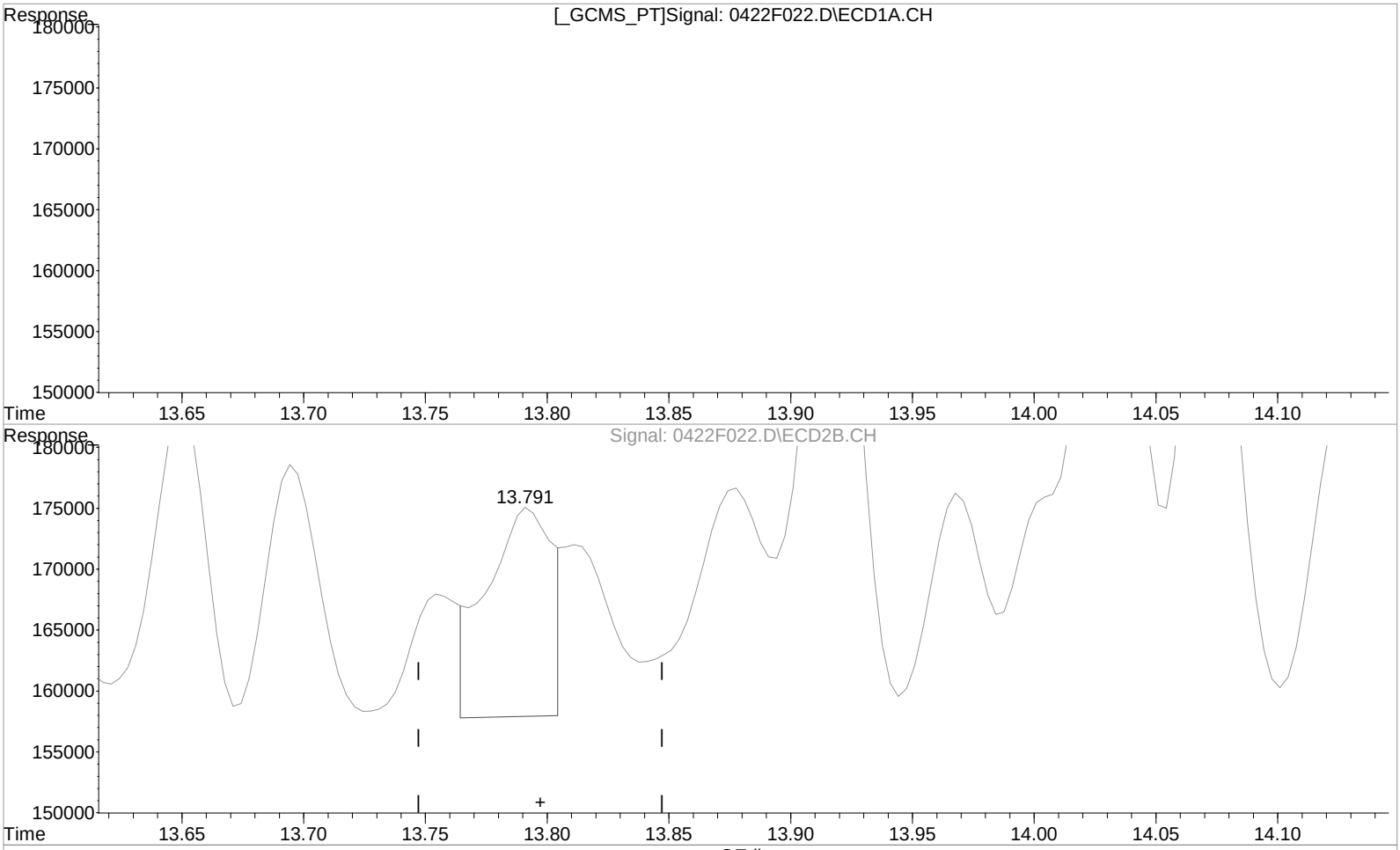
(+) = Expected Retention Time

1st 04/23/20

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.170min 1.221 ug/L

response 14550

Manual Integration:

After

Shoulder

04/23/20

(22) 4,4'-DDT #2

13.791min 0.687 ug/L m

response 32182

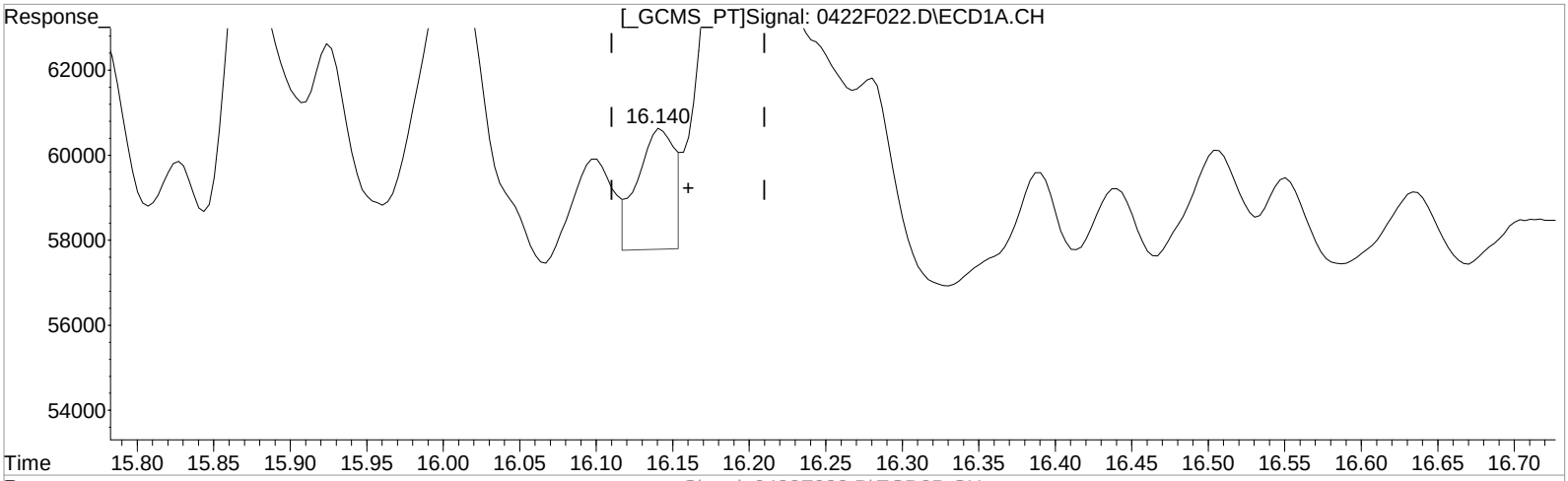
(+) = Expected Retention Time

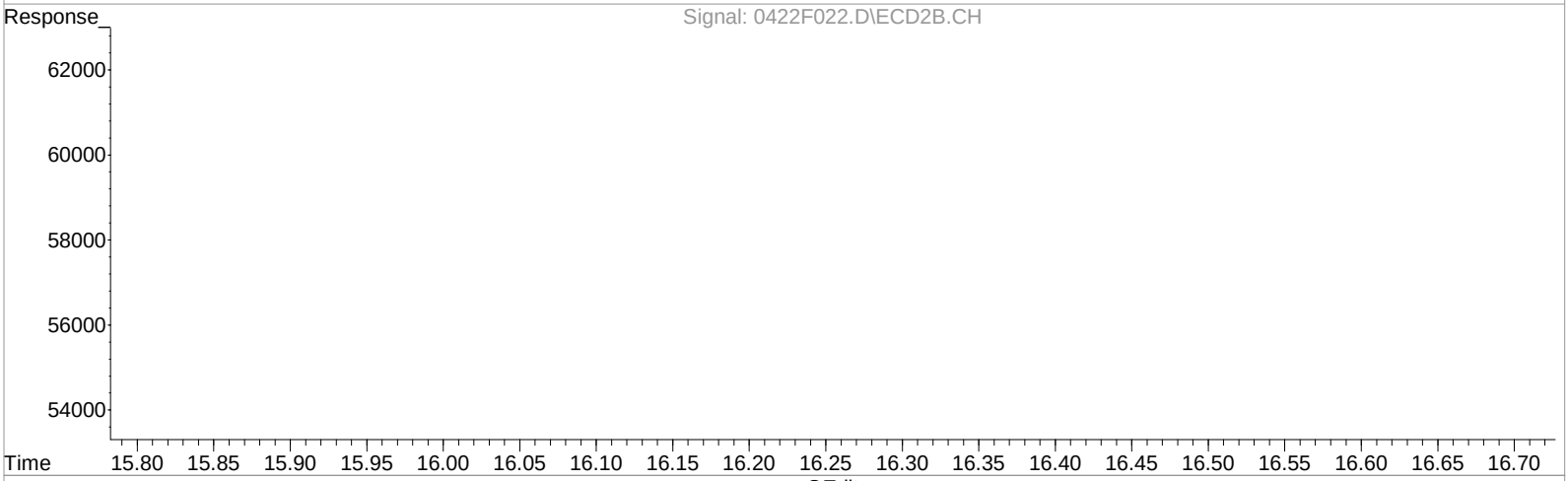
1st 04/23/20

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(23) Endrin Ketone

16.140min 0.305 ug/L

response 4829

Manual Integration:

Before

04/23/20

(23) Endrin Ketone #2

15.174min 0.288 ug/L

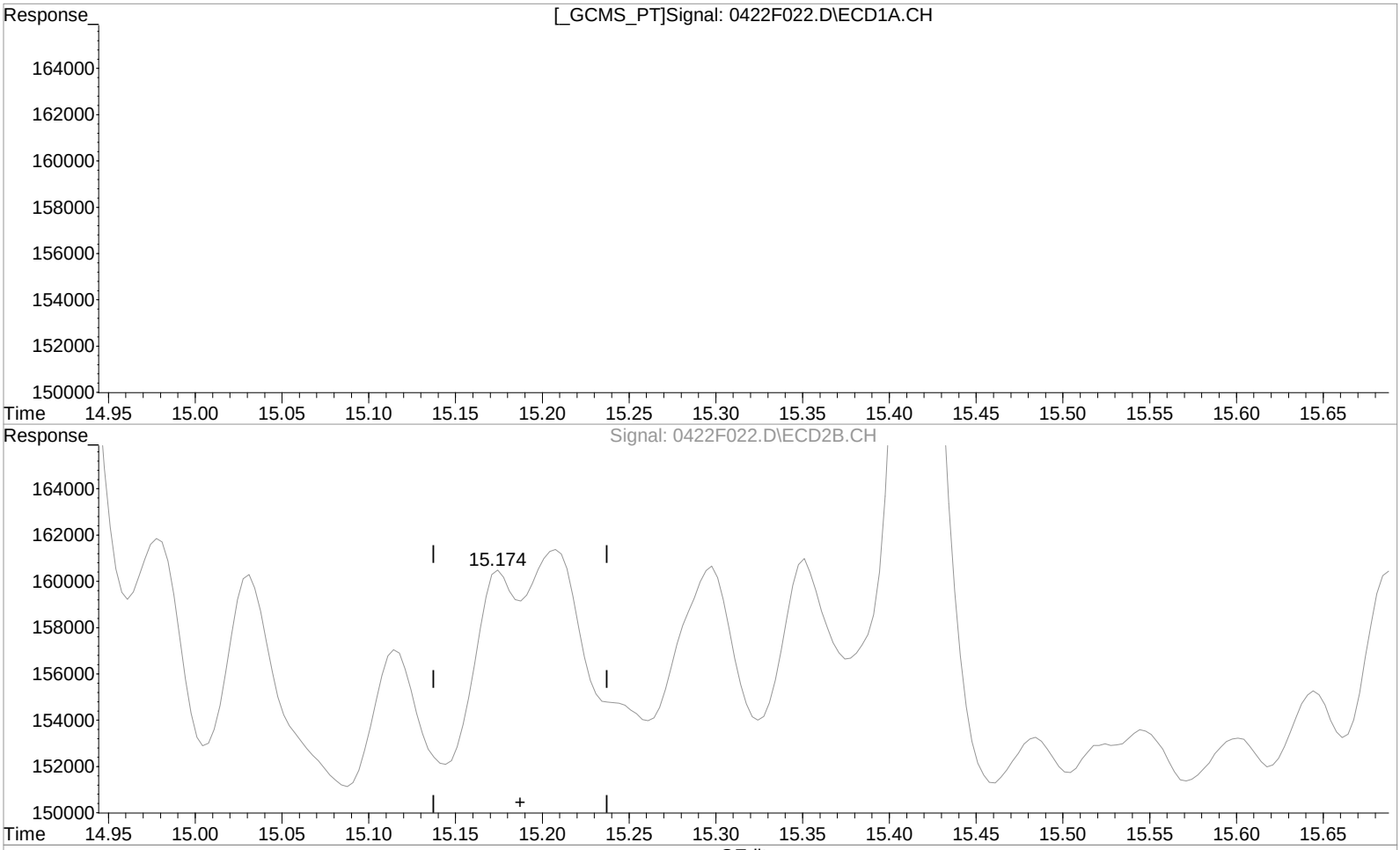
response 19734

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(23) Endrin Ketone

16.140min 0.380 ug/L m

response 6022

Manual Integration:

Before

04/23/20

(23) Endrin Ketone #2

15.174min 0.288 ug/L

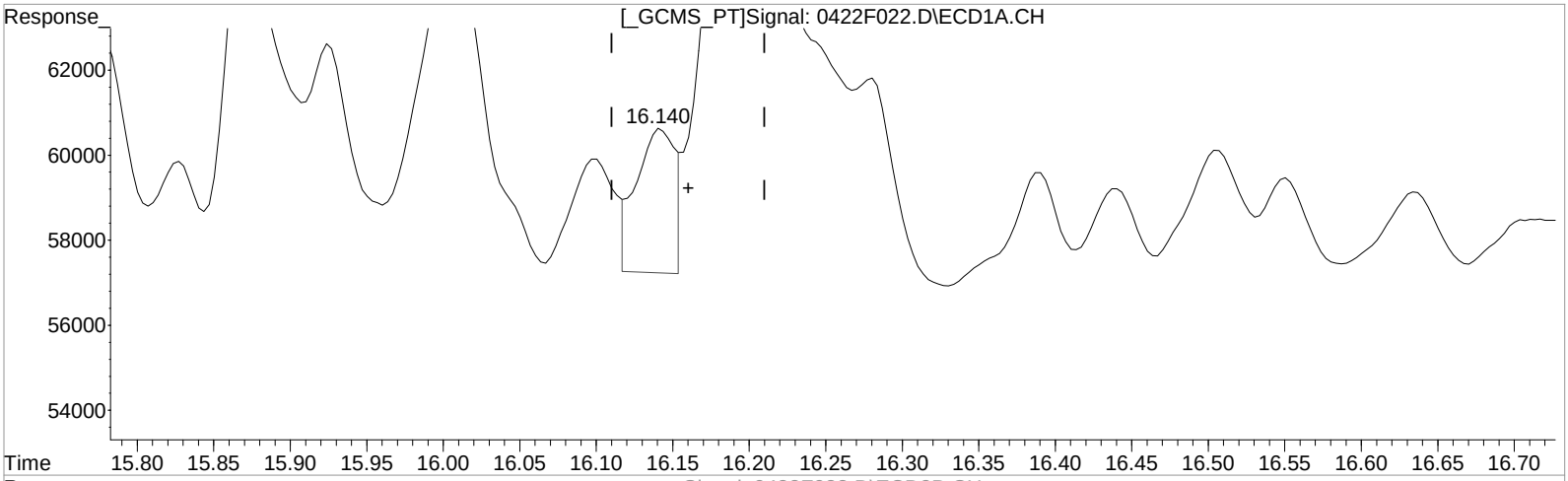
response 19734

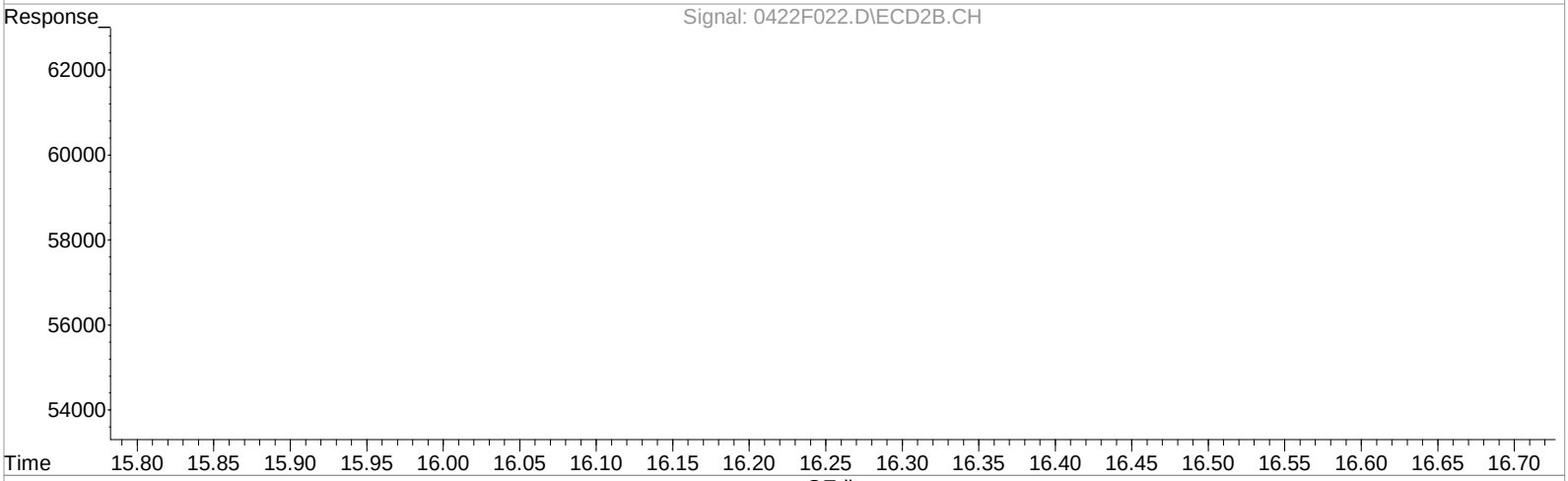
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(23) Endrin Ketone

16.140min 0.380 ug/L m

response 6022

Manual Integration:

After

Baseline correction

04/23/20

(23) Endrin Ketone #2

15.174min 0.288 ug/L

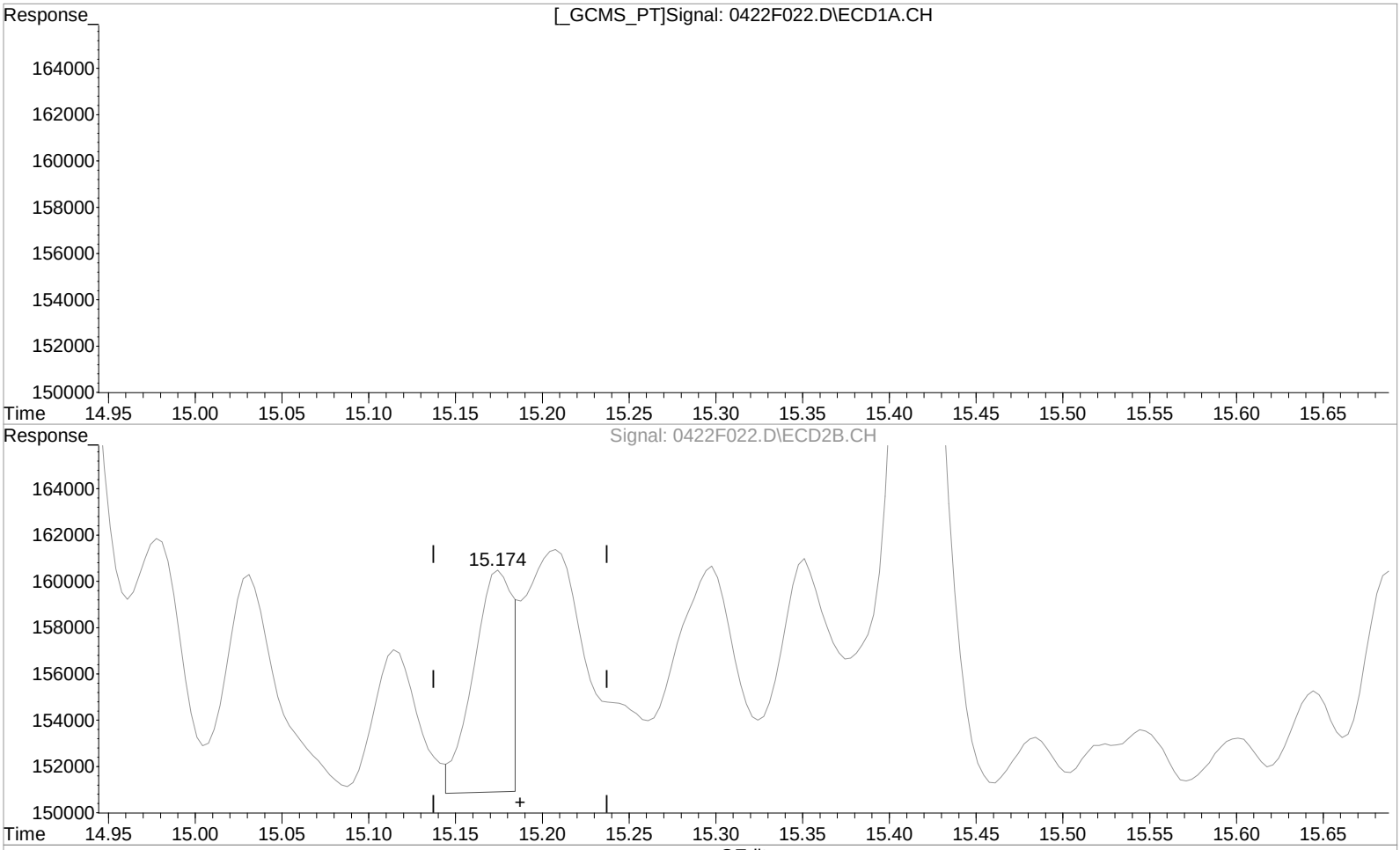
response 19734

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(23) Endrin Ketone

16.140min 0.380 ug/L m

response 6022

Manual Integration:

After

Shoulder

04/23/20

(23) Endrin Ketone #2

15.174min 0.224 ug/L m

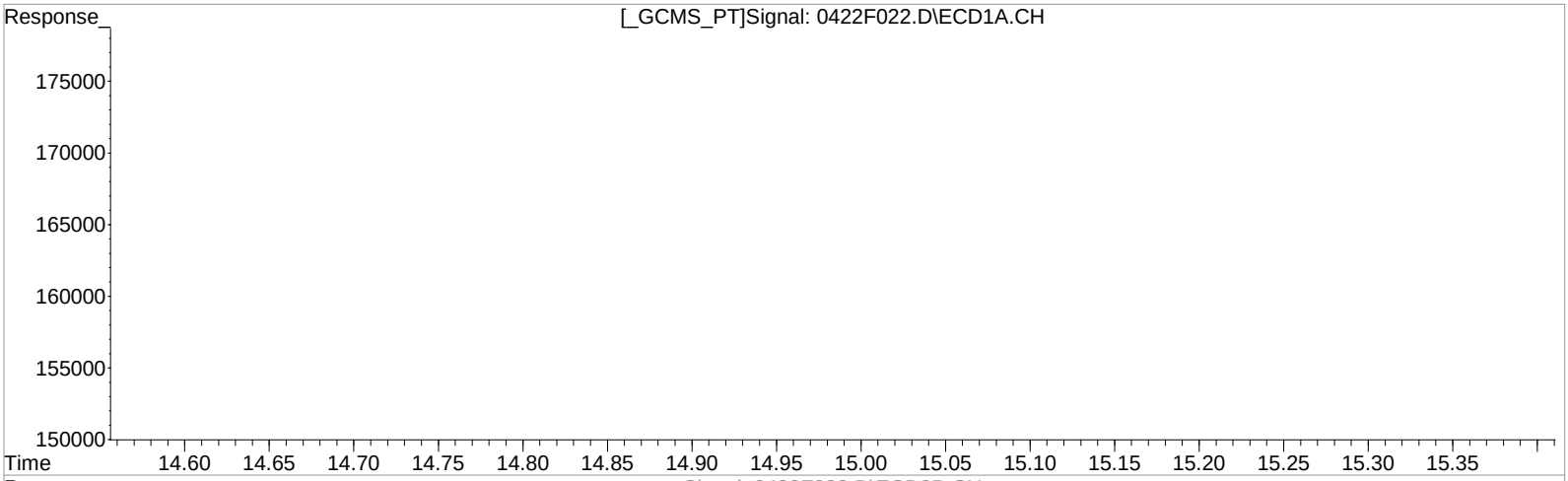
response 15343

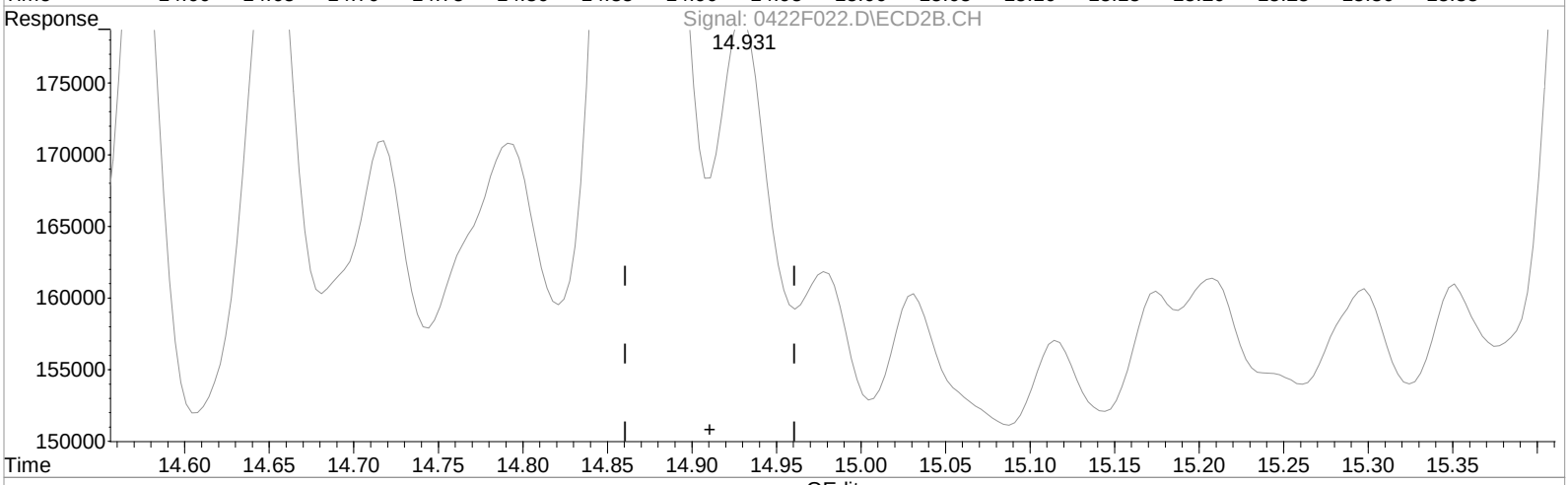
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.870min 2.846 ug/L

response 20559

Manual Integration:

Before

04/23/20

(24) Methoxychlor #2

14.931min 2.520 ug/L

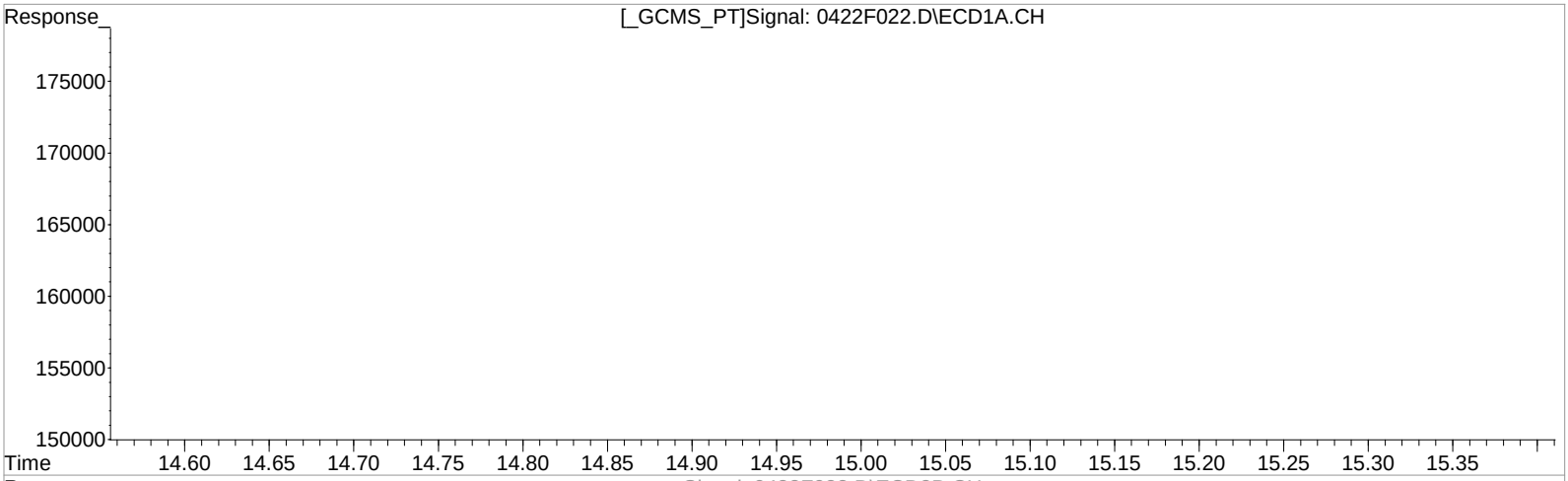
response 65568

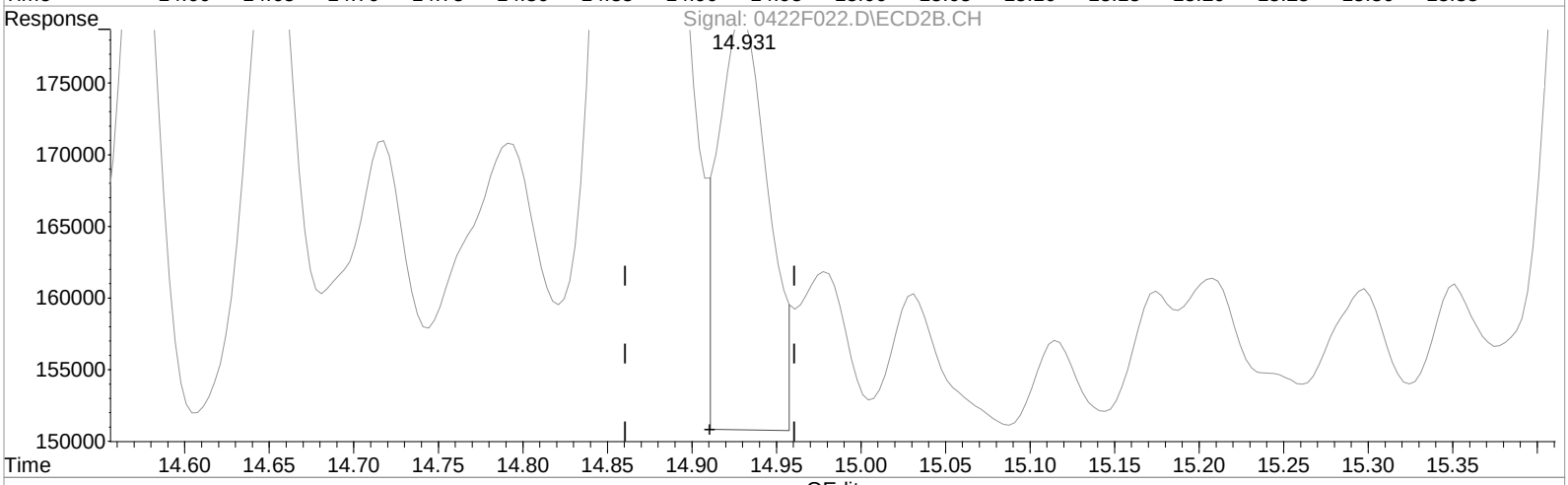
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.870min 2.846 ug/L

response 20559

Manual Integration:

After

Baseline correction

04/23/20

(24) Methoxychlor #2

14.931min 2.195 ug/L m

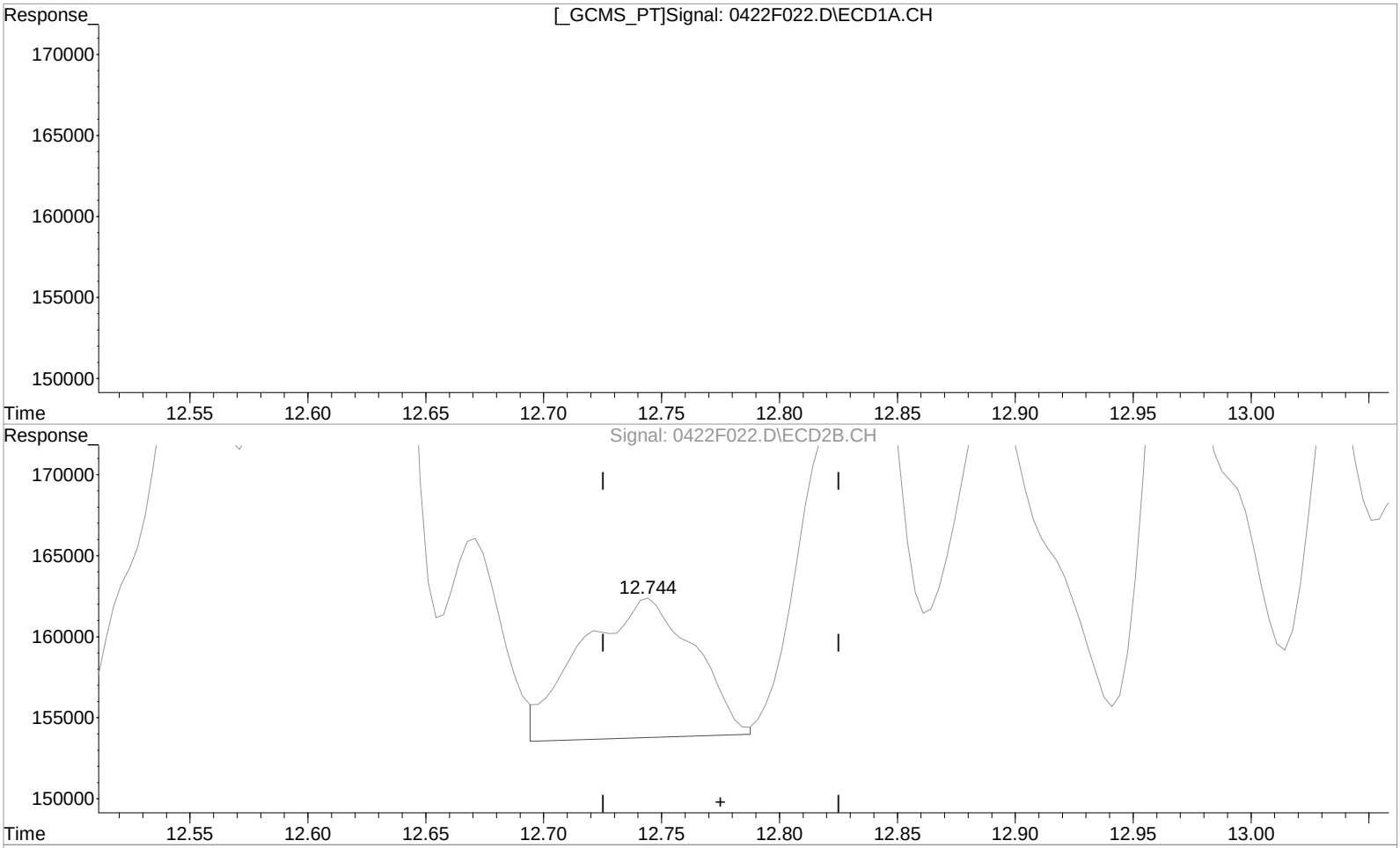
response 57121

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(26) 2,4'-DDD

13.920min 1.217 ug/L

response 10945

Manual Integration:

Before

04/23/20

(26) 2,4'-DDD #2

12.744min 0.779 ug/L

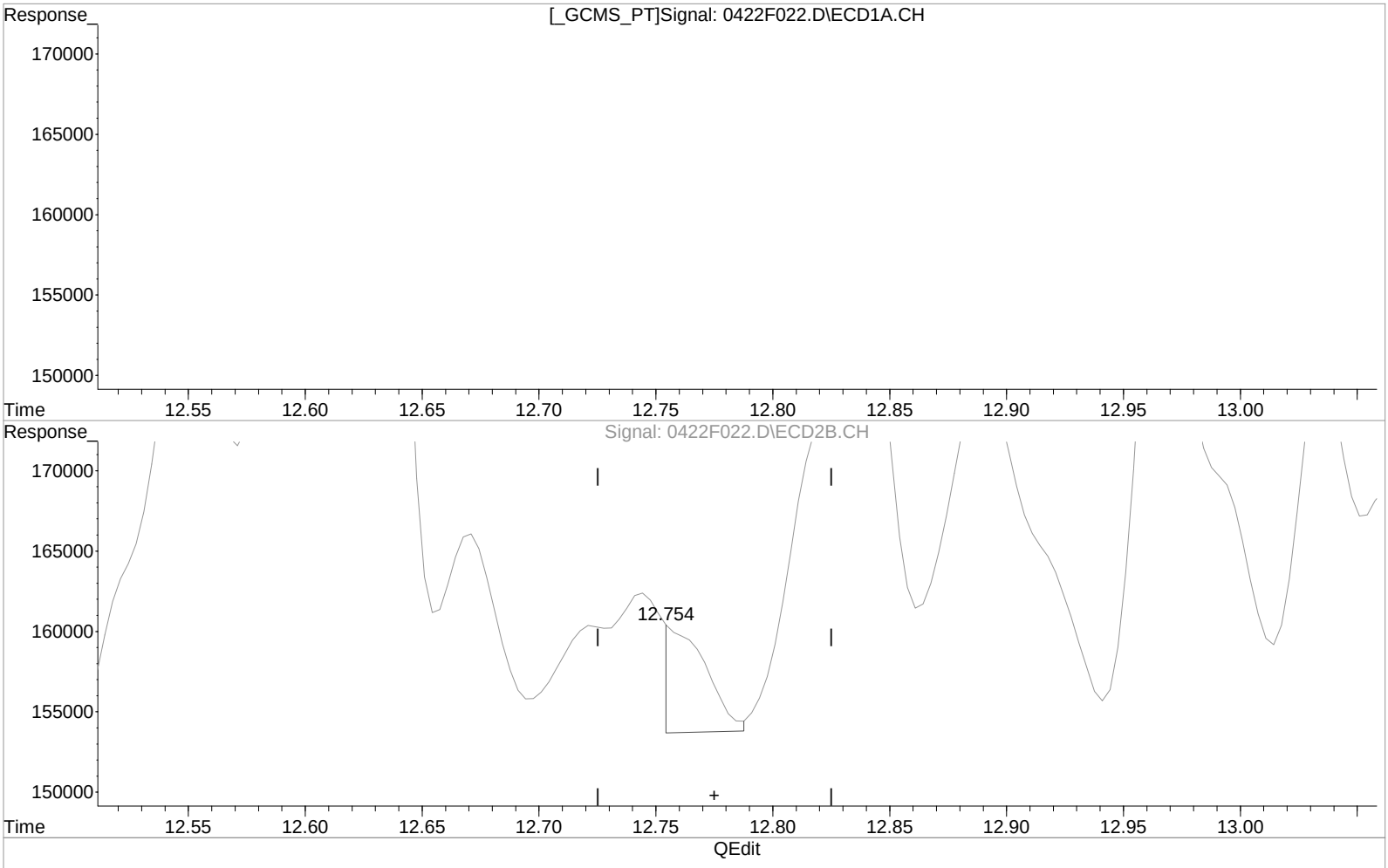
response 28650

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(26) 2,4'-DDD

13.920min 1.217 ug/L

response 10945

Manual Integration:

After

Shoulder

04/23/20

(26) 2,4'-DDD #2

12.754min 0.191 ug/L m

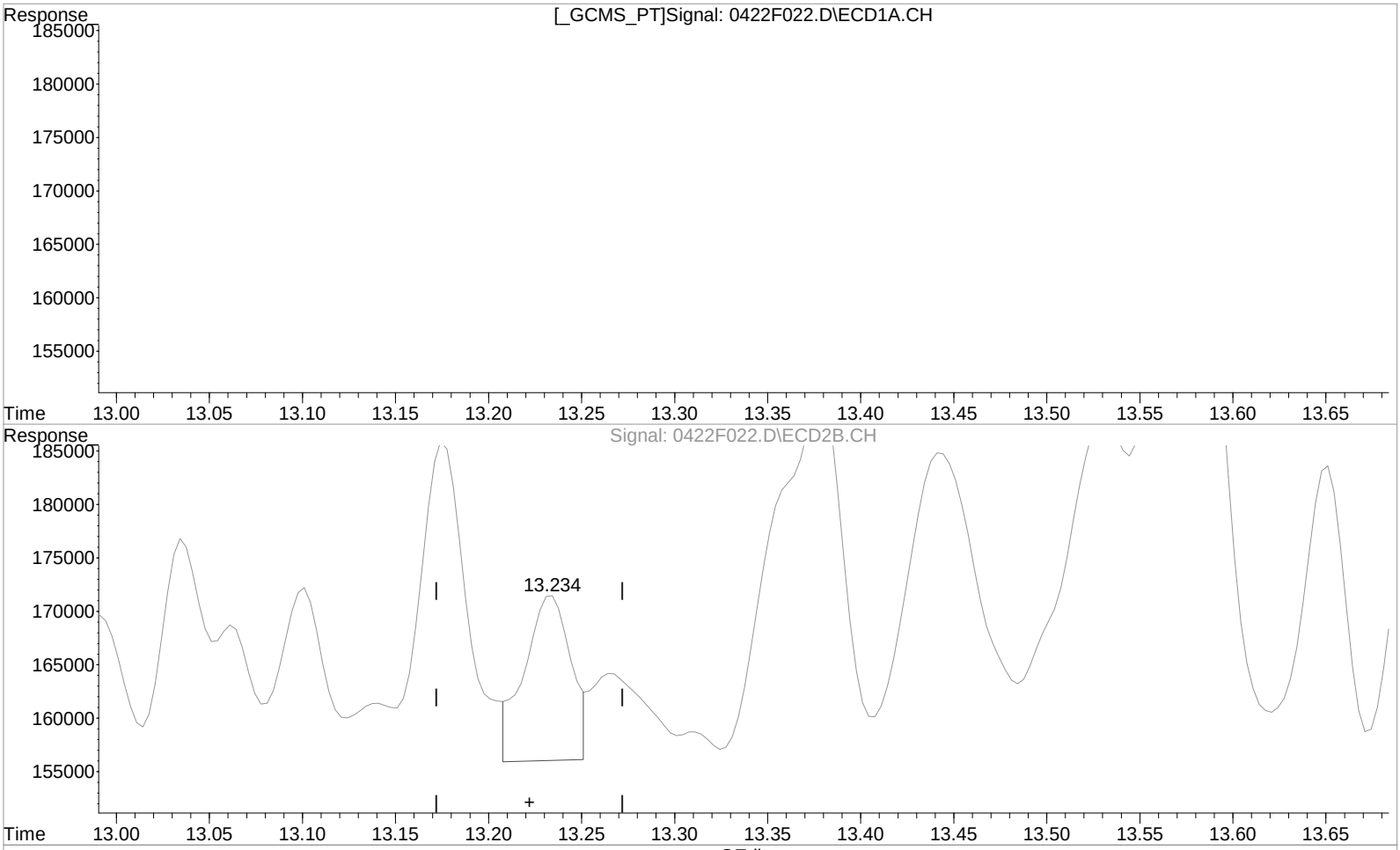
response 7016

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.427min 1.484 ug/L

response 15272

Manual Integration:

Before

04/23/20

(27) 2,4'-DDT #2

13.234min 0.675 ug/L

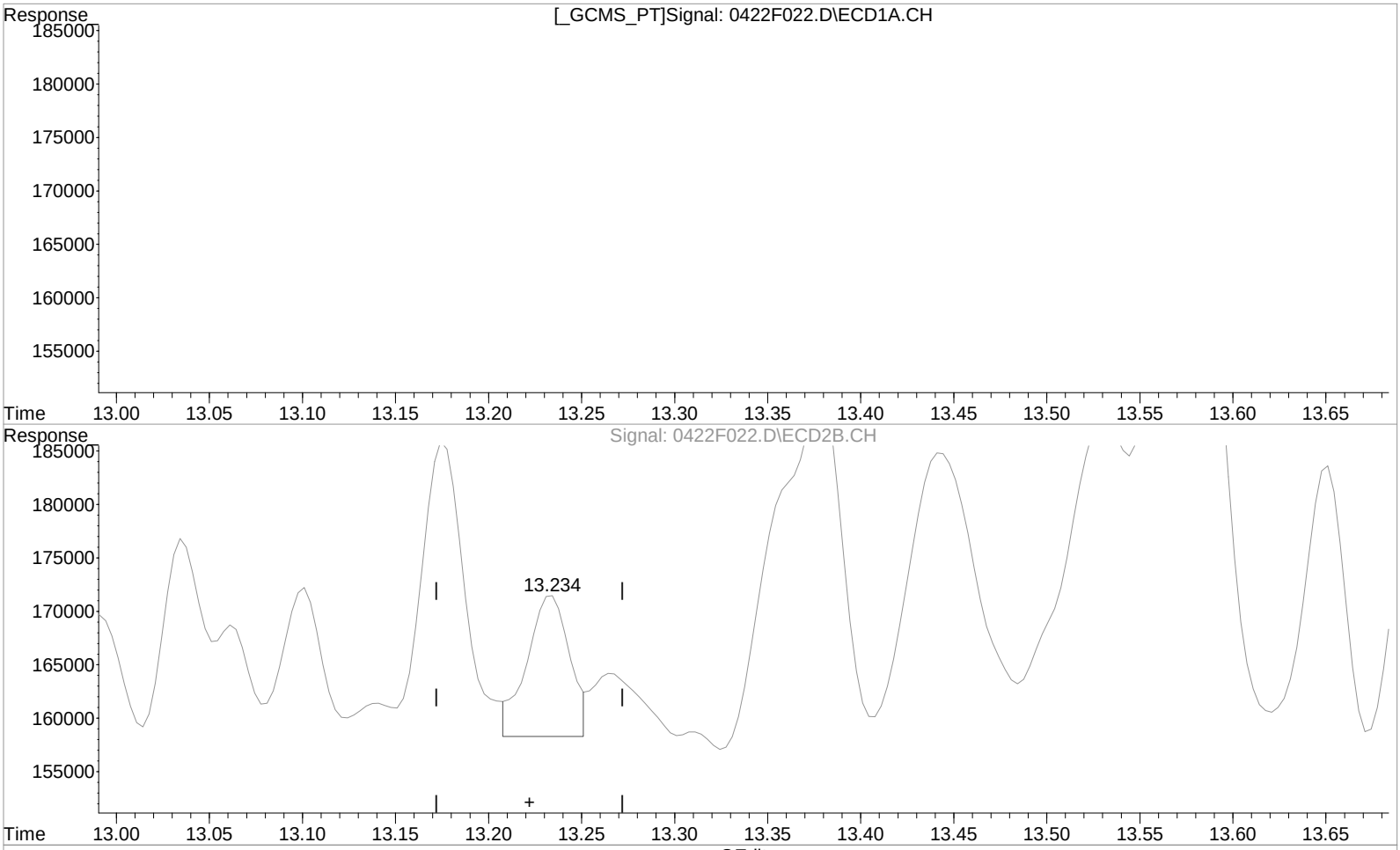
response 26901

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.427min 1.484 ug/L

response 15272

Manual Integration:

After

Baseline correction

04/23/20

(27) 2,4'-DDT #2

13.234min 0.526 ug/L m

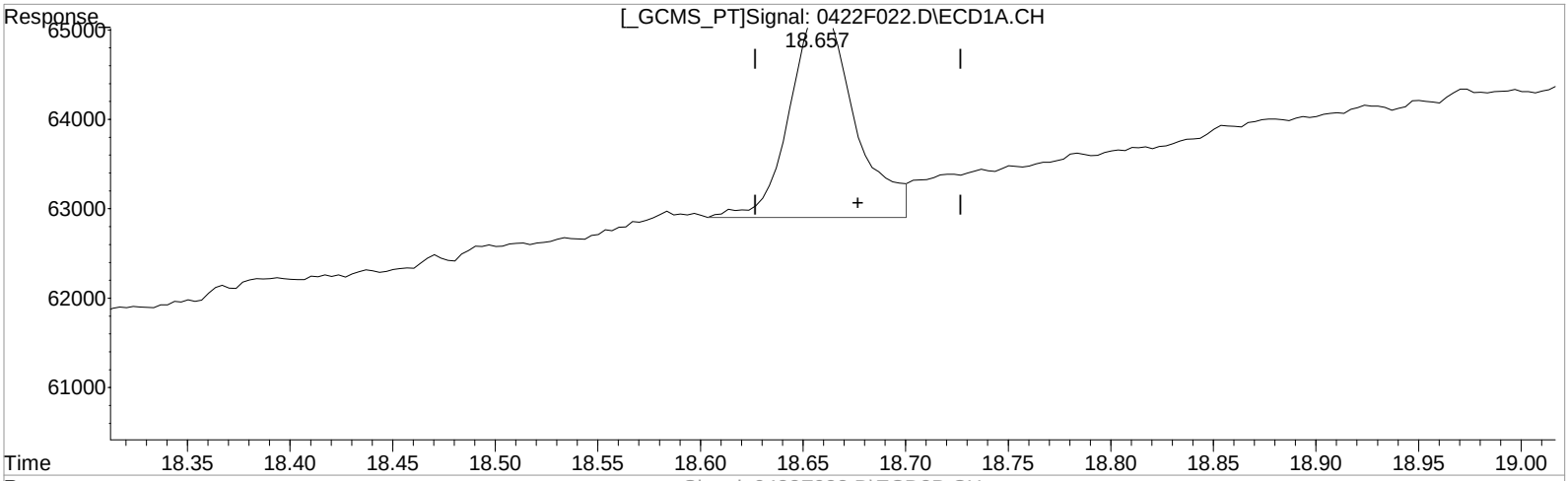
response 20991

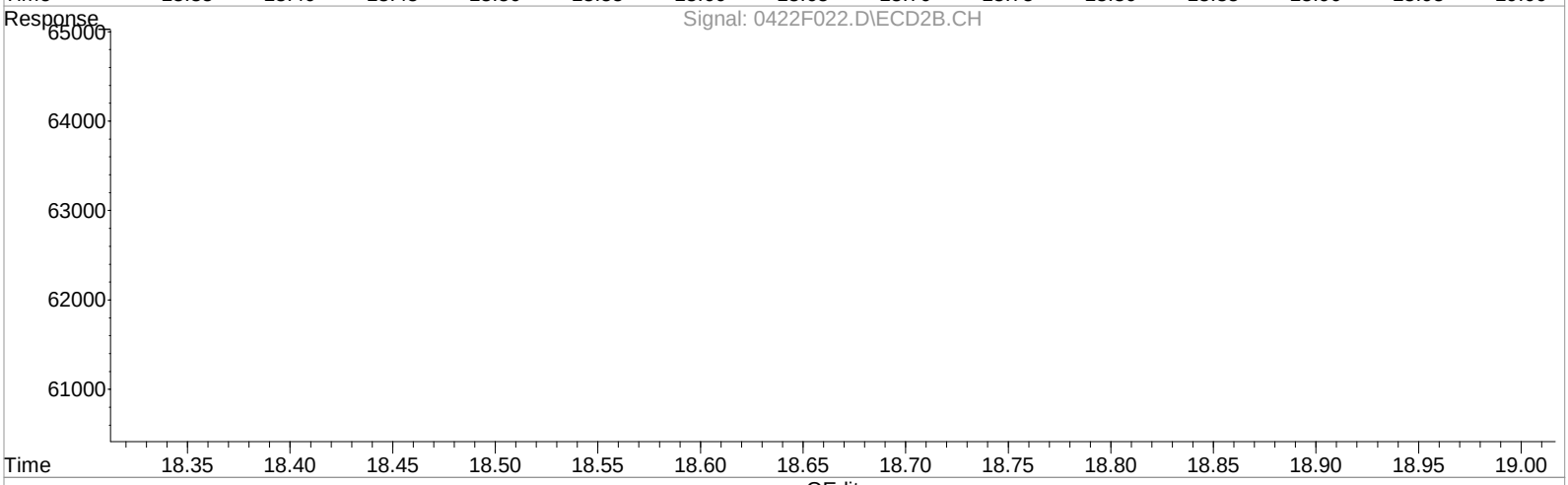
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.657min 0.302 ug/L

response 5106

Manual Integration:

Before

04/23/20

(28) Decachlorobiphenyl #2 (s)

17.051min 0.229 ug/L

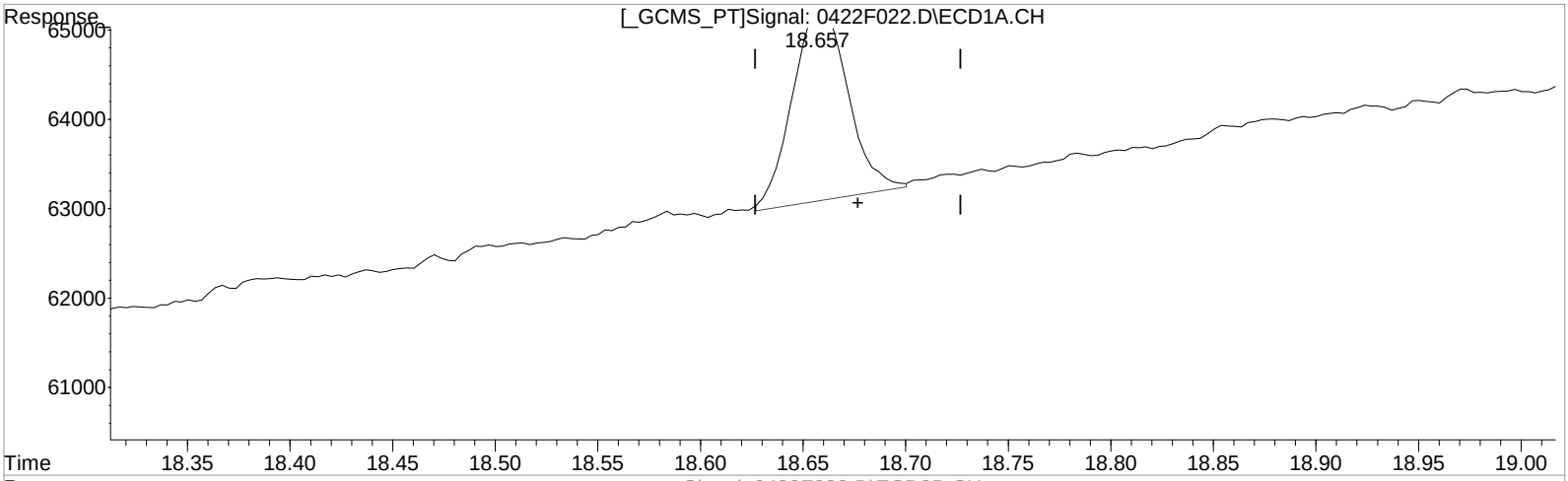
response 16941

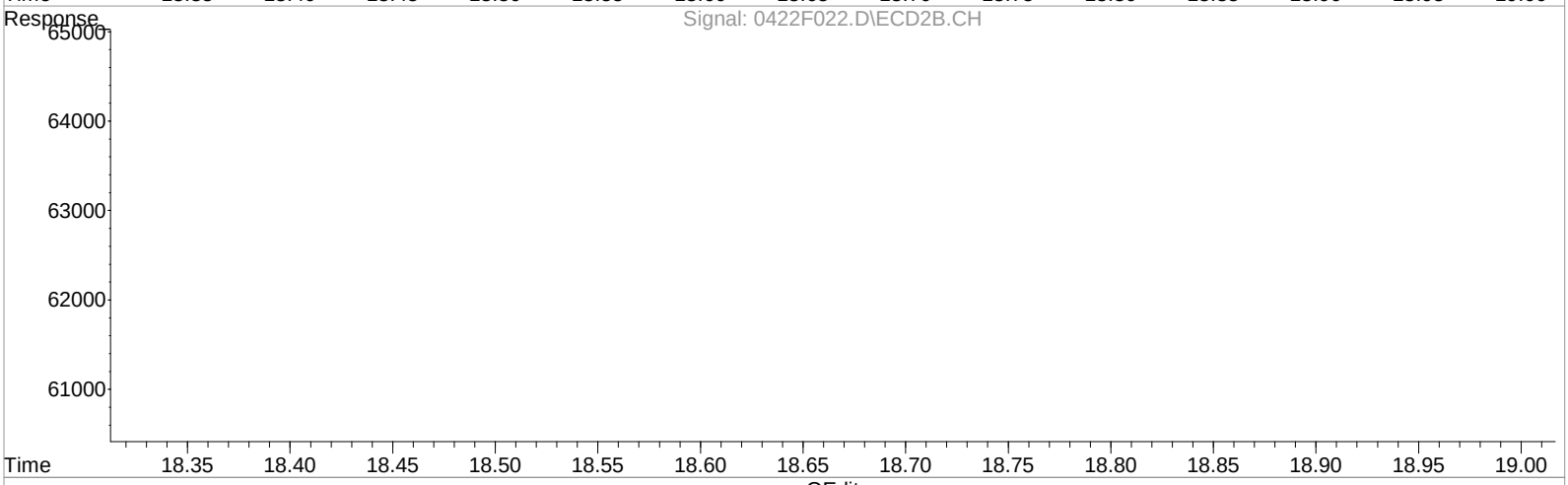
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.657min 0.241 ug/L m

response 4078

Manual Integration:

After

Baseline correction

04/23/20

(28) Decachlorobiphenyl #2 (s)

17.051min 0.229 ug/L

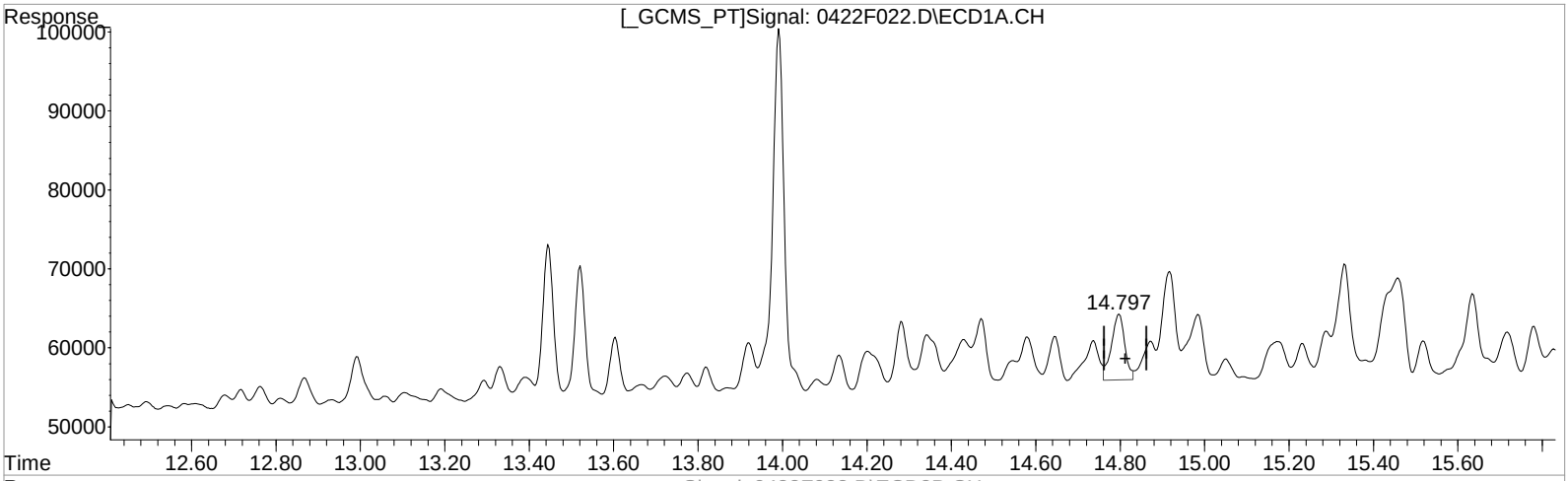
response 16941

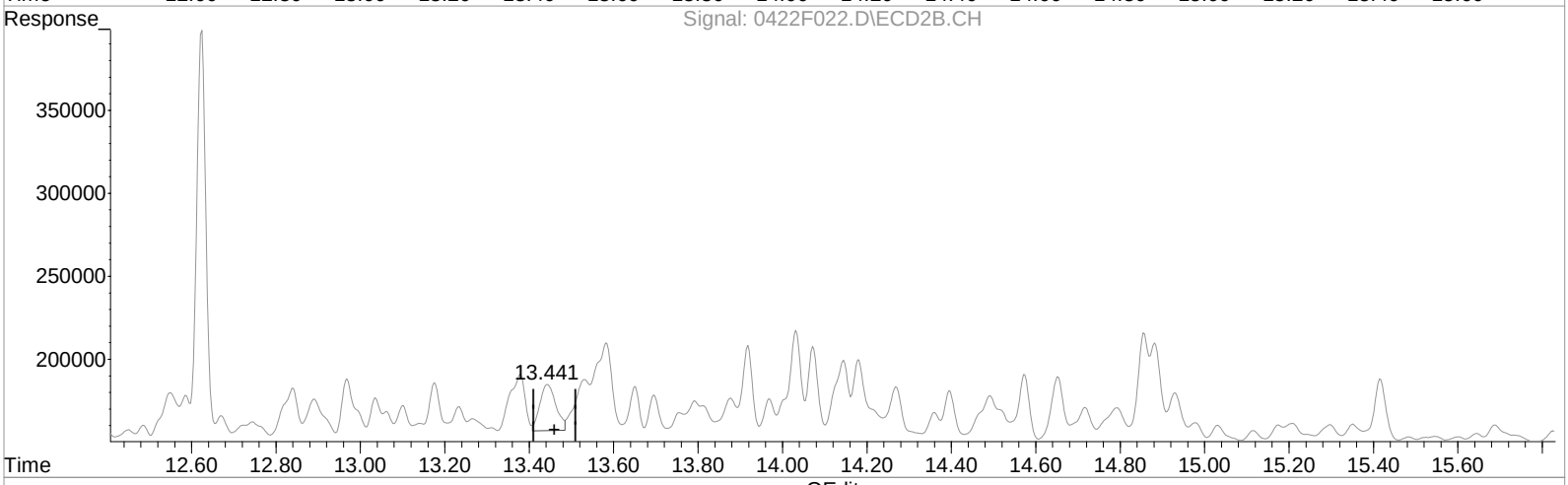
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.797min 130.794 ug/L

response 18466

Manual Integration:

Before

04/23/20

(31) Toxaphene {2} #2

13.441min 94.376 ug/L

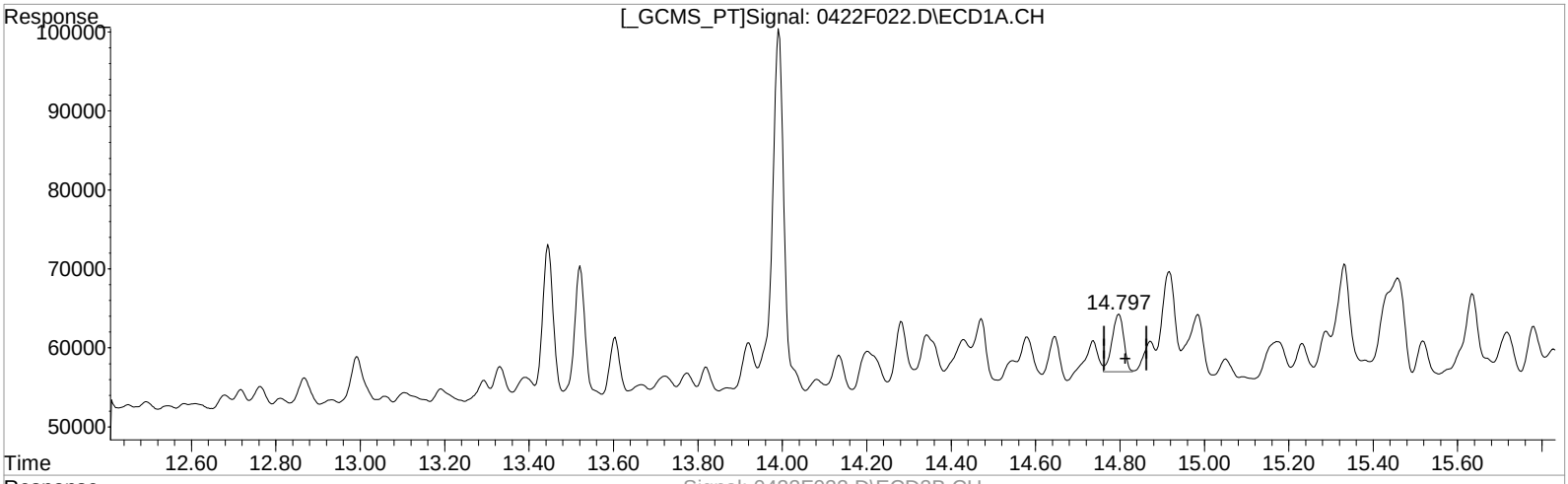
response 74113

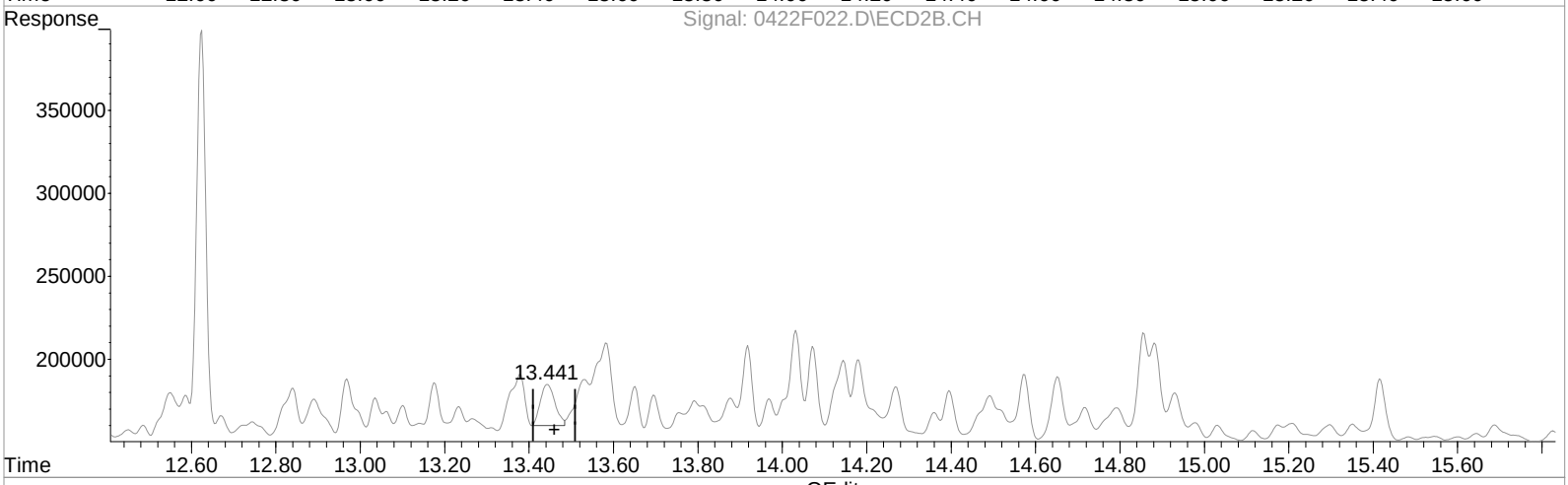
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.797min 99.785 ug/L m

response 14088

Manual Integration:

After

Baseline correction

04/23/20

(31) Toxaphene {2} #2

13.441min 76.677 ug/L m

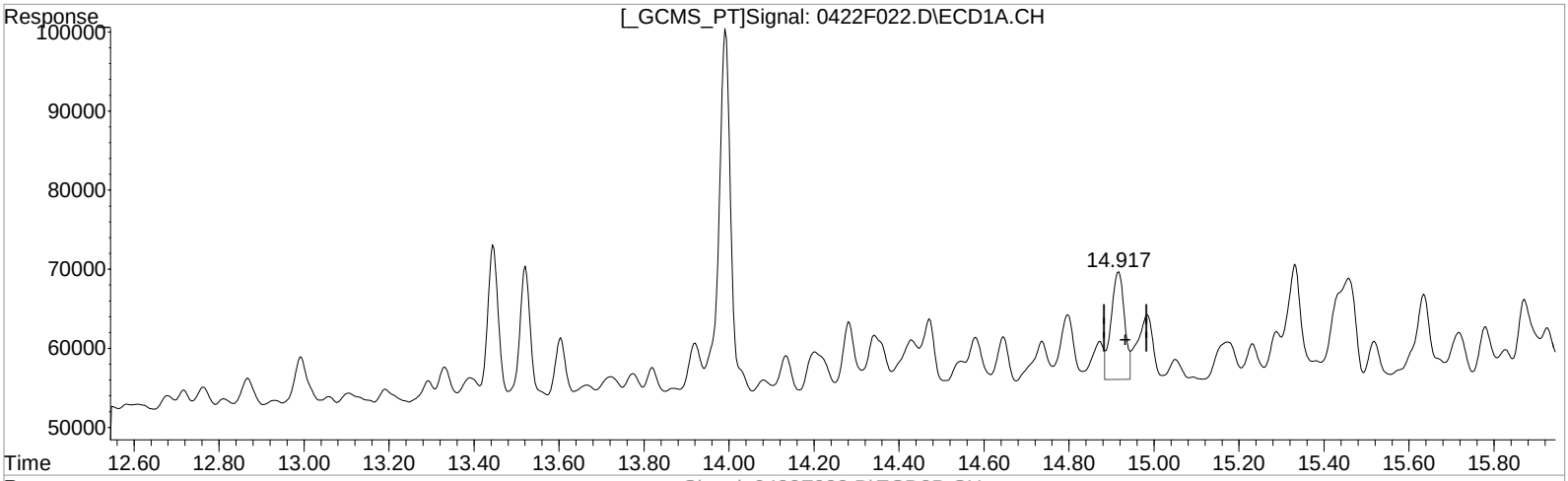
response 60214

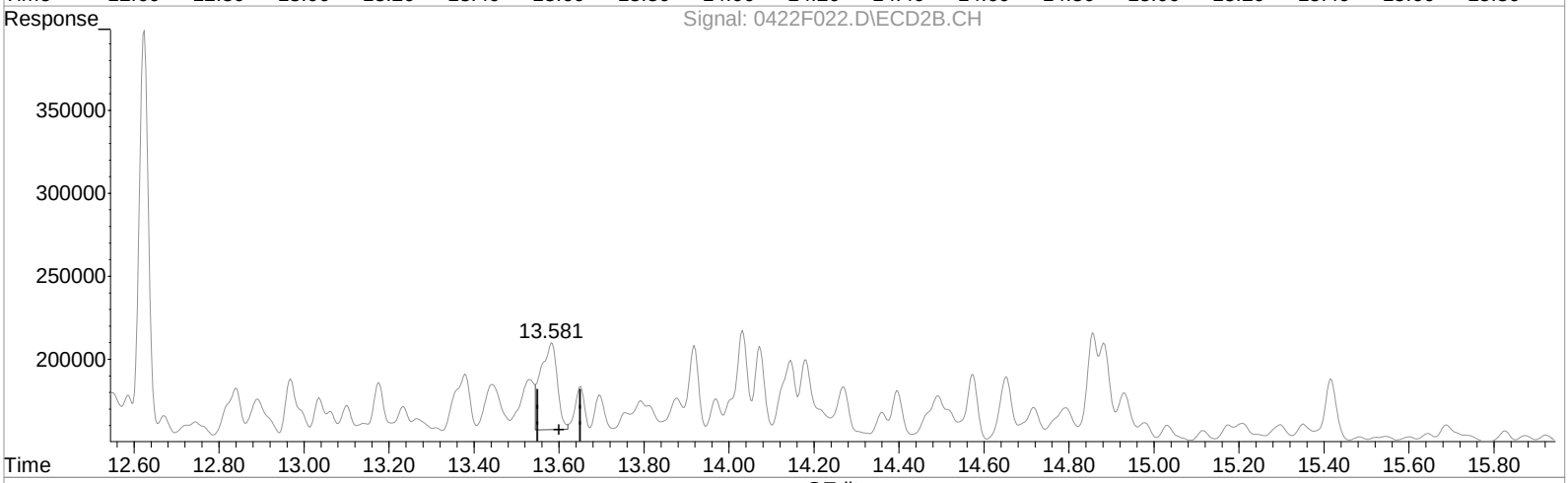
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.917min 107.726 ug/L

response 30306

Manual Integration:

Before

04/23/20

(32) Toxaphene {3} #2

13.581min 141.753 ug/L

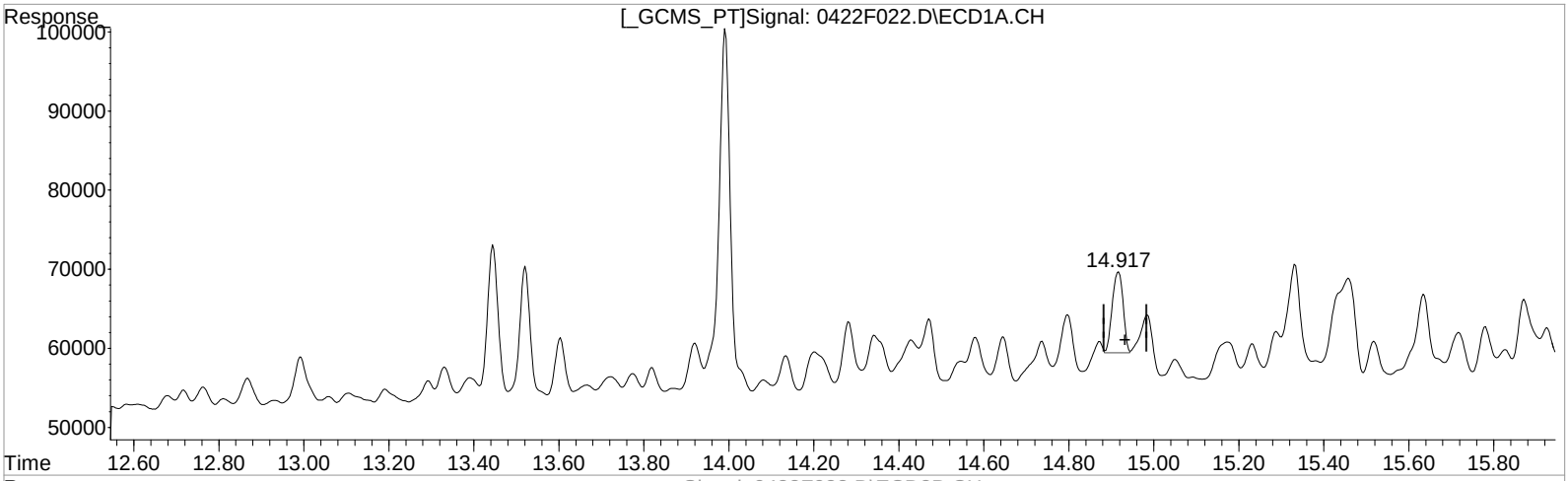
response 138889

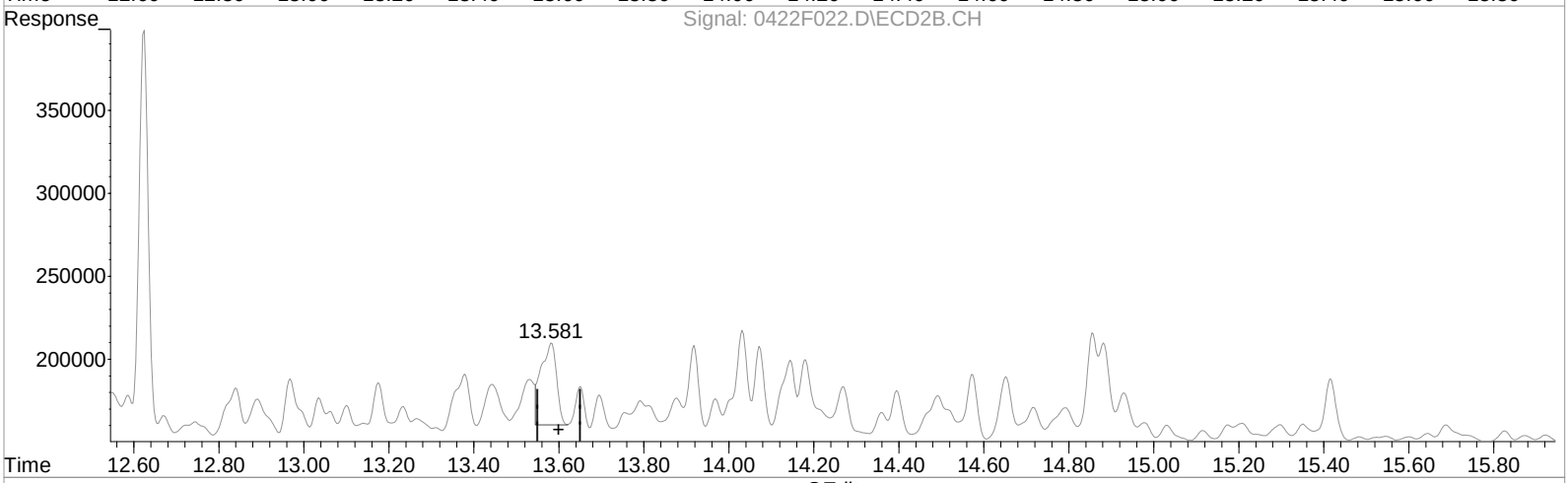
(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.917min 64.698 ug/L m

response 18201

(32) Toxaphene {3} #2

13.581min 127.381 ug/L m

response 125765

Manual Integration:

After

Baseline correction

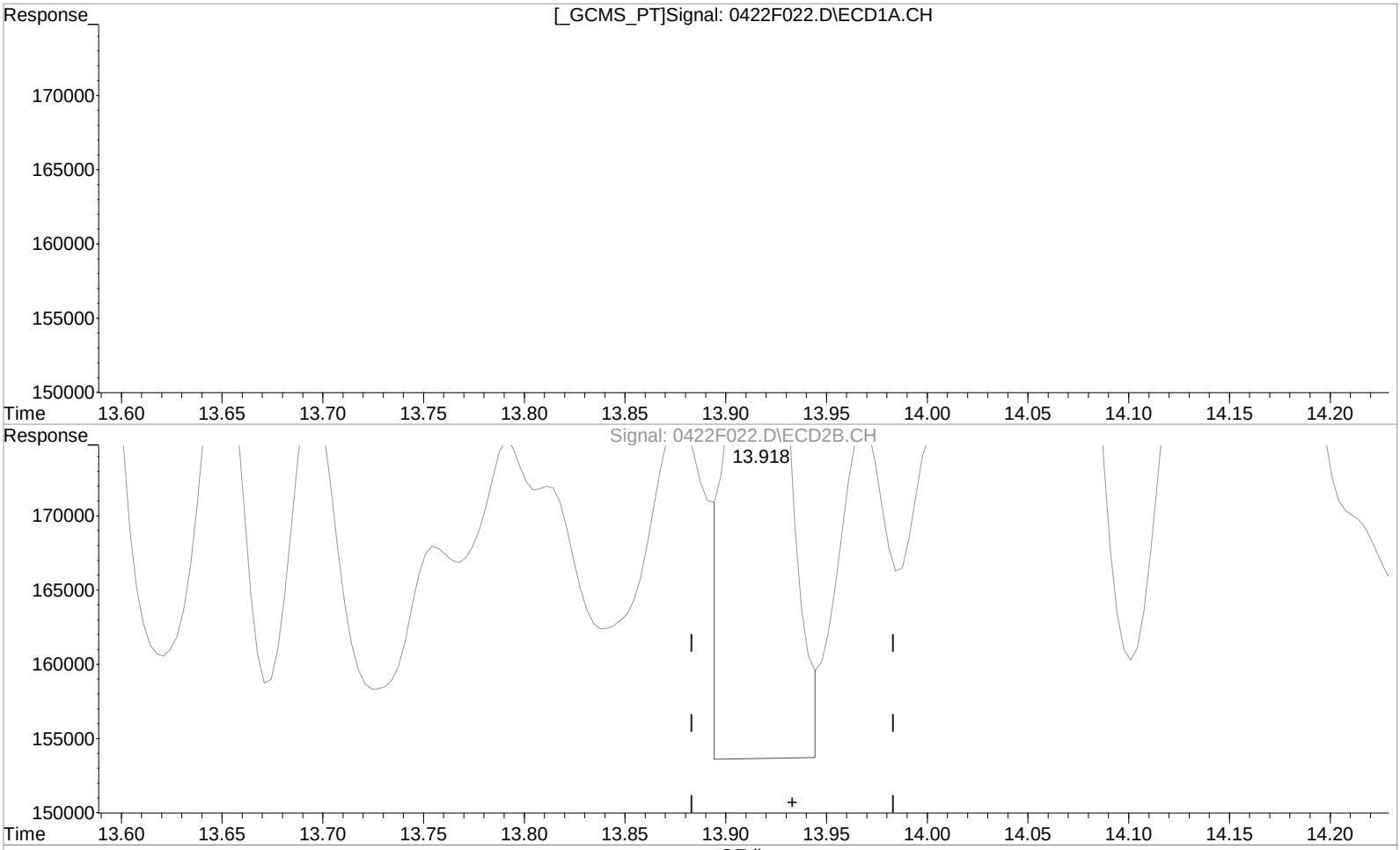
04/23/20

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.330min 140.020 ug/L

response 25243

Manual Integration:

Before

04/23/20

(34) Toxaphene {5} #2

13.918min 165.681 ug/L

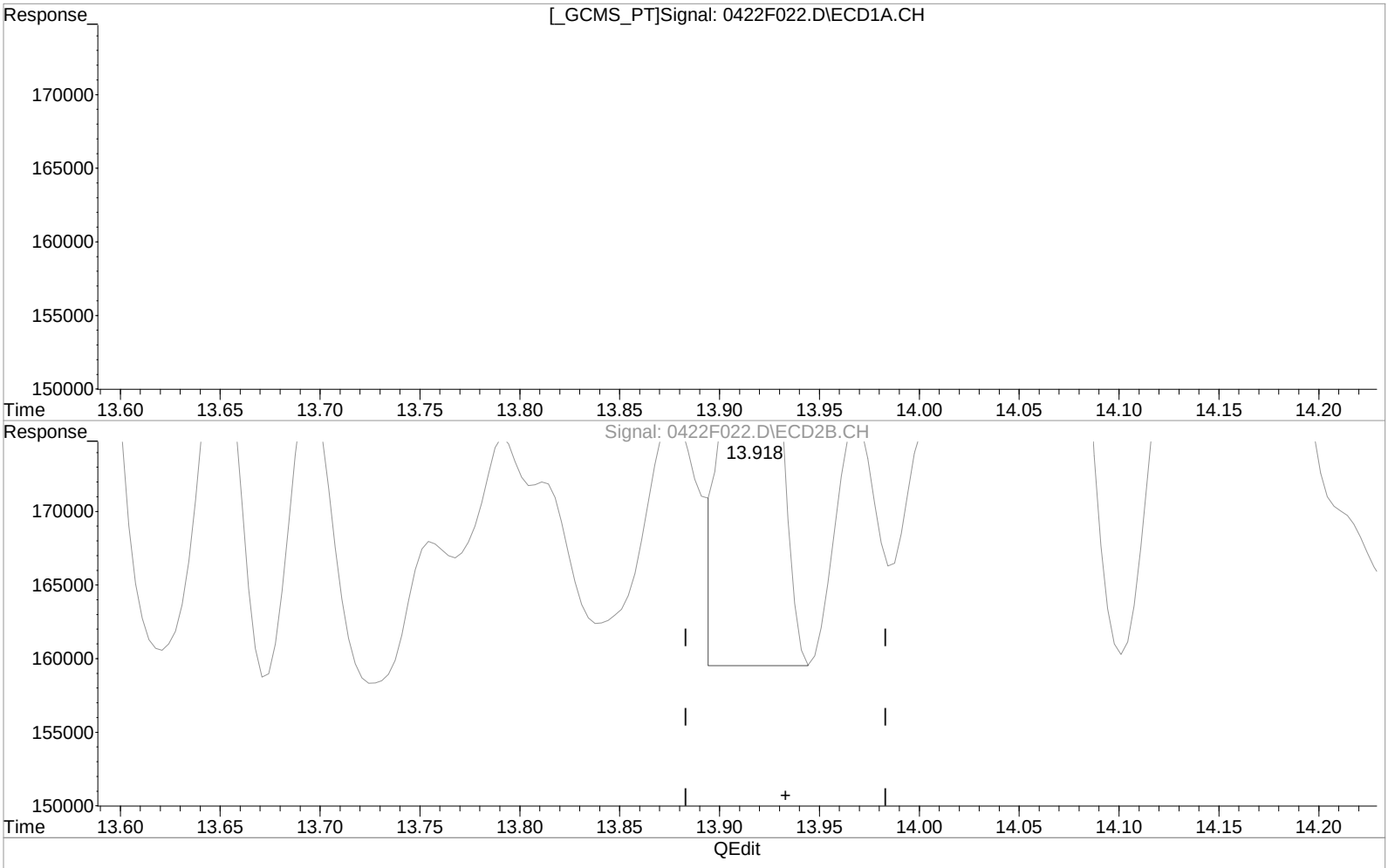
response 91093

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.330min 140.020 ug/L

response 25243

(34) Toxaphene {5} #2

13.918min 133.747 ug/L m

response 73535

Manual Integration:

After

Baseline correction

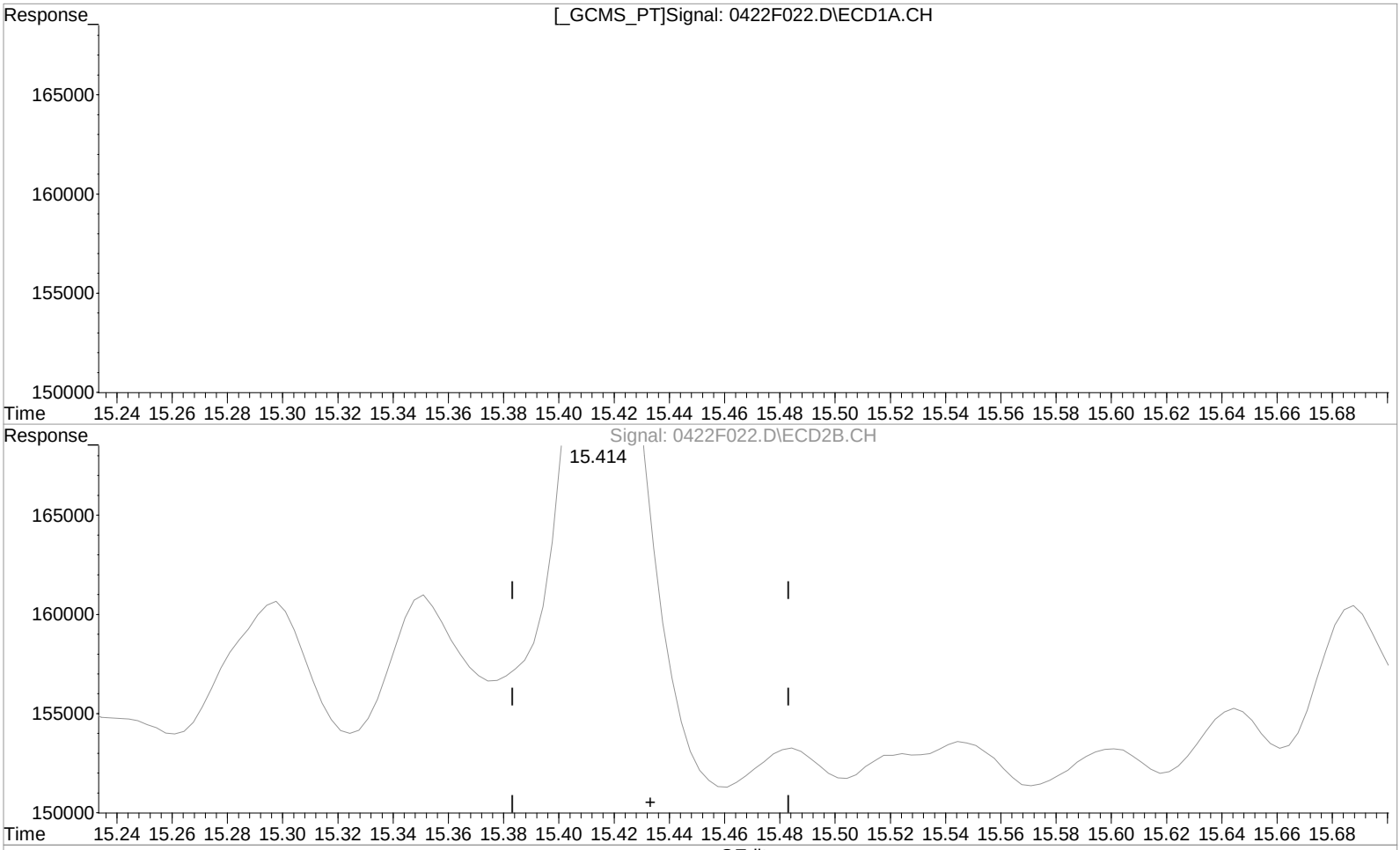
04/23/20

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(35) Toxaphene {6}

15.517min 82.492 ug/L

response 6812

Manual Integration:

Before

04/23/20

(35) Toxaphene {6} #2

15.414min 267.459 ug/L

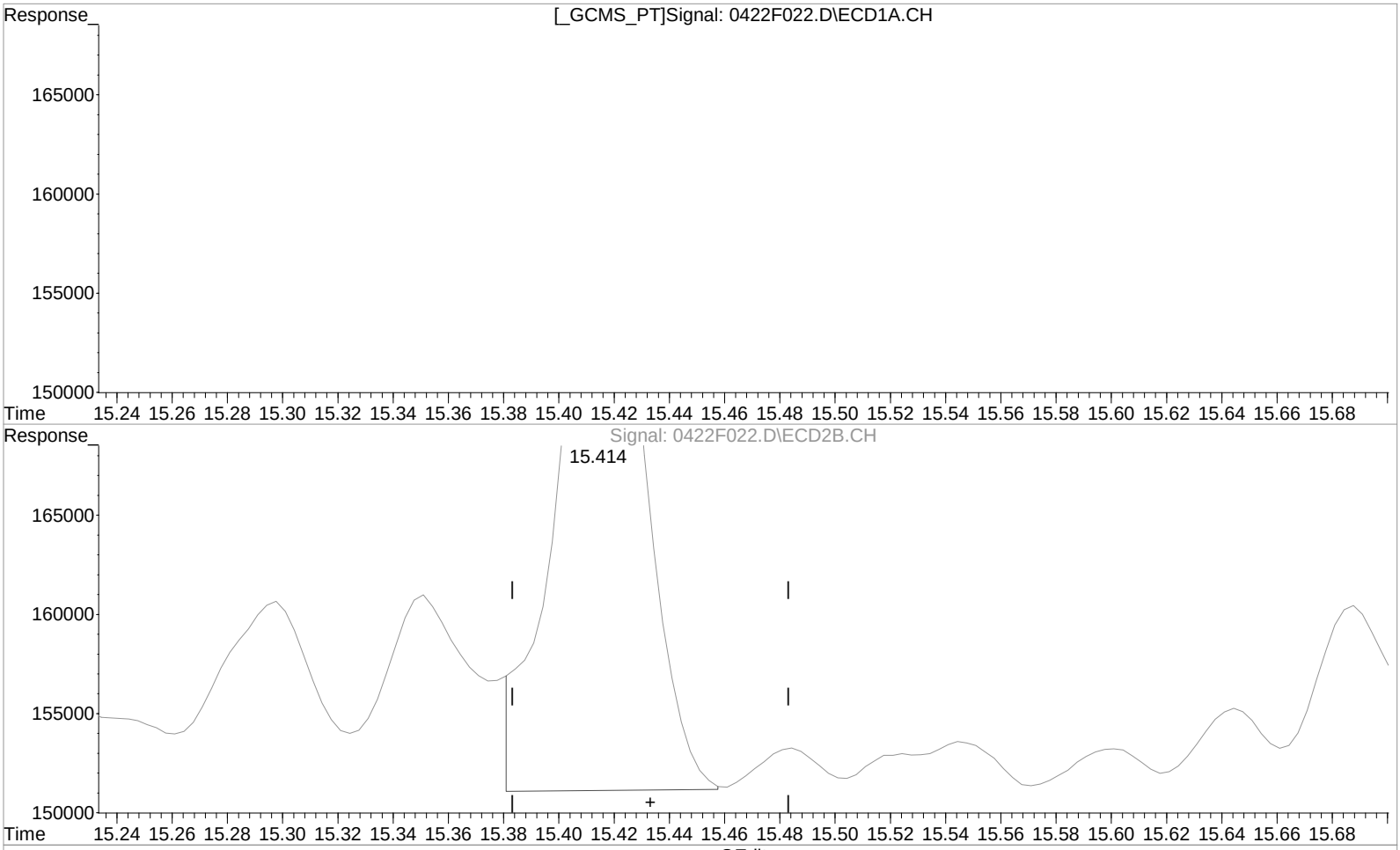
response 79658

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(35) Toxaphene {6}

15.517min 82.492 ug/L

response 6812

Manual Integration:

After

Baseline correction

04/23/20

(35) Toxaphene {6} #2

15.414min 237.932 ug/L m

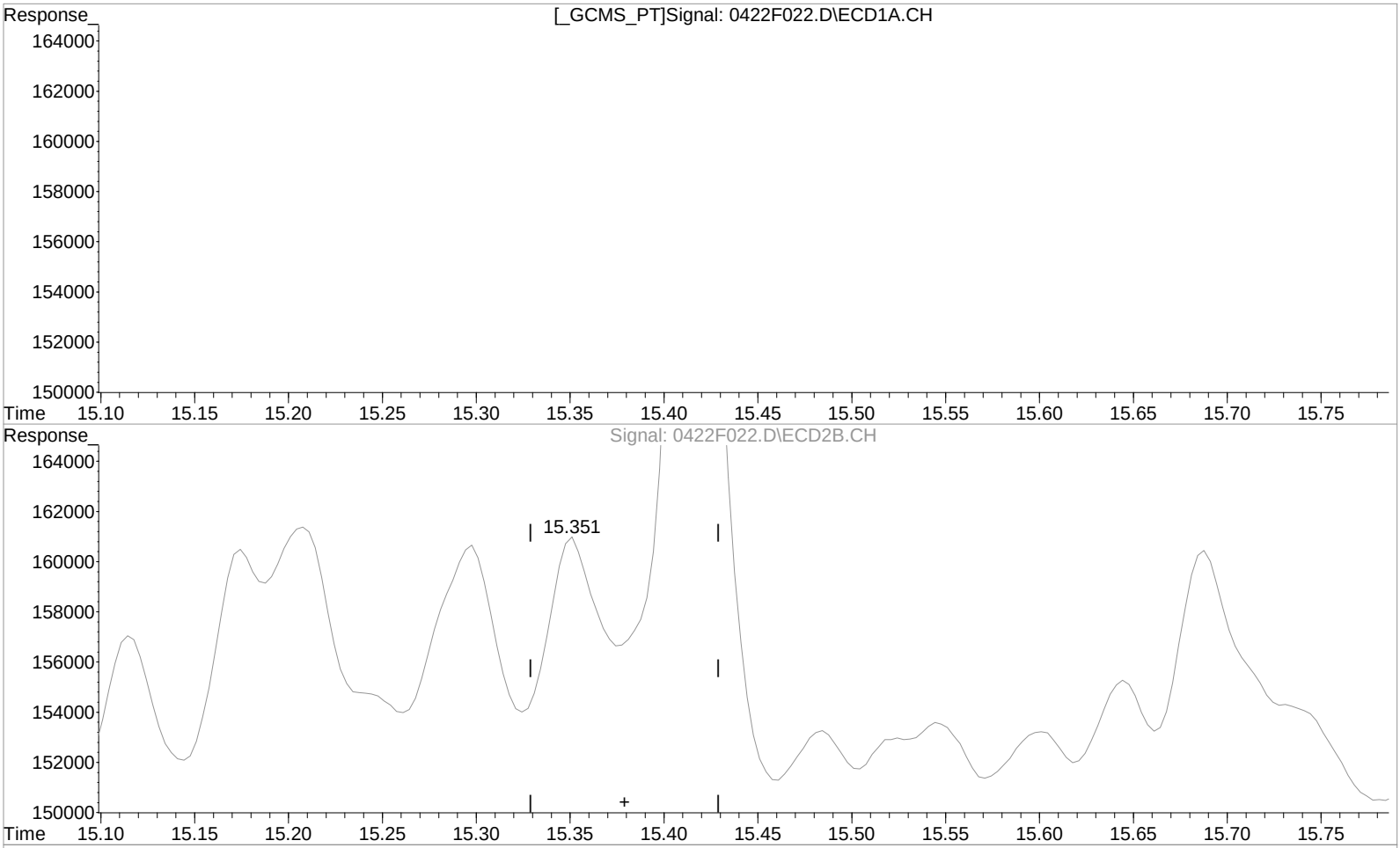
response 70864

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(48) Mirex

17.030min 0.369 ug/L

response 4883

Manual Integration:

Before

04/23/20

(48) Mirex #2

15.351min 0.474 ug/L

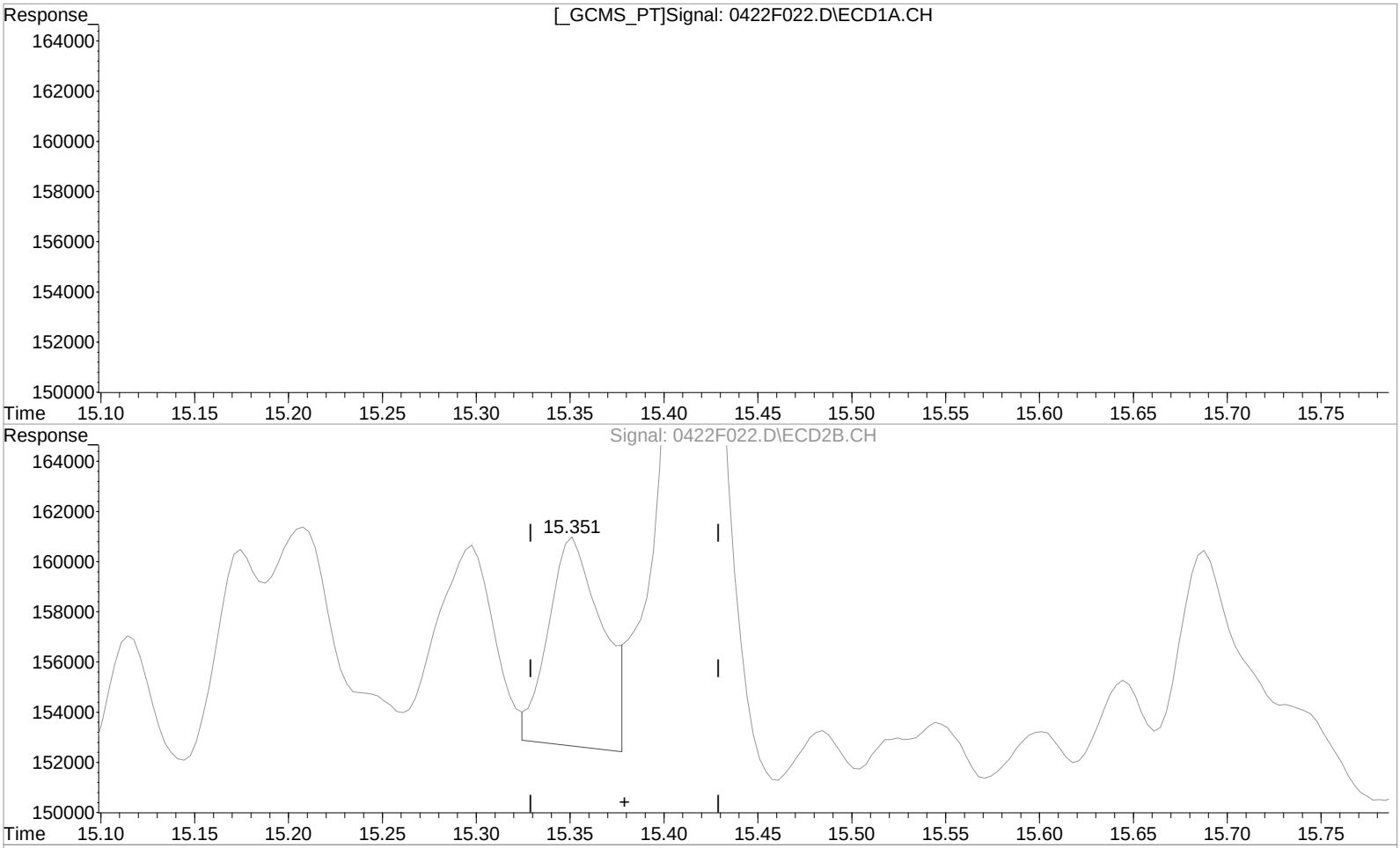
response 24239

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(48) Mirex

17.030min 0.369 ug/L

response 4883

Manual Integration:

After

Baseline correction

04/23/20

(48) Mirex #2

15.351min 0.326 ug/L m

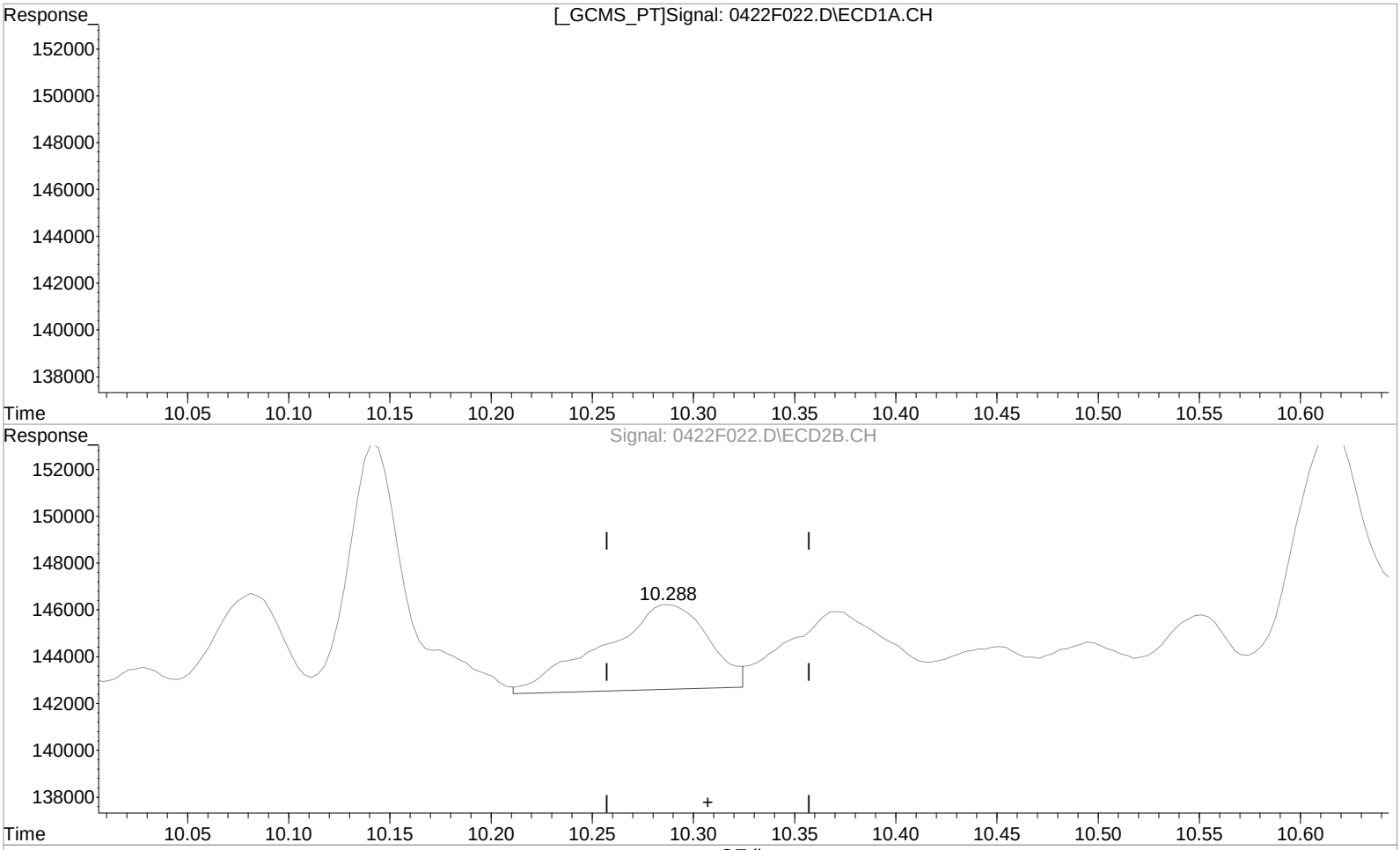
response 16689

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(7) delta-BHC

11.584min 0.066 ug/L

response 1021

(7) delta-BHC #2

10.288min 0.192 ug/L

response 13293

Manual Integration:

Before

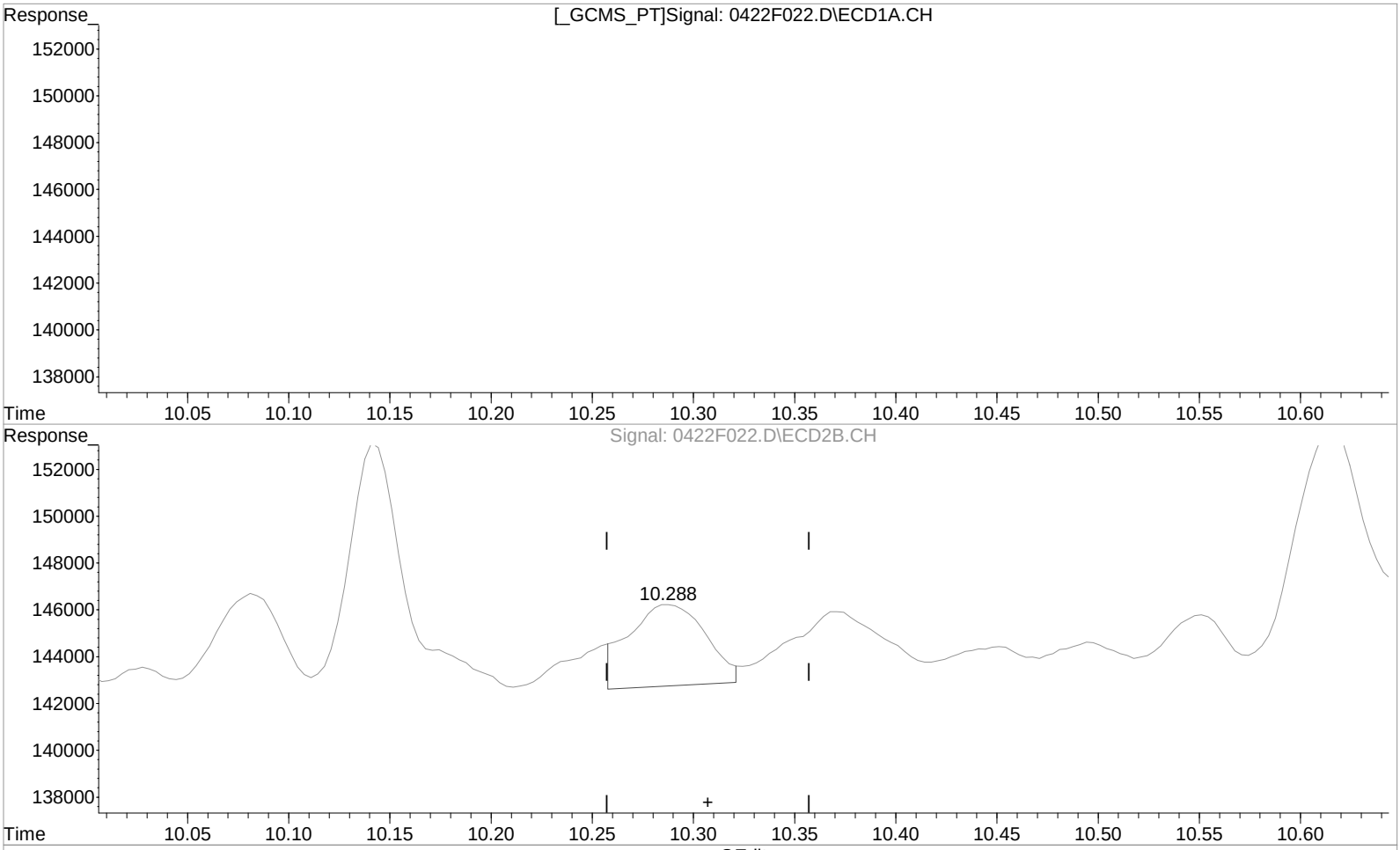
04/23/20

(+) = Expected Retention Time

Data File : J:\GC23\data\042220\0422F022.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 9:23 pm Operator: LM
Sample : K2002652-008 20X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:32:22 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(7) delta-BHC

11.584min 0.066 ug/L

response 1021

Manual Integration:

After

Split peak

04/23/20

(7) delta-BHC #2

10.288min 0.132 ug/L m

response 9179

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F027.D\
Lab ID: K2002652-009.R01
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 08:26:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level		X
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Above Highest ICAL Level - DB XLB	Dieldrin	50.280		10	dil
Above Highest ICAL Level - DB-35MS	Dieldrin	56.444		10	dil
Analyte Coelutions - DB XLB	cis-Chlordane	13.53			see Quant Report
	trans-Chlordane	13.46			
	Chlordane {4}	13.46			
	Chlordane {5}	13.53			
	Chlordane {6}	13.61			
	4,4'-DDD	14.65			
	Endosulfan I	13.61			
	Endosulfan II	14.81			
	Endrin Aldehyde	14.99			
	cis-Nonachlor	14.65			
	trans-Nonachlor	13.61			
	Toxaphene {2}	14.81			
	Toxaphene {4}	14.99			
	1-Bromo-2-nitrobenzene	6.20			
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			SA
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.12			
	trans-Chlordane	11.98			
	Chlordane {4}	11.98			see Quant Report
	Chlordane {5}	12.02			

Primary Review: _____

Secondary Review: _____

1st SM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Chlordane {6}	12.12			see Quant Report
	4,4'-DDD	13.39			
	2,4'-DDE	12.02			
	2,4'-DDT	13.22			
	Endrin Aldehyde	13.93			
	cis-Nonachlor	13.22			
	trans-Nonachlor	12.02			
	Toxaphene {1}	13.39			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.49			
	1-Bromo-2-nitrobenzene {2}	5.49			
	1-Bromo-2-nitrobenzene {3}	5.49			SA
	1-Bromo-2-nitrobenzene {4}	5.49			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F027.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 08:26:00	**Vial:**	12
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-009.R01	**Raw Units:**	ug/L

Bottle ID:	K2002652-009.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.49 c	1044268	4449535	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.49 c	1044268	4449535	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.49 +0.0 c	1044268	4449535	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07 +0.01	51807	194226	2.788	2.708	56	54	54	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.27	89190	303113	5.891	5.498	118	110	110	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.21	10.51 -0.01	29538	13787	1.765	0.197	8.8Ui	0.99Ui	1.1 Ui		Y
alpha-BHC	9.82	8.50	9875	21818	0.567	0.309	2.8	1.5	**1.5**	P	Y
beta-BHC	11.08	9.78	15516	85540	1.666	2.557	8.3	13	**8.3**	P	Y
gamma-BHC (Lindane)	10.49	9.24	15227	73263	0.905	1.067	4.5	5.3	**4.5**		Y
Chlordane					126.0248	1333333333	630	790	**630**		Y
Chlordane {1}	11.27	9.57	88221	289954	123.926	119.377	620	600			
Chlordane {2}	0.00	11.67 +0.01	0	301552	0.000	182.048	0	910			
Chlordane {3}	12.26 +0.01	11.82 +0.01	65562	186446	101.308	169.551	510	850		P	
Chlordane {4}	13.46 +0.0 c	11.98 +0.0 c	294205	1049396	149.762	157.566	750	790			
Chlordane {5}	13.53 c	12.02 c	227055	638641	139.733	156.611	700	780			
Chlordane {6}	13.61 c	12.12 c	137648	959083	115.395	162.435	580	810			
Dieldrin	14.00	12.64 +0.01	866337	3689080	50.280	56.444	250E	280E	**250** E		Y
Heptachlor	11.70 +0.01	9.93	6385	168479	0.353	2.417	1.8Ui	12Ui	1.9 Ui		Y
Heptachlor Epoxide	12.94 +0.01	11.61 +0.01	20767	38330	1.180	0.557	5.9	2.8	**2.8**	P	Y
Hexachlorobenzene	9.99 +0.01	0.00	4713	0	0.229	0.000	1.1	0U	0.27 U		Y
Toxaphene					2333333333	1833333333	2400	3000	**2400**		Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F027.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 08:26:00	**Vial:**	12
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-009.R01	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.75		13.39	c	91057	372353	530.691	376.603	2700	1900		
Toxaphene {2}	14.81	c	13.46		84541	286562	544.725	376.713	2700	1900		
Toxaphene {3}	14.93		13.59	-0.01	105807	538482	342.140	662.187	1700	3300		P
Toxaphene {4}	14.99	-0.01 c	13.66	-0.01	71645	165427	344.481	536.492	1700	2700		P
Toxaphene {5}	15.34	-0.01	13.93	c	91981	303825	464.132	570.477	2300	2900		
Toxaphene {6}	15.53	-0.01	15.43		48740	301229	686.785	1044.119	3400	5200		P

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 20:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.199	5.486	1044268	4449535	100.000	100.000
29)	1-Bromo-2...	6.199	5.486	1044268	4449535	100.000	100.000
36)	1-Bromo-2...	6.199	5.486	1044268	4449535	100.000	100.000
43)	1-Bromo-2...	6.199	5.486	1044268	4449535	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.975	7.266	89190	303113	5.891	5.498
28) s	Decachlor...	18.672	17.066	51807	194226	2.788	2.708
	Target Compounds						
3)	alpha-BHC	9.822	8.499	9875	21818	0.567	0.309 #
4)	Hexachlor...	9.992	0.000	4713	0	0.229	N.D. d#
5)	beta-BHC	11.079	9.783	15516	85540	1.666	2.557 #
6)	gamma-BHC...	10.489	9.243	15227	73263	0.905	1.067
7)	delta-BHC	11.592	10.296	9404	72306	0.552m	1.077 #
8)	Heptachlor	11.702	9.929	6385	168479	0.353m	2.417 #
9)	Aldrin	12.209	10.506	29538	13787	1.765m	0.197 #
10)	Isodrin	12.729	11.289	35303	50224	2.458m	0.856 #
11)	Heptachlo...	12.942	11.606	20767	38330	1.180m	0.557m#
12)	gamma-Chl...	13.455	11.976	329917	1103582	18.741	16.601
13)	Endosulfan I	13.612f	12.233f	135300	186387	8.425m	3.113m#
14)	alpha-Chl...	13.532	12.123	239090	970843	13.644m	14.418m
15)	Dieldrin	14.002	12.636	866337	3689080	50.280	56.444m
16)	4,4'-DDE	13.829	12.496	53071	84477	3.292m	1.342m#
17)	Endrin	14.369	13.116	103867	213496	6.605m	3.432m#
18)	Endosulfa...	14.809	13.546	120464	921876	7.561	16.402m#
19)	4,4'-DDD	14.652	13.389	75196	372701	6.034	7.913m#
20)	Endrin Al...	14.992	13.929	103897	346426	7.523m	7.443
21)	Endosulfa...	15.469	14.246	157238	265796	9.687	4.796m#
22)	4,4'-DDT	15.162	13.826f	58553	471297	4.472m	10.379m#
23)	Endrin Ke...	16.159	15.189	179105	750998	10.283	11.327
24)	Methoxychlor	15.879	14.896	198450	233763	24.993	9.275 #
25)	2,4'-DDE	13.205	12.019	23063	682668	2.048m	16.619 #
26)	2,4'-DDD	13.935	12.759f	92925	78217	9.397m	2.196m#
27)	2,4'-DDT	14.479f	13.216	282658	113669	24.978m	2.943m#
30)	Toxaphene	14.745	13.389	91057	372353	530.691	376.603m#
31)	Toxaphene...	14.809	13.456	84541	286562	544.725m	376.713m#
32)	Toxaphene...	14.925	13.593	105807	538482	342.140m	662.187m#
33)	Toxaphene...	14.992	13.663	71645	165427	344.481m	536.492m#
34)	Toxaphene...	15.342	13.929	91981	303825	464.132m	570.477m
35)	Toxaphene...	15.529	15.429	48740	301229	686.785	1044.119 #
37)	Chlordane	11.269	9.569	88221	289954	123.926	119.377
38)	Chlordane...	0.000	11.666	0	301552	N.D. d	182.048m
39)	Chlordane...	12.255	11.816	65562	186446	101.308m	169.551m#
40)	Chlordane...	13.455	11.976	294205	1049396	149.762m	157.566m
41)	Chlordane...	13.532	12.019	227055	638641	139.733m	156.611m
42)	Chlordane...	13.612	12.123	137648	959083	115.395m	162.435m#
44)	Chlorpyrifos	12.115	10.889	14511	73179	1.508m	2.620m#
45)	Oxychlordane	12.879	11.406	80543	131876	4.842	2.098 #
46)	cis-Nonac...	14.652	13.216	75196	120981	4.299	1.845m#
47)	trans-Non...	13.612	12.019	157184	682668	8.940	10.542

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 20:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
48)	Mirex	16.969f	15.363	2872	42259	0.197	0.853 #
52)	Perthane	14.089	12.906	30102	158475	60.572	97.215m#

SemiQuant Compounds - Not Calibrated on this Instrument

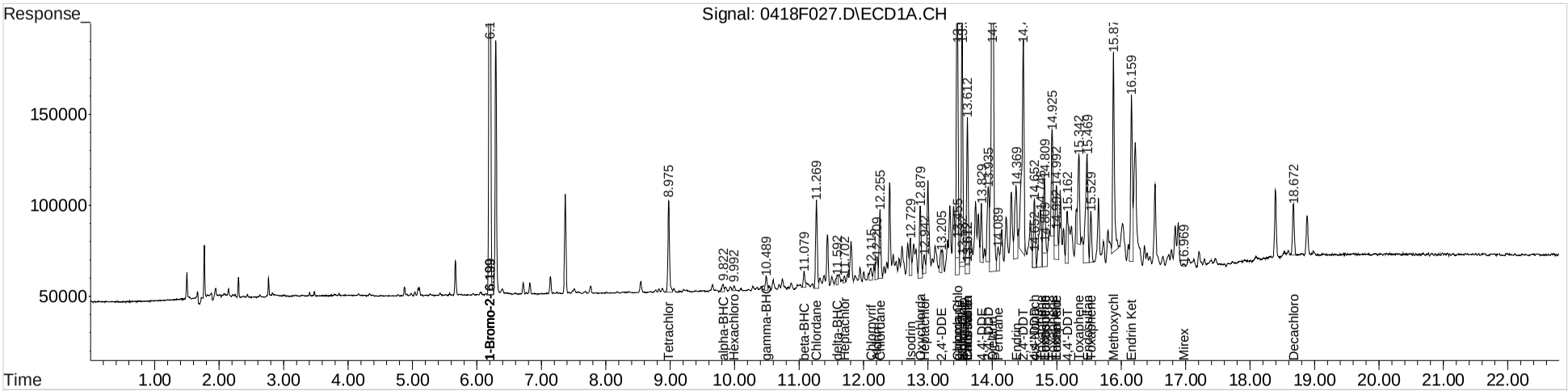
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
egration File signal 1: RTEINT.P
egration File signal 2: RTEINT2.P
Quant Time: Apr 24 20:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



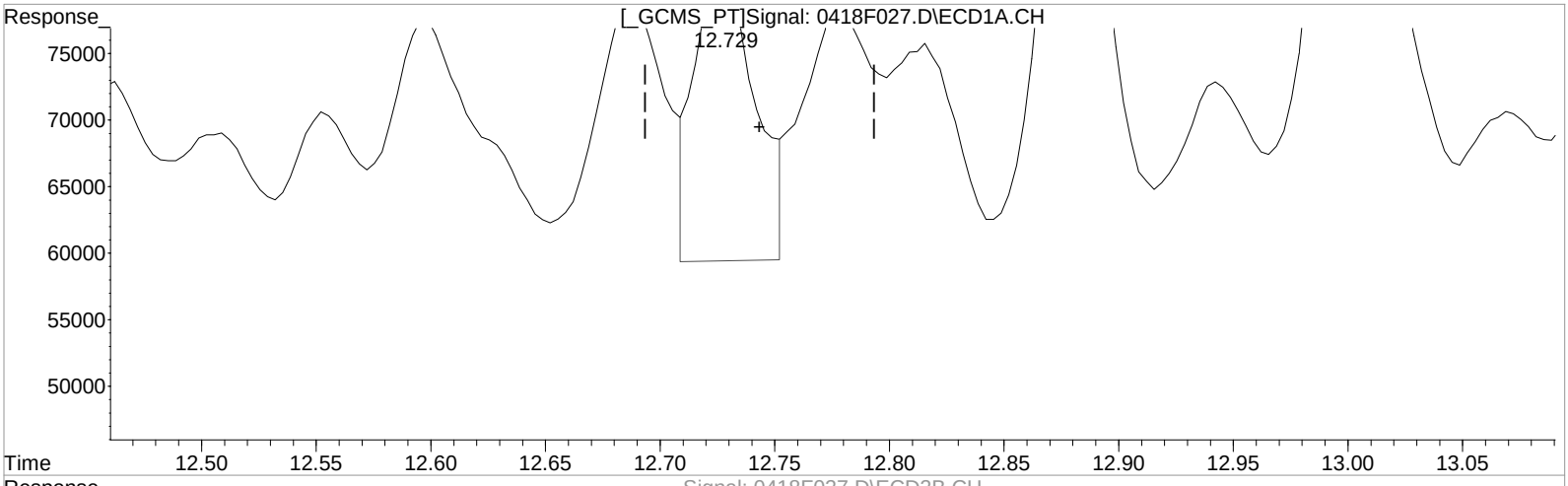
Quantitation Report (Qedit)

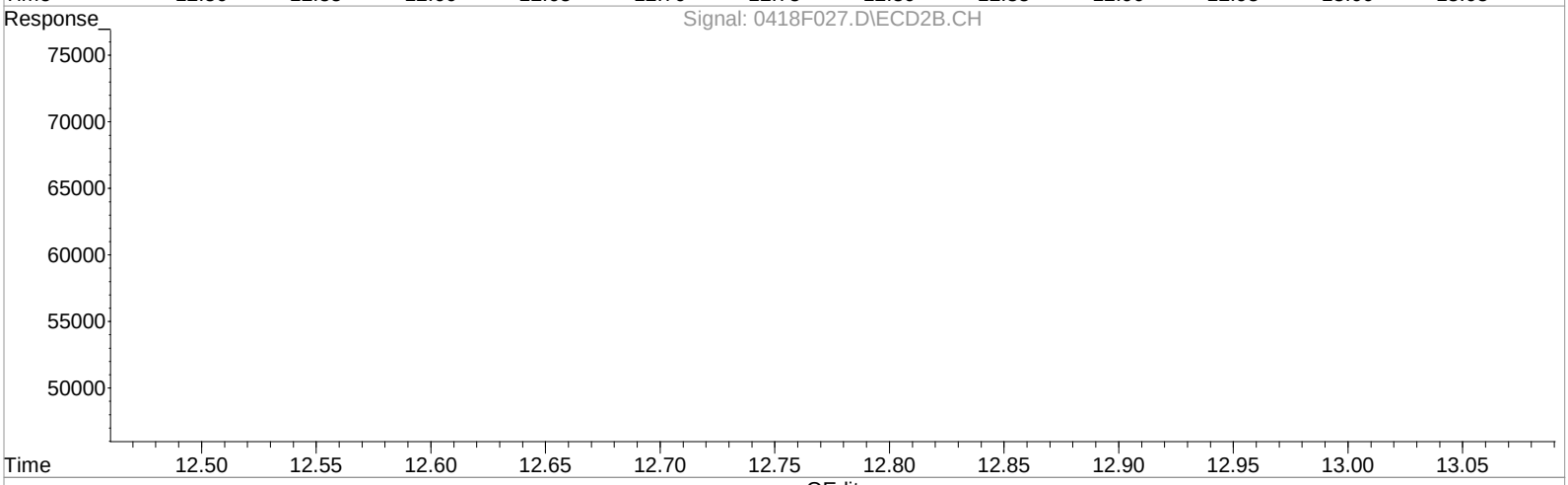
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(10) Isodrin

12.729min 2.805 ug/L

response 40292

Manual Integration:

Before

04/21/20

(10) Isodrin #2

11.289min 0.856 ug/L

response 50224

(+) = Expected Retention Time

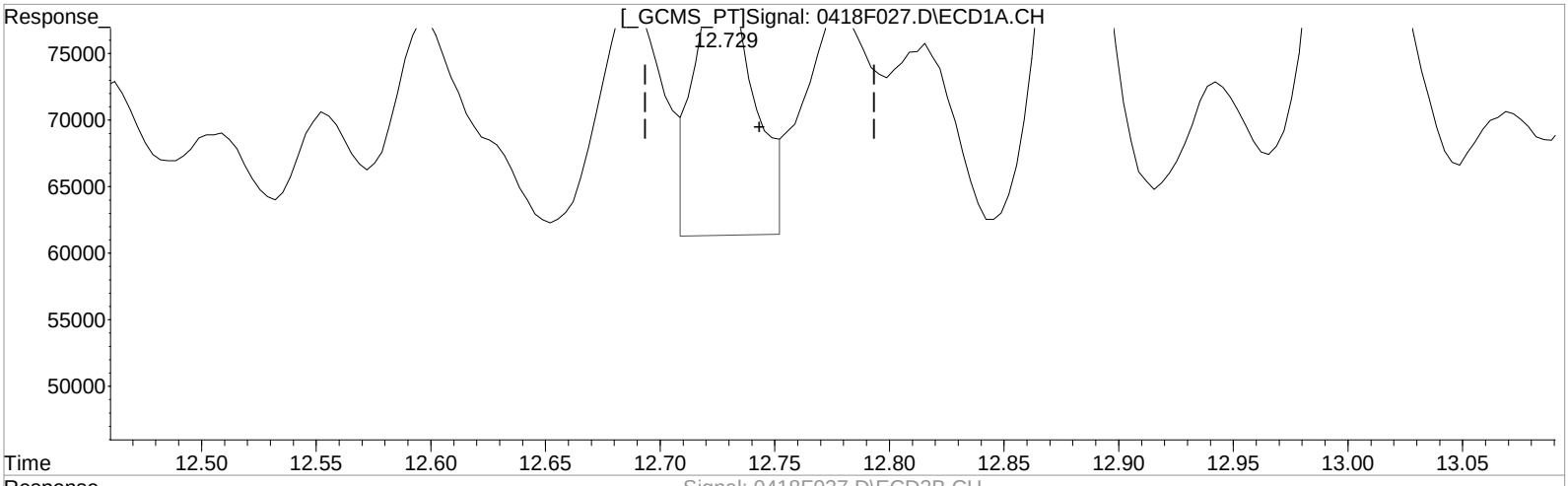
Quantitation Report (Qedit)

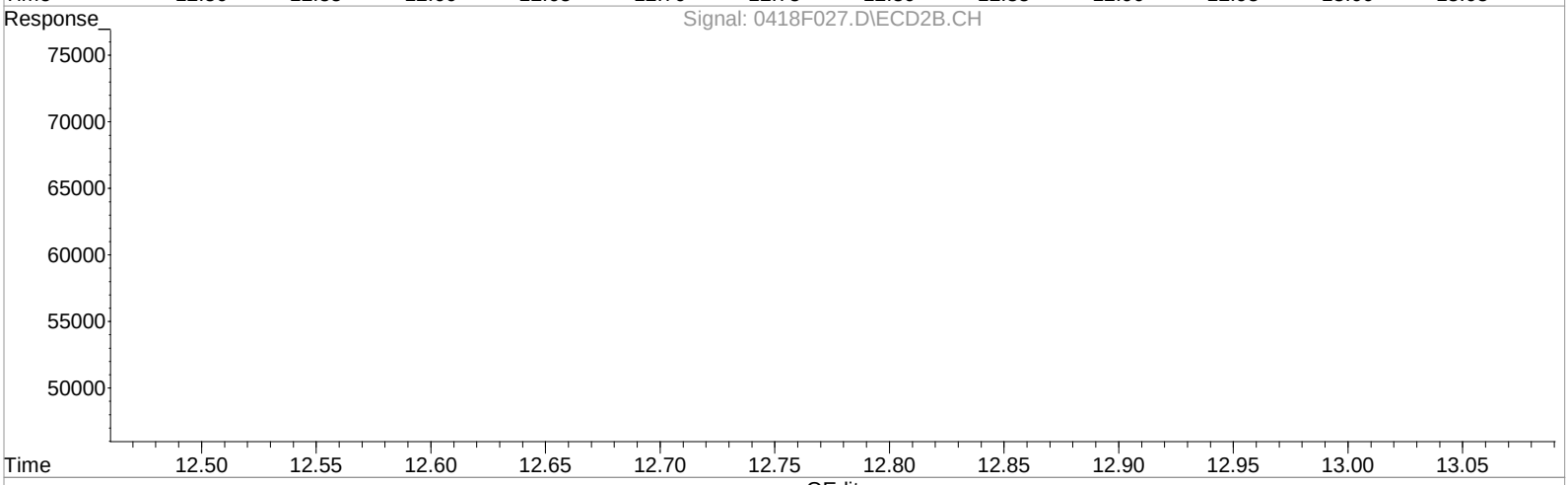
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(10) Isodrin

12.729min 2.458 ug/L m

response 35303

Manual Integration:

After

Baseline correction

04/21/20

(10) Isodrin #2

11.289min 0.856 ug/L

response 50224

(+) = Expected Retention Time

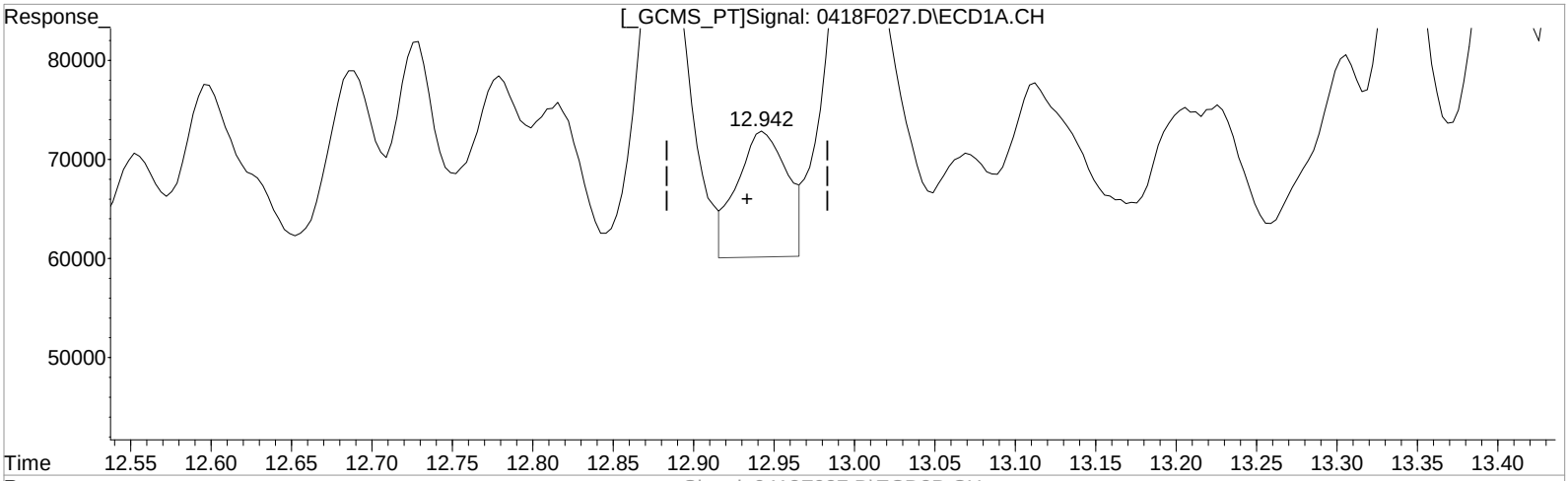
Quantitation Report (Qedit)

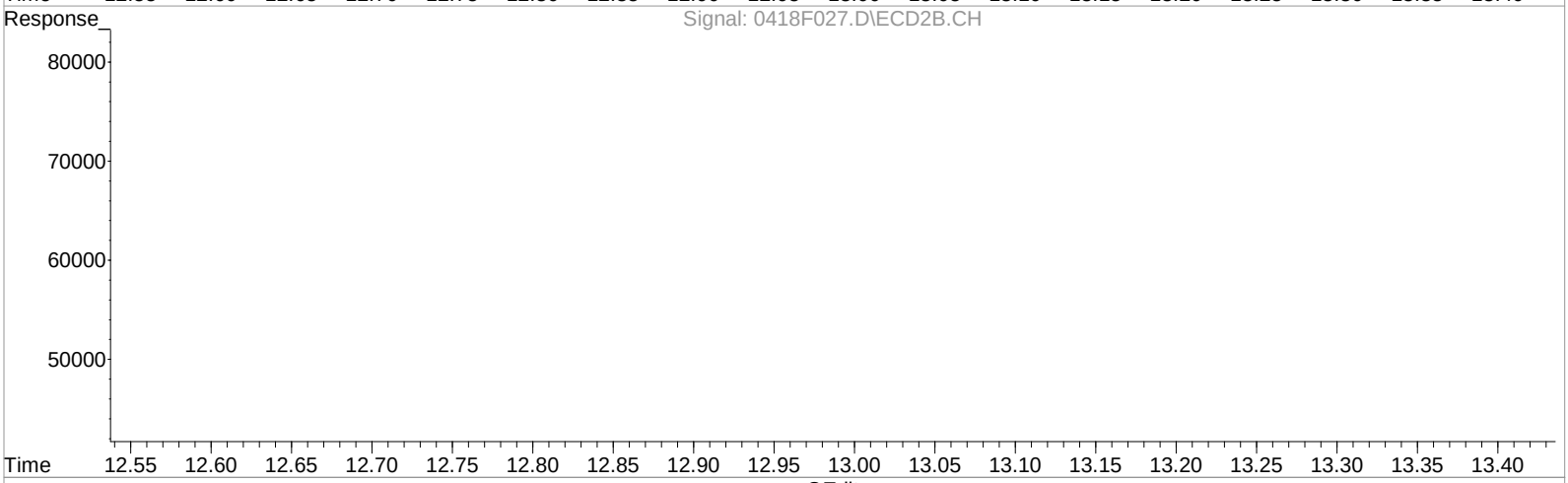
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(11) Heptachlor Epoxide

12.942min 1.578 ug/L

response 27775

Manual Integration:

Before

04/21/20

(11) Heptachlor Epoxide #2

11.626min 2.317 ug/L

response 159316

(+) = Expected Retention Time

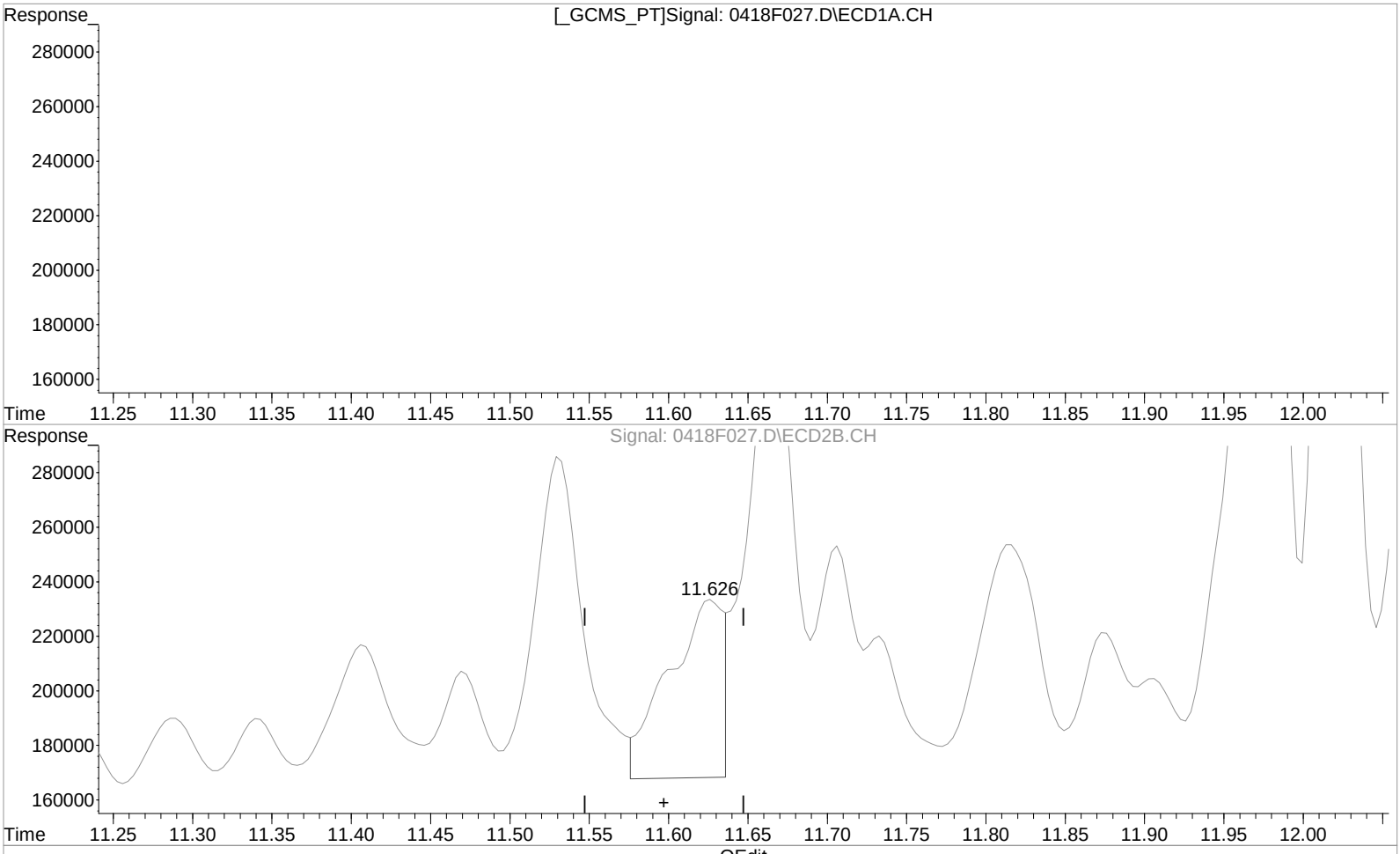
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(11) Heptachlor Epoxide

12.942min 1.180 ug/L m

response 20767

Manual Integration:

Before

04/21/20

(11) Heptachlor Epoxide #2

11.626min 2.317 ug/L

response 159316

(+) = Expected Retention Time

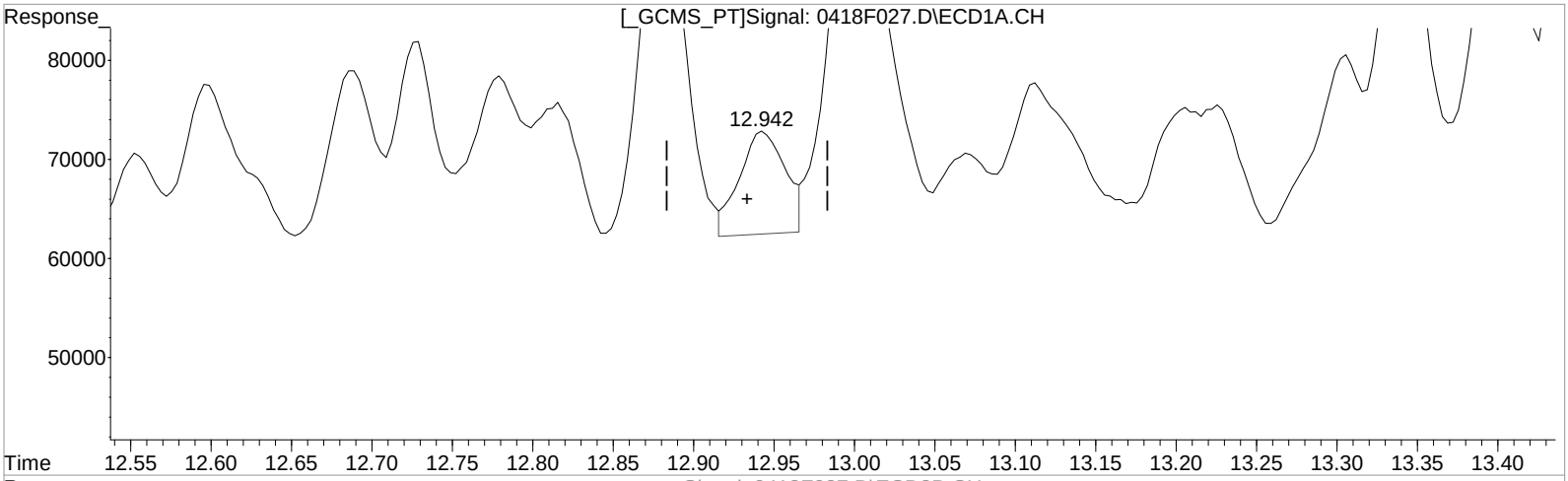
Quantitation Report (Qedit)

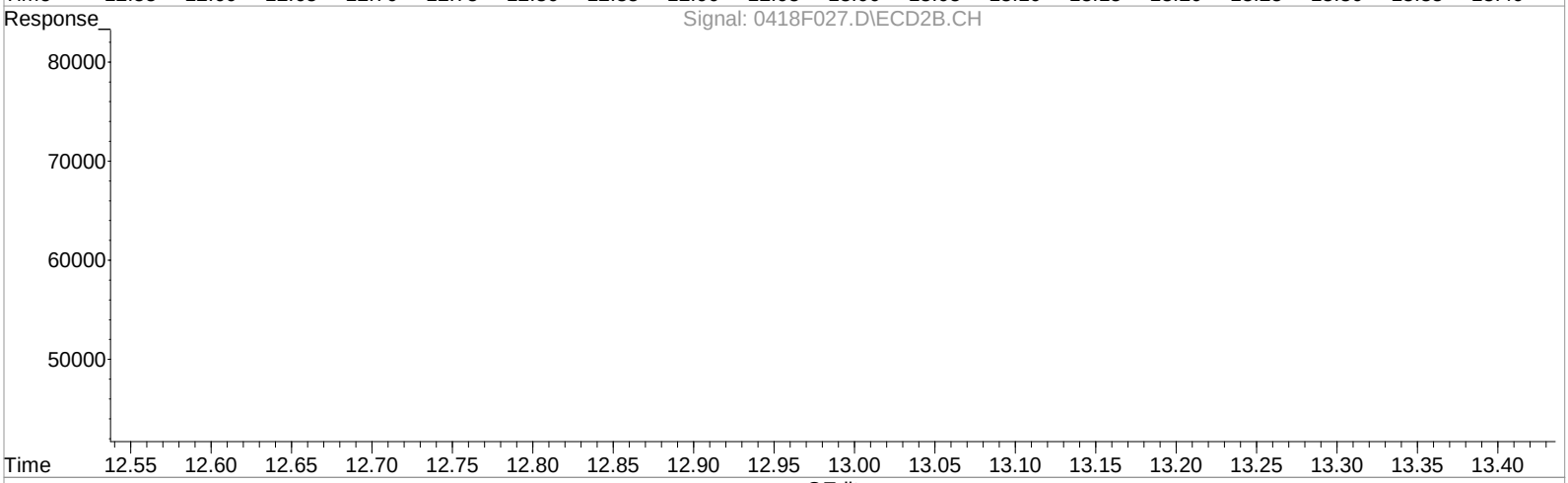
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(11) Heptachlor Epoxide

12.942min 1.180 ug/L m

response 20767

Manual Integration:

After

Baseline correction

04/21/20

(11) Heptachlor Epoxide #2

11.626min 2.317 ug/L

response 159316

(+) = Expected Retention Time

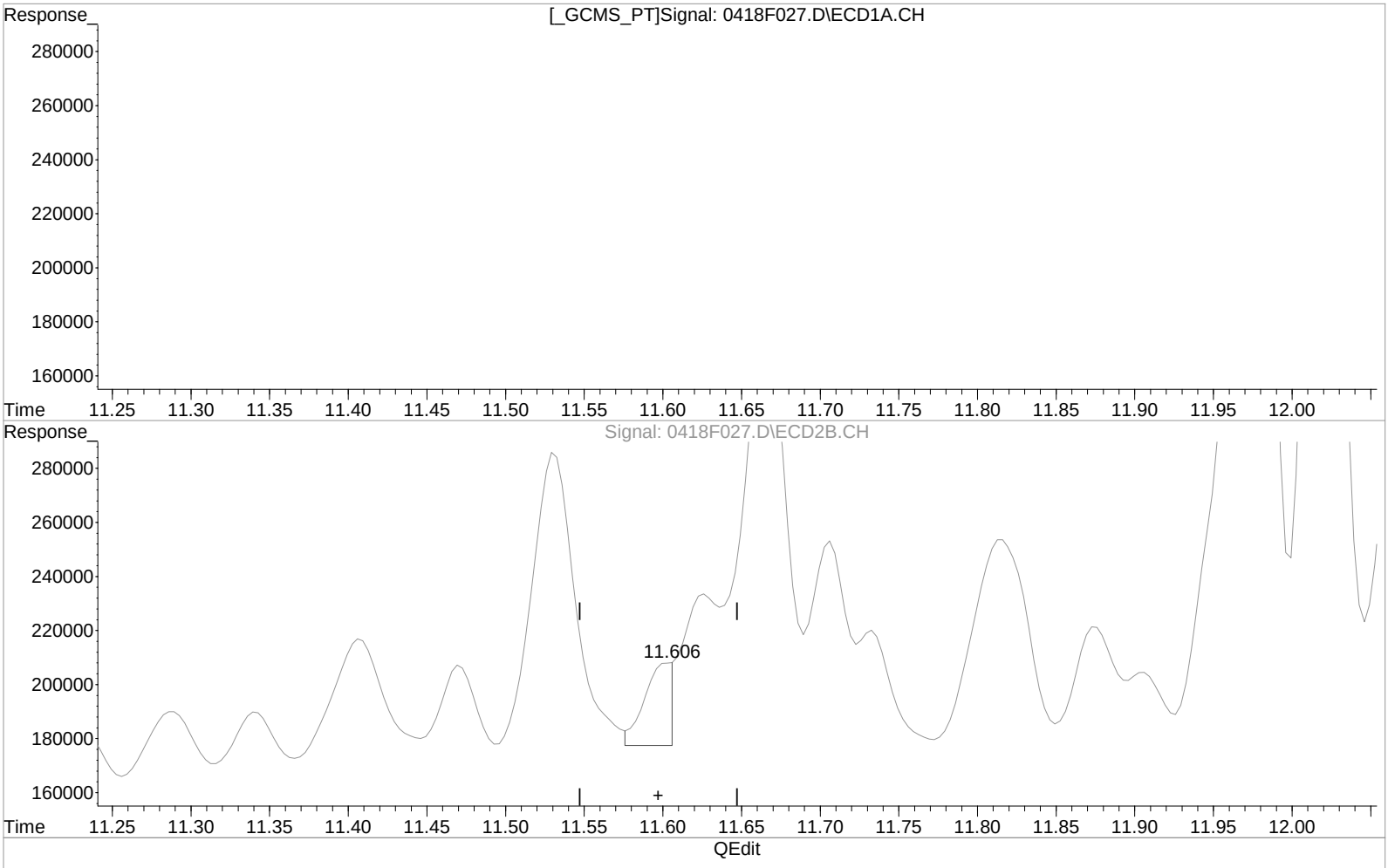
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(11) Heptachlor Epoxide

12.942min 1.180 ug/L m

response 20767

Manual Integration:

After

Shoulder

04/21/20

(11) Heptachlor Epoxide #2

11.606min 0.557 ug/L m

response 38330

(+) = Expected Retention Time

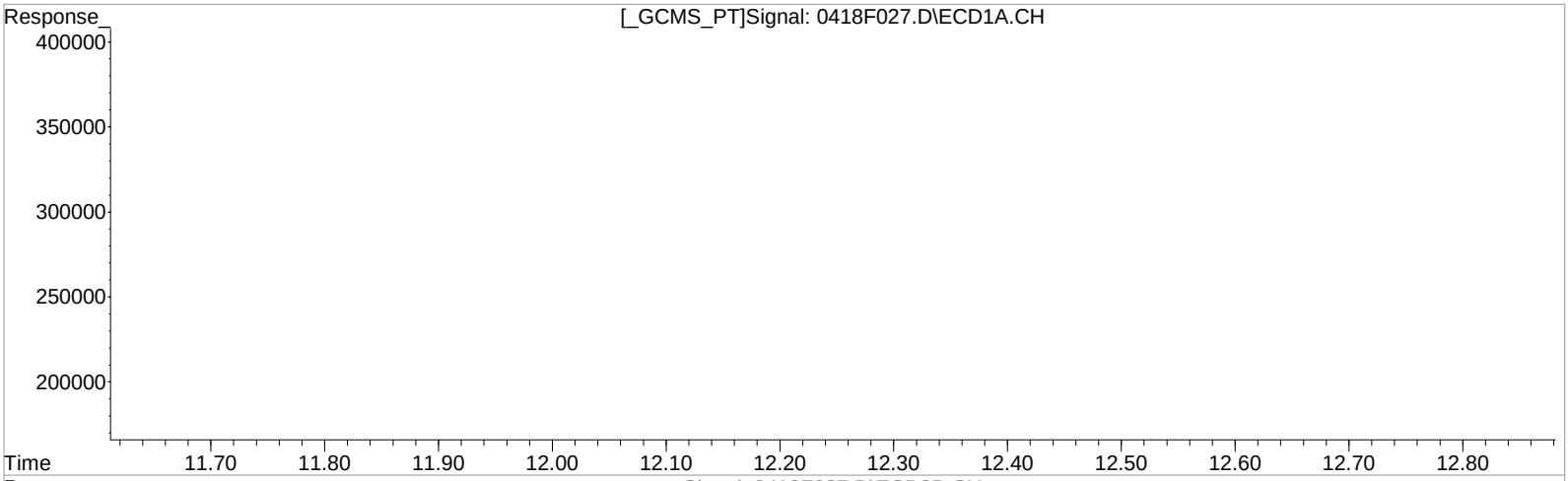
Quantitation Report (Qedit)

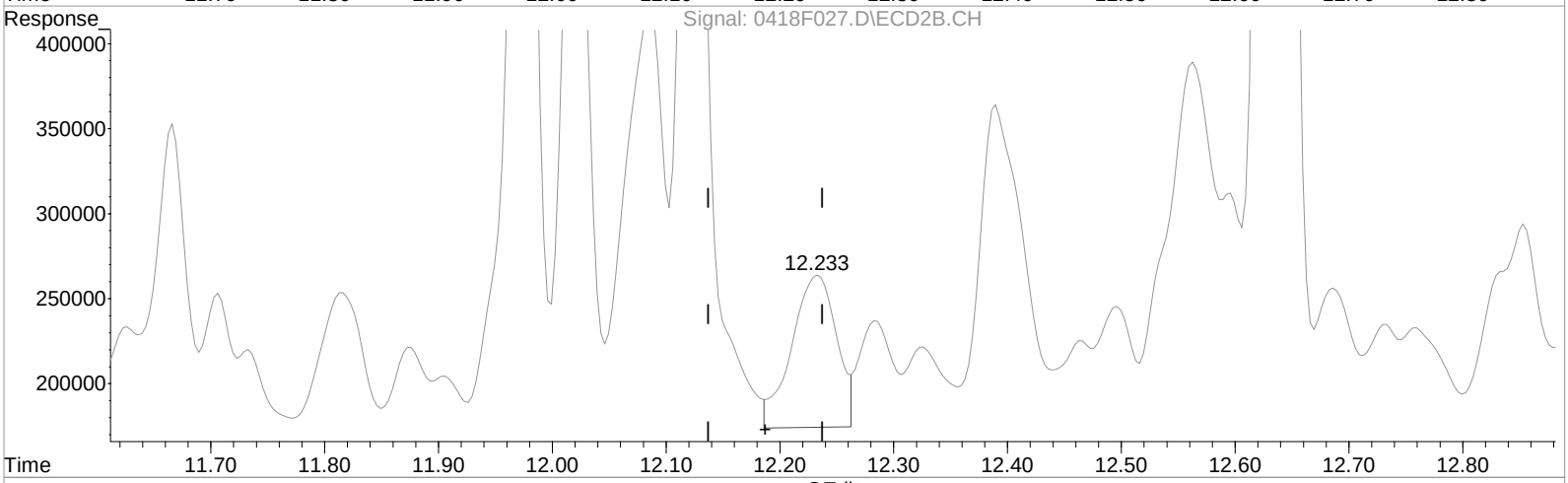
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(13) Endosulfan I

13.612min 9.788 ug/L

response 157184

Manual Integration:

Before

04/21/20

(13) Endosulfan I #2

12.233min 4.136 ug/L

response 247651

(+) = Expected Retention Time

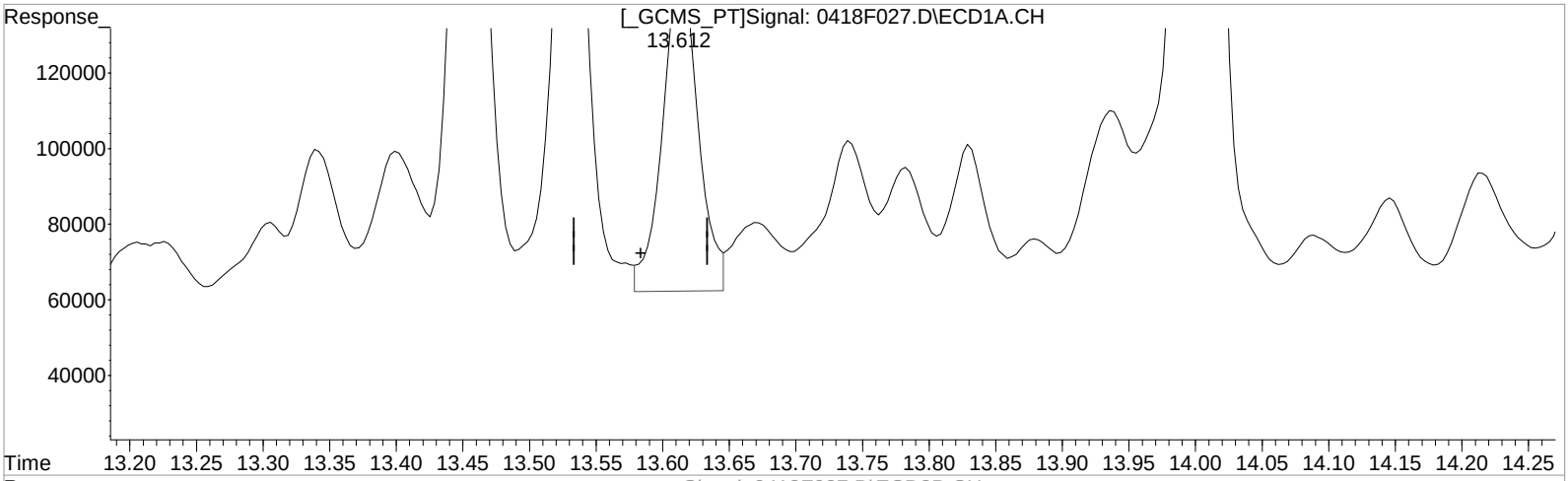
Quantitation Report (Qedit)

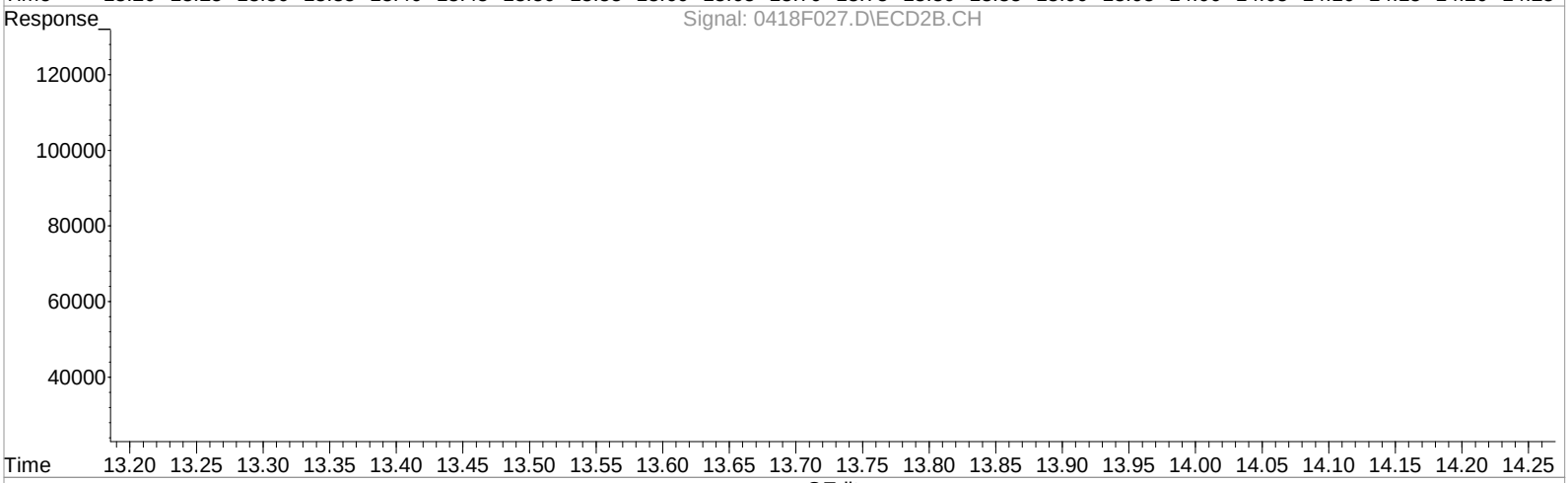
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(13) Endosulfan I

13.612min 9.788 ug/L

response 157184

Manual Integration:

Before

04/21/20

(13) Endosulfan I #2

12.233min 3.113 ug/L m

response 186387

(+) = Expected Retention Time

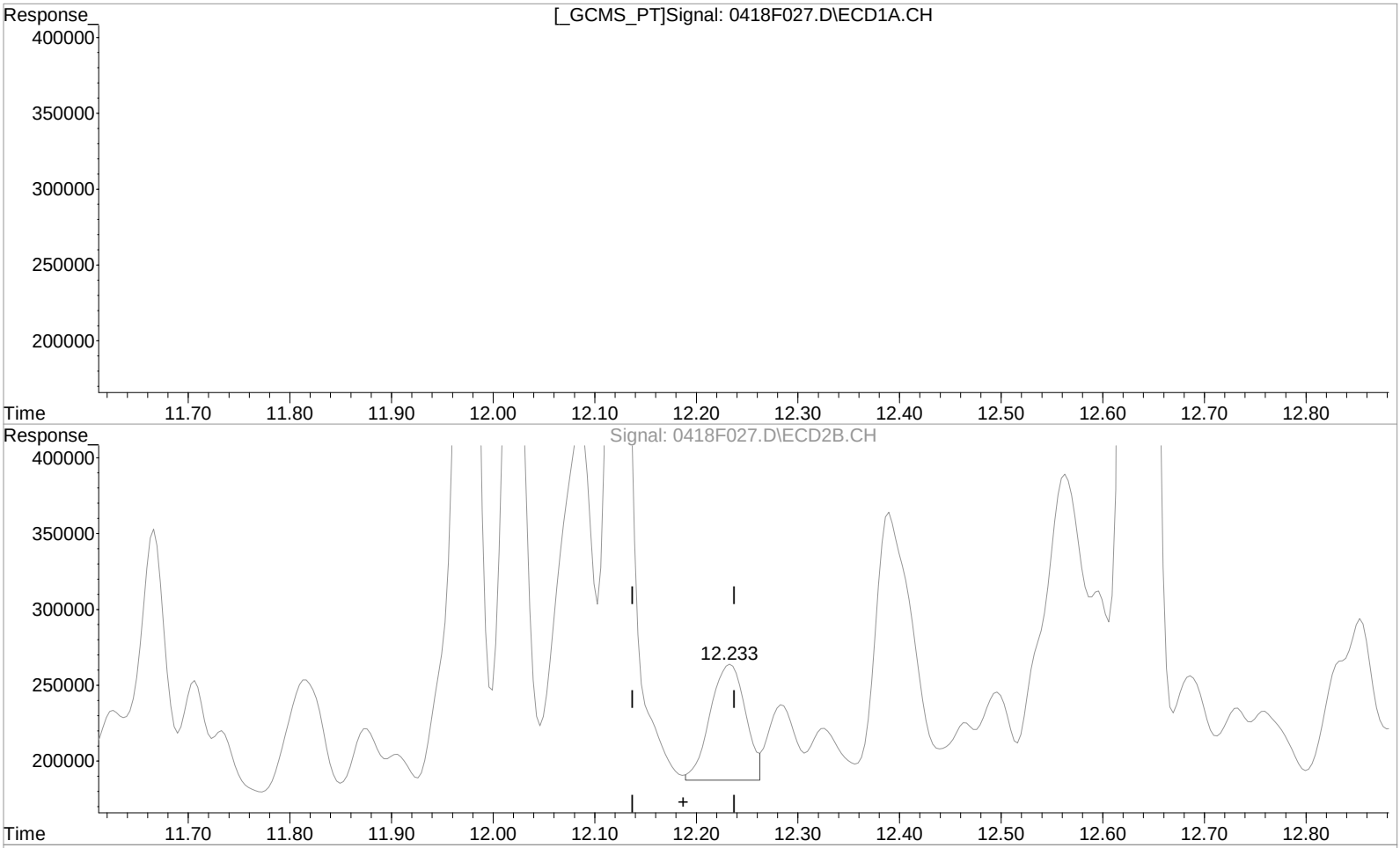
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(13) Endosulfan I

13.612min 9.788 ug/L

response 157184

Manual Integration:

After

Baseline correction

04/21/20

(13) Endosulfan I #2

12.233min 3.113 ug/L m

response 186387

(+) = Expected Retention Time

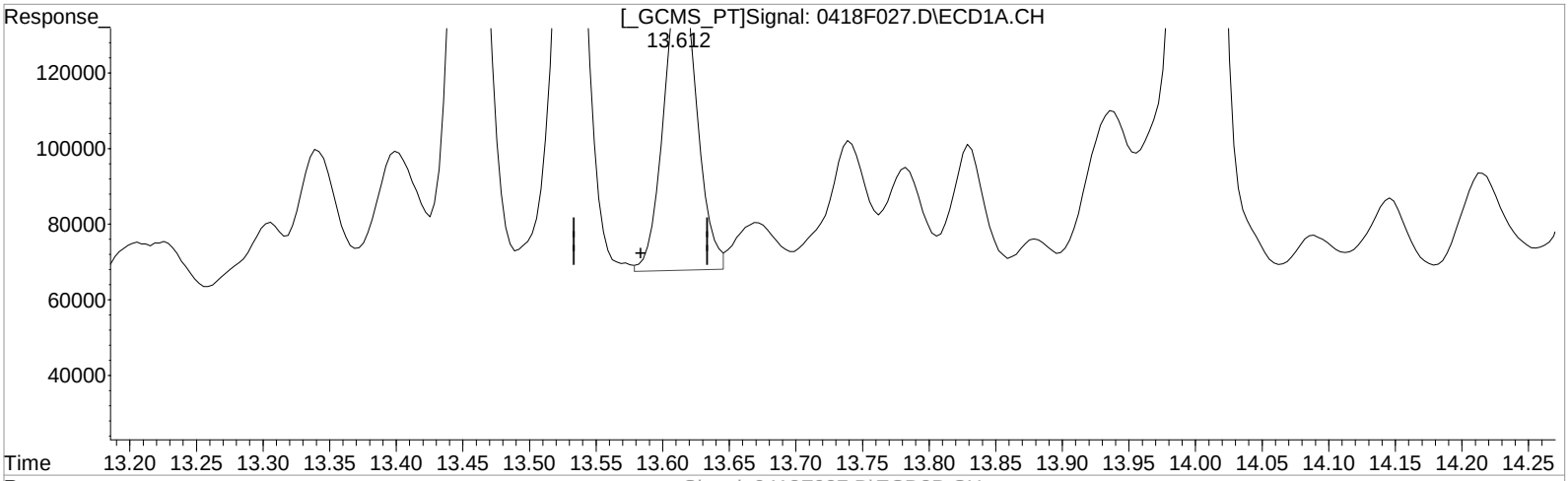
Quantitation Report (Qedit)

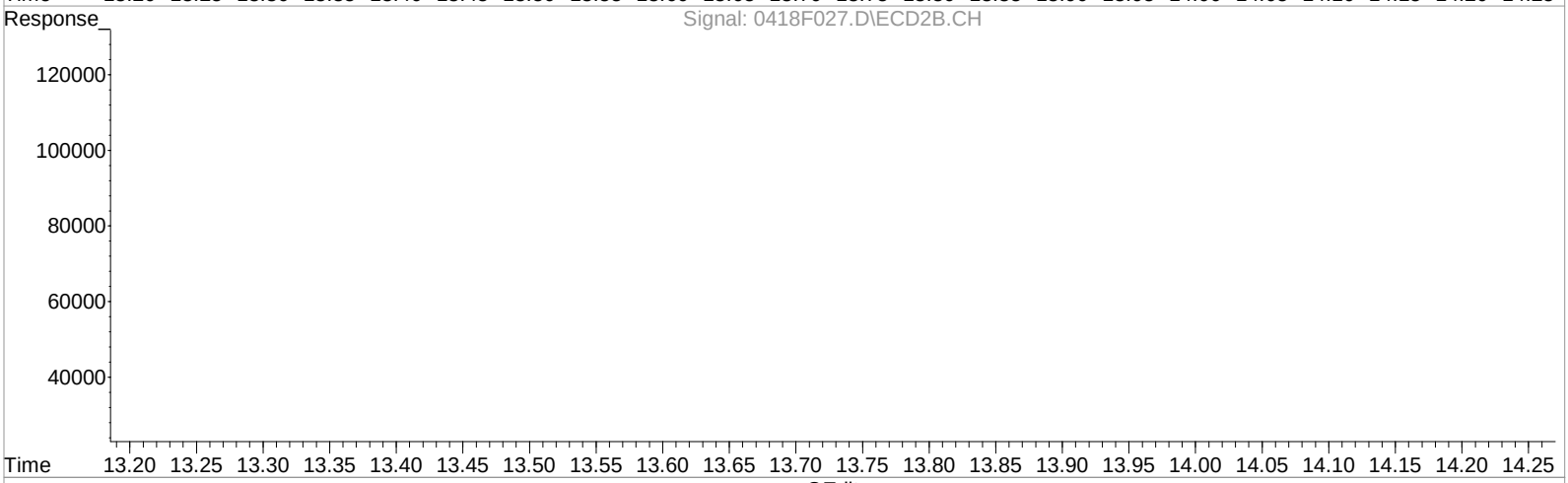
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(13) Endosulfan I

13.612min 8.425 ug/L m

response 135300

Manual Integration:

After

Baseline correction

04/21/20

(13) Endosulfan I #2

12.233min 3.113 ug/L m

response 186387

(+) = Expected Retention Time

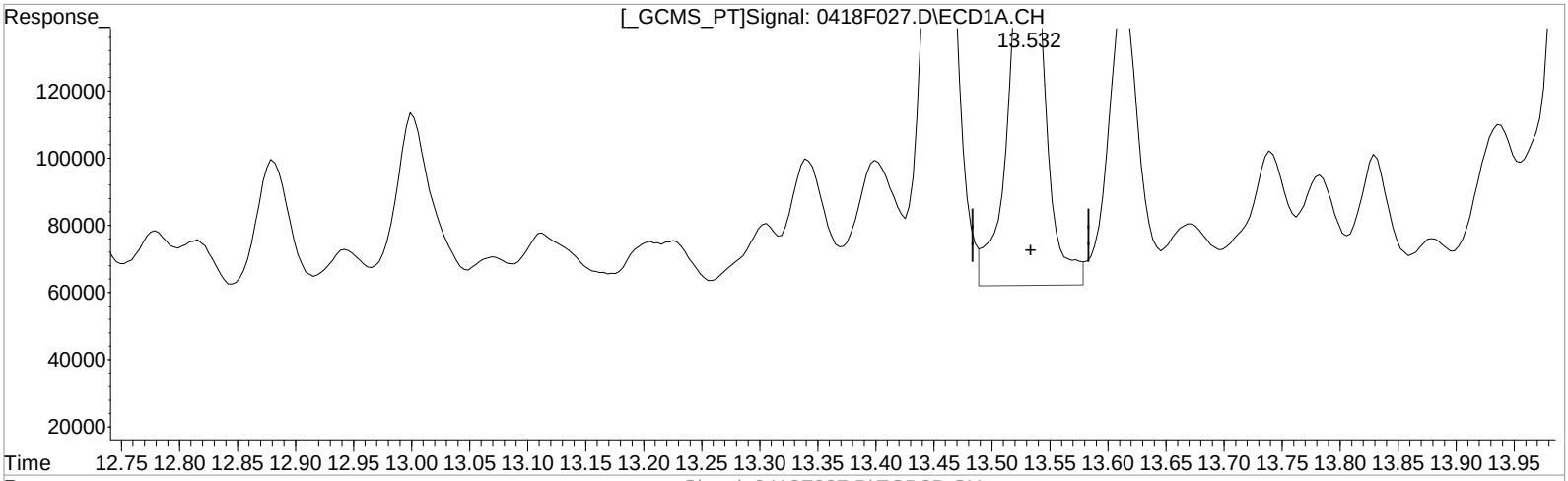
Quantitation Report (Qedit)

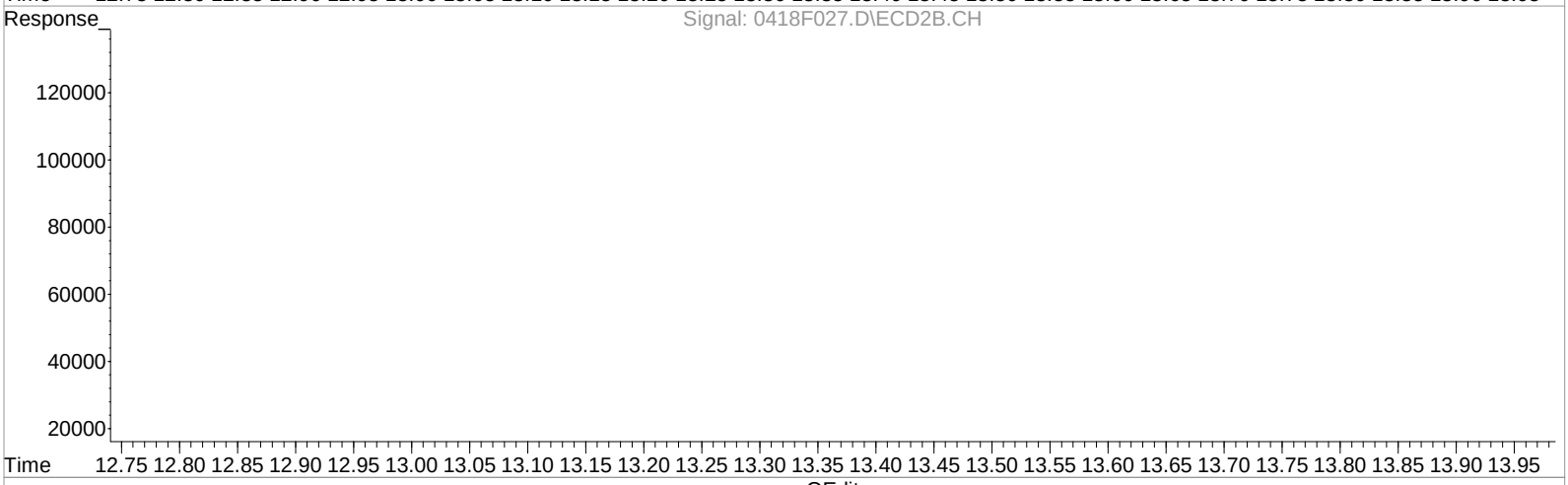
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(14) alpha-Chlordane

13.532min 15.016 ug/L

response 263132

Manual Integration:

Before

04/21/20

(14) alpha-Chlordane #2

12.123min 15.276 ug/L

response 1028641

(+) = Expected Retention Time

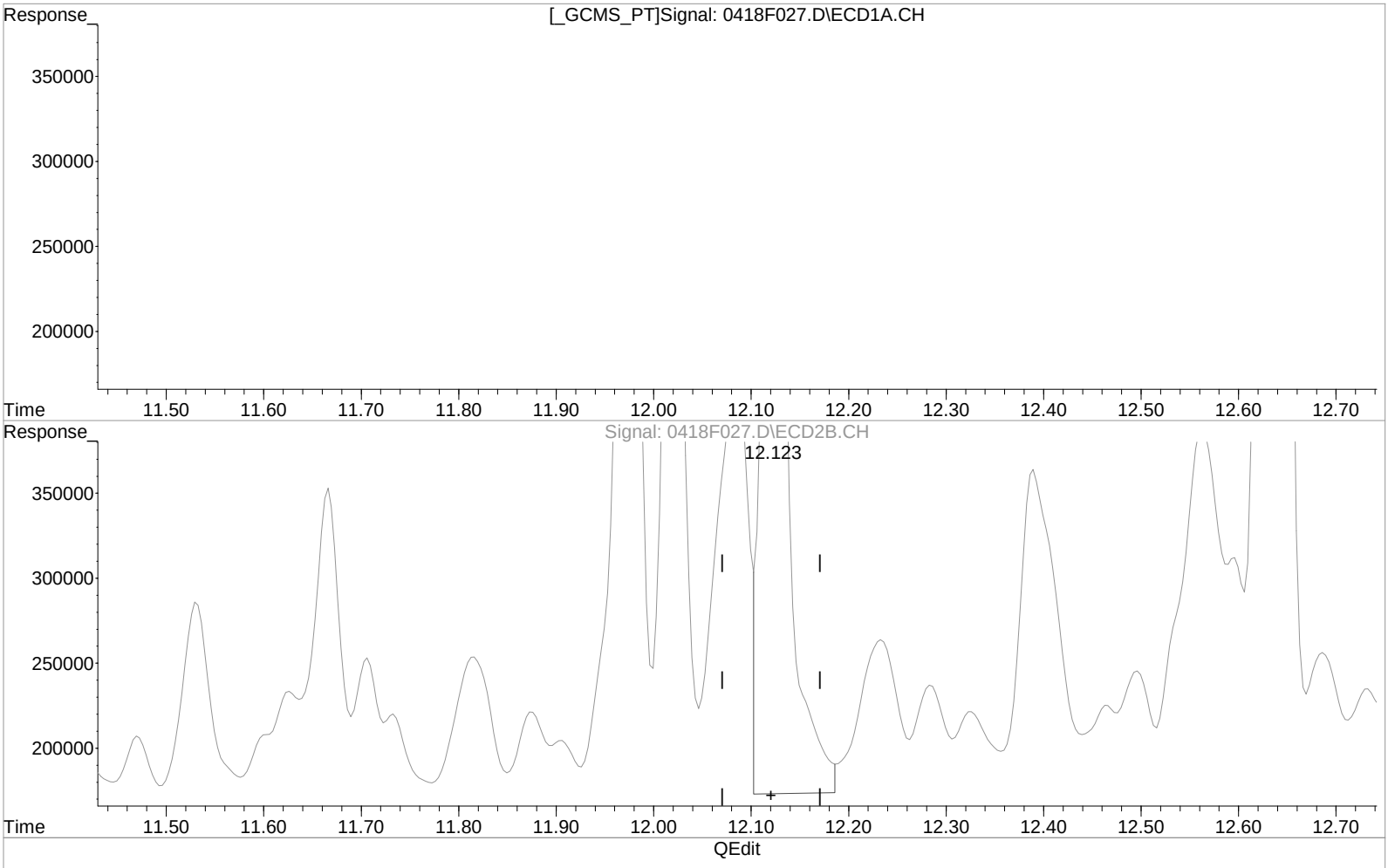
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(14) alpha-Chlordane

13.532min 13.644 ug/L m

response 239090

Manual Integration:

Before

04/21/20

(14) alpha-Chlordane #2

12.123min 15.276 ug/L

response 1028641

(+) = Expected Retention Time

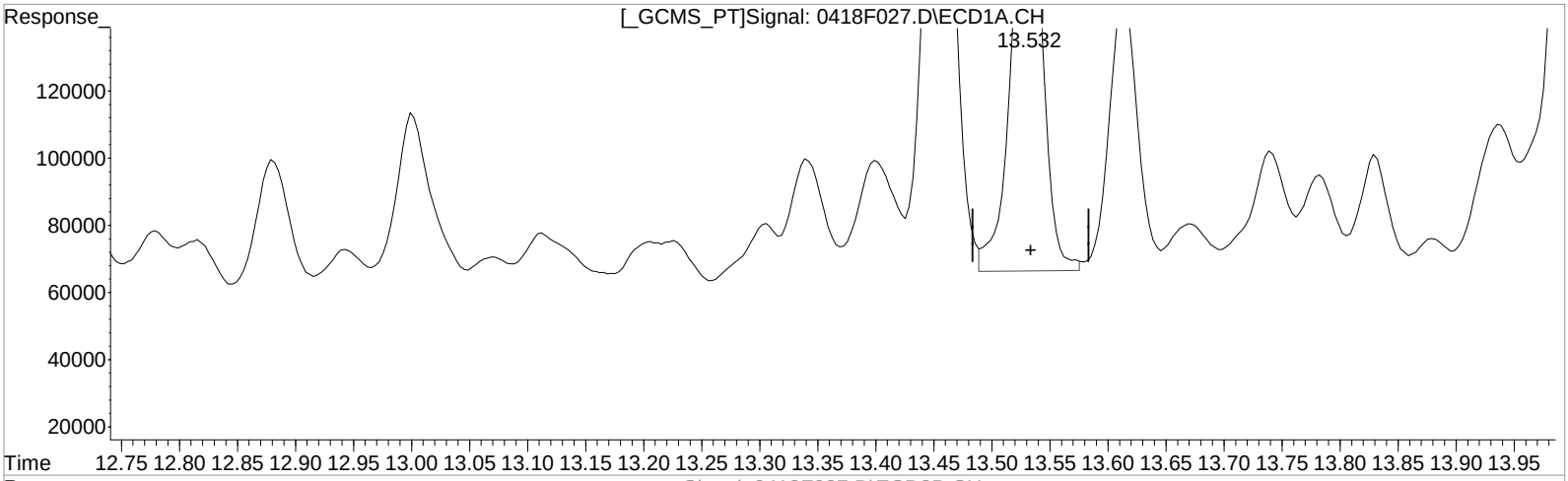
Quantitation Report (Qedit)

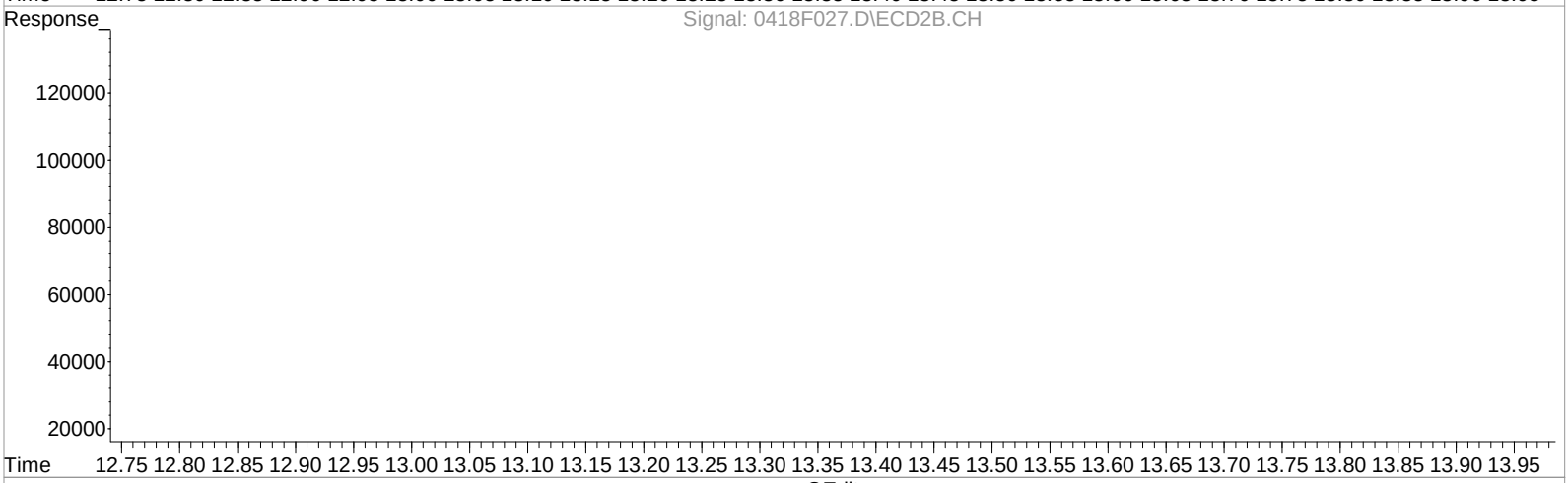
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(14) alpha-Chlordane

13.532min 13.644 ug/L m

response 239090

Manual Integration:

After

Baseline correction

04/21/20

(14) alpha-Chlordane #2

12.123min 15.276 ug/L

response 1028641

(+) = Expected Retention Time

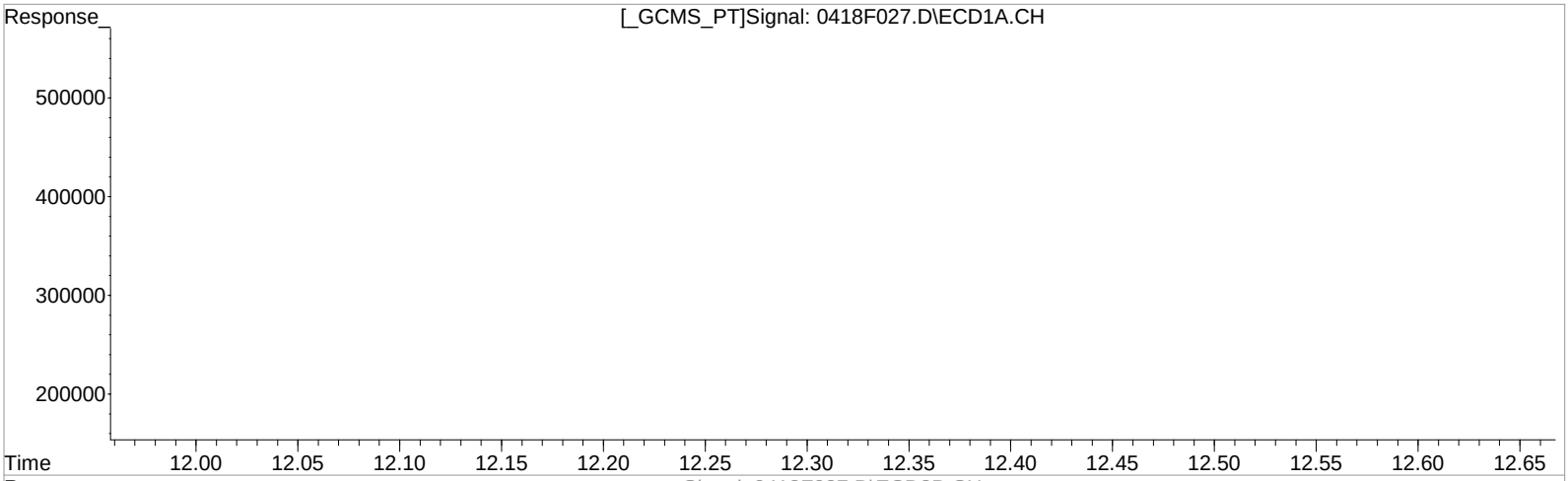
Quantitation Report (Qedit)

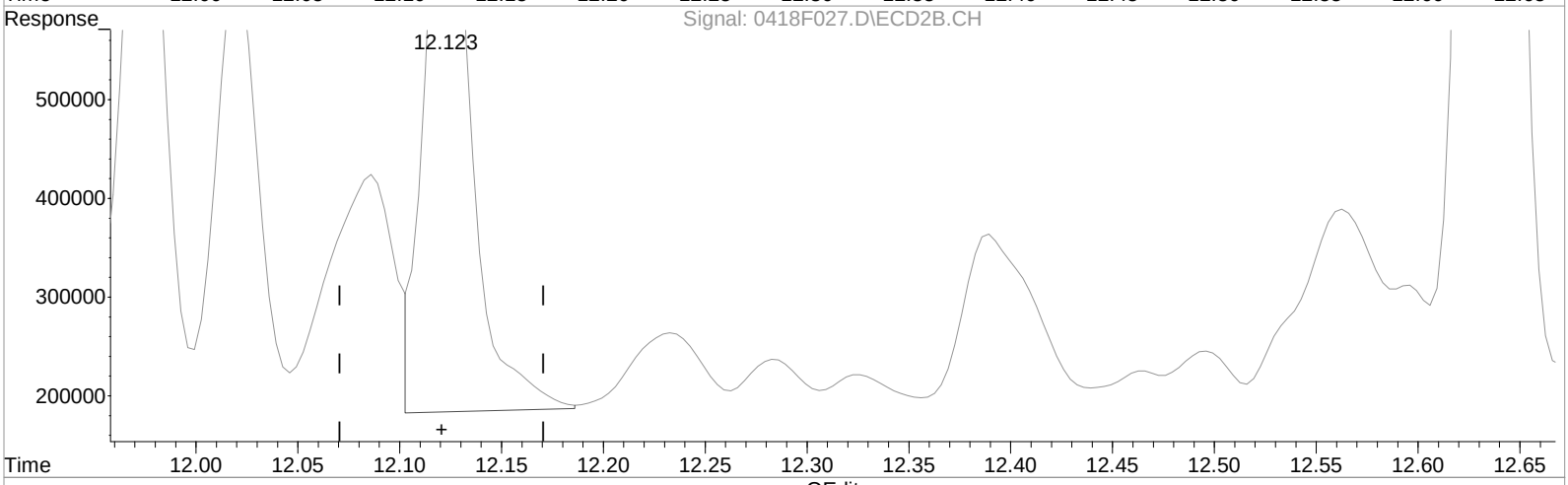
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(14) alpha-Chlordane

13.532min 13.644 ug/L m

response 239090

(14) alpha-Chlordane #2

12.123min 14.418 ug/L m

response 970843

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

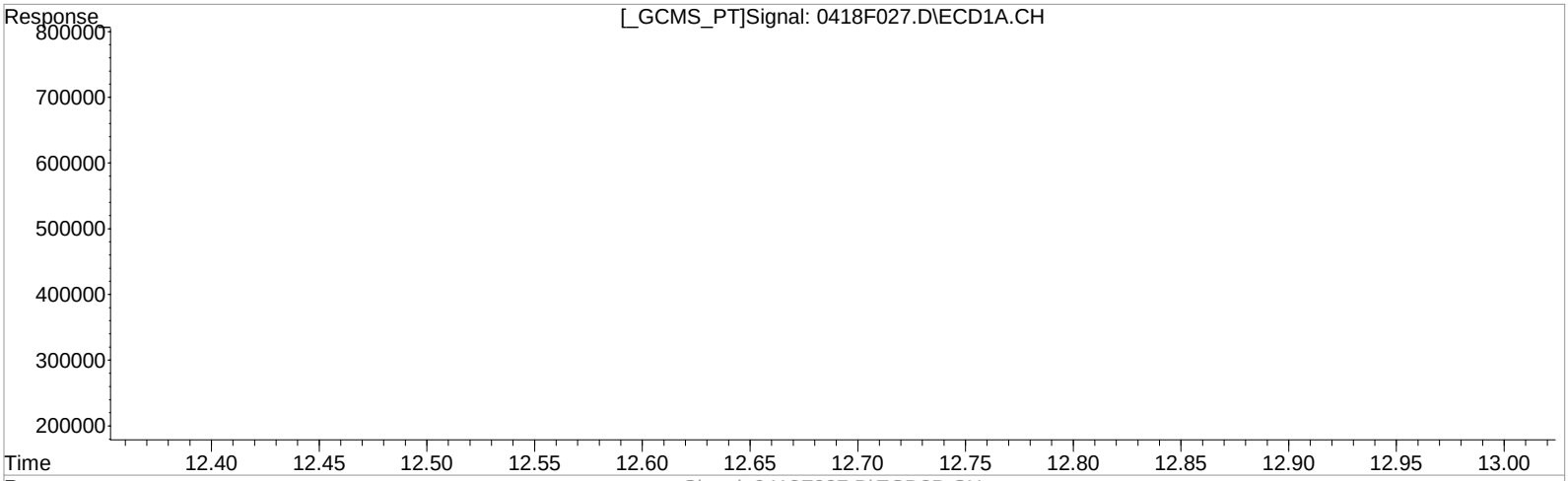
Quantitation Report (Qedit)

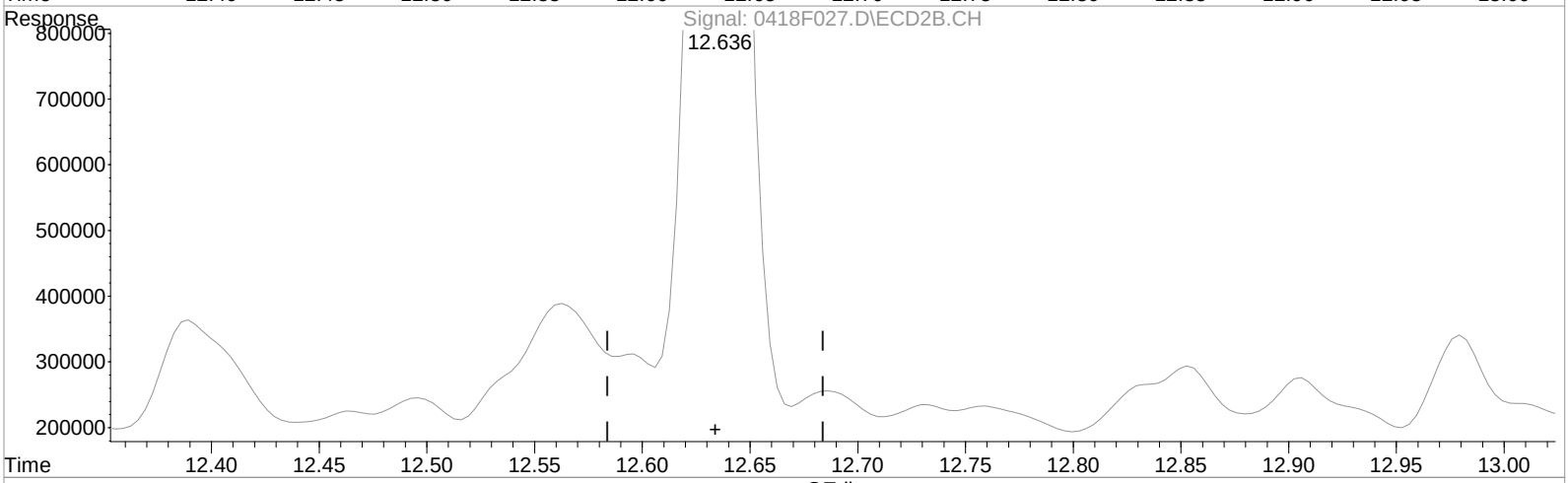
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(15) Dieldrin

14.002min 50.280 ug/L

response 866337

Manual Integration:

Before

04/21/20

(15) Dieldrin #2

12.636min 58.027 ug/L

response 3792558

(+) = Expected Retention Time

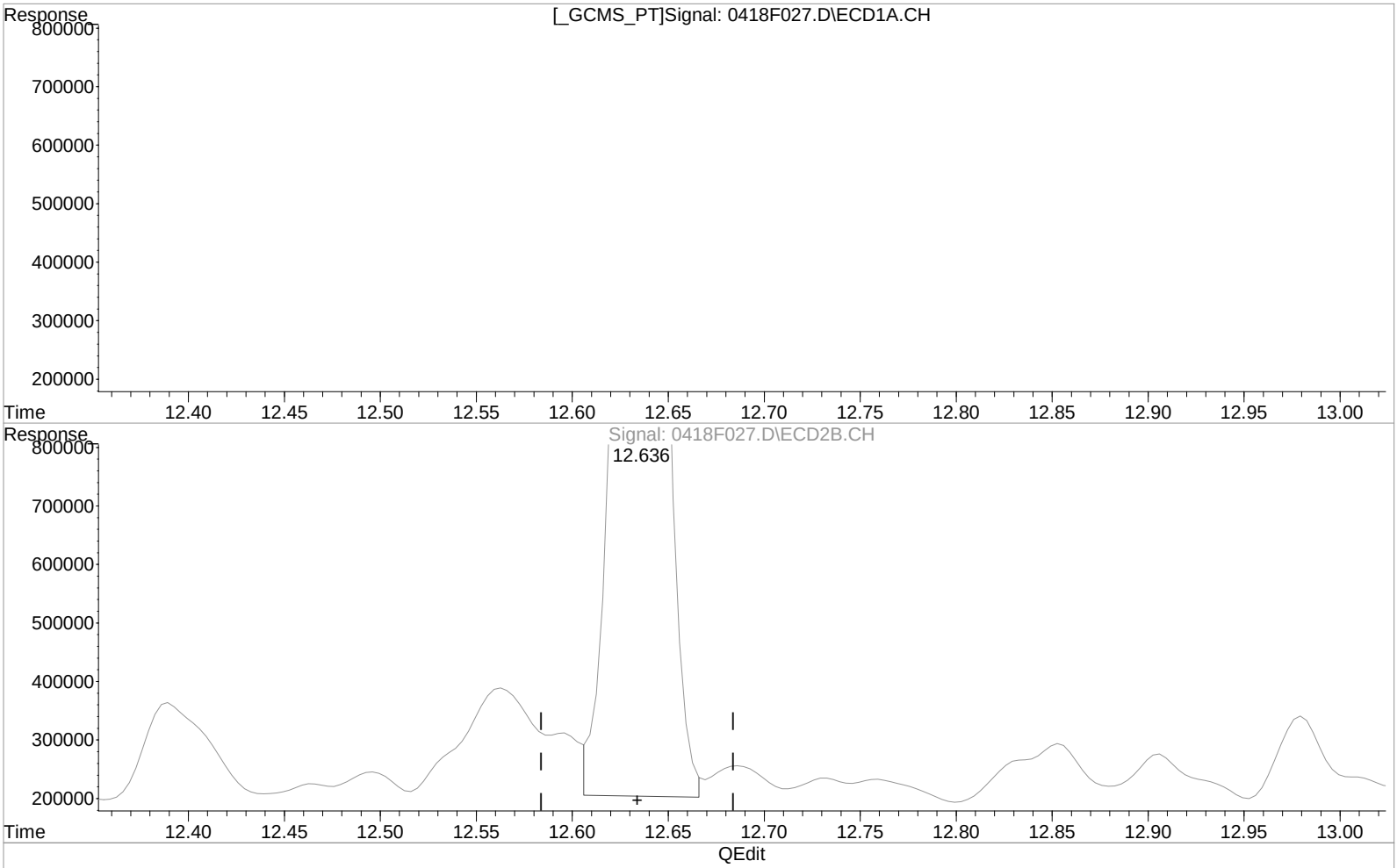
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

14.002min 50.280 ug/L

response 866337

Manual Integration:

After

Baseline correction

04/21/20

(15) Dieldrin #2

12.636min 56.444 ug/L m

response 3689080

(+) = Expected Retention Time

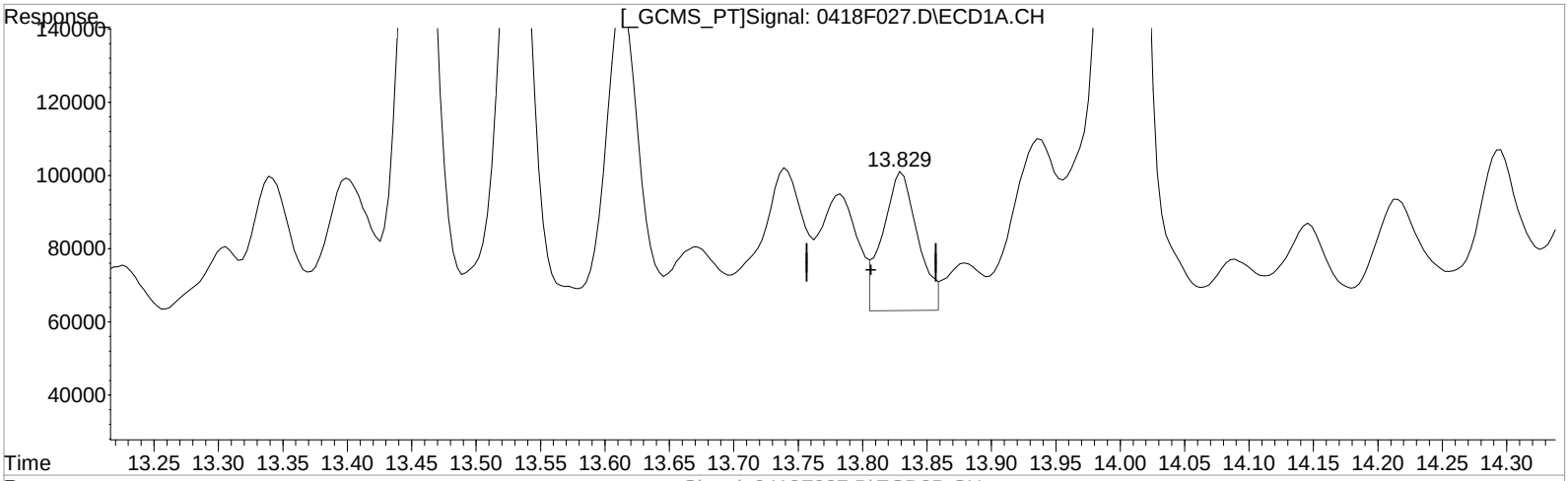
Quantitation Report (Qedit)

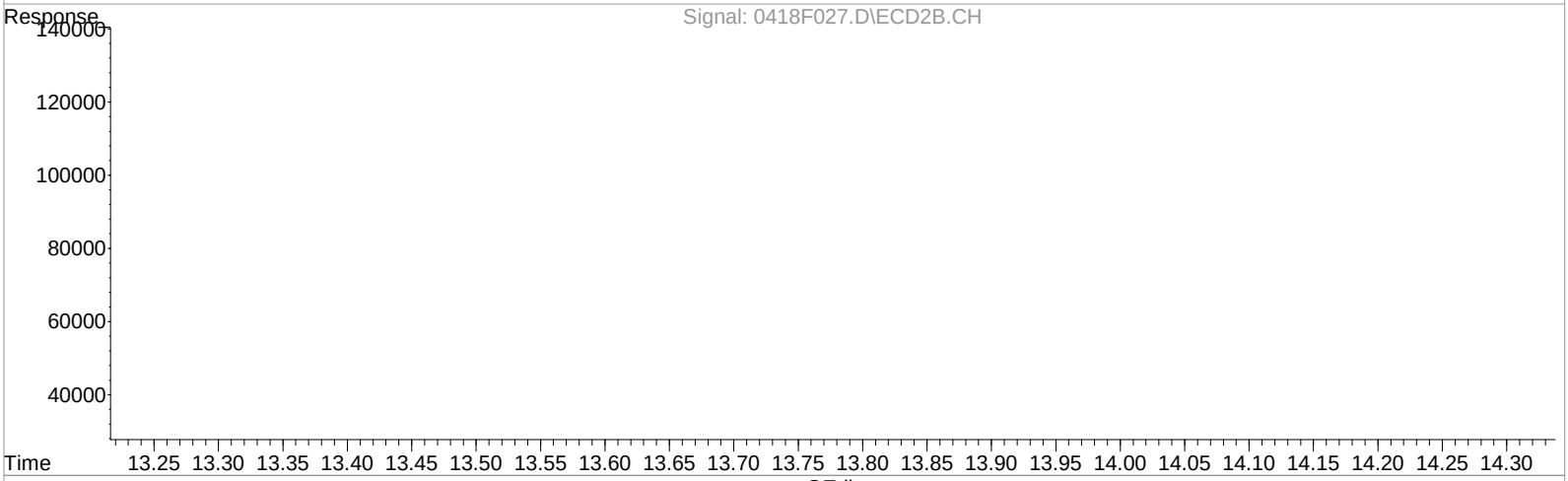
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.829min 4.403 ug/L

response 70981

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.496min 2.075 ug/L

response 130564

(+) = Expected Retention Time

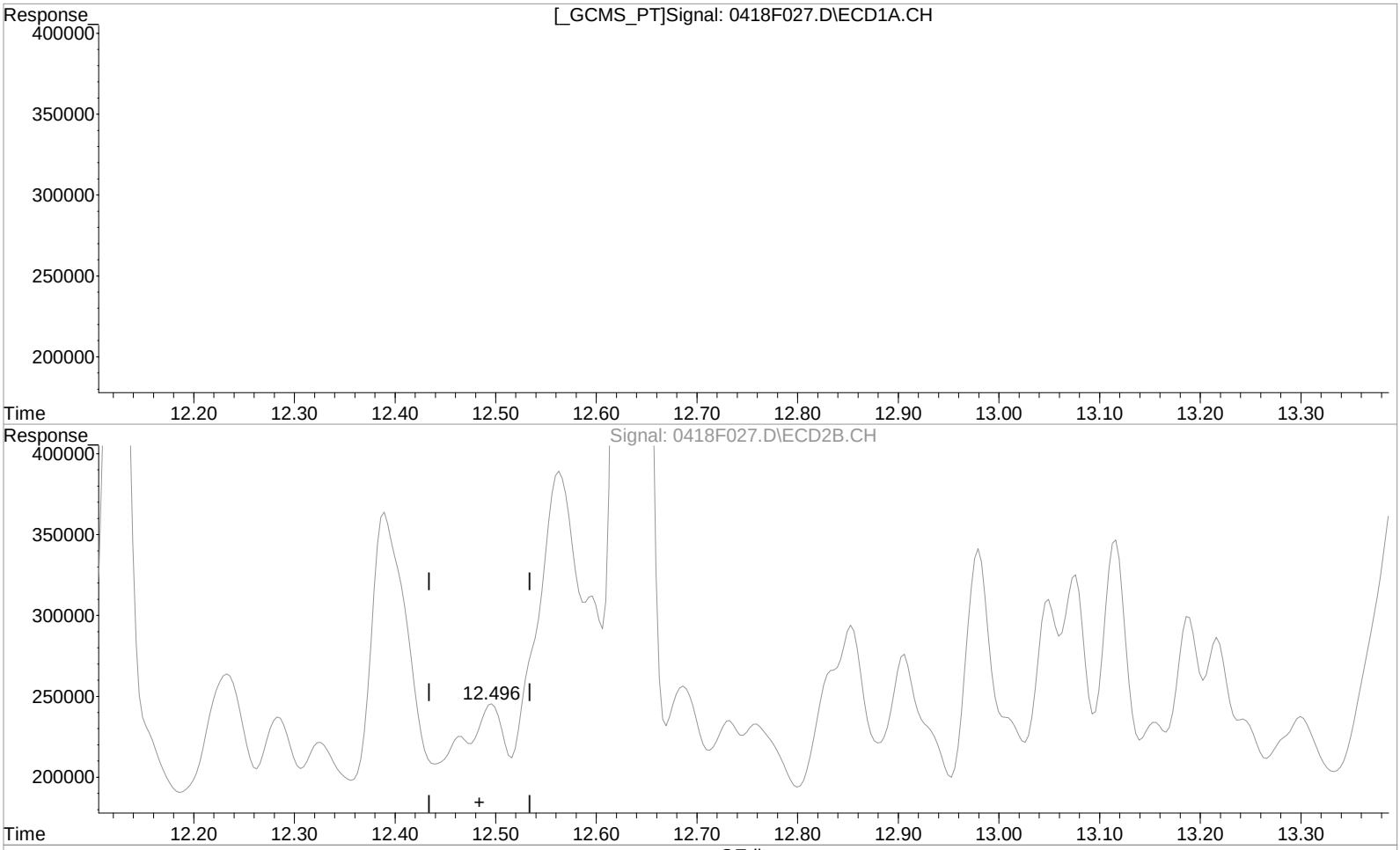
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.829min 3.292 ug/L m

response 53071

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.496min 2.075 ug/L

response 130564

(+) = Expected Retention Time

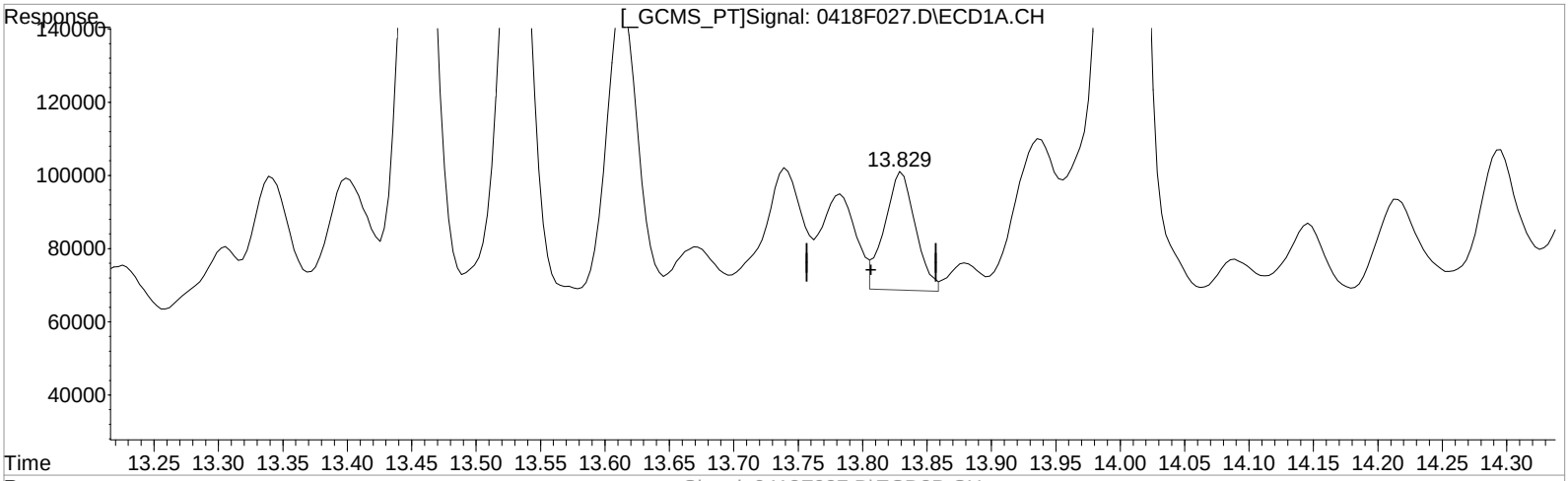
Quantitation Report (Qedit)

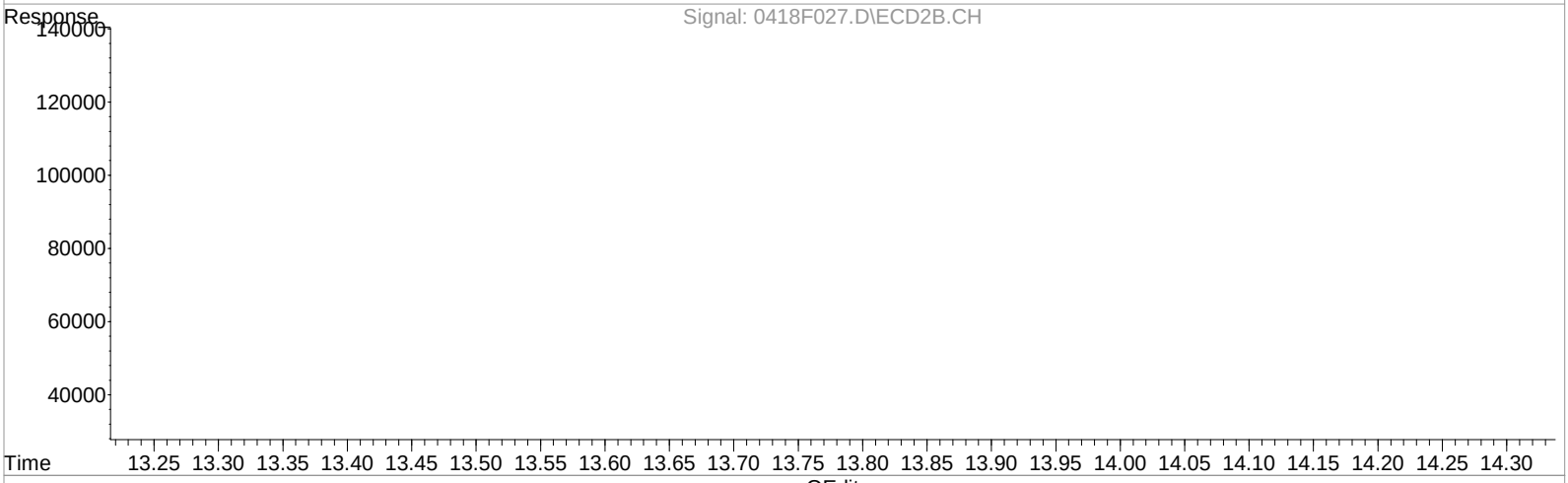
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.829min 3.292 ug/L m

response 53071

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.496min 2.075 ug/L

response 130564

(+) = Expected Retention Time

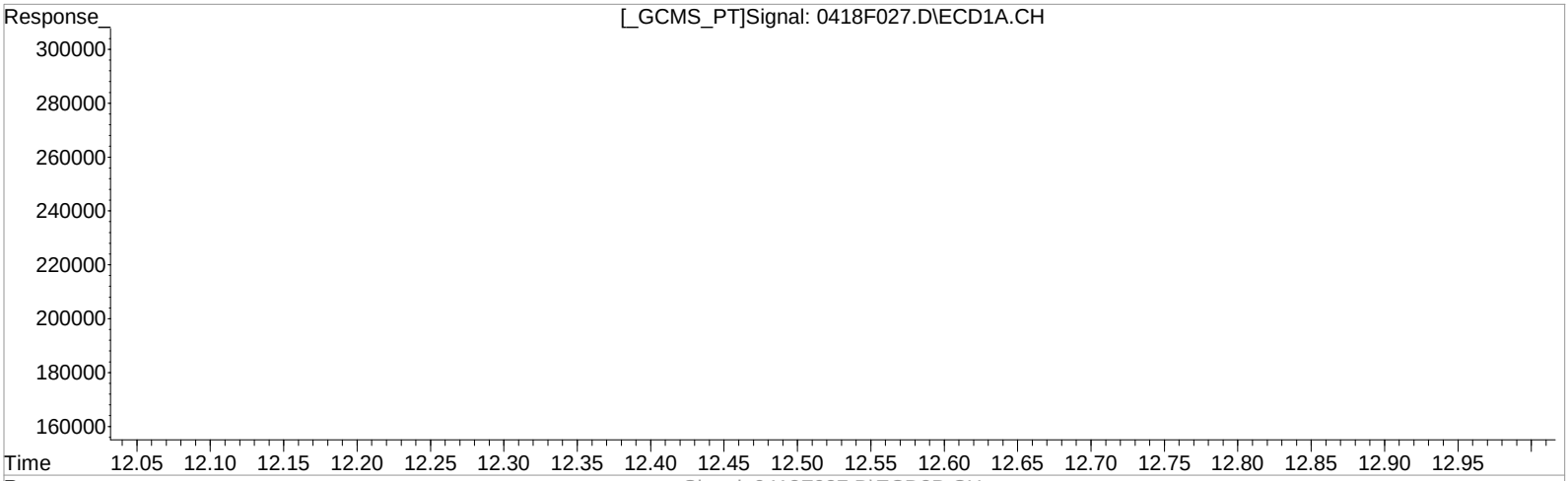
Quantitation Report (Qedit)

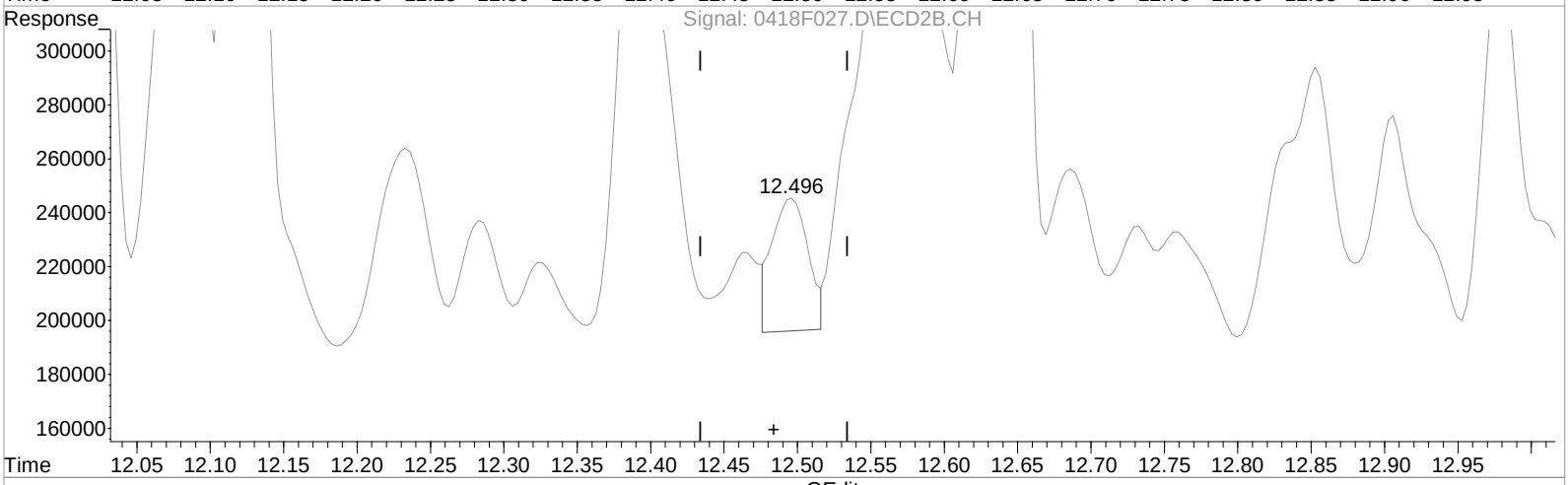
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.829min 3.292 ug/L m

response 53071

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.496min 1.342 ug/L m

response 84477

(+) = Expected Retention Time

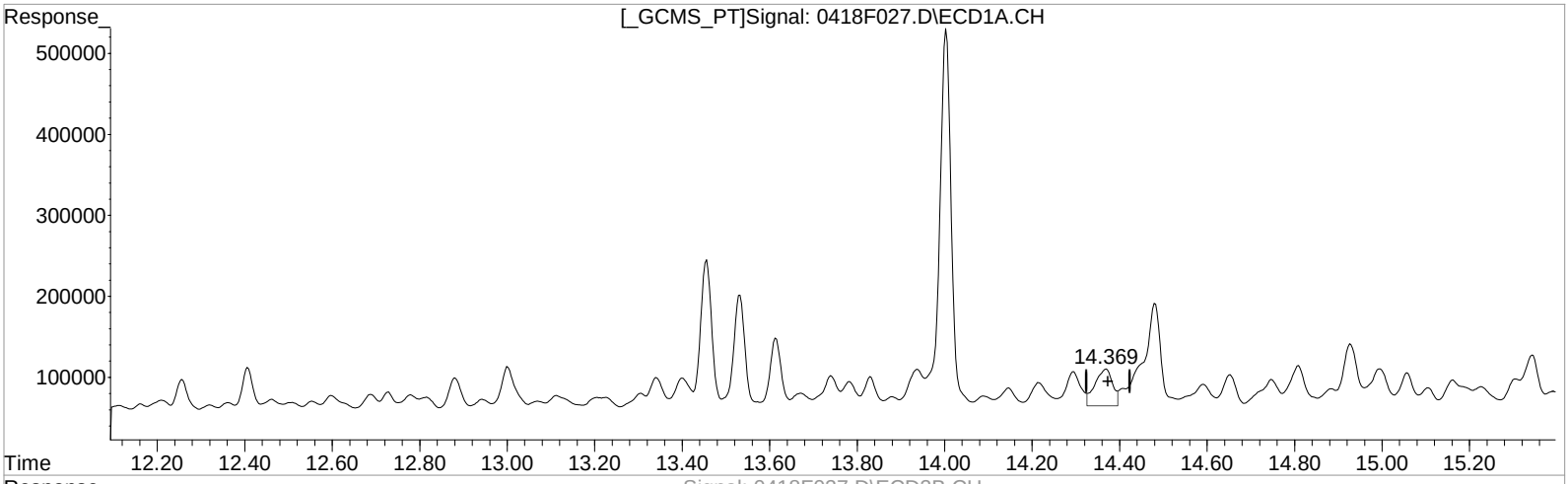
Quantitation Report (Qedit)

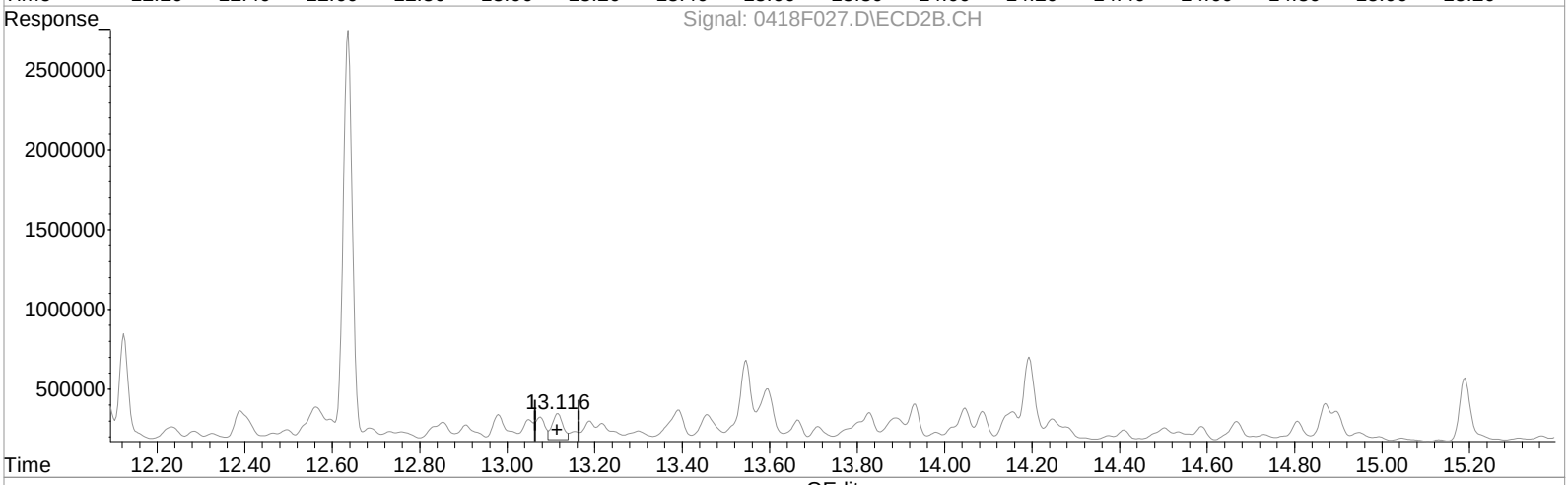
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(17) Endrin

14.369min 8.140 ug/L

response 128003

Manual Integration:

Before

04/21/20

(17) Endrin #2

13.116min 4.532 ug/L

response 281901

(+) = Expected Retention Time

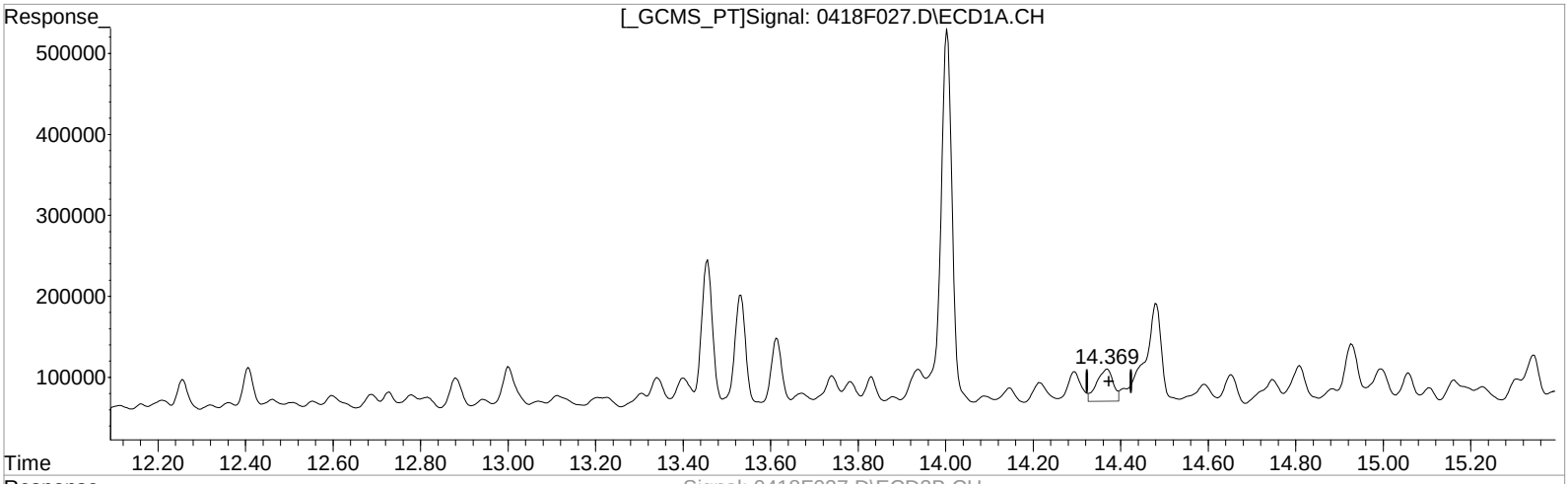
Quantitation Report (Qedit)

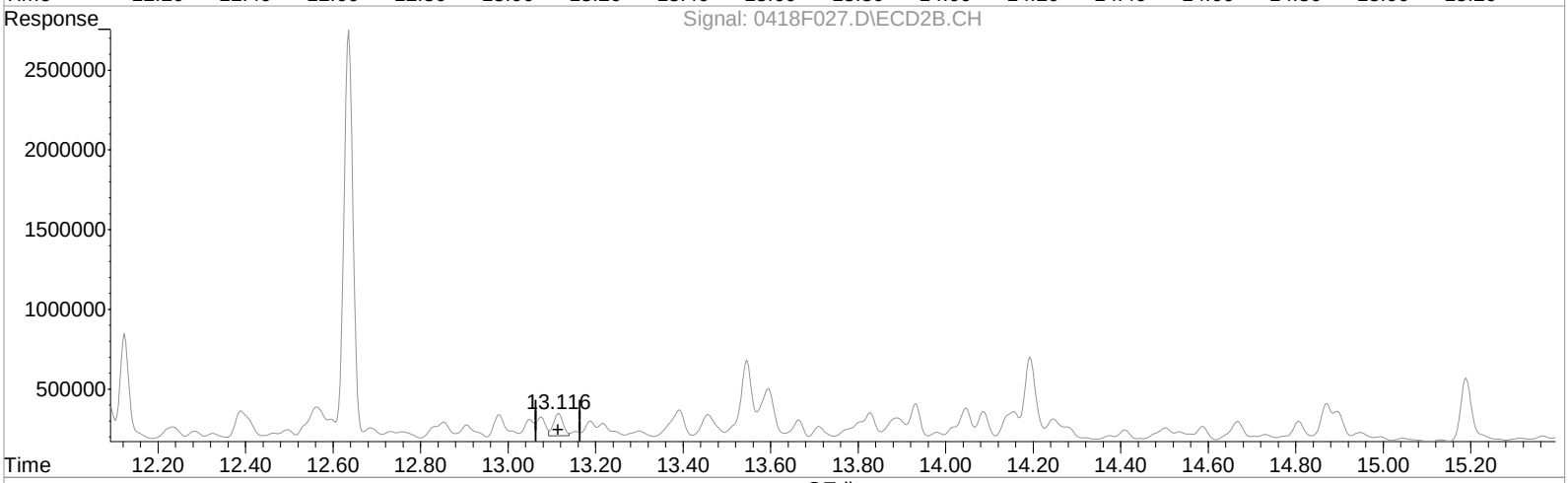
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(17) Endrin

14.369min 6.605 ug/L m

response 103867

(17) Endrin #2

13.116min 3.432 ug/L m

response 213496

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

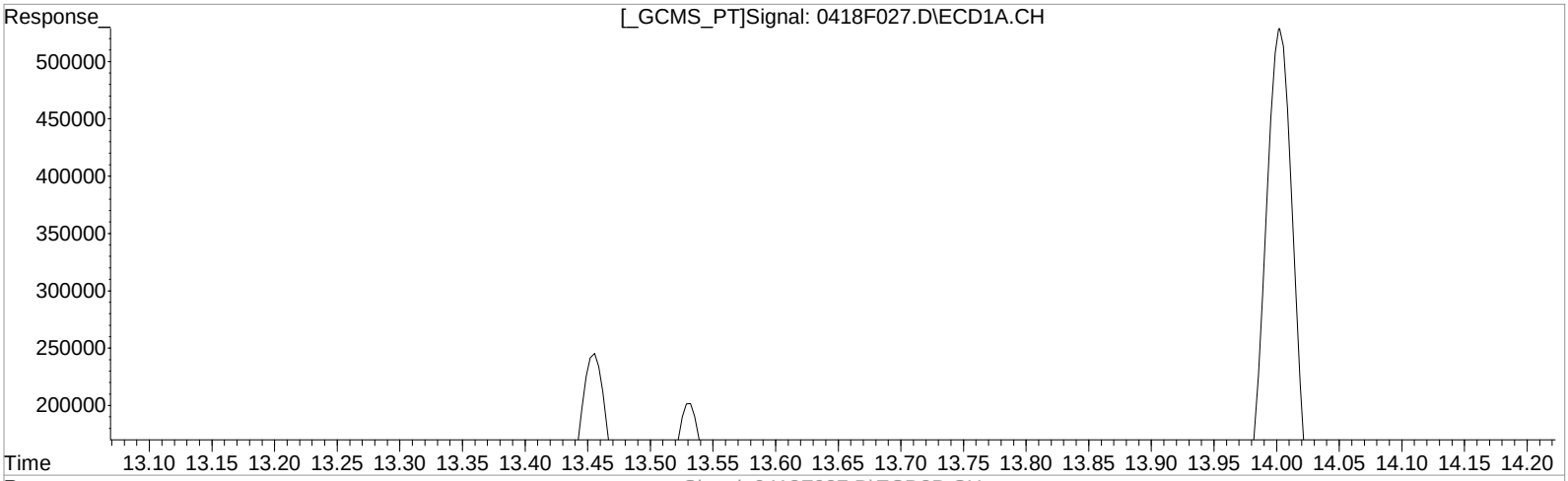
Quantitation Report (Qedit)

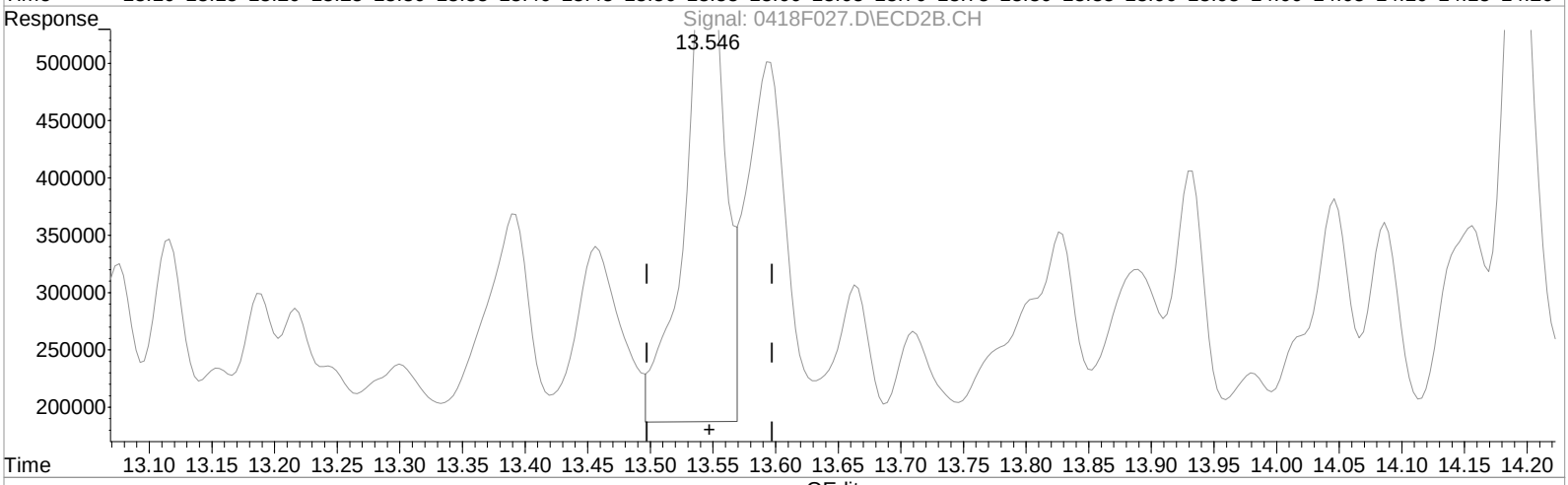
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.809min 7.561 ug/L

response 120464

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.546min 17.534 ug/L

response 985537

(+) = Expected Retention Time

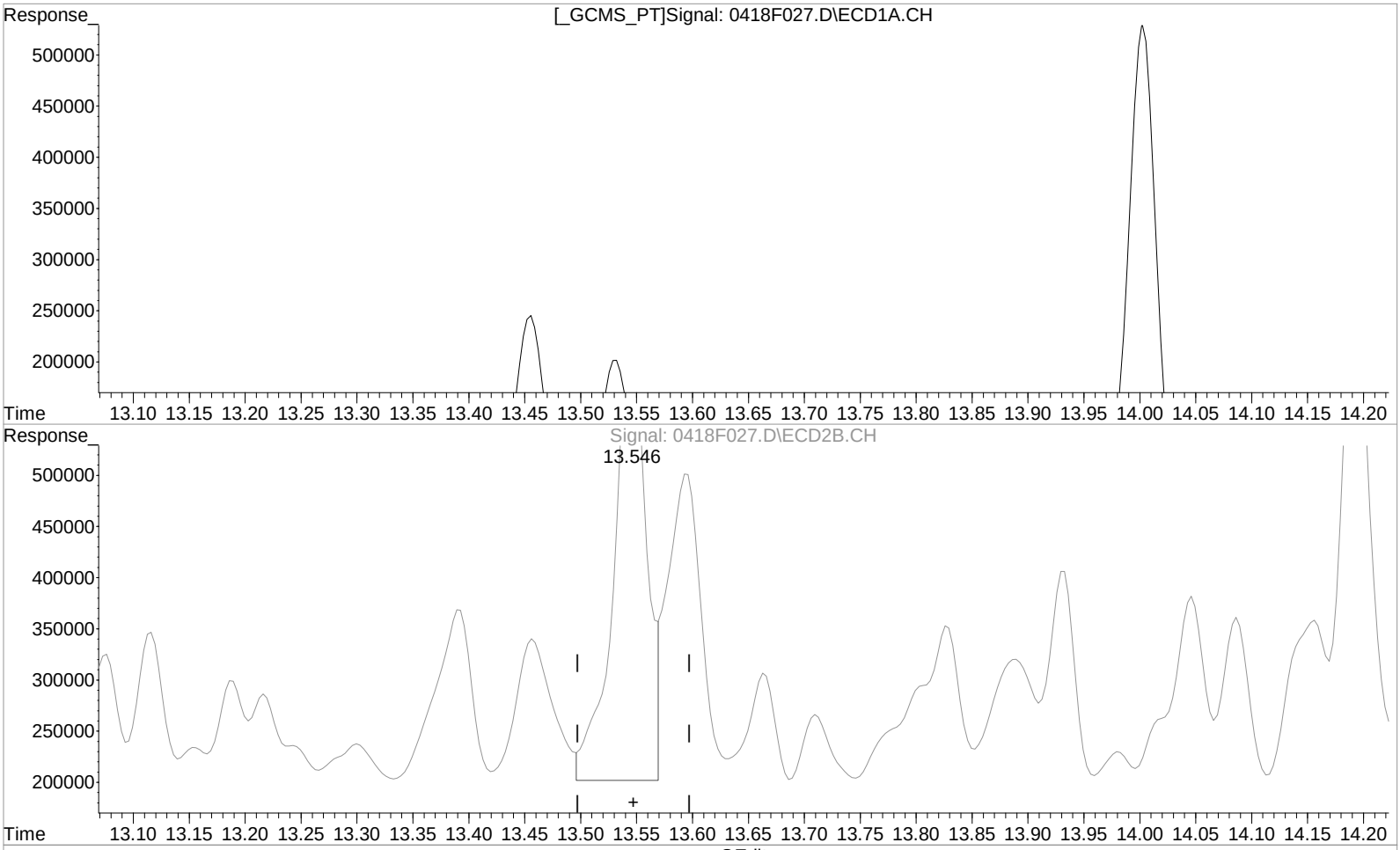
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.809min 7.561 ug/L

response 120464

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.546min 16.402 ug/L m

response 921876

(+) = Expected Retention Time

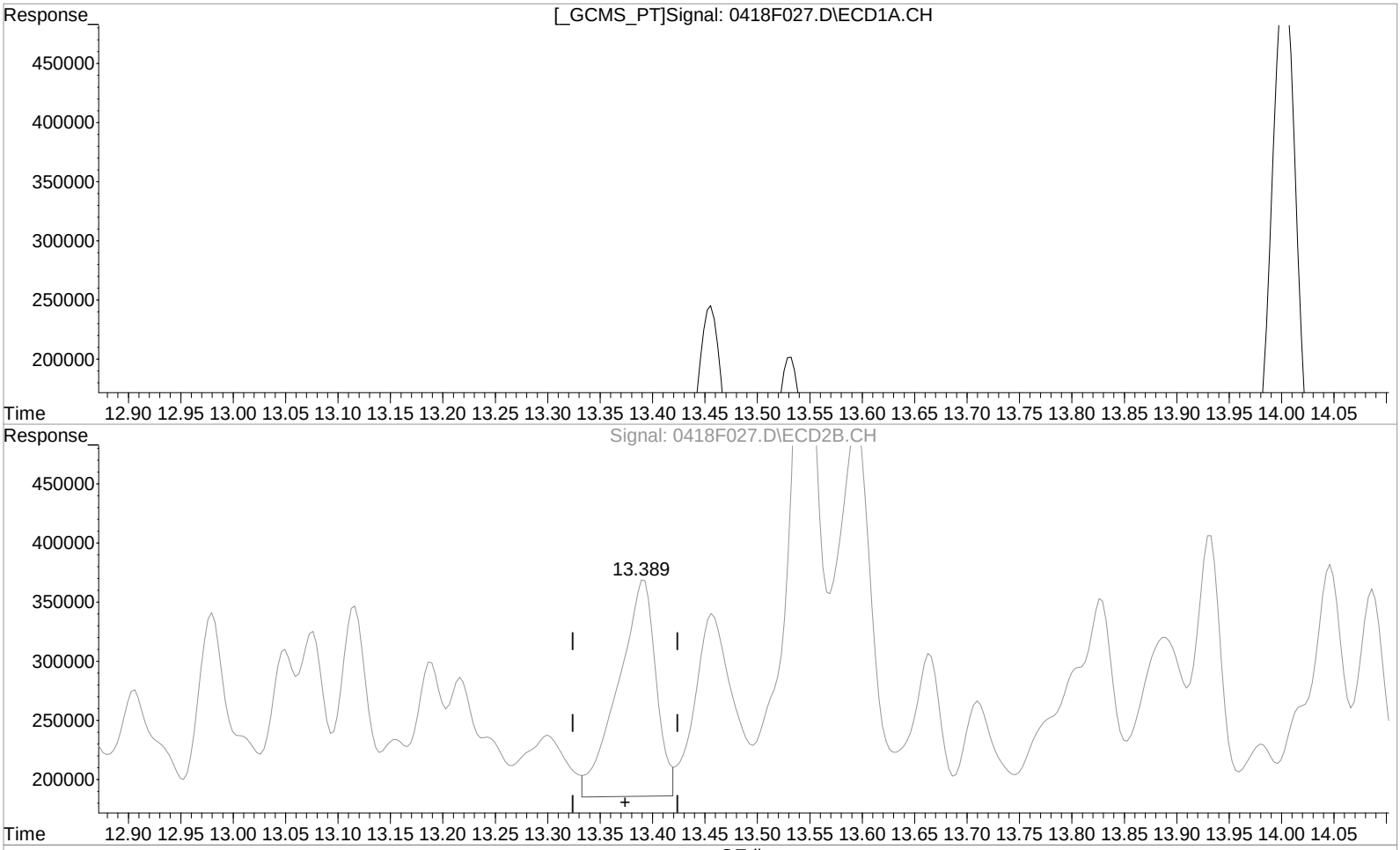
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(19) 4,4'-DDD

14.652min 6.034 ug/L

response 75196

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.389min 9.732 ug/L

response 458366

(+) = Expected Retention Time

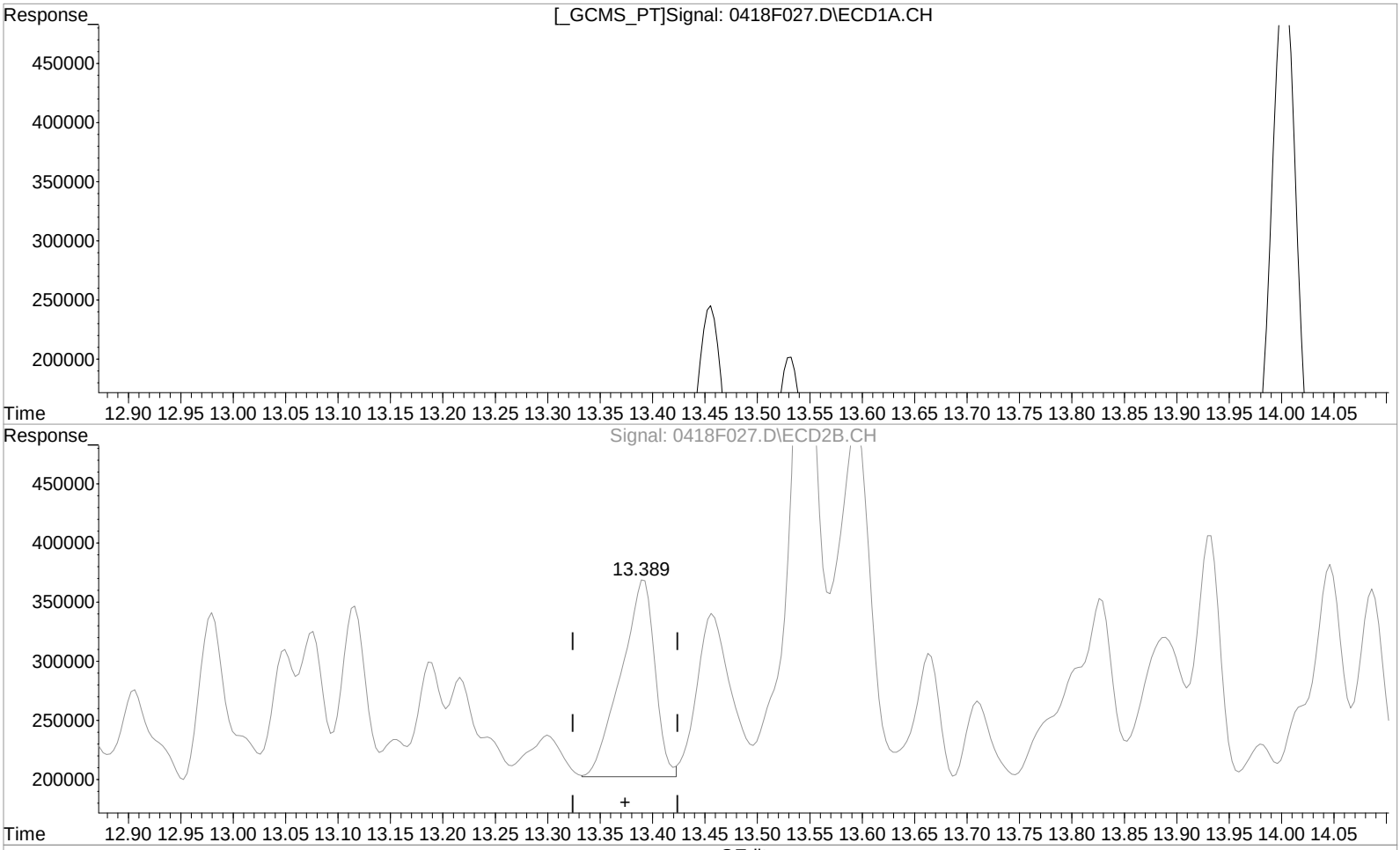
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(19) 4,4'-DDD

14.652min 6.034 ug/L

response 75196

Manual Integration:

After

Baseline correction

04/21/20

(19) 4,4'-DDD #2

13.389min 7.913 ug/L m

response 372701

(+) = Expected Retention Time

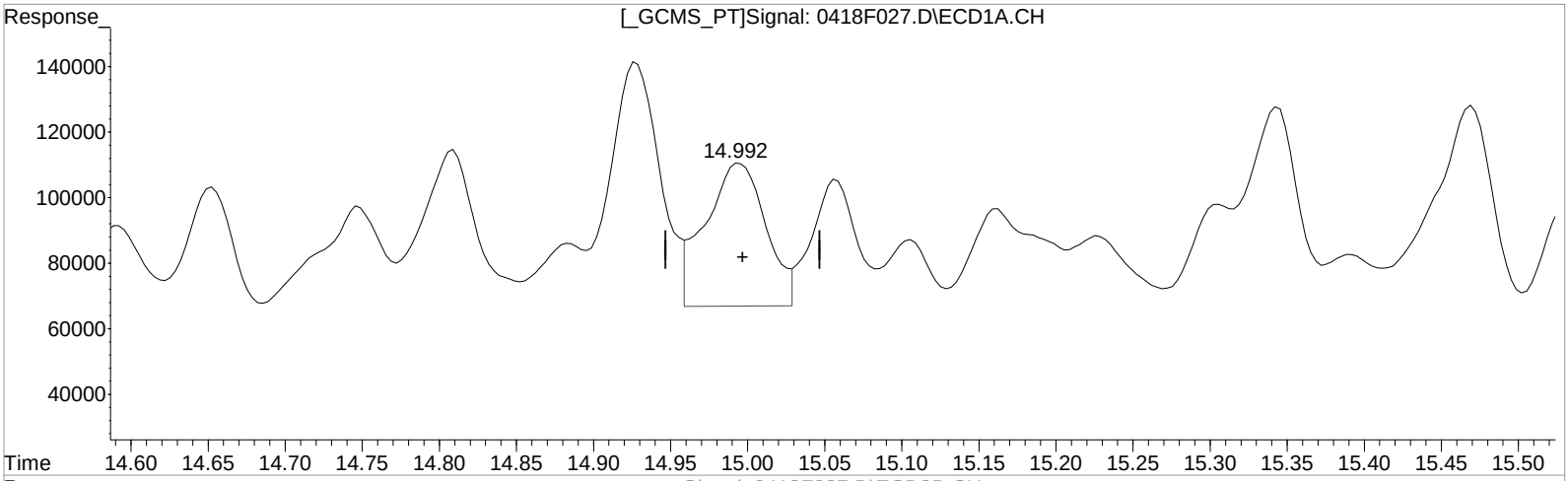
Quantitation Report (Qedit)

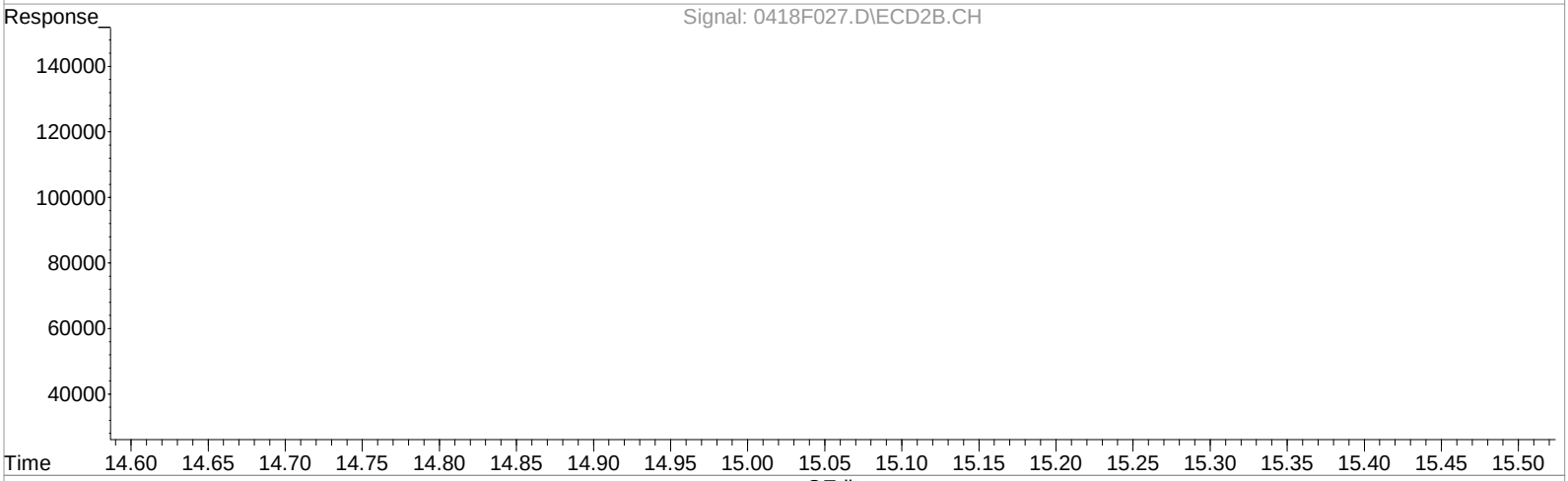
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

14.992min 8.553 ug/L

response 118116

Manual Integration:

Before

04/21/20

(20) Endrin Aldehyde #2

13.929min 7.443 ug/L

response 346426

(+) = Expected Retention Time

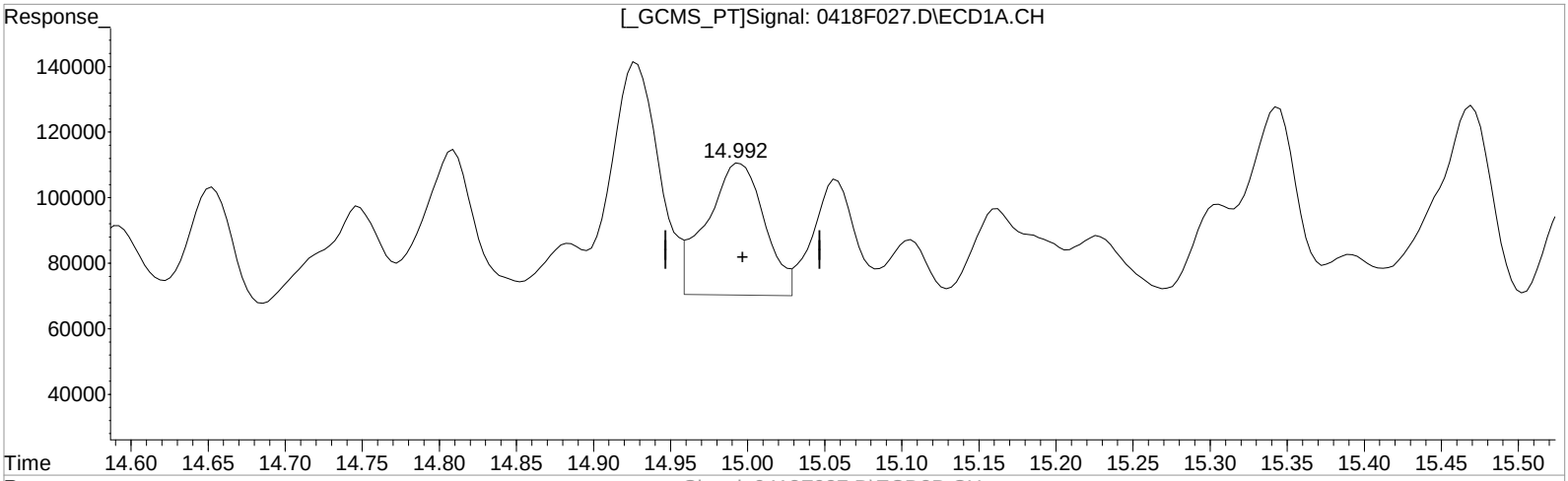
Quantitation Report (Qedit)

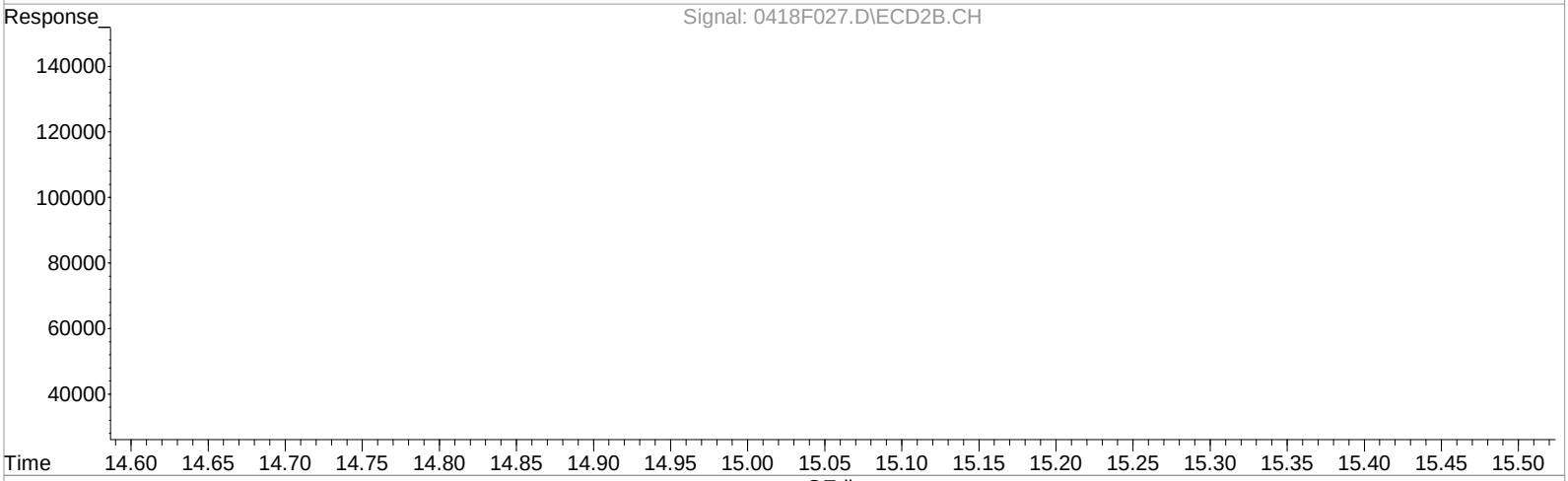
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

14.992min 7.523 ug/L m

response 103897

Manual Integration:

After

Baseline correction

04/21/20

(20) Endrin Aldehyde #2

13.929min 7.443 ug/L

response 346426

(+) = Expected Retention Time

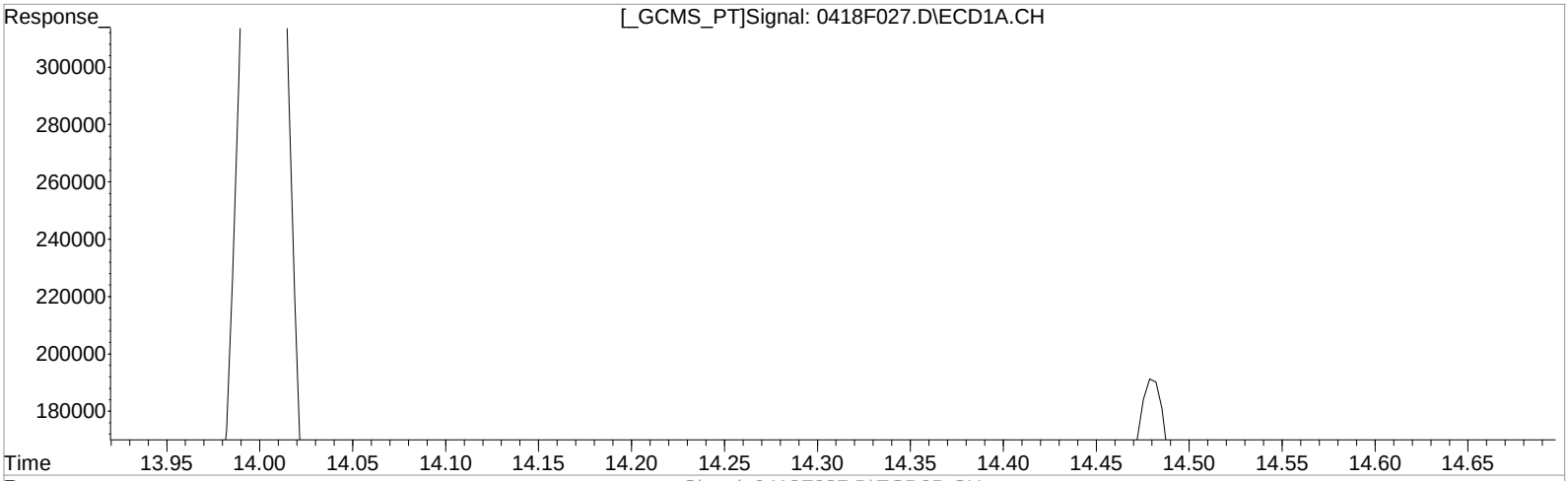
Quantitation Report (Qedit)

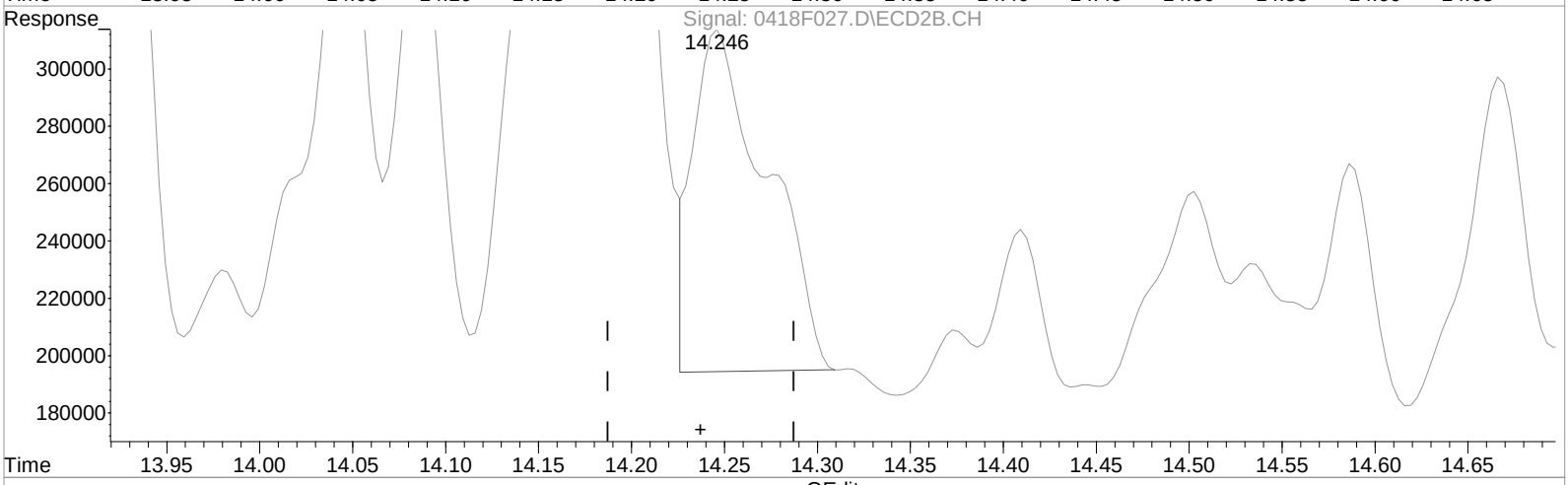
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(21) Endosulfan Sulfate

15.469min 9.687 ug/L

response 157238

Manual Integration:

Before

04/21/20

(21) Endosulfan Sulfate #2

14.246min 5.908 ug/L

response 327469

(+) = Expected Retention Time

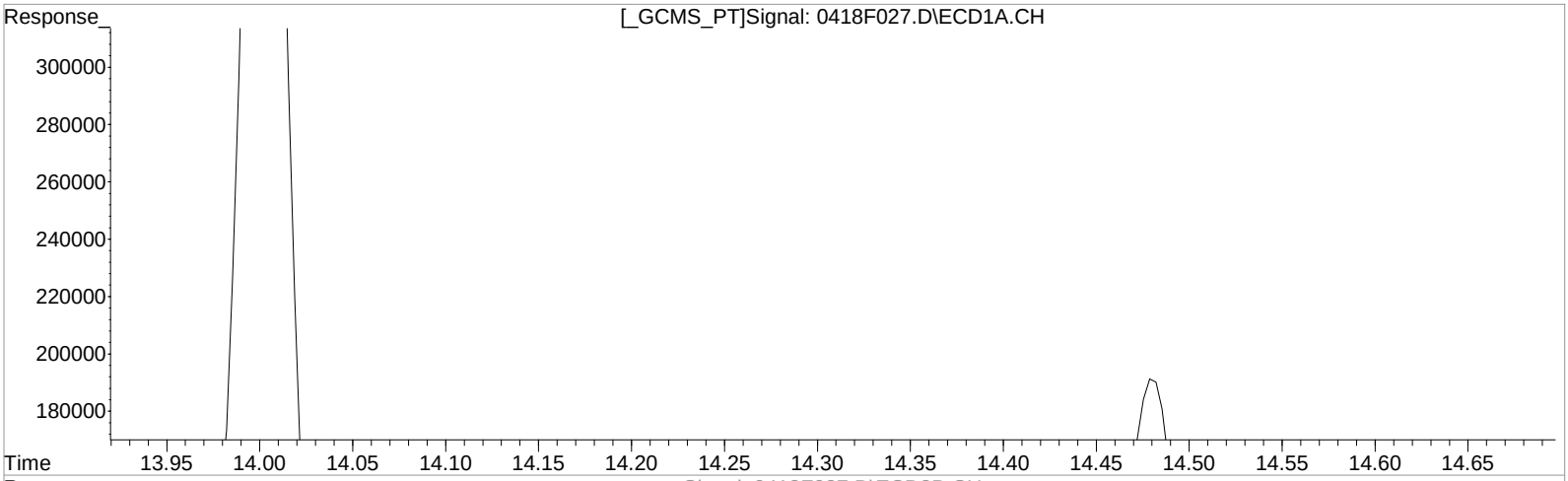
Quantitation Report (Qedit)

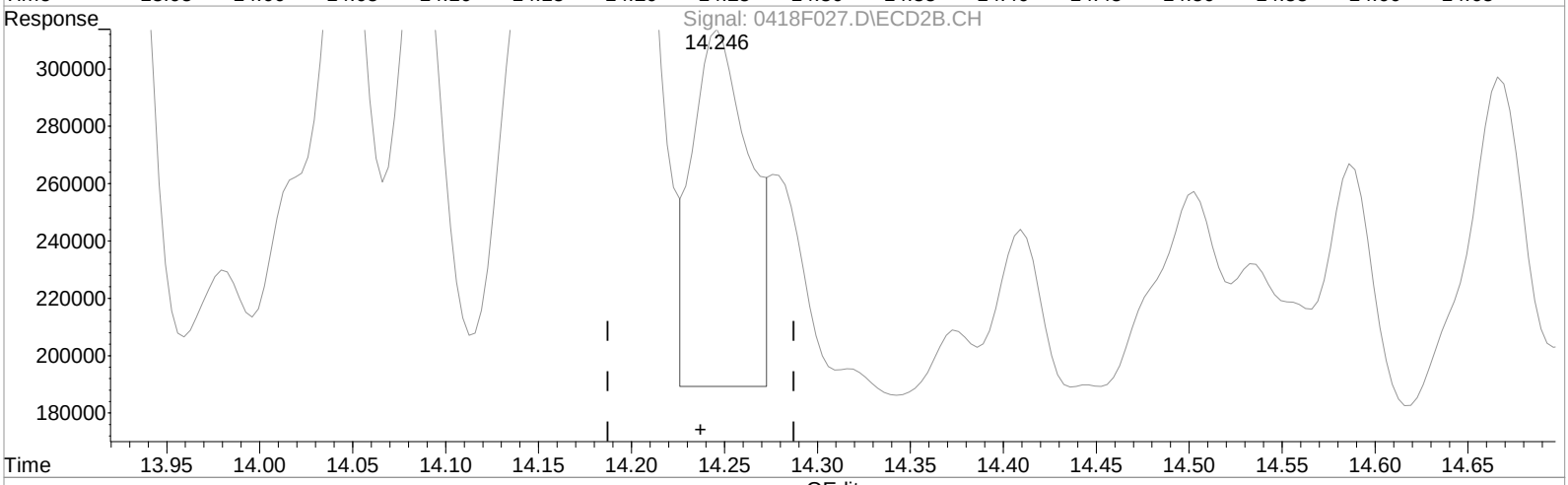
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(21) Endosulfan Sulfate

15.469min 9.687 ug/L

response 157238

Manual Integration:

After

Shoulder

04/21/20

(21) Endosulfan Sulfate #2

14.246min 4.796 ug/L m

response 265796

(+) = Expected Retention Time

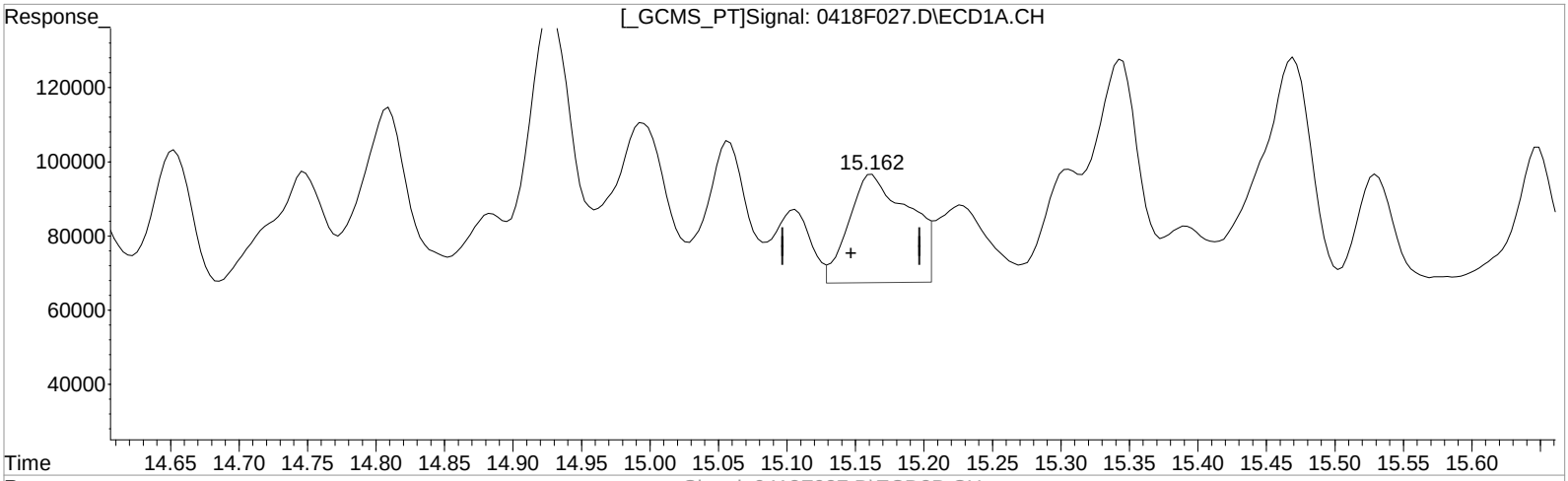
Quantitation Report (Qedit)

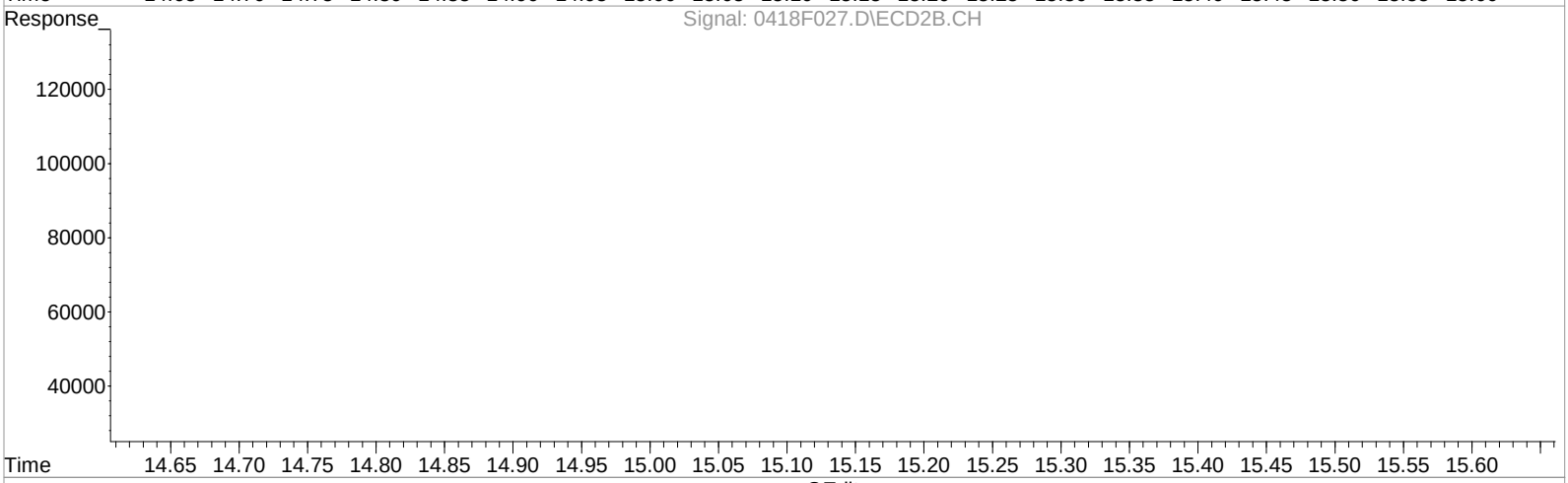
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.162min 6.966 ug/L

response 91211

Manual Integration:

Before

04/21/20

(22) 4,4'-DDT #2

13.826min 11.510 ug/L

response 522654

(+) = Expected Retention Time

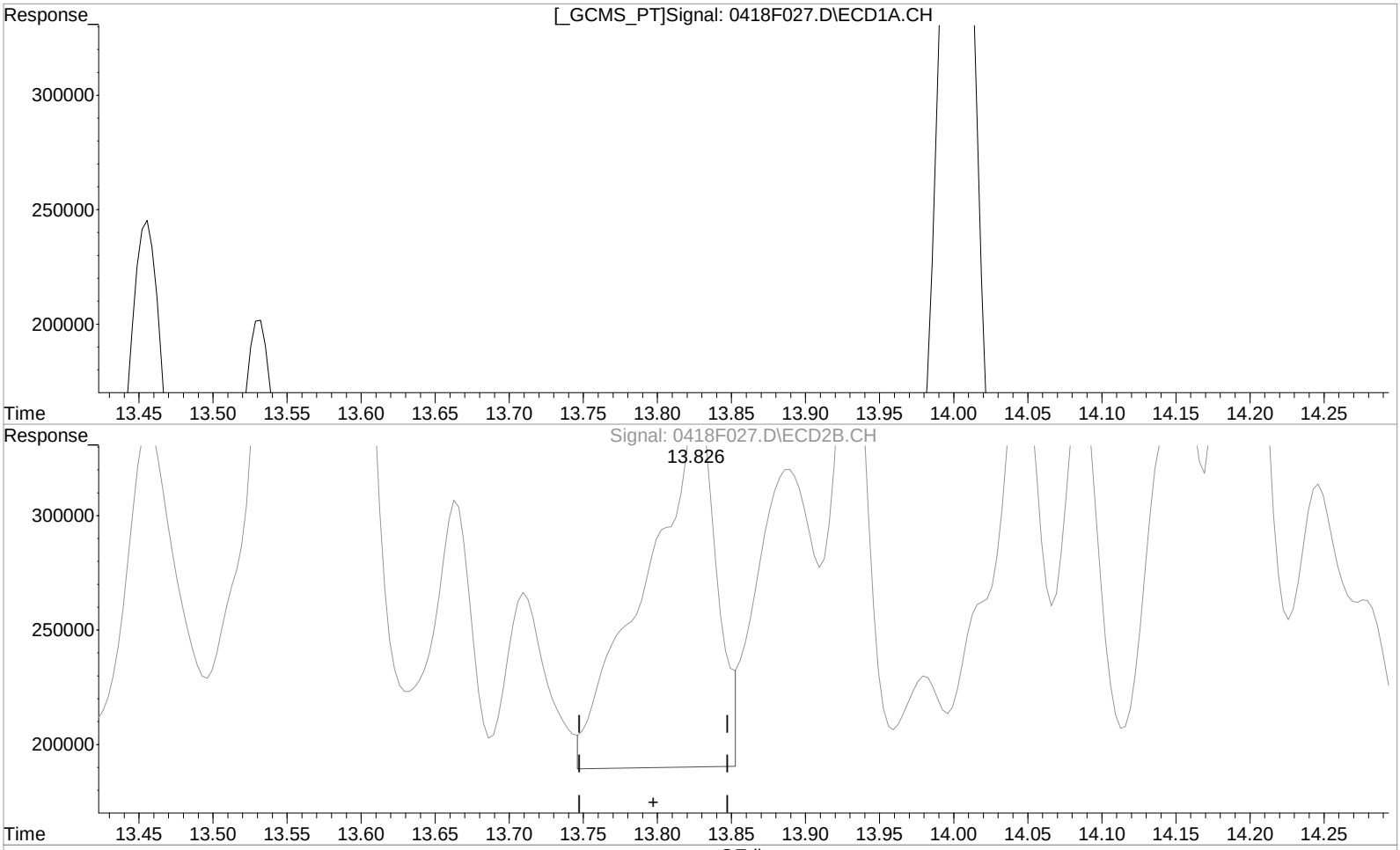
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.162min 4.472 ug/L m

response 58553

Manual Integration:

Before

04/21/20

(22) 4,4'-DDT #2

13.826min 11.510 ug/L

response 522654

(+) = Expected Retention Time

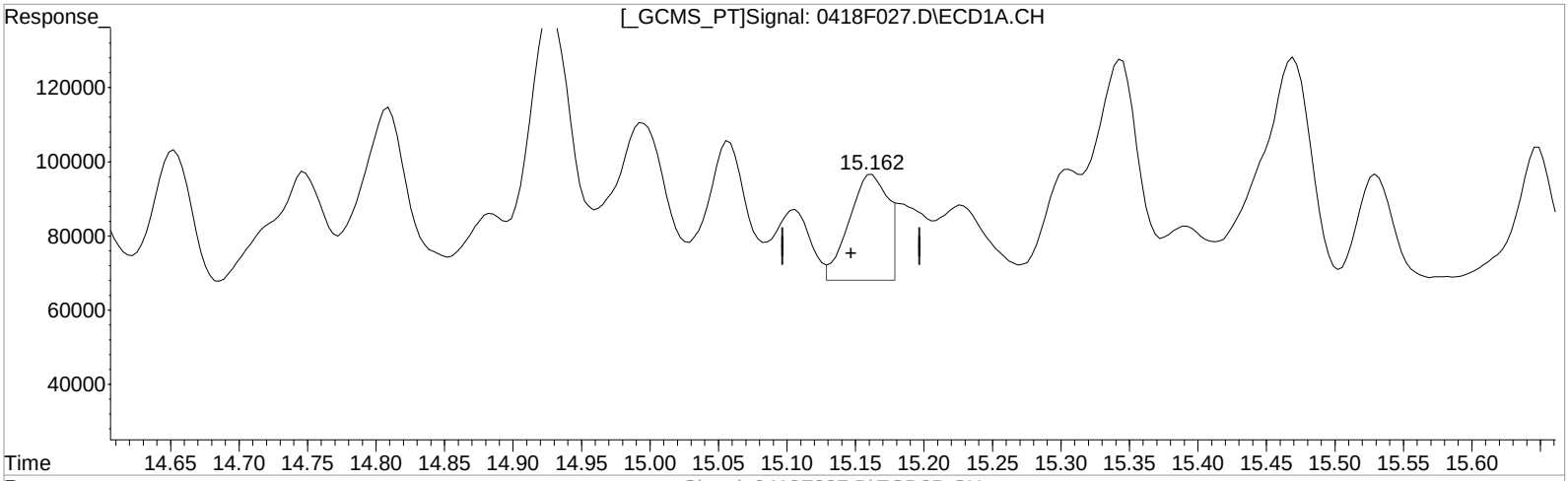
Quantitation Report (Qedit)

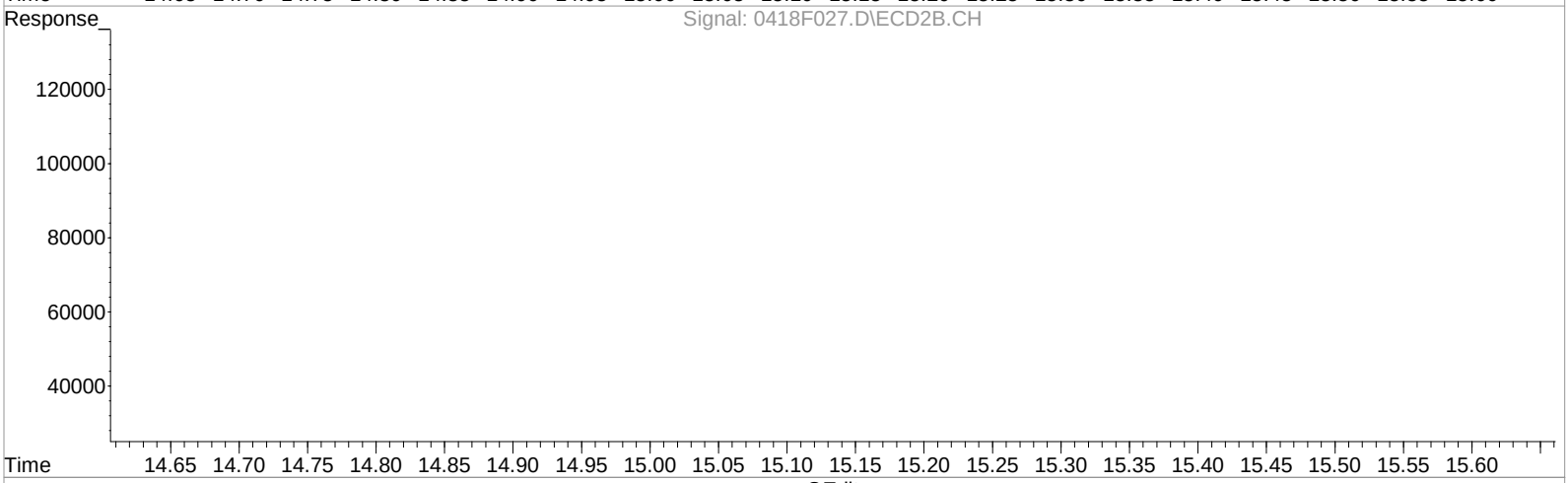
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.162min 4.472 ug/L m

response 58553

Manual Integration:

After

Shoulder

04/21/20

(22) 4,4'-DDT #2

13.826min 11.510 ug/L

response 522654

(+) = Expected Retention Time

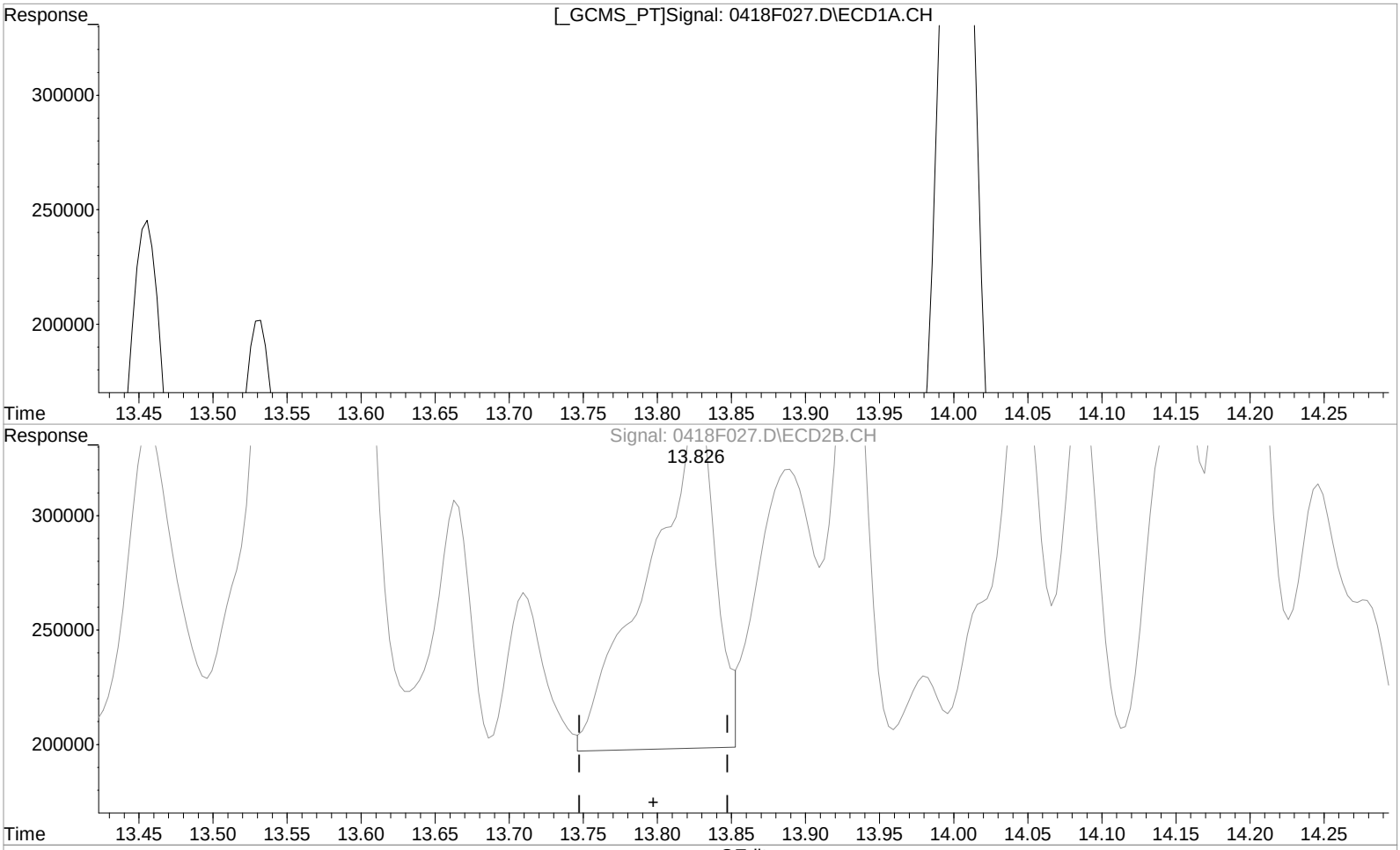
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.162min 4.472 ug/L m

response 58553

(22) 4,4'-DDT #2

13.826min 10.379 ug/L m

response 471297

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

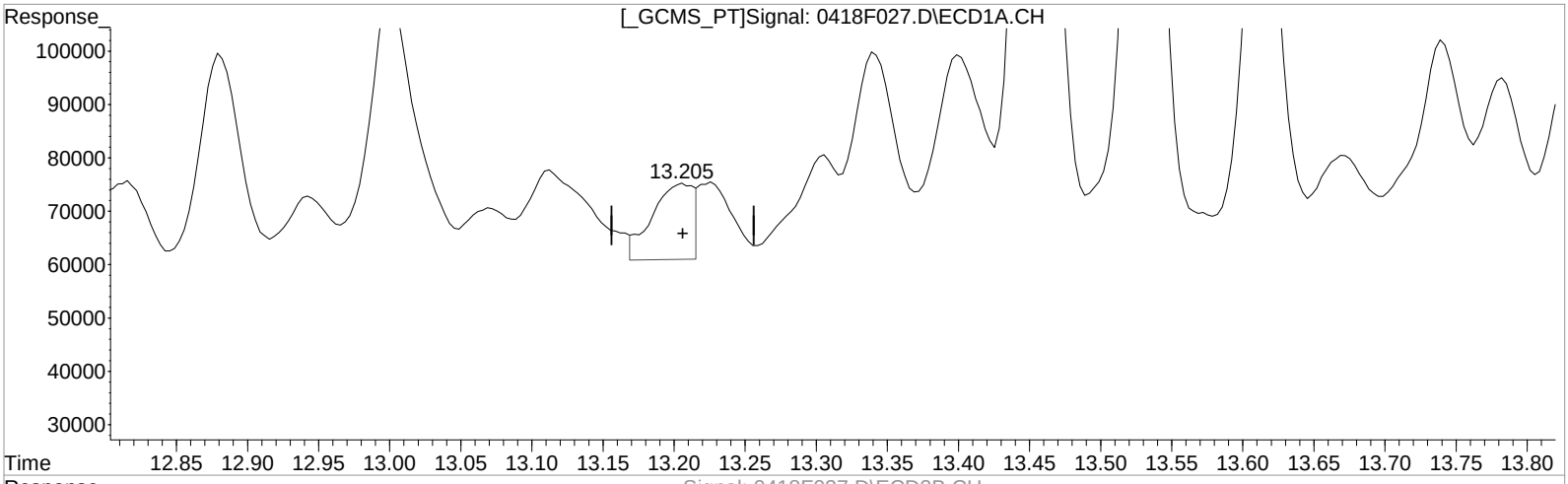
Quantitation Report (Qedit)

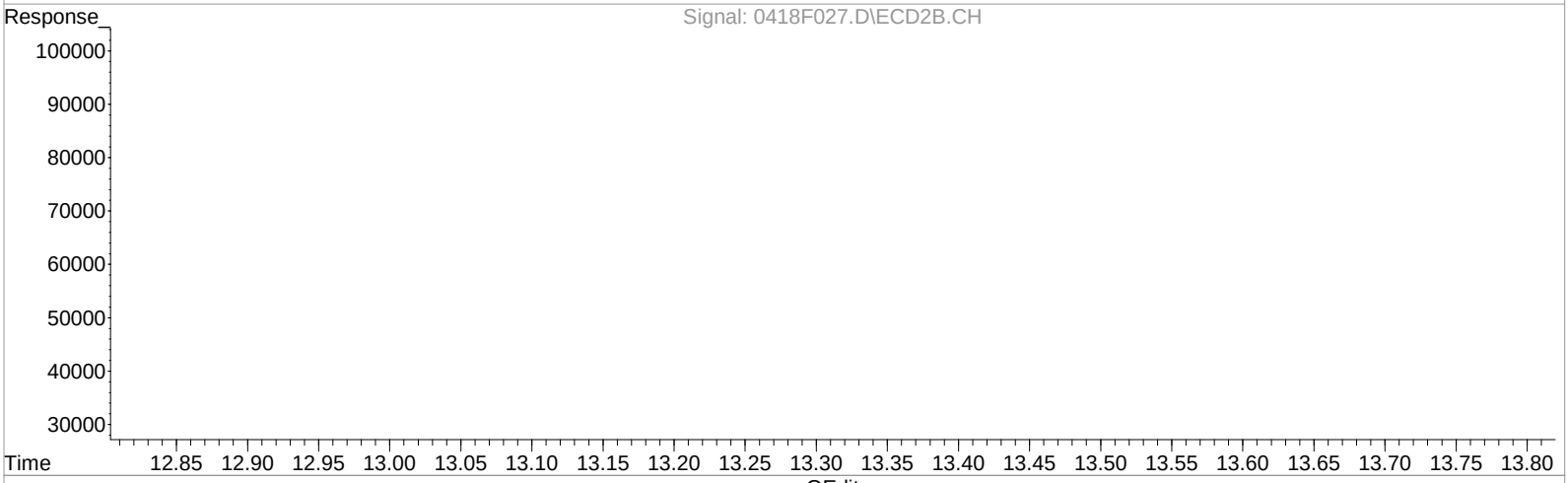
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.205min 2.615 ug/L

response 29448

Manual Integration:

Before

04/21/20

(25) 2,4'-DDE #2

12.019min 16.619 ug/L

response 682668

(+) = Expected Retention Time

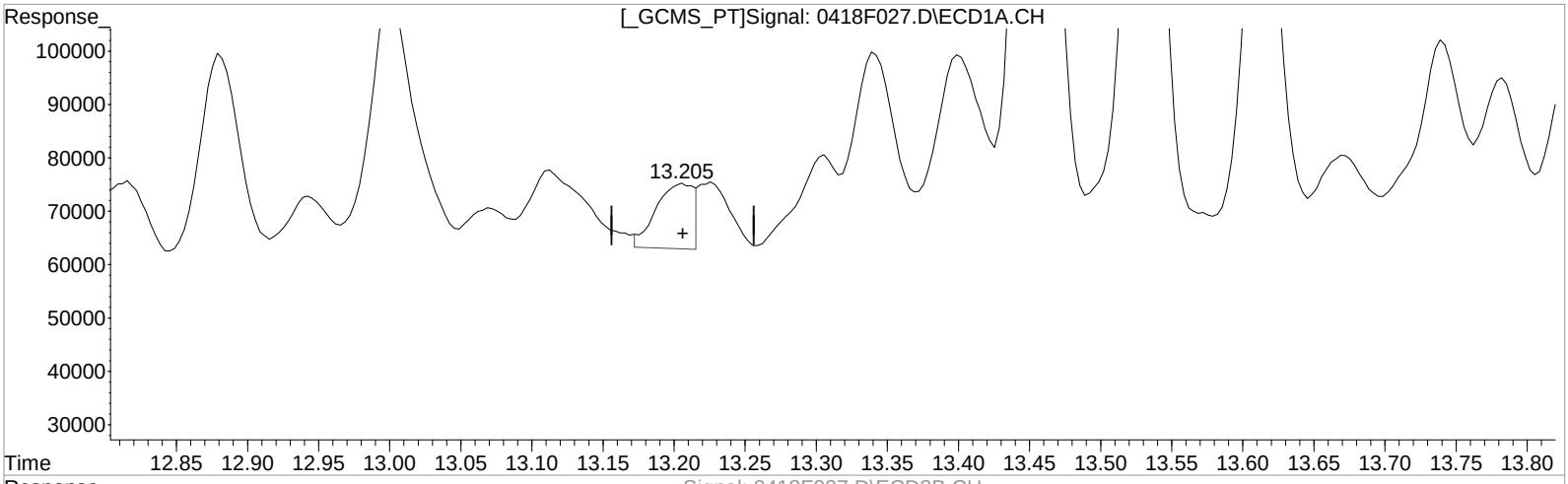
Quantitation Report (Qedit)

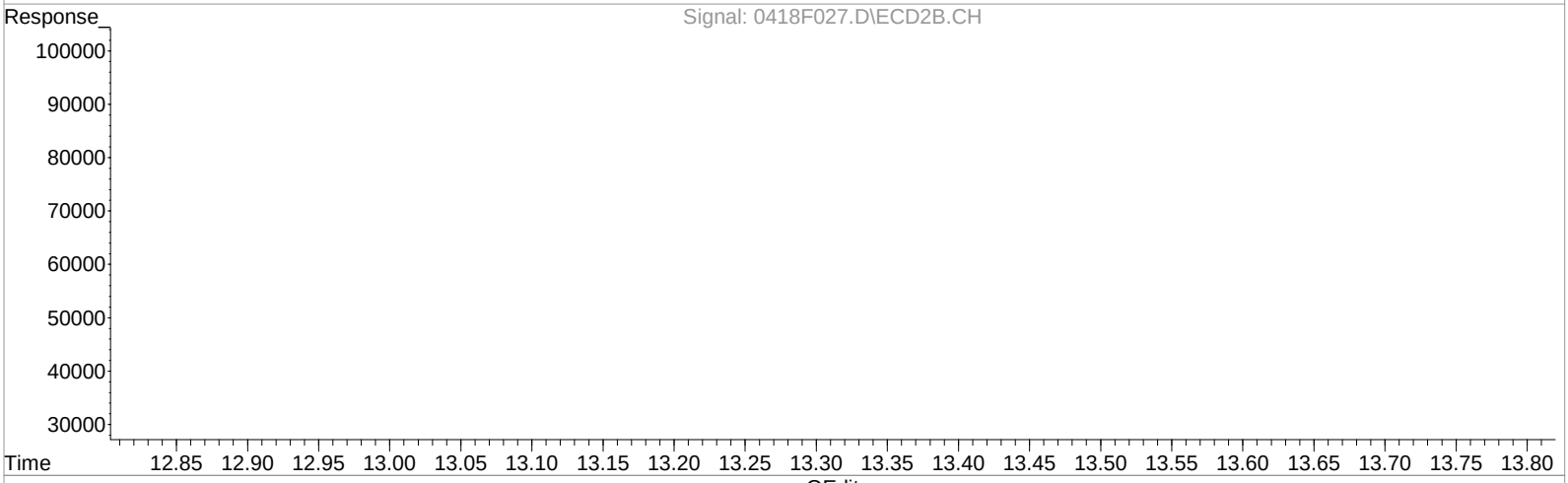
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.205min 2.048 ug/L m

response 23063

Manual Integration:

After

Baseline correction

04/21/20

(25) 2,4'-DDE #2

12.019min 16.619 ug/L

response 682668

(+) = Expected Retention Time

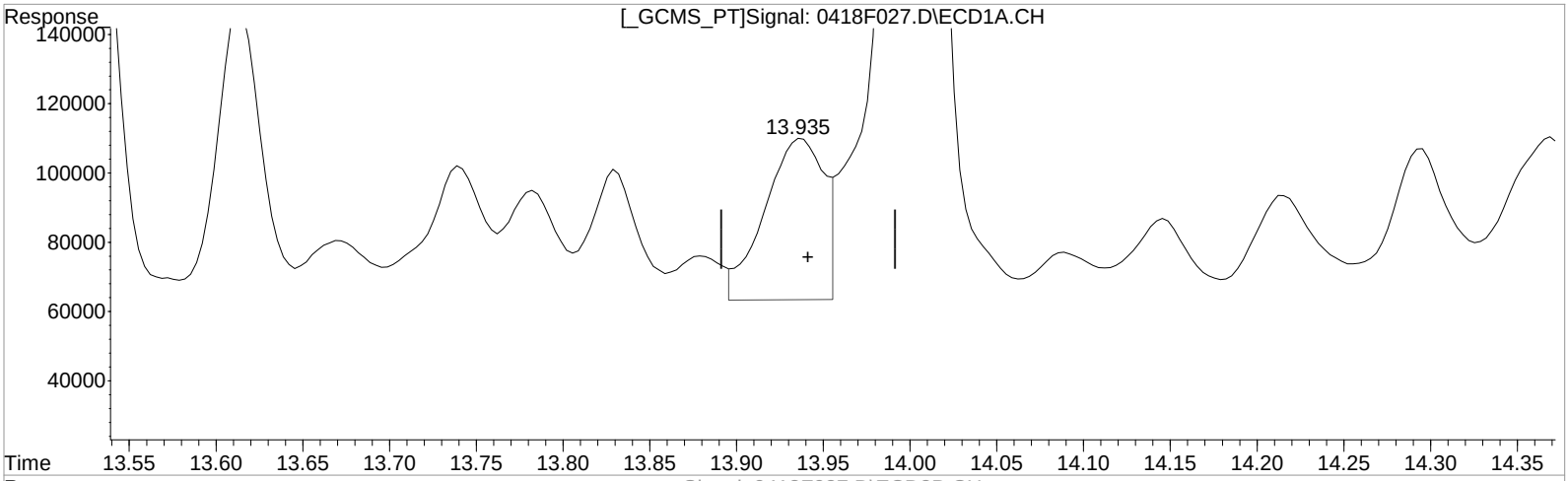
Quantitation Report (Qedit)

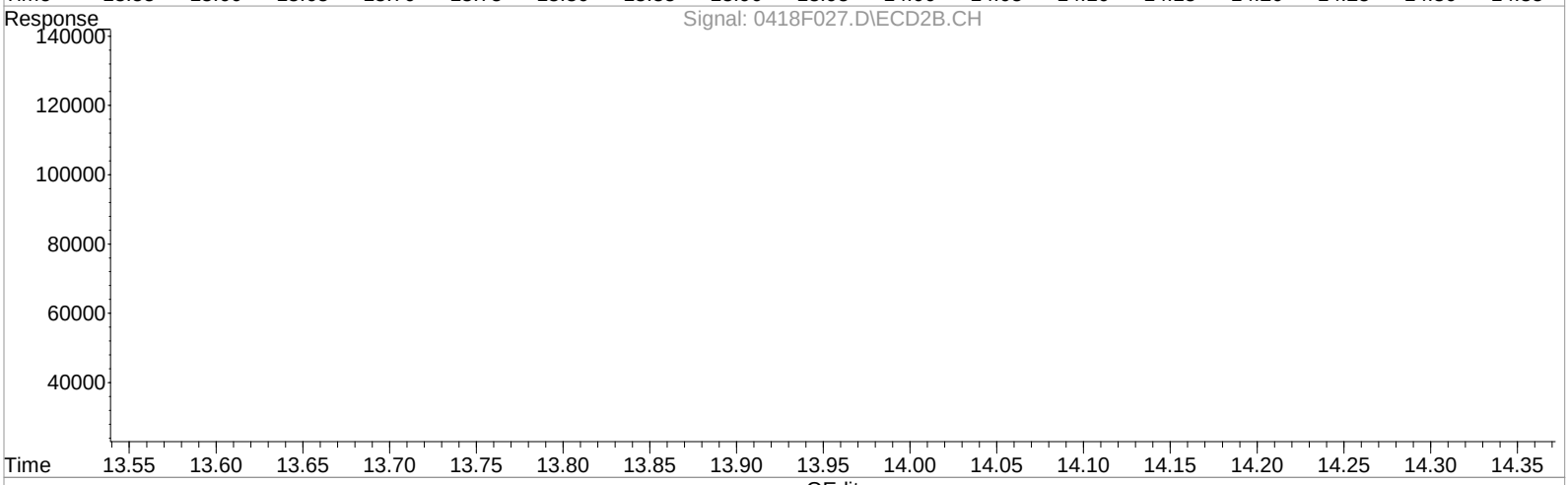
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.935min 11.528 ug/L

response 114002

(26) 2,4'-DDD #2

12.759min 3.406 ug/L

response 121332

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

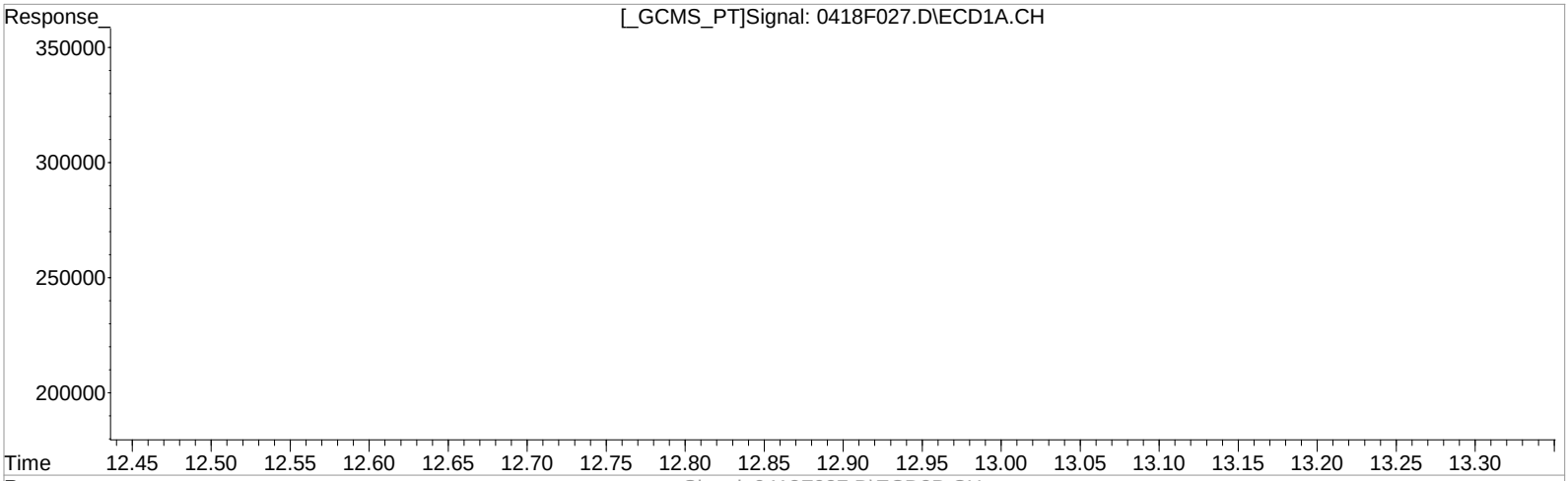
Quantitation Report (Qedit)

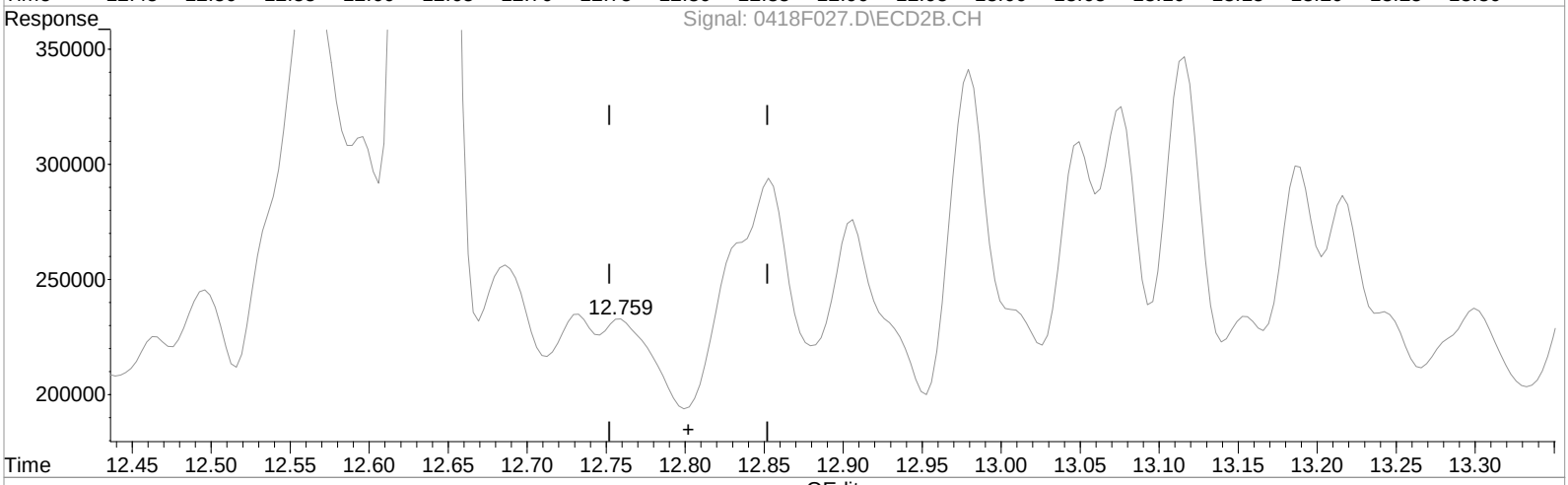
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.935min 9.397 ug/L m

response 92925

(26) 2,4'-DDD #2

12.759min 3.406 ug/L

response 121332

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

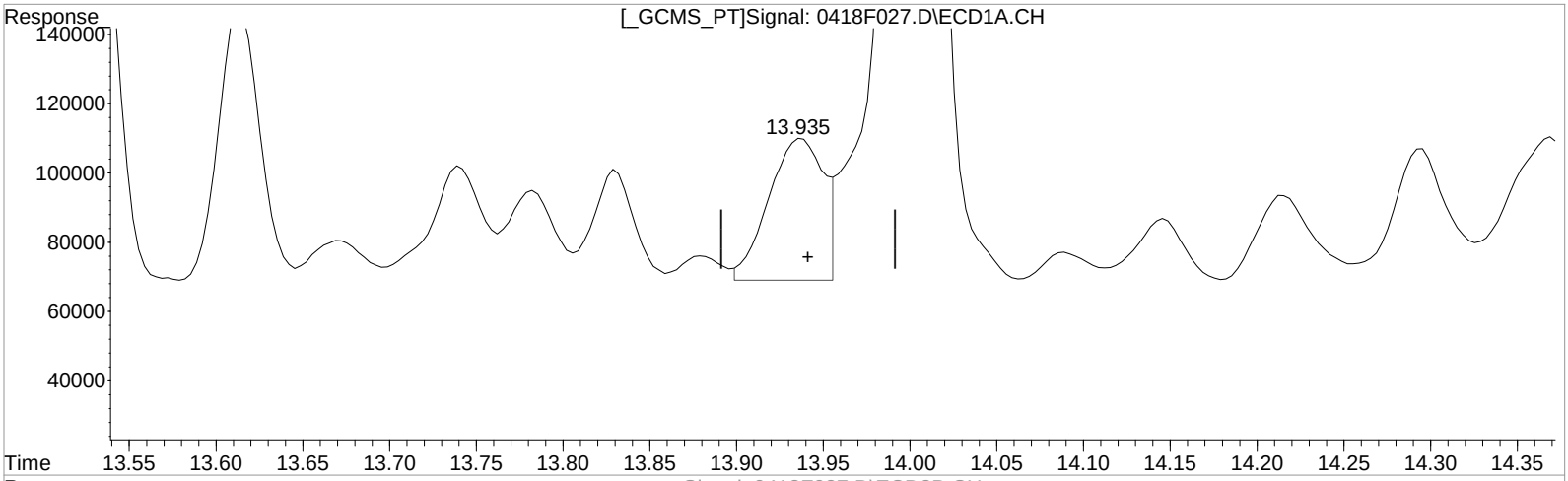
Quantitation Report (Qedit)

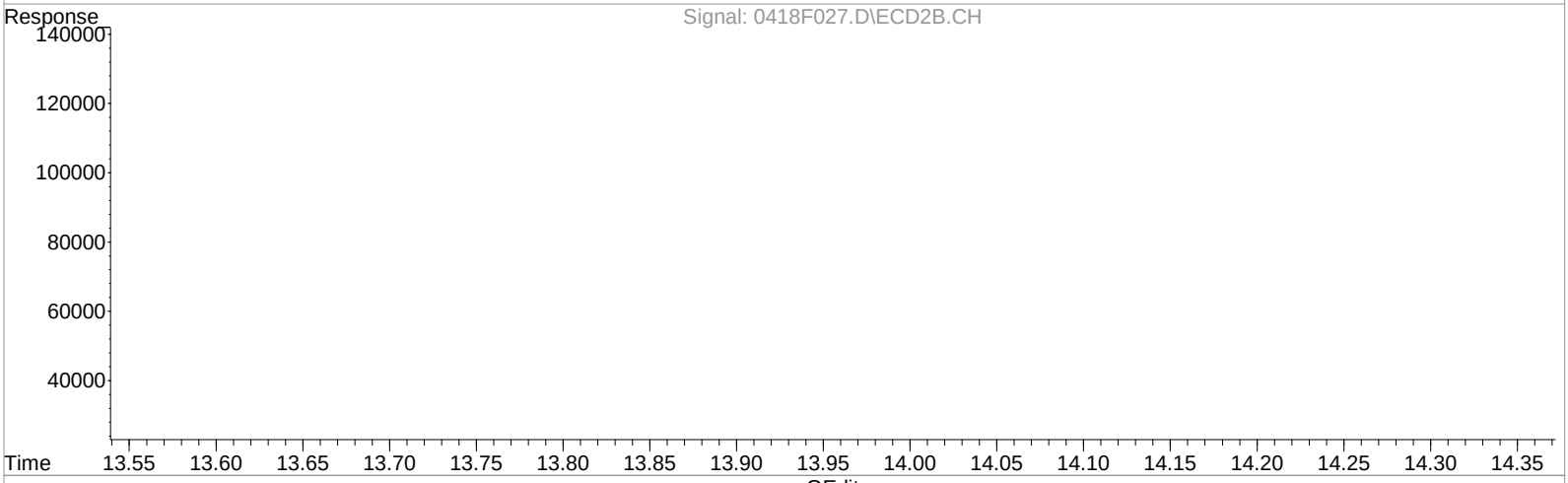
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.935min 9.397 ug/L m

response 92925

Manual Integration:

After

Baseline correction

04/21/20

(26) 2,4'-DDD #2

12.759min 3.406 ug/L

response 121332

(+) = Expected Retention Time

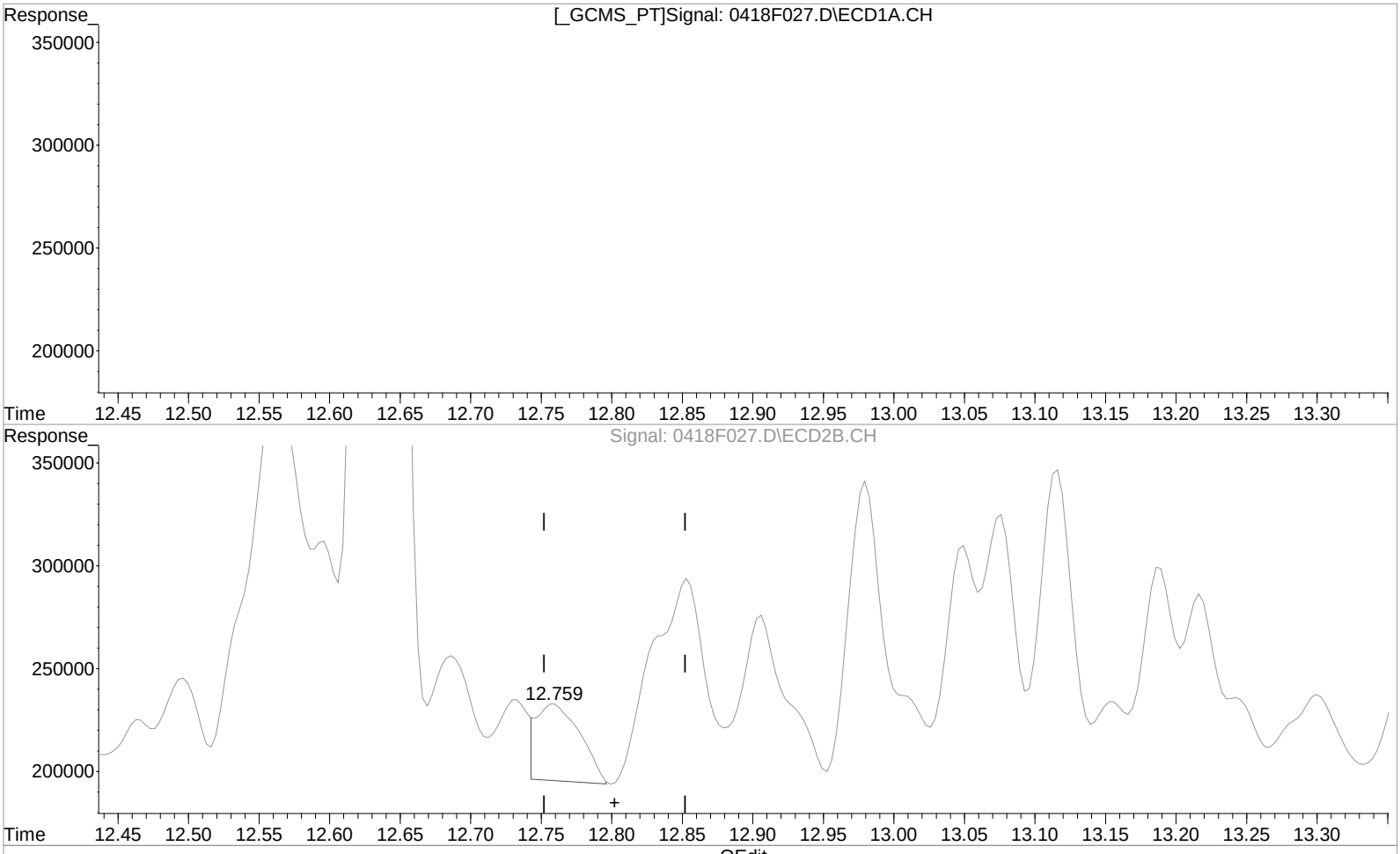
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(26) 2,4'-DDD

13.935min 9.397 ug/L m

response 92925

(26) 2,4'-DDD #2

12.759min 2.196 ug/L m

response 78217

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

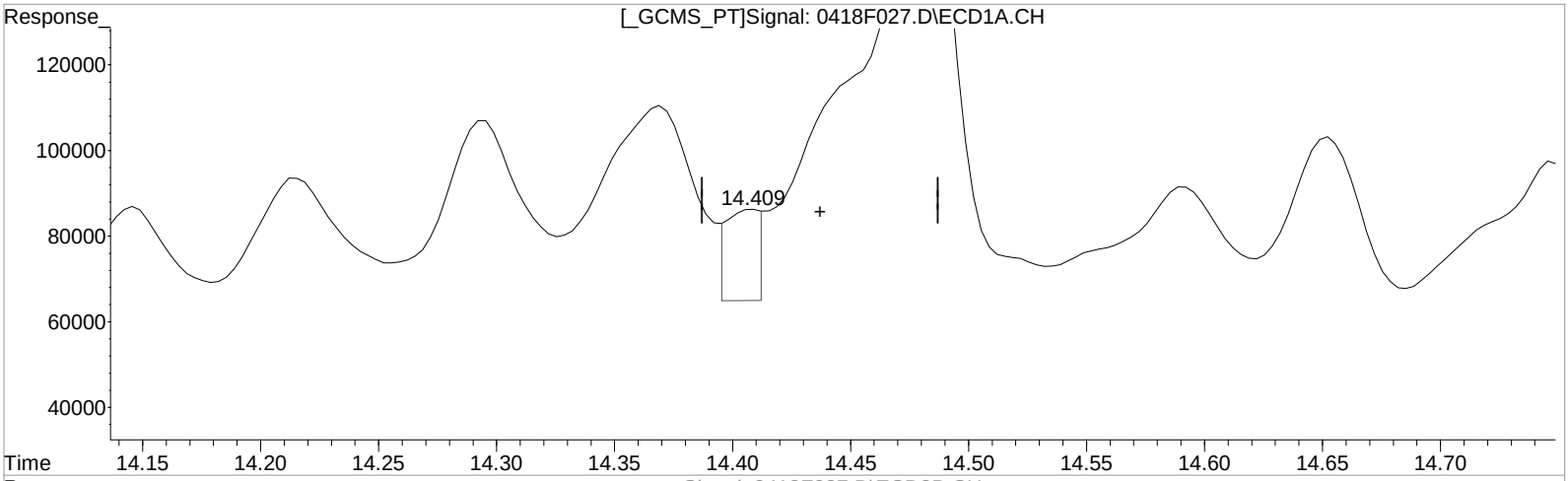
Quantitation Report (Qedit)

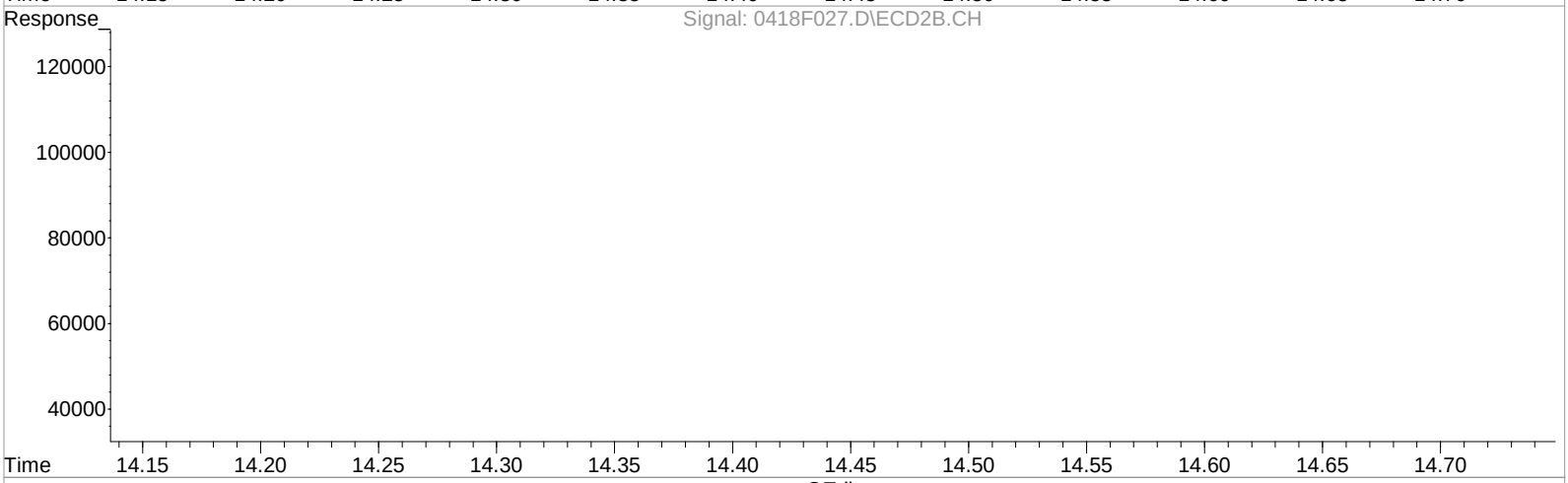
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.409min 1.820 ug/L

response 20598

Manual Integration:

Before

04/21/20

(27) 2,4'-DDT #2

13.216min 6.012 ug/L

response 232251

(+) = Expected Retention Time

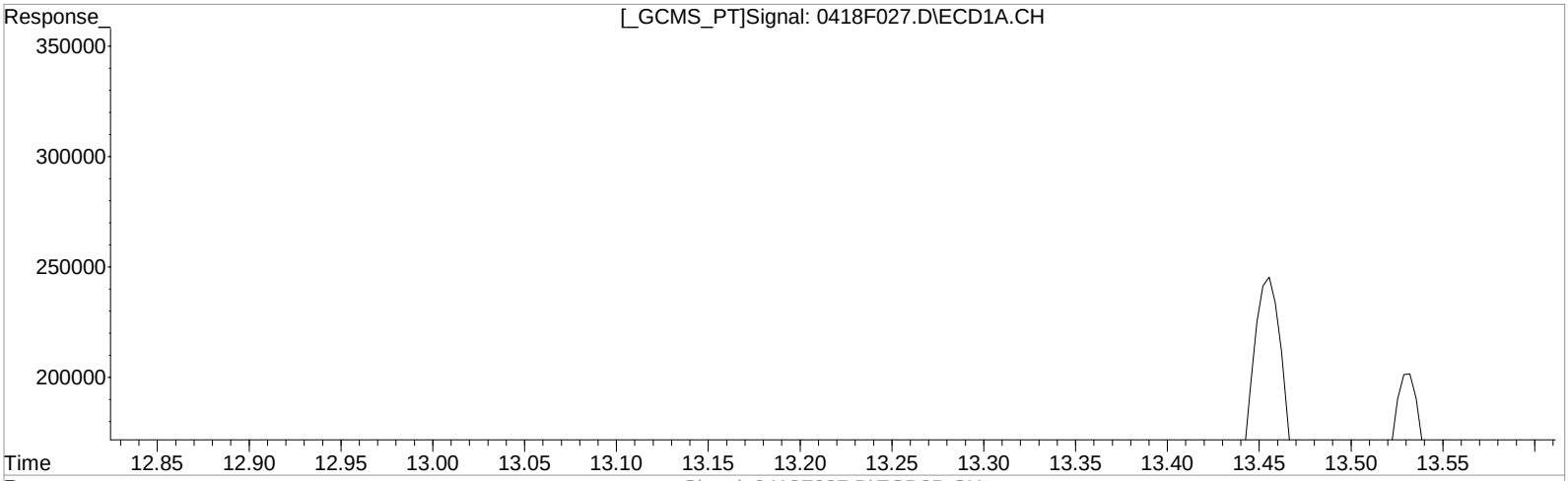
Quantitation Report (Qedit)

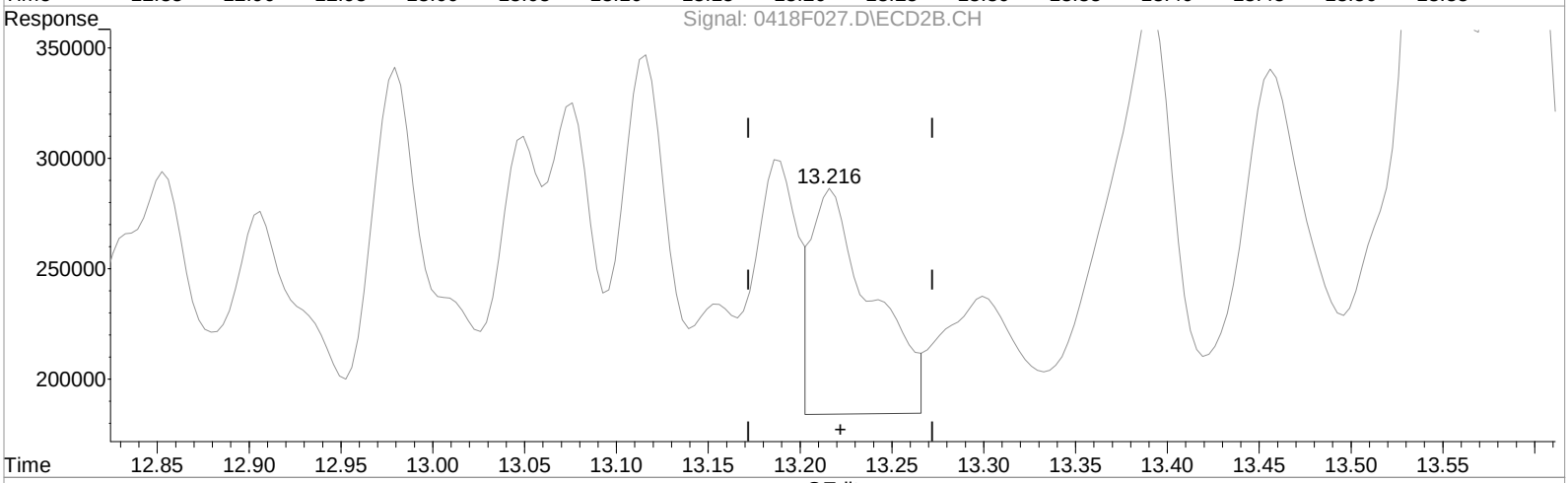
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.479min 24.978 ug/L m

response 282658

Manual Integration:

Before

04/21/20

(27) 2,4'-DDT #2

13.216min 6.012 ug/L

response 232251

(+) = Expected Retention Time

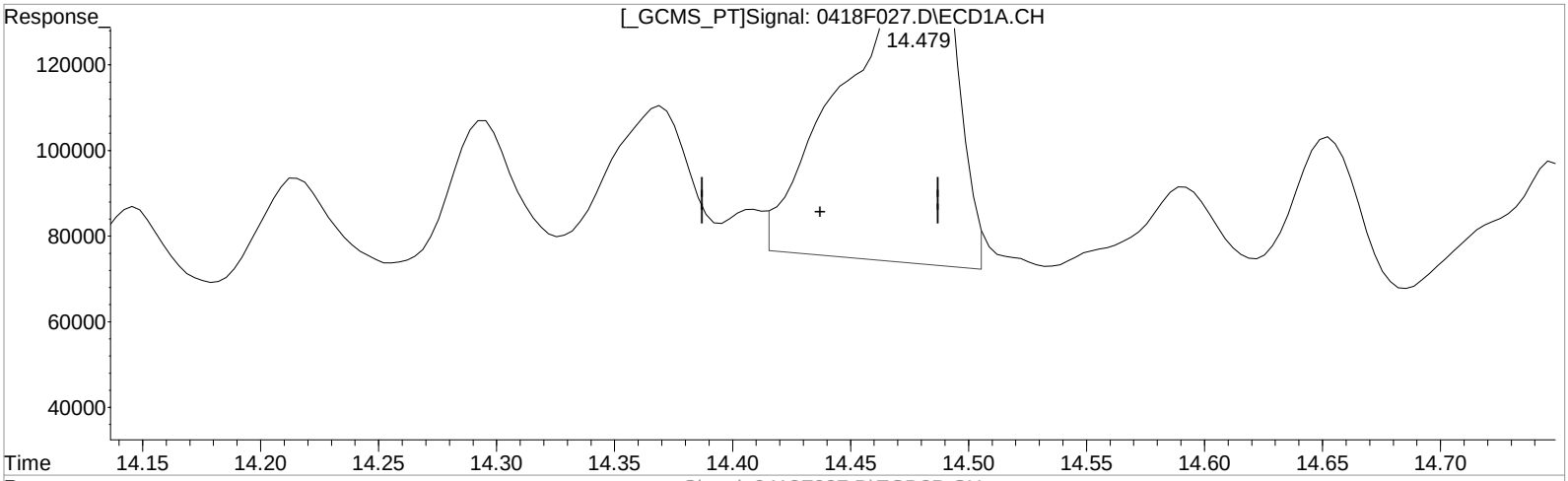
Quantitation Report (Qedit)

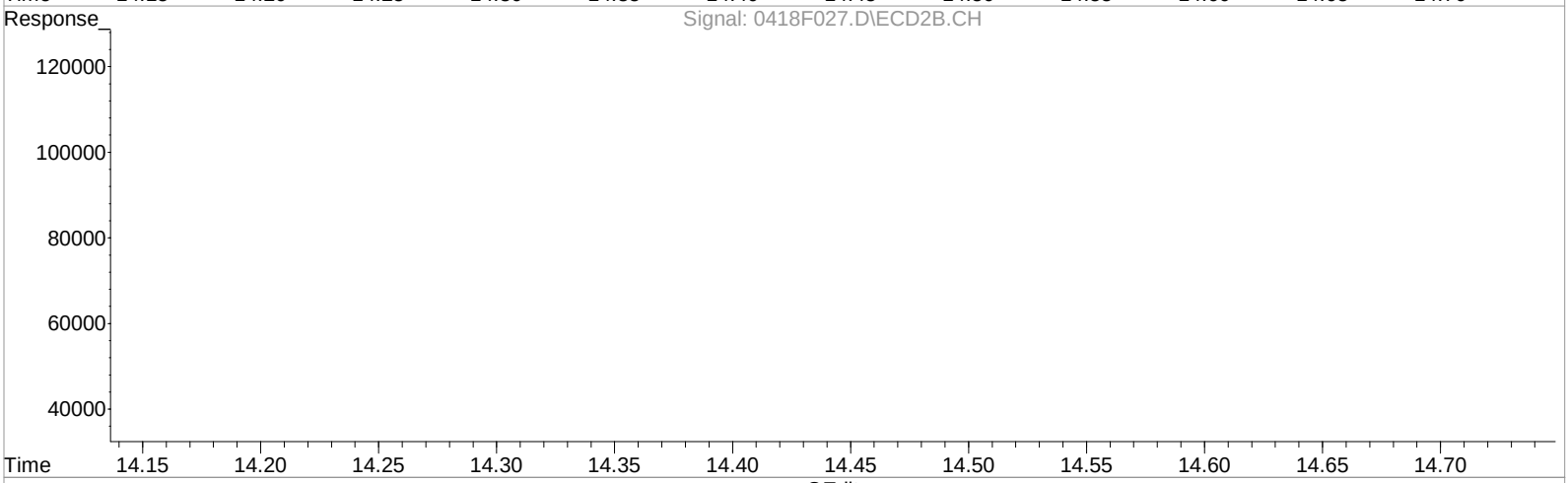
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.479min 24.978 ug/L m

response 282658

Manual Integration:

After

WRT

04/21/20

(27) 2,4'-DDT #2

13.216min 6.012 ug/L

response 232251

(+) = Expected Retention Time

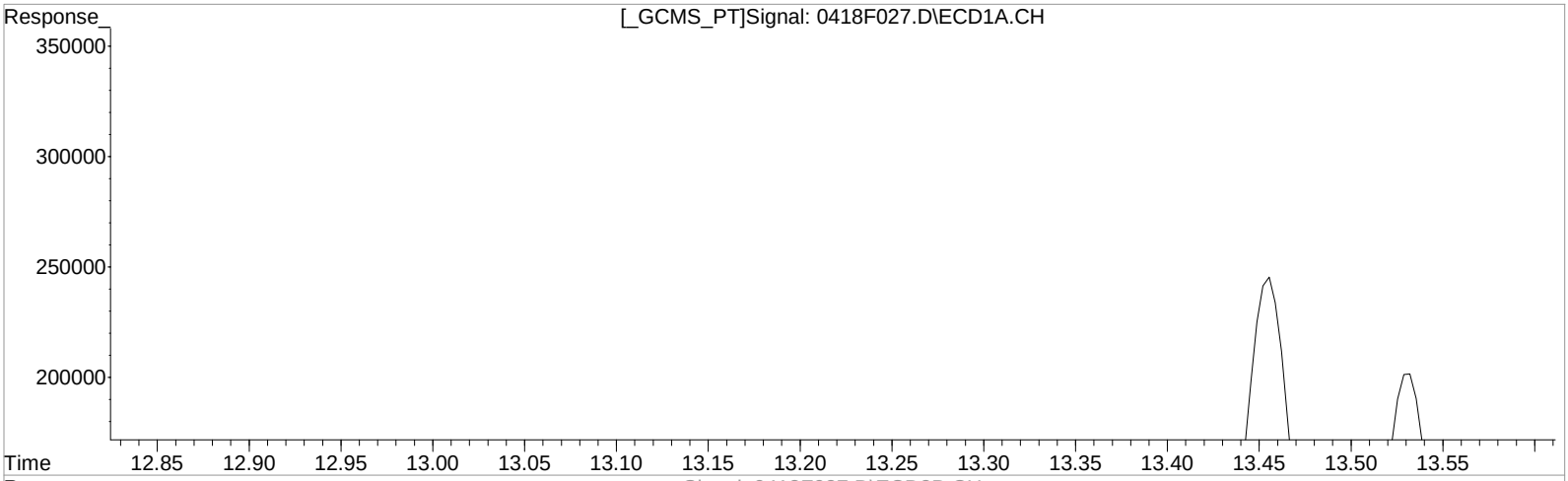
Quantitation Report (Qedit)

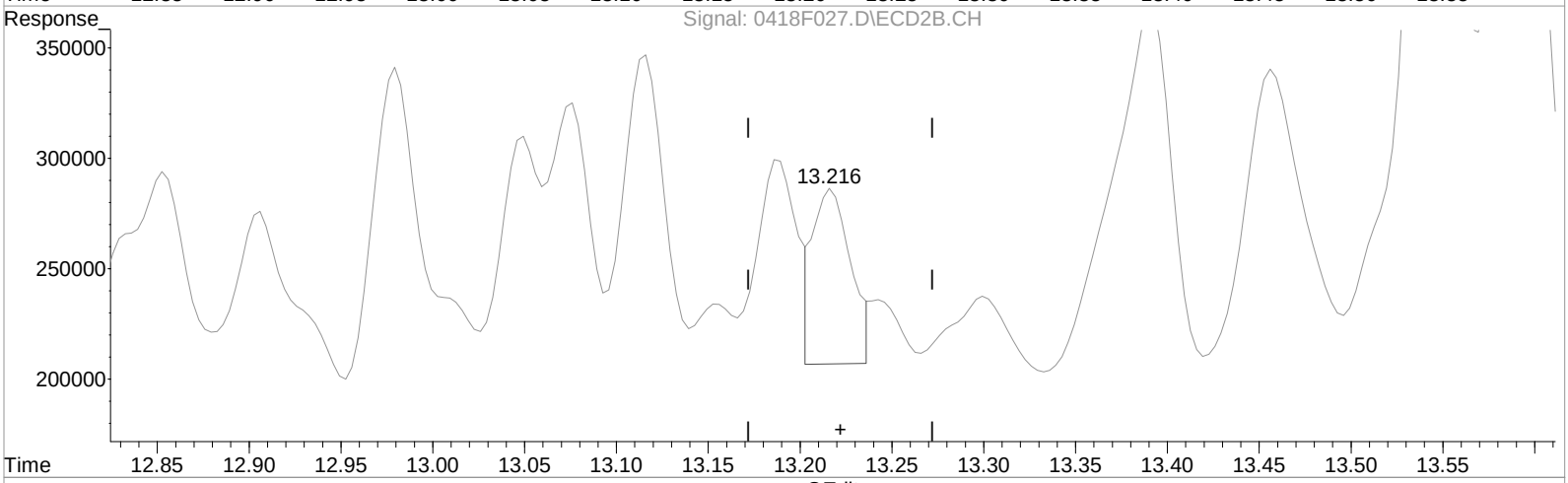
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.479min 24.978 ug/L m

response 282658

(27) 2,4'-DDT #2

13.216min 2.943 ug/L m

response 113669

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

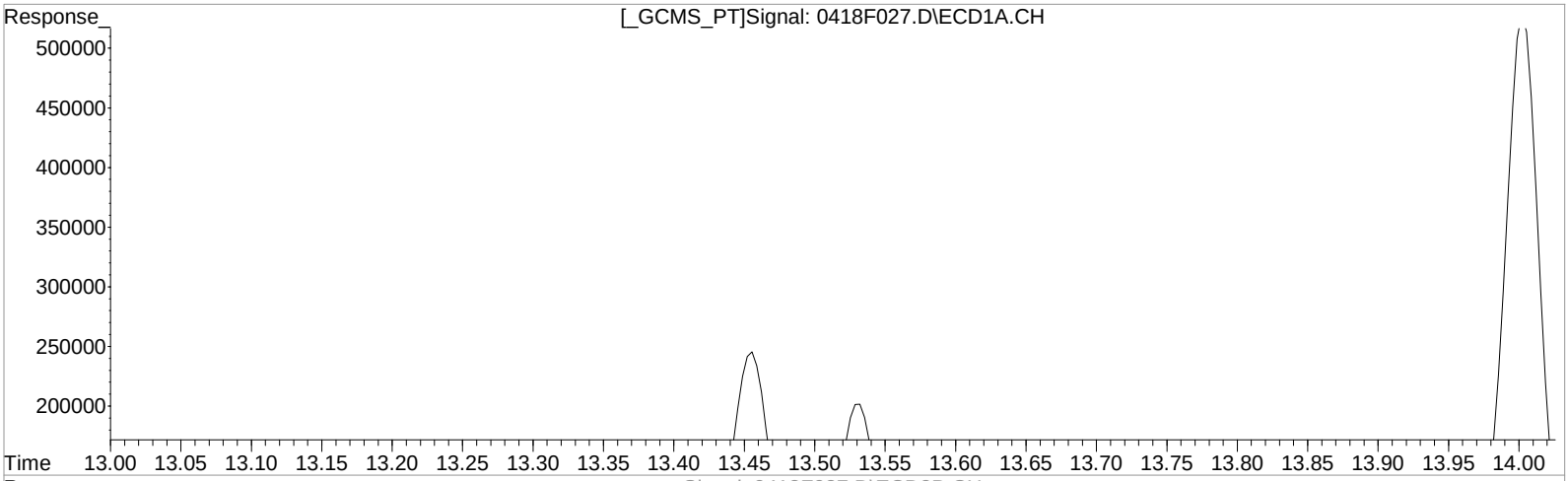
Quantitation Report (Qedit)

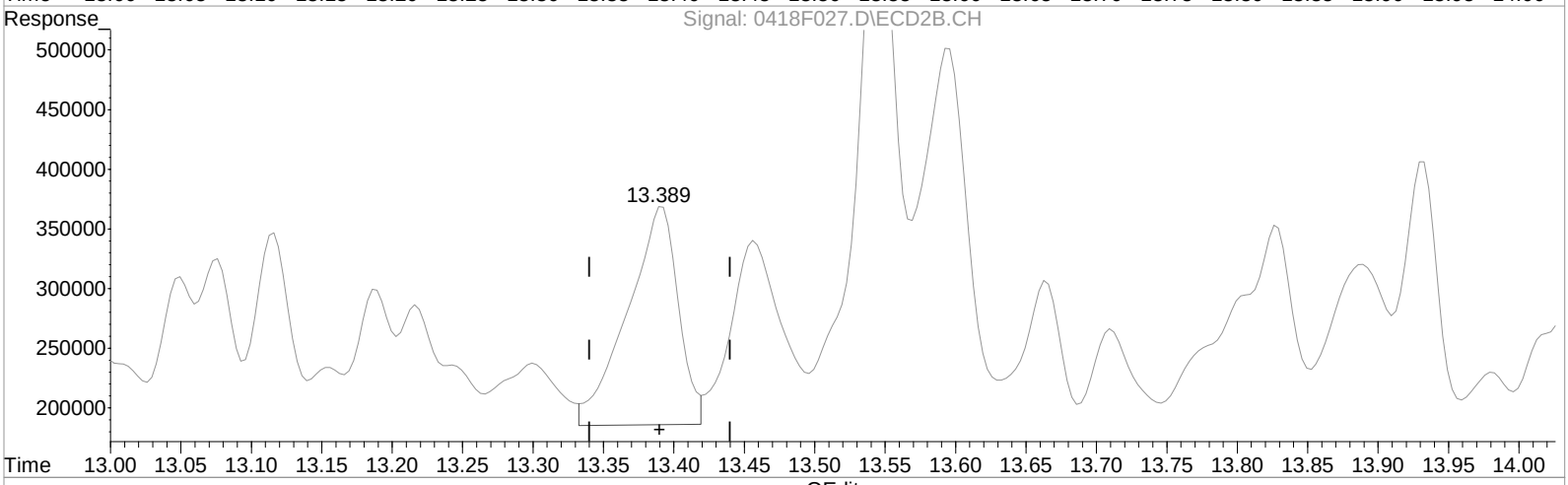
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.745min 530.691 ug/L

response 91057

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.389min 463.598 ug/L

response 458366

(+) = Expected Retention Time

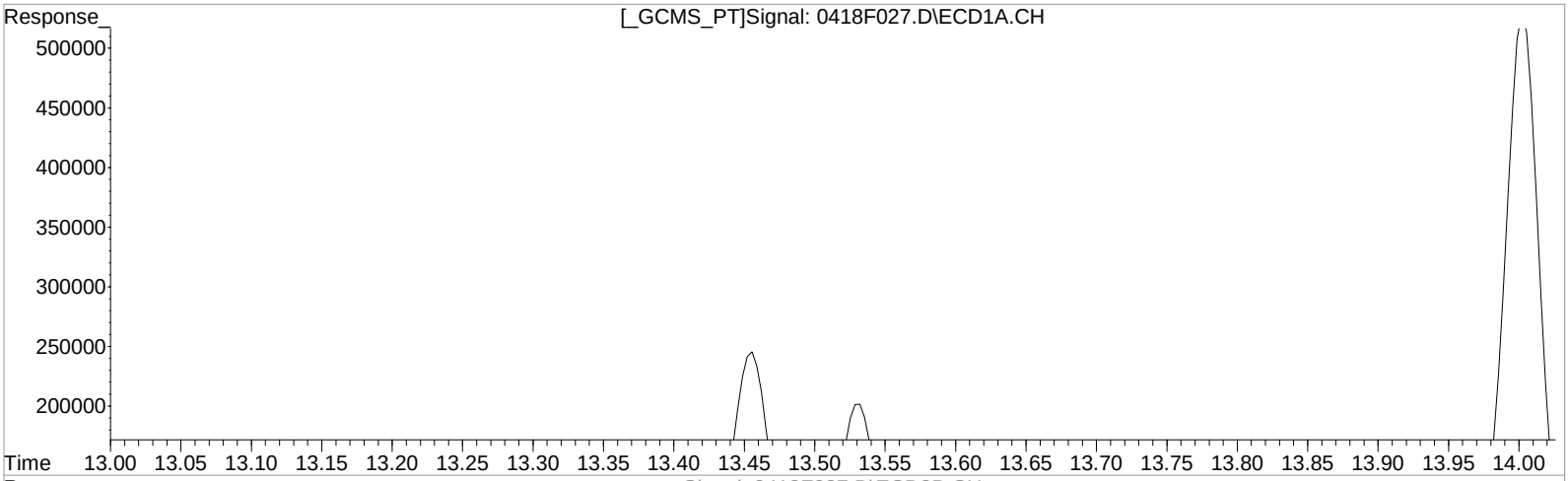
Quantitation Report (Qedit)

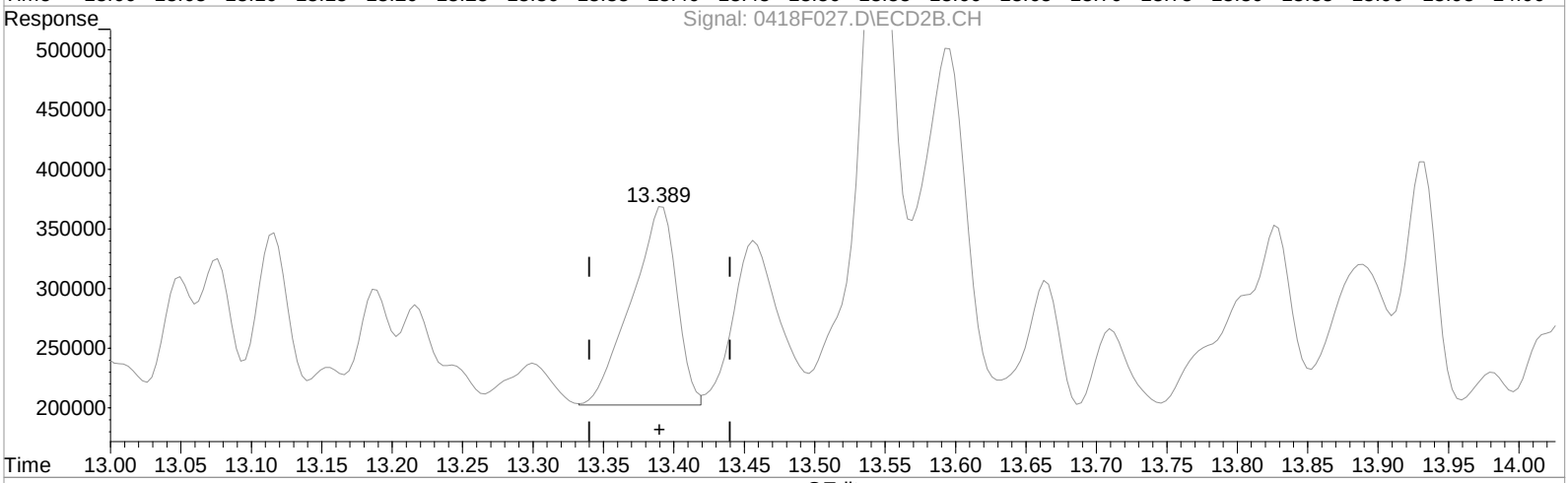
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.745min 530.691 ug/L

response 91057

(30) Toxaphene #2

13.389min 376.603 ug/L m

response 372353

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

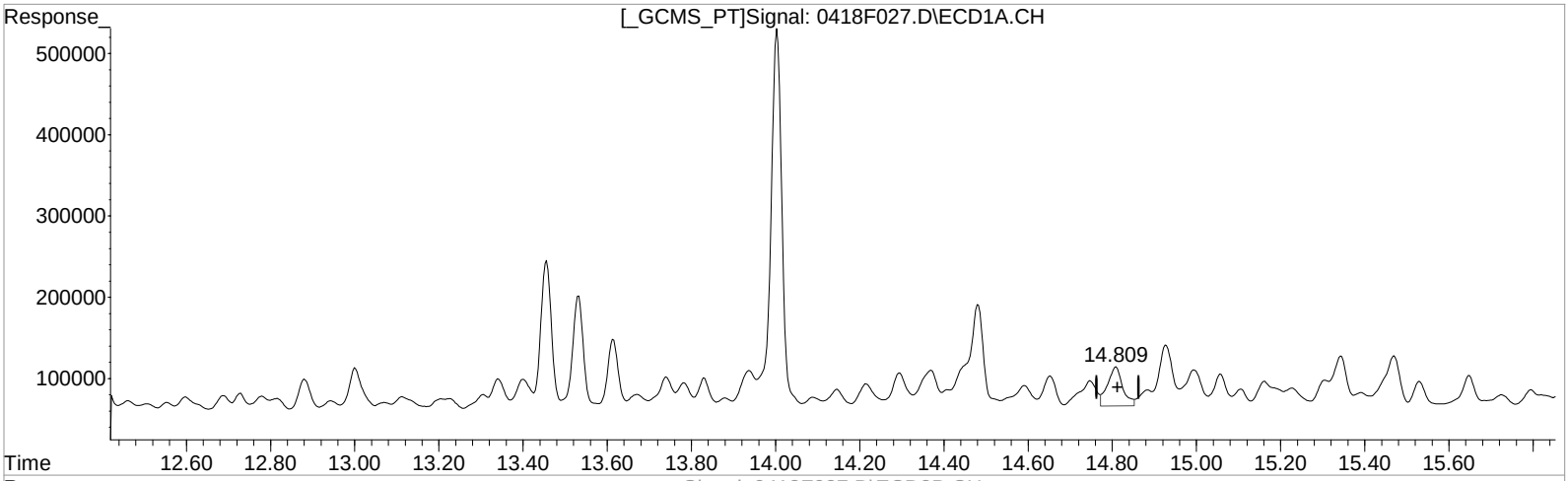
Quantitation Report (Qedit)

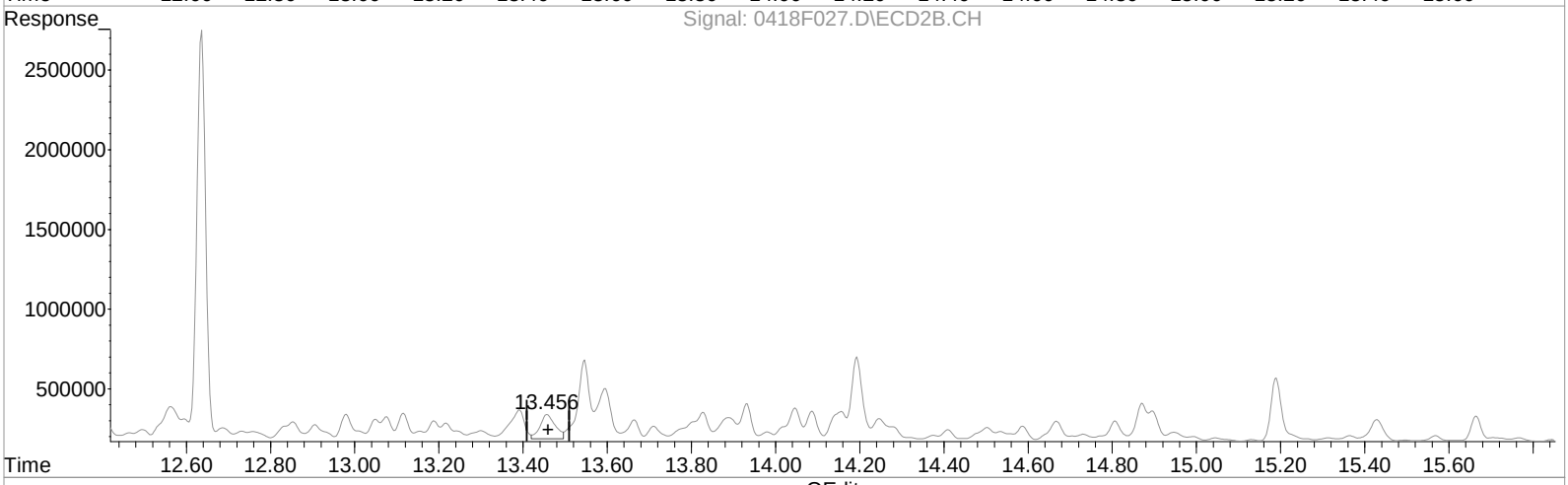
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.809min 776.188 ug/L

response 120464

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.456min 511.515 ug/L

response 389104

(+) = Expected Retention Time

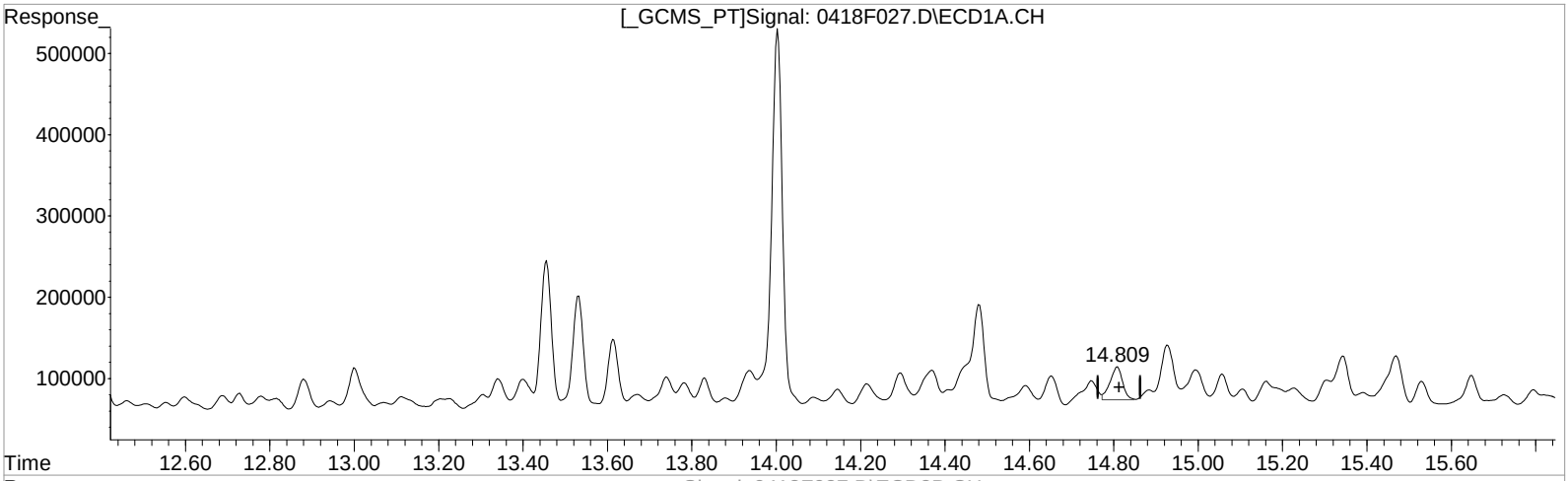
Quantitation Report (Qedit)

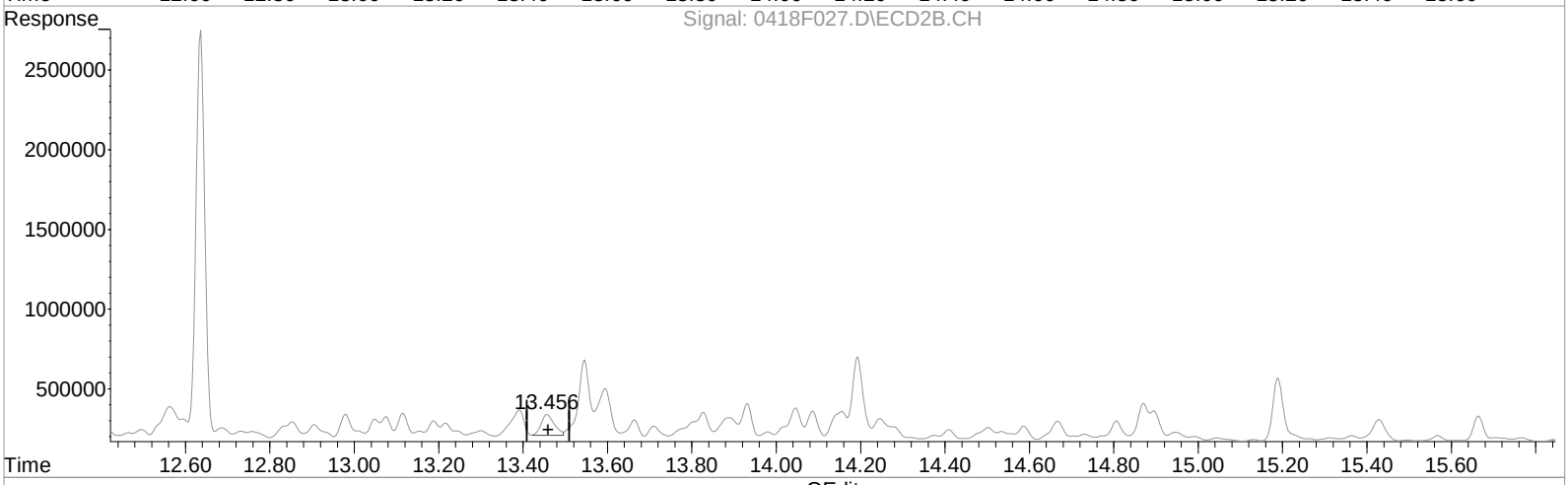
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.809min 544.725 ug/L m

response 84541

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.456min 376.713 ug/L m

response 286562

(+) = Expected Retention Time

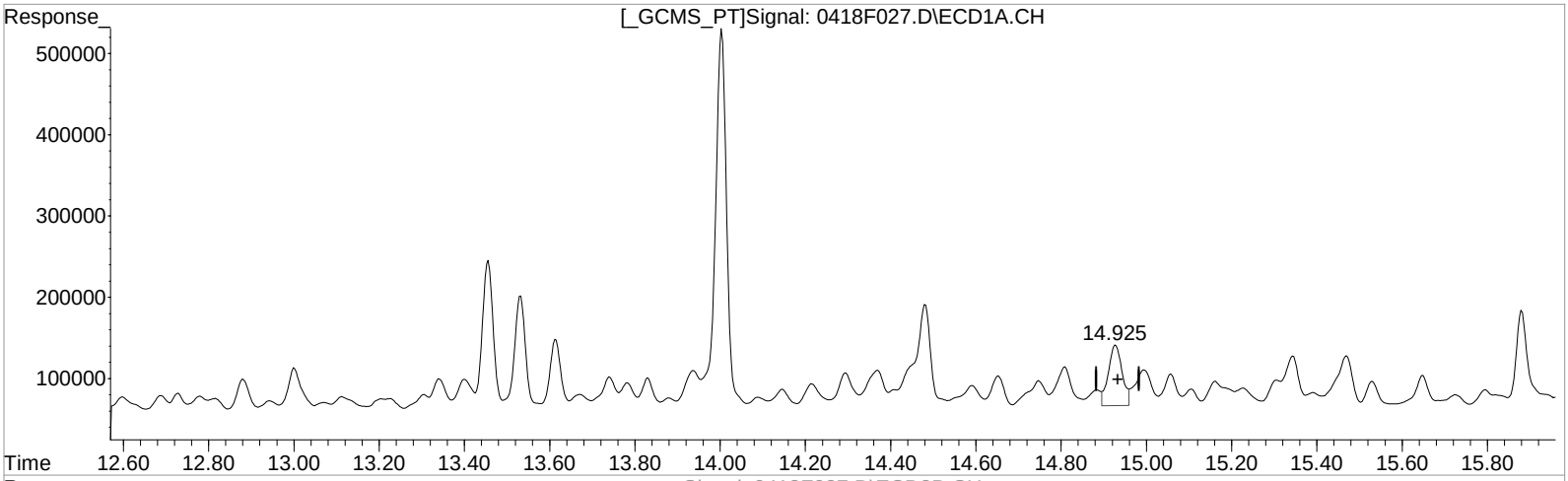
Quantitation Report (Qedit)

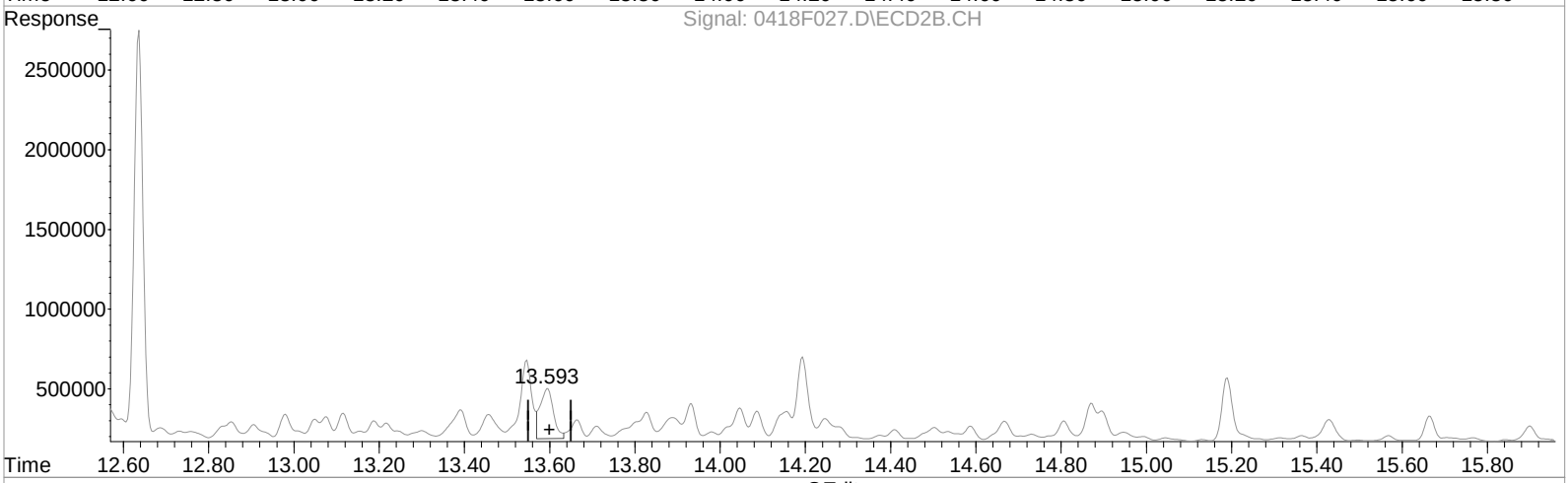
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.925min 543.837 ug/L

response 168182

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.593min 872.565 ug/L

response 670612

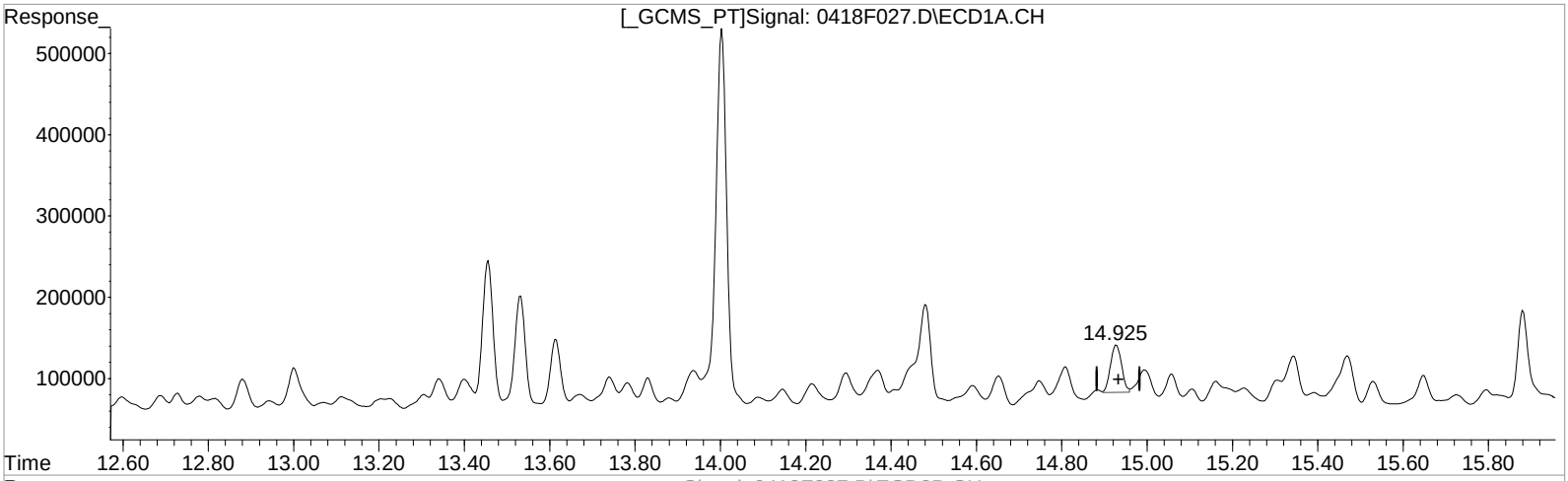
(+) = Expected Retention Time

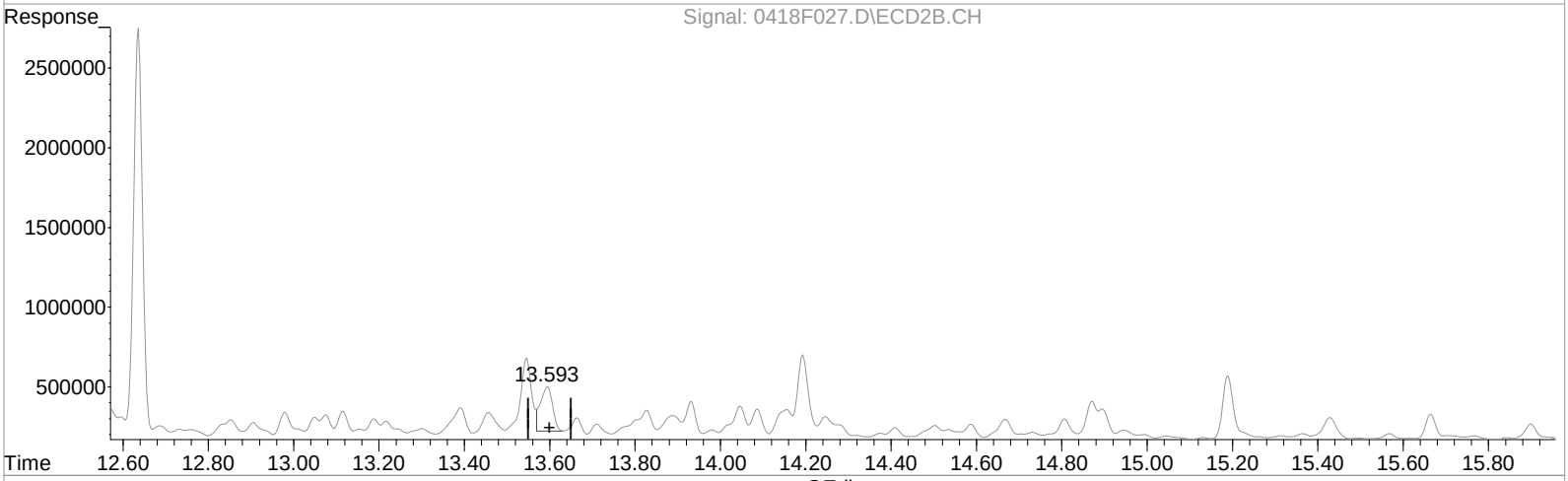
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.925min 342.140 ug/L m

response 105807

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.593min 662.187 ug/L m

response 538482

(+) = Expected Retention Time

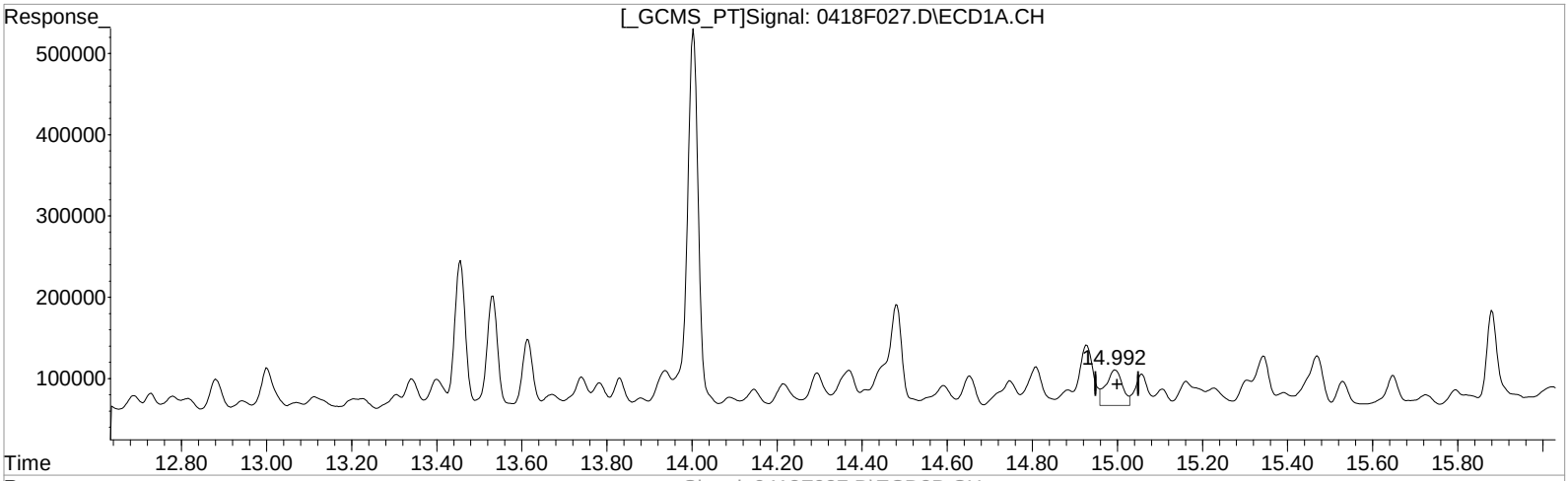
Quantitation Report (Qedit)

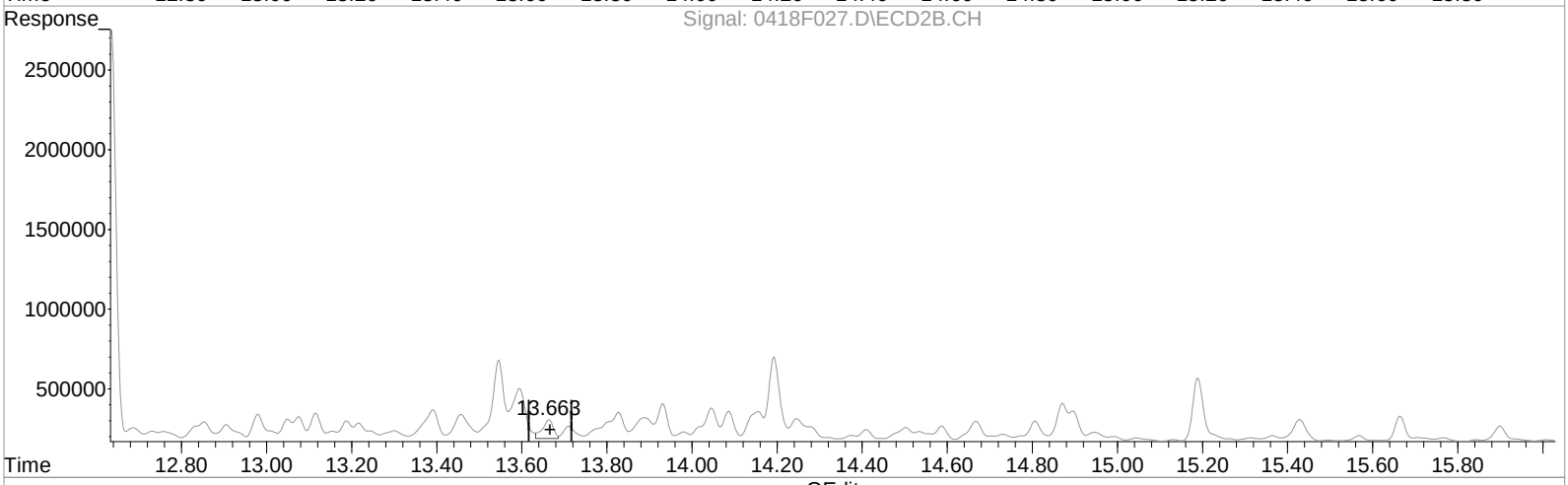
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.992min 567.921 ug/L

response 118116

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.663min 705.413 ug/L

response 209712

(+) = Expected Retention Time

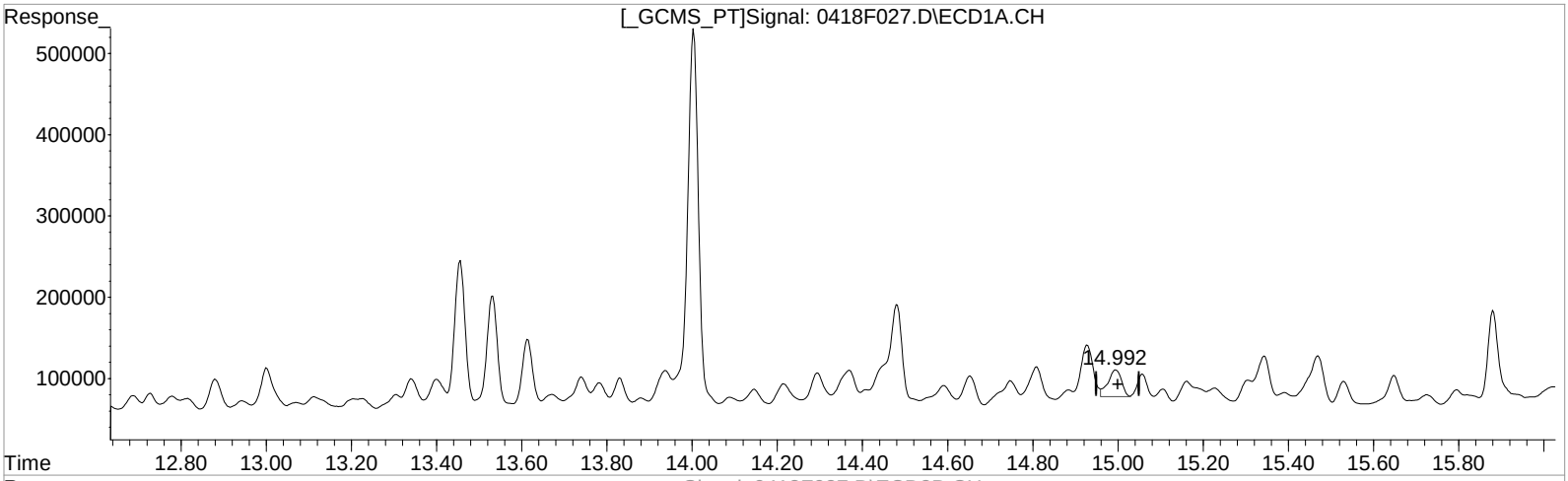
Quantitation Report (Qedit)

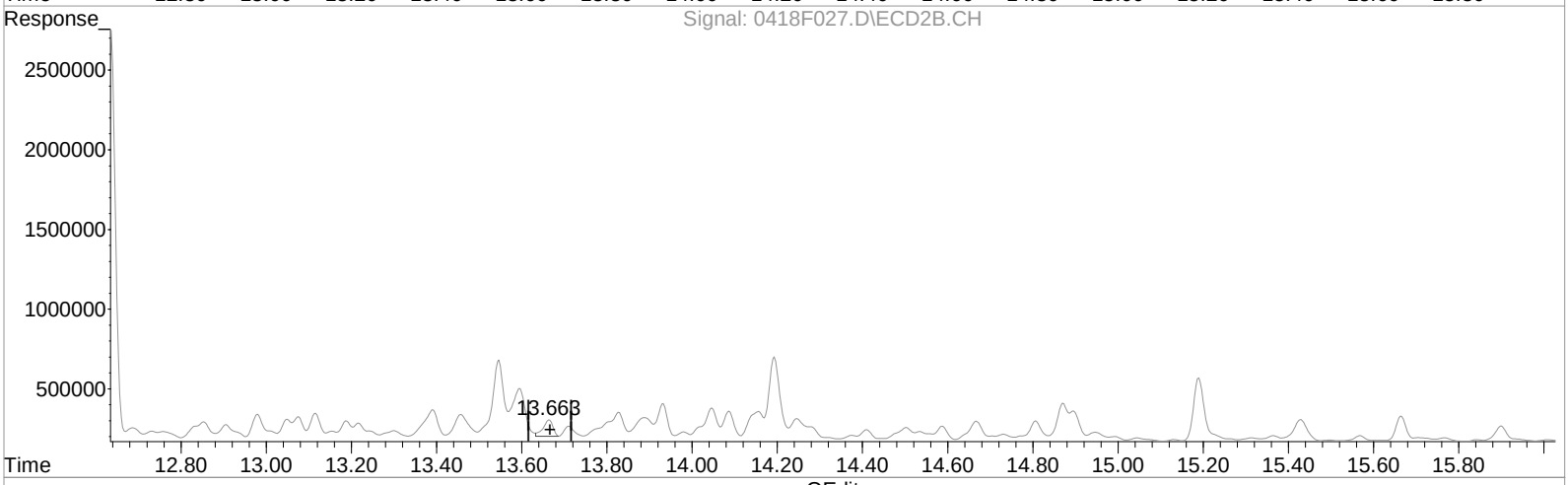
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.992min 344.481 ug/L m

response 71645

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.663min 536.492 ug/L m

response 165427

(+) = Expected Retention Time

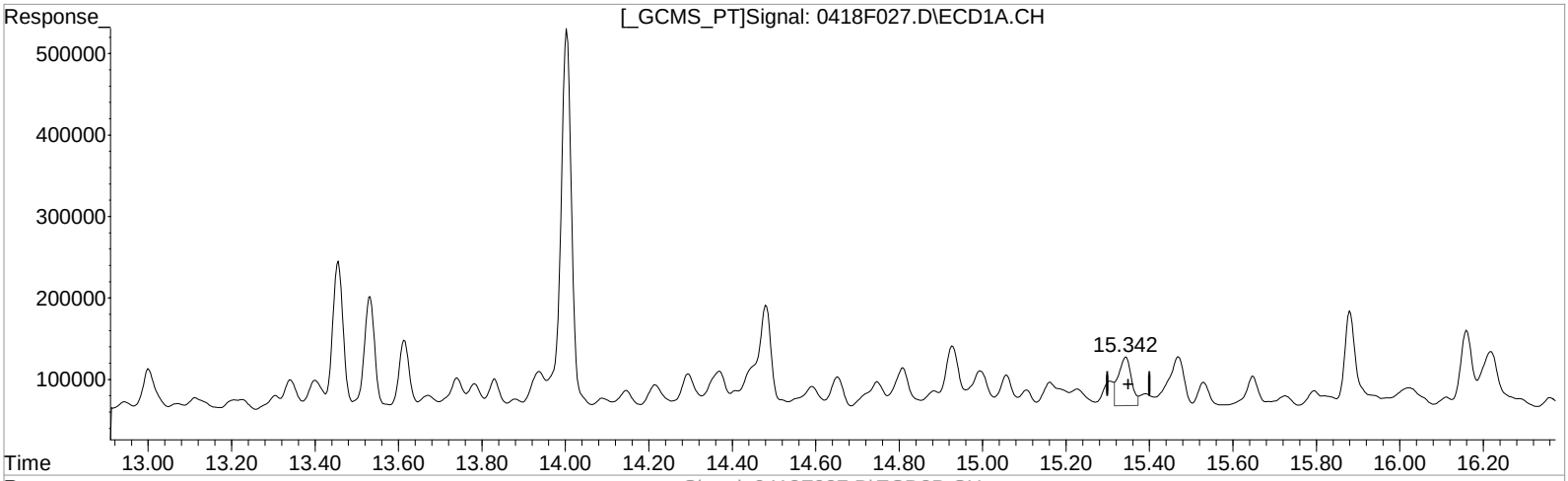
Quantitation Report (Qedit)

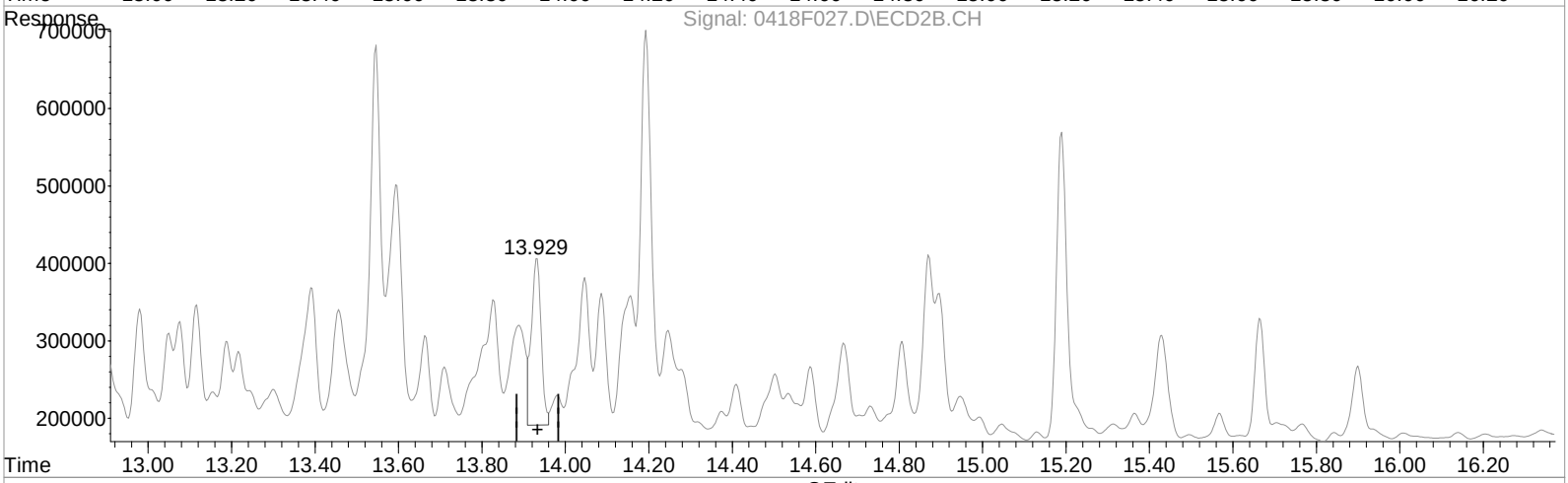
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.342min 646.972 ug/L

response 128216

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.929min 650.466 ug/L

response 346426

(+) = Expected Retention Time

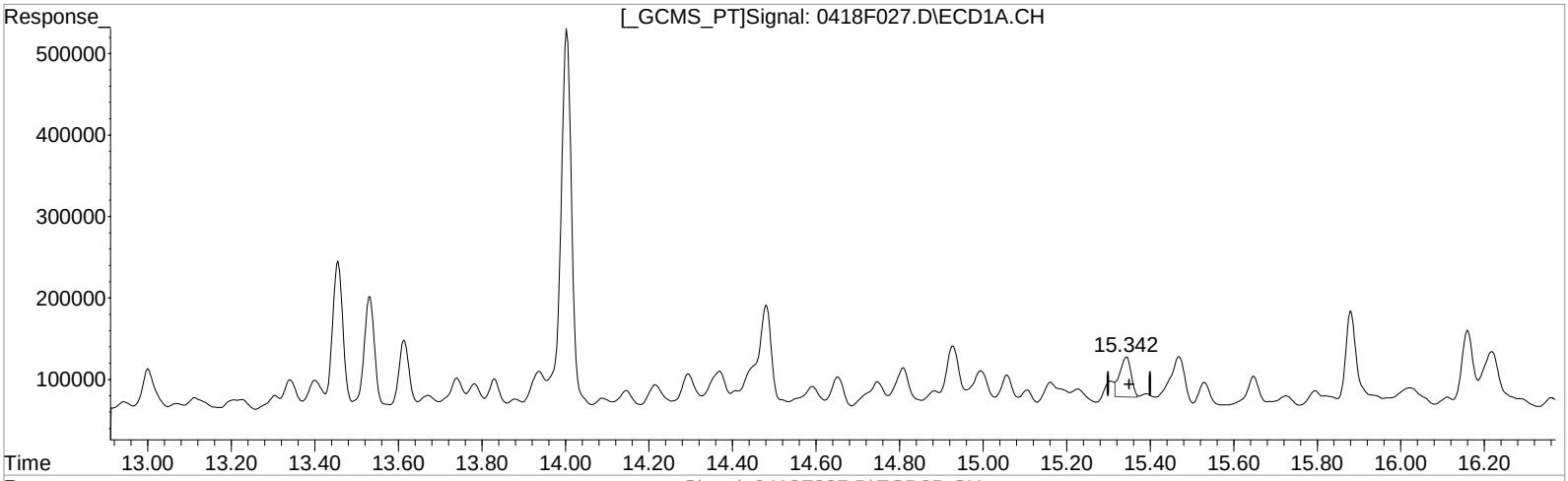
Quantitation Report (Qedit)

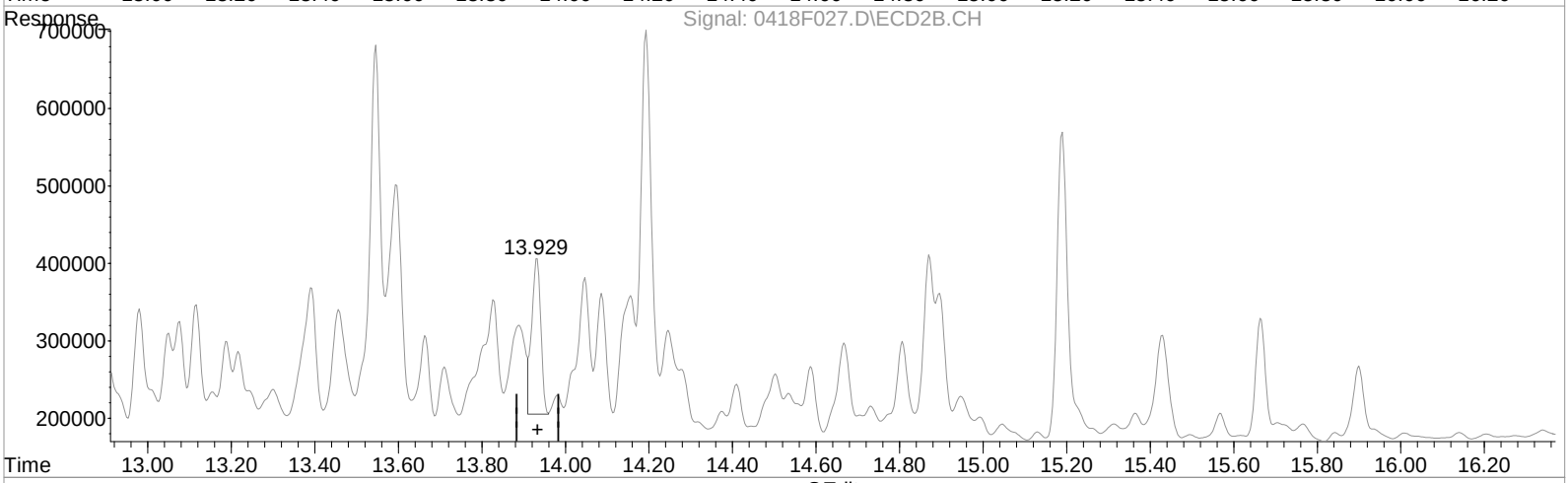
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.342min 464.132 ug/L m

response 91981

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.929min 570.477 ug/L m

response 303825

(+) = Expected Retention Time

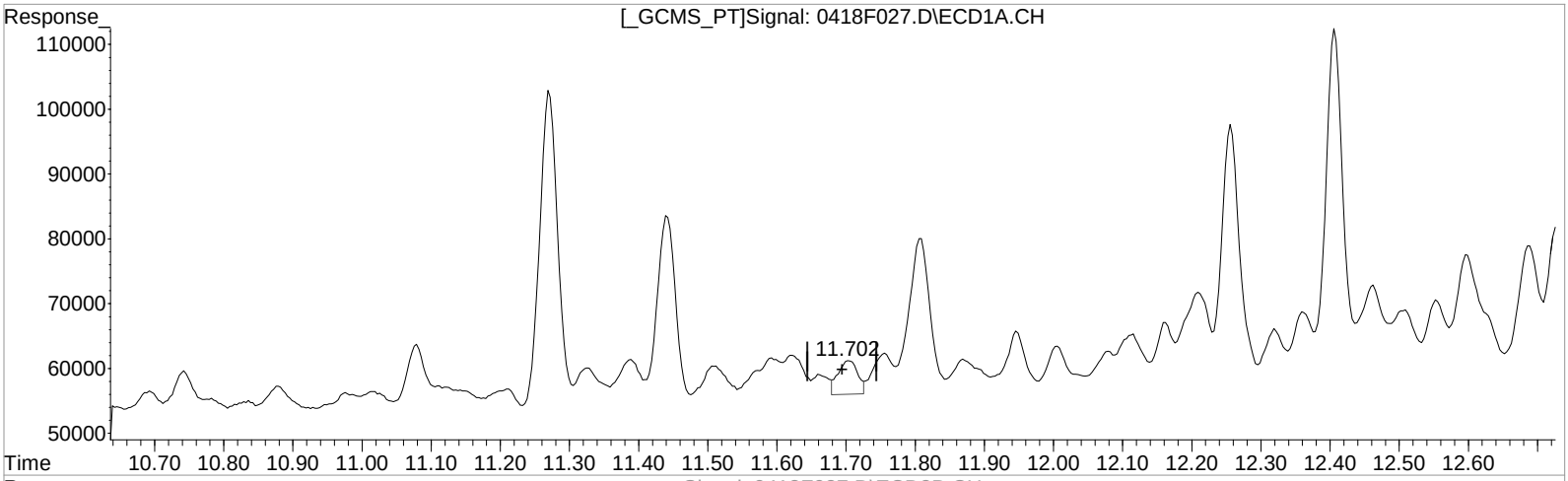
Quantitation Report (Qedit)

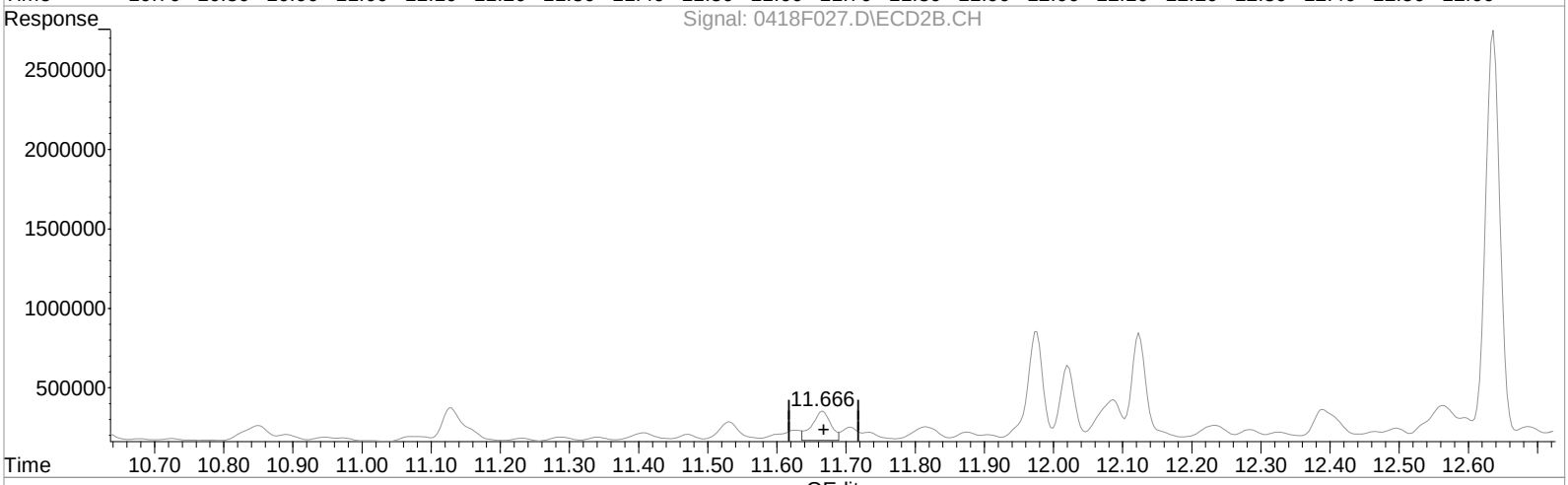
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.702min 11.413 ug/L

response 10292

(38) Chlordane {2} #2

11.666min 211.194 ug/L

response 349832

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

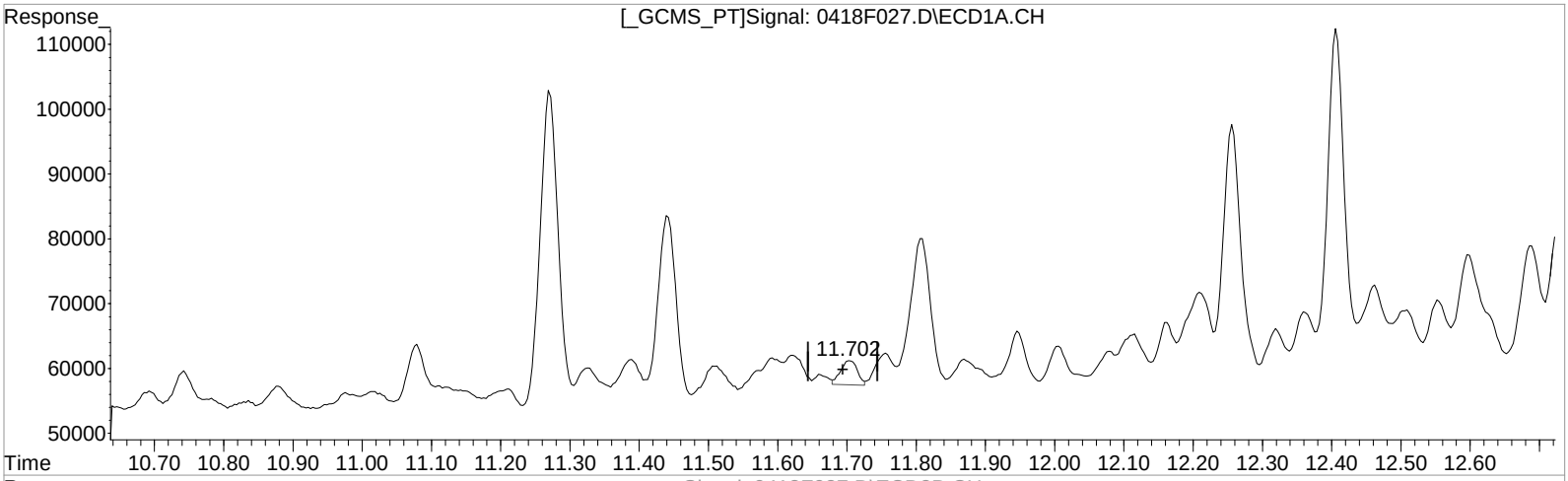
Quantitation Report (Qedit)

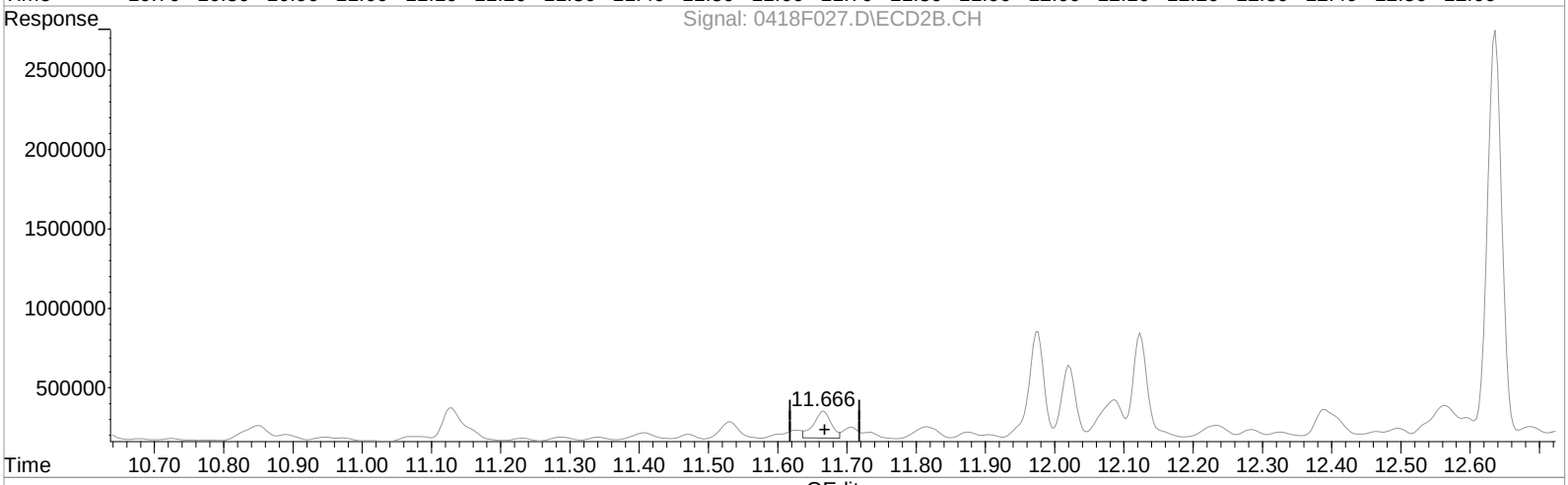
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.702min 6.918 ug/L m

response 6238

(38) Chlordane {2} #2

11.666min 182.048 ug/L m

response 301552

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

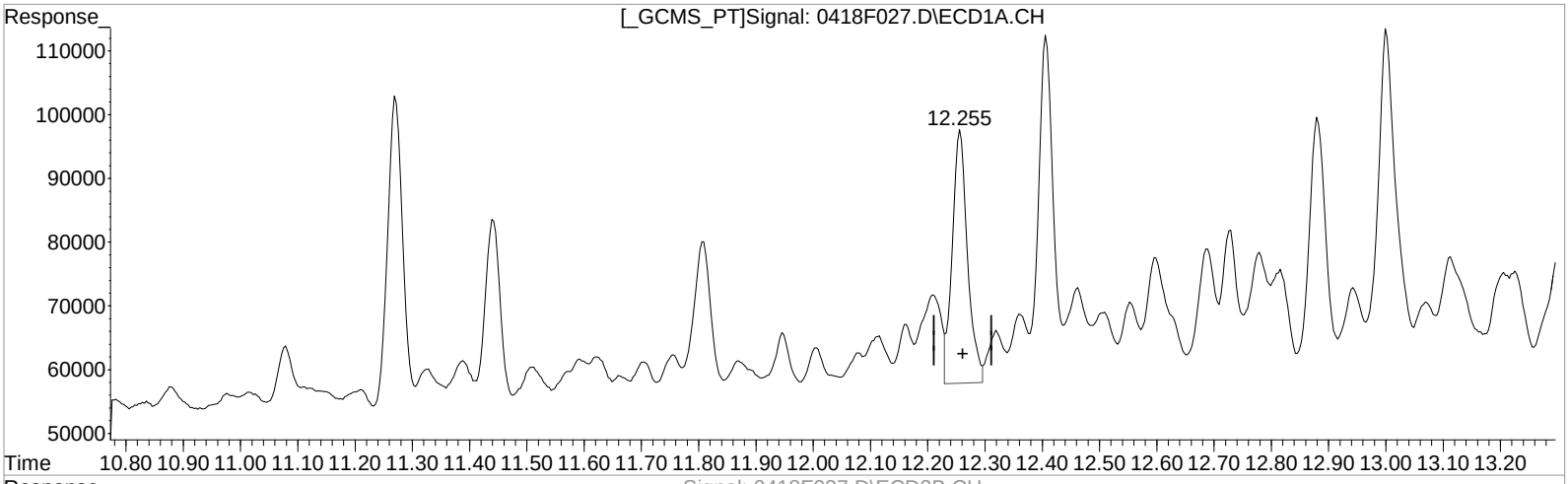
Quantitation Report (Qedit)

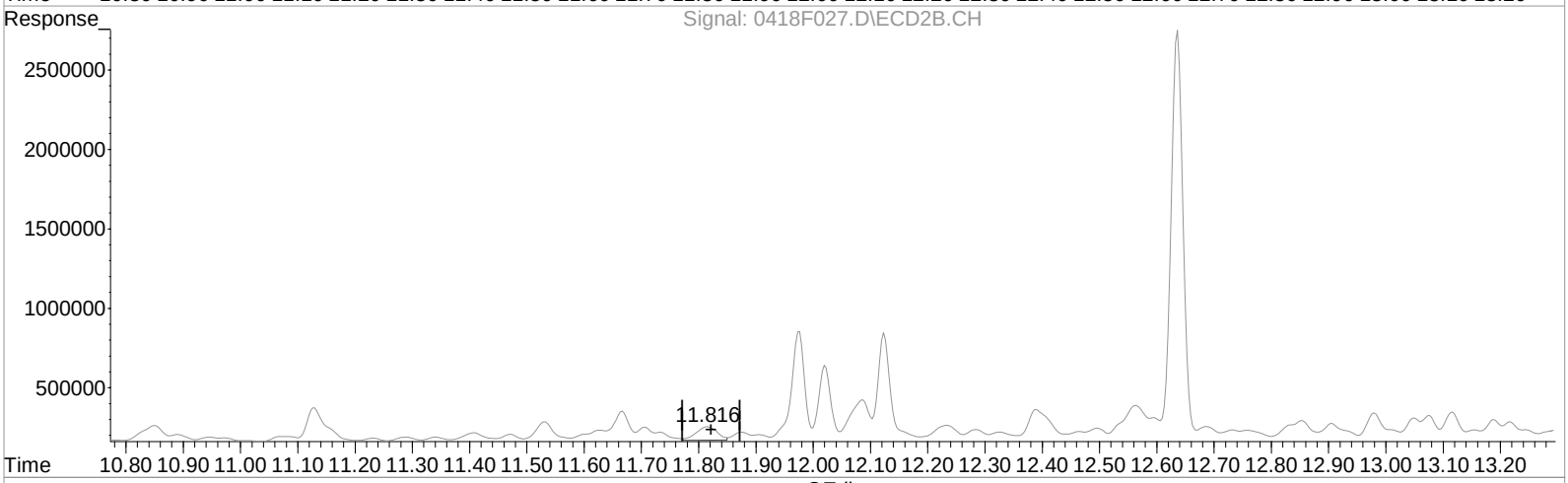
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(39) Chlordane {3}

12.255min 113.833 ug/L

response 73668

(39) Chlordane {3} #2

11.816min 198.156 ug/L

response 217901

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

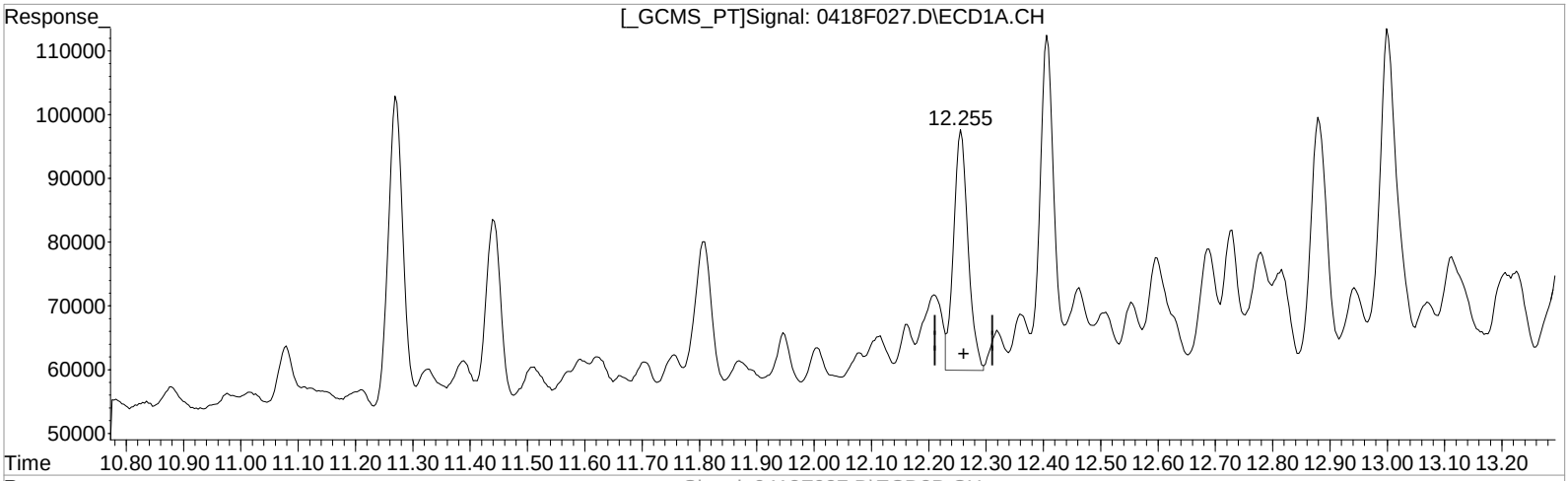
Quantitation Report (Qedit)

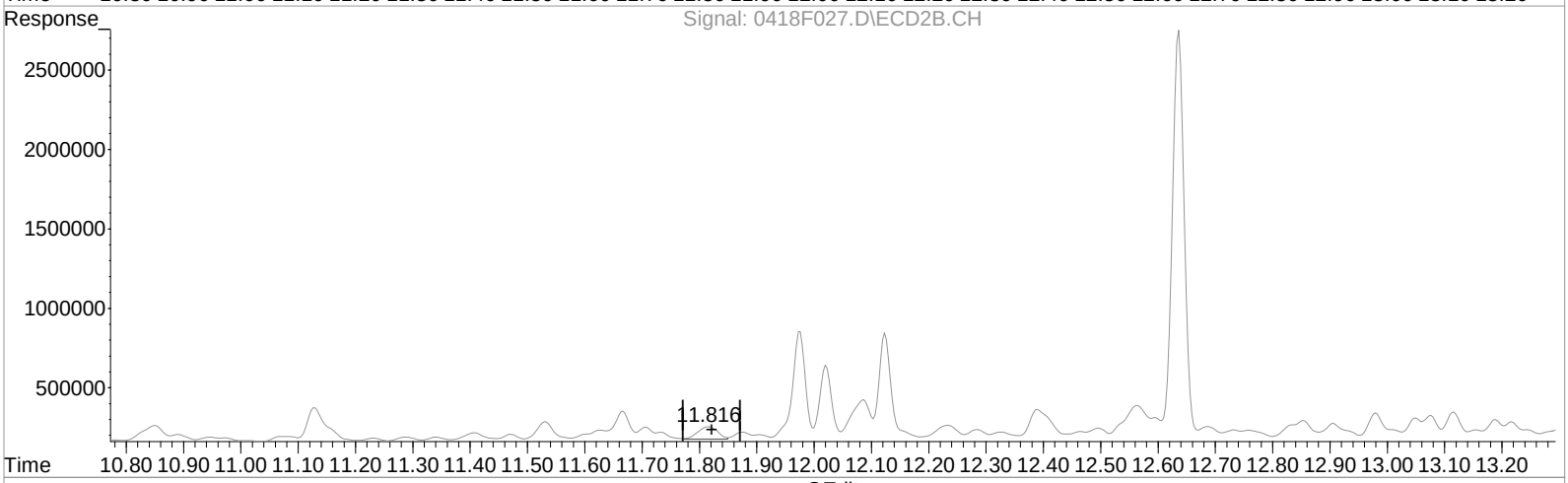
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(39) Chlordane {3}

12.255min 101.308 ug/L m

response 65562

(39) Chlordane {3} #2

11.816min 169.551 ug/L m

response 186446

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

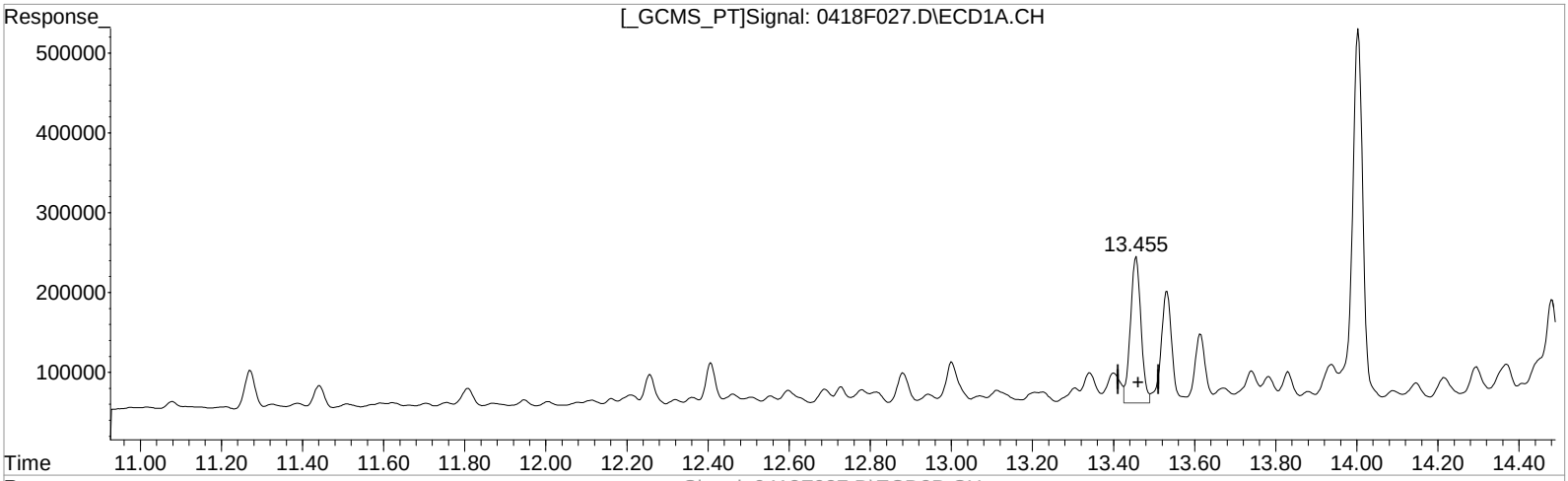
Quantitation Report (Qedit)

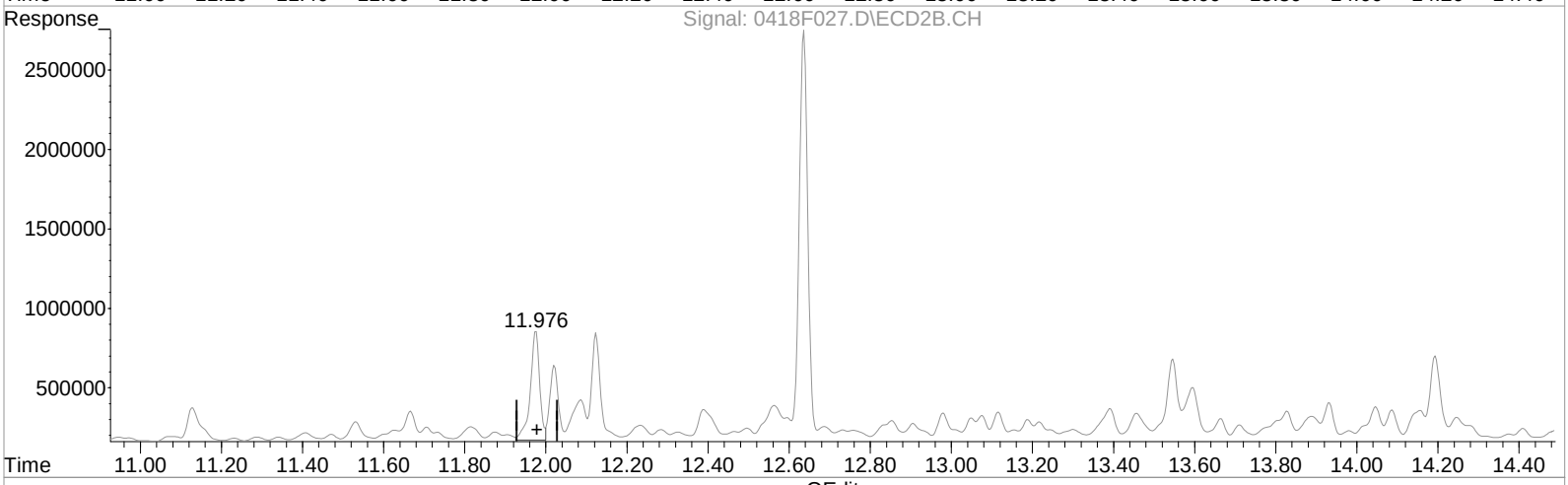
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.455min 167.941 ug/L

response 329917

Manual Integration:

Before

04/21/20

(40) Chlordane {4} #2

11.976min 165.702 ug/L

response 1103582

(+) = Expected Retention Time

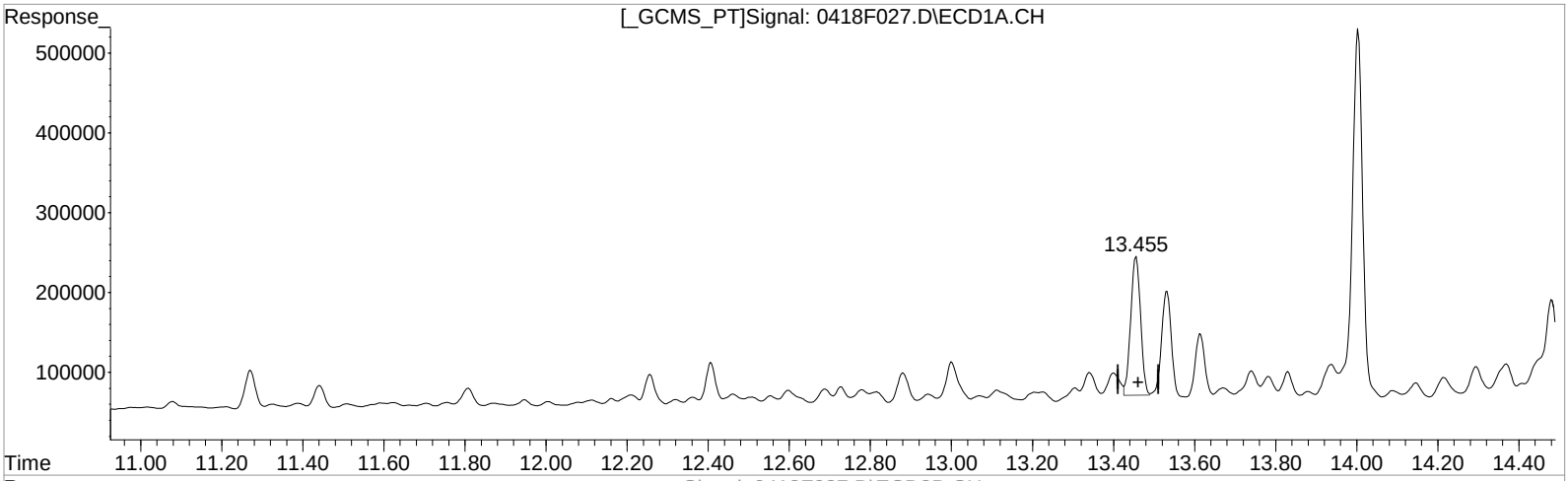
Quantitation Report (Qedit)

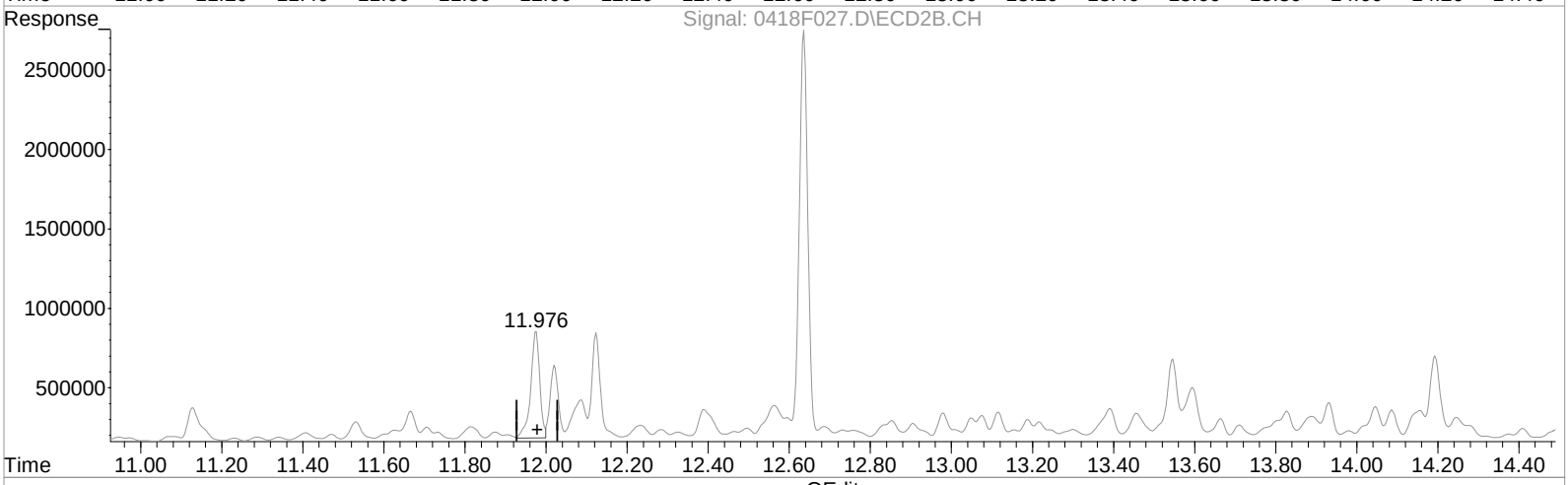
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.455min 149.762 ug/L m

response 294205

(40) Chlordane {4} #2

11.976min 157.566 ug/L m

response 1049396

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

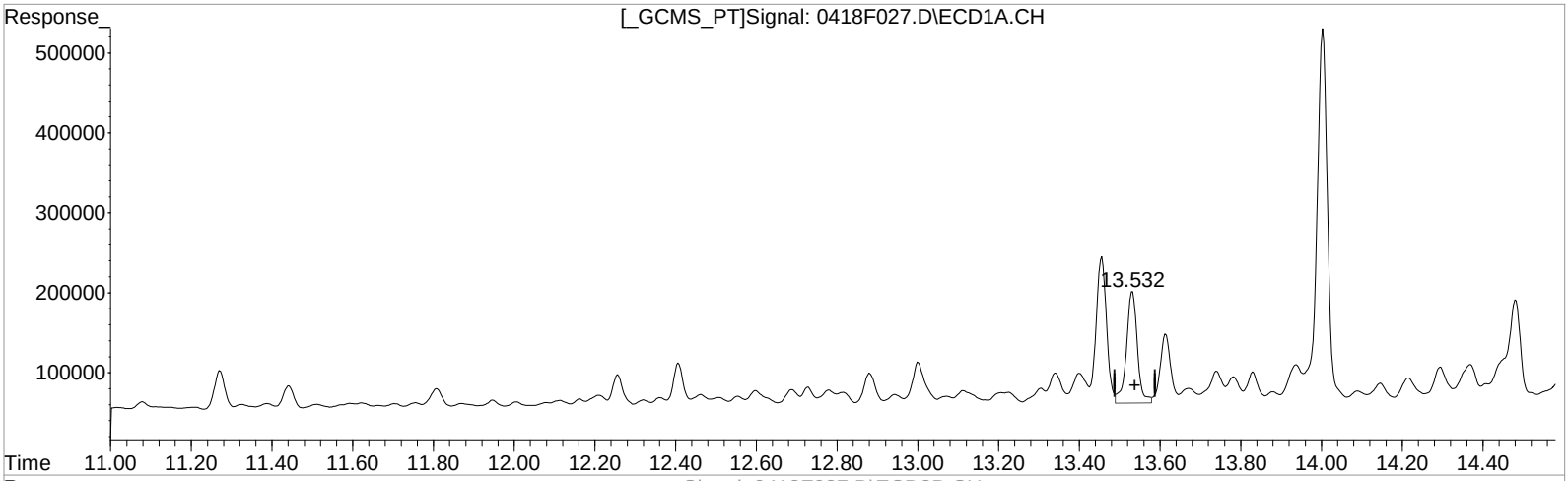
Quantitation Report (Qedit)

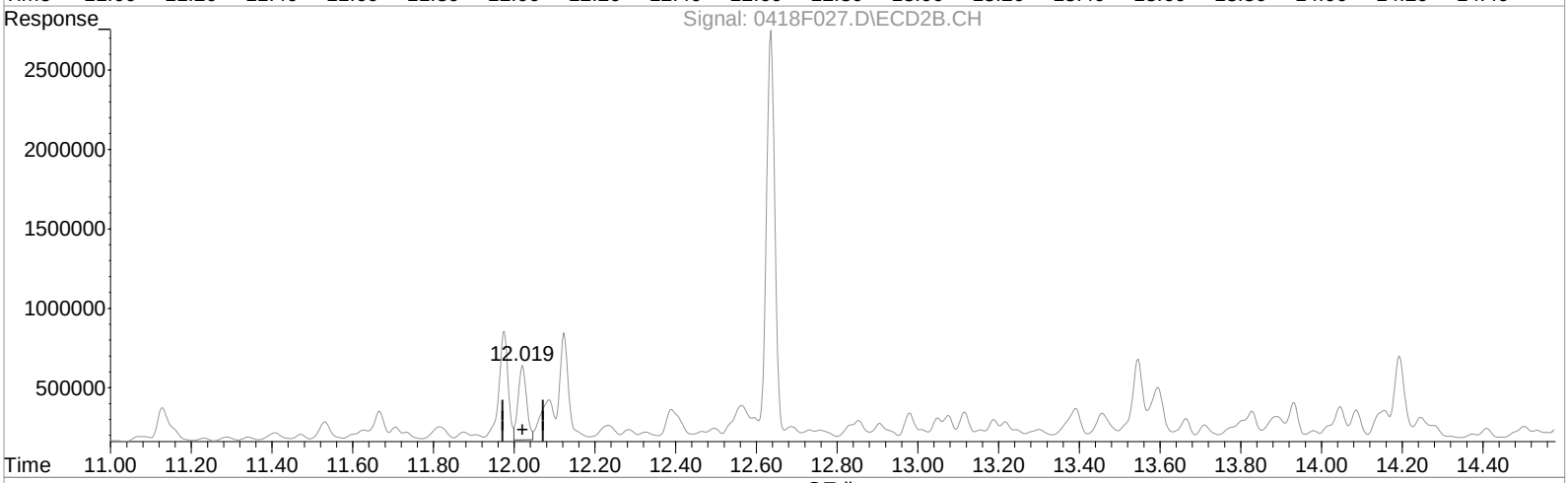
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.532min 161.936 ug/L

response 263132

Manual Integration:

Before

04/21/20

(41) Chlordane {5} #2

12.019min 167.407 ug/L

response 682668

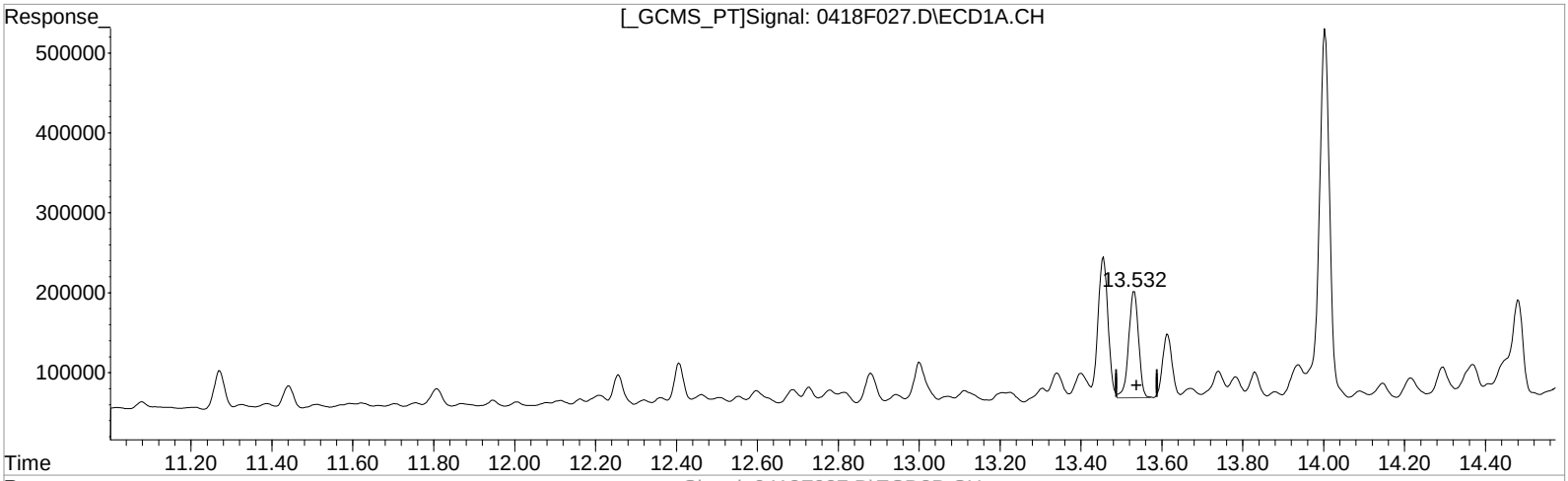
(+) = Expected Retention Time

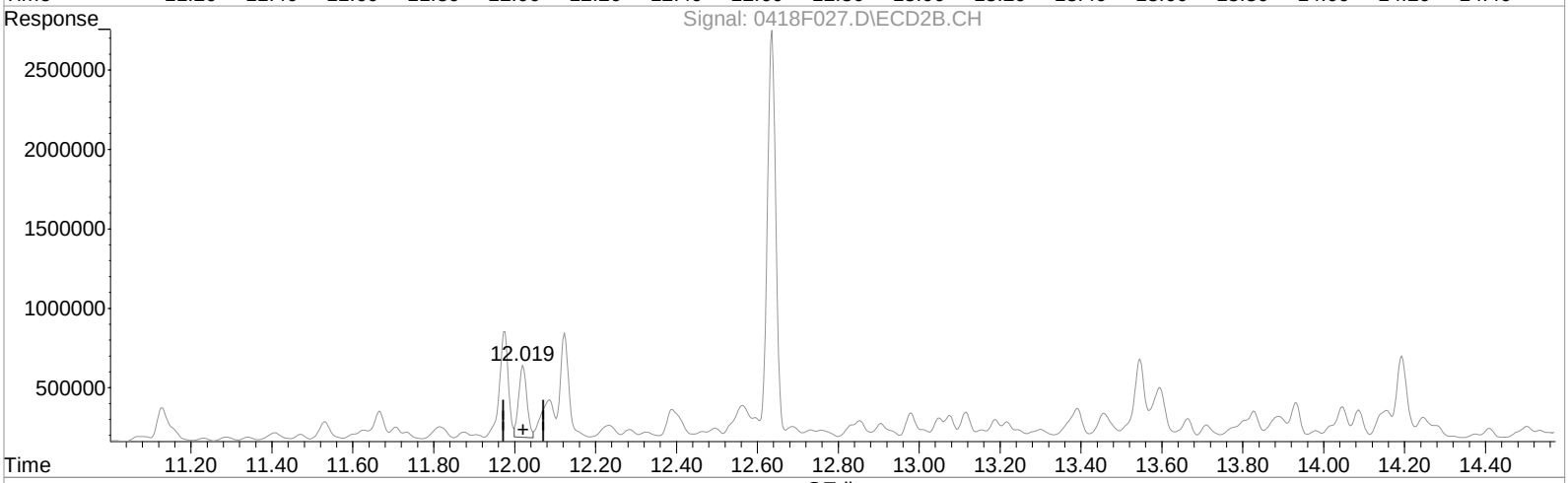
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.532min 139.733 ug/L m

response 227055

(41) Chlordane {5} #2

12.019min 156.611 ug/L m

response 638641

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

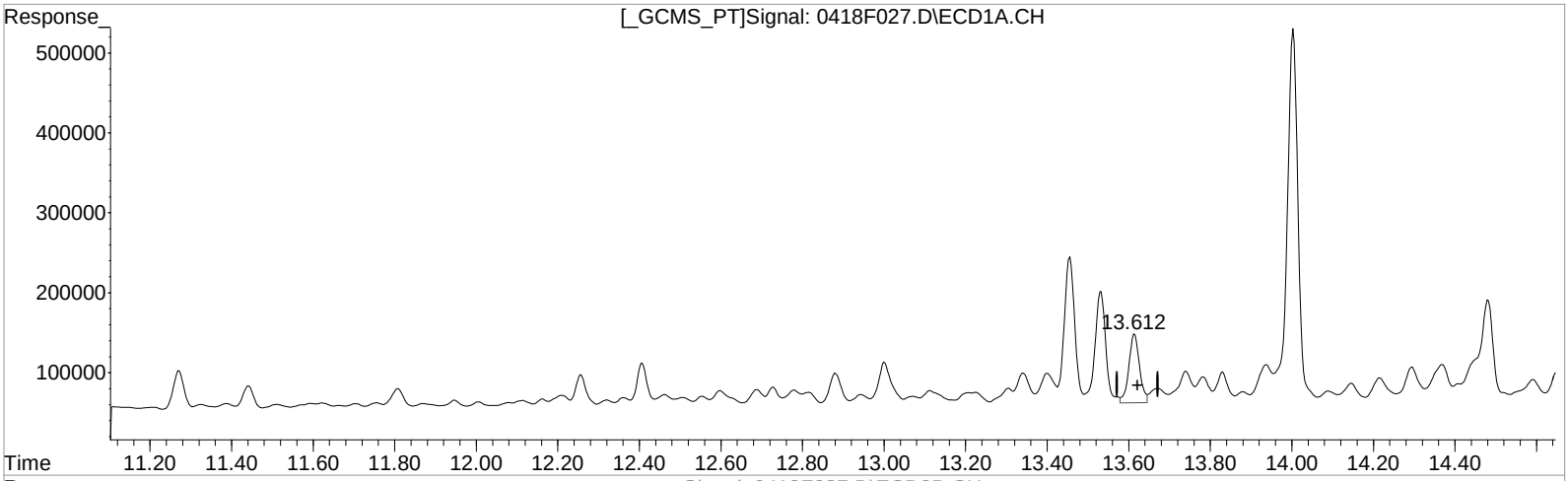
Quantitation Report (Qedit)

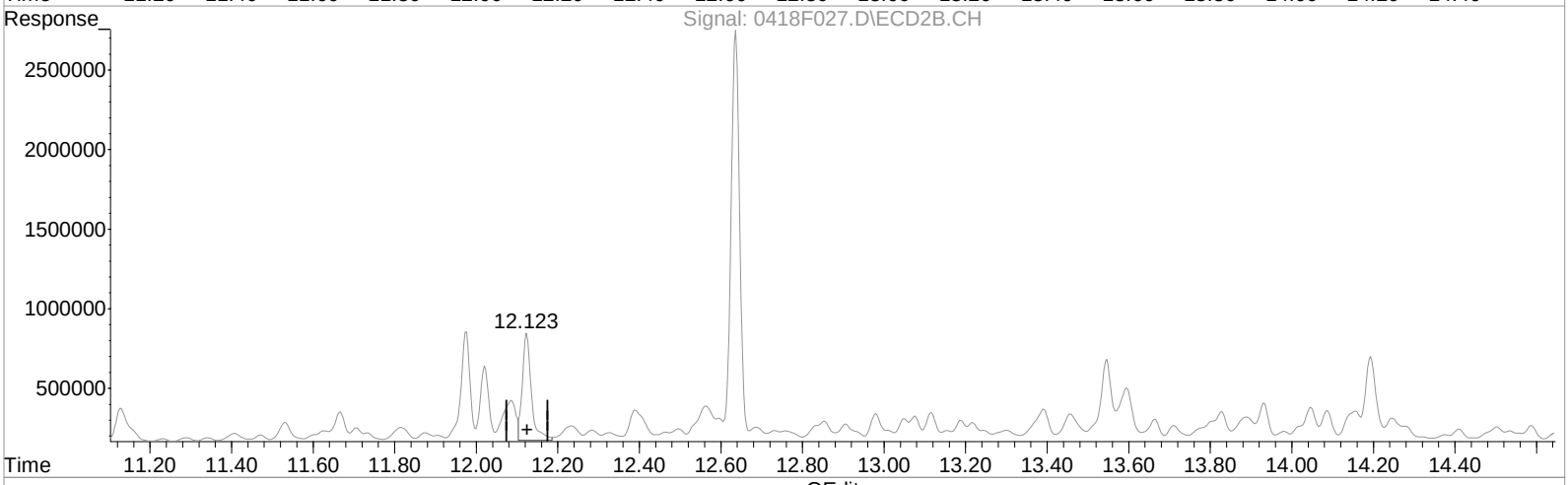
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.612min 131.773 ug/L

response 157184

(42) Chlordane {6} #2

12.123min 174.215 ug/L

response 1028641

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

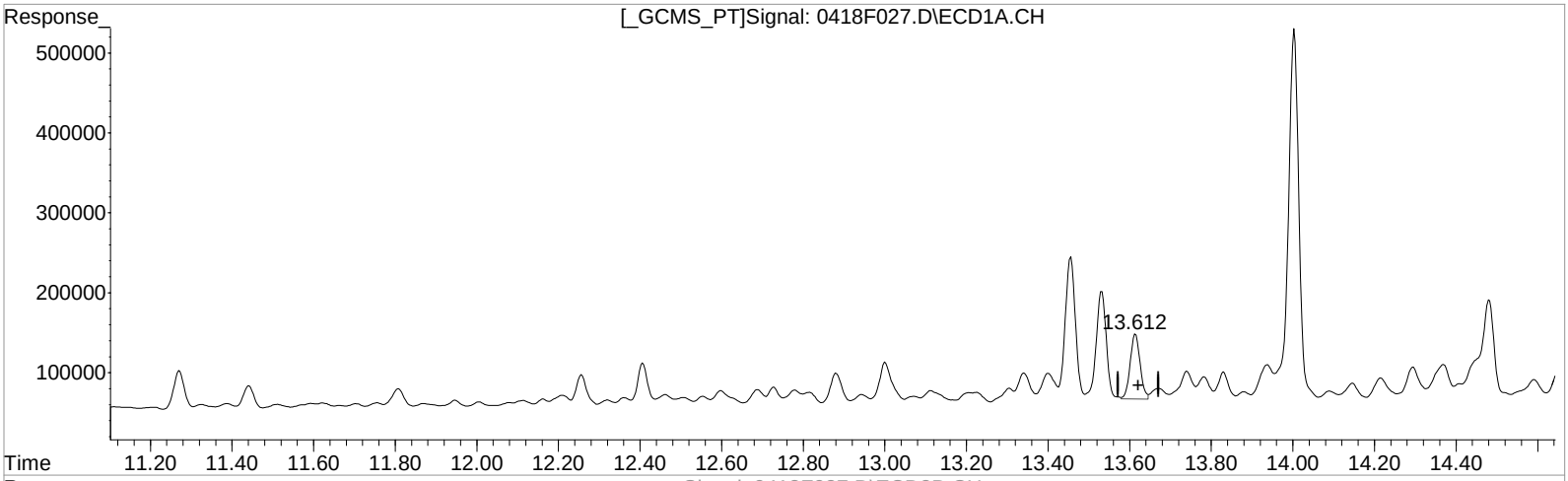
Quantitation Report (Qedit)

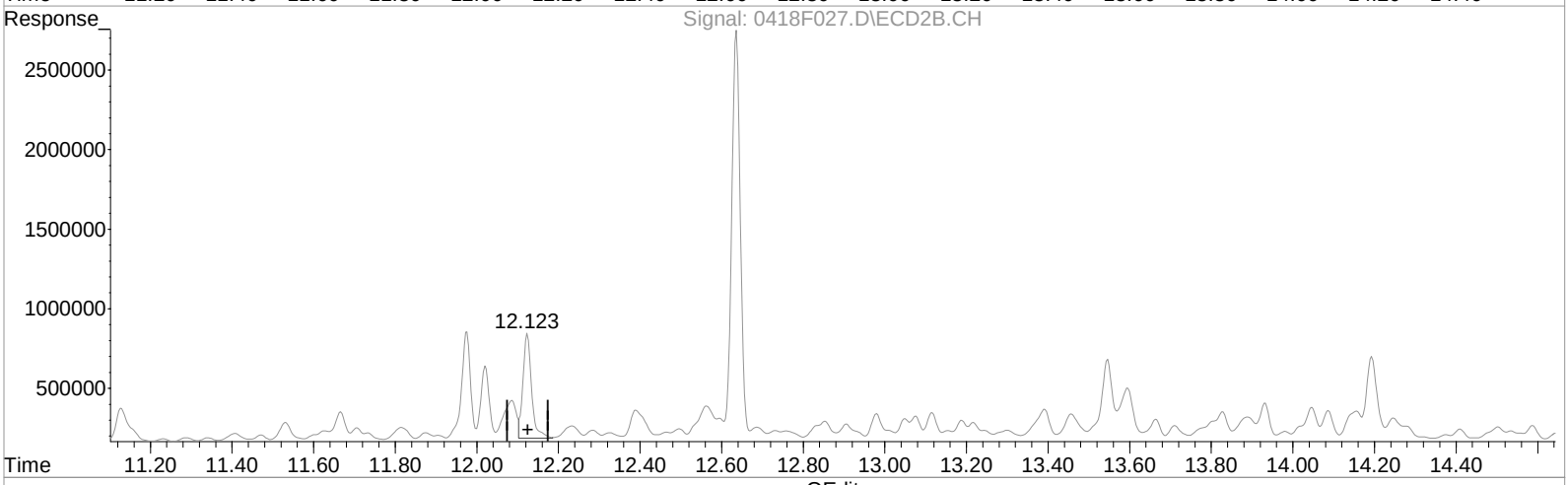
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.612min 115.395 ug/L m

response 137648

(42) Chlordane {6} #2

12.123min 162.435 ug/L m

response 959083

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

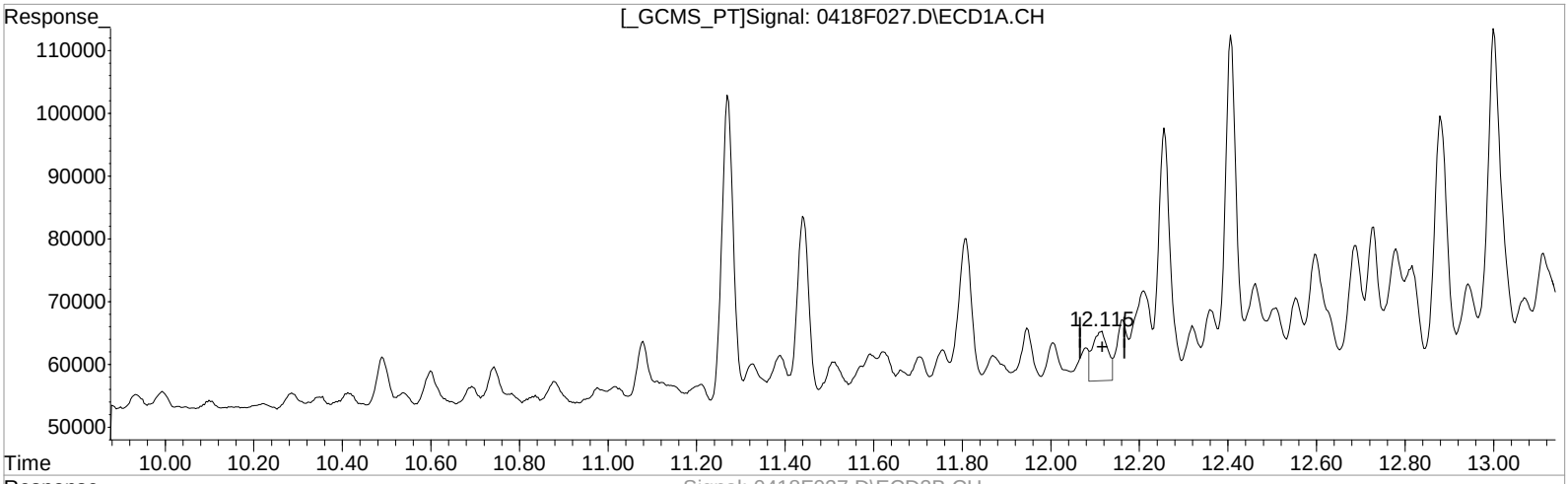
Quantitation Report (Qedit)

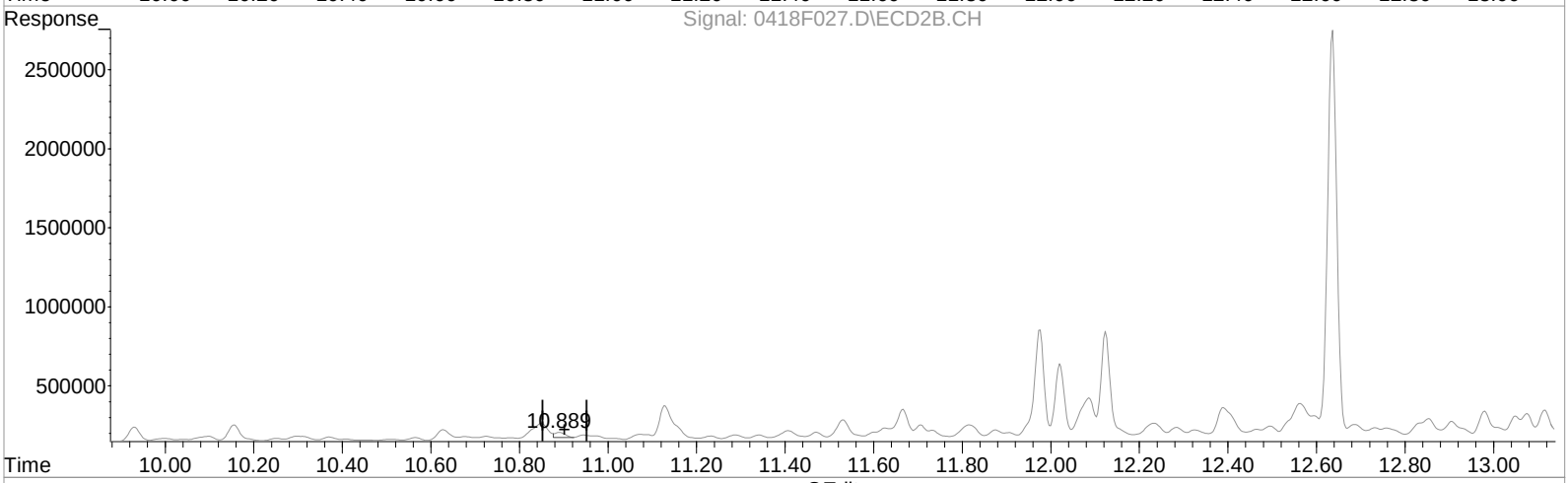
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(44) Chlorpyrifos

12.115min 1.979 ug/L

response 19045

Manual Integration:

Before

04/21/20

(44) Chlorpyrifos #2

10.889min 1.802 ug/L

response 50334

(+) = Expected Retention Time

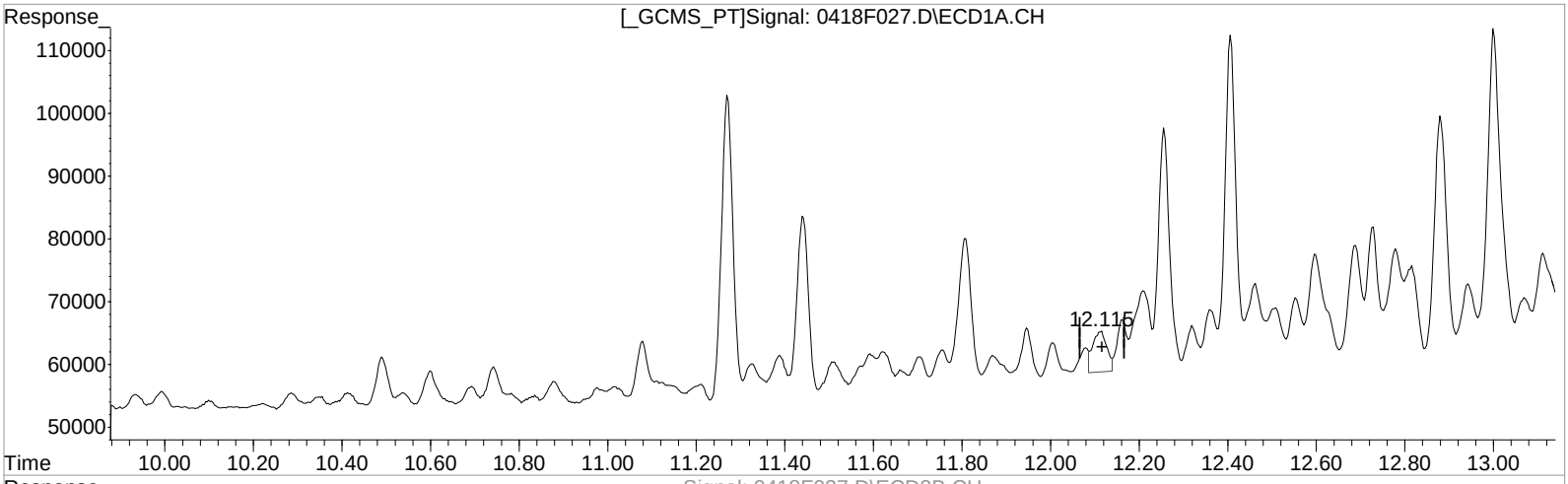
Quantitation Report (Qedit)

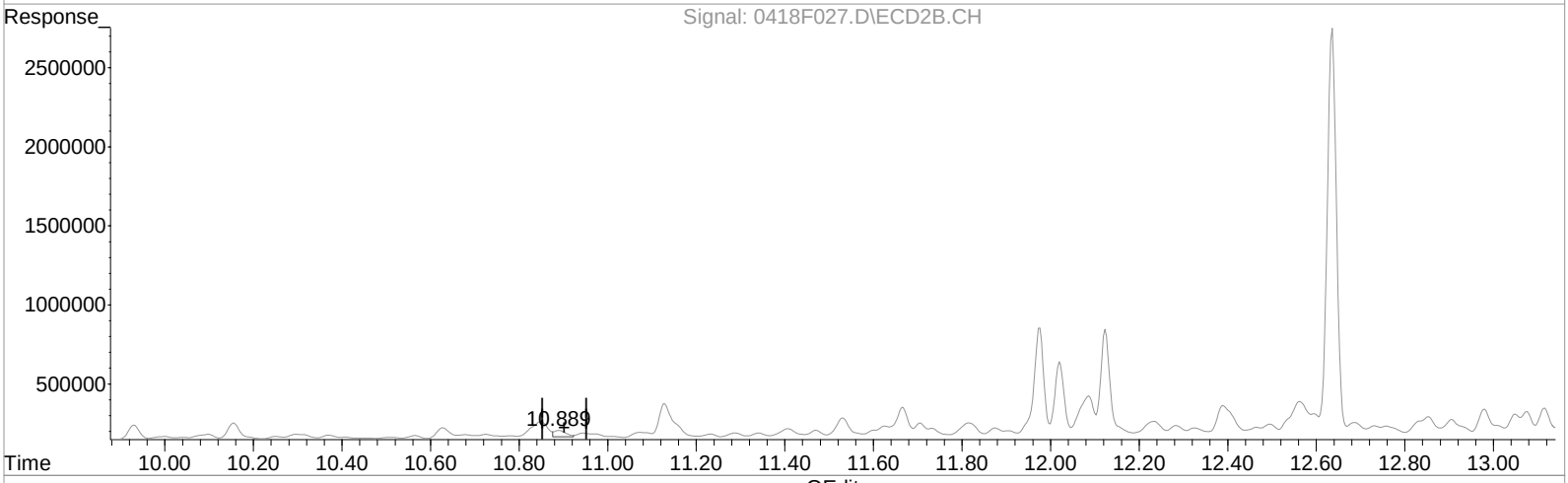
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(44) Chlorpyrifos

12.115min 1.508 ug/L m

response 14511

(44) Chlorpyrifos #2

10.889min 2.620 ug/L m

response 73179

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

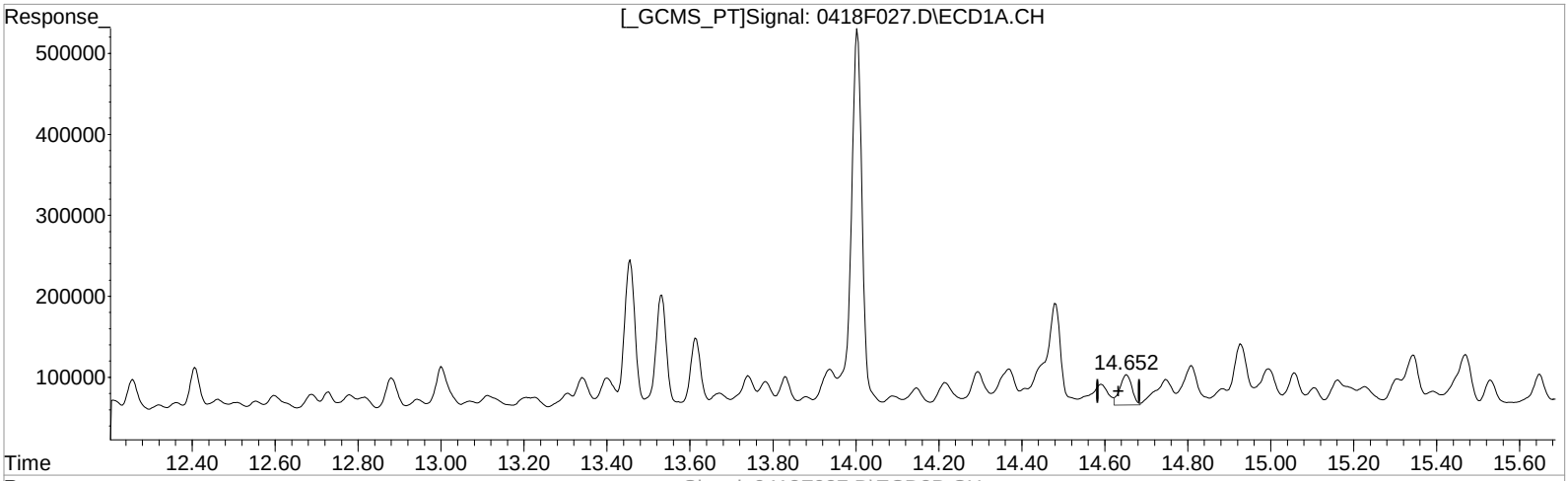
Quantitation Report (Qedit)

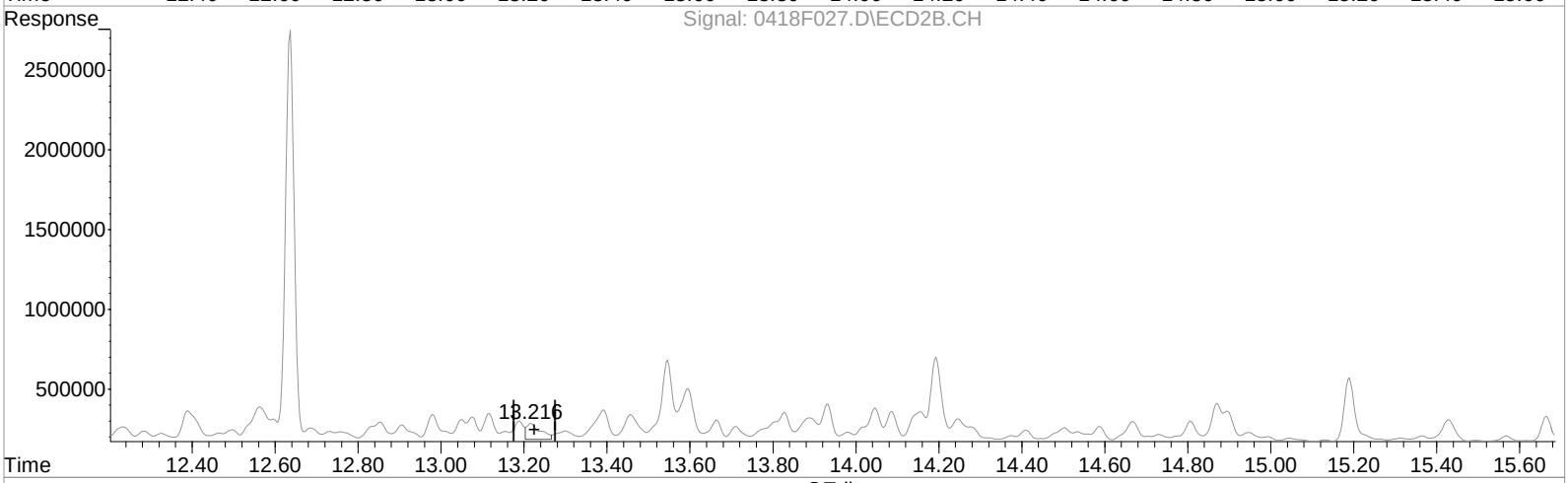
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.652min 4.299 ug/L

response 75196

(46) cis-Nonachlor #2

13.216min 3.542 ug/L

response 232251

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

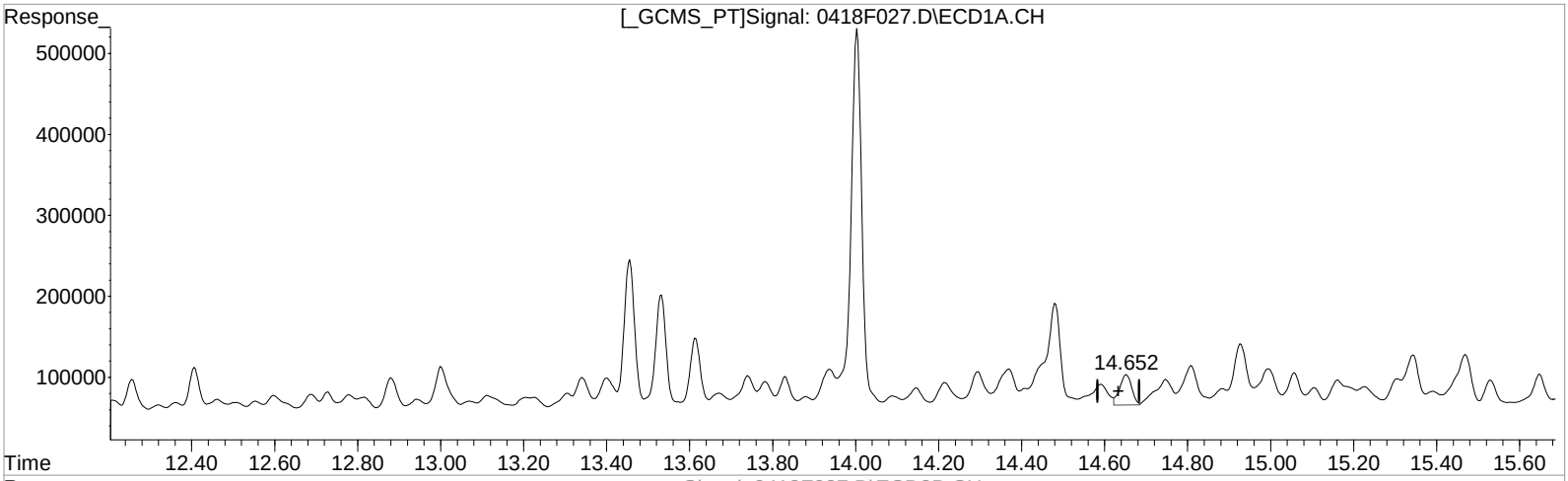
Quantitation Report (Qedit)

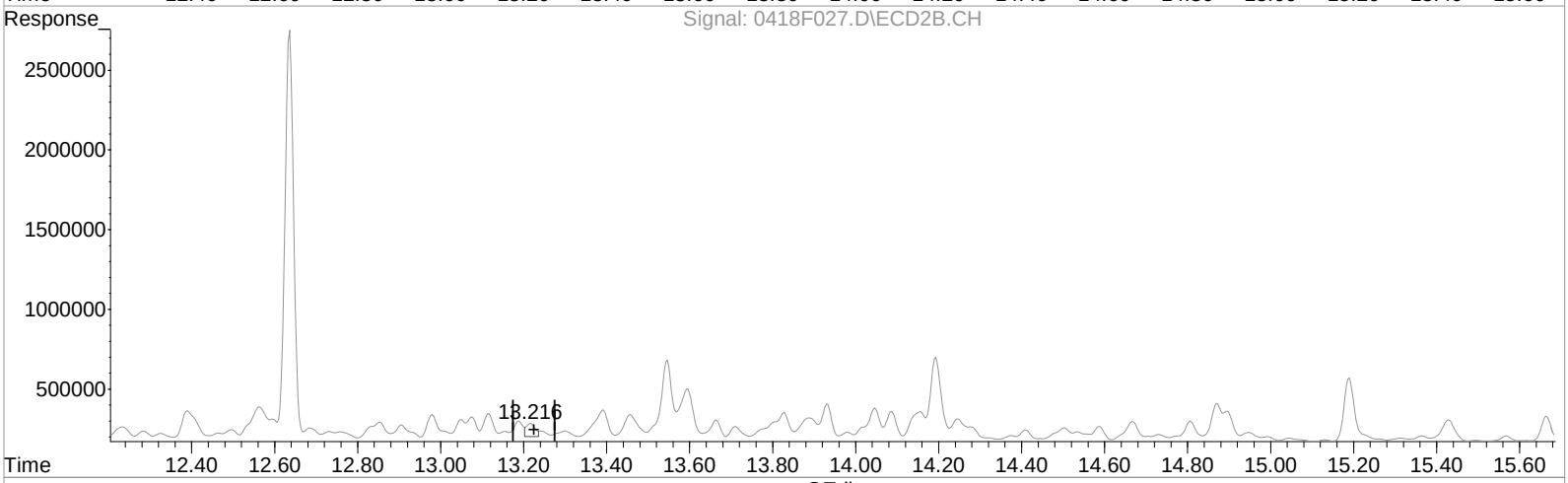
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.652min 4.299 ug/L

response 75196

Manual Integration:

After

Shoulder

04/21/20

(46) cis-Nonachlor #2

13.216min 1.845 ug/L m

response 120981

(+) = Expected Retention Time

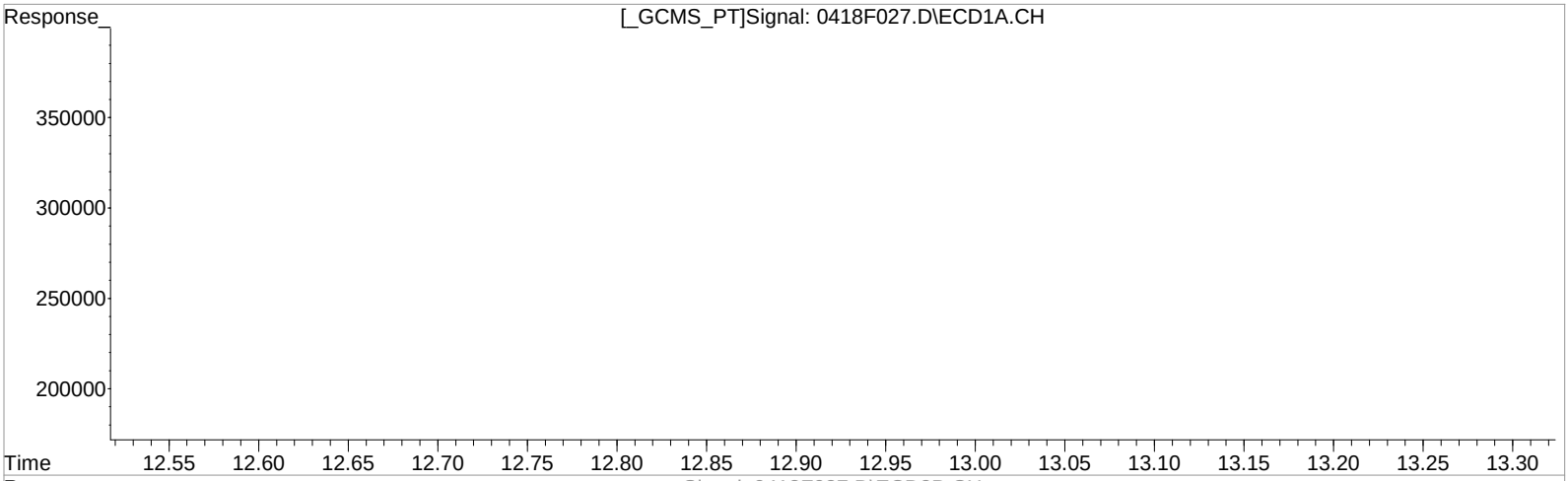
Quantitation Report (Qedit)

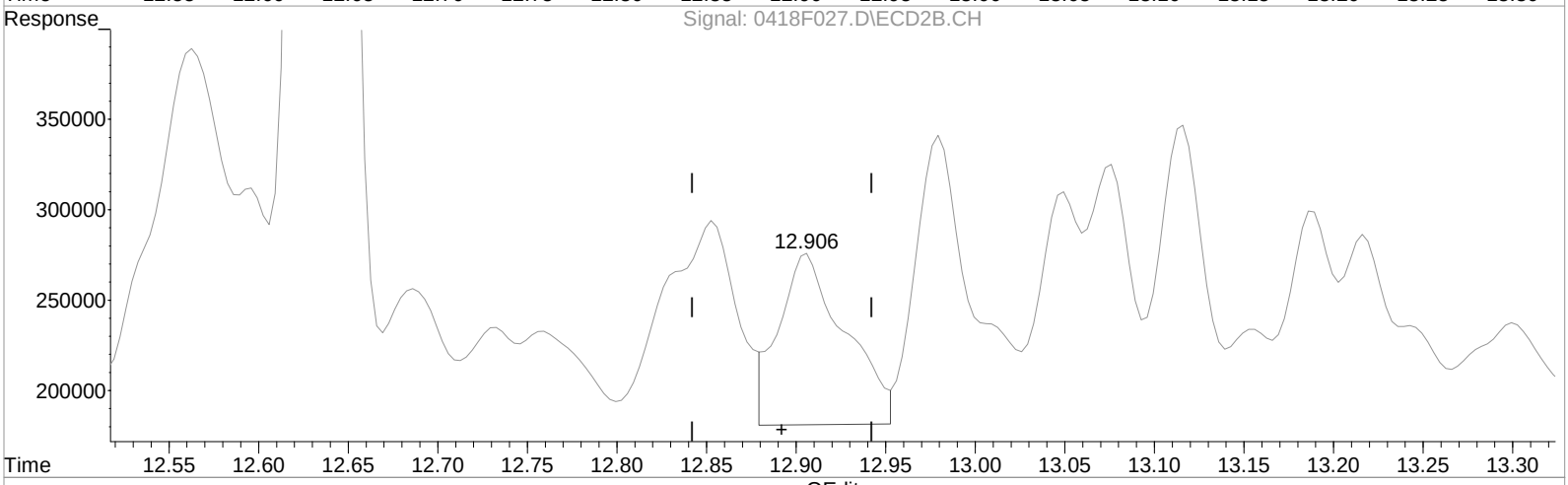
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(52) Perthane

14.089min 60.572 ug/L

response 30102

Manual Integration:

Before

04/21/20

(52) Perthane #2

12.906min 149.072 ug/L

response 243009

(+) = Expected Retention Time

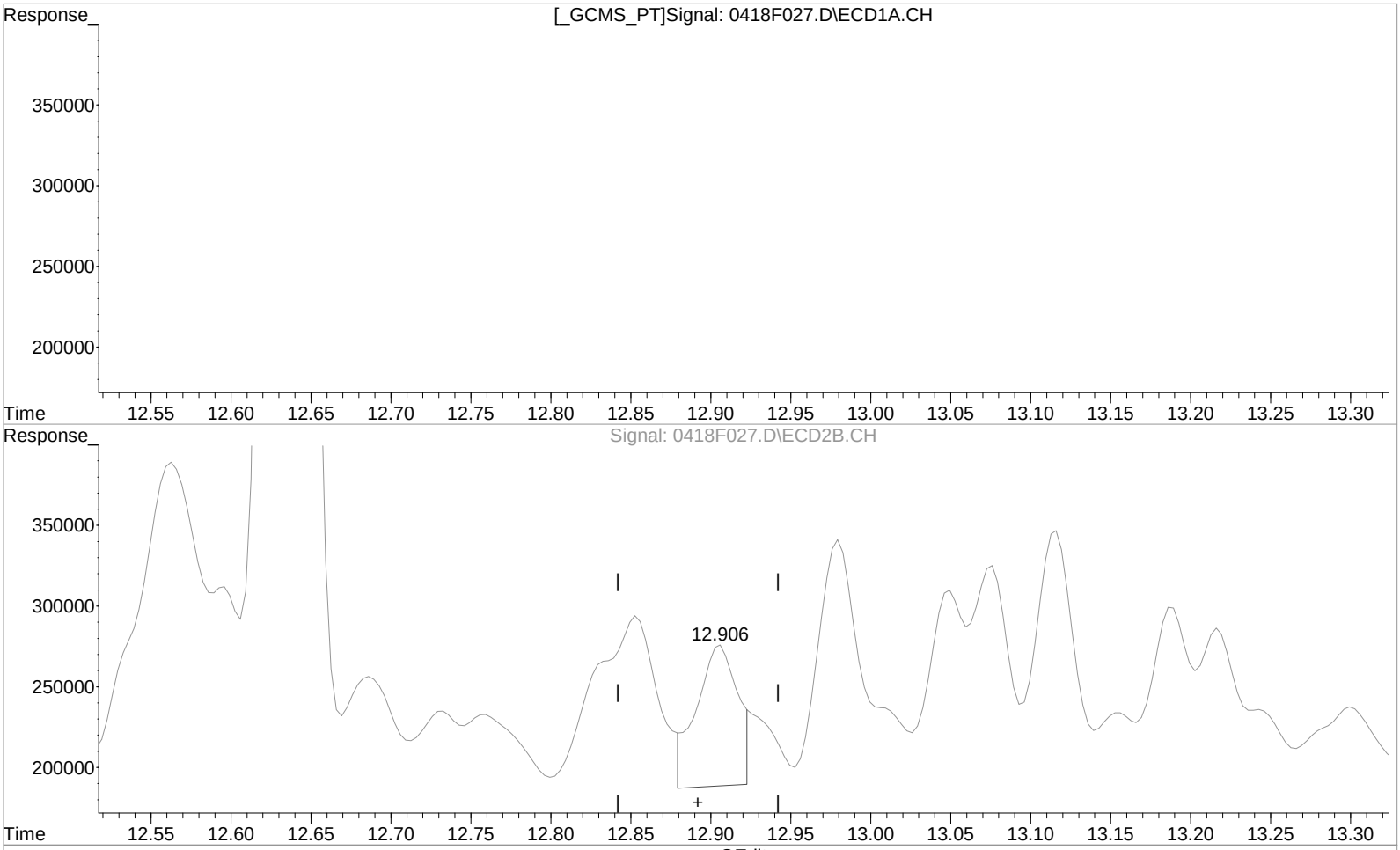
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(52) Perthane

14.089min 60.572 ug/L

response 30102

(52) Perthane #2

12.906min 97.215 ug/L m

response 158475

Manual Integration:

After

Shoulder

04/21/20

(+) = Expected Retention Time

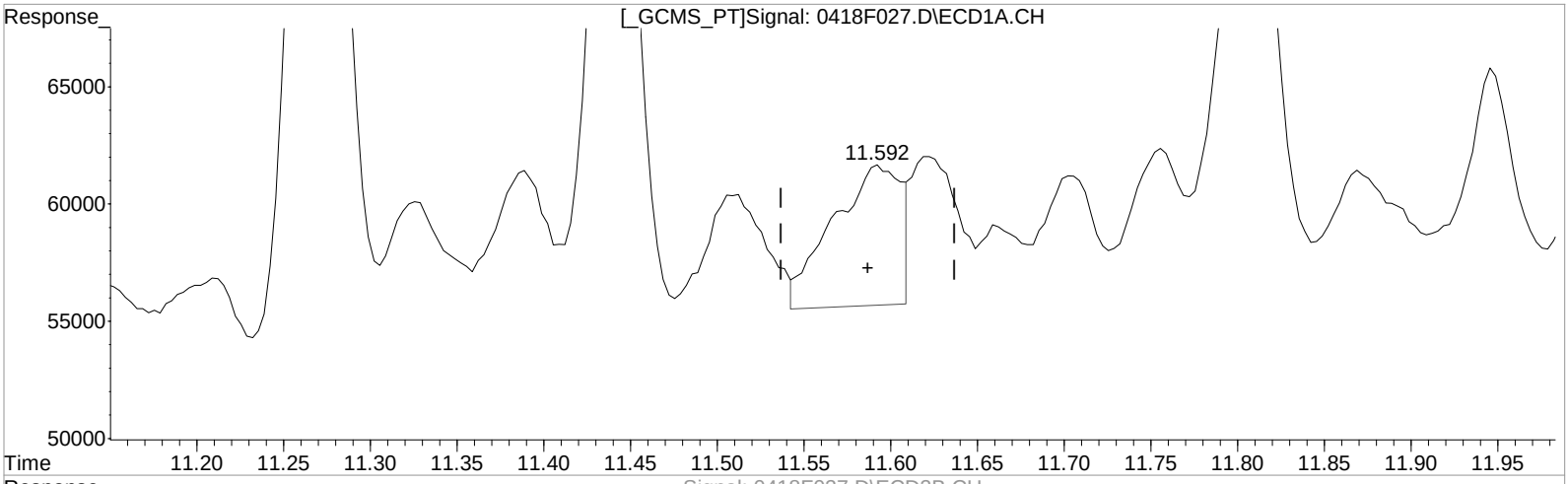
Quantitation Report (Qedit)

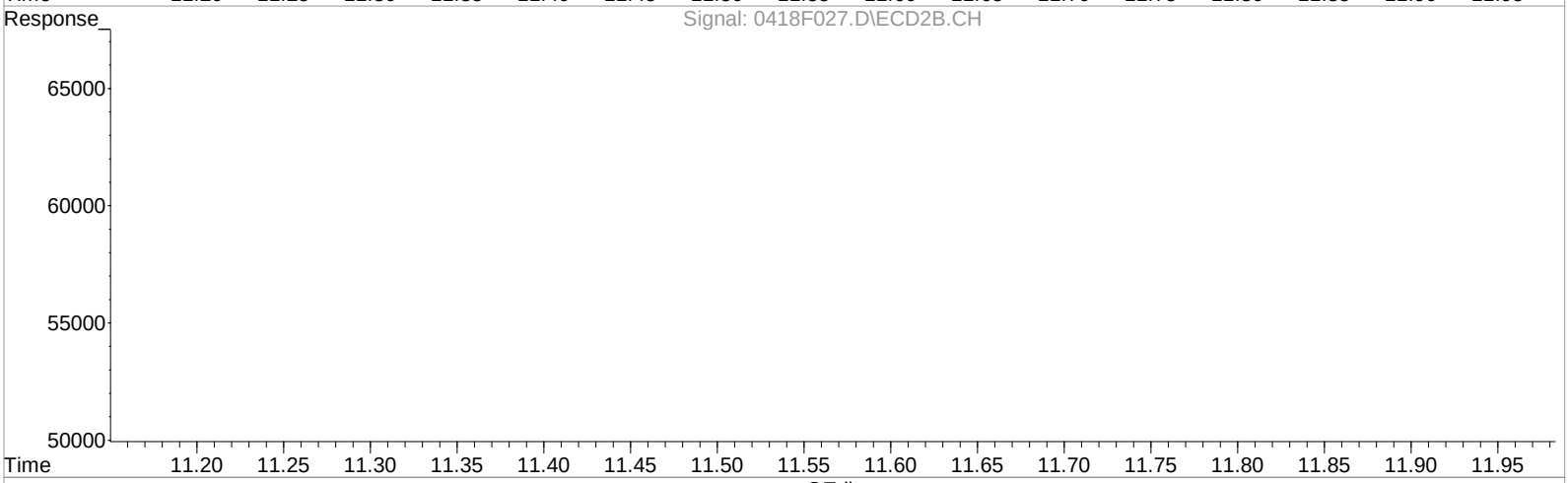
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(7) delta-BHC

11.592min 0.977 ug/L

response 16626

Manual Integration:

Before

04/21/20

(7) delta-BHC #2

10.296min 1.077 ug/L

response 72306

(+) = Expected Retention Time

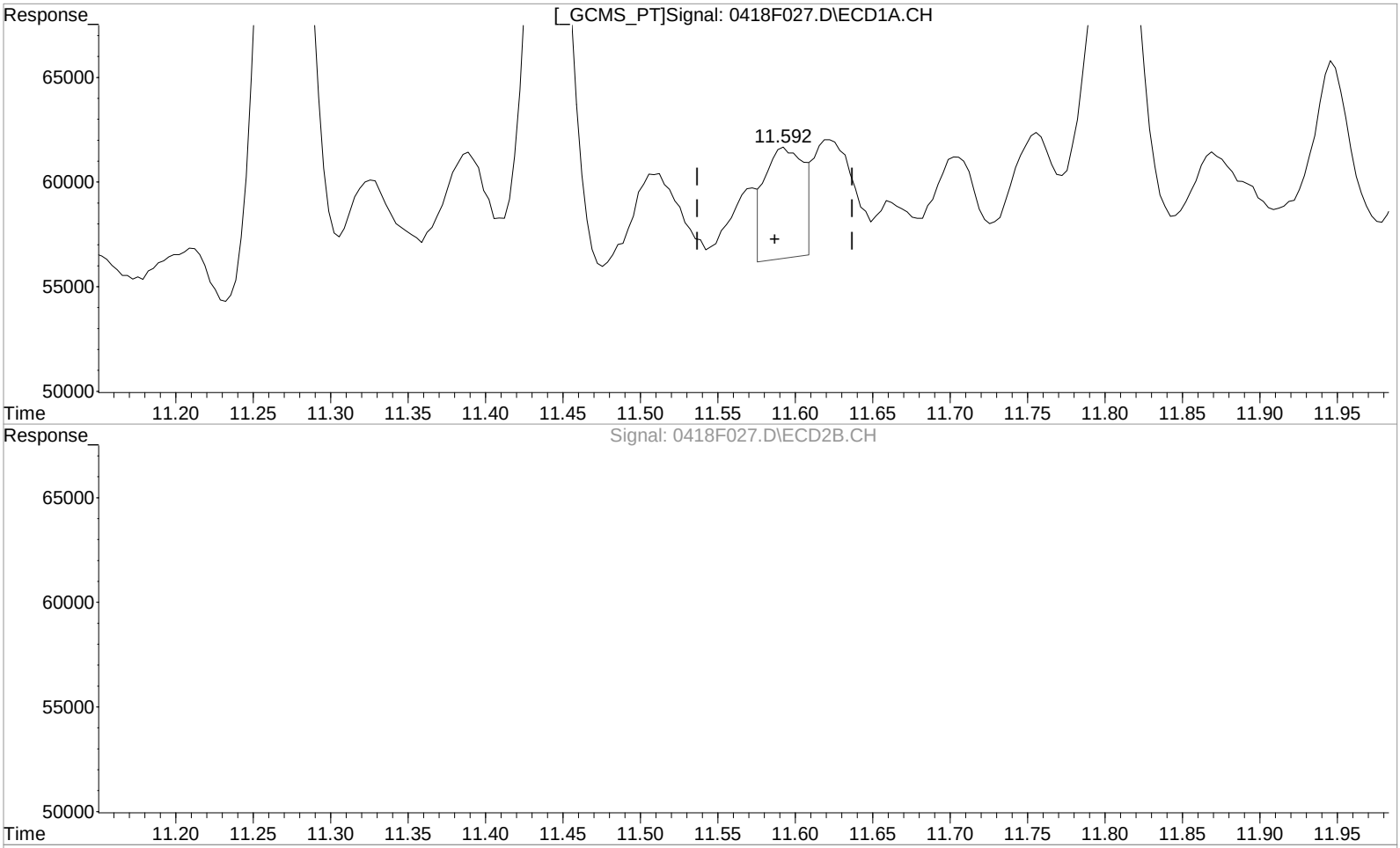
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(7) delta-BHC

11.592min 0.552 ug/L m

response 9404

Manual Integration:

After

Shoulder

04/21/20

(7) delta-BHC #2

10.296min 1.077 ug/L

response 72306

(+) = Expected Retention Time

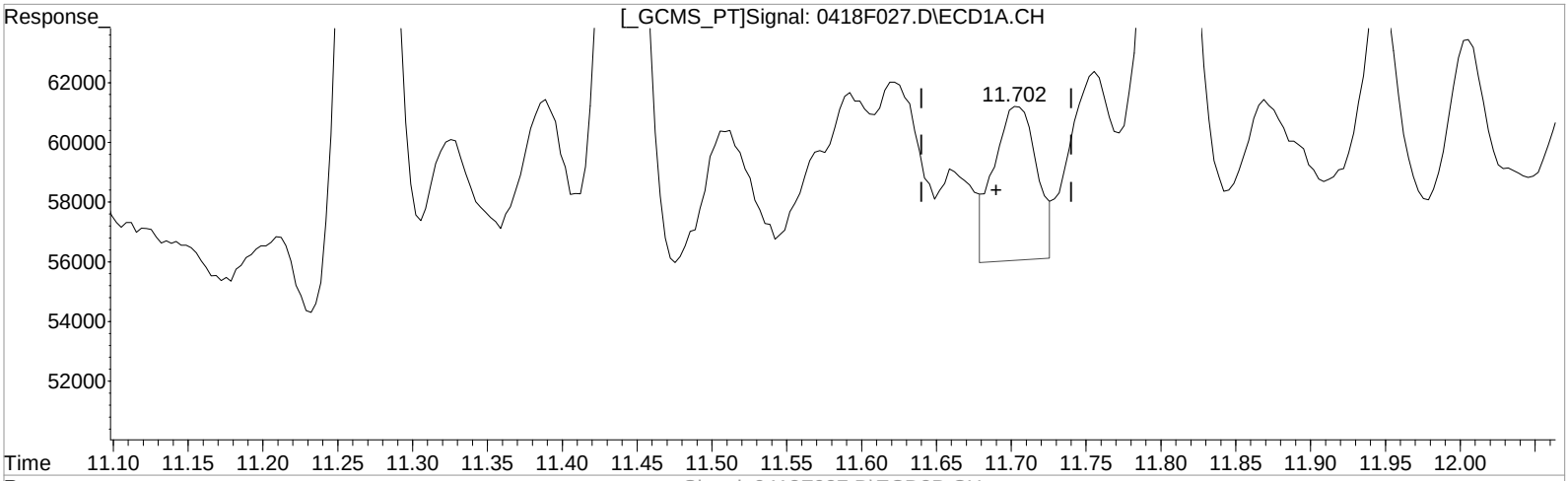
Quantitation Report (Qedit)

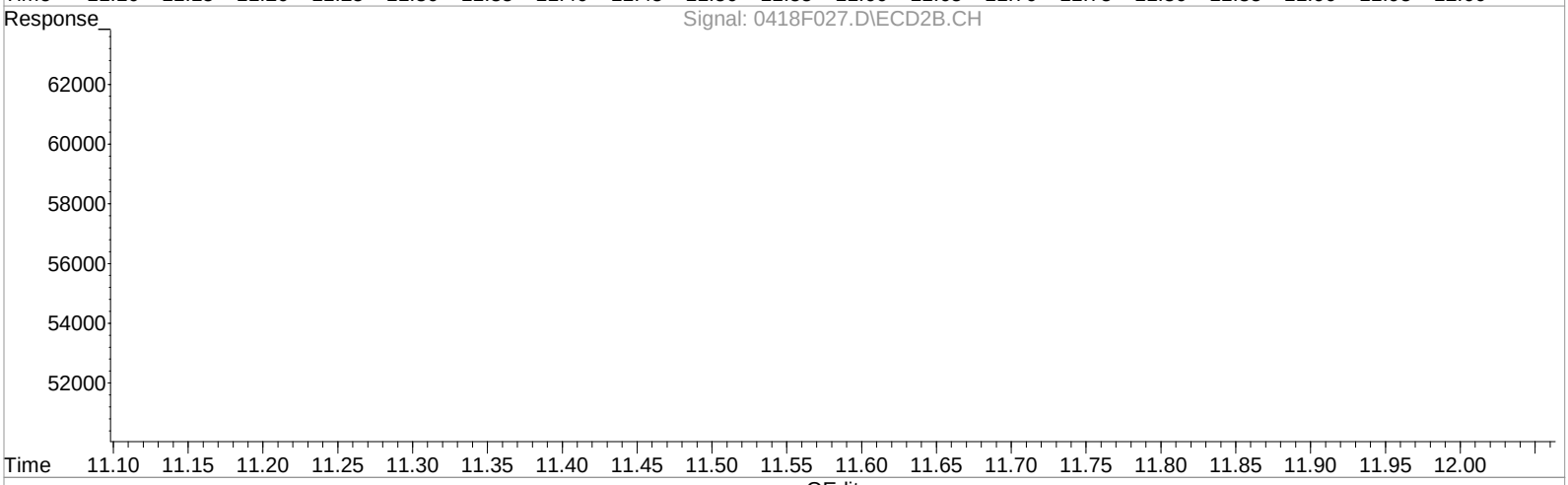
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(8) Heptachlor

11.702min 0.569 ug/L

response 10292

Manual Integration:

Before

04/21/20

(8) Heptachlor #2

9.929min 2.417 ug/L

response 168479

(+) = Expected Retention Time

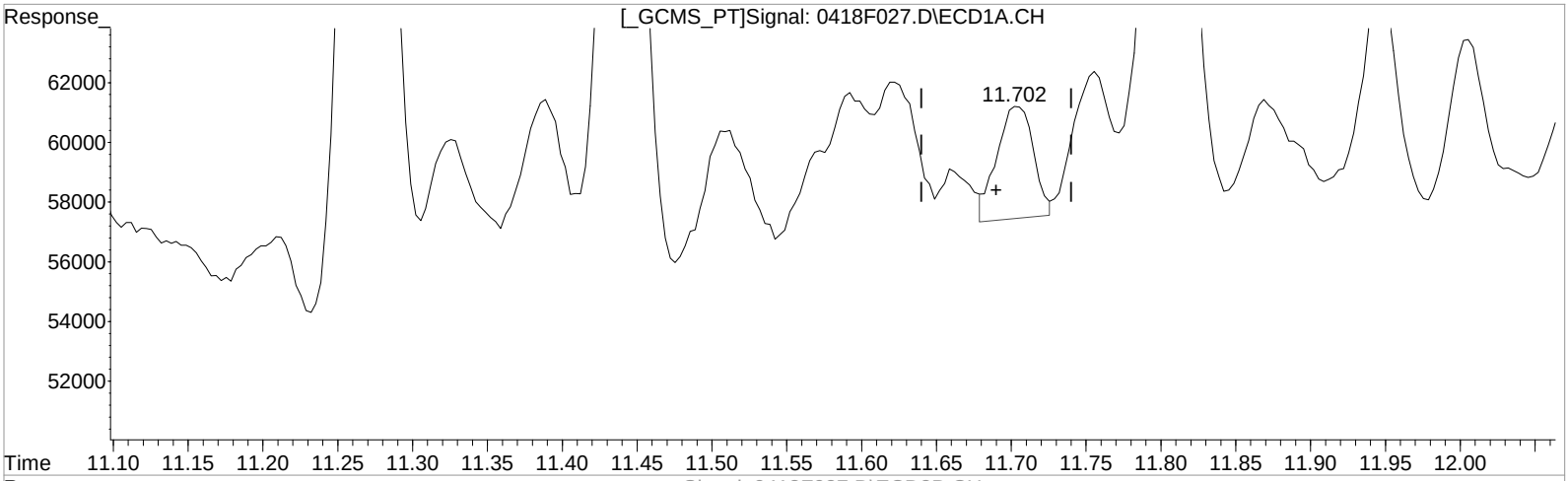
Quantitation Report (Qedit)

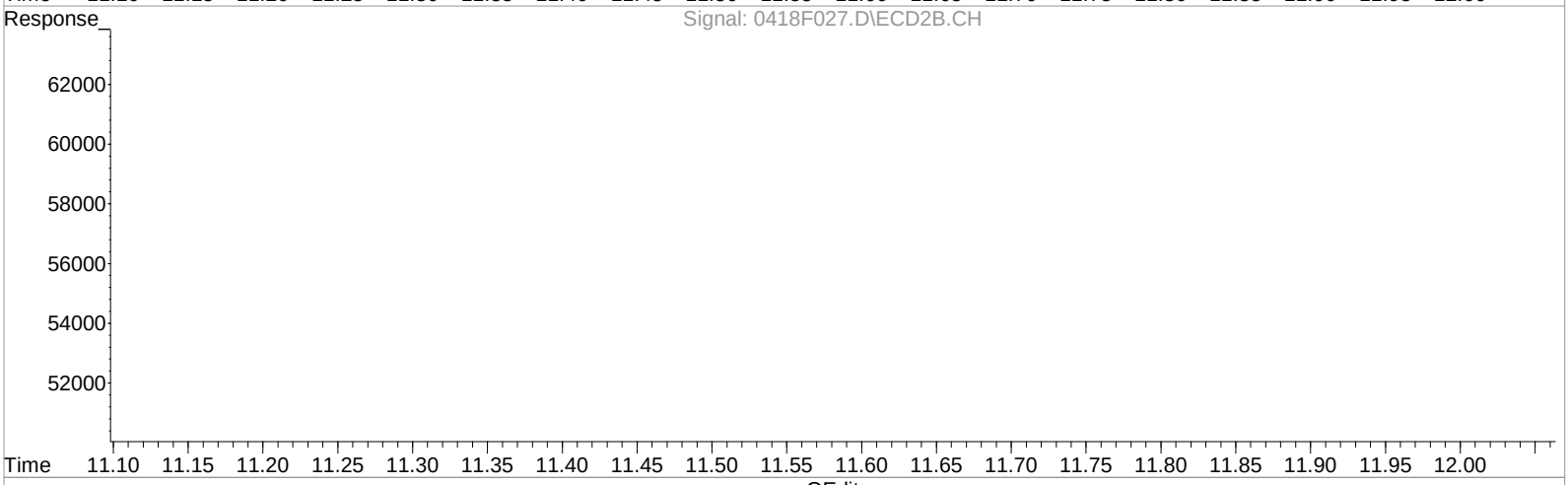
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(8) Heptachlor

11.702min 0.353 ug/L m

response 6385

Manual Integration:

After

Baseline correction

04/21/20

(8) Heptachlor #2

9.929min 2.417 ug/L

response 168479

(+) = Expected Retention Time

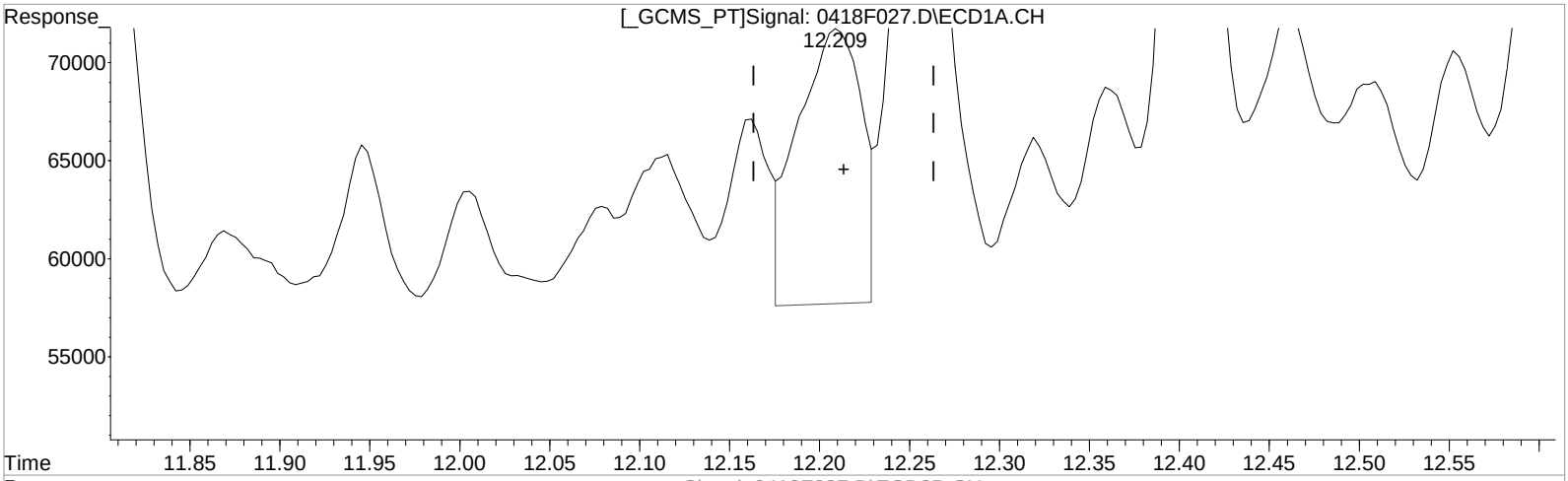
Quantitation Report (Qedit)

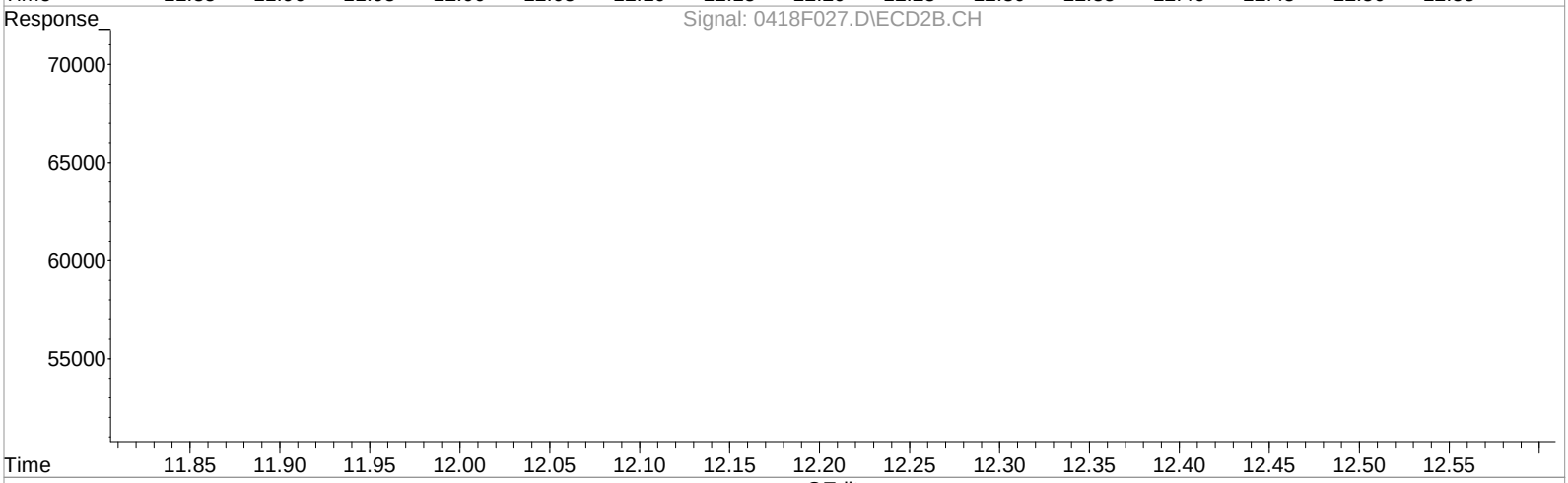
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(9) Aldrin

12.209min 2.071 ug/L

response 34669

Manual Integration:

Before

04/21/20

(9) Aldrin #2

10.506min 0.197 ug/L

response 13787

(+) = Expected Retention Time

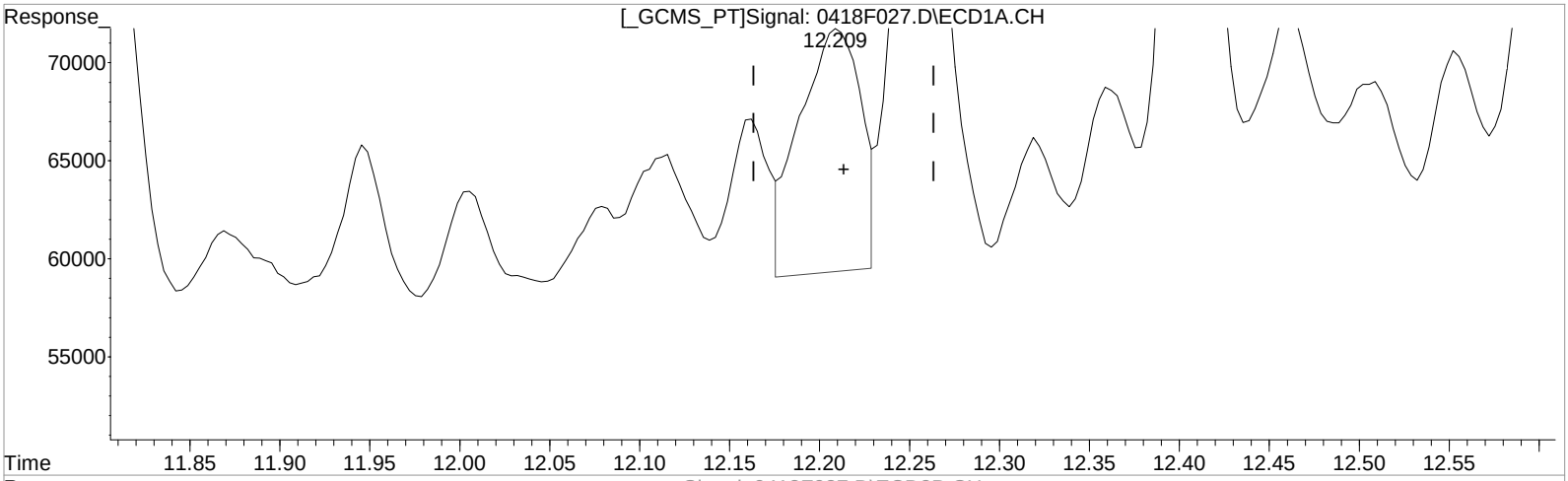
Quantitation Report (Qedit)

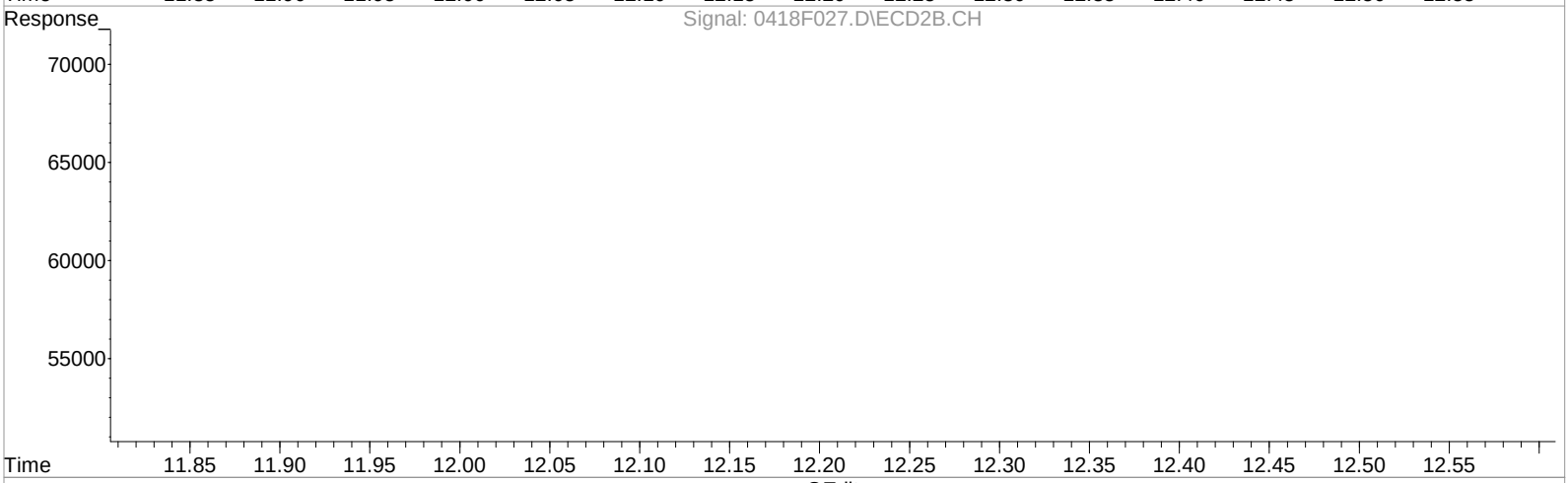
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F027.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:26 am Operator: LM
Sample : K2002652-009 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 11:40:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(9) Aldrin

12.209min 1.765 ug/L m

response 29538

Manual Integration:

After

Baseline correction

04/21/20

(9) Aldrin #2

10.506min 0.197 ug/L

response 13787

(+) = Expected Retention Time

Validation Report

Data File: J:\GC23\data\042220\0422F043.D\
Lab ID: K2002652-009
RunType: N/A
Matrix: Water

Date Acquired: 4/23/20 07:42:00
Batch ID: 677799
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	cis-Chlordane	13.52			NR
	trans-Chlordane	13.44			
	Chlordane {4}	13.44			
	Chlordane {5}	13.52			
	Chlordane {6}	13.60			
	4,4'-DDD	14.64			
	Endosulfan II	14.79			
	Endrin Aldehyde	14.98			
	cis-Nonachlor	14.64			
	trans-Nonachlor	13.60			
	Toxaphene {2}	14.79			
	Toxaphene {4}	14.98			
	1-Bromo-2-nitrobenzene	6.19			SA
	1-Bromo-2-nitrobenzene {2}	6.19			
	1-Bromo-2-nitrobenzene {3}	6.19			
	1-Bromo-2-nitrobenzene {4}	6.19			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.11			NR
	trans-Chlordane	11.96			
	Chlordane {4}	11.96			
	Chlordane {5}	12.01			
	Chlordane {6}	12.11			
	4,4'-DDD	13.38			
	2,4'-DDE	12.01			

Primary Review: _____

Secondary Review: _____

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Endrin Aldehyde	13.92			NR
	trans-Nonachlor	12.01			
	Toxaphene {1}	13.38			
	Toxaphene {5}	13.92			
	1-Bromo-2-nitrobenzene	5.47			SA
	1-Bromo-2-nitrobenzene {2}	5.47			
	1-Bromo-2-nitrobenzene {3}	5.47			
	1-Bromo-2-nitrobenzene {4}	5.47			

Primary Review: _____

Printed: 4/25/20 8:09

Secondary Review: _____

\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report

Data File:	J:\GC23\data\042220\0422F043.D\	**Instrument:**	K-GC-23
Acqu Date:	4/23/20 07:42:00	**Vial:**	4
Run Type:	N/A	**Dilution:**	10
Lab ID:	K2002652-009	**Raw Units:**	ug/L

Bottle ID:	K2002652-009.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677799	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19	c	5.47	-0.01 c	977939	4598280	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.19	c	5.47	c	977939	4598280	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.19	c	5.47	c	977939	4598280	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.66		17.05		6564	24119	0.377	0.325	75	65	65	14 - 160	N
Tetrachloro-m-xylene	8.96	-0.01	7.25	-0.01	10008	37317	0.706	0.655	141	131	131	30 - 148	N

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.20	-0.01	0.00		1876	0	0.120	0.000	6.0U	0U	7.7 U		N
alpha-BHC	0.00		8.48	-0.01	0	2305	0.000	0.032	0U	1.6U	2.5 U		N
beta-BHC	11.06	-0.01	9.77		1433	12683	0.164	0.367	8.2J	18	**8.2** J	P	N
gamma-BHC (Lindane)	10.48		9.23	-0.01	1536	8026	0.097	0.113	4.9U	5.7U	6.0 U		N
Chlordane							15.1832	6666666666	760	940	**760**		N
Chlordane {1}	11.25		9.56		10628	35106	15.942	13.986	800	700			
Chlordane {2}	0.00		11.65		0	42487	0.000	24.820	0	1200			
Chlordane {3}	12.24		11.80		6740	22895	11.121	20.147	560	1000		P	
Chlordane {4}	13.44	c	11.96	c	33769	119961	18.356	17.429	920	870			
Chlordane {5}	13.52	c	12.01	c	25733	76020	16.911	18.039	850	900			
Chlordane {6}	13.60	c	12.11	c	15177	113214	13.586	18.554	680	930	Dieldrin Only		
Dieldrin	13.99		12.62	-0.01	88875	384794	5.508	5.697	280	280	**280**		N
Heptachlor	0.00		9.92		0	26909	0.000	0.374	0U	19J	6.1 U		N
Heptachlor Epoxide	12.93	+0.01	11.61	+0.02	1517	19173	0.092	0.270	4.6Ui	14Ui	4.7 Ui		N
Hexachlorobenzene	0.00		0.00		0	0	0.000	0.000	0U	0U	2.7 U		N
Toxaphene							6666666666	3333333333	2800	3800	**2800**		N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 8:09
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Data File:	J:\GC23\data\042220\0422F043.D\	**Instrument:**	K-GC-23
Acqu Date:	4/23/20 07:42:00	**Vial:**	4
Run Type:	N/A	**Dilution:**	10
Lab ID:	K2002652-009	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.73		13.38	c	10744	58721	66.864	57.470	3300	2900		
Toxaphene {2}	14.79	c	13.44		9003	46697	61.944	59.402	3100	3000		
Toxaphene {3}	14.91		13.58		14263	74406	49.249	71.940	2500	3600		
Toxaphene {4}	14.98	c	13.65		7965	28808	40.895	78.589	2000	3900		P
Toxaphene {5}	15.33		13.92	c	9943	42504	53.575	77.226	2700	3900		
Toxaphene {6}	15.51		15.41		5058	31799	57.879	106.656	2900	5300		P

Prep Amount:	200 mL	**Dilution:**	10
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 8:09
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:54:06 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.190	5.474	977939	4598280	100.000	100.000
29)	1-Bromo-2...	6.190	5.474	977939	4598280	100.000	100.000
36)	1-Bromo-2...	6.190	5.474	977939	4598280	100.000	100.000
43)	1-Bromo-2...	6.190	5.474	977939	4598280	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.963	7.254	10008	37317	0.706	0.655
28) s	Decachlor...	18.657	17.051	6564	24119	0.377	0.325
	Target Compounds						
3)	alpha-BHC	0.000	8.484	0	2305	N.D.	0.032 #
5)	beta-BHC	11.063	9.774	1433	12683	0.164	0.367 #
6)	gamma-BHC...	10.477	9.231	1536	8026	0.097	0.113
7)	delta-BHC	11.577	10.284	1732	8309	0.109	0.120
8)	Heptachlor	0.000	9.917	0	26909	N.D.	0.374 #
9)	Aldrin	12.200	0.000	1876	0	0.120	N.D. d#
10)	Isodrin	12.713	11.274f	2718	6243	0.202	0.103 #
11)	Heptachlo...	12.930	11.614f	1517	19173	0.092	0.270 #
12)	gamma-Chl...	13.443	11.964	33769	119961	2.048	1.746
13)	Endosulfan I	0.000	12.217f	0	24969	N.D. d	0.403
14)	alpha-Chl...	13.517	12.114	25733	113214	1.568	1.627
15)	Dieldrin	13.990	12.624	88875	384794	5.508	5.697
16)	4,4'-DDE	13.767	12.484	2886	10206	0.191m	0.157m
17)	Endrin	14.357	13.104	7035	20384	0.478	0.317m#
18)	Endosulfa...	14.793	13.537	9003	215635	0.603	3.712 #
19)	4,4'-DDD	14.637	13.381	8728	58721	0.748	1.206 #
20)	Endrin Al...	14.980	13.917	7965	35773	0.616	0.744m
21)	Endosulfa...	15.453	14.231	14751	9577	0.970	0.167m#
22)	4,4'-DDT	15.147	13.817f	7767	85578	0.633	1.824 #
23)	Endrin Ke...	16.143	15.174	17415	83747	1.068	1.222
24)	Methoxychlor	15.867	14.881	54436	20758	7.321	0.797 #
25)	2,4'-DDE	13.210	12.011	3619	76020	0.343	1.791 #
26)	2,4'-DDD	13.923	12.747f	9524	15866	1.028	0.431 #
27)	2,4'-DDT	14.470f	13.234	61125	7765	5.768	0.195 #
30)	Toxaphene	14.733	13.381	10744	58721	66.864	57.470
31)	Toxaphene...	14.793	13.444	9003	46697	61.944	59.402
32)	Toxaphene...	14.913	13.581	14263	74406	49.249	71.940 #
33)	Toxaphene...	14.980	13.651	7965	28808	40.895	78.589 #
34)	Toxaphene...	15.327	13.917	9943	42504	53.575m	77.226 #
35)	Toxaphene...	15.513	15.414	5058	31799	57.879	106.656 #
37)	Chlordane	11.253f	9.557	10628	35106	15.942	13.986
38)	Chlordane...	0.000	11.654	0	42487	N.D.	24.820 #
39)	Chlordane...	12.243	11.801	6740	22895	11.121	20.147 #
40)	Chlordane...	13.443	11.964	33769	119961	18.356	17.429
41)	Chlordane...	13.517	12.011	25733	76020	16.911	18.039
42)	Chlordane...	13.600	12.114	15177	113214	13.586	18.554 #
44)	Chlorpyrifos	0.000	10.877	0	8305	N.D.	0.288 #
45)	Oxychlordane	12.870	11.397f	8268	16571	0.531	0.255 #
46)	cis-Nonac...	14.637	13.204	8728	20309	0.533	0.300 #
47)	trans-Non...	13.600	12.011	15177	76020	0.922	1.136
48)	Mirex	17.027f	15.347	1390	4593	0.102	0.090

1st STM 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:54:06 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
49)	HCE	0.000	3.427	0	1140	N.D.	0.011	#
52)	Perthane	14.077	12.894f	1583	28006	3.401	16.624	#

SemiQuant Compounds - Not Calibrated on this Instrument

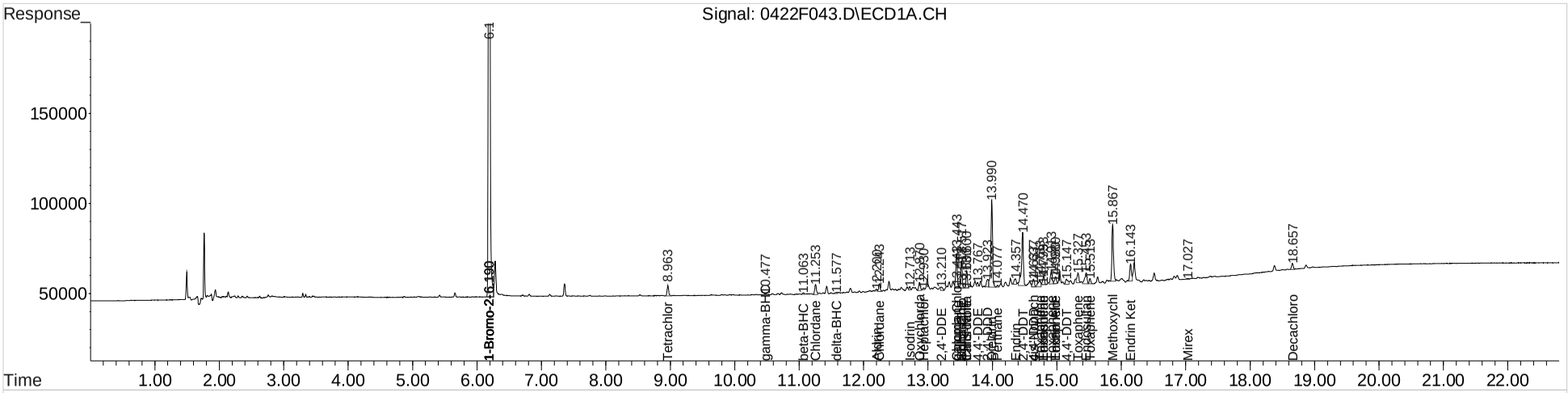
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:54:06 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

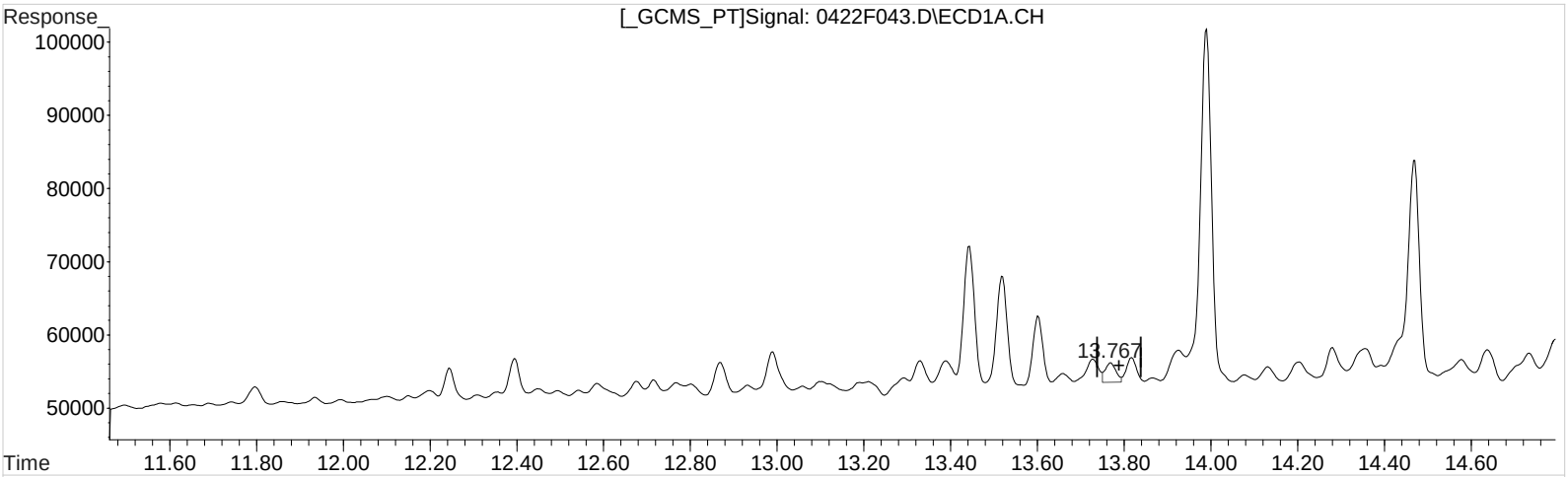


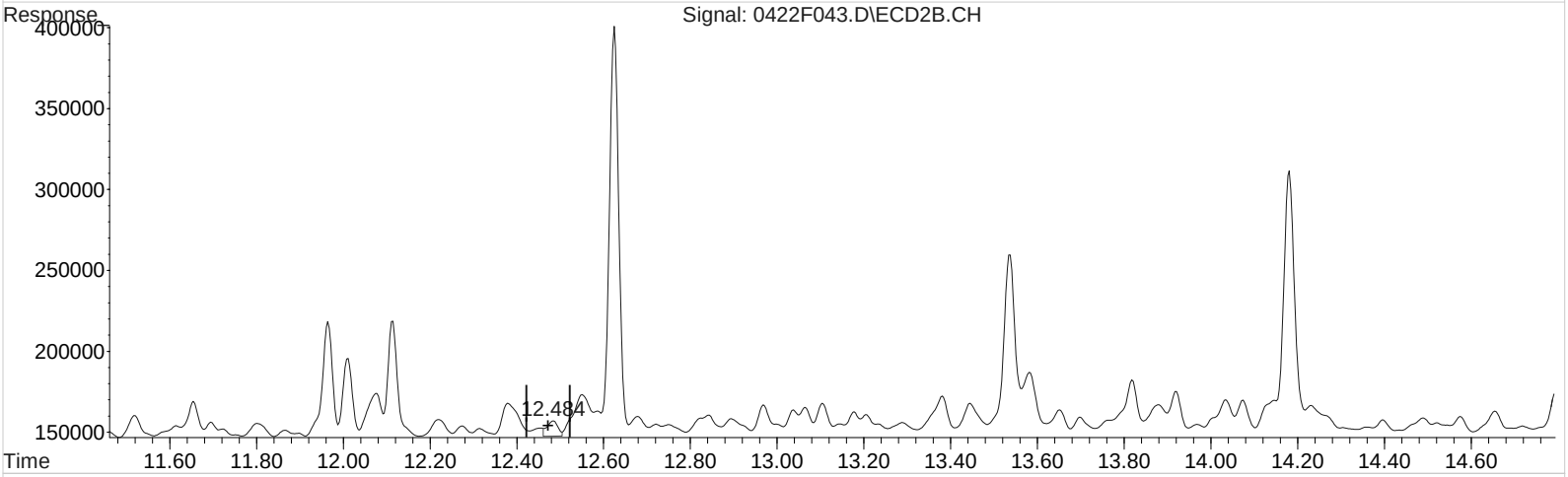
1st 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:50:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.767min 0.302 ug/L

response 4567

Manual Integration:

Before

04/25/20

(16) 4,4'-DDE #2

12.484min 0.254 ug/L

response 16491

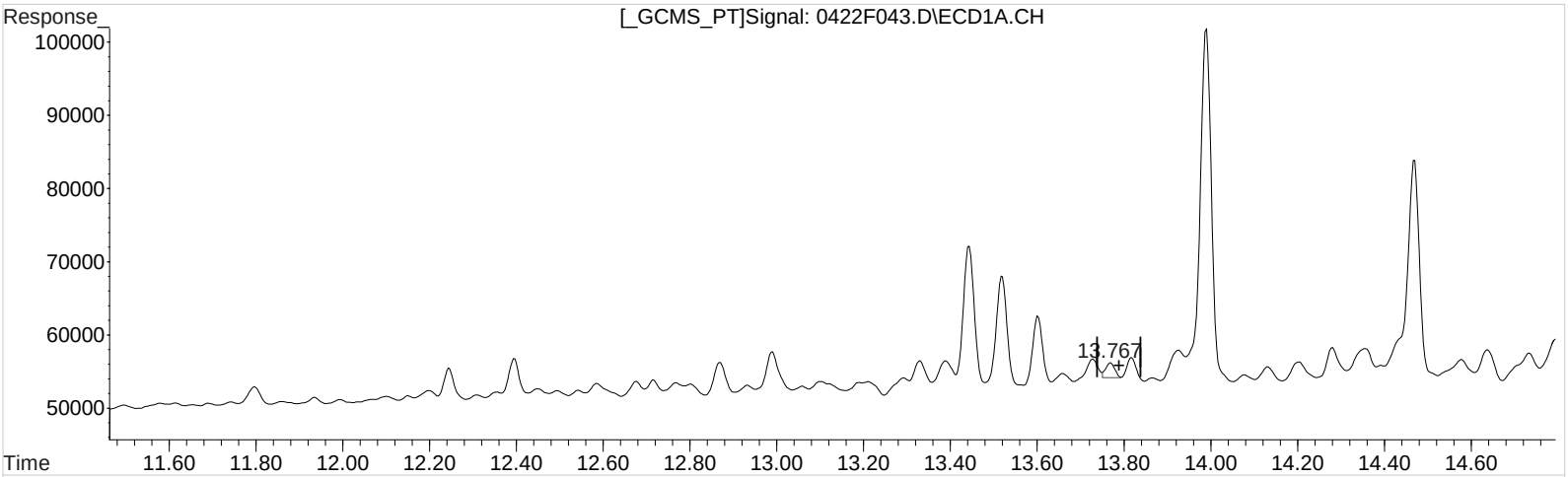
(+) = Expected Retention Time

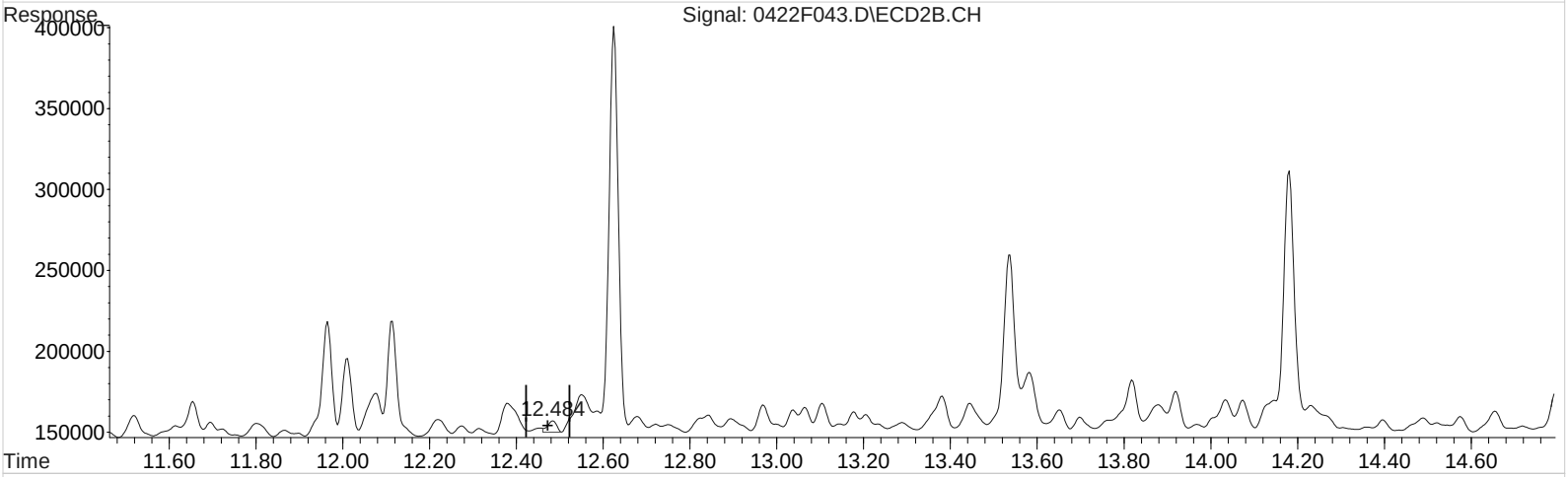
1st 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:50:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.767min 0.191 ug/L m

response 2886

Manual Integration:

After

Baseline/Shoulder

04/25/20

(16) 4,4'-DDE #2

12.484min 0.157 ug/L m

response 10206

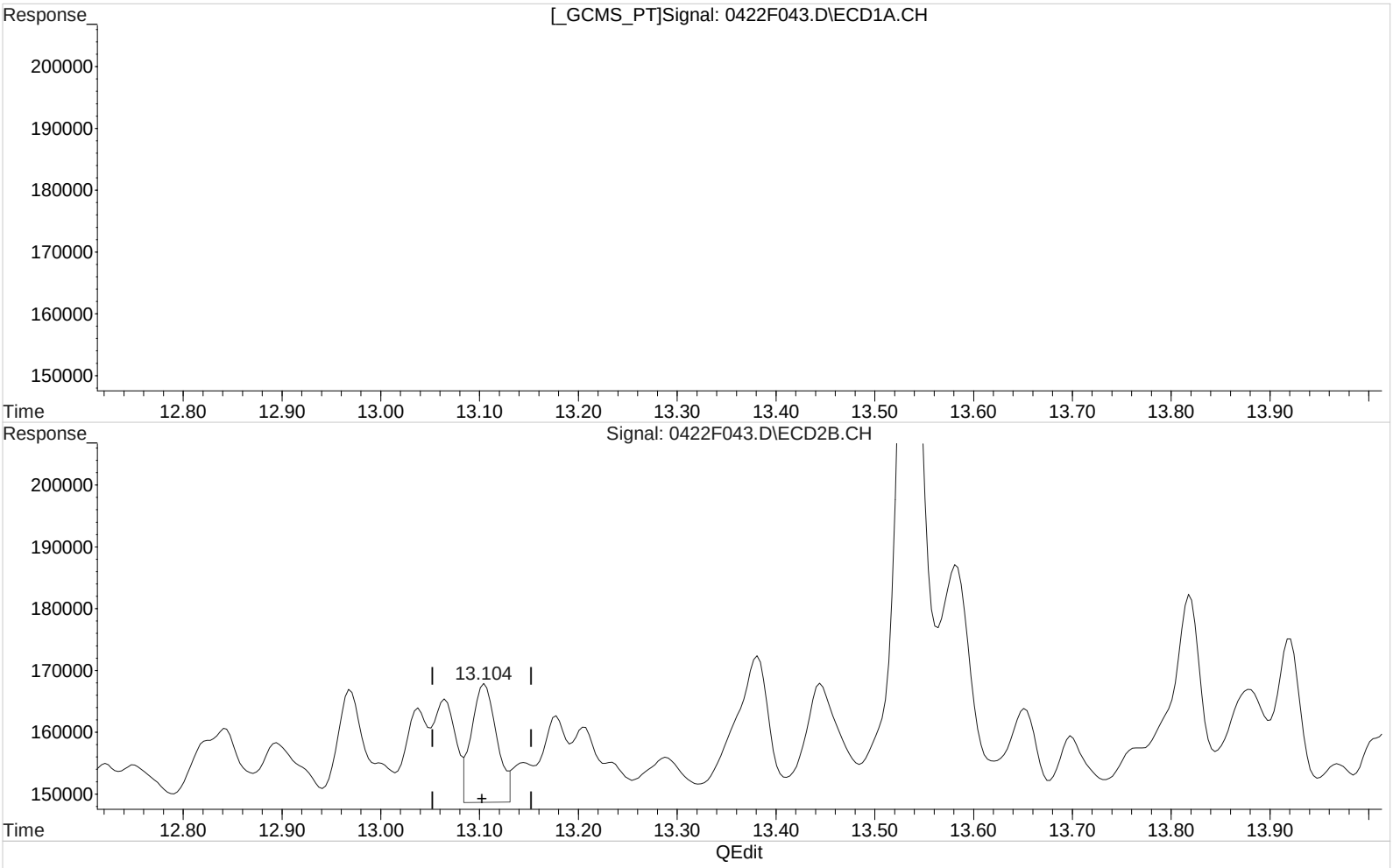
(+) = Expected Retention Time

1st 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:50:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(17) Endrin

14.357min 0.478 ug/L

response 7035

Manual Integration:

Before

04/25/20

(17) Endrin #2

13.104min 0.526 ug/L

response 33809

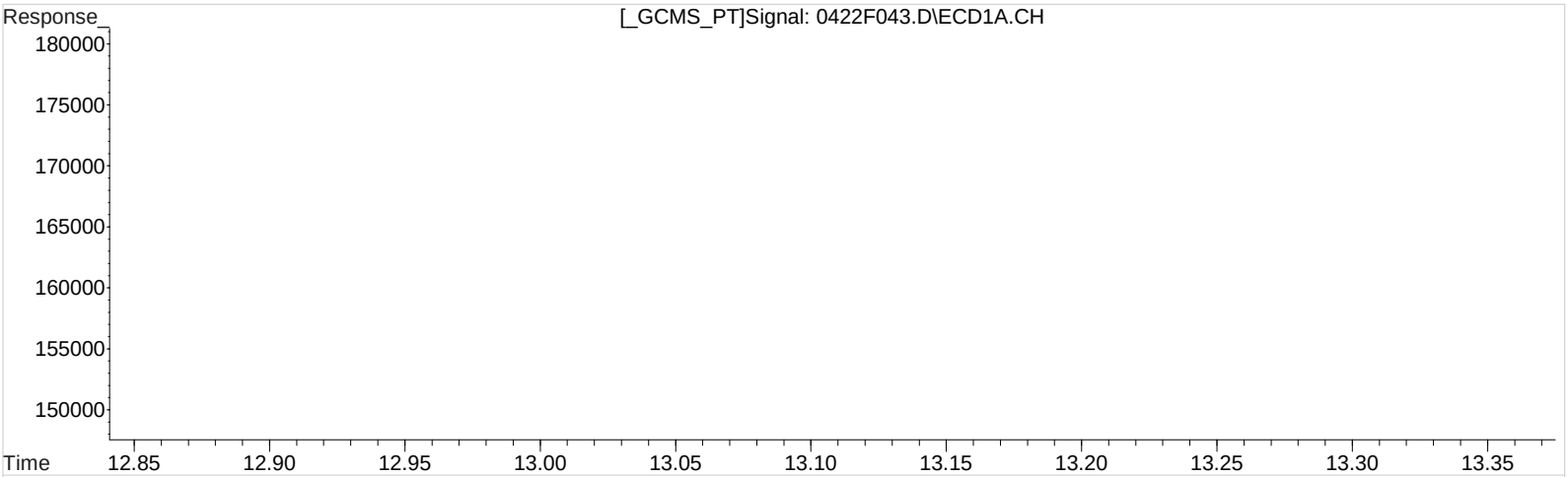
(+) = Expected Retention Time

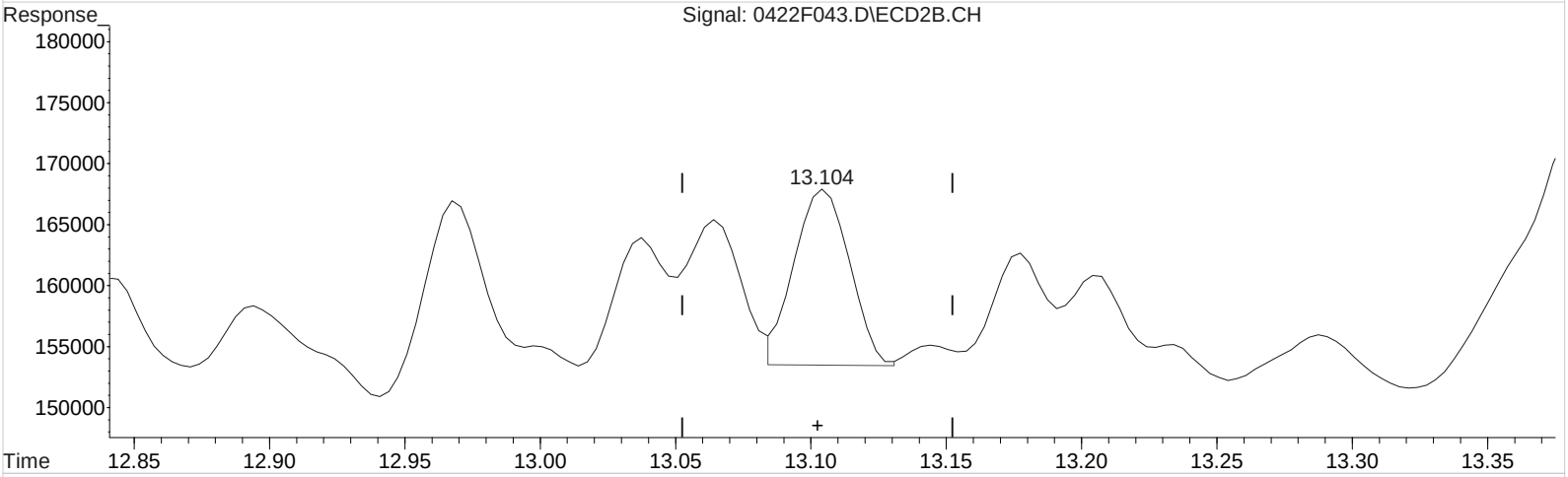
1st 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:50:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(17) Endrin

14.357min 0.478 ug/L

response 7035

Manual Integration:

After

Baseline/Shoulder

04/25/20

(17) Endrin #2

13.104min 0.317 ug/L m

response 20384

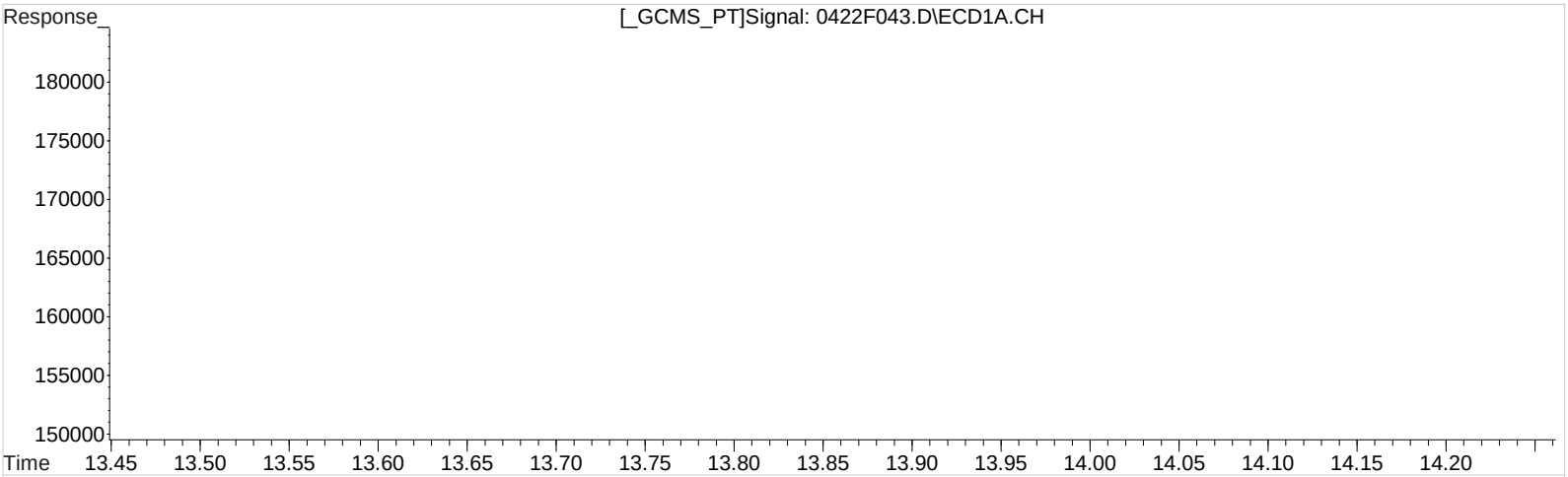
(+) = Expected Retention Time

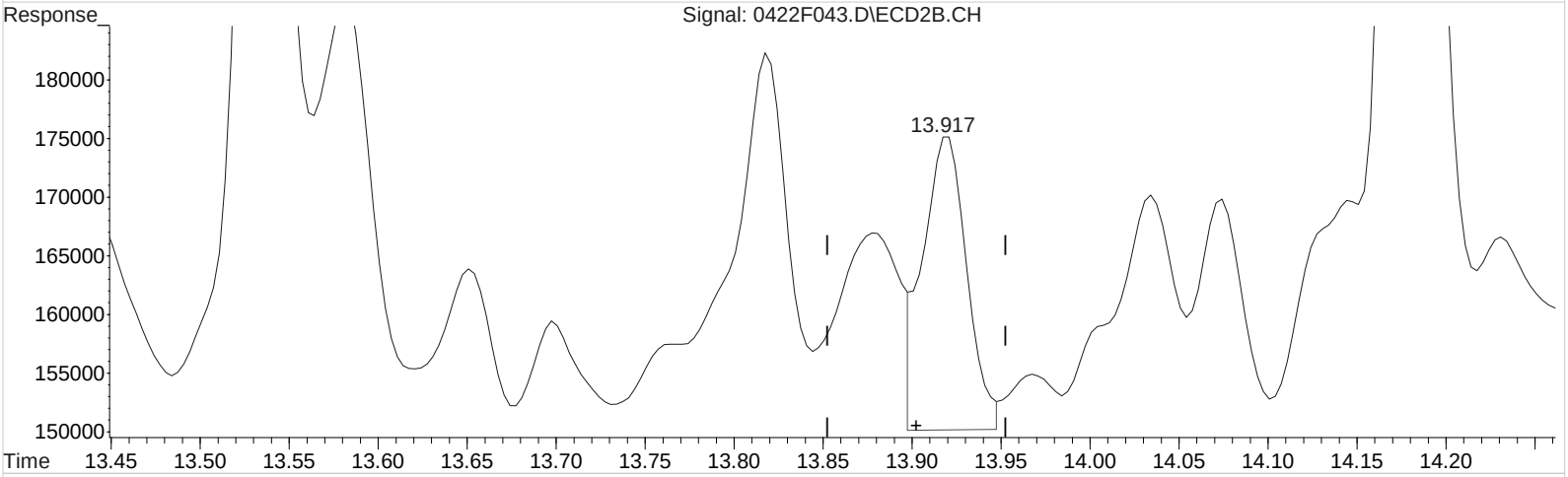
1st 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:50:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

14.980min 0.616 ug/L

response 7965

Manual Integration:

Before

04/25/20

(20) Endrin Aldehyde #2

13.917min 0.884 ug/L

response 42504

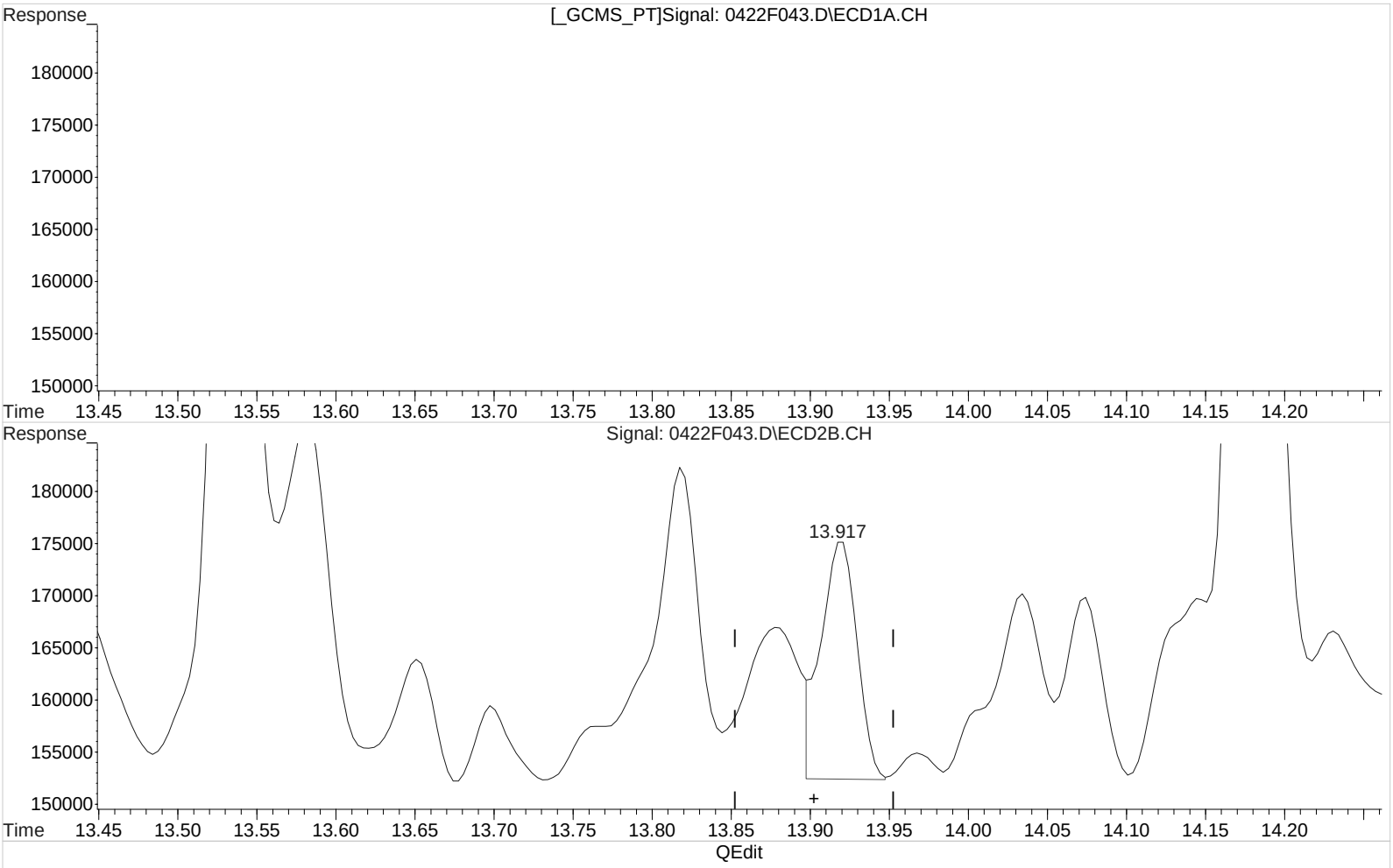
(+) = Expected Retention Time

1st 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:50:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.980min 0.616 ug/L

response 7965

Manual Integration:

After

Baseline/Shoulder

04/25/20

(20) Endrin Aldehyde #2

13.917min 0.744 ug/L m

response 35773

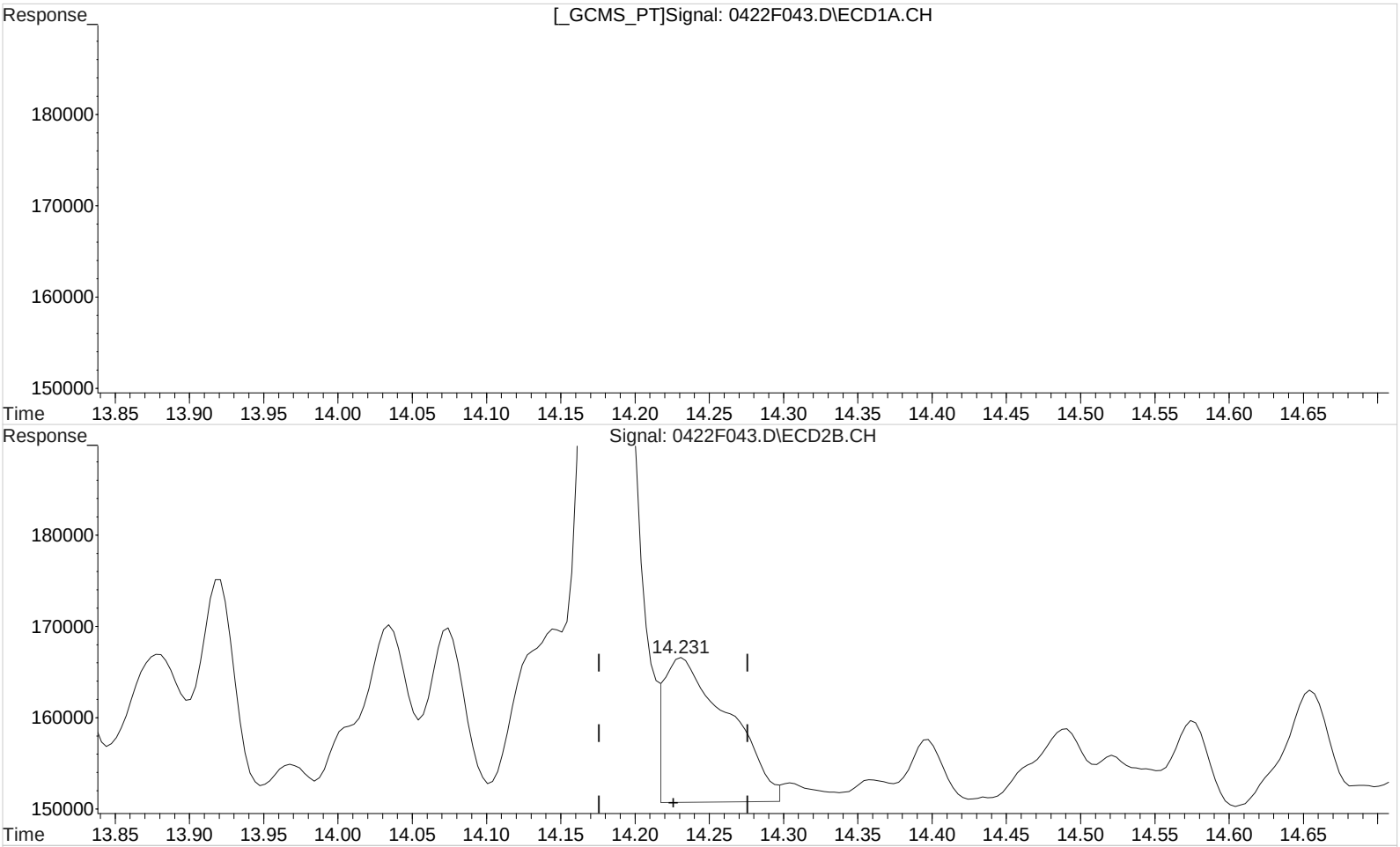
(+) = Expected Retention Time

1st 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:50:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(21) Endosulfan Sulfate

15.453min 0.970 ug/L

response 14751

Manual Integration:

Before

04/25/20

(21) Endosulfan Sulfate #2

14.231min 0.805 ug/L

response 46114

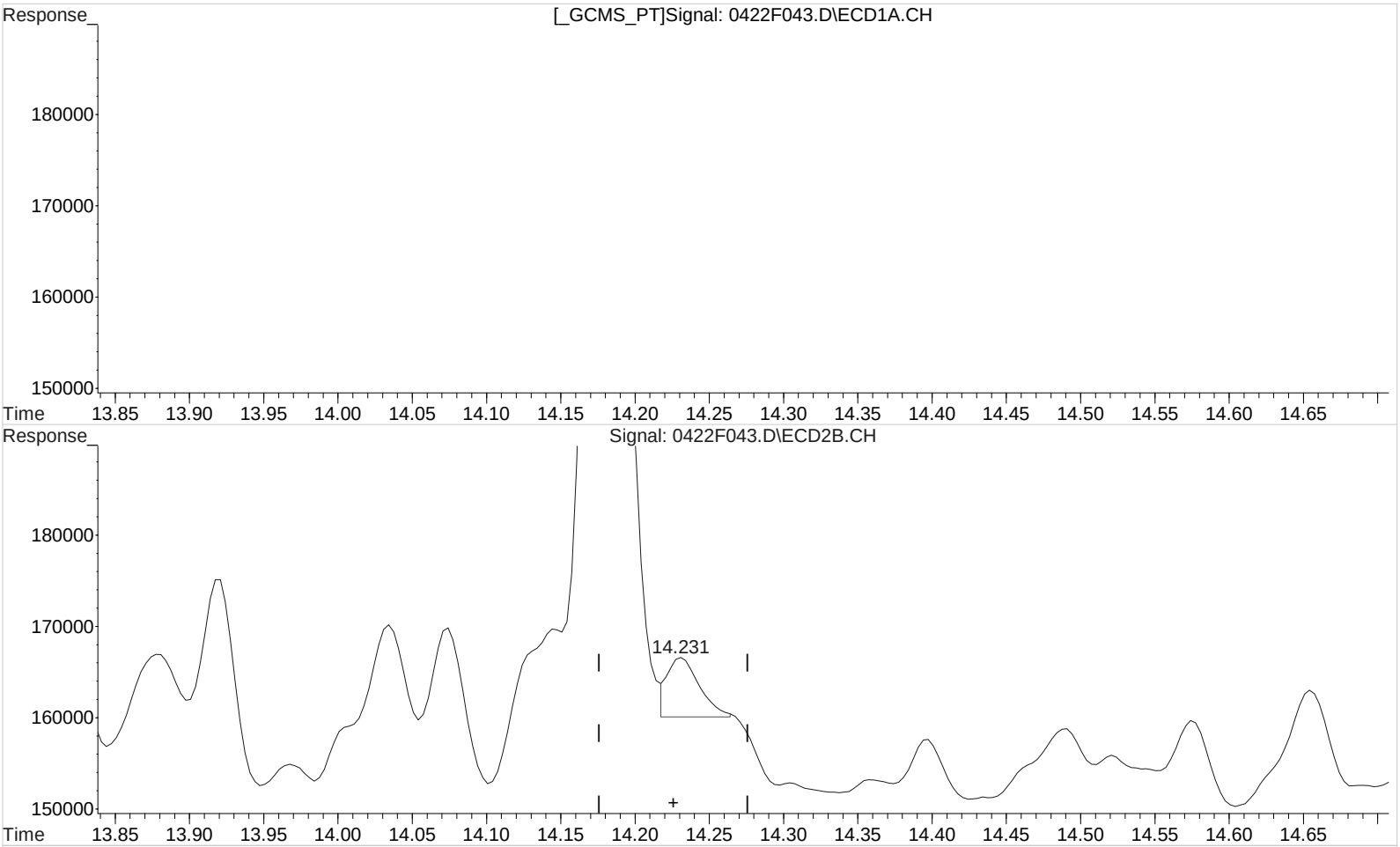
(+) = Expected Retention Time

1st 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:50:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(21) Endosulfan Sulfate

15.453min 0.970 ug/L

response 14751

Manual Integration:

After

Baseline/Shoulder

04/25/20

(21) Endosulfan Sulfate #2

14.231min 0.167 ug/L m

response 9577

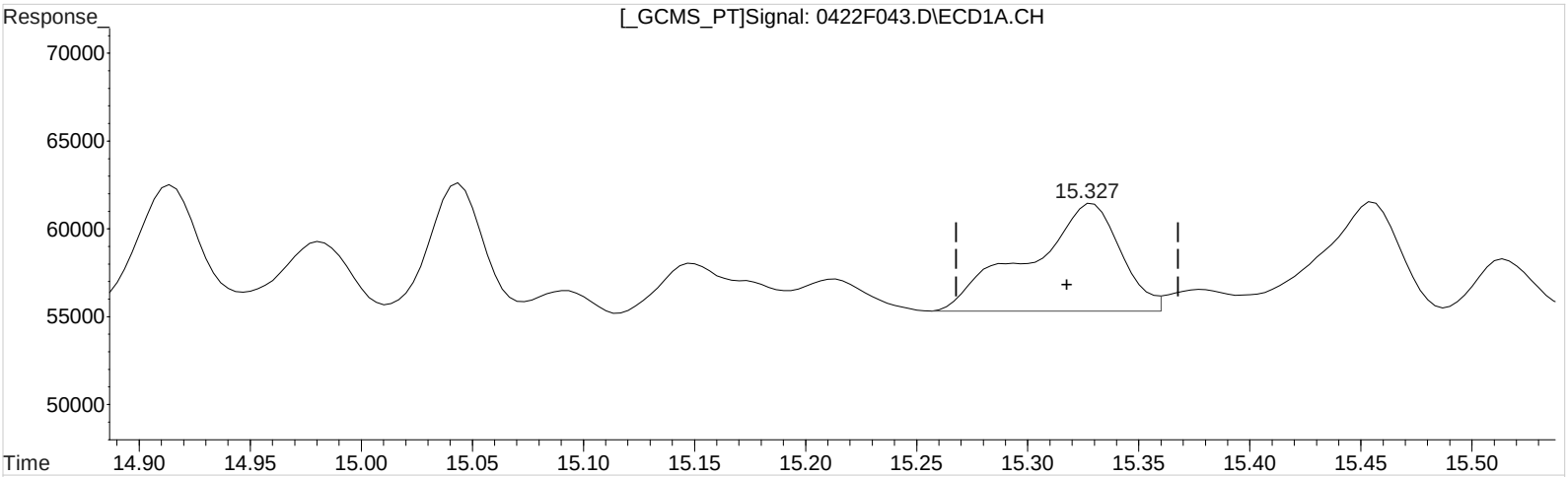
(+) = Expected Retention Time

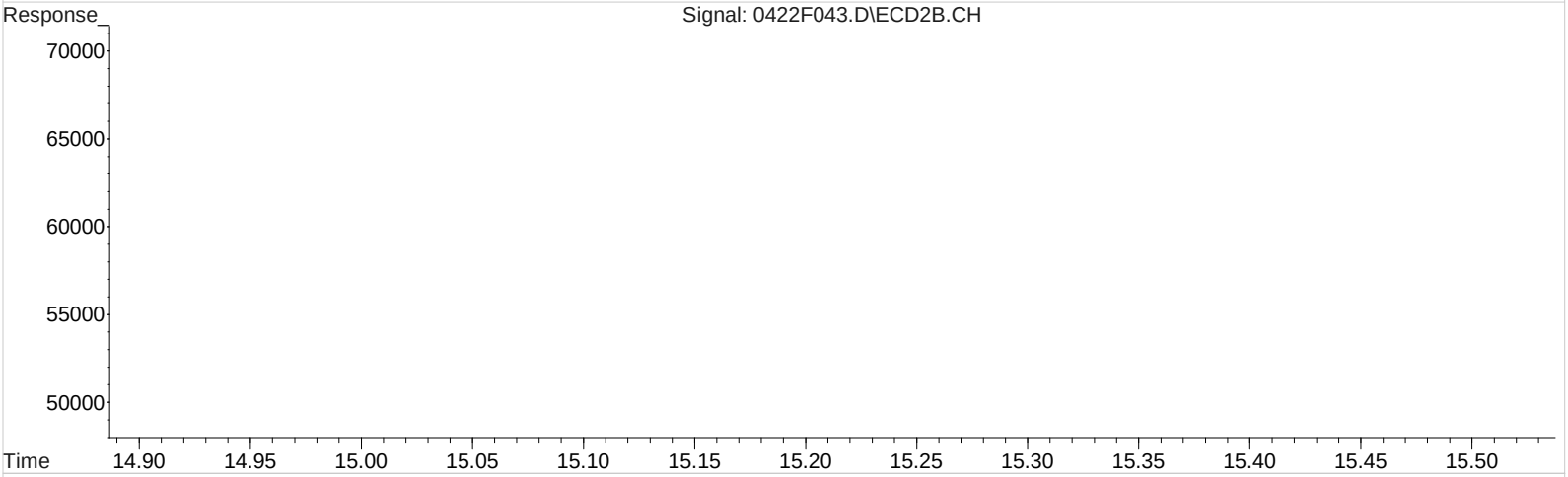
1st 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:50:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.327min 95.511 ug/L

response 17726

Manual Integration:

Before

04/25/20

(34) Toxaphene {5} #2

13.917min 77.226 ug/L

response 42504

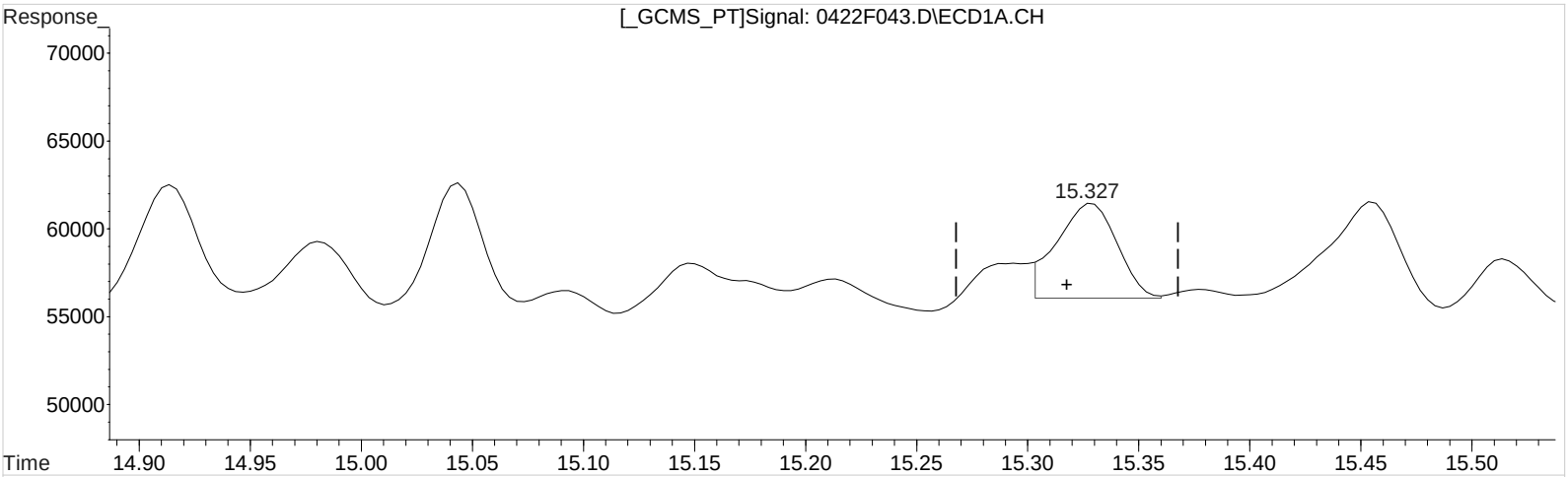
(+) = Expected Retention Time

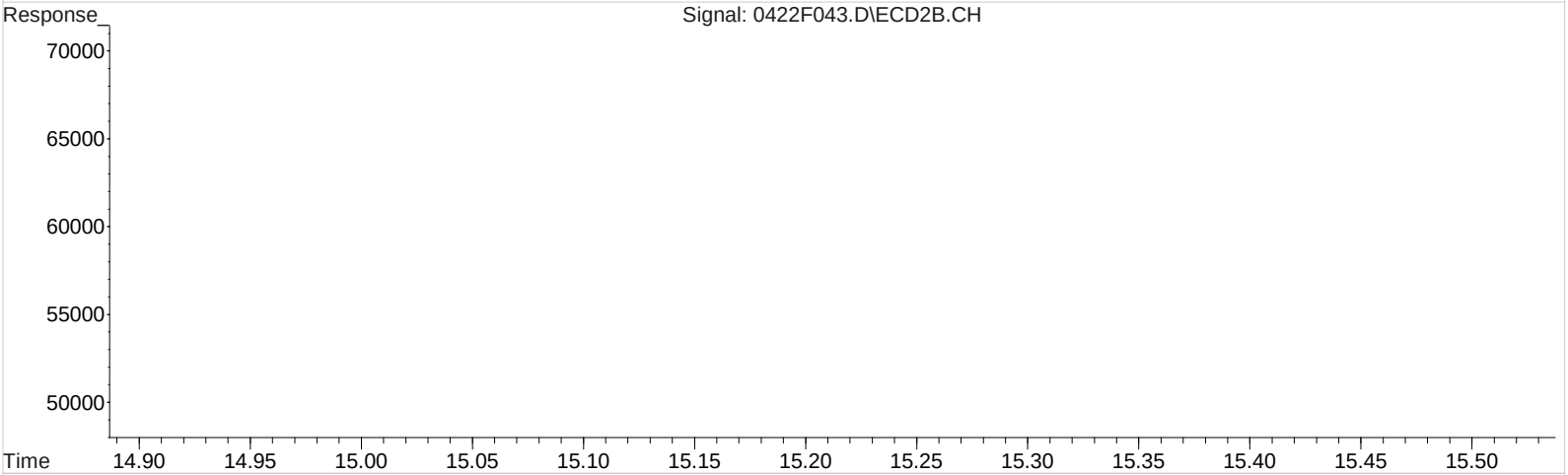
1st 04/25/20

Data File : J:\GC23\data\042220\0422F043.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 7:42 am Operator: LM
Sample : K2002652-009@10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:50:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.327min 53.575 ug/L m

response 9943

Manual Integration:

After

Baseline/Shoulder

04/25/20

(34) Toxaphene {5} #2

13.917min 77.226 ug/L

response 42504

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F028.D\
Lab ID: K2002652-010
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 08:56:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level		X
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Above Highest ICAL Level - DB XLB	Dieldrin	12.238		10	dil
Above Highest ICAL Level - DB-35MS	Dieldrin	11.827		10	dil
Analyte Coelutions - DB XLB	cis-Chlordane	13.53			see Quant Report
	trans-Chlordane	13.46			
	Chlordane {4}	13.46			
	Chlordane {5}	13.53			
	Chlordane {6}	13.61			
	4,4'-DDD	14.66			
	Endosulfan I	13.61			
	Endosulfan II	14.81			
	Endrin Aldehyde	14.99			
	cis-Nonachlor	14.66			
	trans-Nonachlor	13.61			
	Toxaphene {2}	14.81			
	Toxaphene {4}	14.99			
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.12			see Quant Report
	trans-Chlordane	11.97			
	Chlordane {4}	11.97			
	Chlordane {5}	12.02			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Chlordane {6}	12.12			see Quant Report
	4,4'-DDD	13.39			
	2,4'-DDE	12.02			
	2,4'-DDT	13.24			
	Endrin Aldehyde	13.93			
	cis-Nonachlor	13.24			
	trans-Nonachlor	12.02			
	Toxaphene {1}	13.39			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F028.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 08:56:00	**Vial:**	13
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-010	**Raw Units:**	ug/L

Bottle ID:	K2002652-010.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1098036	4693007	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1098036	4693007	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1098036	4693007	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07 +0.01	80441	287476	4.117	3.800	82	76	76	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.26 -0.01	91505	327794	5.748	5.637	115	113	113	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.21	10.50 -0.02	3003	7480	0.171	0.101	0.86J	0.51U	0.77 U		Y
alpha-BHC	9.80 -0.02	0.00	6906	0	0.377	0.000	1.9	0U	0.25 U		Y
beta-BHC	0.00	9.79 +0.01	0	8419	0.000	0.239	0U	1.2	0.17 U		Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U		Y
Chlordane					66.8092	91.885	330	460	**330**		Y
Chlordane {1}	11.27	9.57	108231	380449	144.589	148.509	720	740			
Chlordane {2}	0.00	11.66	0	392160	0.000	224.465	0	1100			
Chlordane {3}	12.26 +0.01	11.82 +0.01	46643	111812	68.544	96.405	340	480			
Chlordane {4}	13.46 +0.01 c	11.97 c	129646	112008	62.763	15.945	310	80		i	
Chlordane {5}	13.53 c	12.02 c	84525	53940	49.471	12.541	250	63		i	
Chlordane {6}	13.61 c	12.12 c	10886	332830	8.679	53.445	43	270		i	
Dieldrin	14.00	12.63	221730	815264	12.238	11.827	61E	59E	dil **59** E		Y
Heptachlor	11.71 +0.02	9.93	2674	86680	0.141	1.179	0.71Ui	5.9Ui	0.76 Ui		Y
Heptachlor Epoxide	12.94 +0.01	11.62 +0.02	4349	24040	0.235	0.332	1.2	1.7	**1.2**		Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U		Y
Toxaphene					6666666667	69.3562	300	350	**300**		Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F028.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 08:56:00	**Vial:**	13
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-010	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.75		13.39	c	9181	74581	50.888	71.519	250	360		
Toxaphene {2}	14.81	c	13.48	+0.02	15772	30648	96.648	38.200	480	190		P
Toxaphene {3}	14.93		13.59	-0.01	12496	128043	38.429	126.903	190	630		i
Toxaphene {4}	14.99	-0.01c	0.00		13207	0	60.392	0.000	300	0		
Toxaphene {5}	15.34	-0.01	13.93	c	13780	40808	66.128	72.648	330	360		
Toxaphene {6}	15.53	-0.01	15.43		5051	11414	50.903	37.511	250	190		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 20:03:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.197	5.484	1098036	4693007	100.000	100.000
29)	1-Bromo-2...	6.197	5.484	1098036	4693007	100.000	100.000
36)	1-Bromo-2...	6.197	5.484	1098036	4693007	100.000	100.000
43)	1-Bromo-2...	6.197	5.484	1098036	4693007	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.977	7.264	91505	327794	5.748	5.637
28) s	Decachlor...	18.670	17.068	80441	287476	4.117	3.800
	Target Compounds						
3)	alpha-BHC	9.800	0.000	6906	0	0.377	N.D. d#
5)	beta-BHC	0.000	9.791	0	8419	N.D.	0.239 #
7)	delta-BHC	11.600	10.318	3611	15438	0.202	0.218
8)	Heptachlor	11.707	9.931	2674	86680	0.141	1.179 #
9)	Aldrin	12.214	10.501	3003	7480	0.171	0.101 #
10)	Isodrin	12.727	11.338	33747	5066	2.235	0.082 #
11)	Heptachlo...	12.940	11.624f	4349	24040	0.235	0.332 #
12)	gamma-Chl...	13.464	11.974	129646	112008	7.004	1.598 #
13)	Endosulfan I	13.610f	0.000	10886	0	0.645	N.D. #
14)	alpha-Chl...	13.530	12.124	84525	332830	4.587	4.686
15)	Dieldrin	14.004	12.634	221730	815264	12.238	11.827
16)	4,4'-DDE	13.827	12.464	13341	44445	0.787	0.670
17)	Endrin	14.377	13.118	9123	25737	0.552	0.392 #
18)	Endosulfa...	14.810	13.544	14903	303680	0.890m	5.123 #
19)	4,4'-DDD	14.657	13.394	9272	74581	0.708m	1.501 #
20)	Endrin Al...	14.990	13.931	13207	41097	0.910	0.837m
21)	Endosulfa...	15.467	0.000	8772	0	0.514	N.D. d#
22)	4,4'-DDT	15.160	13.771f	5106	7047	0.371	0.147 #
23)	Endrin Ke...	16.157	15.188	1687	16281	0.092	0.233 #
24)	Methoxychlor	15.880	14.891	87008	5138	10.421	0.193m#
25)	2,4'-DDE	13.200	12.021	14018	53940	1.184m	1.245
26)	2,4'-DDD	13.944	12.824	37413	12491	3.598	0.332 #
27)	2,4'-DDT	14.480f	13.241	100152	6299	8.417	0.155m#
30)	Toxaphene	14.747	13.394	9181	74581	50.888m	71.519 #
31)	Toxaphene...	14.810	13.481	15772	30648	96.648m	38.200 #
32)	Toxaphene...	14.927	13.588	12496	128043	38.429m	126.903 #
33)	Toxaphene...	14.990	0.000	13207	0	60.392	N.D. d#
34)	Toxaphene...	15.344	13.931	13780	40808	66.128	72.648
35)	Toxaphene...	15.527	15.428	5051	11414	50.903	37.511 #
37)	Chlordane	11.270	9.568	108231	380449	144.589	148.509
38)	Chlordane...	0.000	11.664	0	392160	N.D. d	224.465
39)	Chlordane...	12.257	11.821	46643	111812	68.544	96.405 #
40)	Chlordane...	13.464	11.974	129646	112008	62.763	15.945 #
41)	Chlordane...	13.530	12.021	84525	53940	49.471	12.541 #
42)	Chlordane...	13.610	12.124	10886	332830	8.679	53.445 #
44)	Chlorpyrifos	12.110	10.901	11493	42081	1.136	1.429 #
45)	Oxychlordane	12.877	11.408	14765	32449	0.844	0.489 #
46)	cis-Nonac...	14.657	13.241	11348	5527	0.617m	0.080m#
47)	trans-Non...	13.610	12.021	10886	53940	0.589	0.790 #
48)	Mirex	0.000	15.348f	0	14624	N.D.	0.280 #
49)	HCE	4.164	0.000	3141	0	0.119	N.D. d#

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 20:03:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
52)	Perthane	14.097	12.921f	467	16143	0.894m	9.389 #

SemiQuant Compounds - Not Calibrated on this Instrument

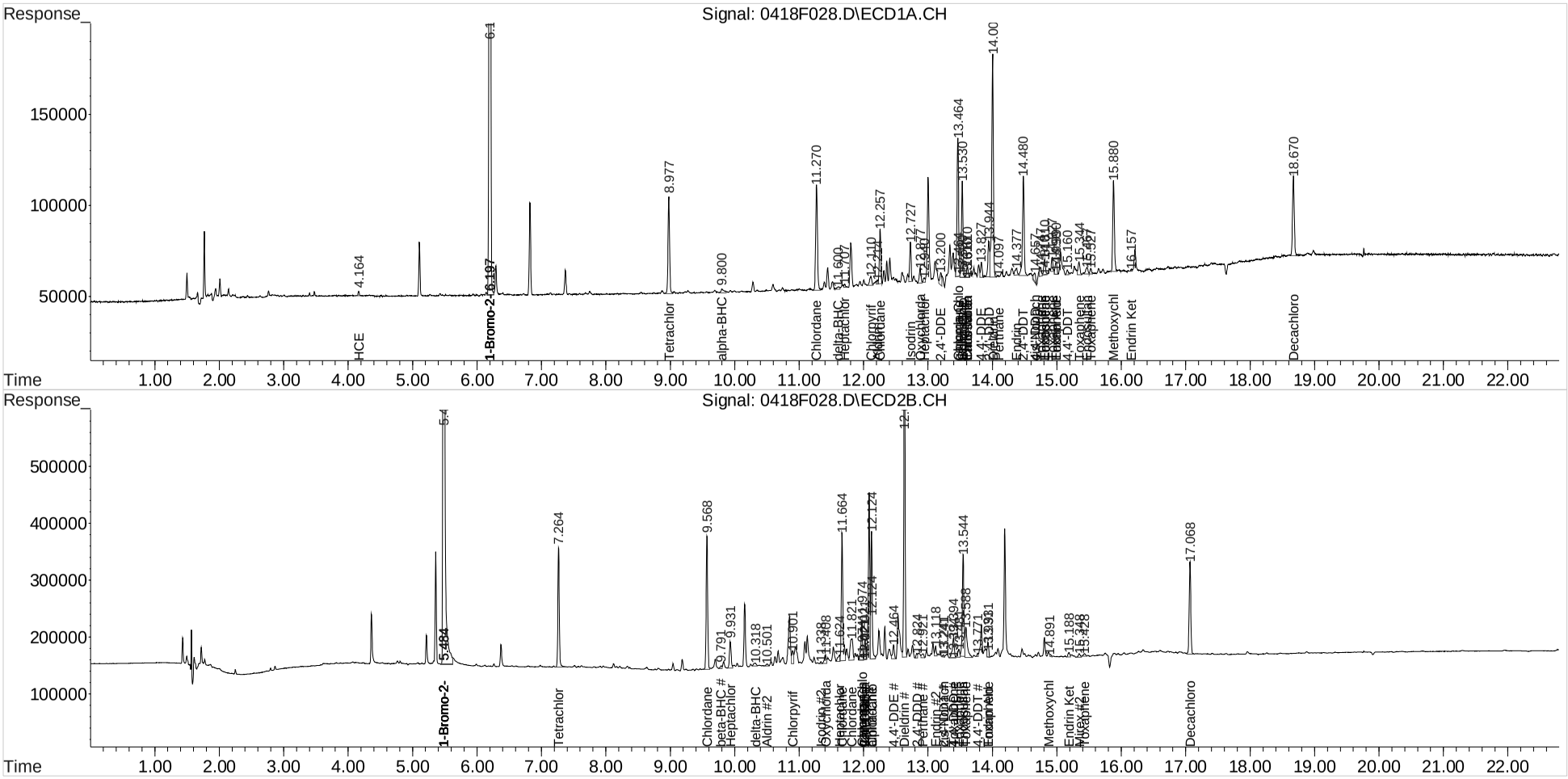
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 20:03:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



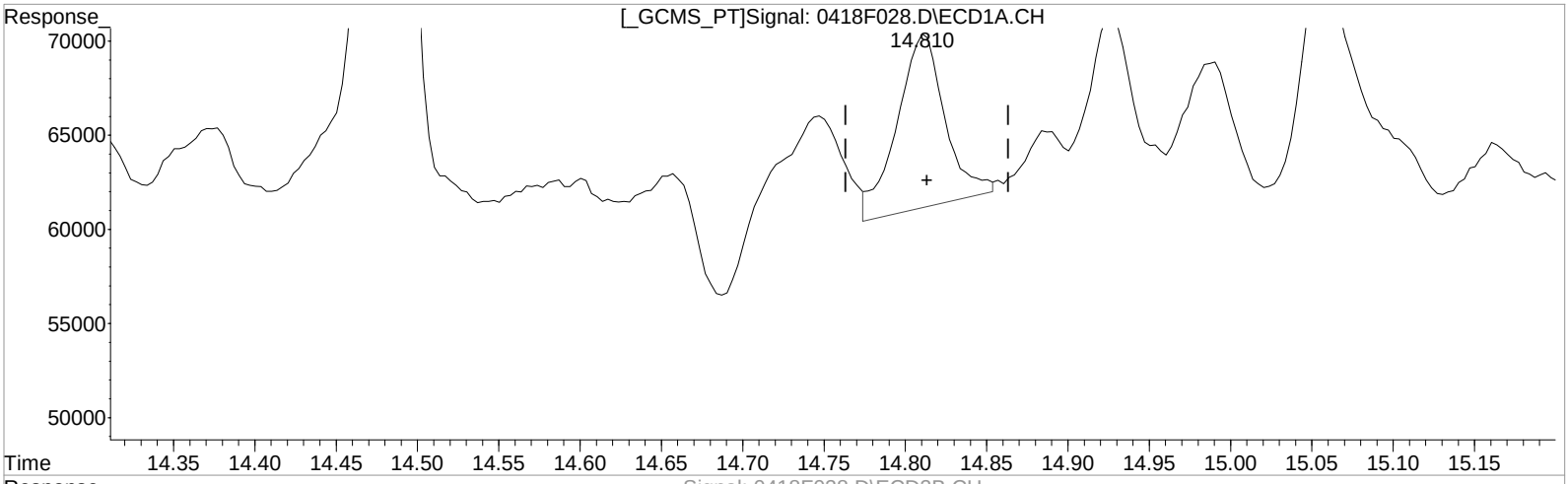
Quantitation Report (Qedit)

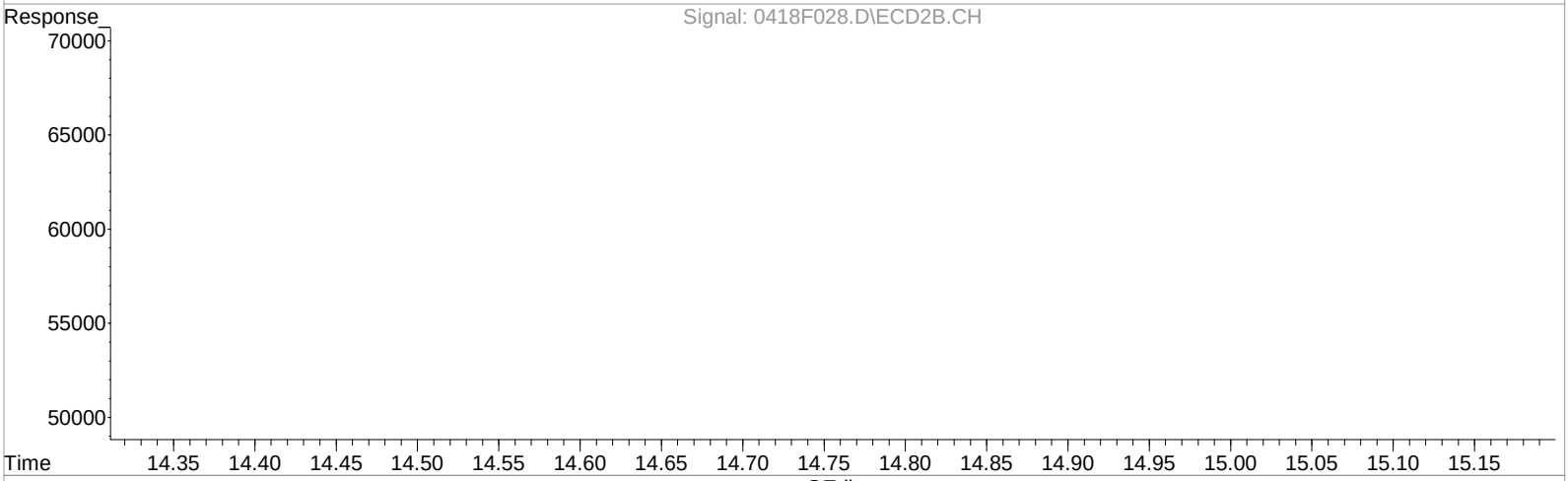
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.810min 1.129 ug/L

response 18910

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.544min 5.123 ug/L

response 303680

(+) = Expected Retention Time

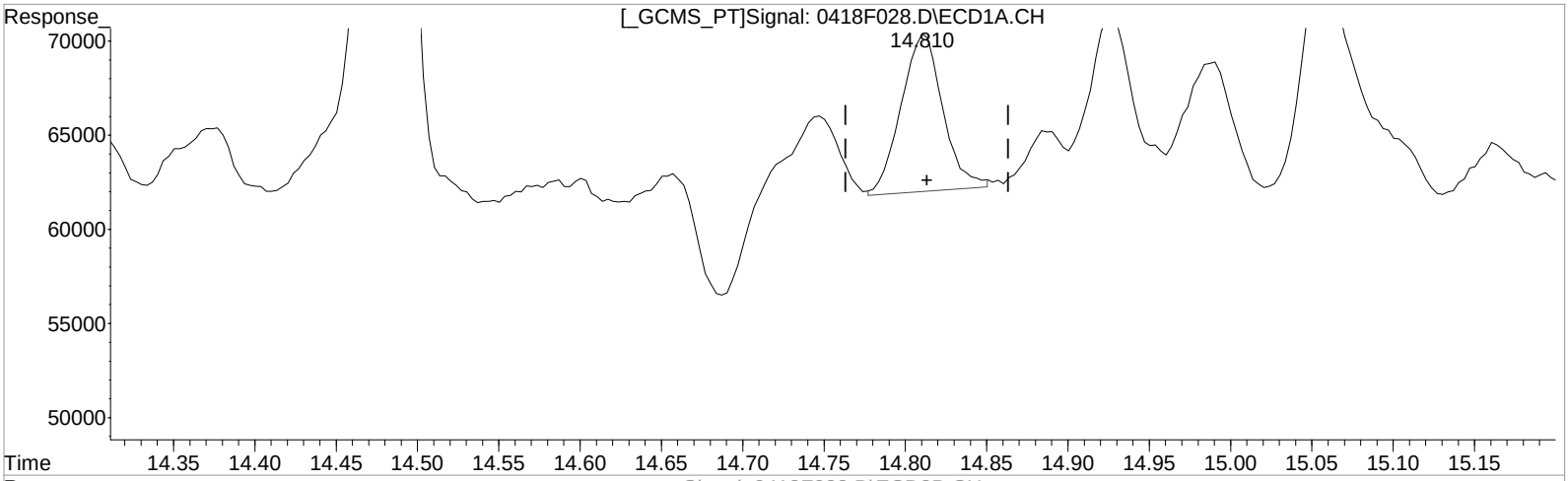
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.810min 0.890 ug/L m

response 14903

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.544min 5.123 ug/L

response 303680

(+) = Expected Retention Time

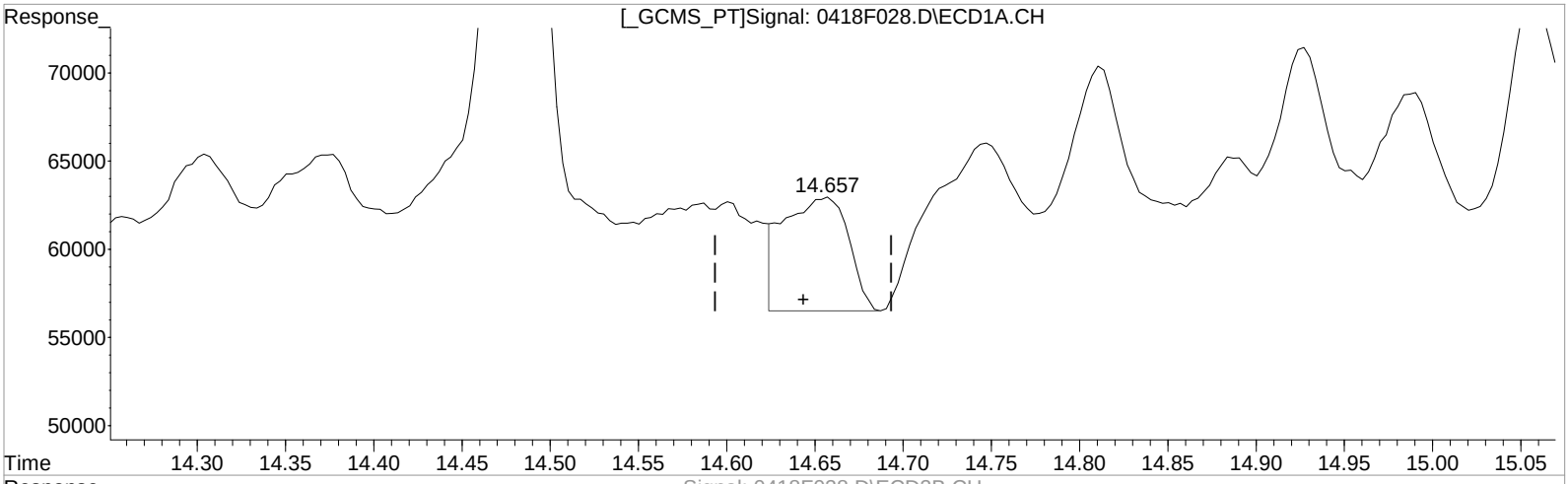
Quantitation Report (Qedit)

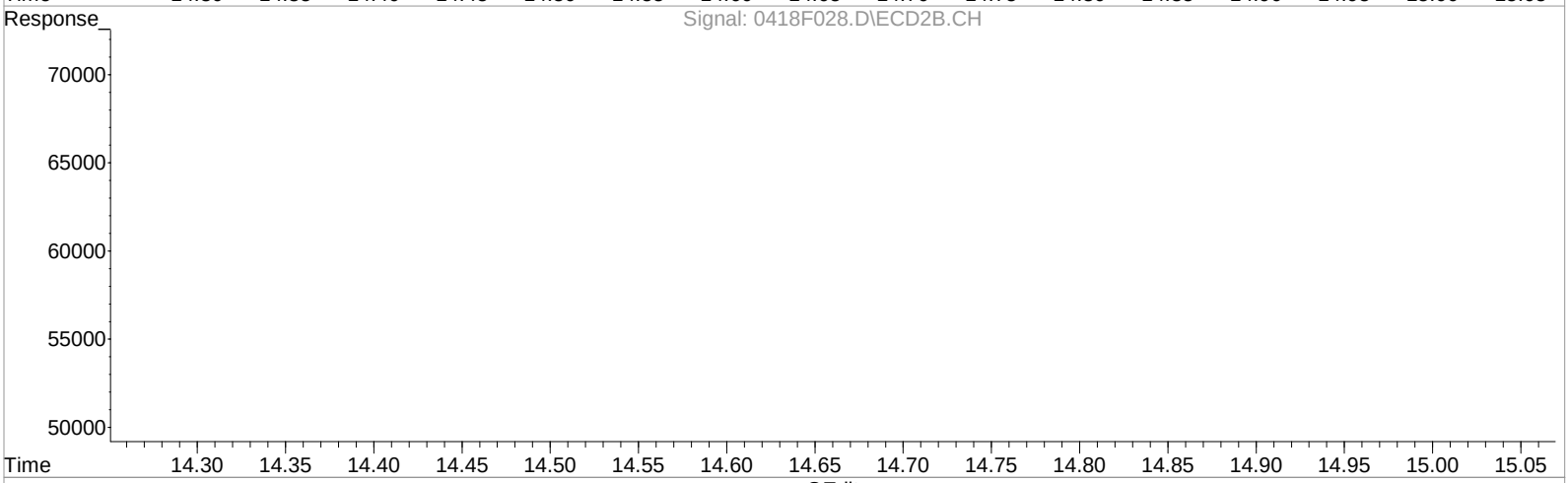
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.657min 1.243 ug/L

response 16287

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.394min 1.501 ug/L

response 74581

(+) = Expected Retention Time

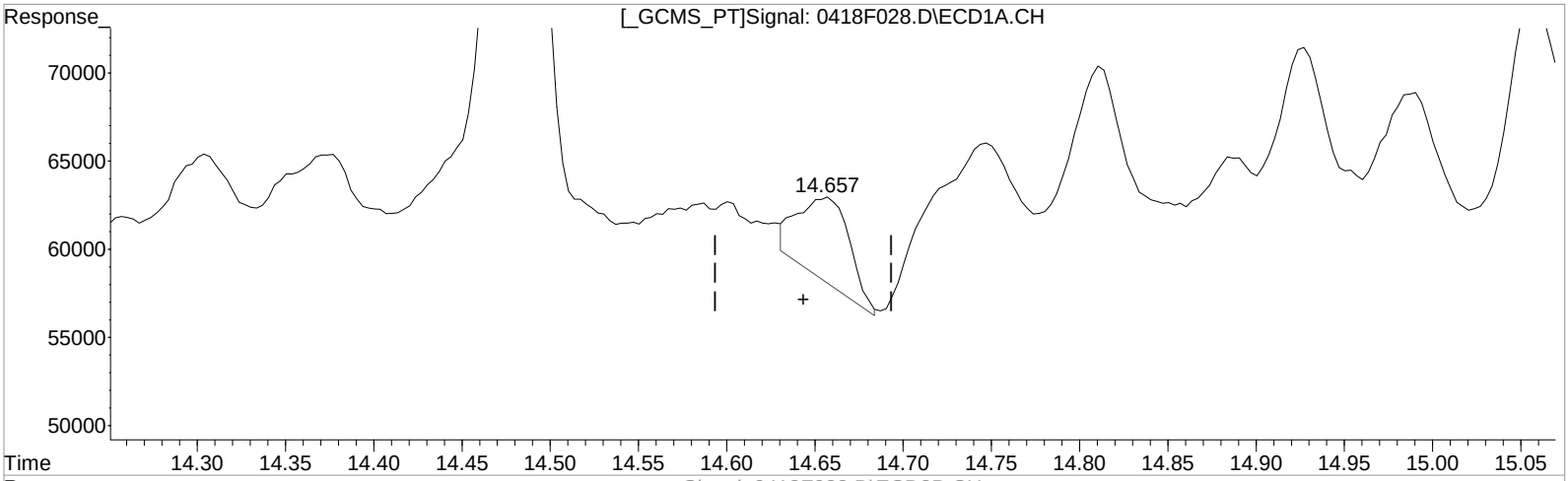
Quantitation Report (Qedit)

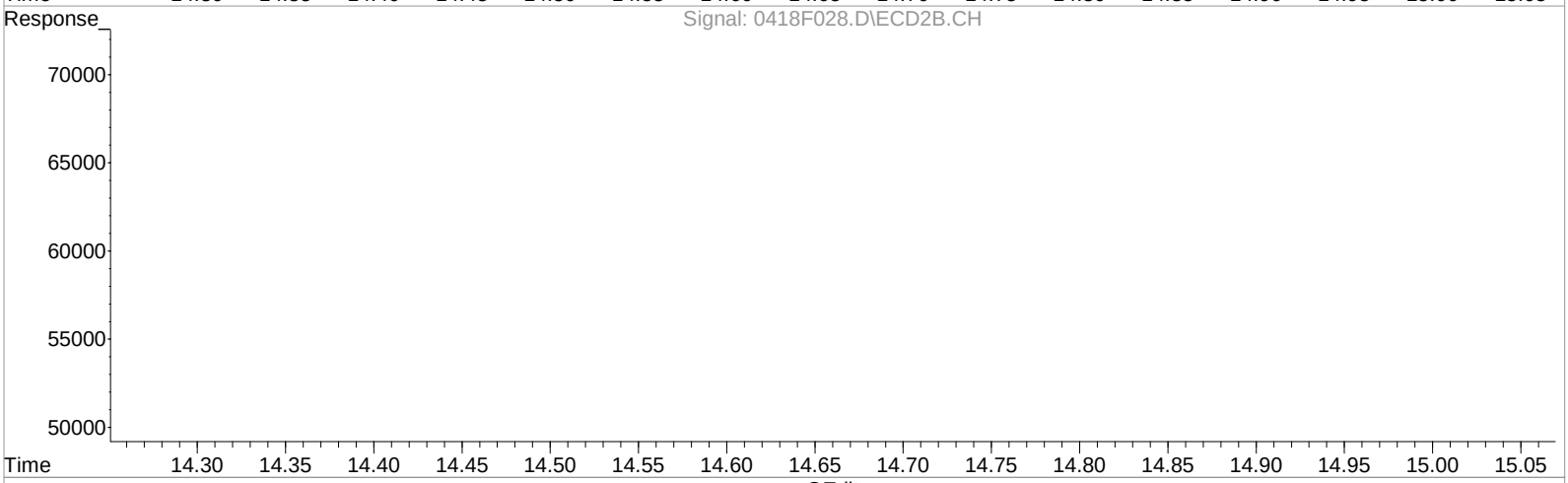
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.657min 0.708 ug/L m

response 9272

Manual Integration:

After

Baseline correction

04/21/20

(19) 4,4'-DDD #2

13.394min 1.501 ug/L

response 74581

(+) = Expected Retention Time

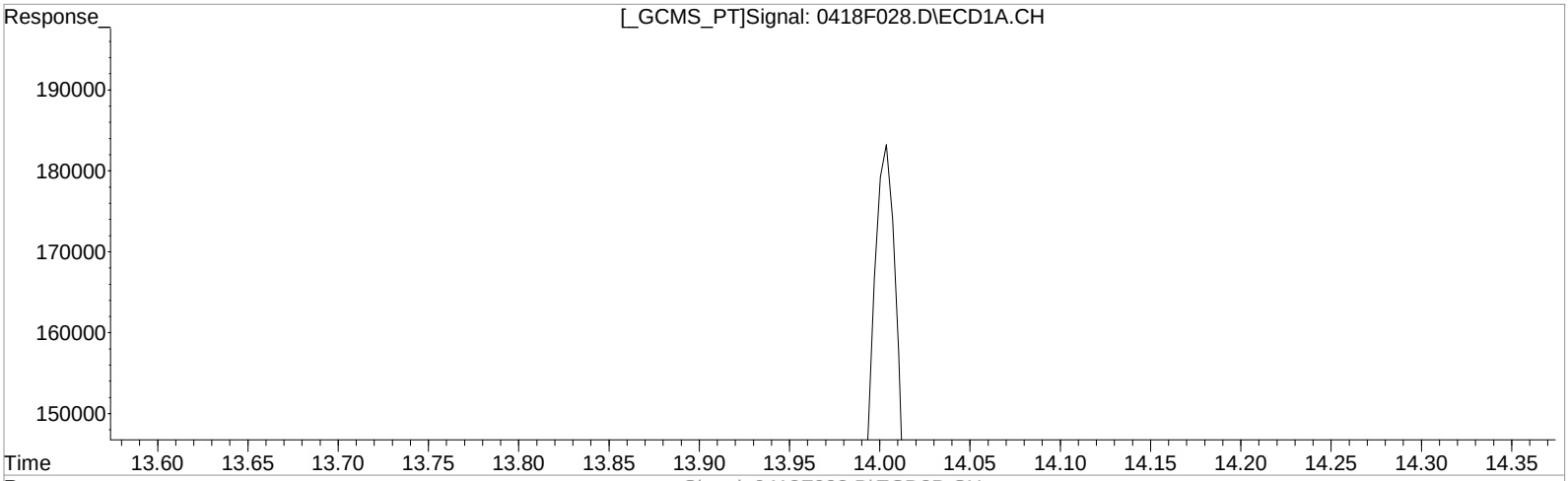
Quantitation Report (Qedit)

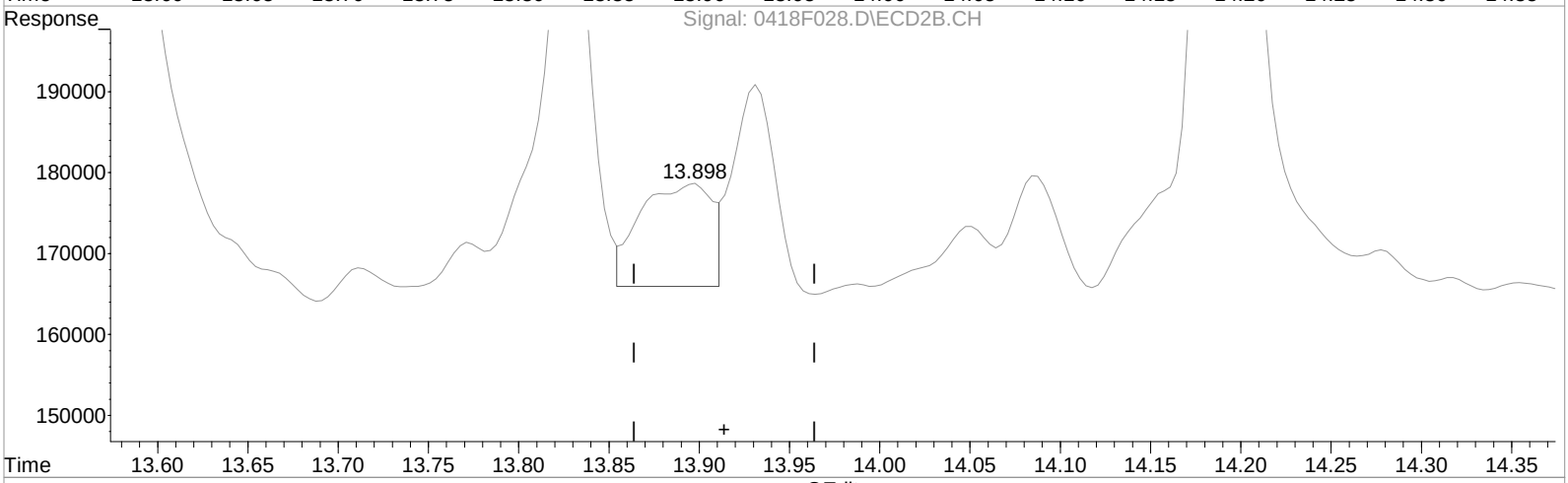
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

14.990min 0.910 ug/L

response 13207

Manual Integration:

Before

04/21/20

(20) Endrin Aldehyde #2

13.898min 0.727 ug/L

response 35681

(+) = Expected Retention Time

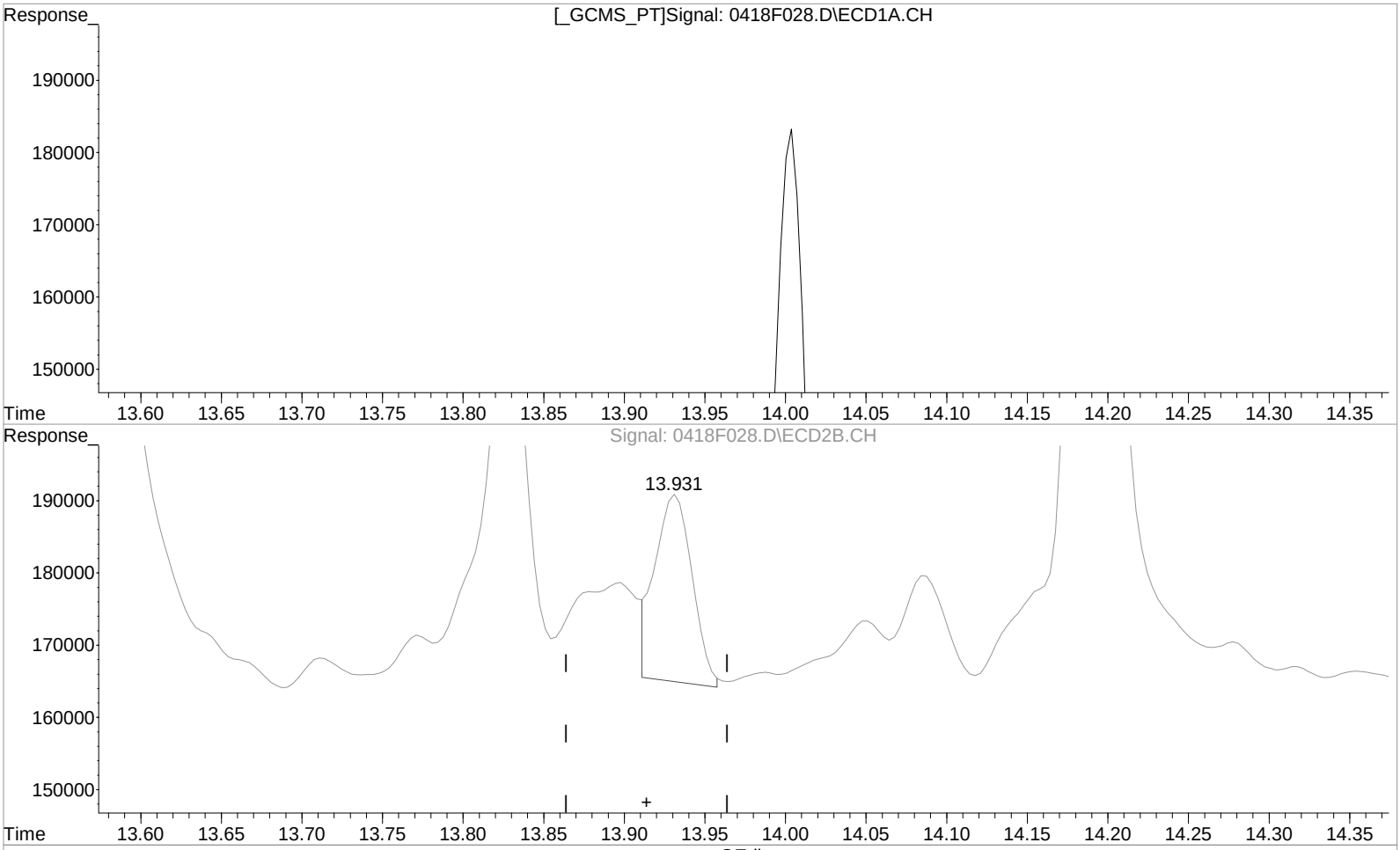
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.990min 0.910 ug/L

response 13207

Manual Integration:

After

WRT

04/21/20

(20) Endrin Aldehyde #2

13.931min 0.837 ug/L m

response 41097

(+) = Expected Retention Time

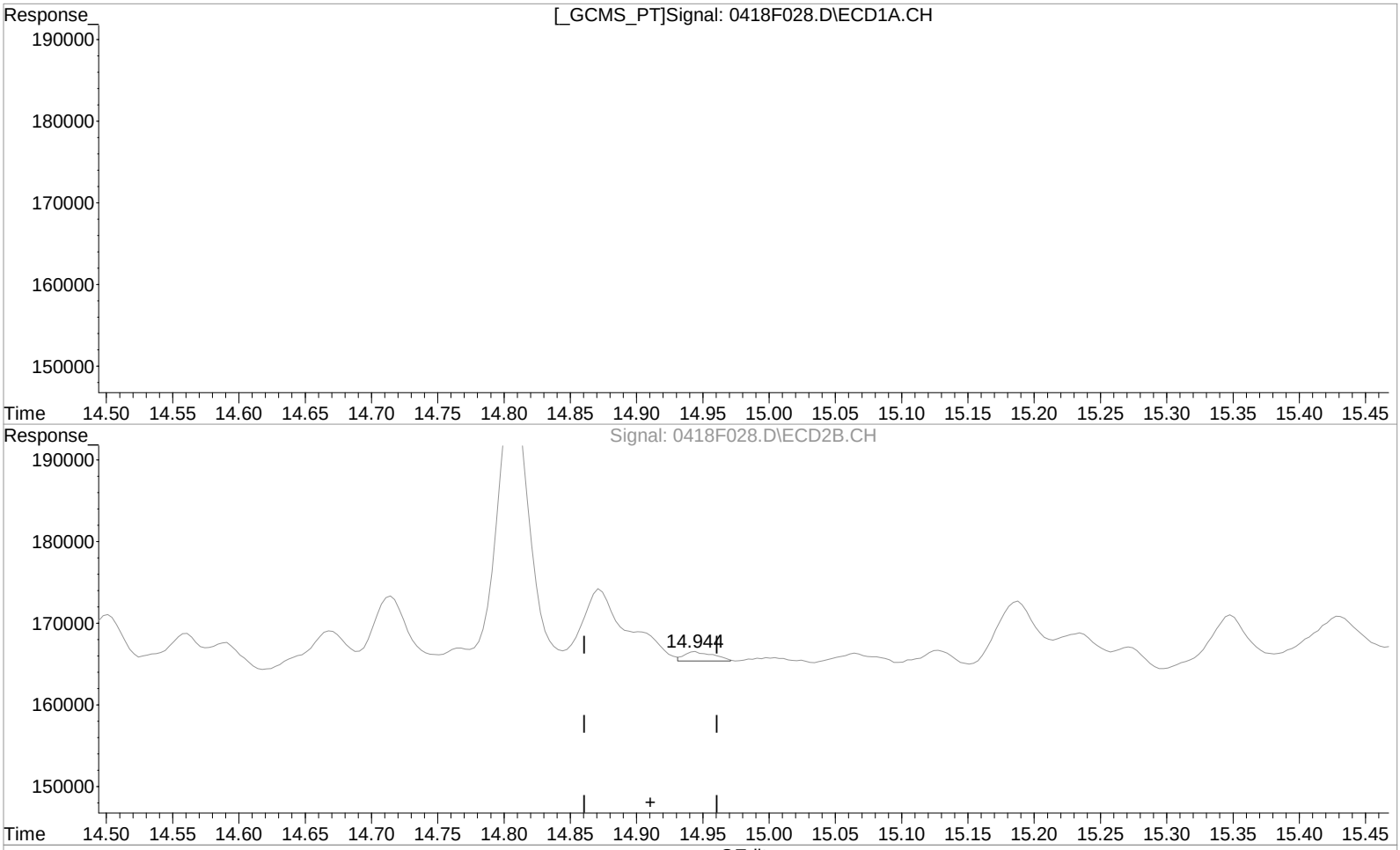
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(24) Methoxychlor

15.880min 10.421 ug/L

response 87008

Manual Integration:

Before

04/21/20

(24) Methoxychlor #2

14.944min 0.064 ug/L

response 1697

(+) = Expected Retention Time

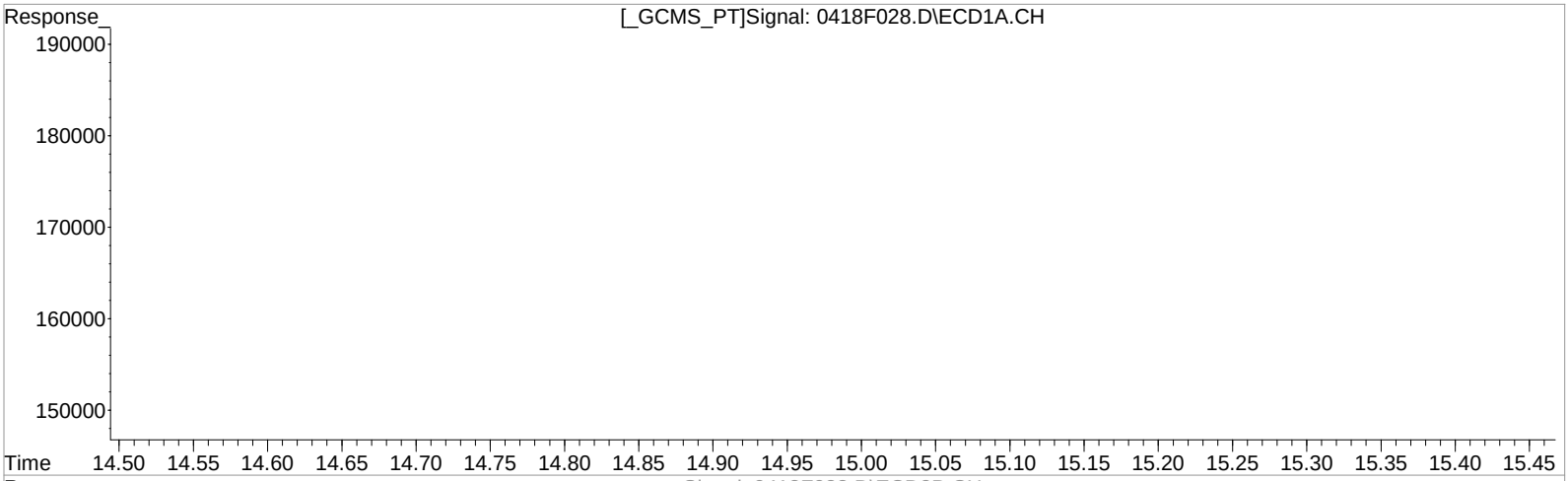
Quantitation Report (Qedit)

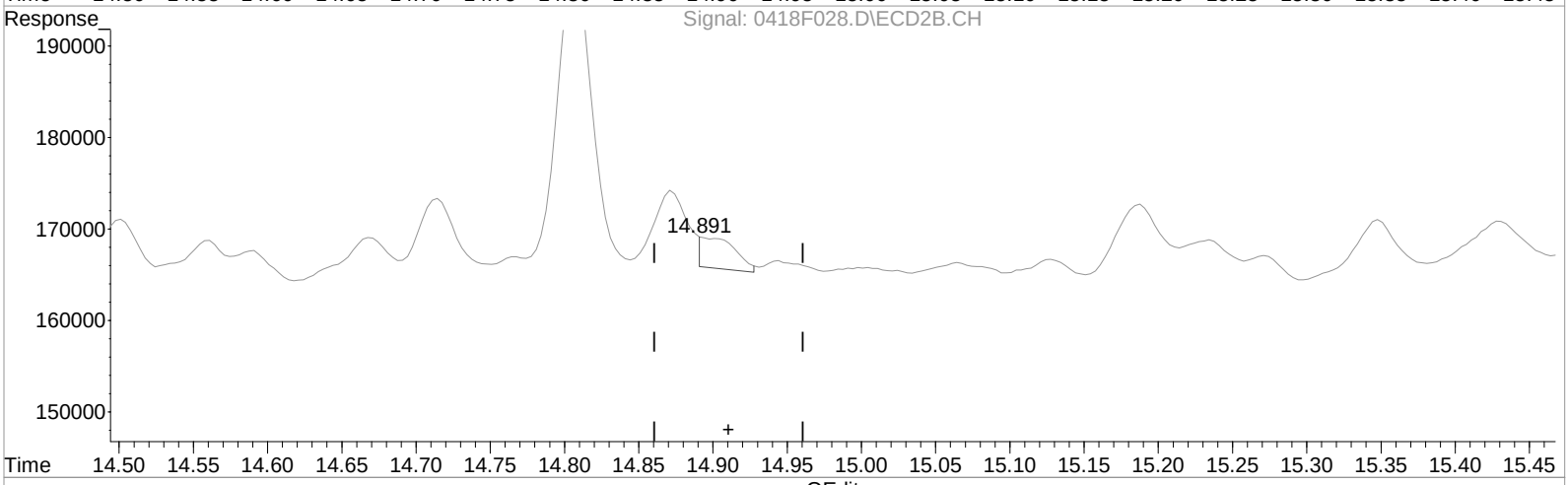
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.880min 10.421 ug/L

response 87008

Manual Integration:

After

WRT

04/21/20

(24) Methoxychlor #2

14.891min 0.193 ug/L m

response 5138

(+) = Expected Retention Time

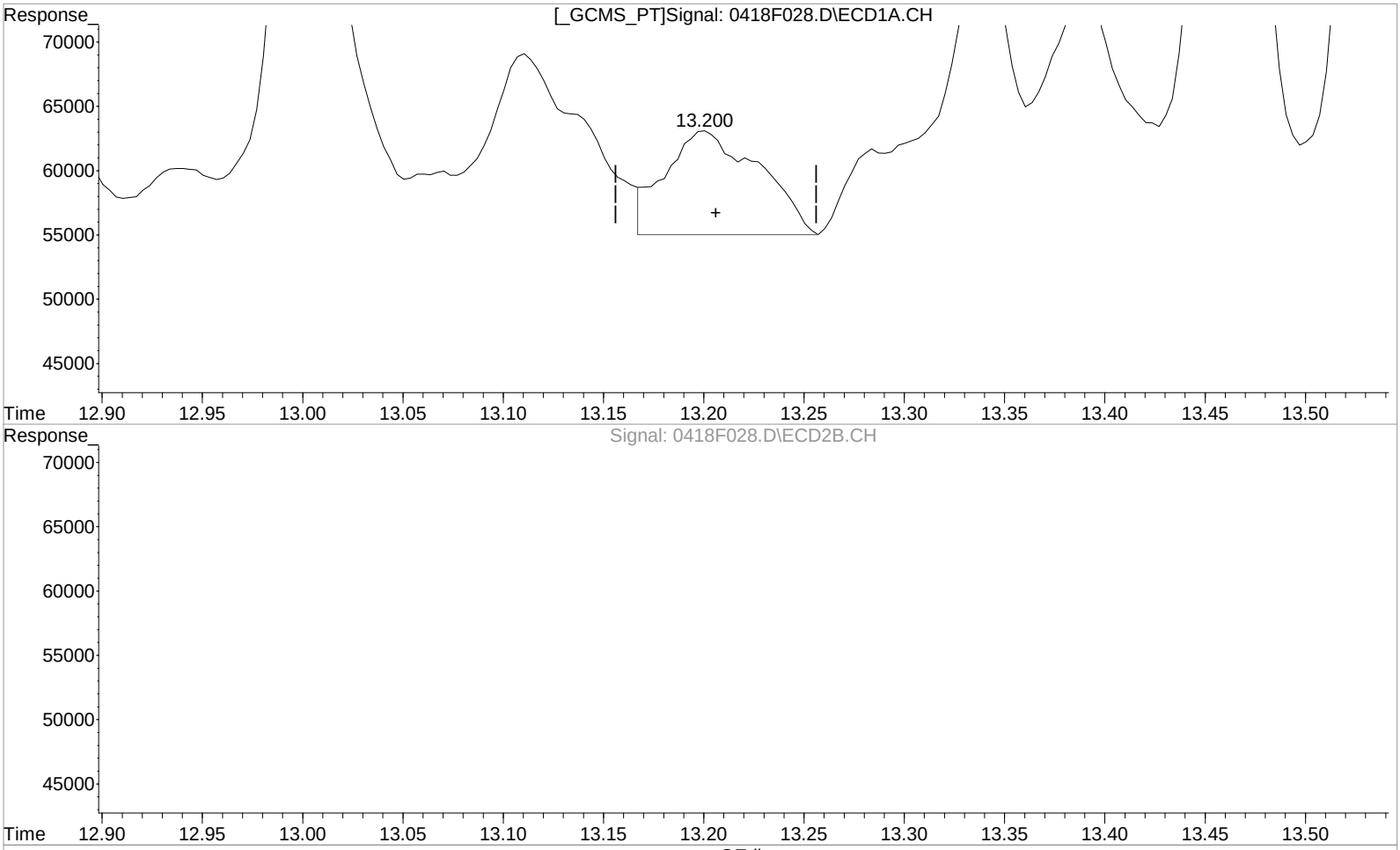
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(25) 2,4'-DDE

13.200min 2.218 ug/L

response 26267

Manual Integration:

Before

04/21/20

(25) 2,4'-DDE #2

12.021min 1.245 ug/L

response 53940

(+) = Expected Retention Time

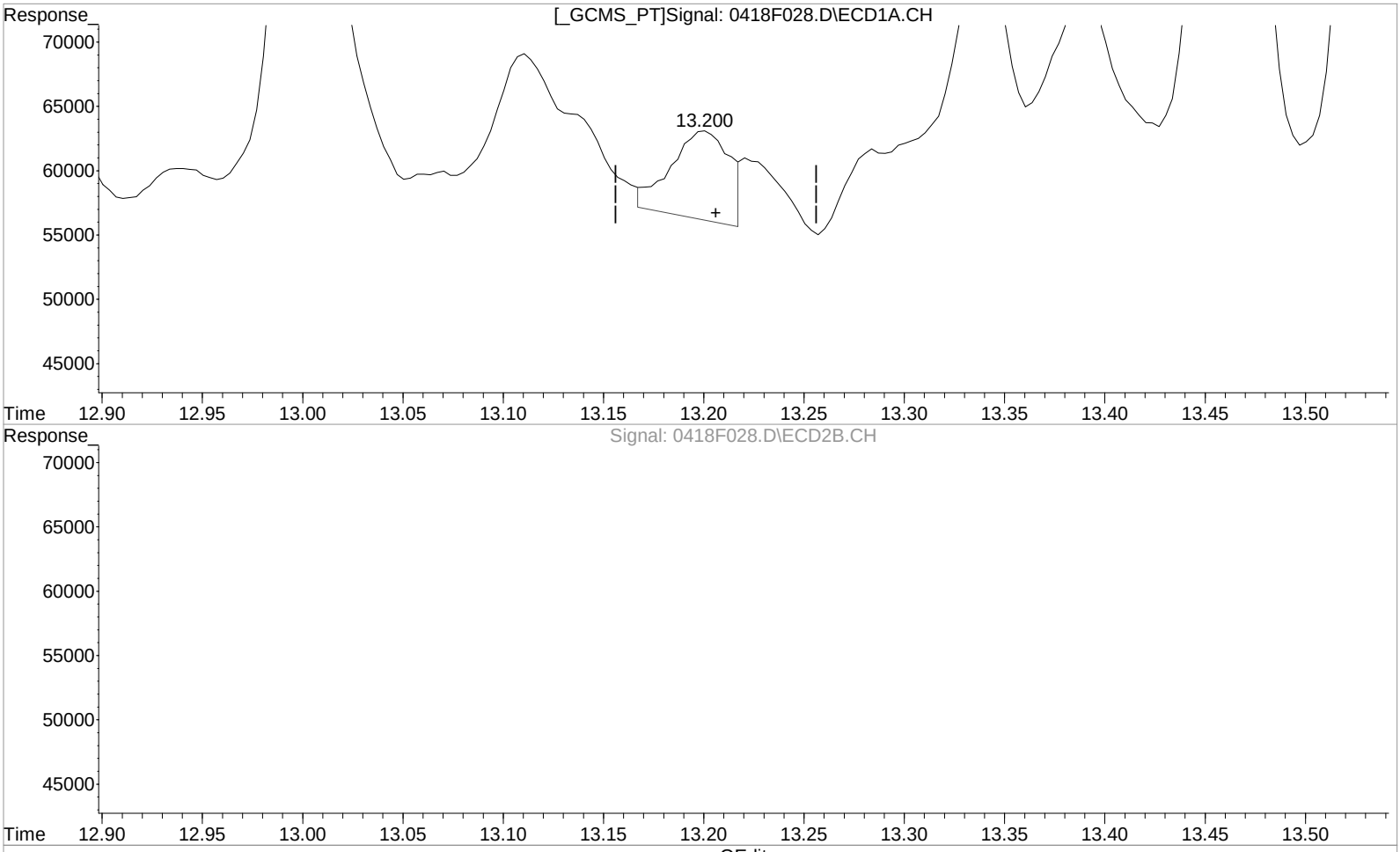
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(25) 2,4'-DDE

13.200min 1.184 ug/L m

response 14018

Manual Integration:

After

Shoulder

04/21/20

(25) 2,4'-DDE #2

12.021min 1.245 ug/L

response 53940

(+) = Expected Retention Time

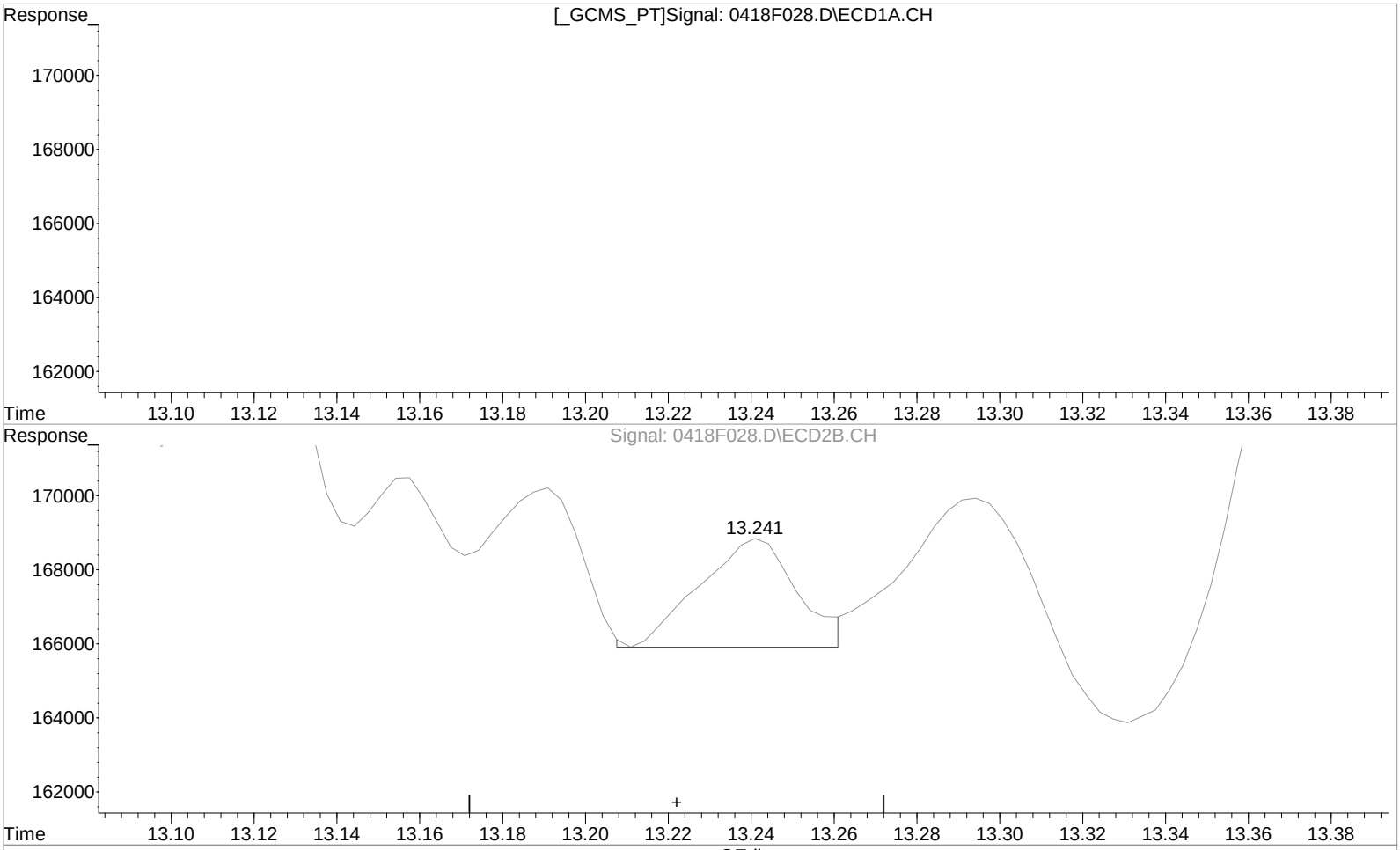
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(27) 2,4'-DDT

14.480min 8.417 ug/L

response 100152

Manual Integration:

Before

04/21/20

(27) 2,4'-DDT #2

13.241min 0.117 ug/L

response 4766

(+) = Expected Retention Time

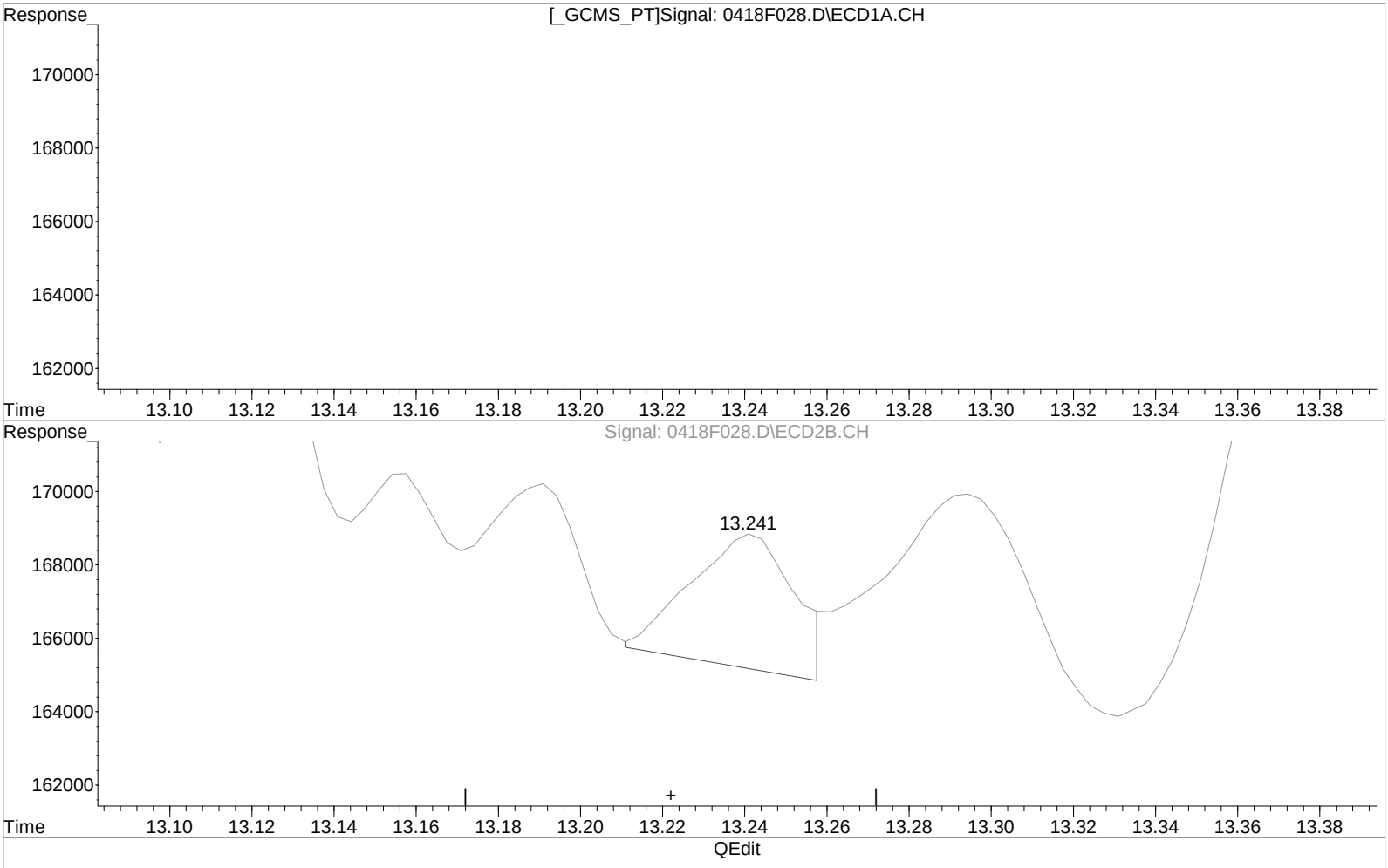
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(27) 2,4'-DDT

14.480min 8.417 ug/L

response 100152

Manual Integration:

After

Baseline correction

04/21/20

(27) 2,4'-DDT #2

13.241min 0.155 ug/L m

response 6299

(+) = Expected Retention Time

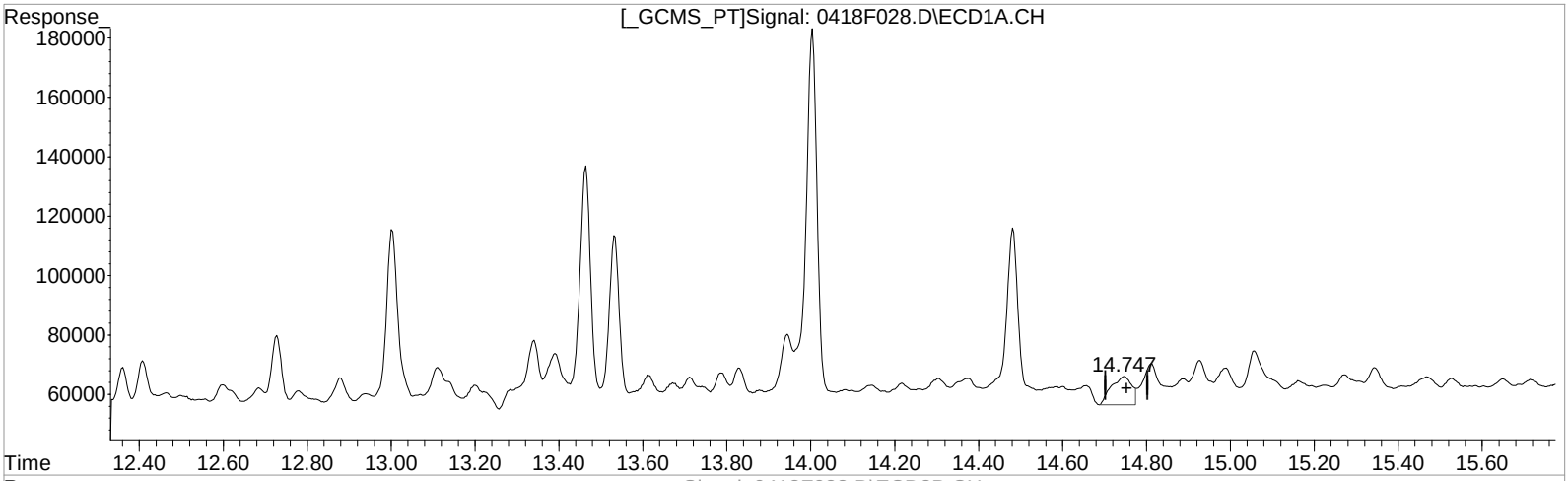
Quantitation Report (Qedit)

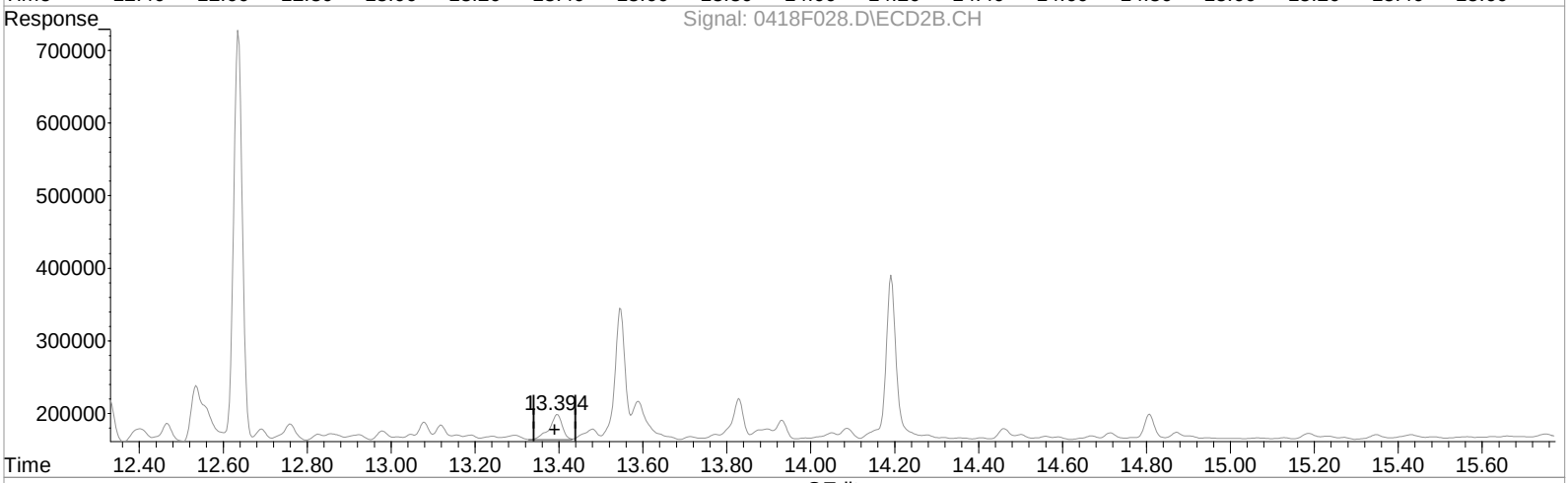
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.747min 180.538 ug/L

response 32572

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.394min 71.519 ug/L

response 74581

(+) = Expected Retention Time

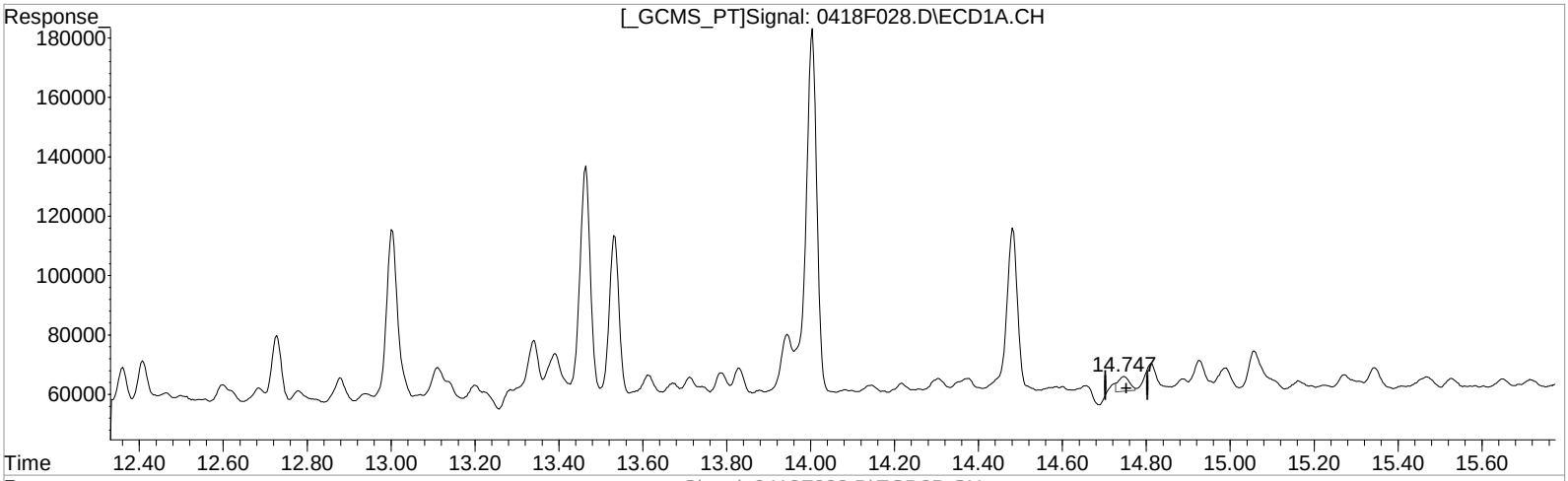
Quantitation Report (Qedit)

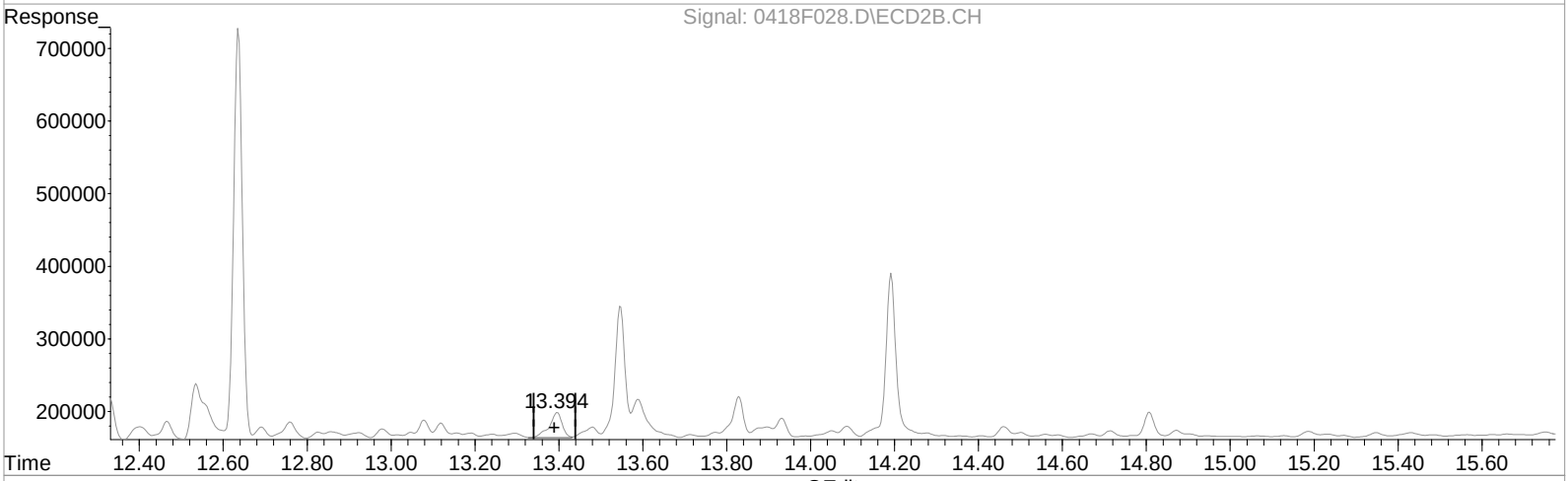
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.747min 50.888 ug/L m

response 9181

Manual Integration:

After

Baseline correction

04/21/20

(30) Toxaphene #2

13.394min 71.519 ug/L

response 74581

(+) = Expected Retention Time

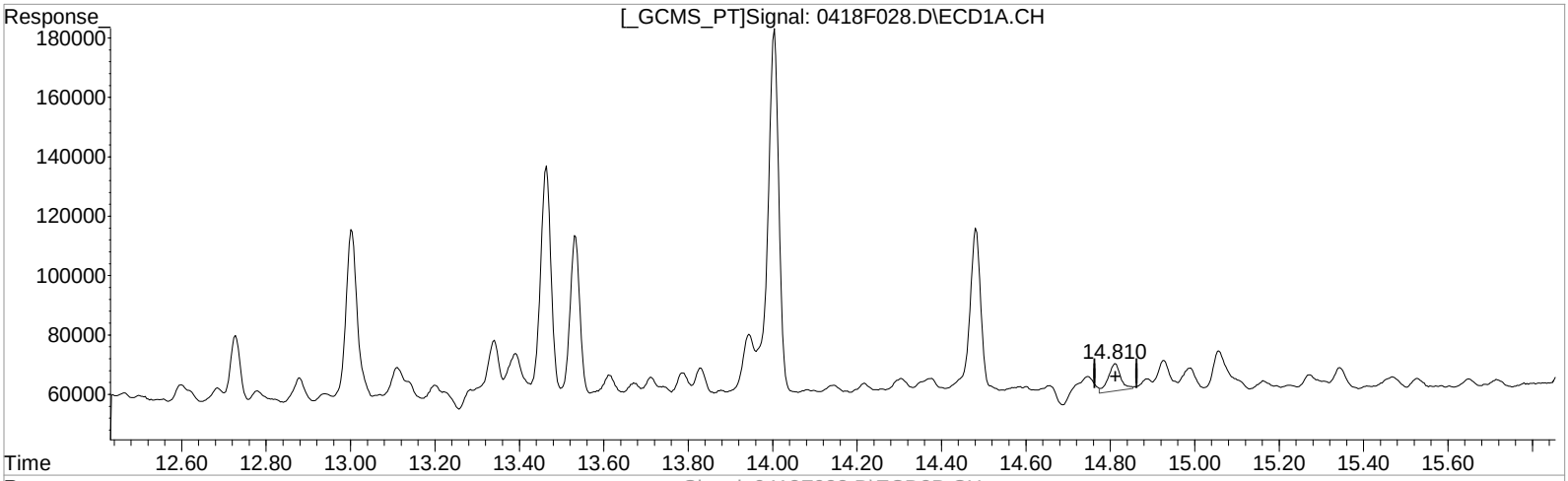
Quantitation Report (Qedit)

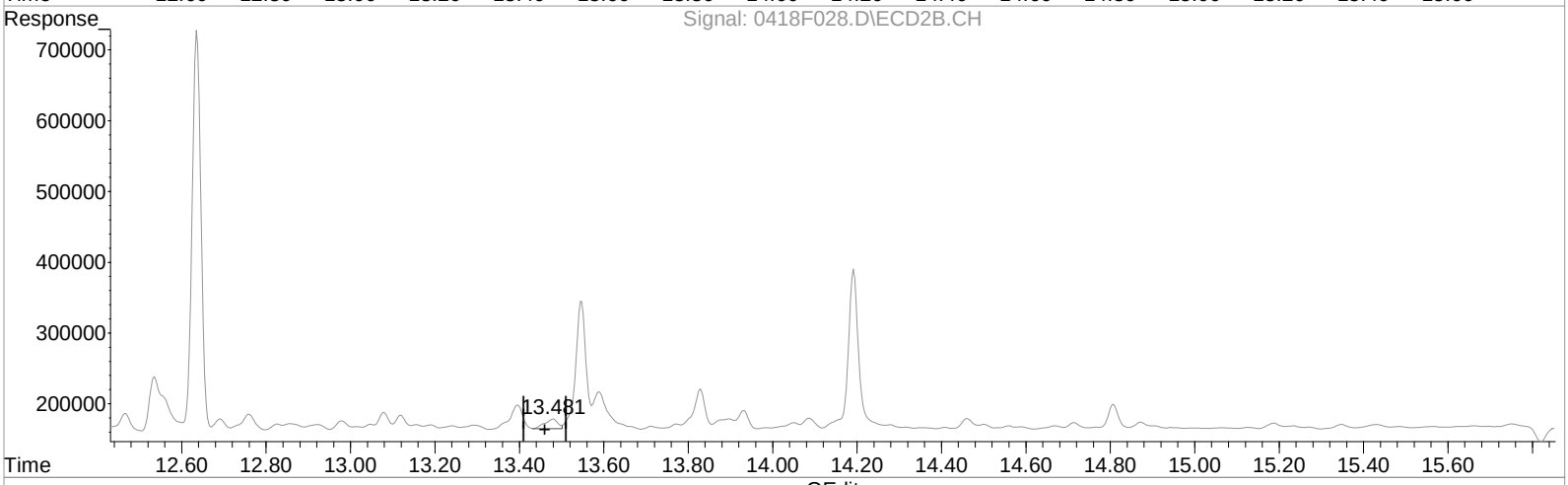
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.810min 115.877 ug/L

response 18910

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.481min 38.200 ug/L

response 30648

(+) = Expected Retention Time

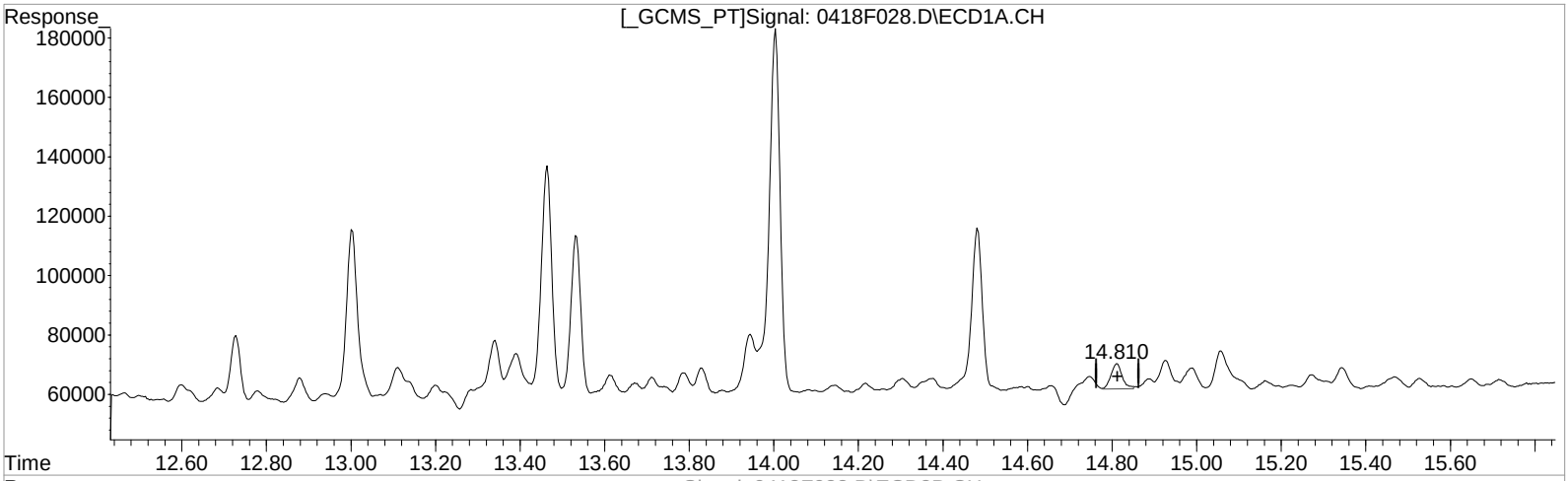
Quantitation Report (Qedit)

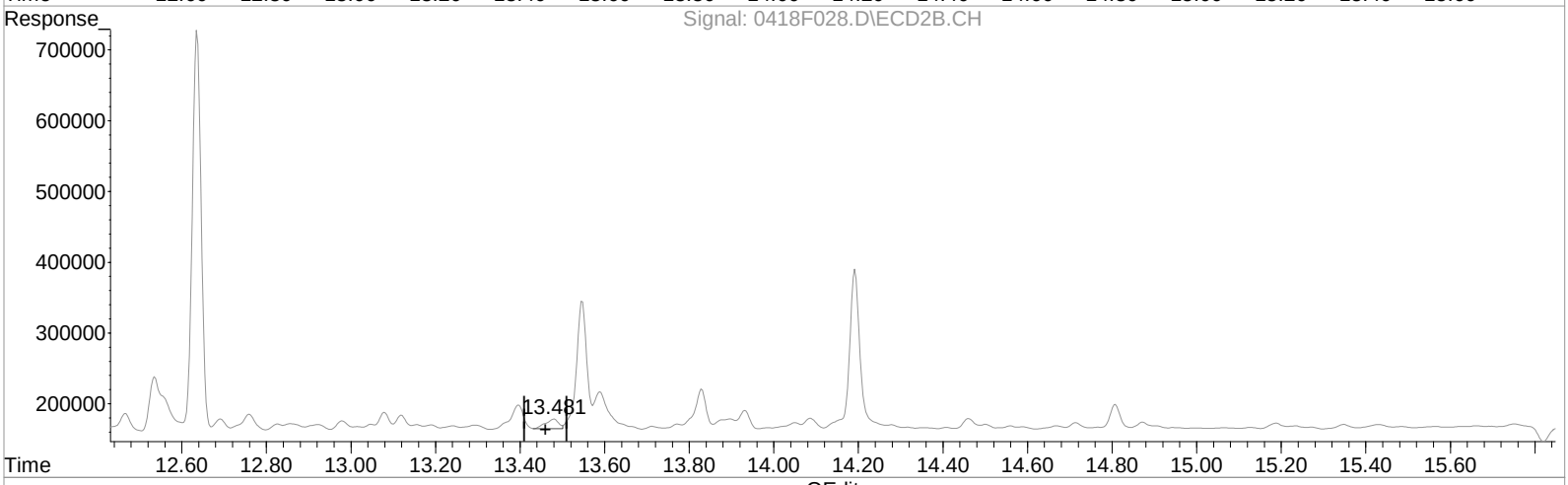
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.810min 96.648 ug/L m

response 15772

(31) Toxaphene {2} #2

13.481min 38.200 ug/L

response 30648

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

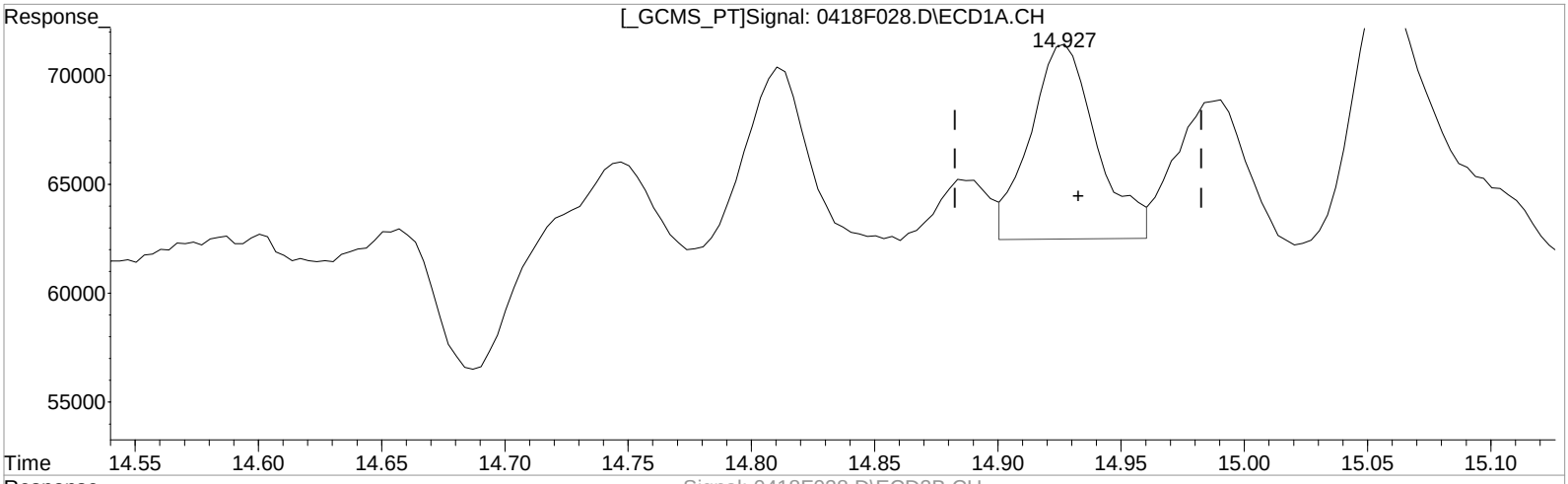
Quantitation Report (Qedit)

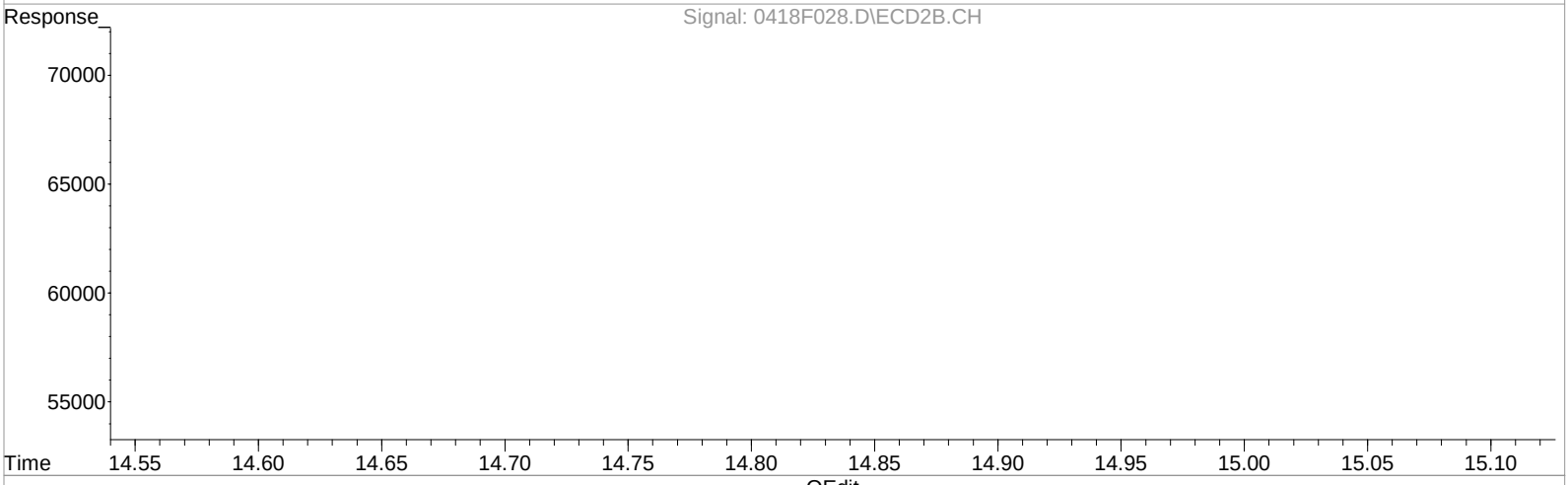
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.927min 51.520 ug/L

response 16753

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.588min 126.903 ug/L

response 128043

(+) = Expected Retention Time

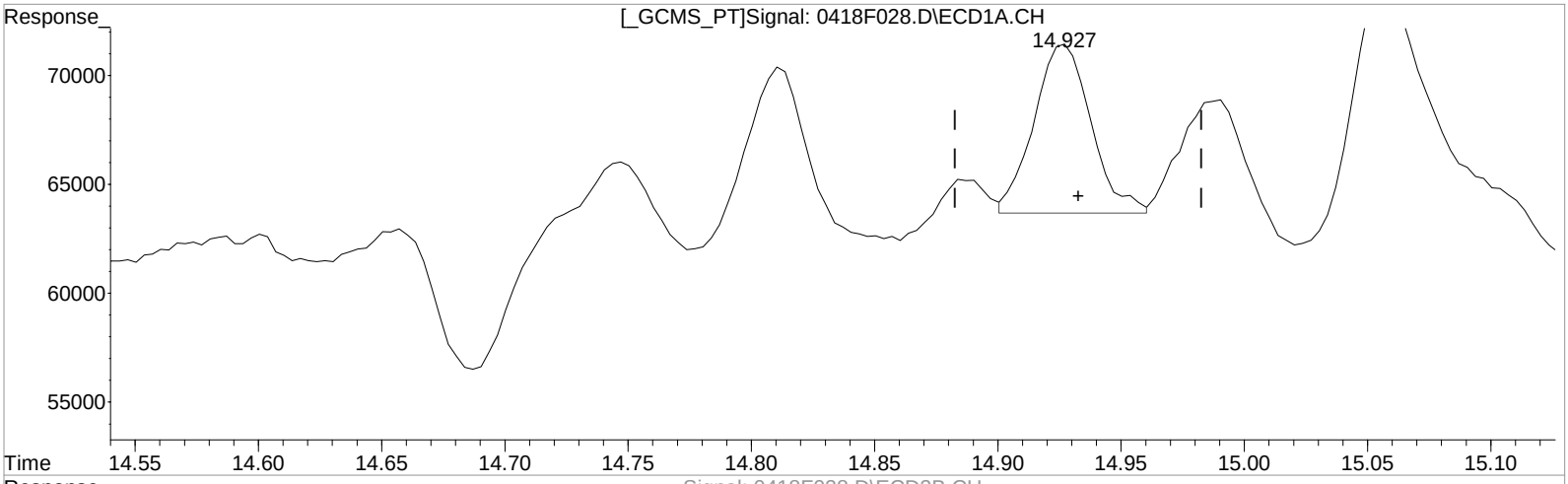
Quantitation Report (Qedit)

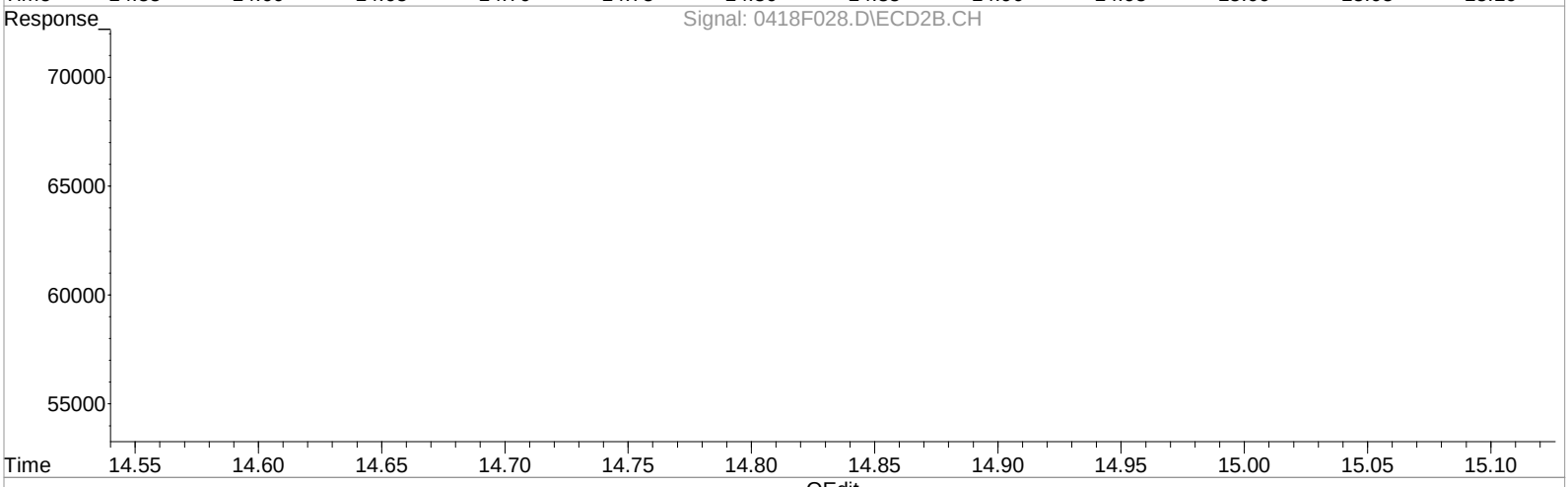
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.927min 38.429 ug/L m

response 12496

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.588min 126.903 ug/L

response 128043

(+) = Expected Retention Time

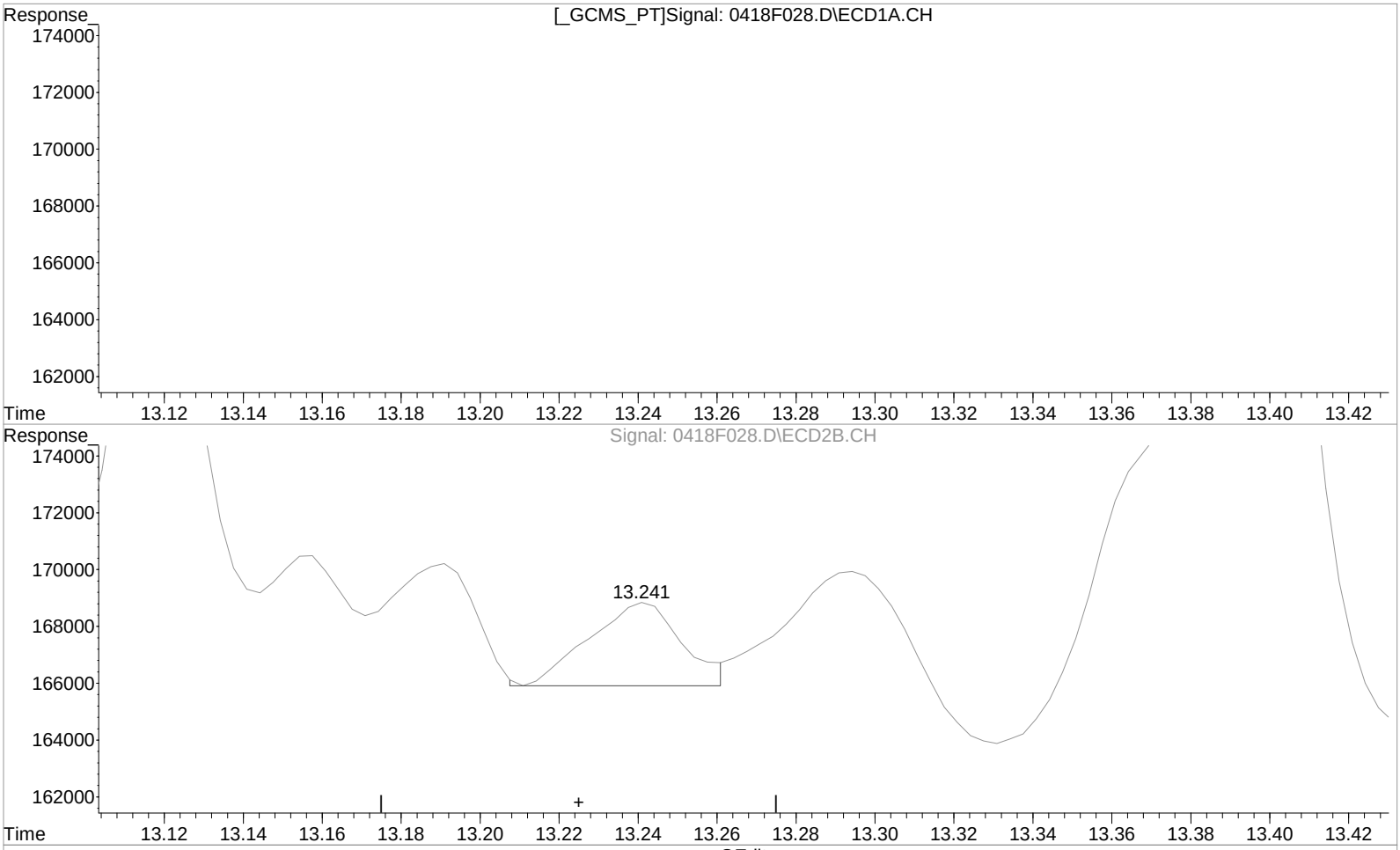
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(46) cis-Nonachlor

14.657min 0.886 ug/L

response 16287

Manual Integration:

Before

04/21/20

(46) cis-Nonachlor #2

13.241min 0.069 ug/L

response 4766

(+) = Expected Retention Time

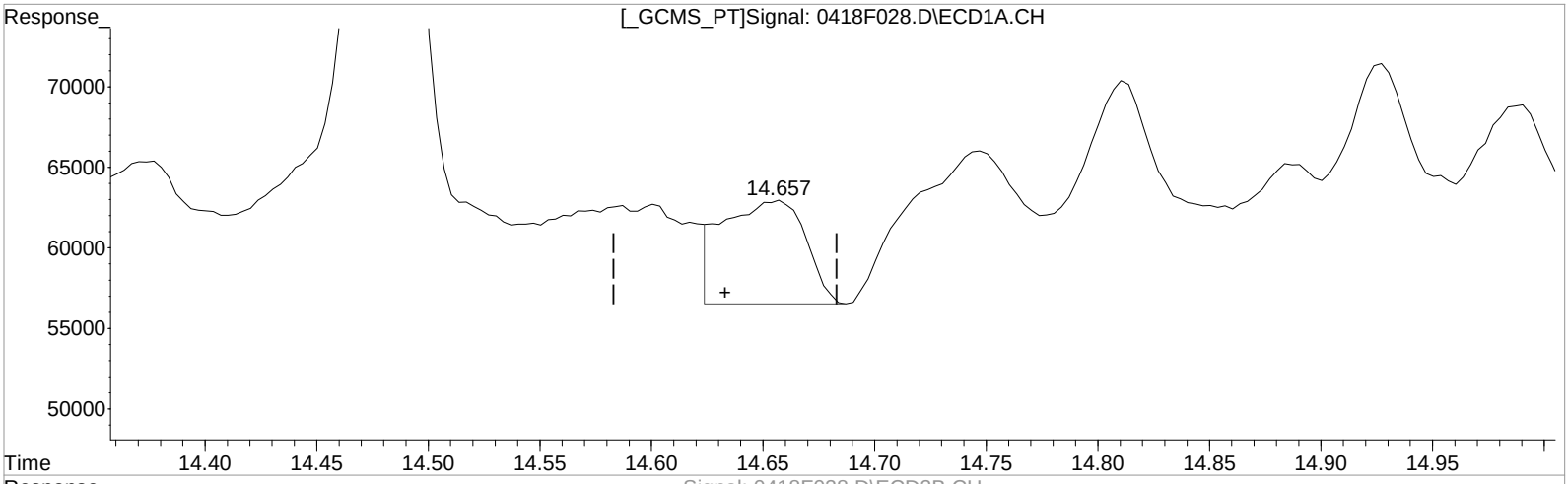
Quantitation Report (Qedit)

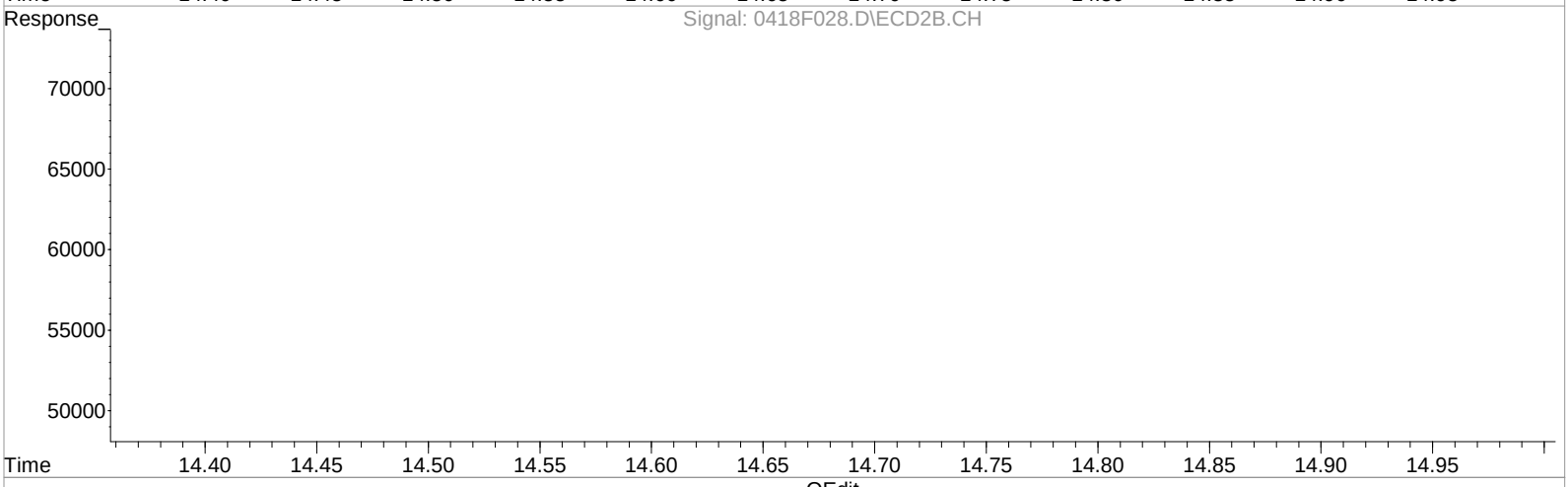
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.657min 0.886 ug/L

response 16287

Manual Integration:

Before

04/21/20

(46) cis-Nonachlor #2

13.241min 0.080 ug/L m

response 5527

(+) = Expected Retention Time

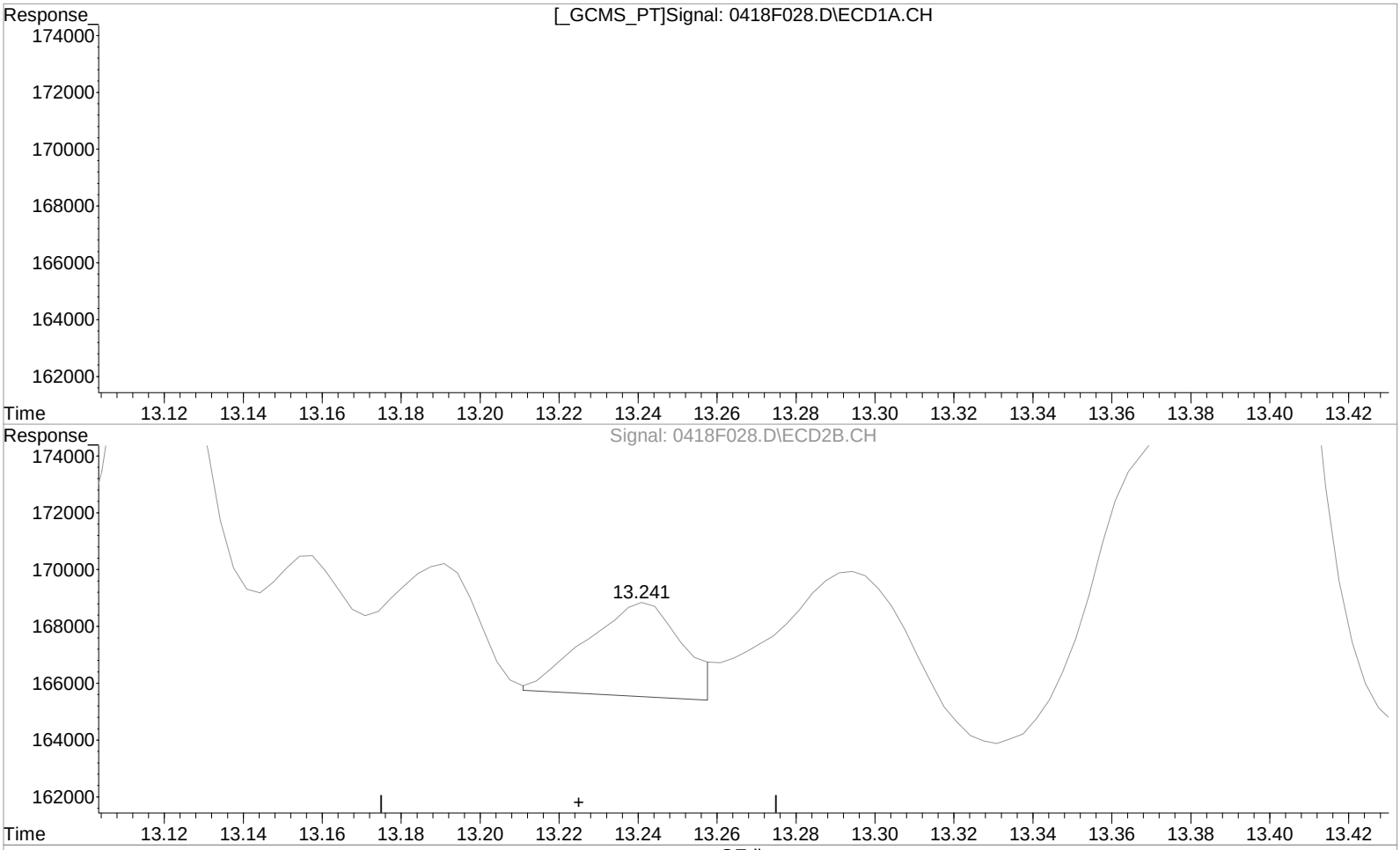
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(46) cis-Nonachlor

14.657min 0.886 ug/L

response 16287

Manual Integration:

After

Baseline correction

04/21/20

(46) cis-Nonachlor #2

13.241min 0.080 ug/L m

response 5527

(+) = Expected Retention Time

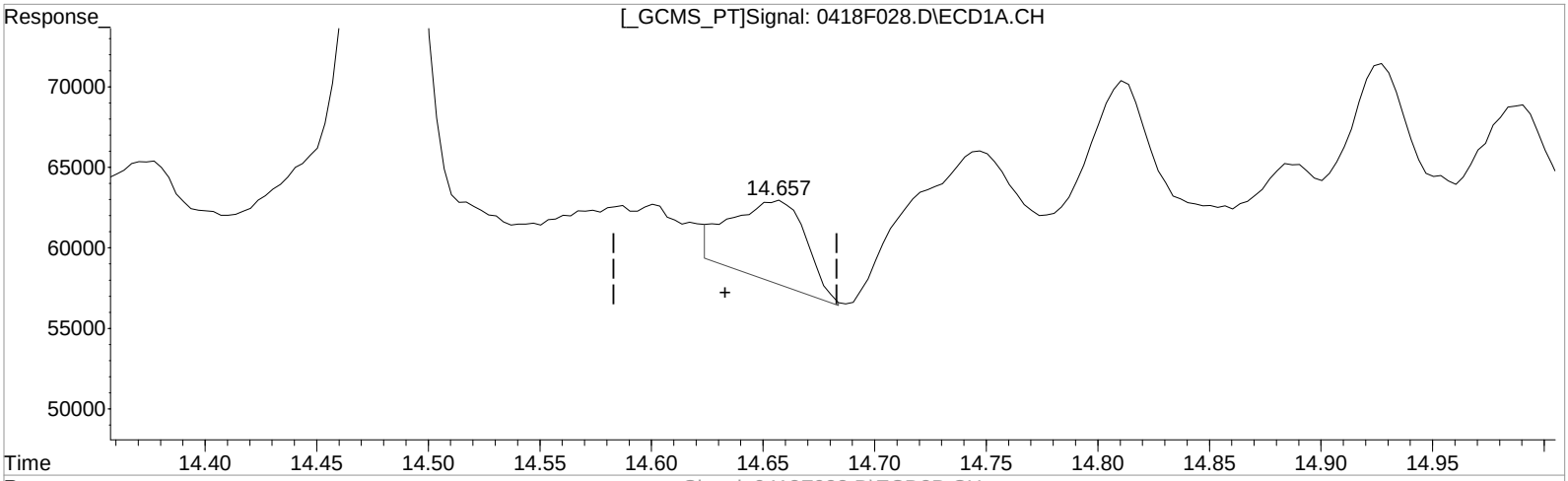
Quantitation Report (Qedit)

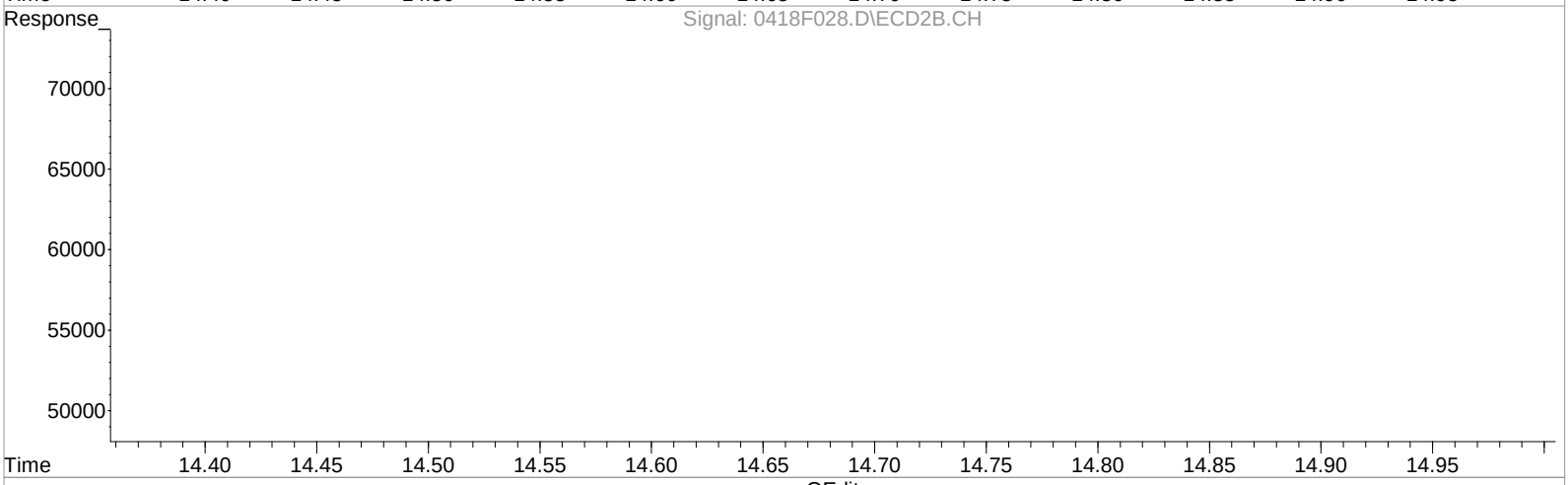
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.657min 0.617 ug/L m

response 11348

Manual Integration:

After

Baseline correction

04/21/20

(46) cis-Nonachlor #2

13.241min 0.080 ug/L m

response 5527

(+) = Expected Retention Time

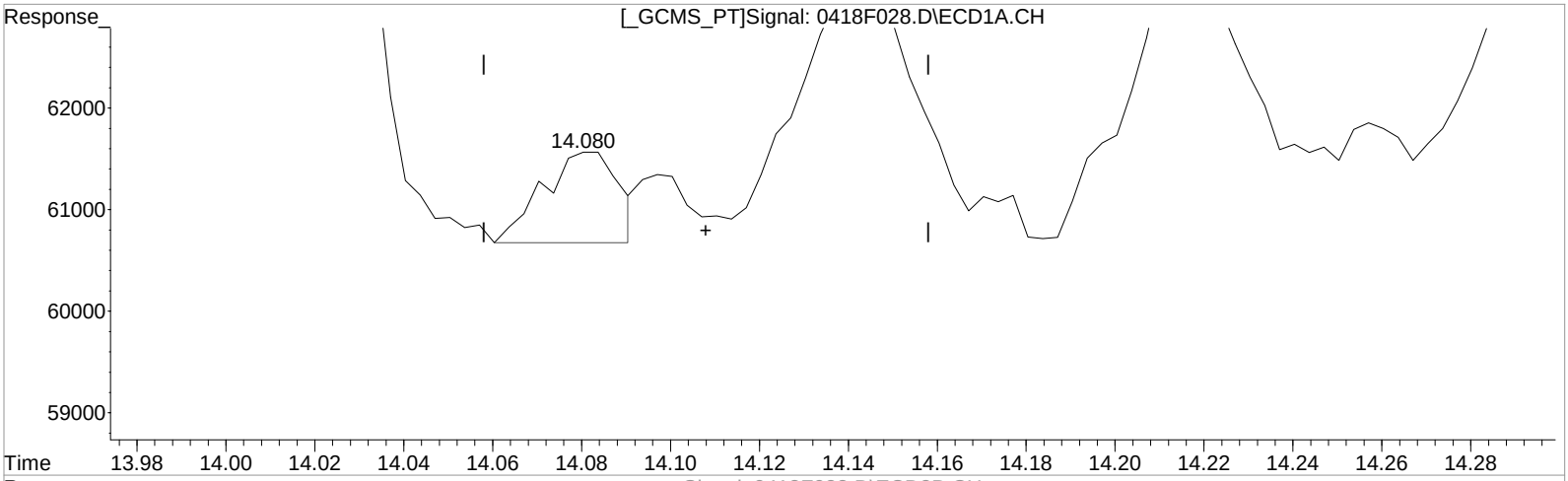
Quantitation Report (Qedit)

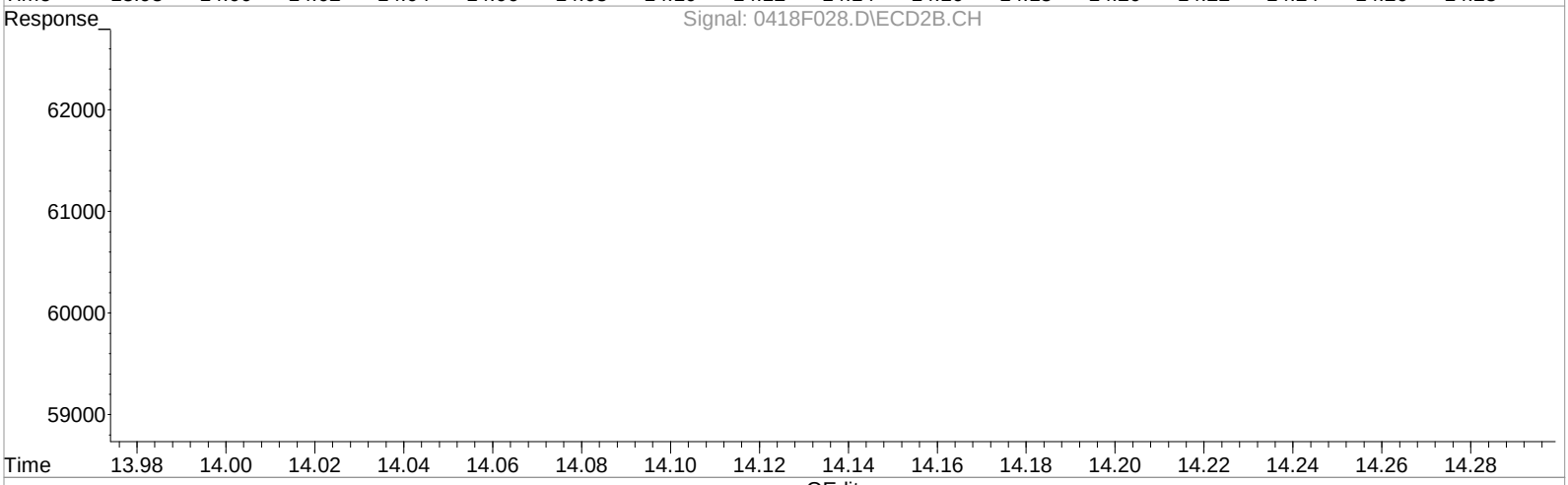
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(52) Perthane

14.080min 2.017 ug/L

response 1054

Manual Integration:

Before

04/21/20

(52) Perthane #2

12.921min 9.389 ug/L

response 16143

(+) = Expected Retention Time

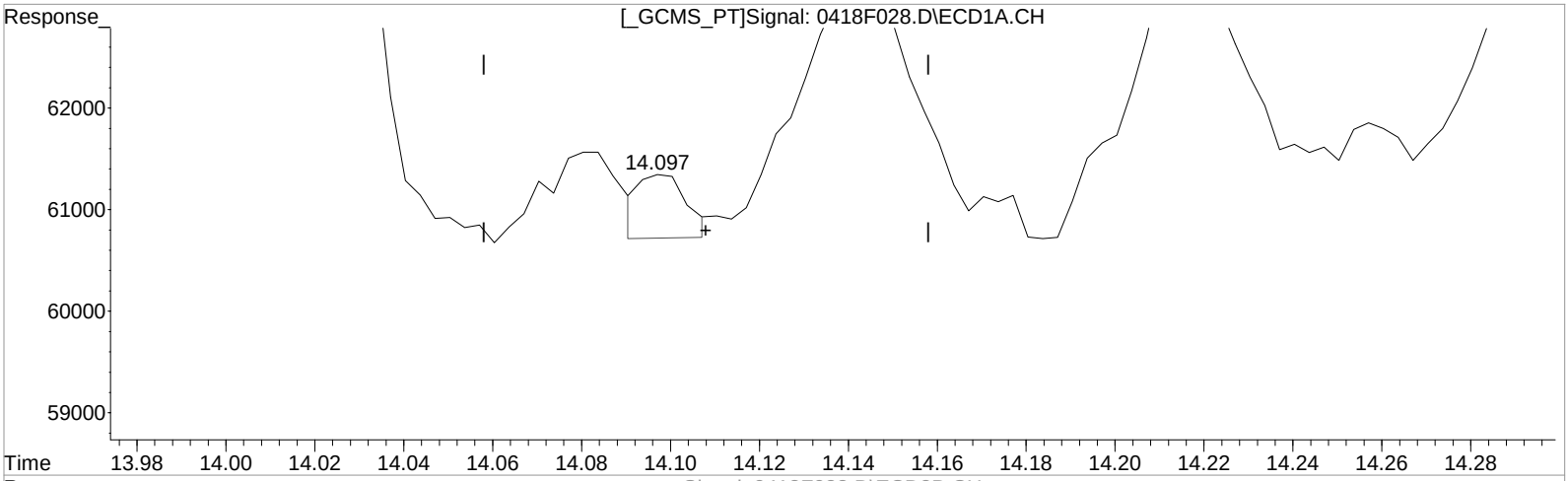
Quantitation Report (Qedit)

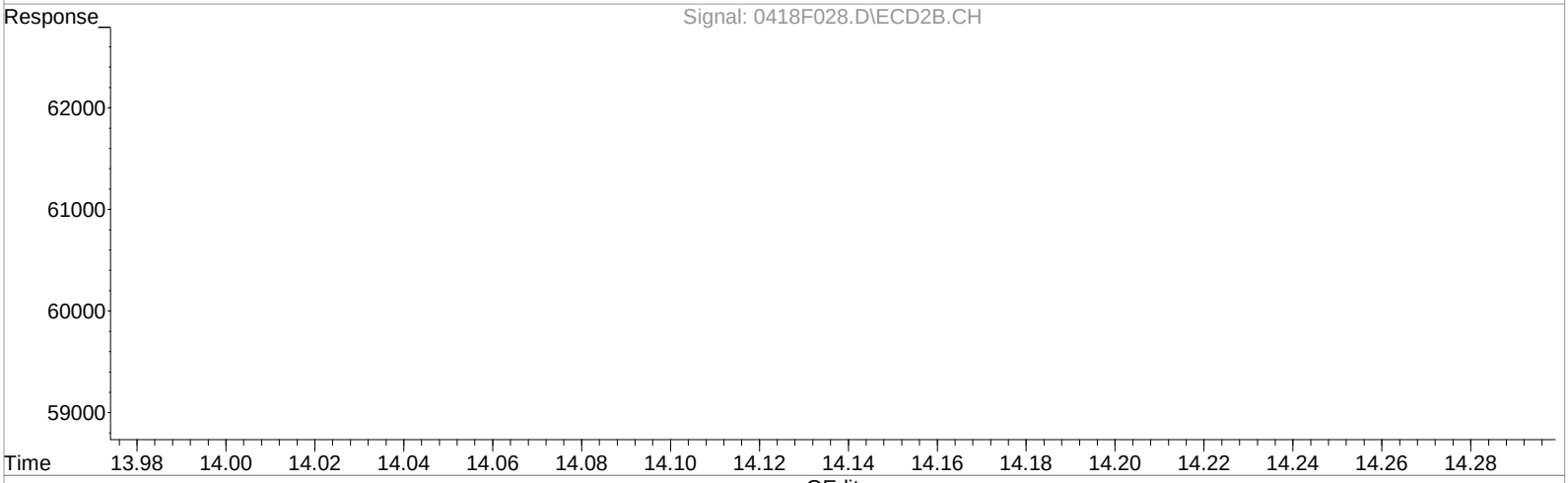
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F028.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 8:56 am Operator: LM
Sample : K2002652-010 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:01:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(52) Perthane

14.097min 0.894 ug/L m

response 467

Manual Integration:

After

Baseline correction

04/21/20

(52) Perthane #2

12.921min 9.389 ug/L

response 16143

(+) = Expected Retention Time

1st STM 04/25/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\042420B\0424F033.D\
Lab ID: K2002652-010
RunType: N/A
Matrix: Water

Date Acquired: 4/25/20 09:10:00
Batch ID: 678037
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	cis-Chlordane	13.52			NR
	trans-Chlordane	13.45			
	Chlordane {4}	13.45			
	Chlordane {5}	13.52			
	Chlordane {6}	13.60			
	4,4'-DDD	14.64			
	Endosulfan I	13.60			
	Endosulfan II	14.80			
	Endrin Aldehyde	14.98			
	Heptachlor Epoxide	12.87			
	cis-Nonachlor	14.64			
	trans-Nonachlor	13.60			
	Oxychlordane	12.87			
	Toxaphene {2}	14.80			
	Toxaphene {4}	14.98			SA
	1-Bromo-2-nitrobenzene	6.19			
	1-Bromo-2-nitrobenzene {2}	6.19			
	1-Bromo-2-nitrobenzene {3}	6.19			
	1-Bromo-2-nitrobenzene {4}	6.19			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.11			NR
	trans-Chlordane	11.96			
	Chlordane {4}	11.96			
	Chlordane {5}	12.01			

Primary Review: _____

Secondary Review: _____

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/25/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Chlordane {6}	12.11			NR
	4,4'-DDD	13.36			
	2,4'-DDE	12.01			
	2,4'-DDT	13.22			
	cis-Nonachlor	13.22			
	trans-Nonachlor	12.01			
	Toxaphene {1}	13.36			
	1-Bromo-2-nitrobenzene	5.47			SA
	1-Bromo-2-nitrobenzene {2}	5.47			
	1-Bromo-2-nitrobenzene {3}	5.47			
	1-Bromo-2-nitrobenzene {4}	5.47			

Primary Review: _____

Secondary Review: _____

1st SM 04/25/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\042420B\0424F033.D\	**Instrument:**	K-GC-23
Acqu Date:	4/25/20 09:10:00	**Vial:**	3
Run Type:	N/A	**Dilution:**	5
Lab ID:	K2002652-010	**Raw Units:**	ug/L

Bottle ID:	K2002652-010.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	678037	**Prep Lot:**	356225	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19	c	5.47	c	983482	4650614	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.19	c	5.47	c	983482	4650614	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.19	c	5.47	c	983482	4650614	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.66	17.06 +0.01	18568	68417	1.061	0.913	106	91	91	14 - 160	N
Tetrachloro-m-xylene	8.96	7.25	19330	76037	1.356	1.319	136	132	132	30 - 148	N

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.21 +0.01	10.50	1539	5088	0.098	0.069	2.5U	1.7U	3.9 U		N
alpha-BHC	9.79 -0.01	8.48 -0.01	1428	3202	0.087	0.043	2.2J	1.1U	1.3 U		N
beta-BHC	0.00	9.77 +0.01	0	5285	0.000	0.151	0U	3.8J	0.85 U		N
gamma-BHC (Lindane)	0.00	9.23	0	1502	0.000	0.021	0U	0.53U	3.0 U		N
Chlordane					17.128	23.377	430	580	**430**		N
Chlordane {1}	11.26	9.55	24185	90920	36.073	35.814	900	900			
Chlordane {2}	0.00	11.65	0	88731	0.000	51.251	0	1300			
Chlordane {3}	12.25	11.81	10695	30004	17.548	26.105	440	650			
Chlordane {4}	13.45 c	11.96 c	32101	62954	17.351	9.044	430	230		P	
Chlordane {5}	13.52 c	12.01 c	19578	20952	12.793	4.916	320	120	Dieldrin Only	P	
Chlordane {6}	13.60 c	12.11 c	2106	81042	1.875	13.132	47	330		i	
Dieldrin	13.99	12.62	49050	180920	3.023	2.648	76	66	**66**		Y
Heptachlor	0.00	9.92 +0.01	0	23668	0.000	0.325	0Ui	8.1Ui	3.1 Ui		N
Heptachlor Epoxide	12.87 -0.02	11.61 +0.03	3144	7407	0.190	0.103	4.8J	2.6J	**2.6** J	P	N
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	1.4 U		N
Toxaphene					24.113	16.4498	600	410J	**600**		N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/25/20
2nd TP 04/28/20

Data File:	J:\GC23\data\042420B\0424F033.D\	**Instrument:**	K-GC-23
Acqu Date:	4/25/20 09:10:00	**Vial:**	3
Run Type:	N/A	**Dilution:**	5
Lab ID:	K2002652-010	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.73		13.36	c	10965	6543	67.855	6.332	1700	160		i
Toxaphene {2}	14.80	c	13.47		4042	6933	27.654	8.720	690	220		i
Toxaphene {3}	14.91		13.58		3119	32633	10.709	27.566	270	690		P
Toxaphene {4}	14.98	c	0.00		2487	0	12.697	0.000	320	0		
Toxaphene {5}	15.33		13.92		2962	11878	15.870	21.338	400	530		
Toxaphene {6}	15.52		15.42		1168	5516	9.893	18.293	250	460		P

Prep Amount:	200 mL	**Dilution:**	5
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (Not Reviewed)

1st SM 04/25/20
2nd TP 04/28/20

Data File : J:\GC23\data\042420B\0424F033.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 9:10 am Operator: SM
Sample : K2002652-010@5X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 11:28:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.185	5.473	983482	4650614	100.000	100.000	
29)	1-Bromo-2...	6.185	5.473	983482	4650614	100.000	100.000	
36)	1-Bromo-2...	6.185	5.473	983482	4650614	100.000	100.000	
43)	1-Bromo-2...	6.185	5.473	983482	4650614	100.000	100.000	
	System Monitoring Compounds							
2) s	Tetrachlo...	8.959	7.253	19330	76037	1.356	1.319	
28) s	Decachlor...	18.662	17.056	18568	68417	1.061	0.913	
	Target Compounds							
3)	alpha-BHC	9.785	8.483	1428	3202	0.087	0.043	#
5)	beta-BHC	0.000	9.773	0	5285	N.D.	0.151	#
6)	gamma-BHC...	0.000	9.229	0	1502	N.D.	0.021	#
7)	delta-BHC	0.000	10.303	0	4453	N.D.	0.063	#
8)	Heptachlor	0.000	9.916	0	23668	N.D.	0.325	#
9)	Aldrin	12.205	10.503	1539	5088	0.098	0.069	#
10)	Isodrin	12.715	11.323	7810	1392	0.577	0.023	#
11)	Heptachlo...	12.865f	11.609f	3144	7407	0.190	0.103	#
12)	gamma-Chl...	13.452	11.959	32101	62954	1.936	0.906	#
13)	Endosulfan I	13.602f	12.226f	2106	29242	0.139	0.467	#
14)	alpha-Chl...	13.519	12.113	19578	81042	1.186	1.152	
15)	Dieldrin	13.992	12.623	49050	180920	3.023	2.648	
16)	4,4'-DDE	13.775	12.456	3367	27106	0.222	0.412	#
17)	Endrin	14.362	13.109	2599	5186	0.175	0.080	#
18)	Endosulfa...	14.799	13.536	4042	131778	0.269	2.243	#
19)	4,4'-DDD	14.642	13.356	5594	6543	0.477	0.133	#
20)	Endrin Al...	14.975	13.886	2487	5959	0.191	0.122	#
21)	Endosulfa...	15.459	14.183f	1786	140727	0.117	2.429	#
22)	4,4'-DDT	15.152	13.763	1440	3423	0.117	0.072	#
23)	Endrin Ke...	0.000	15.173	0	5145	N.D.	0.074	#
24)	Methoxychlor	15.869	14.893	27780	860	3.715	0.033	#
25)	2,4'-DDE	13.185	12.009	1592	20952	0.150	0.488	#
26)	2,4'-DDD	13.932	12.746f	9634	9990	1.034	0.268	#
27)	2,4'-DDT	14.469f	13.219	40079	1631	3.761	0.040	#
30)	Toxaphene	14.732	13.356	10965	6543	67.855	6.332	#
31)	Toxaphene...	14.799	13.469f	4042	6933	27.654	8.720	#
32)	Toxaphene...	14.912	13.576	3119	32633	10.709	27.566	#
33)	Toxaphene...	14.975	0.000	2487	0	12.697	N.D.	#
34)	Toxaphene...	15.332	13.923	2962	11878	15.870	21.338	#
35)	Toxaphene...	15.515	15.416	1168	5516	9.893	18.293	#
37)	Chlordane	11.255f	9.553	24185	90920	36.073	35.814	
38)	Chlordane...	0.000	11.653	0	88731	N.D.	51.251	#
39)	Chlordane...	12.245	11.813	10695	30004	17.548	26.105	#
40)	Chlordane...	13.452	11.959	32101	62954	17.351	9.044	#
41)	Chlordane...	13.519	12.009	19578	20952	12.793	4.916	#
42)	Chlordane...	13.602	12.113	2106	81042	1.875	13.132	#
44)	Chlorpyrifos	12.102	10.886	3027	9951	0.334	0.341	
45)	Oxychlordane	12.865	11.393f	3144	8314	0.201	0.127	#
46)	cis-Nonac...	14.642	13.219	5594	1631	0.340	0.024	#
47)	trans-Non...	13.602	12.009	2106	20952	0.127	0.310	#
48)	Mirex	0.000	15.339	0	7527	N.D.	0.145	#

Quantitation Report (Not Reviewed)

1st SM 04/25/20
2nd TP 04/28/20

Data File : J:\GC23\data\042420B\0424F033.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 9:10 am Operator: SM
Sample : K2002652-010@5X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 11:28:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
49)	HCE	4.155	3.426	1088	2644	0.046	0.024	#
52)	Perthane	0.000	12.916f	0	3825	N.D.	2.245	#

SemiQuant Compounds - Not Calibrated on this Instrument

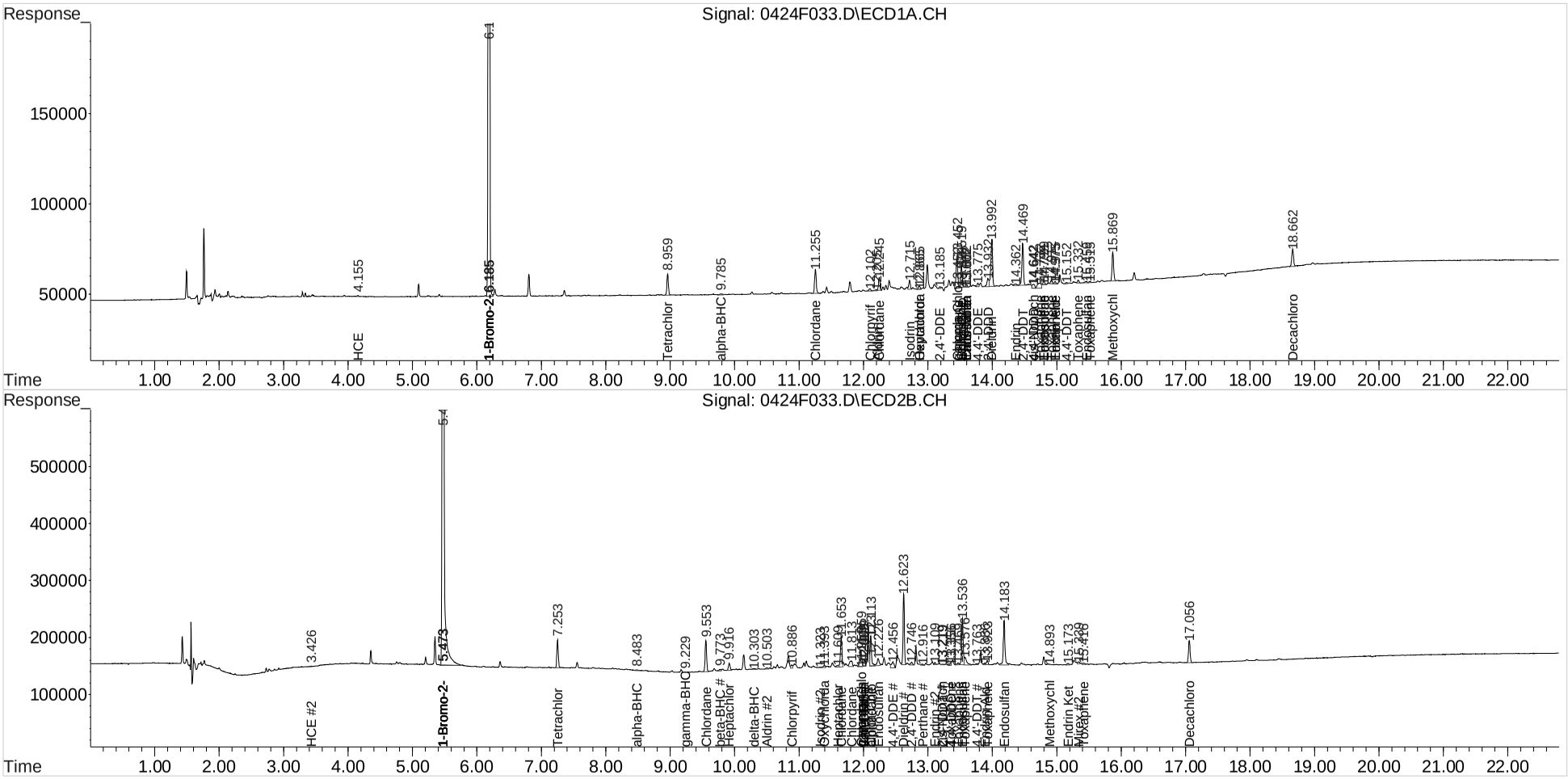
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : J:\GC23\data\042420B\0424F033.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 9:10 am Operator: SM
Sample : K2002652-010@5X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 11:28:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F039.D\
Lab ID: K2002652-011
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 14:22:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	cis-Chlordane	13.53			see Quant Report
	trans-Chlordane	13.45			
	Chlordane {4}	13.45			
	Chlordane {5}	13.53			
	Chlordane {6}	13.61			
	4,4'-DDD	14.65			
	Endosulfan I	13.61			
	Endosulfan II	14.81			
	Endrin Aldehyde	14.99			
	cis-Nonachlor	14.65			
	trans-Nonachlor	13.61			
	Toxaphene {2}	14.81			
	Toxaphene {4}	14.99			
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.12			see Quant Report
	trans-Chlordane	11.97			
	Chlordane {4}	11.97			
	Chlordane {5}	12.02			
	Chlordane {6}	12.12			

Primary Review: _____

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st SM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	4,4'-DDD	13.39			see Quant Report
	2,4'-DDE	12.02			
	2,4'-DDT	13.22			
	Endrin Aldehyde	13.93			
	cis-Nonachlor	13.22			
	trans-Nonachlor	12.02			
	Toxaphene {1}	13.39			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st SM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F039.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 14:22:00	**Vial:**	4
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-011	**Raw Units:**	ug/L

Bottle ID:	K2002652-011.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1098242	4758646	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1098242	4758646	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1098242	4758646	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06 -0.01	91885	331648	4.702	4.323	94	86	86	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.26 -0.01	86549	320861	5.435	5.441	109	109	109	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.20 -0.01	0.00	2356	0	0.134	0.000	0.67U	0U	0.77 U		Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U		Y
beta-BHC	0.00	9.79 +0.01	0	30697	0.000	0.858	0U	4.3	0.17 U		Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U		Y
Chlordane					10.7715	6666666666	54	67	**54**		Y
Chlordane {1}	11.27	9.57	5747	11646	7.676	4.483	38	22		P	
Chlordane {2}	11.67 -0.02	11.66 -0.01	1039	20171	1.096	11.386	5.5	57		i	
Chlordane {3}	12.25	11.82	6252	21212	9.186	18.037	46	90		P	
Chlordane {4}	13.45 c	11.97 c	30971	99205	14.991	13.928	75	70			
Chlordane {5}	13.53 c	12.02 c	21432	84650	12.541	19.410	63	97		P	
Chlordane {6}	13.61 c	12.12 c	24010	79352	19.139	12.566	96	63		P	
Dieldrin	14.00	12.63 -0.01	43952	151428	2.425	2.166	12	11	**11**		Y
Heptachlor	0.00	9.93	0	75143	0.000	1.008	0U	5.0	0.61 U		Y
Heptachlor Epoxide	12.95 +0.02	11.60	1486	7867	0.080	0.107	0.40J	0.54J	**0.40** J		Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U		Y
Toxaphene					6666666666	6666666666	220	130	**130**	P	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F039.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 14:22:00	**Vial:**	4
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-011	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.73 -0.01	13.39 c	10915	32108	60.488	30.365	300	150		P
Toxaphene {2}	14.81 +0.01 c	13.45	6897	17720	42.256	21.781	210	110		P
Toxaphene {3}	14.92	13.59	7820	16829	24.044	10.937	120	55		P
Toxaphene {4}	14.99 c	13.66	10909	7589	49.874	16.024	250	80		i
Toxaphene {5}	15.34	13.93 c	7913	32129	37.966	56.408	190	280		
Toxaphene {6}	15.53 +0.01	15.41 -0.02	5366	6681	54.386	21.653	270	110		P

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:42:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.201	5.485	1098242	4758646	100.000	100.000
29)	1-Bromo-2...	6.201	5.485	1098242	4758646	100.000	100.000
36)	1-Bromo-2...	6.201	5.485	1098242	4758646	100.000	100.000
43)	1-Bromo-2...	6.201	5.485	1098242	4758646	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.978	7.265	86549	320861	5.435	5.441
28) s	Decachlor...	18.668	17.065	91885	331648	4.702	4.323
	Target Compounds						
5)	beta-BHC	0.000	9.791	0	30697	N.D.	0.858 #
8)	Heptachlor	0.000	9.928	0	75143	N.D. d	1.008
9)	Aldrin	12.201	0.000	2356	0	0.134	N.D. d#
10)	Isodrin	12.731	11.291	2530	7429	0.167	0.118 #
11)	Heptachlo...	12.948	11.605	1486	7867	0.080	0.107m#
12)	gamma-Chl...	13.451	11.971	30971	99205	1.673	1.395
13)	Endosulfan I	13.611f	0.000	24010	0	1.422	N.D. d#
14)	alpha-Chl...	13.531	12.121	21432	79352	1.163	1.102
15)	Dieldrin	14.001	12.635	43952	151428	2.425	2.166m
16)	4,4'-DDE	13.784	12.478	3794	17145	0.224	0.255m
18)	Endosulfa...	14.811	13.541	7057	637117	0.421m	10.599 #
19)	4,4'-DDD	14.648	13.388	11947	32108	0.911m	0.637 #
20)	Endrin Al...	14.994	13.928	10909	24179	0.751	0.486m#
21)	Endosulfa...	15.471	14.188f	4012	978566	0.235	16.509 #
22)	4,4'-DDT	15.161	13.825f	3028	195927	0.220m	4.035 #
23)	Endrin Ke...	0.000	15.175	0	22356	N.D.	0.315 #
24)	Methoxychlor	15.878	0.000	235523	0	28.204	N.D. d#
25)	2,4'-DDE	13.228	12.018	8051	84650	0.680m	1.927 #
26)	2,4'-DDD	13.934	12.821	6609	7622	0.635	0.200m#
27)	2,4'-DDT	14.481f	13.218	198422	19093	16.672	0.462 #
30)	Toxaphene	14.734	13.388	10915	32108	60.488m	30.365 #
31)	Toxaphene...	14.811	13.455	6897	17720	42.256m	21.781 #
32)	Toxaphene...	14.921	13.588	7820	16829	24.044	10.937 #
33)	Toxaphene...	14.994	13.658	10909	7589	49.874	16.024m#
34)	Toxaphene...	15.344	13.928	7913	32129	37.966	56.408 #
35)	Toxaphene...	15.528	15.411	5366	6681	54.386	21.653 #
37)	Chlordane	11.268	9.568	5747	11646	7.676m	4.483 #
38)	Chlordane...	11.668f	11.665	1039	20171	1.096	11.386m#
39)	Chlordane...	12.251	11.818	6252	21212	9.186	18.037 #
40)	Chlordane...	13.451	11.971	30971	99205	14.991	13.928
41)	Chlordane...	13.531	12.018	21432	84650	12.541	19.410 #
42)	Chlordane...	13.611	12.121	24010	79352	19.139	12.566 #
44)	Chlorpyrifos	12.101	0.000	6503	0	0.642	N.D. #
45)	Oxychlordane	12.878	11.401	8980	12871	0.513	0.191 #
46)	cis-Nonac...	14.648	13.218	11766	19093	0.640m	0.272 #
47)	trans-Non...	13.611	12.018	24010	84650	1.298	1.222
52)	Perthane	14.141f	12.868	3619	4998	6.924	2.867 #
	SemiQuant Compounds - Not Calibrated on this Instrument						

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:42:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

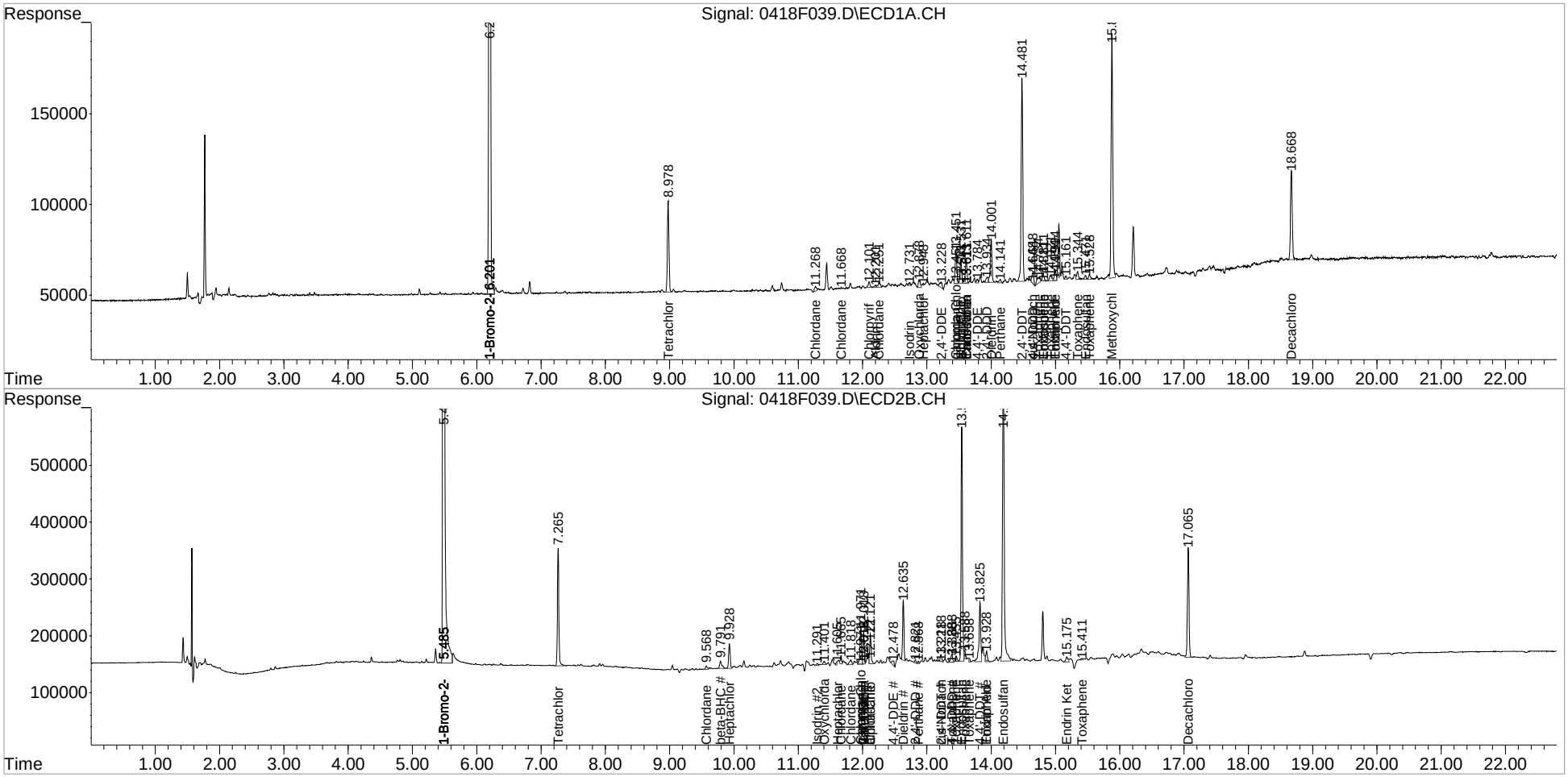
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:42:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



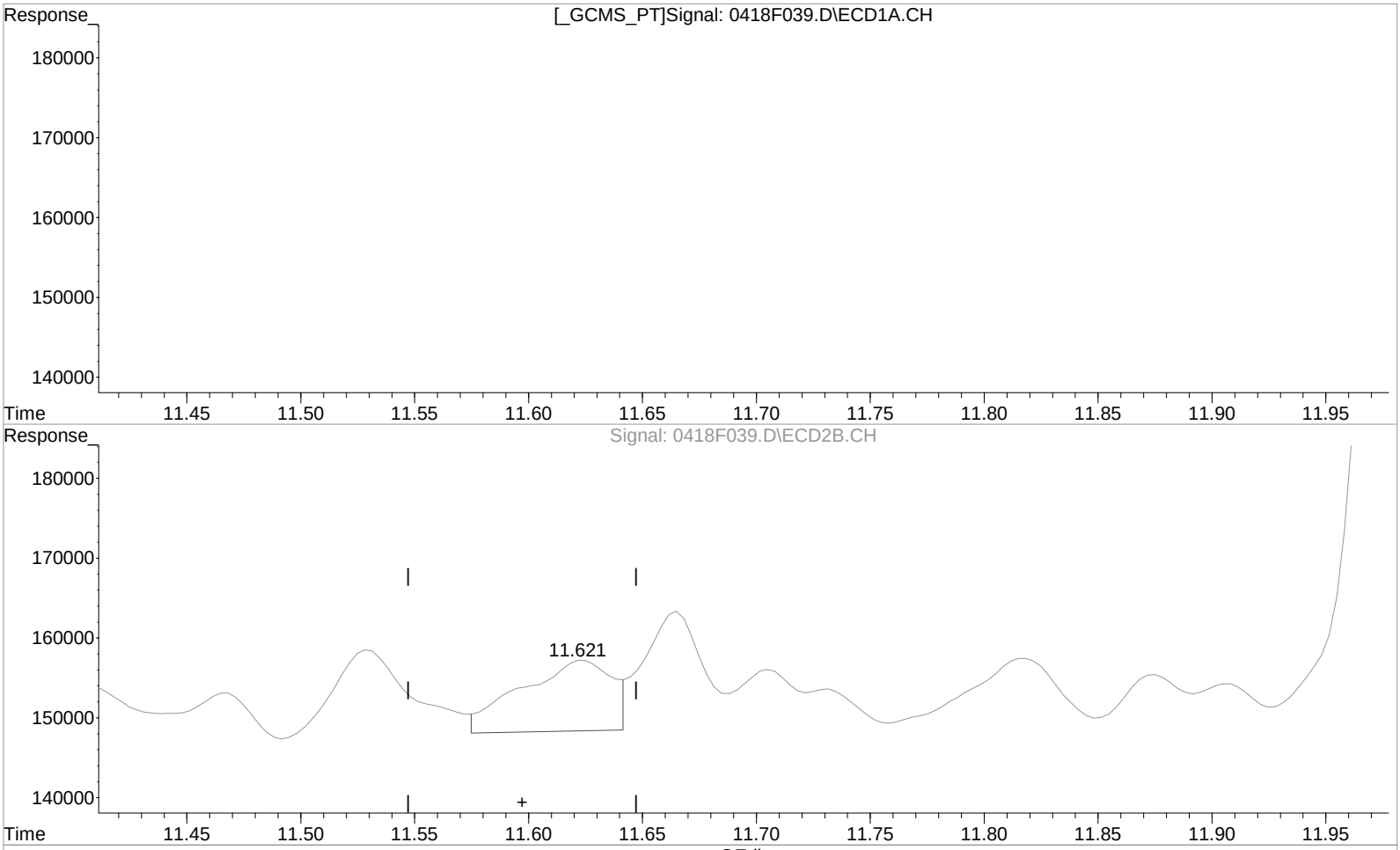
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(11) Heptachlor Epoxide

12.948min 0.080 ug/L

response 1486

Manual Integration:

Before

04/21/20

(11) Heptachlor Epoxide #2

11.621min 0.339 ug/L

response 24961

(+) = Expected Retention Time

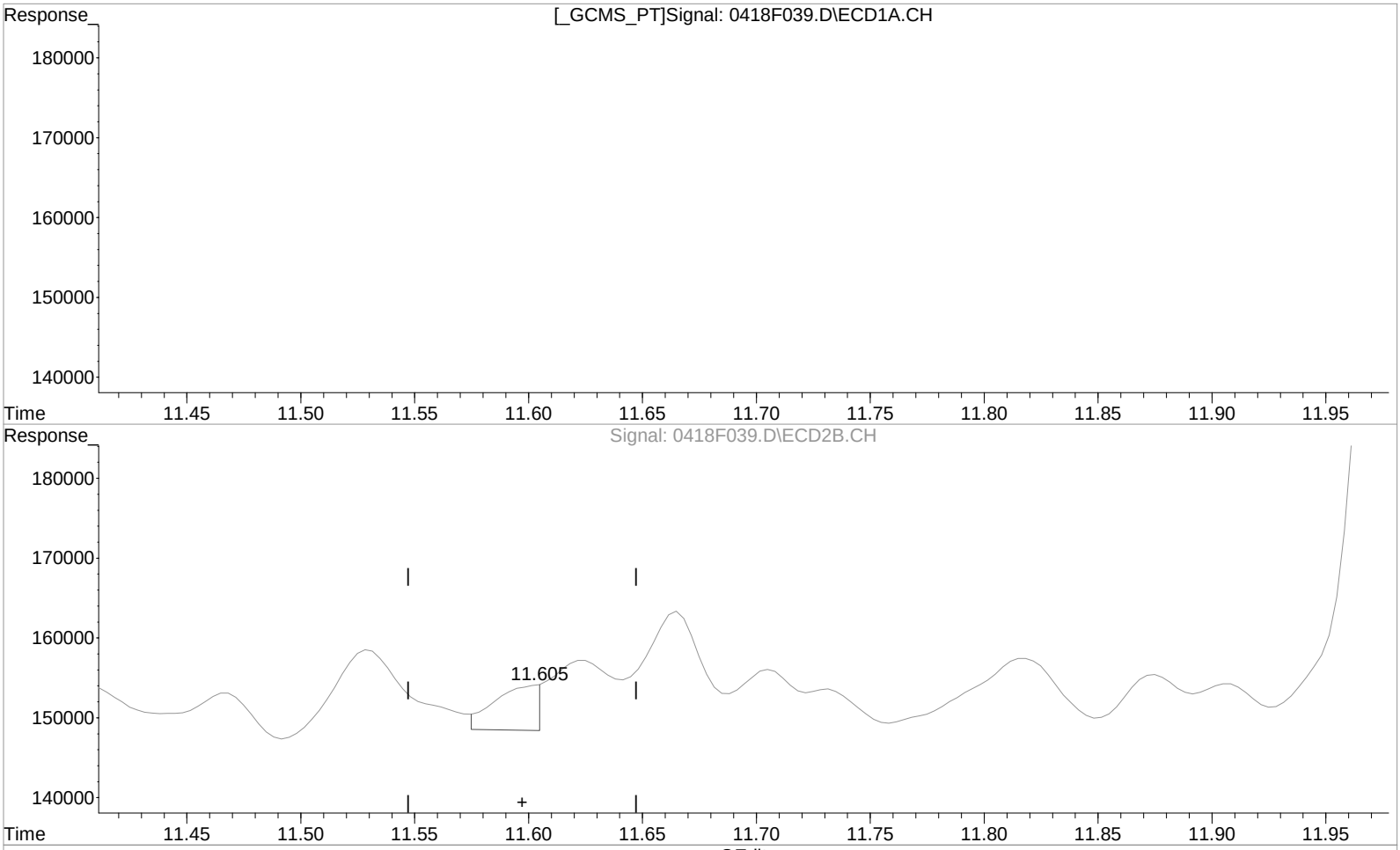
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(11) Heptachlor Epoxide

12.948min 0.080 ug/L

response 1486

Manual Integration:

After

Baseline correction

04/21/20

(11) Heptachlor Epoxide #2

11.605min 0.107 ug/L m

response 7867

(+) = Expected Retention Time

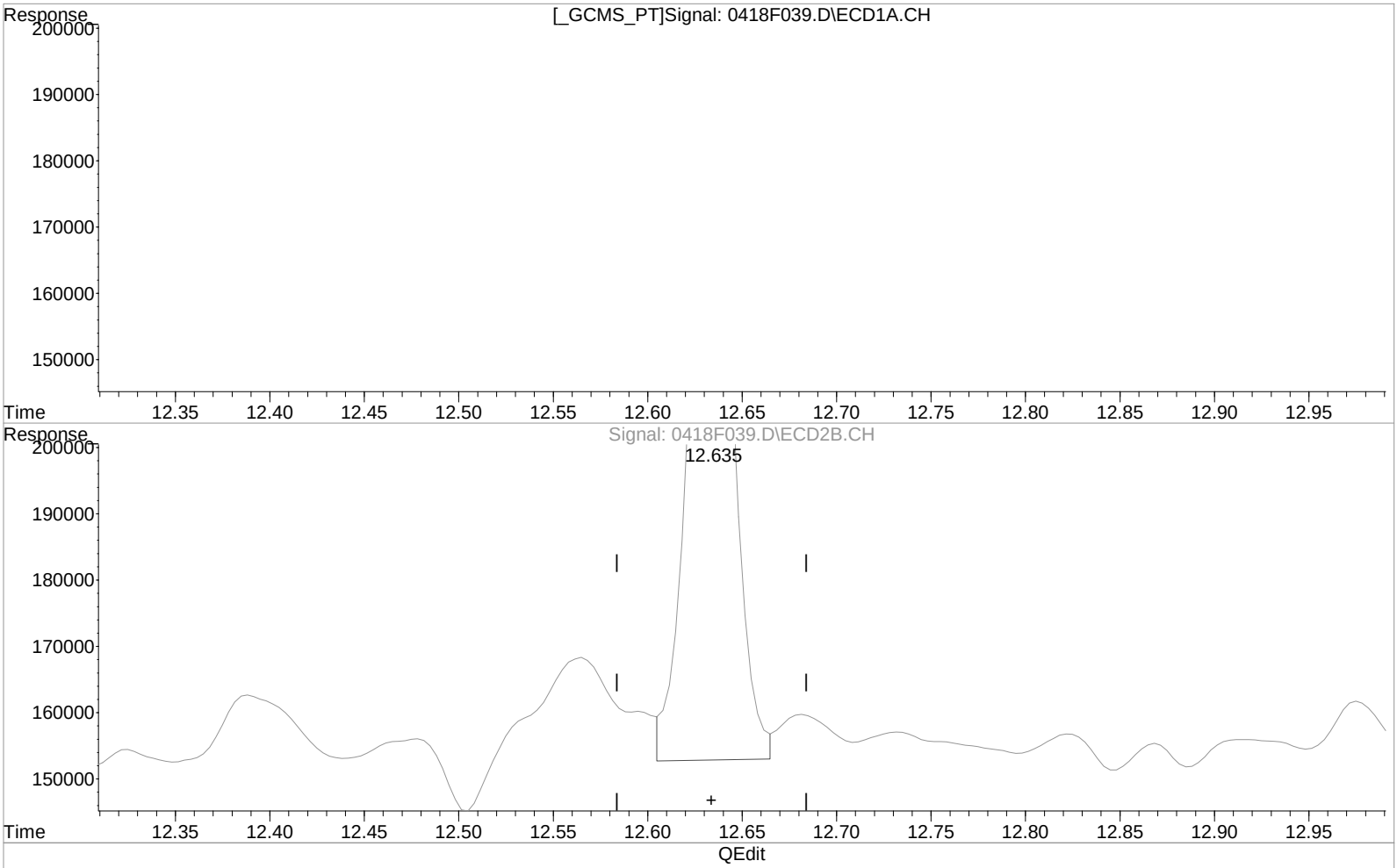
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

14.001min 2.425 ug/L

response 43952

Manual Integration:

Before

04/21/20

(15) Dieldrin #2

12.635min 2.376 ug/L

response 166075

(+) = Expected Retention Time

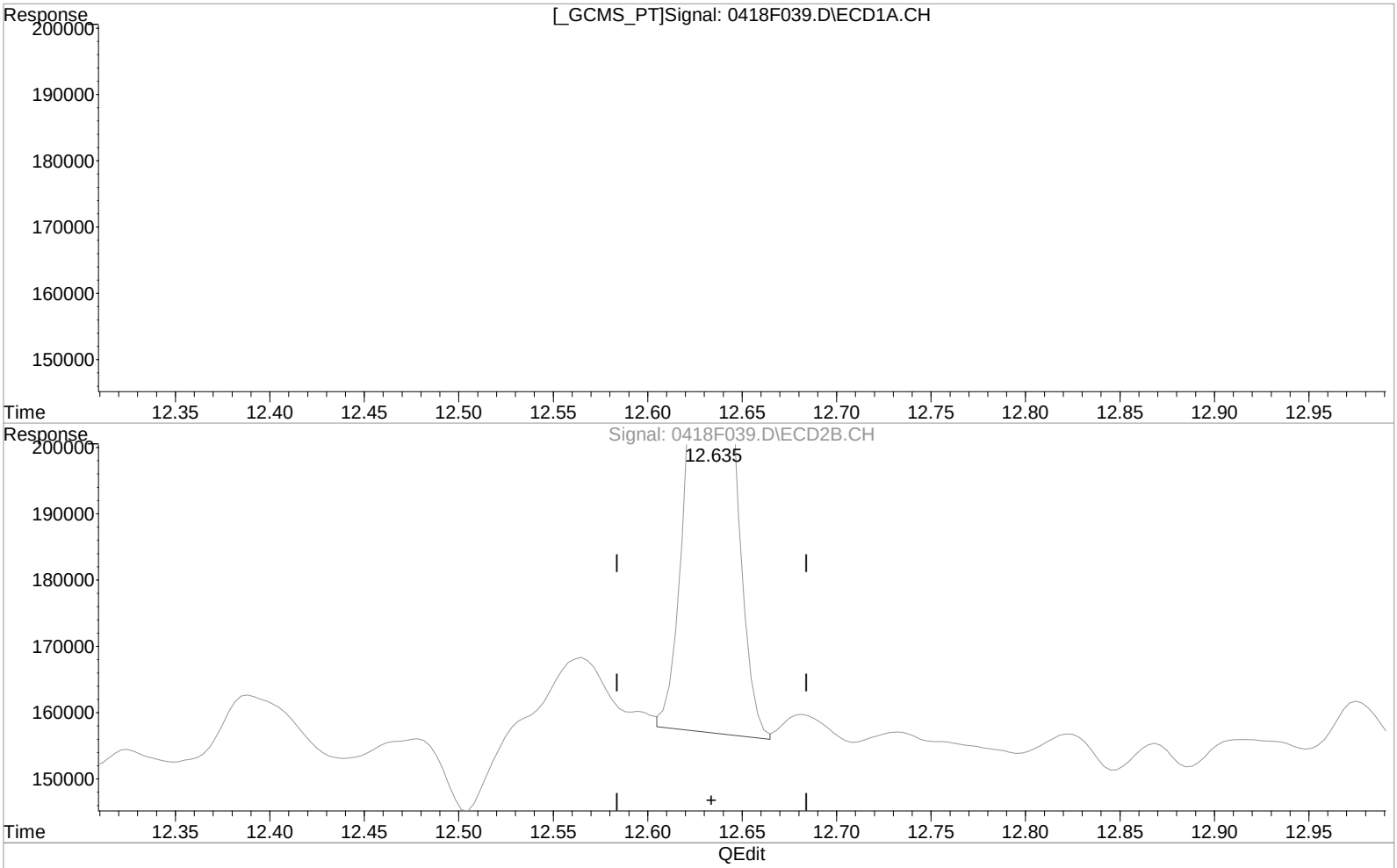
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

14.001min 2.425 ug/L

response 43952

Manual Integration:

After

Baseline correction

04/21/20

(15) Dieldrin #2

12.635min 2.166 ug/L m

response 151428

(+) = Expected Retention Time

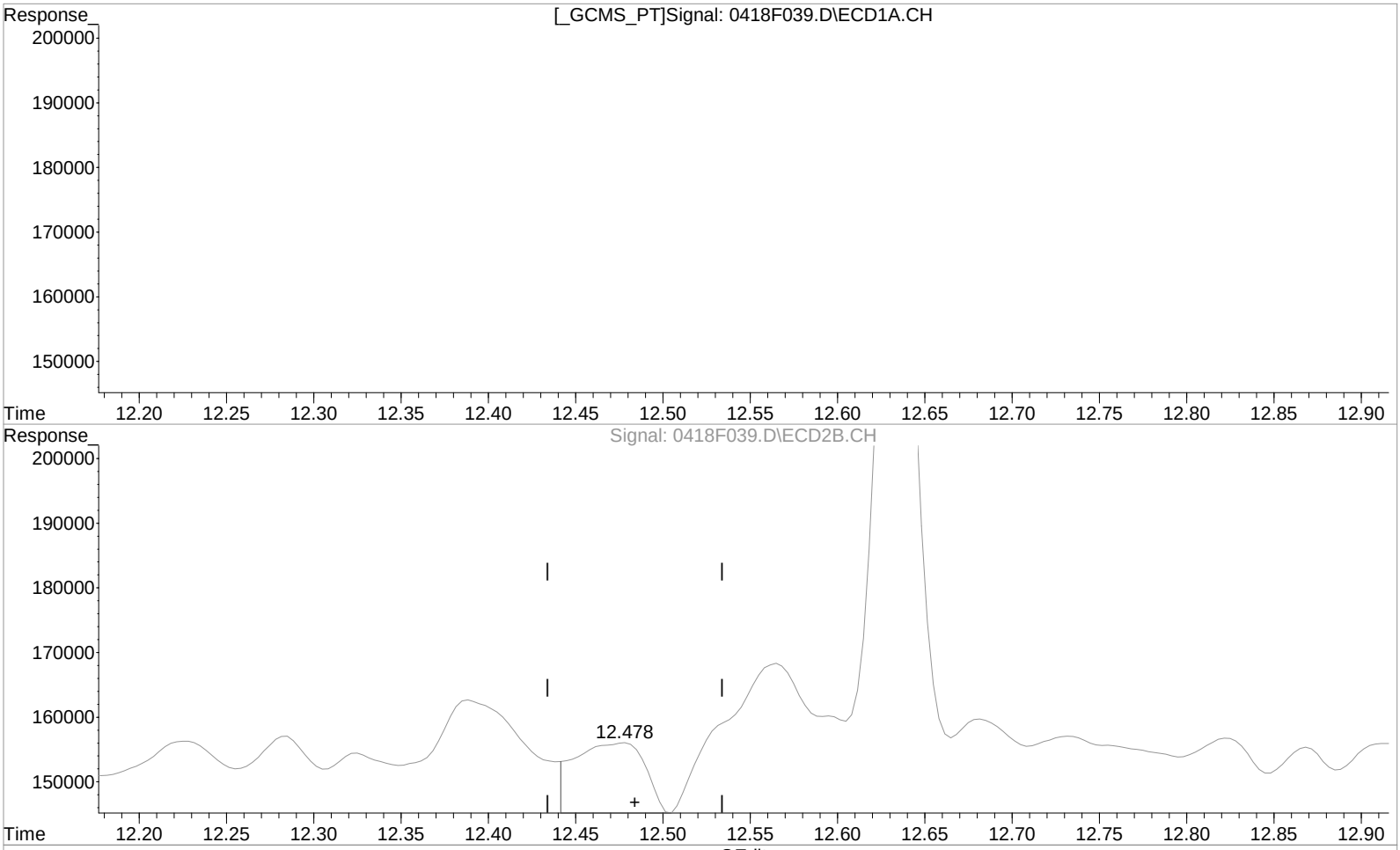
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.784min 0.224 ug/L

response 3794

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.478min 0.441 ug/L

response 29651

(+) = Expected Retention Time

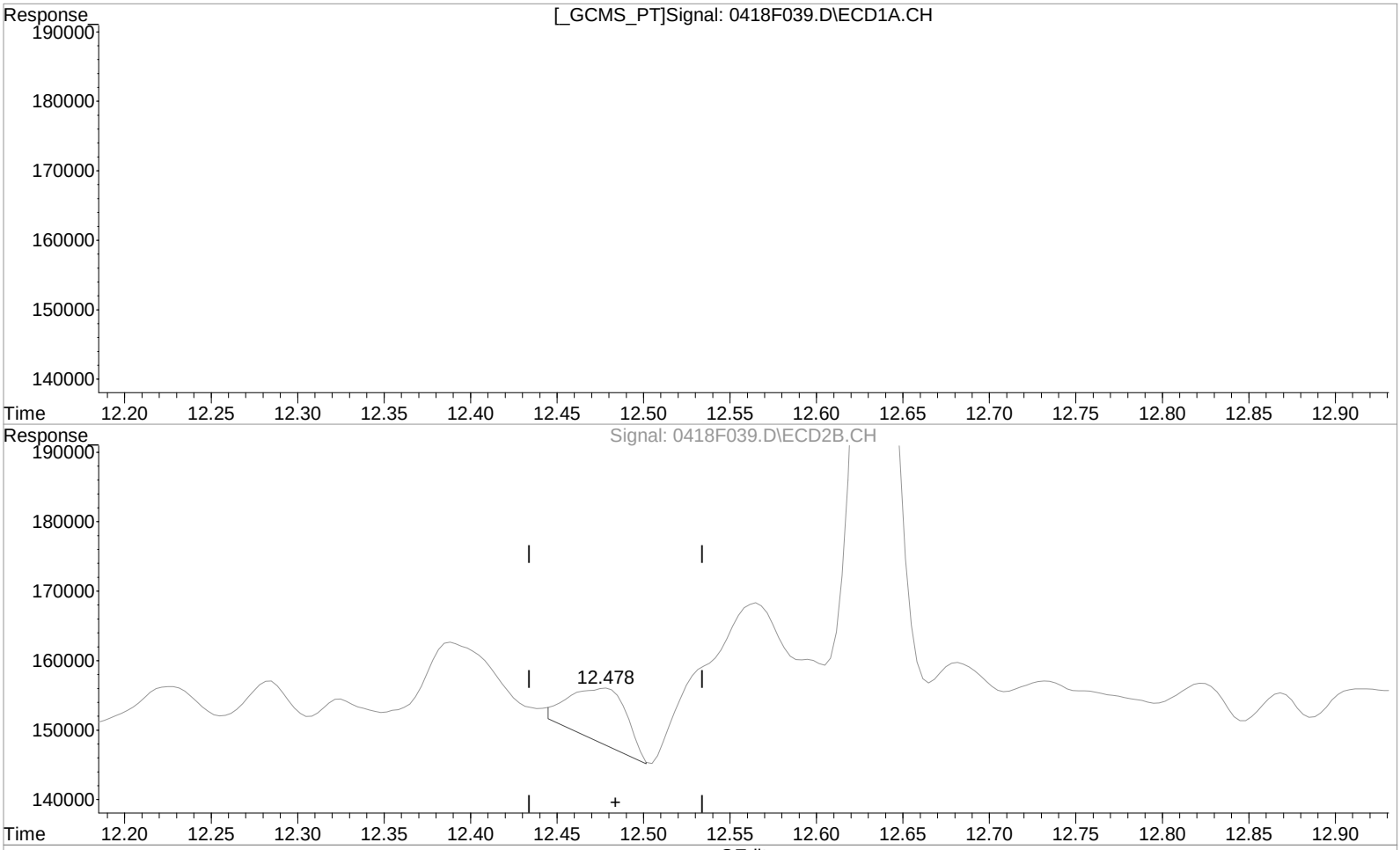
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(16) 4,4'-DDE

13.784min 0.224 ug/L

response 3794

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.478min 0.255 ug/L m

response 17145

(+) = Expected Retention Time

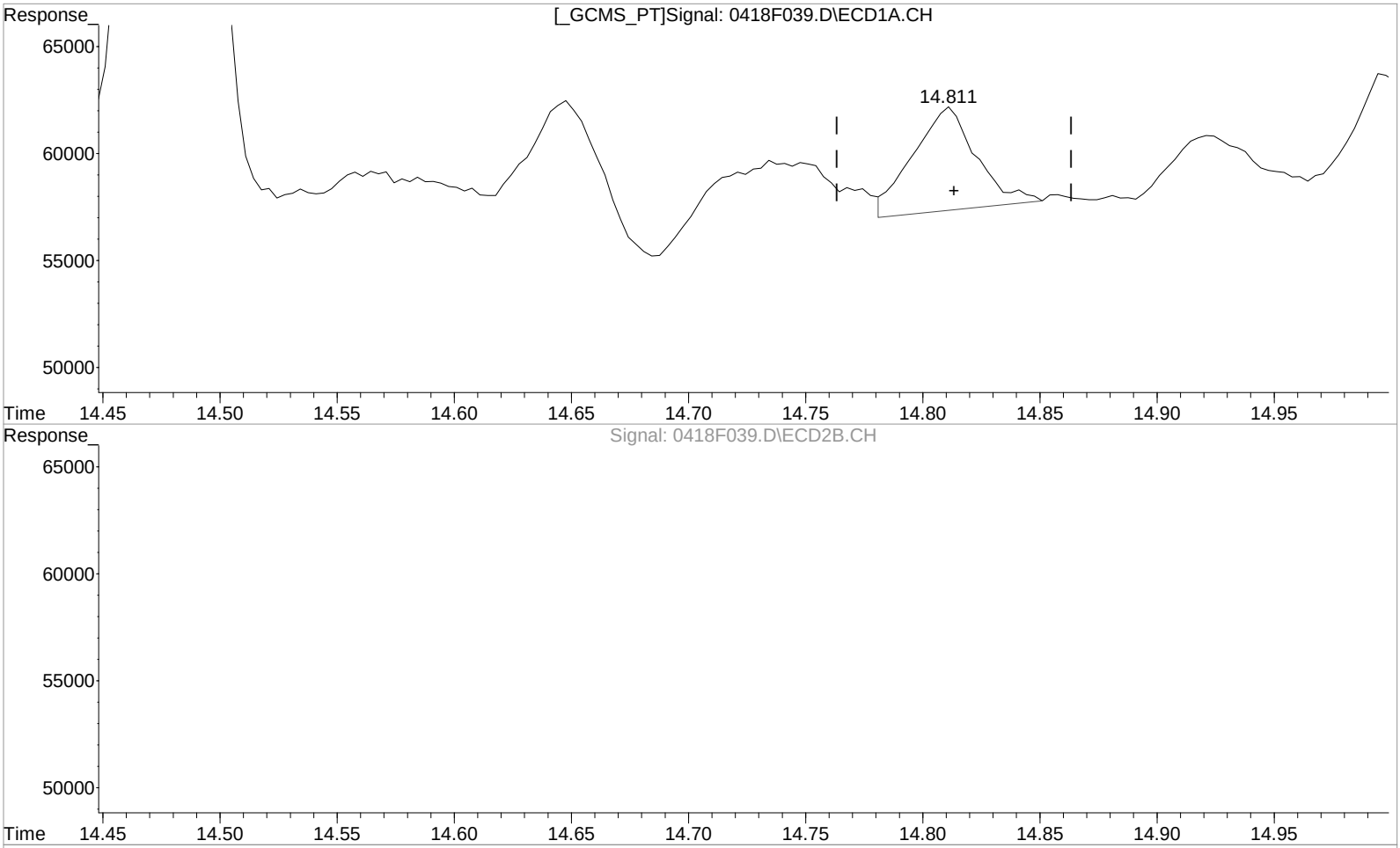
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.811min 0.543 ug/L

response 9095

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.541min 10.599 ug/L

response 637117

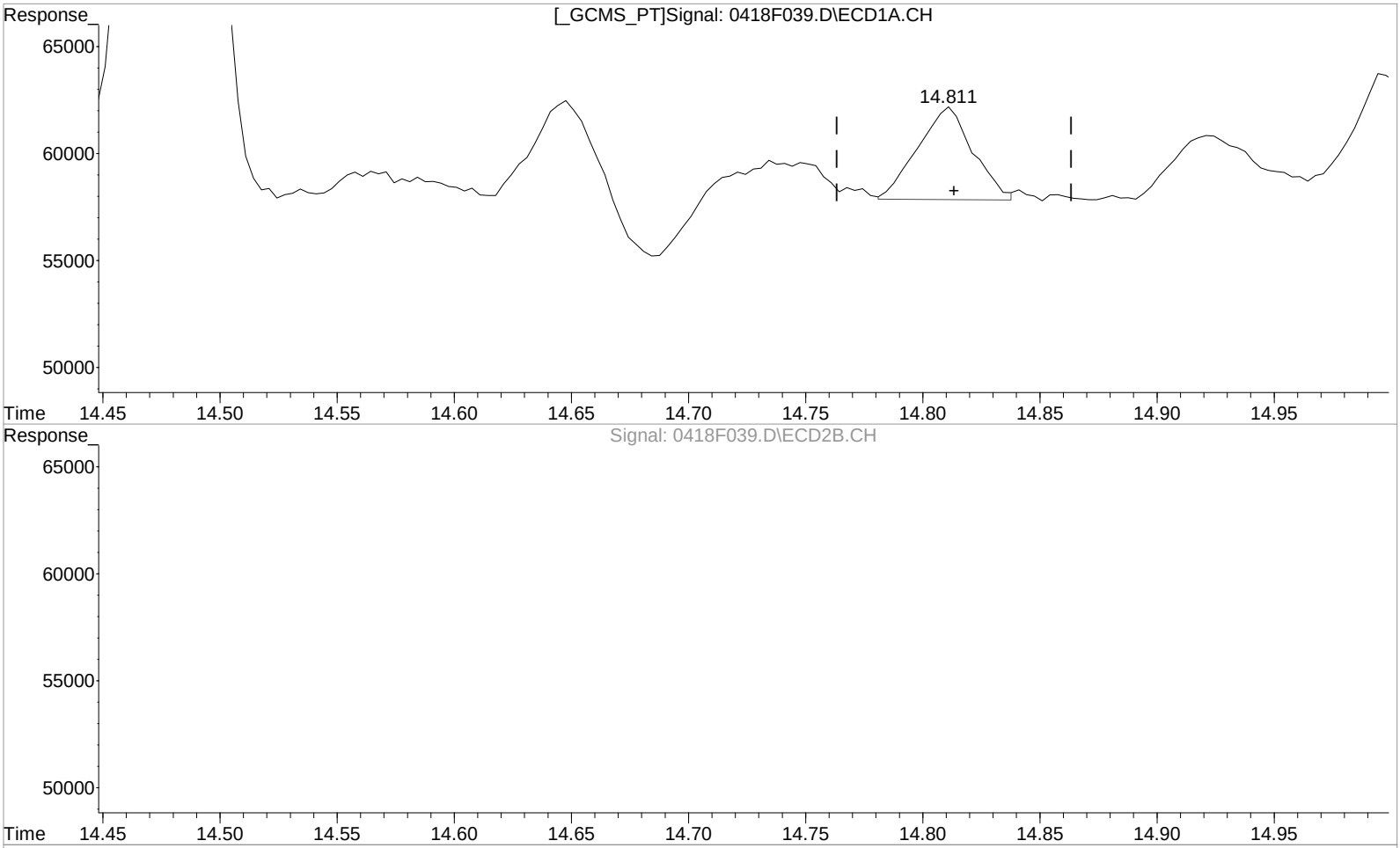
(+) = Expected Retention Time

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.811min 0.421 ug/L m

response 7057

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.541min 10.599 ug/L

response 637117

(+) = Expected Retention Time

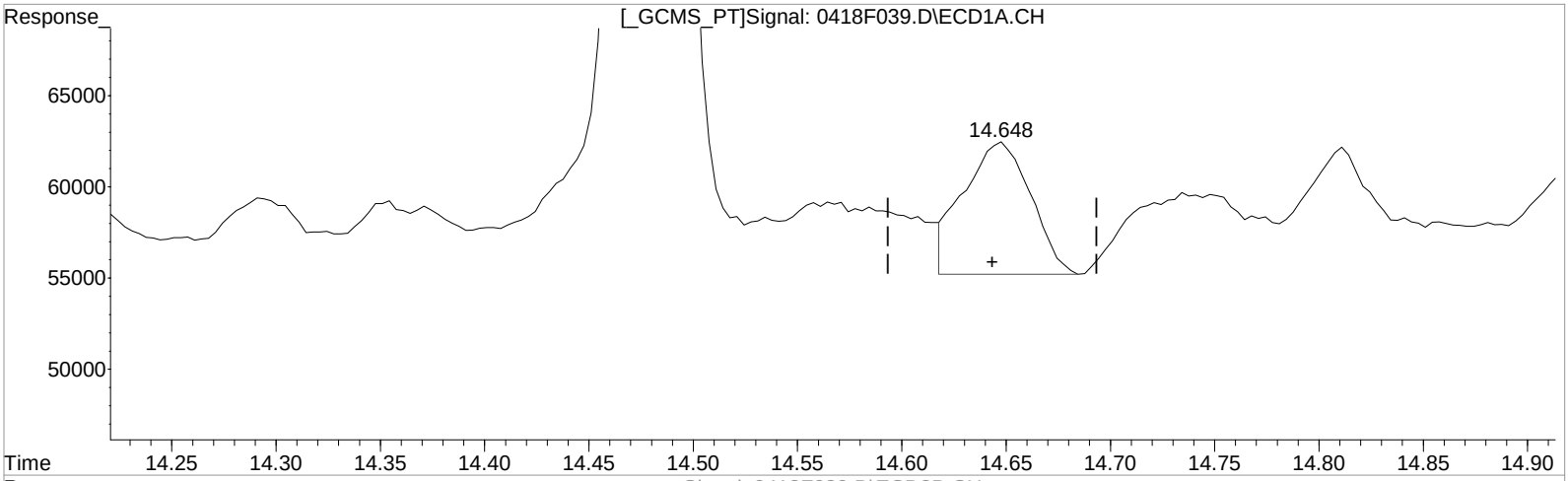
Quantitation Report (Qedit)

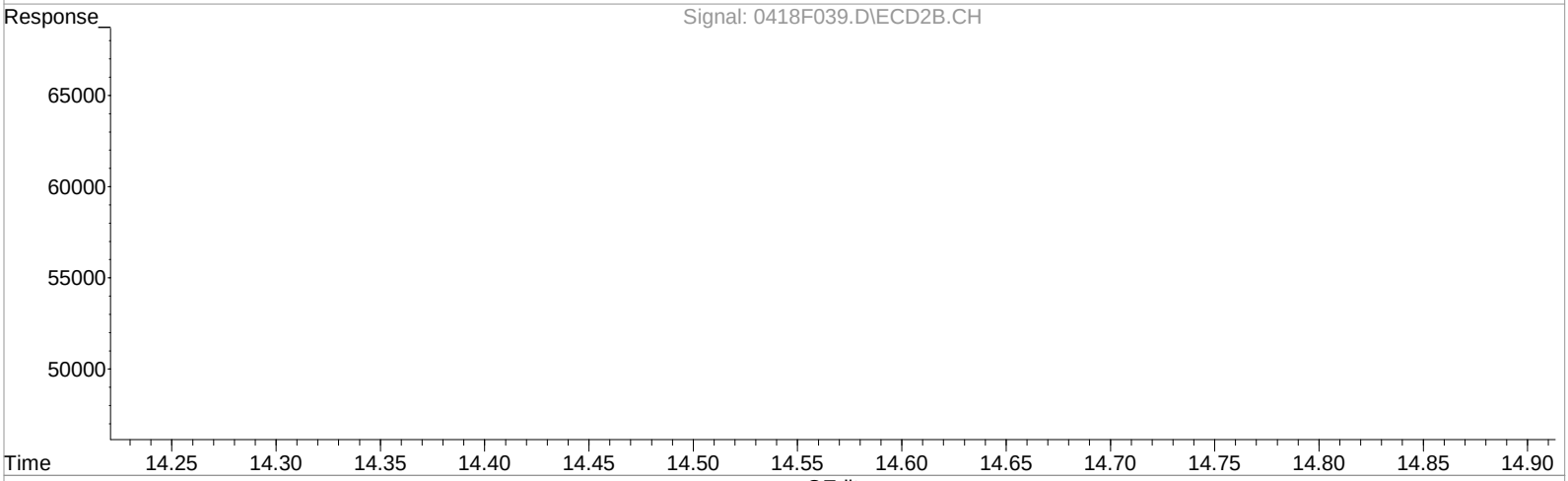
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.648min 1.240 ug/L

response 16258

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.388min 0.637 ug/L

response 32108

(+) = Expected Retention Time

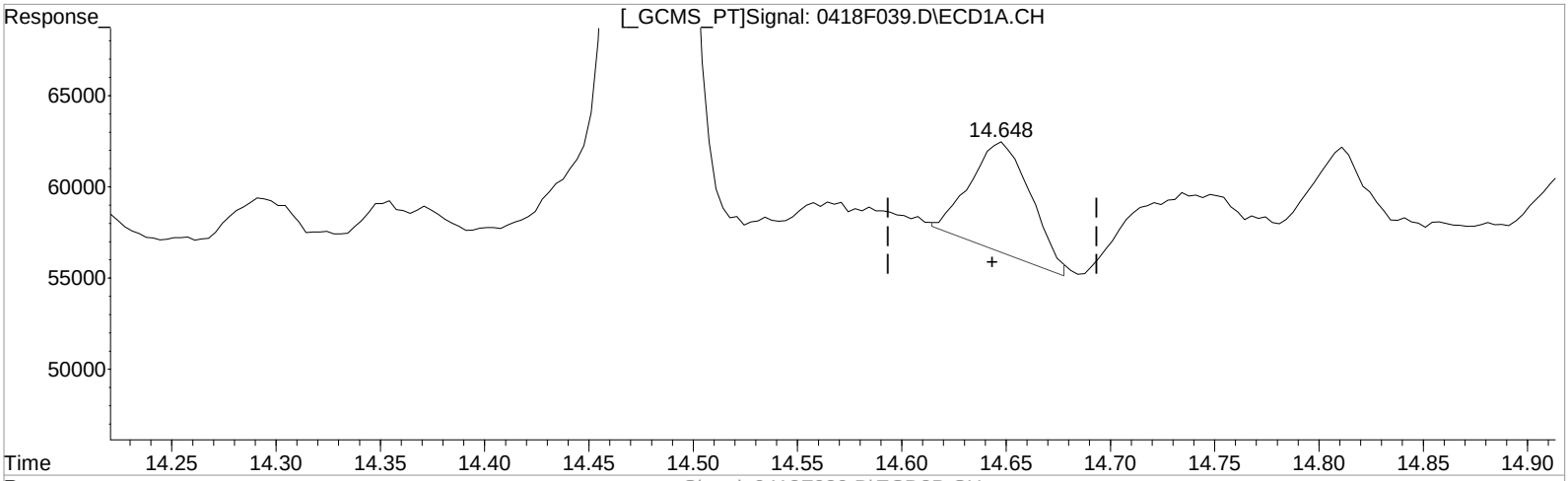
Quantitation Report (Qedit)

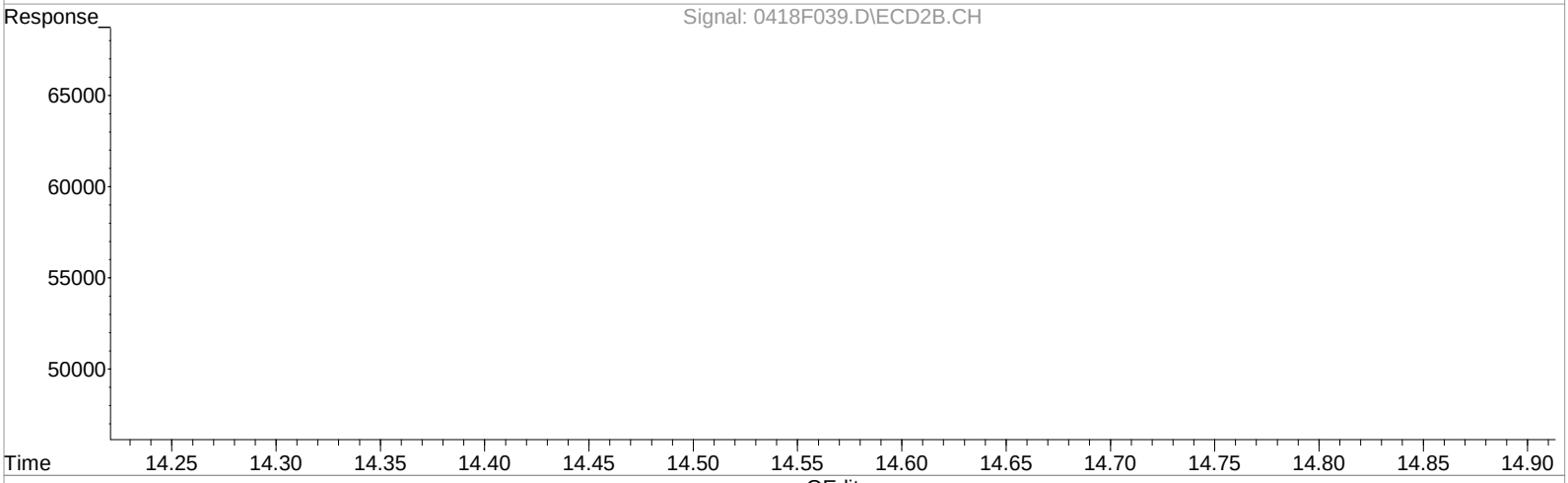
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.648min 0.911 ug/L m

response 11947

Manual Integration:

After

Baseline correction

04/21/20

(19) 4,4'-DDD #2

13.388min 0.637 ug/L

response 32108

(+) = Expected Retention Time

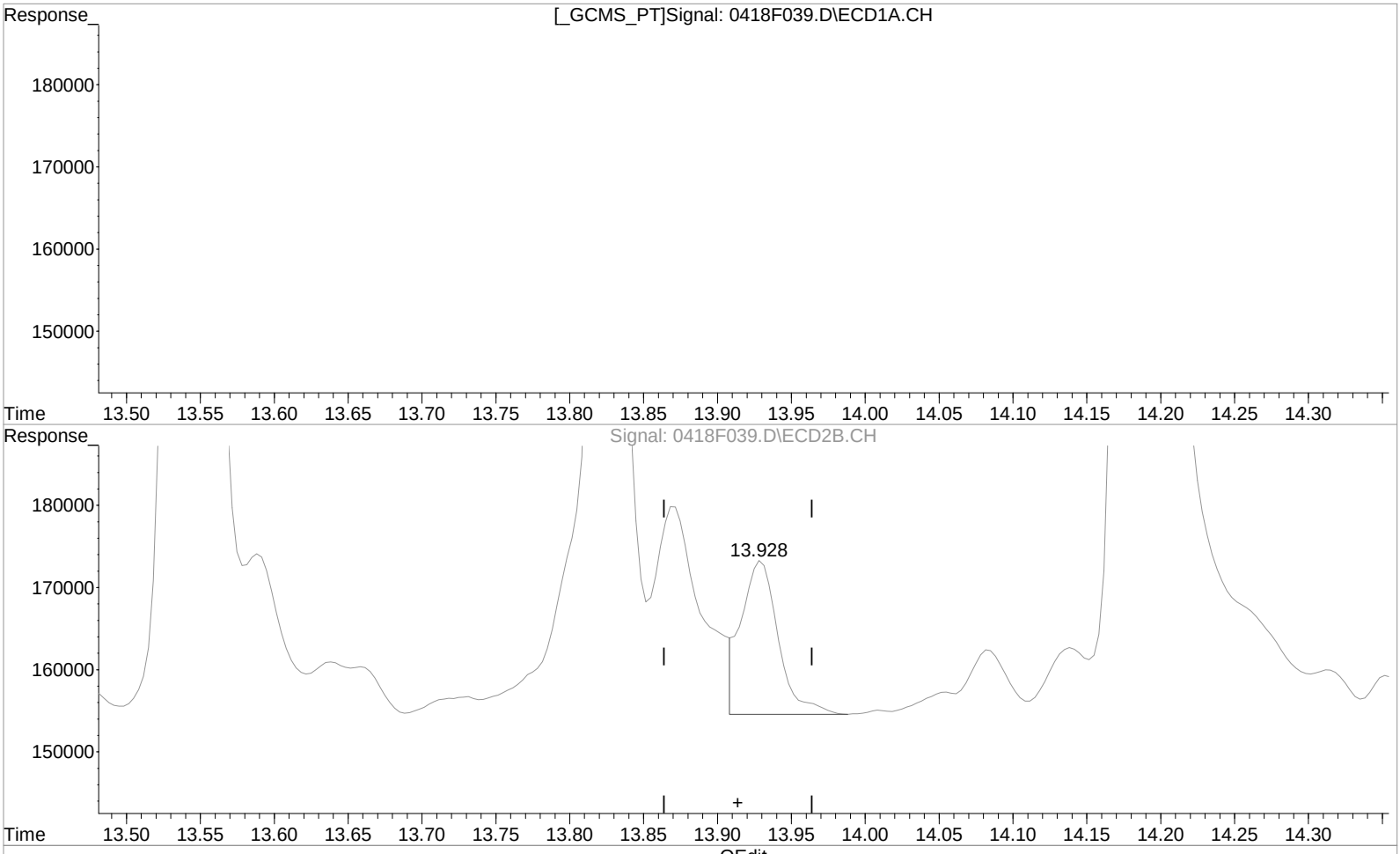
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.994min 0.751 ug/L

response 10909

Manual Integration:

Before

04/21/20

(20) Endrin Aldehyde #2

13.928min 0.645 ug/L

response 32129

(+) = Expected Retention Time

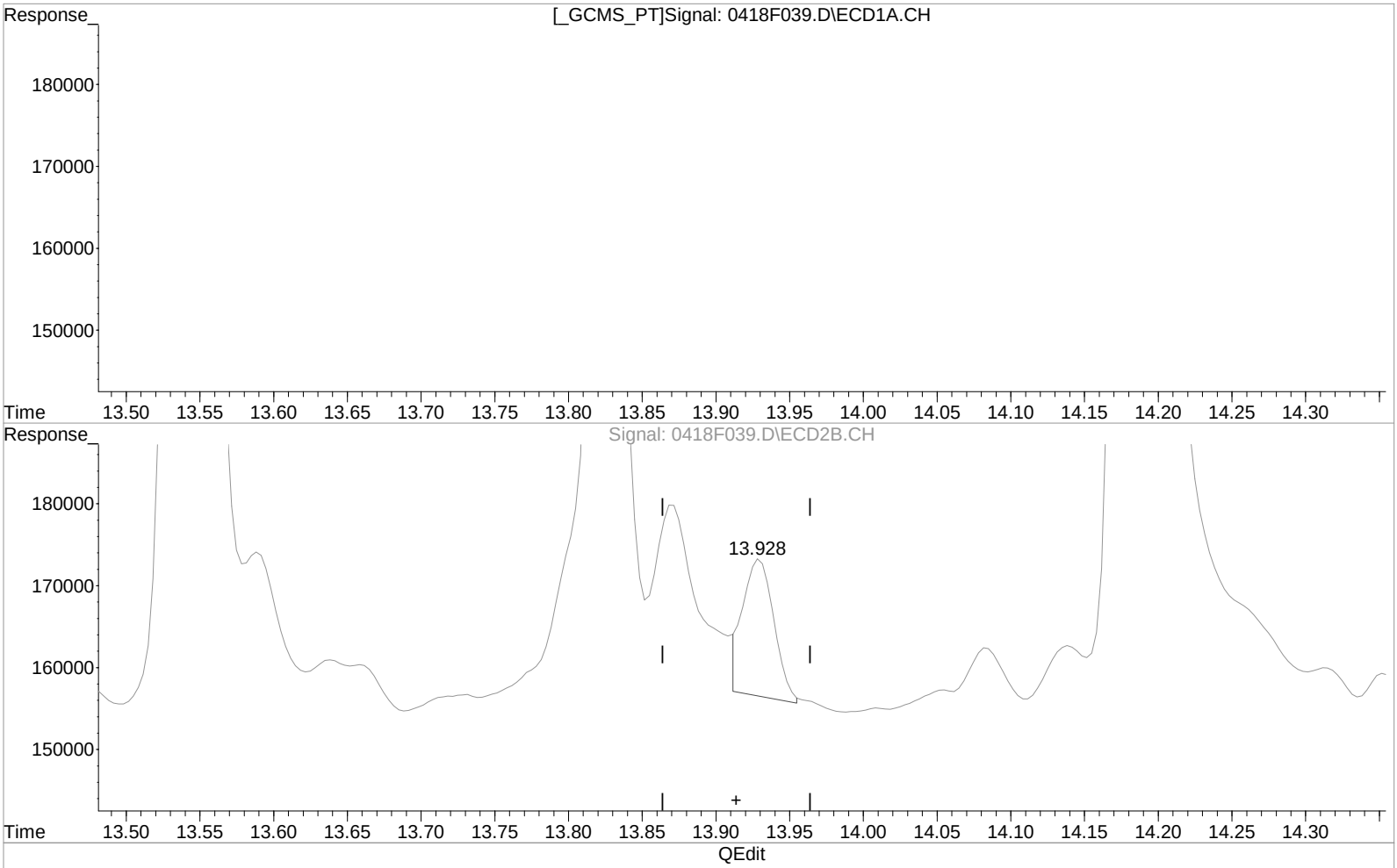
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.994min 0.751 ug/L

response 10909

Manual Integration:

After

Baseline correction

04/21/20

(20) Endrin Aldehyde #2

13.928min 0.486 ug/L m

response 24179

(+) = Expected Retention Time

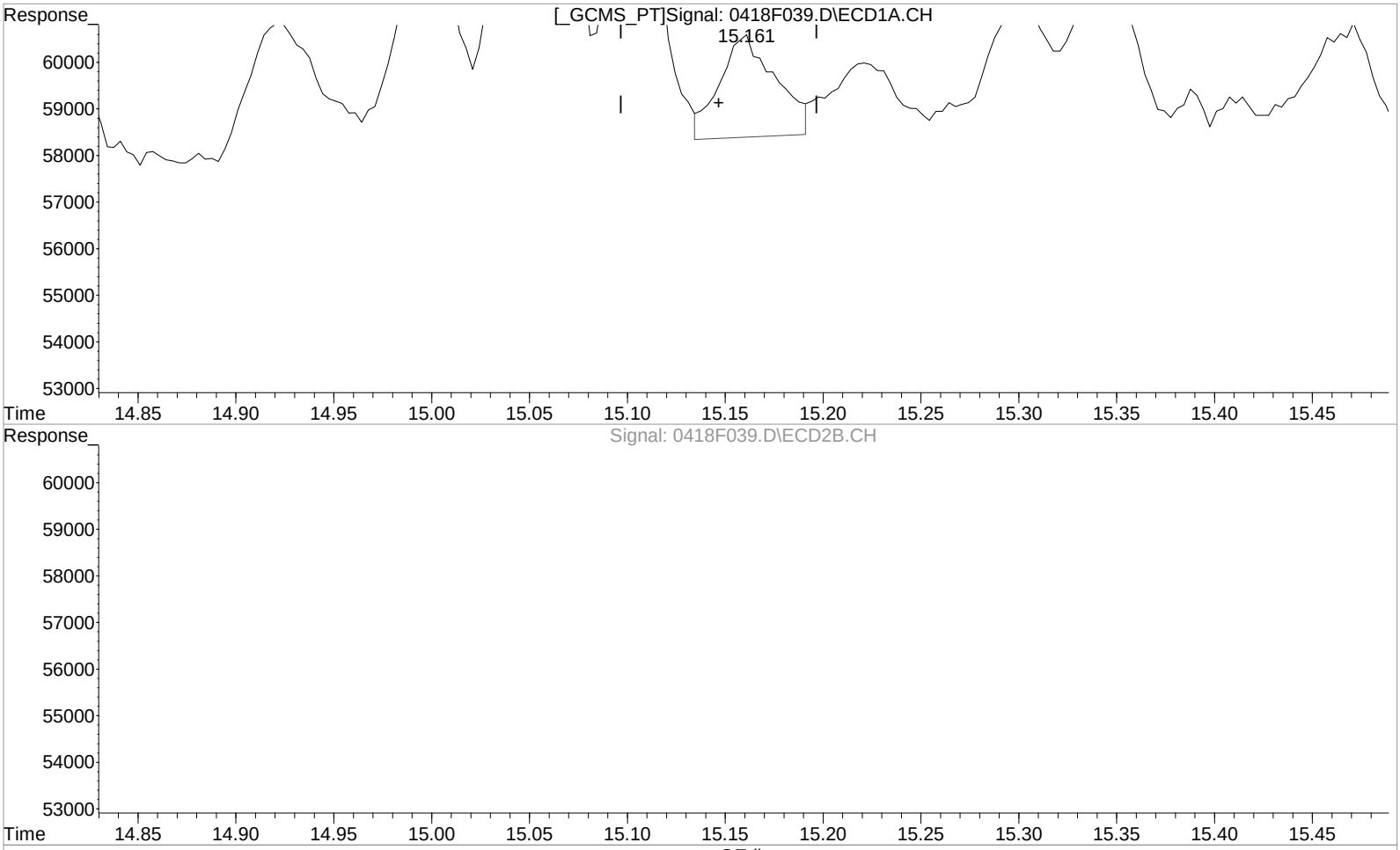
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.161min 0.317 ug/L

response 4370

Manual Integration:

Before

04/21/20

(22) 4,4'-DDT #2

13.825min 4.035 ug/L

response 195927

(+) = Expected Retention Time

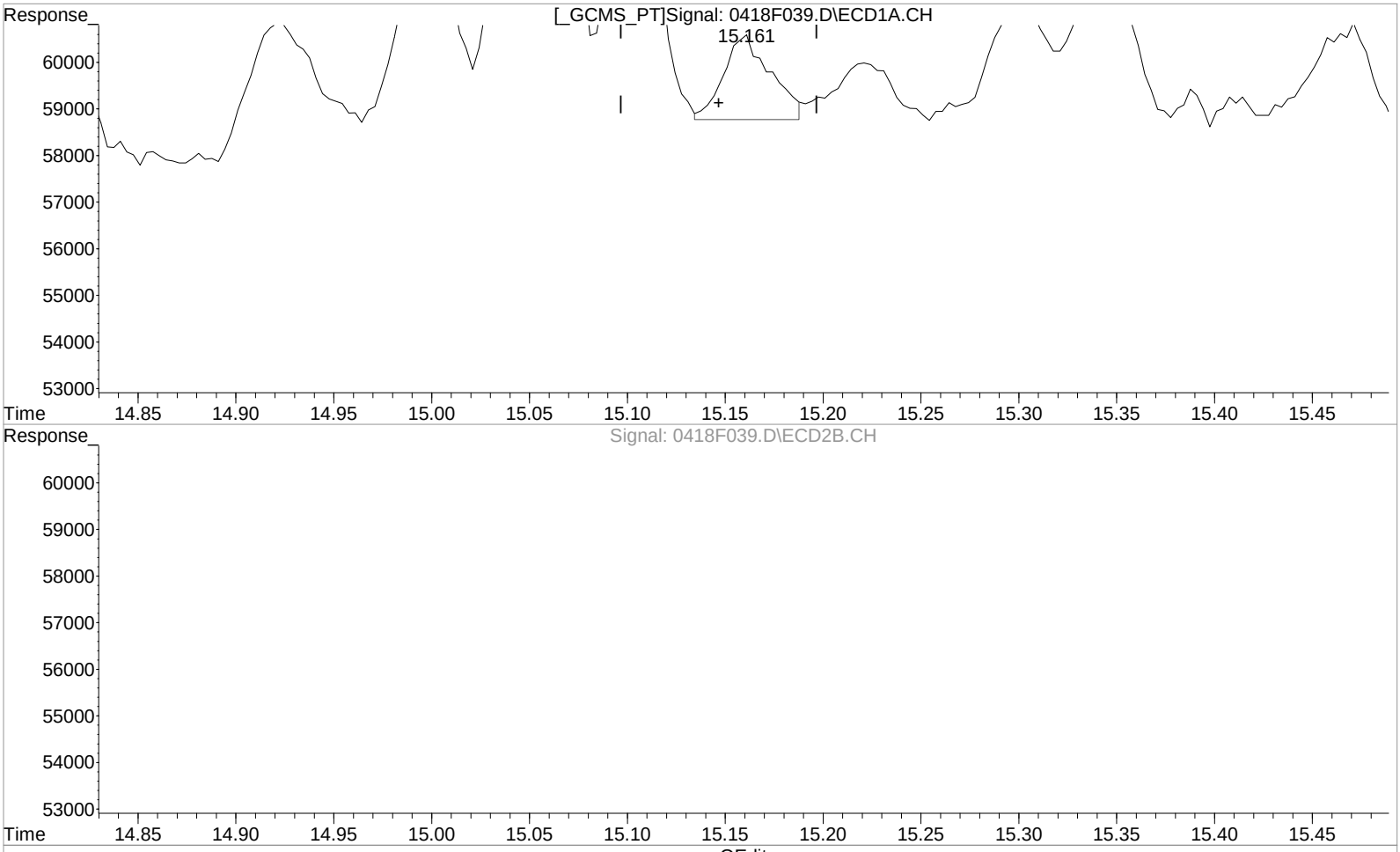
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.161min 0.220 ug/L m

response 3028

Manual Integration:

After

Baseline correction

04/21/20

(22) 4,4'-DDT #2

13.825min 4.035 ug/L

response 195927

(+) = Expected Retention Time

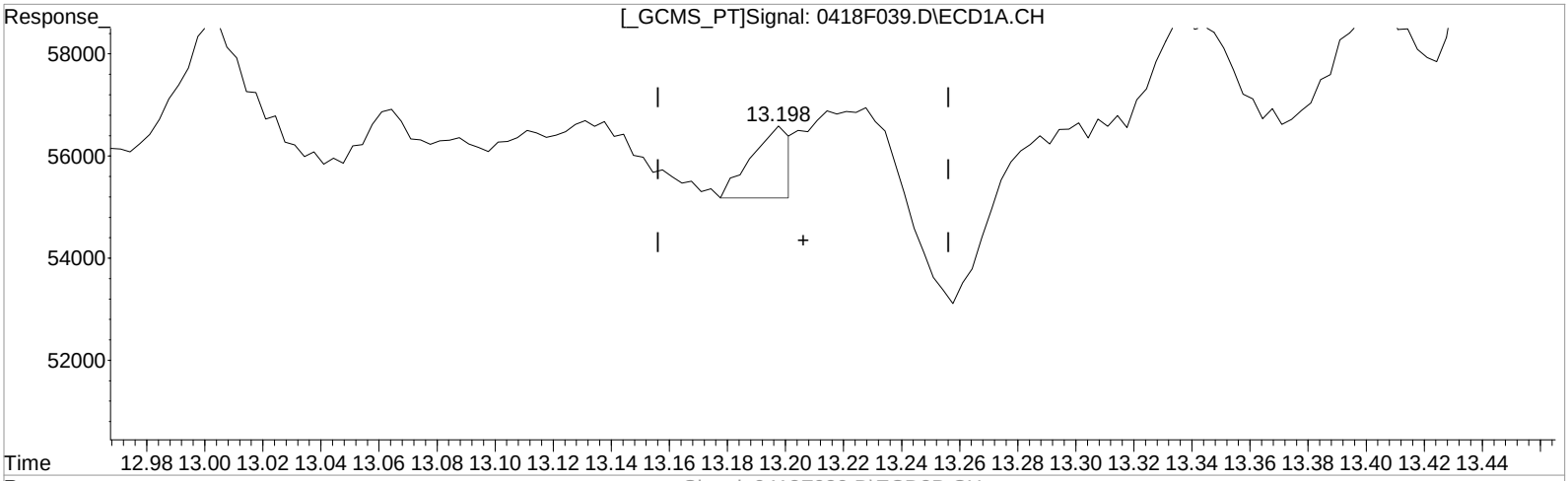
Quantitation Report (Qedit)

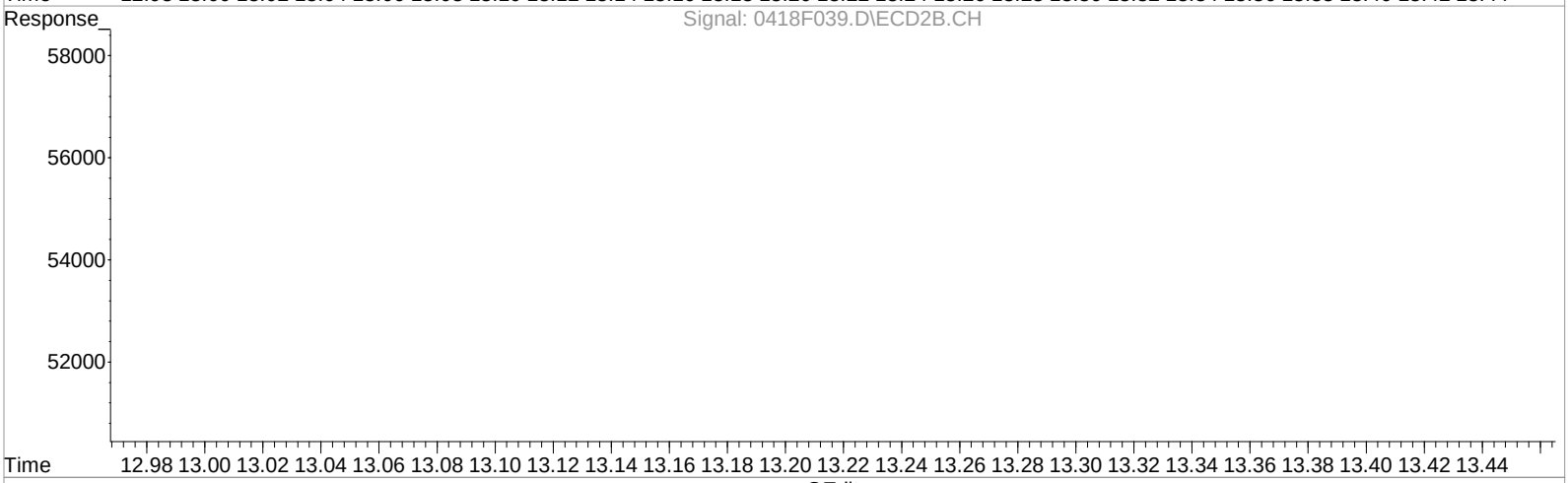
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.198min 0.108 ug/L

response 1283

Manual Integration:

Before

04/21/20

(25) 2,4'-DDE #2

12.018min 1.927 ug/L

response 84650

(+) = Expected Retention Time

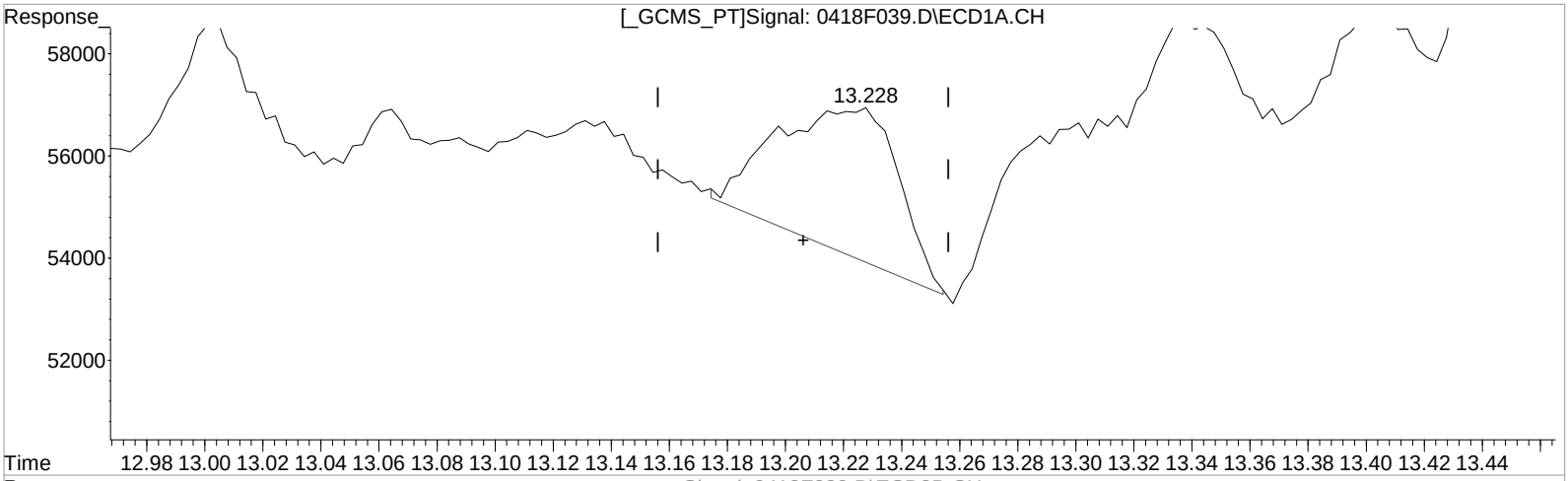
Quantitation Report (Qedit)

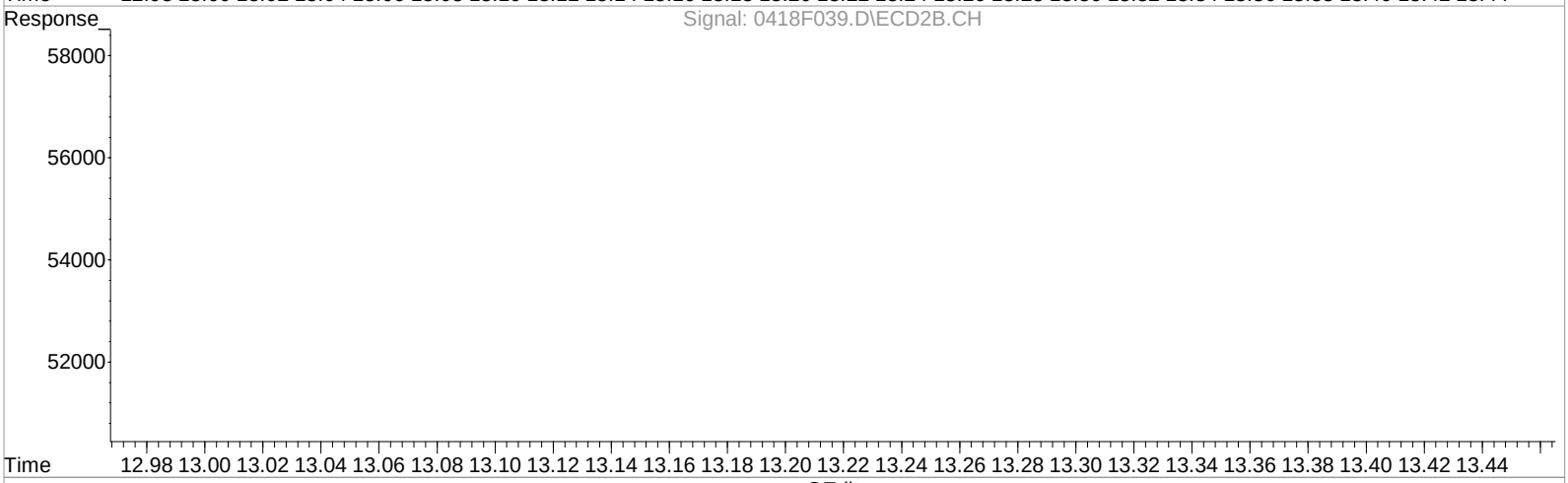
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(25) 2,4'-DDE

13.228min 0.680 ug/L m

response 8051

Manual Integration:

After

Split peak

04/21/20

(25) 2,4'-DDE #2

12.018min 1.927 ug/L

response 84650

(+) = Expected Retention Time

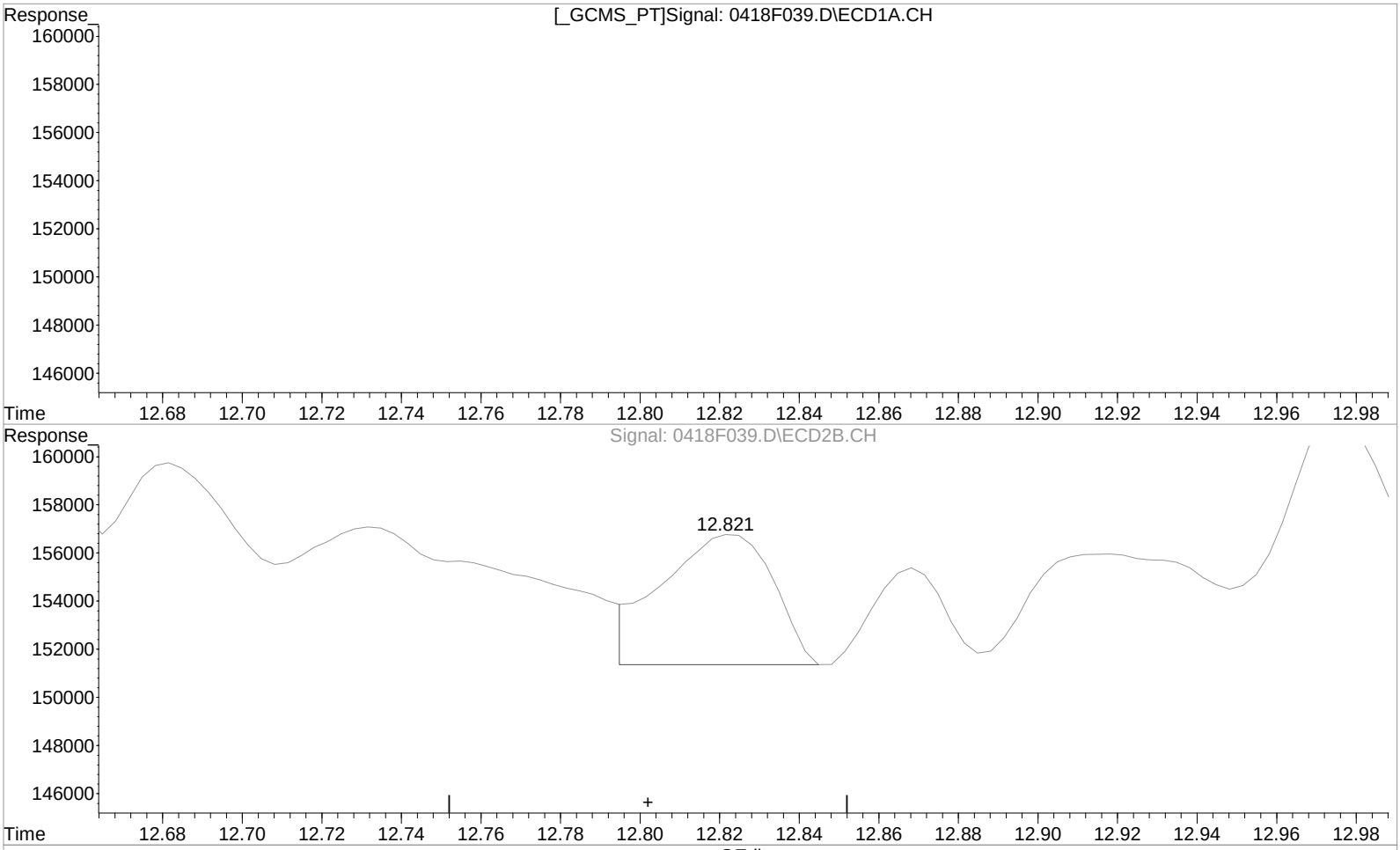
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(26) 2,4'-DDD

13.934min 0.635 ug/L

response 6609

Manual Integration:

Before

04/21/20

(26) 2,4'-DDD #2

12.821min 0.272 ug/L

response 10356

(+) = Expected Retention Time

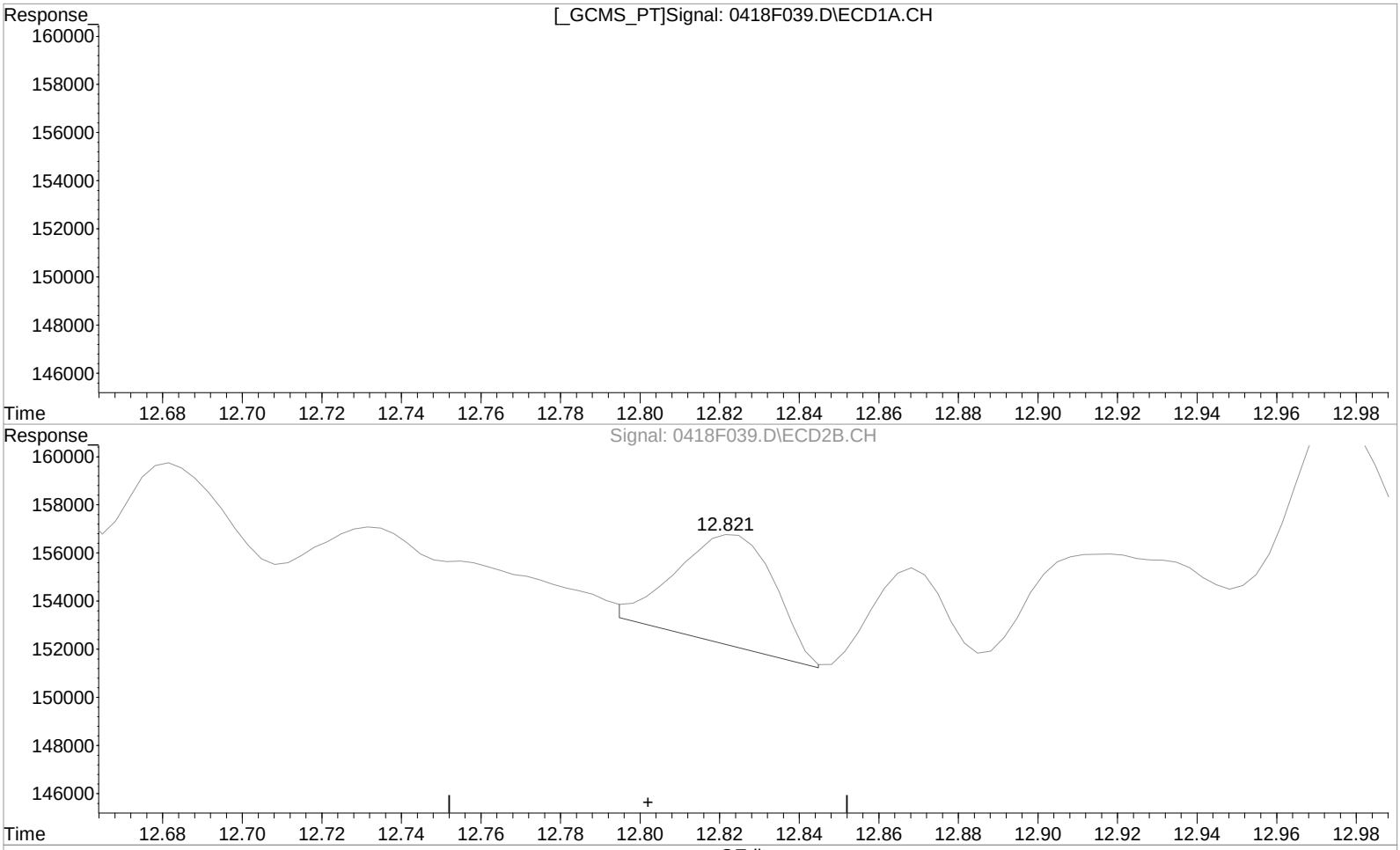
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(26) 2,4'-DDD

13.934min 0.635 ug/L

response 6609

Manual Integration:

After

Baseline correction

04/21/20

(26) 2,4'-DDD #2

12.821min 0.200 ug/L m

response 7622

(+) = Expected Retention Time

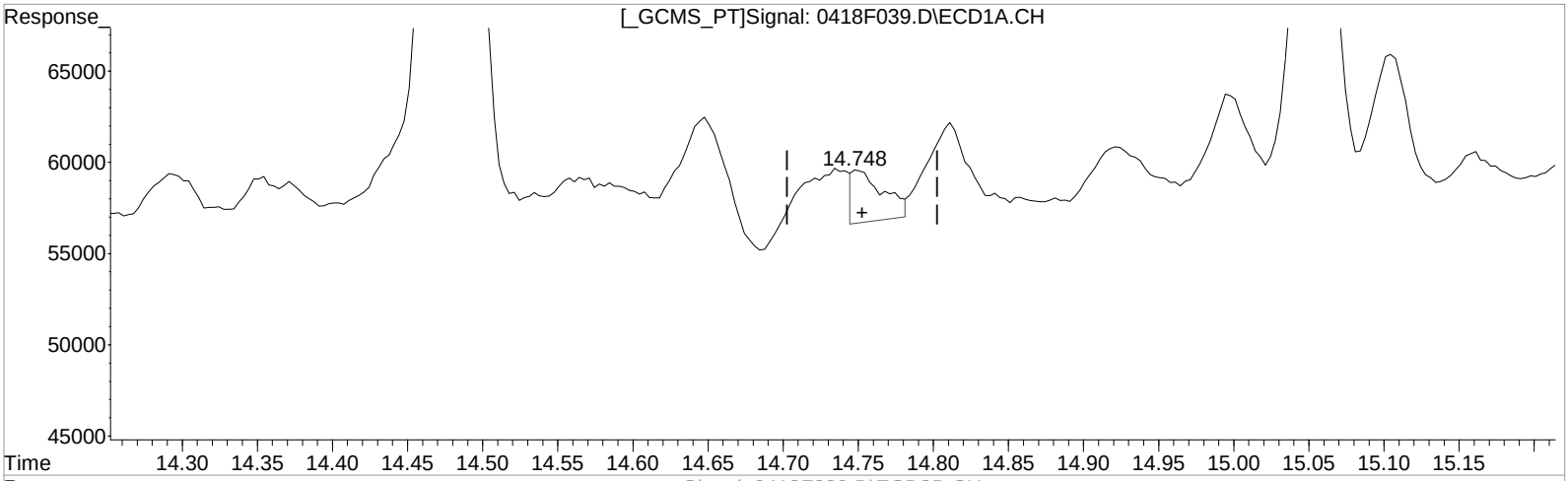
Quantitation Report (Qedit)

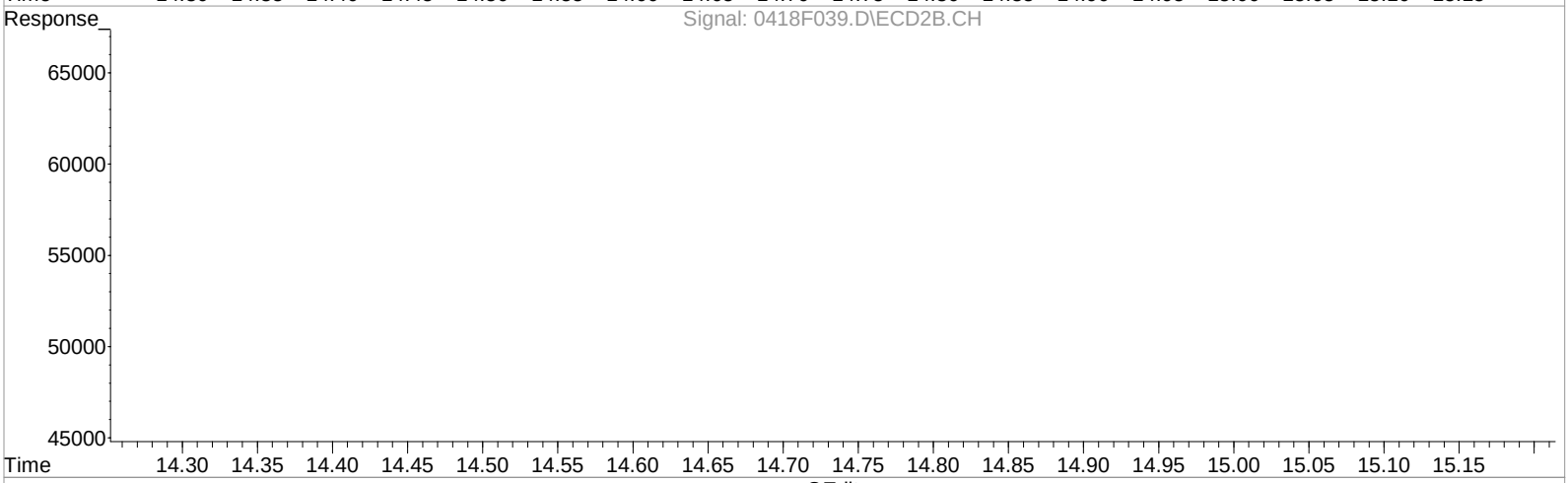
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.748min 22.627 ug/L

response 4083

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.388min 30.365 ug/L

response 32108

(+) = Expected Retention Time

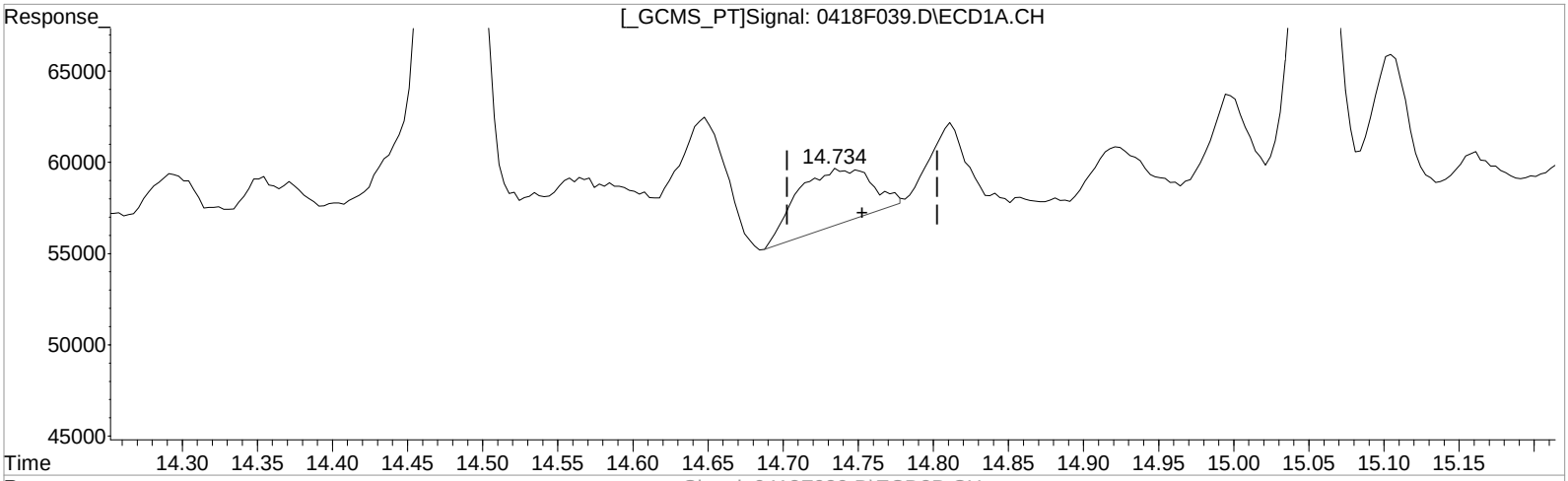
Quantitation Report (Qedit)

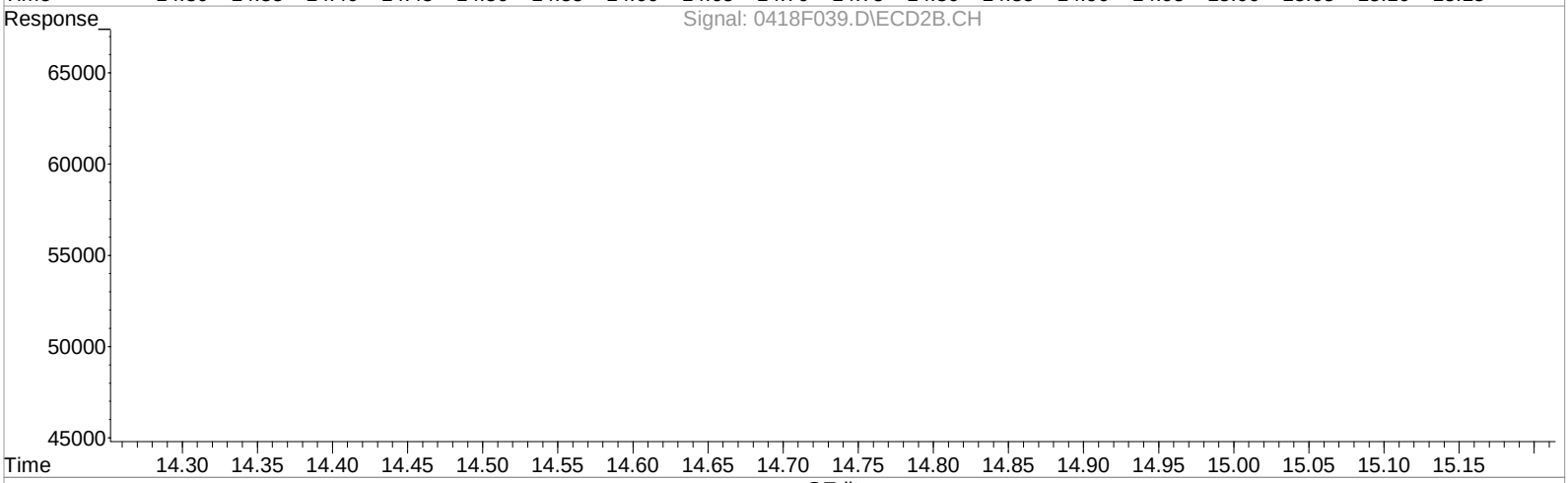
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.734min 60.488 ug/L m

response 10915

(30) Toxaphene #2

13.388min 30.365 ug/L

response 32108

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

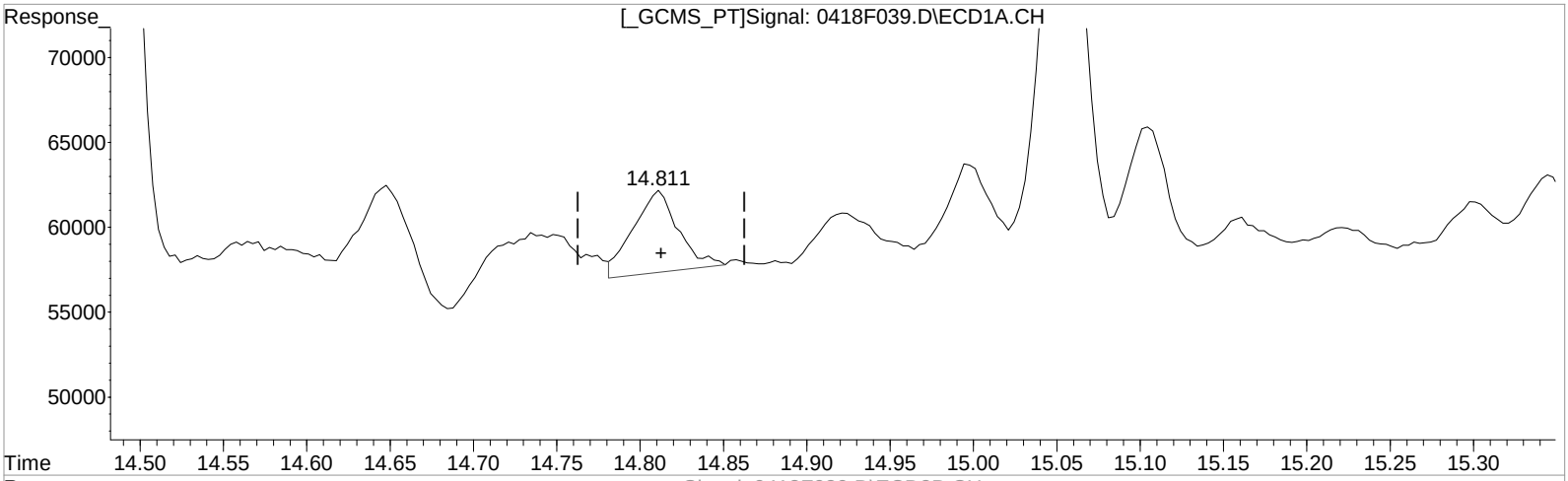
Quantitation Report (Qedit)

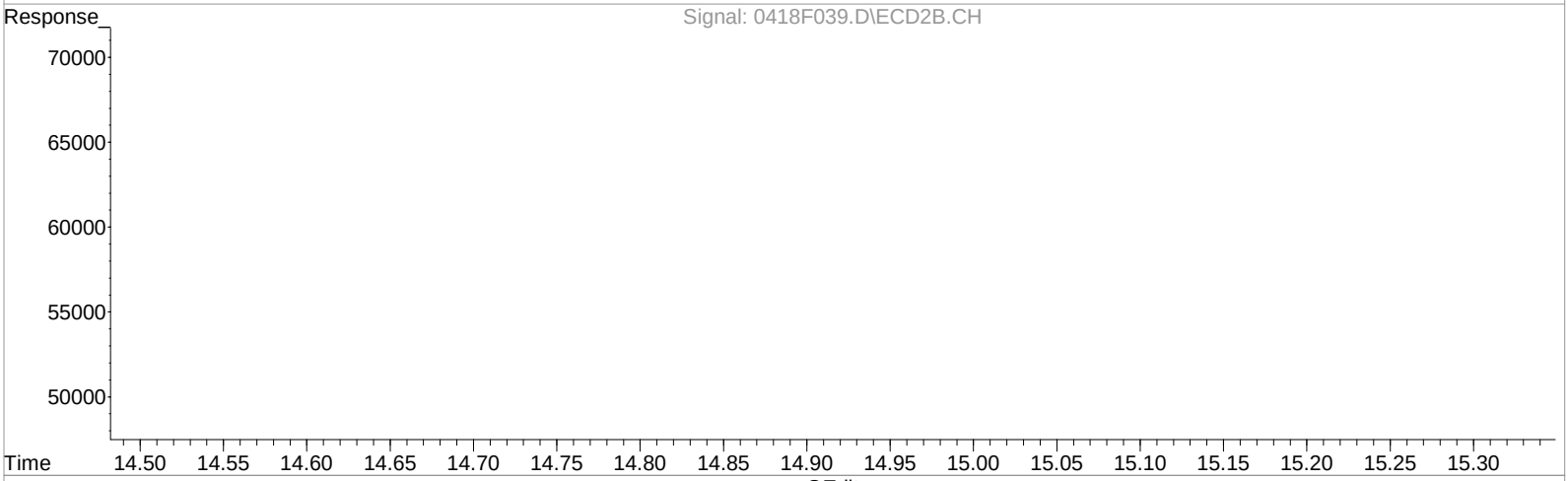
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.811min 55.722 ug/L

response 9095

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.455min 21.781 ug/L

response 17720

(+) = Expected Retention Time

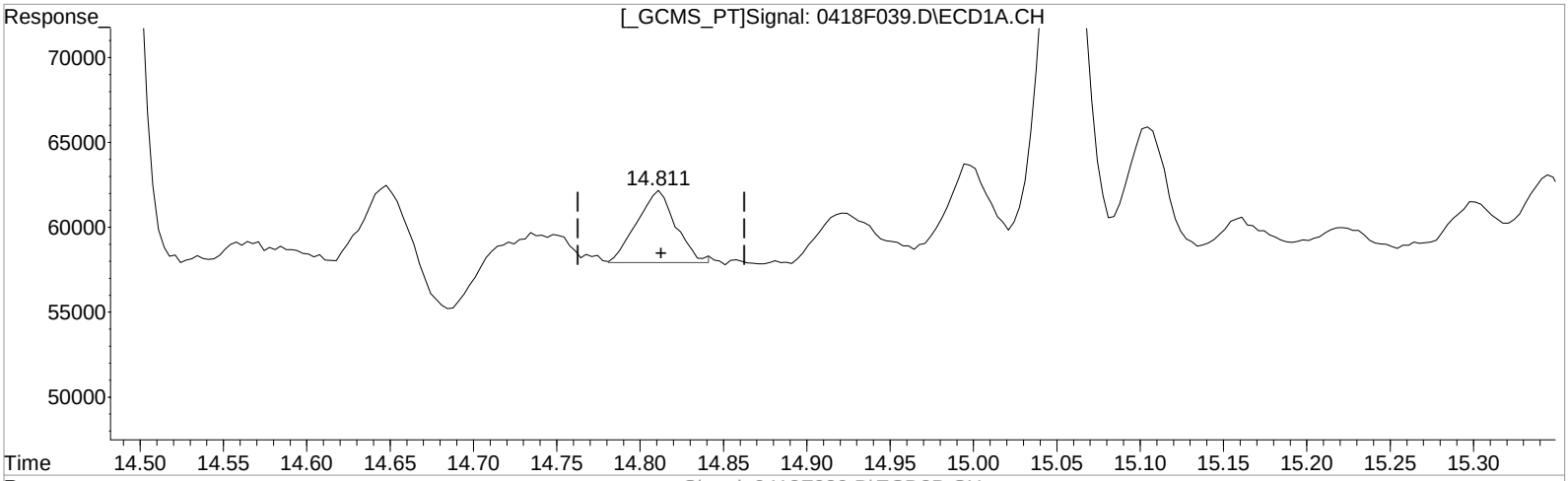
Quantitation Report (Qedit)

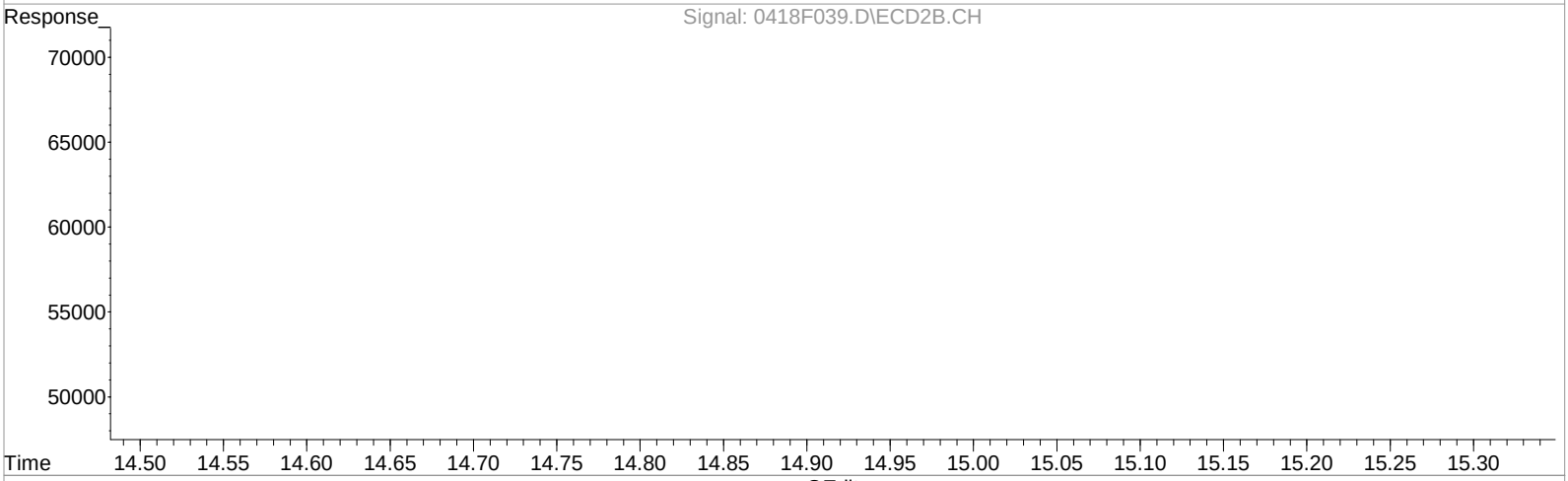
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.811min 42.256 ug/L m

response 6897

(31) Toxaphene {2} #2

13.455min 21.781 ug/L

response 17720

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

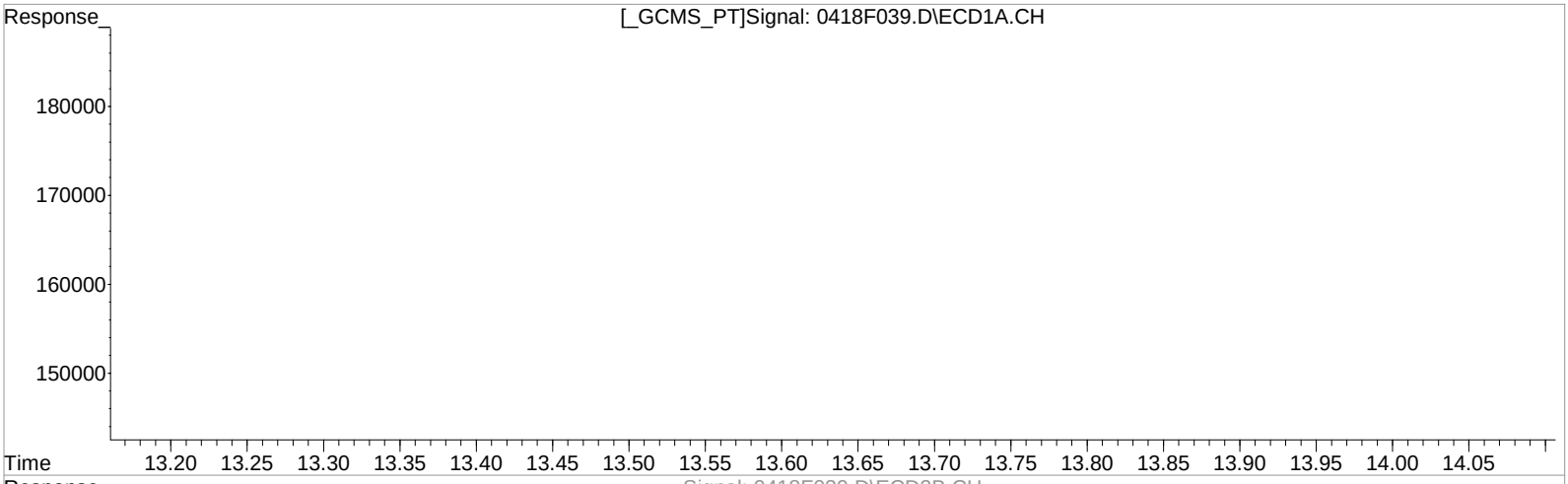
Quantitation Report (Qedit)

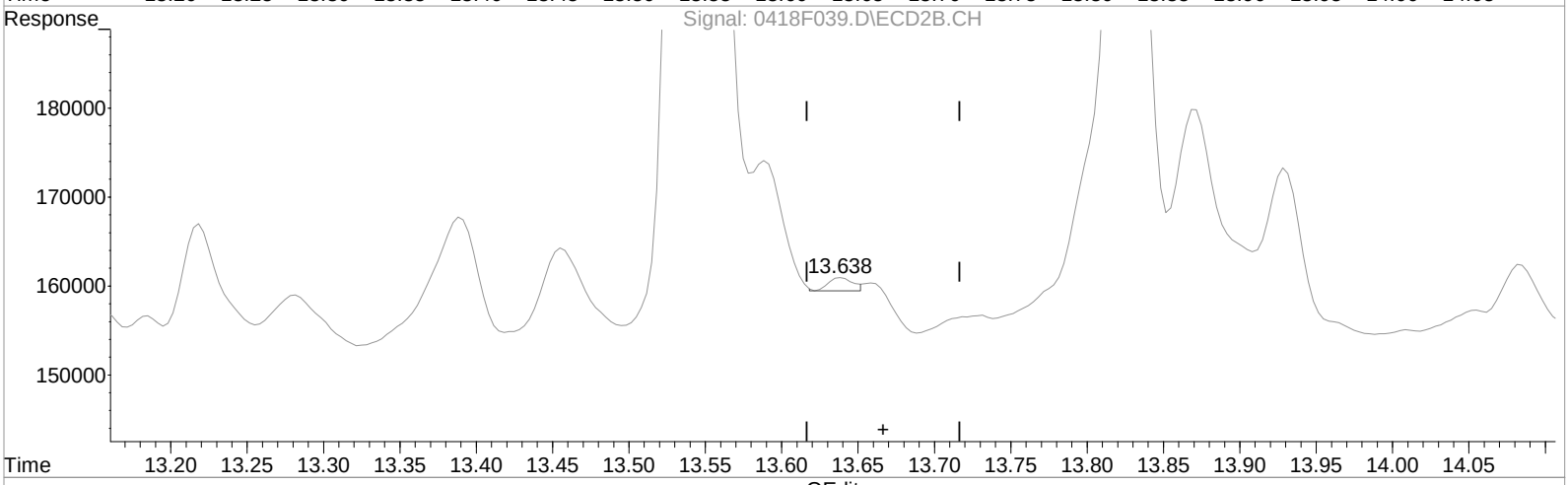
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.994min 49.874 ug/L

response 10909

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.638min -1.000 ug/L

response 1699

(+) = Expected Retention Time

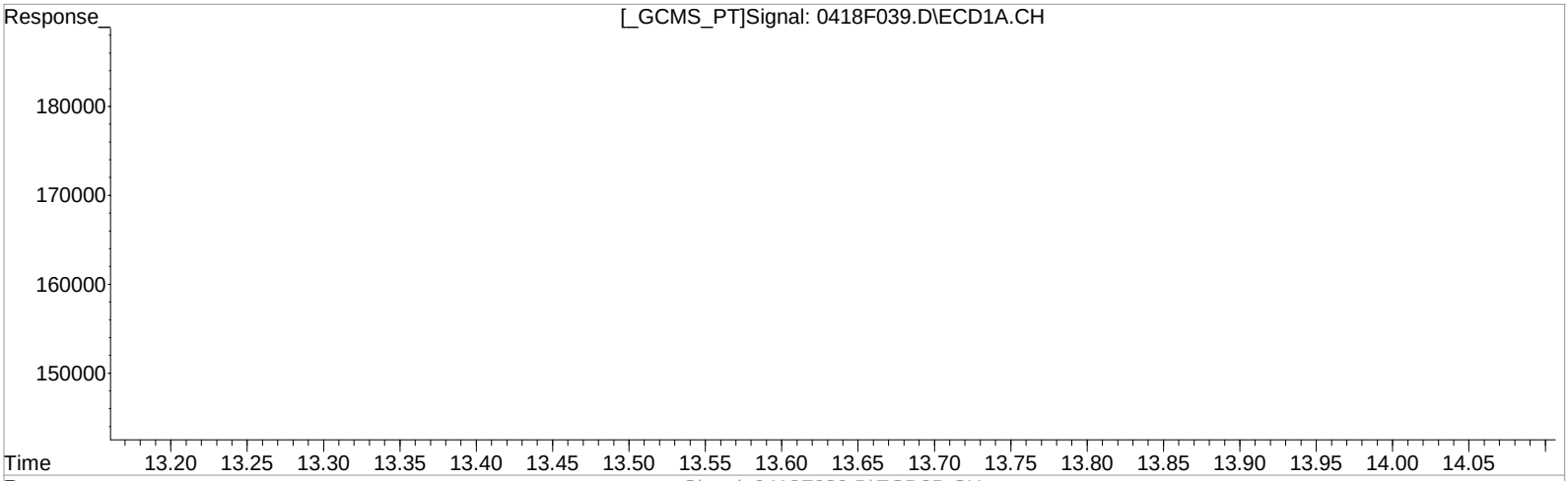
Quantitation Report (Qedit)

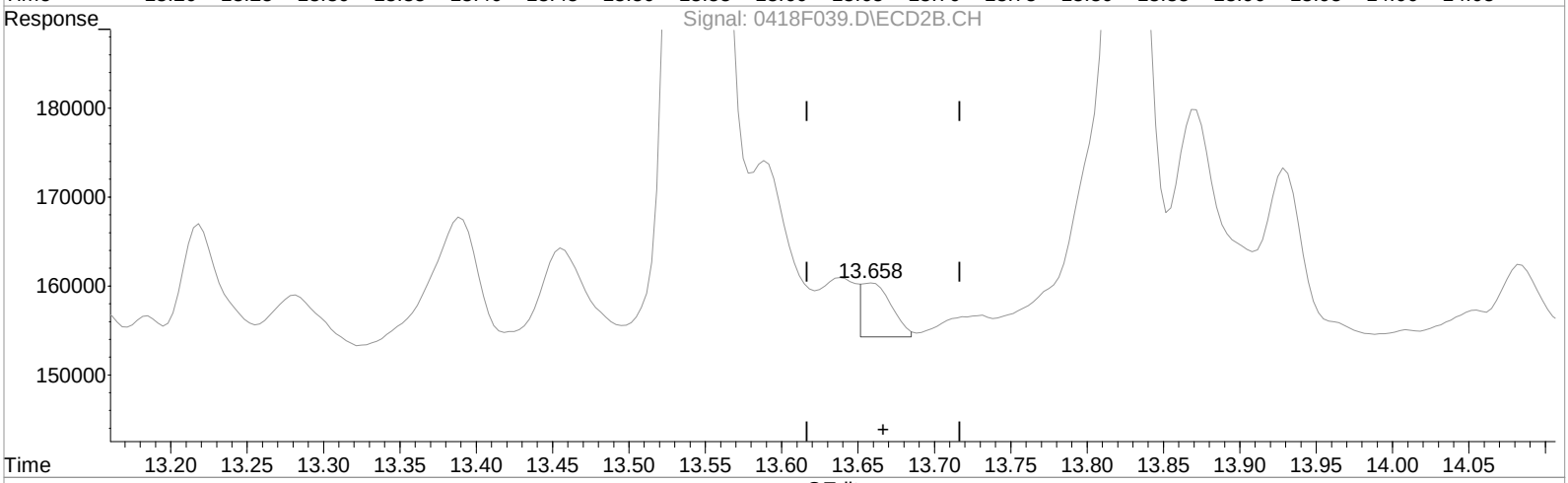
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.994min 49.874 ug/L

response 10909

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.658min 16.024 ug/L m

response 7589

(+) = Expected Retention Time

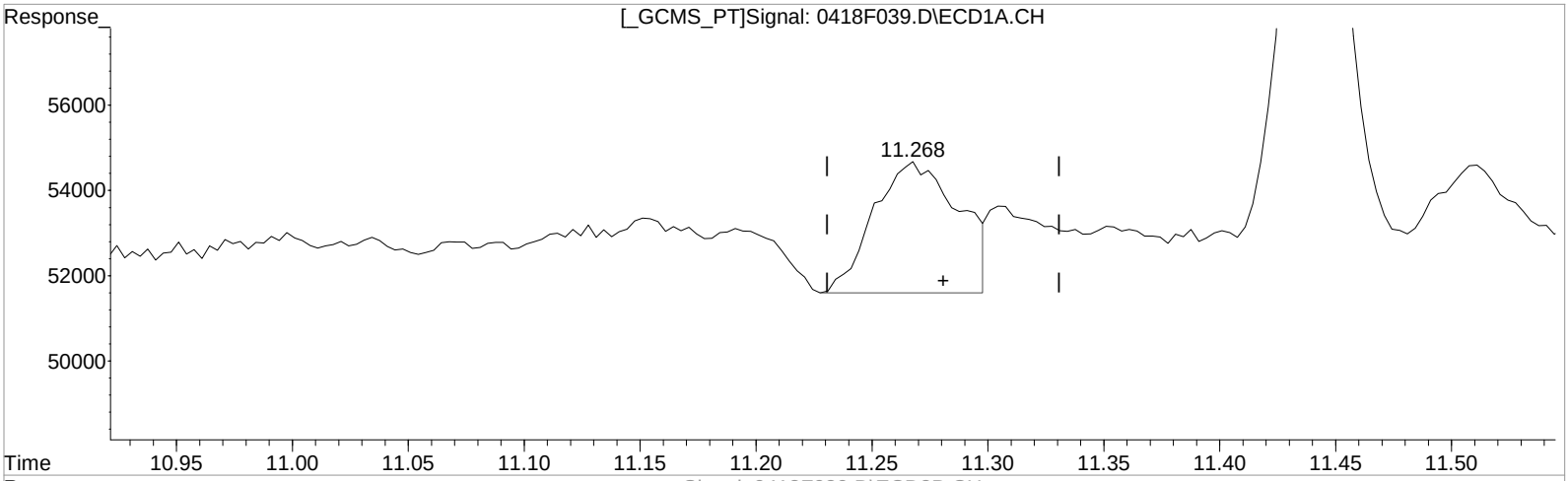
Quantitation Report (Qedit)

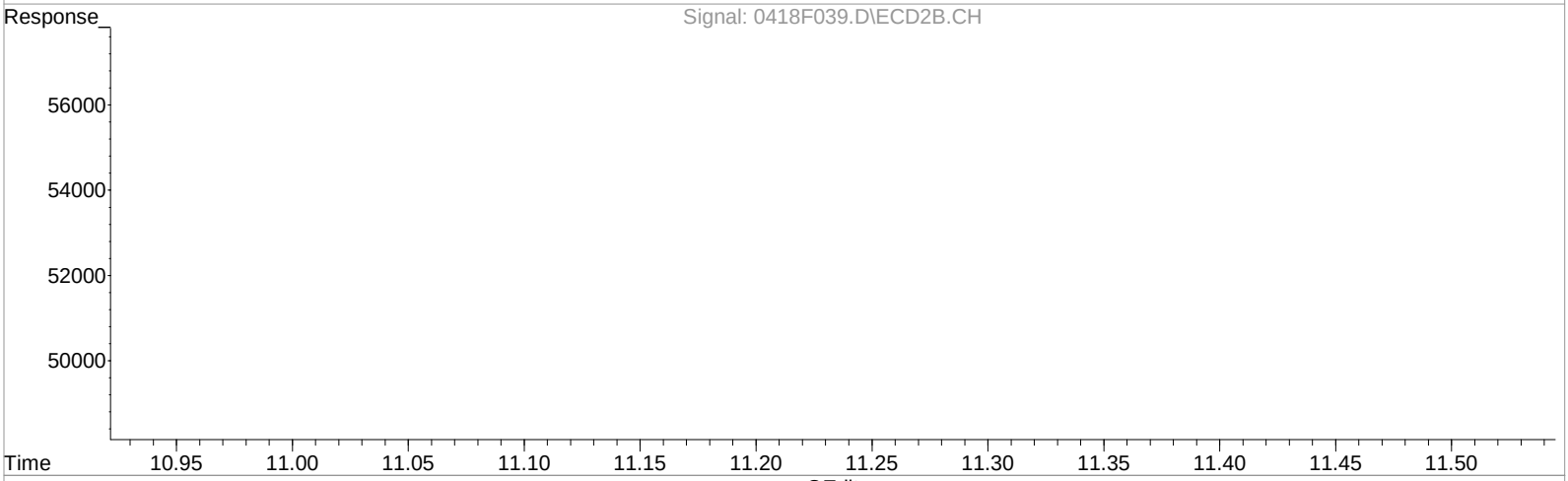
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(37) Chlordane

11.268min 10.533 ug/L

response 7886

Manual Integration:

Before

04/21/20

(37) Chlordane #2

9.568min 4.483 ug/L

response 11646

(+) = Expected Retention Time

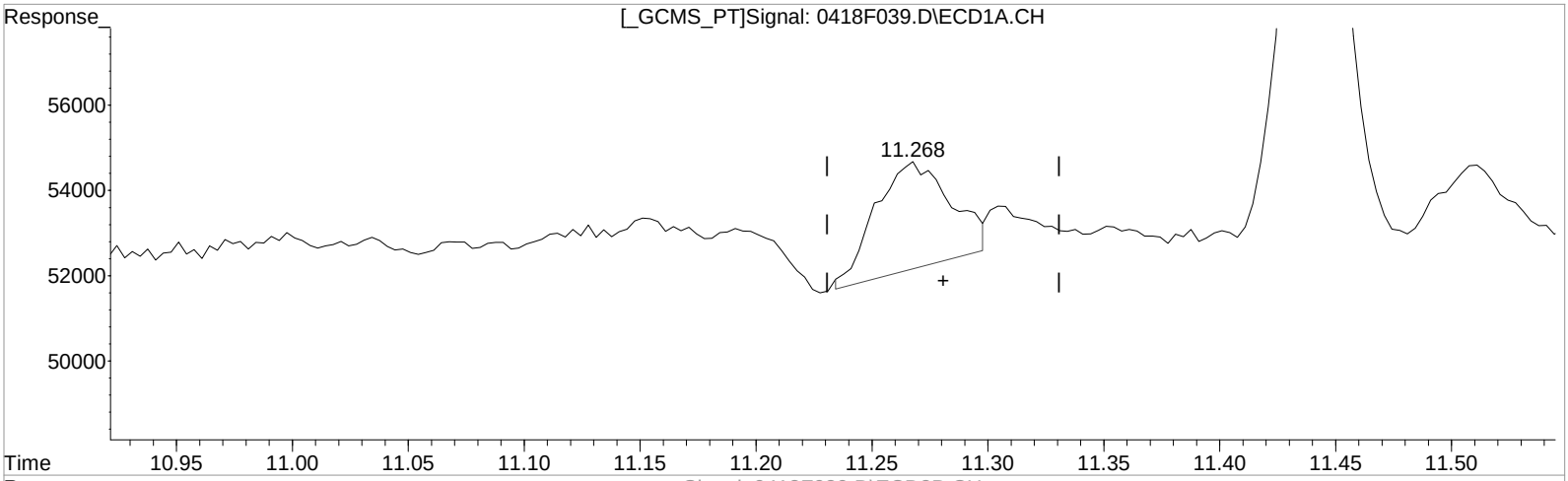
Quantitation Report (Qedit)

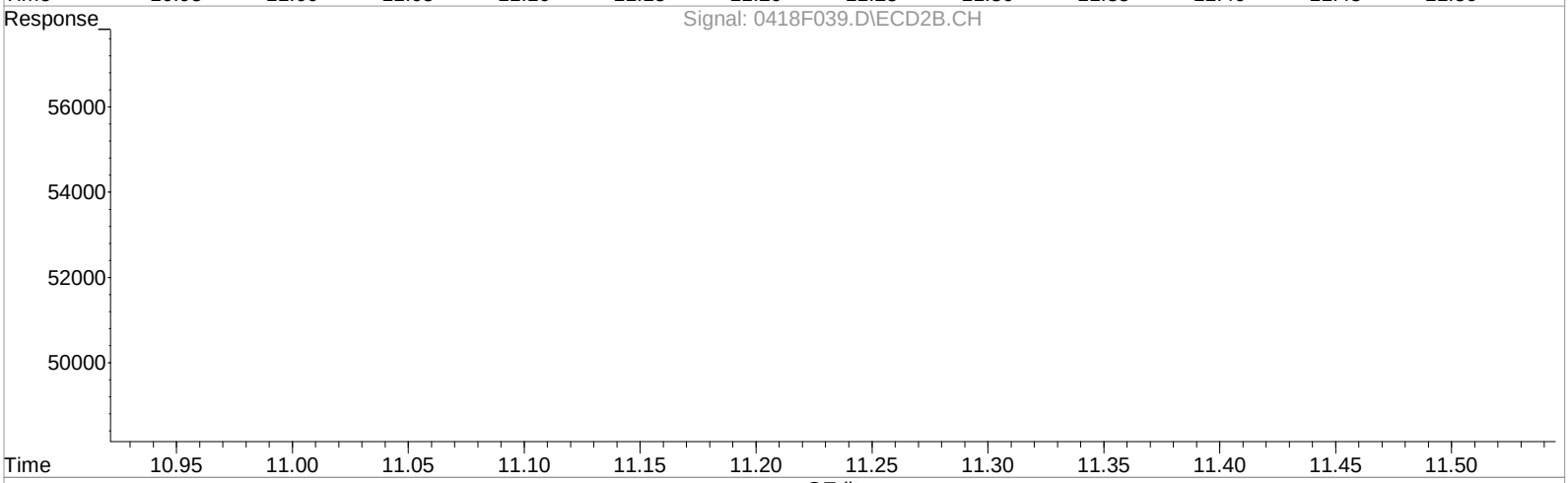
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(37) Chlordane

11.268min 7.676 ug/L m

response 5747

Manual Integration:

After

Baseline correction

04/21/20

(37) Chlordane #2

9.568min 4.483 ug/L

response 11646

(+) = Expected Retention Time

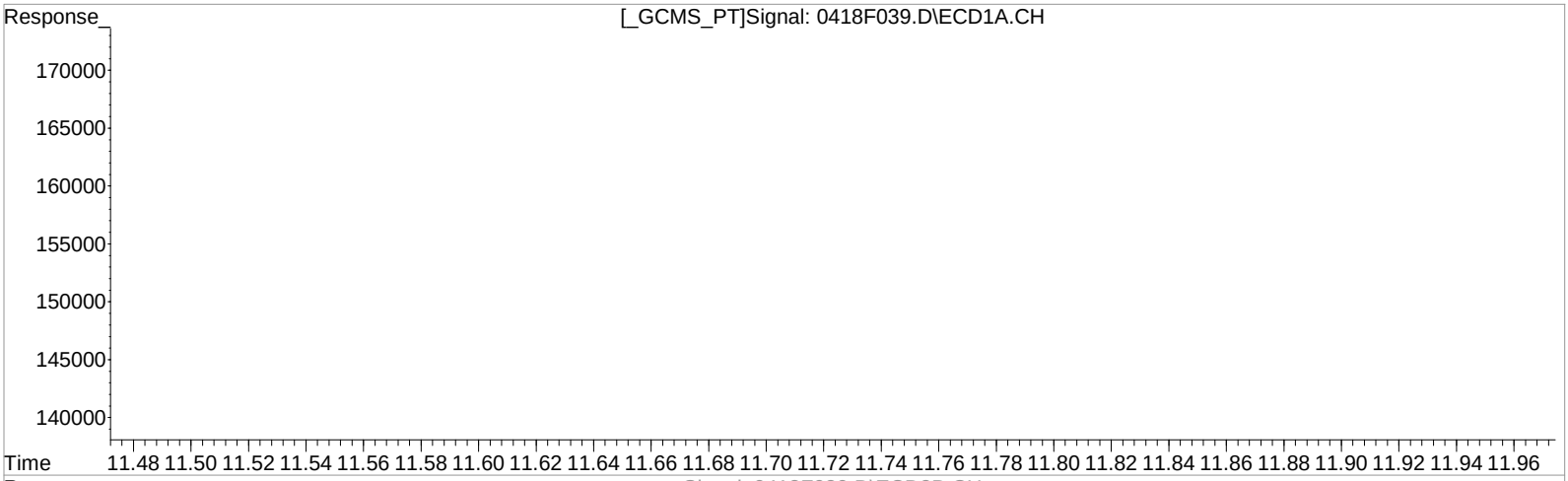
Quantitation Report (Qedit)

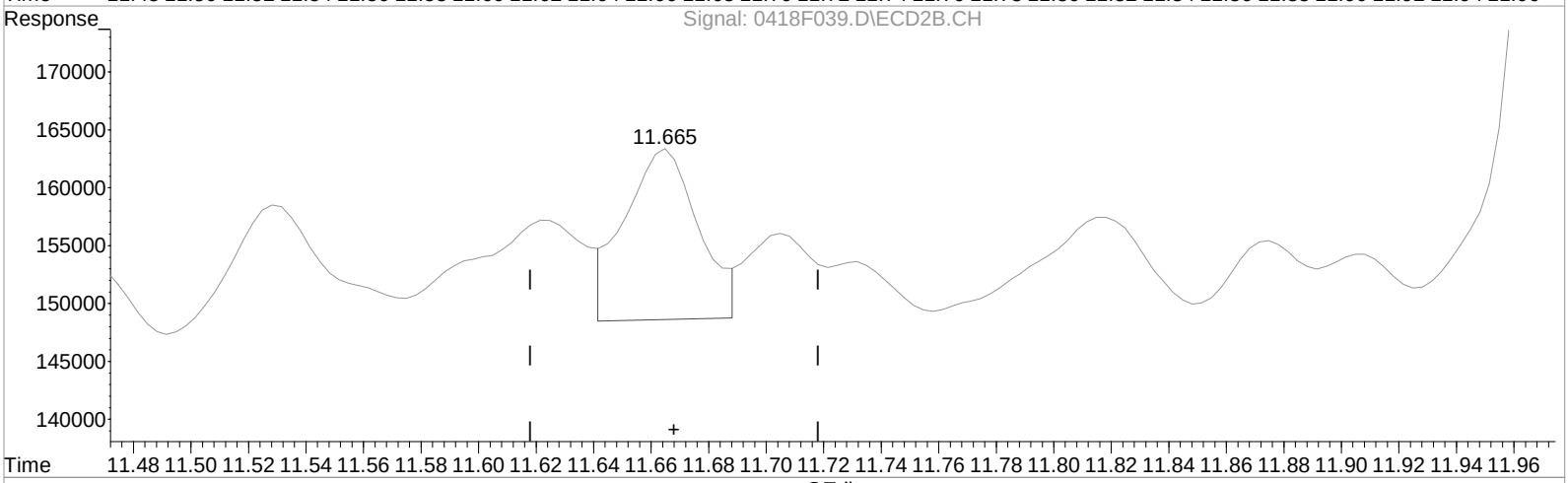
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.668min 1.096 ug/L

response 1039

Manual Integration:

Before

04/21/20

(38) Chlordane {2} #2

11.665min 14.785 ug/L

response 26192

(+) = Expected Retention Time

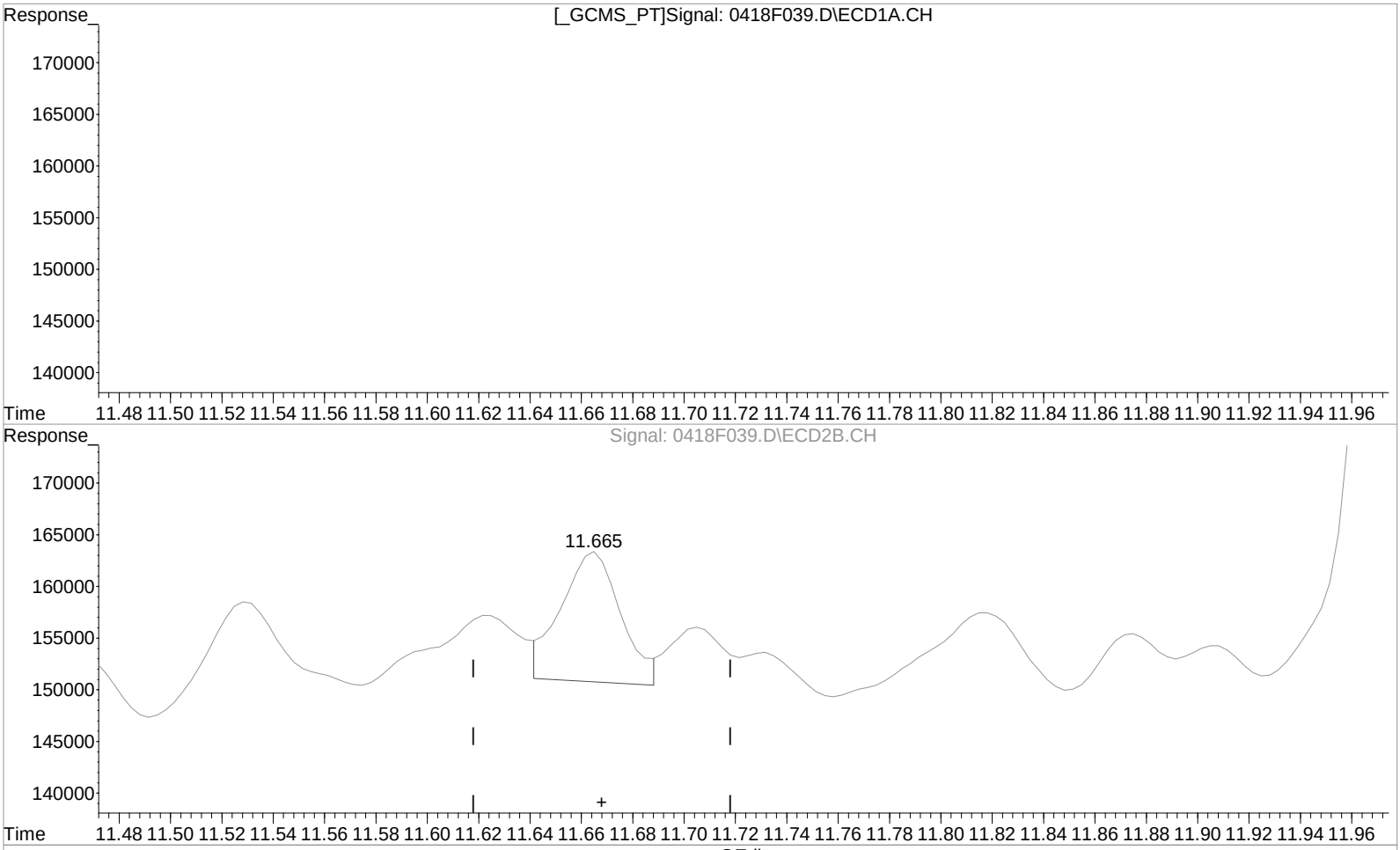
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(38) Chlordane {2}

11.668min 1.096 ug/L

response 1039

(38) Chlordane {2} #2

11.665min 11.386 ug/L m

response 20171

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

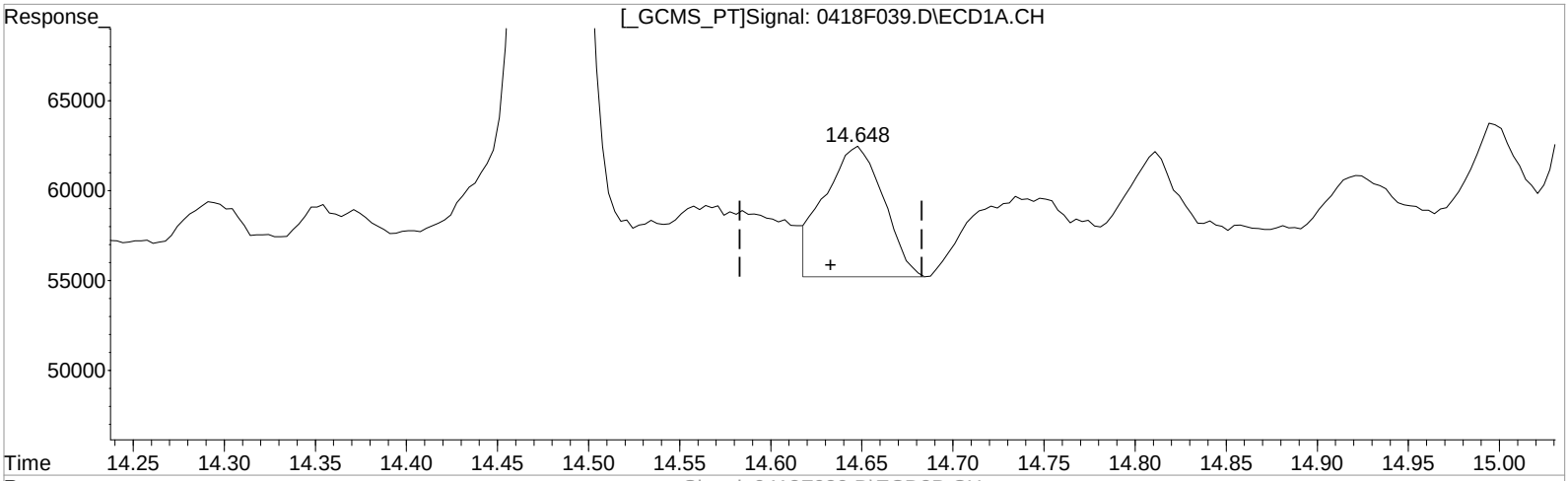
Quantitation Report (Qedit)

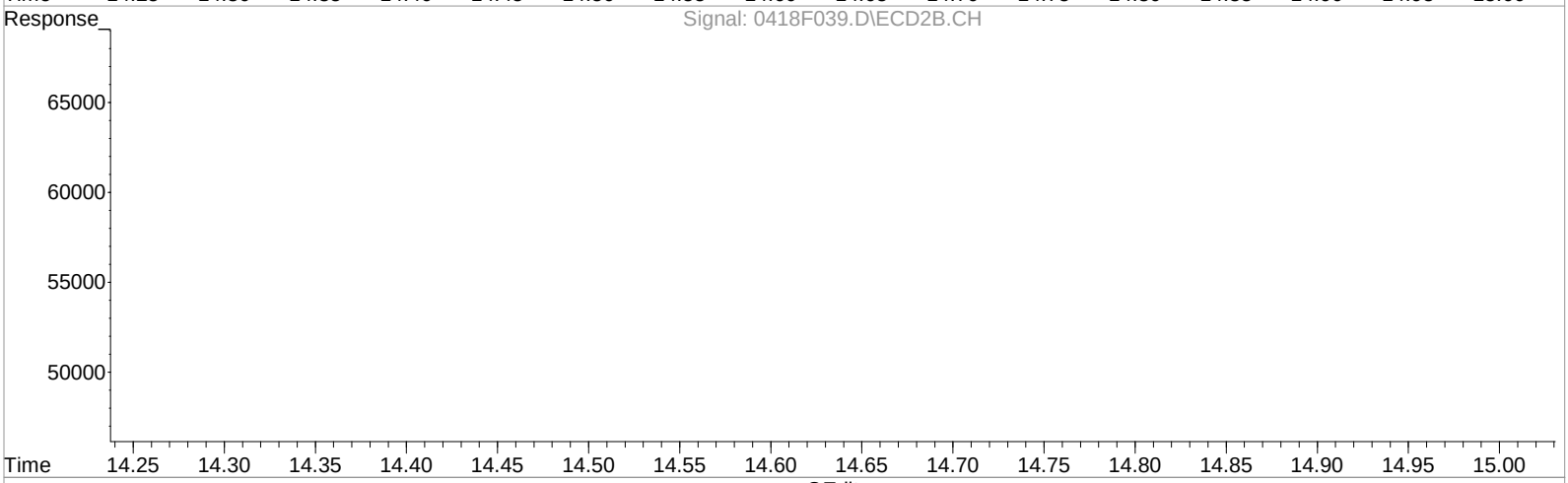
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.648min 0.884 ug/L

response 16258

Manual Integration:

Before

04/21/20

(46) cis-Nonachlor #2

13.218min 0.272 ug/L

response 19093

(+) = Expected Retention Time

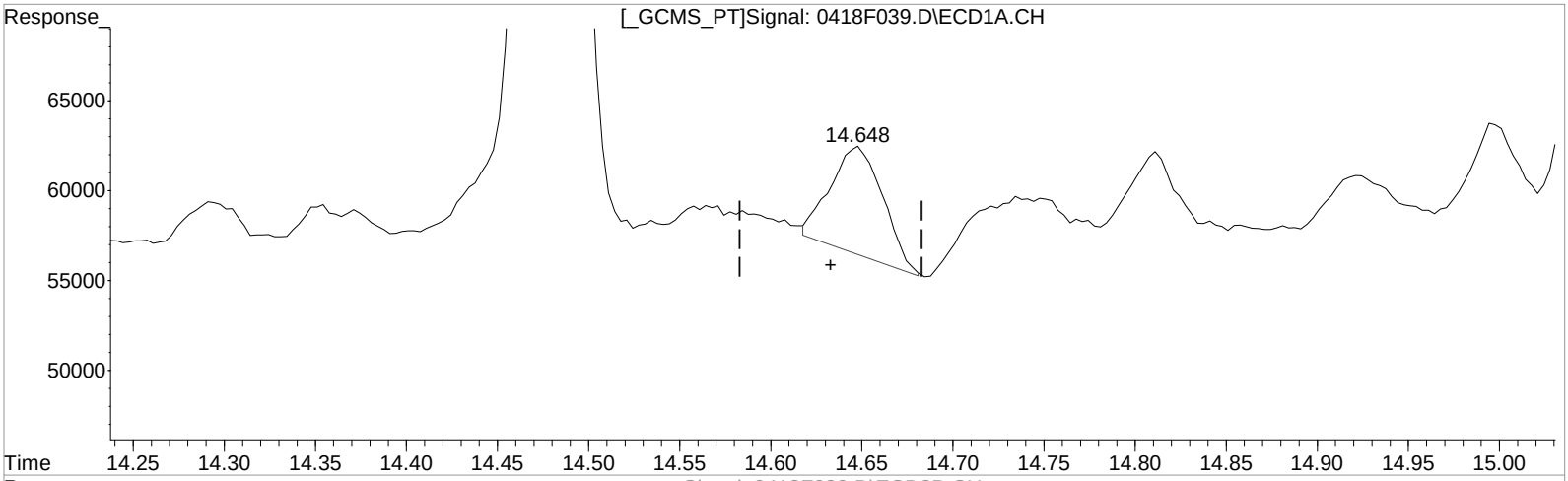
Quantitation Report (Qedit)

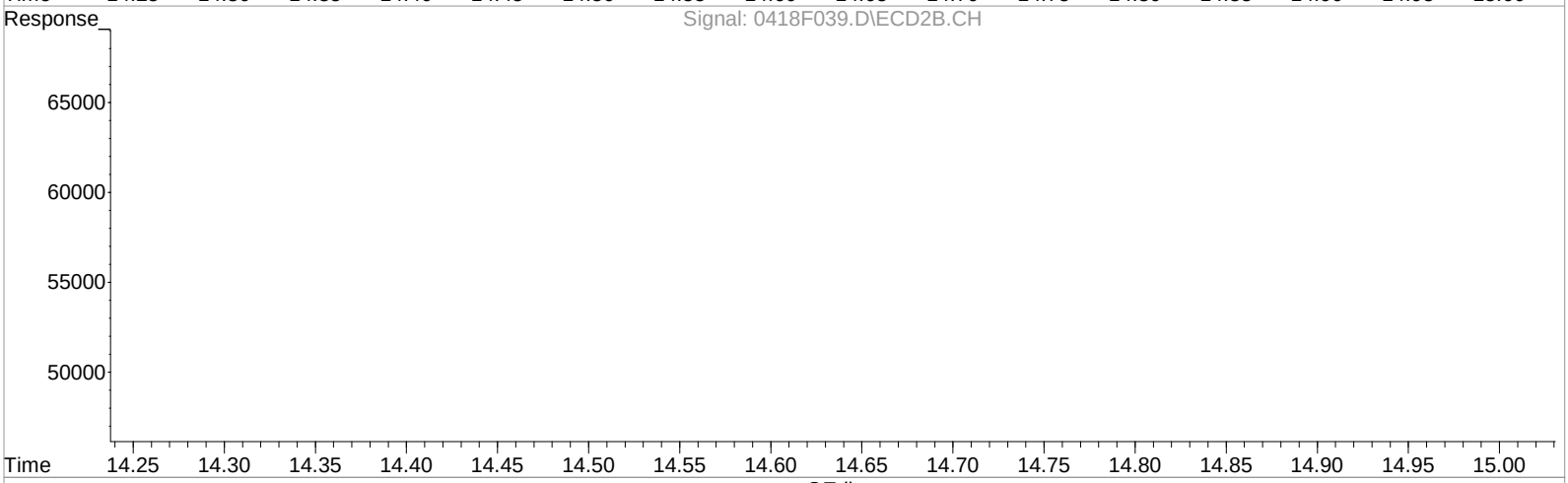
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F039.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:22 pm Operator: LM
Sample : K2002652-011 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:33:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.648min 0.640 ug/L m

response 11766

Manual Integration:

After

Baseline correction

04/21/20

(46) cis-Nonachlor #2

13.218min 0.272 ug/L

response 19093

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F040.D\
Lab ID: K2002652-012
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 14:52:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	Chlordane {6}	13.58			SA
	trans-Nonachlor	13.58			
	1-Bromo-2-nitrobenzene	6.20			
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	Chlordane {5}	12.02			
	2,4'-DDE	12.02			
	trans-Nonachlor	12.02			
	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F040.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 14:52:00	**Vial:**	5
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-012	**Raw Units:**	ug/L

Bottle ID:	K2002652-012.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1151284	4975442	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1151284	4975442	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1151284	4975442	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07	76394	264255	3.729	3.295	75	66	66	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.26 -0.01	97690	281041	5.852	4.558	117	91	91	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U		Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U		Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U		Y
gamma-BHC (Lindane)	10.51 +0.02	0.00	5052	0	0.272	0.000	1.4J	0U	0.60 U		Y
Chlordane					1.7172	1.3358	8.6J	6.7J	**6.7** J		Y
Chlordane {1}	11.30 +0.03	9.59 +0.02	3102	10647	3.952	3.920	20	20			
Chlordane {2}	11.67 -0.02	11.66 -0.01	1771	1996	1.781	1.078	8.9	5.4		P	
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0			
Chlordane {4}	13.45	11.97	1401	3668	0.647	0.493	3.2	2.5			
Chlordane {5}	13.53	12.02 c	1568	3327	0.875	0.730	4.4	3.7			
Chlordane {6}	13.58 -0.01 c	12.12	1750	3024	1.331	0.458	6.7	2.3		P	
Dieldrin	14.00	12.63 -0.01	4736	18040	0.249	0.247	1.2	1.2	**1.2**		Y
Heptachlor	0.00	9.93	0	76569	0.000	0.982	0U	4.9	0.61 U		Y
Heptachlor Epoxide	12.94 +0.01	0.00	1900	0	0.098	0.000	0.49J	0U	0.29 U		Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U		Y
Toxaphene					0	0	0U	0U	49 U		Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F040.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 14:52:00	**Vial:**	5
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-012	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F040.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:52 pm Operator: LM
Sample : K2002652-012 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:47:59 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.199	5.483	1151284	4975442	100.000	100.000
29)	1-Bromo-2...	6.199	5.483	1151284	4975442	100.000	100.000
36)	1-Bromo-2...	6.199	5.483	1151284	4975442	100.000	100.000
43)	1-Bromo-2...	6.199	5.483	1151284	4975442	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.976	7.263	97690	281041	5.852	4.558
28) s	Decachlor...	18.673	17.066	76394	264255	3.729	3.295
	Target Compounds						
6)	gamma-BHC...	10.513	0.000	5052	0	0.272	N.D. #
8)	Heptachlor	0.000	9.926	0	76569	N.D. d	0.982
11)	Heptachlo...	12.939	0.000	1900	0	0.098	N.D. d#
15)	Dieldrin	13.999	12.633	4736	18040	0.249	0.247
18)	Endosulfa...	14.813	13.543	3495	9068	0.199	0.144 #
19)	4,4'-DDD	0.000	13.390	0	2926	N.D. d	0.056
20)	Endrin Al...	15.003	13.930	1575	1953	0.103	0.038 #
22)	4,4'-DDT	0.000	13.826f	0	14824	N.D. d	0.292
23)	Endrin Ke...	0.000	15.183	0	4256	N.D.	0.057 #
24)	Methoxychlor	15.879	0.000	8597	0	0.982	N.D. #
25)	2,4'-DDE	0.000	12.020	0	3327	N.D. d	0.072
26)	2,4'-DDD	0.000	12.823	0	7514	N.D.	0.189 #
27)	2,4'-DDT	14.479f	0.000	2793	0	0.224	N.D. #
37)	Chlordane	11.303	9.586	3102	10647	3.952	3.920
38)	Chlordane...	11.669	11.663	1771	1996	1.781	1.078 #
40)	Chlordane...	13.453	11.970	1401	3668	0.647	0.493
41)	Chlordane...	13.526	12.020	1568	3327	0.875	0.730
42)	Chlordane...	13.579f	12.123	1750	3024	1.331	0.458 #
44)	Chlorpyrifos	12.099	0.000	8246	0	0.777	N.D. d#
47)	trans-Non...	13.579	12.020	1750	3327	0.090	0.046 #

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

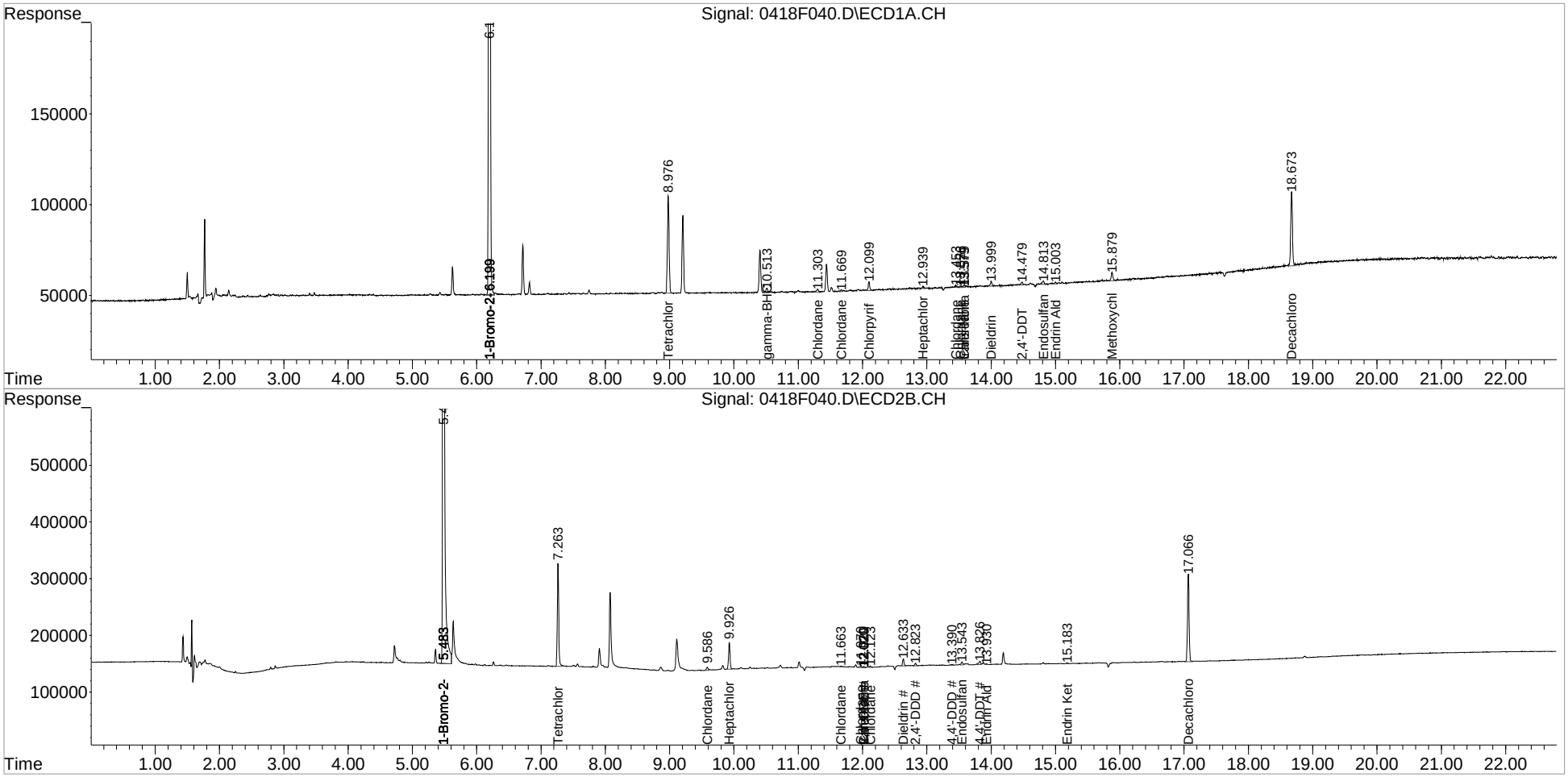
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F040.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:52 pm Operator: LM
Sample : K2002652-012 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:47:59 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F041.D\
Lab ID: K2002652-013
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 15:21:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	cis-Chlordane	13.53			see Quant Report
	trans-Chlordane	13.45			
	Chlordane {4}	13.45			
	Chlordane {5}	13.53			
	Chlordane {6}	13.61			
	4,4'-DDD	14.65			
	Endosulfan I	13.61			
	Endosulfan II	14.81			
	Endrin Aldehyde	15.00			
	cis-Nonachlor	14.65			
	trans-Nonachlor	13.61			
	Toxaphene {2}	14.81			
	Toxaphene {4}	15.00			
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.12			see Quant Report
	trans-Chlordane	11.97			
	Chlordane {4}	11.97			
	Chlordane {5}	12.02			
	Chlordane {6}	12.12			

Primary Review: _____

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	4,4'-DDD	13.39			see Quant Report
	2,4'-DDE	12.02			
	2,4'-DDT	13.22			
	Endrin Aldehyde	13.93			
	cis-Nonachlor	13.22			
	trans-Nonachlor	12.02			
	Toxaphene {1}	13.39			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.49			SA
	1-Bromo-2-nitrobenzene {2}	5.49			
	1-Bromo-2-nitrobenzene {3}	5.49			
	1-Bromo-2-nitrobenzene {4}	5.49			

Primary Review: _____

Printed: 4/22/20 12:43

Secondary Review: _____

\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F041.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 15:21:00	**Vial:**	6
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-013	**Raw Units:**	ug/L

Bottle ID:	K2002652-013.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.49 c	1222992	5309747	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.49 c	1222992	5309747	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.49 +0.01 c	1222992	5309747	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07	68854	235063	3.164	2.746	63	55	55	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.27	78931	282712	4.451	4.297	89	86	86	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	12.21	0.00	1843	0	0.094	0.000	0.47U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	9.79 +0.01	0	4265	0.000	0.107	0U	0.54J	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					14.6714	15.102	73	76	**73**	Y
Chlordane {1}	11.27	9.57	6899	22333	8.275	7.705	41	39		
Chlordane {2}	0.00	11.66 -0.01	0	25246	0.000	12.772	0	64		
Chlordane {3}	12.26 +0.01	11.81 -0.01	4619	22046	6.094	16.800	30	84		P
Chlordane {4}	13.45 c	11.97 c	51592	139038	22.424	17.494	110	87		
Chlordane {5}	13.53 c	12.02 c	36714	82939	19.293	17.044	96	85		
Chlordane {6}	13.61 c	12.12 c	24128	132444	17.271	18.797	86	94		
Dieldrin	14.00	12.63 -0.01	122262	466359	6.059	5.979	30	30	**30**	Y
Heptachlor	0.00	9.93	0	35573	0.000	0.428	0U	2.1	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					3333333333	6666666666	360	330	**330**	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F041.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 15:21:00	**Vial:**	6
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-013	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74	13.39	c	13047	58692	64.927	49.745	320	250		
Toxaphene {2}	14.81 +0.01 c	13.46 +0.01		18628	43198	102.486	47.588	510	240		P
Toxaphene {3}	14.93 +0.01	13.59		18652	57991	51.500	46.367	260	230		
Toxaphene {4}	15.00 +0.01 c	13.66		11567	33083	47.488	78.124	240	390		P
Toxaphene {5}	15.34	13.93	c	18680	61299	80.484	96.451	400	480		
Toxaphene {6}	15.53 +0.01	15.43		9424	28582	89.143	83.021	450	420		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:55:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.200	5.487	1222992	5309747	100.000	100.000
29)	1-Bromo-2...	6.200	5.487	1222992	5309747	100.000	100.000
36)	1-Bromo-2...	6.200	5.487	1222992	5309747	100.000	100.000
43)	1-Bromo-2...	6.200	5.487	1222992	5309747	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.977	7.267	78931	282712	4.451	4.297
28) s	Decachlor...	18.673	17.067	68854	235063	3.164	2.746
	Target Compounds						
5)	beta-BHC	0.000	9.787	0	4265	N.D.	0.107 #
8)	Heptachlor	0.000	9.930	0	35573	N.D.	0.428 #
9)	Aldrin	12.213	0.000	1843	0	0.094	N.D. d#
10)	Isodrin	12.723	0.000	5534	0	0.329	N.D. d#
12)	gamma-Chl...	13.453	11.974	51592	139038	2.502	1.753 #
13)	Endosulfan I	13.613f	0.000	24128	0	1.283	N.D. d#
14)	alpha-Chl...	13.530	12.124	36714	132444	1.789	1.648
15)	Dieldrin	14.000	12.634	122262	466359	6.059	5.979
16)	4,4'-DDE	13.830	12.494	4117	10041	0.218	0.134m#
17)	Endrin	14.357	13.114	8460	23196	0.459	0.312m#
18)	Endosulfa...	14.810	13.537	18628	54226	0.998	0.808
19)	4,4'-DDD	14.647	13.390	10821	58692	0.741	1.044 #
20)	Endrin Al...	14.997	13.930	11567	63920	0.715	1.151m#
21)	Endosulfa...	15.473	14.280f	20506	30445	1.079	0.460 #
22)	4,4'-DDT	15.167	13.804	7896	13422	0.515	0.248 #
23)	Endrin Ke...	0.000	15.187	0	18338	N.D.	0.232 #
24)	Methoxychlor	15.883	14.947f	4452	8664	0.479	0.288 #
25)	2,4'-DDE	13.213	12.020	5088	82939	0.386	1.692 #
26)	2,4'-DDD	13.937	12.757f	12114	8565	1.046	0.201 #
27)	2,4'-DDT	14.447	13.217	11926	18914	0.900	0.410m#
30)	Toxaphene	14.743	13.390	13047	58692	64.927	49.745
31)	Toxaphene...	14.810	13.457	18628	43198	102.486	47.588m#
32)	Toxaphene...	14.927	13.590	18652	57991	51.500	46.367m
33)	Toxaphene...	14.997	13.664	11567	33083	47.488	78.124m#
34)	Toxaphene...	15.343	13.930	18680	61299	80.484m	96.451m
35)	Toxaphene...	15.530	15.430	9424	28582	89.143	83.021
37)	Chlordane	11.267	9.570	6899	22333	8.275	7.705
38)	Chlordane...	0.000	11.664	0	25246	N.D.	12.772 #
39)	Chlordane...	12.257	11.814	4619	22046	6.094	16.800 #
40)	Chlordane...	13.453	11.974	51592	139038	22.424	17.494
41)	Chlordane...	13.530	12.020	36714	82939	19.293	17.044
42)	Chlordane...	13.613	12.124	24128	132444	17.271	18.797
44)	Chlorpyrifos	12.117	10.890	3645	8369	0.323	0.251
45)	Oxychlordane	12.877	11.410	8702	15358	0.447	0.205 #
46)	cis-Nonac...	14.647	13.217	10821	20166	0.528	0.258m#
47)	trans-Non...	13.613	12.020	24128	82939	1.172	1.073
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

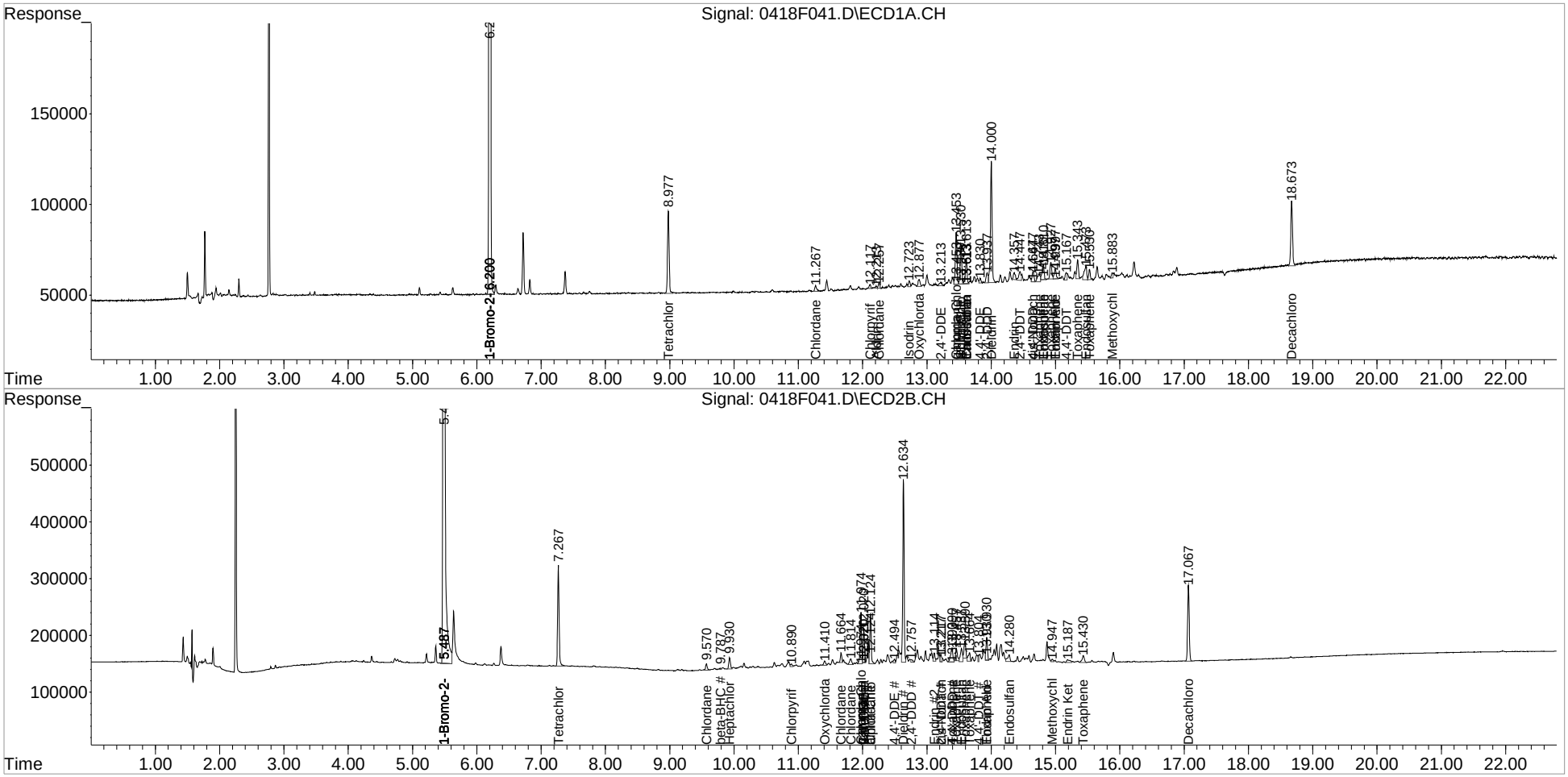
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:55:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



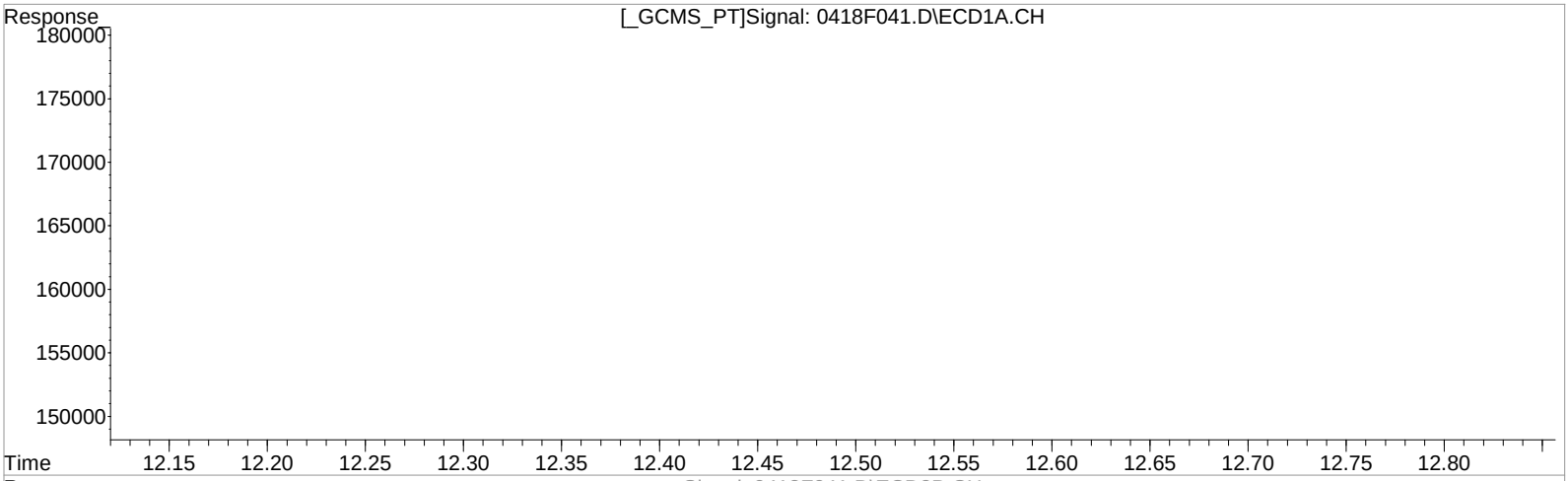
Quantitation Report (Qedit)

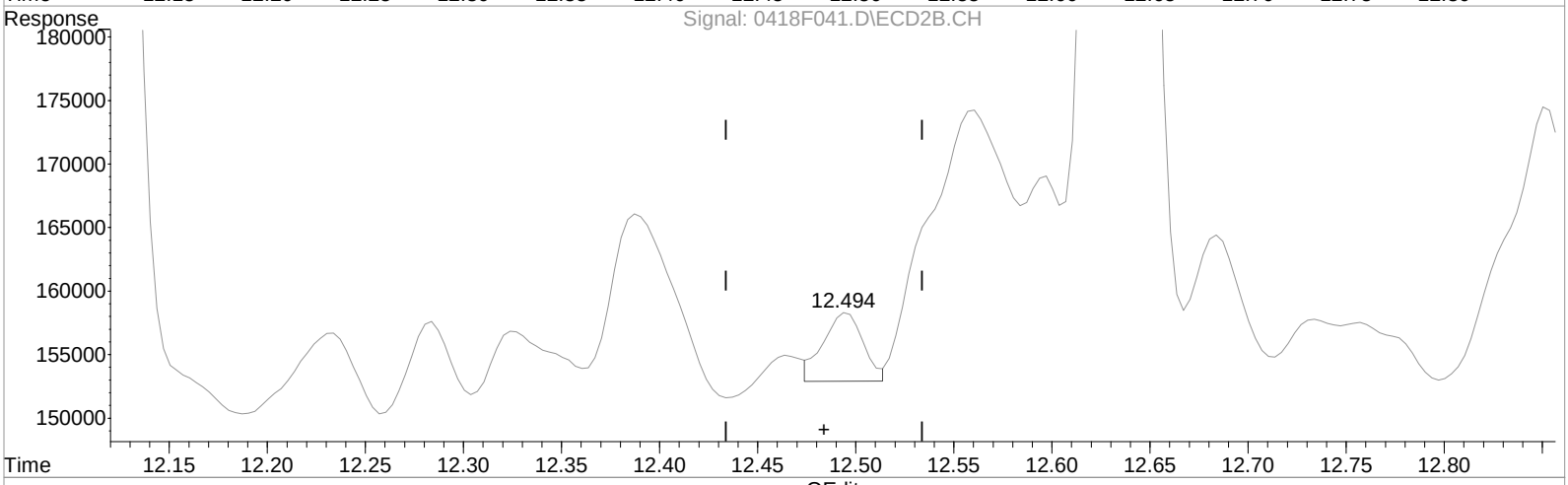
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.830min 0.218 ug/L

response 4117

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.494min 0.101 ug/L

response 7602

(+) = Expected Retention Time

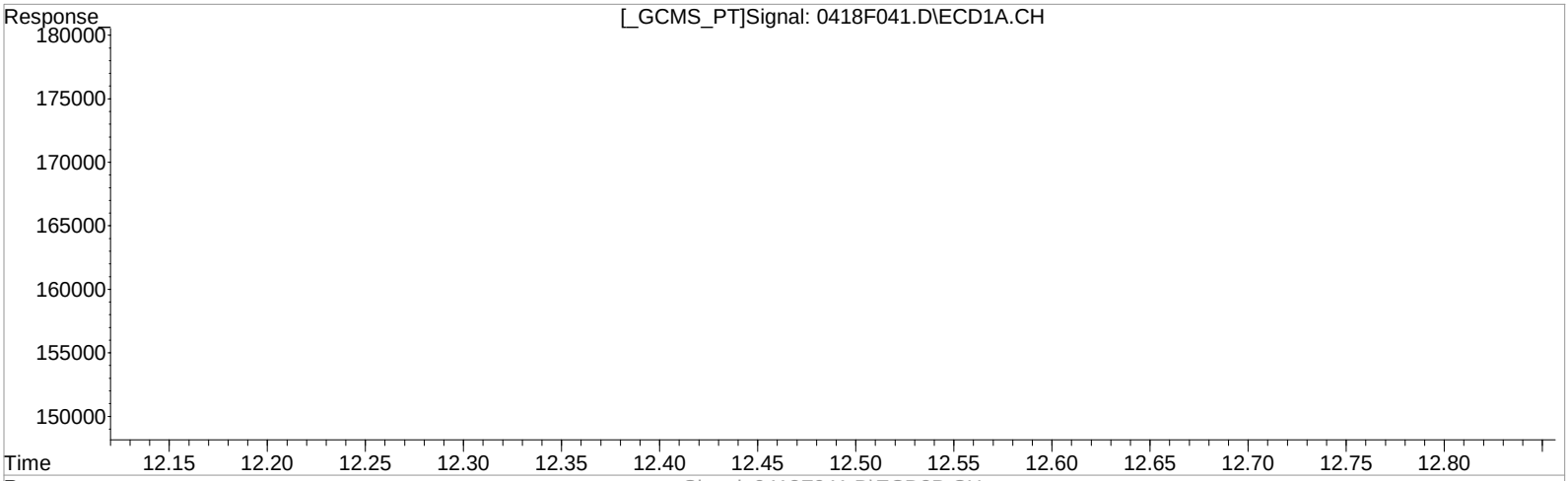
Quantitation Report (Qedit)

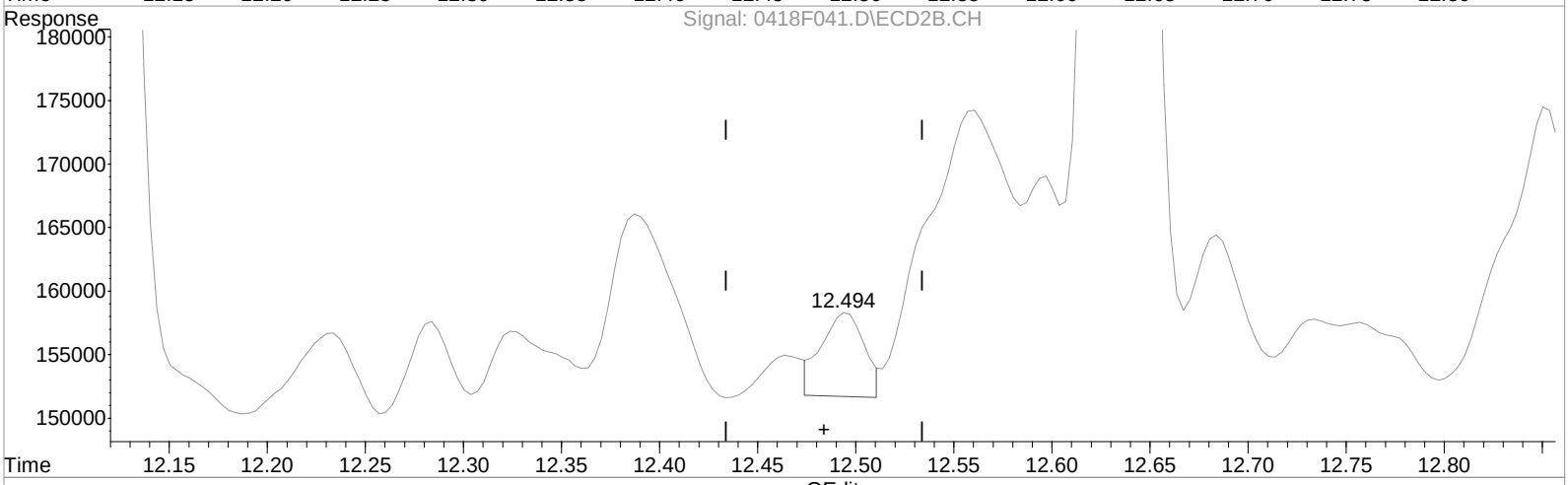
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.830min 0.218 ug/L

response 4117

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.494min 0.134 ug/L m

response 10041

(+) = Expected Retention Time

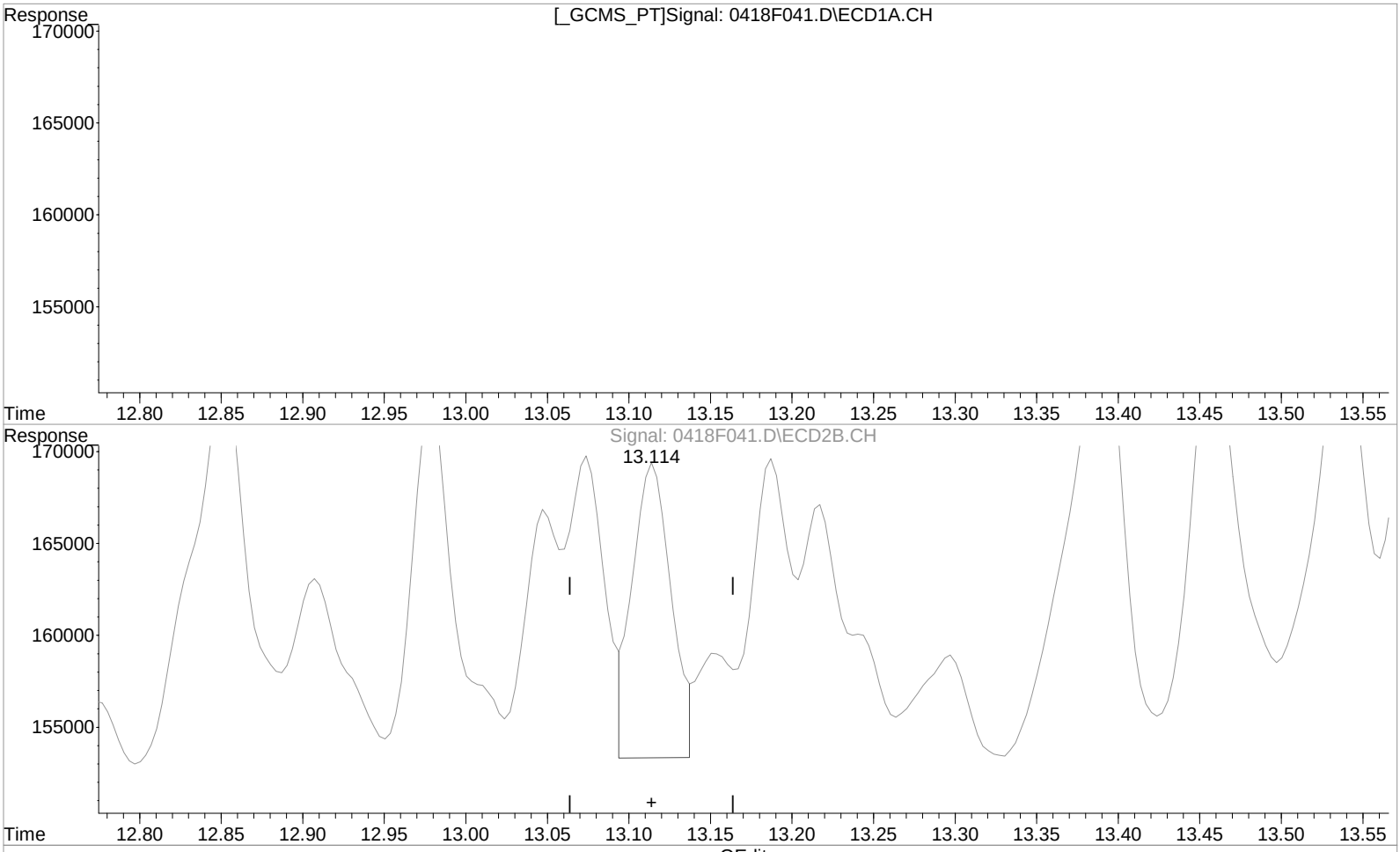
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(17) Endrin

14.357min 0.459 ug/L

response 8460

Manual Integration:

Before

04/21/20

(17) Endrin #2

13.114min 0.356 ug/L

response 26464

(+) = Expected Retention Time

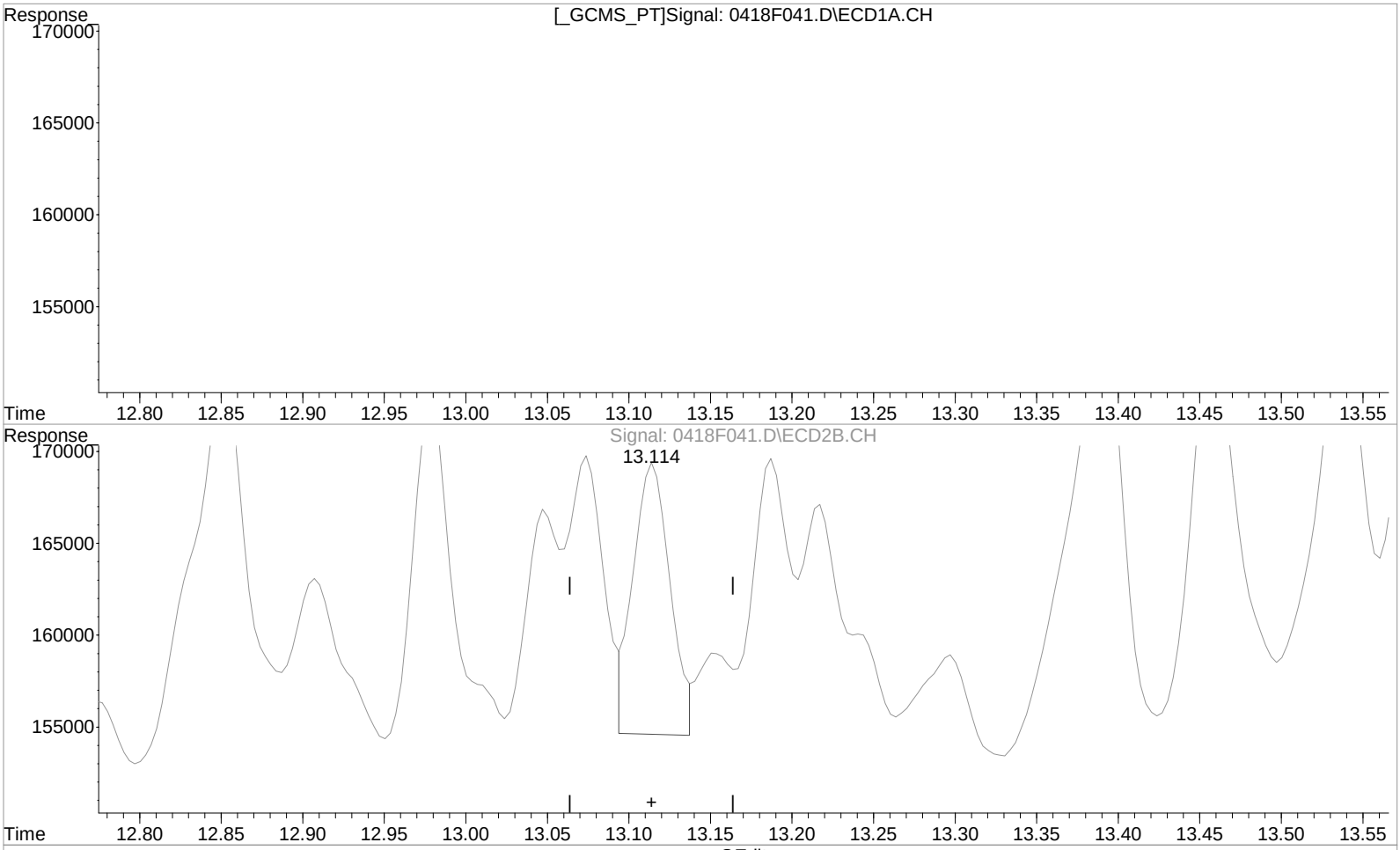
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(17) Endrin

14.357min 0.459 ug/L

response 8460

Manual Integration:

After

Baseline correction

04/21/20

(17) Endrin #2

13.114min 0.312 ug/L m

response 23196

(+) = Expected Retention Time

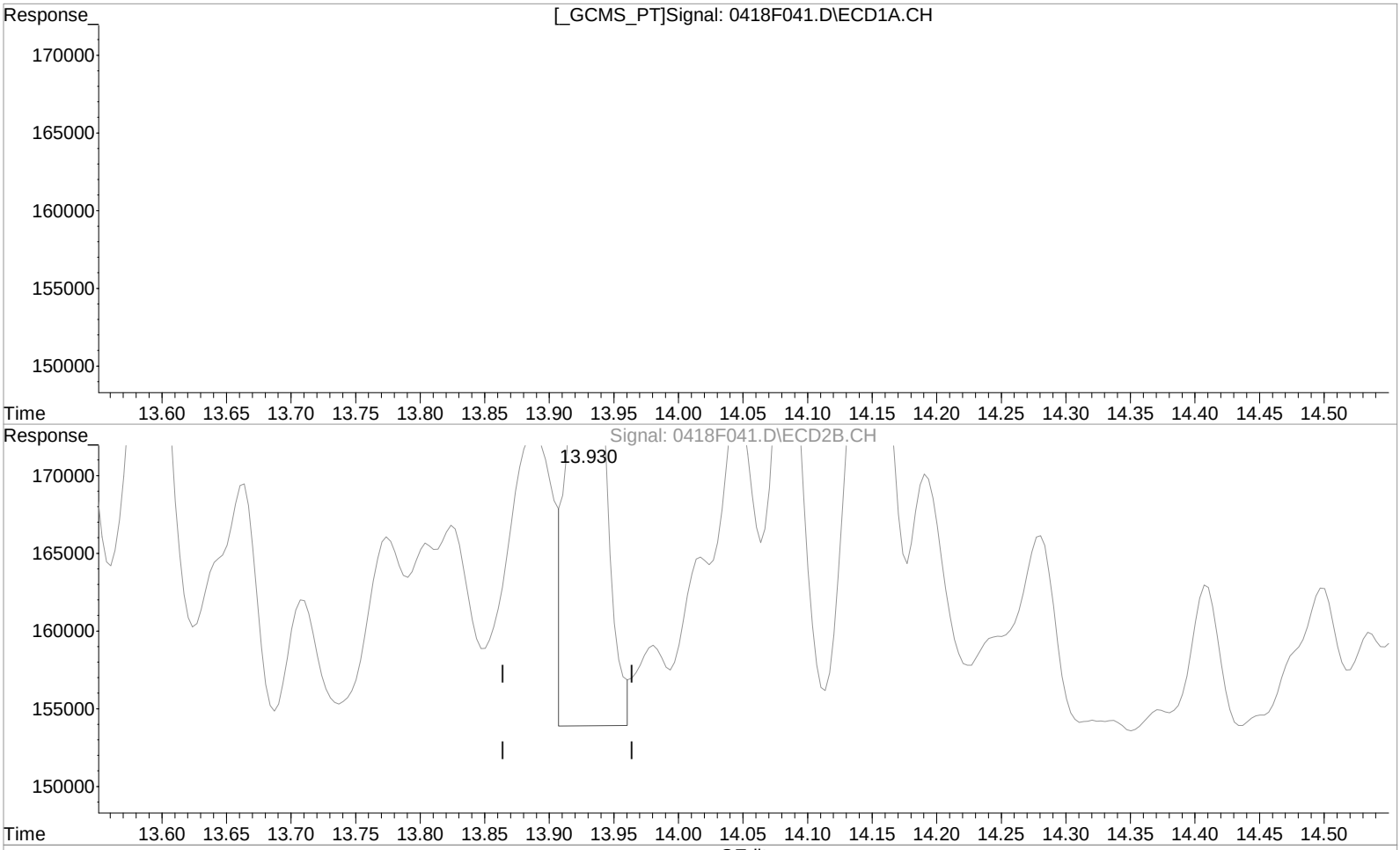
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.997min 0.715 ug/L

response 11567

Manual Integration:

Before

04/21/20

(20) Endrin Aldehyde #2

13.930min 1.270 ug/L

response 70513

(+) = Expected Retention Time

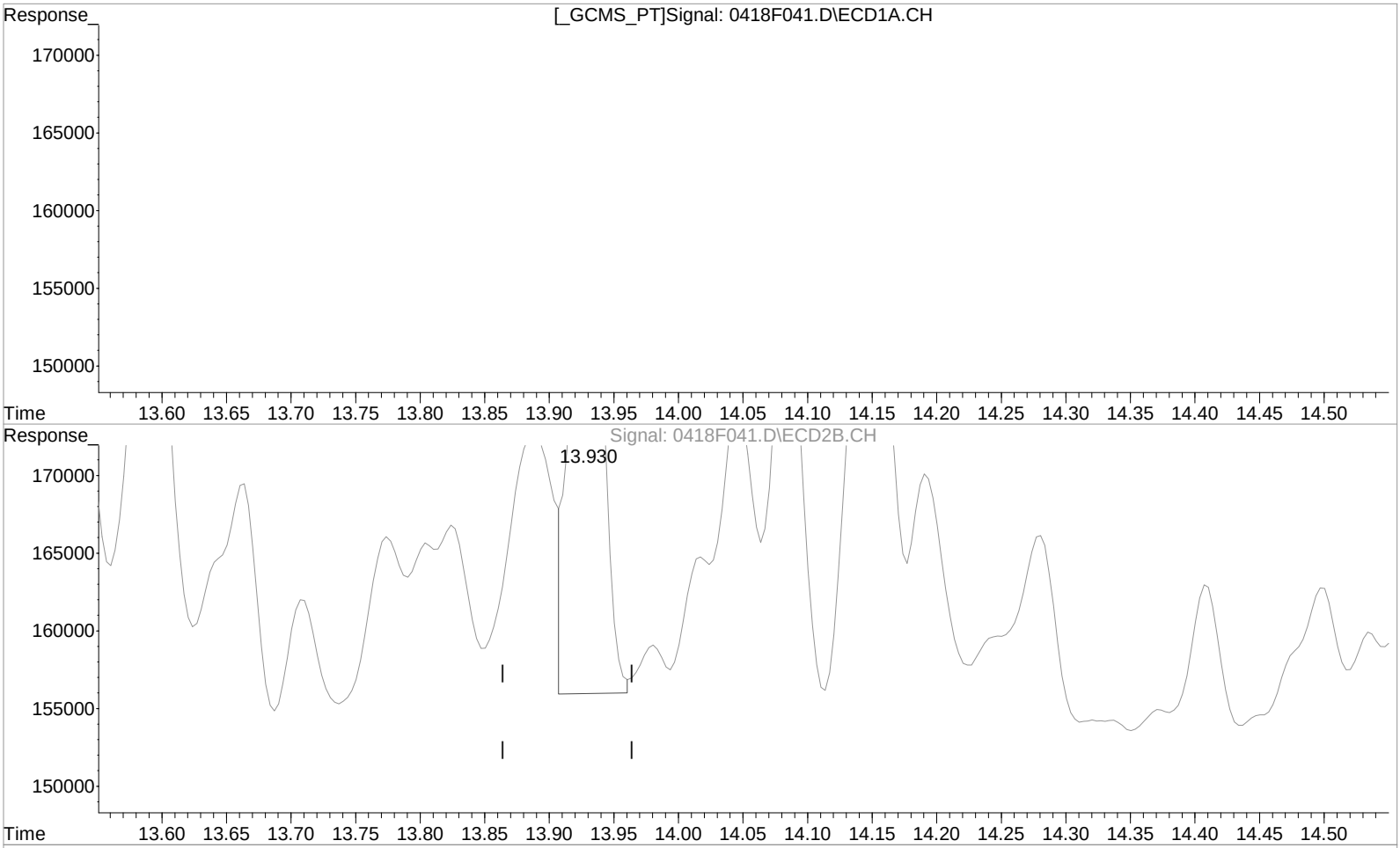
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.997min 0.715 ug/L

response 11567

Manual Integration:

After

Baseline correction

04/21/20

(20) Endrin Aldehyde #2

13.930min 1.151 ug/L m

response 63920

(+) = Expected Retention Time

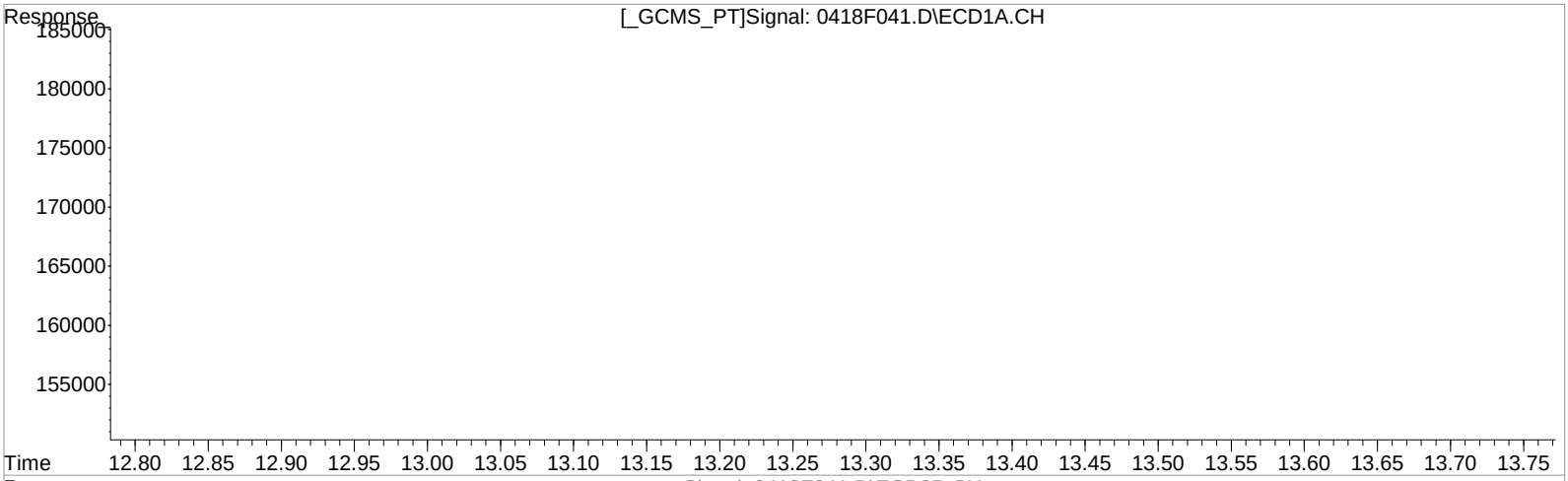
Quantitation Report (Qedit)

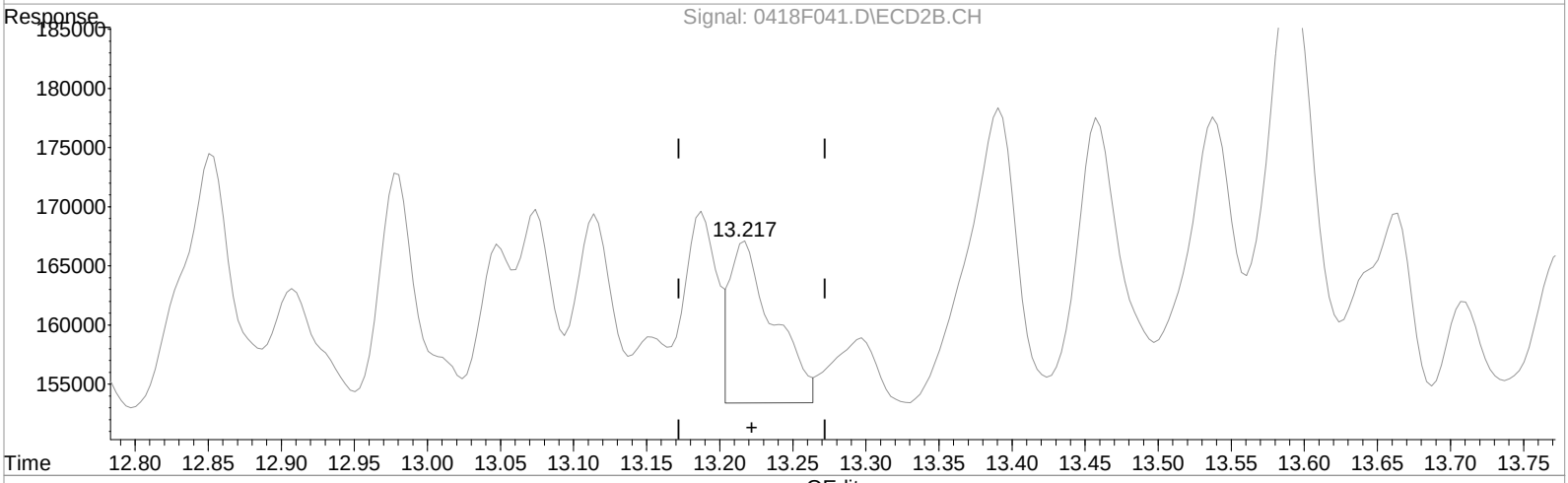
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.447min 0.900 ug/L

response 11926

Manual Integration:

Before

04/21/20

(27) 2,4'-DDT #2

13.217min 0.601 ug/L

response 27696

(+) = Expected Retention Time

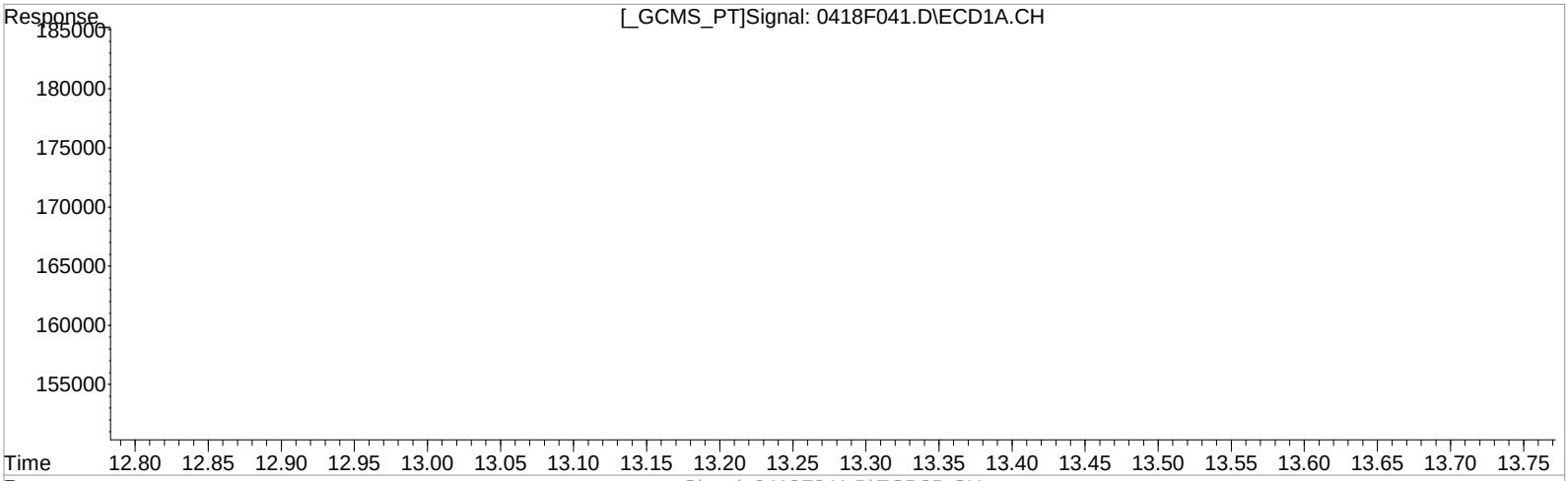
Quantitation Report (Qedit)

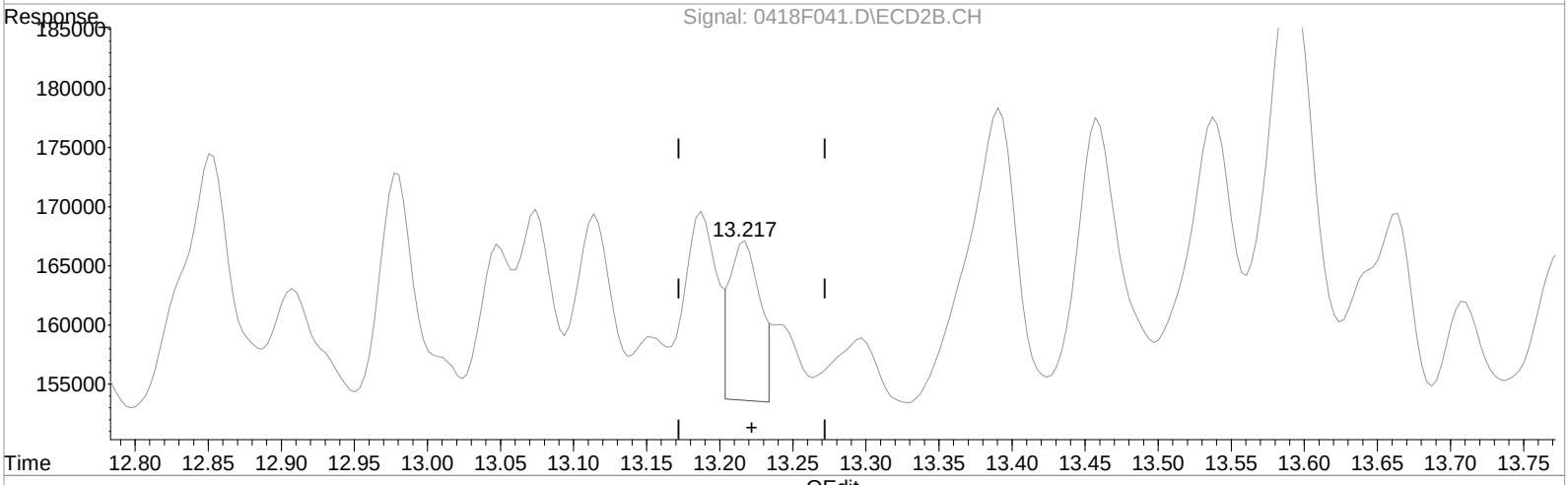
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(27) 2,4'-DDT

14.447min 0.900 ug/L

response 11926

Manual Integration:

After

Baseline correction

04/21/20

(27) 2,4'-DDT #2

13.217min 0.410 ug/L m

response 18914

(+) = Expected Retention Time

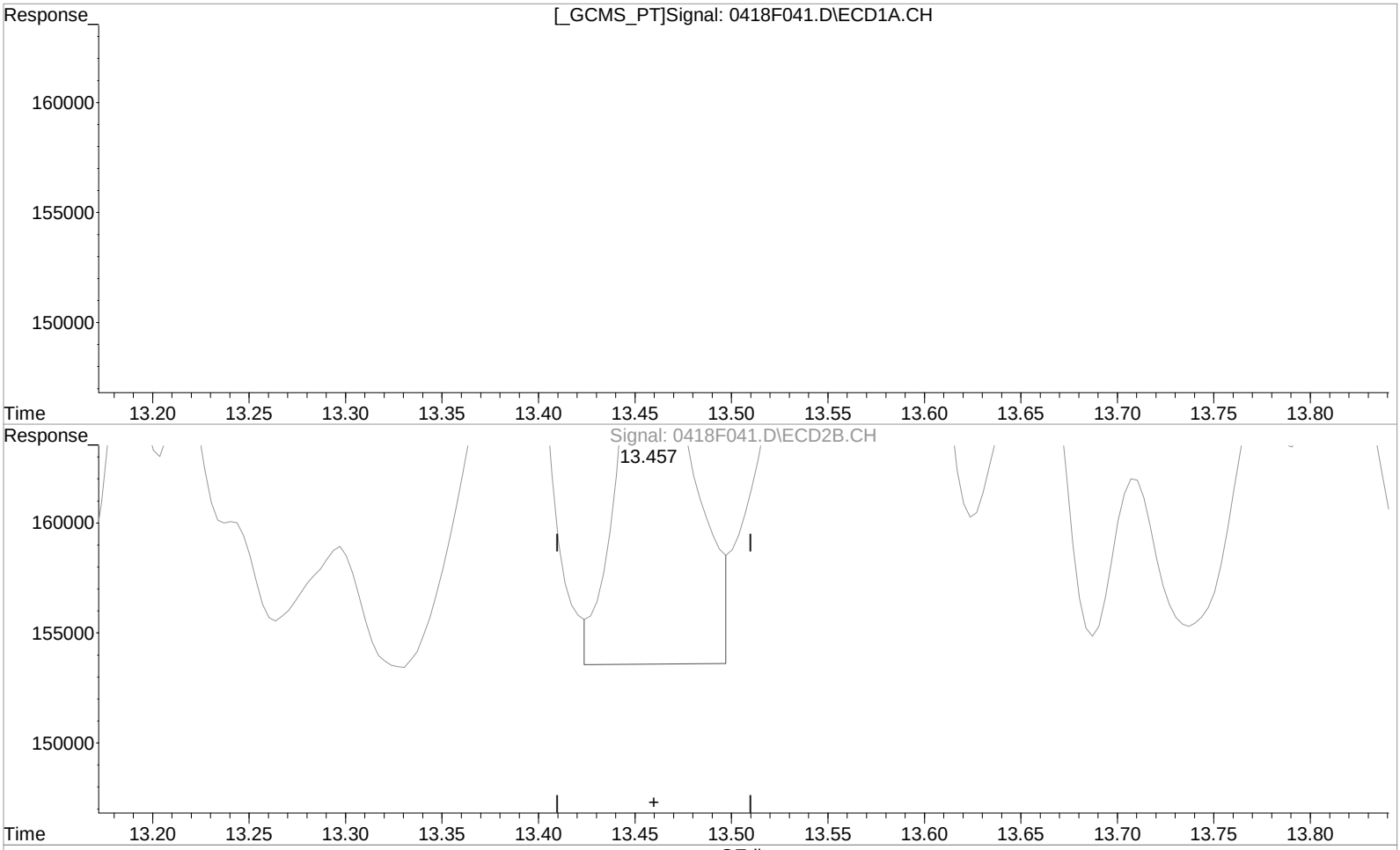
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.810min 102.486 ug/L

response 18628

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.457min 56.553 ug/L

response 51336

(+) = Expected Retention Time

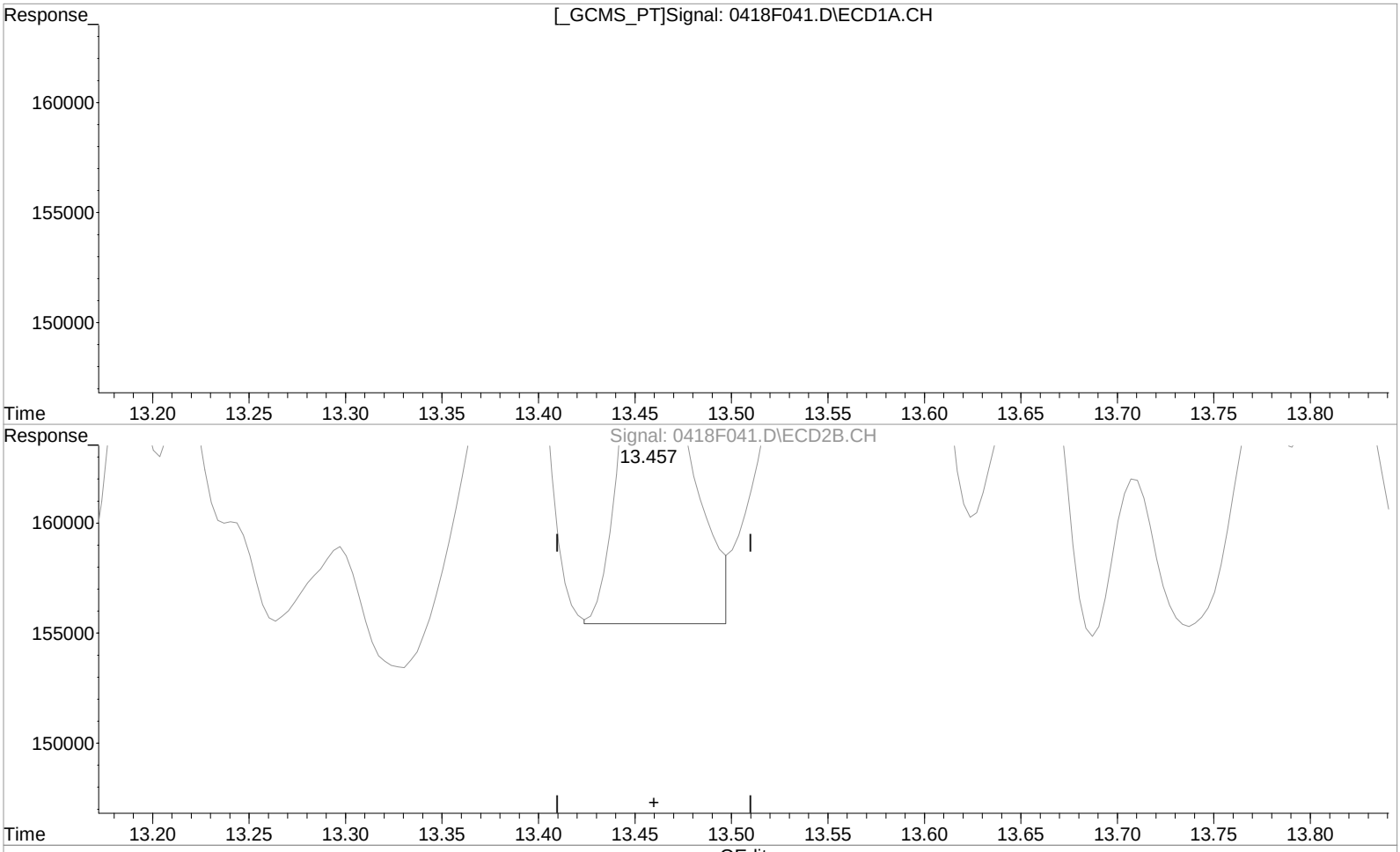
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.810min 102.486 ug/L

response 18628

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.457min 47.588 ug/L m

response 43198

(+) = Expected Retention Time

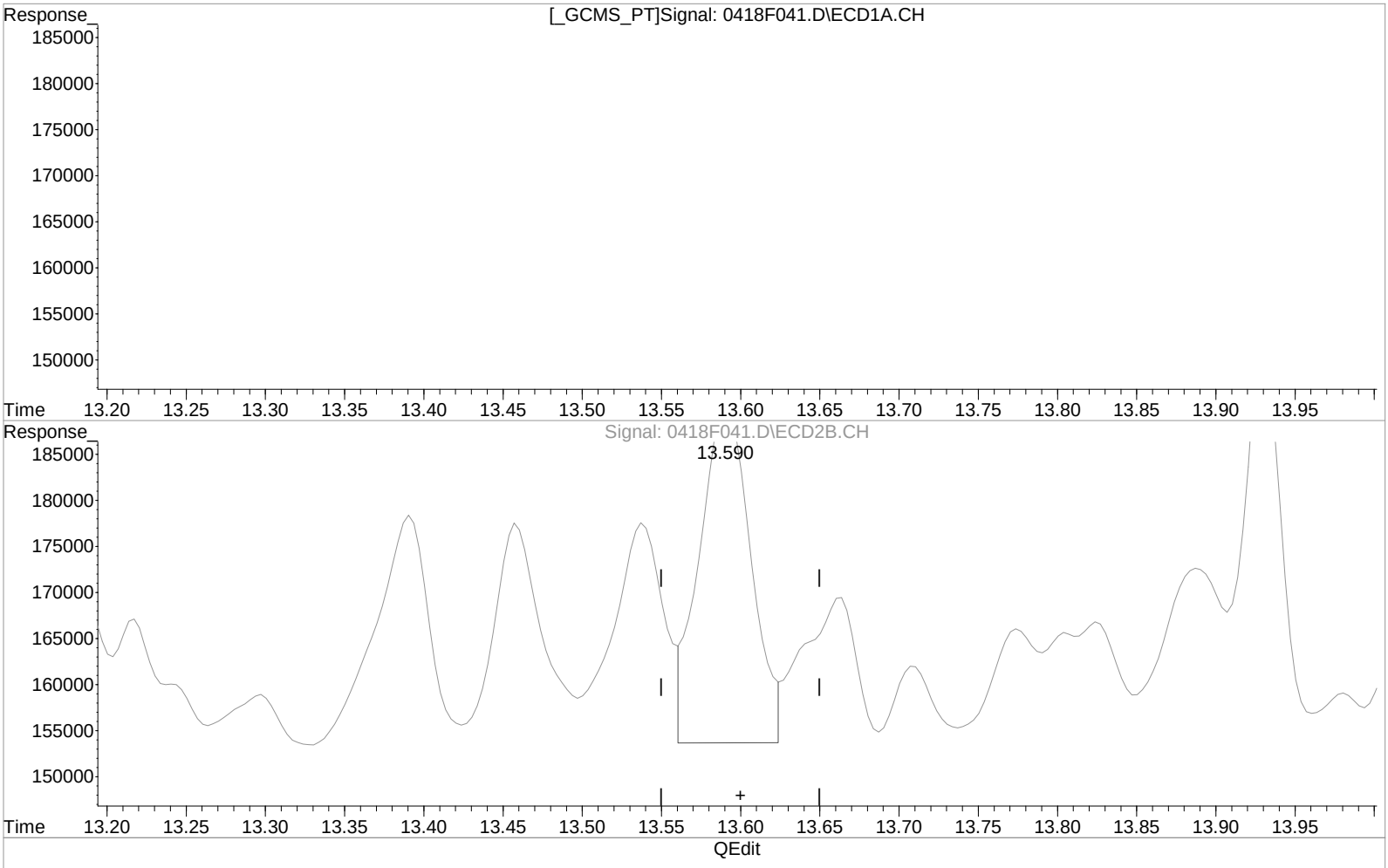
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.927min 51.500 ug/L

response 18652

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.590min 68.467 ug/L

response 82144

(+) = Expected Retention Time

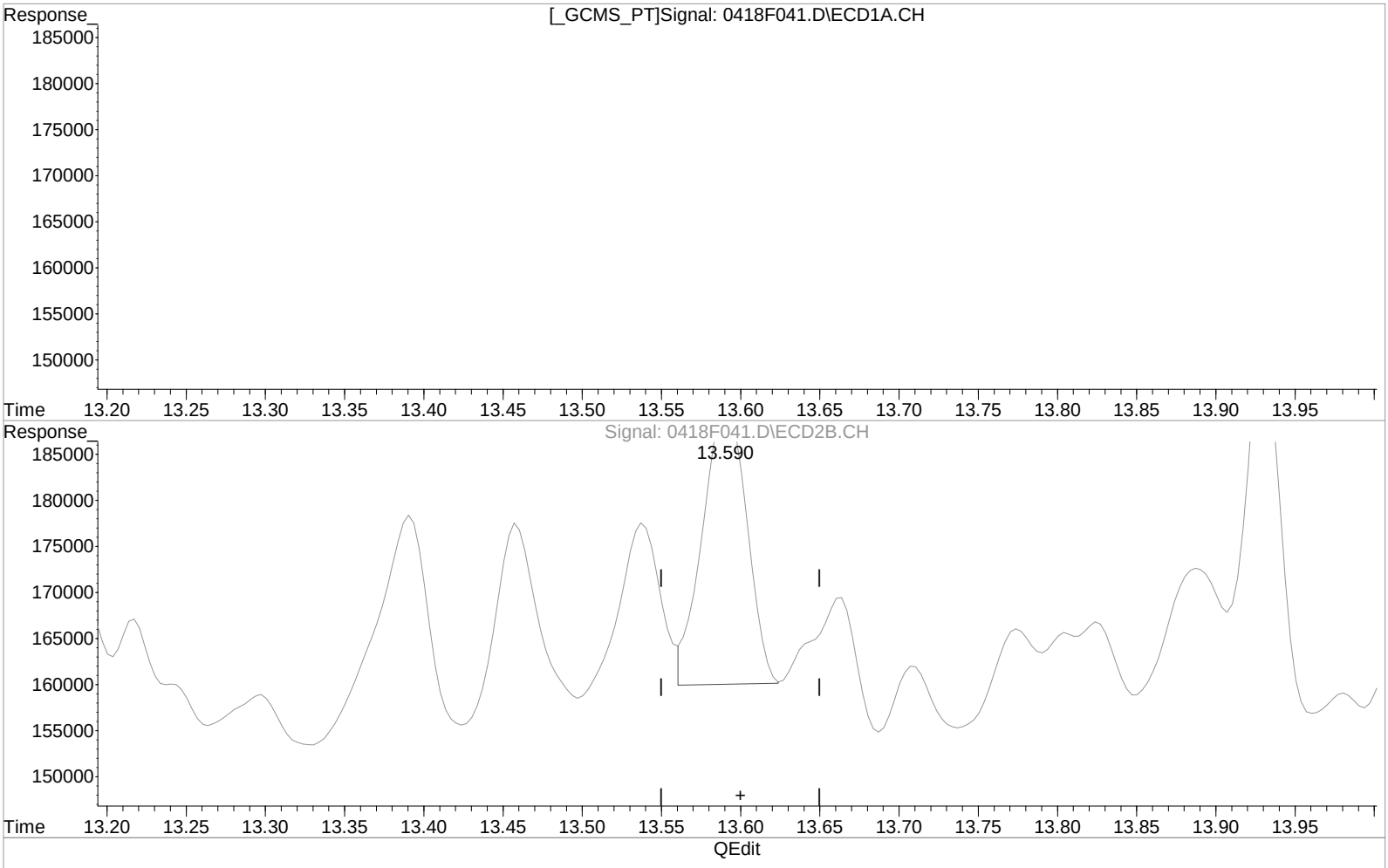
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(32) Toxaphene {3}

14.927min 51.500 ug/L

response 18652

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.590min 46.367 ug/L m

response 57991

(+) = Expected Retention Time

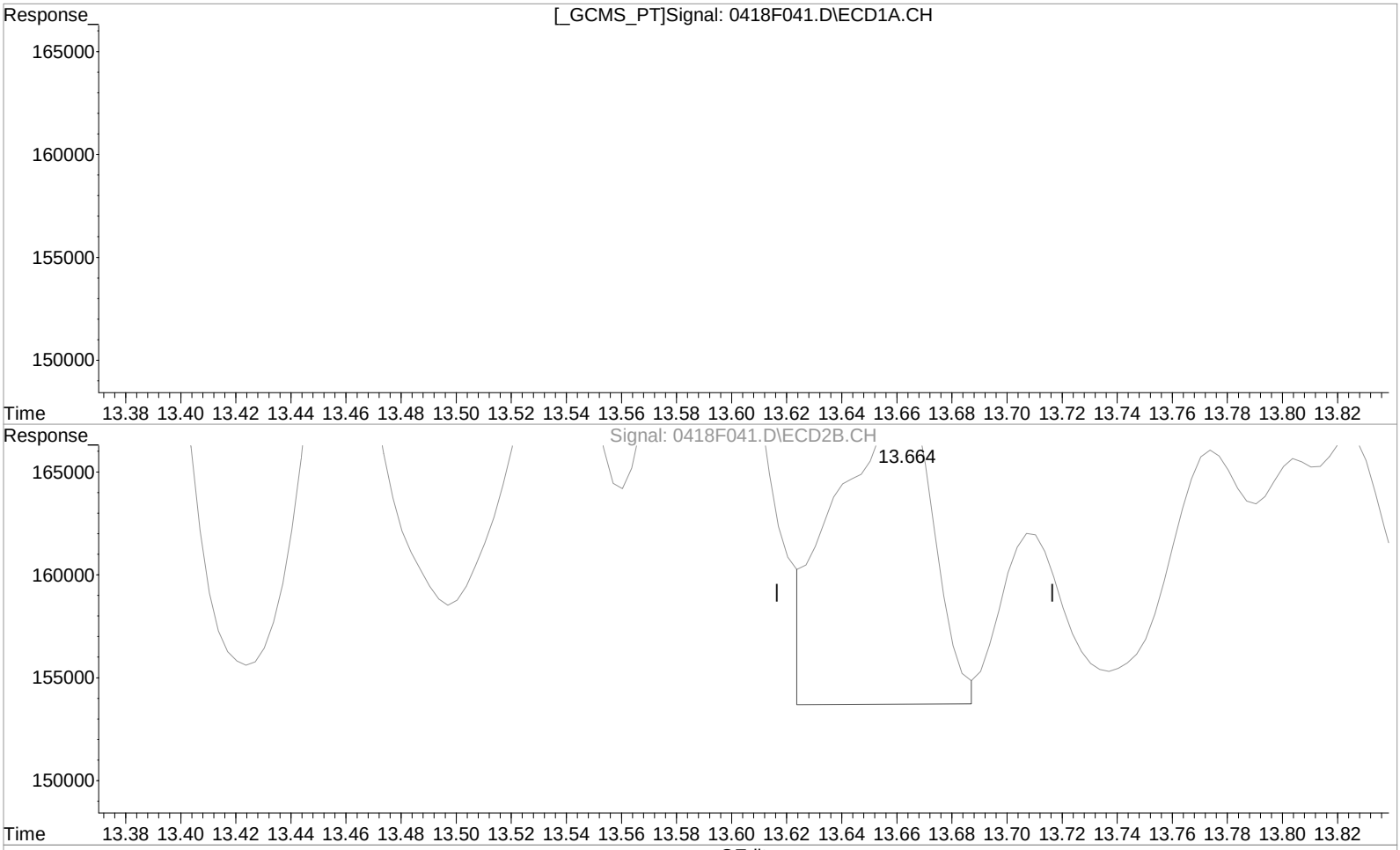
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.997min 47.488 ug/L

response 11567

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.664min 86.551 ug/L

response 36380

(+) = Expected Retention Time

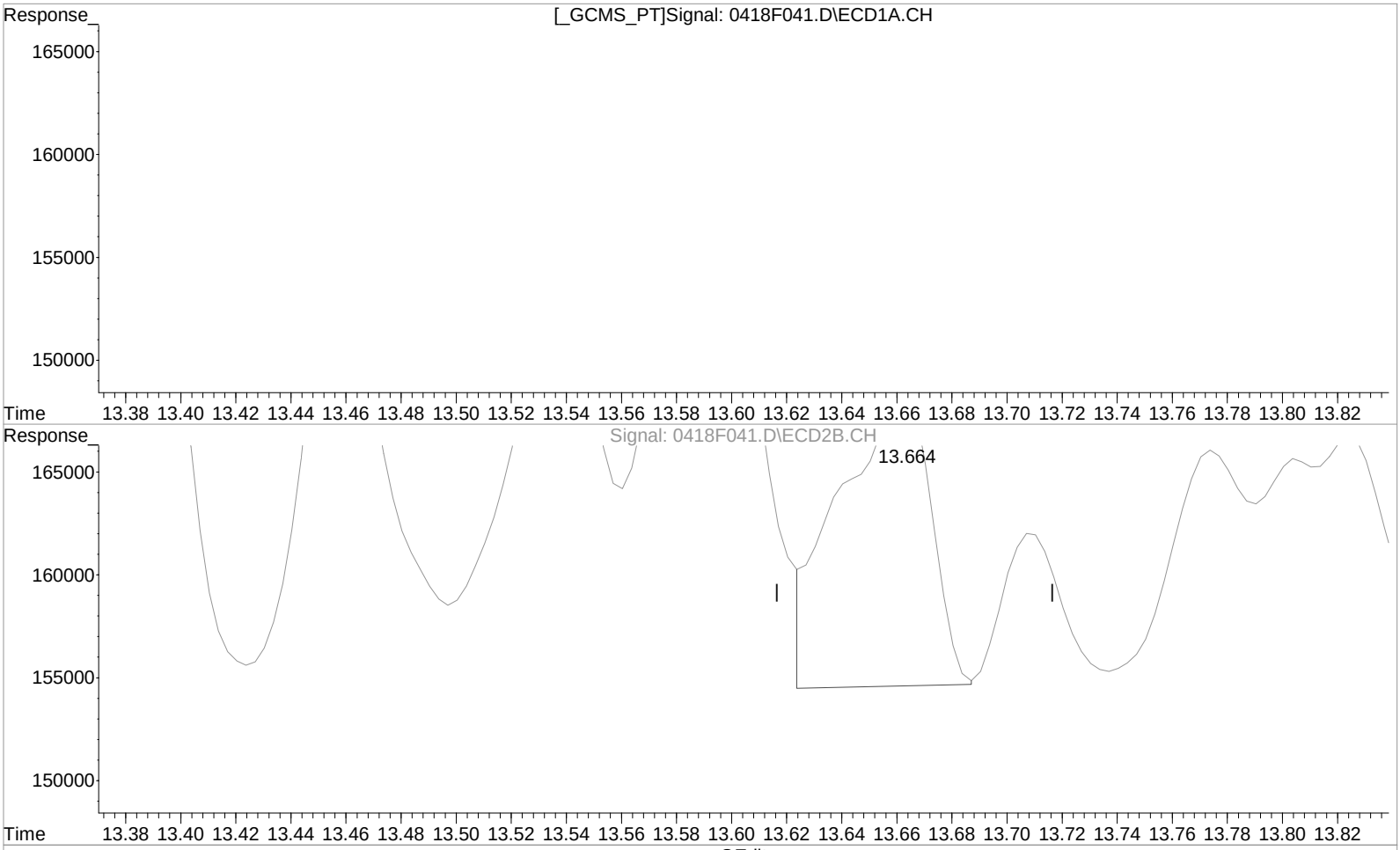
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.997min 47.488 ug/L

response 11567

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.664min 78.124 ug/L m

response 33083

(+) = Expected Retention Time

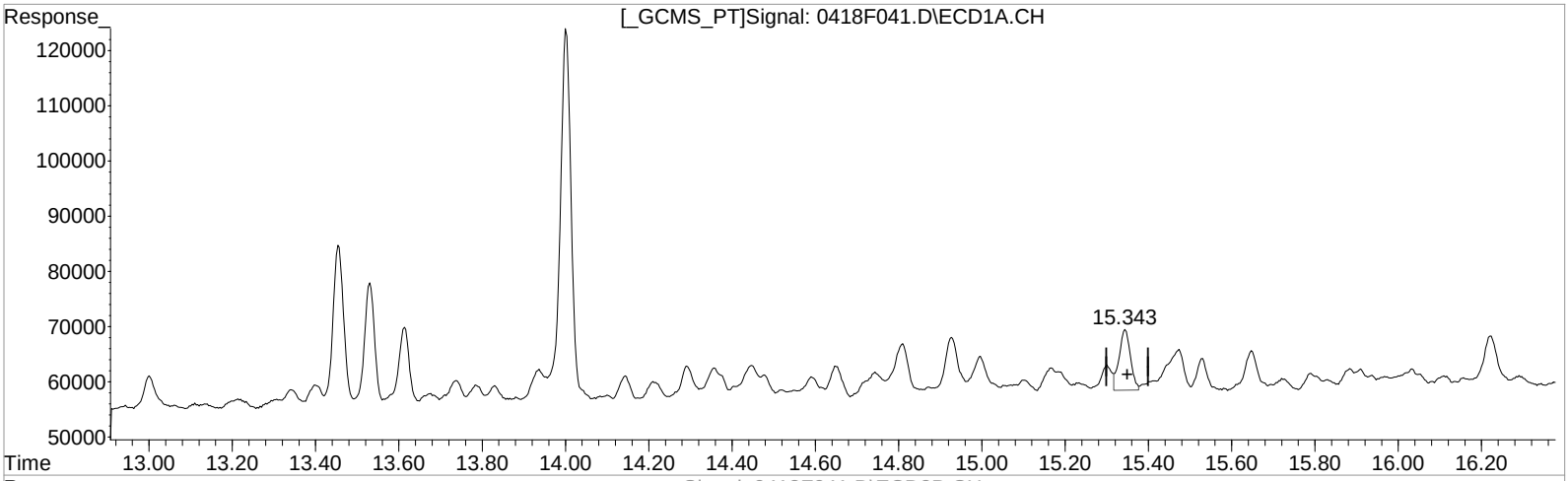
Quantitation Report (Qedit)

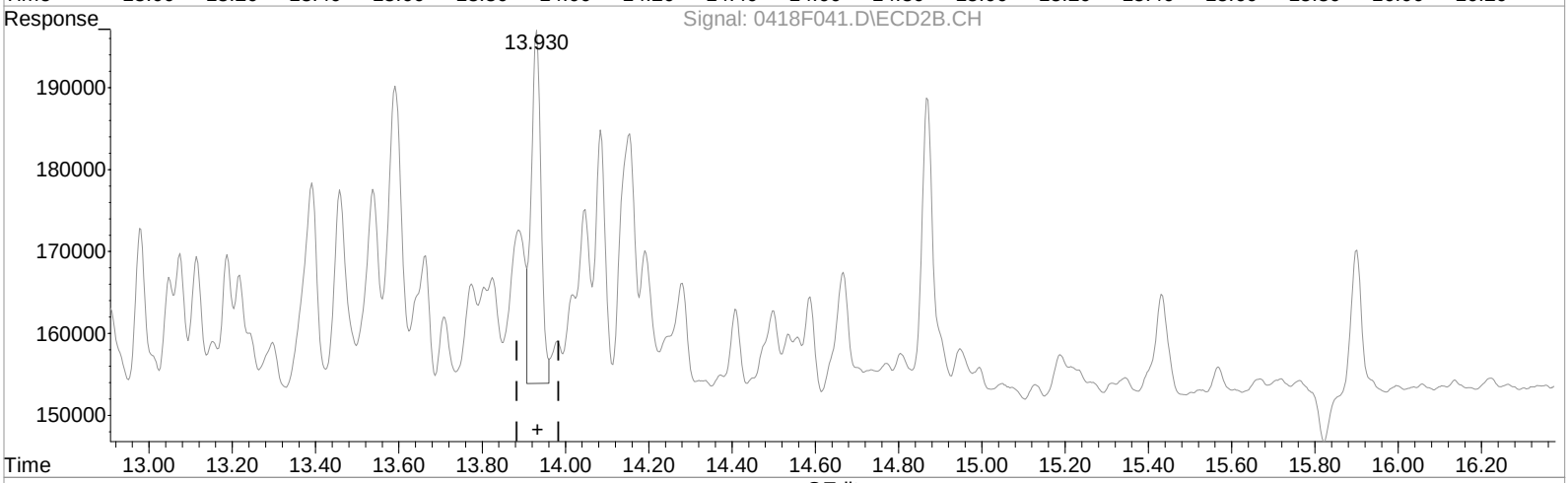
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.343min 89.006 ug/L

response 20658

(34) Toxaphene {5} #2

13.930min 110.949 ug/L

response 70513

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

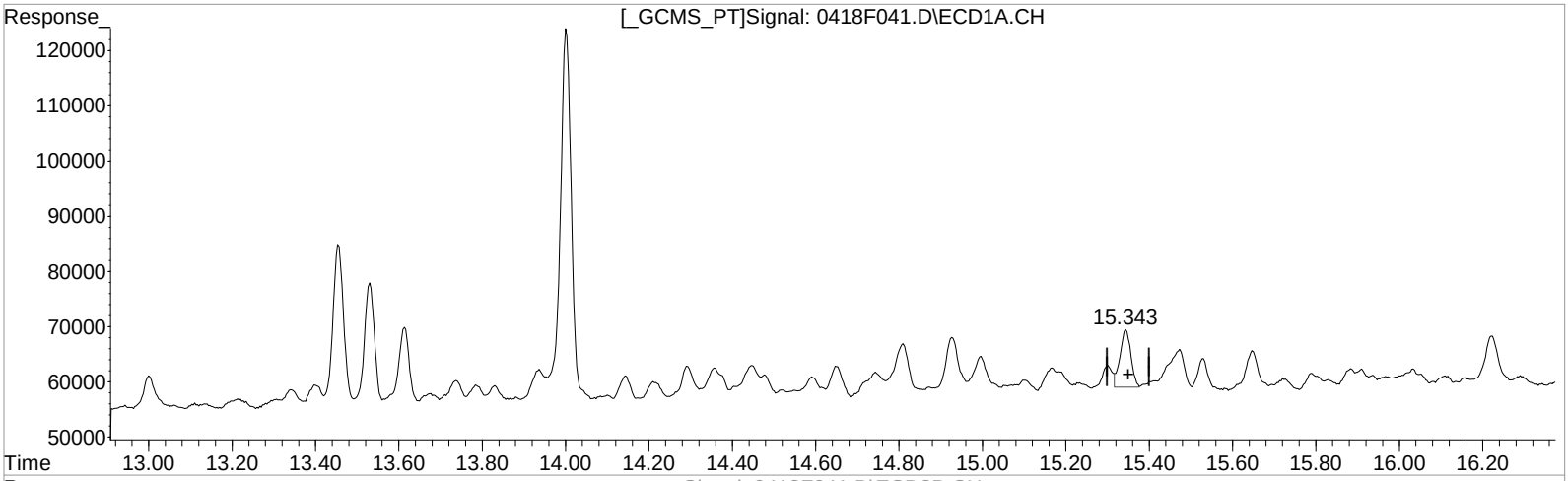
Quantitation Report (Qedit)

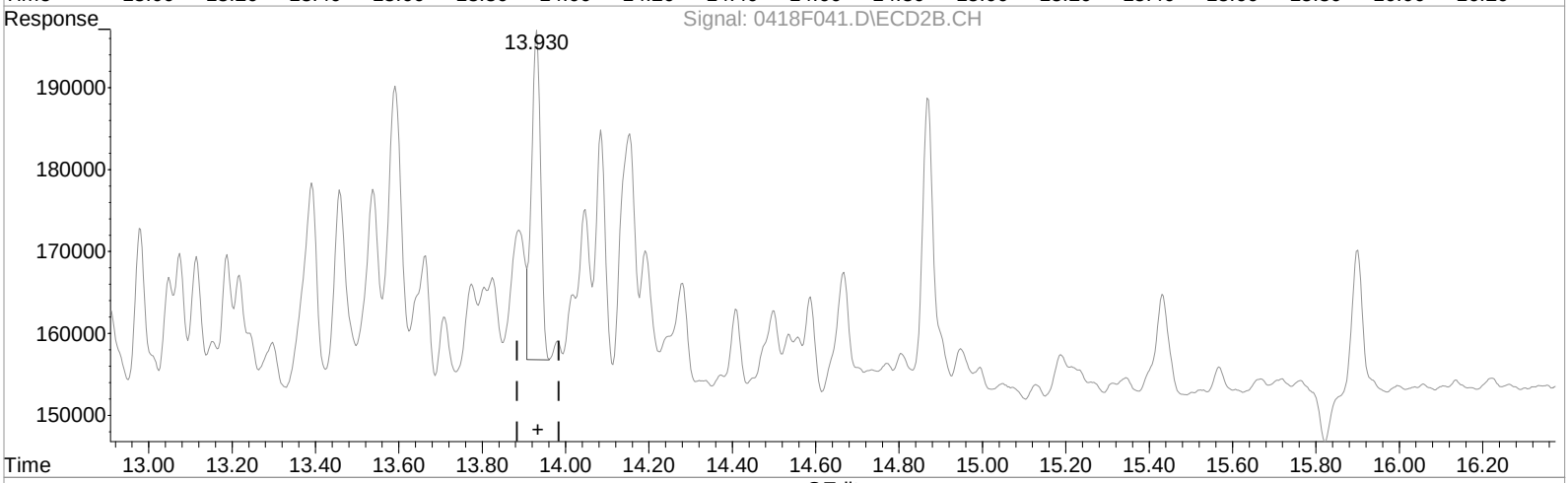
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.343min 80.484 ug/L m

response 18680

(34) Toxaphene {5} #2

13.930min 96.451 ug/L m

response 61299

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

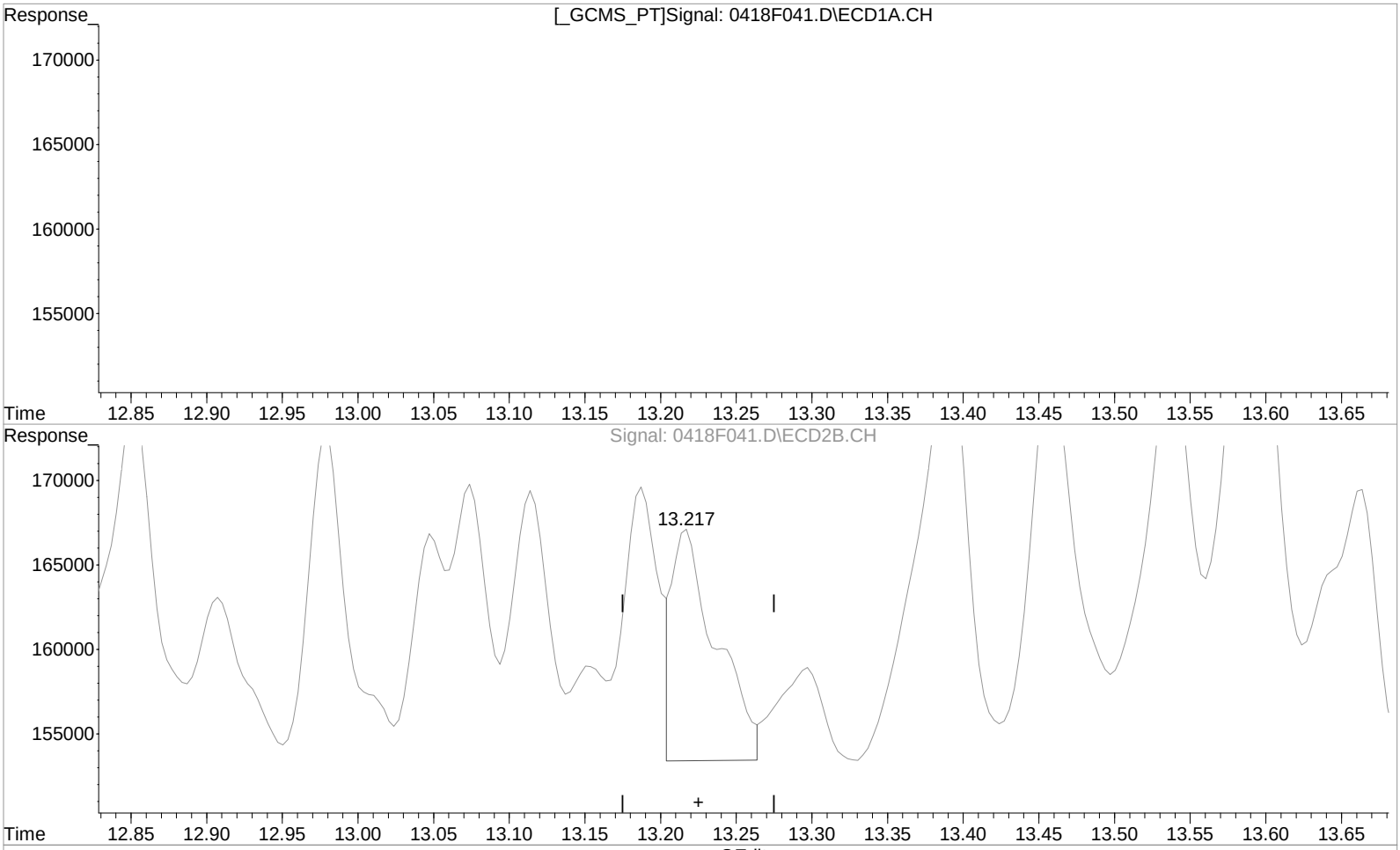
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(46) cis-Nonachlor

14.647min 0.528 ug/L

response 10821

Manual Integration:

Before

04/21/20

(46) cis-Nonachlor #2

13.217min 0.354 ug/L

response 27696

(+) = Expected Retention Time

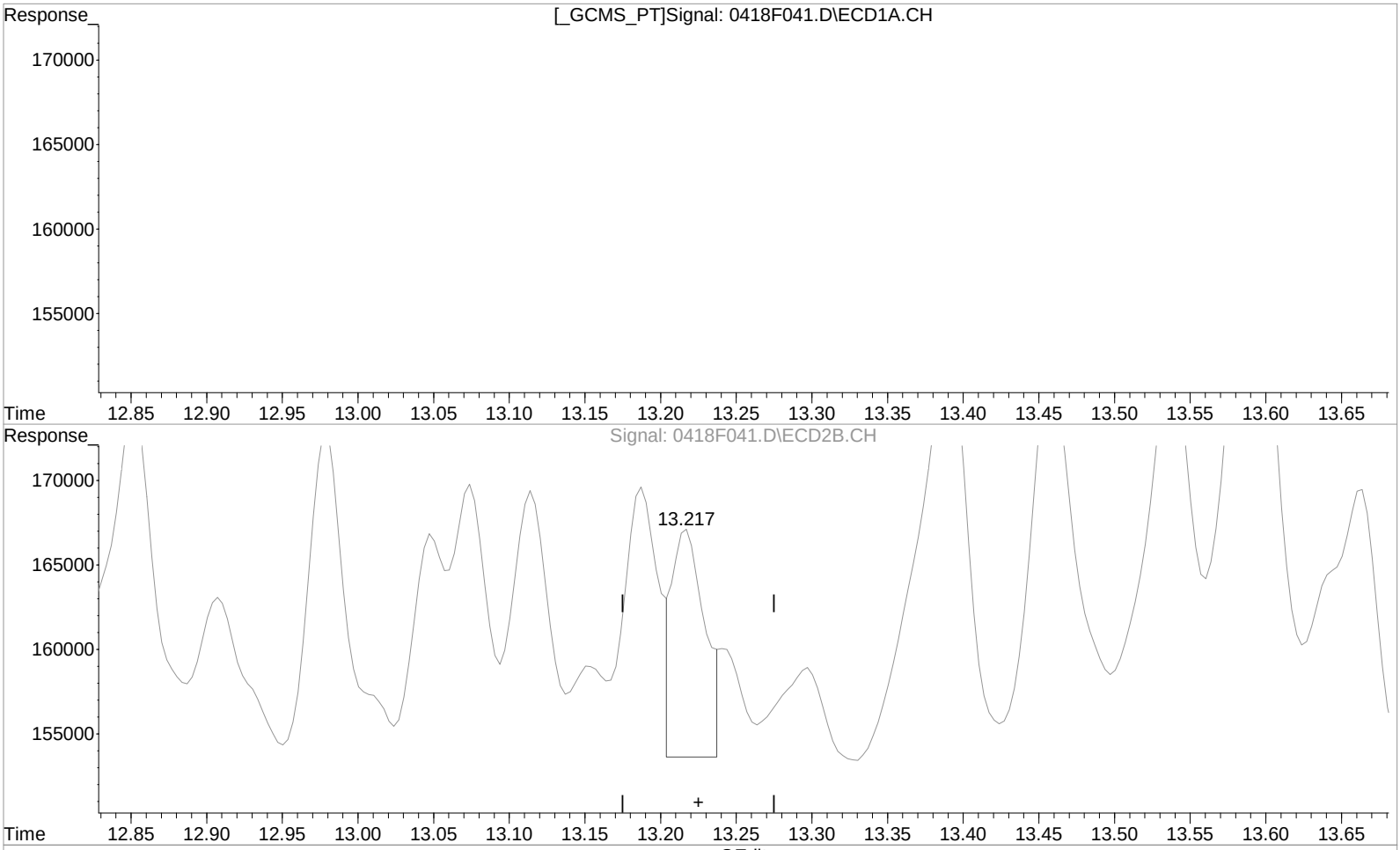
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F041.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:21 pm Operator: LM
Sample : K2002652-013 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:48:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(46) cis-Nonachlor

14.647min 0.528 ug/L

response 10821

Manual Integration:

After

Shoulder

04/21/20

(46) cis-Nonachlor #2

13.217min 0.258 ug/L m

response 20166

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F042.D\
Lab ID: K2002652-014
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 15:51:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	Endosulfan I	13.58			CEND
	trans-Nonachlor	13.58			CEND
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F042.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 15:51:00	**Vial:**	7
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-014	**Raw Units:**	ug/L

Bottle ID:	K2002652-014.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1089102	4715884	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1089102	4715884	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1089102	4715884	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07	68159	245293	3.517	3.227	70	65	65	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.26 -0.01	81576	296968	5.166	5.082	103	102	102	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	8.49 -0.01	0	7111	0.000	0.095	0U	0.48J	0.25 U	Y
beta-BHC	0.00	9.79 +0.01	0	21280	0.000	0.600	0U	3.0	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	14.01 +0.01	12.64	1364	10033	0.076	0.145	0.38U	0.73J	0.44 U	Y
Heptachlor	11.70 +0.02	9.93	1494	122965	0.079	1.664	0.40U	8.3	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	9.99 +0.01	0.00	1847	0	0.086	0.000	0.43J	0U	0.27 U	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F042.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 15:51:00	**Vial:**	7
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-014	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F042.D Vial: 36
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:51 pm Operator: LM
Sample : K2002652-014 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:01:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.201	5.485	1089102	4715884	100.000	100.000
29)	1-Bromo-2...	6.201	5.485	1089102	4715884	100.000	100.000
36)	1-Bromo-2...	6.201	5.485	1089102	4715884	100.000	100.000
43)	1-Bromo-2...	6.201	5.485	1089102	4715884	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.977	7.265	81576	296968	5.166	5.082
28) s	Decachlor...	18.674	17.068	68159	245293	3.517	3.227
	Target Compounds						
3)	alpha-BHC	0.000	8.495	0	7111	N.D.	0.095 #
4)	Hexachlor...	9.987	0.000	1847	0	0.086	N.D. d#
5)	beta-BHC	0.000	9.791	0	21280	N.D.	0.600 #
8)	Heptachlor	11.704	9.931	1494	122965	0.079	1.664 #
12)	gamma-Chl...	0.000	11.965	0	6785	N.D.	0.096 #
13)	Endosulfan I	13.584	0.000	5046	0	0.301	N.D. d#
15)	Dieldrin	14.007	12.638	1364	10033	0.076	0.145 #
18)	Endosulfa...	14.814	13.548	4579	571253	0.276	9.589 #
20)	Endrin Al...	15.001	13.918	2954	4491	0.205	0.091 #
21)	Endosulfa...	0.000	14.191f	0	647705	N.D. d	11.026
22)	4,4'-DDT	15.107f	13.831f	3110	160301	0.228	3.331 #
23)	Endrin Ke...	0.000	15.178	0	14335	N.D.	0.204 #
24)	Methoxychlor	15.881	14.945f	158904	3905	19.189	0.146 #
27)	2,4'-DDT	14.481f	13.231	168494	6992	14.276	0.171 #
44)	Chlorpyrifos	12.111	0.000	3303	0	0.329	N.D. d#
47)	trans-Non...	13.584	0.000	5046	0	0.275	N.D. #
48)	Mirex	17.027	0.000	2116	0	0.139	N.D. d#
52)	Perthane	0.000	12.878	0	5395	N.D. d	3.123m
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

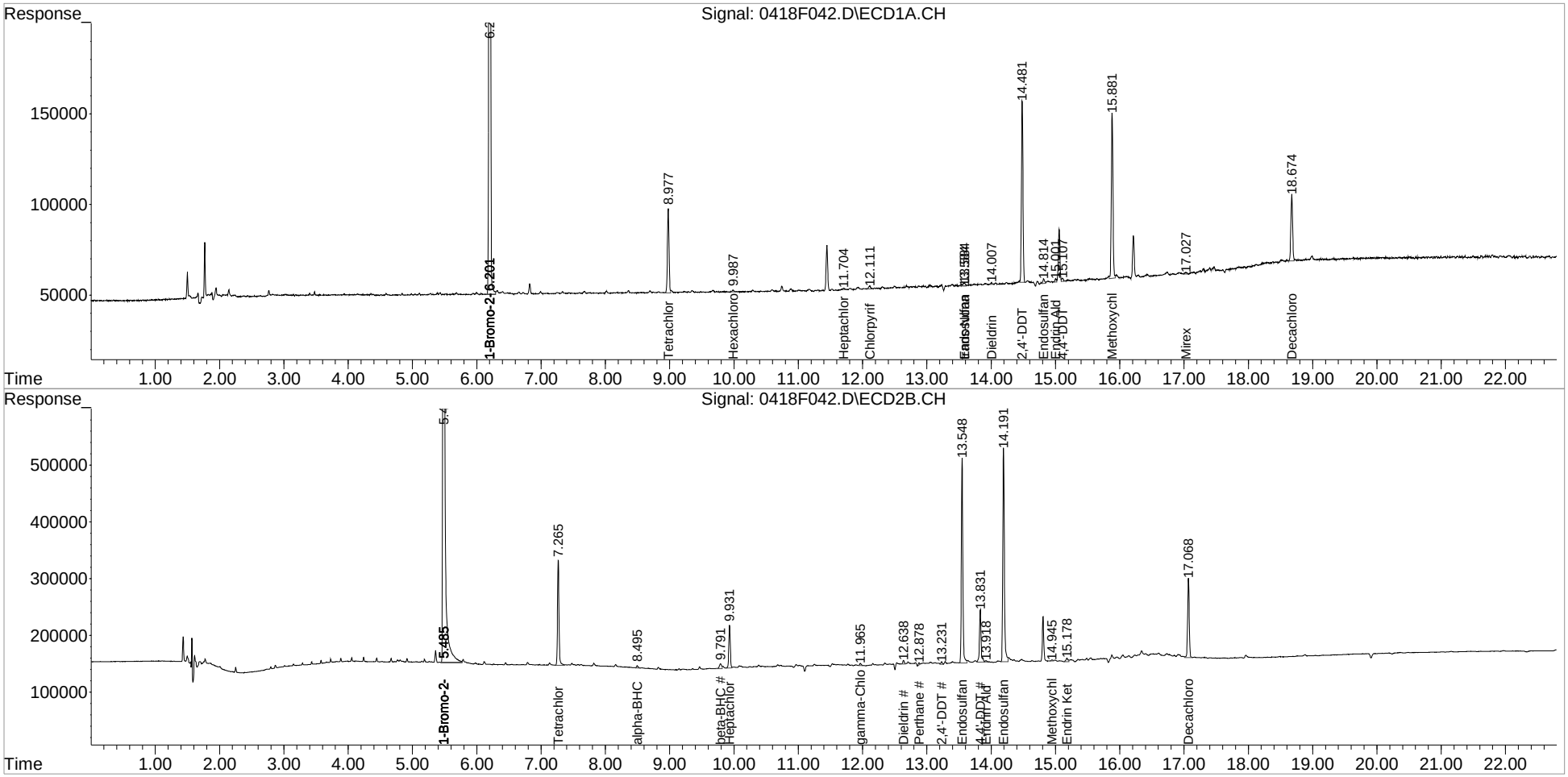
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F042.D Vial: 36
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:51 pm Operator: LM
Sample : K2002652-014 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:01:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



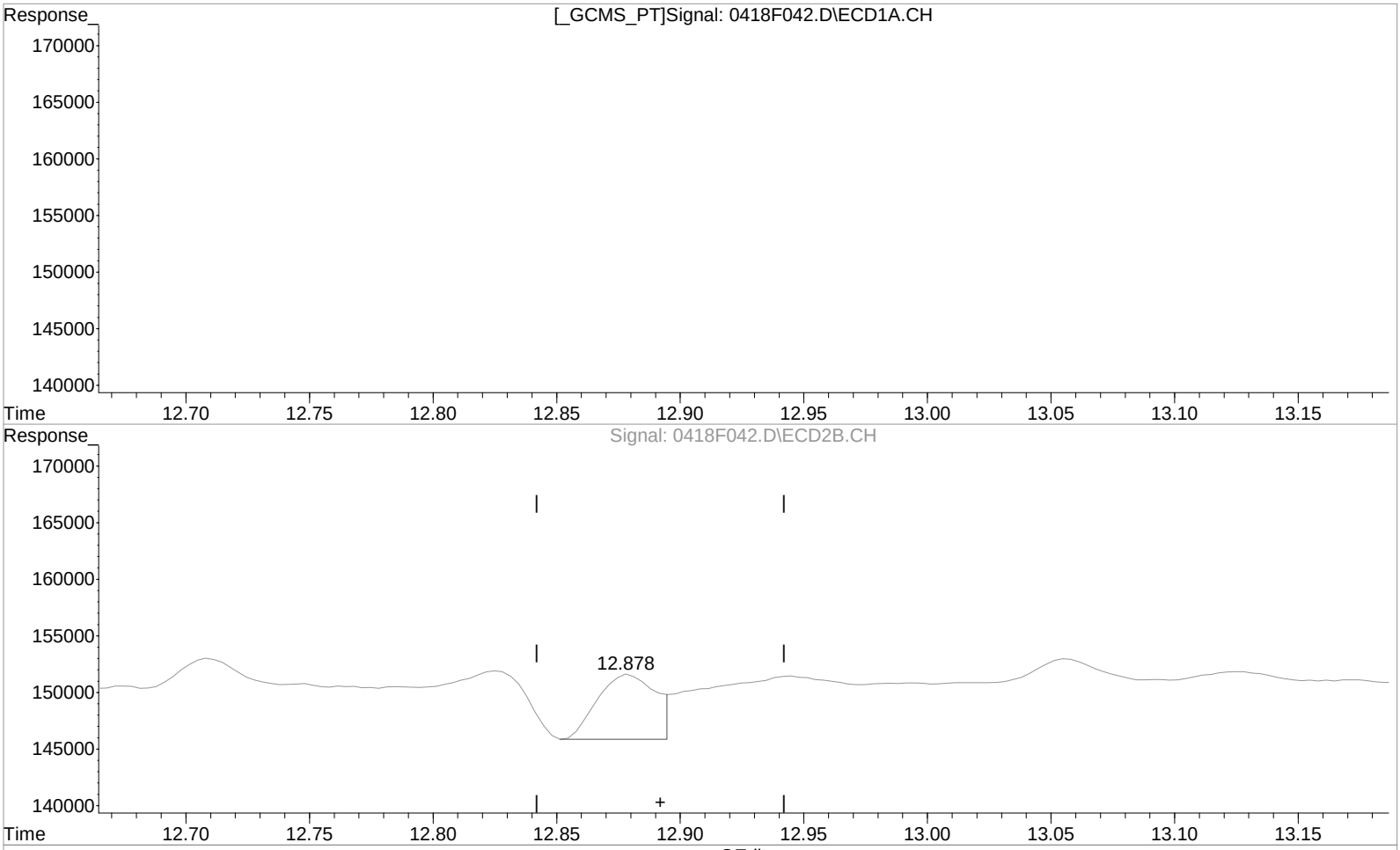
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F042.D Vial: 36
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:51 pm Operator: LM
Sample : K2002652-014 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:57:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(52) Perthane

0.000min 0.000 ug/L d

response 0

Manual Integration:

Before

04/21/20

(52) Perthane #2

12.878min 5.649 ug/L

response 9760

(+) = Expected Retention Time

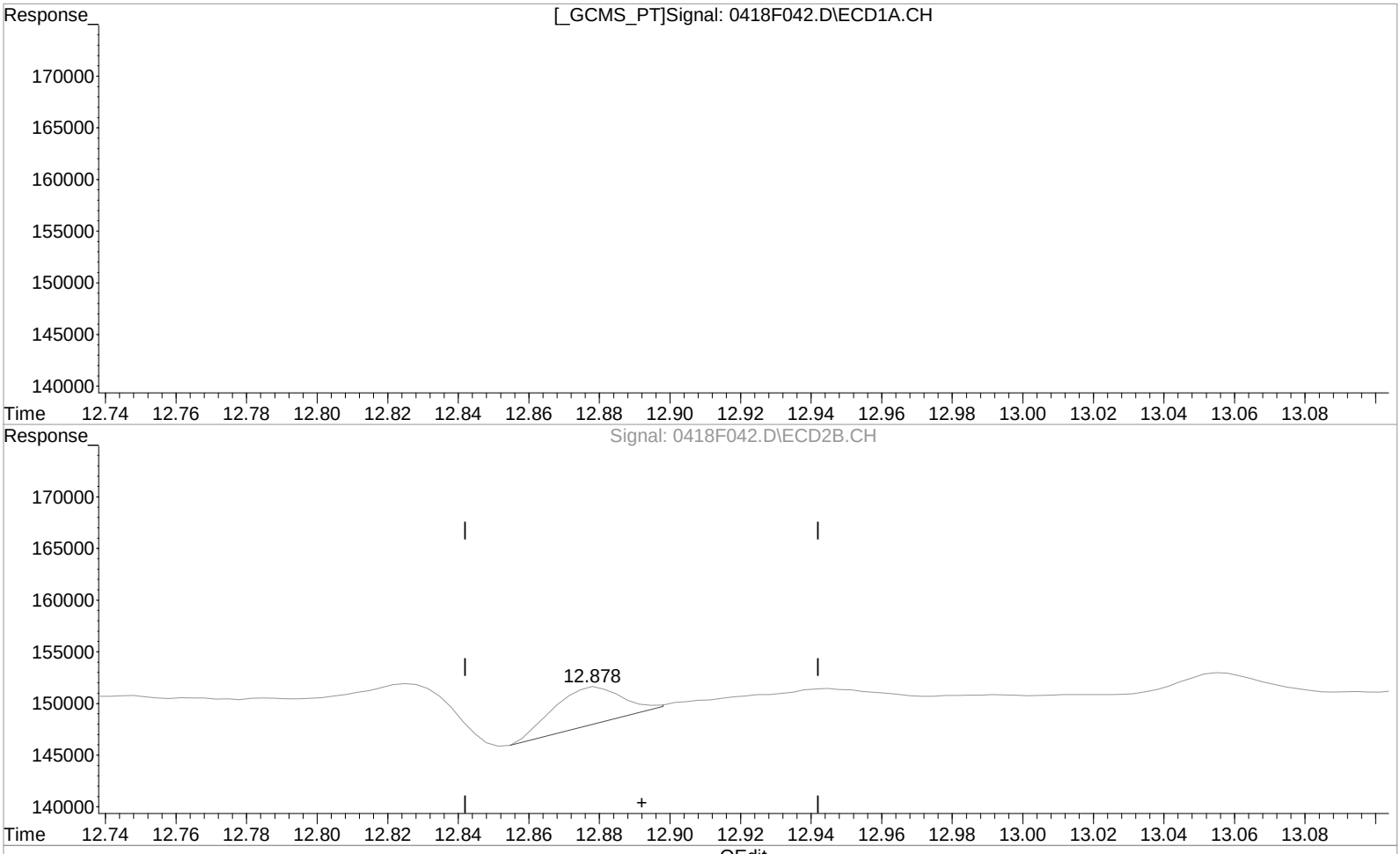
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F042.D Vial: 36
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:51 pm Operator: LM
Sample : K2002652-014 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:57:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(52) Perthane

0.000min 0.000 ug/L d

response 0

Manual Integration:

After

Baseline correction

04/21/20

(52) Perthane #2

12.878min 3.123 ug/L m

response 5395

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F043.D\
Lab ID: K2002652-015
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 16:21:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	2,4'-DDT	13.23			
	cis-Nonachlor	13.23			
	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F043.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 16:21:00	**Vial:**	8
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-015	**Raw Units:**	ug/L

Bottle ID:	K2002652-015.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/26/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1099012	4790042	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1099012	4790042	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1099012	4790042	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07	65504	229260	3.350	2.969	67	59	59	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.26 -0.01	74215	271170	4.658	4.569	93	91	91	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	9.79 +0.01	0	7088	0.000	0.197	0U	0.99J	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	0.00	12.63 -0.01	0	3736	0.000	0.053	0U	0.27U	0.44 U	Y
Heptachlor	0.00	9.93	0	152657	0.000	2.034	0U	10	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F043.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 16:21:00	**Vial:**	8
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-015	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F043.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:21 pm Operator: LM
Sample : K2002652-015 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:27:32 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.200	5.484	1099012	4790042	100.000	100.000
29)	1-Bromo-2...	6.200	5.484	1099012	4790042	100.000	100.000
36)	1-Bromo-2...	6.200	5.484	1099012	4790042	100.000	100.000
43)	1-Bromo-2...	6.200	5.484	1099012	4790042	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.977	7.264	74215	271170	4.658	4.569
28) s	Decachlor...	18.674	17.067	65504	229260	3.350m	2.969
	Target Compounds						
5)	beta-BHC	0.000	9.787	0	7088	N.D.	0.197 #
8)	Heptachlor	0.000	9.927	0	152657	N.D. d	2.034
15)	Dieldrin	0.000	12.634	0	3736	N.D. d	0.053
18)	Endosulfa...	14.794	13.547	9654	12574	0.576m	0.208m#
19)	4,4'-DDD	0.000	13.401f	0	5040	N.D. d	0.099
20)	Endrin Al...	15.007	13.924	1909	3757	0.131	0.075m#
22)	4,4'-DDT	15.100f	13.827f	2349	16381	0.170	0.335 #
23)	Endrin Ke...	0.000	15.181	0	3955	N.D.	0.055 #
24)	Methoxychlor	15.880	0.000	3626	0	0.434	N.D. #
26)	2,4'-DDD	0.000	12.824	0	2725	N.D. d	0.071
27)	2,4'-DDT	14.484f	13.234	4138	7101	0.347	0.171 #
44)	Chlorpyrifos	12.100	0.000	1787	0	0.176	N.D. #
45)	Oxychlordane	12.870	0.000	1794	0	0.102	N.D. #
46)	cis-Nonac...	0.000	13.234	0	7101	N.D. d	0.101
52)	Perthane	0.000	12.877	0	2574	N.D.	1.467 #
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

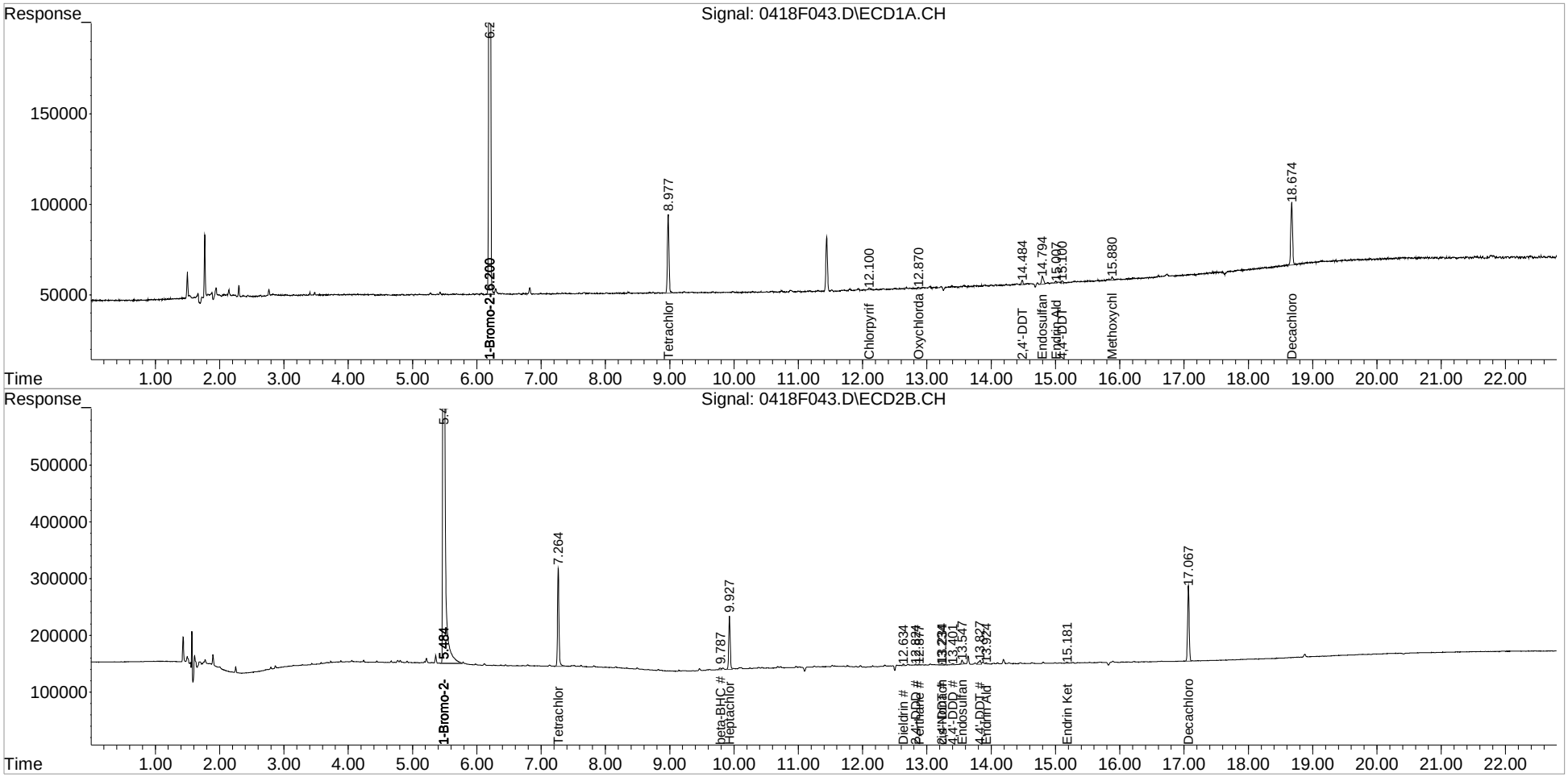
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F043.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:21 pm Operator: LM
Sample : K2002652-015 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:27:32 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



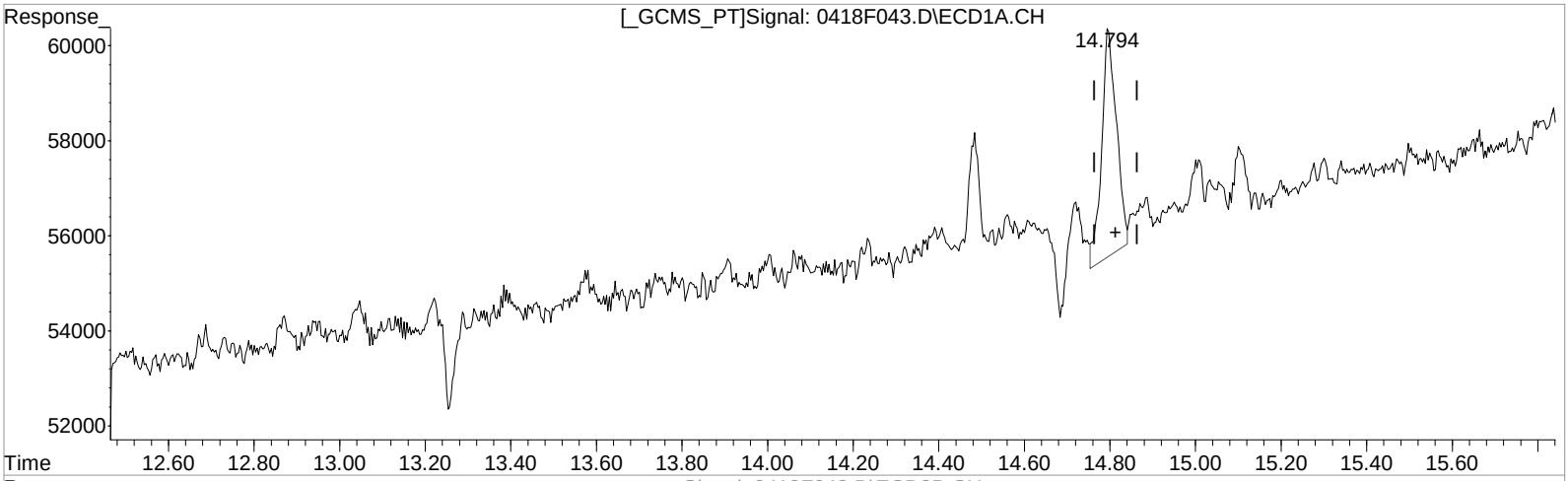
Quantitation Report (Qedit)

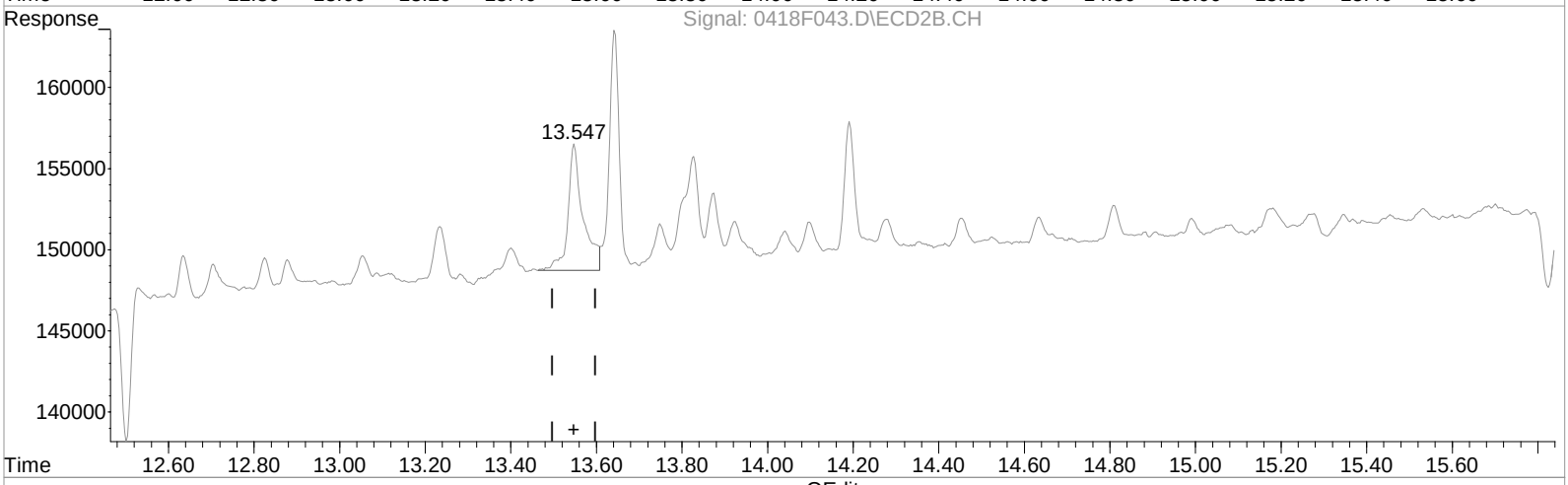
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F043.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:21 pm Operator: LM
Sample : K2002652-015 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:22:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.794min 0.686 ug/L

response 11502

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.547min 0.314 ug/L

response 19001

(+) = Expected Retention Time

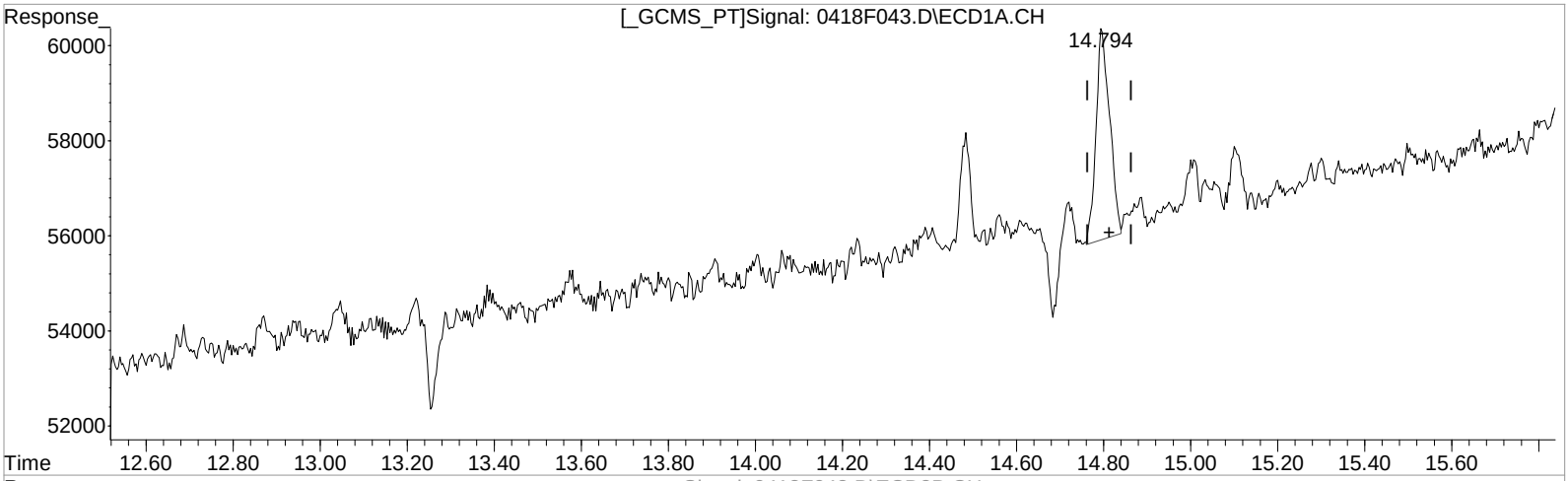
Quantitation Report (Qedit)

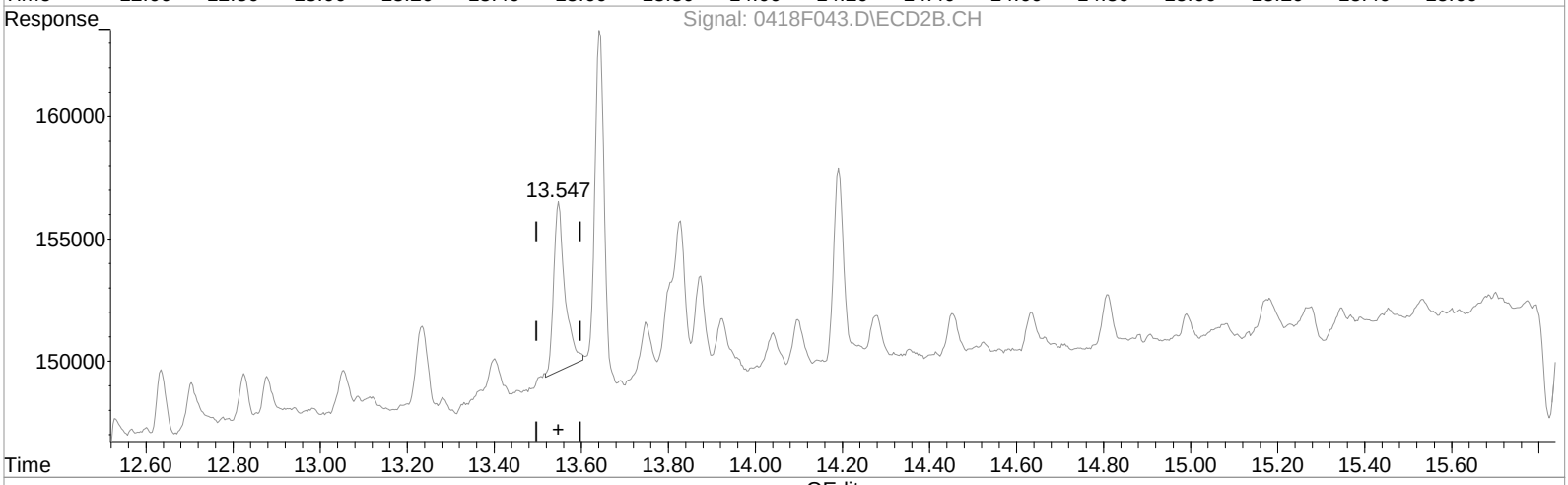
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F043.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:21 pm Operator: LM
Sample : K2002652-015 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:22:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.794min 0.576 ug/L m

response 9654

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.547min 0.208 ug/L m

response 12574

(+) = Expected Retention Time

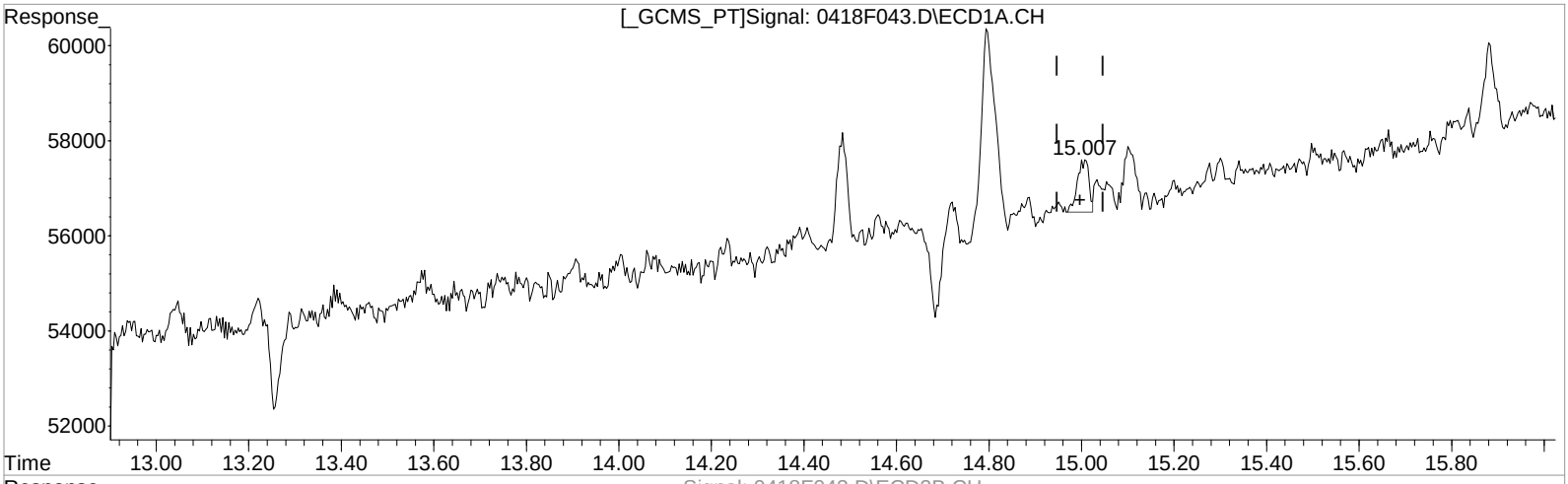
Quantitation Report (Qedit)

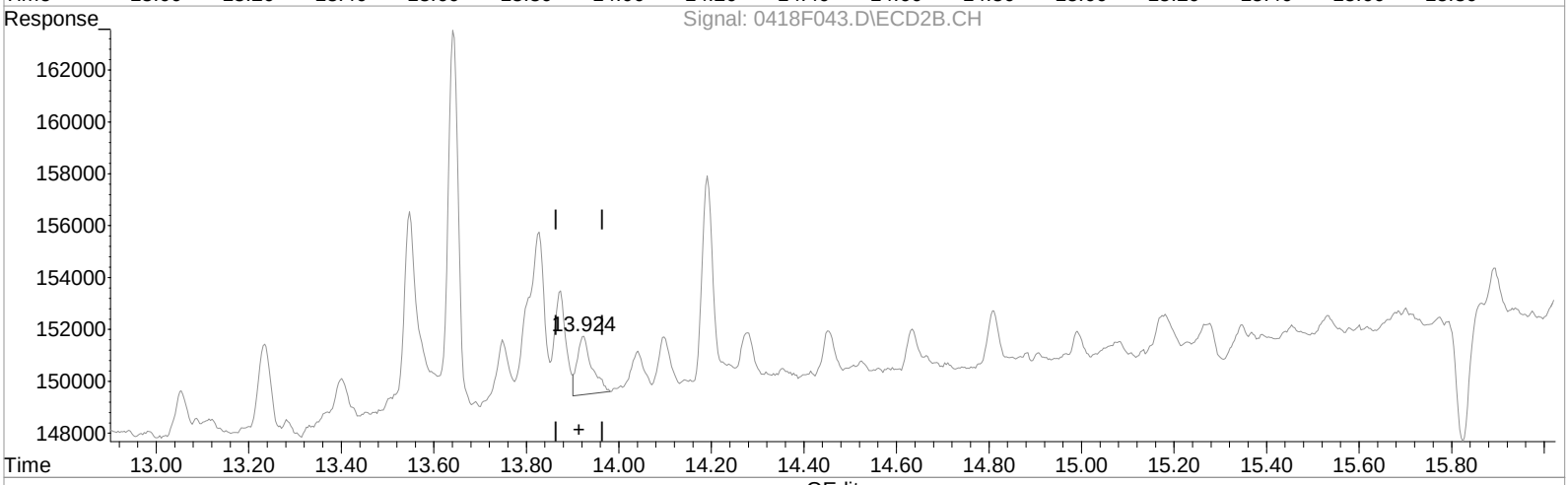
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F043.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:21 pm Operator: LM
Sample : K2002652-015 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:22:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

15.007min 0.131 ug/L

response 1909

Manual Integration:

Before

04/21/20

(20) Endrin Aldehyde #2

13.924min 0.098 ug/L

response 4927

(+) = Expected Retention Time

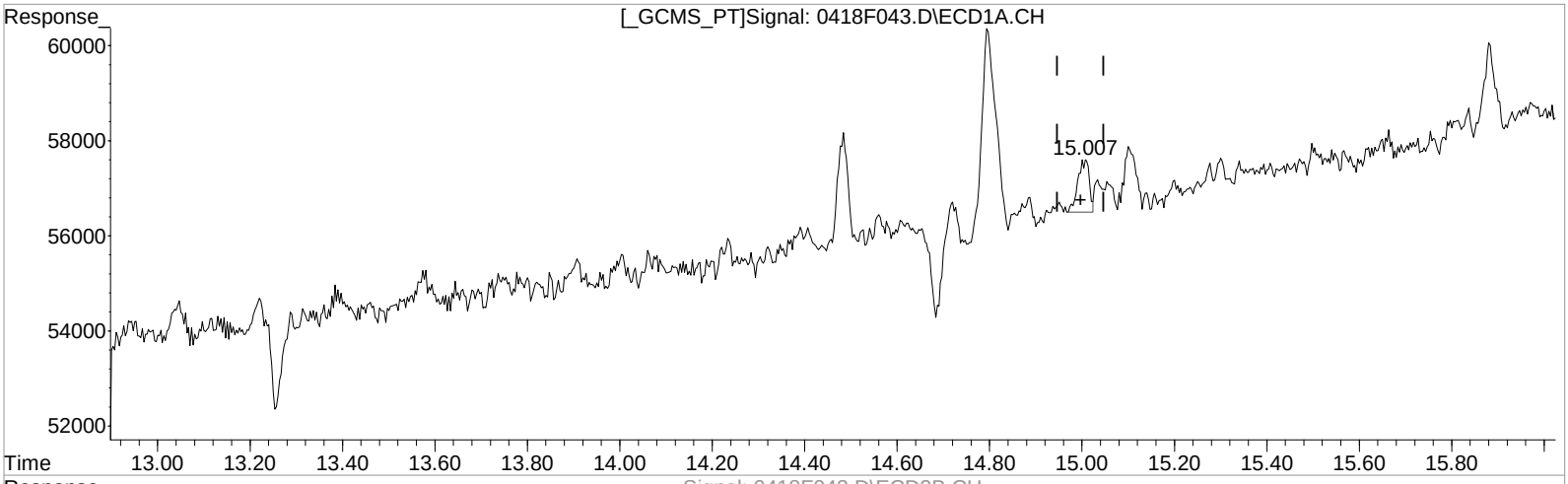
Quantitation Report (Qedit)

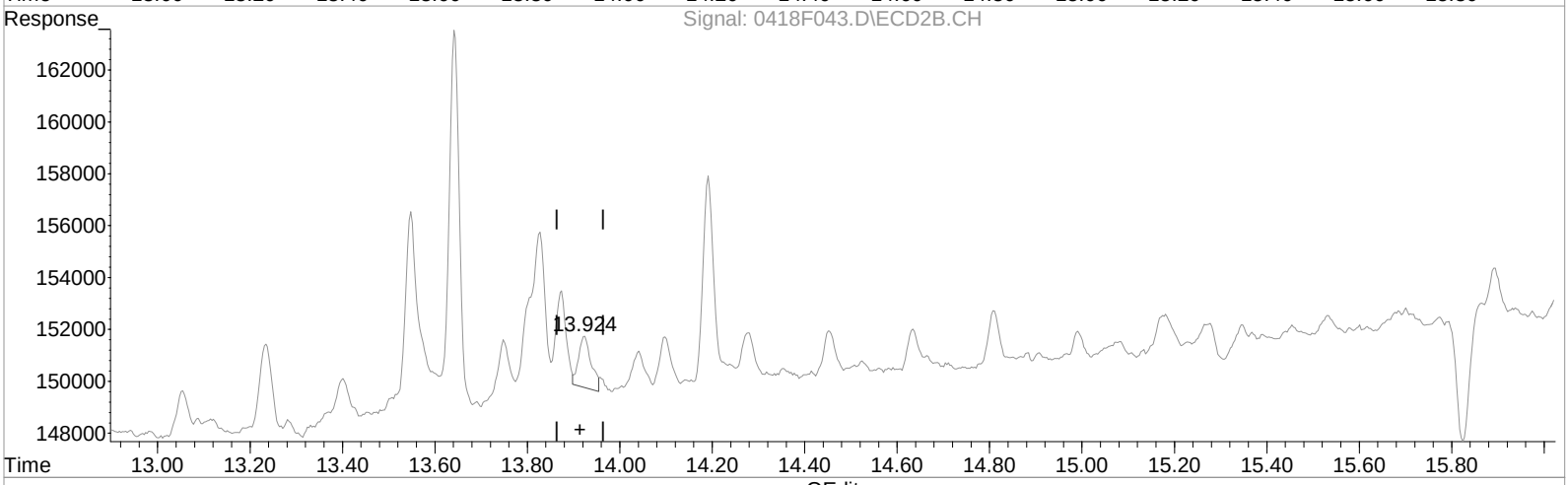
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F043.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:21 pm Operator: LM
Sample : K2002652-015 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:22:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

15.007min 0.131 ug/L

response 1909

Manual Integration:

After

Baseline correction

04/21/20

(20) Endrin Aldehyde #2

13.924min 0.075 ug/L m

response 3757

(+) = Expected Retention Time

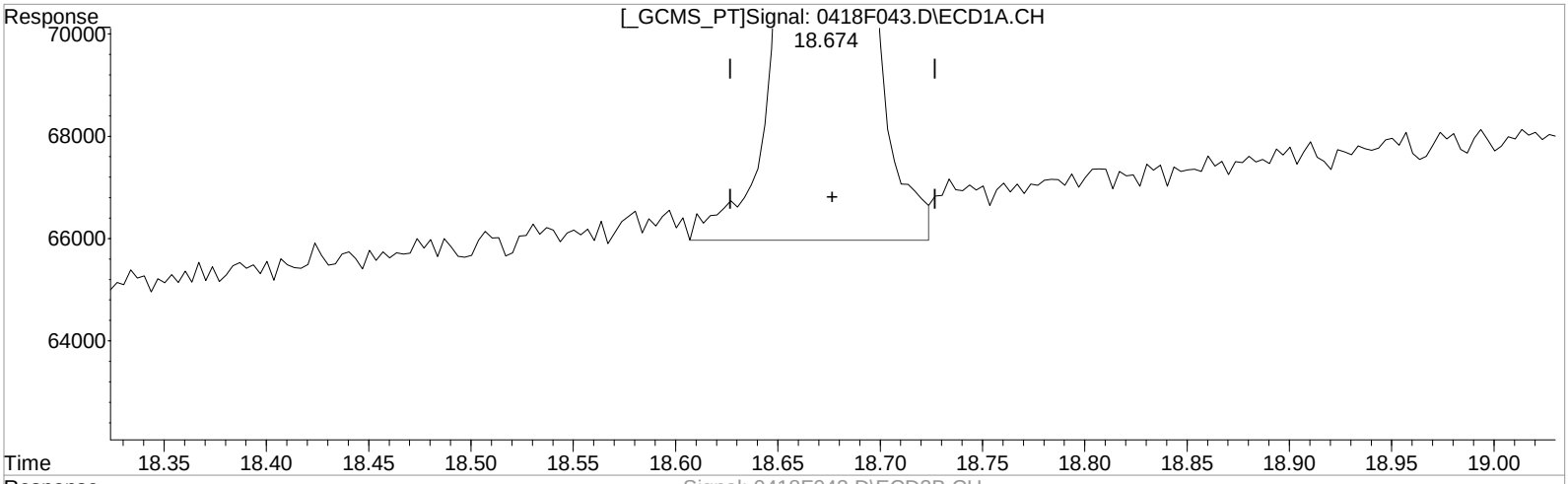
Quantitation Report (Qedit)

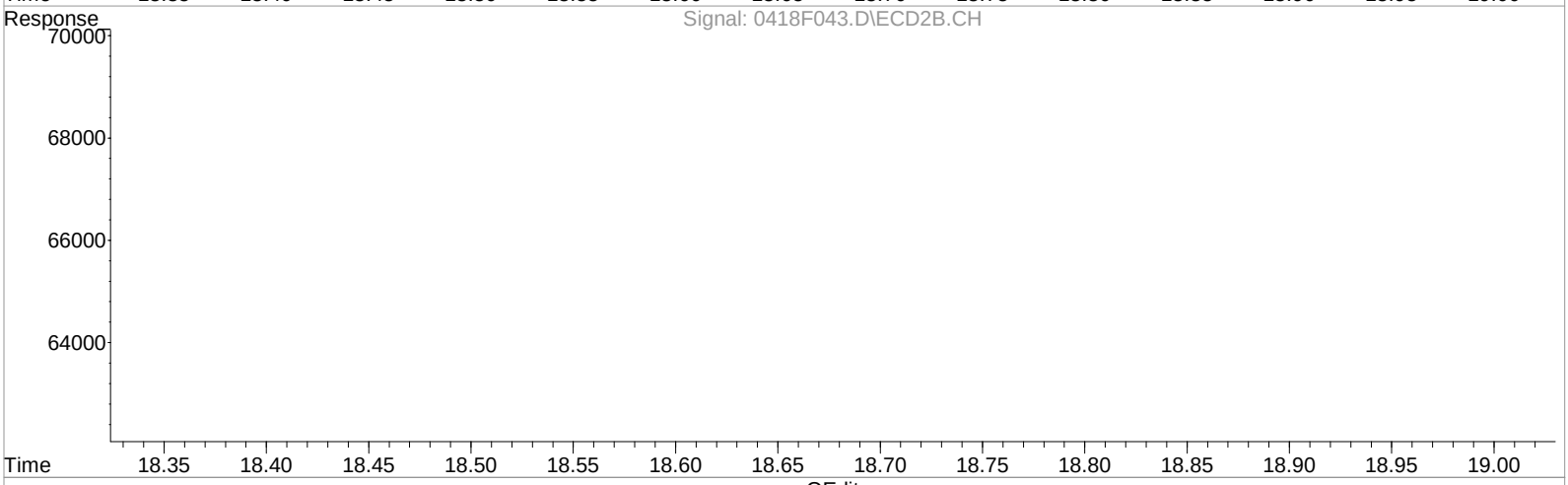
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F043.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:21 pm Operator: LM
Sample : K2002652-015 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:22:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.674min 3.535 ug/L

response 69129

Manual Integration:

Before

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.067min 2.969 ug/L

response 229260

(+) = Expected Retention Time

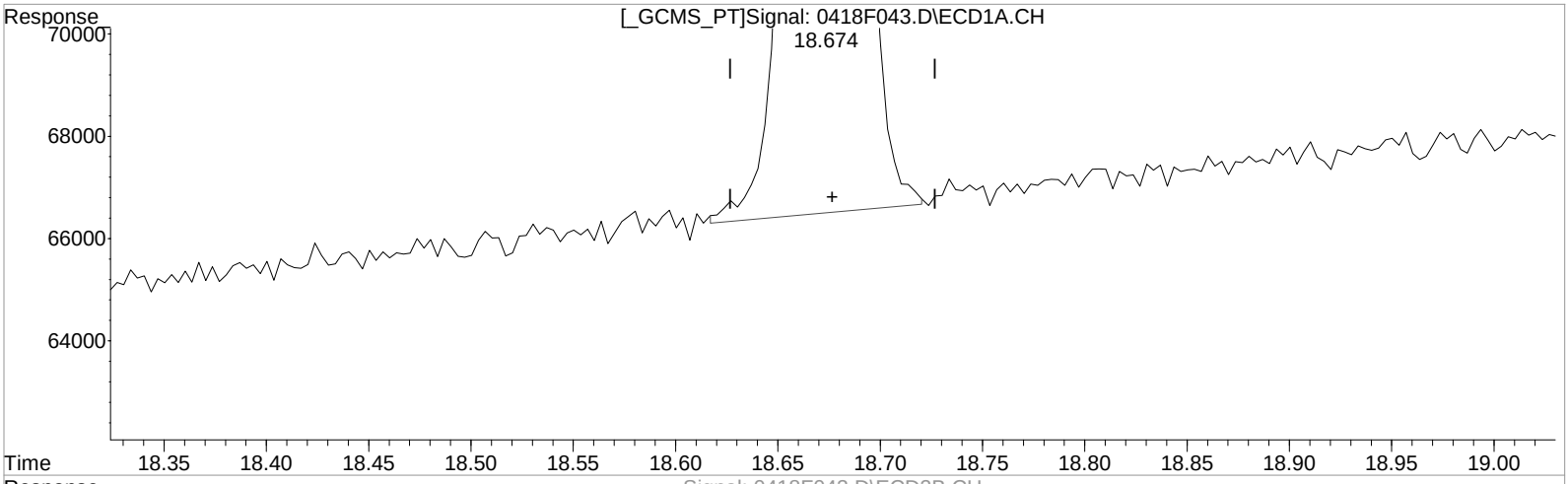
Quantitation Report (Qedit)

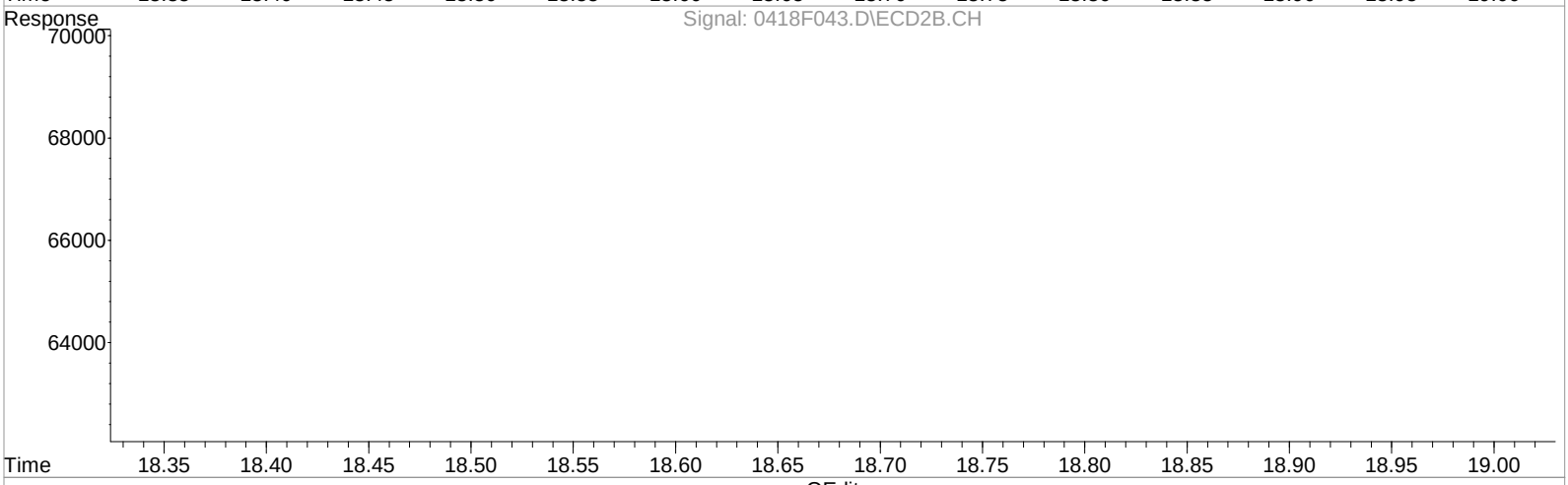
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F043.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:21 pm Operator: LM
Sample : K2002652-015 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:22:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.674min 3.350 ug/L m

response 65504

Manual Integration:

After

Baseline correction

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.067min 2.969 ug/L

response 229260

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F044.D\
Lab ID: K2002652-016
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 16:50:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	cis-Chlordane	13.53			see Quant Report
	trans-Chlordane	13.46			
	Chlordane {4}	13.46			
	Chlordane {5}	13.53			
	Chlordane {6}	13.61			
	4,4'-DDD	14.65			
	Endosulfan I	13.61			
	Endosulfan II	14.81			
	Endrin Aldehyde	15.00			
	cis-Nonachlor	14.65			
	trans-Nonachlor	13.61			
	Toxaphene {2}	14.81			
	Toxaphene {4}	15.00			
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.12			see Quant Report
	trans-Chlordane	11.97			
	Chlordane {4}	11.97			
	Chlordane {5}	12.02			
	Chlordane {6}	12.12			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	4,4'-DDD	13.39			see Quant Report
	2,4'-DDE	12.02			
	2,4'-DDT	13.22			
	Endrin Aldehyde	13.93			
	cis-Nonachlor	13.22			
	trans-Nonachlor	12.02			
	Toxaphene {1}	13.39			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F044.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 16:50:00	**Vial:**	9
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-016	**Raw Units:**	ug/L

Bottle ID:	K2002652-016.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/26/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1062894	4550776	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1062894	4550776	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1062894	4550776	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06 -0.01	86356	297277	4.566	4.052	91	81	81	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.26 -0.01	95799	334641	6.216	5.934	124	119	119	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.21	10.53 +0.01	2481	11006	0.146	0.153	0.73U	0.77U	0.77 U		Y
alpha-BHC	9.84 +0.02	0.00	2260	0	0.127	0.000	0.64J	0U	0.25 U		Y
beta-BHC	0.00	9.79 +0.01	0	27914	0.000	0.816	0U	4.1	0.17 U		Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U		Y
Chlordane					30.63	6666666666	150	130	**130**		Y
Chlordane {1}	11.26 -0.01	9.57	78352	30974	108.134	12.469	540	62		i	
Chlordane {2}	11.69	11.66 -0.01	1812	60138	1.974	35.498	9.9	180		i	
Chlordane {3}	12.25	11.81 -0.01	3696	34196	5.611	30.405	28	150		i	
Chlordane {4}	13.46 +0.01 c	11.97 c	51700	153494	25.856	22.534	130	110			
Chlordane {5}	13.53 c	12.02 c	29642	128721	17.922	30.863	90	150		P	
Chlordane {6}	13.61 c	12.12 c	29482	119667	24.283	19.816	120	99			
Dieldrin	14.00	12.63 -0.01	116300	411232	6.631	6.152	33	31	**31**		Y
Heptachlor	0.00	9.93	0	442553	0.000	6.207	0U	31	0.61 U		Y
Heptachlor Epoxide	12.95 +0.02	11.59 -0.01	3568	9720	0.199	0.138	1.0J	0.69J	**0.69** J		Y
Hexachlorobenzene	10.00 +0.02	0.00	7978	0	0.380	0.000	1.9	0U	0.27 U		Y
Toxaphene					91.828	6666666666	460	360	**360**		Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F044.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 16:50:00	**Vial:**	9
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-016	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.72 -0.02	13.39 c	24743	61861	141.678	61.175	710	310		P
Toxaphene {2}	14.81 +0.01 c	13.46 +0.01	19831	39744	125.538	51.085	630	260		P
Toxaphene {3}	14.93 +0.01	13.59	19970	59998	63.444	57.332	320	290		
Toxaphene {4}	15.00 +0.01 c	13.66	8664	29790	40.928	82.403	200	410		P
Toxaphene {5}	15.34	13.93 c	14643	75072	72.593	137.823	360	690		P
Toxaphene {6}	15.53 +0.01	15.44 +0.01	9687	12475	106.787	42.279	530	210		P

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:33:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.200	5.484	1062894	4550776	100.000	100.000
29)	1-Bromo-2...	6.200	5.484	1062894	4550776	100.000	100.000
36)	1-Bromo-2...	6.200	5.484	1062894	4550776	100.000	100.000
43)	1-Bromo-2...	6.200	5.484	1062894	4550776	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.976	7.264	95799	334641	6.216	5.934
28) s	Decachlor...	18.670	17.064	86356	297277	4.566	4.052
	Target Compounds						
3)	alpha-BHC	9.836	0.000	2260	0	0.127	N.D. d#
4)	Hexachlor...	9.996	0.000	7978	0	0.380	N.D. d#
5)	beta-BHC	0.000	9.790	0	27914	N.D.	0.816 #
7)	delta-BHC	0.000	10.294	0	10127	N.D. d	0.148
8)	Heptachlor	0.000	9.934	0	442553	N.D. d	6.207
9)	Aldrin	12.210	10.534	2481	11006	0.146	0.153
10)	Isodrin	12.730	11.290	4805	10662	0.329	0.178 #
11)	Heptachlo...	12.950	11.594	3568	9720	0.199	0.138 #
12)	gamma-Chl...	13.456	11.974	51700	153494	2.885	2.258
13)	Endosulfan I	13.613f	12.227f	29482	31717	1.804	0.518 #
14)	alpha-Chl...	13.530	12.120	29642	119667	1.662	1.738
15)	Dieldrin	14.003	12.634	116300	411232	6.631	6.152
16)	4,4'-DDE	13.830	12.494	10509	9260	0.640	0.144 #
17)	Endrin	14.356	13.114	8301	15068	0.519	0.237 #
18)	Endosulfa...	14.806	13.544	19831	235733	1.223	4.101 #
19)	4,4'-DDD	14.646	13.390	18979	61861	1.496	1.284
20)	Endrin Al...	14.996	13.930	8664	75072	0.616	1.577 #
21)	Endosulfa...	15.466	14.247	10216	24992	0.618	0.441 #
22)	4,4'-DDT	15.160	13.827f	6792	60135	0.510	1.295m#
23)	Endrin Ke...	0.000	15.184	0	19101	N.D.	0.282m#
24)	Methoxychlor	15.880	14.867f	58184	39523	7.199	1.533 #
25)	2,4'-DDE	13.200	12.020	2854	128721	0.249	3.064 #
26)	2,4'-DDD	13.940	12.824	14730	42247	1.463	1.160
27)	2,4'-DDT	14.480f	13.217	88437	31783	7.678	0.804 #
30)	Toxaphene	14.720f	13.390	24743	61861	141.678	61.175 #
31)	Toxaphene...	14.806	13.457	19831	39744	125.538	51.085 #
32)	Toxaphene...	14.926	13.594	19970	59998	63.444	57.332
33)	Toxaphene...	14.996	13.660	8664	29790	40.928	82.403 #
34)	Toxaphene...	15.343	13.930	14643	75072	72.593m	137.823 #
35)	Toxaphene...	15.526	15.440	9687	12475	106.787m	42.279m#
37)	Chlordane	11.263	9.570	78352	30974	108.134	12.469 #
38)	Chlordane...	11.693	11.664	1812	60138	1.974m	35.498 #
39)	Chlordane...	12.253	11.814	3696	34196	5.611	30.405 #
40)	Chlordane...	13.456	11.974	51700	153494	25.856	22.534
41)	Chlordane...	13.530	12.020	29642	128721	17.922	30.863 #
42)	Chlordane...	13.613	12.120	29482	119667	24.283	19.816
44)	Chlorpyrifos	12.110	10.890	9958	18866	1.016	0.661 #
45)	Oxychlordane	12.876	11.400	14725	18070	0.870	0.281 #
46)	cis-Nonac...	14.646	13.217	16230	31783	0.912m	0.474 #
47)	trans-Non...	13.613	12.020	29482	128721	1.647	1.944
49)	HCE	4.163	0.000	3840	0	0.150	N.D. #

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:33:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
52)	Perthane	14.083	12.904	2813	9557	5.561	5.732m

SemiQuant Compounds - Not Calibrated on this Instrument

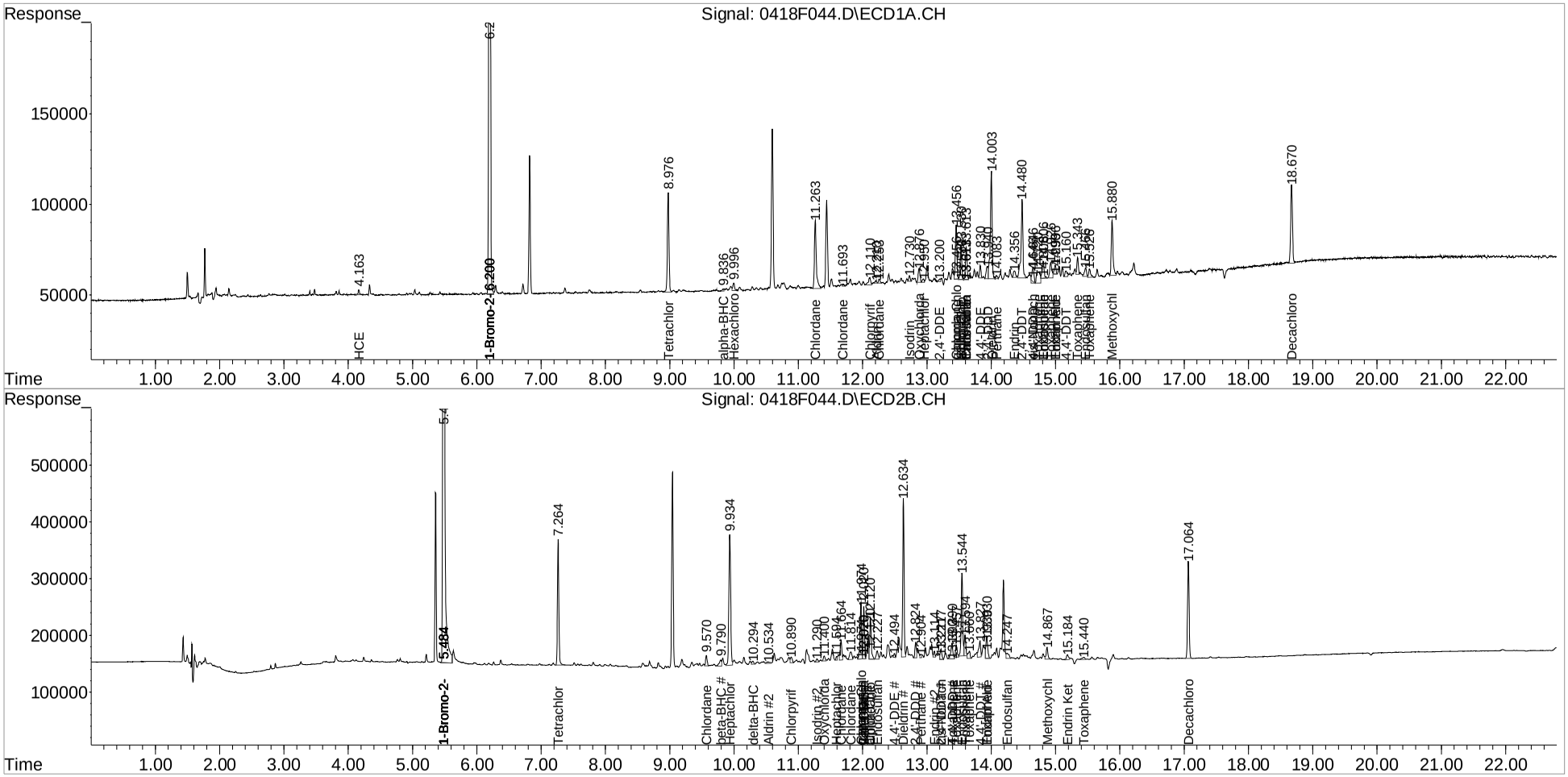
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:33:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



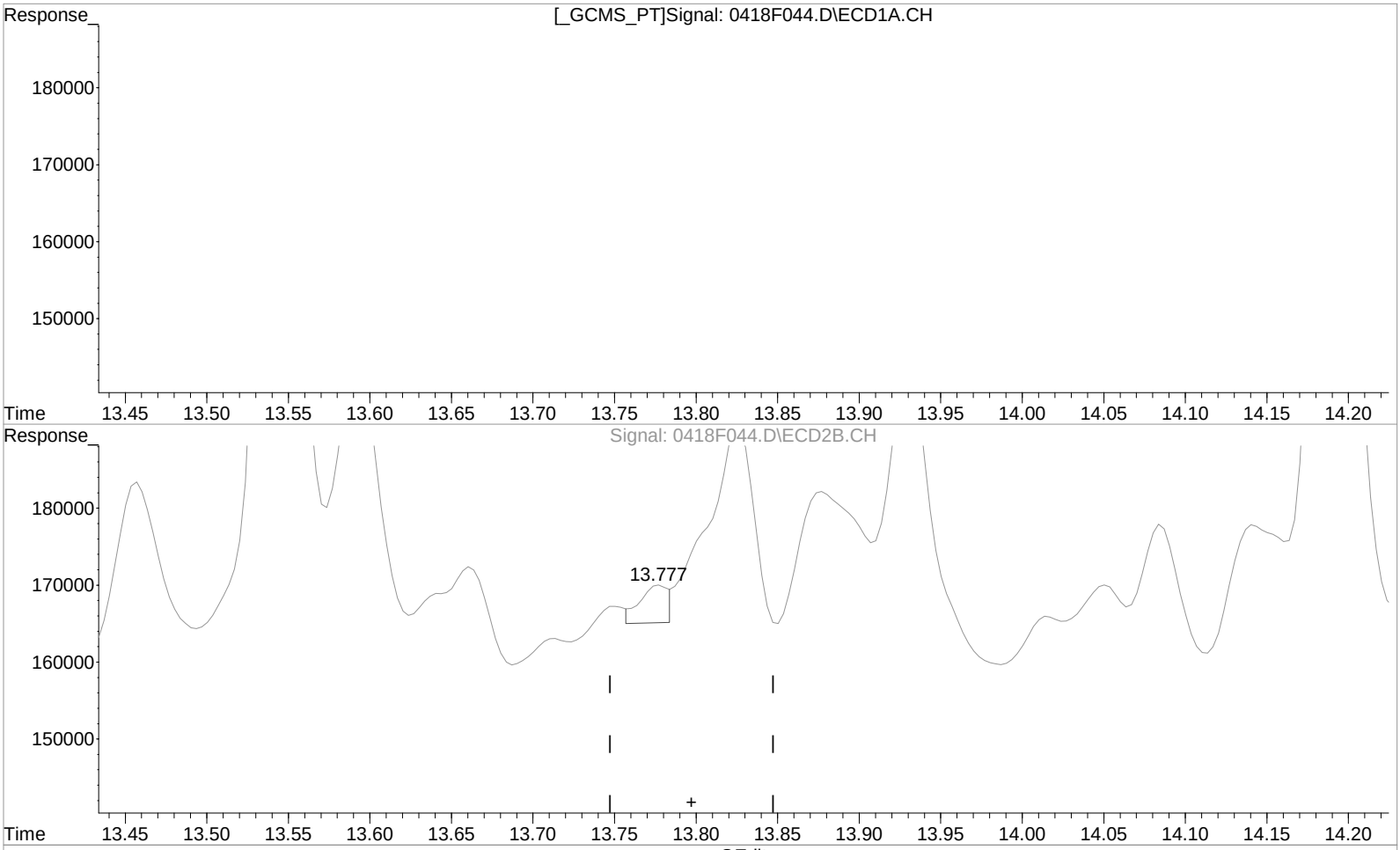
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.160min 0.510 ug/L

response 6792

Manual Integration:

Before

04/21/20

(22) 4,4'-DDT #2

13.777min 0.129 ug/L

response 6002

(+) = Expected Retention Time

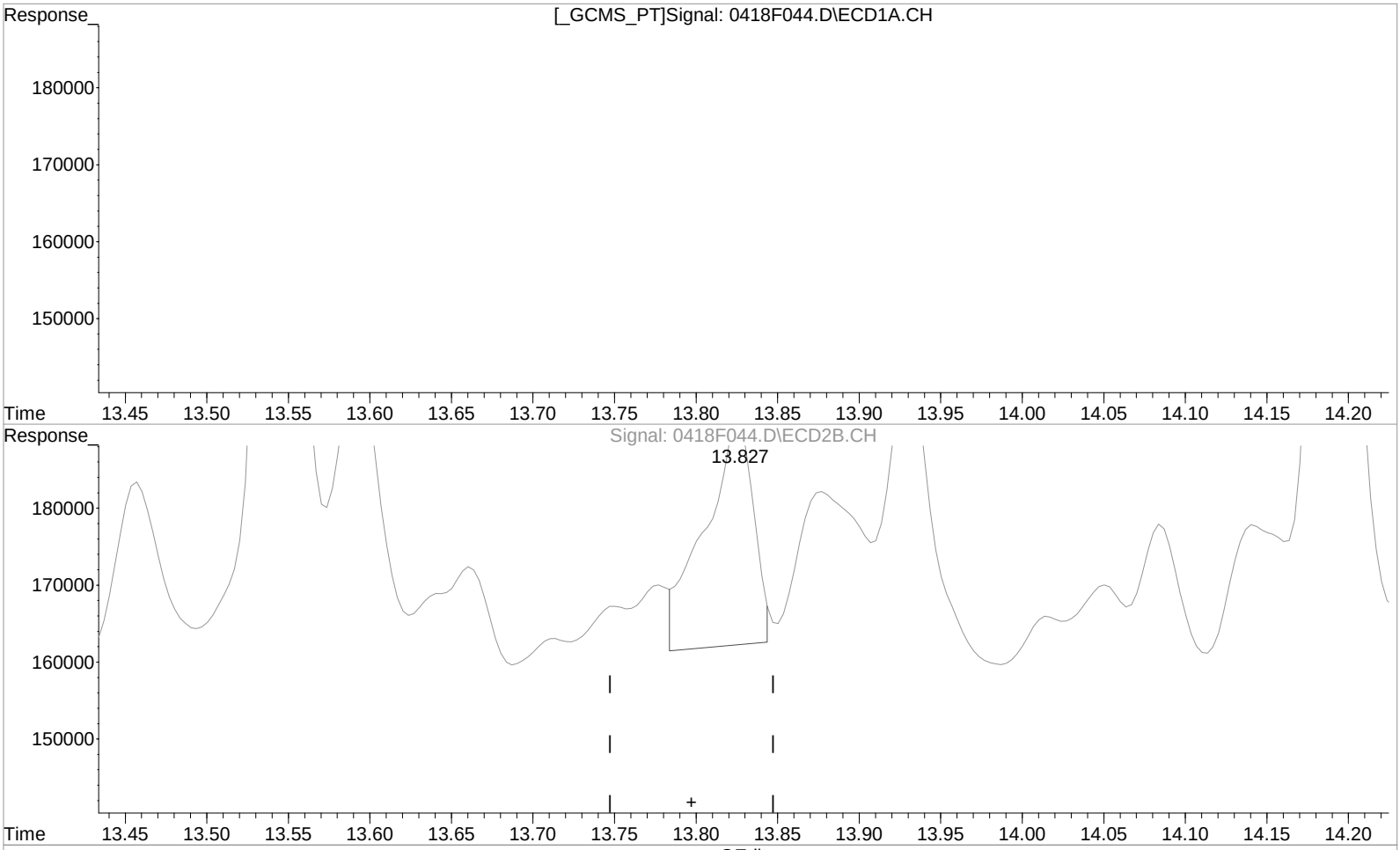
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.160min 0.510 ug/L

response 6792

Manual Integration:

After

WRT

04/21/20

(22) 4,4'-DDT #2

13.827min 1.295 ug/L m

response 60135

(+) = Expected Retention Time

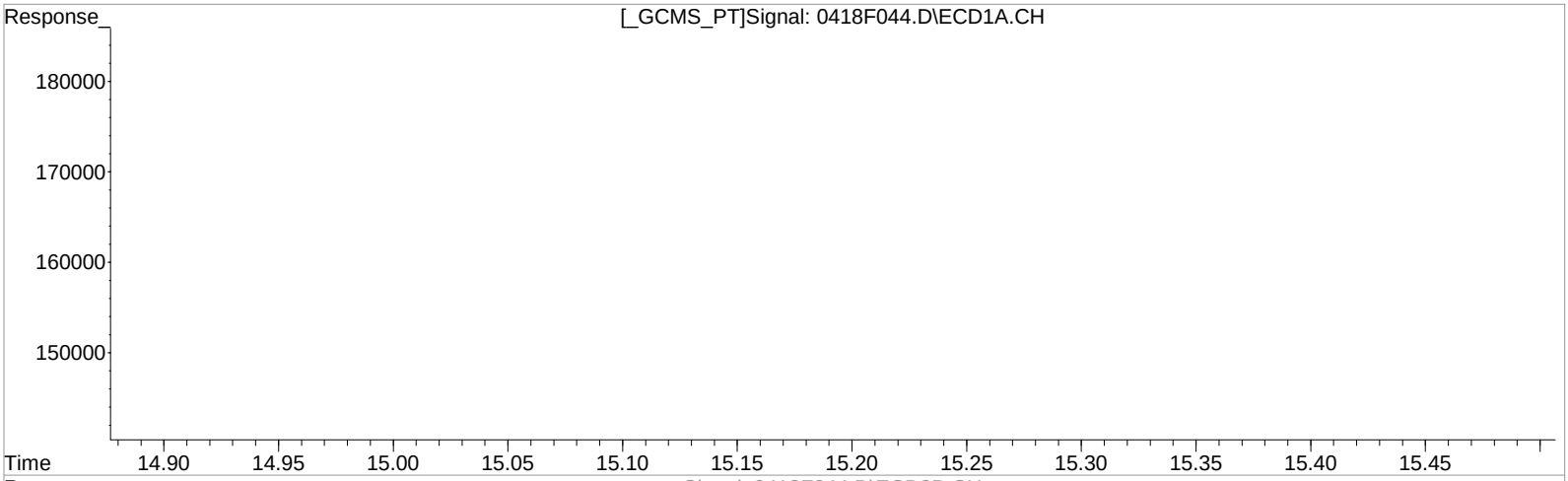
Quantitation Report (Qedit)

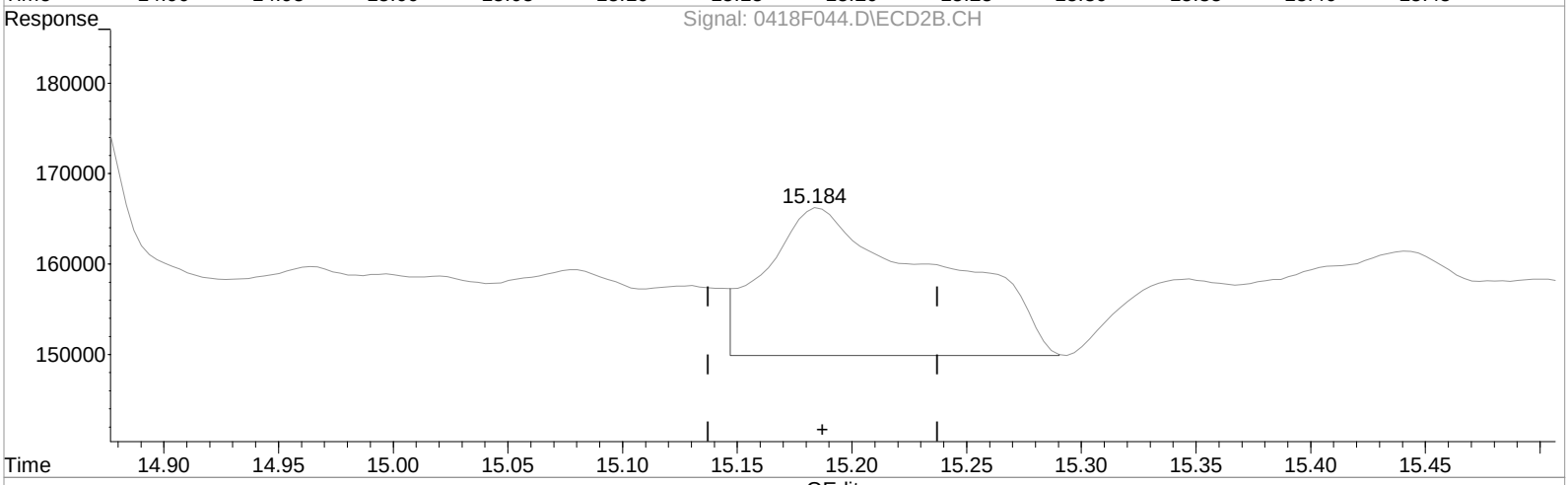
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(23) Endrin Ketone

0.000min 0.000 ug/L

response 0

Manual Integration:

Before

04/21/20

(23) Endrin Ketone #2

15.184min 1.246 ug/L

response 84515

(+) = Expected Retention Time

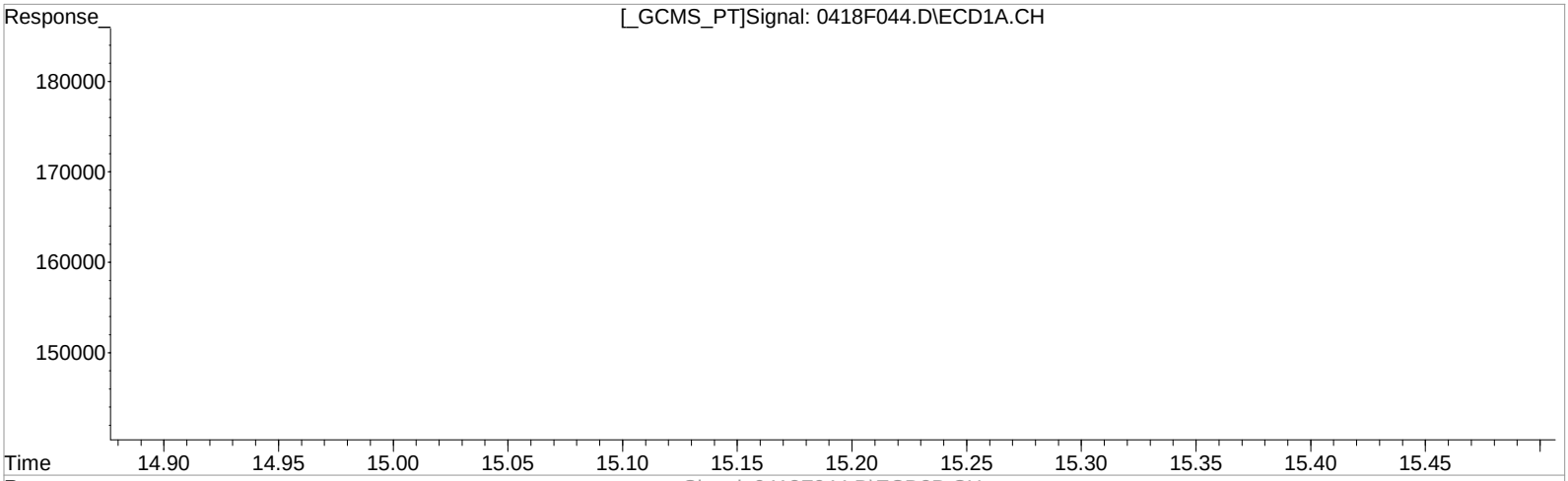
Quantitation Report (Qedit)

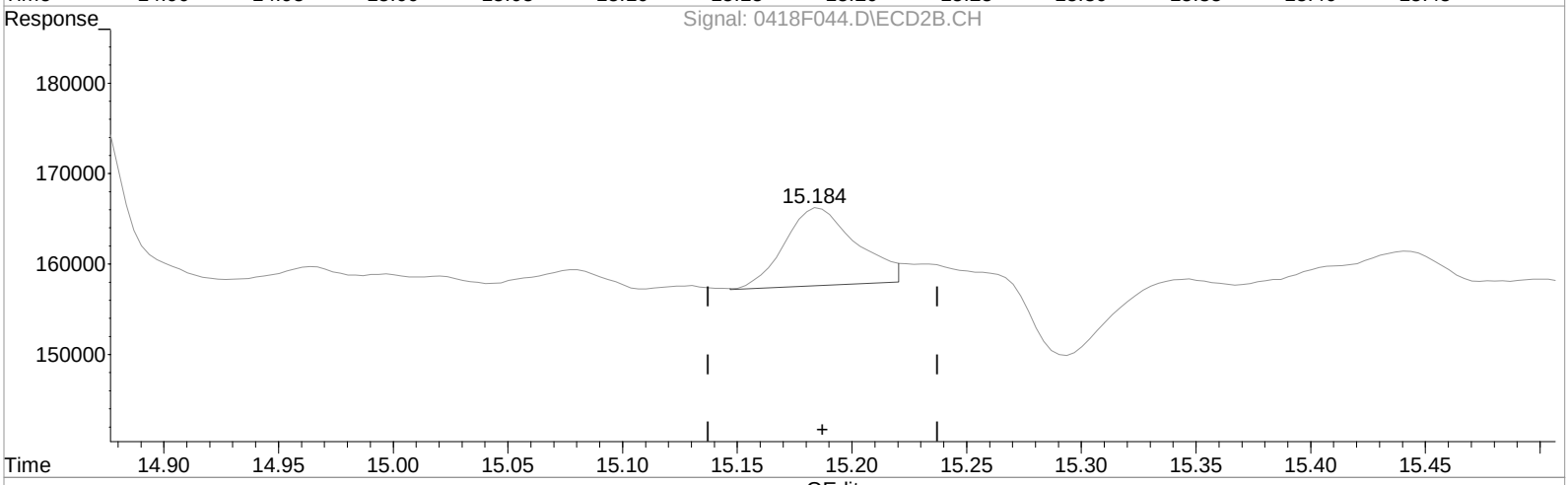
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(23) Endrin Ketone

0.000min 0.000 ug/L

response 0

Manual Integration:

After

Baseline correction

04/21/20

(23) Endrin Ketone #2

15.184min 0.282 ug/L m

response 19101

(+) = Expected Retention Time

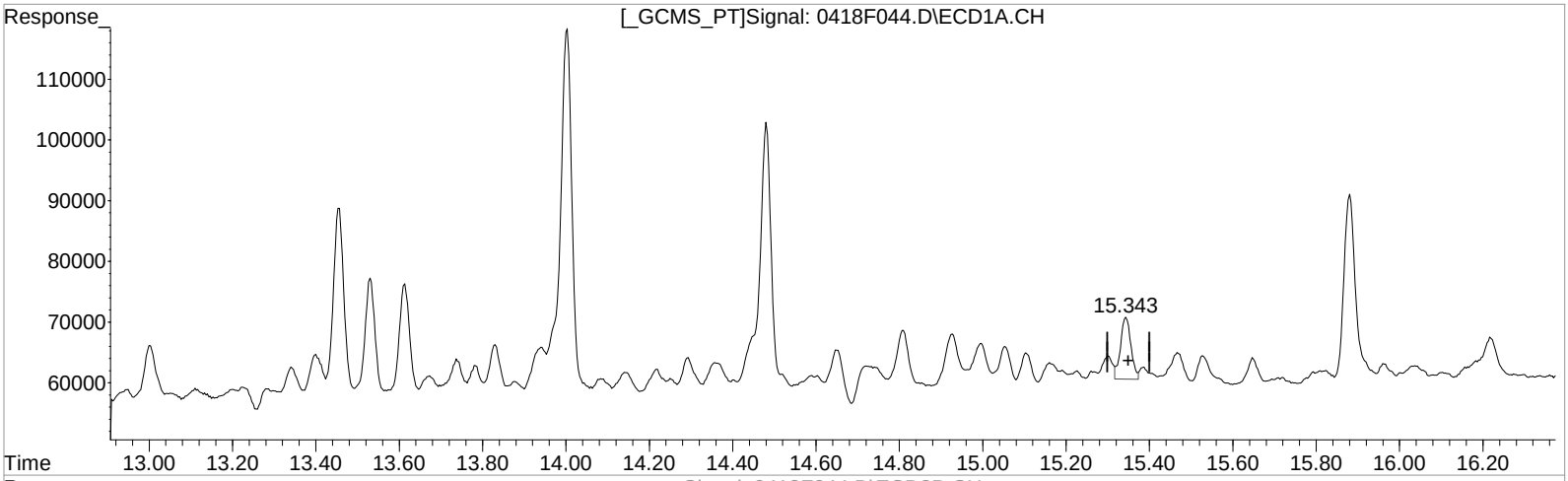
Quantitation Report (Qedit)

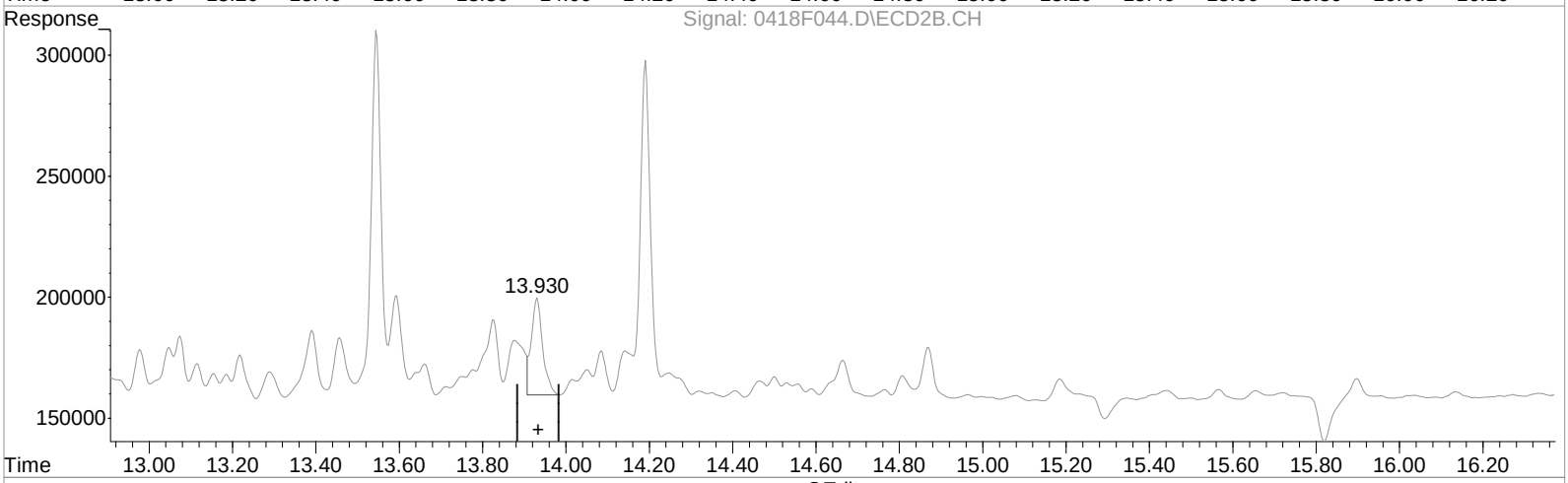
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.343min 87.942 ug/L

response 17739

(34) Toxaphene {5} #2

13.930min 137.823 ug/L

response 75072

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

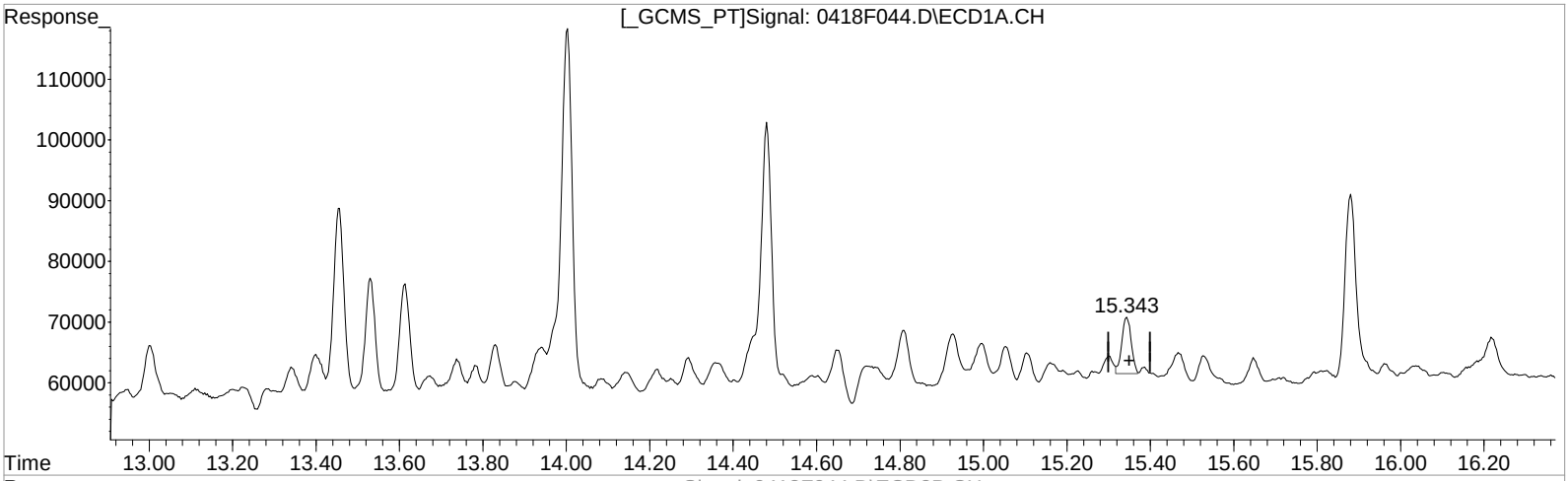
Quantitation Report (Qedit)

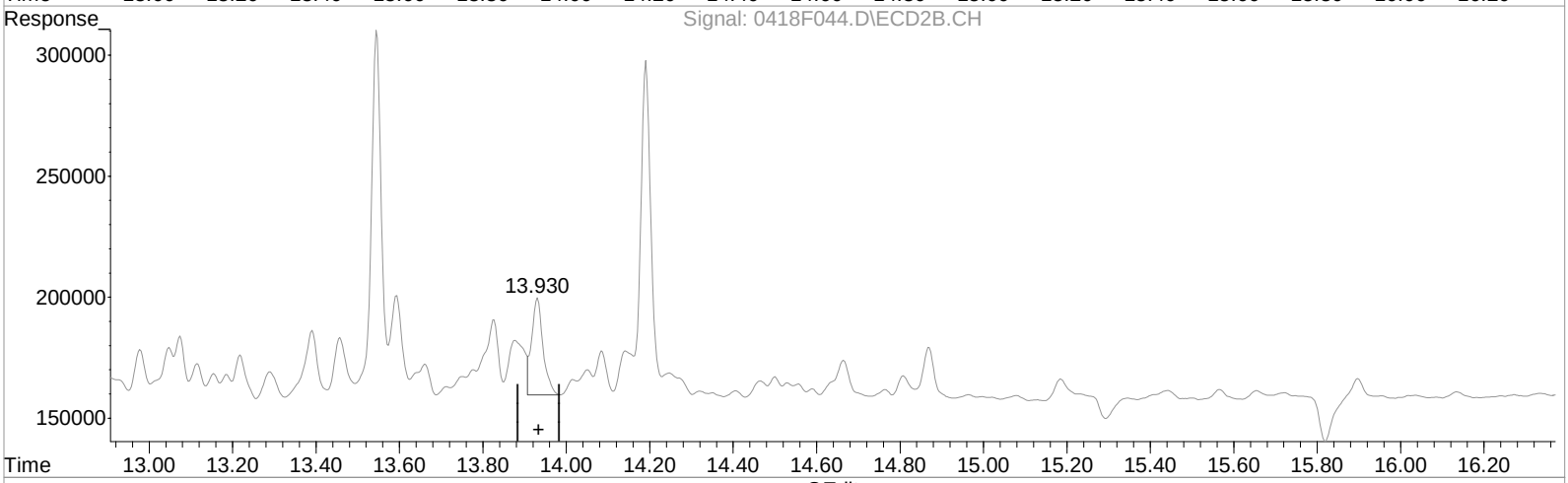
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.343min 72.593 ug/L m

response 14643

(34) Toxaphene {5} #2

13.930min 137.823 ug/L

response 75072

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

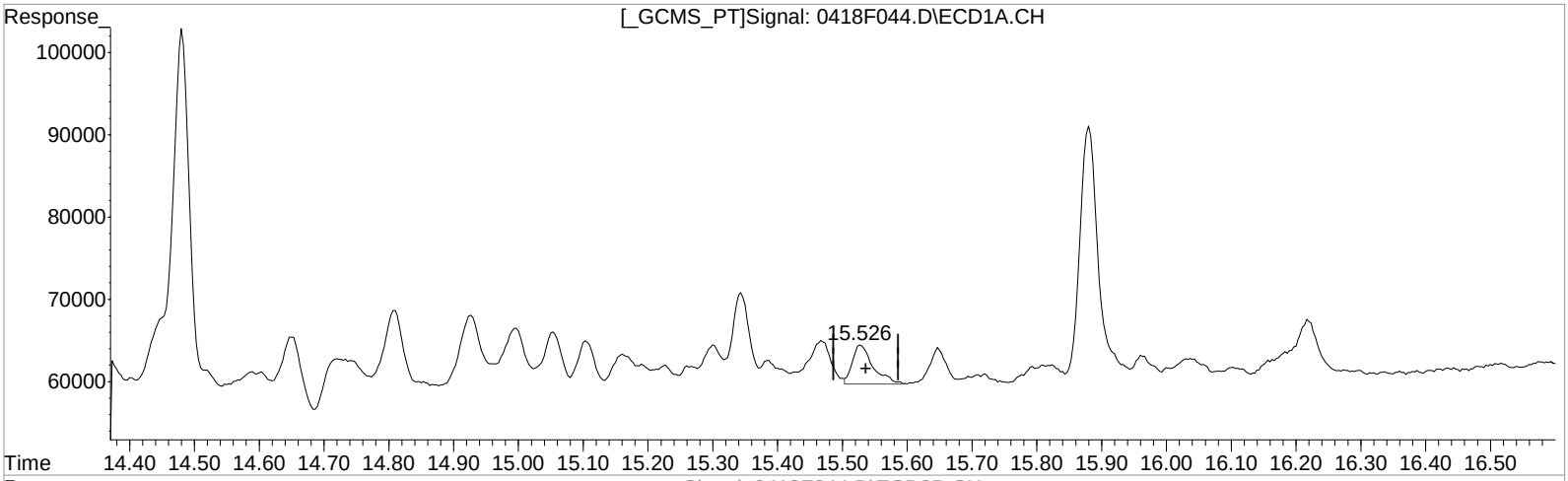
Quantitation Report (Qedit)

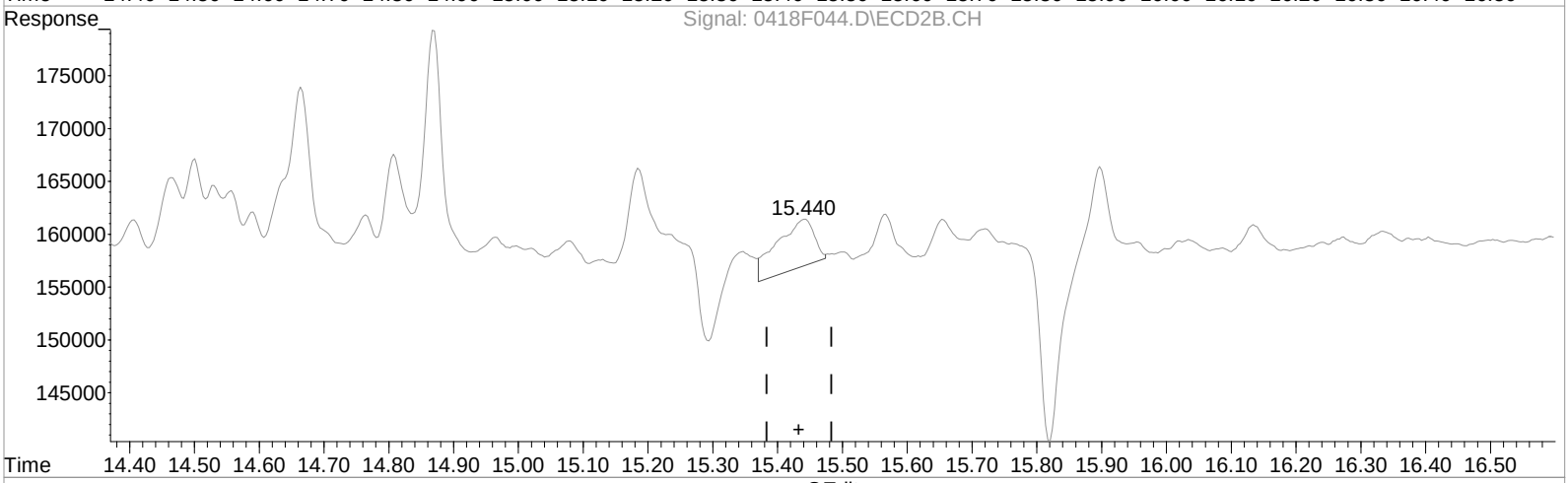
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.526min 117.624 ug/L

response 10598

(35) Toxaphene {6} #2

15.440min 62.959 ug/L

response 18577

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

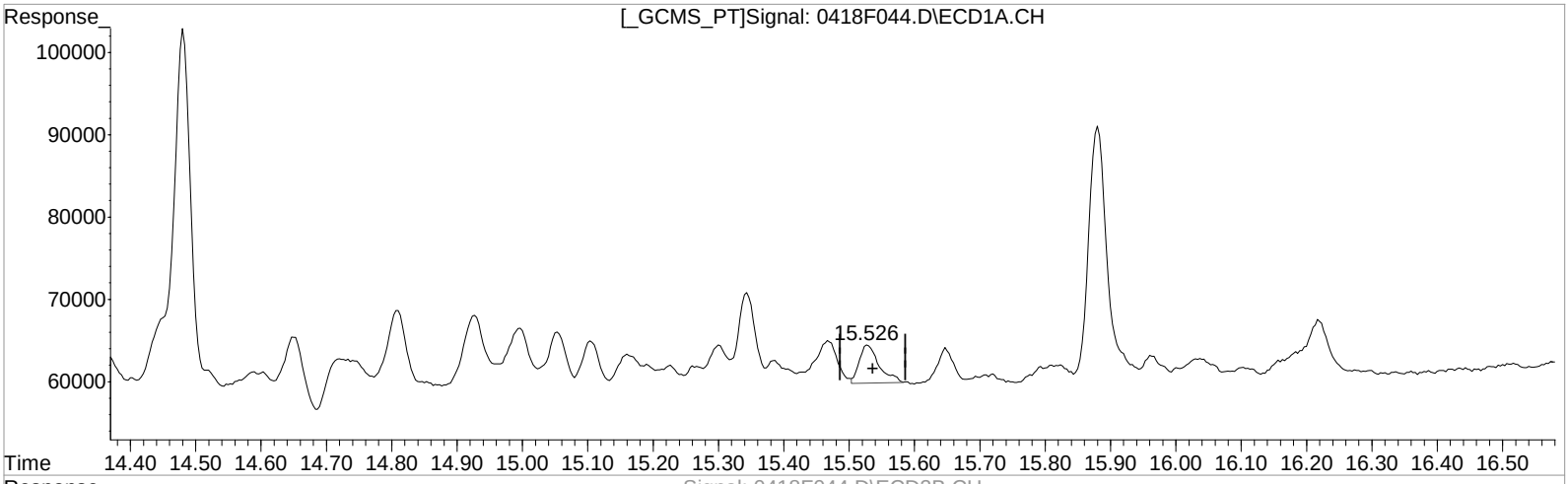
Quantitation Report (Qedit)

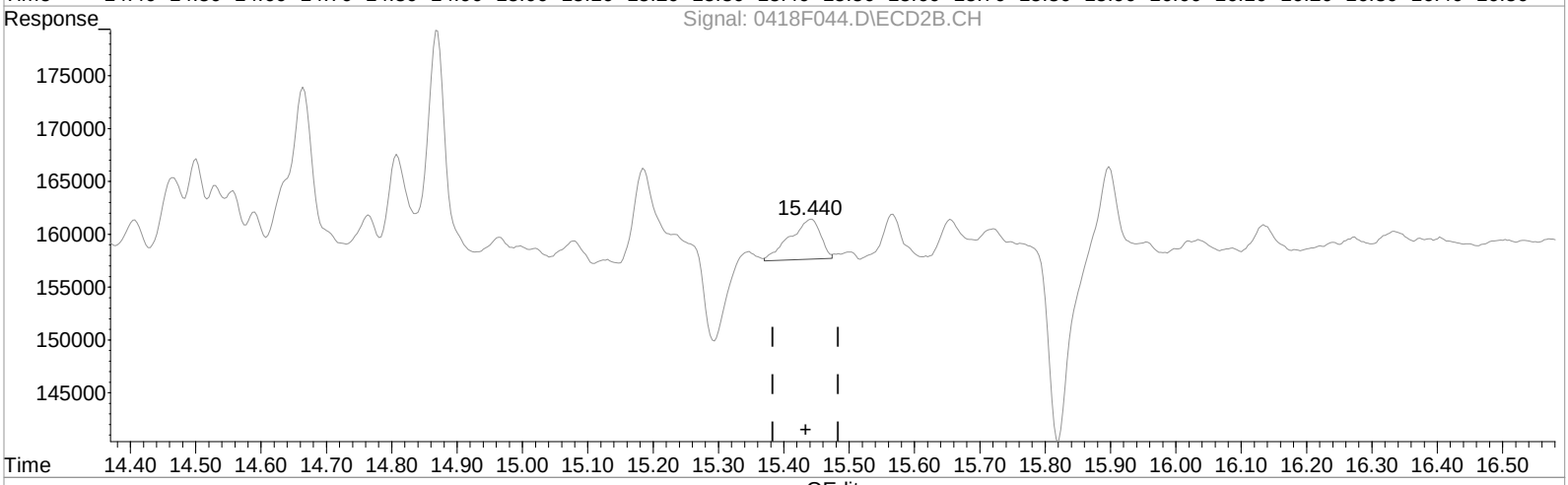
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.526min 106.787 ug/L m

response 9687

(35) Toxaphene {6} #2

15.440min 42.279 ug/L m

response 12475

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

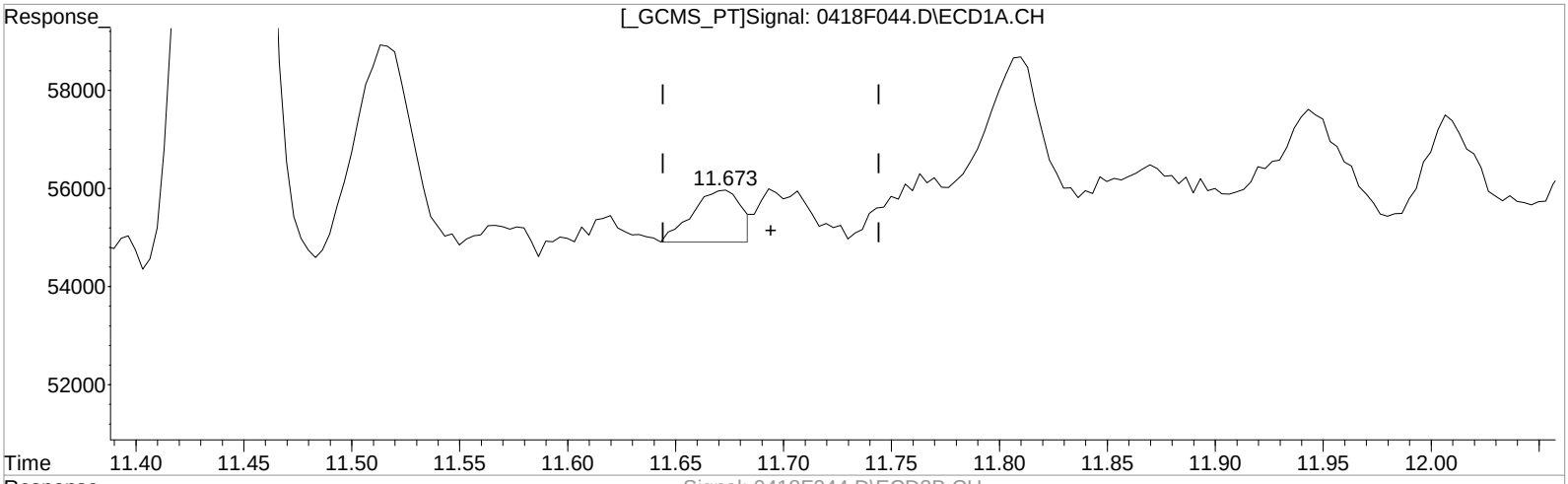
Quantitation Report (Qedit)

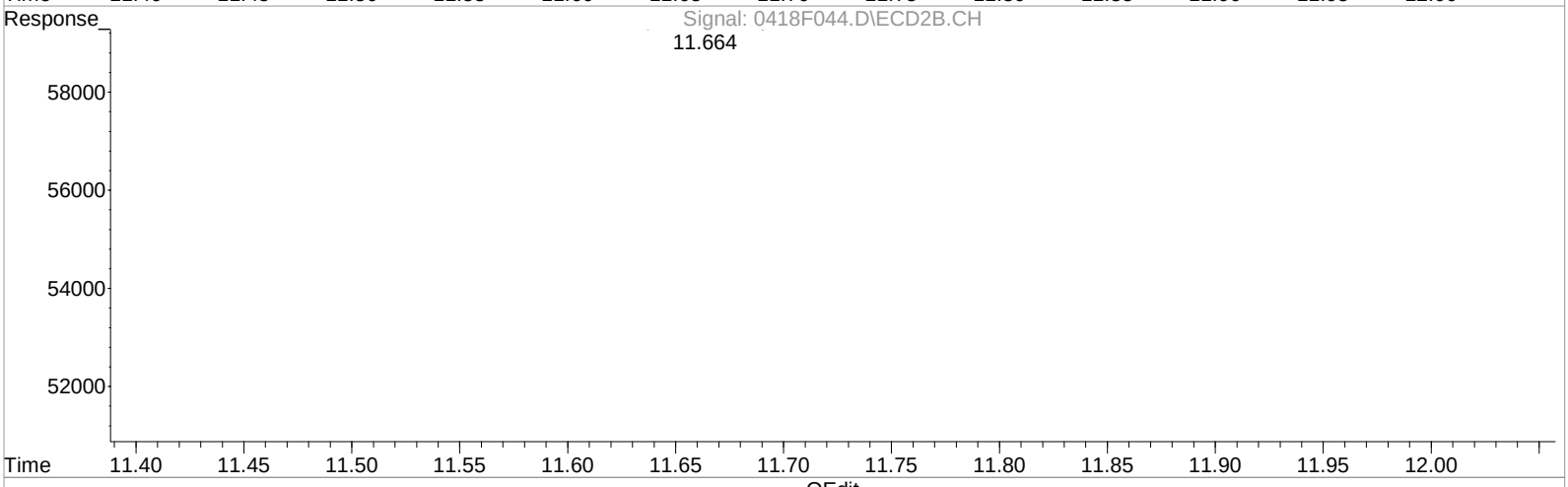
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.673min 1.813 ug/L

response 1664

Manual Integration:

Before

04/21/20

(38) Chlordane {2} #2

11.664min 35.498 ug/L

response 60138

(+) = Expected Retention Time

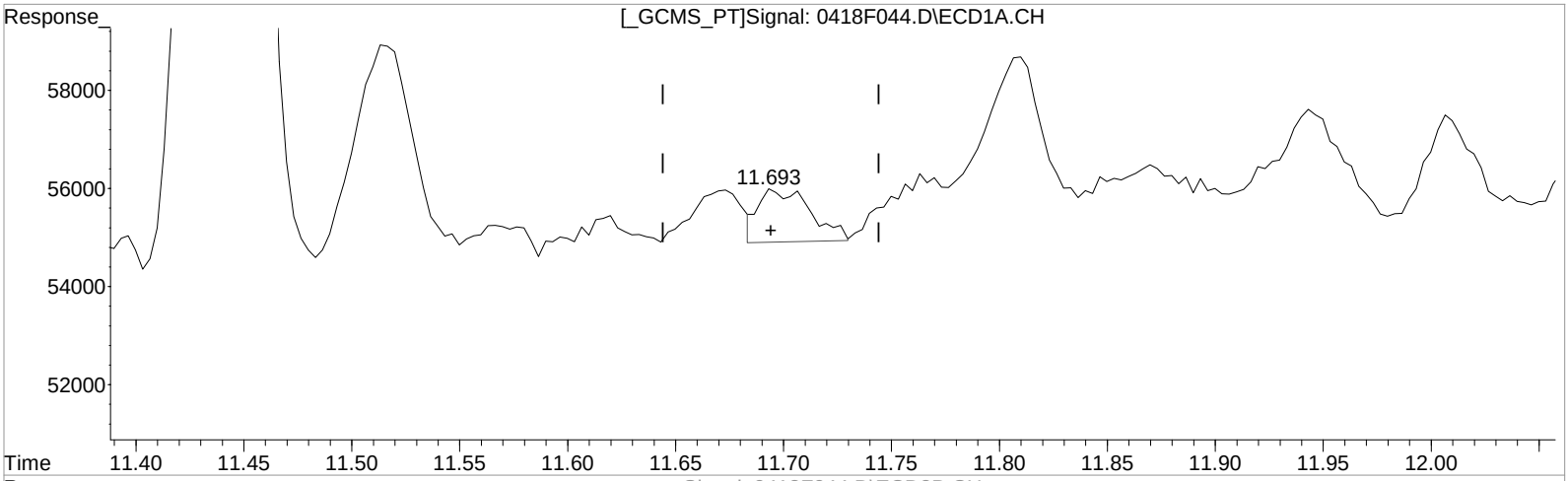
Quantitation Report (Qedit)

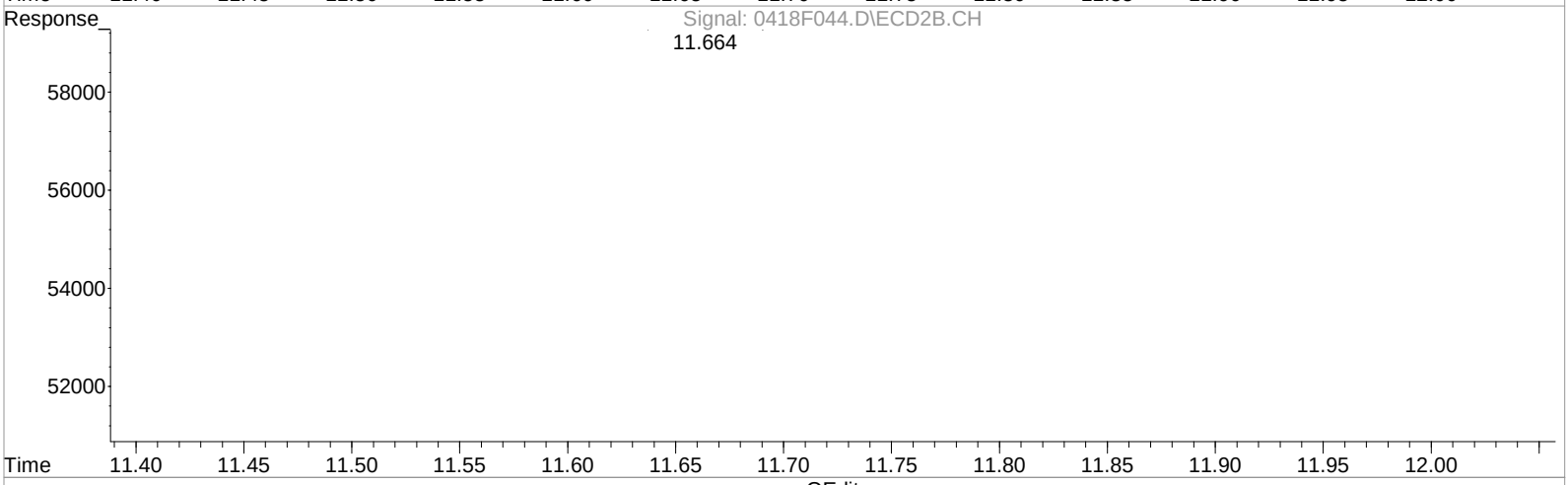
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.693min 1.974 ug/L m

response 1812

Manual Integration:

After

WRT

04/21/20

(38) Chlordane {2} #2

11.664min 35.498 ug/L

response 60138

(+) = Expected Retention Time

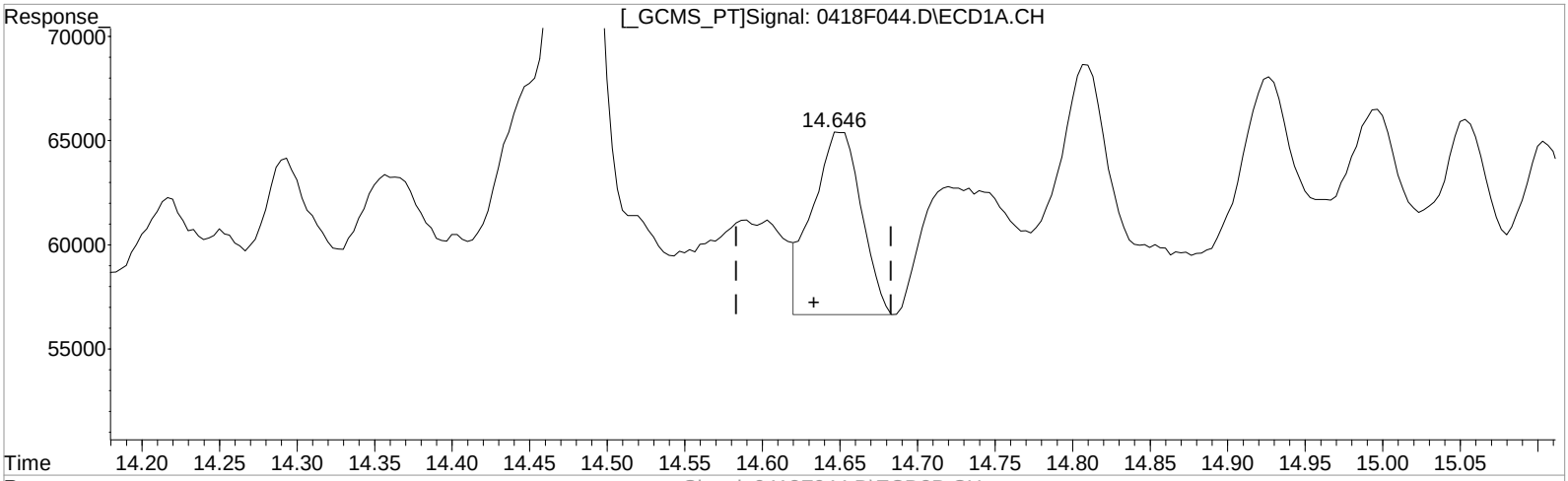
Quantitation Report (Qedit)

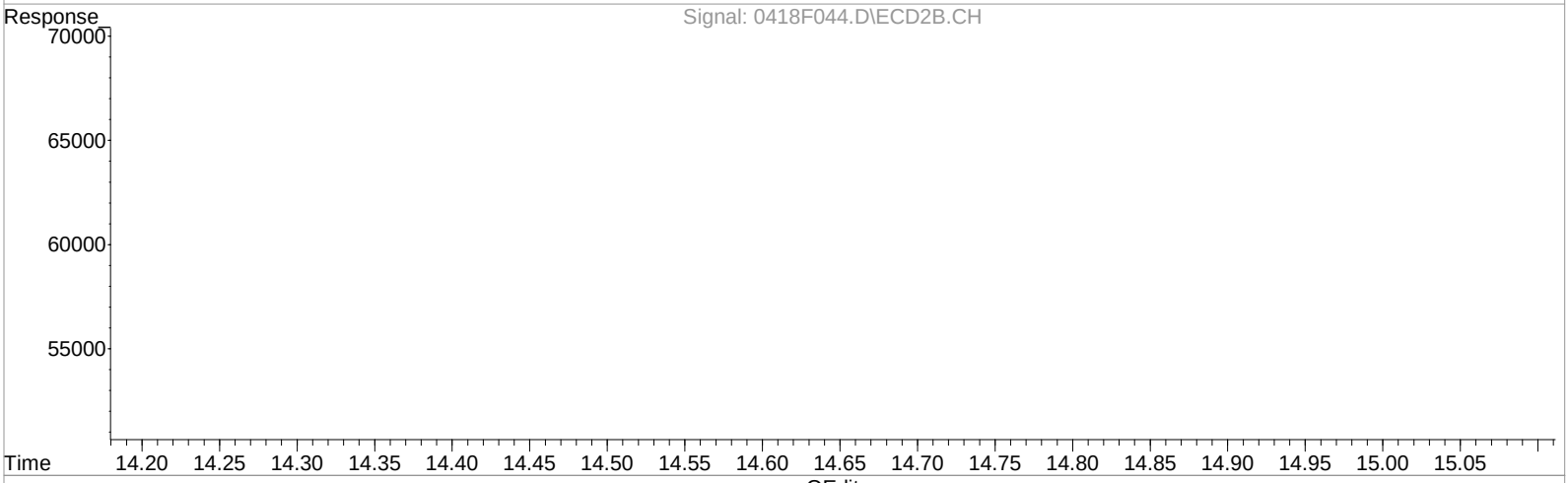
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.646min 1.066 ug/L

response 18979

Manual Integration:

Before

04/21/20

(46) cis-Nonachlor #2

13.217min 0.474 ug/L

response 31783

(+) = Expected Retention Time

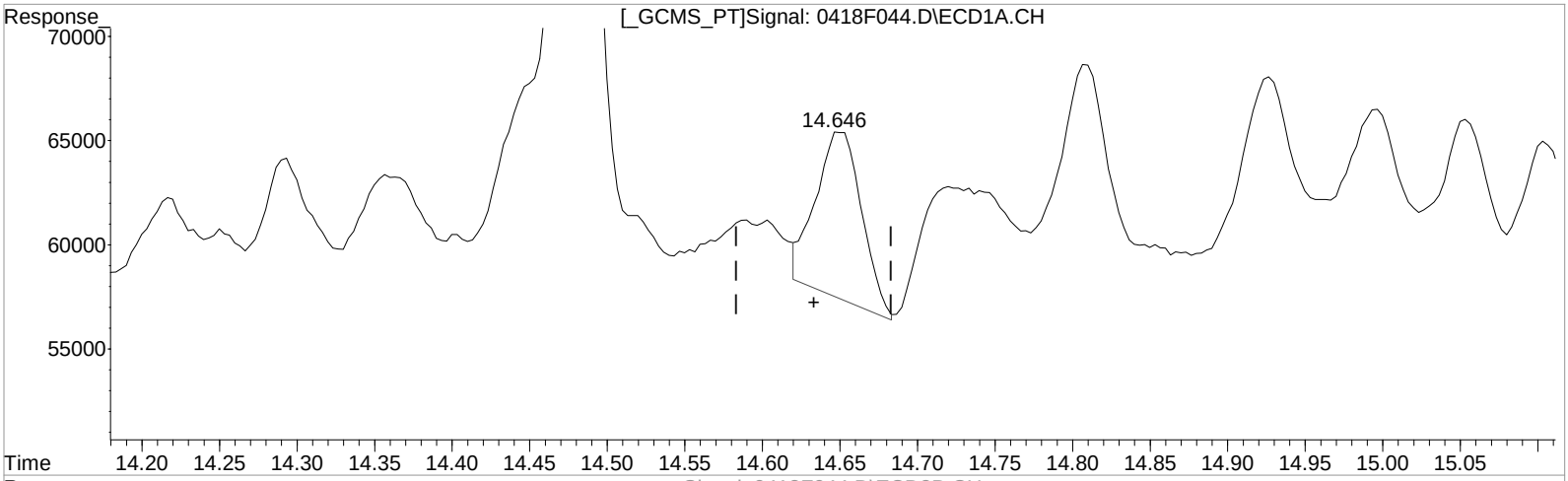
Quantitation Report (Qedit)

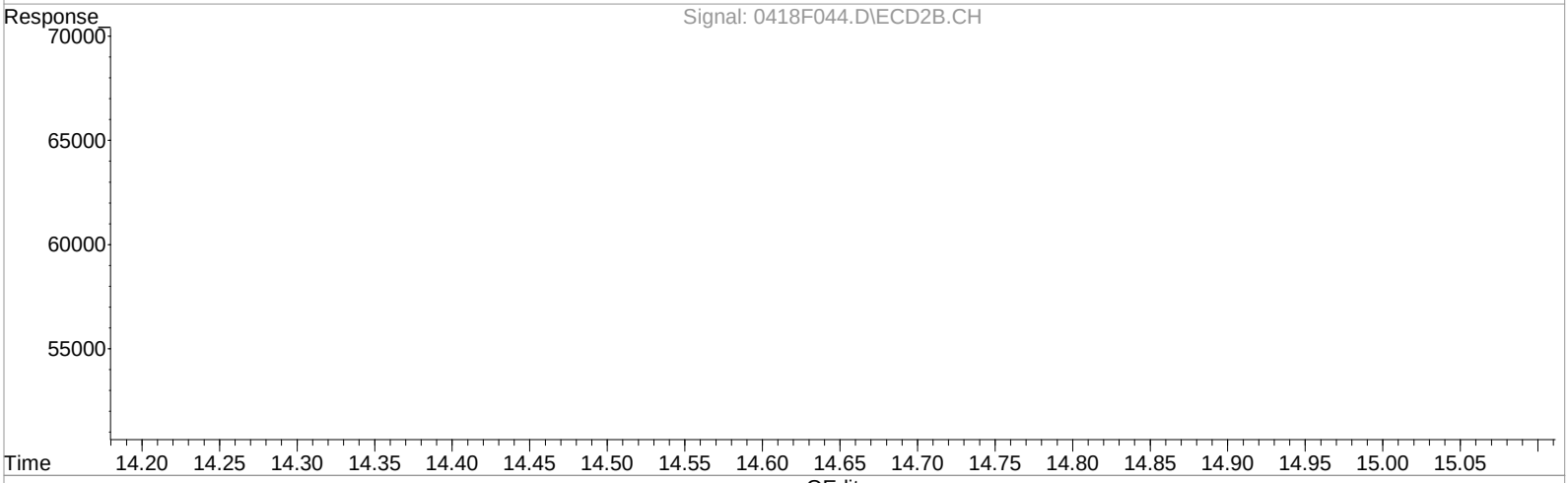
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.646min 0.912 ug/L m

response 16230

Manual Integration:

After

Baseline correction

04/21/20

(46) cis-Nonachlor #2

13.217min 0.474 ug/L

response 31783

(+) = Expected Retention Time

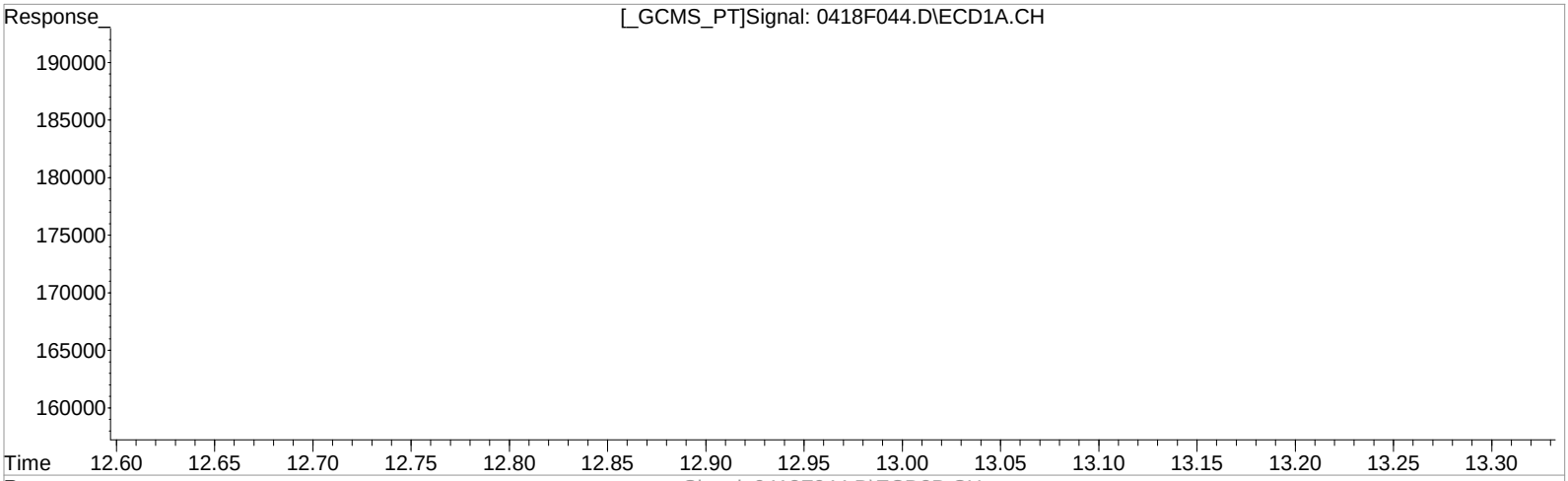
Quantitation Report (Qedit)

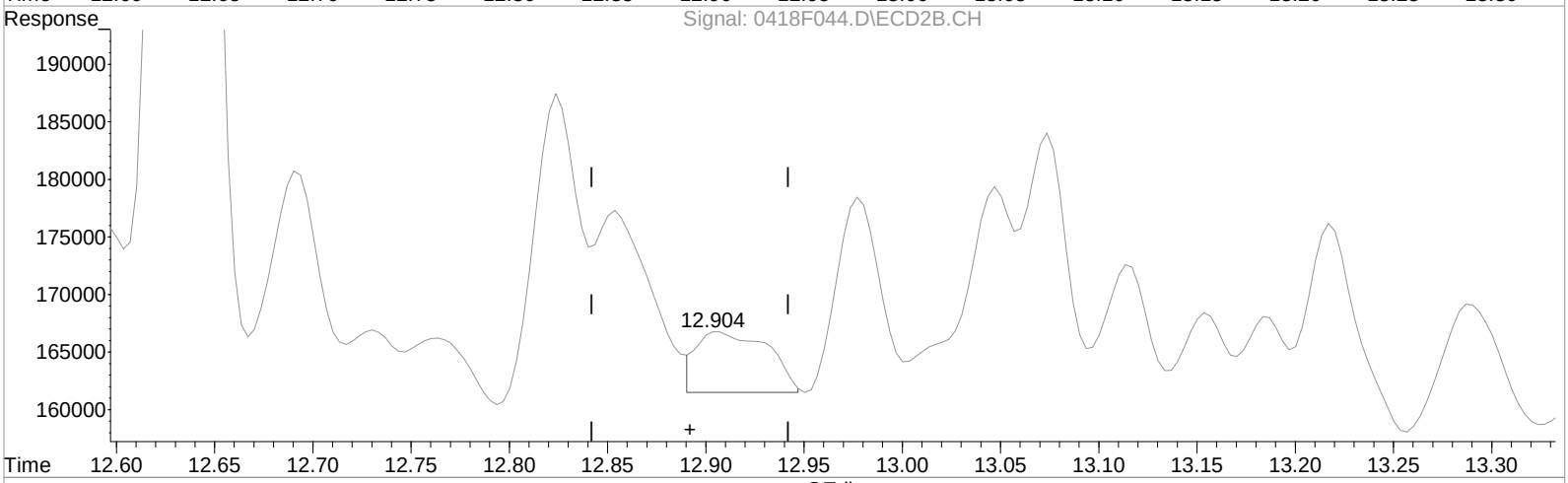
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(52) Perthane

14.083min 5.561 ug/L

response 2813

Manual Integration:

Before

04/21/20

(52) Perthane #2

12.904min 7.883 ug/L

response 13142

(+) = Expected Retention Time

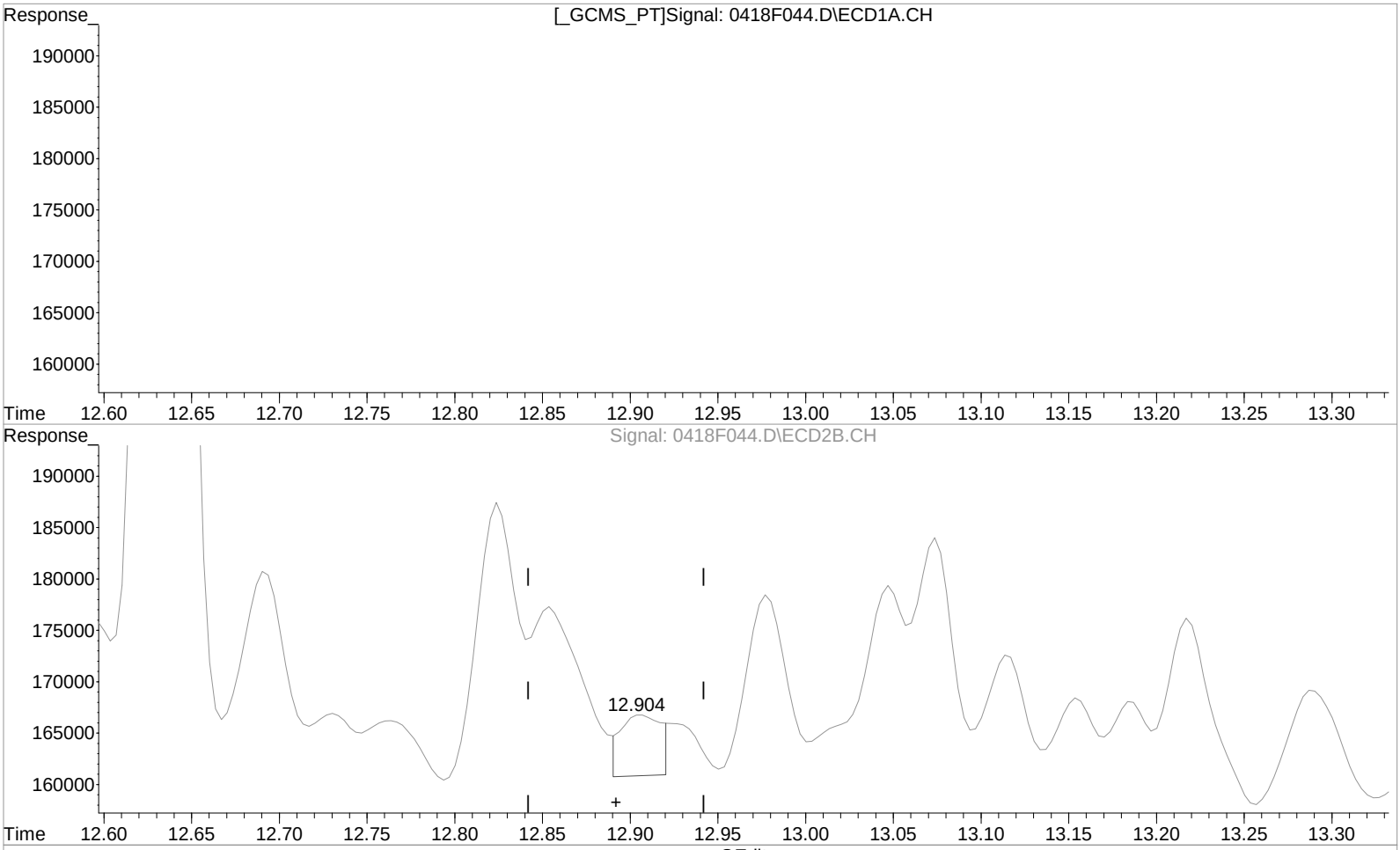
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F044.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 4:50 pm Operator: LM
Sample : K2002652-016 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:28:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(52) Perthane

14.083min 5.561 ug/L

response 2813

(52) Perthane #2

12.904min 5.732 ug/L m

response 9557

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F045.D\
Lab ID: K2002652-017
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 17:20:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	Aldrin	12.26			see Quant Report
	cis-Chlordane	13.53			
	trans-Chlordane	13.46			
	Chlordane {3}	12.26			
	Chlordane {4}	13.46			
	Chlordane {5}	13.53			
	4,4'-DDD	14.65			
	Endosulfan I	13.59			
	Endosulfan II	14.81			
	Endrin Aldehyde	15.00			
	cis-Nonachlor	14.65			
	trans-Nonachlor	13.59			
	Toxaphene {2}	14.81			
	Toxaphene {4}	15.00			
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.13			see Quant Report
	trans-Chlordane	11.98			
	Chlordane {4}	11.98			
	Chlordane {5}	12.02			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Chlordane {6}	12.13			see Quant Report
	4,4'-DDD	13.40			
	2,4'-DDE	12.02			
	2,4'-DDT	13.22			
	Endrin Aldehyde	13.93			
	cis-Nonachlor	13.22			
	trans-Nonachlor	12.02			
	Toxaphene {1}	13.40			
	Toxaphene {5}	13.93			
	1-Bromo-2-nitrobenzene	5.49			SA
	1-Bromo-2-nitrobenzene {2}	5.49			
	1-Bromo-2-nitrobenzene {3}	5.49			
	1-Bromo-2-nitrobenzene {4}	5.49			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F045.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 17:20:00	**Vial:**	10
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-017	**Raw Units:**	ug/L

Bottle ID:	K2002652-017.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/26/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.49 c	1038773	4463291	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.49 c	1038773	4463291	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.49 +0.0 c	1038773	4463291	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.68 +0.01	17.07	80533	279026	4.357	3.878	87	78	78	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.27	81165	297658	5.389	5.382	108	108	108	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.26 +0.0 c	0.00	1969	0	0.118	0.000	0.59U	0U	0.77 U		Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U		Y
beta-BHC	0.00	9.80 +0.02	0	11459	0.000	0.342	0U	1.7	0.17 U		Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U		Y
Chlordane					12.3924	6666666666	62	40	**40**	P	Y
Chlordane {1}	11.27	9.57	18873	8098	26.651	3.324	130	17		i	
Chlordane {2}	0.00	11.67	0	13843	0.000	8.331	0	42			
Chlordane {3}	12.26 +0.0 c	11.82	1969	6993	3.059	6.340	15	32		P	
Chlordane {4}	13.46 +0.0 c	11.98 +0.0 c	23320	64506	11.934	9.656	60	48			
Chlordane {5}	13.53 c	12.02 c	14229	50185	8.803	12.269	44	61			
Chlordane {6}	13.62 +0.01	12.13 +0.0 c	13663	48961	11.515	8.267	58	41			
Dieldrin	14.01 +0.01	12.64	37236	139514	2.173	2.128	11	11	**11**		Y
Heptachlor	0.00	9.93	0	171821	0.000	2.457	0U	12	0.61 U		Y
Heptachlor Epoxide	12.94 +0.01	11.63 +0.03	1590	12746	0.091	0.185	0.46J	0.93J	**0.46** J	P	Y
Hexachlorobenzene	10.00 +0.02	0.00	2090	0	0.102	0.000	0.51J	0U	0.27 U		Y
Toxaphene					3333333333	21.5675	180	110	**110**	P	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F045.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 17:20:00	**Vial:**	10
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-017	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74	13.40 +0.0 c	2174	25205	12.737	25.414	64	130		P
Toxaphene {2}	14.81 +0.0 c	13.46 +0.01	11024	17362	71.407	22.754	360	110		i
Toxaphene {3}	14.93 +0.01	13.60 +0.01	7431	16331	24.156	11.520	120	58		P
Toxaphene {4}	15.00 +0.0 c	13.66	4721	4992	22.819	9.723	110	49		P
Toxaphene {5}	15.35 +0.01	13.93 c	7512	27679	38.106	51.811	190	260		
Toxaphene {6}	15.53 +0.01	15.45 +0.02	4550	2368	48.229	8.183	240	41		i

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:43:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.202	5.486	1038773	4463291	100.000	100.000
29)	1-Bromo-2...	6.202	5.486	1038773	4463291	100.000	100.000
36)	1-Bromo-2...	6.202	5.486	1038773	4463291	100.000	100.000
43)	1-Bromo-2...	6.202	5.486	1038773	4463291	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.978	7.269	81165	297658	5.389	5.382
28) s	Decachlor...	18.675	17.069	80533	279026	4.357	3.878
	Target Compounds						
4)	Hexachlor...	9.995	0.000	2090	0	0.102	N.D. d#
5)	beta-BHC	0.000	9.796	0	11459	N.D.	0.342 #
7)	delta-BHC	11.565	10.316	1075	6180	0.063	0.092 #
8)	Heptachlor	0.000	9.932	0	171821	N.D. d	2.457
9)	Aldrin	12.258f	0.000	1969	0	0.118	N.D. d#
10)	Isodrin	12.735	11.292	2897	6184	0.203	0.105 #
11)	Heptachlo...	12.938	11.626f	1590	12746	0.091	0.185 #
12)	gamma-Chl...	13.455	11.976	23320	64506	1.332	0.967 #
13)	Endosulfan I	13.585	12.229f	3939	10082	0.247m	0.168 #
14)	alpha-Chl...	13.532	12.126	14229	48961	0.816	0.725
15)	Dieldrin	14.005	12.636	37236	139514	2.173	2.128
16)	4,4'-DDE	13.782	12.466	2068	17854	0.129m	0.283m#
17)	Endrin	14.365	13.119	3415	8513	0.218	0.136 #
18)	Endosulfa...	14.808	13.546	9903	17540	0.625m	0.311 #
19)	4,4'-DDD	14.652	13.396	8343	25205	0.673m	0.533
20)	Endrin Al...	15.002	13.932	4721	30521	0.344	0.654 #
21)	Endosulfa...	15.475	14.249	4409	9415	0.273	0.169 #
22)	4,4'-DDT	15.165	13.806	3190	21428	0.245	0.470 #
23)	Endrin Ke...	16.168	15.189	1127	7019	0.065	0.106 #
24)	Methoxychlor	15.882	14.872f	7451	14841	0.943	0.587 #
25)	2,4'-DDE	13.198	12.022	1285	50185	0.115	1.218 #
26)	2,4'-DDD	13.945	12.832f	6135	8492	0.624	0.238 #
27)	2,4'-DDT	14.448	13.219	5135	13759	0.456	0.355
30)	Toxaphene	14.735	13.396	2174	25205	12.737m	25.414 #
31)	Toxaphene...	14.808	13.459	11024	17362	71.407m	22.754 #
32)	Toxaphene...	14.925	13.596	7431	16331	24.156	11.520 #
33)	Toxaphene...	15.002	13.662	4721	4992	22.819	9.723m#
34)	Toxaphene...	15.348	13.932	7512	27679	38.106	51.811m#
35)	Toxaphene...	15.532	15.449	4550	2368	48.229	8.183 #
37)	Chlordane	11.265	9.572	18873	8098	26.651	3.324 #
38)	Chlordane...	0.000	11.669	0	13843	N.D. d	8.331
39)	Chlordane...	12.258	11.822	1969	6993	3.059	6.340m#
40)	Chlordane...	13.455	11.976	23320	64506	11.934	9.656
41)	Chlordane...	13.532	12.022	14229	50185	8.803	12.269 #
42)	Chlordane...	13.615	12.126	13663	48961	11.515m	8.267 #
44)	Chlorpyrifos	12.105	10.892	6251	5014	0.653	0.179 #
45)	Oxychlordane	12.878	11.402	5836	7261	0.353	0.115 #
46)	cis-Nonac...	14.652	13.219	6692	13759	0.385m	0.209 #
47)	trans-Non...	13.585	12.022	3883	50185	0.222m	0.773 #
49)	HCE	4.165	0.000	2935	0	0.117	N.D. d#
52)	Perthane	14.088	12.909	1274	10523	2.577	6.435 #

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:43:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L

SemiQuant Compounds - Not Calibrated on this Instrument

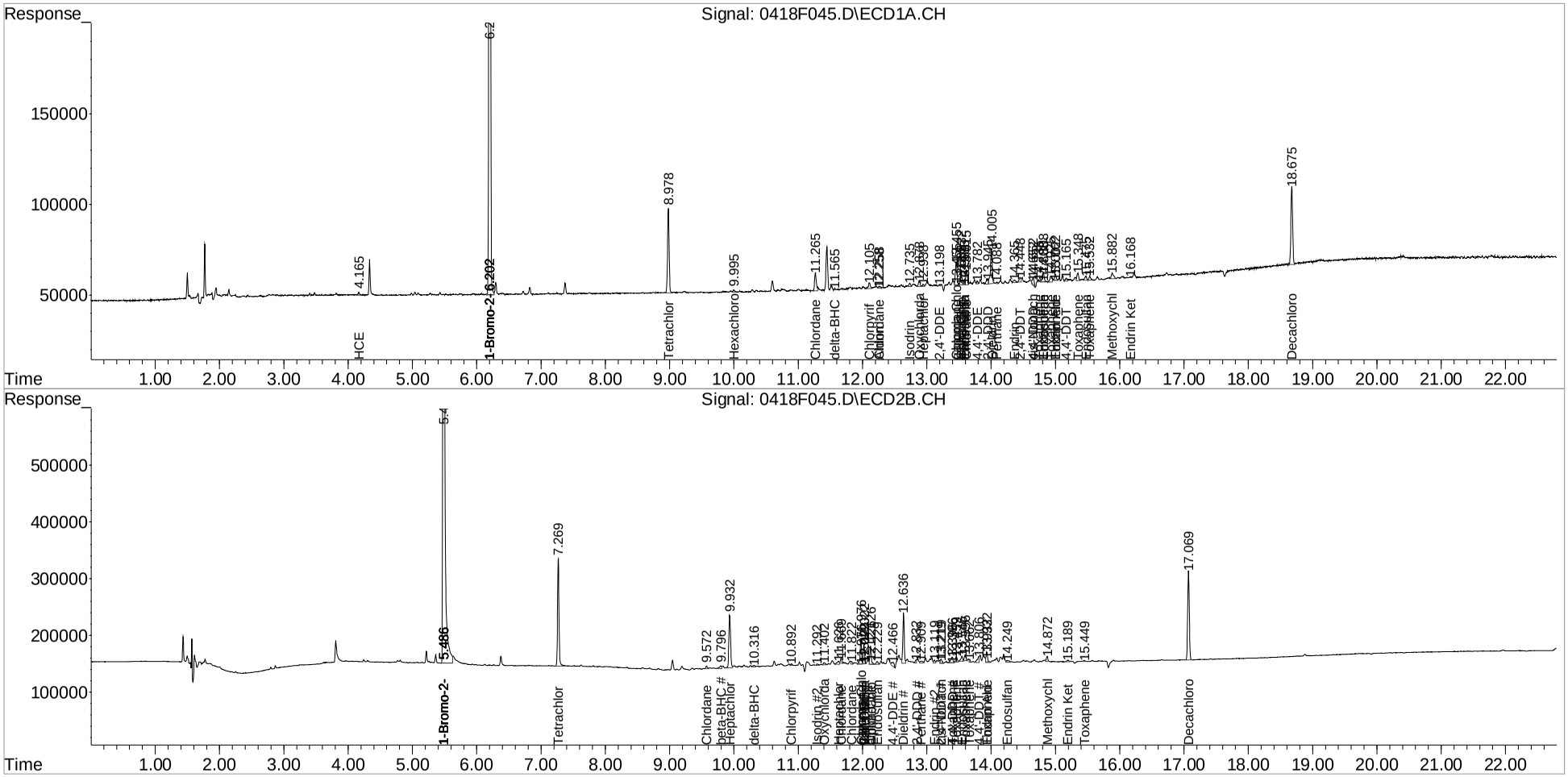
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:43:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



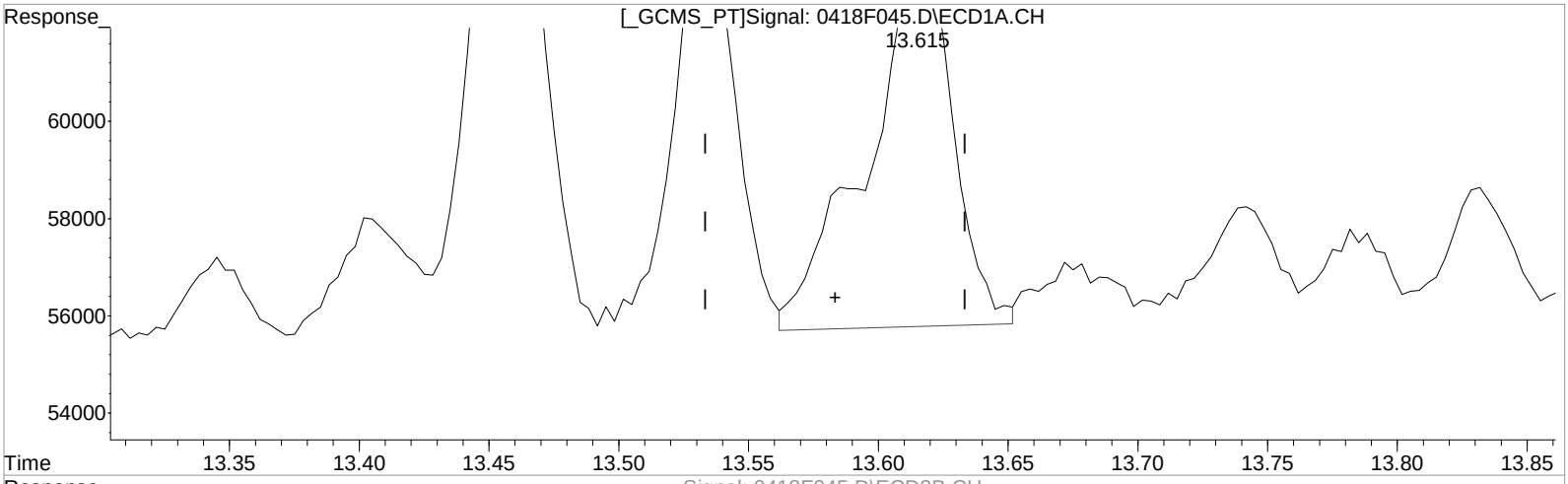
Quantitation Report (Qedit)

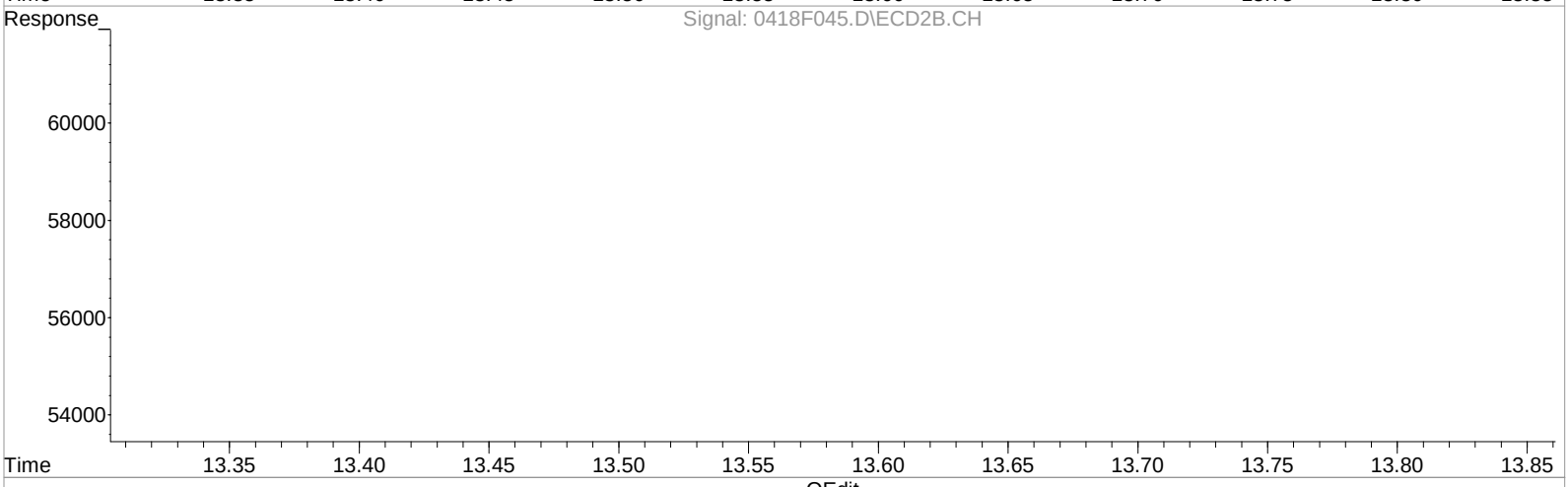
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(13) Endosulfan I

13.615min 1.107 ug/L

response 17677

Manual Integration:

Before

04/21/20

(13) Endosulfan I #2

12.229min 0.168 ug/L

response 10082

(+) = Expected Retention Time

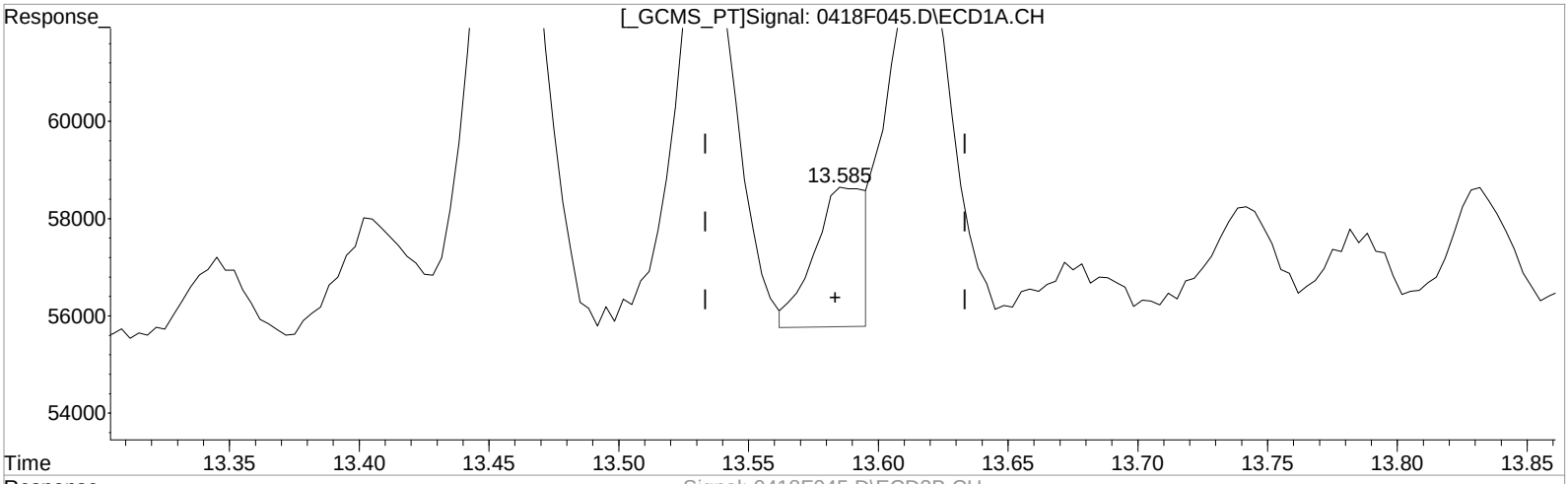
Quantitation Report (Qedit)

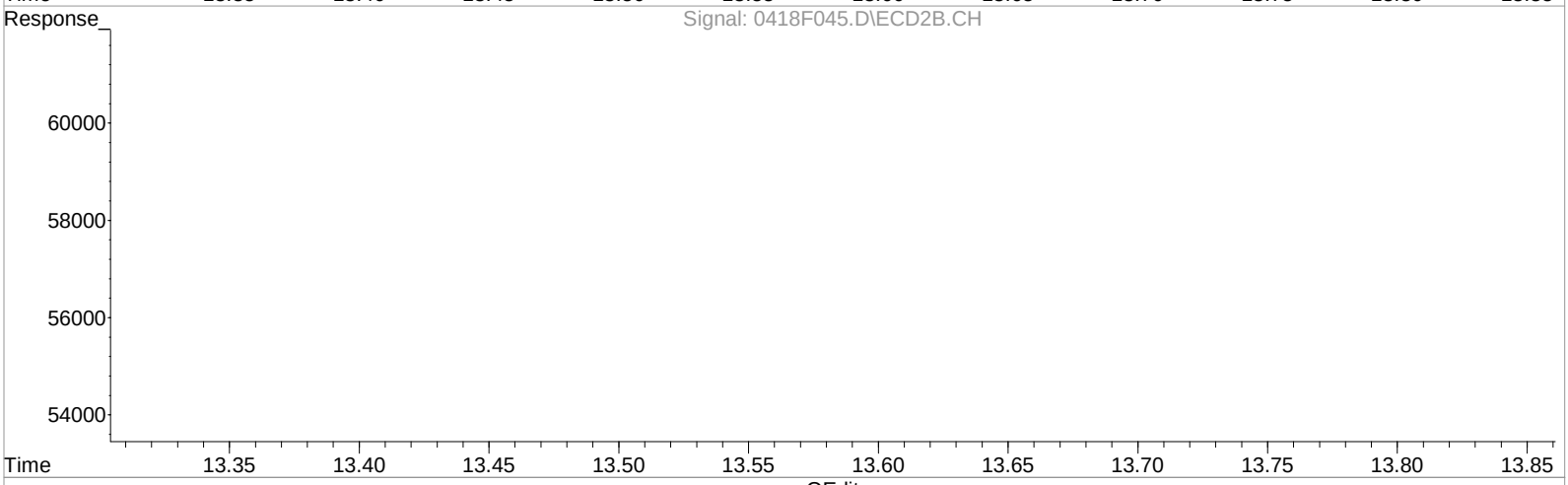
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(13) Endosulfan I

13.585min 0.247 ug/L m

response 3939

Manual Integration:

After

WRT

04/21/20

(13) Endosulfan I #2

12.229min 0.168 ug/L

response 10082

(+) = Expected Retention Time

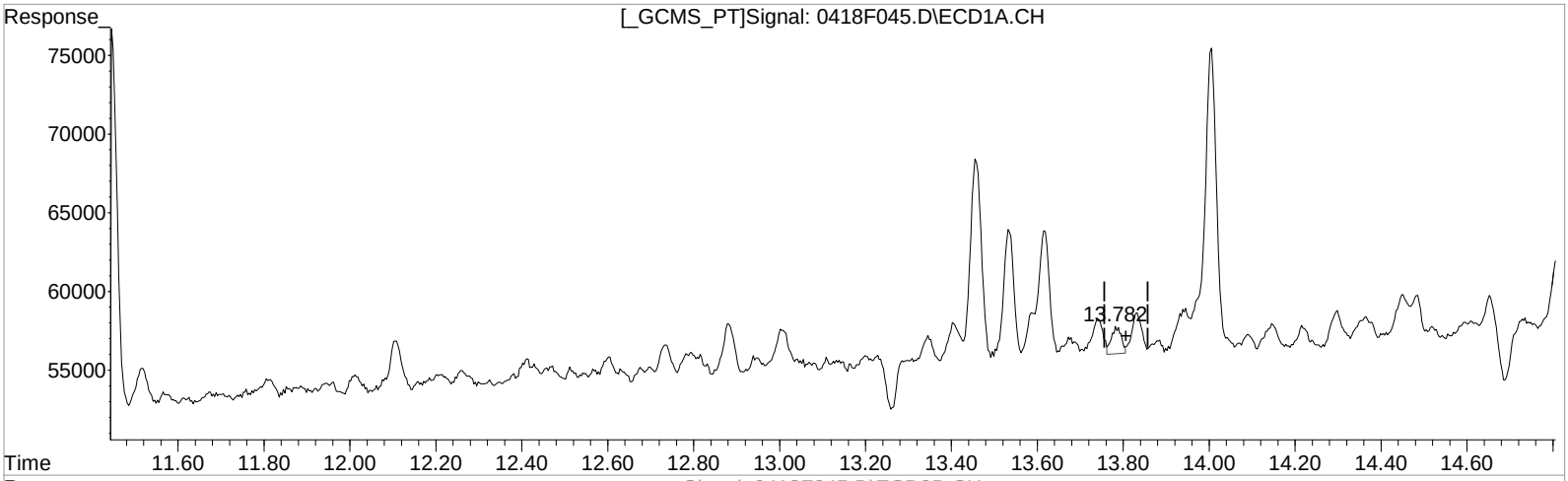
Quantitation Report (Qedit)

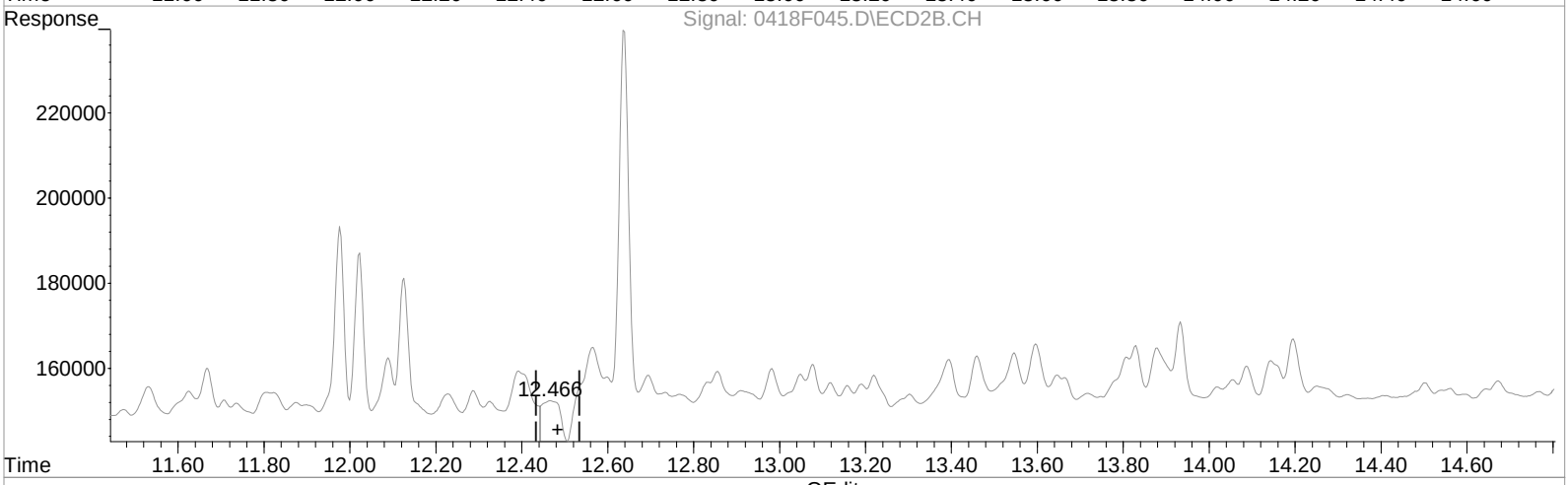
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.782min 0.173 ug/L

response 2777

Manual Integration:

Before

04/21/20

(16) 4,4'-DDE #2

12.466min 0.433 ug/L

response 27355

(+) = Expected Retention Time

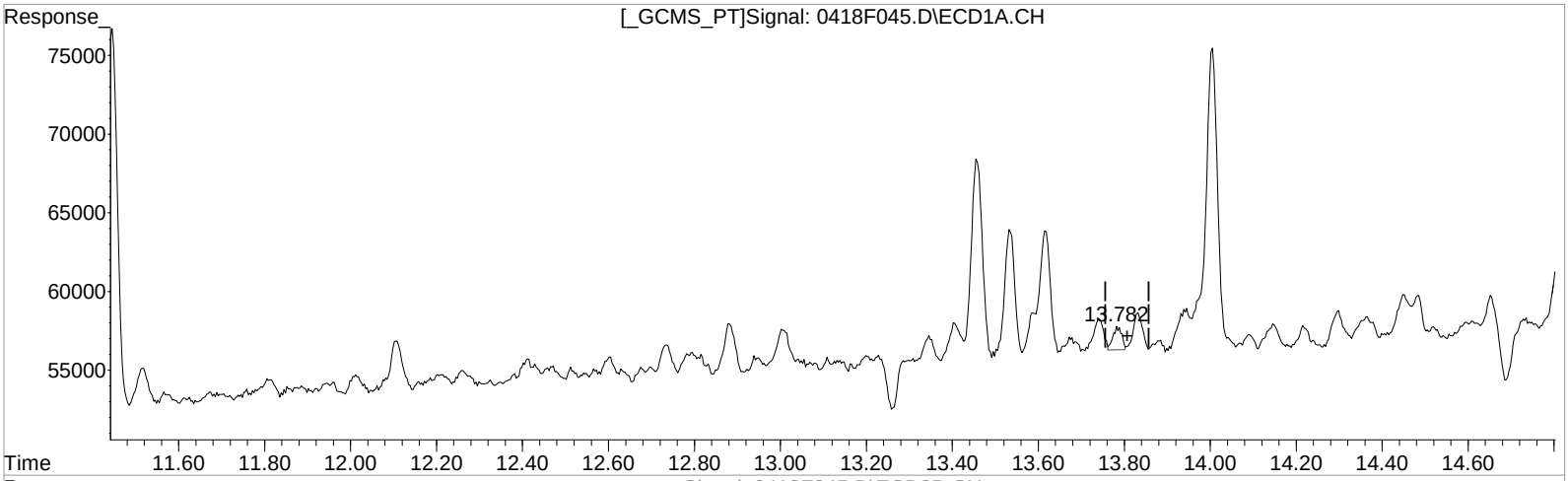
Quantitation Report (Qedit)

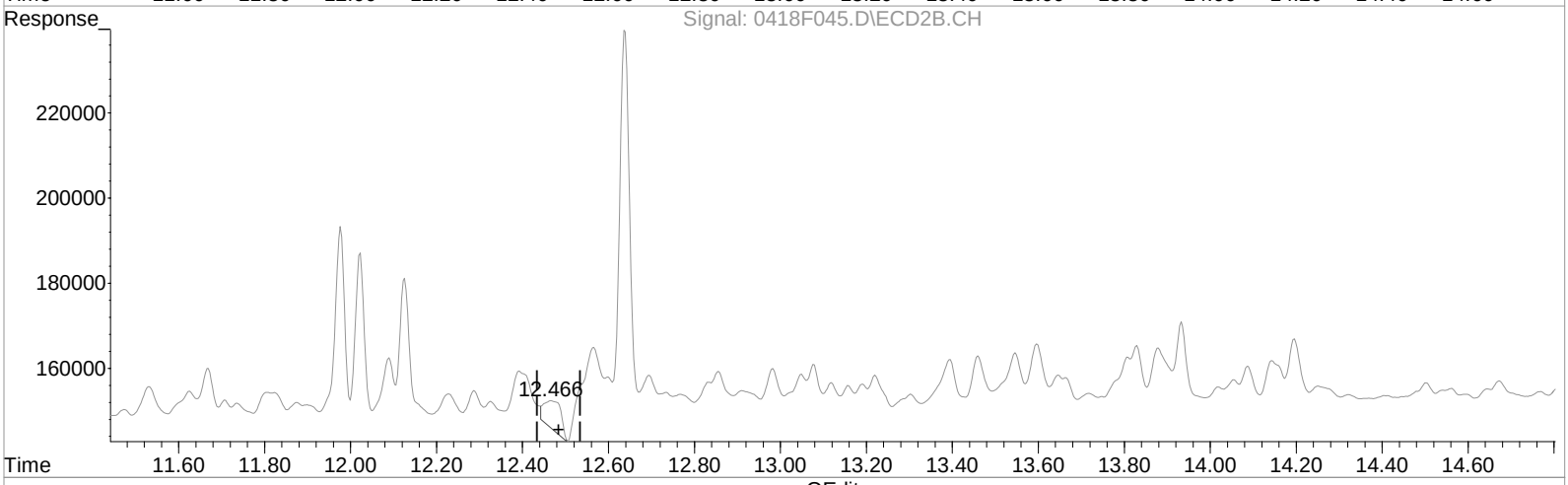
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.782min 0.129 ug/L m

response 2068

Manual Integration:

After

Baseline correction

04/21/20

(16) 4,4'-DDE #2

12.466min 0.283 ug/L m

response 17854

(+) = Expected Retention Time

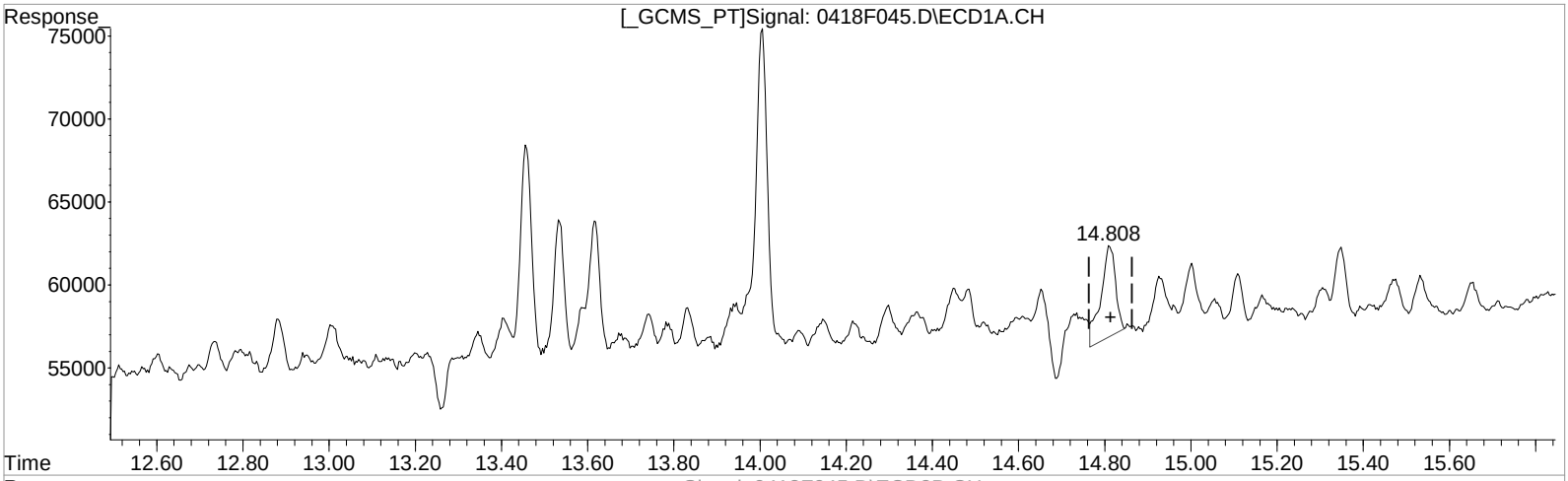
Quantitation Report (Qedit)

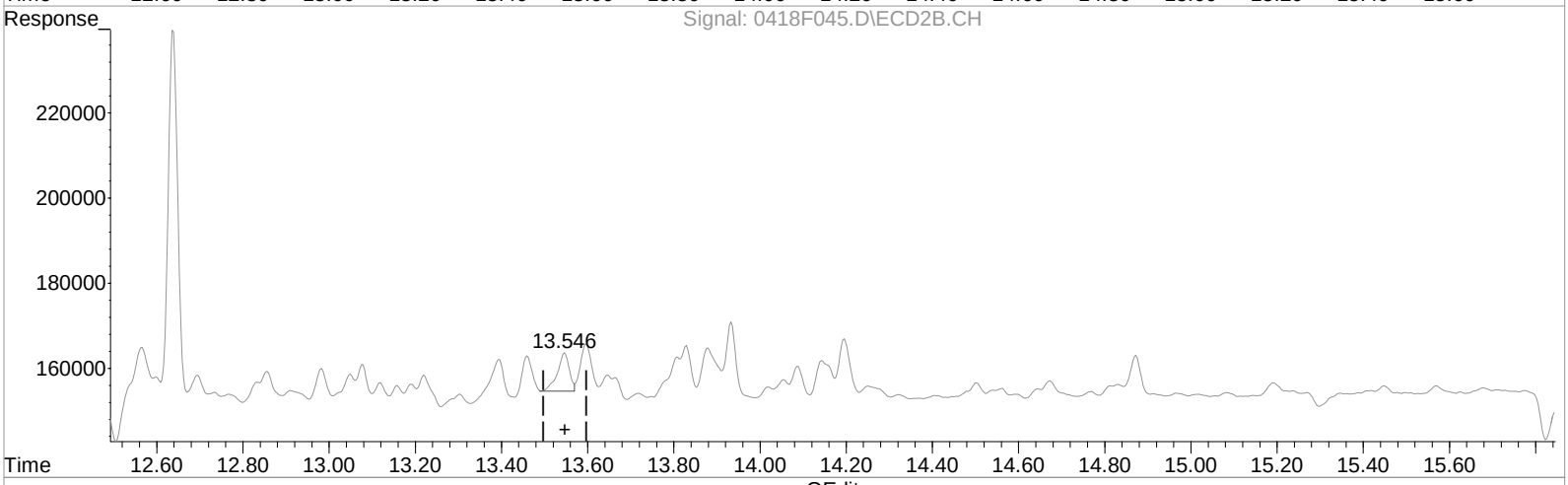
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.808min 0.824 ug/L

response 13057

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.546min 0.311 ug/L

response 17540

(+) = Expected Retention Time

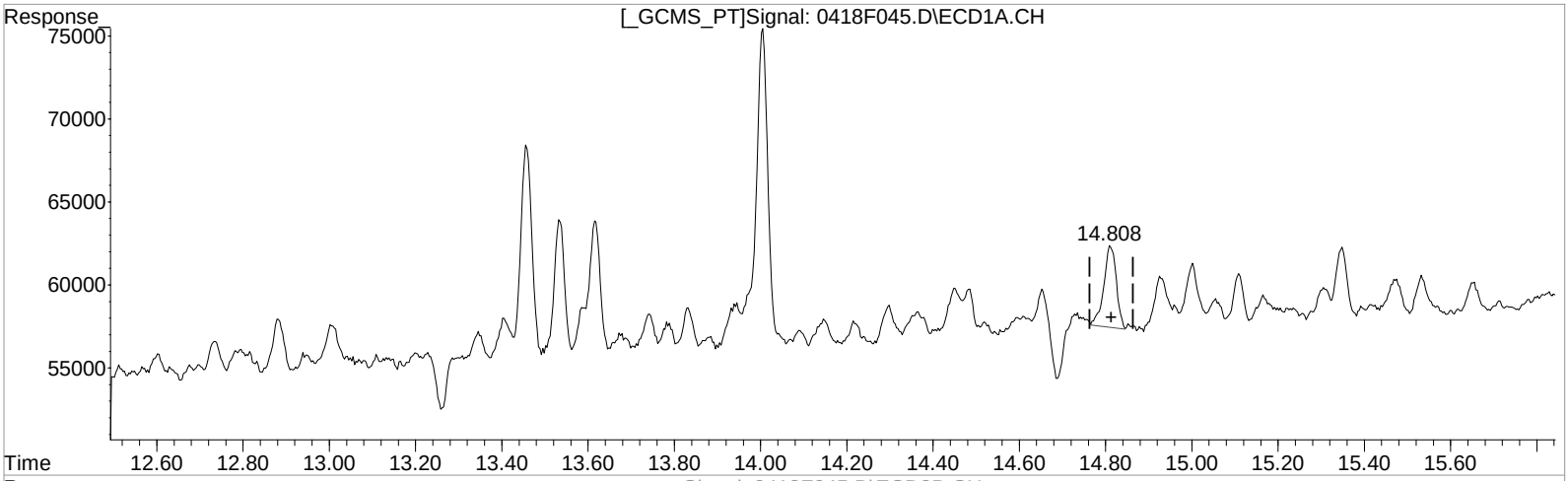
Quantitation Report (Qedit)

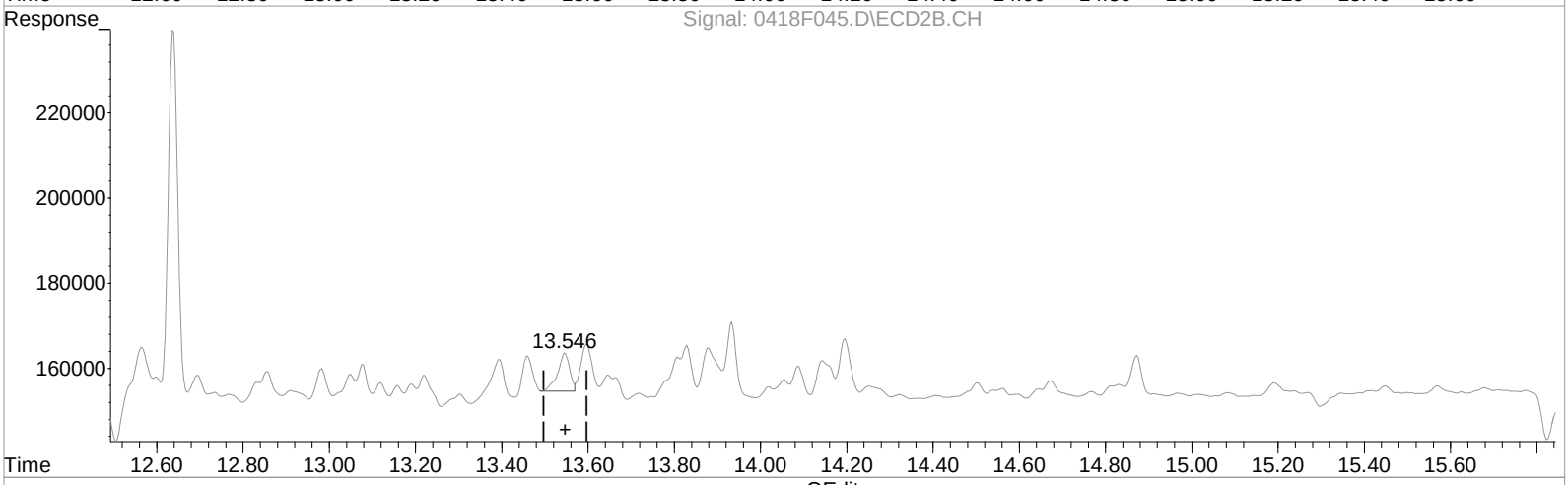
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.808min 0.625 ug/L m

response 9903

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.546min 0.311 ug/L

response 17540

(+) = Expected Retention Time

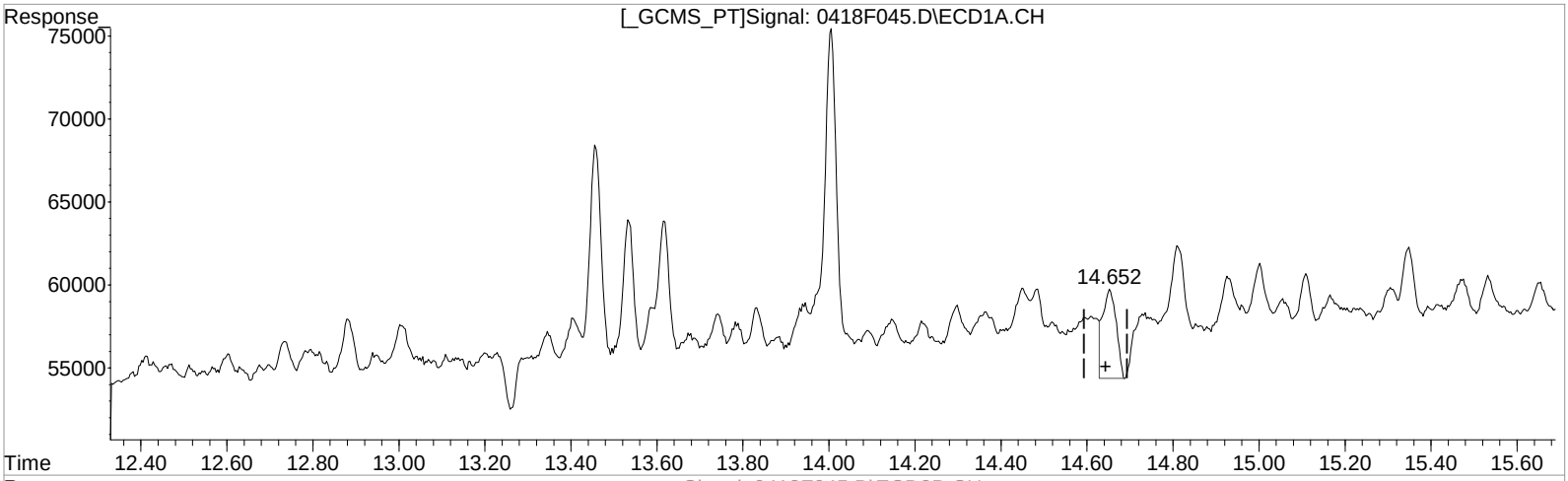
Quantitation Report (Qedit)

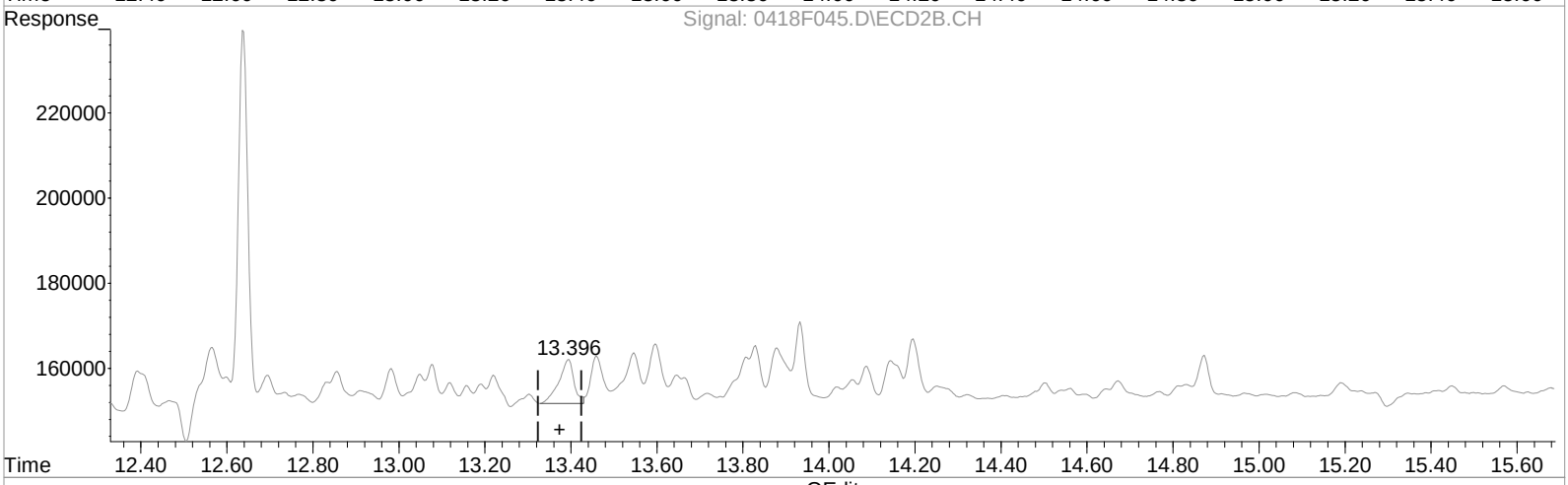
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.652min 0.938 ug/L

response 11624

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.396min 0.533 ug/L

response 25205

(+) = Expected Retention Time

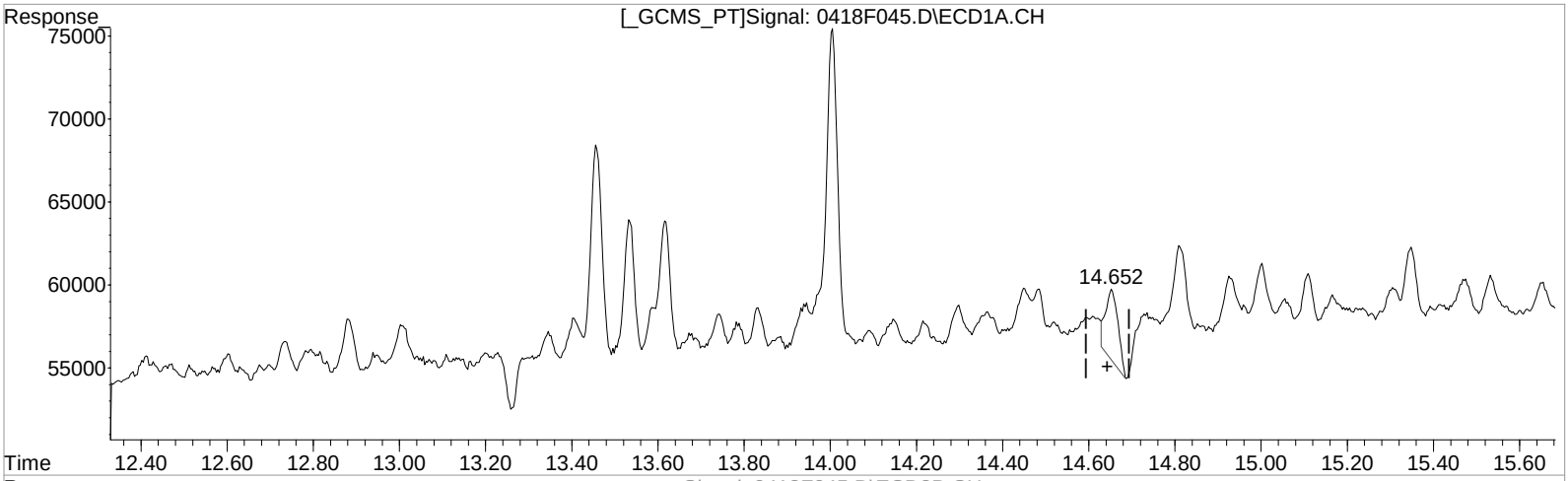
Quantitation Report (Qedit)

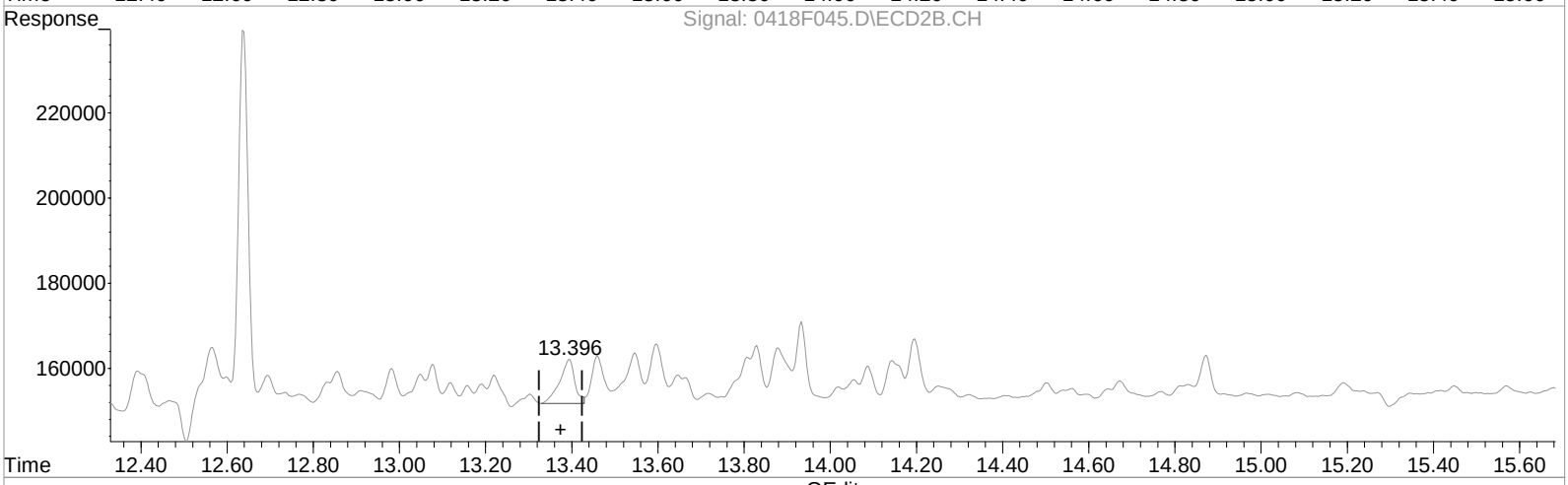
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.652min 0.673 ug/L m

response 8343

Manual Integration:

After

Baseline correction

04/21/20

(19) 4,4'-DDD #2

13.396min 0.533 ug/L

response 25205

(+) = Expected Retention Time

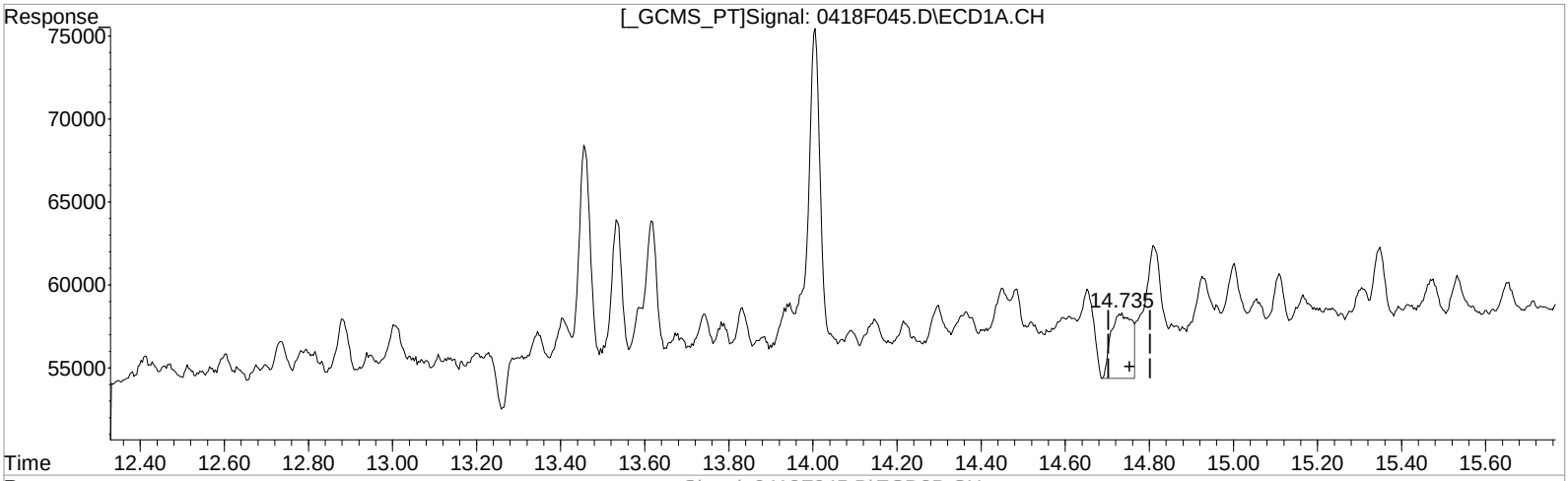
Quantitation Report (Qedit)

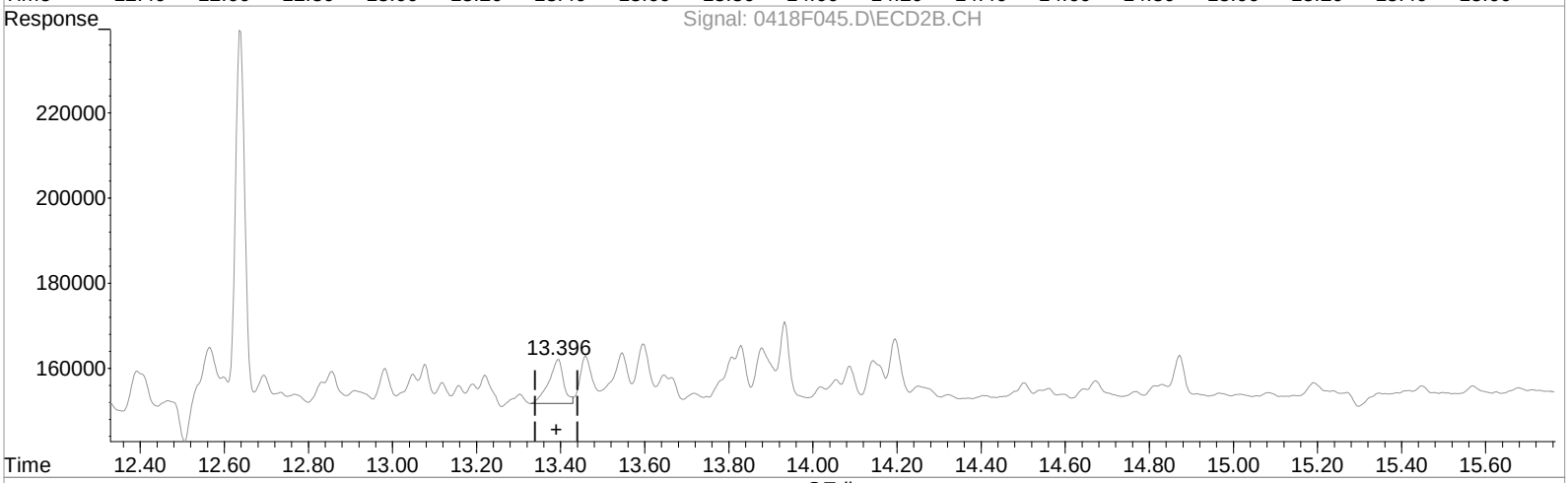
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.735min 80.531 ug/L

response 13745

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.396min 25.414 ug/L

response 25205

(+) = Expected Retention Time

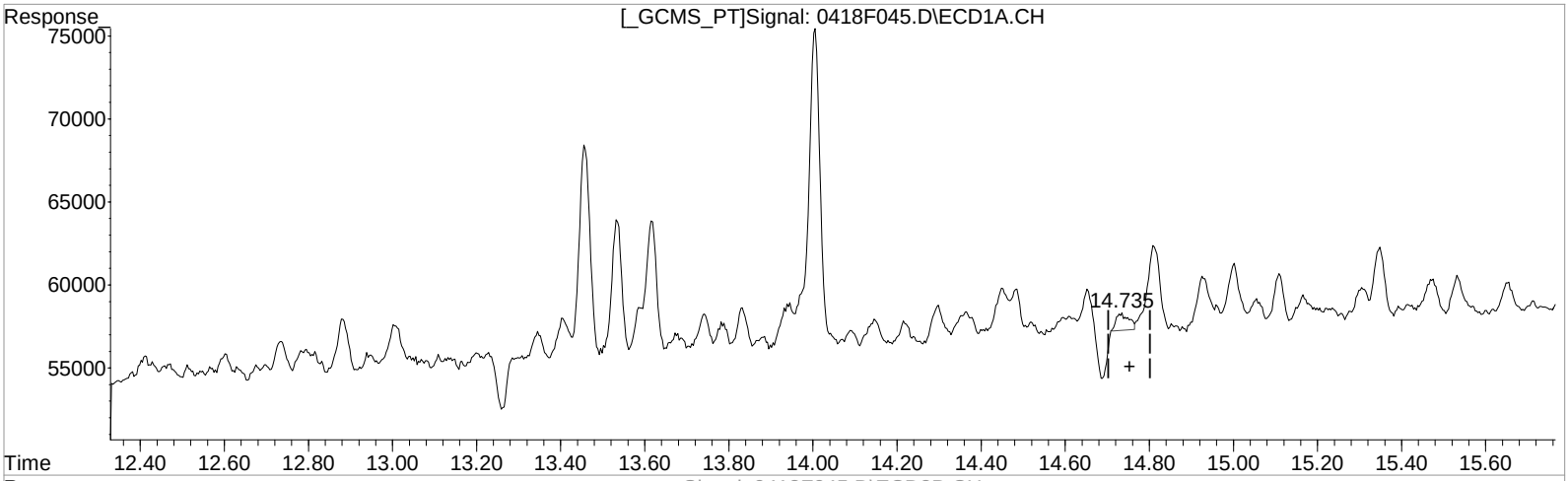
Quantitation Report (Qedit)

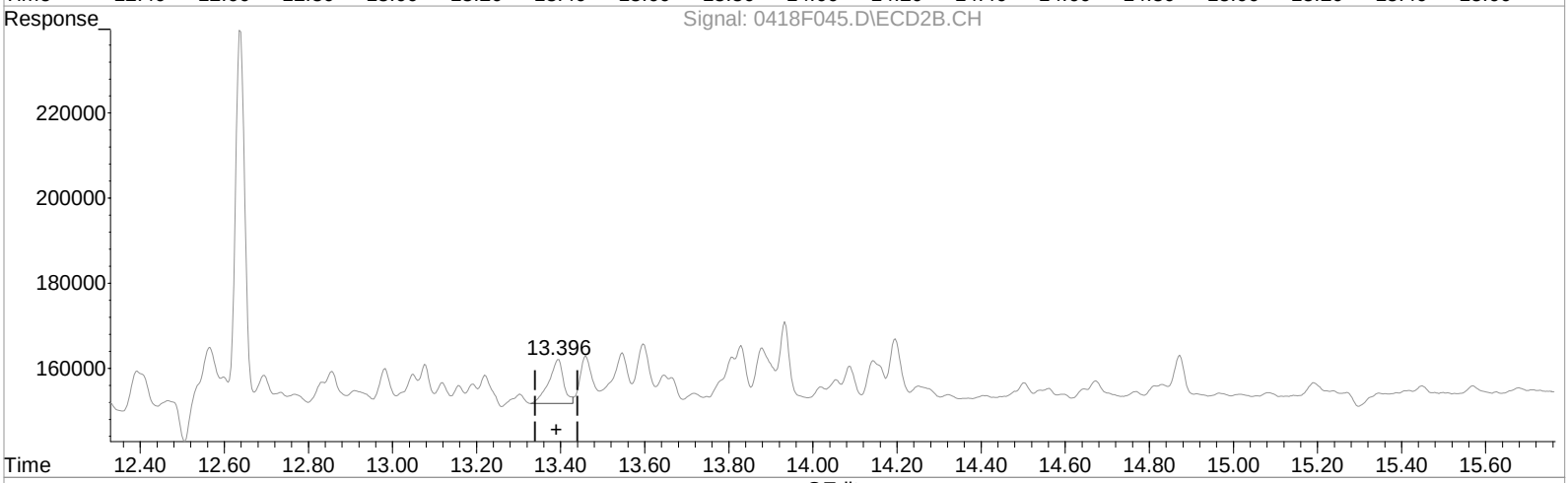
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.735min 12.737 ug/L m

response 2174

(30) Toxaphene #2

13.396min 25.414 ug/L

response 25205

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

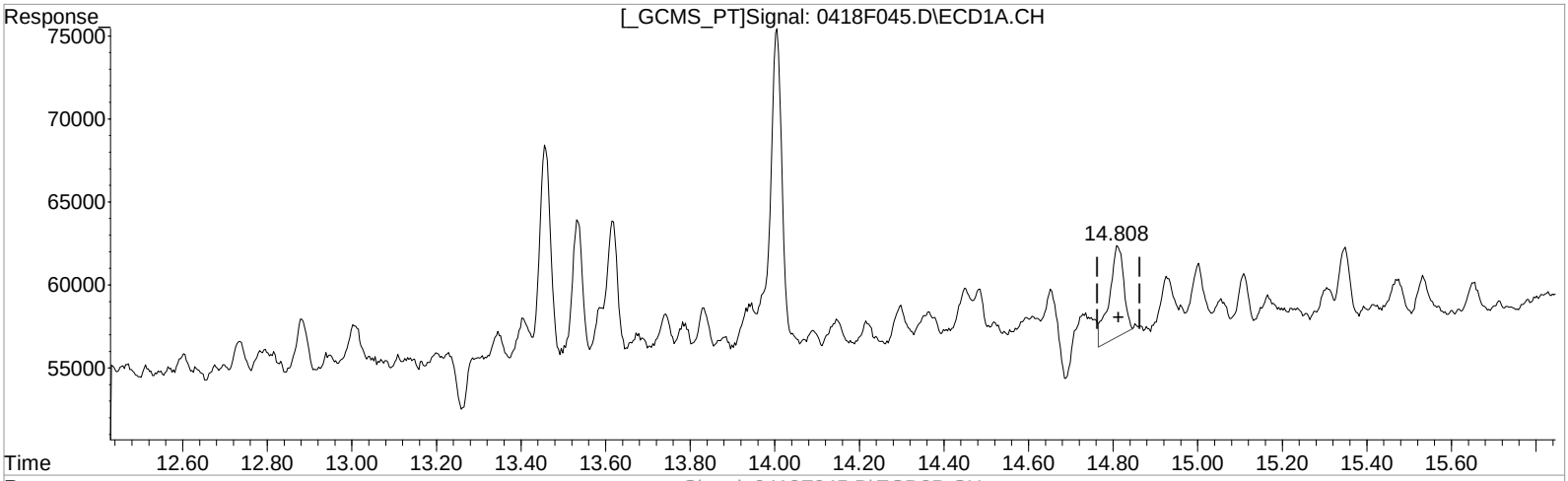
Quantitation Report (Qedit)

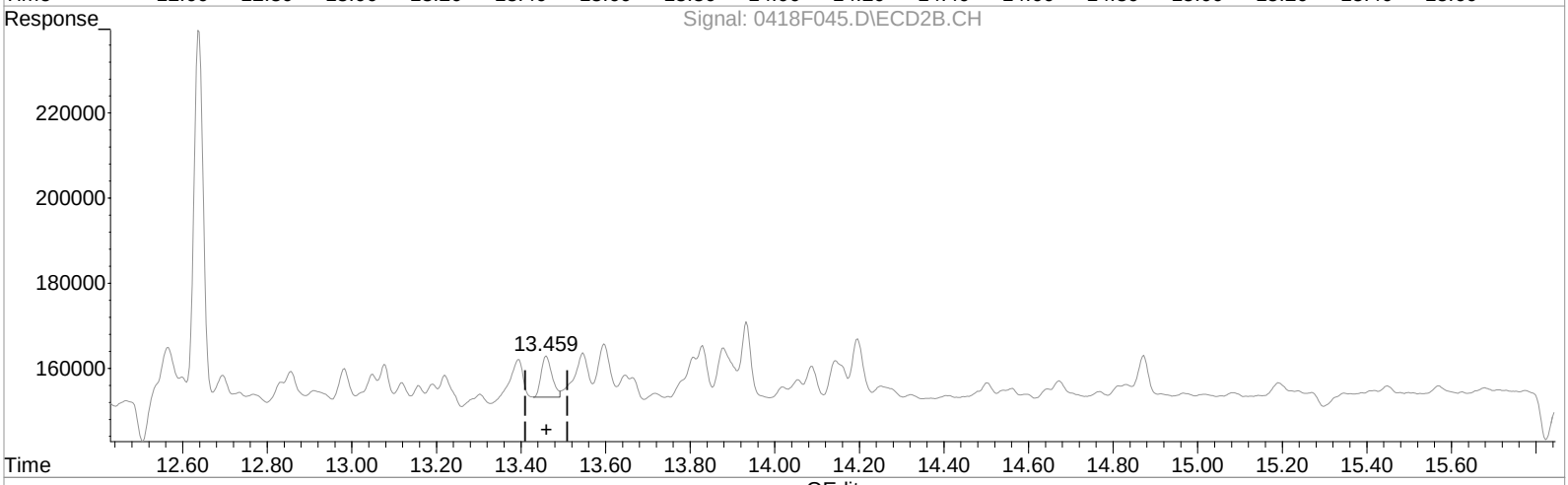
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.808min 84.575 ug/L

response 13057

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.459min 22.754 ug/L

response 17362

(+) = Expected Retention Time

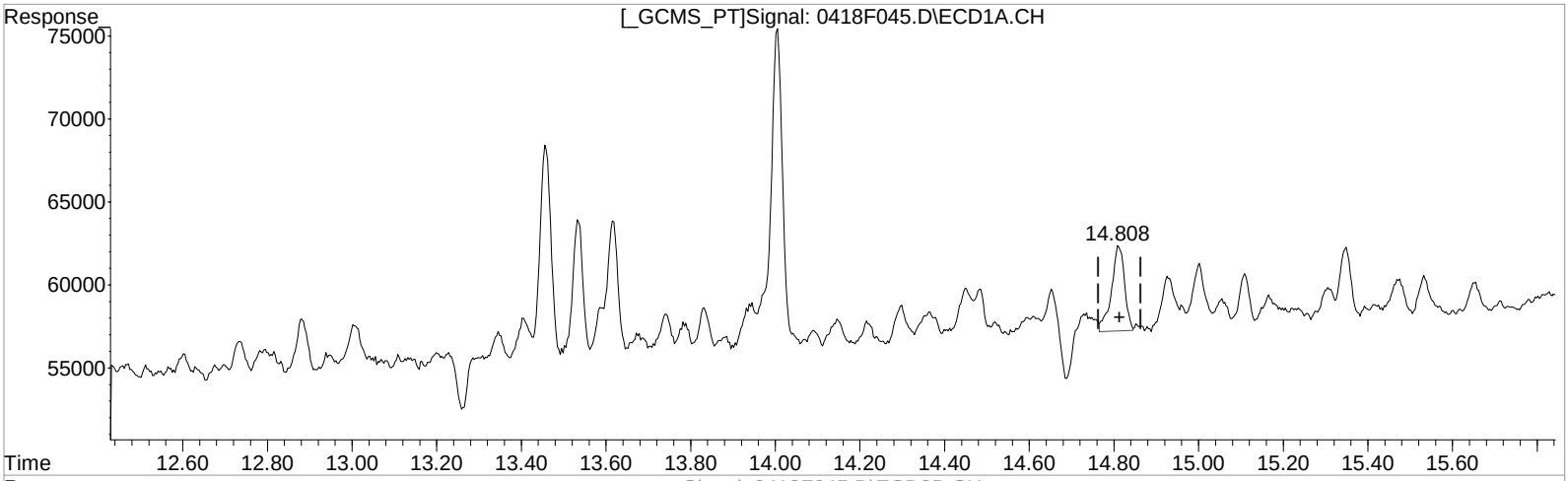
Quantitation Report (Qedit)

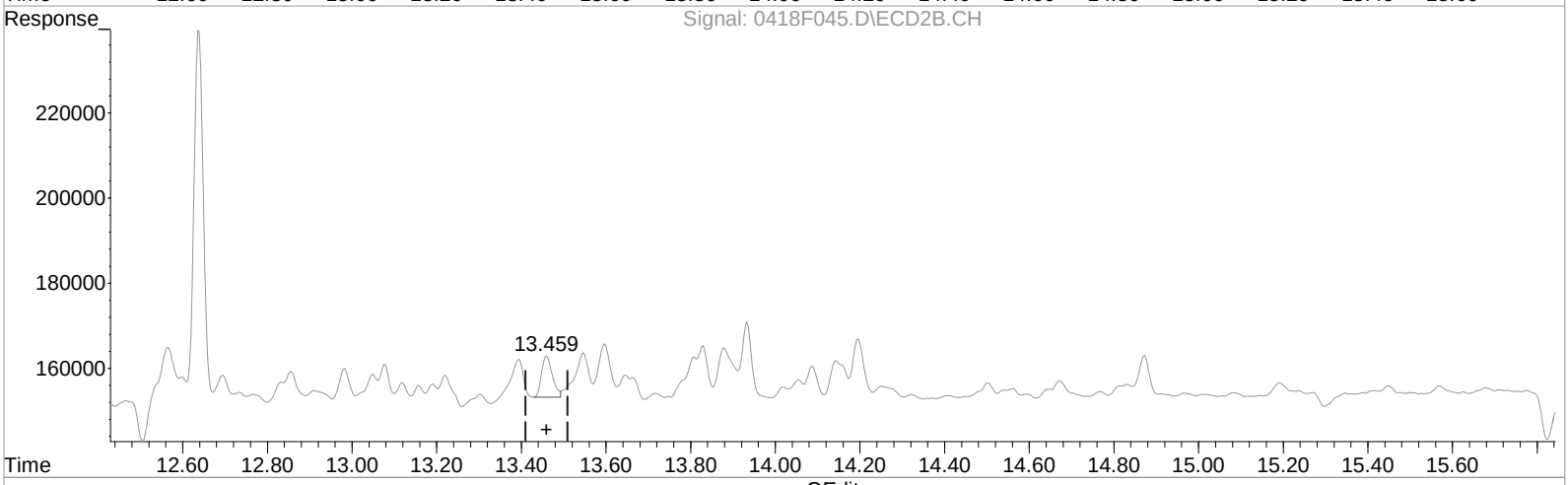
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.808min 71.407 ug/L m

response 11024

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.459min 22.754 ug/L

response 17362

(+) = Expected Retention Time

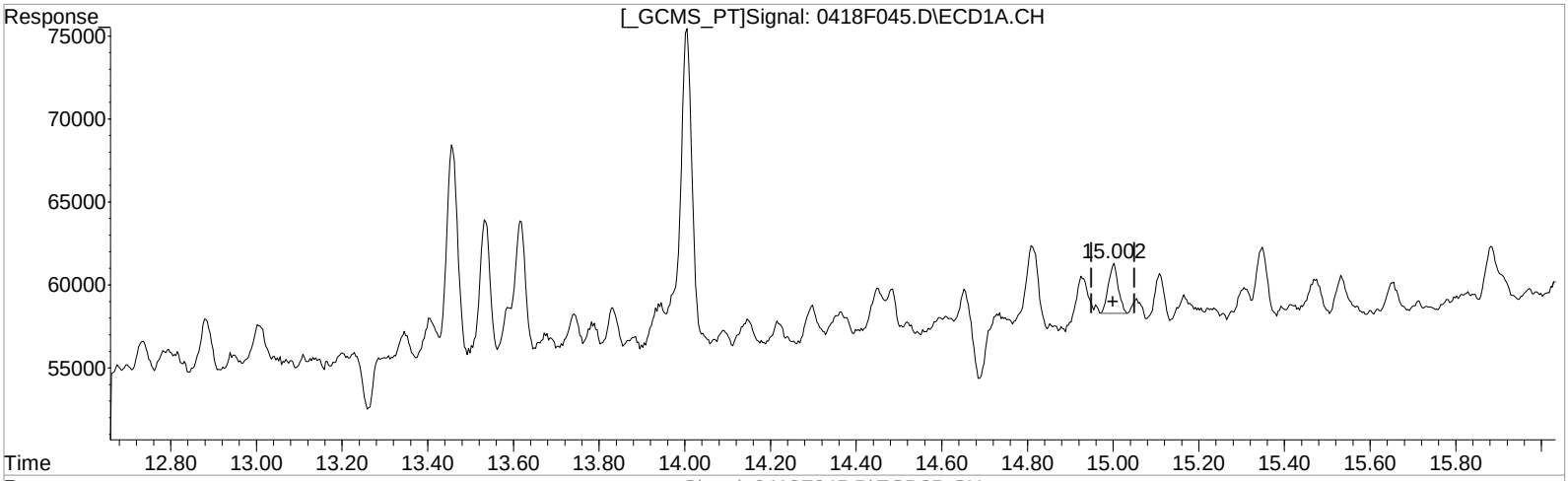
Quantitation Report (Qedit)

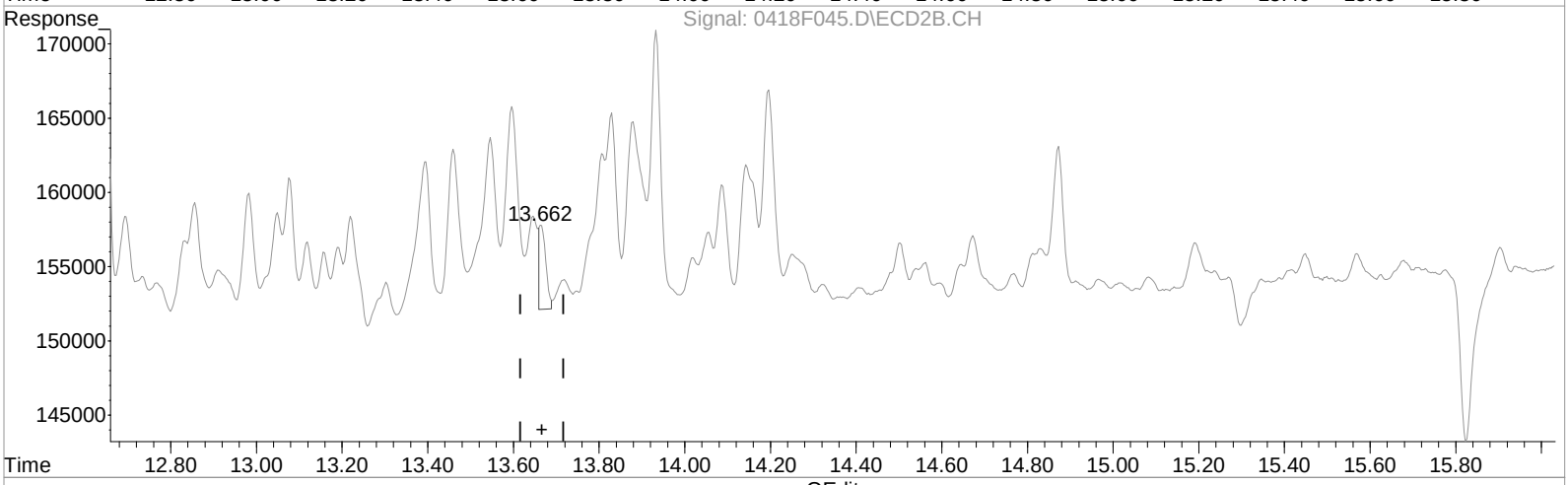
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

15.002min 22.819 ug/L

response 4721

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.662min 12.039 ug/L

response 5774

(+) = Expected Retention Time

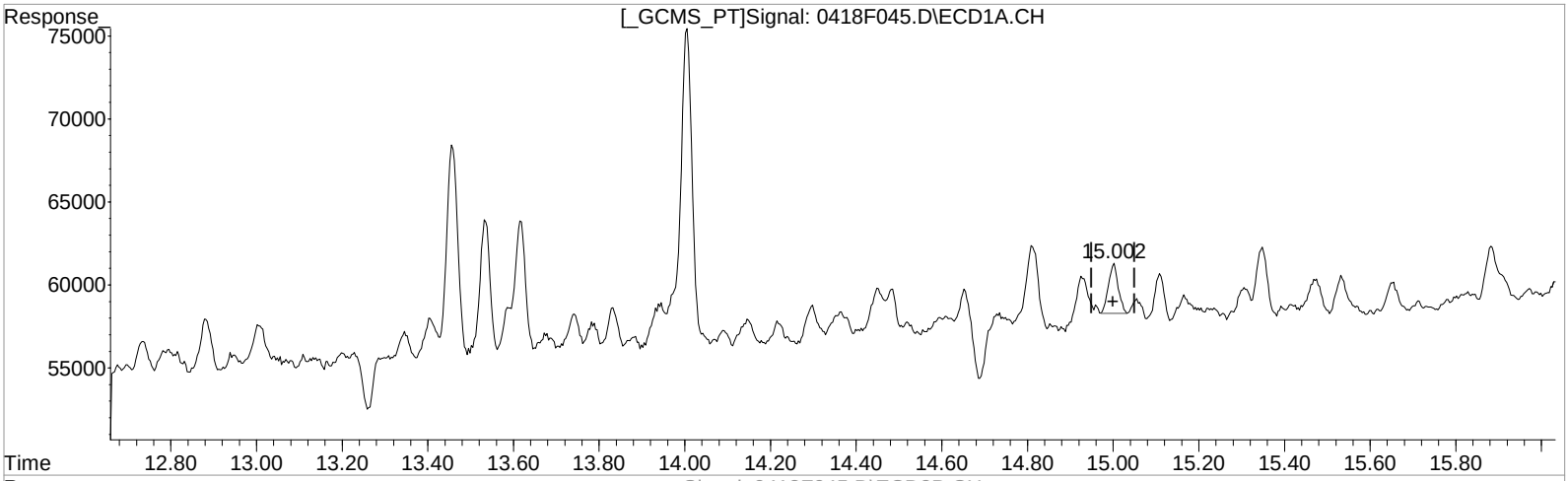
Quantitation Report (Qedit)

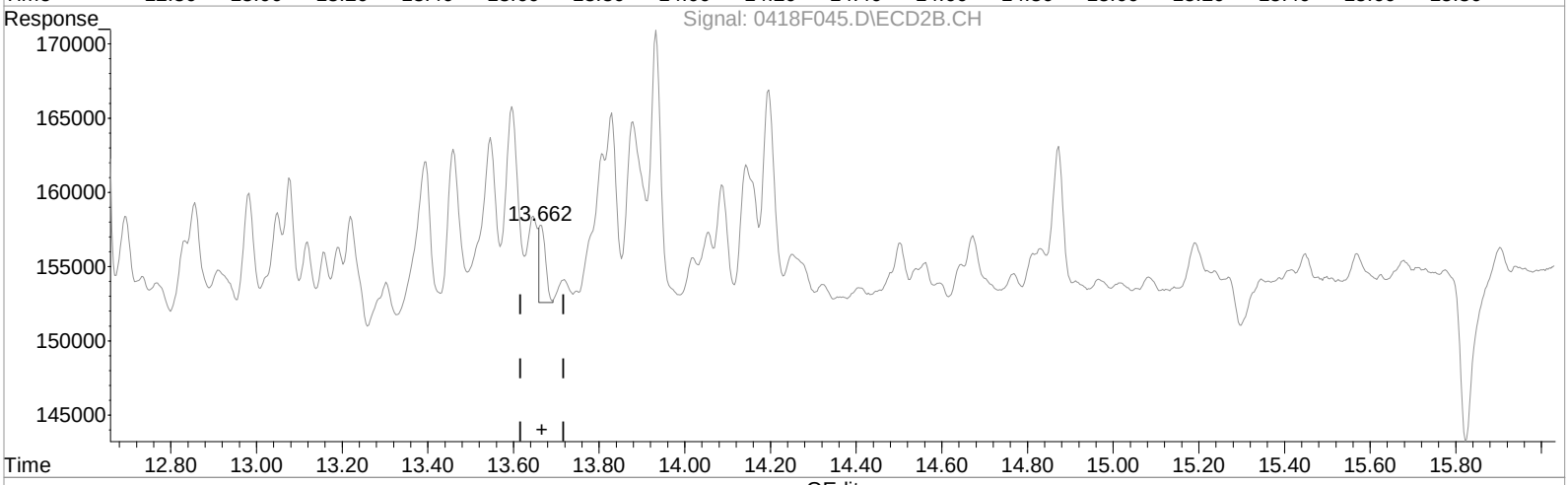
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

15.002min 22.819 ug/L

response 4721

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.662min 9.723 ug/L m

response 4992

(+) = Expected Retention Time

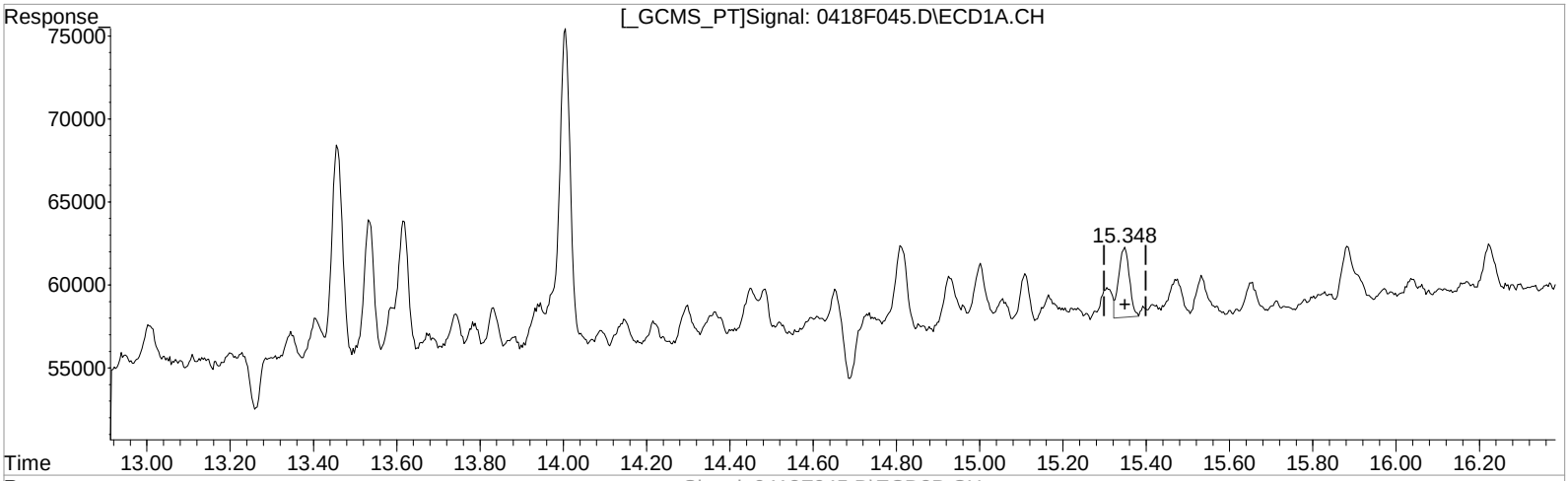
Quantitation Report (Qedit)

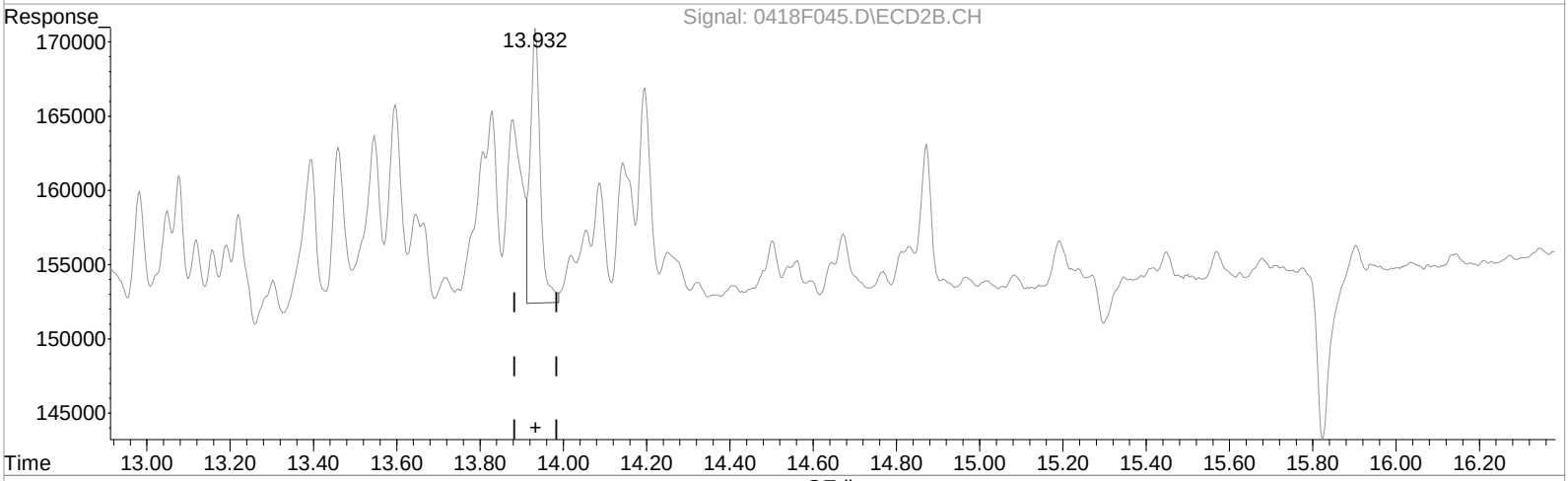
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.348min 38.106 ug/L

response 7512

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.932min 57.131 ug/L

response 30521

(+) = Expected Retention Time

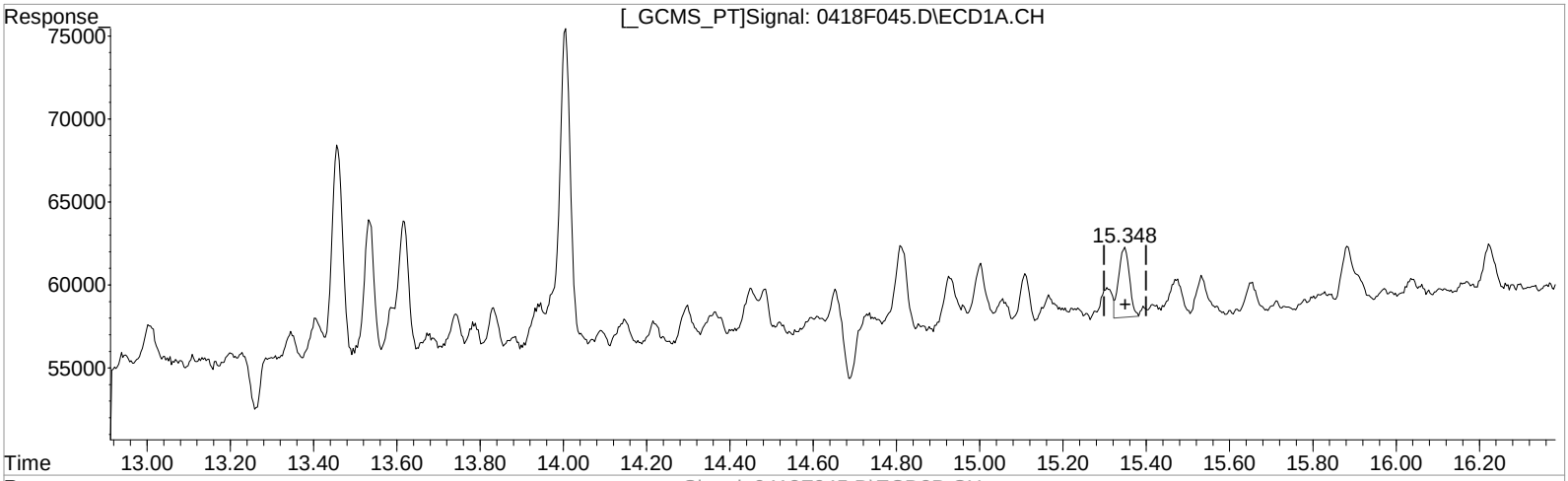
Quantitation Report (Qedit)

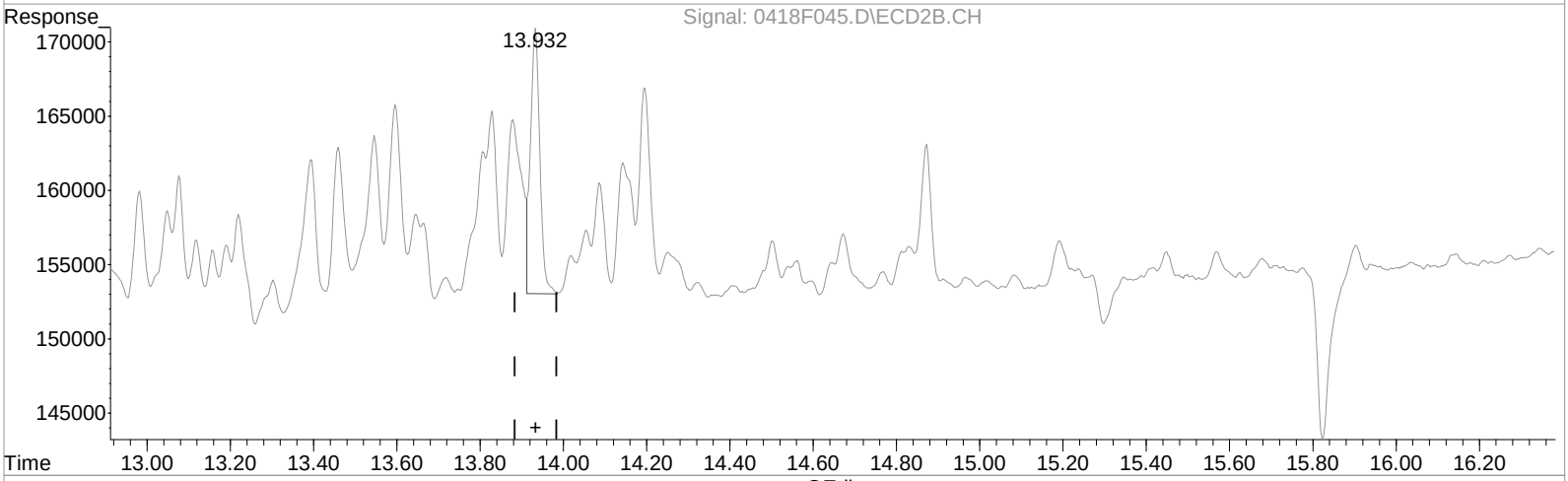
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.348min 38.106 ug/L

response 7512

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.932min 51.811 ug/L m

response 27679

(+) = Expected Retention Time

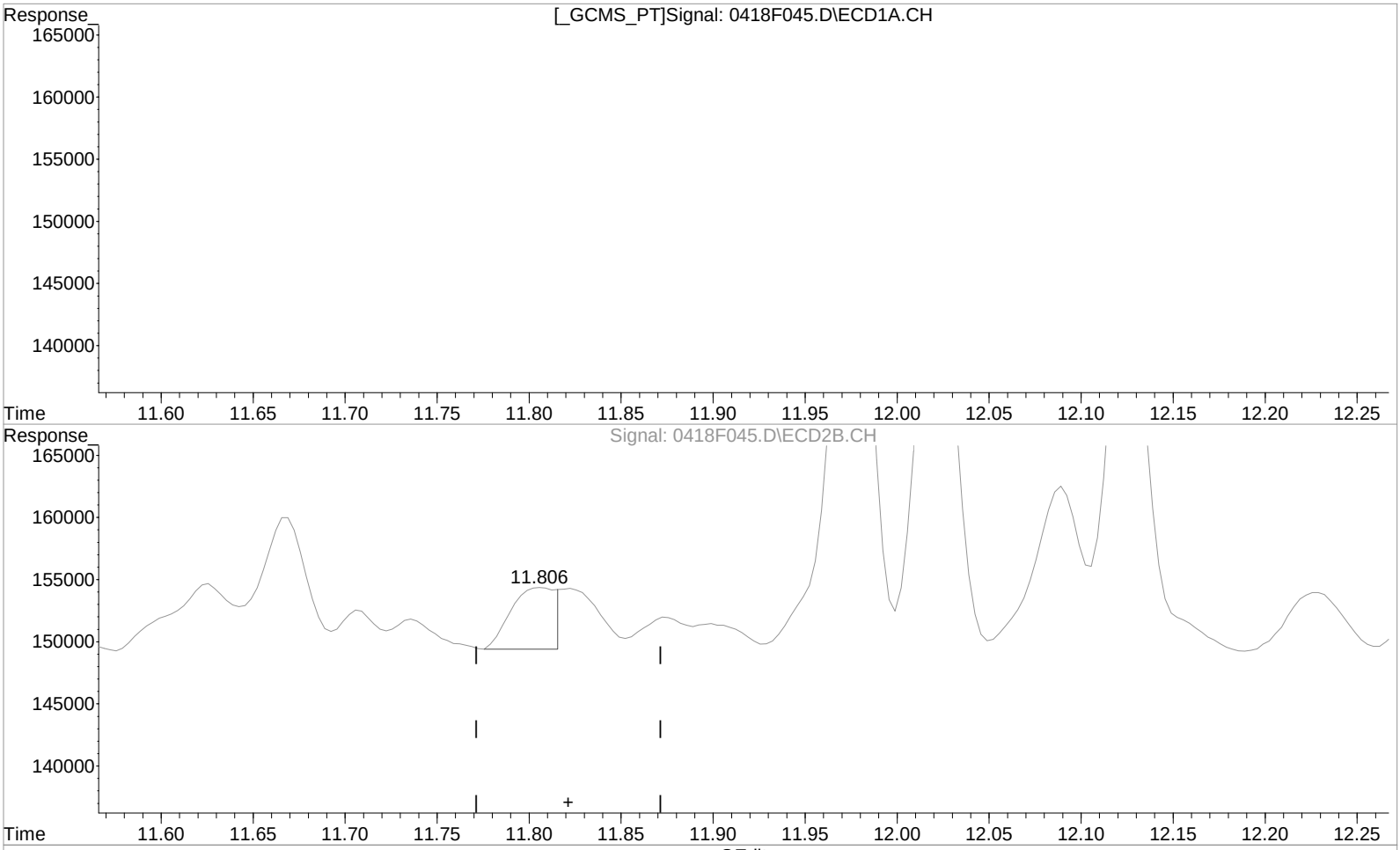
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(39) Chlordane {3}

12.258min 3.059 ug/L

response 1969

Manual Integration:

Before

04/21/20

(39) Chlordane {3} #2

11.806min 7.816 ug/L

response 8621

(+) = Expected Retention Time

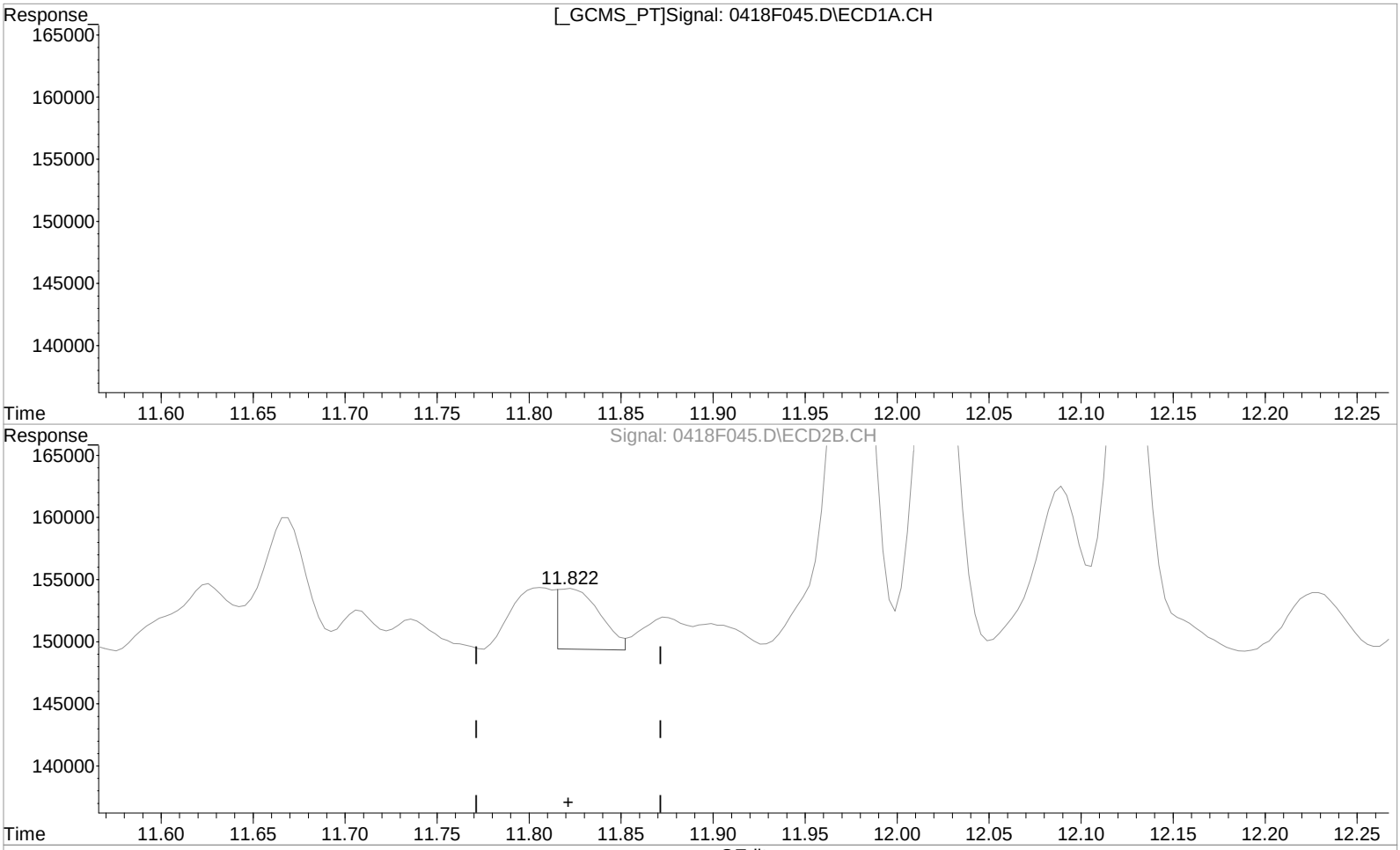
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(39) Chlordane {3}

12.258min 3.059 ug/L

response 1969

Manual Integration:

After

WRT

04/21/20

(39) Chlordane {3} #2

11.822min 6.340 ug/L m

response 6993

(+) = Expected Retention Time

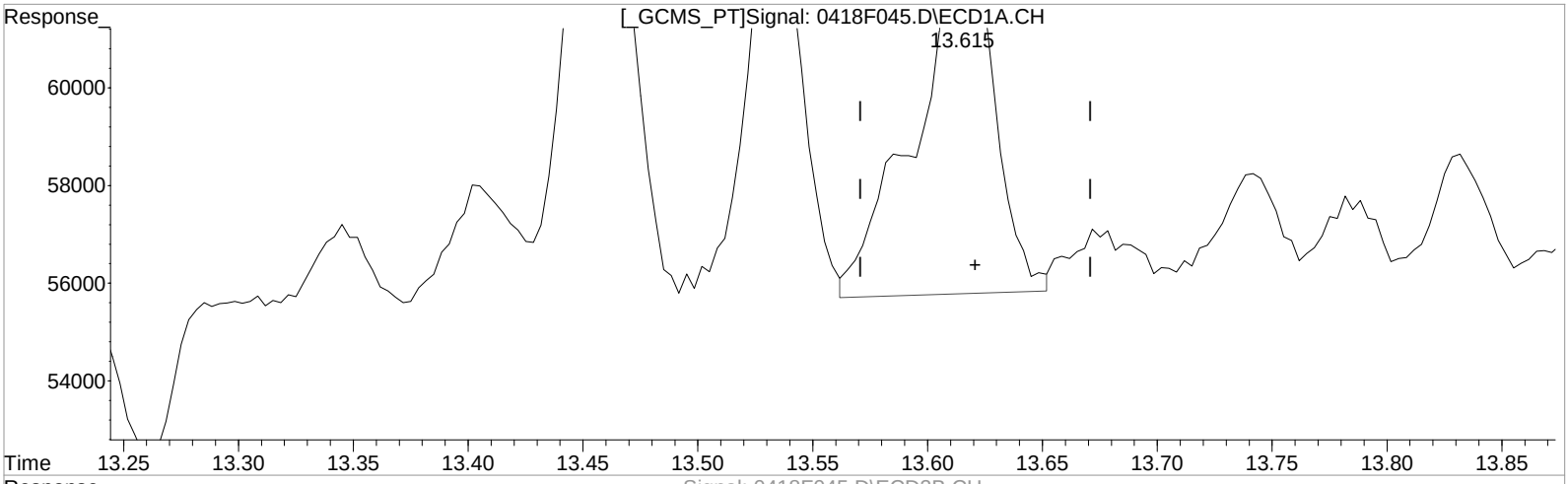
Quantitation Report (Qedit)

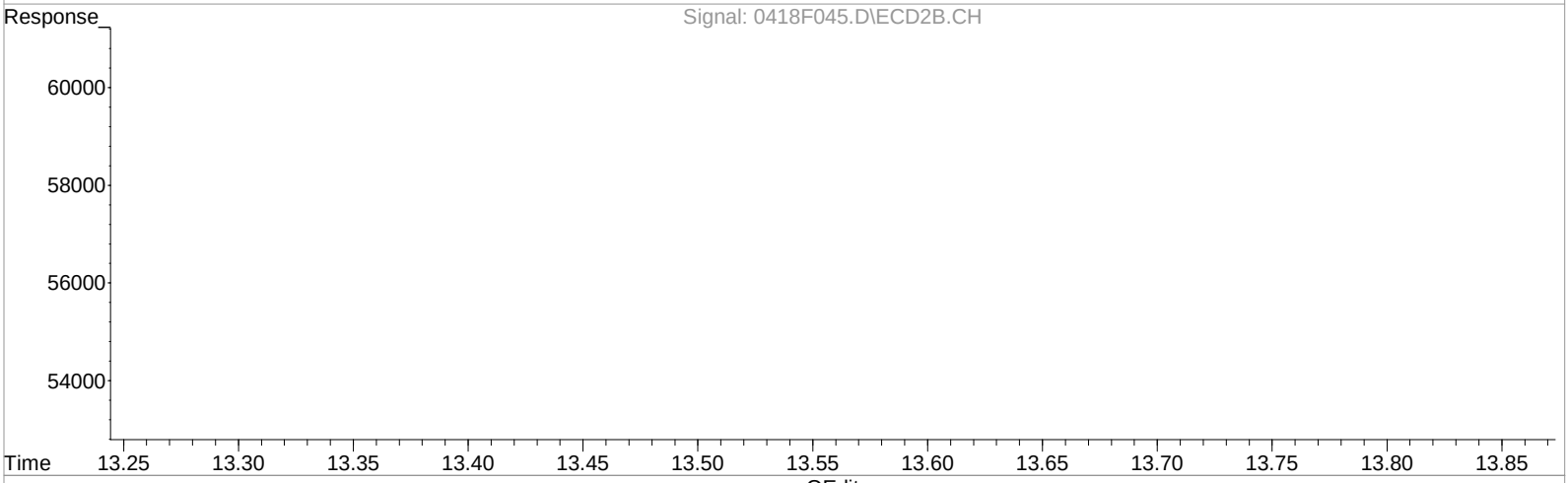
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.615min 14.898 ug/L

response 17677

(42) Chlordane {6} #2

12.126min 8.267 ug/L

response 48961

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

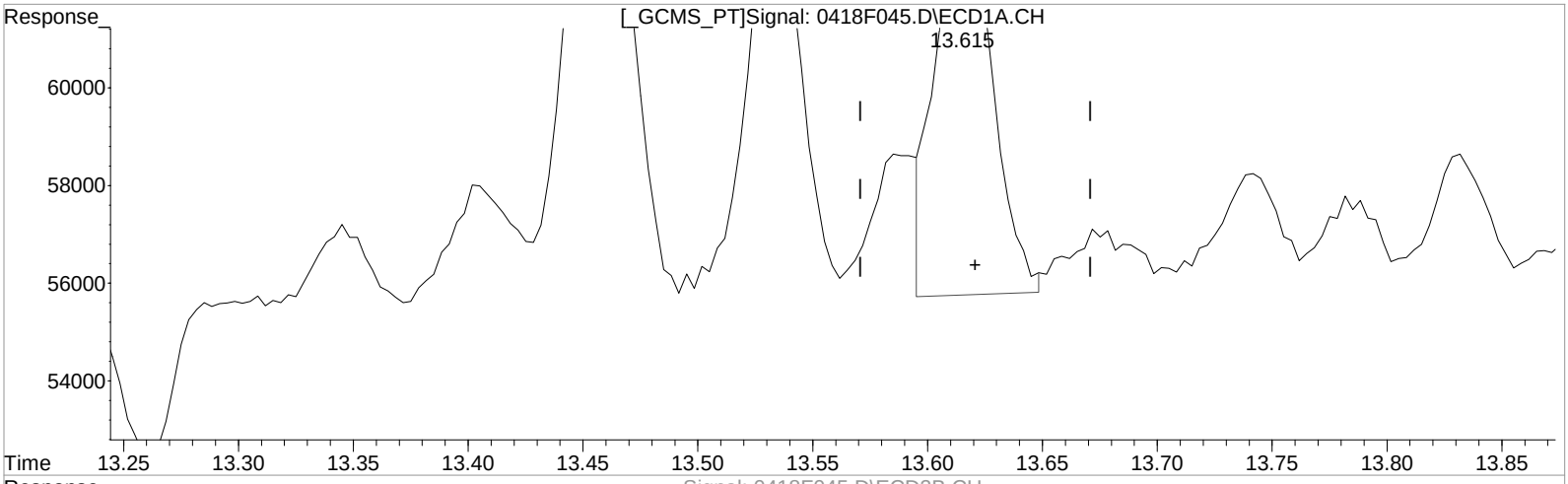
Quantitation Report (Qedit)

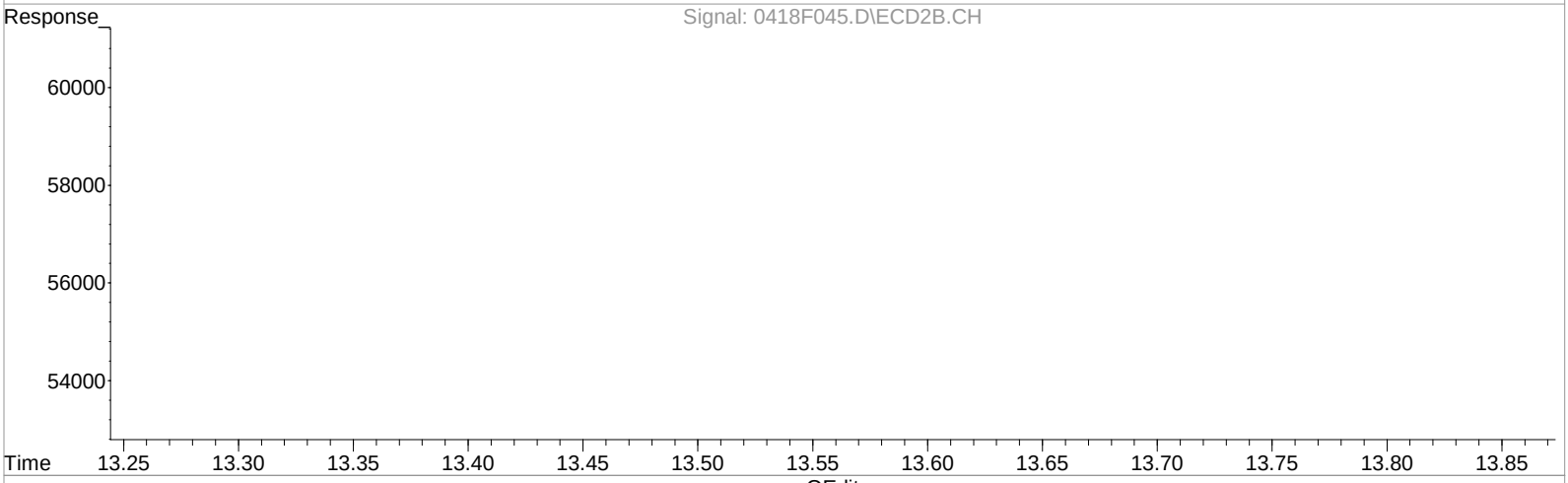
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.615min 11.515 ug/L m

response 13663

Manual Integration:

After

Baseline correction

04/21/20

(42) Chlordane {6} #2

12.126min 8.267 ug/L

response 48961

(+) = Expected Retention Time

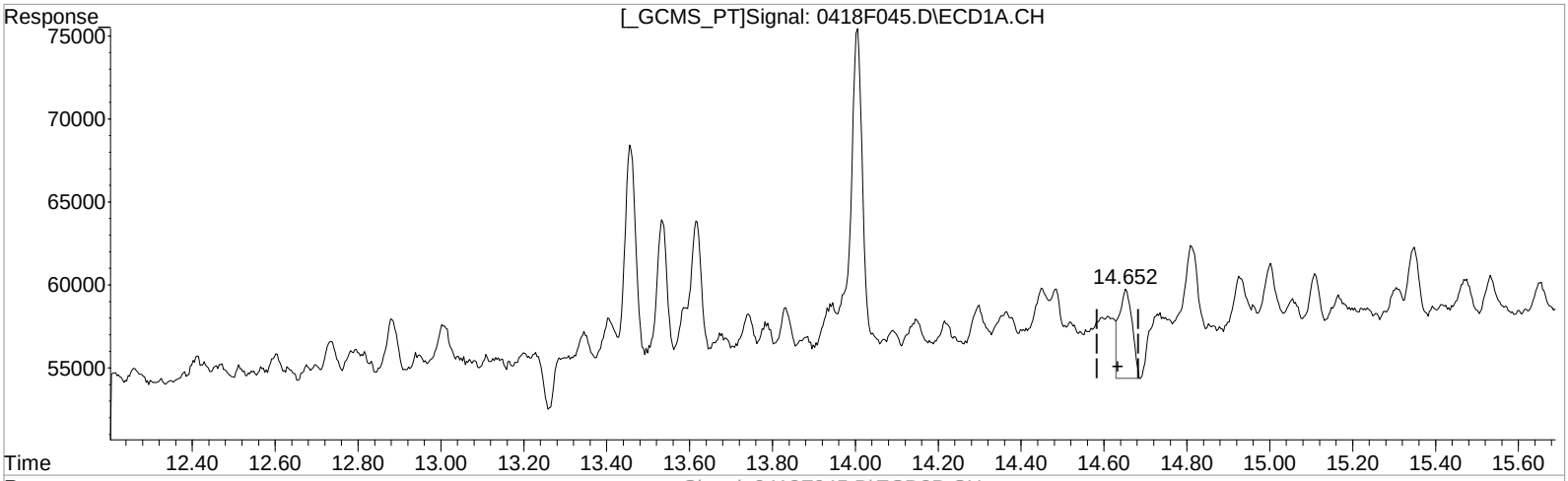
Quantitation Report (Qedit)

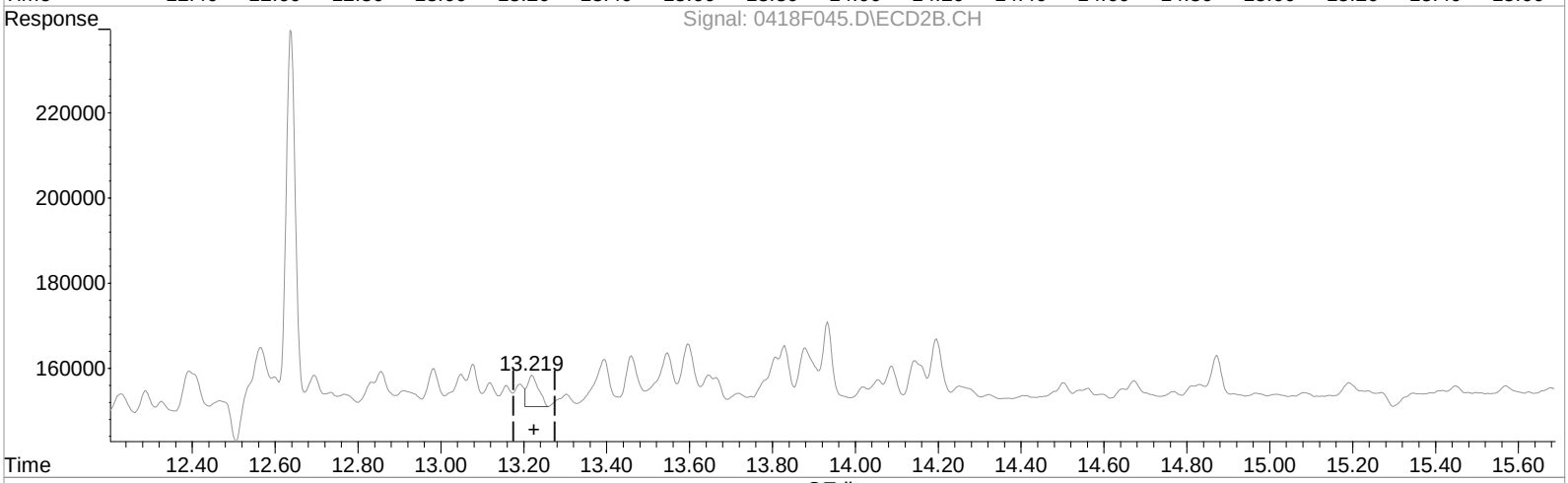
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.652min 0.668 ug/L

response 11624

Manual Integration:

Before

04/21/20

(46) cis-Nonachlor #2

13.219min 0.209 ug/L

response 13759

(+) = Expected Retention Time

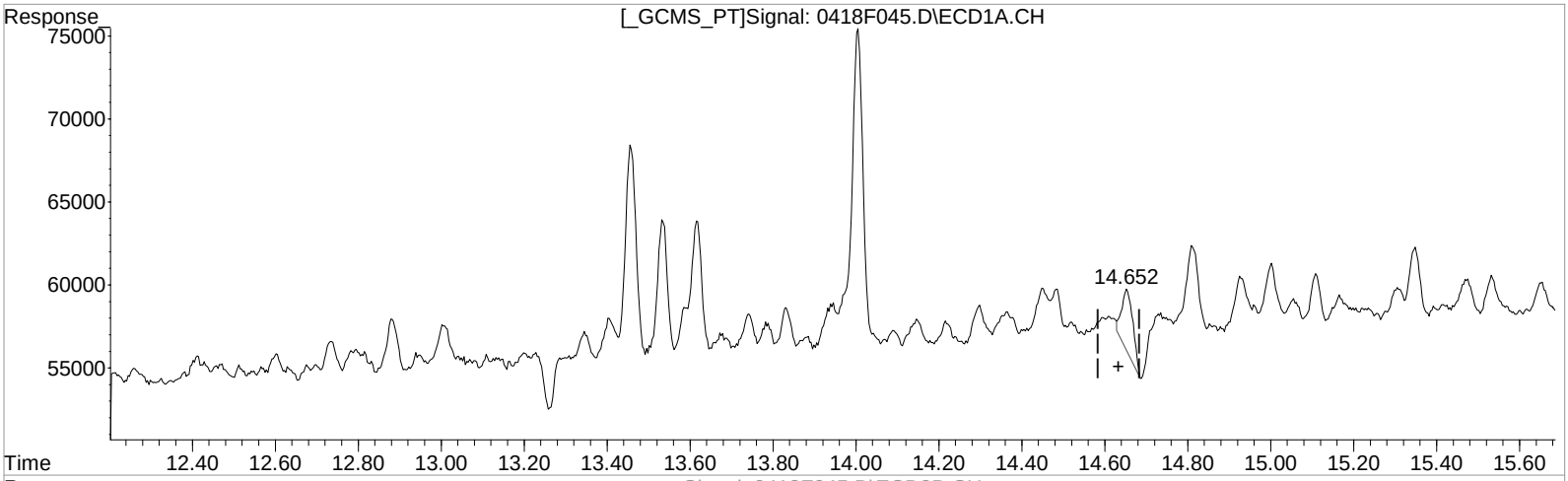
Quantitation Report (Qedit)

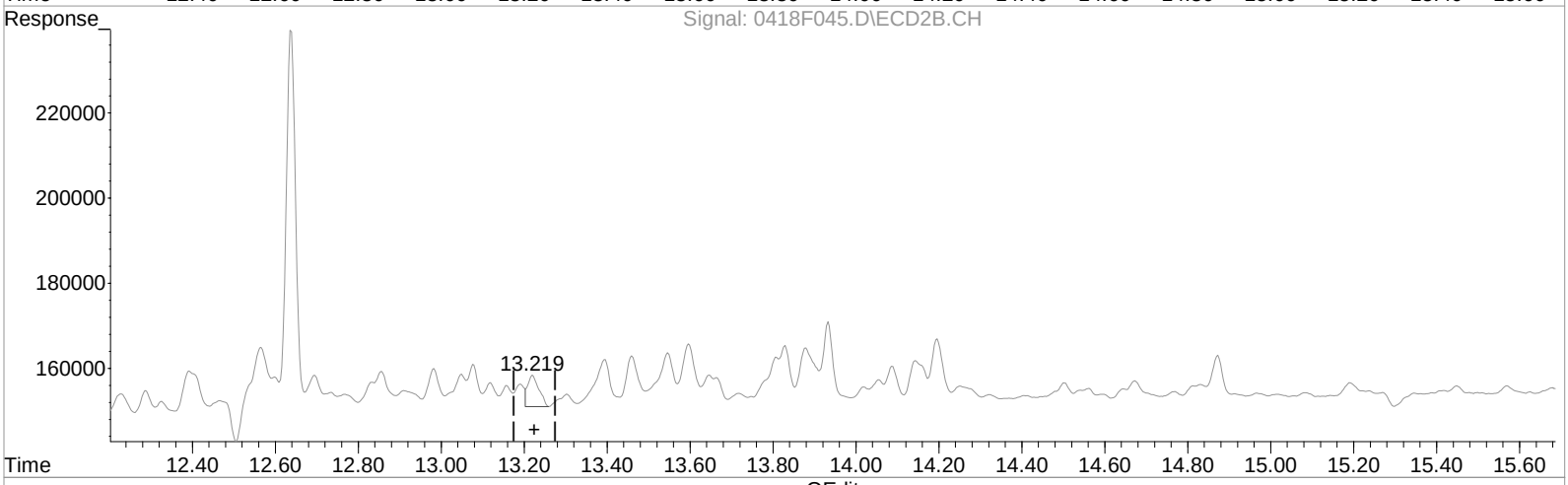
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(46) cis-Nonachlor

14.652min 0.385 ug/L m

response 6692

Manual Integration:

After

Baseline correction

04/21/20

(46) cis-Nonachlor #2

13.219min 0.209 ug/L

response 13759

(+) = Expected Retention Time

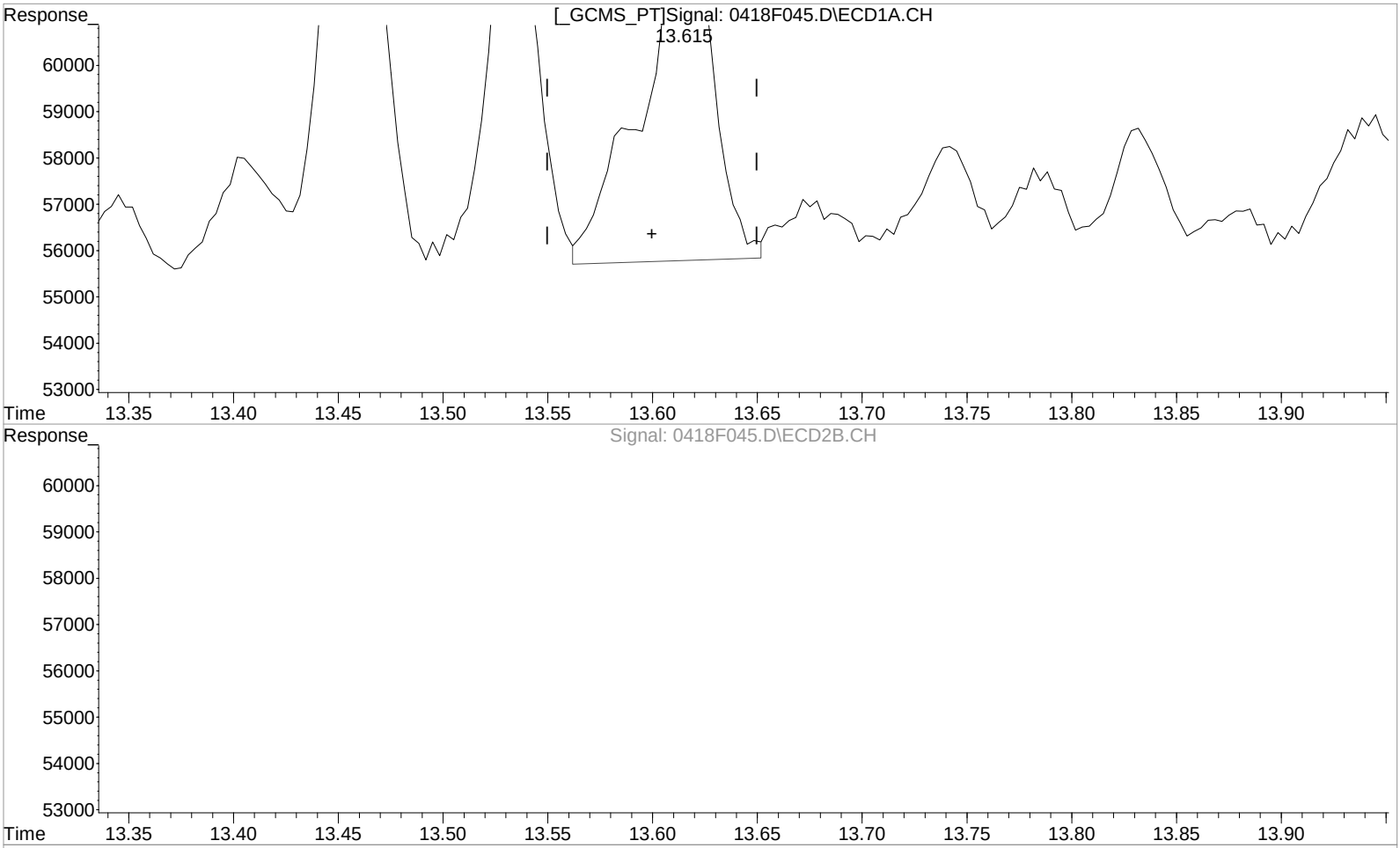
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(47) trans-Nonachlor

13.615min 1.011 ug/L

response 17677

Manual Integration:

Before

04/21/20

(47) trans-Nonachlor #2

12.022min 0.773 ug/L

response 50185

(+) = Expected Retention Time

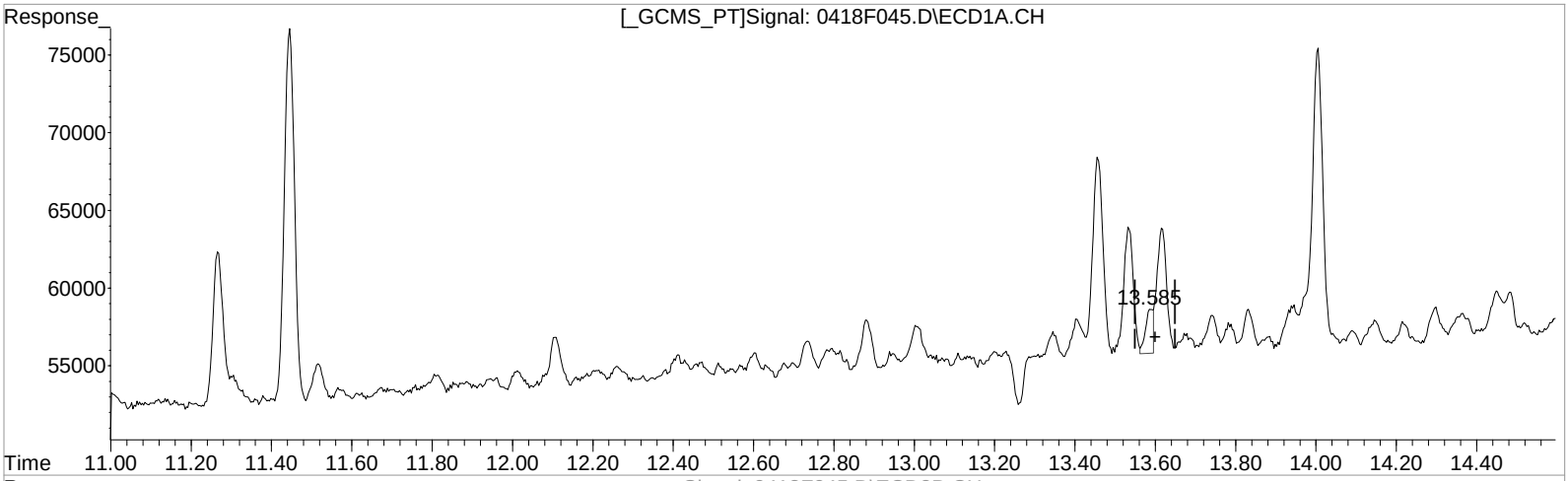
Quantitation Report (Qedit)

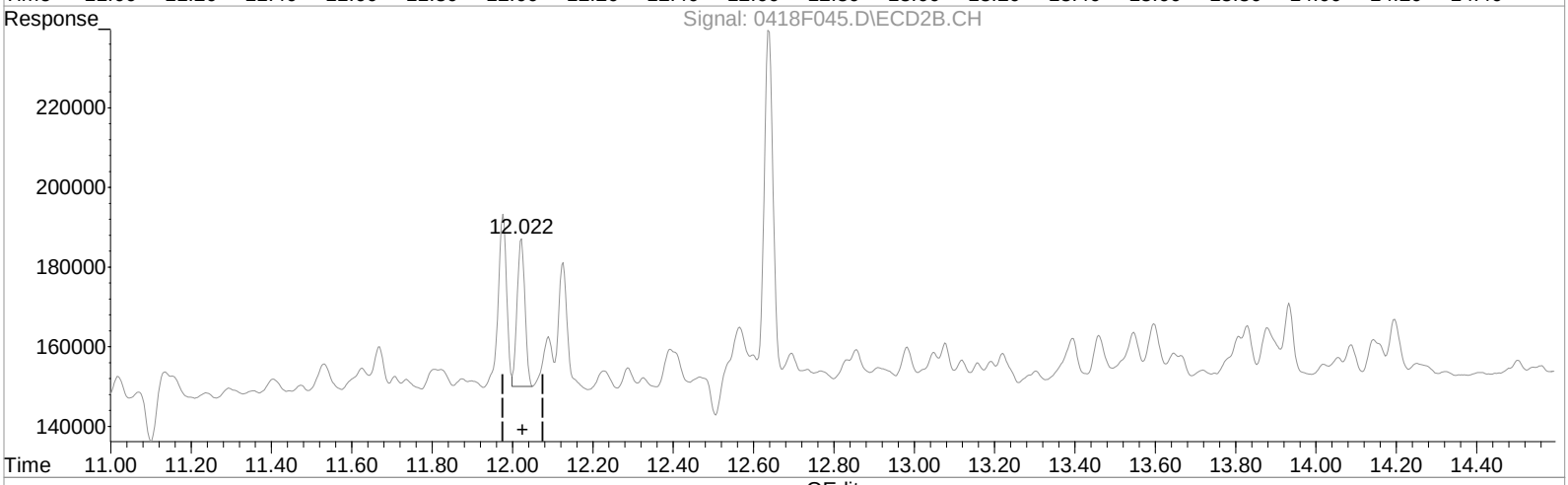
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F045.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:20 pm Operator: LM
Sample : K2002652-017 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:35:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(47) trans-Nonachlor

13.585min 0.222 ug/L m

response 3883

Manual Integration:

After

Shoulder

04/21/20

(47) trans-Nonachlor #2

12.022min 0.773 ug/L

response 50185

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F046.D\
Lab ID: K2002652-018
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 17:50:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	2,4'-DDT	14.41			see Quant Report
	Endosulfan I	13.59			CEND
	Endrin	14.41			SA
	trans-Nonachlor	13.59			
	1-Bromo-2-nitrobenzene	6.20			
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	2,4'-DDT	13.23			CEND
	cis-Nonachlor	13.23			CEND
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F046.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 17:50:00	**Vial:**	11
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-018	**Raw Units:**	ug/L

Bottle ID:	K2002652-018.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/26/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1092880	4710646	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1092880	4710646	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1092880	4710646	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.68 +0.01	17.07	79842	294124	4.106	3.873	82	77	77	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.27	82571	299047	5.211	5.123	104	102	102	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	8.50	0	13213	0.000	0.177	0U	0.89J	0.25 U	Y
beta-BHC	0.00	9.78	0	21001	0.000	0.593	0U	3.0	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	0.00	12.64	0	6729	0.000	0.097	0U	0.49J	0.44 U	Y
Heptachlor	11.71 +0.03	9.93	3265	131240	0.173	1.778	0.87Ui	8.9Ui	0.88 Ui	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	9.99 +0.01	0.00	3714	0	0.172	0.000	0.86J	0U	0.27 U	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F046.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 17:50:00	**Vial:**	11
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-018	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F046.D Vial: 40
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:50 pm Operator: LM
Sample : K2002652-018 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:48:47 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.204	5.485	1092880	4710646	100.000	100.000
29)	1-Bromo-2...	6.204	5.485	1092880	4710646	100.000	100.000
36)	1-Bromo-2...	6.204	5.485	1092880	4710646	100.000	100.000
43)	1-Bromo-2...	6.204	5.485	1092880	4710646	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.981	7.268	82571	299047	5.211	5.123
28) s	Decachlor...	18.677	17.071	79842	294124	4.106	3.873
	Target Compounds						
3)	alpha-BHC	0.000	8.498	0	13213	N.D.	0.177 #
4)	Hexachlor...	9.991	0.000	3714	0	0.172	N.D. d#
5)	beta-BHC	0.000	9.781	0	21001	N.D.	0.593 #
8)	Heptachlor	11.711	9.931	3265	131240	0.173	1.778 #
12)	gamma-Chl...	0.000	11.971	0	16112	N.D.	0.229 #
13)	Endosulfan I	13.587	12.165	6326	17501	0.376	0.276 #
15)	Dieldrin	0.000	12.641	0	6729	N.D.	0.097 #
17)	Endrin	14.414f	0.000	3626	0	0.220	N.D. d#
18)	Endosulfa...	14.817	13.551	7750	138863	0.465	2.334 #
20)	Endrin Al...	0.000	13.928	0	6945	N.D.	0.141 #
21)	Endosulfa...	0.000	14.278f	0	7569	N.D.	0.129 #
22)	4,4'-DDT	0.000	13.831f	0	56919	N.D.	1.184 #
23)	Endrin Ke...	0.000	15.178	0	6834	N.D.	0.097 #
24)	Methoxychlor	15.884	0.000	41139	0	4.951	N.D. d#
25)	2,4'-DDE	13.231	0.000	4756	0	0.403	N.D. #
26)	2,4'-DDD	0.000	12.828f	0	8256	N.D. d	0.219
27)	2,4'-DDT	14.414	13.235	3626	14310	0.306	0.350
44)	Chlorpyrifos	12.114	0.000	5535	0	0.549	N.D. #
45)	Oxychlordane	12.874	0.000	3689	0	0.212	N.D. #
46)	cis-Nonac...	0.000	13.235	0	14310	N.D.	0.206 #
47)	trans-Non...	13.587	0.000	6326	0	0.344	N.D. #
49)	HCE	4.147	3.431	2187	8655	0.083	0.079
52)	Perthane	14.081f	12.885	4690	24477	9.017	14.183 #
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

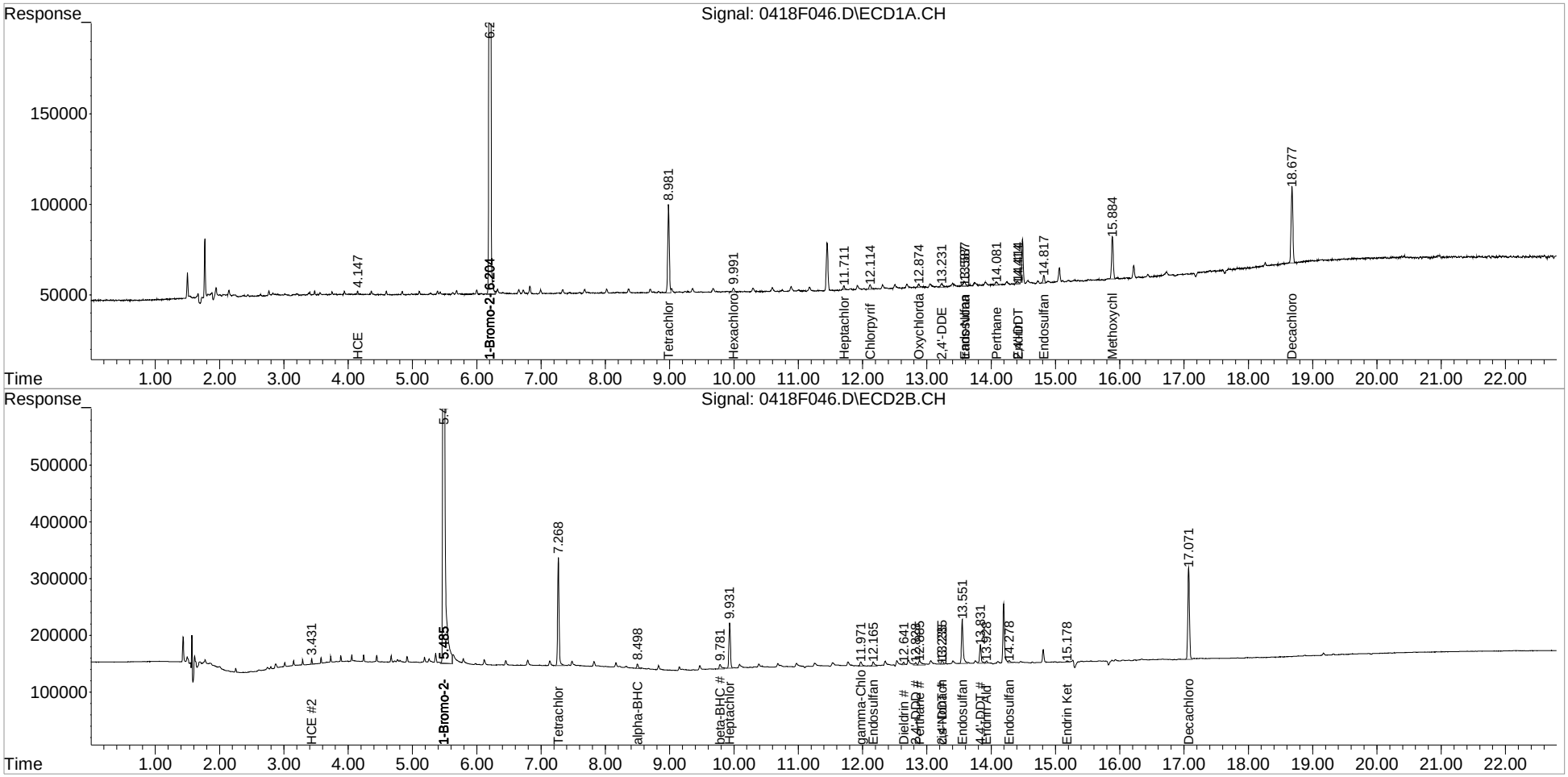
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F046.D Vial: 40
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 5:50 pm Operator: LM
Sample : K2002652-018 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:48:47 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F047.D\
Lab ID: K2002652-019
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 18:19:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	Endosulfan I	13.58			CEND
	trans-Nonachlor	13.58			CEND
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	2,4'-DDT	13.24			CEND
	cis-Nonachlor	13.24			CEND
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F047.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 18:19:00	**Vial:**	12
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-019	**Raw Units:**	ug/L

Bottle ID:	K2002652-019.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/26/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.48	-0.0 c	1156566	5011495	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.48	-0.0 c	1156566	5011495	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.48	c	1156566	5011495	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07		67347	236395	3.273	2.926	65	59	59	14 - 160	Y
Tetrachloro-m-xylene	8.97	7.26	-0.01	69470	259415	4.143	4.177	83	84	83	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00		0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00		0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	9.79	+0.01	0	5571	0.000	0.148	0U	0.74J	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00		0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane						0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00		0	0	0.000	0.000	0	0		
Dieldrin	0.00	12.64		0	9224	0.000	0.125	0U	0.63J	0.44 U	Y
Heptachlor	0.00	9.93		0	137074	0.000	1.746	0U	8.7	0.61 U	Y
Heptachlor Epoxide	0.00	0.00		0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00		0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene						0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F047.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 18:19:00	**Vial:**	12
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-019	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F047.D Vial: 41
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:19 pm Operator: LM
Sample : K2002652-019 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:53:20 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.199	5.483	1156566	5011495	100.000	100.000
29)	1-Bromo-2...	6.199	5.483	1156566	5011495	100.000	100.000
36)	1-Bromo-2...	6.199	5.483	1156566	5011495	100.000	100.000
43)	1-Bromo-2...	6.199	5.483	1156566	5011495	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.972	7.263	69470	259415	4.143	4.177
28) s	Decachlor...	18.672	17.066	67347	236395	3.273m	2.926
	Target Compounds						
5)	beta-BHC	0.000	9.790	0	5571	N.D.	0.148 #
8)	Heptachlor	0.000	9.930	0	137074	N.D.	1.746 #
13)	Endosulfan I	13.582	0.000	3622	0	0.204	N.D. #
15)	Dieldrin	0.000	12.636	0	9224	N.D.	0.125m#
18)	Endosulfa...	14.809	13.546	5544	22277	0.314m	0.352m
21)	Endosulfa...	0.000	14.190f	0	19203	N.D.	0.308 #
22)	4,4'-DDT	15.106f	0.000	1450	0	0.100	N.D. d#
24)	Methoxychlor	15.879	0.000	5062	0	0.576	N.D. #
26)	2,4'-DDD	0.000	12.826	0	5007	N.D.	0.125 #
27)	2,4'-DDT	14.479f	13.236	6541	5654	0.522	0.130 #
44)	Chlorpyrifos	12.099	0.000	1508	0	0.141	N.D. d#
46)	cis-Nonac...	14.616	13.236	1880	5654	0.097	0.077
47)	trans-Non...	13.582	0.000	3622	0	0.186	N.D. #

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

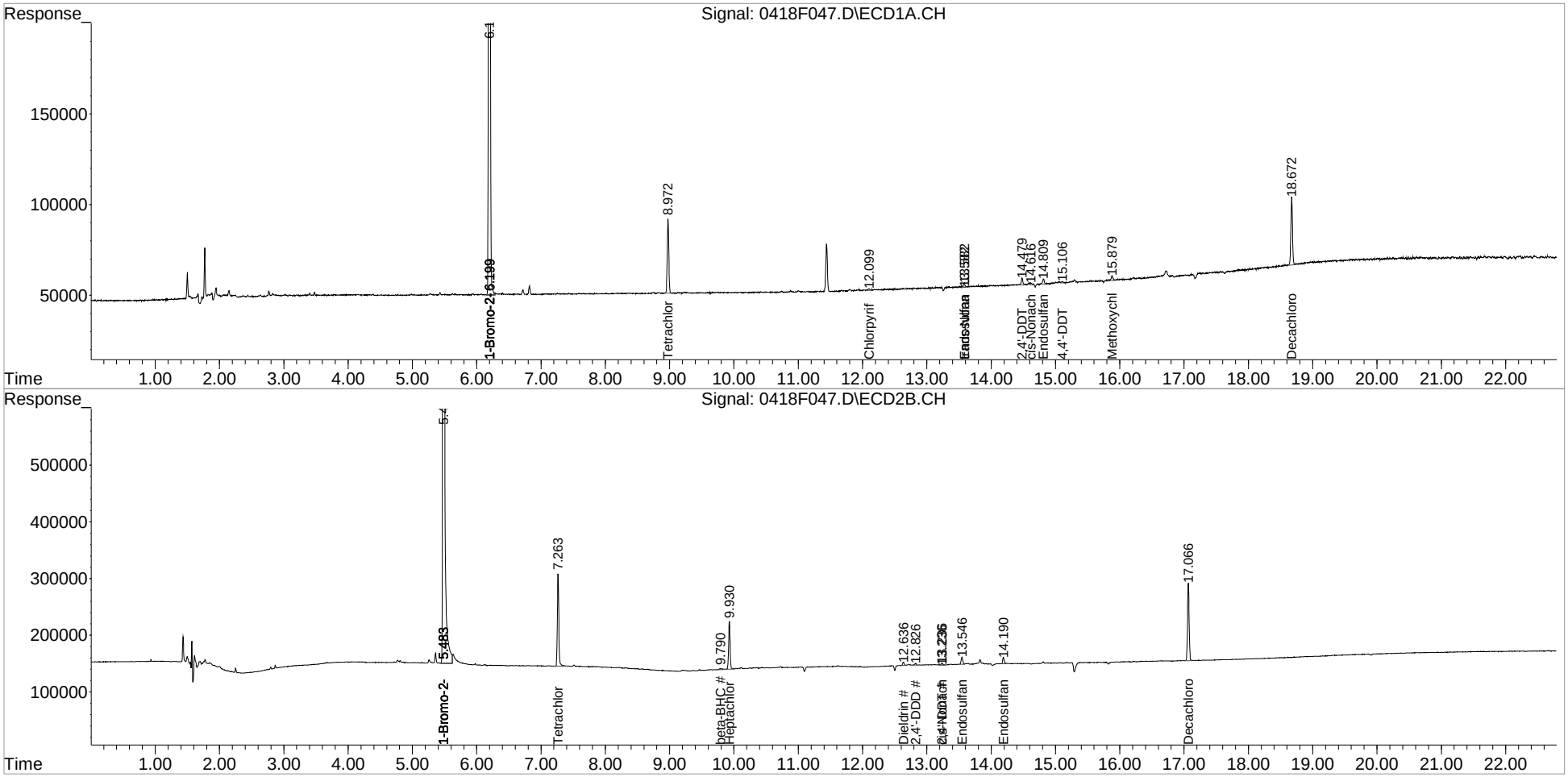
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F047.D Vial: 41
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:19 pm Operator: LM
Sample : K2002652-019 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:53:20 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



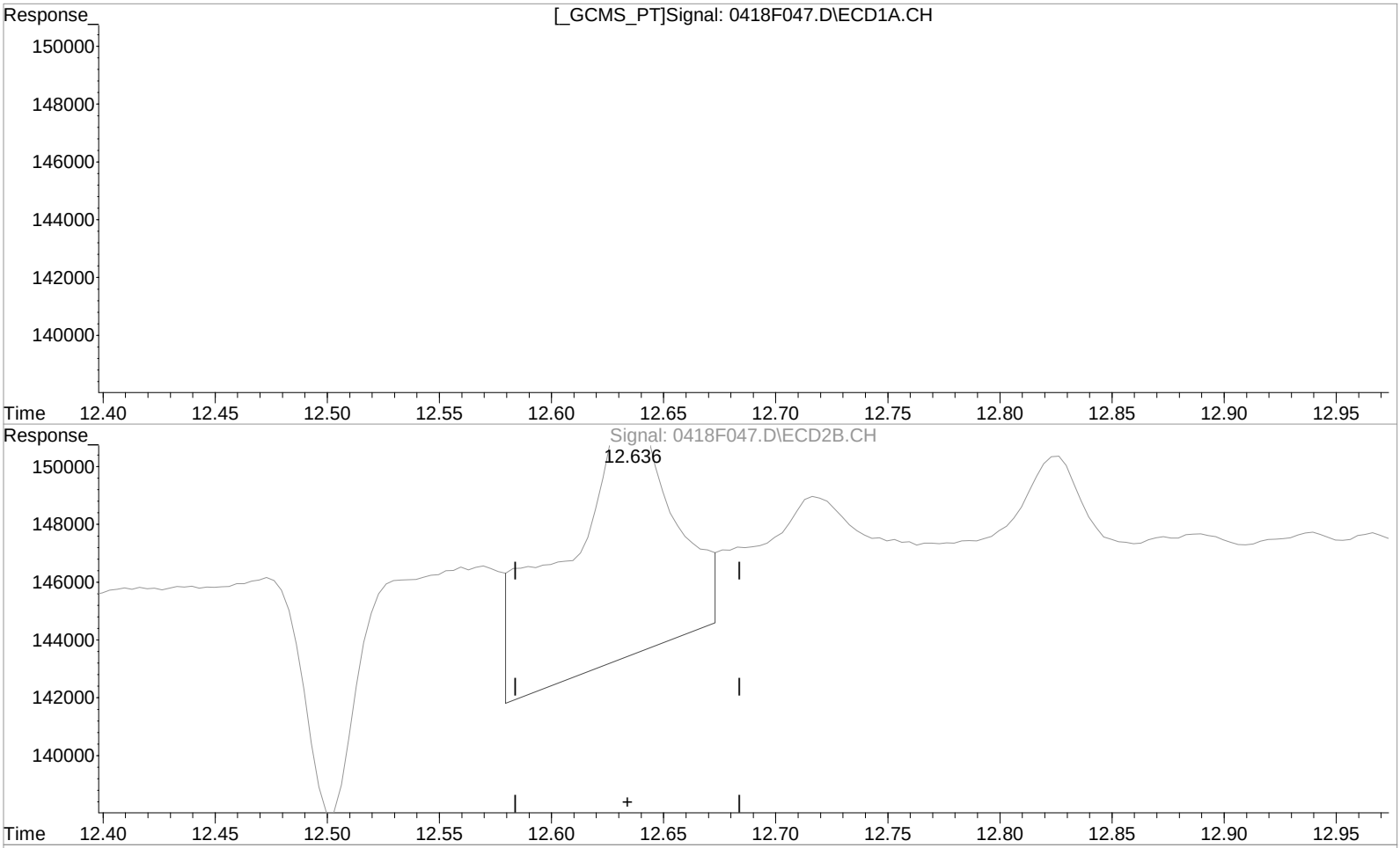
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F047.D Vial: 41
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:19 pm Operator: LM
Sample : K2002652-019 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:49:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

0.000min 0.000 ug/L

response 0

Manual Integration:

Before

04/21/20

(15) Dieldrin #2

12.636min 0.394 ug/L

response 29030

(+) = Expected Retention Time

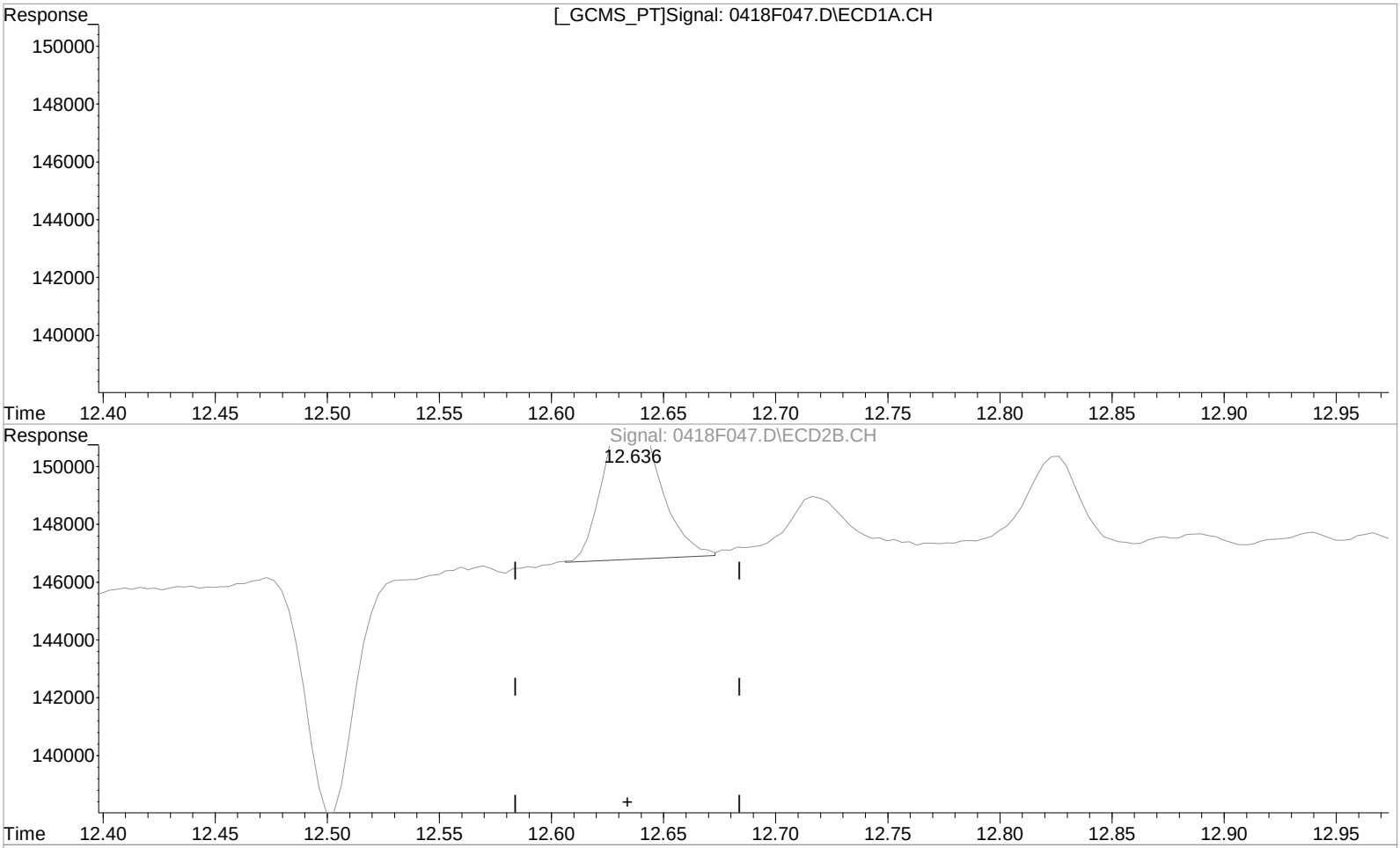
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F047.D Vial: 41
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:19 pm Operator: LM
Sample : K2002652-019 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:49:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(15) Dieldrin

0.000min 0.000 ug/L

response 0

Manual Integration:

After

Baseline correction

04/21/20

(15) Dieldrin #2

12.636min 0.125 ug/L m

response 9224

(+) = Expected Retention Time

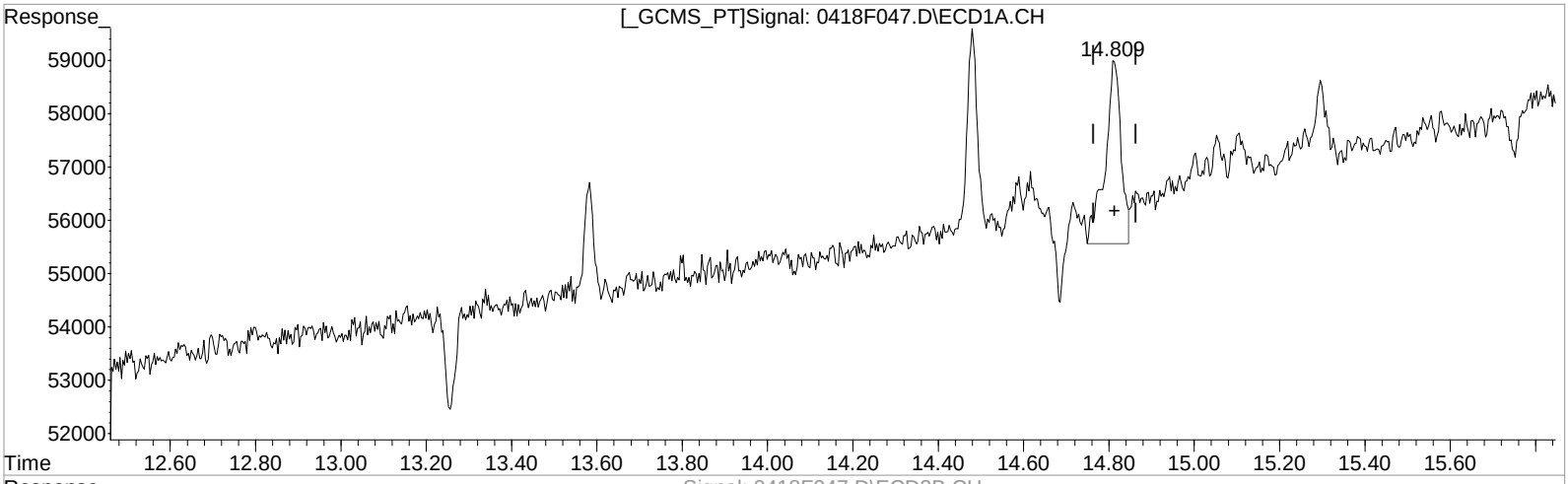
Quantitation Report (Qedit)

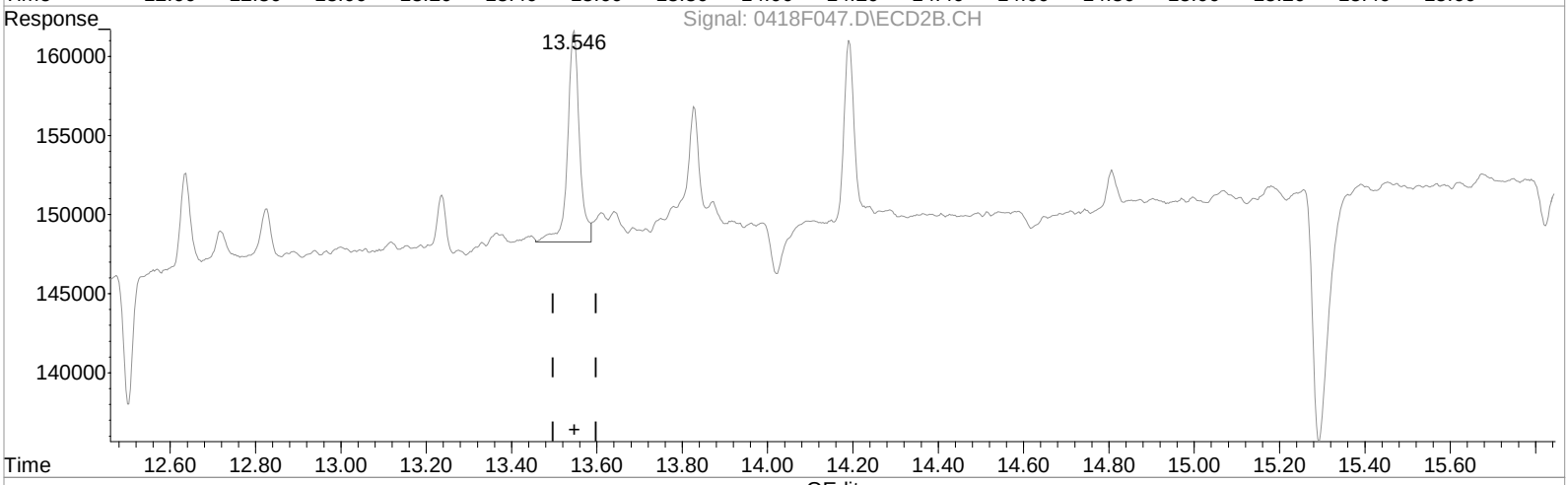
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F047.D Vial: 41
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:19 pm Operator: LM
Sample : K2002652-019 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:49:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.809min 0.503 ug/L

response 8868

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.546min 0.411 ug/L

response 25992

(+) = Expected Retention Time

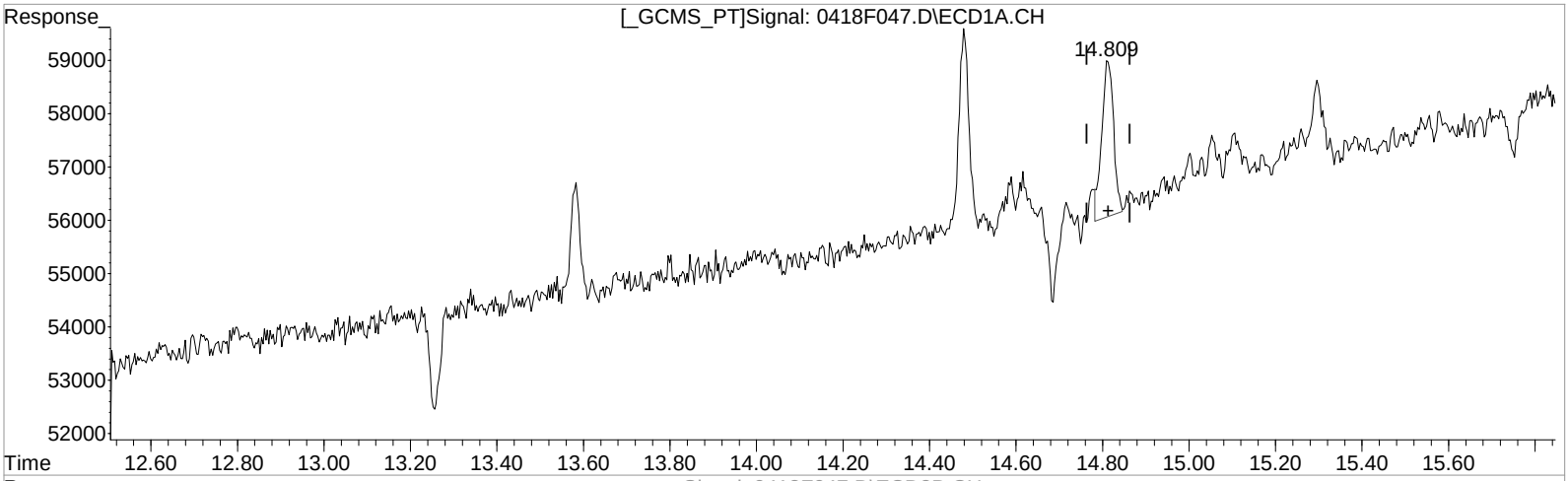
Quantitation Report (Qedit)

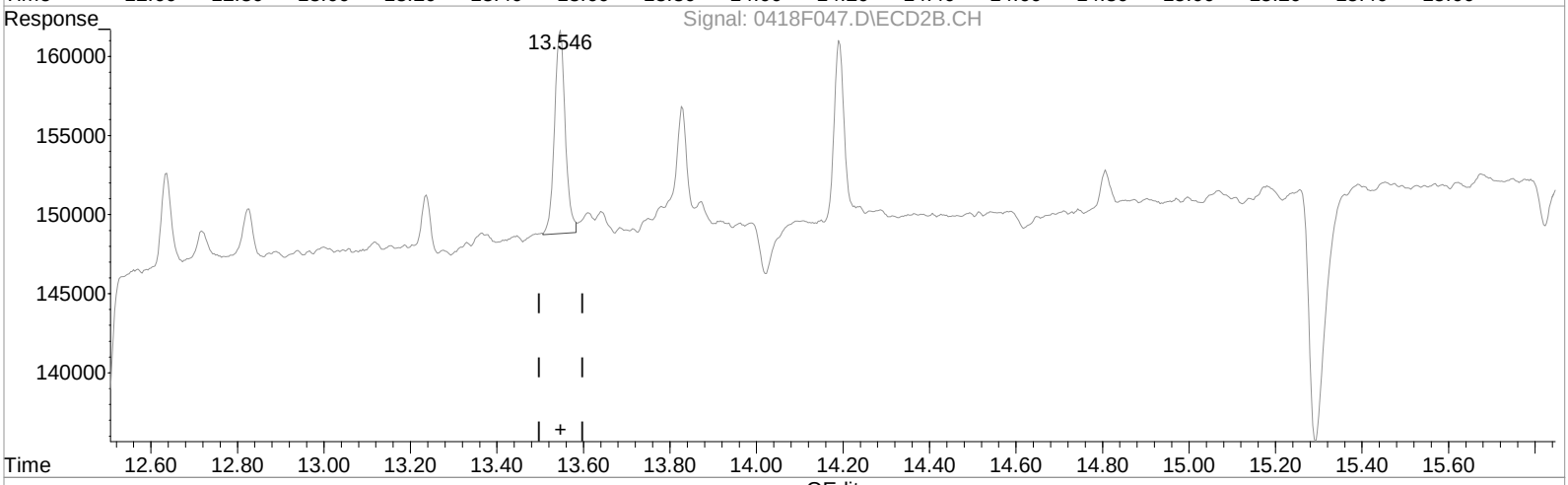
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F047.D Vial: 41
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:19 pm Operator: LM
Sample : K2002652-019 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:49:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.809min 0.314 ug/L m

response 5544

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.546min 0.352 ug/L m

response 22277

(+) = Expected Retention Time

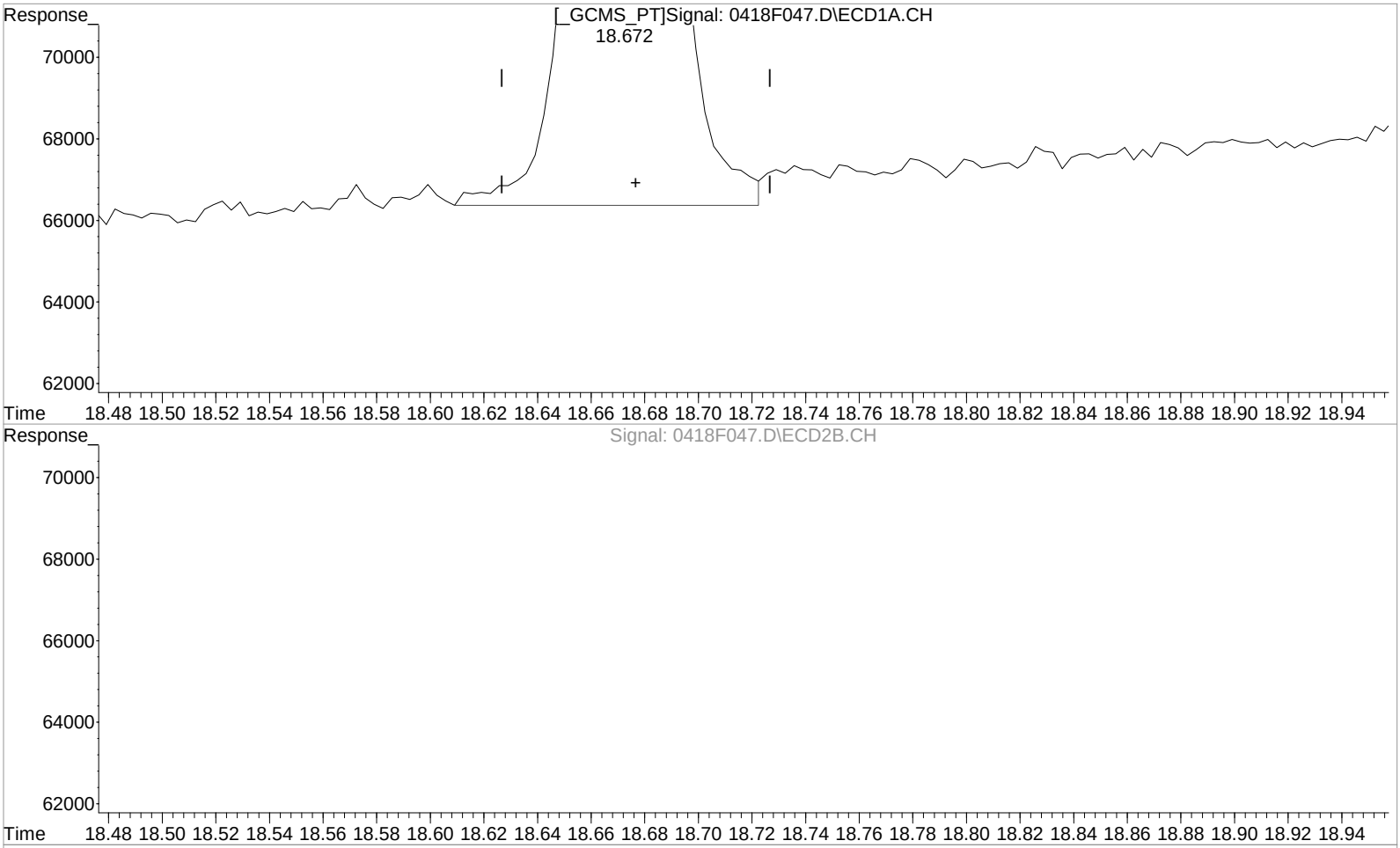
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F047.D Vial: 41
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:19 pm Operator: LM
Sample : K2002652-019 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:49:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(28) Decachlorobiphenyl (s)

18.672min 3.385 ug/L

response 69654

Manual Integration:

Before

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.066min 2.926 ug/L

response 236395

(+) = Expected Retention Time

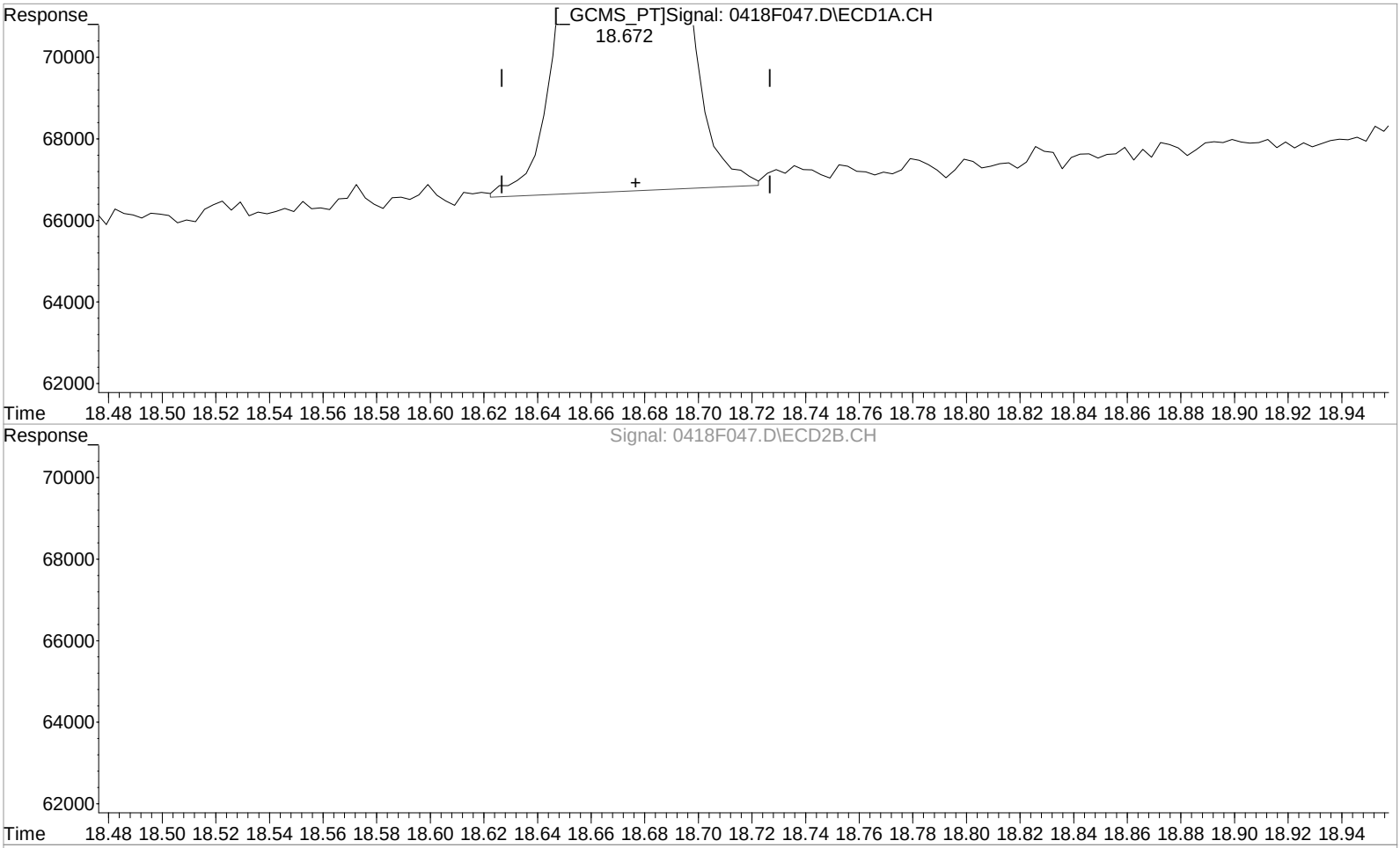
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F047.D Vial: 41
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:19 pm Operator: LM
Sample : K2002652-019 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:49:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(28) Decachlorobiphenyl (s)

18.672min 3.273 ug/L m

response 67347

Manual Integration:

After

Baseline correction

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.066min 2.926 ug/L

response 236395

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F048.D\
Lab ID: K2002652-020
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 18:49:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.49			
	1-Bromo-2-nitrobenzene {2}	5.49			
	1-Bromo-2-nitrobenzene {3}	5.49			
	1-Bromo-2-nitrobenzene {4}	5.49			

Primary Review: _____

Secondary Review: _____

1st SM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F048.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 18:49:00	**Vial:**	13
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-020	**Raw Units:**	ug/L

Bottle ID:	K2002652-020.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/26/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.49	c	1088667	4705397	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.49	c	1088667	4705397	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.49	+0.01 c	1088667	4705397	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.68 +0.01	17.07	86004	295575	4.440	3.897	89	78	78	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.27	83856	314101	5.313	5.387	106	108	106	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	0.00	12.64	0	6850	0.000	0.099	0U	0.50J	0.44 U	Y
Heptachlor	0.00	9.93	0	164410	0.000	2.230	0U	11	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F048.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 18:49:00	**Vial:**	13
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-020	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F048.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:49 pm Operator: LM
Sample : K2002652-020 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:57:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.203	5.487	1088667	4705397	100.000	100.000
29)	1-Bromo-2...	6.203	5.487	1088667	4705397	100.000	100.000
36)	1-Bromo-2...	6.203	5.487	1088667	4705397	100.000	100.000
43)	1-Bromo-2...	6.203	5.487	1088667	4705397	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.980	7.267	83856	314101	5.313	5.387
28) s	Decachlor...	18.676	17.067	86004	295575	4.440	3.897
	Target Compounds						
8)	Heptachlor	0.000	9.930	0	164410	N.D.	2.230 #
15)	Dieldrin	0.000	12.637	0	6850	N.D.	0.099 #
18)	Endosulfa...	14.816	13.547	4333	59717	0.261m	1.005 #
20)	Endrin Al...	15.003	0.000	1143	0	0.079	N.D. d#
21)	Endosulfa...	0.000	14.190f	0	88994	N.D.	1.518 #
22)	4,4'-DDT	0.000	13.787	0	2413	N.D. d	0.050m
23)	Endrin Ke...	0.000	15.183	0	4930	N.D.	0.070 #
24)	Methoxychlor	15.883	0.000	20228	0	2.444	N.D. #
26)	2,4'-DDD	0.000	12.823	0	6949	N.D.	0.184 #
27)	2,4'-DDT	14.483f	0.000	18559	0	1.573	N.D. d#
47)	trans-Non...	13.590	0.000	1514	0	0.083	N.D. #
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

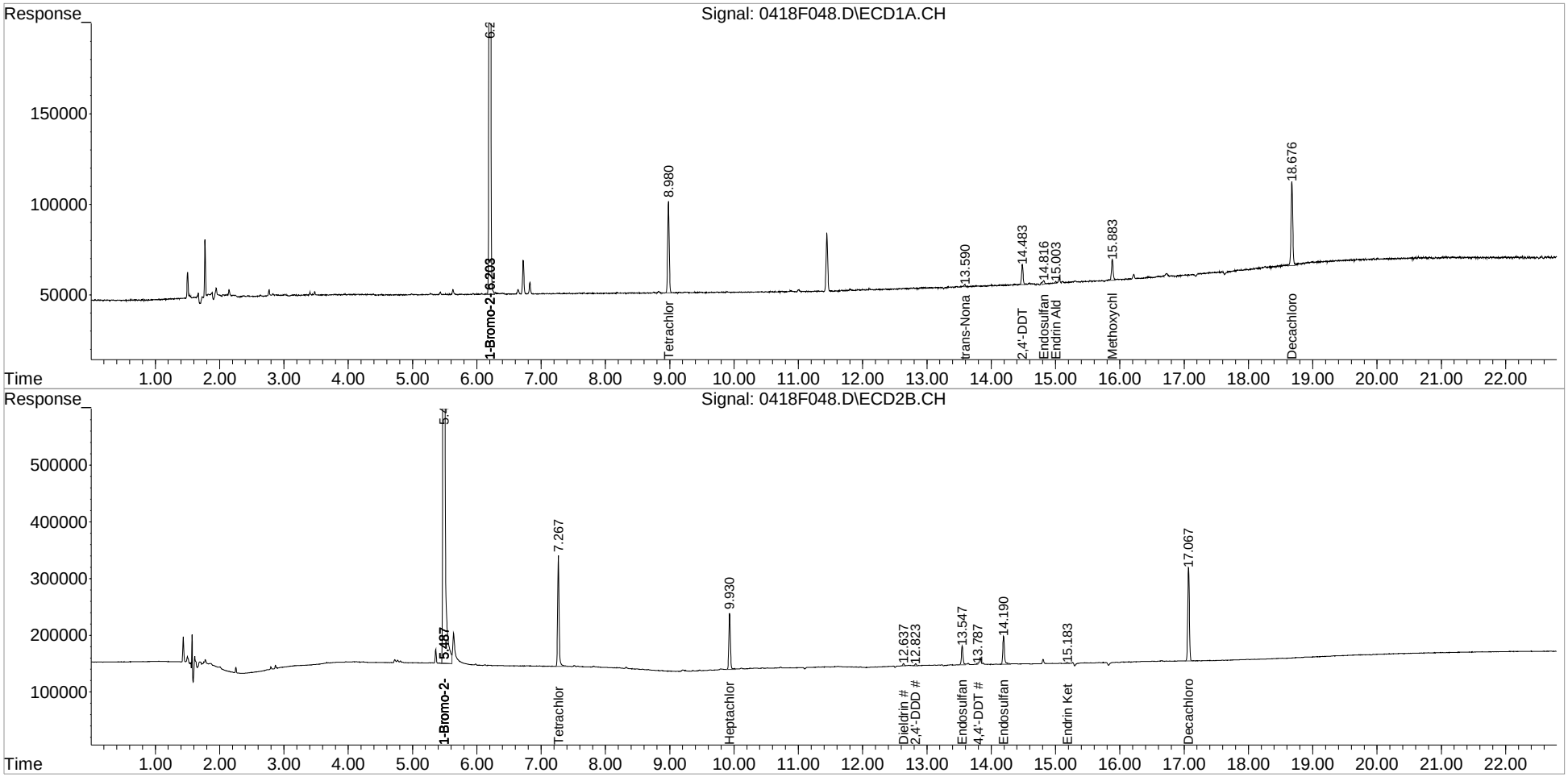
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F048.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:49 pm Operator: LM
Sample : K2002652-020 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:57:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



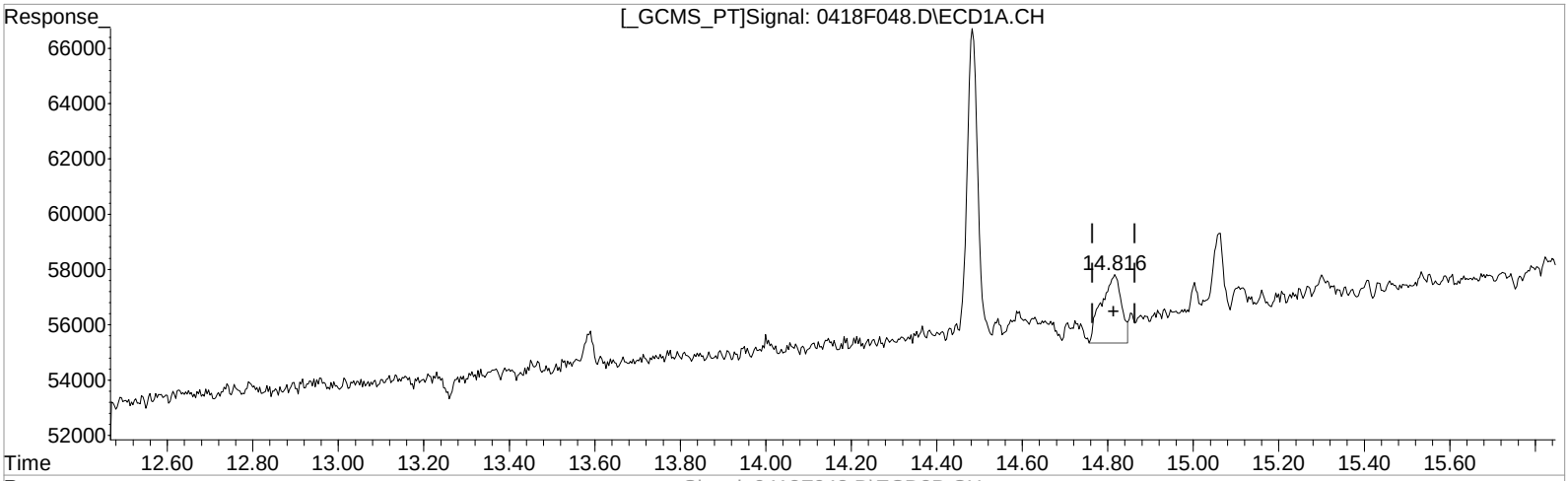
Quantitation Report (Qedit)

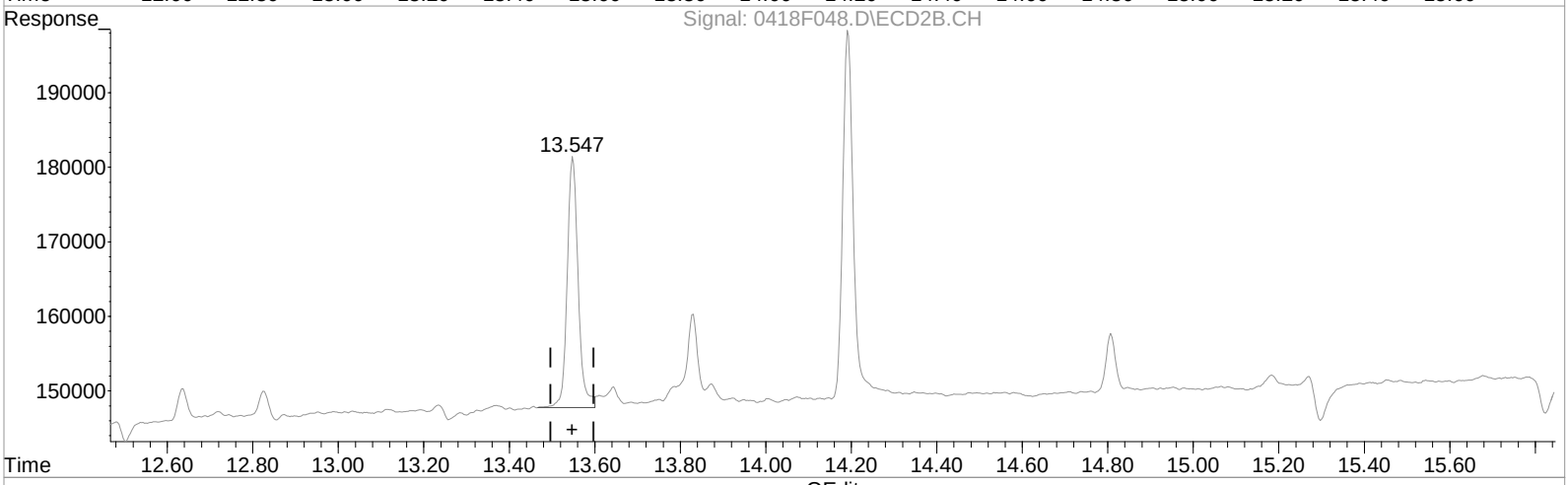
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F048.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:49 pm Operator: LM
Sample : K2002652-020 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:54:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.816min 0.485 ug/L

response 8056

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.547min 1.005 ug/L

response 59717

(+) = Expected Retention Time

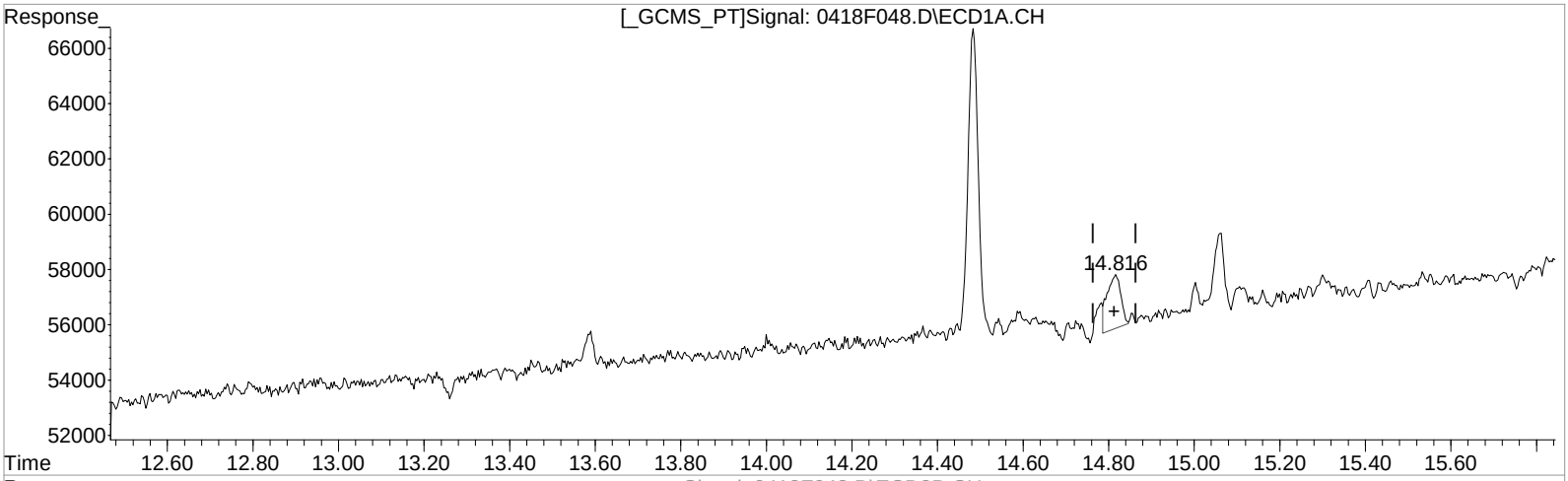
Quantitation Report (Qedit)

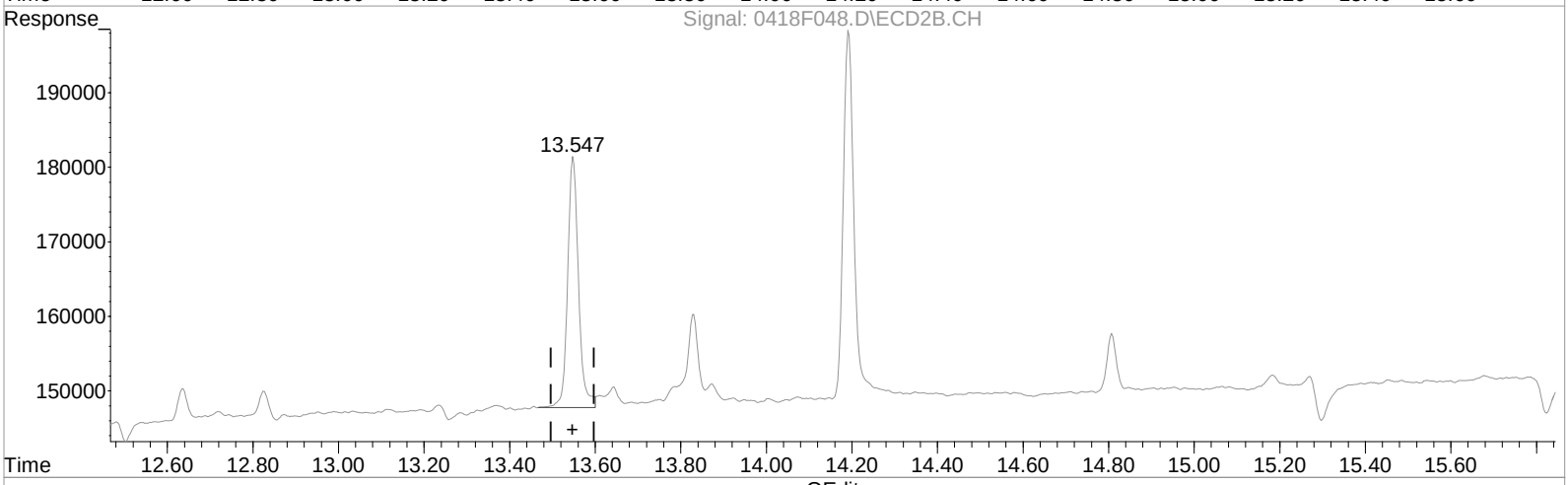
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F048.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:49 pm Operator: LM
Sample : K2002652-020 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:54:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(18) Endosulfan II

14.816min 0.261 ug/L m

response 4333

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.547min 1.005 ug/L

response 59717

(+) = Expected Retention Time

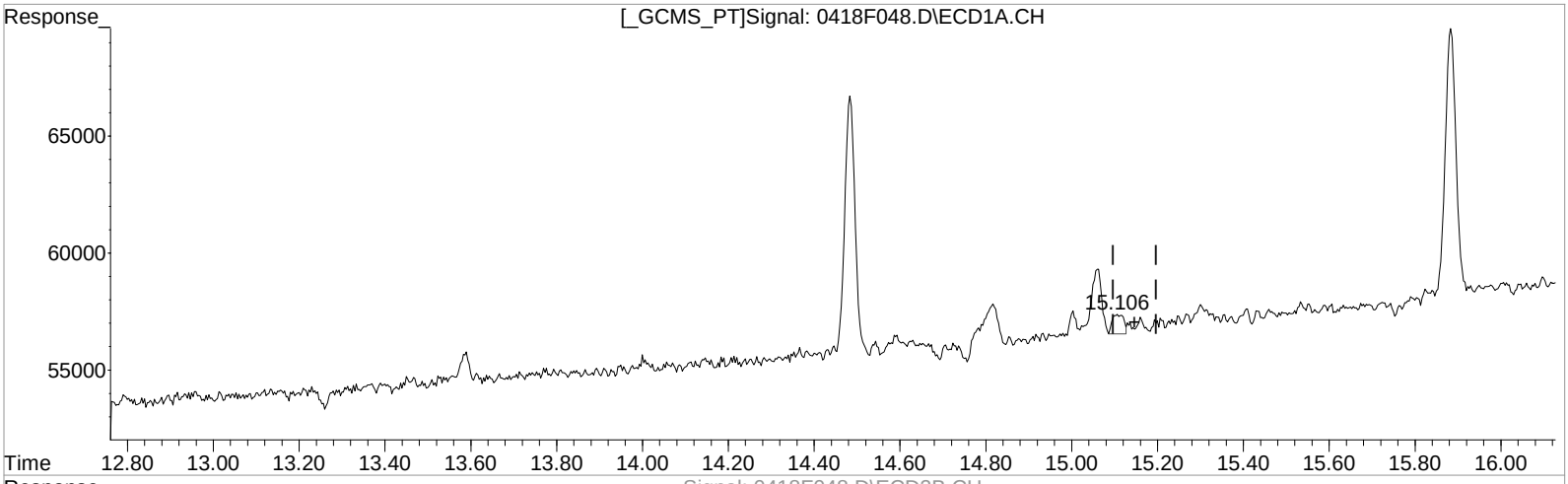
Quantitation Report (Qedit)

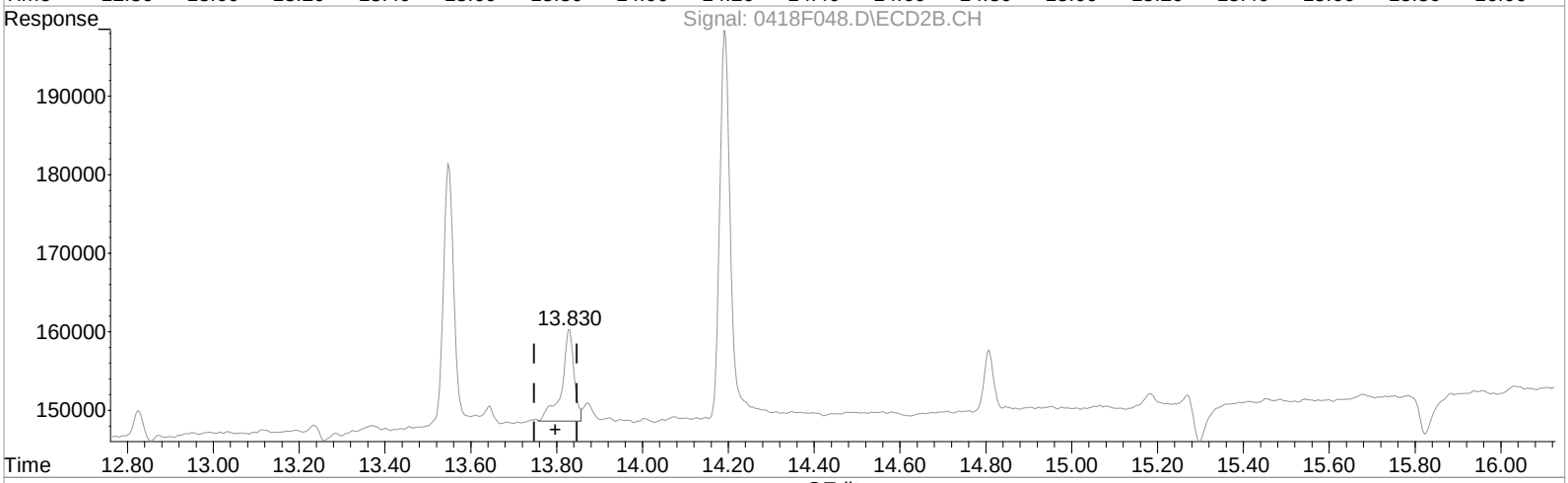
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F048.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:49 pm Operator: LM
Sample : K2002652-020 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:54:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.106min 0.114 ug/L

response 1553

Manual Integration:

Before

04/21/20

(22) 4,4'-DDT #2

13.830min 0.487 ug/L

response 23409

(+) = Expected Retention Time

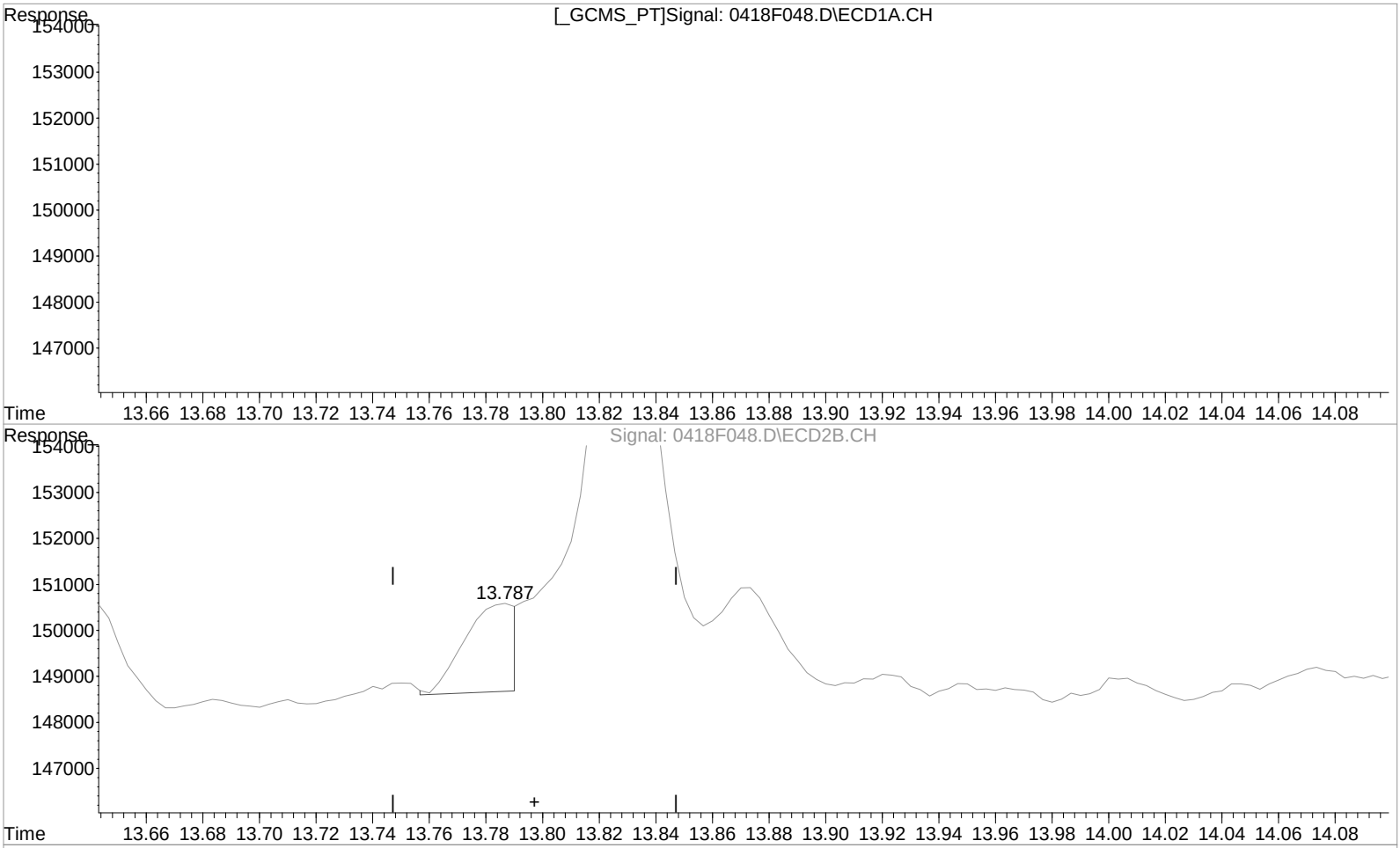
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F048.D Vial: 42
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 6:49 pm Operator: LM
Sample : K2002652-020 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:54:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

0.000min 0.000 ug/L d

response 0

Manual Integration:

After

WRT

04/21/20

(22) 4,4'-DDT #2

13.787min 0.050 ug/L m

response 2413

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F049.D\
Lab ID: K2002652-021
RunType: N/A
Matrix: Water

Date Acquired: 4/19/20 19:19:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Duplicate Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	Endosulfan I	13.58			CEND
	trans-Nonachlor	13.58			CEND
	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			/
	1-Bromo-2-nitrobenzene {3}	6.20			/
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	2,4'-DDT	13.23			CEND
	cis-Nonachlor	13.23			CEND
	1-Bromo-2-nitrobenzene	5.48			SA
	1-Bromo-2-nitrobenzene {2}	5.48			|
	1-Bromo-2-nitrobenzene {3}	5.48			|
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F049.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 19:19:00	**Vial:**	14
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-021	**Raw Units:**	ug/L

Bottle ID:	K2002652-021.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	K2002652
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1158855	5066256	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1158855	5066256	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1158855	5066256	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06 -0.01	46893	165686	2.274	2.029	45	41	41	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.26 -0.01	87065	322024	5.182	5.130	104	103	103	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	9.79 +0.01	0	4206	0.000	0.110	0U	0.55J	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	14.00	12.63 -0.01	1952	11264	0.102	0.151	0.51J	0.76J	**0.51** J	Y
Heptachlor	0.00	9.93	0	143719	0.000	1.811	0U	9.1	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F049.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 19:19:00	**Vial:**	14
Run Type:	N/A	**Dilution:**	1
Lab ID:	K2002652-021	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	3233	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F049.D Vial: 43
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:19 pm Operator: LM
Sample : K2002652-021 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 15:01:19 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.200	5.484	1158855	5066256	100.000	100.000	
29)	1-Bromo-2...	6.200	5.484	1158855	5066256	100.000	100.000	
36)	1-Bromo-2...	6.200	5.484	1158855	5066256	100.000	100.000	
43)	1-Bromo-2...	6.200	5.484	1158855	5066256	100.000	100.000	
	System Monitoring Compounds							
2) s	Tetrachlo...	8.977	7.264	87065	322024	5.182	5.130	
28) s	Decachlor...	18.674	17.064	46893	165686	2.274	2.029	
	Target Compounds							
5)	beta-BHC	0.000	9.787	0	4206	N.D.	0.110	#
8)	Heptachlor	0.000	9.931	0	143719	N.D.	1.811	#
13)	Endosulfan I	13.577	0.000	2315	0	0.130	N.D.	#
15)	Dieldrin	14.004	12.634	1952	11264	0.102	0.151	#
18)	Endosulfa...	14.810	13.544	4762	19175	0.269	0.300	
22)	4,4'-DDT	15.107f	13.827f	1723	18796	0.119	0.364	#
23)	Endrin Ke...	0.000	15.177	0	4714	N.D.	0.062	#
24)	Methoxychlor	15.880	0.000	8700	0	0.987	N.D.	#
26)	2,4'-DDD	0.000	12.824	0	3808	N.D.	0.094	#
27)	2,4'-DDT	14.484f	13.234	3957	4676	0.315	0.106	#
44)	Chlorpyrifos	12.104	0.000	2171	0	0.203	N.D.	#
46)	cis-Nonac...	0.000	13.234	0	4676	N.D. d	0.063	
47)	trans-Non...	13.577	0.000	2315	0	0.119	N.D.	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

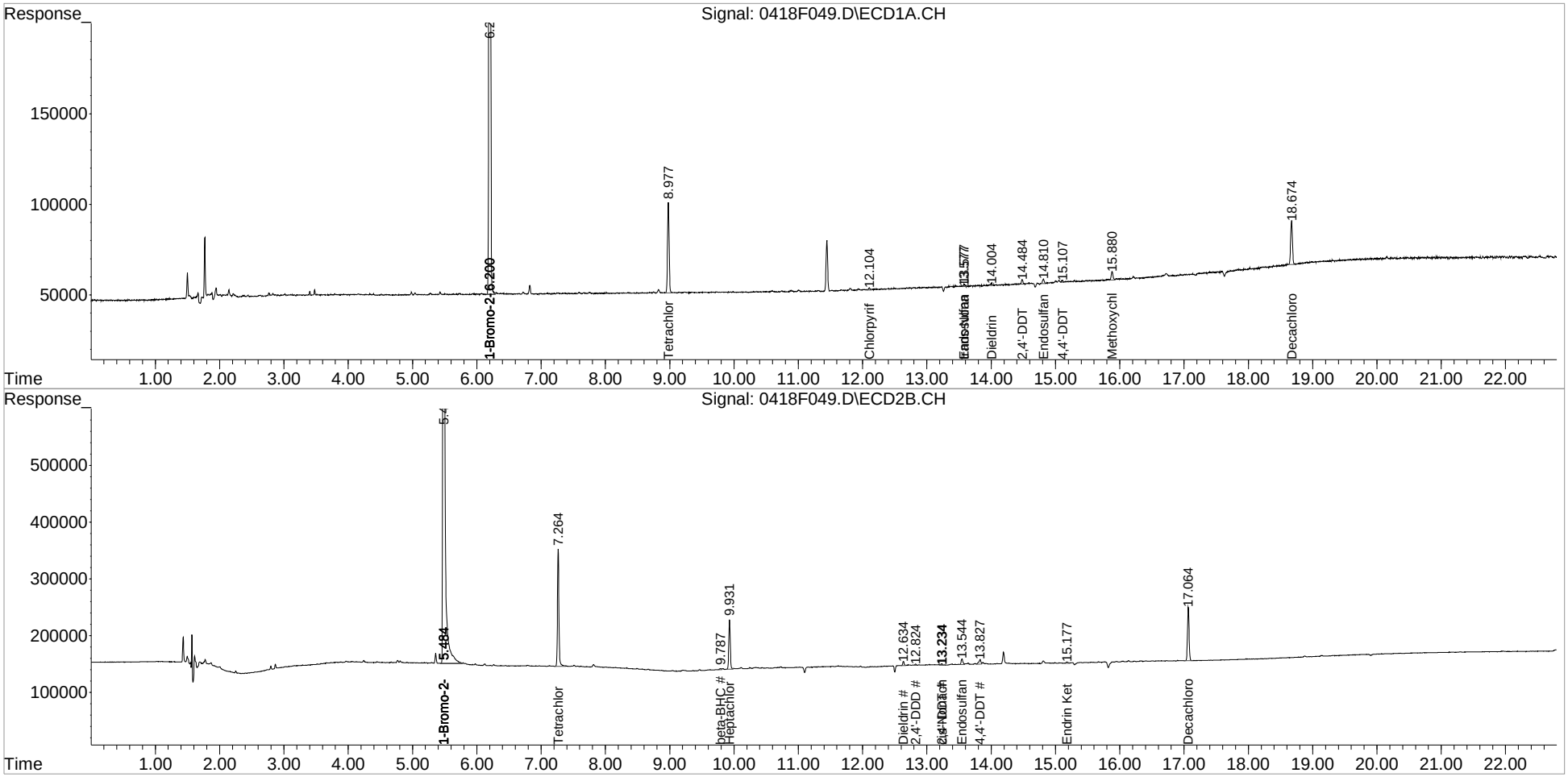
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F049.D Vial: 43
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:19 pm Operator: LM
Sample : K2002652-021 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 15:01:19 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



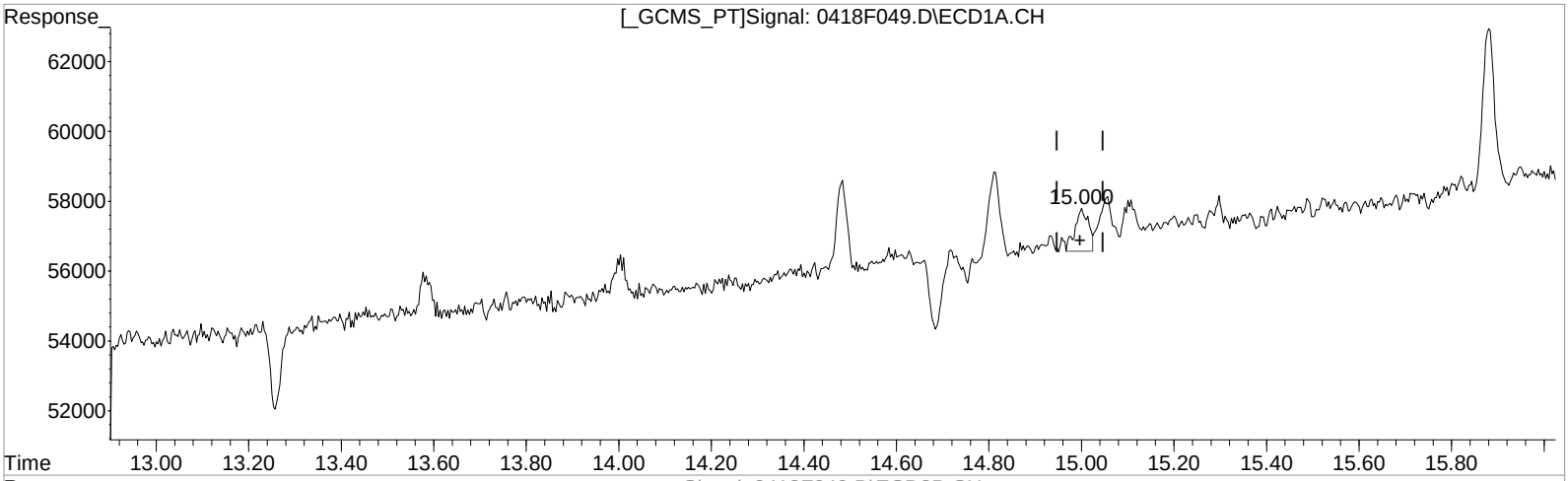
Quantitation Report (Qedit)

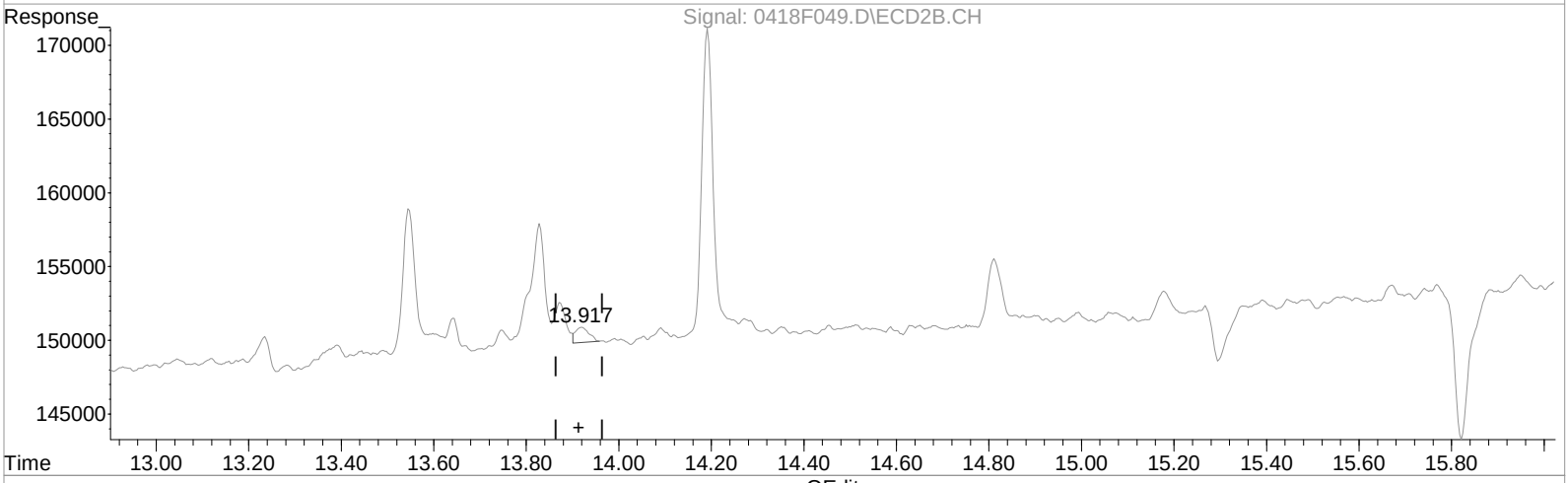
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F049.D Vial: 43
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 7:19 pm Operator: LM
Sample : K2002652-021 Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 14:57:50 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

15.000min 0.164 ug/L

response 2511

Manual Integration:

Before

04/21/20

(20) Endrin Aldehyde #2

13.917min 0.039 ug/L

response 2069

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F012.D\
Lab ID: KQ2004496-07
RunType: MB
Matrix: Water

Date Acquired: 4/19/20 01:02:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F012.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 01:02:00	**Vial:**	20
Run Type:	MB	**Dilution:**	1
Lab ID:	KQ2004496-07	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	KQ2004496
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.48	-0.0 c	1085481	4582524	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.48	-0.0 c	1085481	4582524	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.48	c	1085481	4582524	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06		74787	256264	3.872	3.469	77	69	69	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.26	-0.01	79079	283553	5.025	4.994	101	100	100	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	9.78	0	5389	0.000	0.156	0U	0.78J	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00	9.93	0	99817	0.000	1.390	0U	7.0	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F012.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 01:02:00	**Vial:**	20
Run Type:	MB	**Dilution:**	1
Lab ID:	KQ2004496-07	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	1583	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	1583	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F012.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:02 am Operator: LM
Sample : KQ2004496-07 MB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:00:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.201	5.485	1085481	4582524	100.000	100.000	
29)	1-Bromo-2...	6.201	5.485	1085481	4582524	100.000	100.000	
36)	1-Bromo-2...	6.201	5.485	1085481	4582524	100.000	100.000	
43)	1-Bromo-2...	6.201	5.485	1085481	4582524	100.000	100.000	
	System Monitoring Compounds							
2) s	Tetrachlo...	8.978	7.265	79079	283553	5.025	4.994	
28) s	Decachlor...	18.671	17.065	74787	256264	3.872	3.469	
	Target Compounds							
5)	beta-BHC	0.000	9.785	0	5389	N.D.	0.156	#
8)	Heptachlor	0.000	9.928	0	99817	N.D. d	1.390	
18)	Endosulfa...	14.811	13.545	2243	44623	0.135m	0.771	#
22)	4,4'-DDT	0.000	13.828f	0	16287	N.D.	0.348	#
24)	Methoxychlor	15.881	0.000	19368	0	2.347	N.D.	#
26)	2,4'-DDD	0.000	12.825	0	5040	N.D.	0.137	#
27)	2,4'-DDT	14.481f	0.000	15326	0	1.303	N.D. d	#
44)	Chlorpyrifos	12.101	0.000	3930	0	0.393	N.D.	#
52)	Perthane	0.000	12.875	0	2282	N.D.	1.359	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

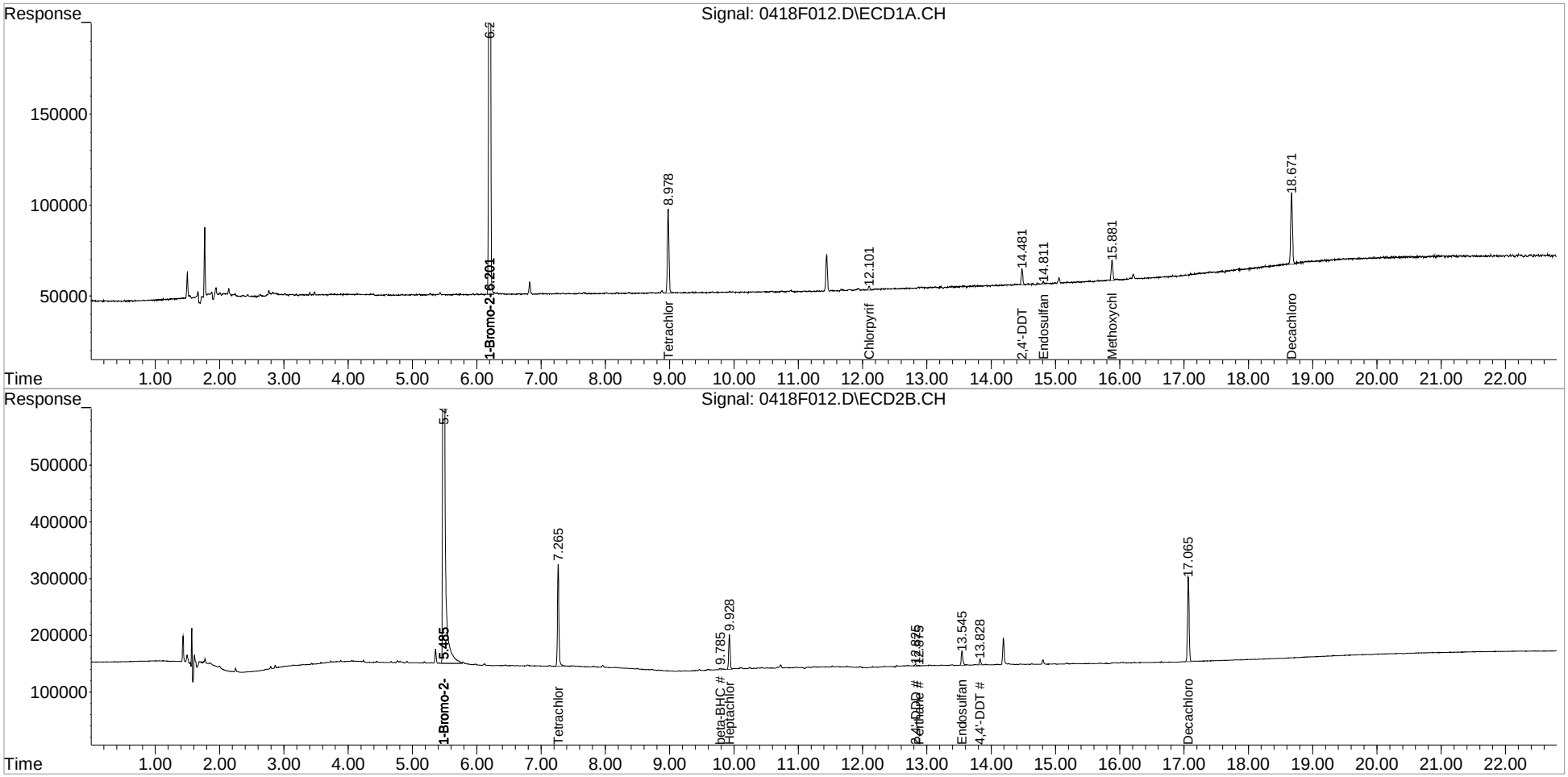
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F012.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:02 am Operator: LM
Sample : KQ2004496-07 MB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:00:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



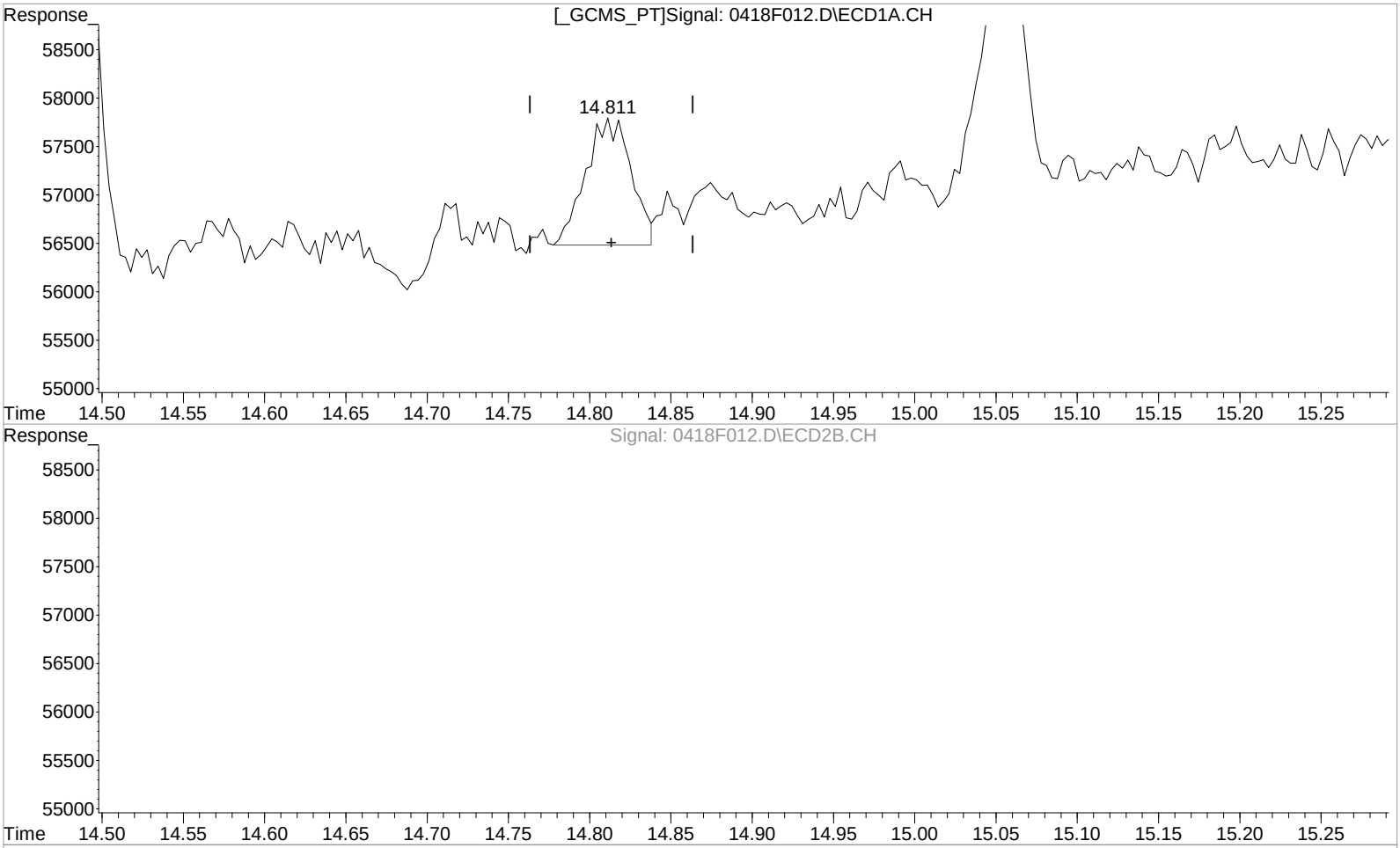
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F012.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:02 am Operator: LM
Sample : KQ2004496-07 MB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 08:57:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(18) Endosulfan II

14.811min 0.153 ug/L

response 2532

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.545min 0.771 ug/L

response 44623

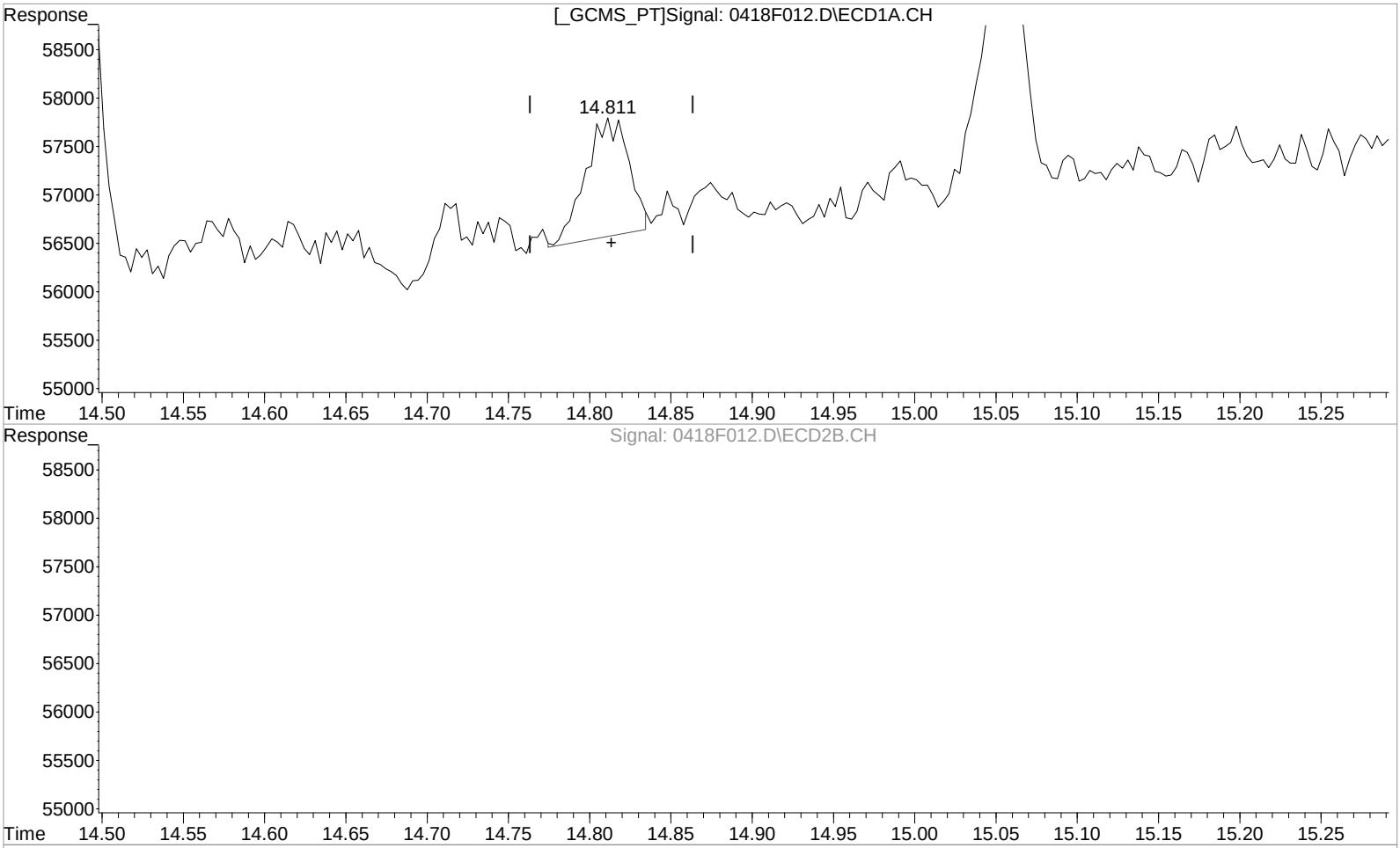
(+) = Expected Retention Time

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F012.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:02 am Operator: LM
Sample : KQ2004496-07 MB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 08:57:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(18) Endosulfan II

14.811min 0.135 ug/L m

response 2243

Manual Integration:

After

Baseline correction

04/21/20

(18) Endosulfan II #2

13.545min 0.771 ug/L

response 44623

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F034.D\
Lab ID: KQ2004497-05
RunType: MB
Matrix: Water

Date Acquired: 4/19/20 11:54:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F034.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 11:54:00	**Vial:**	19
Run Type:	MB	**Dilution:**	1
Lab ID:	KQ2004497-05	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	KQ2004497
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.48	-0.0 c	1125911	4913231	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.48	-0.0 c	1125911	4913231	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.48	c	1125911	4913231	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07	78017	269215	3.894	3.399	78	68	68	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.27	78599	283672	4.815	4.659	96	93	93	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00	9.93	0	171785	0.000	2.232	0U	11	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F034.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 11:54:00	**Vial:**	19
Run Type:	MB	**Dilution:**	1
Lab ID:	KQ2004497-05	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F034.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 11:54 am Operator: LM
Sample : KQ2004497-05 MB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:36:52 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.199	5.483	1125911	4913231	100.000	100.000
29)	1-Bromo-2...	6.199	5.483	1125911	4913231	100.000	100.000
36)	1-Bromo-2...	6.199	5.483	1125911	4913231	100.000	100.000
43)	1-Bromo-2...	6.199	5.483	1125911	4913231	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.975	7.266	78599	283672	4.815	4.659
28) s	Decachlor...	18.669	17.066	78017	269215	3.894	3.399
	Target Compounds						
8)	Heptachlor	0.000	9.929	0	171785	N.D.	2.232 #
18)	Endosulfa...	14.809	0.000	2761	0	0.161	N.D. d#
22)	4,4'-DDT	0.000	13.826f	0	8246	N.D.	0.164 #
44)	Chlorpyrifos	12.105	0.000	1288	0	0.124	N.D. #
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

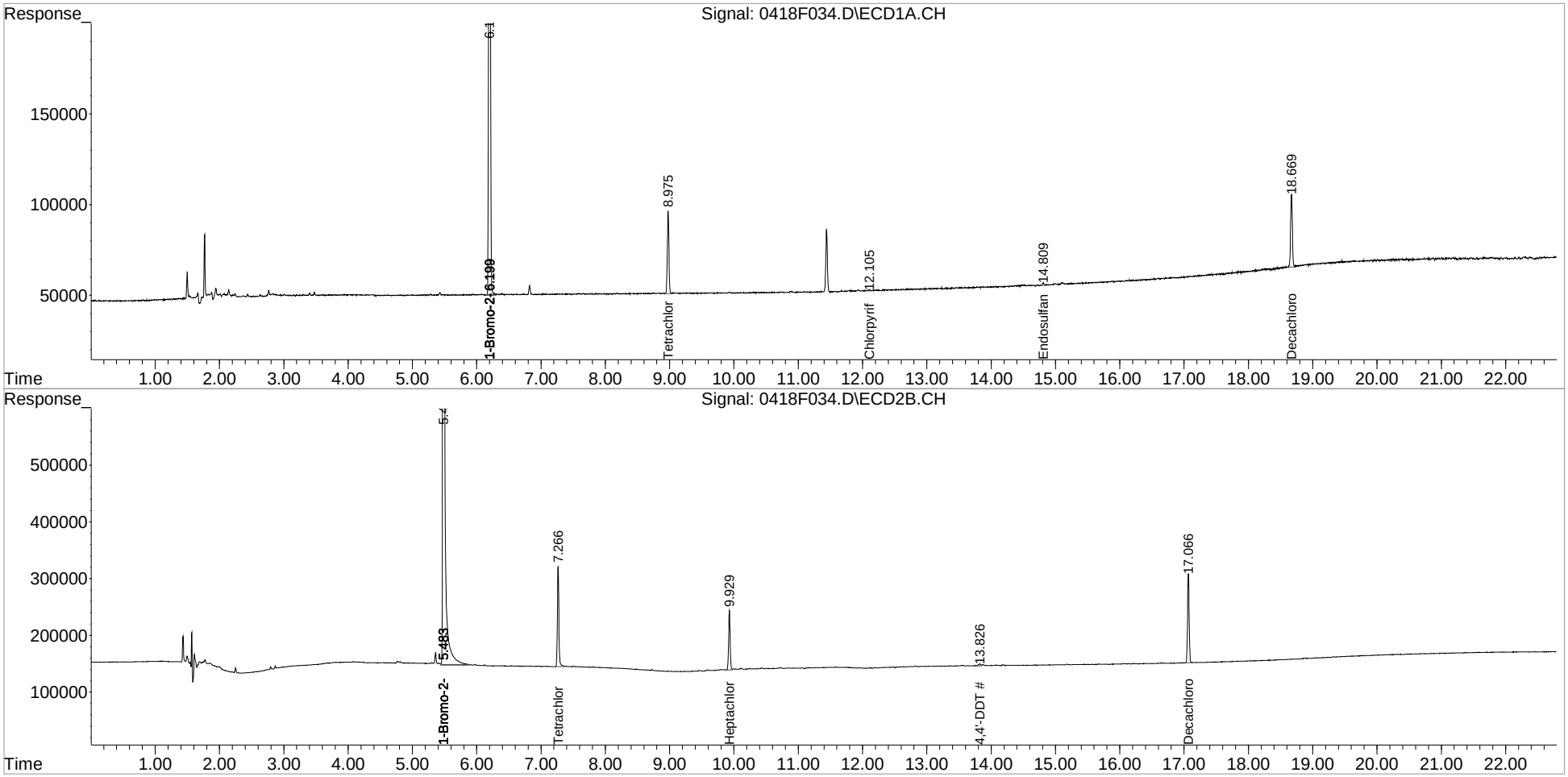
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F034.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 11:54 am Operator: LM
Sample : KQ2004497-05 MB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:36:52 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F013.D\
Lab ID: KQ2004496-03
RunType: LCS
Matrix: Water

Date Acquired: 4/19/20 01:32:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F013.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 01:32:00	**Vial:**	16
Run Type:	LCS	**Dilution:**	1
Lab ID:	KQ2004496-03	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	KQ2004496
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.48	-0.0 c	1107275	4685512	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.48	-0.0 c	1107275	4685512	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.48	c	1107275	4685512	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06		74194	256039	3.766	3.390	75	68	68	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.26	-0.01	75929	270950	4.730	4.667	95	93	93	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	12.21	10.52	88905	351444	5.009	4.759	25.0	23.8	**23.8**	Y
alpha-BHC	9.82	8.50	90095	355592	4.878	4.789	24.4	23.9	**23.9**	Y
beta-BHC	11.08	9.78	39976	152248	4.049	4.323	20.2	21.6	**20.2**	Y
gamma-BHC (Lindane)	10.49	9.24	87158	339910	4.884	4.703	24.4	23.5	**23.5**	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	14.00	12.63	84220	315277	4.610	4.581	23.1	22.9	**22.9**	Y
Heptachlor	11.69	9.93	96471	522005	5.031	7.111	25.2	35.6	**25.2**	Y
Heptachlor Epoxide	12.93	11.60	85733	319029	4.593	4.406	23.0	22.0	**22.0**	Y
Hexachlorobenzene	9.98	8.28	102247	349109	4.676	4.681	23.4	23.4	**23.4**	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F013.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 01:32:00	**Vial:**	16
Run Type:	LCS	**Dilution:**	1
Lab ID:	KQ2004496-03	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F013.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:32 am Operator: LM
Sample : KQ2004496-03 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:02:58 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.200	5.484	1107275	4685512	100.000	100.000
29)	1-Bromo-2...	6.200	5.484	1107275	4685512	100.000	100.000
36)	1-Bromo-2...	6.200	5.484	1107275	4685512	100.000	100.000
43)	1-Bromo-2...	6.200	5.484	1107275	4685512	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.976	7.263	75929	270950	4.730	4.667
28) s	Decachlor...	18.670	17.064	74194	256039	3.766	3.390
	Target Compounds						
3)	alpha-BHC	9.820	8.497	90095	355592	4.878	4.789
4)	Hexachlor...	9.983	8.280	102247	349109	4.676	4.681m
5)	beta-BHC	11.076	9.777	39976	152248	4.049	4.323
6)	gamma-BHC...	10.490	9.243	87158	339910	4.884	4.703
7)	delta-BHC	11.583	10.307	78003	304870	4.321	4.314
8)	Heptachlor	11.686	9.927	96471	522005	5.031	7.111 #
9)	Aldrin	12.213	10.517	88905	351444	5.009	4.759
10)	Isodrin	12.743	11.313	82970	324141	5.448	5.245
11)	Heptachlo...	12.933	11.597	85733	319029	4.593	4.406
12)	gamma-Chl...	13.453	11.974	89711	335736	4.806	4.796
13)	Endosulfan I	13.580	12.187	82122	296587	4.823	4.703
14)	alpha-Chl...	13.530	12.124	91413	335579	4.920	4.733
15)	Dieldrin	14.000	12.634	84220	315277	4.610	4.581
16)	4,4'-DDE	13.803	12.483	83091	315276	4.860	4.758
17)	Endrin	14.370	13.114	83287	316112	4.995	4.826
18)	Endosulfa...	14.813	13.550	84397	303549	4.996	5.129
19)	4,4'-DDD	14.640	13.374	69284	263275	5.243	5.308
20)	Endrin Al...	14.993	13.917	65340	225854	4.462	4.608
21)	Endosulfa...	15.466	14.237	83500	277031	4.851	4.747
22)	4,4'-DDT	15.143	13.797	66226	284718	4.770	5.954
23)	Endrin Ke...	16.156	15.187	87434	331286	4.734	4.745
24)	Methoxychlor	15.890	14.907	46964	164029	5.578	6.180

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

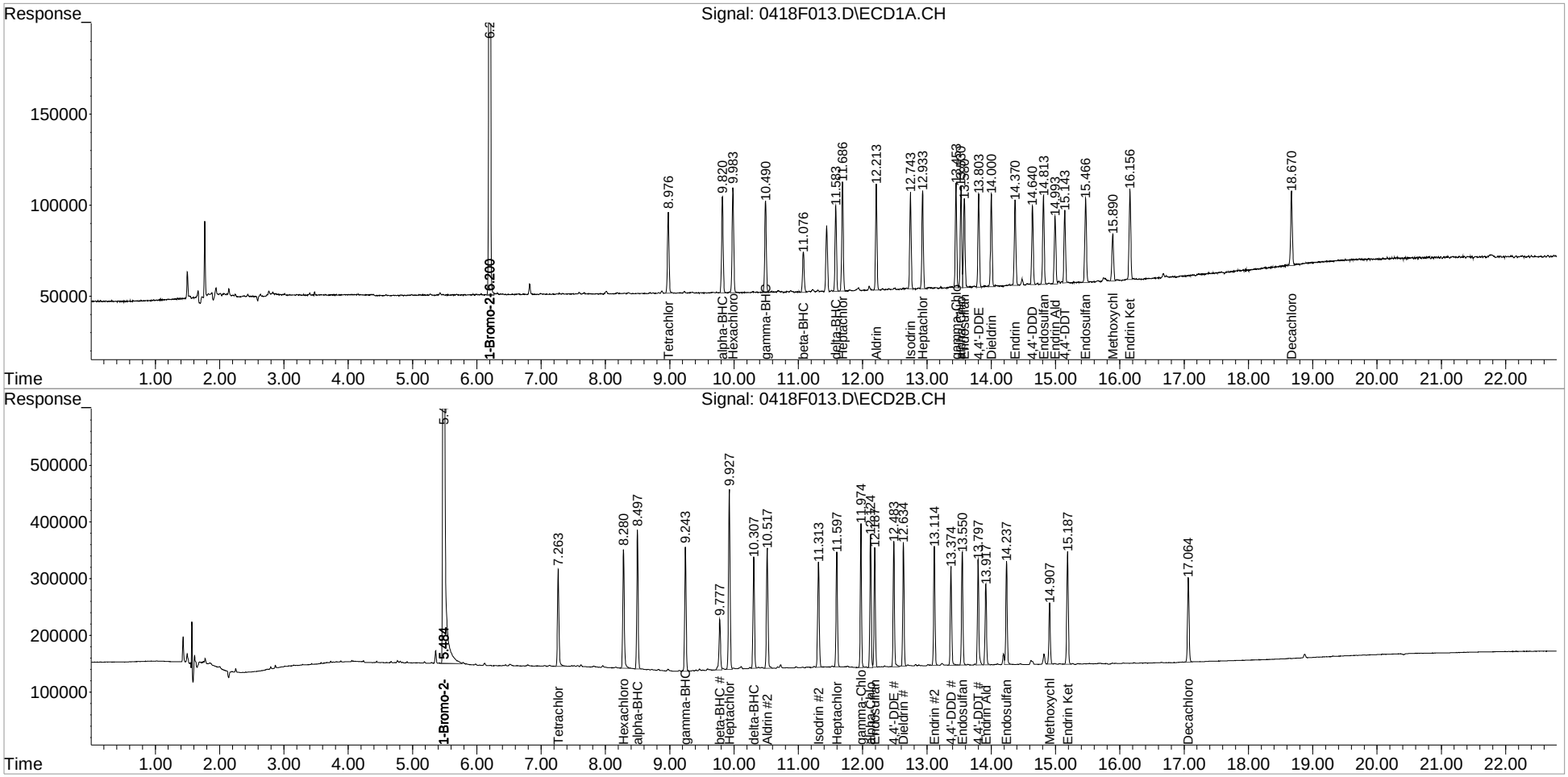
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F013.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:32 am Operator: LM
Sample : KQ2004496-03 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:02:58 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



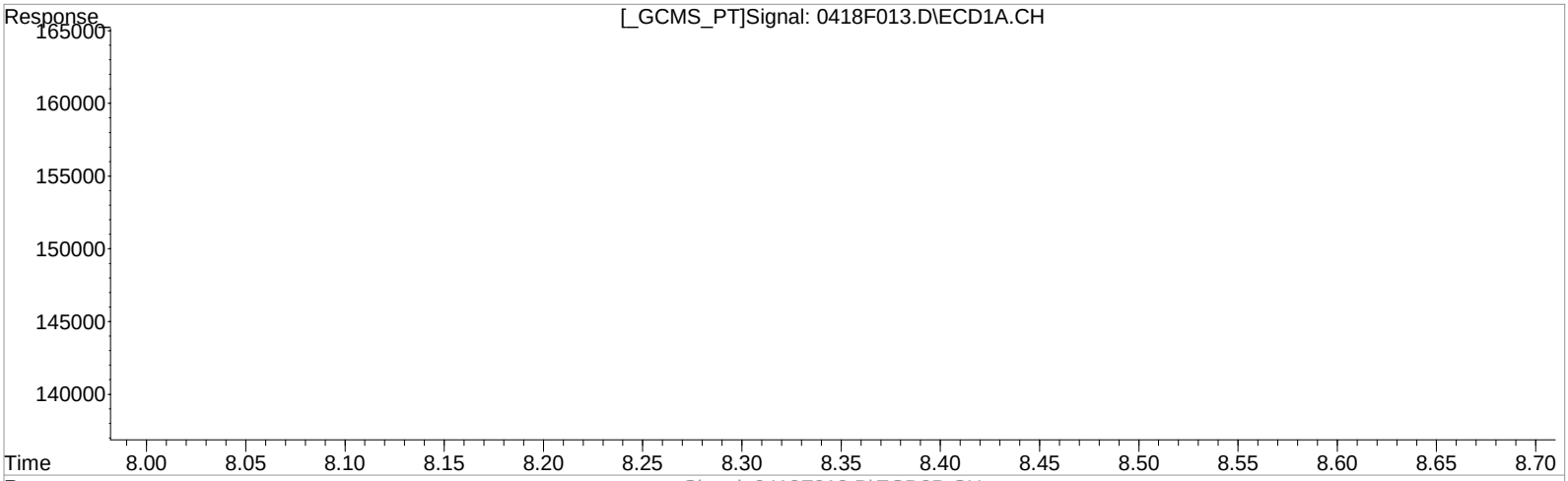
Quantitation Report (Qedit)

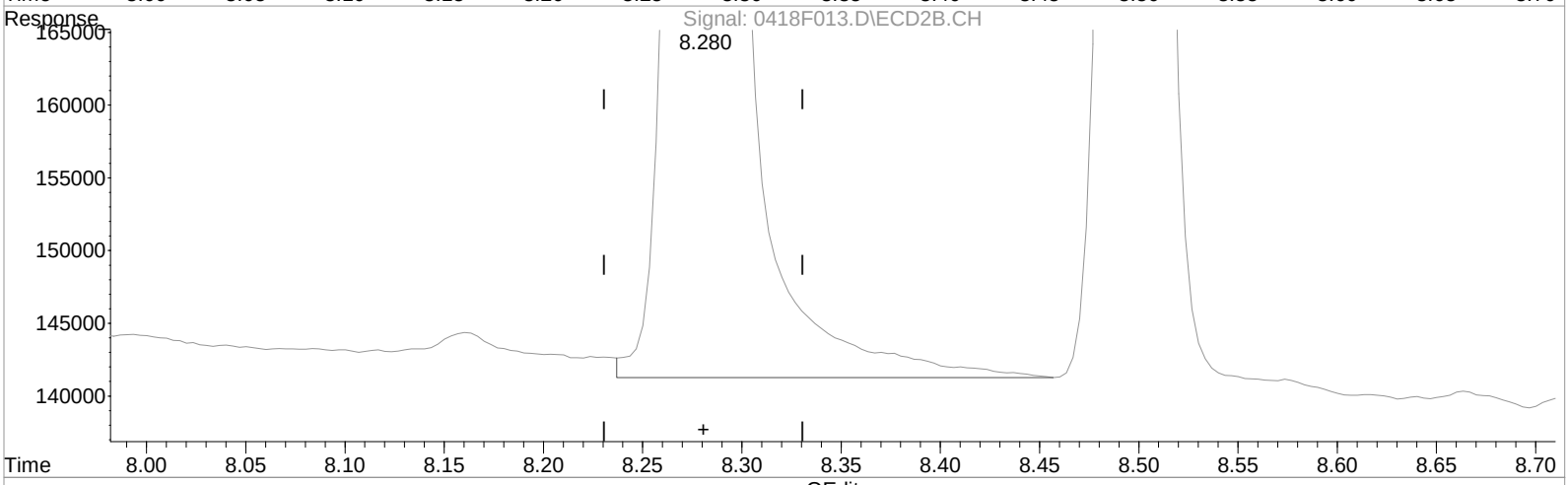
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F013.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:32 am Operator: LM
Sample : KQ2004496-03 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:00:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(4) Hexachlorobenzene

9.983min 4.676 ug/L

response 102247

Manual Integration:

Before

04/21/20

(4) Hexachlorobenzene #2

8.280min 4.822 ug/L

response 359685

(+) = Expected Retention Time

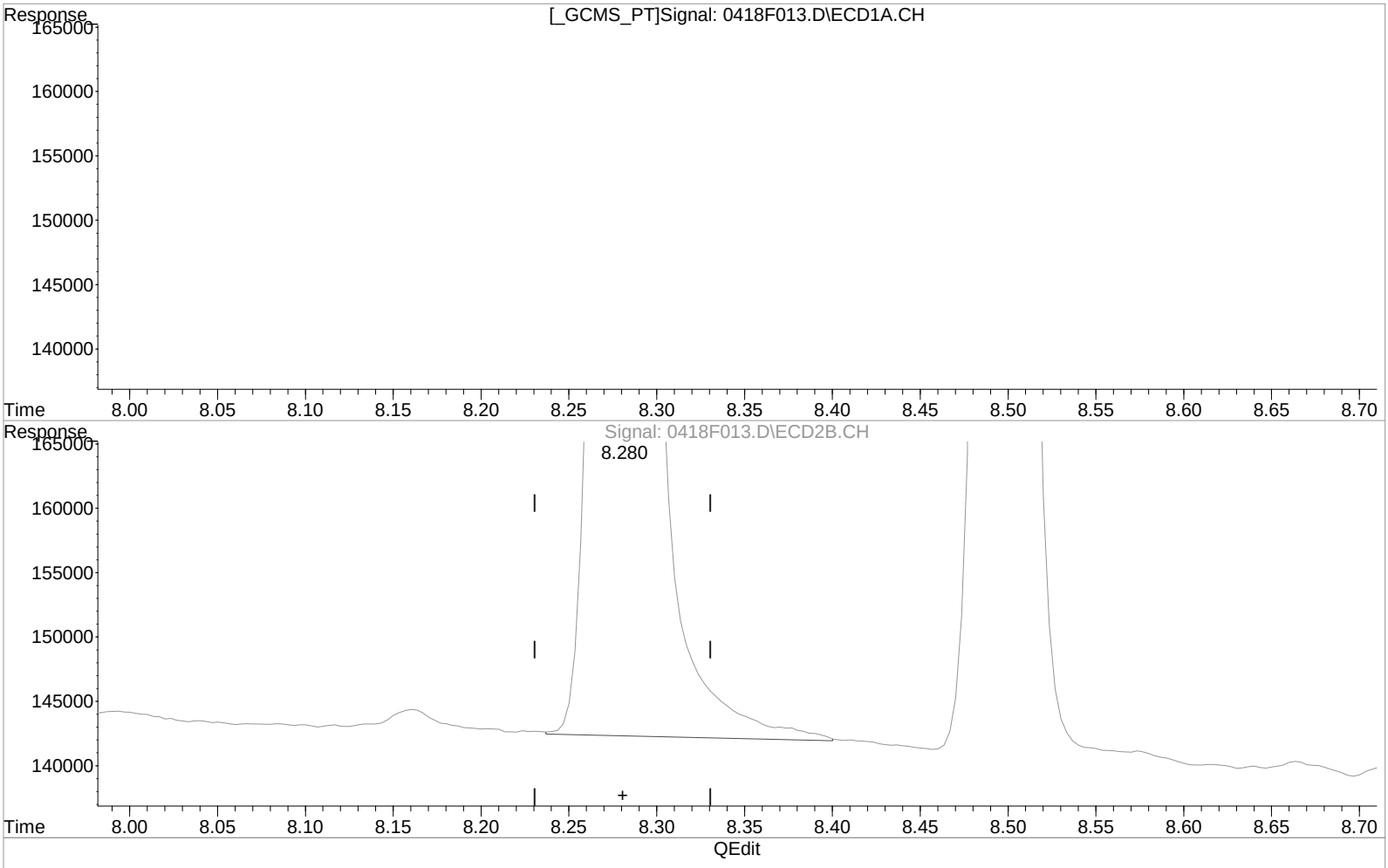
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F013.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:32 am Operator: LM
Sample : KQ2004496-03 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:00:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(4) Hexachlorobenzene

9.983min 4.676 ug/L

response 102247

Manual Integration:

After

Baseline correction

04/21/20

(4) Hexachlorobenzene #2

8.280min 4.681 ug/L m

response 349109

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F016.D\
Lab ID: KQ2004496-06
RunType: LCS
Matrix: Water

Date Acquired: 4/19/20 03:00:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F016.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 03:00:00	**Vial:**	19
Run Type:	LCS	**Dilution:**	1
Lab ID:	KQ2004496-06	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	KQ2004496
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1134996	4868111	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1134996	4868111	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1134996	4868111	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07 +0.01	83430	287578	4.131	3.664	83	73	73	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.27	77484	276924	4.709	4.591	94	92	92	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					3333333333	3333333333	476	469	**469**	Y
Chlordane {1}	11.27	9.57	57431	194493	74.225	73.190	371	366		
Chlordane {2}	11.69	11.66	70323	175841	71.751	97.028	359	485		
Chlordane {3}	12.26 +0.01	11.82 +0.01	91480	151881	130.057	126.242	650	631		
Chlordane {4}	13.46 +0.01	11.97	212167	627976	99.368	86.183	497	431		
Chlordane {5}	13.53	12.02	168334	404821	95.314	90.736	477	454		
Chlordane {6}	13.61	12.12	129618	579677	99.977	89.735	500	449		
Dieldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00	0.00	0	0	0.000	0.000	0U	0U	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					250.0835	246.0884	1250	1230	**1230**	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F016.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 03:00:00	**Vial:**	19
Run Type:	LCS	**Dilution:**	1
Lab ID:	KQ2004496-06	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.75	13.39	46434	277334	248.990	256.381	1240	1280		
Toxaphene {2}	14.81	13.45 -0.01	45336	182131	268.764	218.842	1340	1090		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	15.00	13.66 -0.01	54173	90518	239.651	251.215	1200	1260		
Toxaphene {5}	15.34 -0.01	13.93	52326	129942	242.929	223.007	1210	1120		
Toxaphene {6}	0.00	15.43	0	88694	0.000	280.997	0	1400		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F016.D Vial: 10
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:00 am Operator: LM
Sample : KQ2004496-06 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:13:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.199	5.483	1134996	4868111	100.000	100.000	
29)	1-Bromo-2...	6.199	5.483	1134996	4868111	100.000	100.000	
36)	1-Bromo-2...	6.199	5.483	1134996	4868111	100.000	100.000	
43)	1-Bromo-2...	6.199	5.483	1134996	4868111	100.000	100.000	
	System Monitoring Compounds							
2) s	Tetrachlo...	8.975	7.266	77484	276924	4.709	4.591	
28) s	Decachlor...	18.672	17.066	83430	287578	4.131	3.664	
	Target Compounds							
30)	Toxaphene	14.745	13.386	46434	277334	248.990	256.381	
31)	Toxaphene...	14.805	13.453	45336	182131	268.764m	218.842m	
33)	Toxaphene...	14.995	13.663	54173	90518	239.651	251.215	
34)	Toxaphene...	15.342	13.929	52326	129942	242.929	223.007m	
35)	Toxaphene...	0.000	15.429	0	88694	N.D. d	280.997	
37)	Chlordane	11.272	9.566	57431	194493	74.225	73.190	
38)	Chlordane...	11.689	11.663	70323	175841	71.751	97.028	#
39)	Chlordane...	12.255	11.816	91480	151881	130.057	126.242	
40)	Chlordane...	13.455	11.973	212167	627976	99.368	86.183	
41)	Chlordane...	13.532	12.016	168334	404821	95.314	90.736	
42)	Chlordane...	13.612	12.123	129618	579677	99.977	89.735	

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

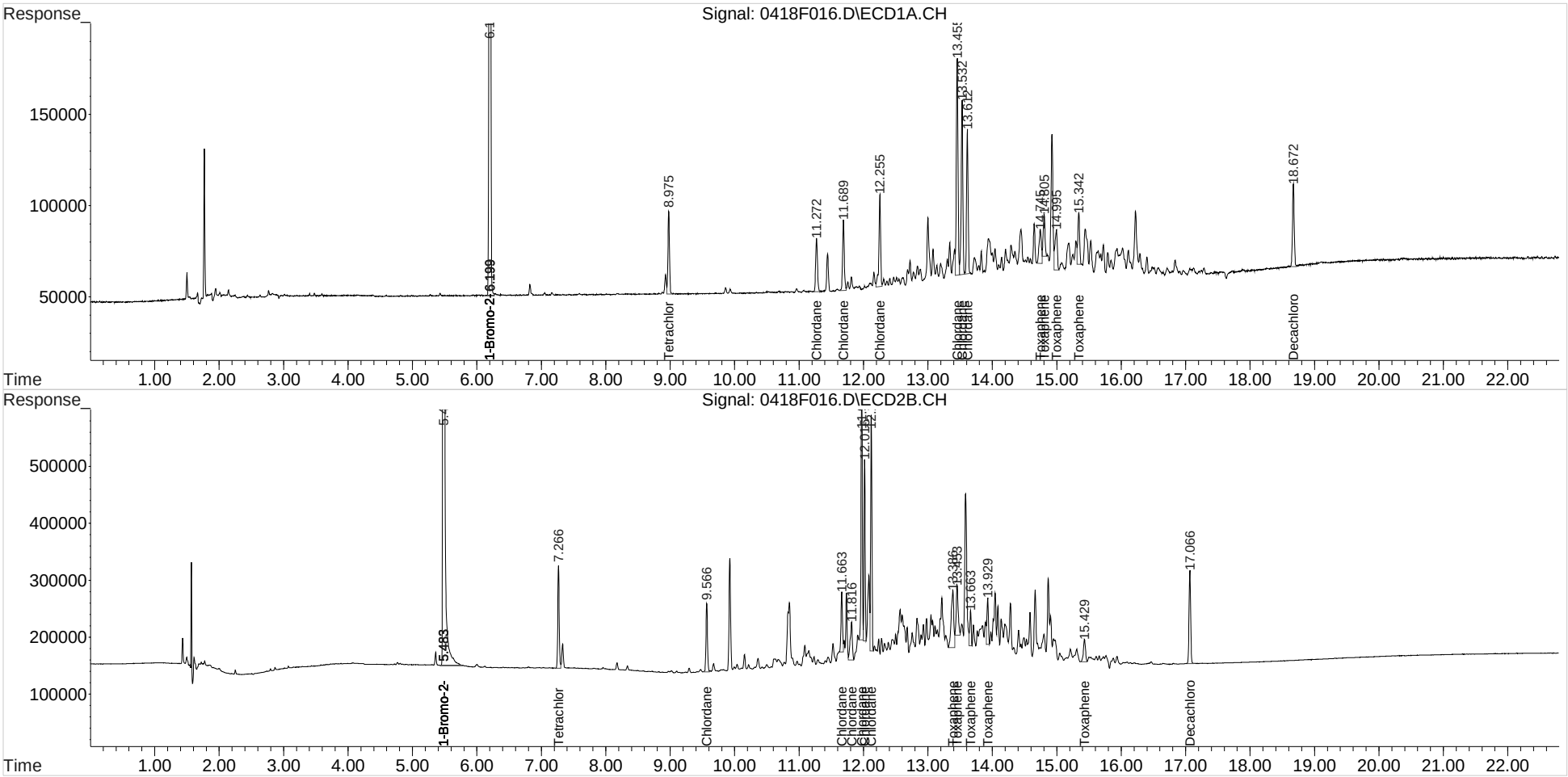
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F016.D Vial: 10
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:00 am Operator: LM
Sample : KQ2004496-06 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:13:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



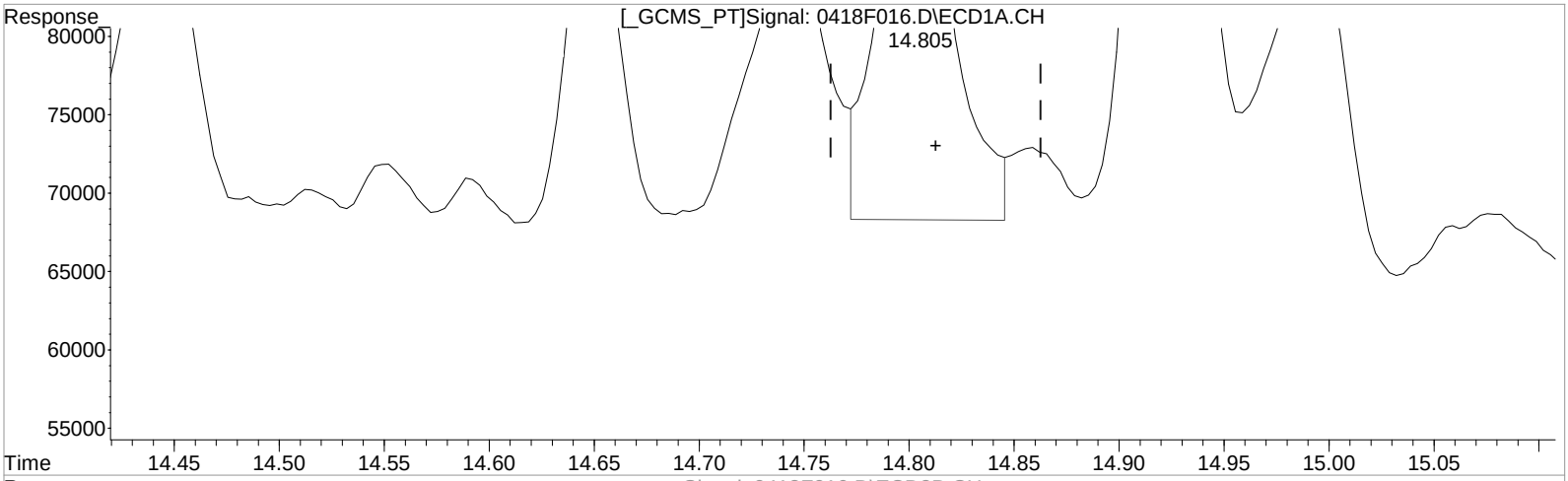
Quantitation Report (Qedit)

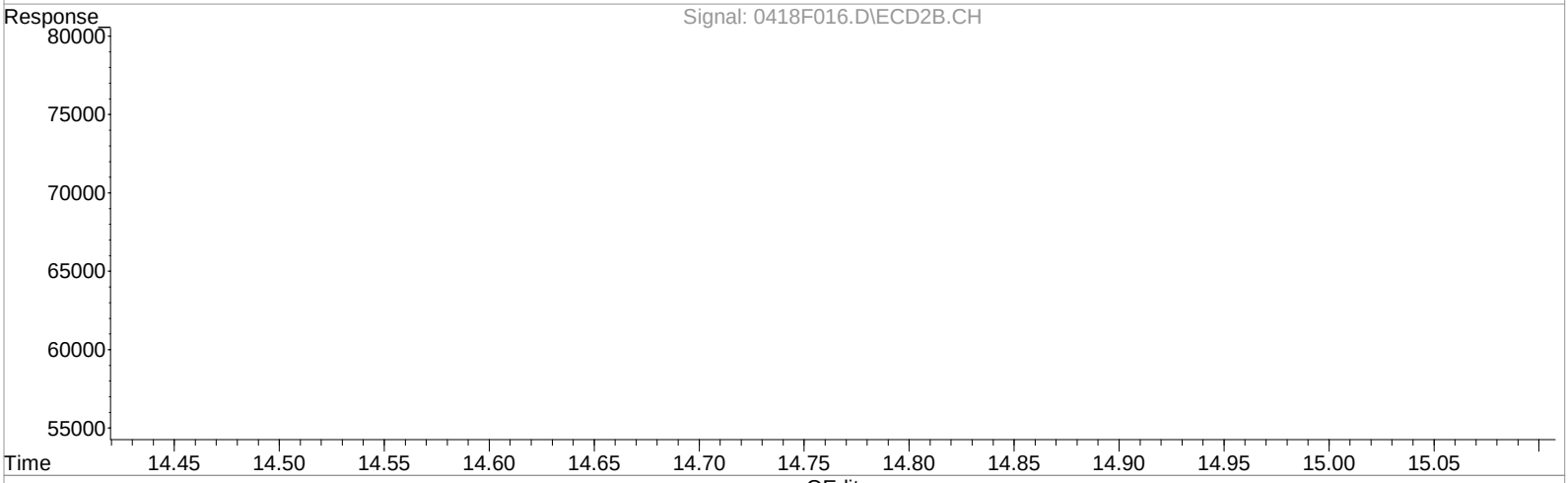
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F016.D Vial: 10
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:00 am Operator: LM
Sample : KQ2004496-06 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:18:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.805min 372.253 ug/L

response 62793

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.453min 233.394 ug/L

response 194242

(+) = Expected Retention Time

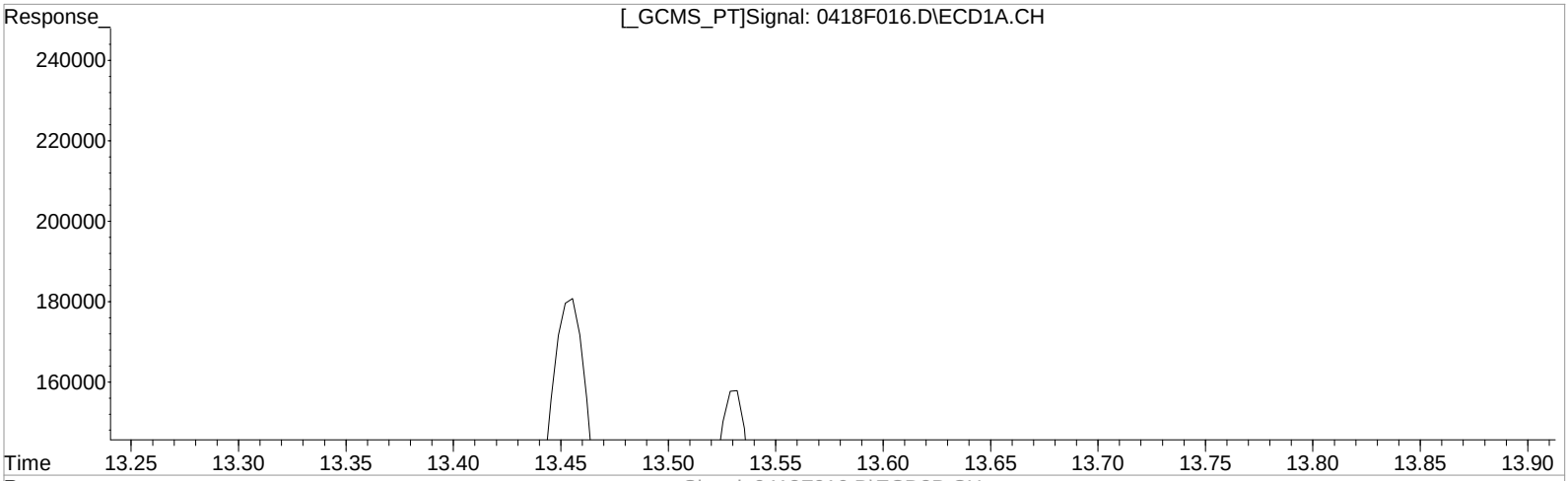
Quantitation Report (Qedit)

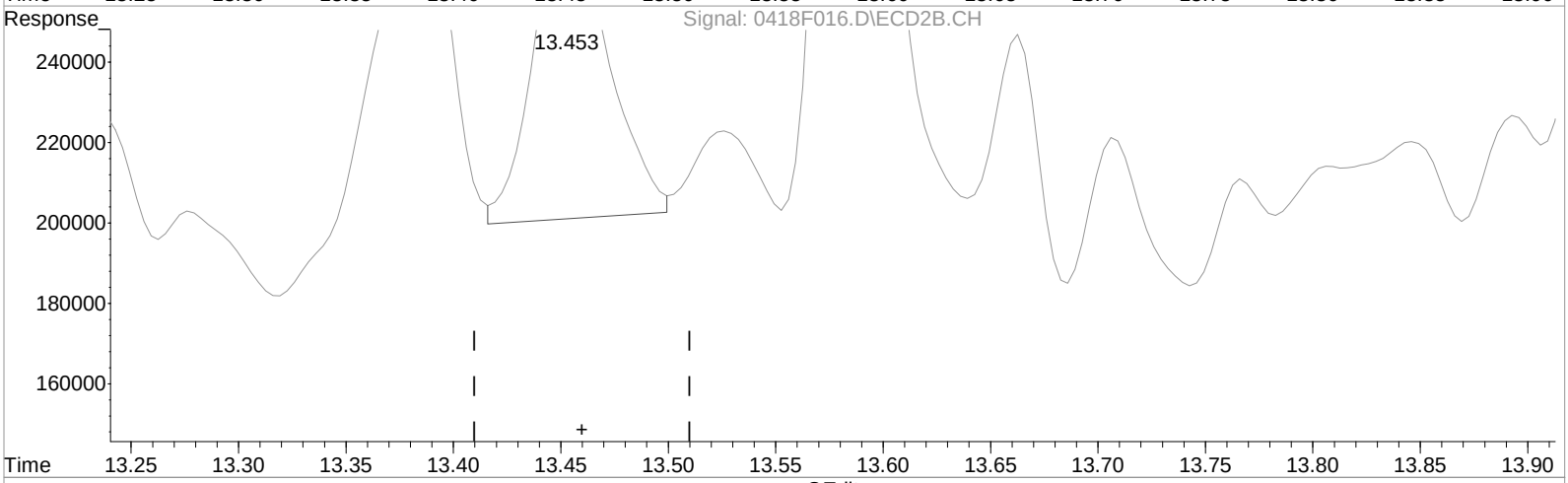
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F016.D Vial: 10
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:00 am Operator: LM
Sample : KQ2004496-06 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:18:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.805min 268.764 ug/L m

response 45336

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.453min 233.394 ug/L

response 194242

(+) = Expected Retention Time

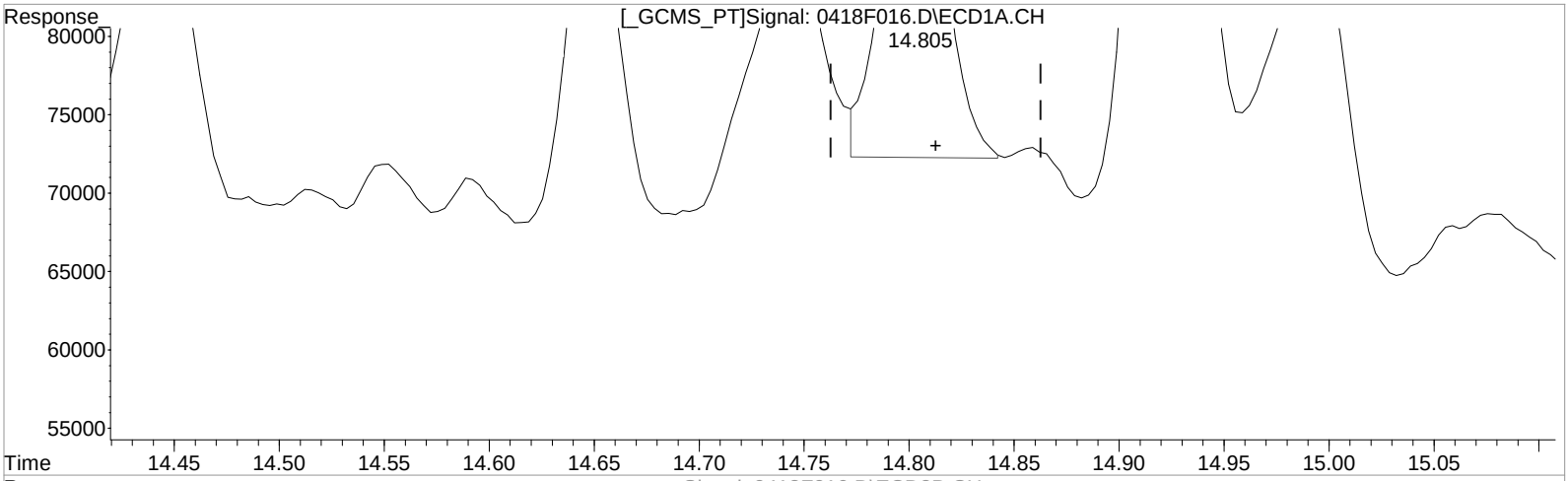
Quantitation Report (Qedit)

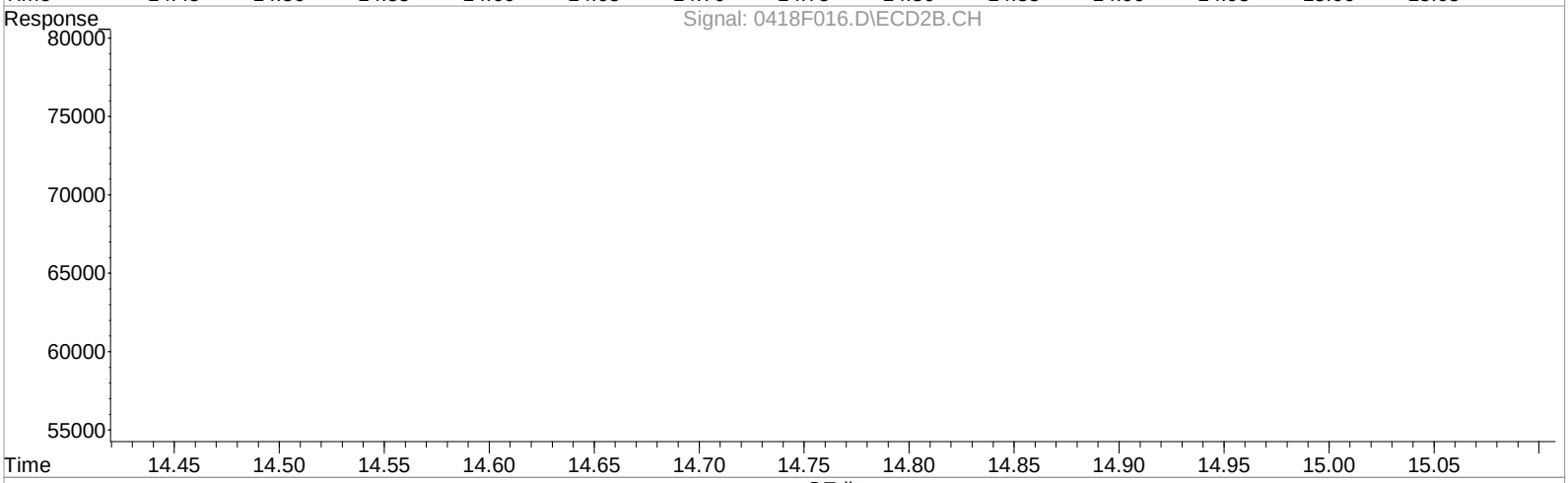
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F016.D Vial: 10
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:00 am Operator: LM
Sample : KQ2004496-06 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:18:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.805min 268.764 ug/L m

response 45336

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.453min 233.394 ug/L

response 194242

(+) = Expected Retention Time

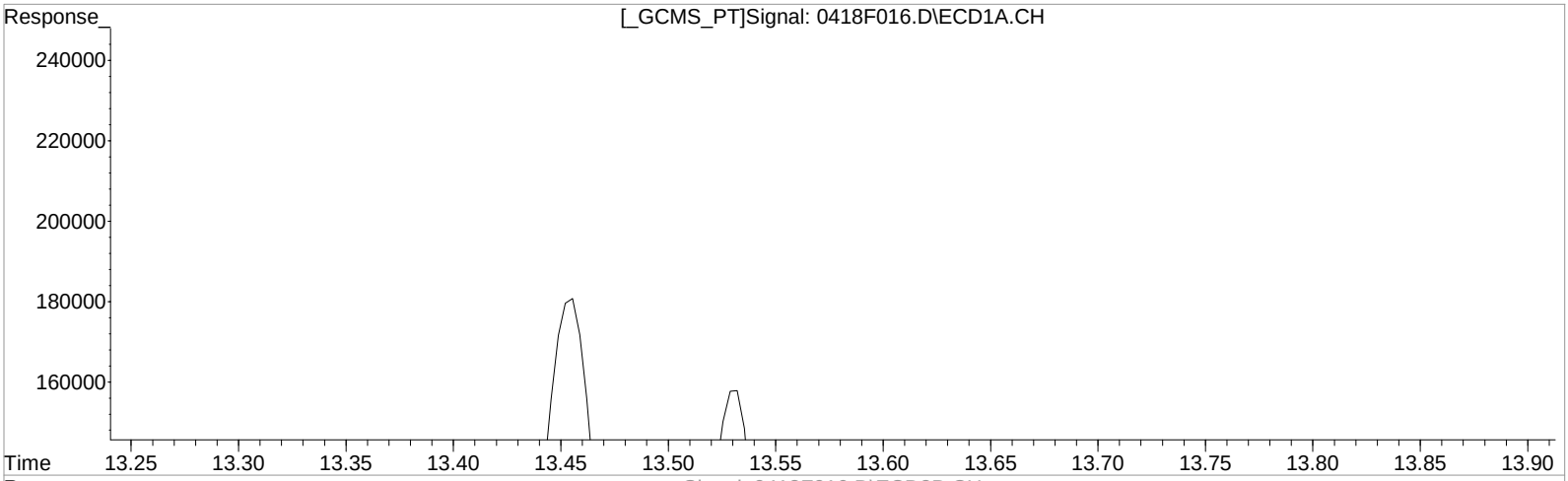
Quantitation Report (Qedit)

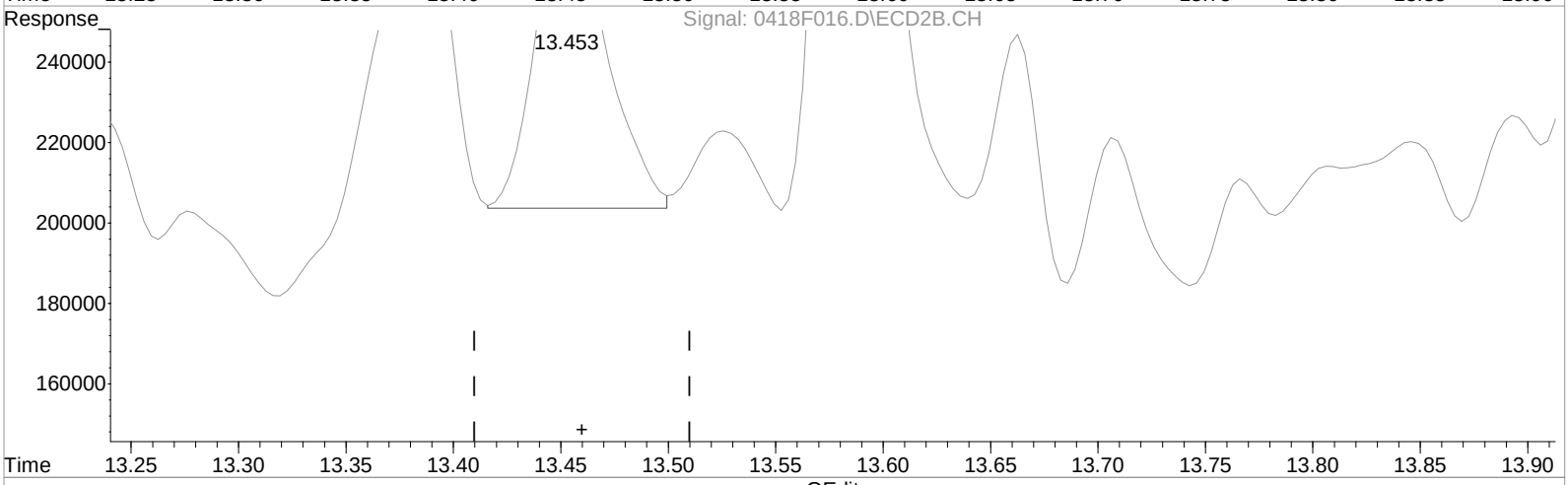
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F016.D Vial: 10
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:00 am Operator: LM
Sample : KQ2004496-06 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:18:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.805min 268.764 ug/L m

response 45336

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.453min 218.842 ug/L m

response 182131

(+) = Expected Retention Time

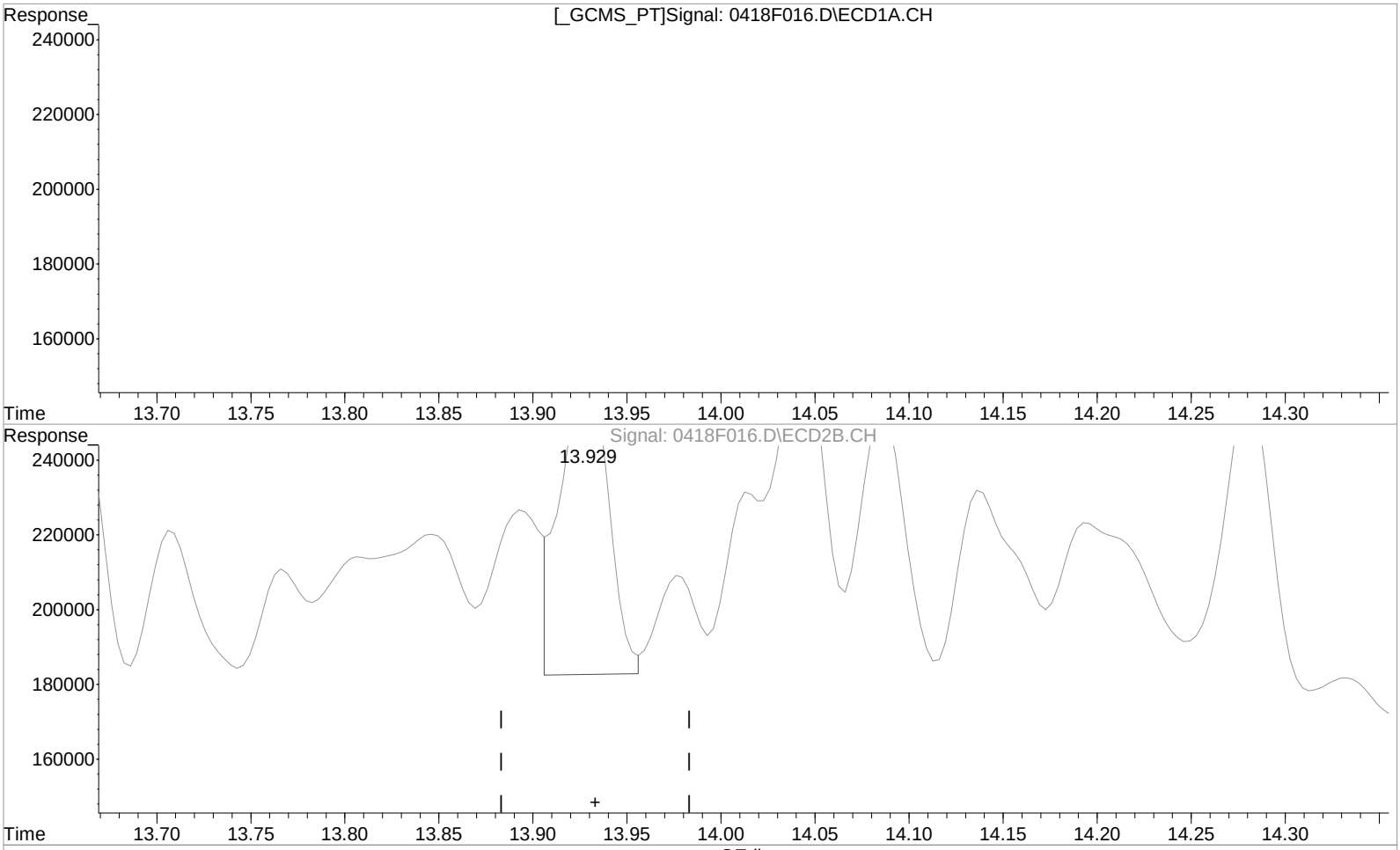
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F016.D Vial: 10
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:00 am Operator: LM
Sample : KQ2004496-06 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:18:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.342min 242.929 ug/L

response 52326

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.929min 247.308 ug/L

response 144102

(+) = Expected Retention Time

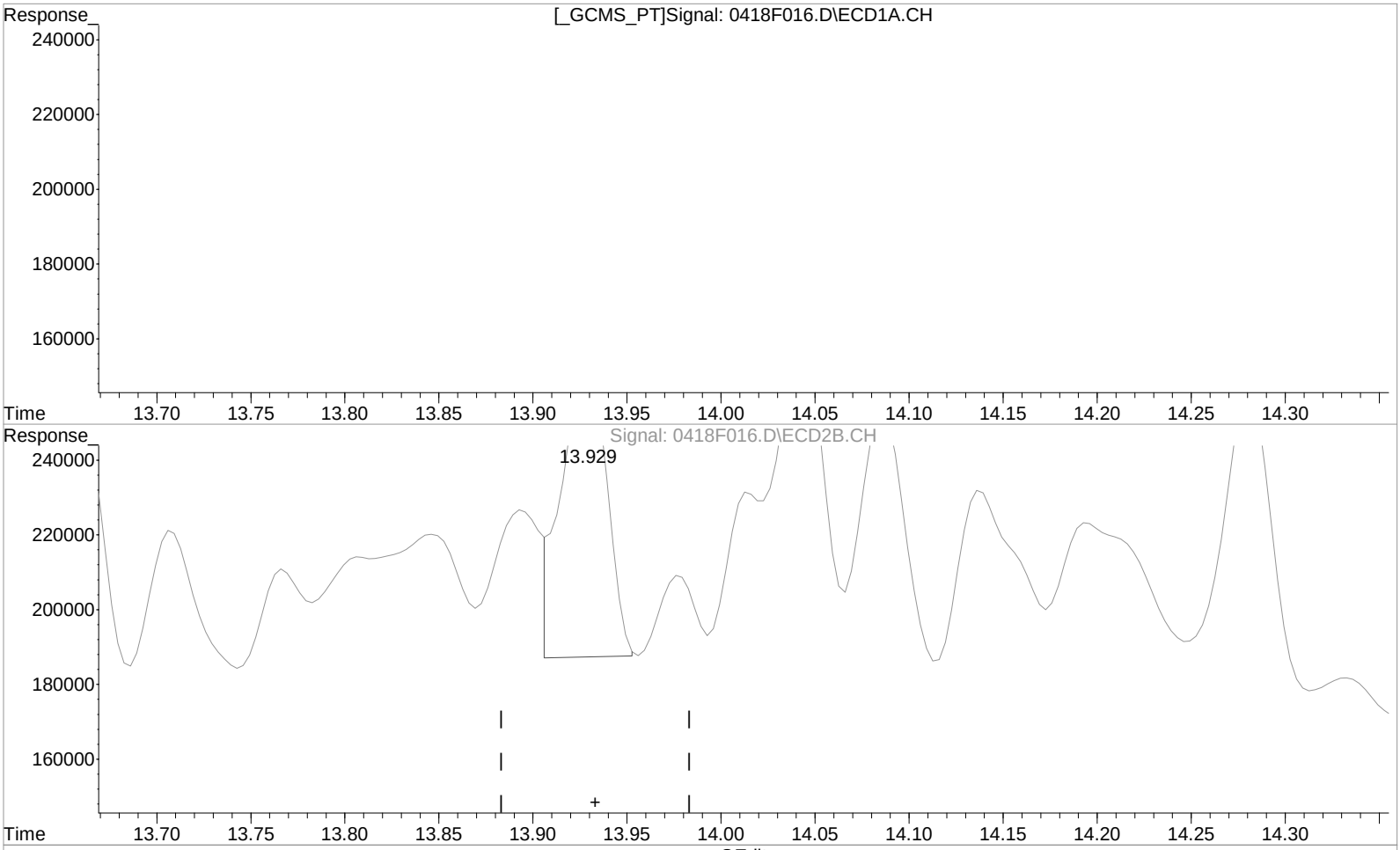
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F016.D Vial: 10
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:00 am Operator: LM
Sample : KQ2004496-06 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:18:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.342min 242.929 ug/L

response 52326

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.929min 223.007 ug/L m

response 129942

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F035.D\
Lab ID: KQ2004497-01
RunType: LCS
Matrix: Water

Date Acquired: 4/19/20 12:24:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F035.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 12:24:00	**Vial:**	15
Run Type:	LCS	**Dilution:**	1
Lab ID:	KQ2004497-01	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	KQ2004497
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.48	-0.01 c	1108149	4813146	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.48	-0.01 c	1108149	4813146	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.48	c	1108149	4813146	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06	-0.01	85258	291243	4.324	3.754	86	75	75	14 - 160	Y
Tetrachloro-m-xylene	8.97	7.26	-0.01	81369	305152	5.064	5.116	101	102	101	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	12.21	10.51	-0.01	96479	384532	5.431	5.069	27.2	25.3	**25.3**	Y
alpha-BHC	9.82	8.50		98664	402355	5.338	5.275	26.7	26.4	**26.4**	Y
beta-BHC	11.07	9.78		42954	165921	4.347	4.586	21.7	22.9	**21.7**	Y
gamma-BHC (Lindane)	10.49	9.24		94816	379079	5.309	5.106	26.5	25.5	**25.5**	Y
Chlordane						0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00		0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00		0	0	0.000	0.000	0	0		
Dieldrin	14.00	12.63	-0.01	91893	349714	5.026	4.947	25.1	24.7	**24.7**	Y
Heptachlor	11.68	9.92	-0.01	102882	583385	5.361	7.737	26.8	38.7	**26.8**	Y
Heptachlor Epoxide	12.93	11.60		92569	352444	4.956	4.739	24.8	23.7	**23.7**	Y
Hexachlorobenzene	9.98	8.28		109860	394725	5.020	5.152	25.1	25.8	**25.1**	Y
Toxaphene						0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F035.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 12:24:00	**Vial:**	15
Run Type:	LCS	**Dilution:**	1
Lab ID:	KQ2004497-01	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:16:09 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.200	5.484	1108149	4813146	100.000	100.000	
29)	1-Bromo-2...	6.200	5.484	1108149	4813146	100.000	100.000	
36)	1-Bromo-2...	6.200	5.484	1108149	4813146	100.000	100.000	
43)	1-Bromo-2...	6.200	5.484	1108149	4813146	100.000	100.000	
	System Monitoring Compounds							
2) s	Tetrachlo...	8.974	7.264	81369	305152	5.064	5.116	
28) s	Decachlor...	18.670	17.064	85258	291243	4.324	3.754	
	Target Compounds							
3)	alpha-BHC	9.817	8.497	98664	402355	5.338	5.275	
4)	Hexachlor...	9.980	8.277	109860	394725	5.020	5.152	
5)	beta-BHC	11.074	9.777	42954	165921	4.347	4.586	
6)	gamma-BHC...	10.490	9.241	94816	379079	5.309	5.106	
7)	delta-BHC	11.580	10.304	84984	339774	4.704	4.680	
8)	Heptachlor	11.684	9.924	102882	583385	5.361	7.737	#
9)	Aldrin	12.210	10.514	96479	384532	5.431	5.069	
10)	Isodrin	12.740	11.311	91717	361399	6.018	5.693	
11)	Heptachlo...	12.930	11.597	92569	352444	4.956	4.739	
12)	gamma-Chl...	13.450	11.971	97213	369750	5.204	5.142	
13)	Endosulfan I	13.580	12.187	88239	326879	5.178	5.046	
14)	alpha-Chl...	13.530	12.121	97508	369731	5.244	5.076	
15)	Dieldrin	14.000	12.634	91893	349714	5.026	4.947	
16)	4,4'-DDE	13.804	12.481	88897	309578	5.196	4.548	
17)	Endrin	14.370	13.114	87694	352398	5.255	5.237	
18)	Endosulfa...	14.810	13.547	92625	326033	5.479	5.362	
19)	4,4'-DDD	14.640	13.371	82371	287344	6.228	5.640	
20)	Endrin Al...	14.994	13.914	71457	252350	4.876	5.012	
21)	Endosulfa...	15.467	14.237	88315	304092	5.127	5.072	
22)	4,4'-DDT	15.144	13.794	69710	309279	5.017	6.297	#
23)	Endrin Ke...	16.157	15.184	92819	364689	5.022	5.085	
24)	Methoxychlor	15.890	14.907	43601	180715	5.175	6.628	#
25)	2,4'-DDE	0.000	12.014	0	1702	N.D.	0.038	#
26)	2,4'-DDD	0.000	12.824	0	1435	N.D.	0.037	#
27)	2,4'-DDT	14.477f	13.234	2398	7271	0.200	0.174	
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

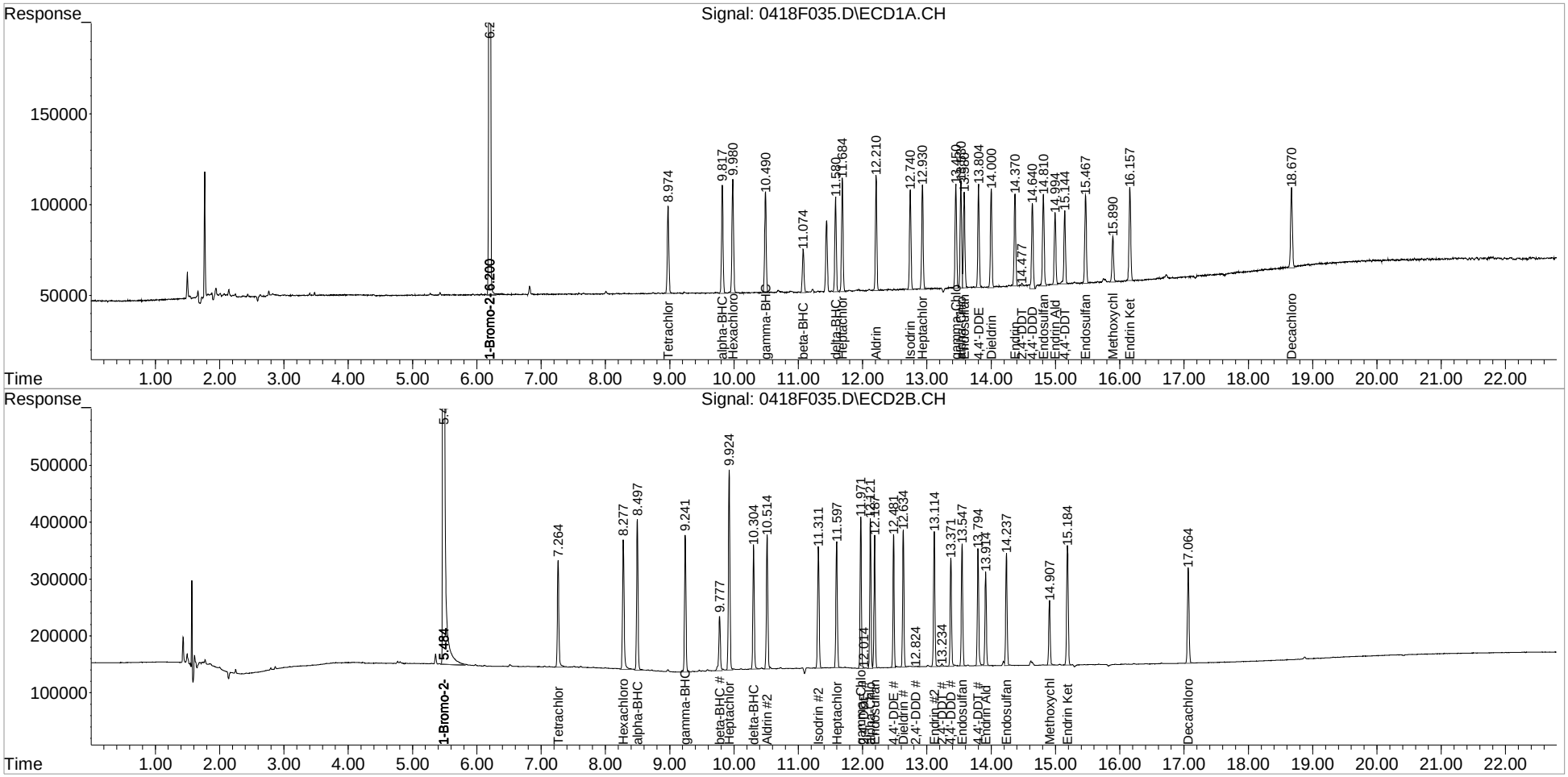
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:16:09 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



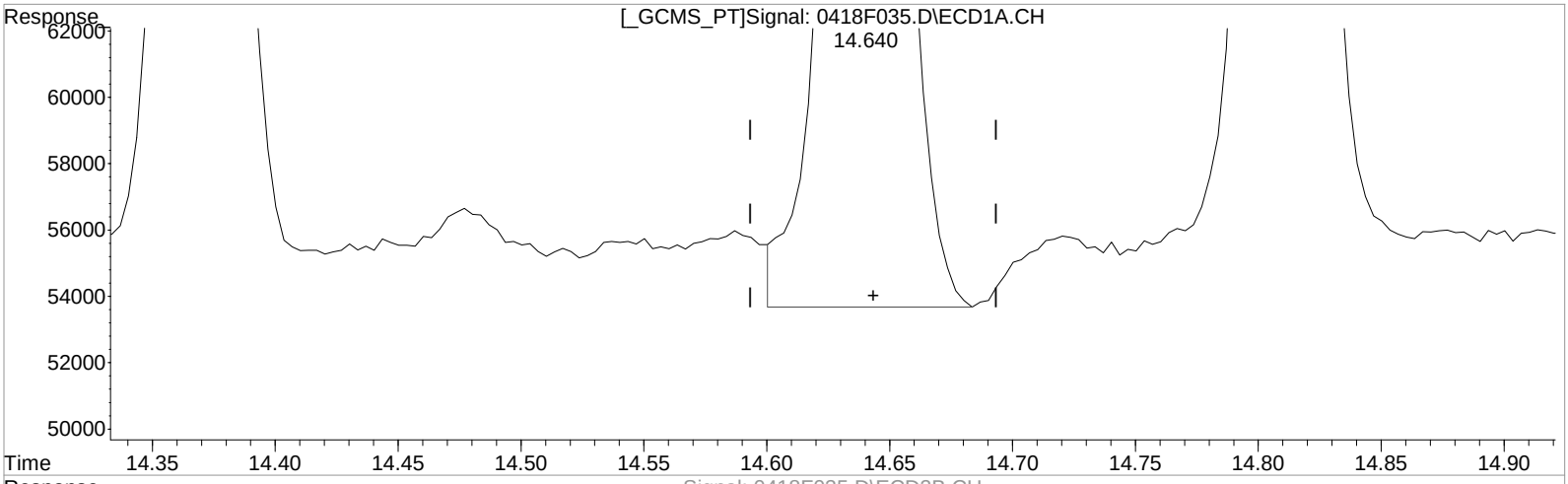
Quantitation Report (Qedit)

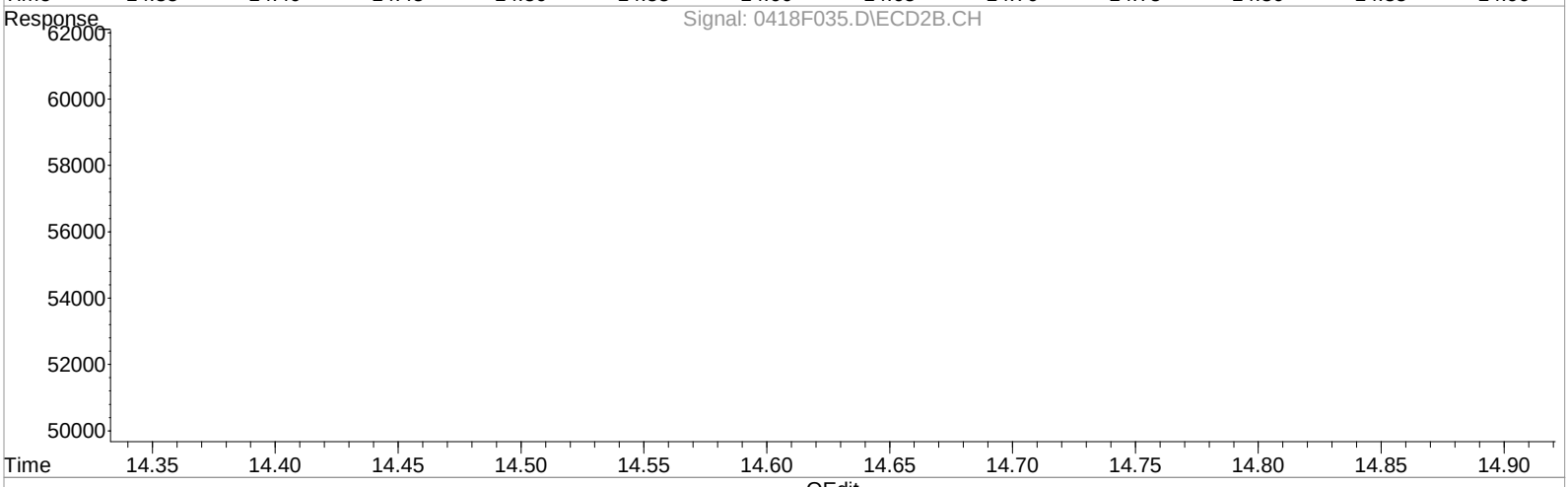
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:37:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.640min 6.228 ug/L

response 82371

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.371min 5.640 ug/L

response 287344

(+) = Expected Retention Time

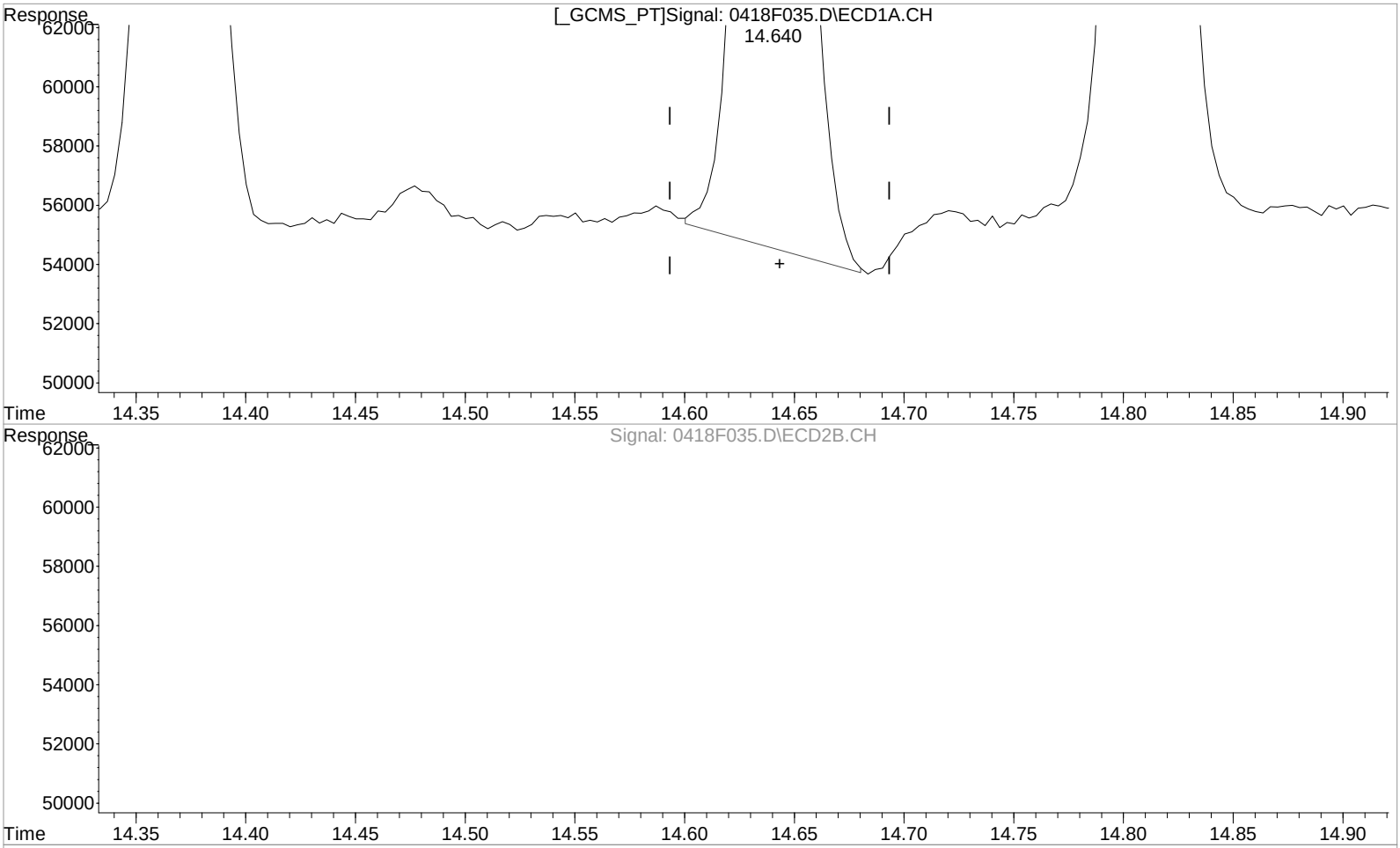
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:37:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(19) 4,4'-DDD

14.640min 5.910 ug/L m

response 78168

Manual Integration:

After

Baseline correction

04/21/20

(19) 4,4'-DDD #2

13.371min 5.640 ug/L

response 287344

(+) = Expected Retention Time

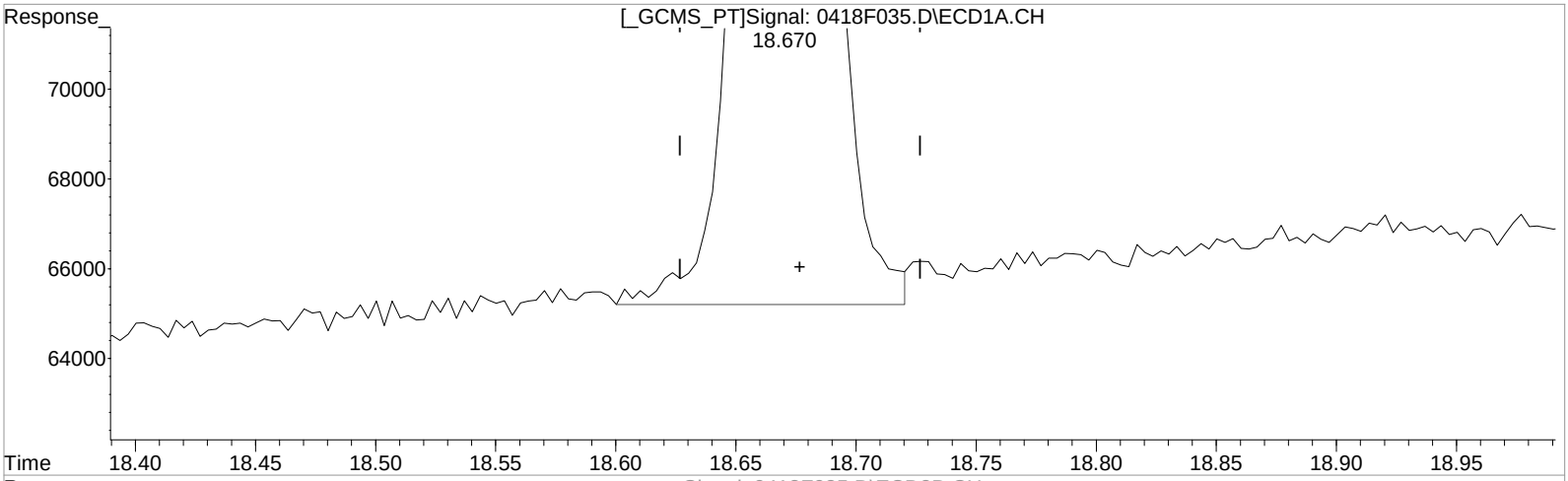
Quantitation Report (Qedit)

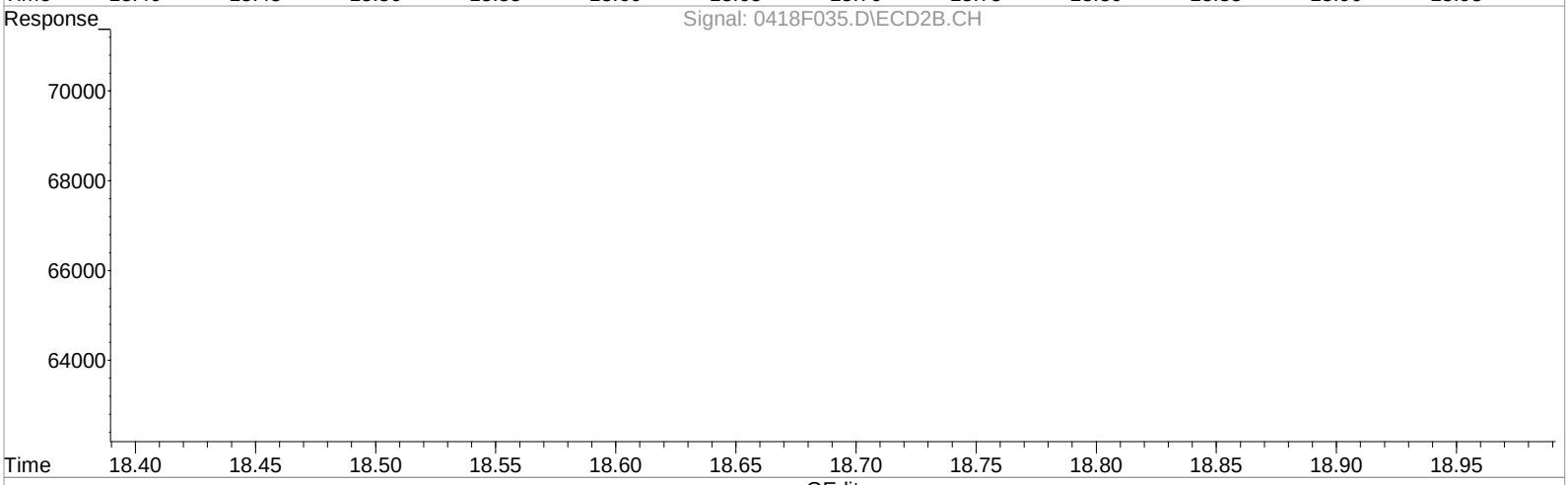
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:37:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.670min 4.324 ug/L

response 85258

Manual Integration:

Before

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.064min 3.754 ug/L

response 291243

(+) = Expected Retention Time

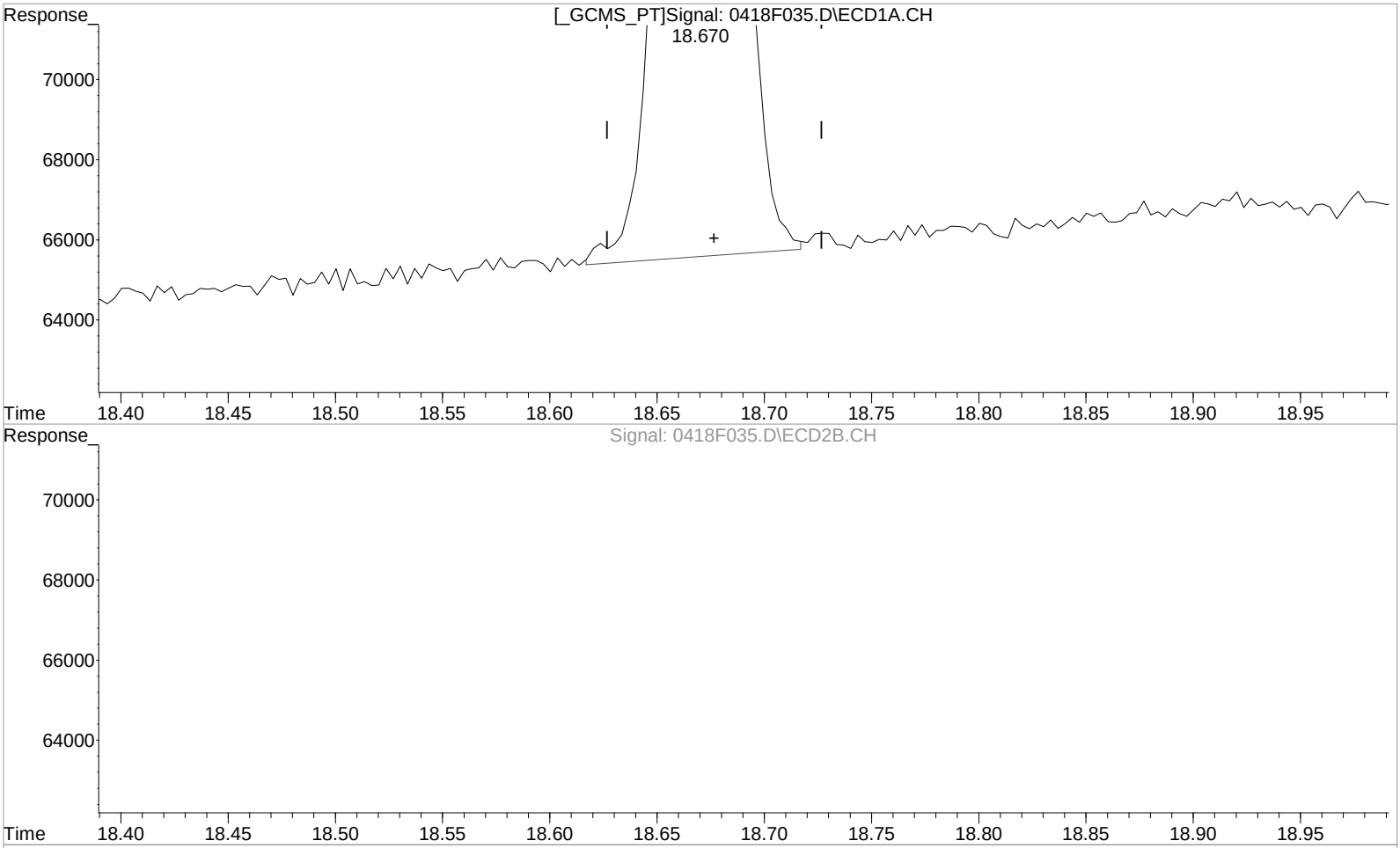
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:37:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(28) Decachlorobiphenyl (s)

18.670min 4.193 ug/L m

response 82671

Manual Integration:

After

Baseline correction

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.064min 3.754 ug/L

response 291243

(+) = Expected Retention Time

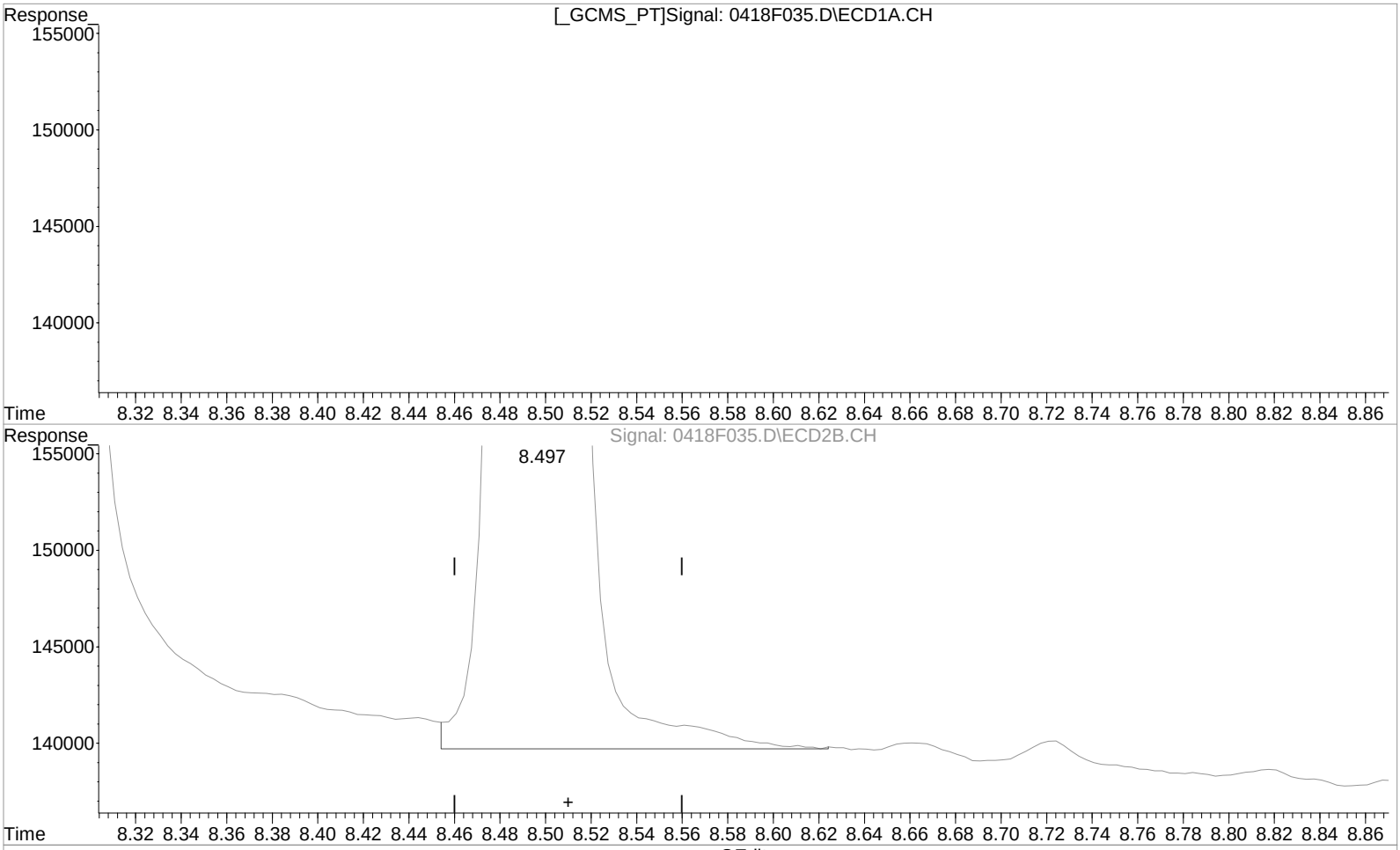
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:37:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.817min 5.338 ug/L

response 98664

(3) alpha-BHC #2

8.497min 5.275 ug/L

response 402355

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

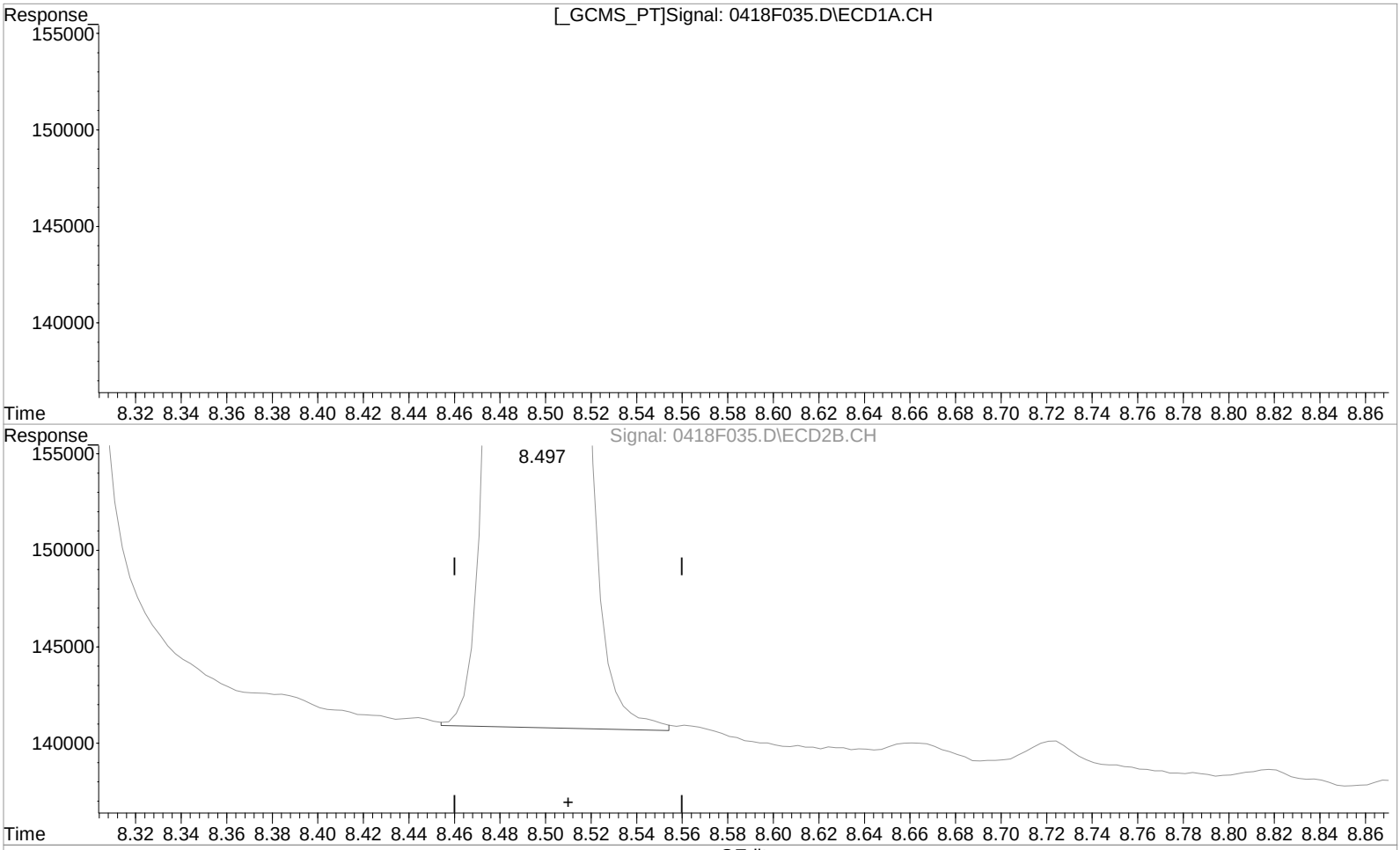
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:37:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.817min 5.338 ug/L

response 98664

Manual Integration:

After

Baseline correction

04/21/20

(3) alpha-BHC #2

8.497min 5.161 ug/L m

response 393649

(+) = Expected Retention Time

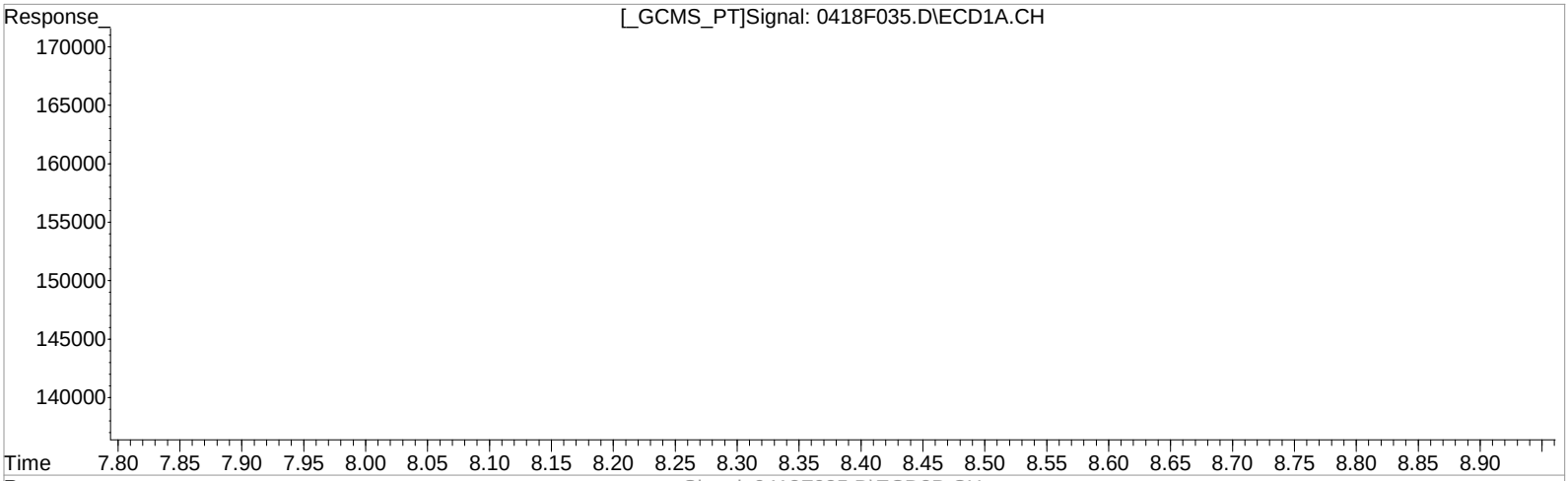
Quantitation Report (Qedit)

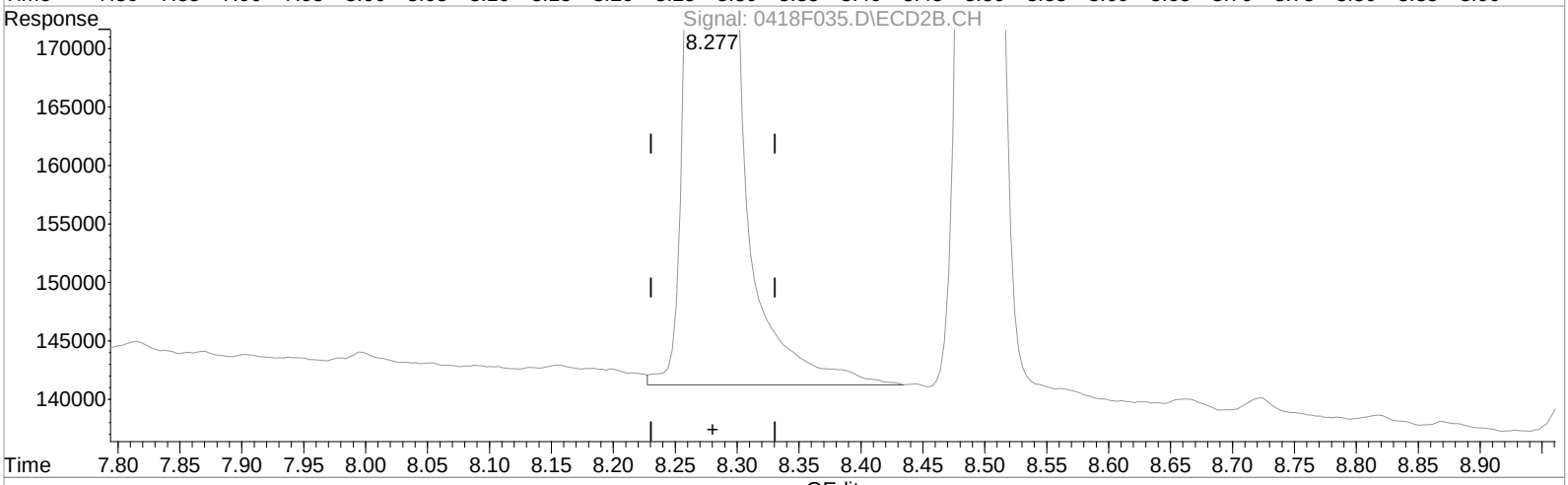
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:37:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(4) Hexachlorobenzene

9.980min 5.020 ug/L

response 109860

Manual Integration:

Before

04/21/20

(4) Hexachlorobenzene #2

8.277min 5.152 ug/L

response 394725

(+) = Expected Retention Time

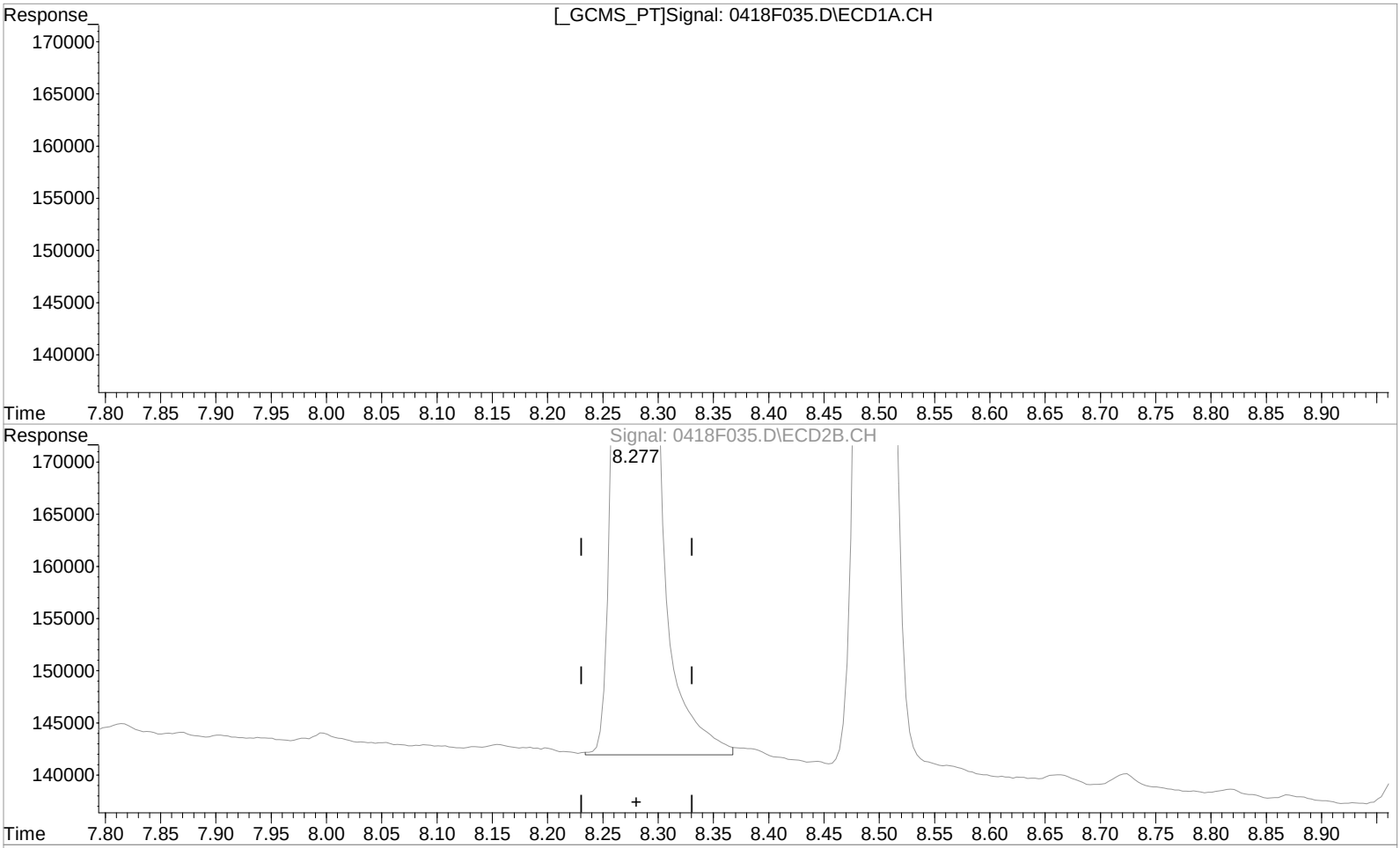
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:37:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(4) Hexachlorobenzene

9.980min 5.020 ug/L

response 109860

Manual Integration:

After

Baseline correction

04/21/20

(4) Hexachlorobenzene #2

8.277min 5.037 ug/L m

response 385918

(+) = Expected Retention Time

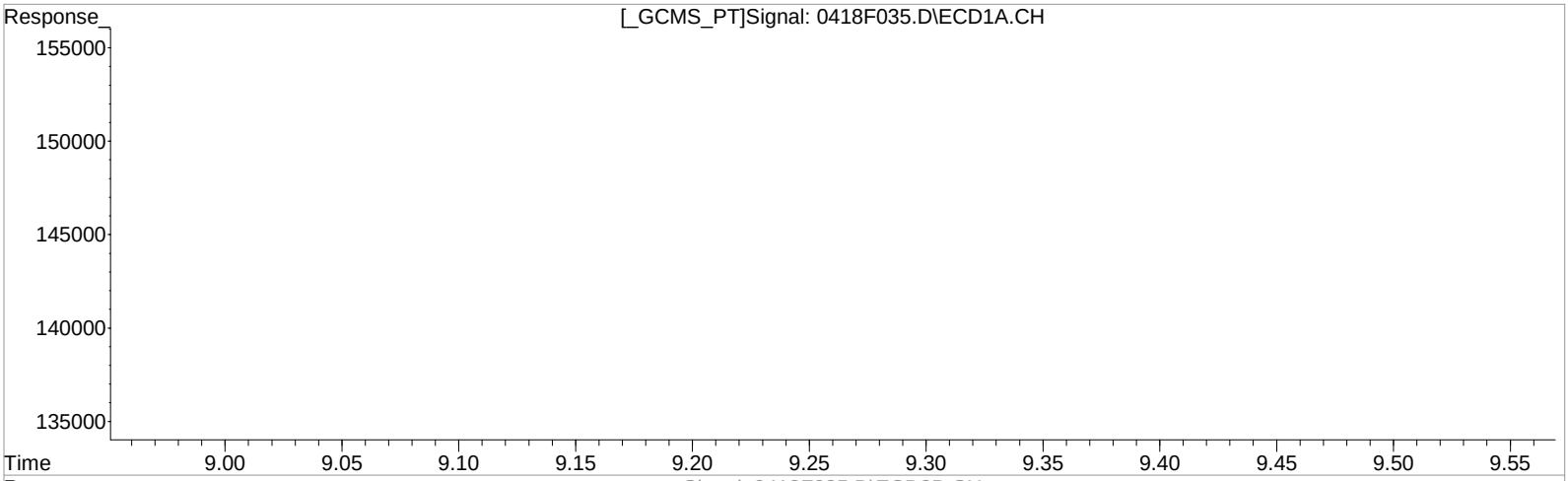
Quantitation Report (Qedit)

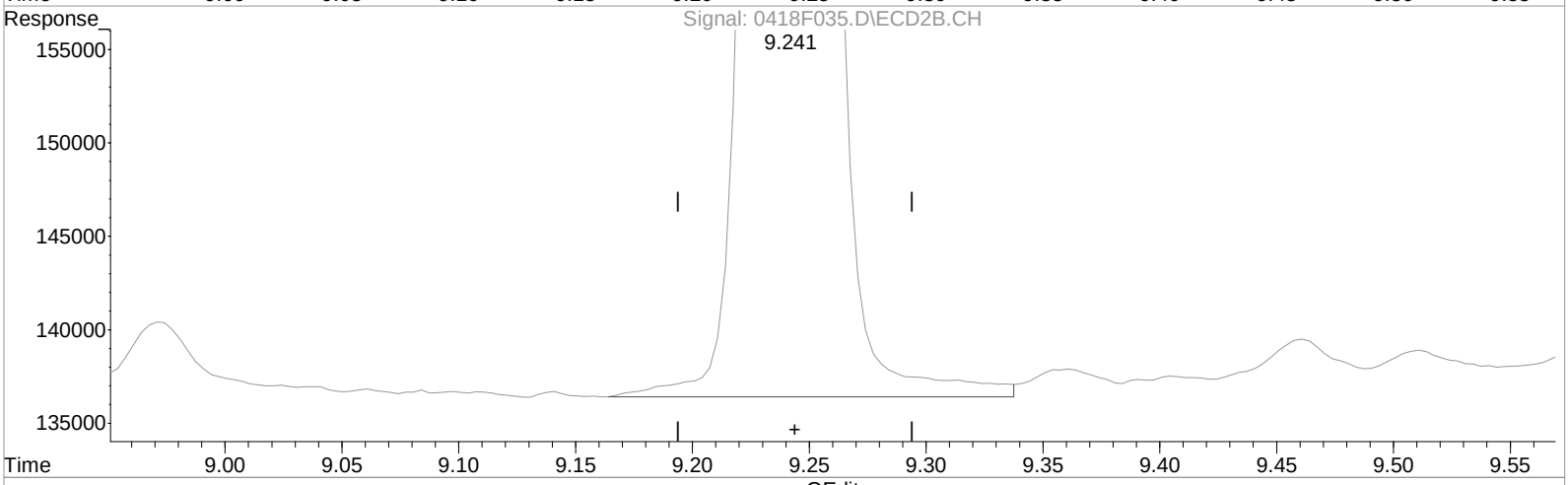
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:37:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(6) gamma-BHC (Lindane)

10.490min 5.309 ug/L

response 94816

Manual Integration:

Before

04/21/20

(6) gamma-BHC (Lindane) #2

9.241min 5.106 ug/L

response 379079

(+) = Expected Retention Time

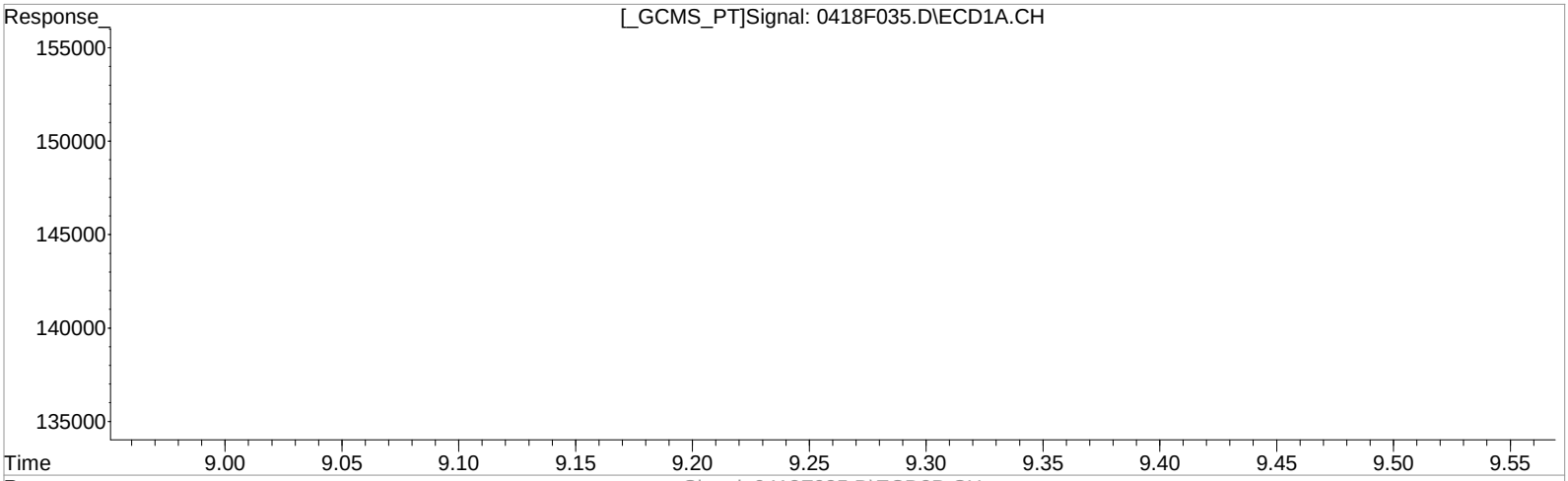
Quantitation Report (Qedit)

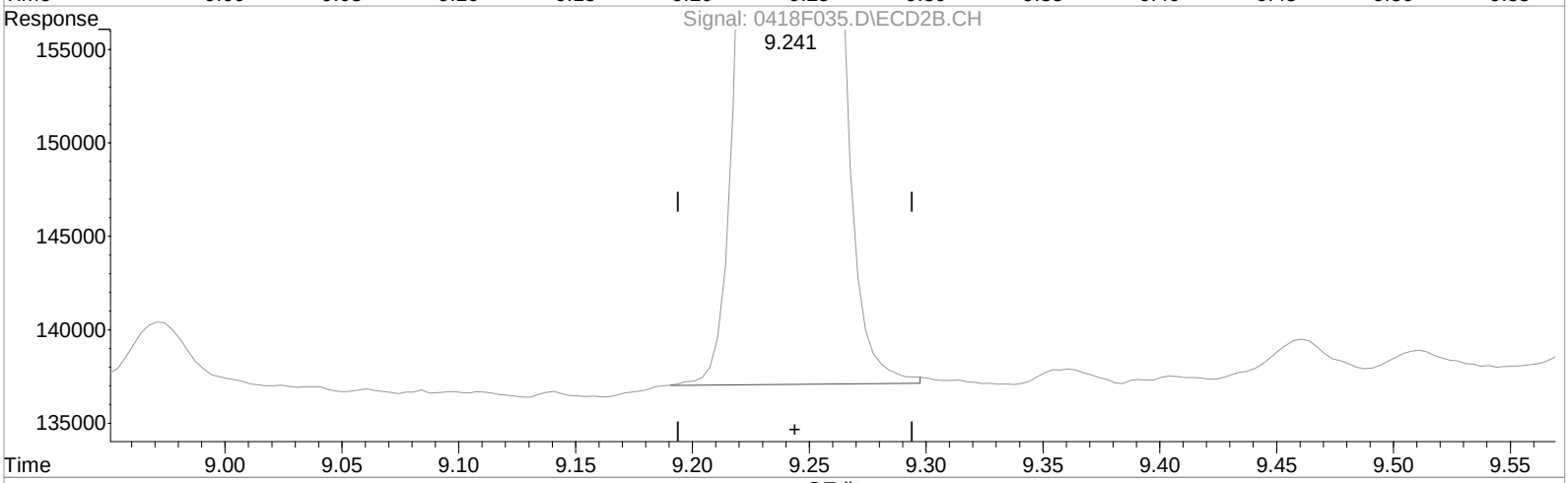
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F035.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:24 pm Operator: LM
Sample : KQ2004497-01 81 LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:37:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(6) gamma-BHC (Lindane)

10.490min 5.309 ug/L

response 94816

Manual Integration:

After

Baseline correction

04/21/20

(6) gamma-BHC (Lindane) #2

9.241min 5.013 ug/L m

response 372230

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F037.D\
Lab ID: KQ2004497-03
RunType: LCS
Matrix: Water

Date Acquired: 4/19/20 13:23:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.49			
	1-Bromo-2-nitrobenzene {2}	5.49			
	1-Bromo-2-nitrobenzene {3}	5.49			
	1-Bromo-2-nitrobenzene {4}	5.49			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F037.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 13:23:00	**Vial:**	17
Run Type:	LCS	**Dilution:**	1
Lab ID:	KQ2004497-03	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	KQ2004497
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.49	c	1132360	4967750	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.49	c	1132360	4967750	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.49	+0.0 c	1132360	4967750	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07	70114	242696	3.480	3.031	70	61	61	14 - 160	Y
Tetrachloro-m-xylene	8.97	7.27	73567	269299	4.481	4.375	90	88	88	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00		0.00		0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00		0.00		0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00		0.00		0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00		0.00		0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane							6666666666	3333333333	465	470	**465**	Y
Chlordane {1}	11.27		9.57		57344	188657	74.286	69.570	371	348		
Chlordane {2}	11.68	-0.01	11.66	-0.01	67490	177672	69.021	96.072	345	480		
Chlordane {3}	12.25		11.82		88856	149422	126.620	121.707	633	609		
Chlordane {4}	13.45		11.97		208114	689609	97.697	92.743	488	464		
Chlordane {5}	13.53		12.02		163211	443495	92.629	97.411	463	487		
Chlordane {6}	13.61		12.12		126609	567951	97.883	86.157	489	431		
Dieldrin	0.00		0.00		0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00		0.00		0	0	0.000	0.000	0U	0U	0.61 U	Y
Heptachlor Epoxide	0.00		0.00		0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00		0.00		0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene							297.592	293.6515	1490	1470	**1470**	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F037.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 13:23:00	**Vial:**	17
Run Type:	LCS	**Dilution:**	1
Lab ID:	KQ2004497-03	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74	13.39	46850	299124	251.806	270.979	1260	1350		
Toxaphene {2}	14.80	13.46 +0.01	39394	176885	234.082	208.276	1170	1040		
Toxaphene {3}	14.92	13.59	127394	535998	379.897	577.295	1900	2890		P
Toxaphene {4}	14.99	13.67 +0.01	52649	80089	233.452	215.664	1170	1080		
Toxaphene {5}	15.34	13.93	53823	126697	250.460	213.077	1250	1070		
Toxaphene {6}	15.52	15.43	36805	89099	435.855	276.618	2180	1380		P

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:22:38 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.198	5.485	1132360	4967750	100.000	100.000
29)	1-Bromo-2...	6.198	5.485	1132360	4967750	100.000	100.000
36)	1-Bromo-2...	6.198	5.485	1132360	4967750	100.000	100.000
43)	1-Bromo-2...	6.198	5.485	1132360	4967750	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.975	7.265	73567	269299	4.481	4.375
28) s	Decachlor...	18.671	17.065	70114	242696	3.480m	3.031
	Target Compounds						
30)	Toxaphene	14.741	13.388	46850	299124	251.806	270.979
31)	Toxaphene...	14.801	13.455	39394	176885	234.082m	208.276m
32)	Toxaphene...	14.921	13.585	127394	535998	379.897m	577.295m#
33)	Toxaphene...	14.991	13.665	52649	80089	233.452	215.664m
34)	Toxaphene...	15.341	13.928	53823	126697	250.460	213.077m
35)	Toxaphene...	15.525	15.428	36805	89099	435.855	276.618 #
37)	Chlordane	11.268	9.568	57344	188657	74.286	69.570
38)	Chlordane...	11.685	11.662	67490	177672	69.021	96.072 #
39)	Chlordane...	12.251	11.815	88856	149422	126.620	121.707
40)	Chlordane...	13.451	11.972	208114	689609	97.697	92.743
41)	Chlordane...	13.528	12.018	163211	443495	92.629	97.411
42)	Chlordane...	13.611	12.122	126609	567951	97.883	86.157
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

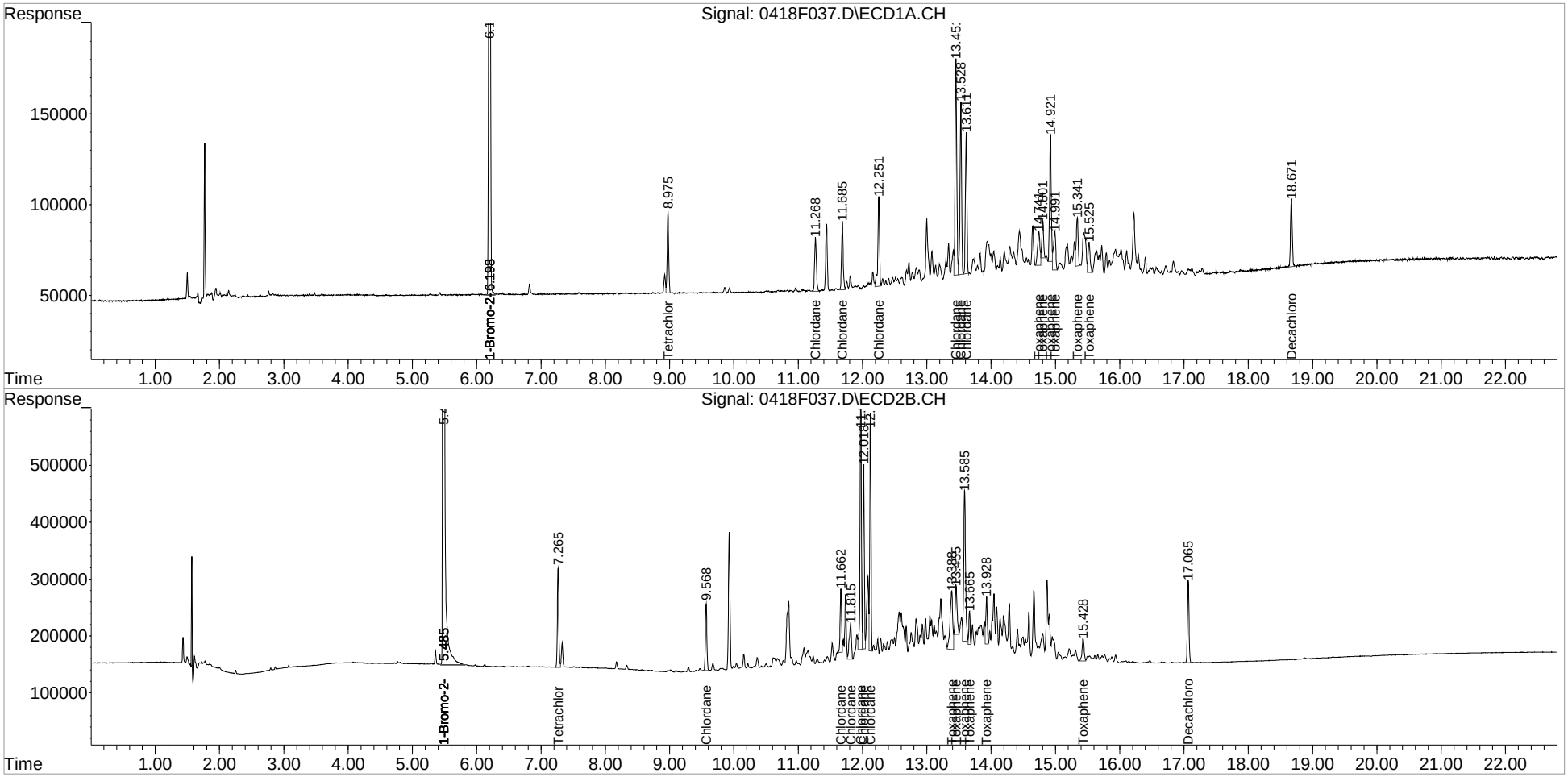
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:22:38 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



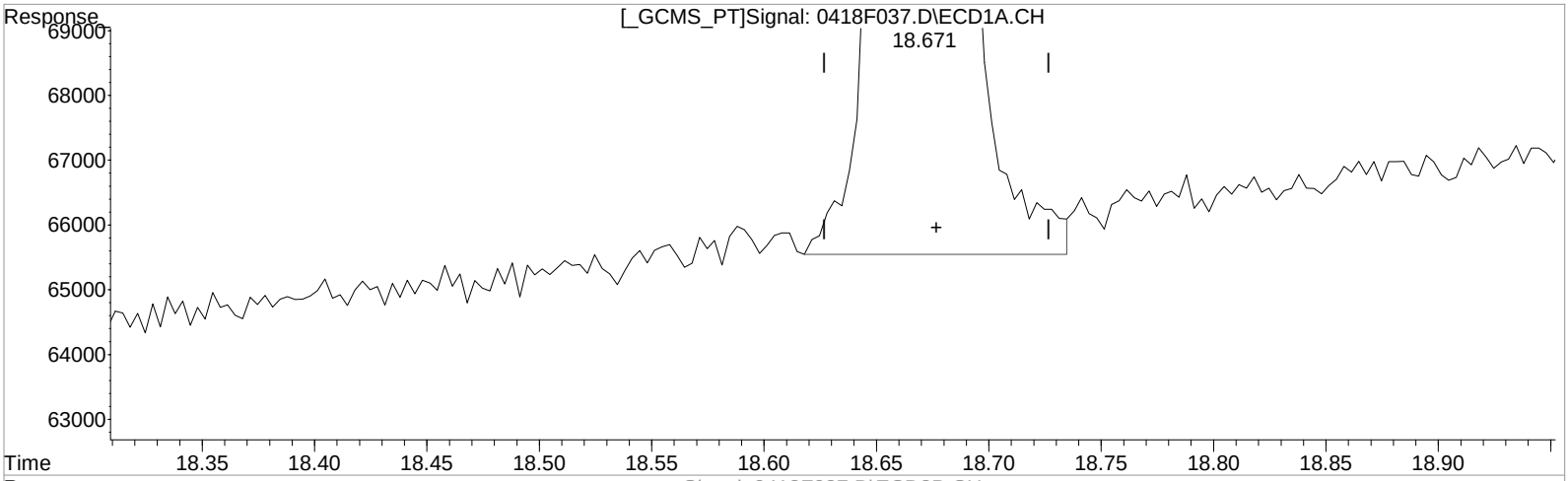
Quantitation Report (Qedit)

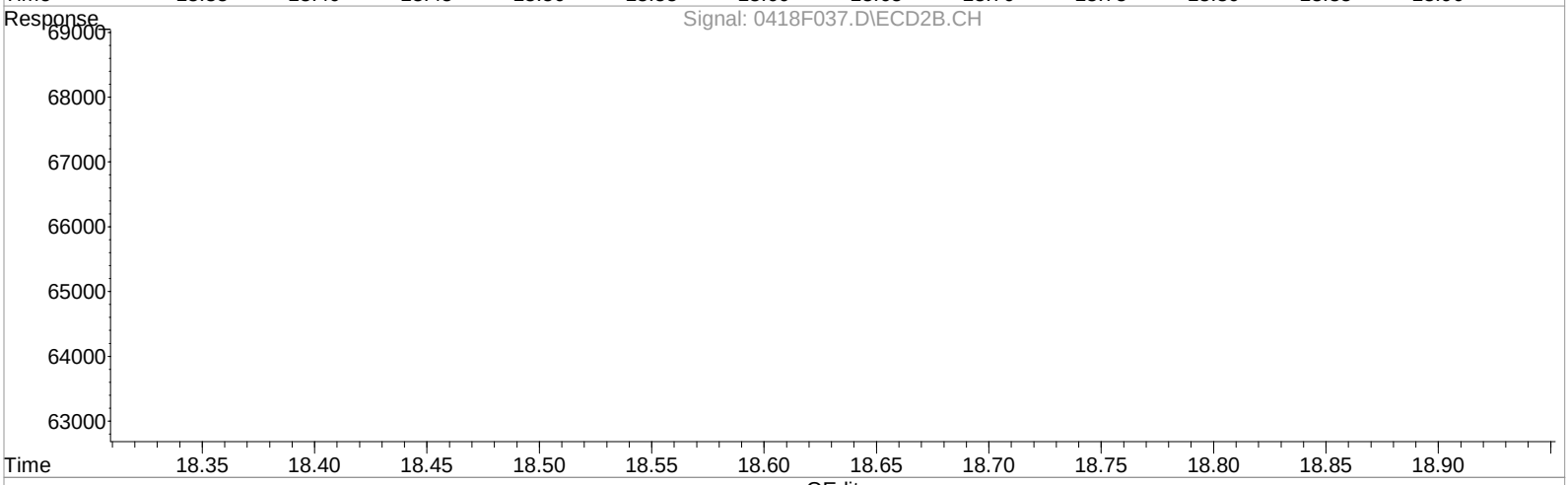
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:20:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.671min 3.588 ug/L

response 72290

Manual Integration:

Before

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.065min 3.031 ug/L

response 242696

(+) = Expected Retention Time

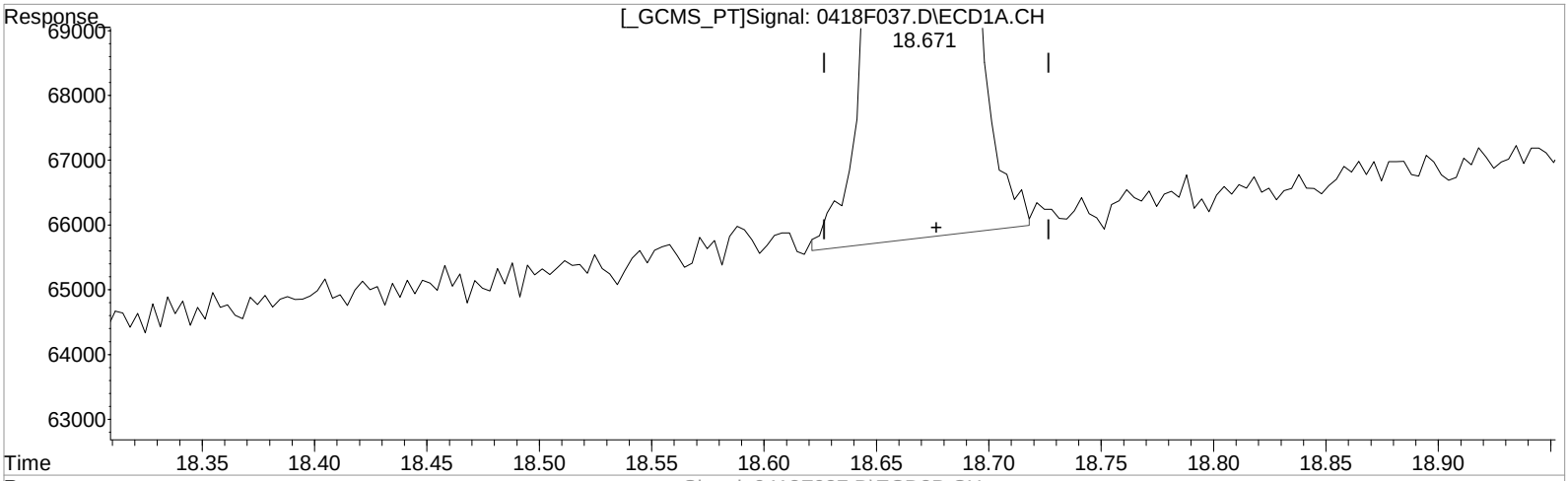
Quantitation Report (Qedit)

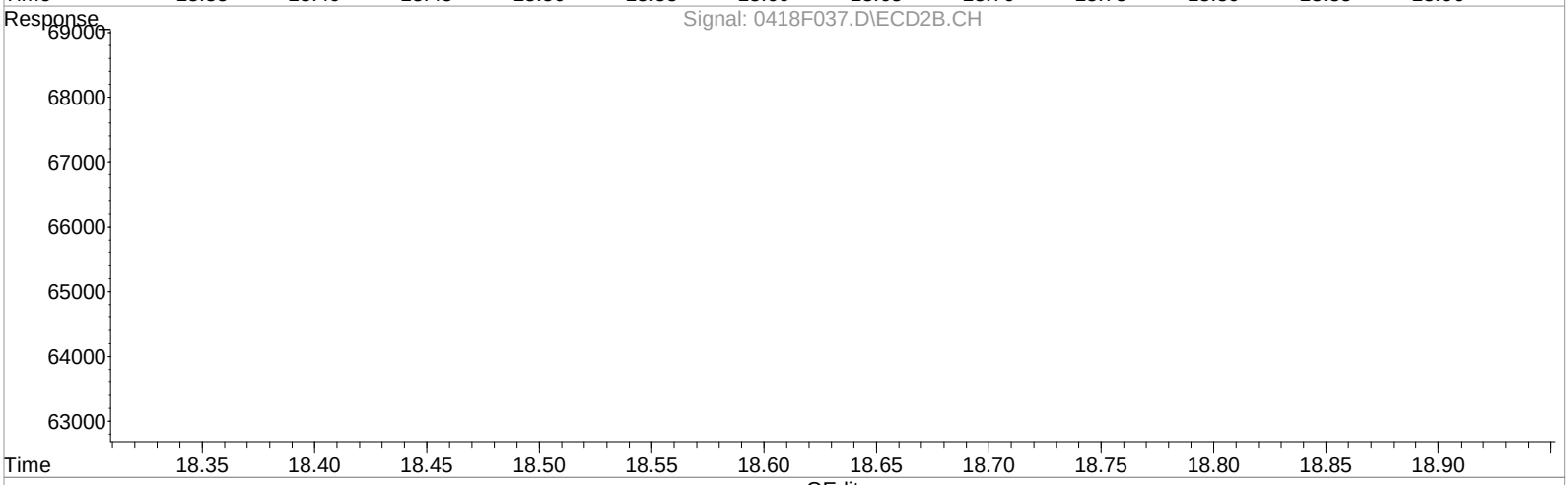
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:20:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.671min 3.480 ug/L m

response 70114

Manual Integration:

After

Baseline correction

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.065min 3.031 ug/L

response 242696

(+) = Expected Retention Time

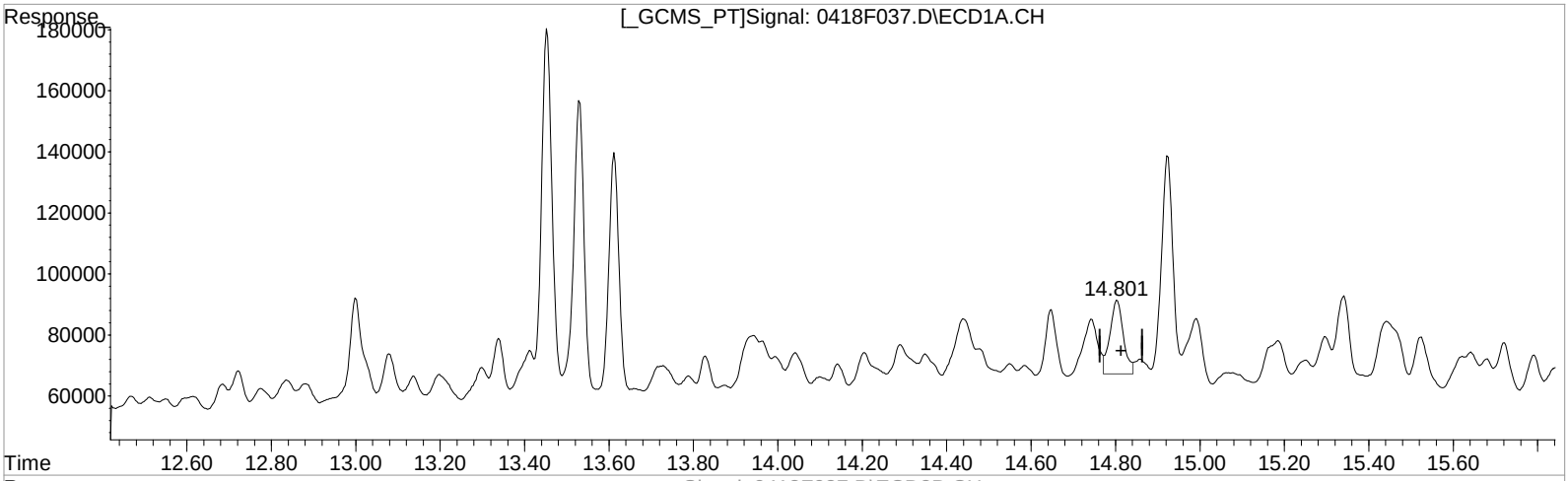
Quantitation Report (Qedit)

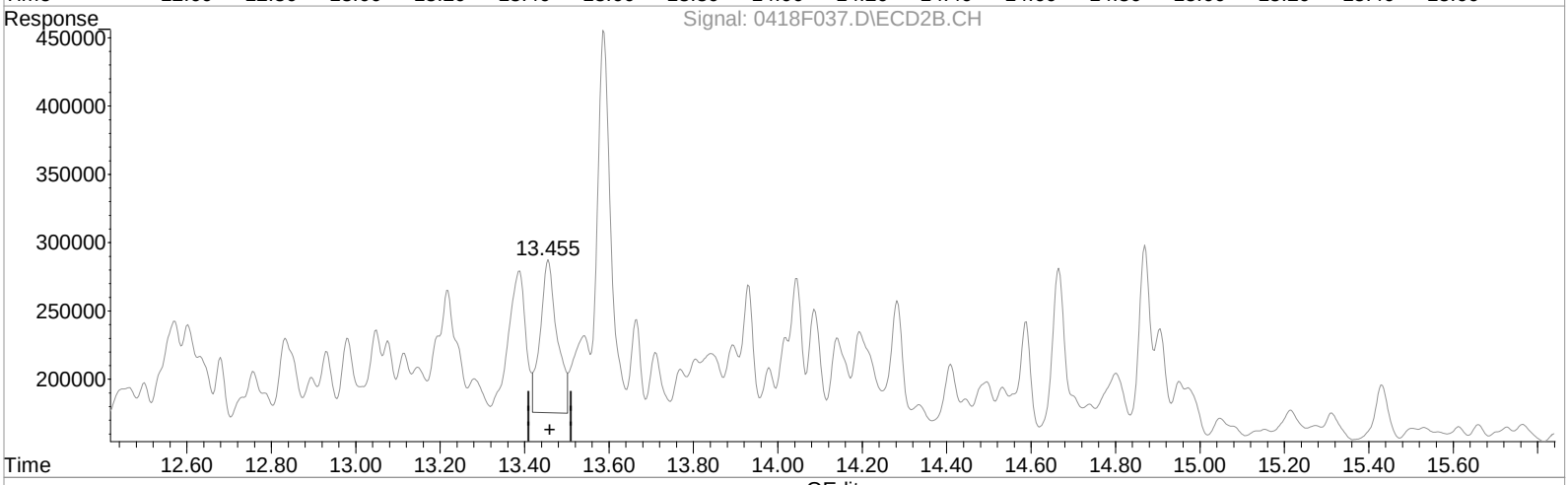
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:20:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.801min 318.322 ug/L

response 53571

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.455min 367.383 ug/L

response 312012

(+) = Expected Retention Time

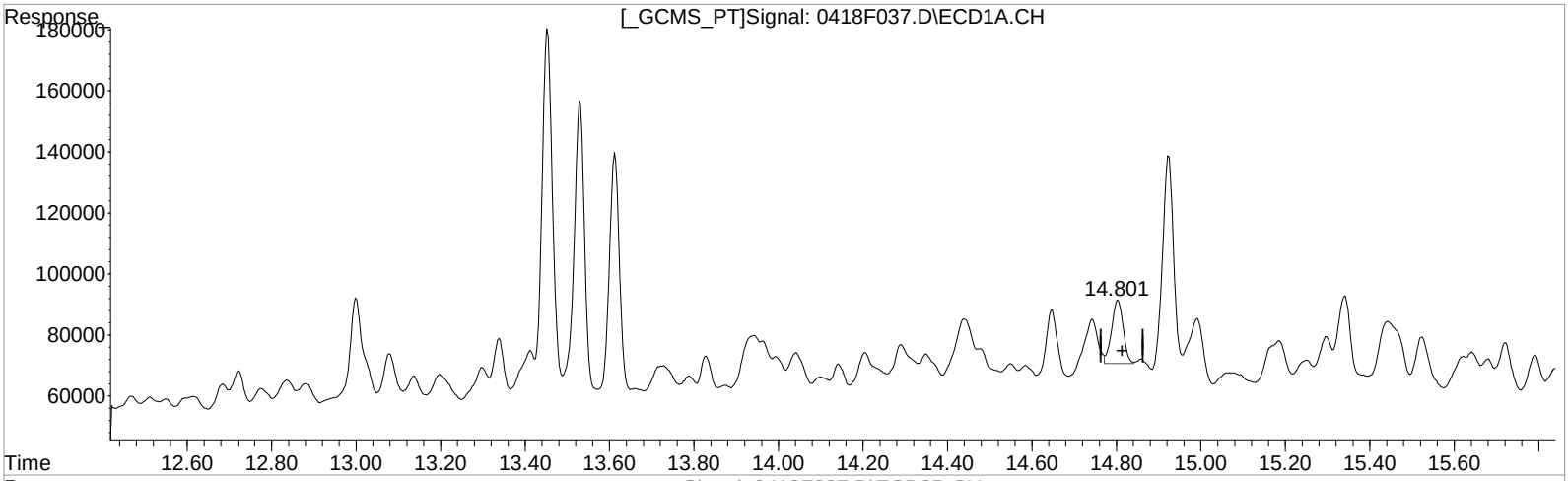
Quantitation Report (Qedit)

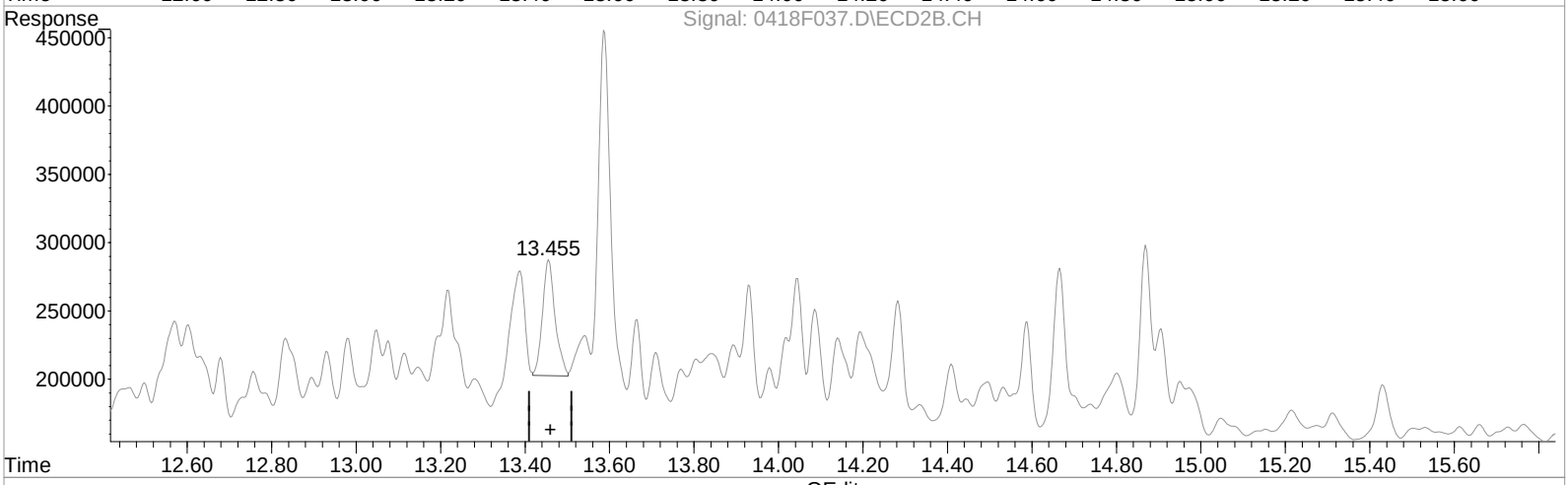
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:20:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.801min 234.082 ug/L m

response 39394

(31) Toxaphene {2} #2

13.455min 208.276 ug/L m

response 176885

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

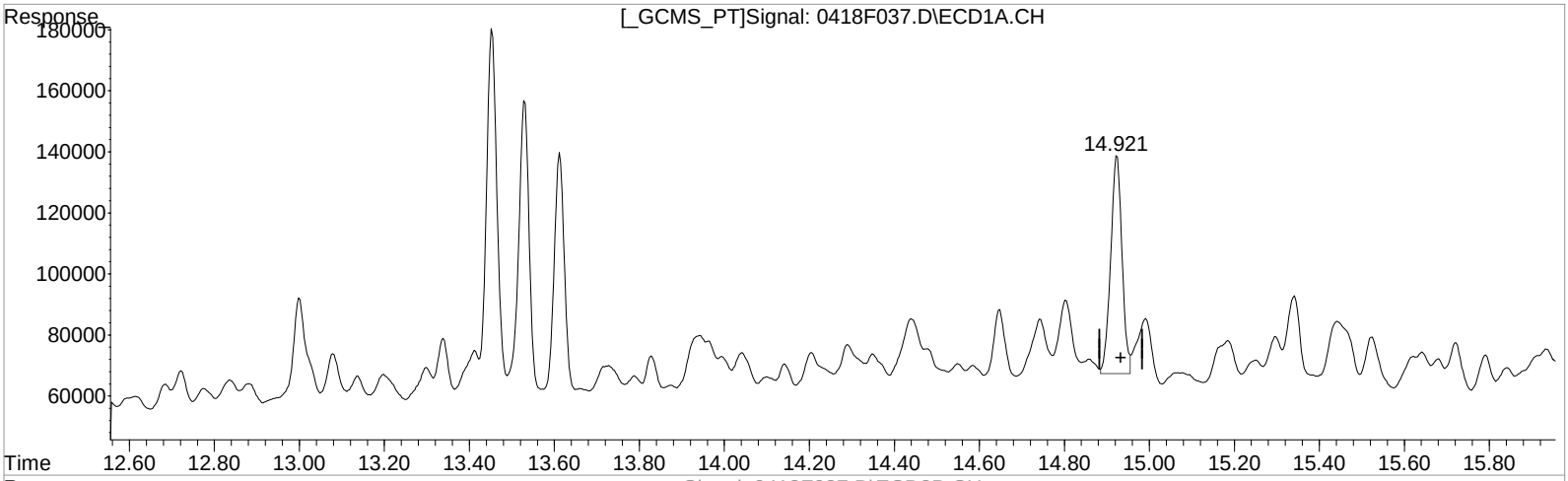
Quantitation Report (Qedit)

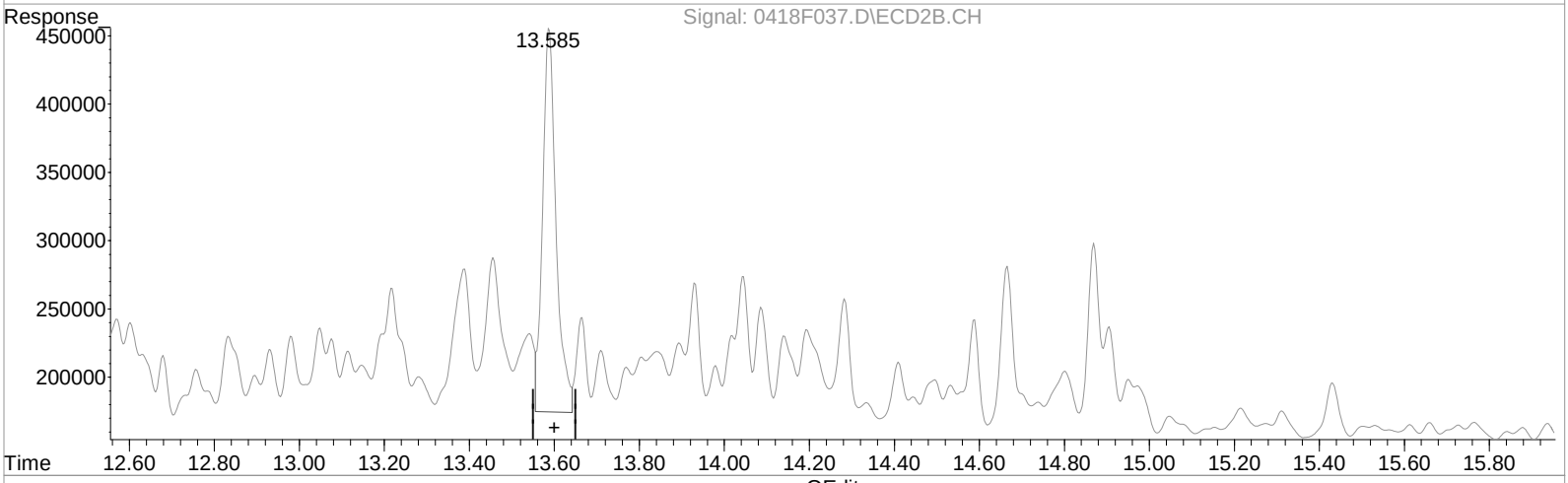
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:20:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.921min 396.486 ug/L

response 132957

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.585min 689.020 ug/L

response 621126

(+) = Expected Retention Time

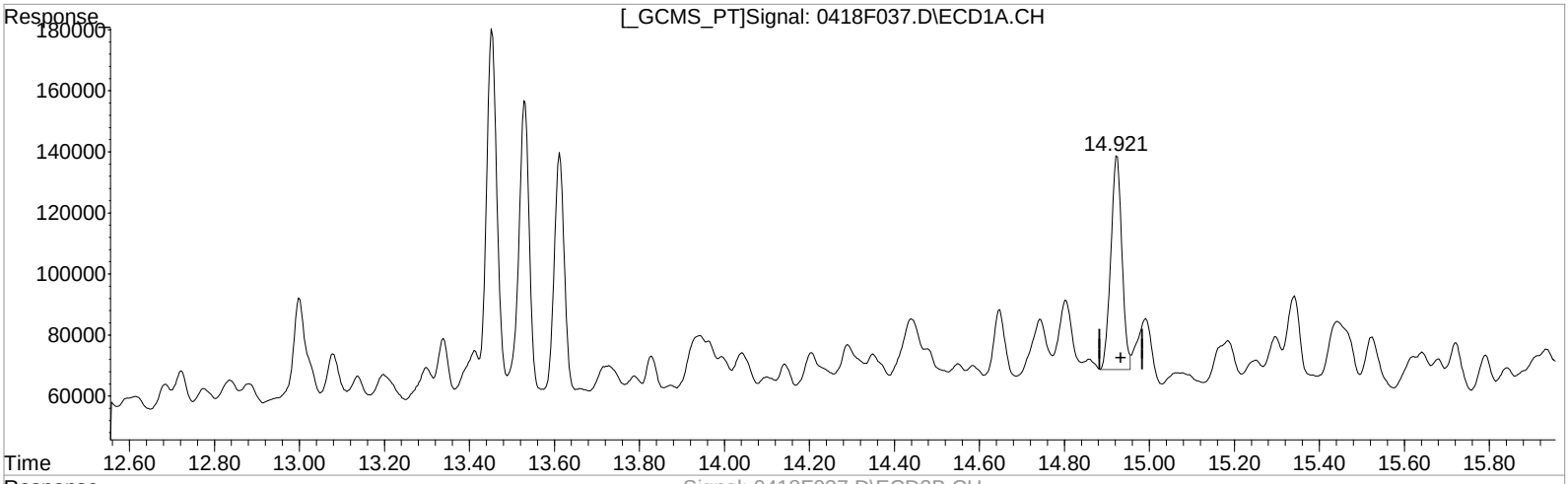
Quantitation Report (Qedit)

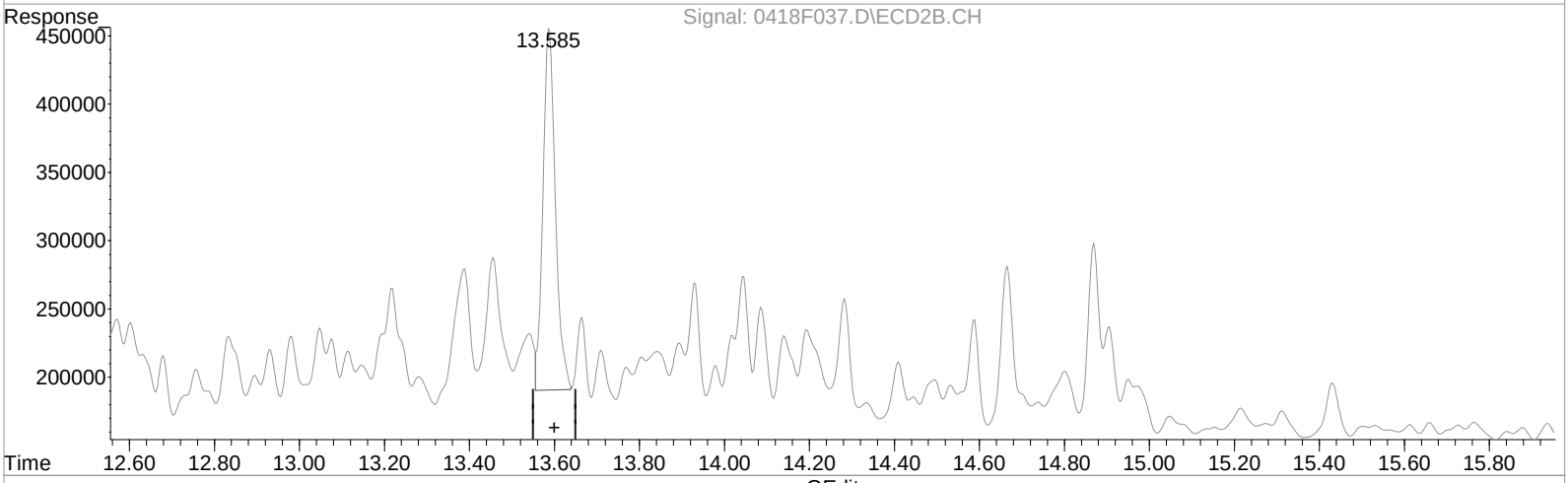
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:20:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.921min 379.897 ug/L m

response 127394

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.585min 577.295 ug/L m

response 535998

(+) = Expected Retention Time

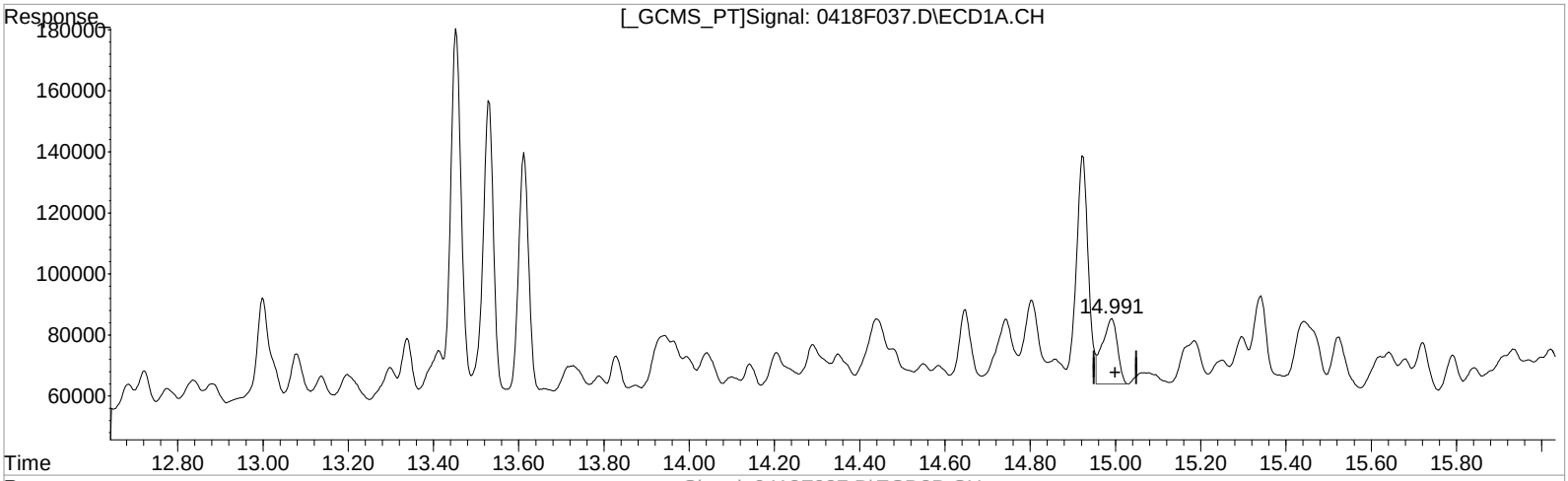
Quantitation Report (Qedit)

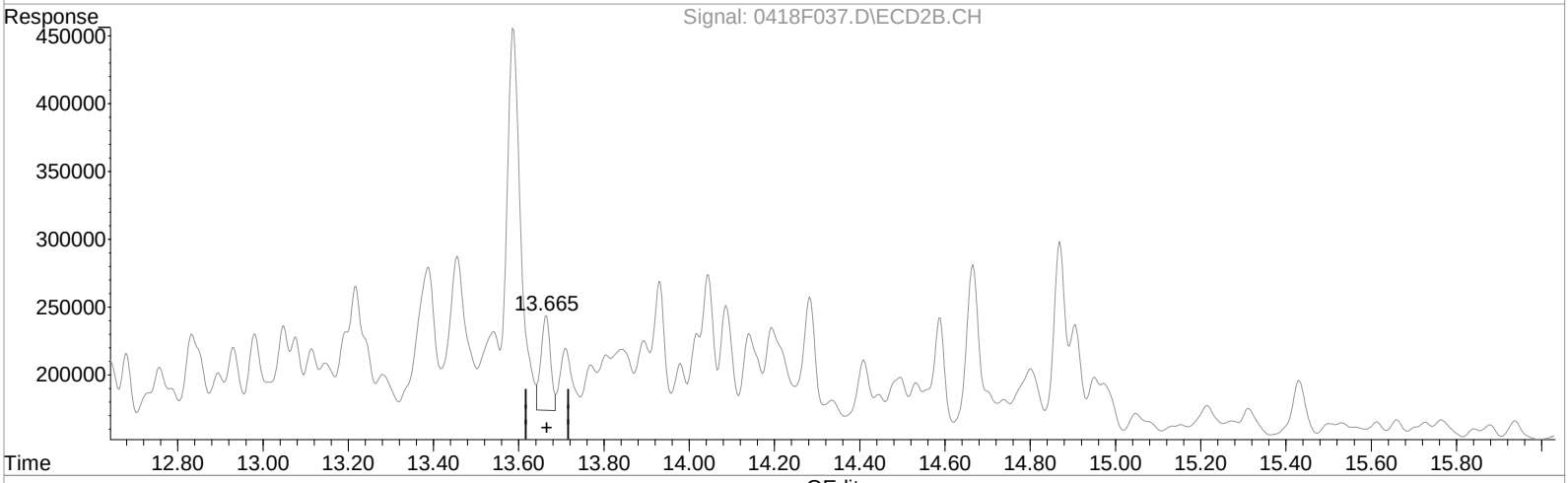
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:20:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.991min 233.452 ug/L

response 52649

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.665min 298.659 ug/L

response 108493

(+) = Expected Retention Time

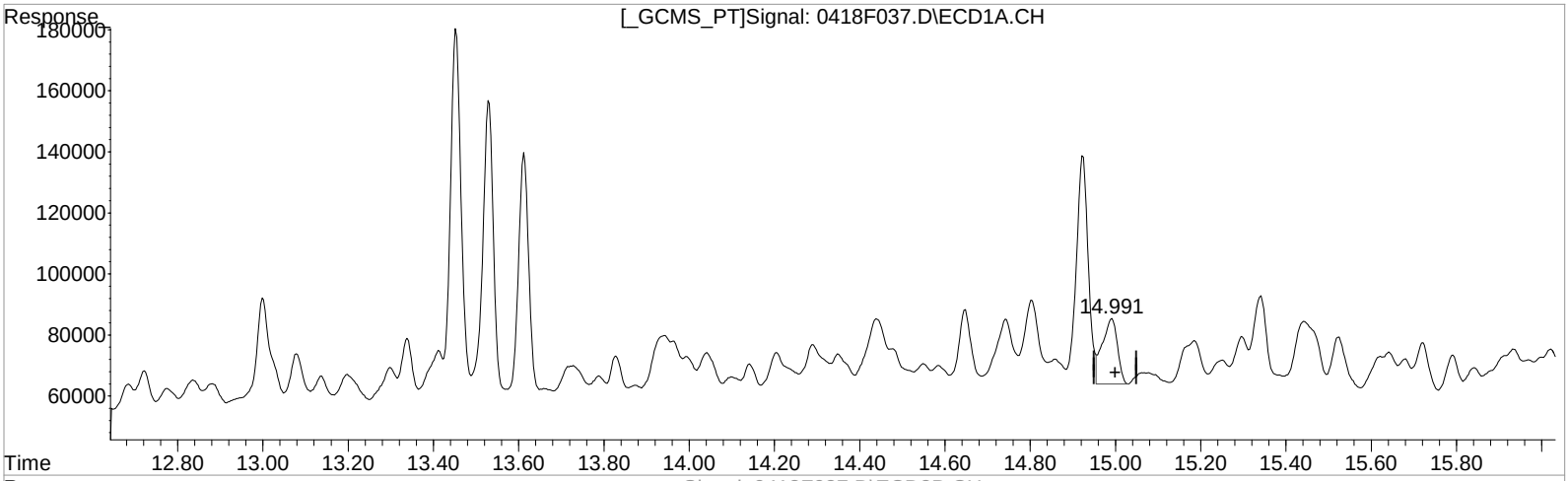
Quantitation Report (Qedit)

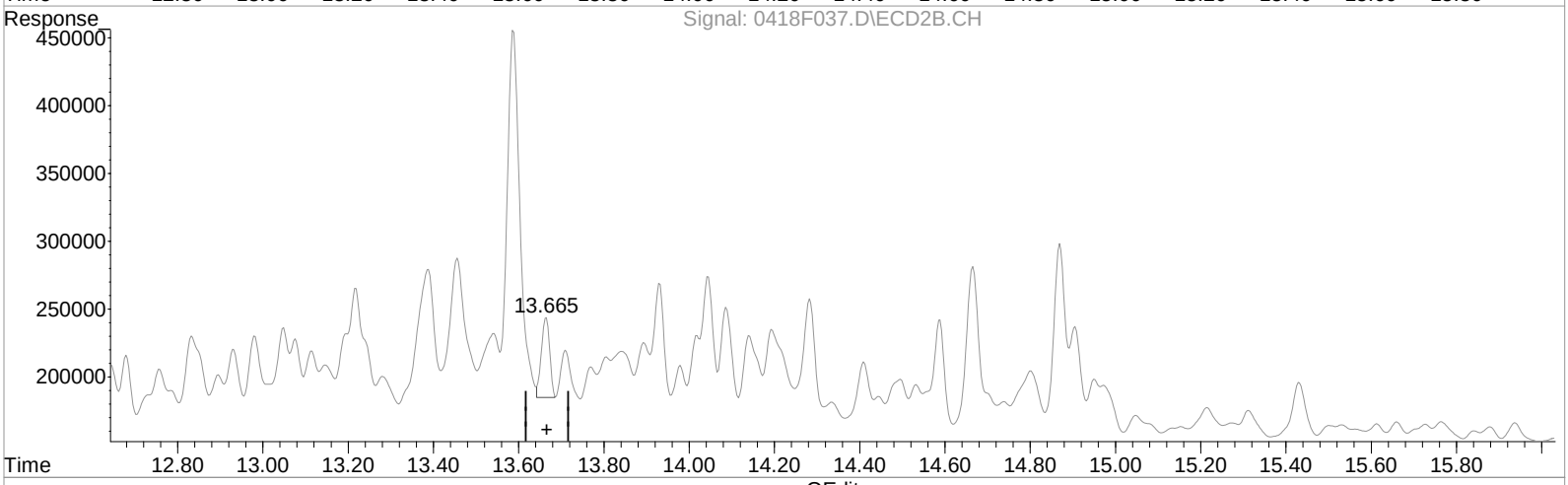
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:20:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.991min 233.452 ug/L

response 52649

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.665min 215.664 ug/L m

response 80089

(+) = Expected Retention Time

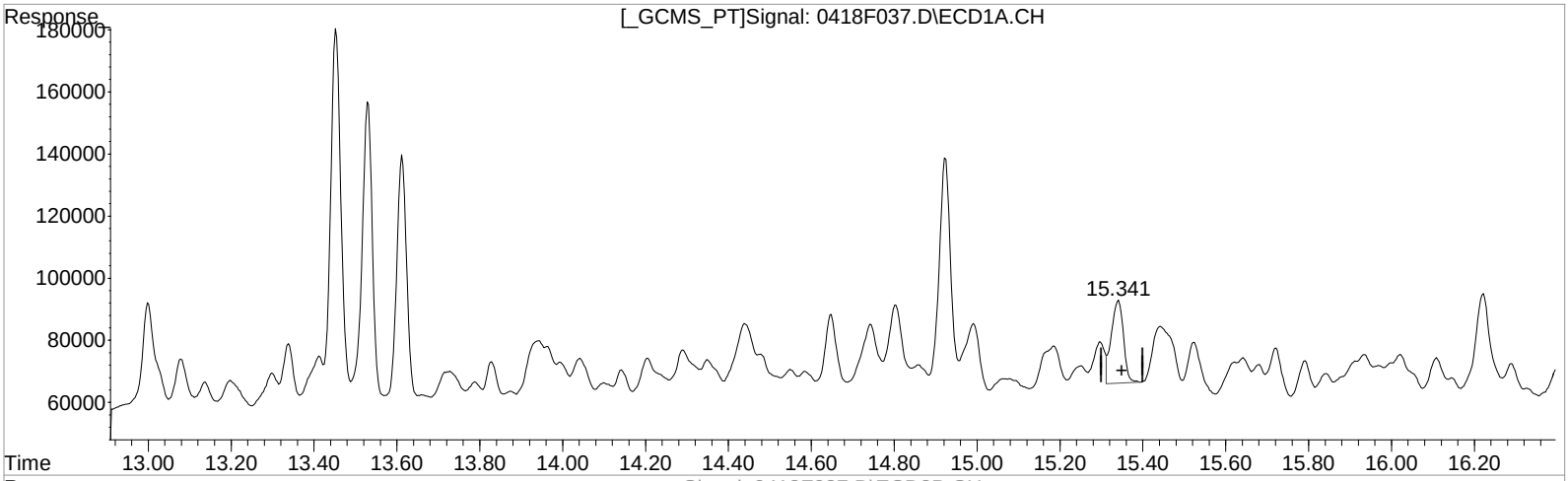
Quantitation Report (Qedit)

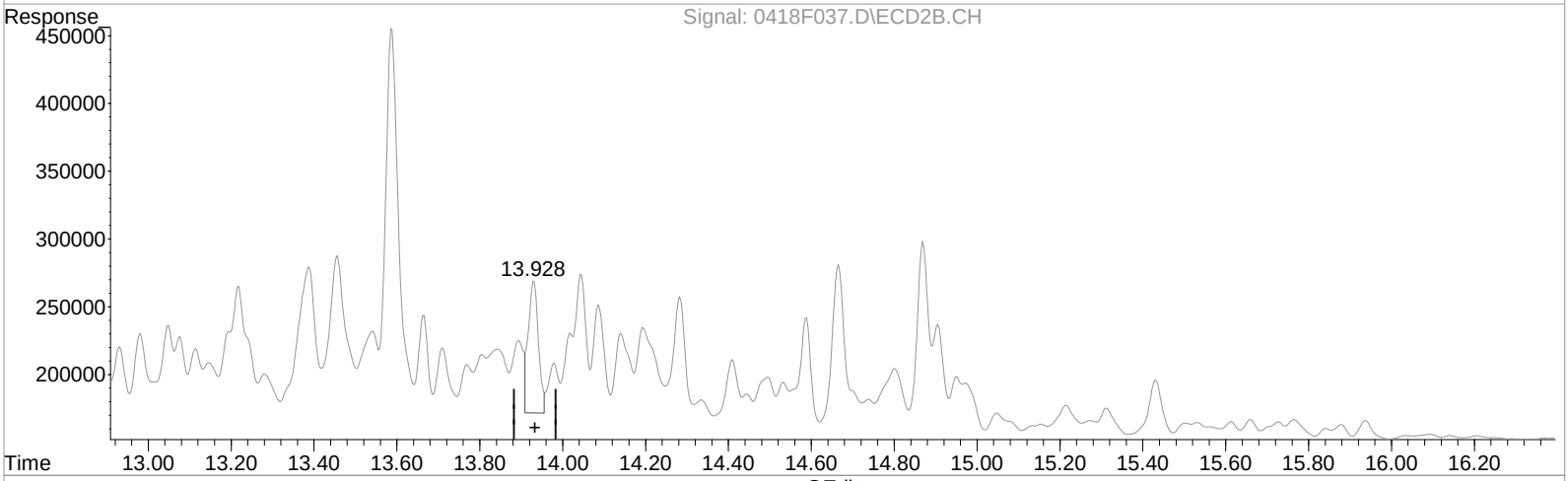
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:20:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.341min 250.460 ug/L

response 53823

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.928min 278.896 ug/L

response 165834

(+) = Expected Retention Time

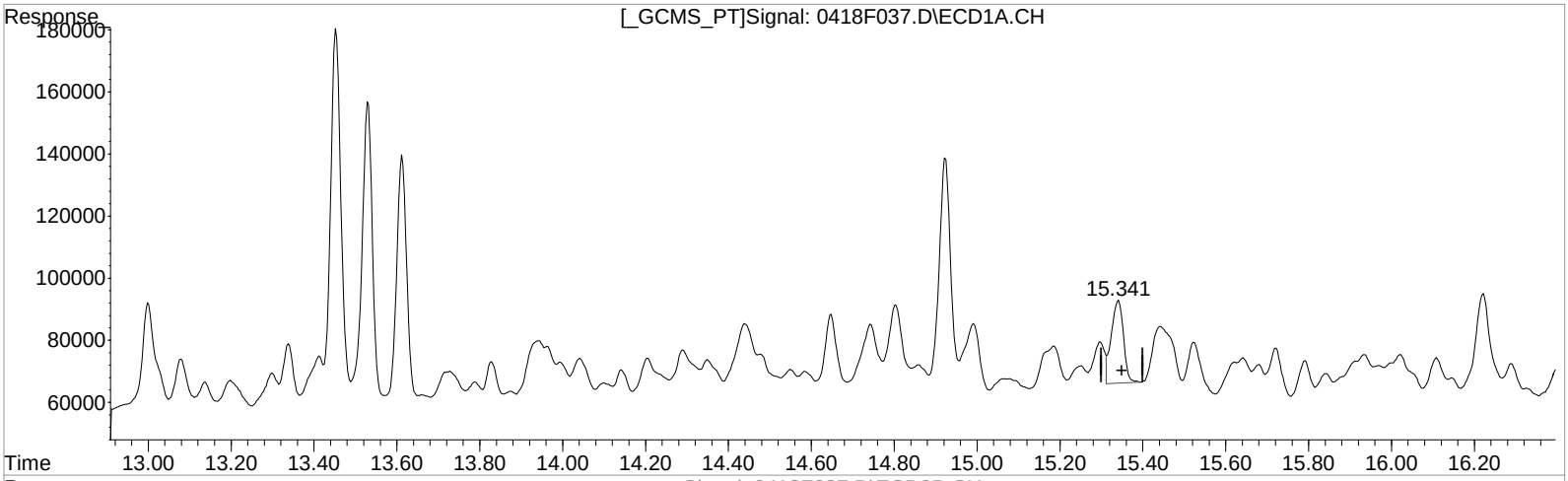
Quantitation Report (Qedit)

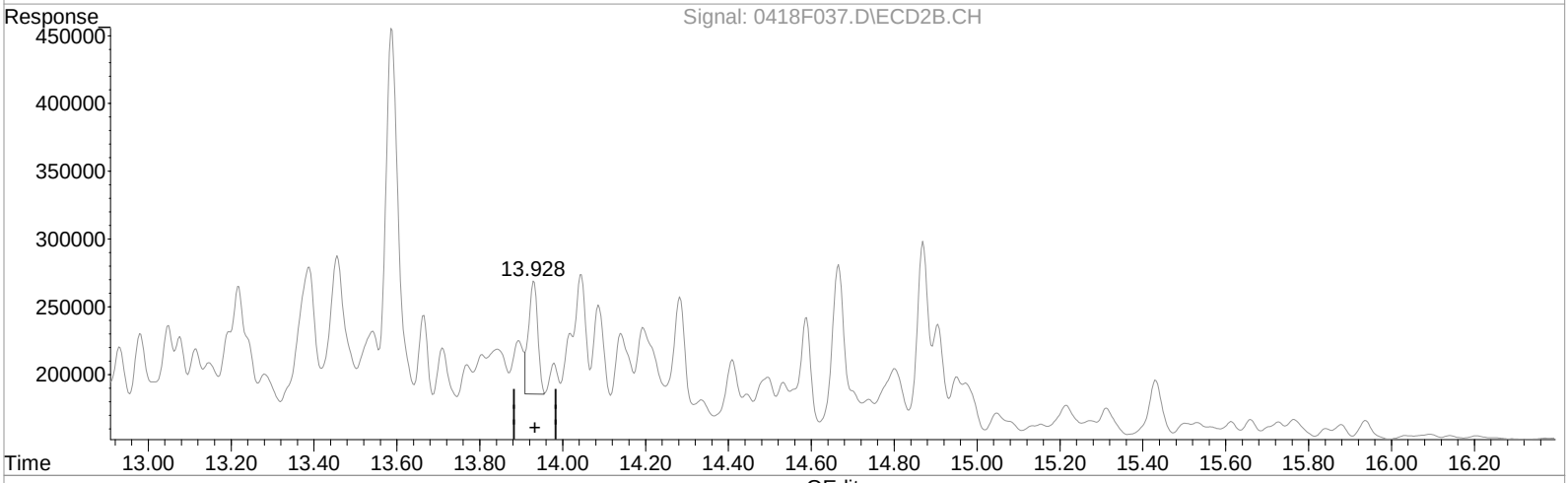
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F037.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:23 pm Operator: LM
Sample : KQ2004497-03 T/C LCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:20:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.341min 250.460 ug/L

response 53823

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.928min 213.077 ug/L m

response 126697

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F036.D\
Lab ID: KQ2004497-02
RunType: DLCS
Matrix: Water

Date Acquired: 4/19/20 12:53:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F036.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 12:53:00	**Vial:**	16
Run Type:	DLCS	**Dilution:**	1
Lab ID:	KQ2004497-02	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	KQ2004497
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.48	-0.0 c	1132750	4924512	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.48	-0.0 c	1132750	4924512	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.48	c	1132750	4924512	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07	79396	274209	3.939	3.454	79	69	69	14 - 160	Y
Tetrachloro-m-xylene	8.97	7.26 -0.01	78993	293730	4.810	4.814	96	96	96	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc		Rpt?
Aldrin	12.21	10.51 -0.01	92181	367374	5.076	4.734	25.4	23.7	**23.7**		Y
alpha-BHC	9.82	8.50	94056	377927	4.978	4.843	24.9	24.2	**24.2**		Y
beta-BHC	11.08 +0.01	9.78	40985	163188	4.057	4.408	20.3	22.0	**20.3**		Y
gamma-BHC (Lindane)	10.49	9.24	90742	362345	4.970	4.770	24.9	23.9	**23.9**		Y
Chlordane					0	0	0U	0U	3.8 U		Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0			
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0			
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0			
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0			
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0			
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0			
Dieldrin	14.00	12.63 -0.01	87486	333544	4.681	4.611	23.4	23.1	**23.1**		Y
Heptachlor	11.69 +0.01	9.92 -0.01	100124	625631	5.104	8.109	25.5	40.5	**25.5**	P	Y
Heptachlor Epoxide	12.93	11.60	88962	337654	4.659	4.437	23.3	22.2	**22.2**		Y
Hexachlorobenzene	9.98	8.28	107742	372273	4.816	4.749	24.1	23.7	**23.7**		Y
Toxaphene					0	0	0U	0U	49 U		Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F036.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 12:53:00	**Vial:**	16
Run Type:	DLCS	**Dilution:**	1
Lab ID:	KQ2004497-02	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F036.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:53 pm Operator: LM
Sample : KQ2004497-02 81 DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:19:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.199	5.482	1132750	4924512	100.000	100.000
29)	1-Bromo-2...	6.199	5.482	1132750	4924512	100.000	100.000
36)	1-Bromo-2...	6.199	5.482	1132750	4924512	100.000	100.000
43)	1-Bromo-2...	6.199	5.482	1132750	4924512	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.972	7.263	78993	293730	4.810	4.814
28) s	Decachlor...	18.669	17.066	79396	274209	3.939	3.454
	Target Compounds						
3)	alpha-BHC	9.819	8.496	94056	377927	4.978	4.843
4)	Hexachlor...	9.979	8.279	107742	372273	4.816	4.749m
5)	beta-BHC	11.075	9.776	40985	163188	4.057	4.408
6)	gamma-BHC...	10.485	9.239	90742	362345	4.970	4.770
7)	delta-BHC	11.579	10.303	81302	327878	4.403	4.414
8)	Heptachlor	11.685	9.922	100124	625631	5.104	8.109 #
9)	Aldrin	12.212	10.512	92181	367374	5.076	4.734
10)	Isodrin	12.742	11.309	86714	345613	5.566	5.321
11)	Heptachlo...	12.932	11.596	88962	337654	4.659	4.437
12)	gamma-Chl...	13.452	11.973	93202	357813	4.881	4.863
13)	Endosulfan I	13.582	12.186	84784	314819	4.867	4.750
14)	alpha-Chl...	13.529	12.119	95087	353993	5.002	4.750
15)	Dieldrin	14.002	12.633	87486	333544	4.681	4.611
16)	4,4'-DDE	13.805	12.483	85908	308647	4.912	4.432
17)	Endrin	14.369	13.116	84789	333520	4.971	4.844
18)	Endosulfa...	14.812	13.546	87134	358627	5.042	5.765
19)	4,4'-DDD	14.642	13.373	72781	278409	5.384m	5.341
20)	Endrin Al...	14.992	13.916	68900	240047	4.599	4.660m
21)	Endosulfa...	15.469	14.236	85885	298281	4.878	4.863
22)	4,4'-DDT	15.145	13.796	64230	311123	4.522	6.191m#
23)	Endrin Ke...	16.155	15.186	89673	348990	4.746	4.756
24)	Methoxychlor	15.889	14.906	63536	175686	7.377	6.298
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

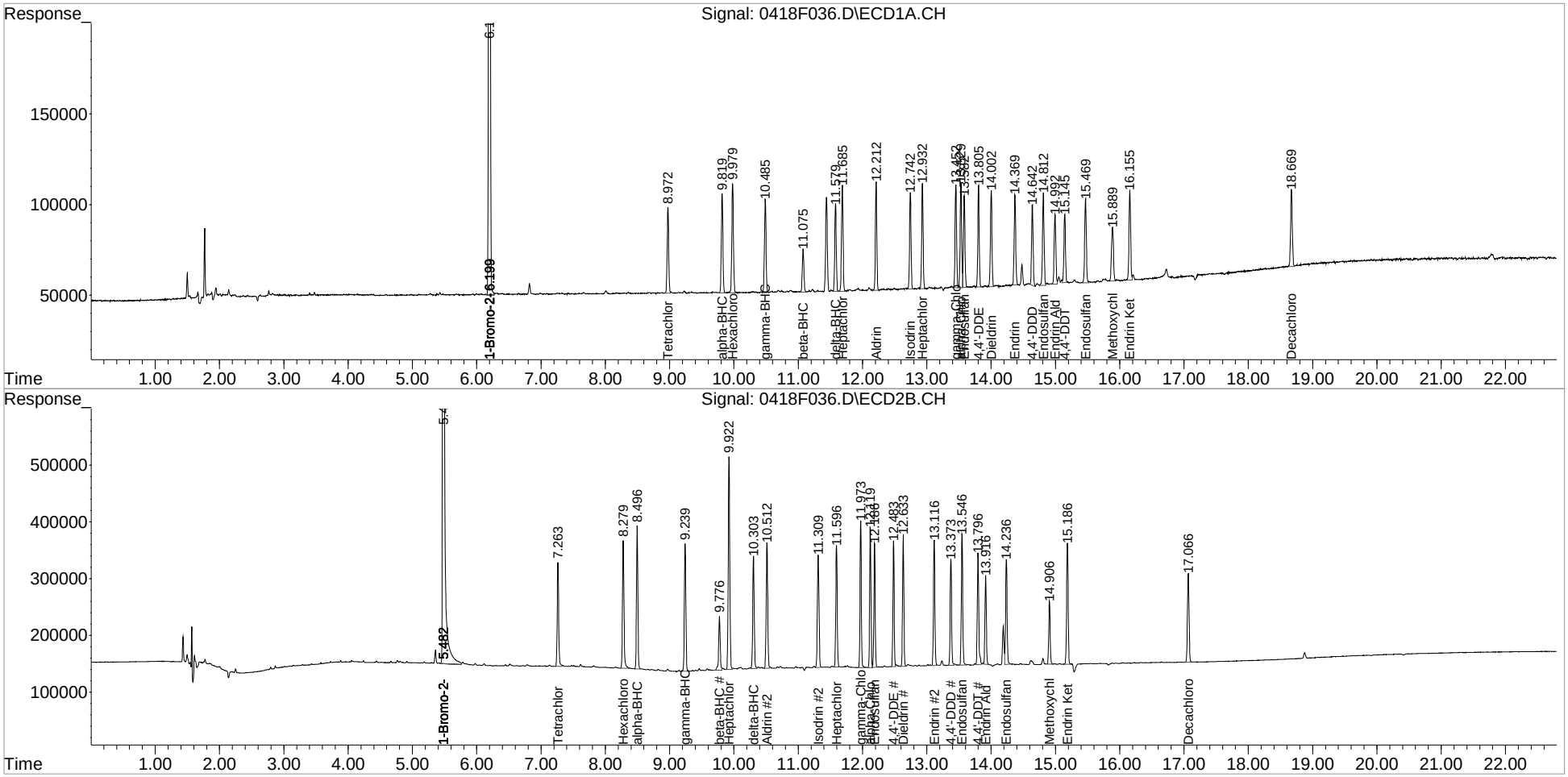
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F036.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:53 pm Operator: LM
Sample : KQ2004497-02 81 DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:19:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



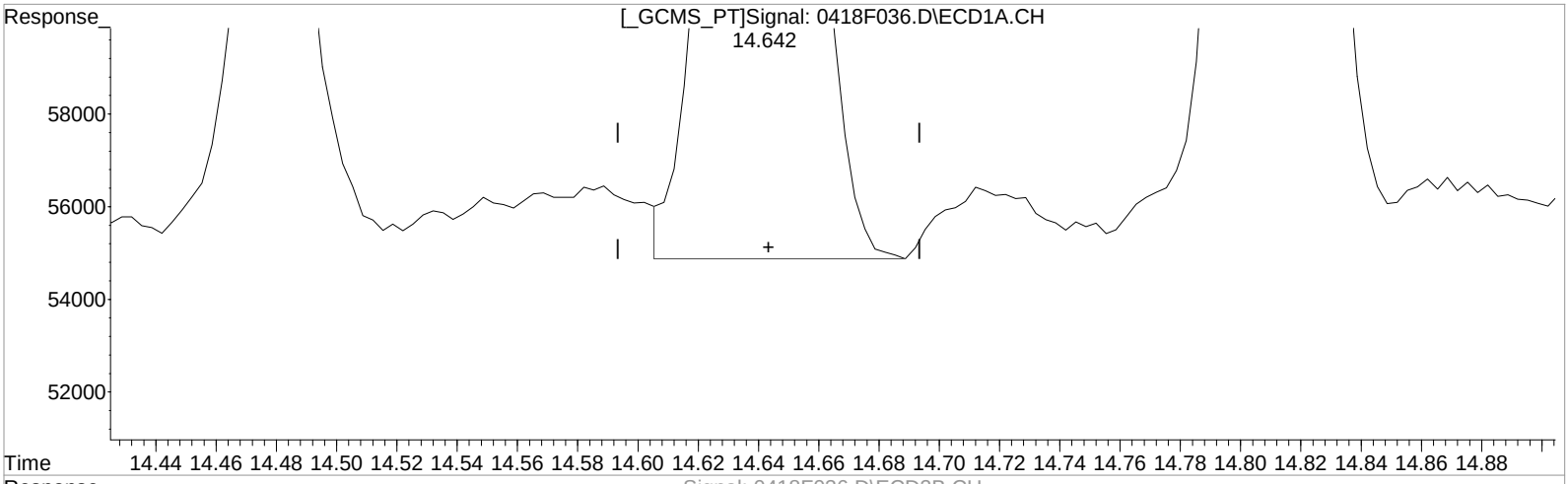
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F036.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:53 pm Operator: LM
Sample : KQ2004497-02 81 DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:16:50 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(19) 4,4'-DDD

14.642min 5.575 ug/L

response 75369

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.373min 5.341 ug/L

response 278409

(+) = Expected Retention Time

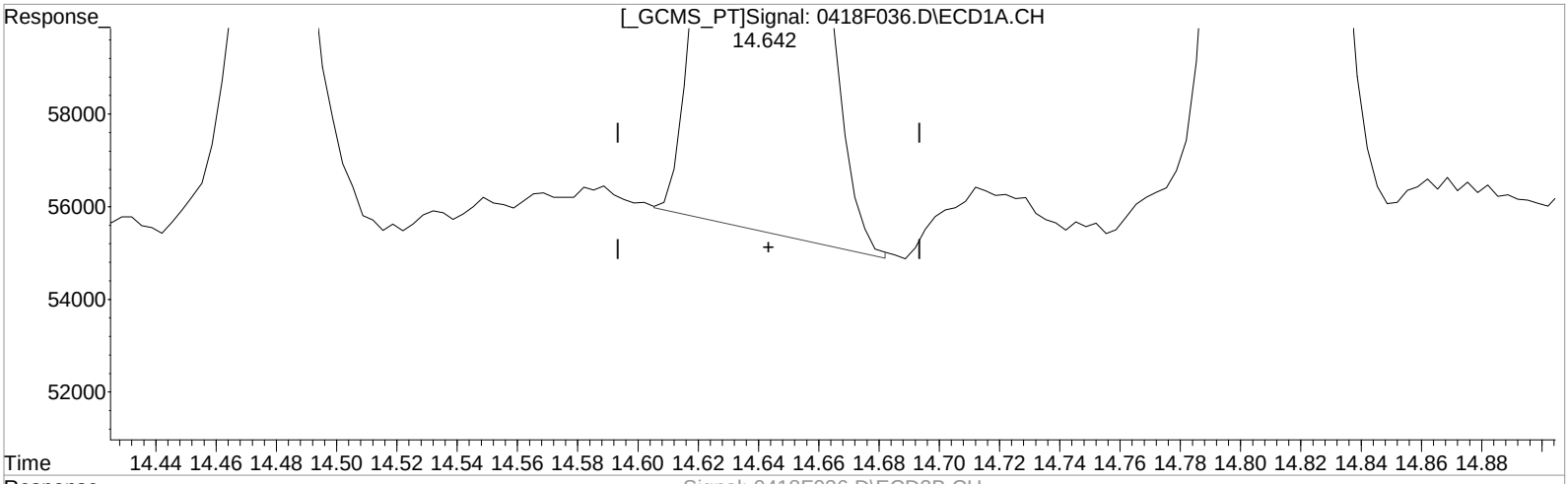
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F036.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:53 pm Operator: LM
Sample : KQ2004497-02 81 DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:16:50 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(19) 4,4'-DDD

14.642min 5.384 ug/L m

response 72781

Manual Integration:

After

Baseline correction

04/21/20

(19) 4,4'-DDD #2

13.373min 5.341 ug/L

response 278409

(+) = Expected Retention Time

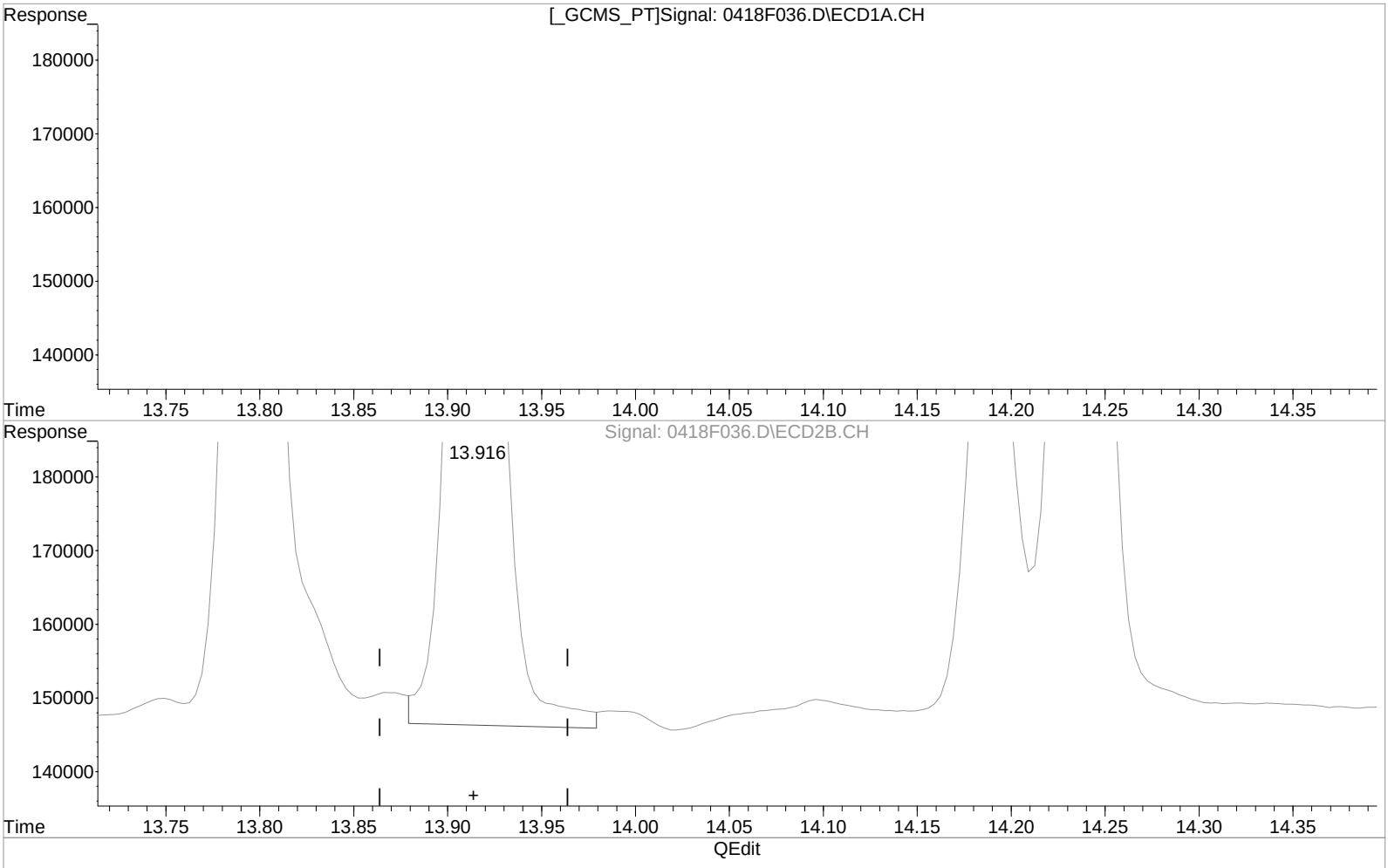
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F036.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:53 pm Operator: LM
Sample : KQ2004497-02 81 DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:16:50 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.992min 4.599 ug/L

response 68900

Manual Integration:

Before

04/21/20

(20) Endrin Aldehyde #2

13.916min 4.970 ug/L

response 256022

(+) = Expected Retention Time

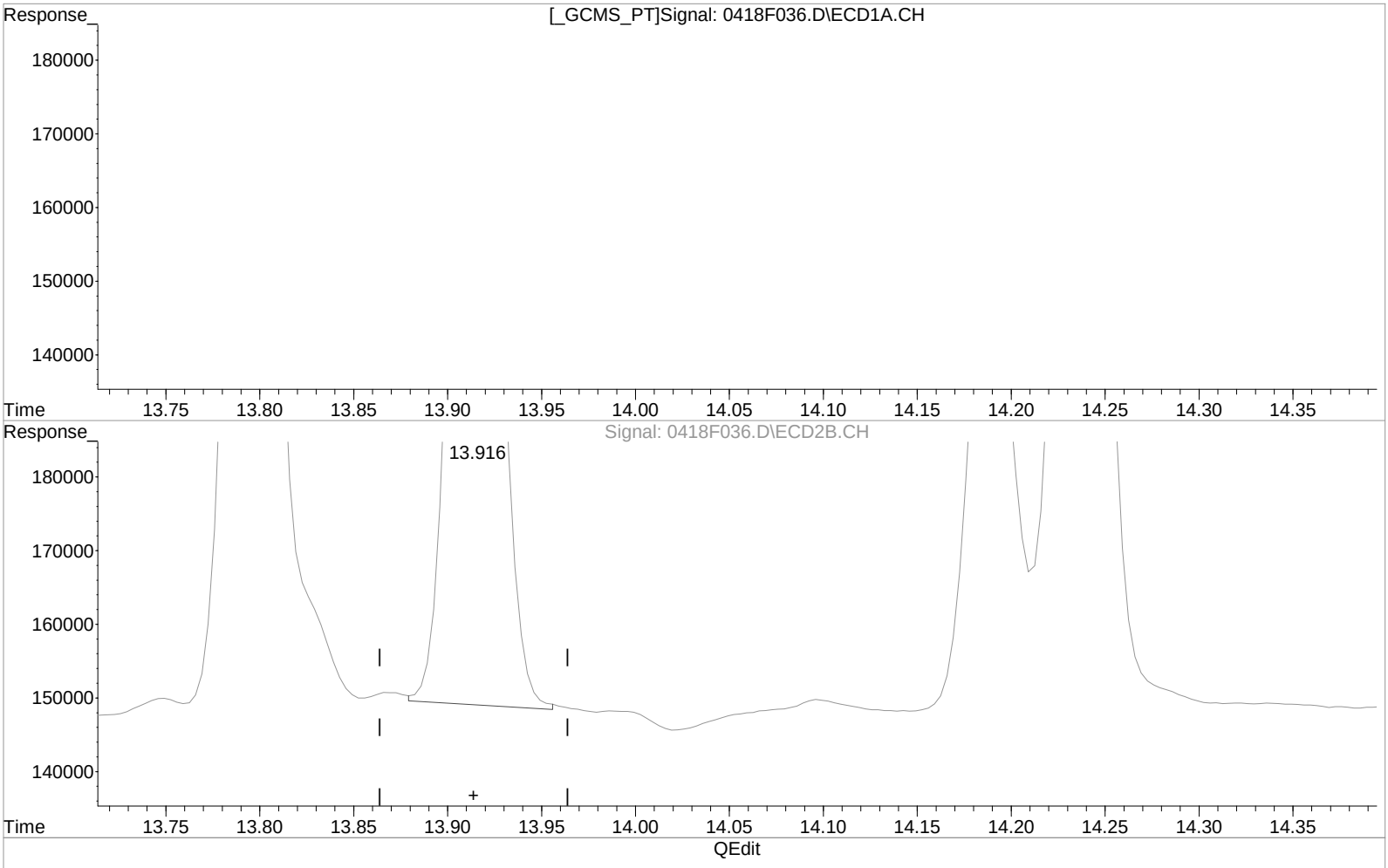
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F036.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:53 pm Operator: LM
Sample : KQ2004497-02 81 DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:16:50 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.992min 4.599 ug/L

response 68900

Manual Integration:

After

Baseline correction

04/21/20

(20) Endrin Aldehyde #2

13.916min 4.660 ug/L m

response 240047

(+) = Expected Retention Time

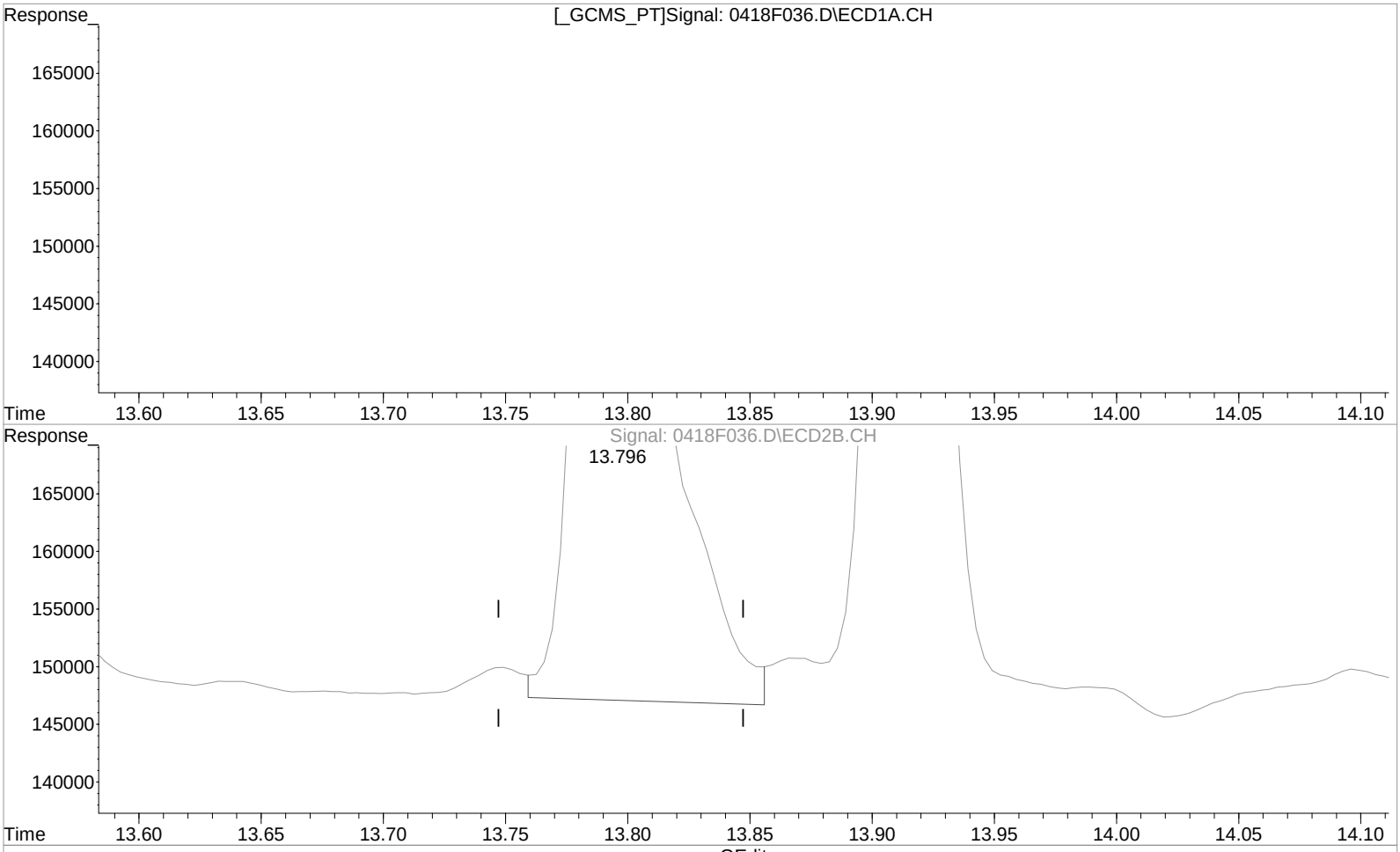
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F036.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:53 pm Operator: LM
Sample : KQ2004497-02 81 DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:16:50 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.145min 4.522 ug/L

response 64230

Manual Integration:

Before

04/21/20

(22) 4,4'-DDT #2

13.796min 6.378 ug/L

response 320553

(+) = Expected Retention Time

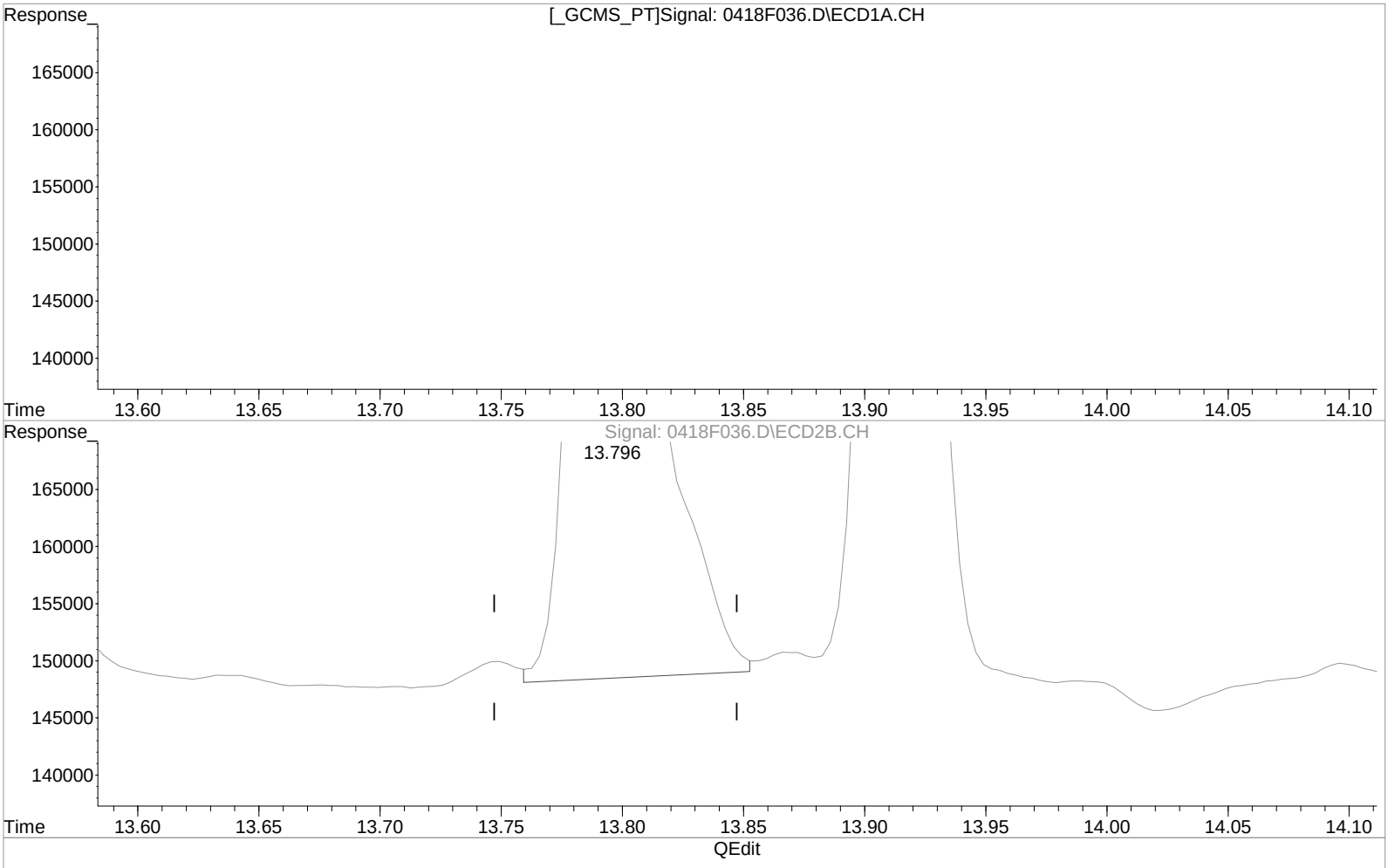
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F036.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:53 pm Operator: LM
Sample : KQ2004497-02 81 DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:16:50 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(22) 4,4'-DDT

15.145min 4.522 ug/L

response 64230

Manual Integration:

After

Baseline correction

04/21/20

(22) 4,4'-DDT #2

13.796min 6.191 ug/L m

response 311123

(+) = Expected Retention Time

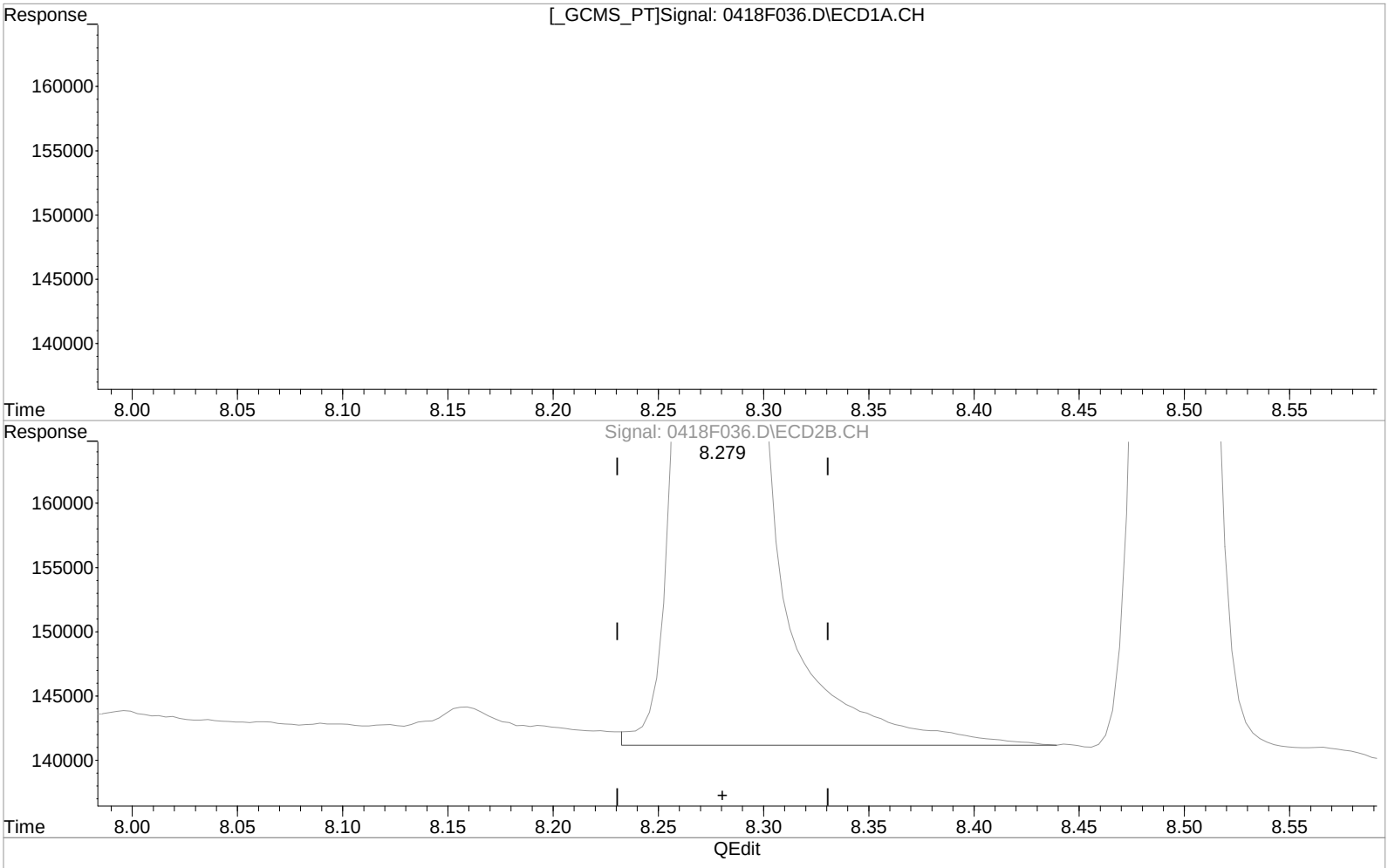
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F036.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:53 pm Operator: LM
Sample : KQ2004497-02 81 DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:16:50 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(4) Hexachlorobenzene

9.979min 4.816 ug/L

response 107742

Manual Integration:

Before

04/21/20

(4) Hexachlorobenzene #2

8.279min 4.850 ug/L

response 380199

(+) = Expected Retention Time

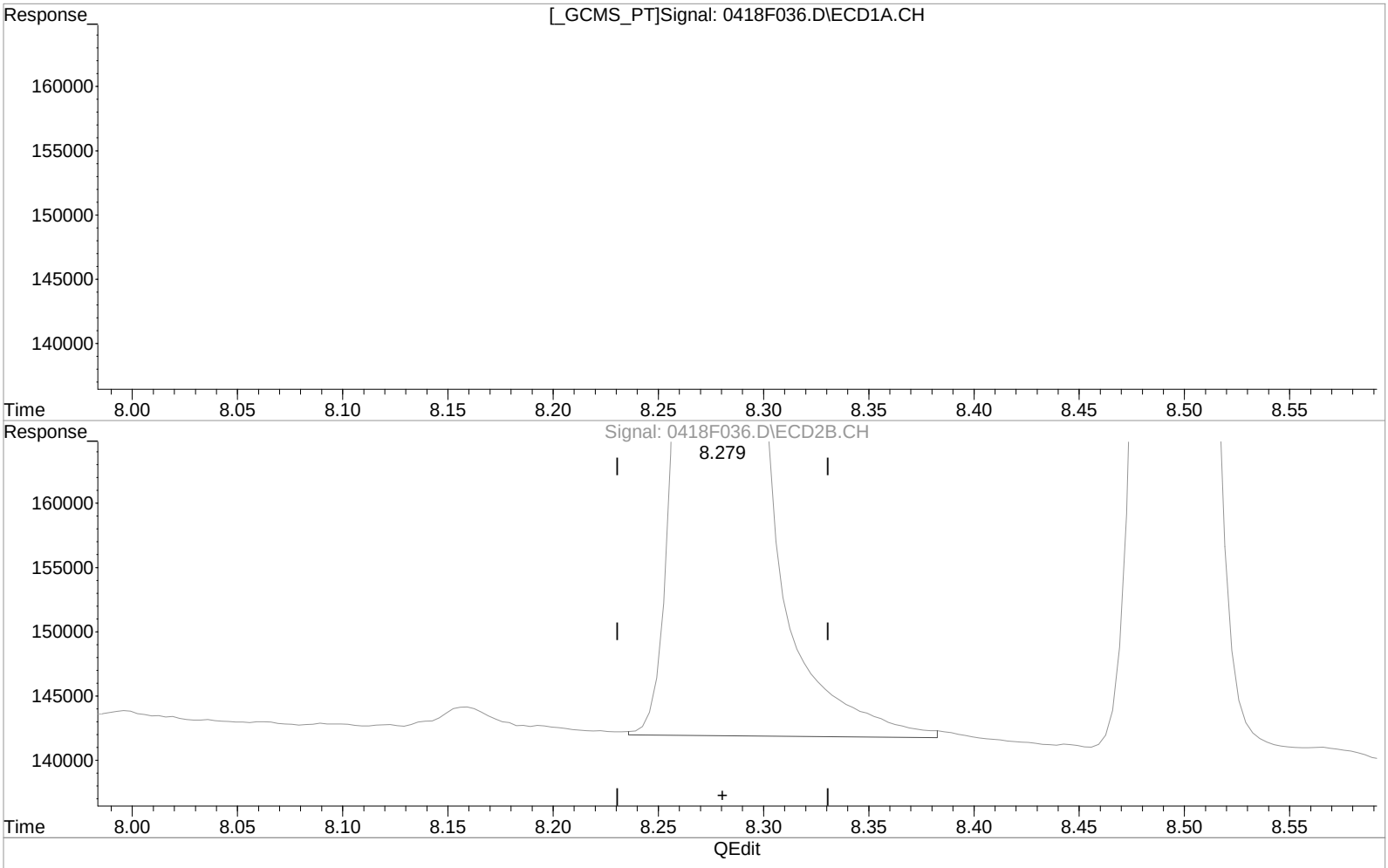
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F036.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:53 pm Operator: LM
Sample : KQ2004497-02 81 DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:16:50 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(4) Hexachlorobenzene

9.979min 4.816 ug/L

response 107742

Manual Integration:

After

Baseline correction

04/21/20

(4) Hexachlorobenzene #2

8.279min 4.749 ug/L m

response 372273

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F038.D\
Lab ID: KQ2004497-04
RunType: DLCS
Matrix: Water

Date Acquired: 4/19/20 13:53:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st SM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F038.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 13:53:00	**Vial:**	18
Run Type:	DLCS	**Dilution:**	1
Lab ID:	KQ2004497-04	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**	356226	**Report Group:**	KQ2004497
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1163352	5082135	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1163352	5082135	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1163352	5082135	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07	78917	273125	3.812	3.334	76	67	67	14 - 160	Y
Tetrachloro-m-xylene	8.98 +0.01	7.26 -0.01	84465	310901	5.008	4.937	100	99	99	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					3333333333	6666666666	509	580	**509**	Y
Chlordane {1}	11.27	9.57	66517	225078	83.873	81.132	419	406		
Chlordane {2}	11.68 -0.01	11.66 -0.01	78753	272244	78.394	143.896	392	719		P
Chlordane {3}	12.25	11.81 -0.01	89709	183458	124.430	146.067	622	730		
Chlordane {4}	13.45	11.97	231968	804904	105.994	105.812	530	529		
Chlordane {5}	13.53	12.02	193005	542473	106.620	116.469	533	582		
Chlordane {6}	13.61	12.12	148133	690188	111.473	102.343	557	512		
Dieldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00	0.00	0	0	0.000	0.000	0U	0U	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					6666666666	6666666666	1740	1680	**1680**	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F038.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 13:53:00	**Vial:**	18
Run Type:	DLCS	**Dilution:**	1
Lab ID:	KQ2004497-04	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74	13.39	60502	326066	316.519	288.737	1580	1440		
Toxaphene {2}	14.81 +0.01	13.45	50501	203897	292.086	234.678	1460	1170		
Toxaphene {3}	14.92	13.58 -0.01	148735	613939	431.721	660.752	2160	3300		P
Toxaphene {4}	14.99	13.66	63968	95858	276.085	255.094	1380	1280		
Toxaphene {5}	15.34	13.93	58297	149955	264.053	246.515	1320	1230		
Toxaphene {6}	15.53 +0.01	15.43	42677	108365	504.330	328.860	2520	1640		P

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:30:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.200	5.481	1163352	5082135	100.000	100.000
29)	1-Bromo-2...	6.200	5.481	1163352	5082135	100.000	100.000
36)	1-Bromo-2...	6.200	5.481	1163352	5082135	100.000	100.000
43)	1-Bromo-2...	6.200	5.481	1163352	5082135	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.977	7.264	84465	310901	5.008	4.937
28) s	Decachlor...	18.674	17.068	78917	273125	3.812	3.334
	Target Compounds						
30)	Toxaphene	14.744	13.388	60502	326066	316.519	288.737m
31)	Toxaphene...	14.807	13.454	50501	203897	292.086m	234.678m
32)	Toxaphene...	14.924	13.584	148735	613939	431.721m	660.752m#
33)	Toxaphene...	14.994	13.664	63968	95858	276.085	255.094m
34)	Toxaphene...	15.344	13.931	58297	149955	264.053	246.515m
35)	Toxaphene...	15.527	15.431	42677	108365	504.330	328.860m#
37)	Chlordane	11.270	9.568	66517	225078	83.873	81.132
38)	Chlordane...	11.684	11.664	78753	272244	78.394	143.896m#
39)	Chlordane...	12.254	11.814	89709	183458	124.430m	146.067m
40)	Chlordane...	13.450	11.971	231968	804904	105.994m	105.812m
41)	Chlordane...	13.530	12.018	193005	542473	106.620	116.469m
42)	Chlordane...	13.610	12.121	148133	690188	111.473	102.343m
	SemiQuant Compounds - Not Calibrated on this Instrument						

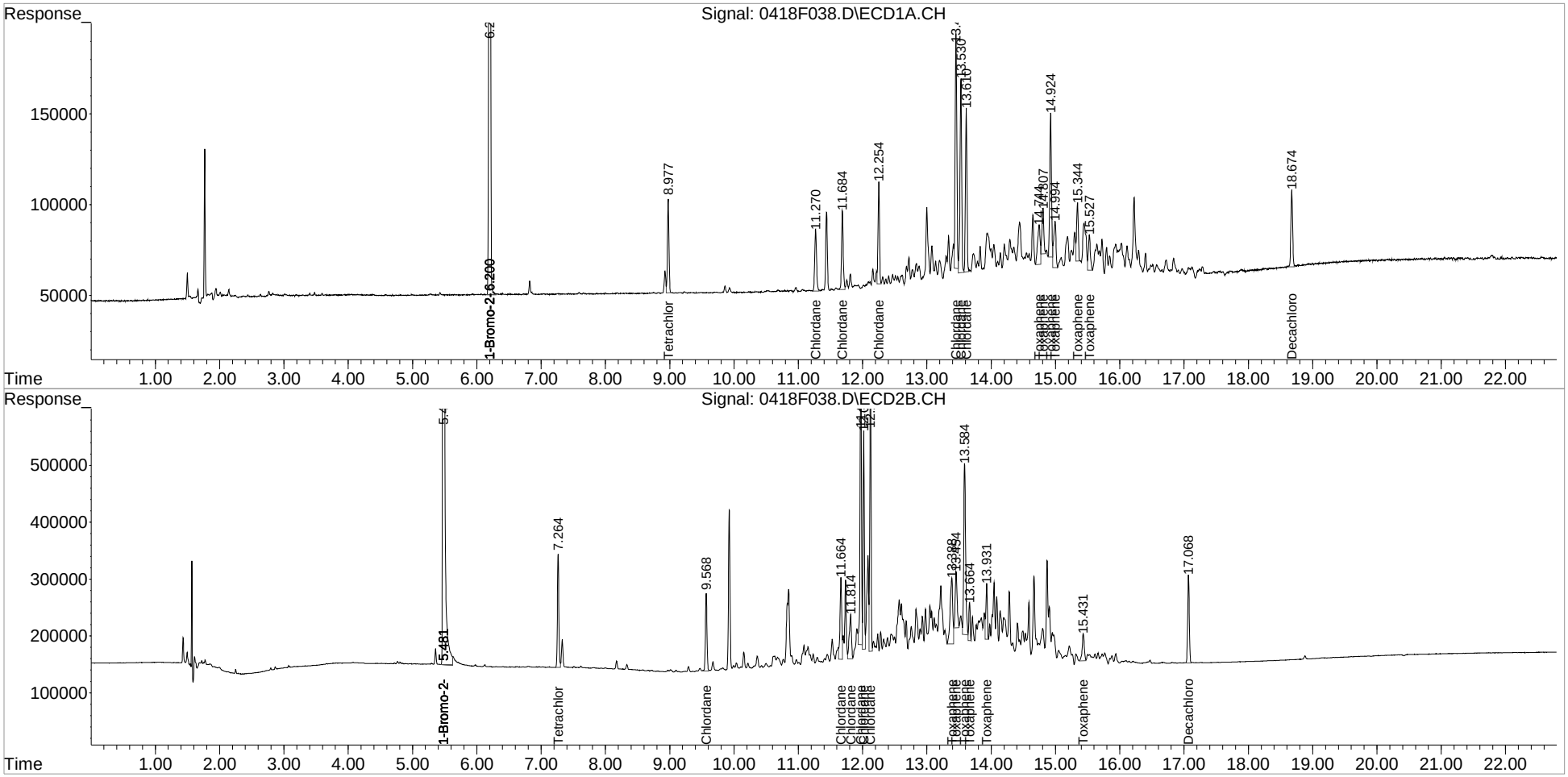
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:30:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



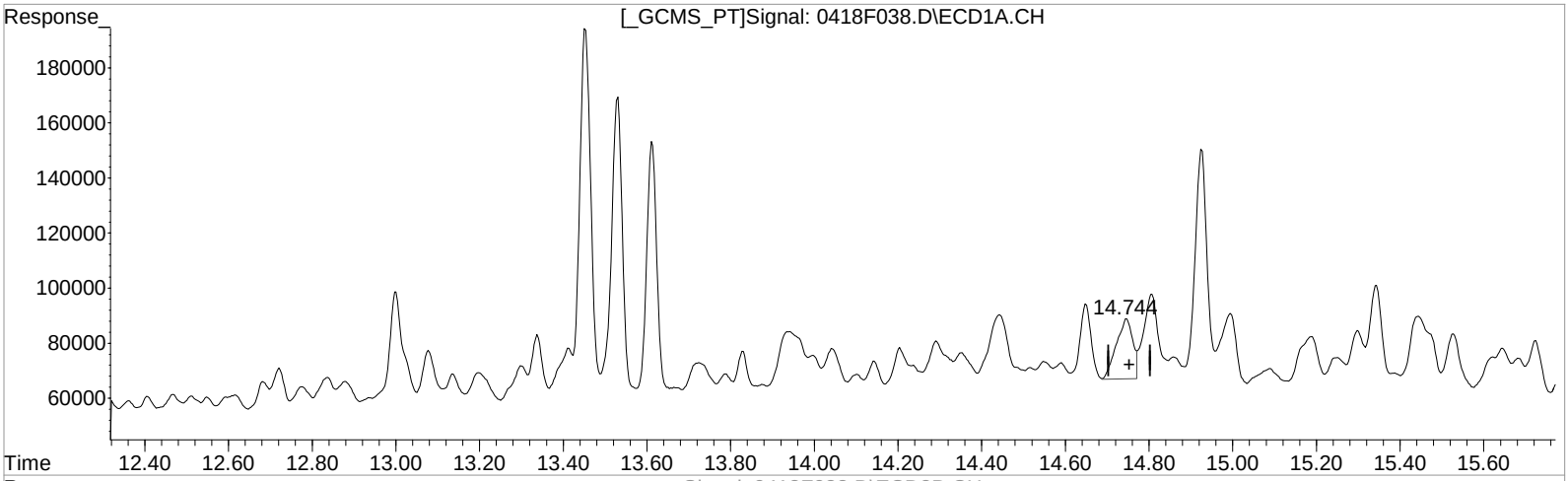
Quantitation Report (Qedit)

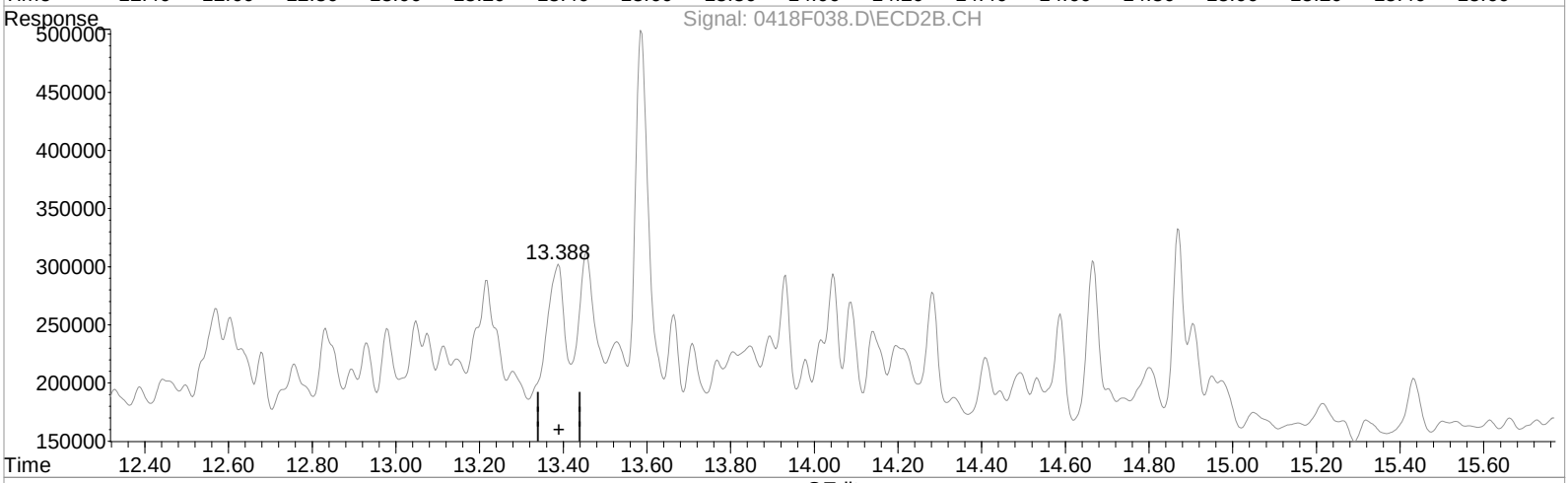
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.744min 316.519 ug/L

response 60502

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.388min 498.450 ug/L

response 562891

(+) = Expected Retention Time

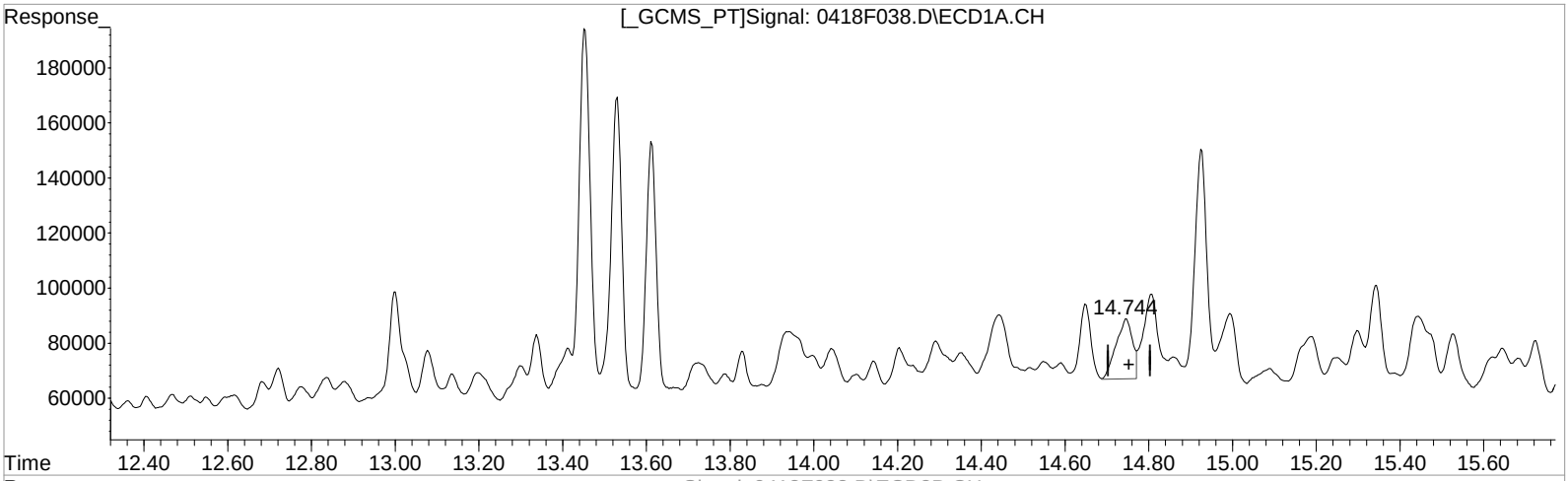
Quantitation Report (Qedit)

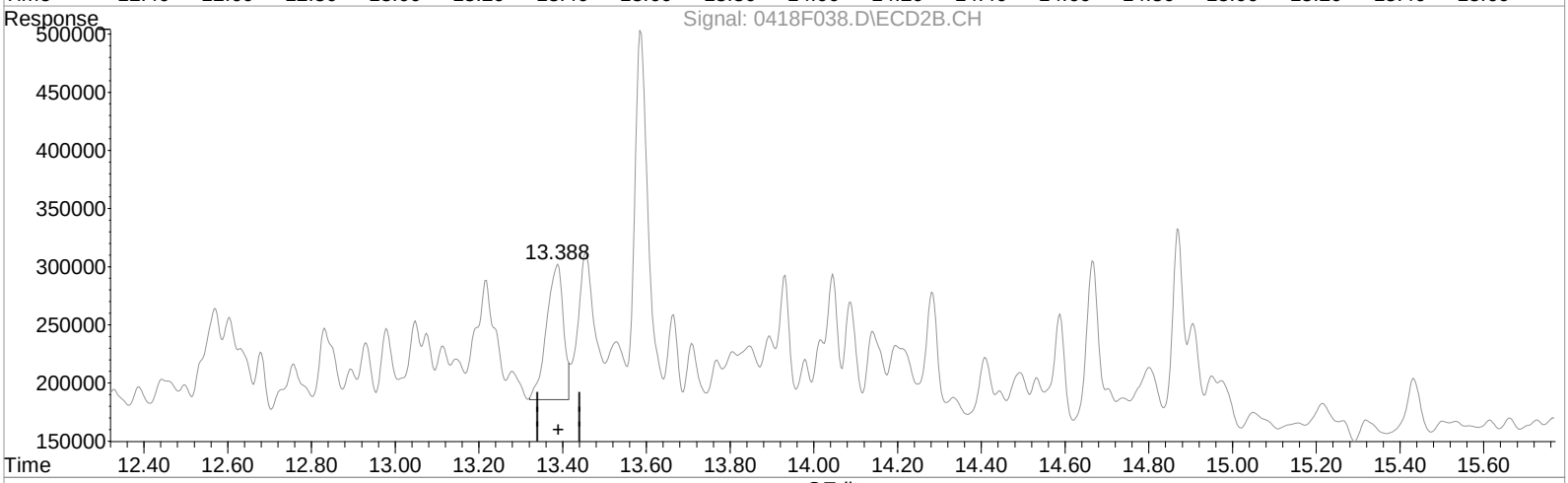
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.744min 316.519 ug/L

response 60502

Manual Integration:

After

Baseline correction

04/21/20

(30) Toxaphene #2

13.388min 288.737 ug/L m

response 326066

(+) = Expected Retention Time

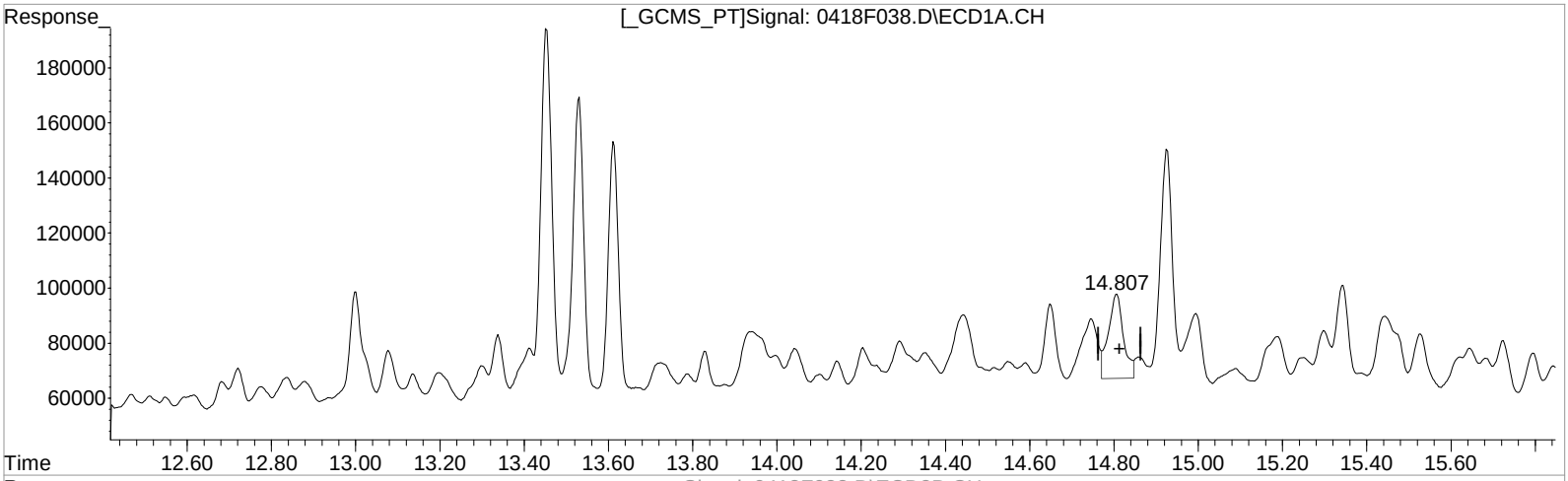
Quantitation Report (Qedit)

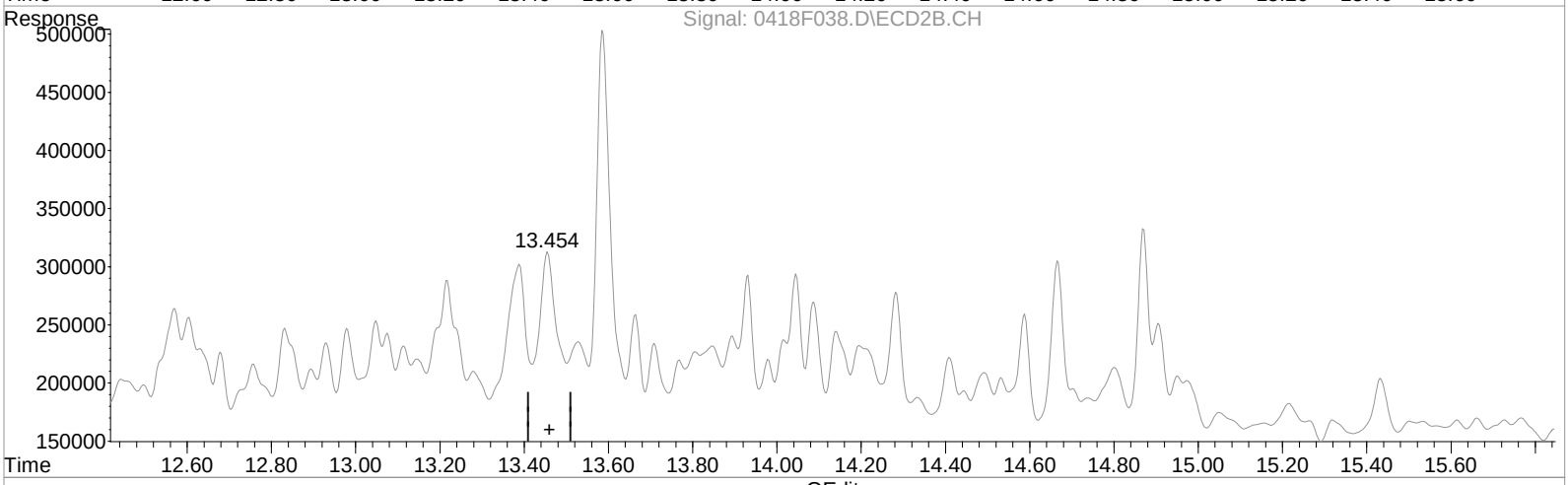
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.807min 443.644 ug/L

response 76705

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.454min 619.684 ug/L

response 538405

(+) = Expected Retention Time

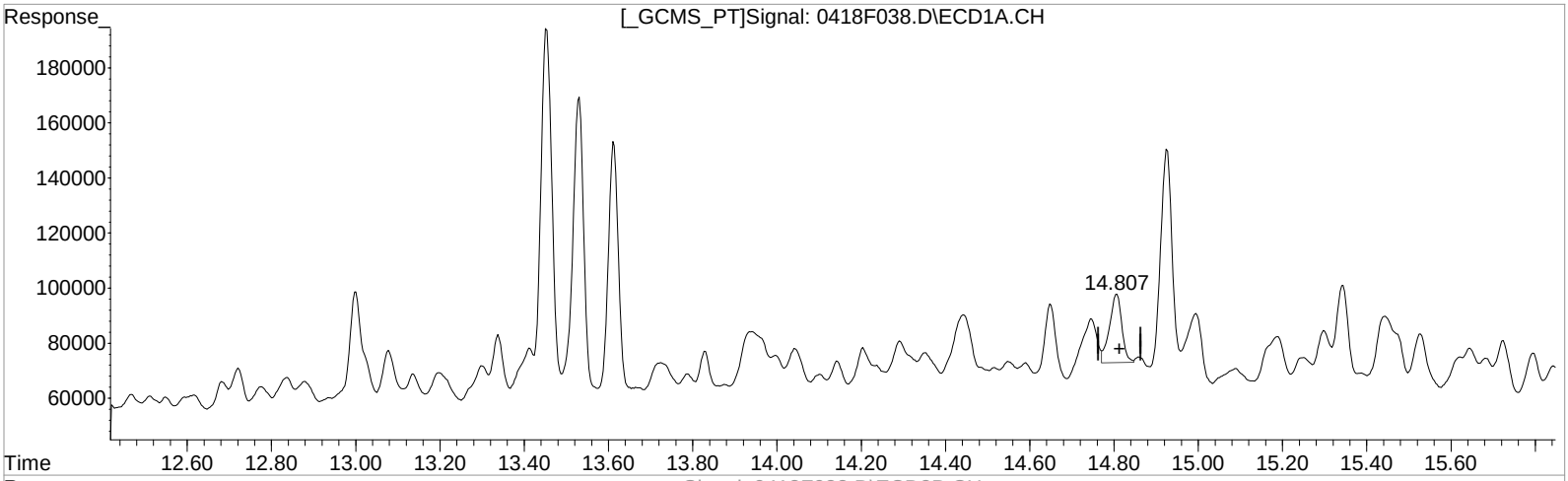
Quantitation Report (Qedit)

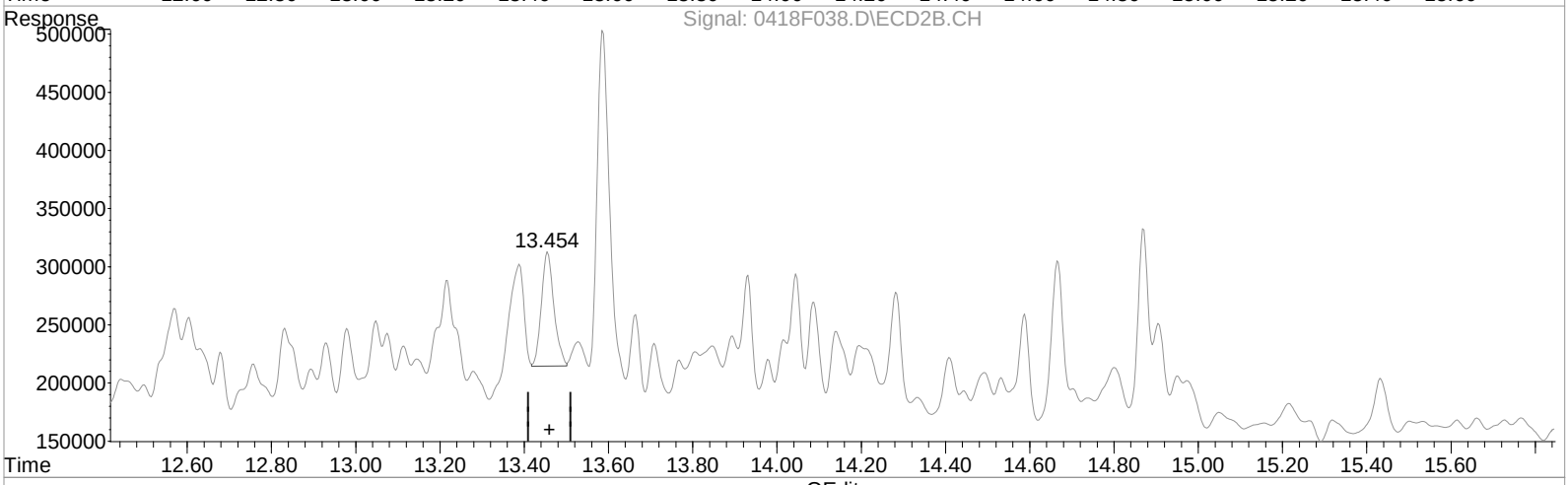
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.807min 292.086 ug/L m

response 50501

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.454min 234.678 ug/L m

response 203897

(+) = Expected Retention Time

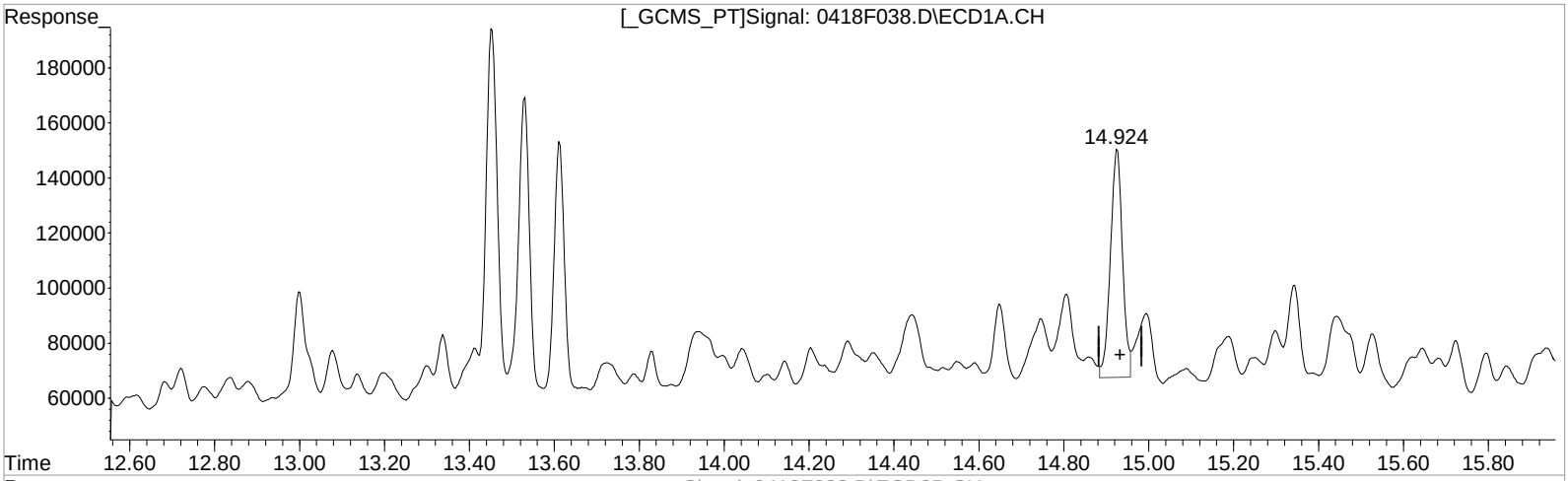
Quantitation Report (Qedit)

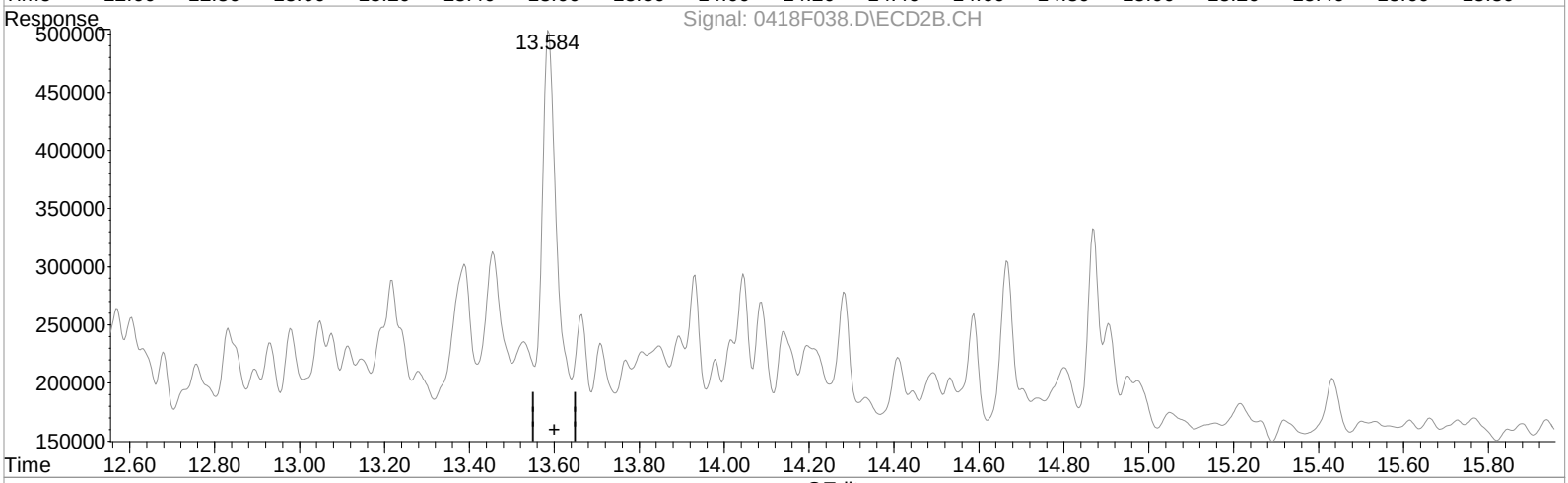
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.924min 476.300 ug/L

response 164093

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.584min 1084.930 ug/L

response 897514

(+) = Expected Retention Time

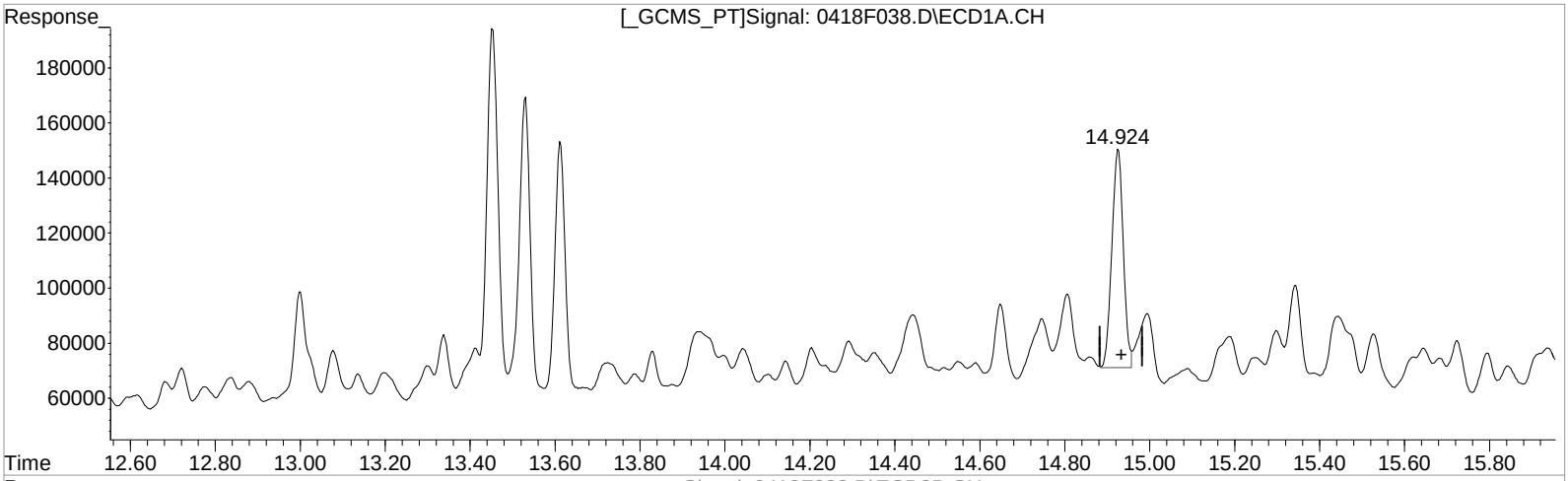
Quantitation Report (Qedit)

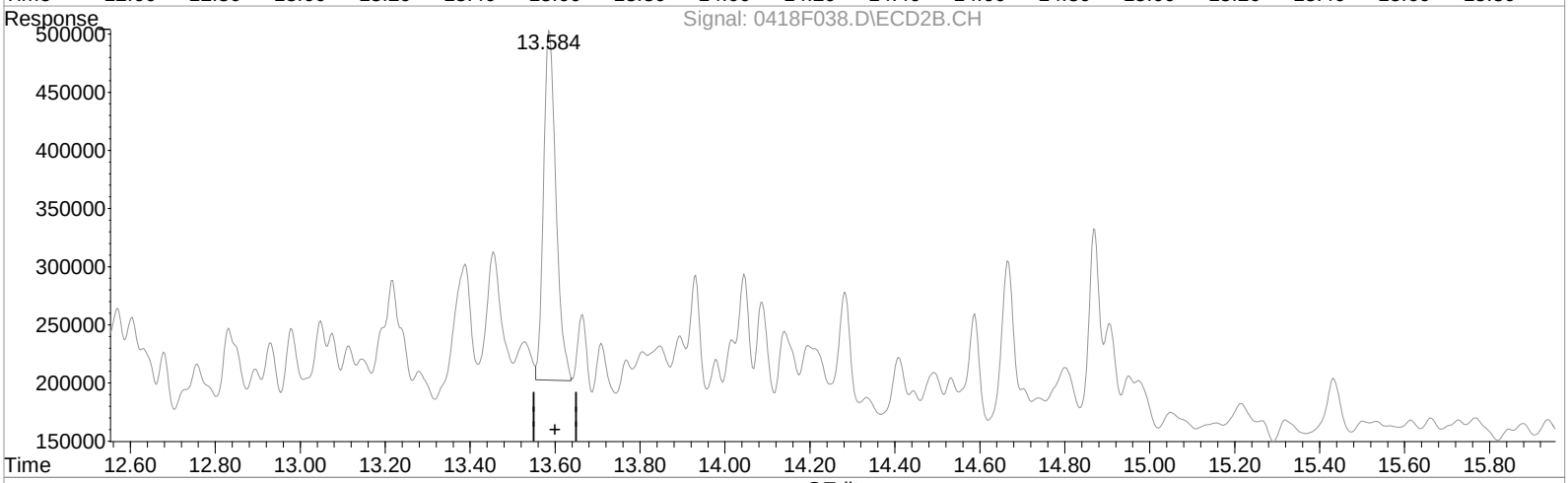
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:30:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.924min 431.721 ug/L m

response 148735

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.584min 660.752 ug/L m

response 613939

(+) = Expected Retention Time

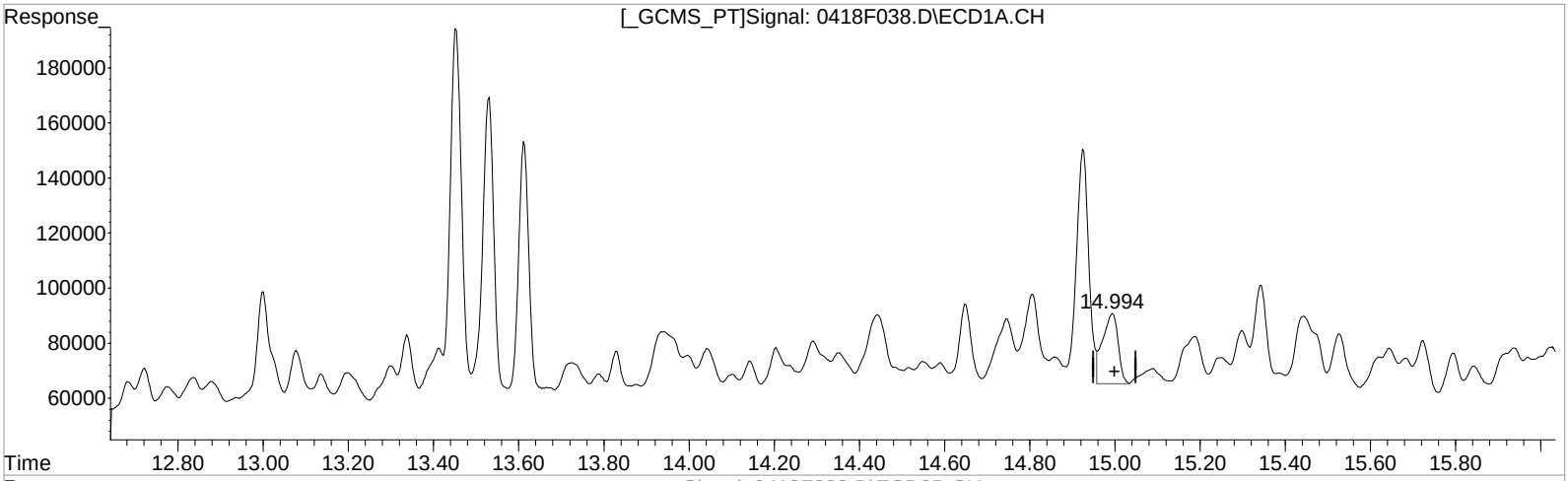
Quantitation Report (Qedit)

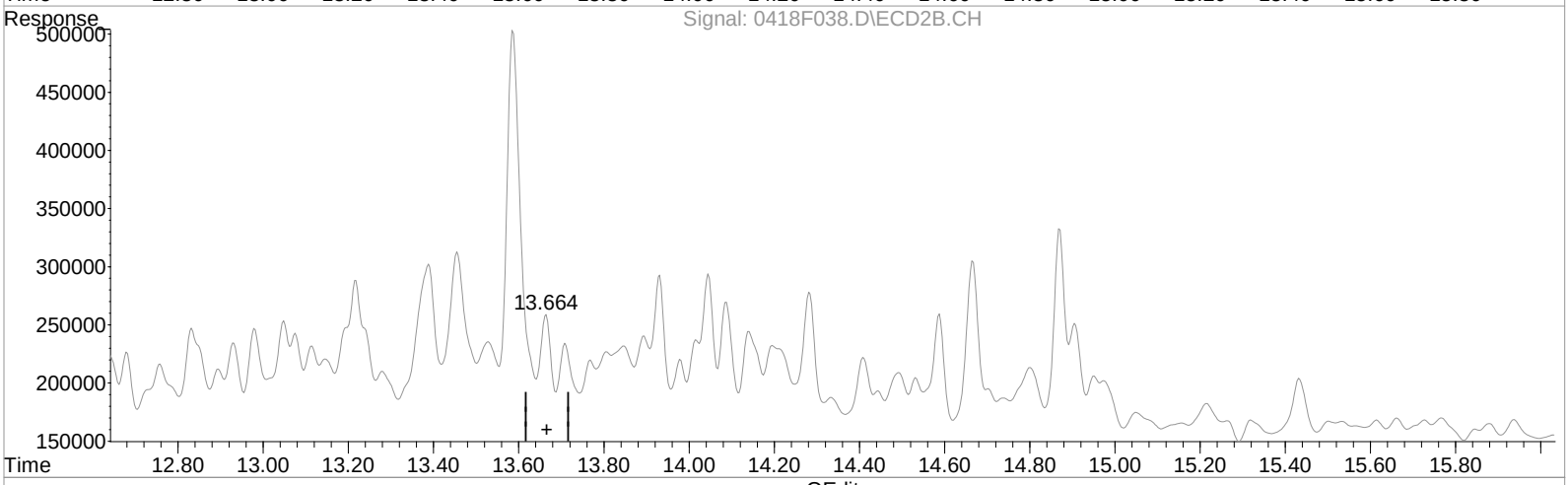
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.994min 276.085 ug/L

response 63968

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.664min 635.665 ug/L

response 219124

(+) = Expected Retention Time

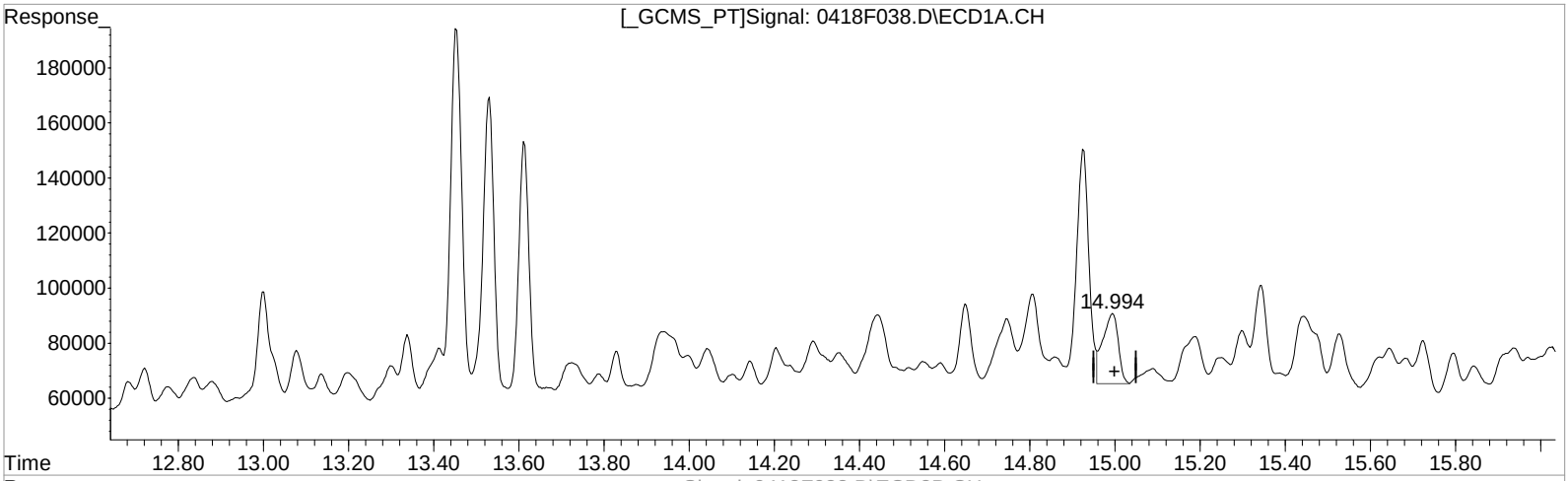
Quantitation Report (Qedit)

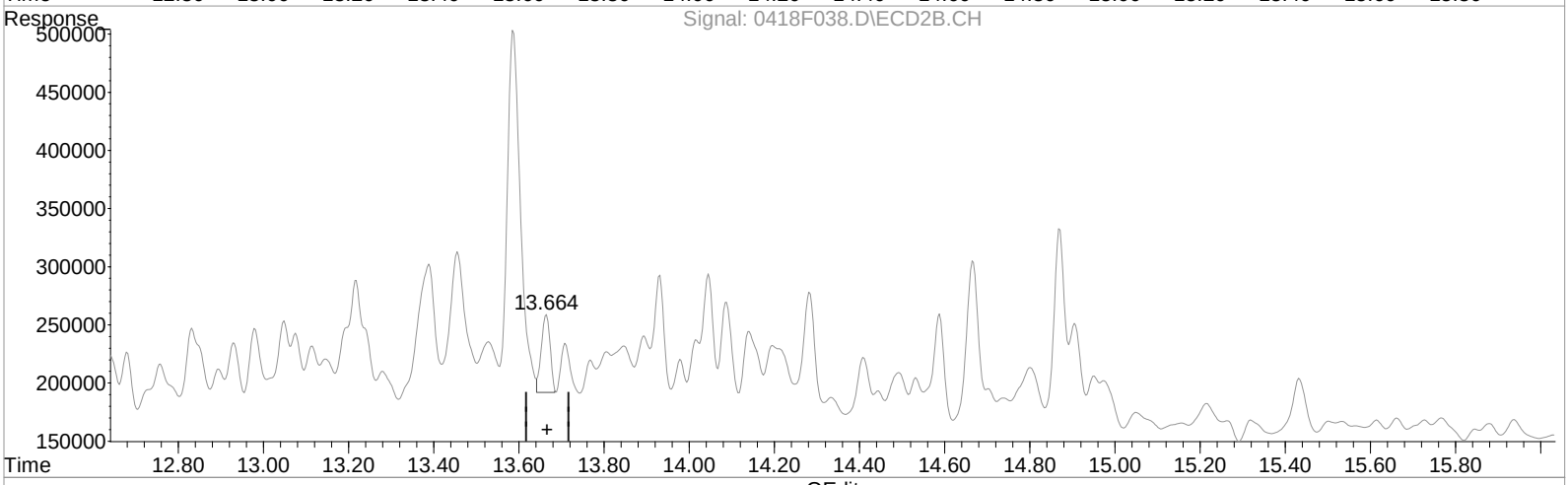
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.994min 276.085 ug/L

response 63968

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.664min 255.094 ug/L m

response 95858

(+) = Expected Retention Time

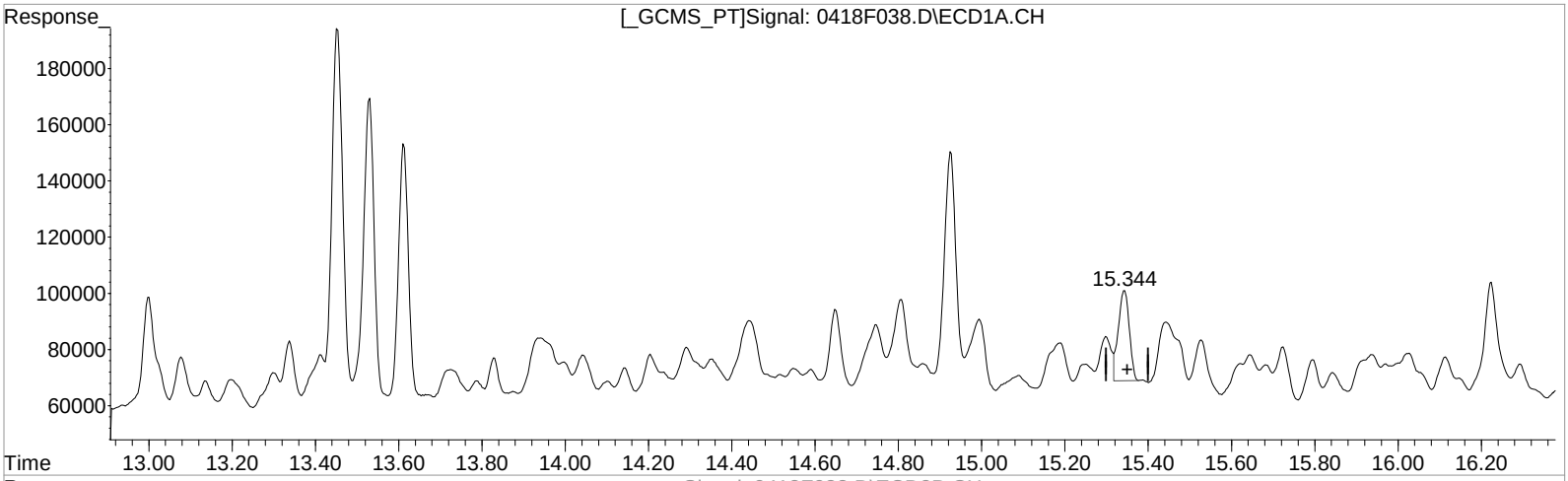
Quantitation Report (Qedit)

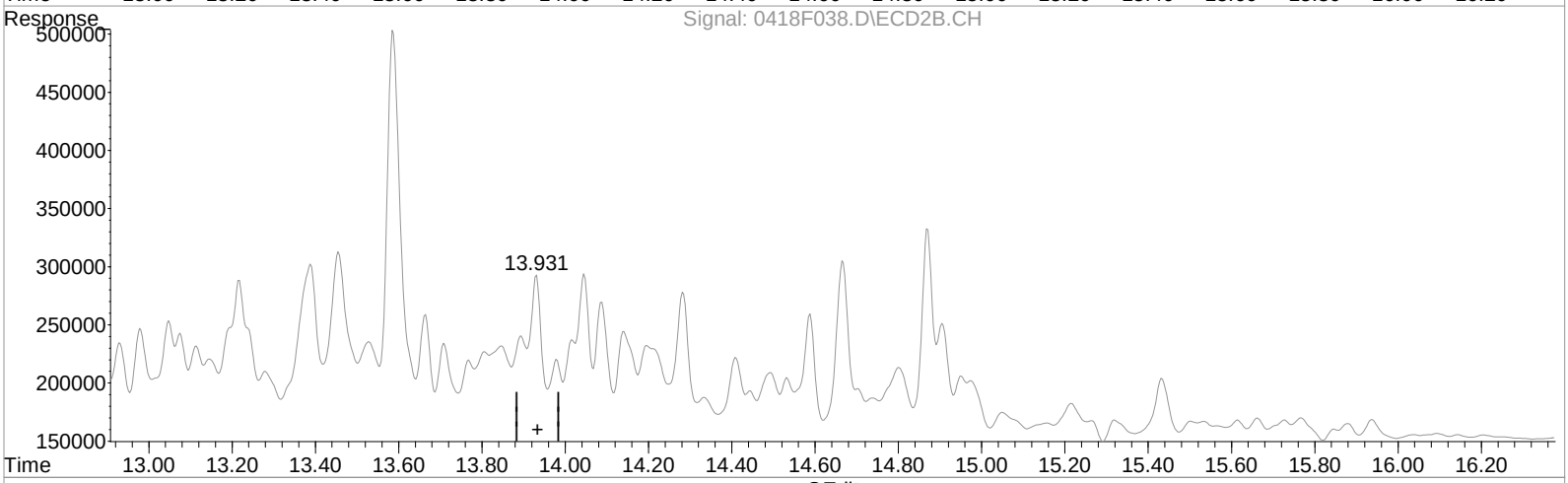
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.344min 264.053 ug/L

response 58297

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.931min 470.831 ug/L

response 286406

(+) = Expected Retention Time

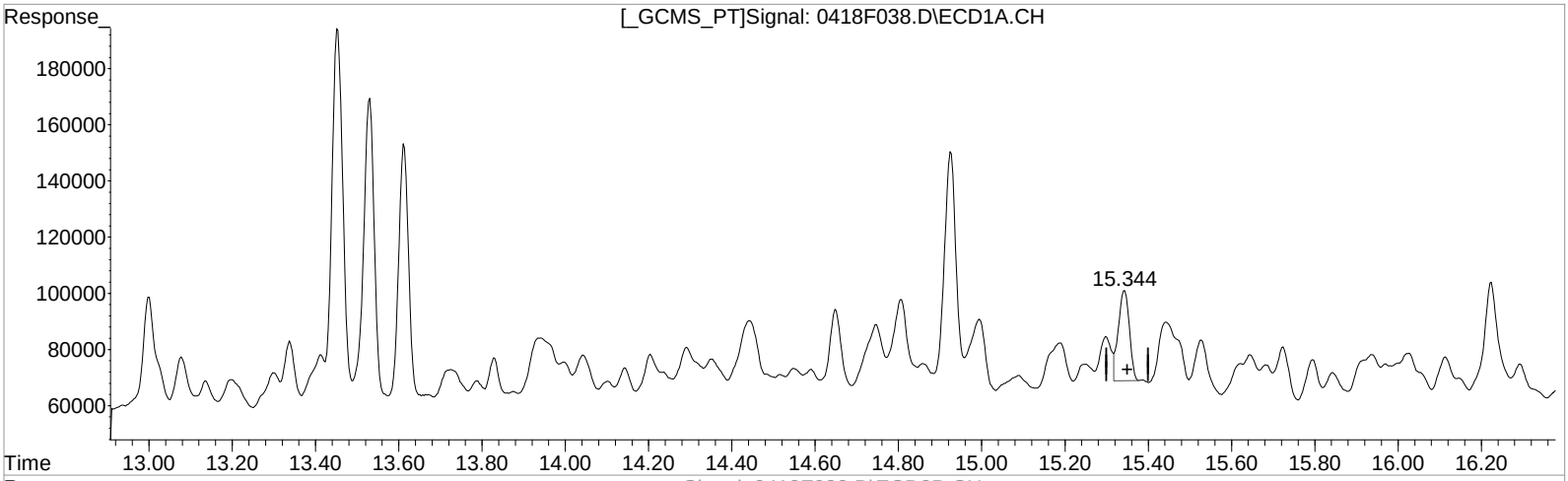
Quantitation Report (Qedit)

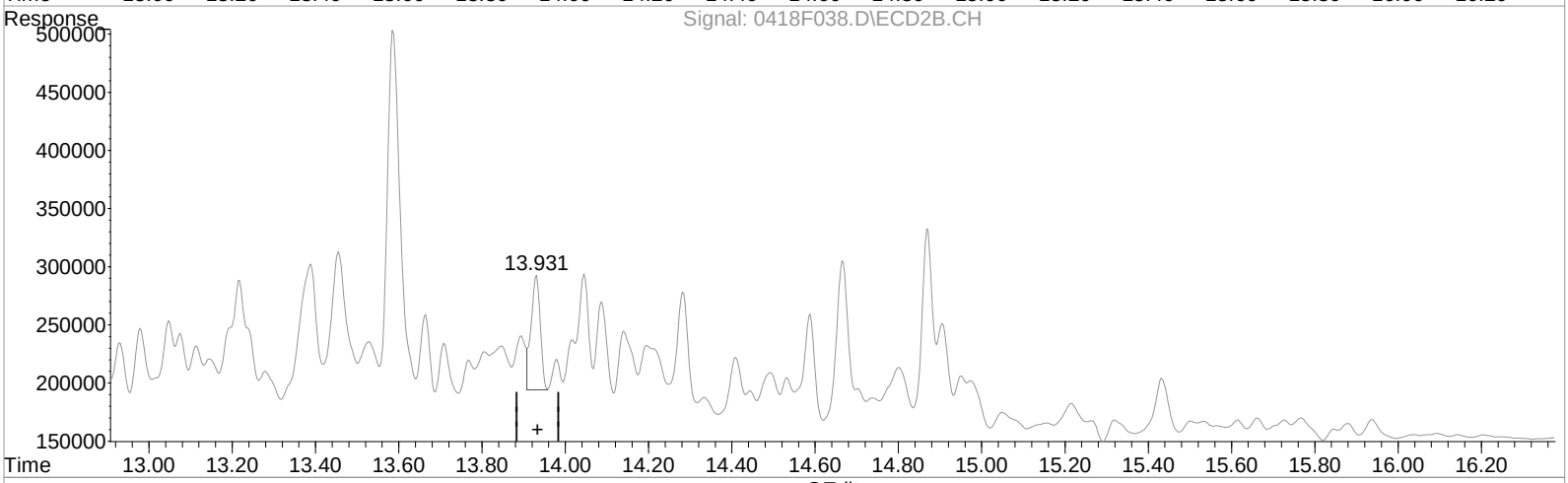
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.344min 264.053 ug/L

response 58297

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.931min 246.515 ug/L m

response 149955

(+) = Expected Retention Time

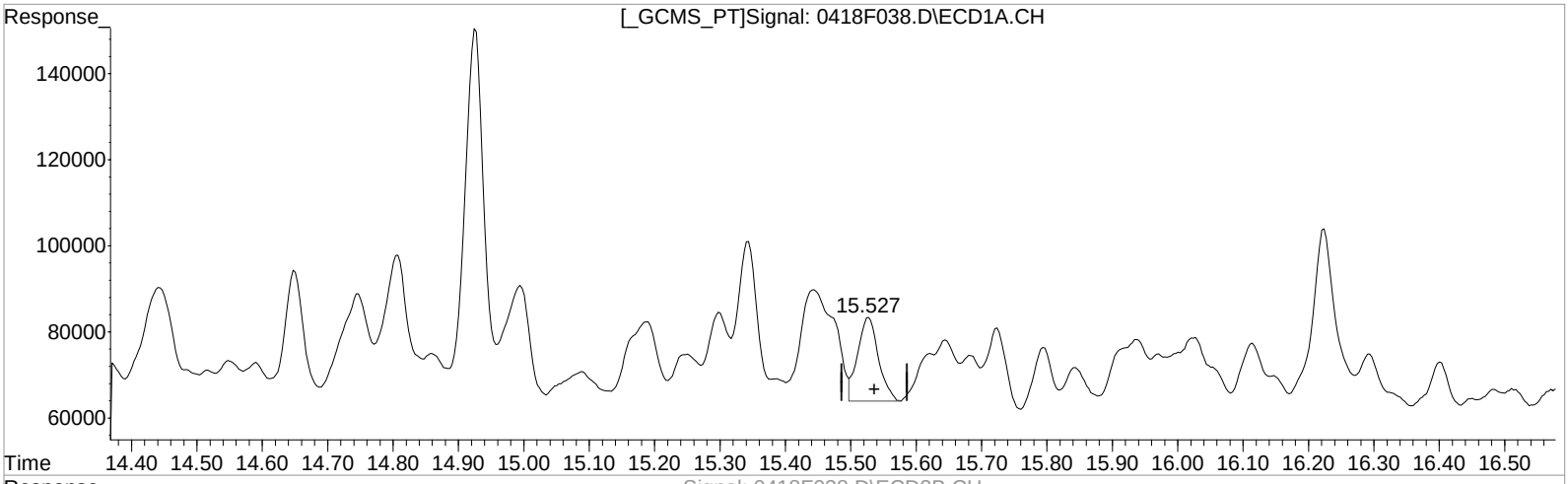
Quantitation Report (Qedit)

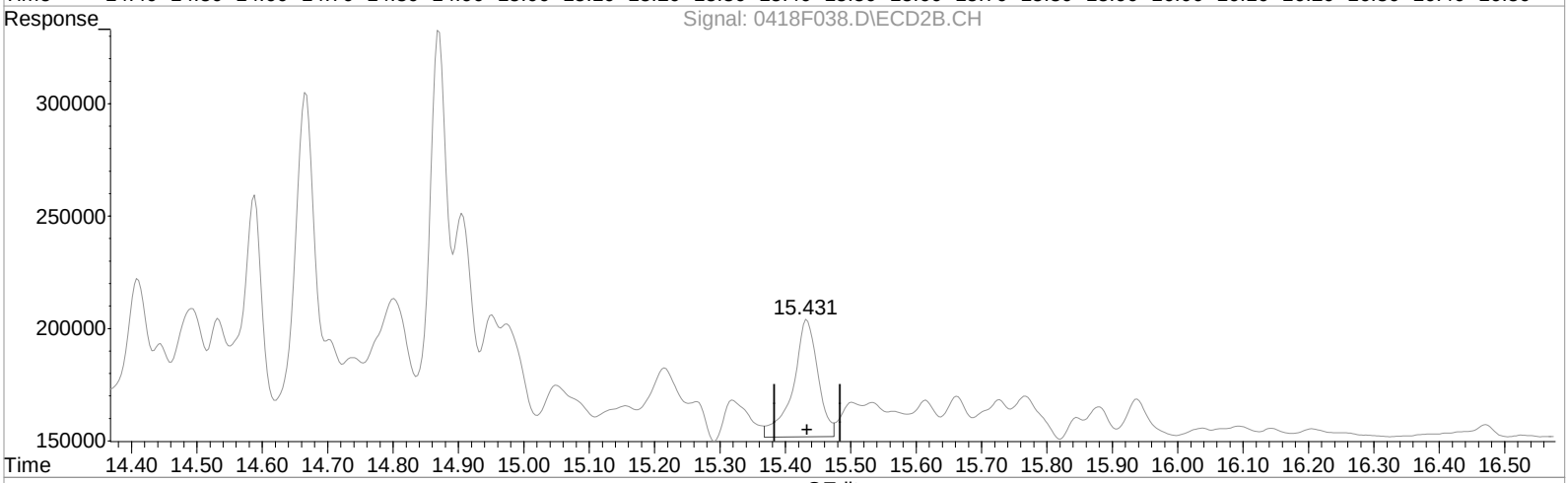
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.527min 504.330 ug/L

response 42677

Manual Integration:

Before

04/21/20

(35) Toxaphene {6} #2

15.431min 416.543 ug/L

response 137258

(+) = Expected Retention Time

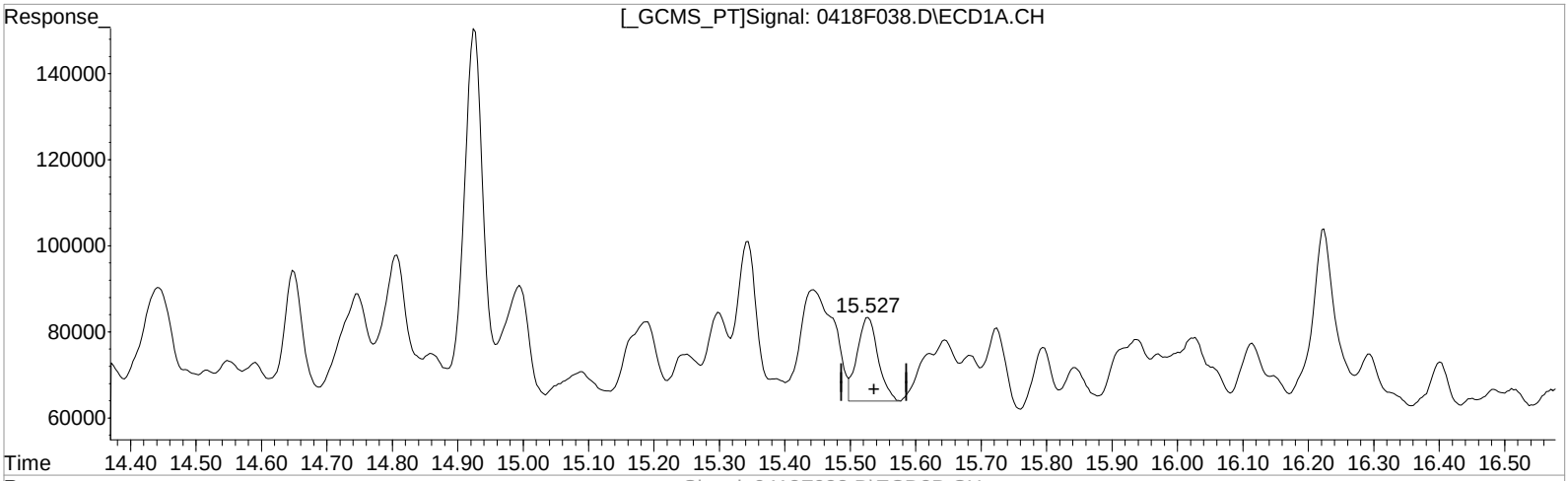
Quantitation Report (Qedit)

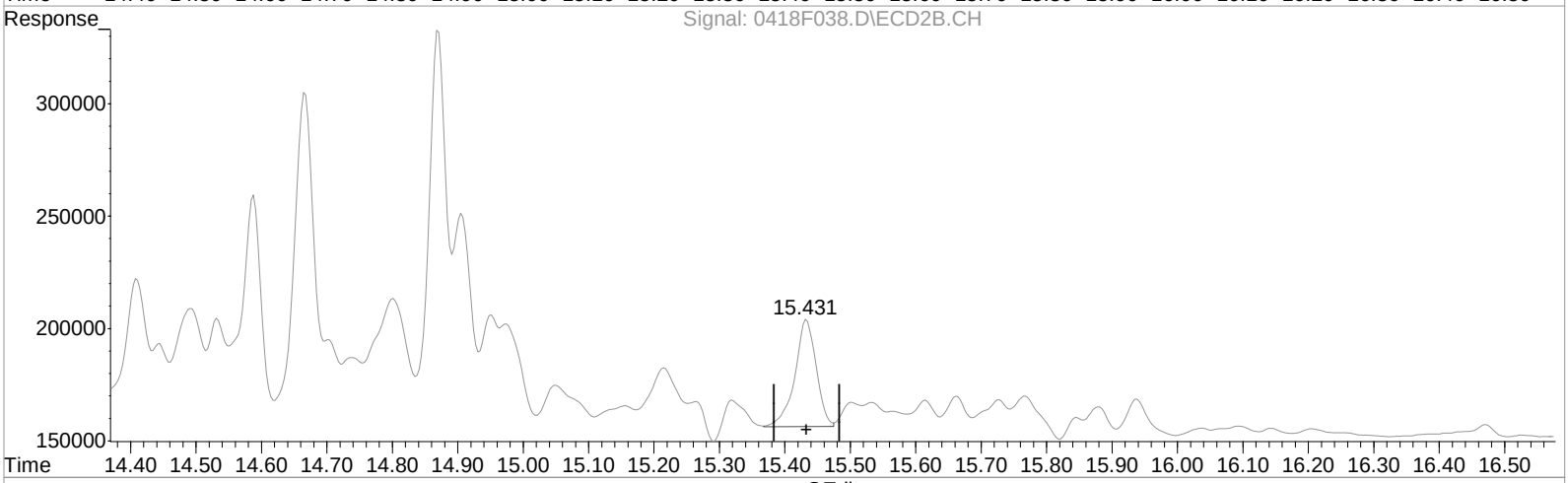
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.527min 504.330 ug/L

response 42677

Manual Integration:

After

Baseline correction

04/21/20

(35) Toxaphene {6} #2

15.431min 328.860 ug/L m

response 108365

(+) = Expected Retention Time

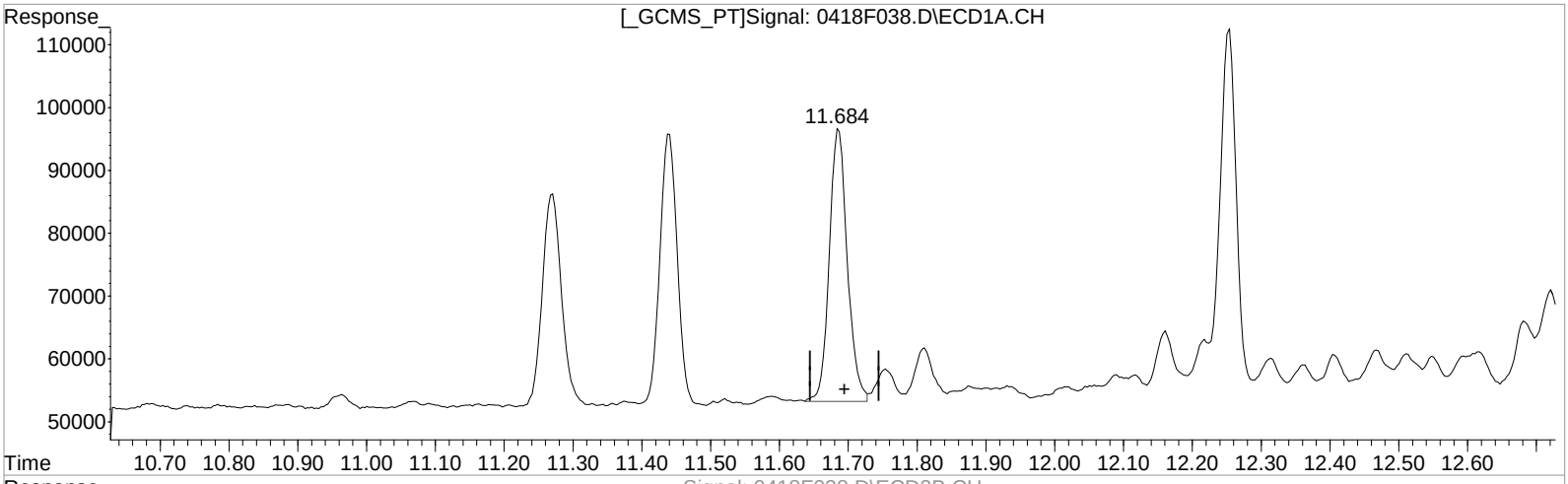
Quantitation Report (Qedit)

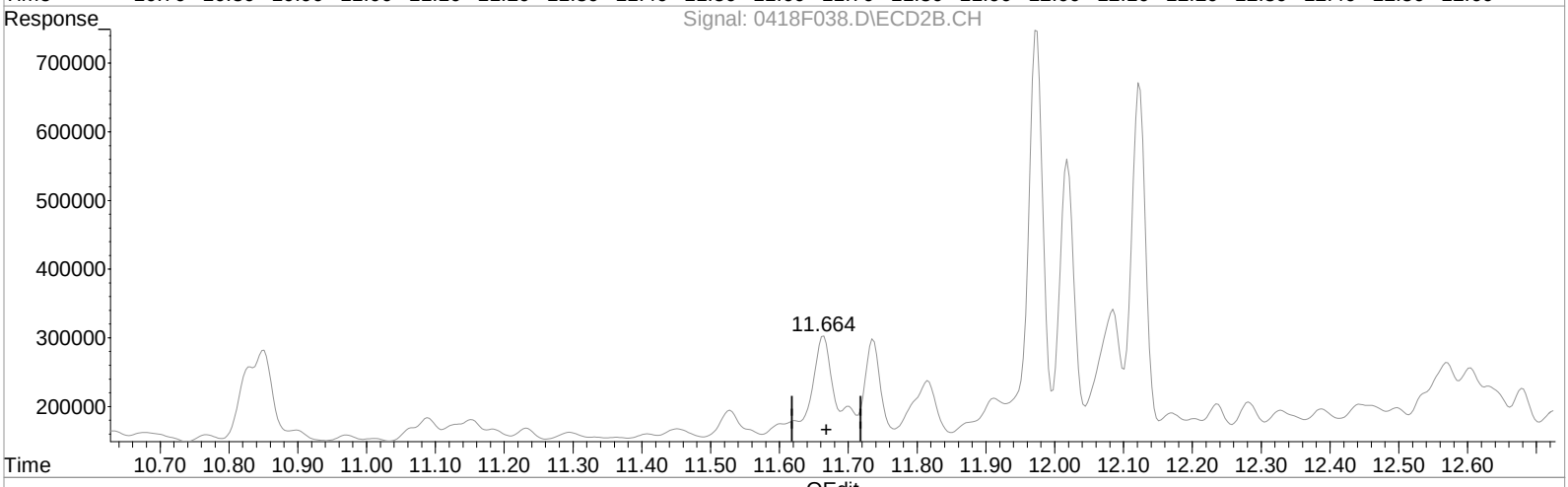
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.684min 78.394 ug/L

response 78753

Manual Integration:

Before

04/21/20

(38) Chlordane {2} #2

11.664min 173.234 ug/L

response 327750

(+) = Expected Retention Time

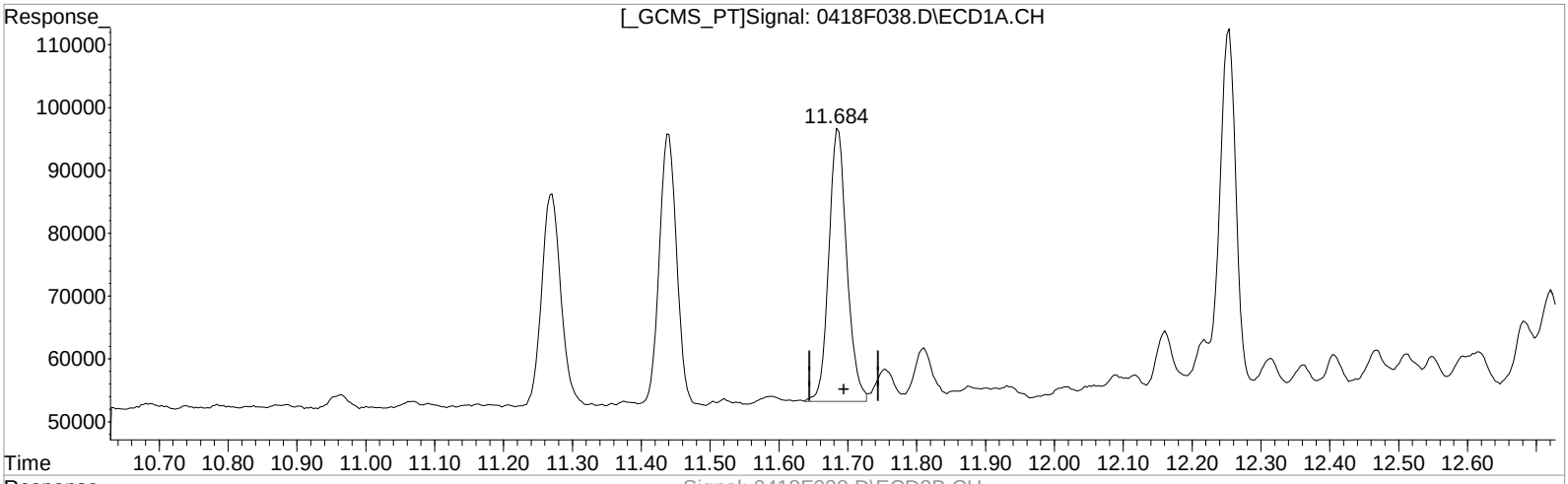
Quantitation Report (Qedit)

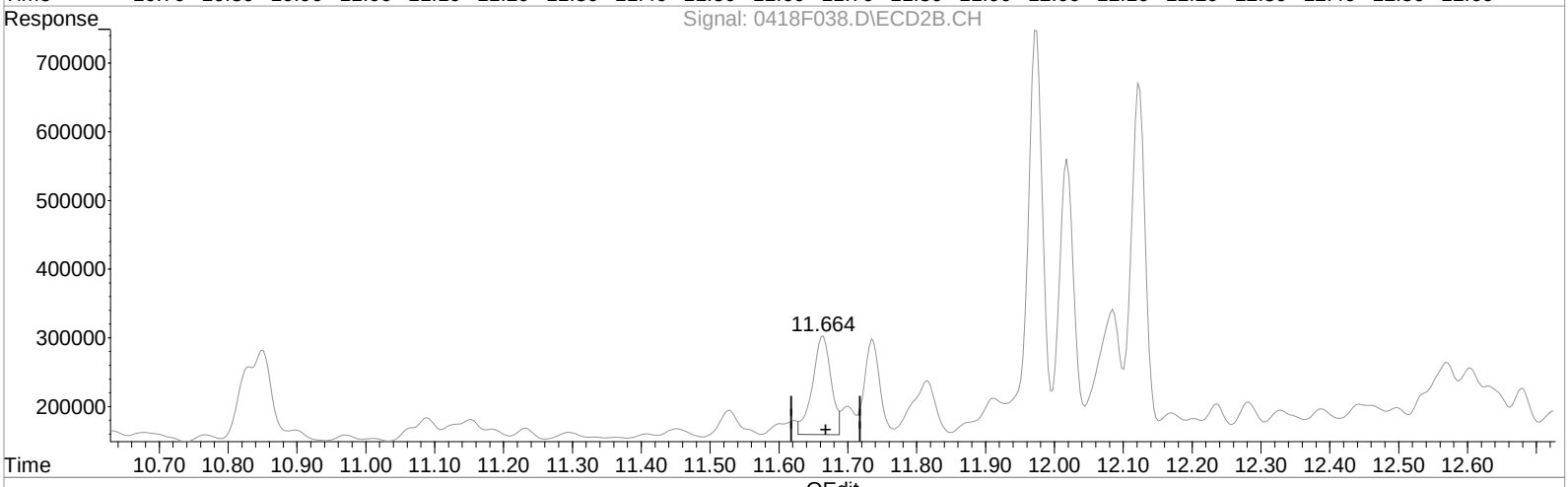
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.684min 78.394 ug/L

response 78753

Manual Integration:

After

Baseline correction

04/21/20

(38) Chlordane {2} #2

11.664min 143.896 ug/L m

response 272244

(+) = Expected Retention Time

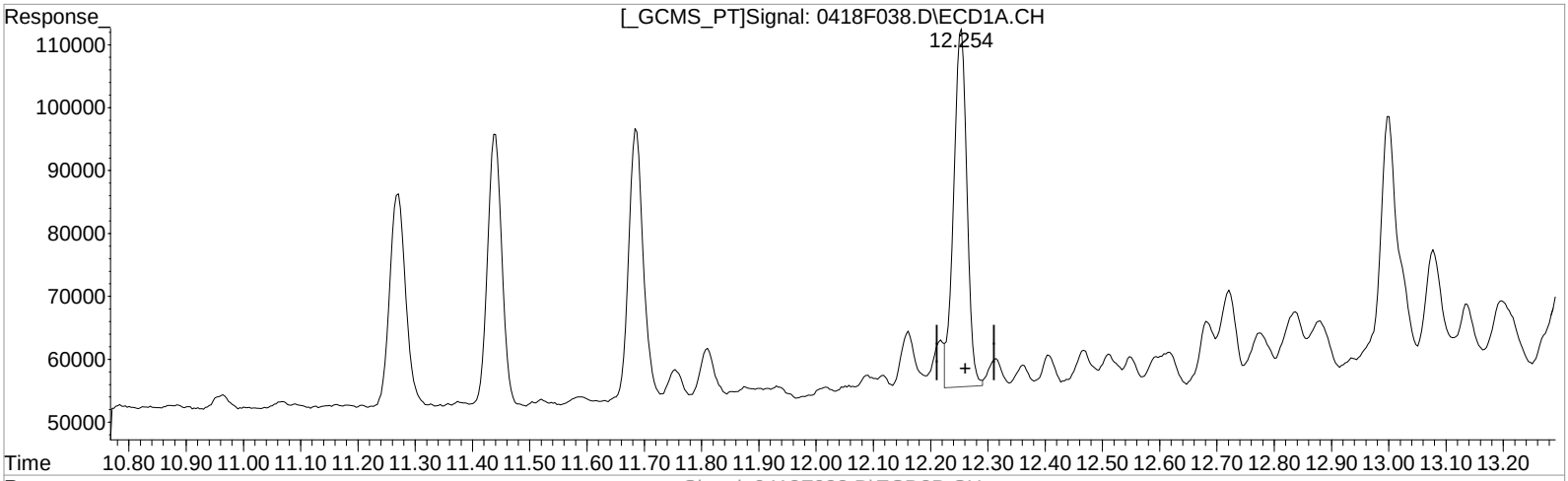
Quantitation Report (Qedit)

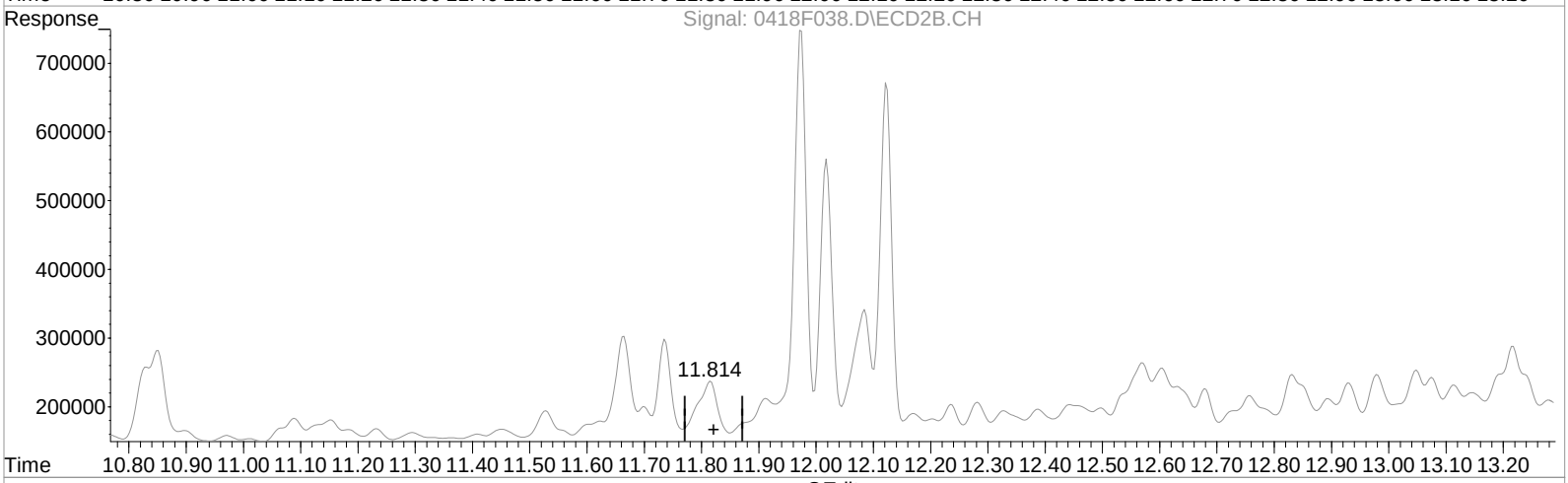
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(39) Chlordane {3}

12.254min 128.381 ug/L

response 92557

Manual Integration:

Before

04/21/20

(39) Chlordane {3} #2

11.814min 205.724 ug/L

response 258386

(+) = Expected Retention Time

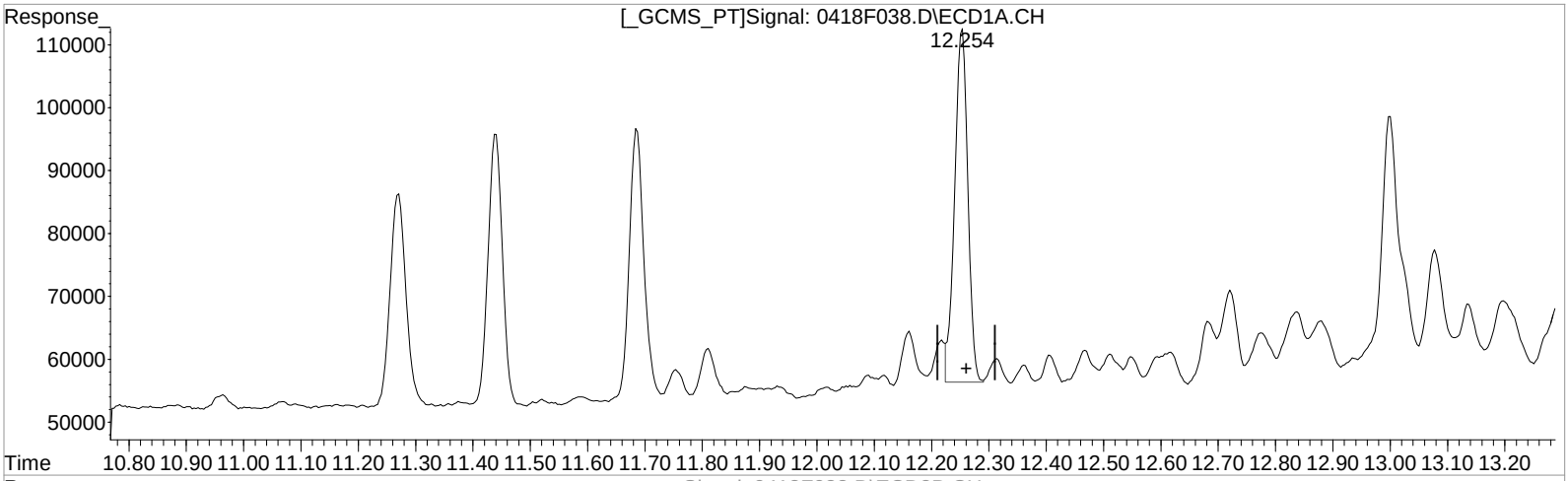
Quantitation Report (Qedit)

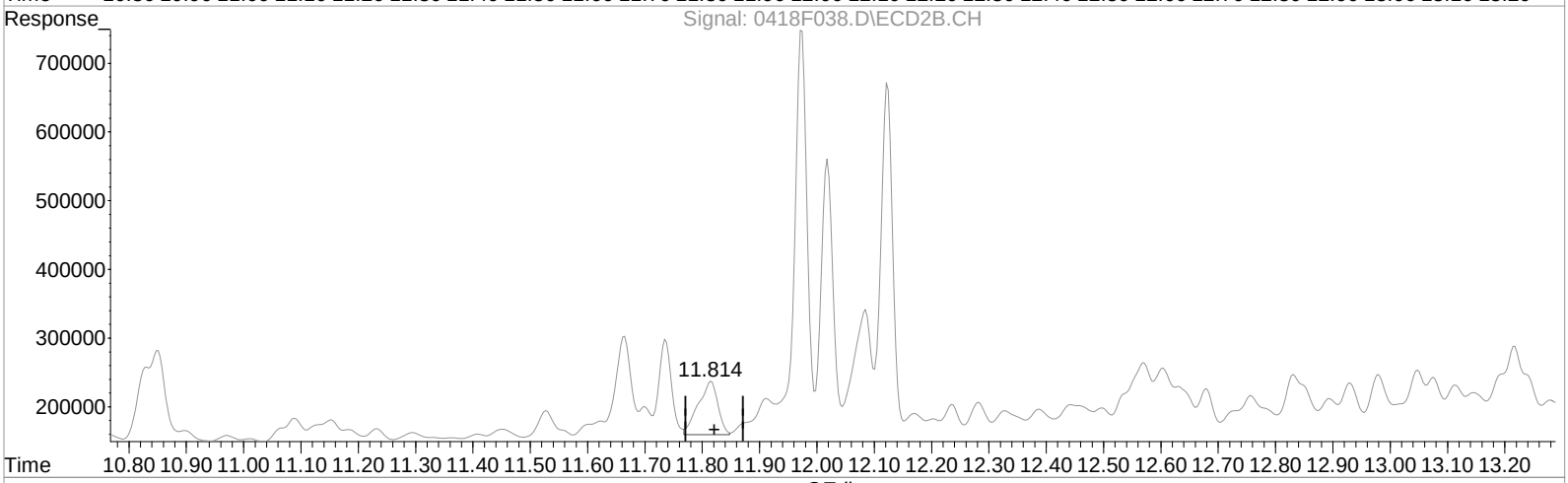
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(39) Chlordane {3}

12.254min 124.430 ug/L m

response 89709

(39) Chlordane {3} #2

11.814min 146.067 ug/L m

response 183458

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

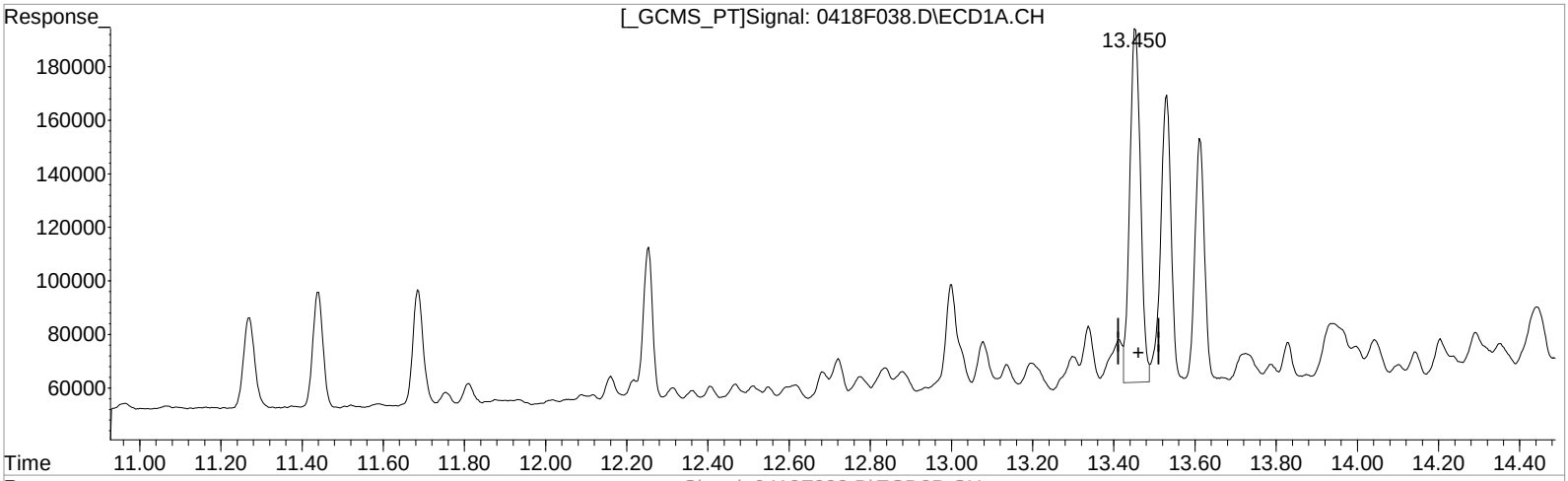
Quantitation Report (Qedit)

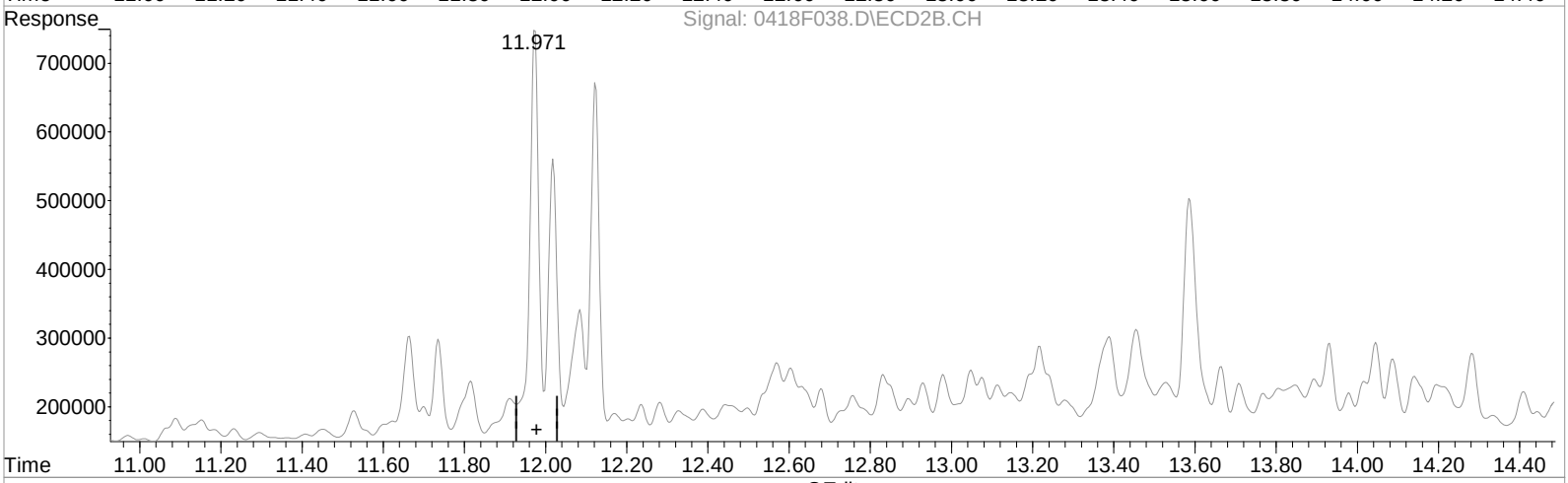
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.450min 110.780 ug/L

response 242443

Manual Integration:

Before

04/21/20

(40) Chlordane {4} #2

11.971min 127.621 ug/L

response 970806

(+) = Expected Retention Time

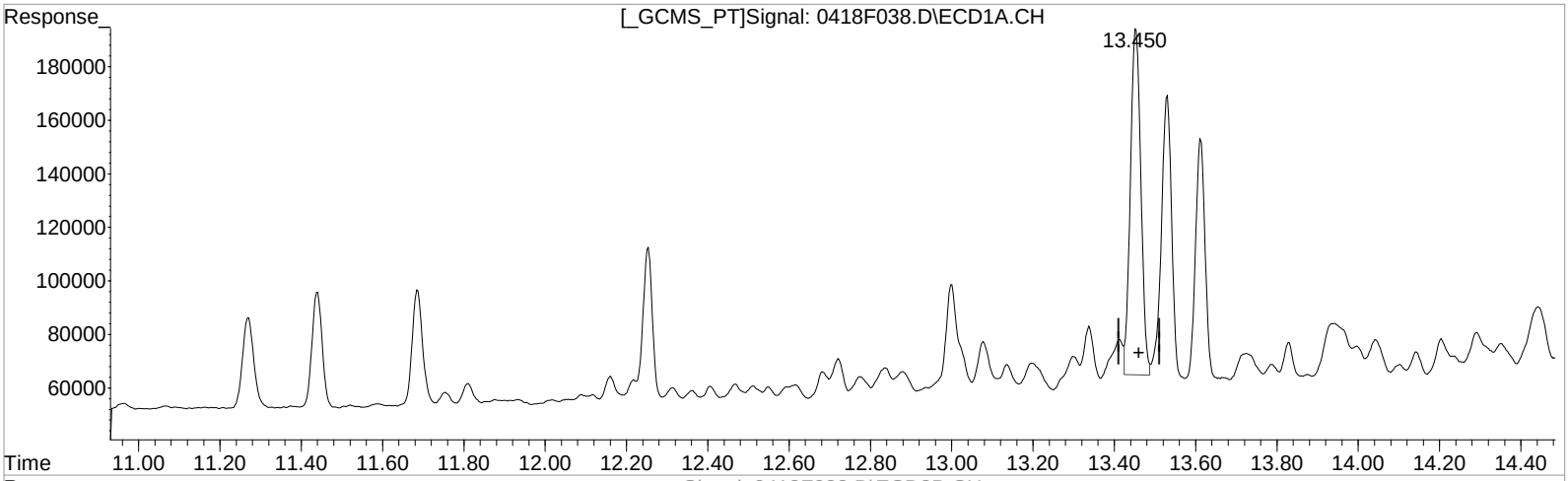
Quantitation Report (Qedit)

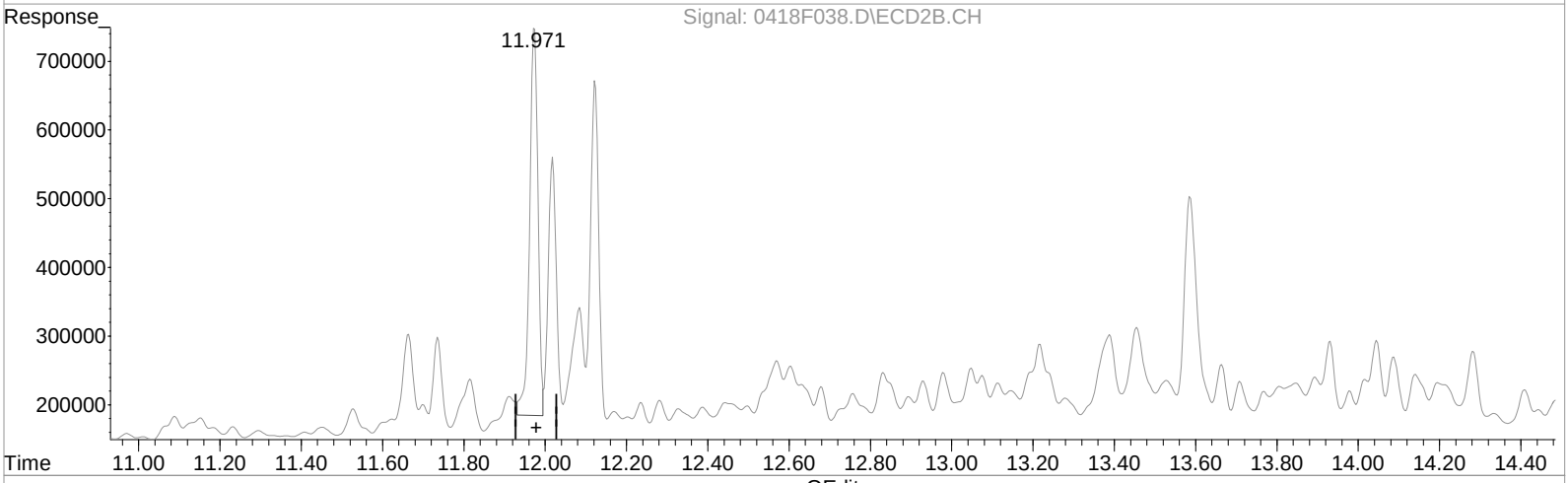
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.450min 105.994 ug/L m

response 231968

(40) Chlordane {4} #2

11.971min 105.812 ug/L m

response 804904

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

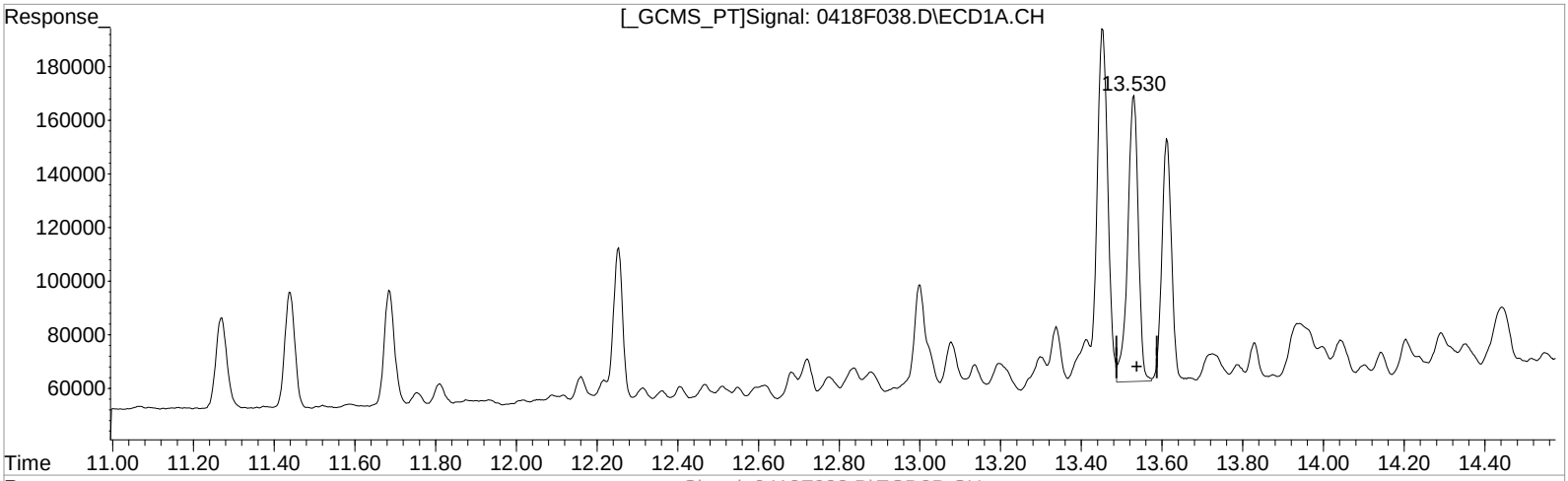
Quantitation Report (Qedit)

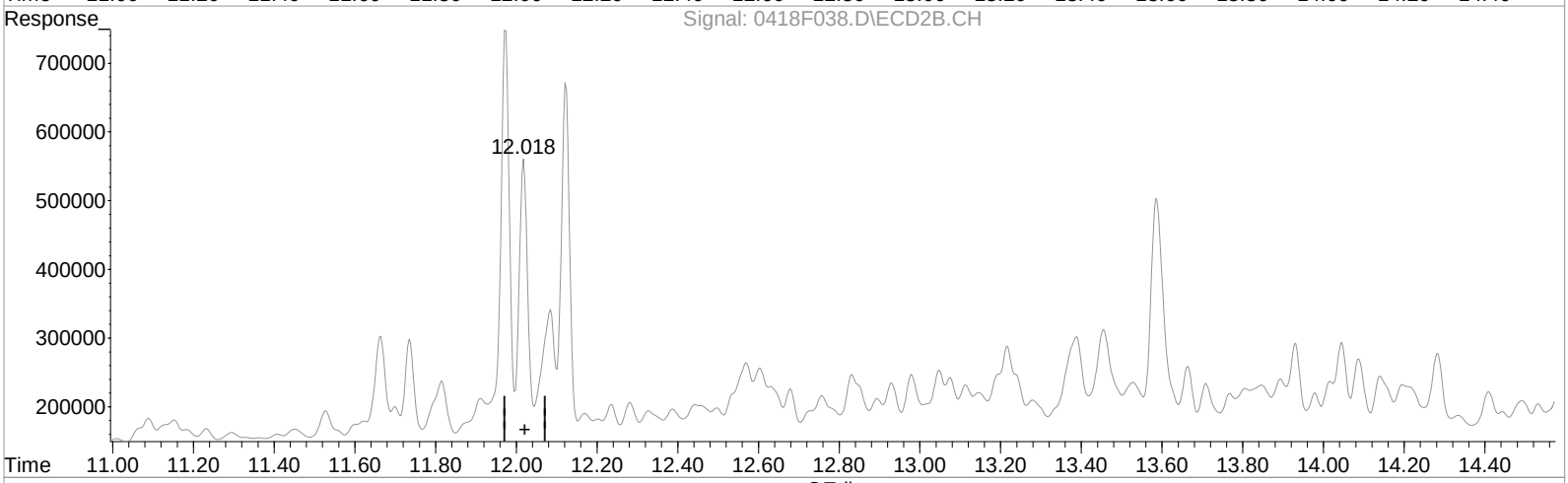
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.530min 106.620 ug/L

response 193005

Manual Integration:

Before

04/21/20

(41) Chlordane {5} #2

12.018min 137.308 ug/L

response 639531

(+) = Expected Retention Time

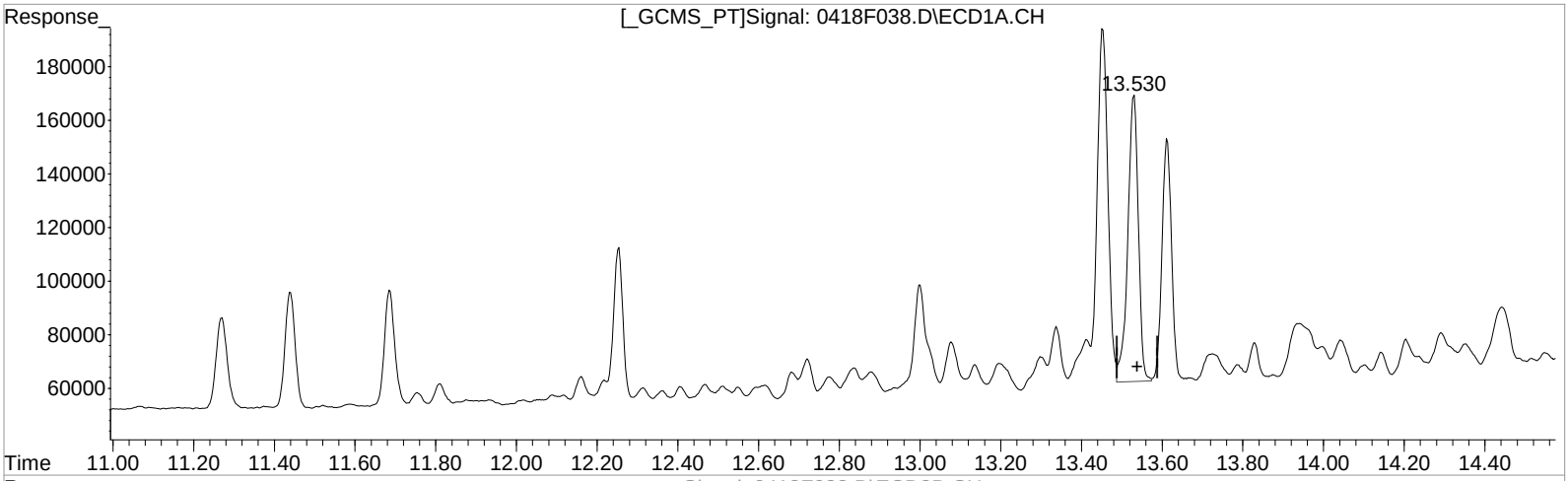
Quantitation Report (Qedit)

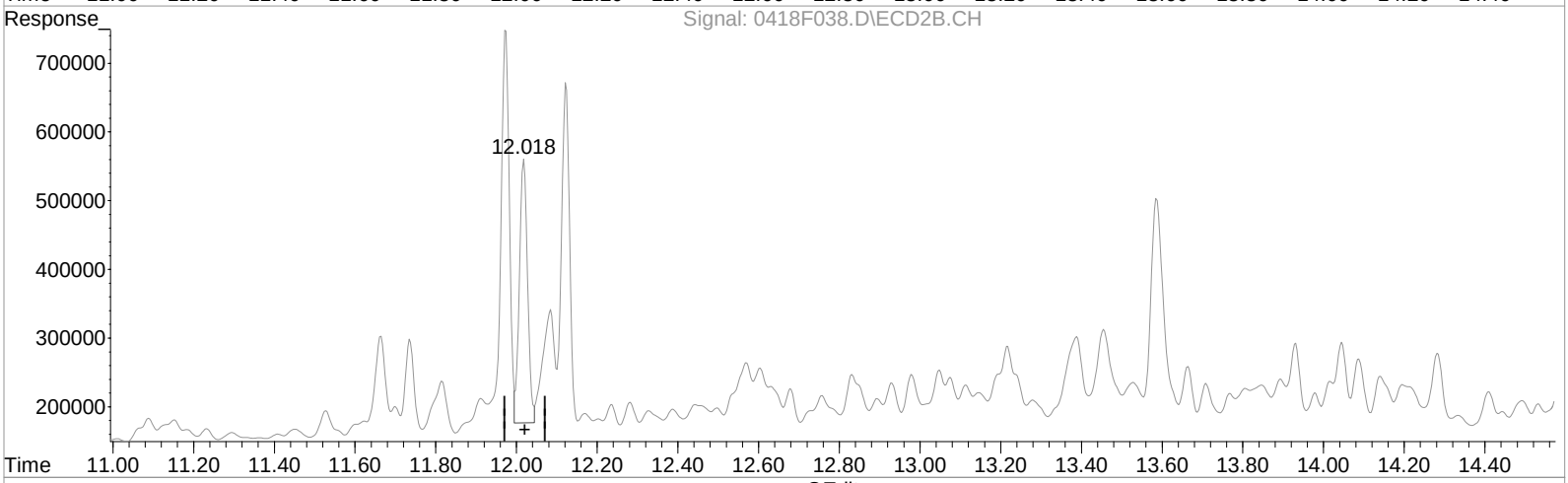
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.530min 106.620 ug/L

response 193005

Manual Integration:

After

Baseline correction

04/21/20

(41) Chlordane {5} #2

12.018min 116.469 ug/L m

response 542473

(+) = Expected Retention Time

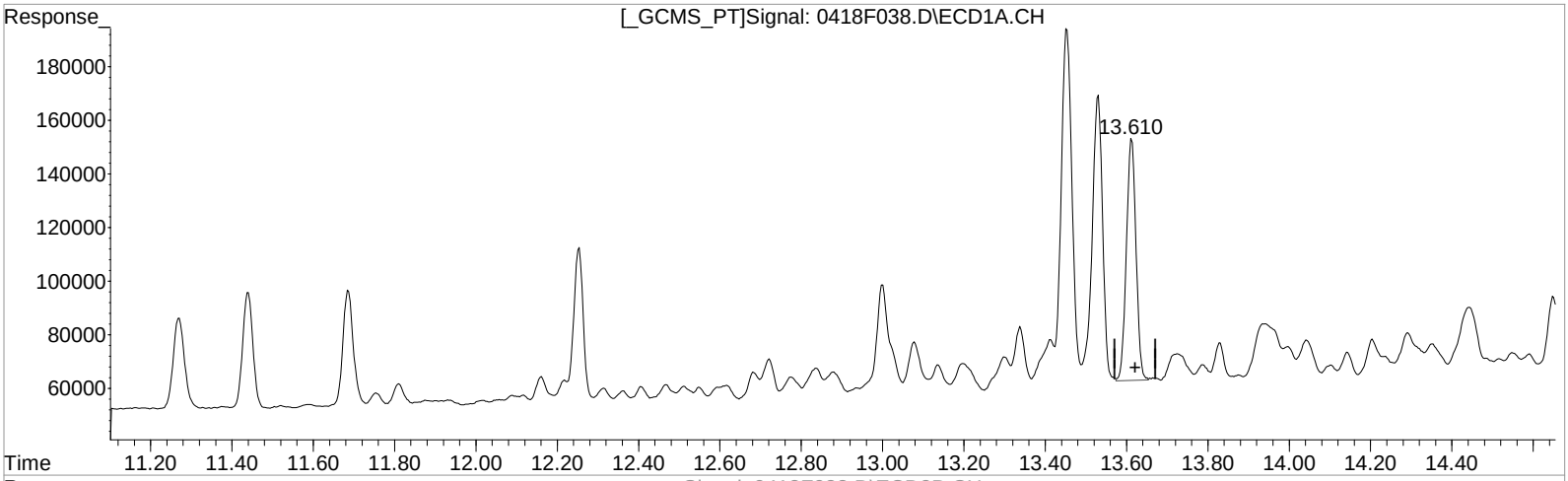
Quantitation Report (Qedit)

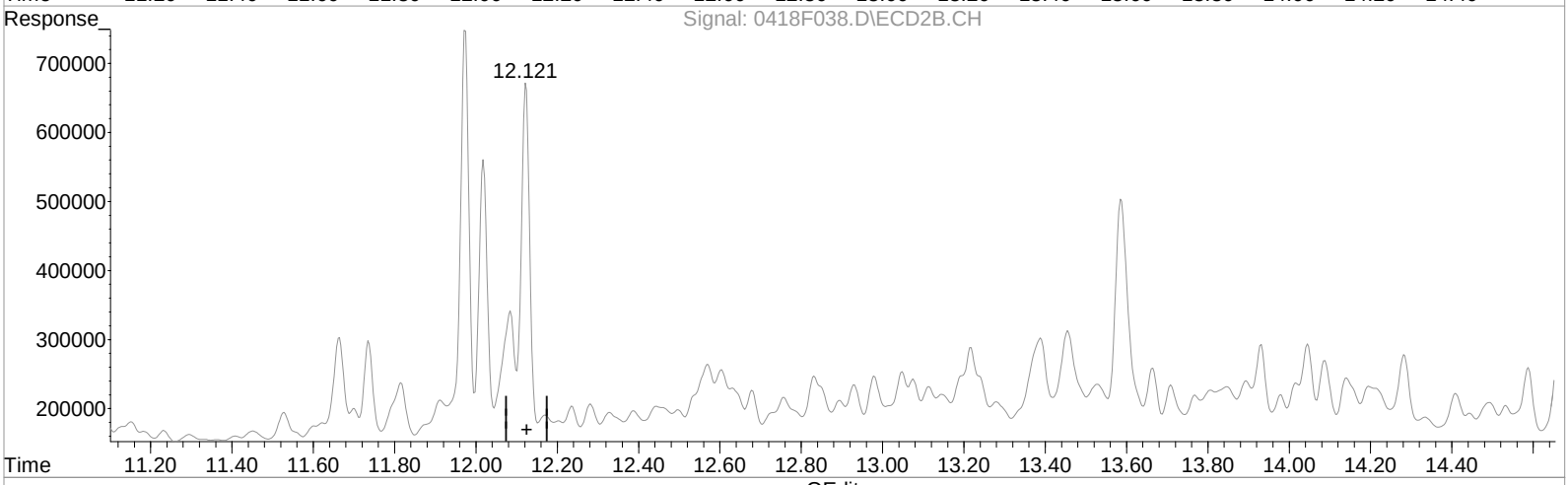
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.610min 111.473 ug/L

response 148133

Manual Integration:

Before

04/21/20

(42) Chlordane {6} #2

12.121min 114.960 ug/L

response 775277

(+) = Expected Retention Time

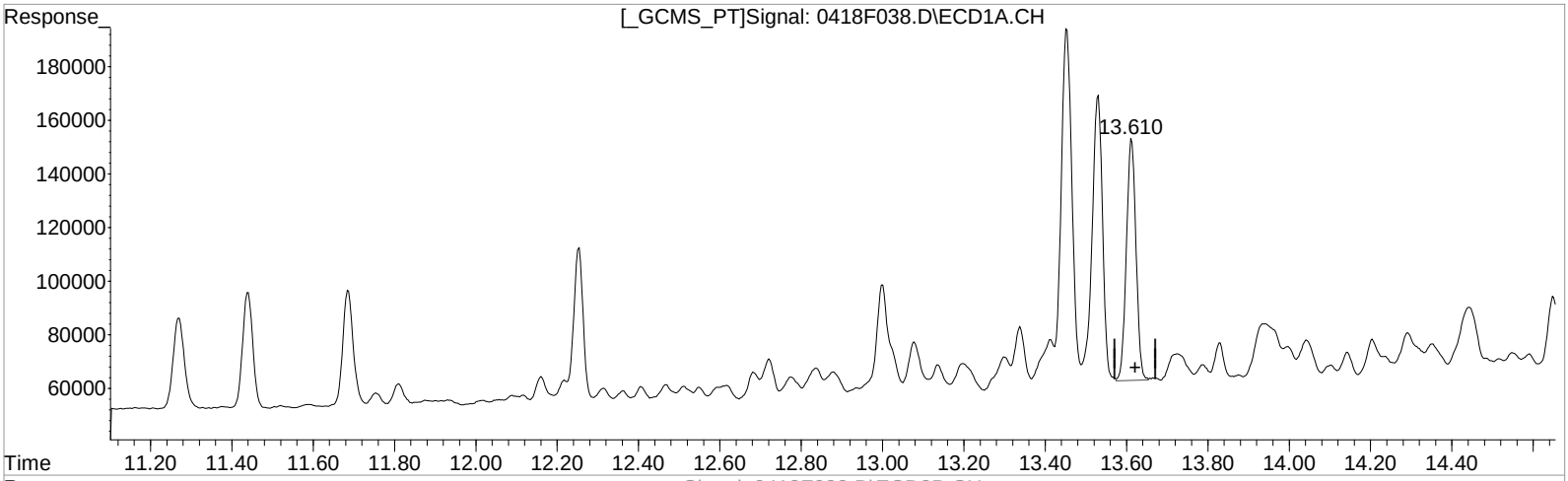
Quantitation Report (Qedit)

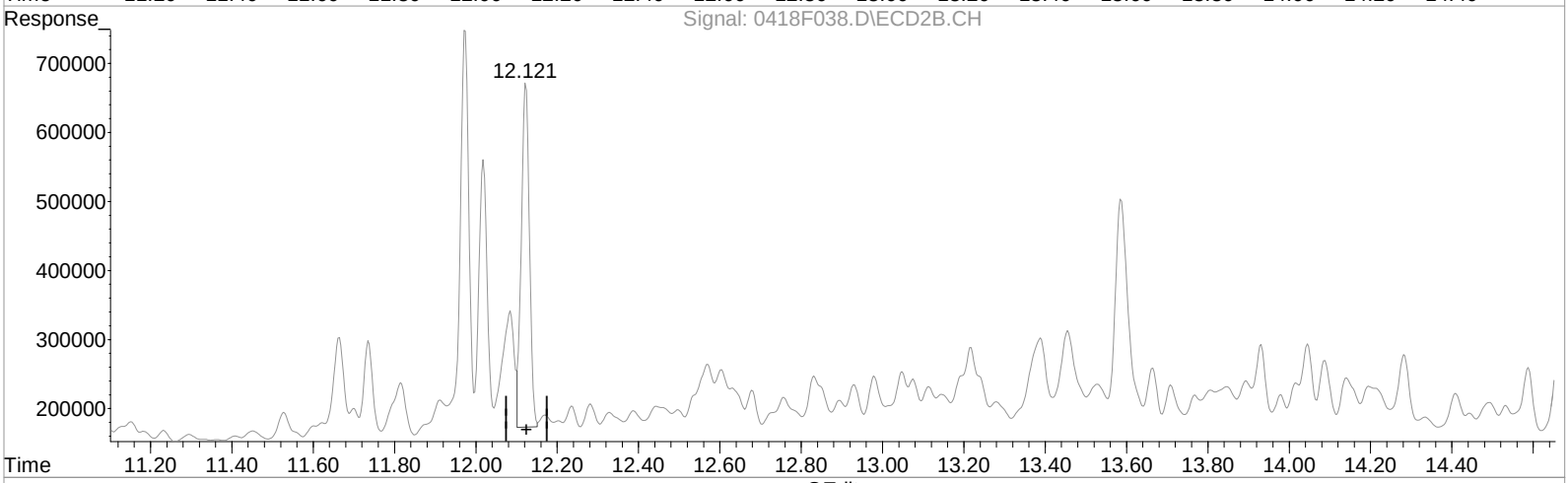
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F038.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 1:53 pm Operator: LM
Sample : KQ2004497-04 T/C DLCS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 13:23:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.610min 111.473 ug/L

response 148133

(42) Chlordane {6} #2

12.121min 102.343 ug/L m

response 690188

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F014.D\
Lab ID: KQ2004496-01
RunType: MS
Matrix: Water

Date Acquired: 4/19/20 02:01:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st SM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F014.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 02:01:00	**Vial:**	14
Run Type:	MS	**Dilution:**	1
Lab ID:	KQ2004496-01	**Raw Units:**	ug/L

Bottle ID:	K2002652-001.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	KQ2004496
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.01 c	1108750	4641301	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.01 c	1108750	4641301	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1108750	4641301	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07 +0.01	83083	288554	4.211	3.857	84	77	77	14 - 160	Y
Tetrachloro-m-xylene	8.97 -0.01	7.26 -0.01	77882	285138	4.845	4.958	97	99	97	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	12.21	10.51 -0.01	92496	362977	5.204	4.962	26.0	24.8	**24.8**	Y
alpha-BHC	9.82	8.50	94244	372780	5.096	5.068	25.5	25.3	**25.3**	Y
beta-BHC	11.07 -0.01	9.77 -0.01	39908	158111	4.036	4.532	20.2	22.7	**20.2**	Y
gamma-BHC (Lindane)	10.49	9.24	90406	350375	5.059	4.894	25.3	24.5	**24.5**	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	14.00	12.63	87833	340313	4.801	4.992	24.0	25.0	**24.0**	Y
Heptachlor	11.69	9.92 -0.01	100547	463746	5.237	6.378	26.2	31.9	**26.2**	Y
Heptachlor Epoxide	12.93	11.60	89947	338071	4.813	4.714	24.1	23.6	**23.6**	Y
Hexachlorobenzene	9.98	8.28	105832	371779	4.833	5.032	24.2	25.2	**24.2**	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F014.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 02:01:00	**Vial:**	14
Run Type:	MS	**Dilution:**	1
Lab ID:	KQ2004496-01	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F014.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:01 am Operator: LM
Sample : K2002652-001 81 MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:07:26 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.196	5.480	1108750	4641301	100.000	100.000
29)	1-Bromo-2...	6.196	5.480	1108750	4641301	100.000	100.000
36)	1-Bromo-2...	6.196	5.480	1108750	4641301	100.000	100.000
43)	1-Bromo-2...	6.196	5.480	1108750	4641301	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.973	7.263	77882	285138	4.845	4.958
28) s	Decachlor...	18.666	17.067	83083	288554	4.211m	3.857
	Target Compounds						
3)	alpha-BHC	9.816	8.497	94244	372780	5.096	5.068m
4)	Hexachlor...	9.980	8.277	105832	371779	4.833	5.032
5)	beta-BHC	11.073	9.773	39908	158111	4.036	4.532
6)	gamma-BHC...	10.486	9.240	90406	350375	5.059	4.894m
7)	delta-BHC	11.580	10.303	79938	319477	4.423	4.563
8)	Heptachlor	11.686	9.923	100547	463746	5.237	6.378
9)	Aldrin	12.210	10.513	92496	362977	5.204	4.962
10)	Isodrin	12.743	11.310	96561	342634	6.332	5.597
11)	Heptachlo...	12.930	11.597	89947	338071	4.813	4.714
12)	gamma-Chl...	13.450	11.970	94851	348314	5.075	5.023
13)	Endosulfan I	13.580	12.187	87534	307976	5.134	4.930
14)	alpha-Chl...	13.530	12.120	96276	350010	5.175	4.983
15)	Dieldrin	14.000	12.633	87833	340313	4.801	4.992
16)	4,4'-DDE	13.803	12.483	87533	320995	5.113	4.890
17)	Endrin	14.370	13.113	85458	334409	5.118	5.154
18)	Endosulfa...	14.810	13.547	86199	423510	5.096	7.224m#
19)	4,4'-DDD	14.640	13.373	74959	277462	5.665	5.648
20)	Endrin Al...	14.993	13.913	66973	229196	4.568	4.721
21)	Endosulfa...	15.466	14.237	85376	295930	4.954	5.119
22)	4,4'-DDT	15.143	13.797	70977	323395	5.105	6.828 #
23)	Endrin Ke...	16.156	15.187	91503	346283	4.948	5.007
24)	Methoxychlor	15.883	14.907	76194	177674	9.038	6.758 #

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

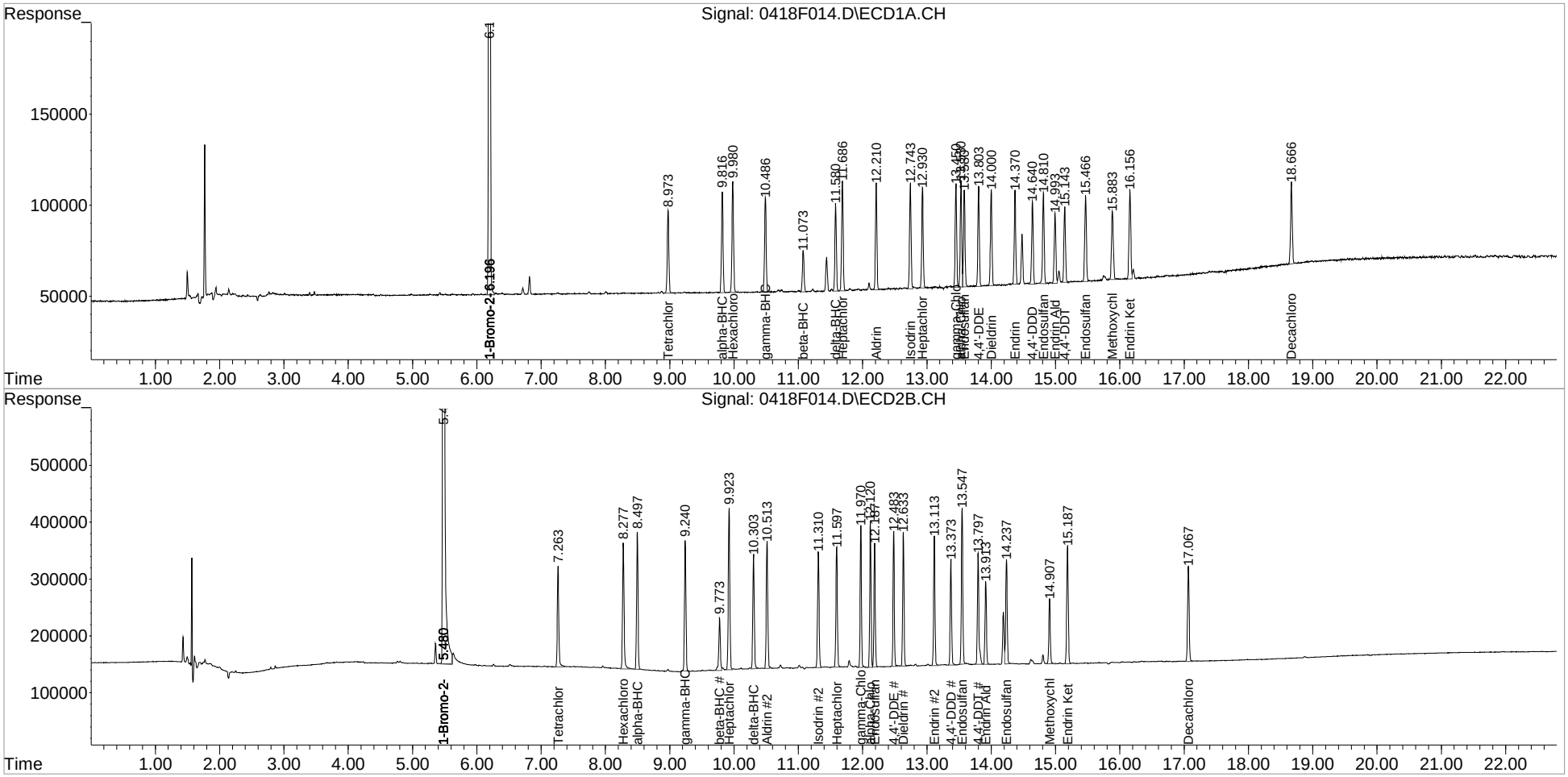
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F014.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:01 am Operator: LM
Sample : K2002652-001 81 MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:07:26 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



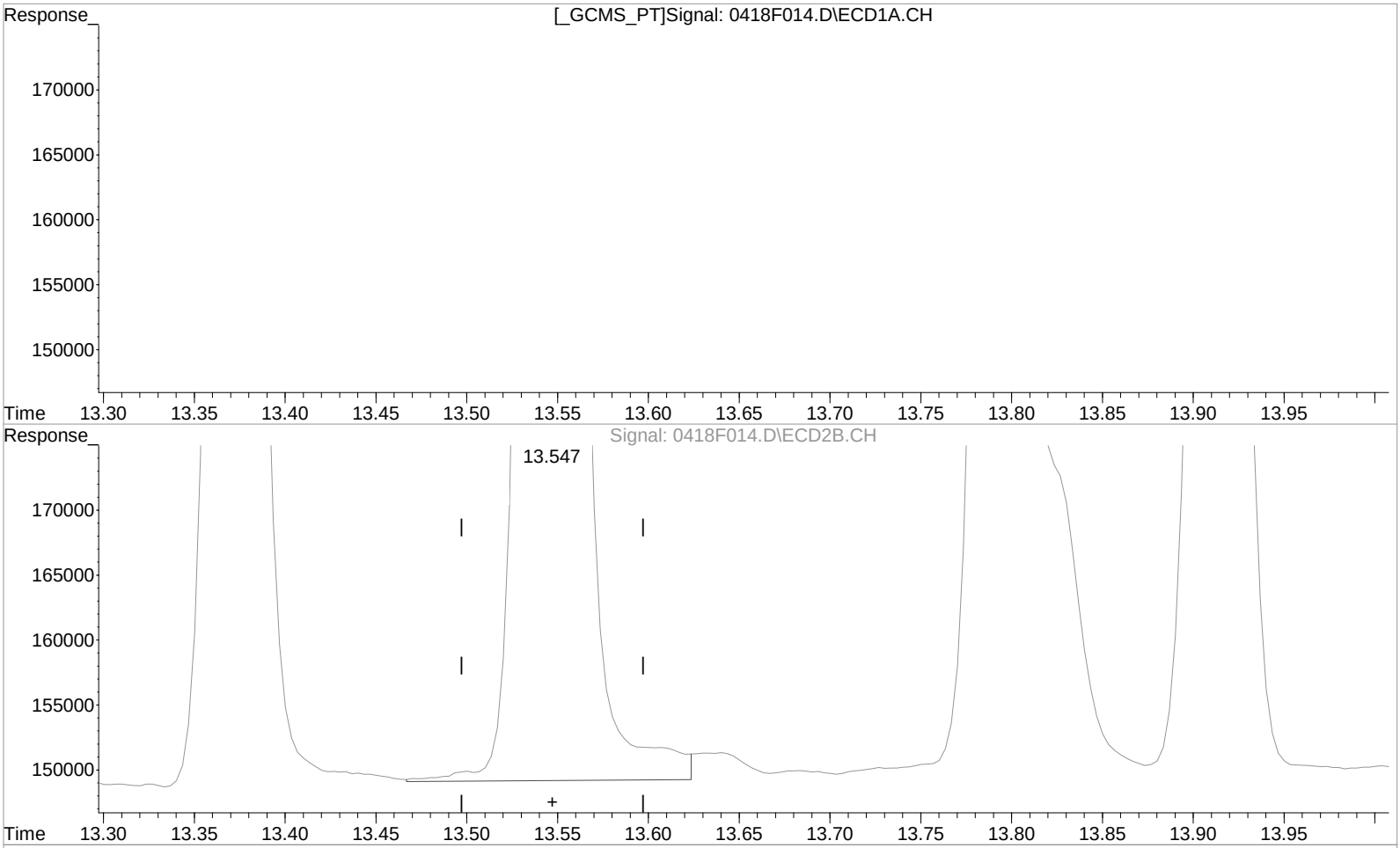
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F014.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:01 am Operator: LM
Sample : K2002652-001 81 MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:03:38 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.810min 5.096 ug/L

response 86199

Manual Integration:

Before

04/21/20

(18) Endosulfan II #2

13.547min 7.403 ug/L

response 434056

(+) = Expected Retention Time

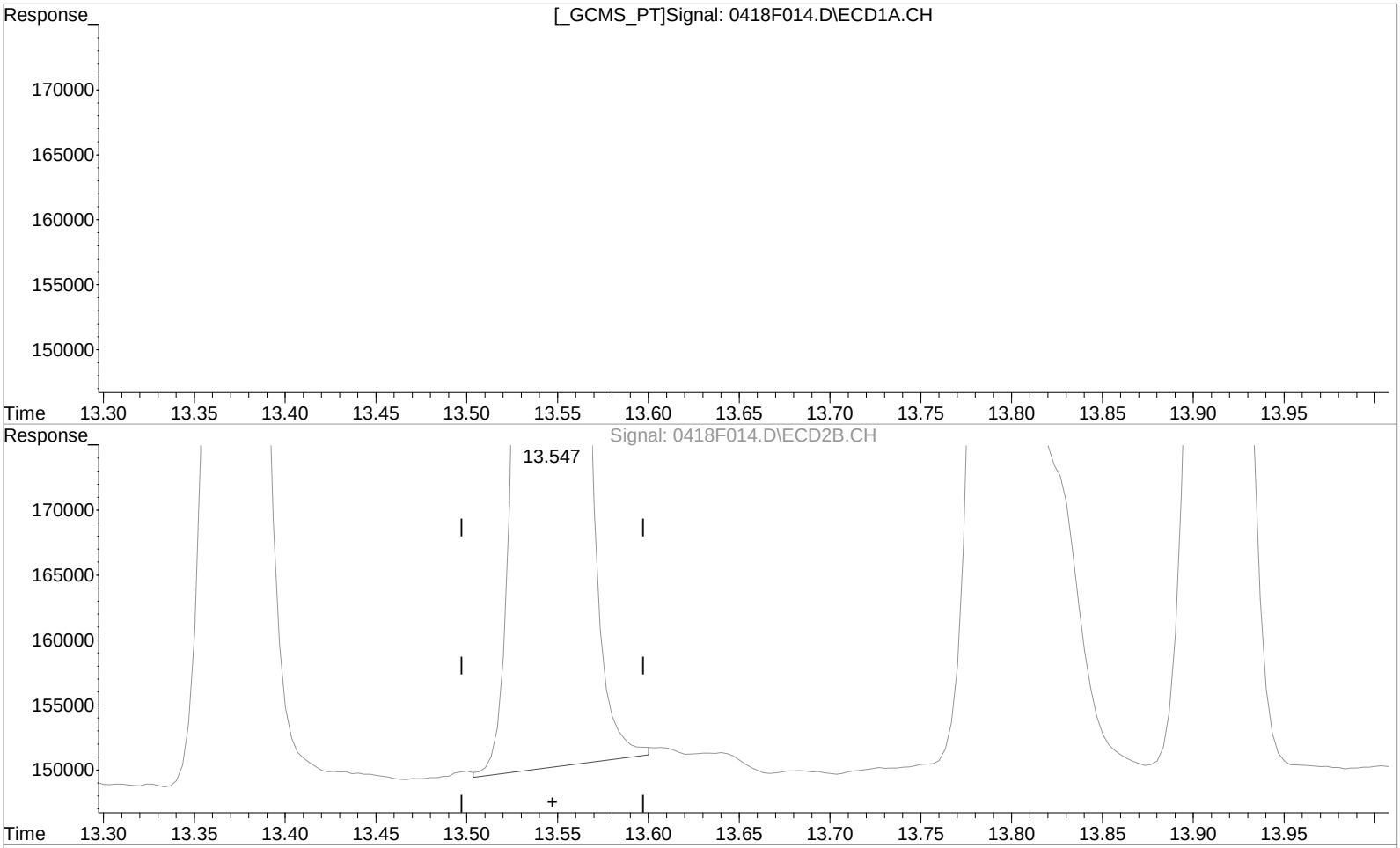
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F014.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:01 am Operator: LM
Sample : K2002652-001 81 MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:03:38 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(18) Endosulfan II

14.810min 5.096 ug/L

response 86199

(18) Endosulfan II #2

13.547min 7.224 ug/L m

response 423510

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

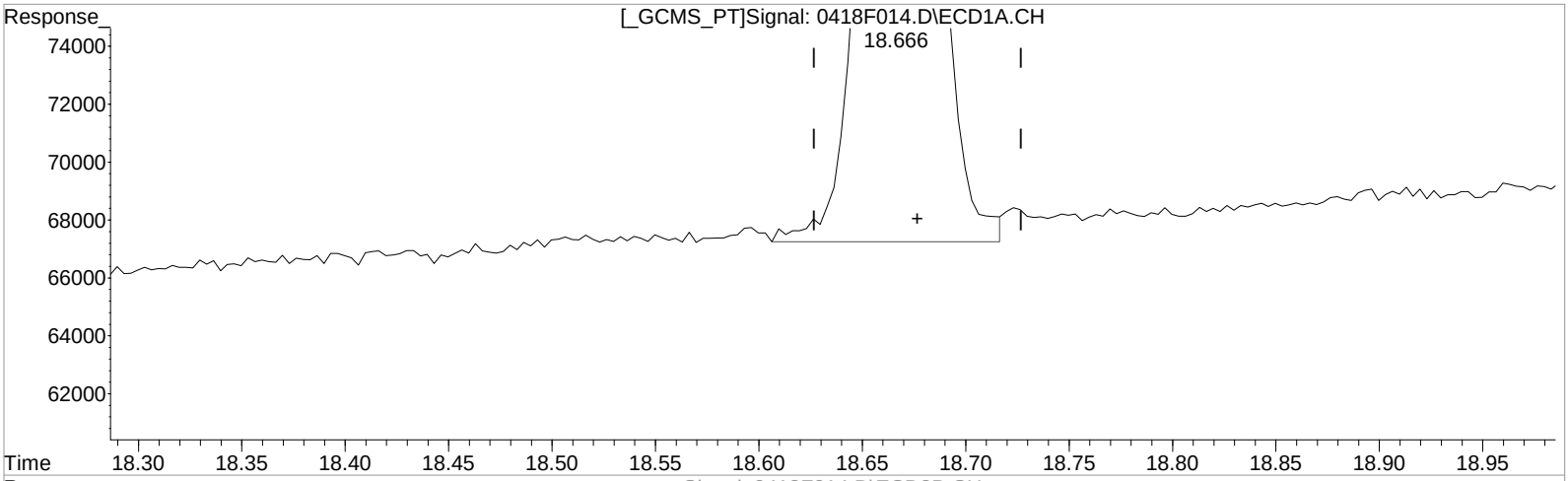
Quantitation Report (Qedit)

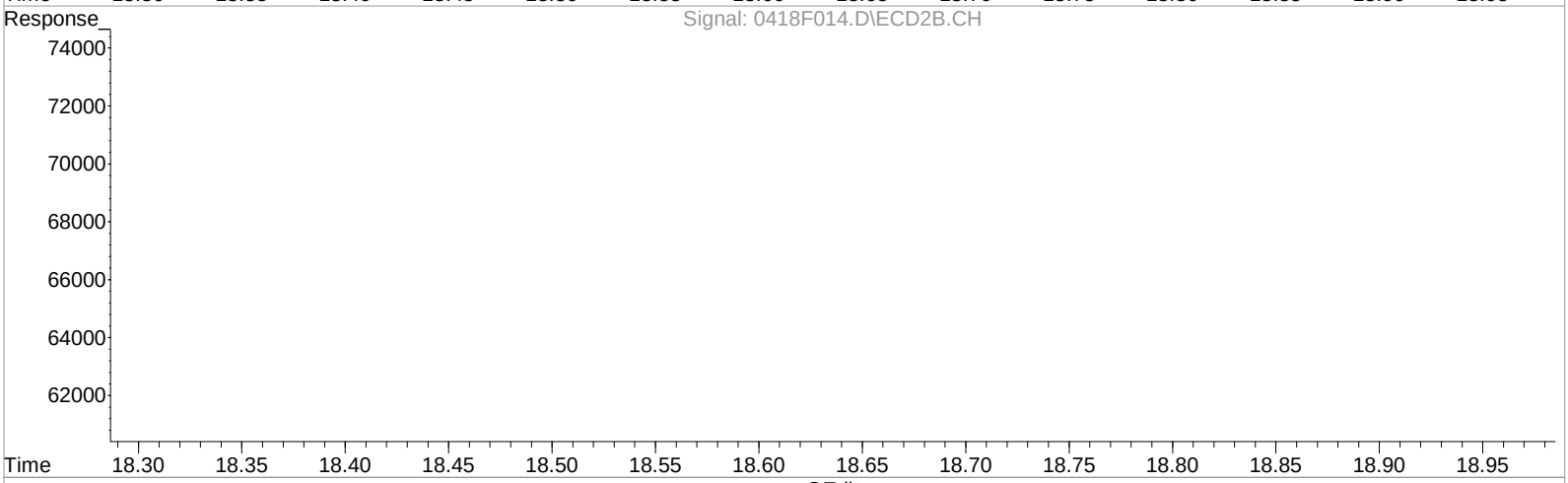
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F014.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:01 am Operator: LM
Sample : K2002652-001 81 MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:03:38 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.666min 4.371 ug/L

response 86228

Manual Integration:

Before

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.067min 3.857 ug/L

response 288554

(+) = Expected Retention Time

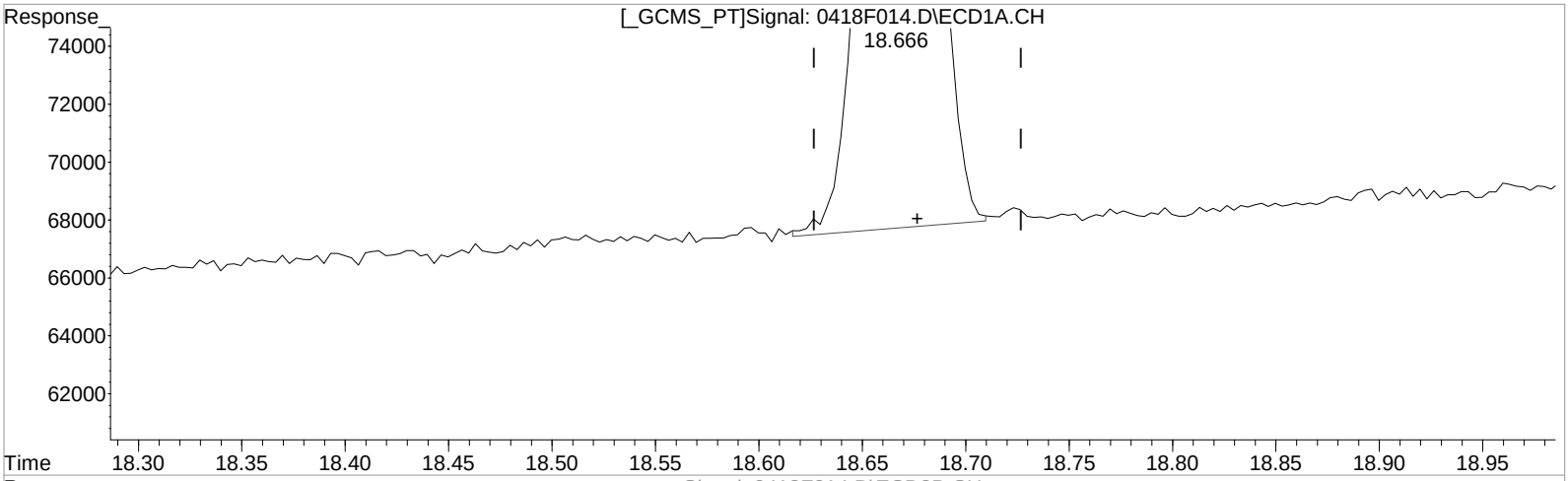
Quantitation Report (Qedit)

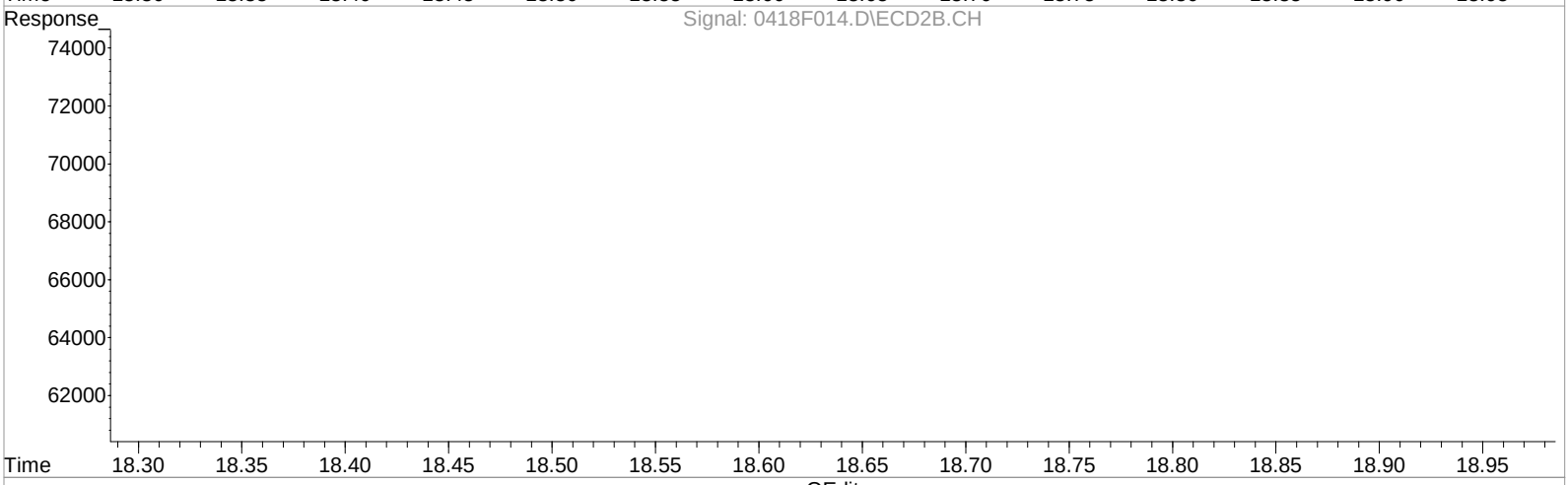
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F014.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:01 am Operator: LM
Sample : K2002652-001 81 MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:03:38 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.666min 4.211 ug/L m

response 83083

Manual Integration:

After

Baseline correction

04/21/20

(28) Decachlorobiphenyl #2 (s)

17.067min 3.857 ug/L

response 288554

(+) = Expected Retention Time

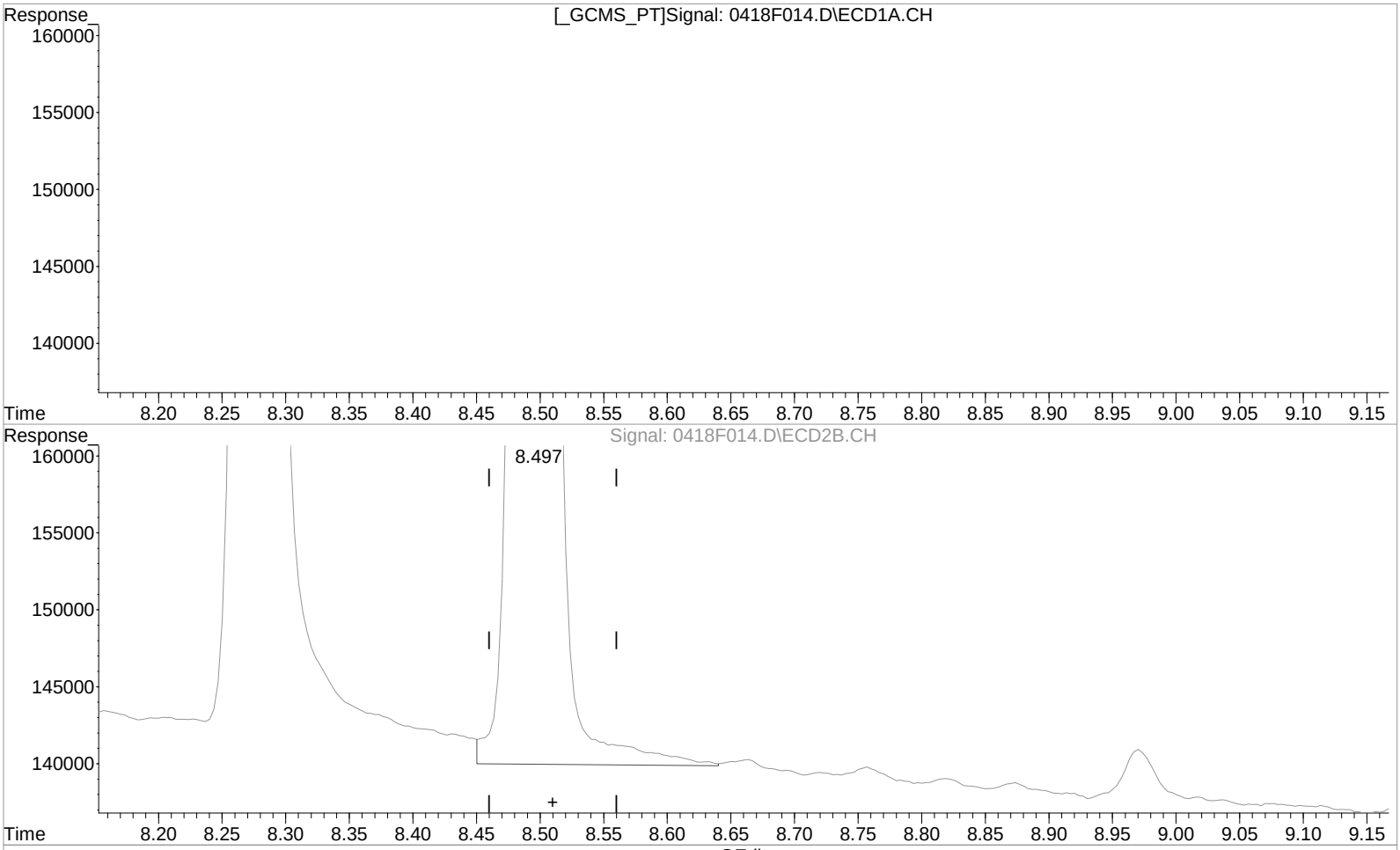
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F014.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:01 am Operator: LM
Sample : K2002652-001 81 MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:03:38 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.816min 5.096 ug/L

response 94244

(3) alpha-BHC #2

8.497min 5.216 ug/L

response 383666

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

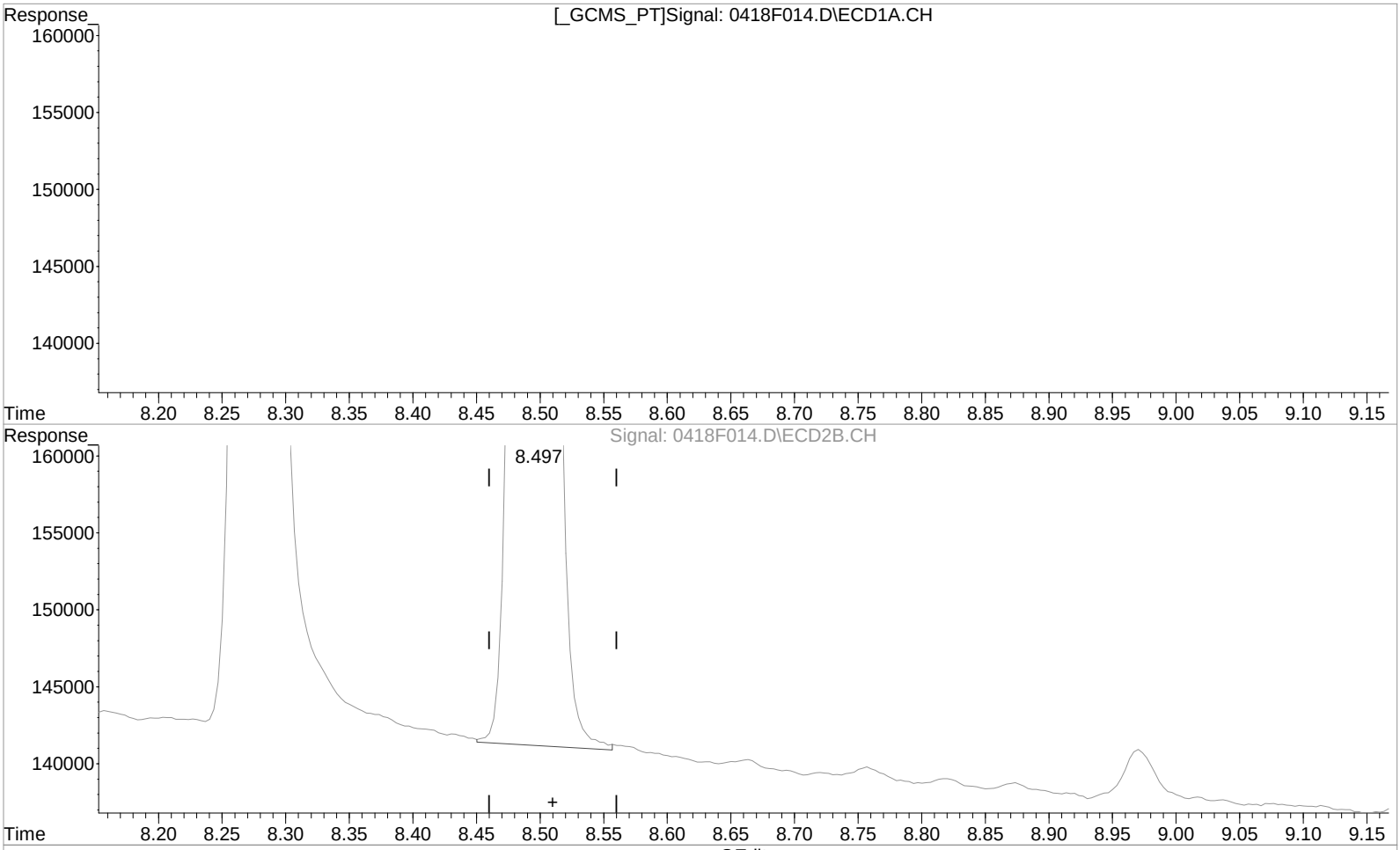
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F014.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:01 am Operator: LM
Sample : K2002652-001 81 MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:03:38 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.816min 5.096 ug/L

response 94244

Manual Integration:

After

Baseline correction

04/21/20

(3) alpha-BHC #2

8.497min 5.068 ug/L m

response 372780

(+) = Expected Retention Time

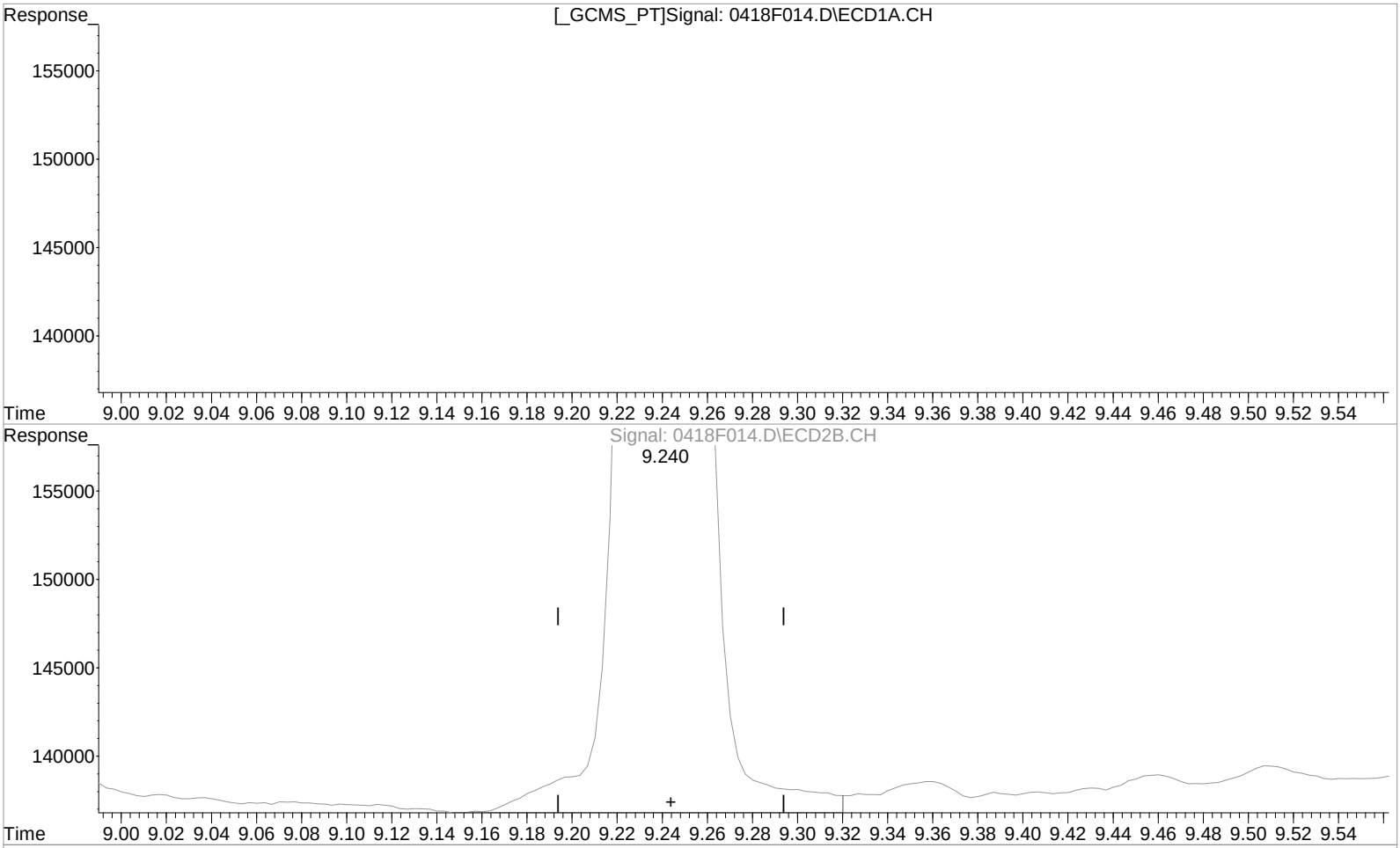
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F014.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:01 am Operator: LM
Sample : K2002652-001 81 MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:03:38 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(6) gamma-BHC (Lindane)

10.486min 5.059 ug/L

response 90406

Manual Integration:

Before

04/21/20

(6) gamma-BHC (Lindane) #2

9.240min 5.072 ug/L

response 363121

(+) = Expected Retention Time

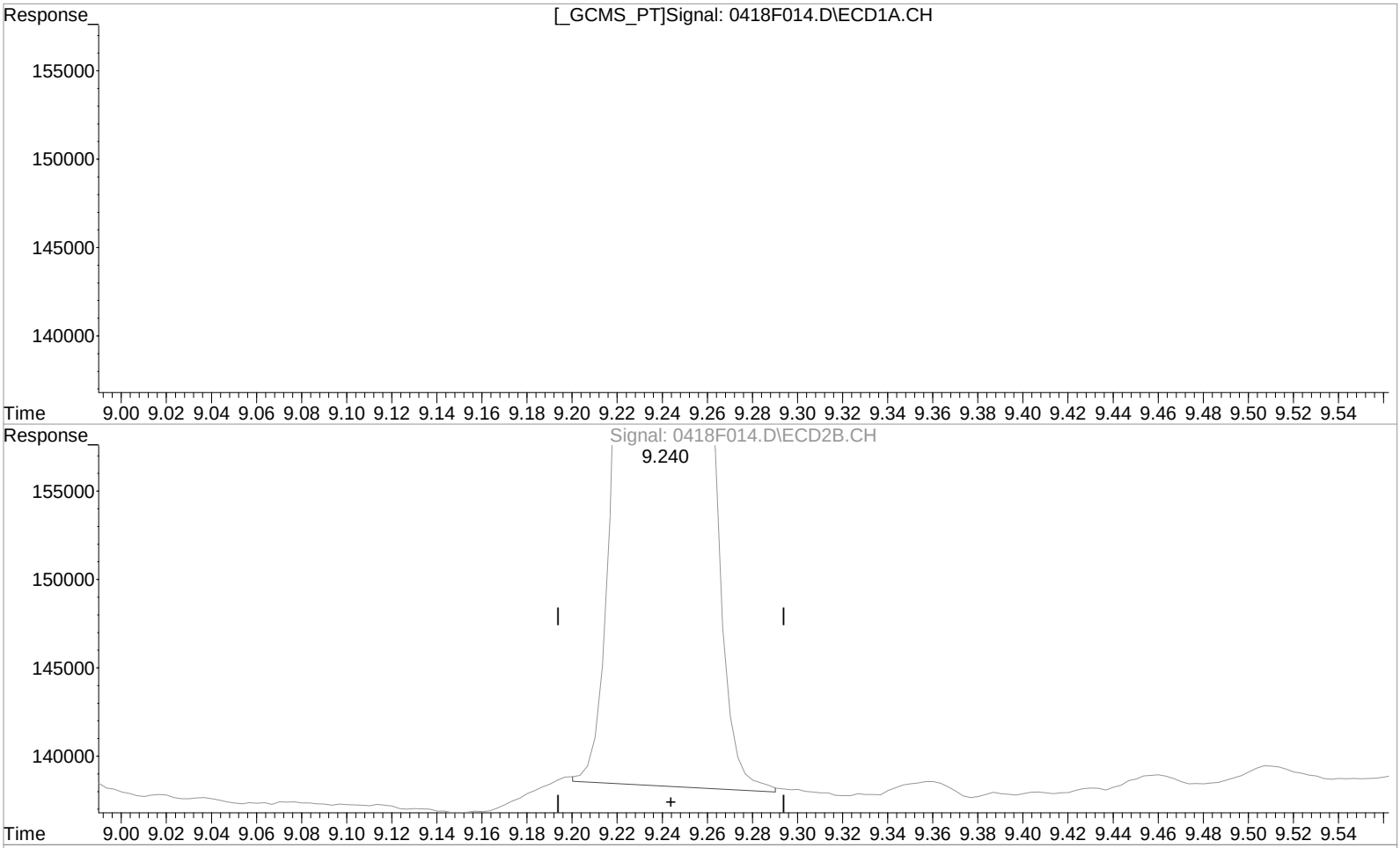
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F014.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:01 am Operator: LM
Sample : K2002652-001 81 MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:03:38 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(6) gamma-BHC (Lindane)

10.486min 5.059 ug/L

response 90406

Manual Integration:

After

Baseline correction

04/21/20

(6) gamma-BHC (Lindane) #2

9.240min 4.894 ug/L m

response 350375

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F017.D\
Lab ID: KQ2004496-04
RunType: MS
Matrix: Water

Date Acquired: 4/19/20 03:30:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F017.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 03:30:00	**Vial:**	17
Run Type:	MS	**Dilution:**	1
Lab ID:	KQ2004496-04	**Raw Units:**	ug/L

Bottle ID:	K2002652-001.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	KQ2004496
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.48	-0.0 c	1132353	4810583	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.48	-0.0 c	1132353	4810583	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.48	c	1132353	4810583	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06		77068	265372	3.825	3.422	77	68	68	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.26	-0.01	76218	268783	4.642	4.509	93	90	90	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					6666666667	0666666667	461	518	**461**	Y
Chlordane {1}	11.27	9.57	57351	191657	74.295	72.985	371	365		
Chlordane {2}	11.69	11.66	72021	223029	73.655	124.538	368	623		P
Chlordane {3}	12.25	11.81	79923	167322	113.892	140.740	569	704		
Chlordane {4}	13.45	11.97	208238	675247	97.755	93.778	489	469		
Chlordane {5}	13.53	12.02	164336	437905	93.268	99.326	466	497		
Chlordane {6}	13.61	12.12	129373	576798	100.021	90.357	500	452		
Dieldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00	0.00	0	0	0.000	0.000	0U	0U	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					252.9655	243.9102	1260	1220	**1220**	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F017.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 03:30:00	**Vial:**	17
Run Type:	MS	**Dilution:**	1
Lab ID:	KQ2004496-04	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74 -0.01	13.39	47746	277880	256.623	259.958	1280	1300		
Toxaphene {2}	14.80 -0.01	13.45 -0.01	42997	169779	255.492	206.440	1280	1030		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	14.99 -0.01	13.66 -0.01	53554	83854	237.466	234.430	1190	1170		
Toxaphene {5}	15.34 -0.01	13.93	56363	129021	262.281	224.074	1310	1120		
Toxaphene {6}	0.00	15.43	0	91904	0.000	294.649	0	1470		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:13:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.201	5.485	1132353	4810583	100.000	100.000
29)	1-Bromo-2...	6.201	5.485	1132353	4810583	100.000	100.000
36)	1-Bromo-2...	6.201	5.485	1132353	4810583	100.000	100.000
43)	1-Bromo-2...	6.201	5.485	1132353	4810583	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.977	7.265	76218	268783	4.642	4.509
28) s	Decachlor...	18.671	17.065	77068	265372	3.825	3.422
	Target Compounds						
30)	Toxaphene	14.744	13.388	47746	277880	256.623	259.958m
31)	Toxaphene...	14.804	13.455	42997	169779	255.492m	206.440m
33)	Toxaphene...	14.994	13.665	53554	83854	237.466	234.430m
34)	Toxaphene...	15.344	13.928	56363	129021	262.281	224.074m
35)	Toxaphene...	0.000	15.431	0	91904	N.D. d	294.649m
37)	Chlordane	11.271	9.568	57351	191657	74.295	72.985
38)	Chlordane...	11.687	11.661	72021	223029	73.655	124.538m#
39)	Chlordane...	12.254	11.815	79923	167322	113.892	140.740m
40)	Chlordane...	13.454	11.971	208238	675247	97.755	93.778m
41)	Chlordane...	13.531	12.018	164336	437905	93.268	99.326m
42)	Chlordane...	13.614	12.121	129373	576798	100.021	90.357m
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

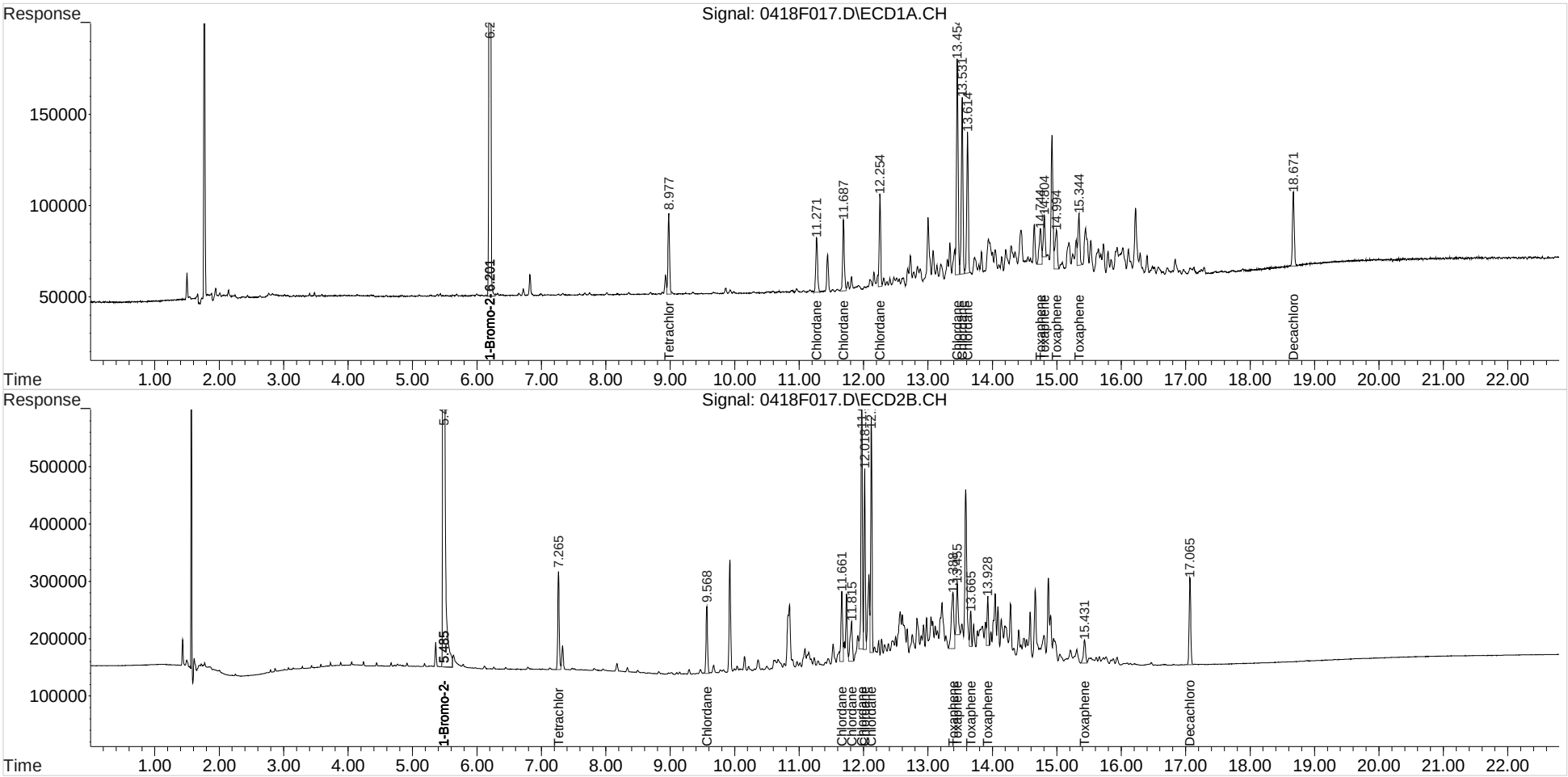
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:13:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



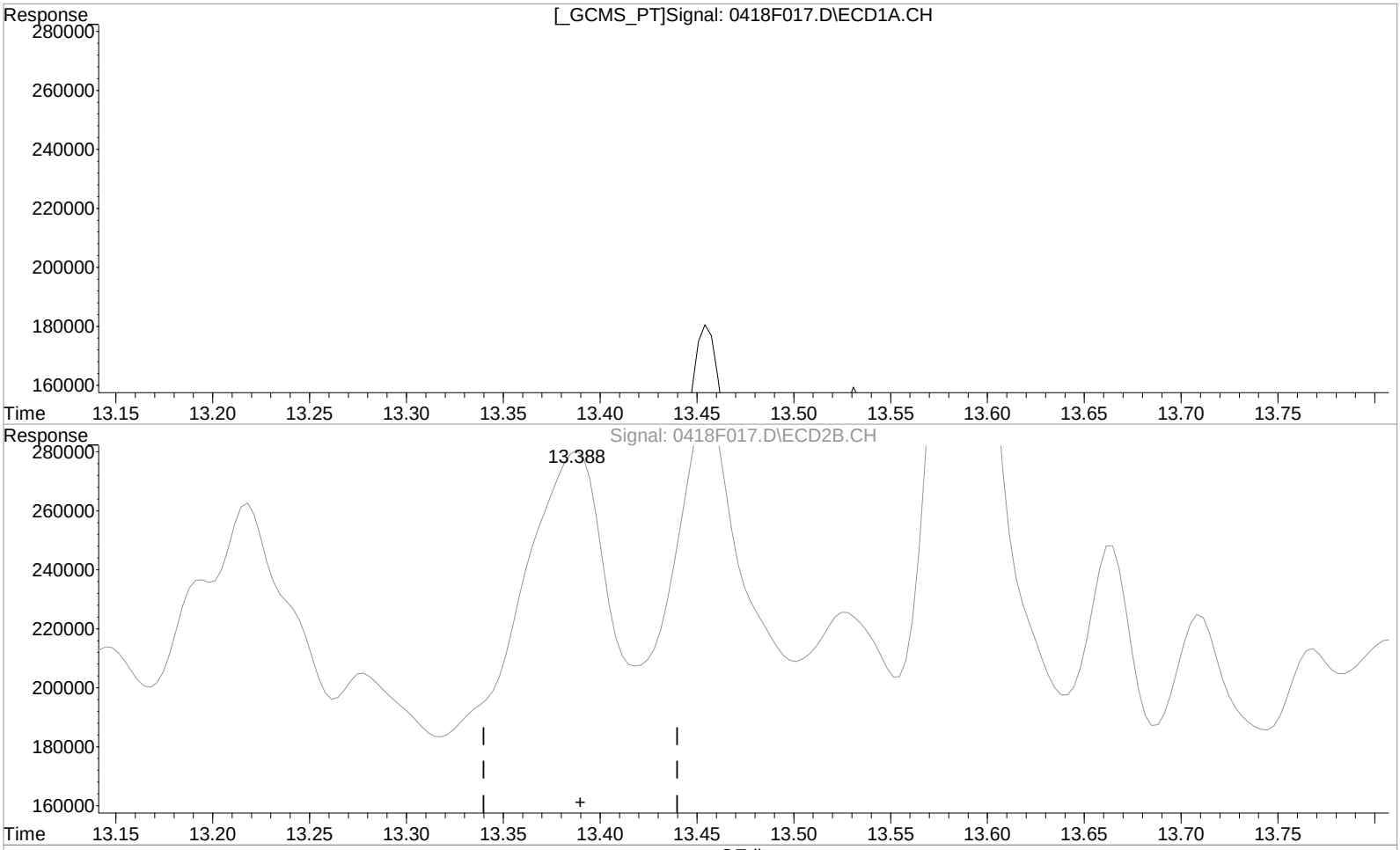
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.744min 256.623 ug/L

response 47746

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.388min 423.182 ug/L

response 452357

(+) = Expected Retention Time

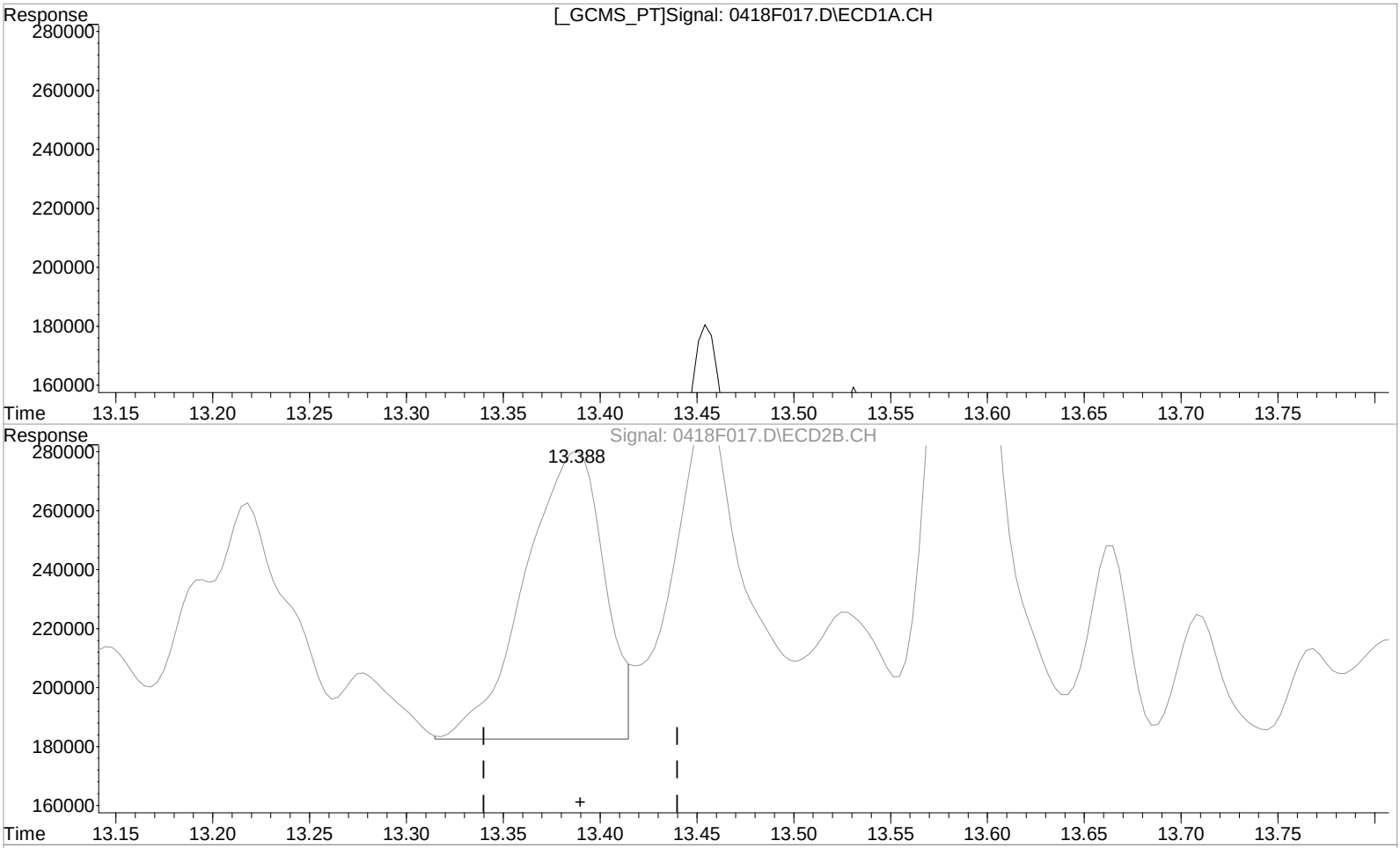
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.744min 256.623 ug/L

response 47746

Manual Integration:

After

Baseline correction

04/21/20

(30) Toxaphene #2

13.388min 259.958 ug/L m

response 277880

(+) = Expected Retention Time

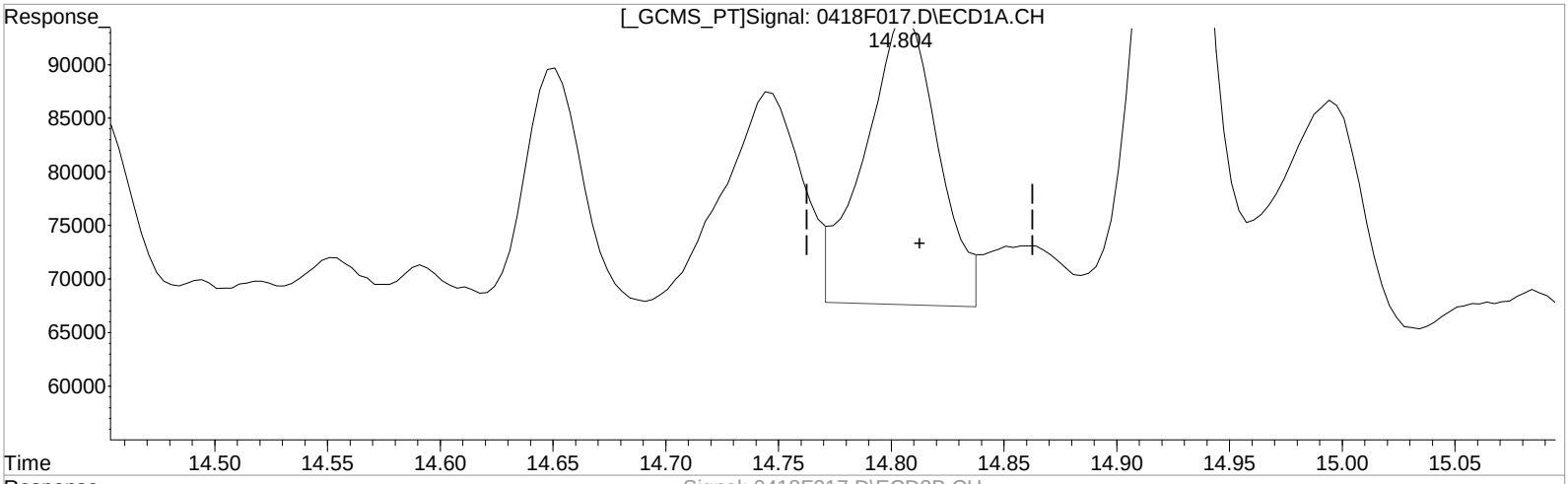
Quantitation Report (Qedit)

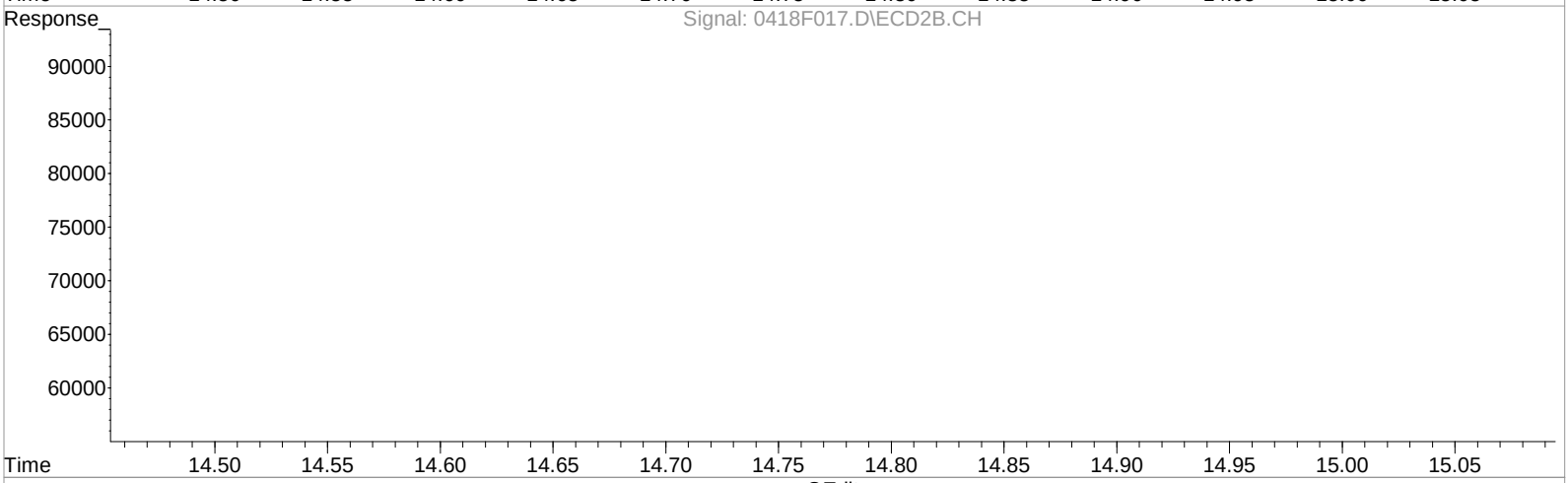
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.804min 359.230 ug/L

response 60455

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.455min 526.287 ug/L

response 432826

(+) = Expected Retention Time

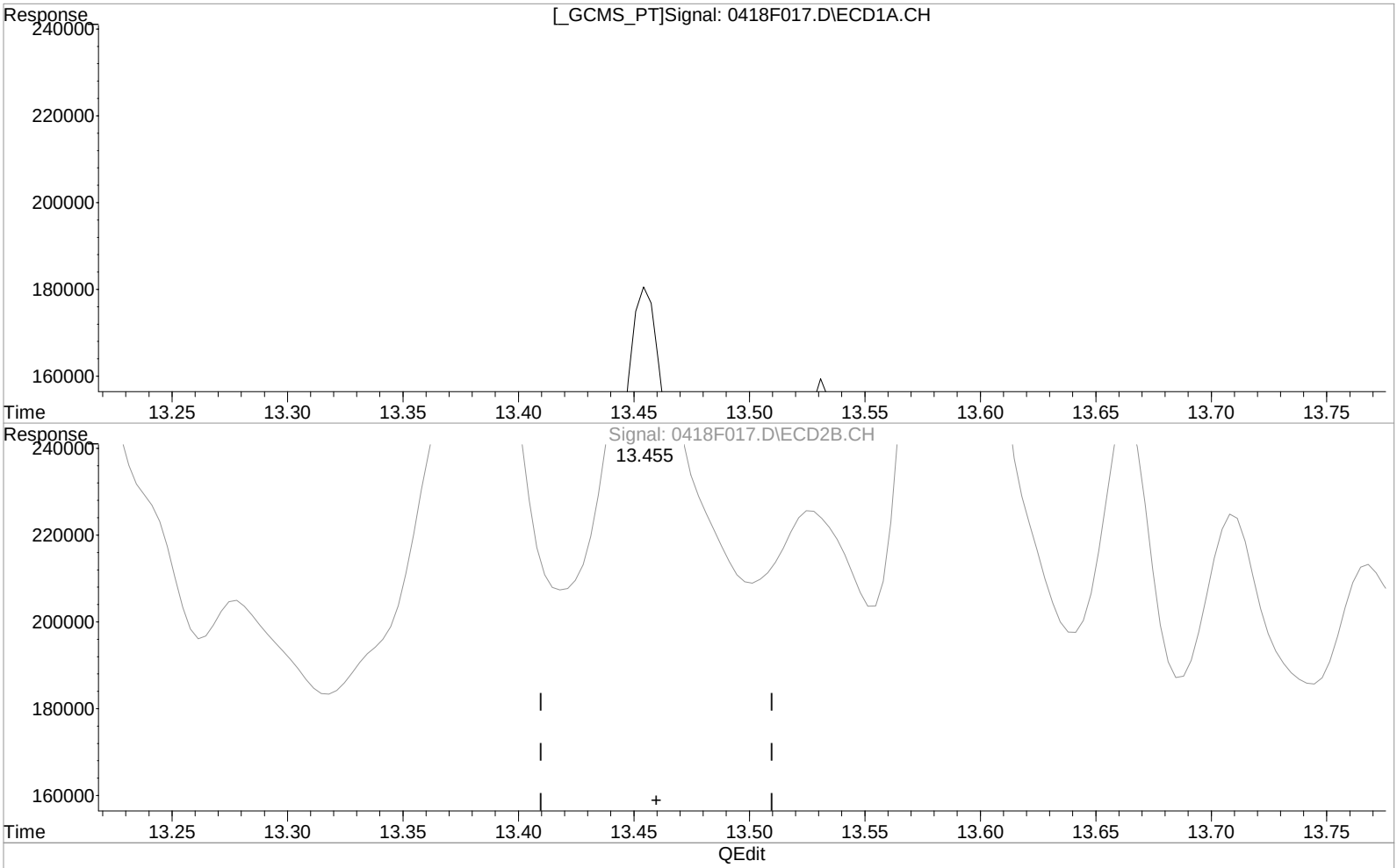
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.804min 255.492 ug/L m

response 42997

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.455min 526.287 ug/L

response 432826

(+) = Expected Retention Time

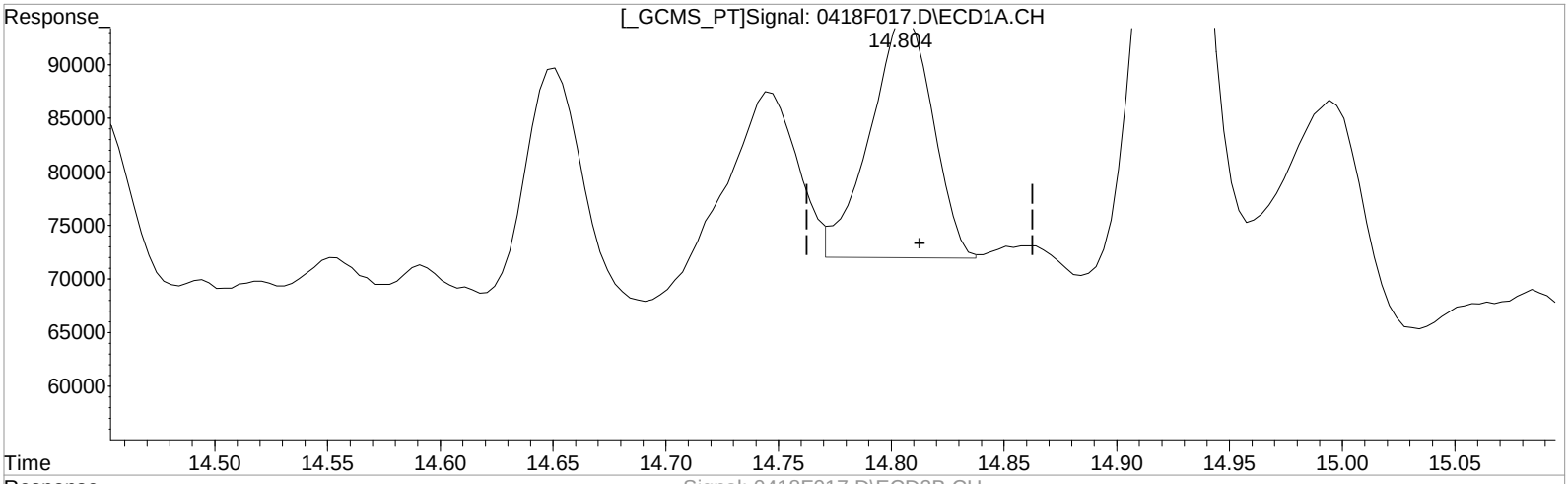
Quantitation Report (Qedit)

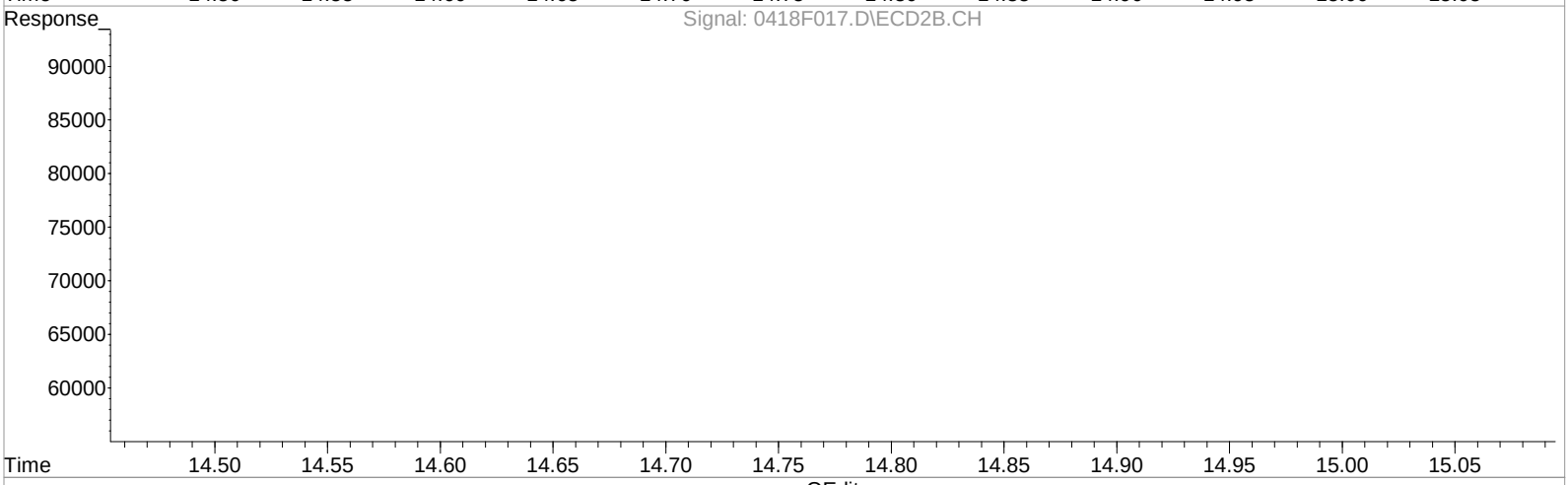
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.804min 255.492 ug/L m

response 42997

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.455min 526.287 ug/L

response 432826

(+) = Expected Retention Time

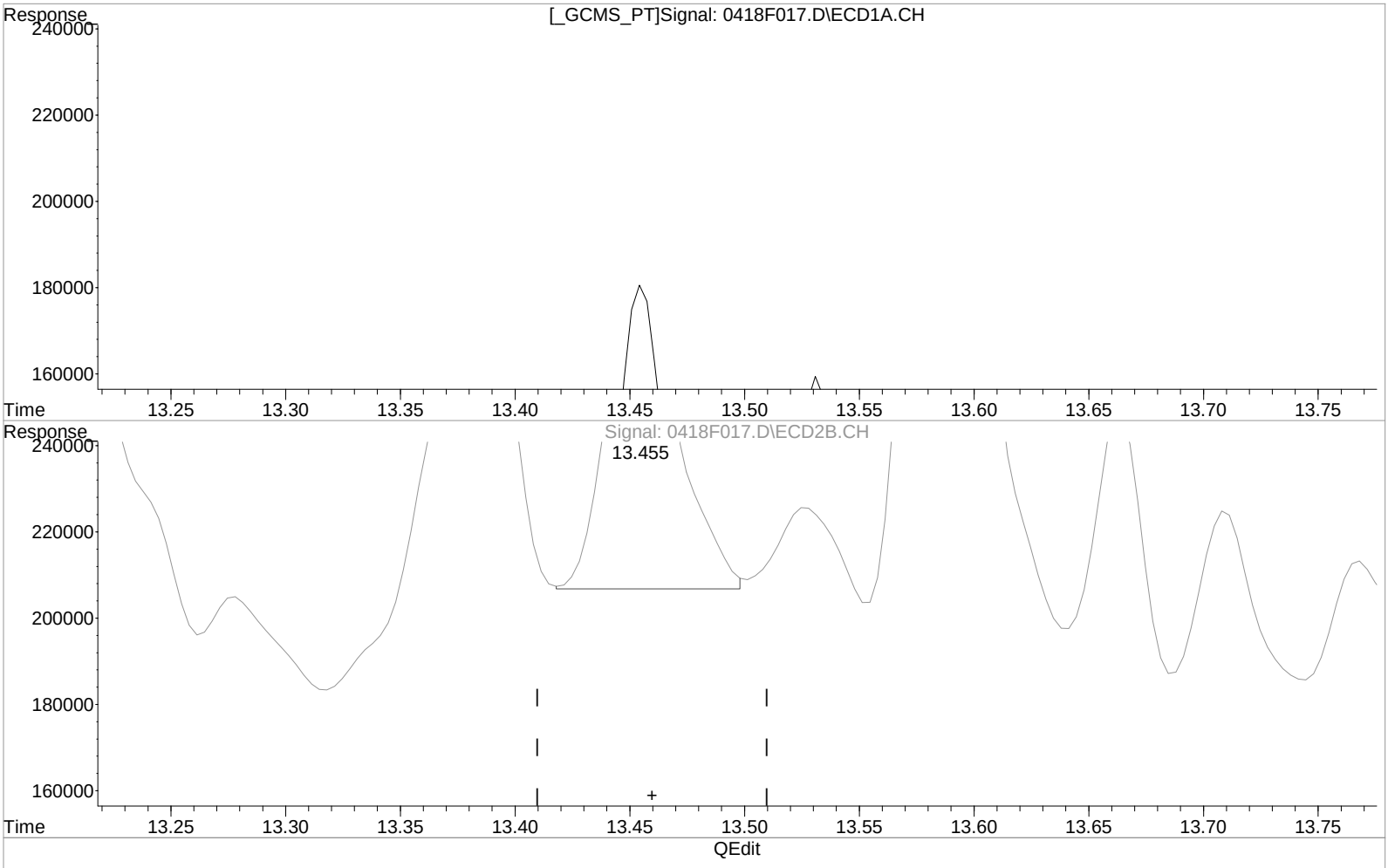
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.804min 255.492 ug/L m

response 42997

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.455min 206.440 ug/L m

response 169779

(+) = Expected Retention Time

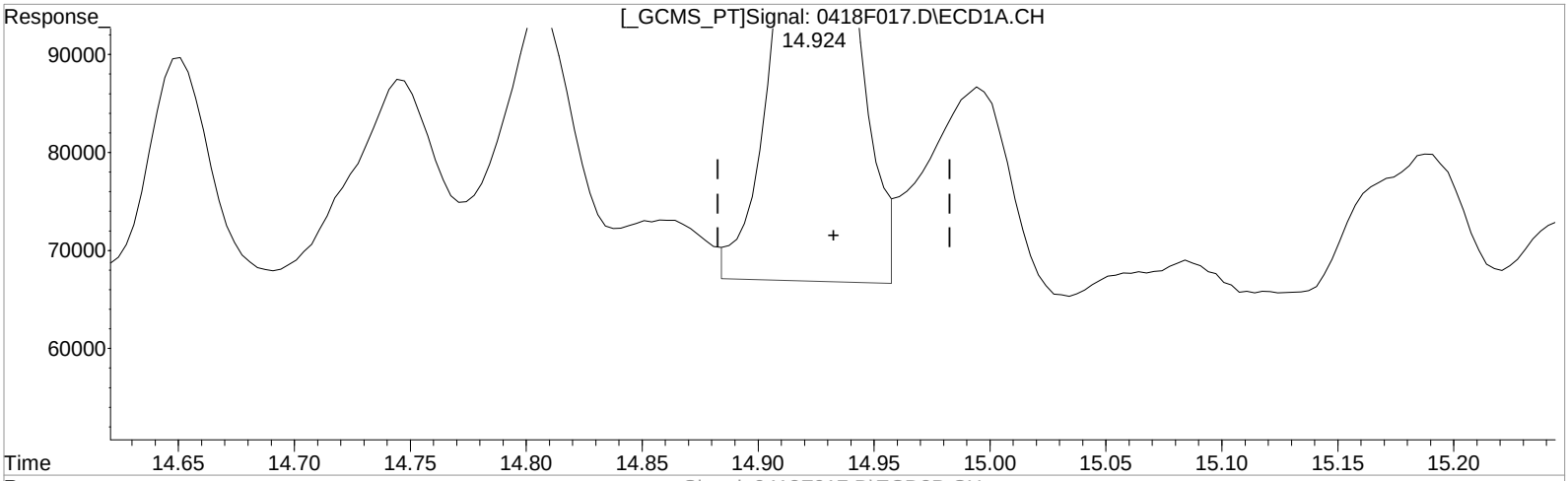
Quantitation Report (Qedit)

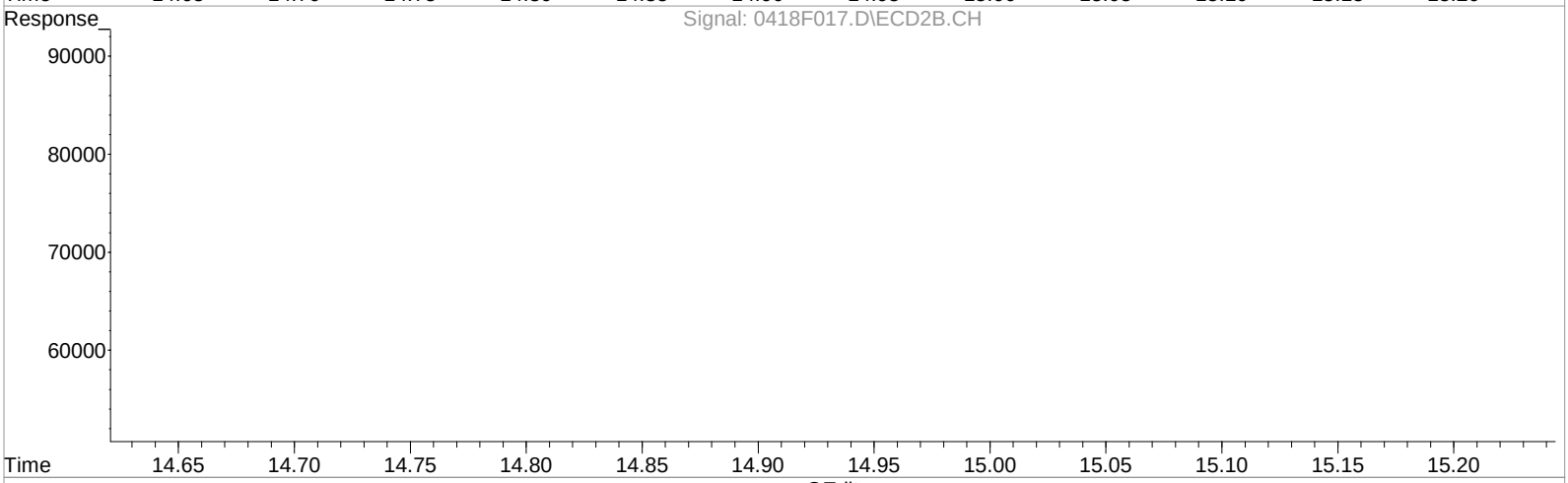
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.924min 428.021 ug/L

response 143531

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.585min 906.517 ug/L

response 746264

(+) = Expected Retention Time

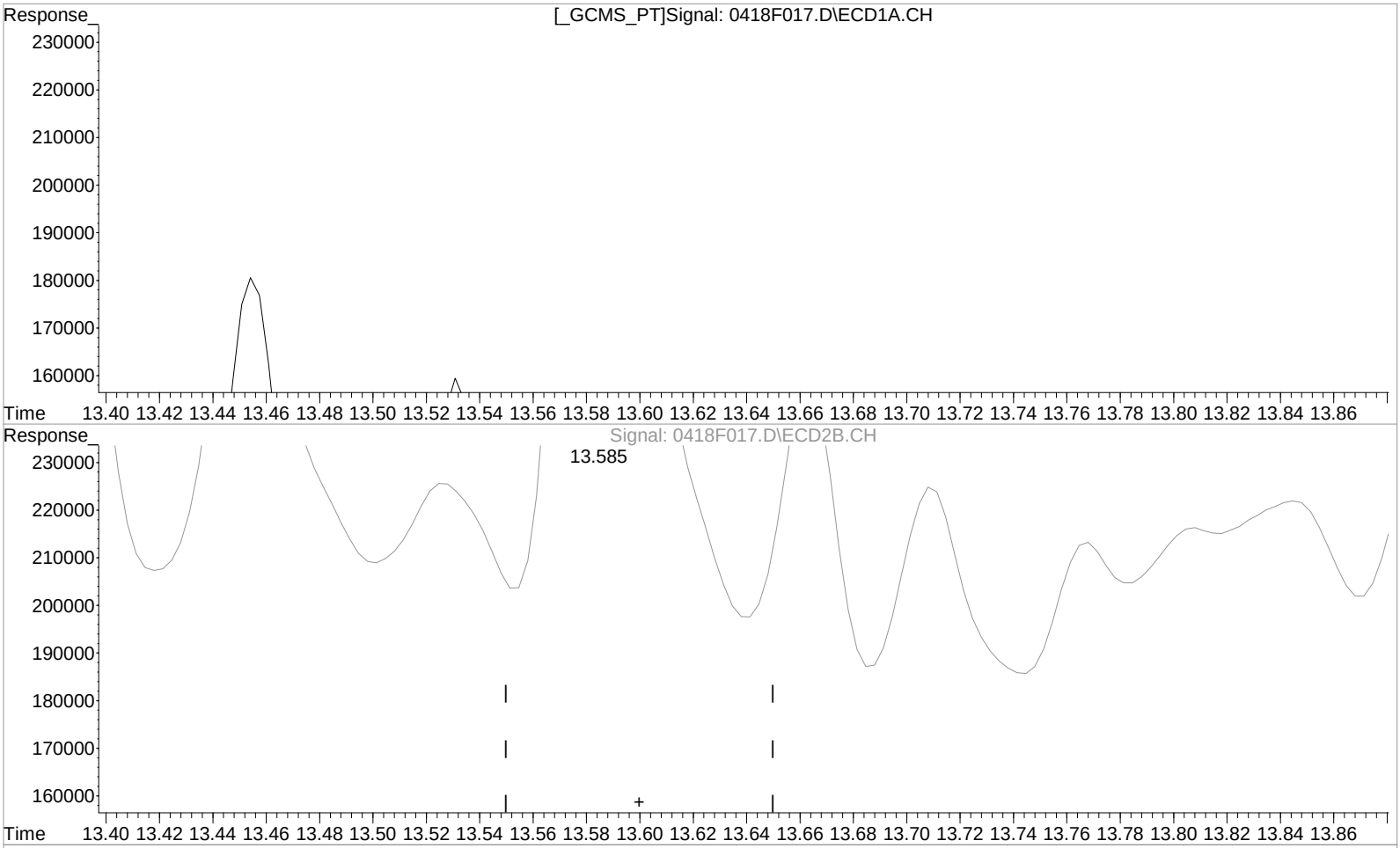
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.924min 388.684 ug/L m

response 130340

Manual Integration:

Before

04/21/20

(32) Toxaphene {3} #2

13.585min 906.517 ug/L

response 746264

(+) = Expected Retention Time

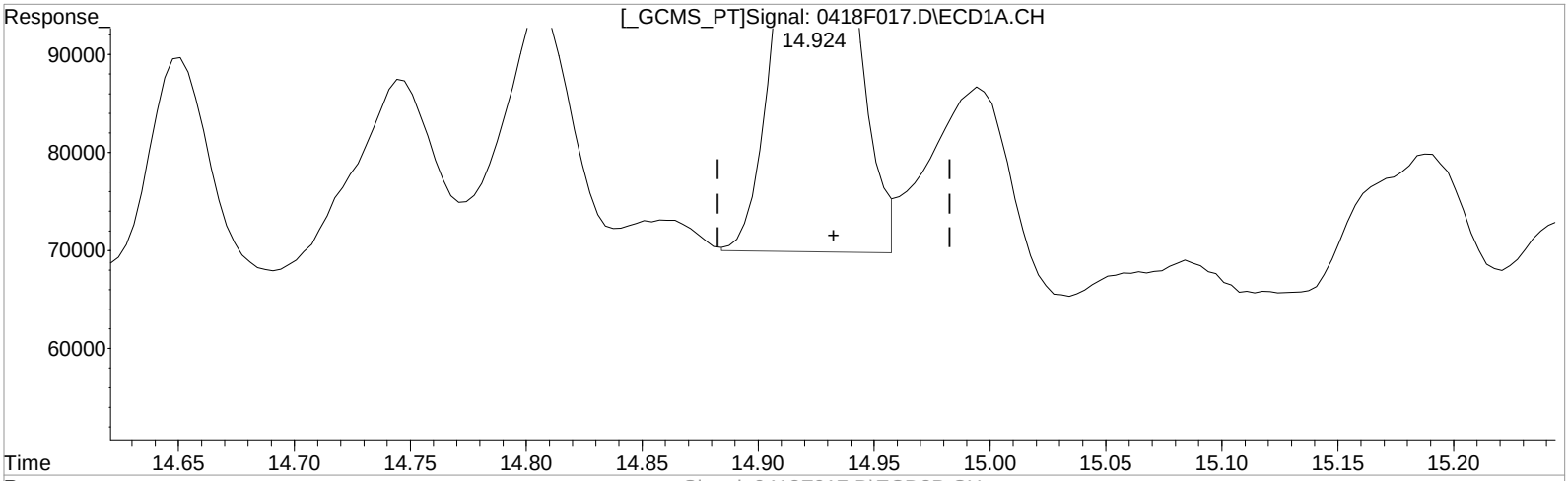
Quantitation Report (Qedit)

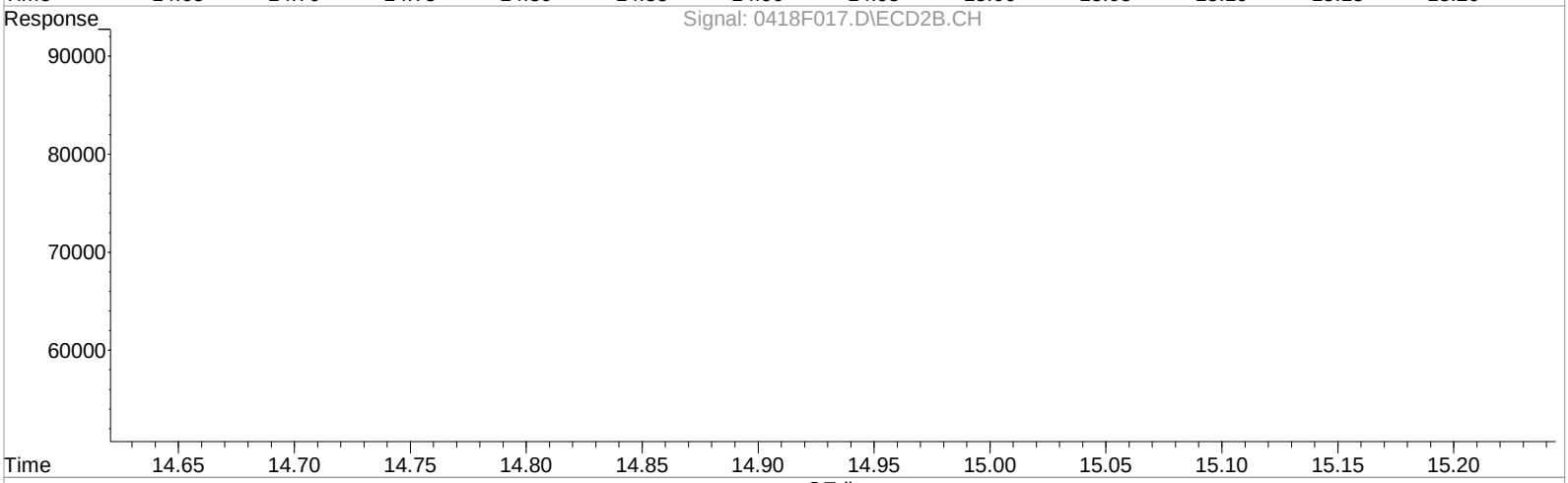
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.924min 388.684 ug/L m

response 130340

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.585min 906.517 ug/L

response 746264

(+) = Expected Retention Time

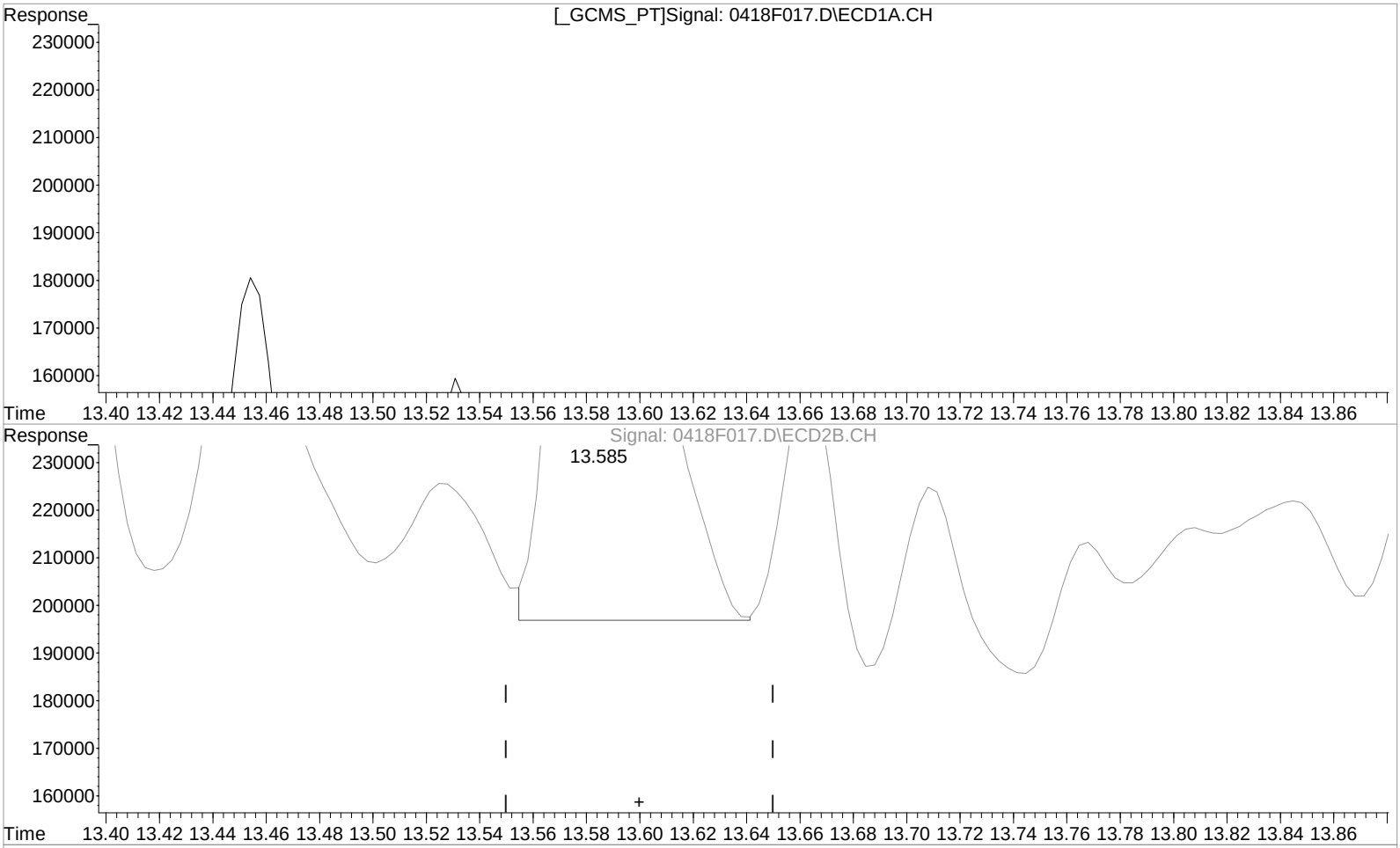
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.924min 388.684 ug/L m

response 130340

(32) Toxaphene {3} #2

13.585min 571.976 ug/L m

response 514979

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

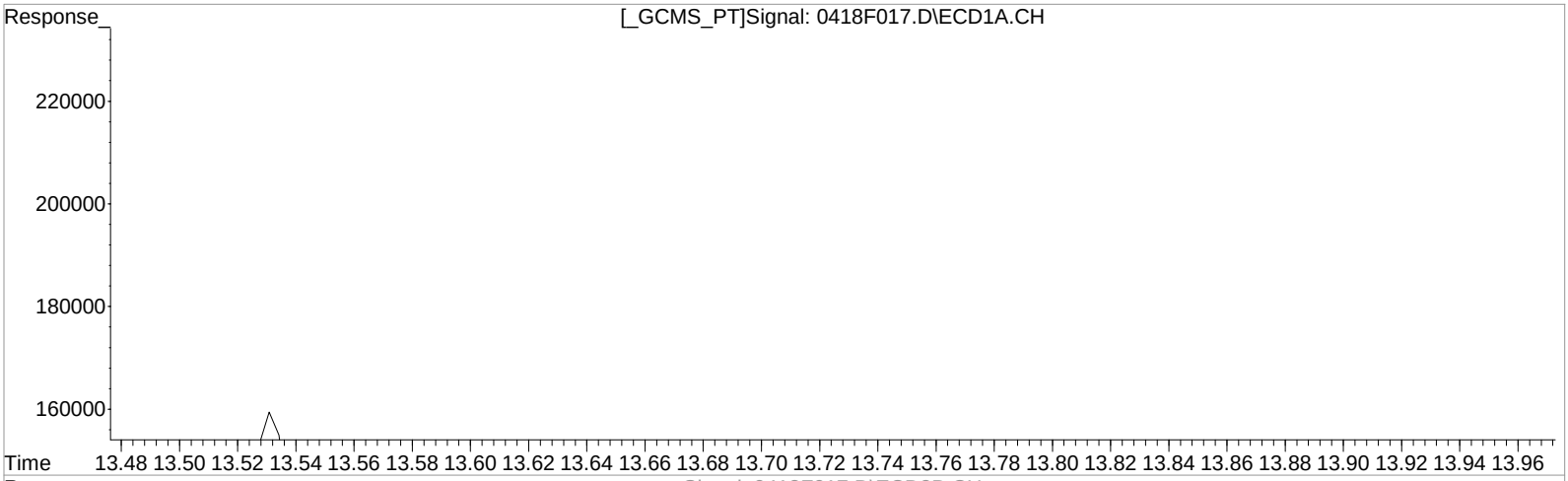
Quantitation Report (Qedit)

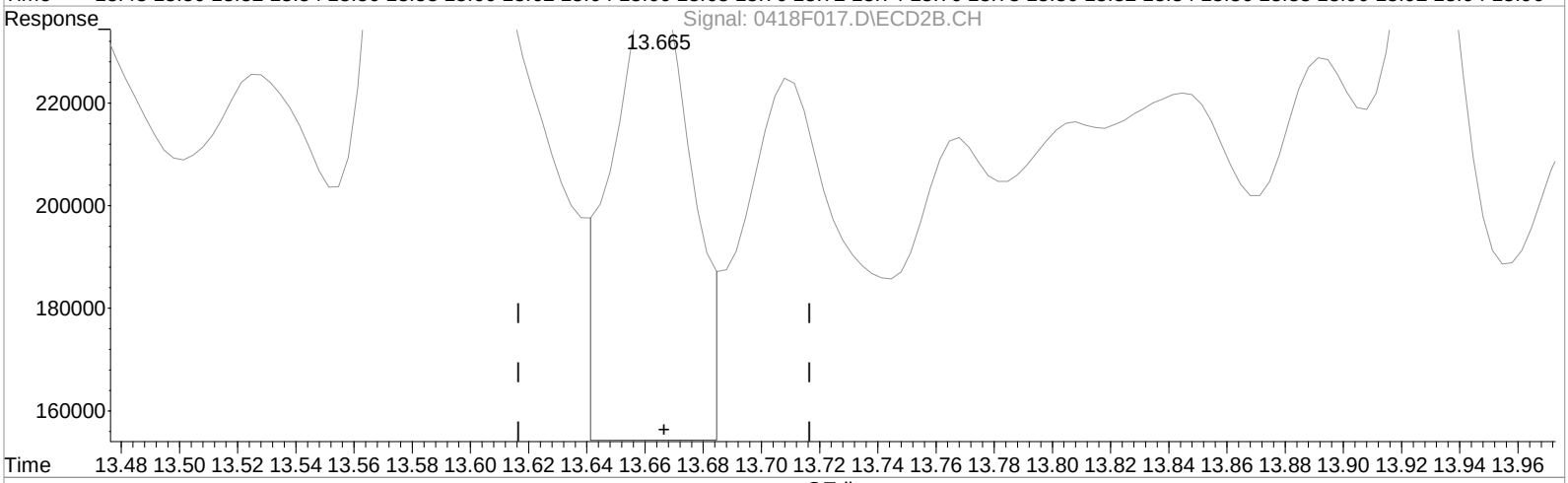
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.994min 237.466 ug/L

response 53554

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.665min 499.620 ug/L

response 167899

(+) = Expected Retention Time

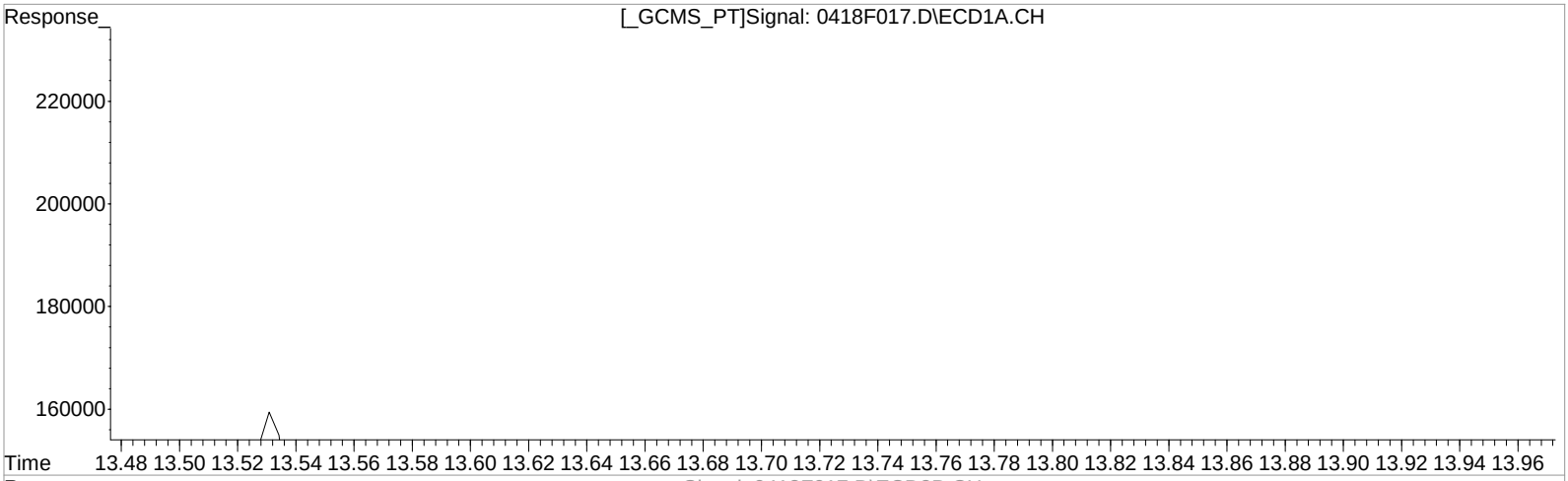
Quantitation Report (Qedit)

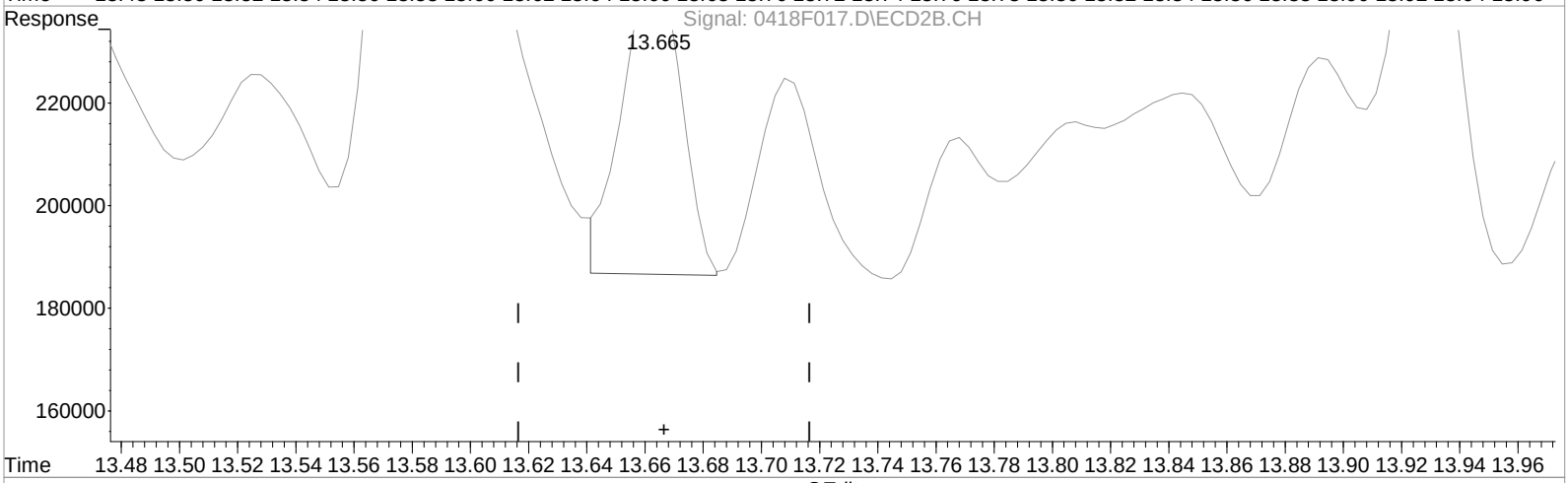
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

14.994min 237.466 ug/L

response 53554

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.665min 234.430 ug/L m

response 83854

(+) = Expected Retention Time

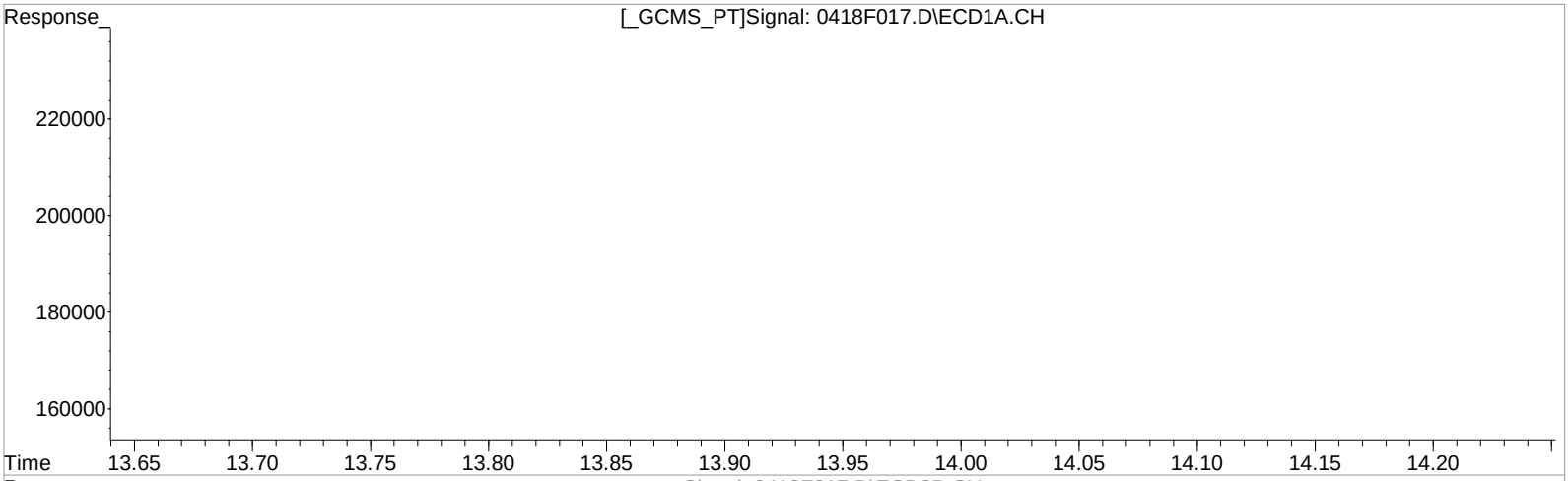
Quantitation Report (Qedit)

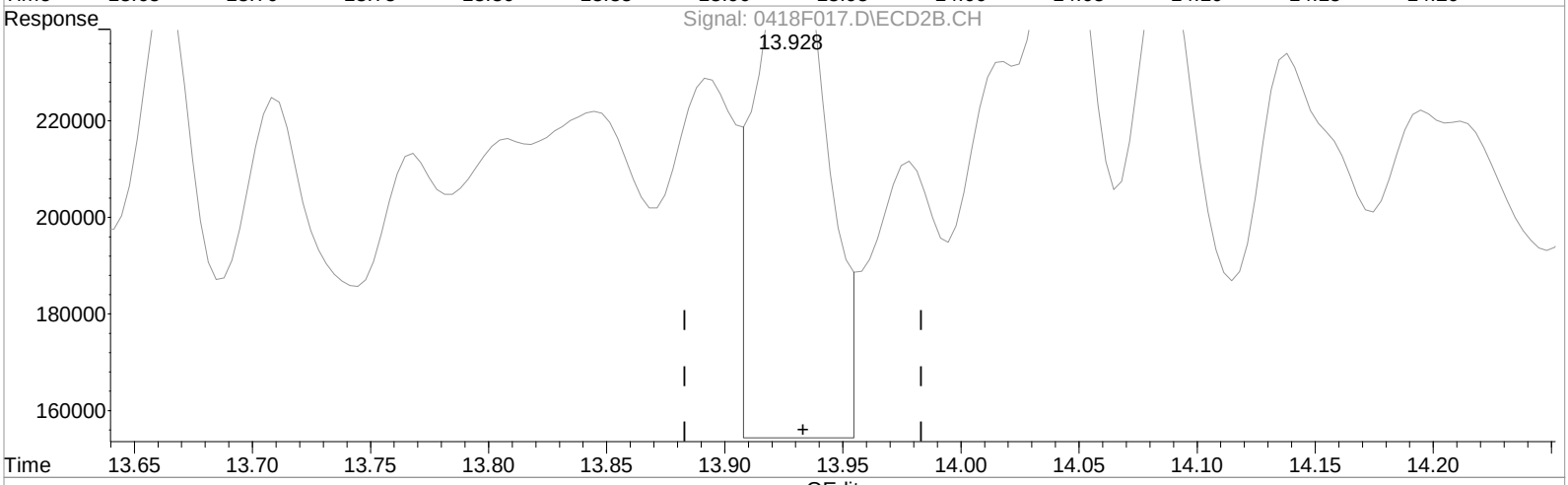
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.344min 262.281 ug/L

response 56363

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.928min 387.689 ug/L

response 223230

(+) = Expected Retention Time

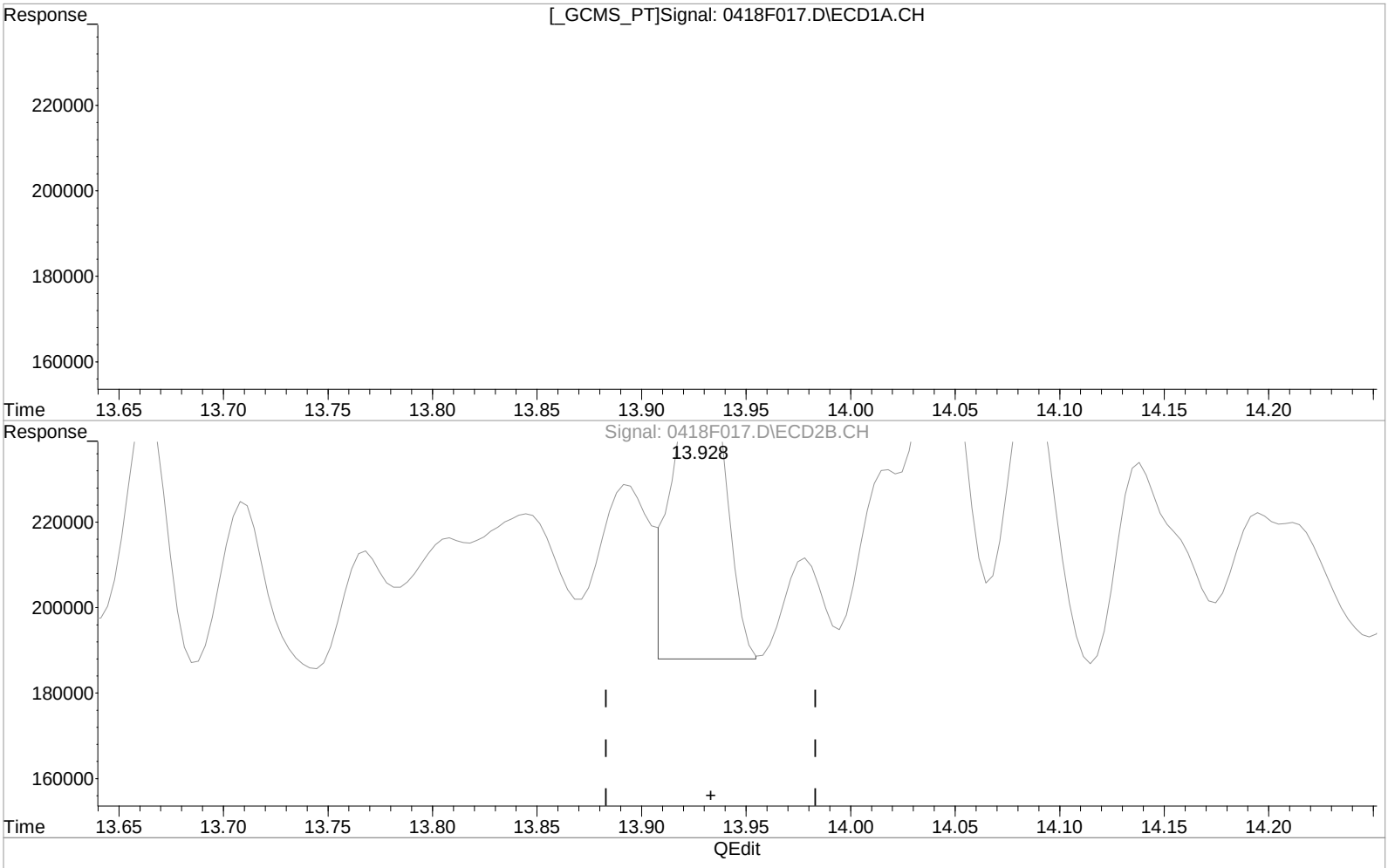
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.344min 262.281 ug/L

response 56363

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.928min 224.074 ug/L m

response 129021

(+) = Expected Retention Time

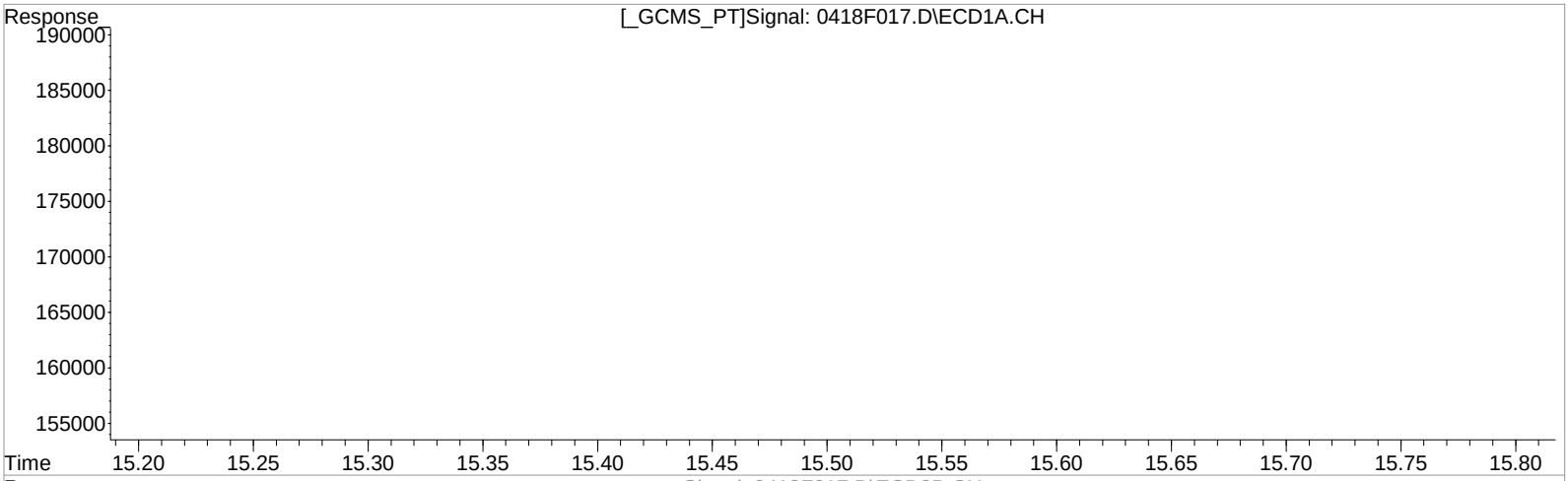
Quantitation Report (Qedit)

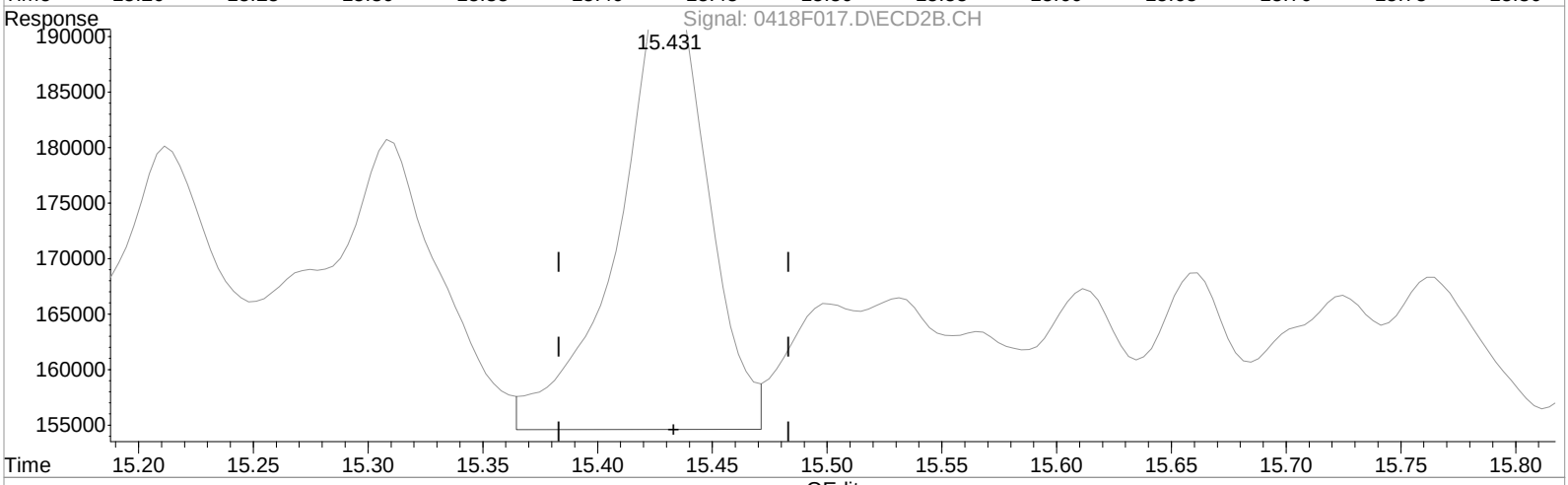
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.527min 447.147 ug/L

response 37604

Manual Integration:

Before

04/21/20

(35) Toxaphene {6} #2

15.431min 351.784 ug/L

response 109725

(+) = Expected Retention Time

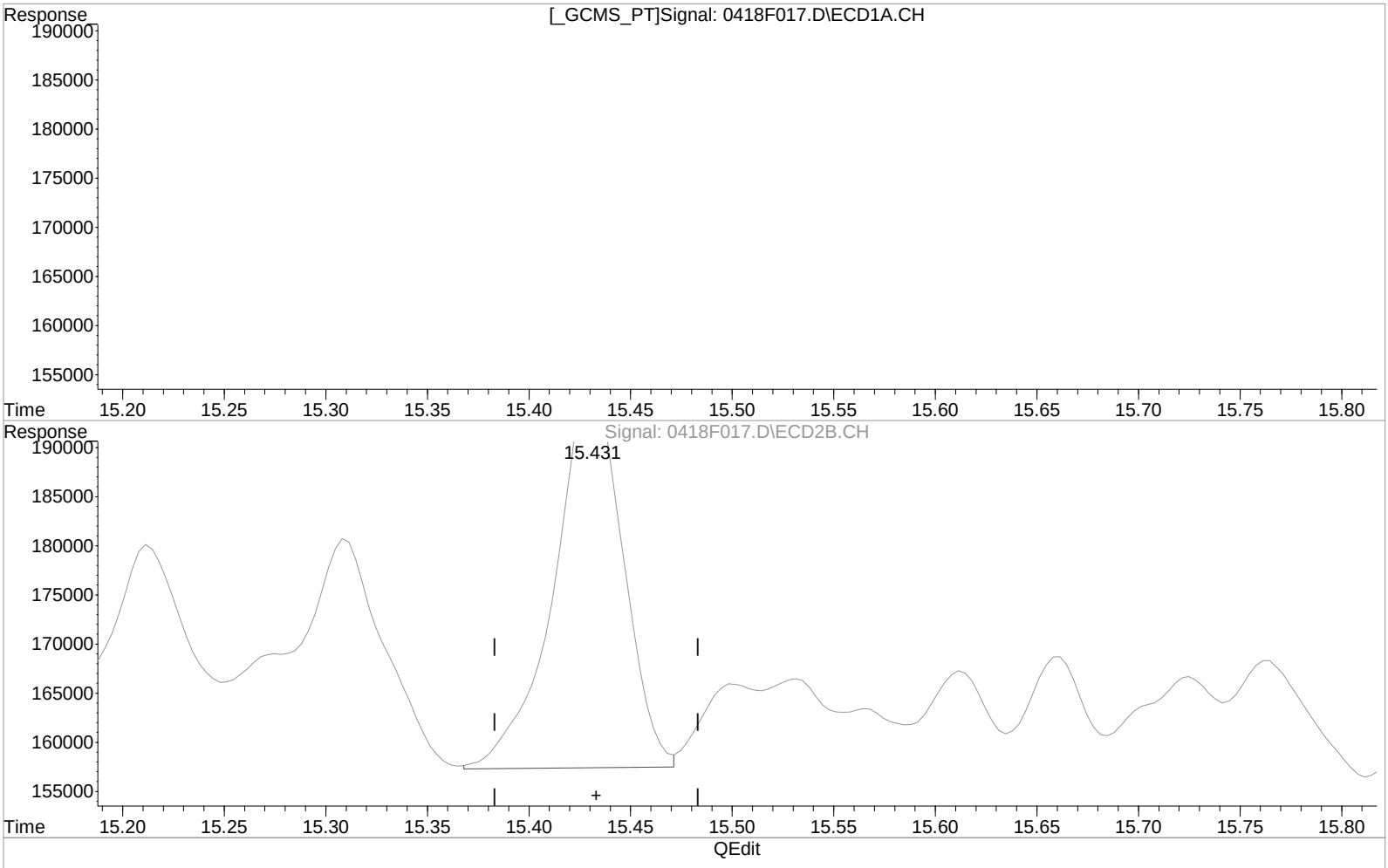
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(35) Toxaphene {6}

15.527min 447.147 ug/L

response 37604

Manual Integration:

After

Baseline correction

04/21/20

(35) Toxaphene {6} #2

15.431min 294.649 ug/L m

response 91904

(+) = Expected Retention Time

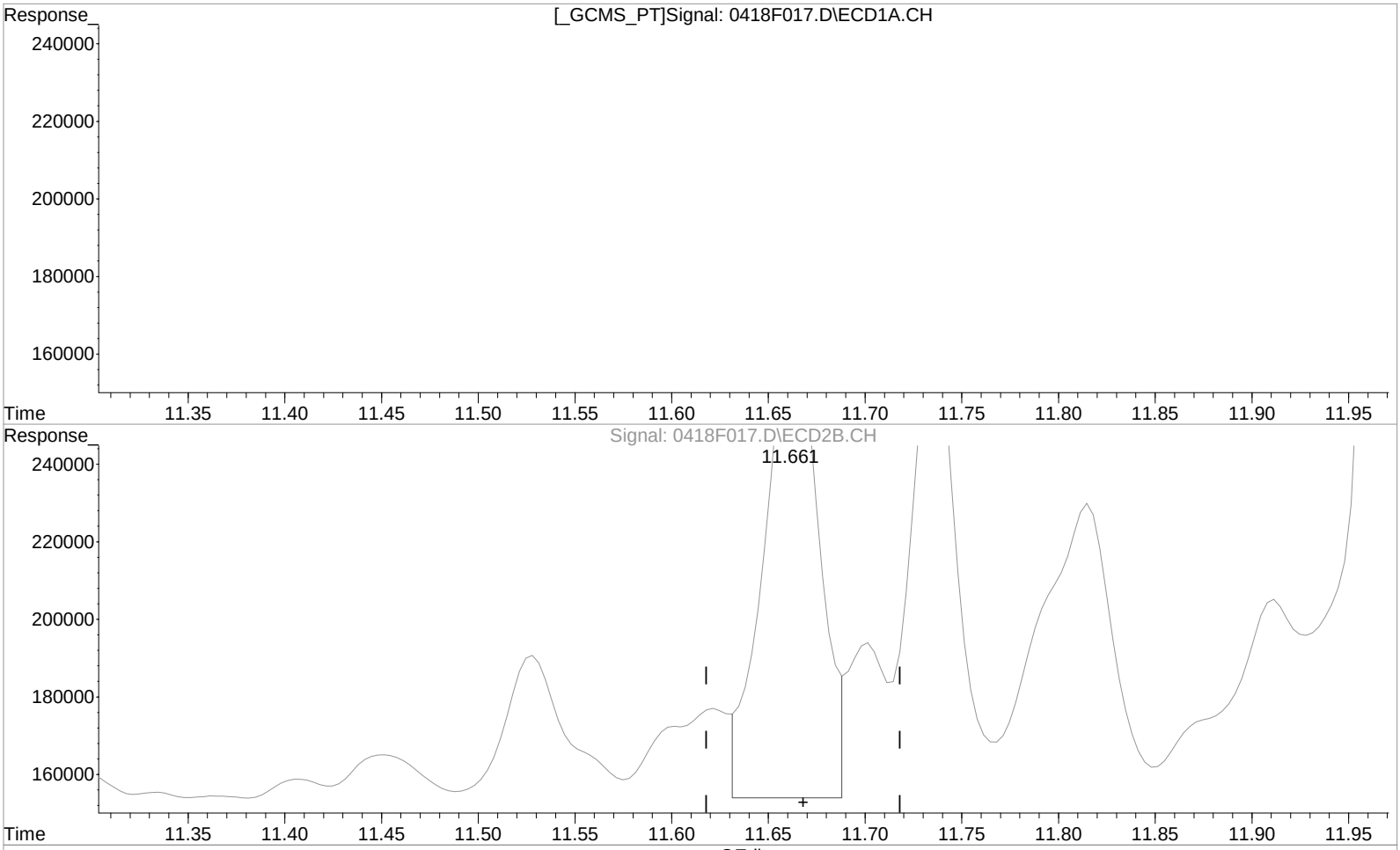
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:33:21 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(38) Chlordane {2}

11.687min 73.655 ug/L

response 72021

(38) Chlordane {2} #2

11.661min 135.945 ug/L

response 243458

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

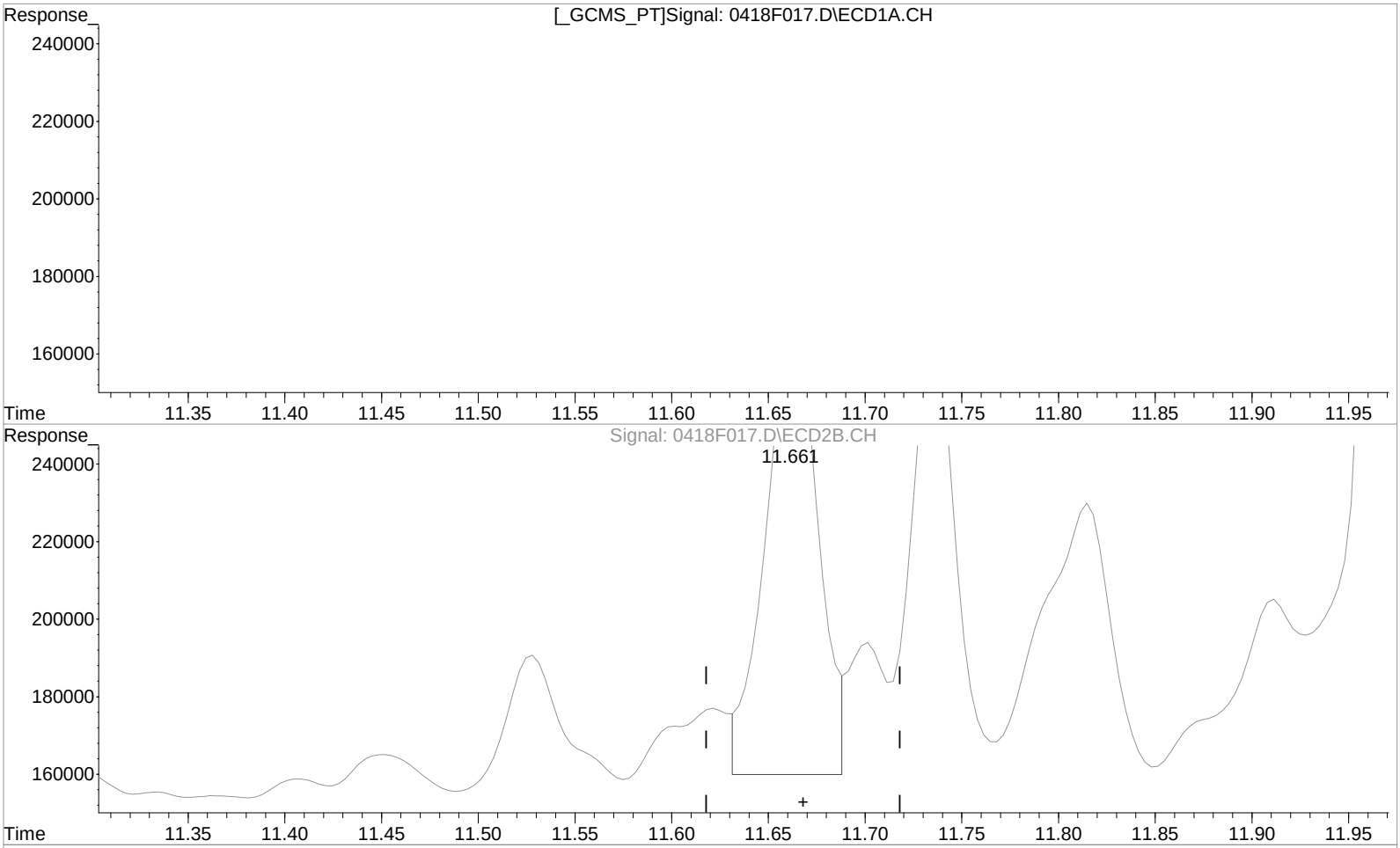
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:33:21 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(38) Chlordane {2}

11.687min 73.655 ug/L

response 72021

Manual Integration:

After

Baseline correction

04/21/20

(38) Chlordane {2} #2

11.661min 124.538 ug/L m

response 223029

(+) = Expected Retention Time

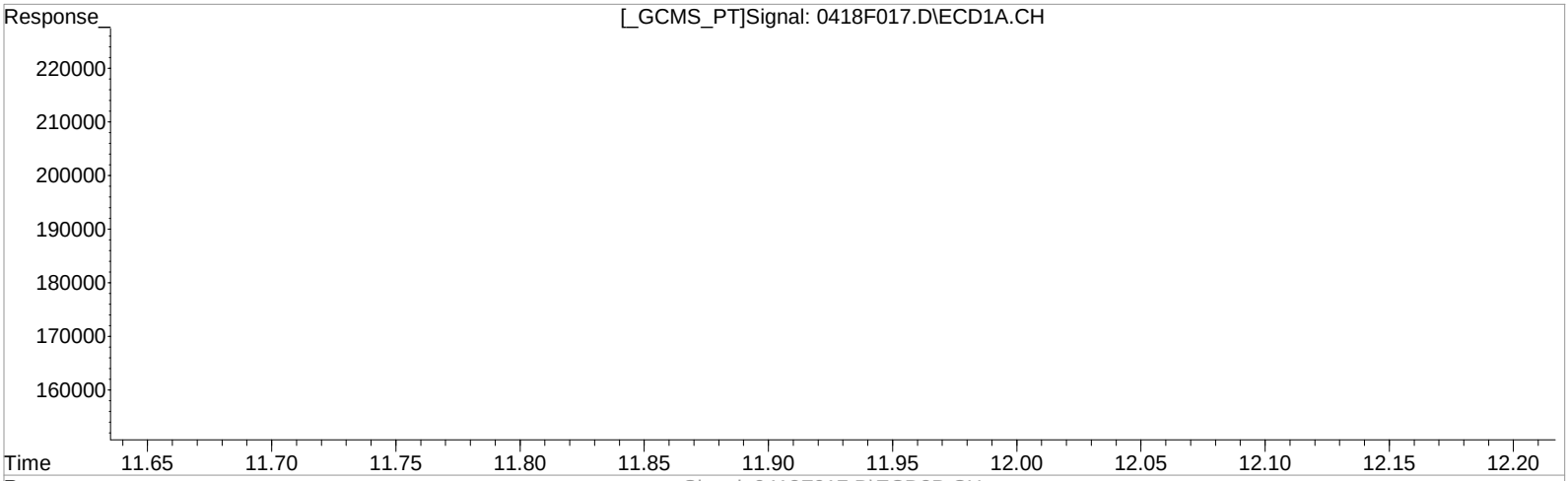
Quantitation Report (Qedit)

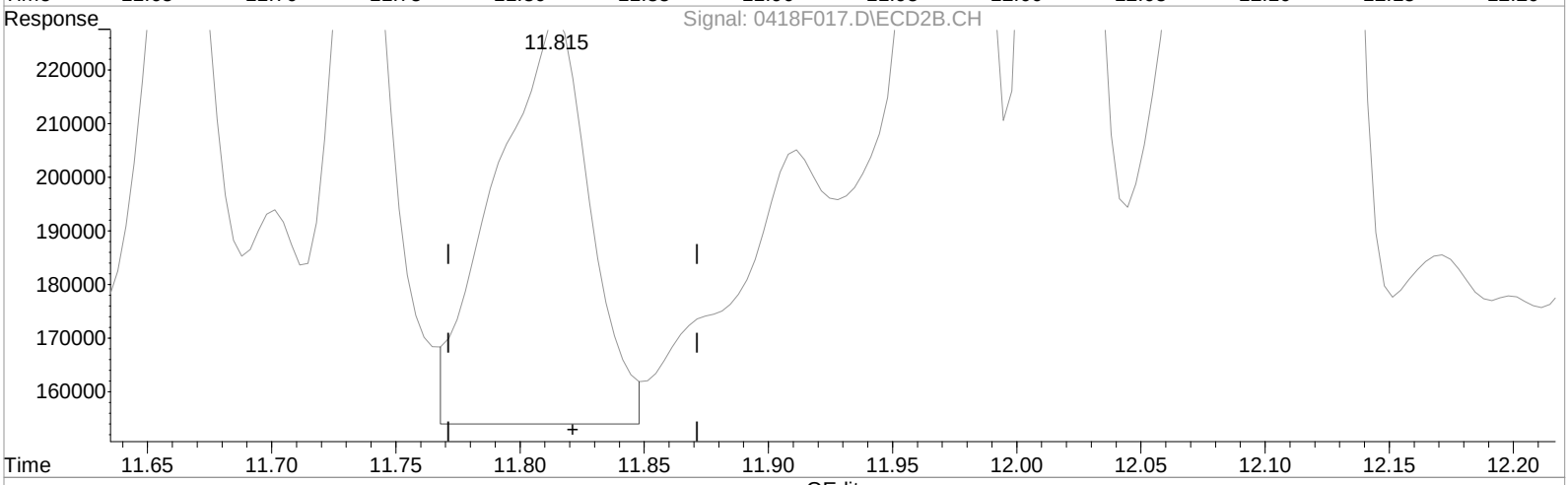
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:33:21 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(39) Chlordane {3}

12.254min 113.892 ug/L

response 79923

Manual Integration:

Before

04/21/20

(39) Chlordane {3} #2

11.815min 167.791 ug/L

response 199482

(+) = Expected Retention Time

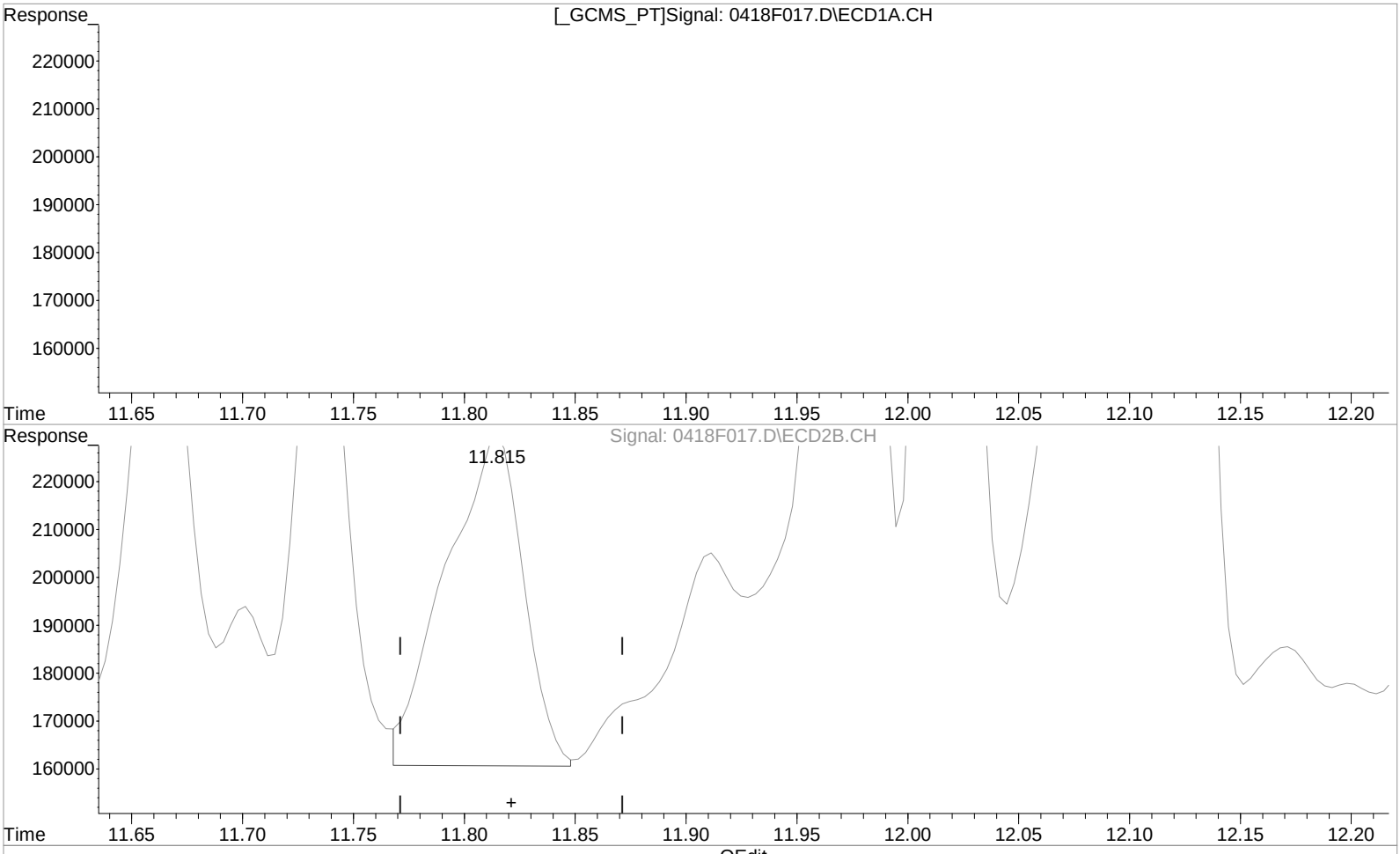
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:33:21 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(39) Chlordane {3}

12.254min 113.892 ug/L

response 79923

Manual Integration:

After

Baseline correction

04/21/20

(39) Chlordane {3} #2

11.815min 140.740 ug/L m

response 167322

(+) = Expected Retention Time

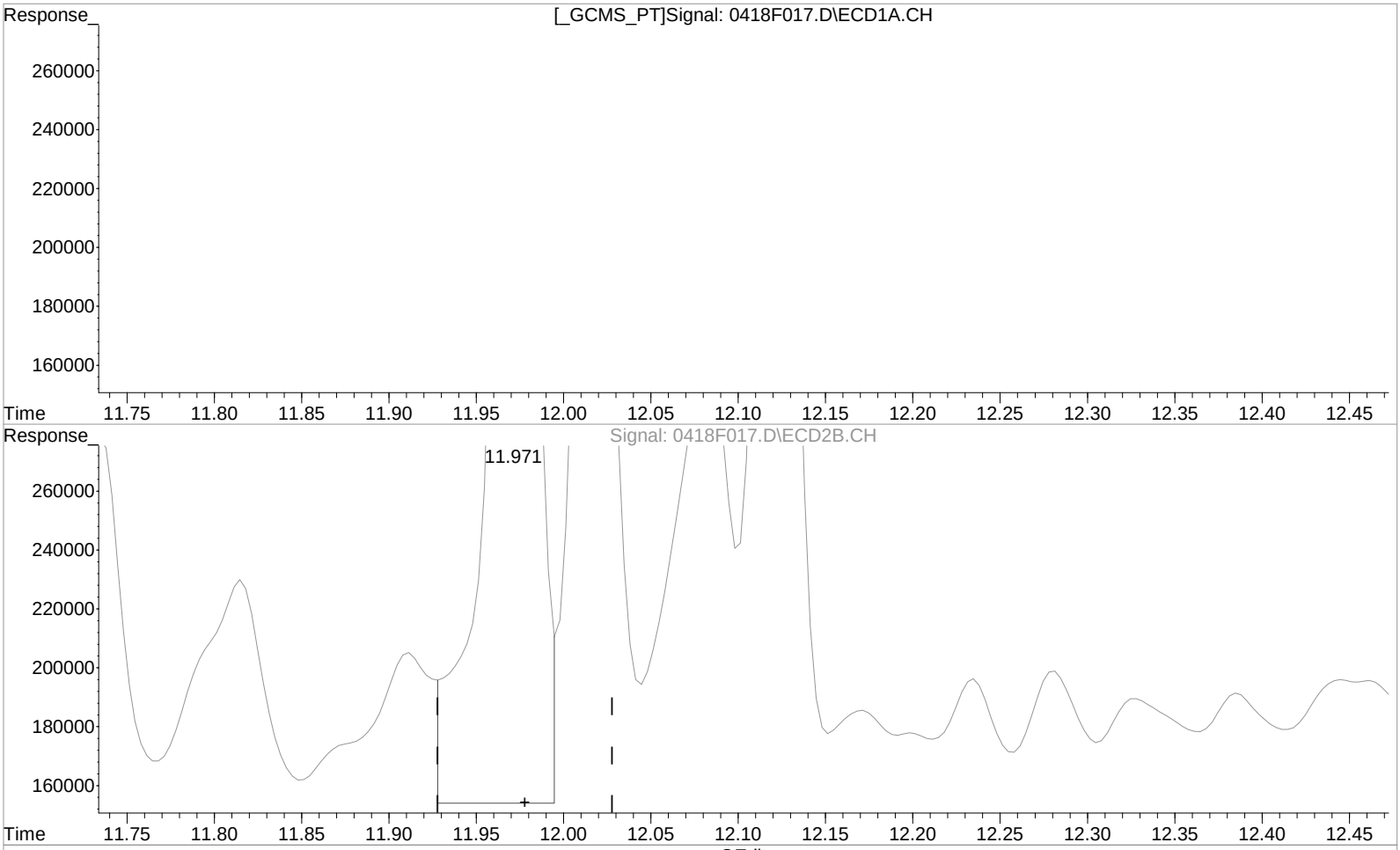
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(40) Chlordane {4}

13.454min 97.755 ug/L

response 208238

Manual Integration:

Before

04/21/20

(40) Chlordane {4} #2

11.971min 109.458 ug/L

response 788147

(+) = Expected Retention Time

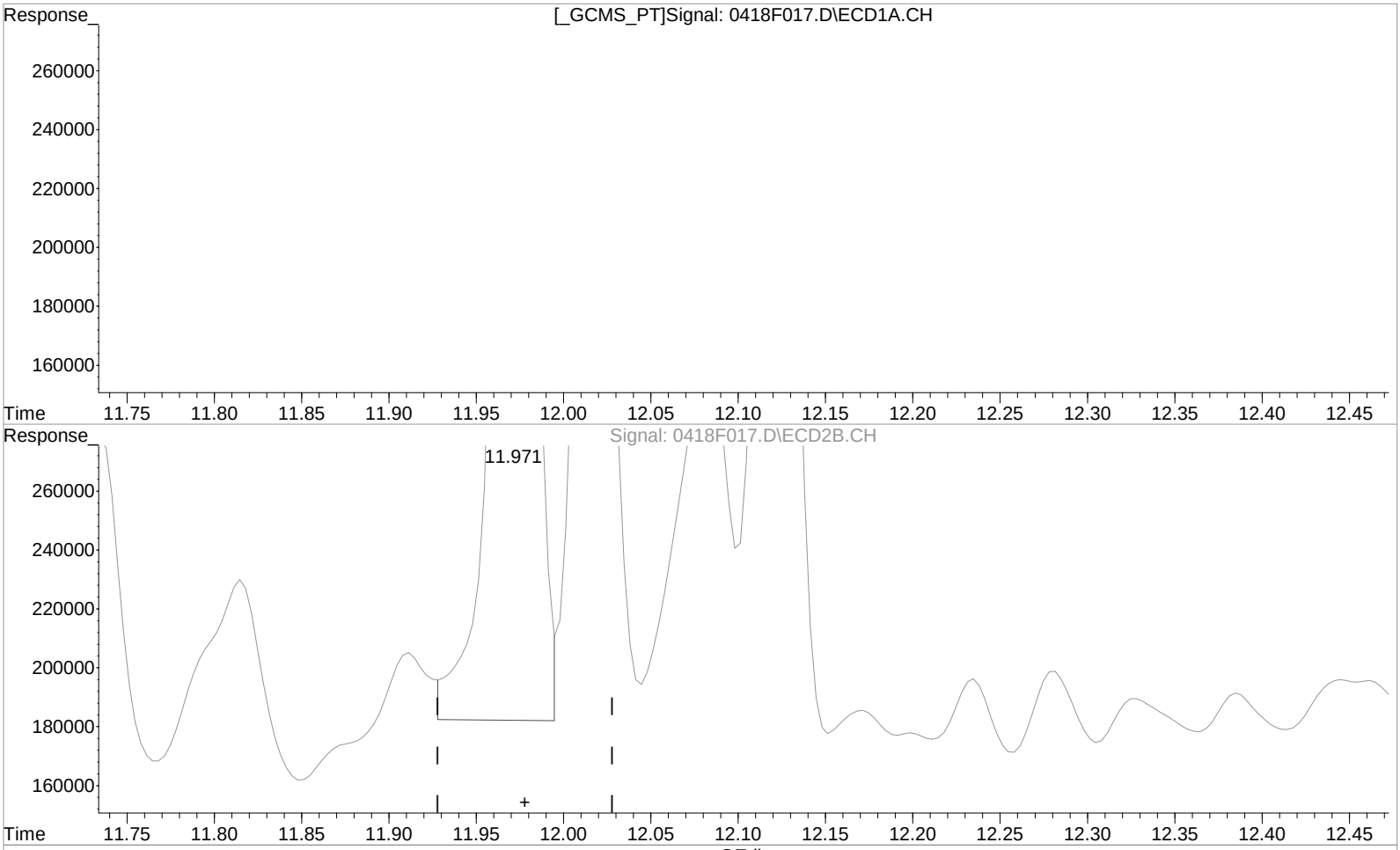
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(40) Chlordane {4}

13.454min 97.755 ug/L

response 208238

Manual Integration:

After

Baseline correction

04/21/20

(40) Chlordane {4} #2

11.971min 93.778 ug/L m

response 675247

(+) = Expected Retention Time

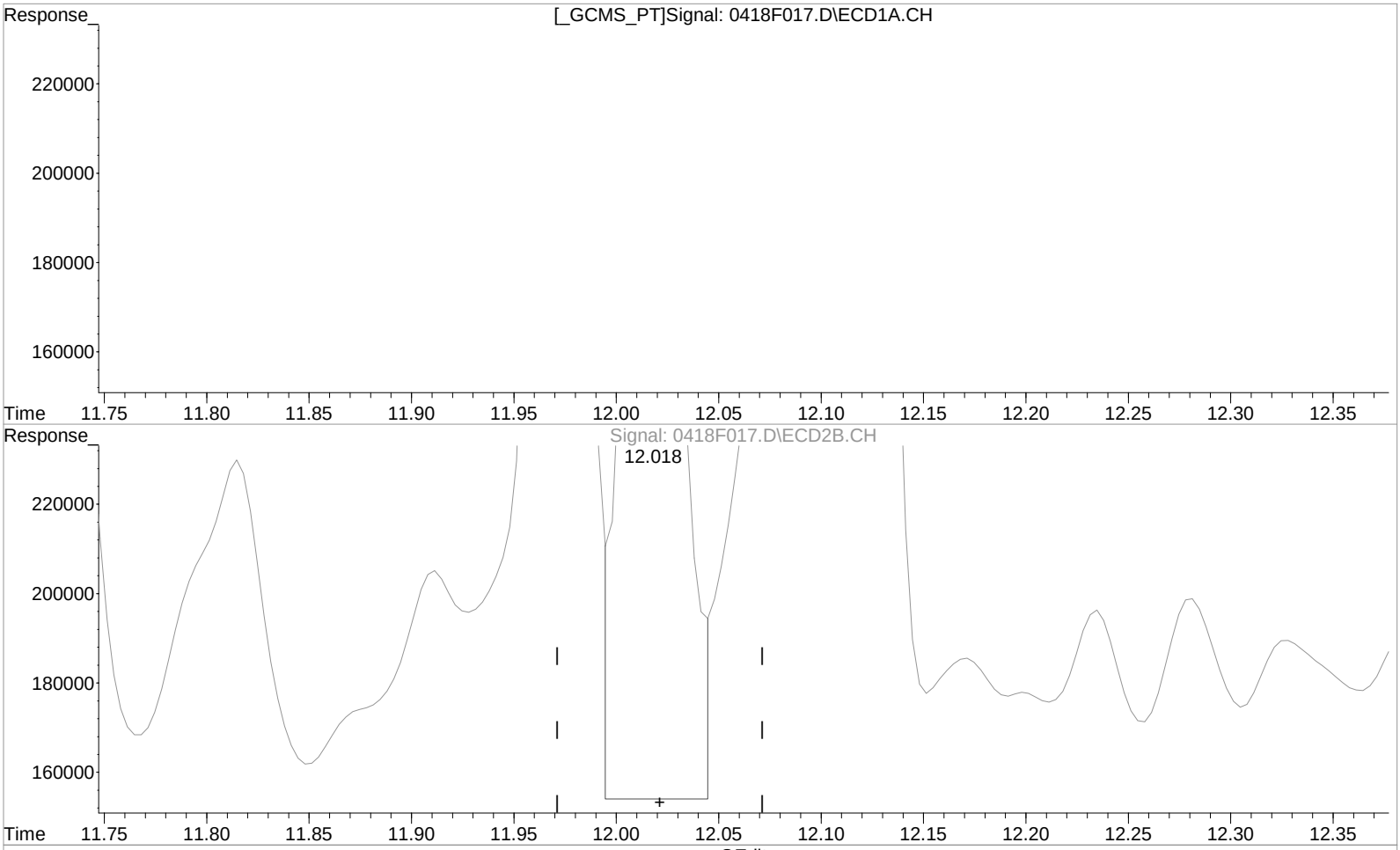
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(41) Chlordane {5}

13.531min 93.268 ug/L

response 164336

Manual Integration:

Before

04/21/20

(41) Chlordane {5} #2

12.018min 117.777 ug/L

response 519252

(+) = Expected Retention Time

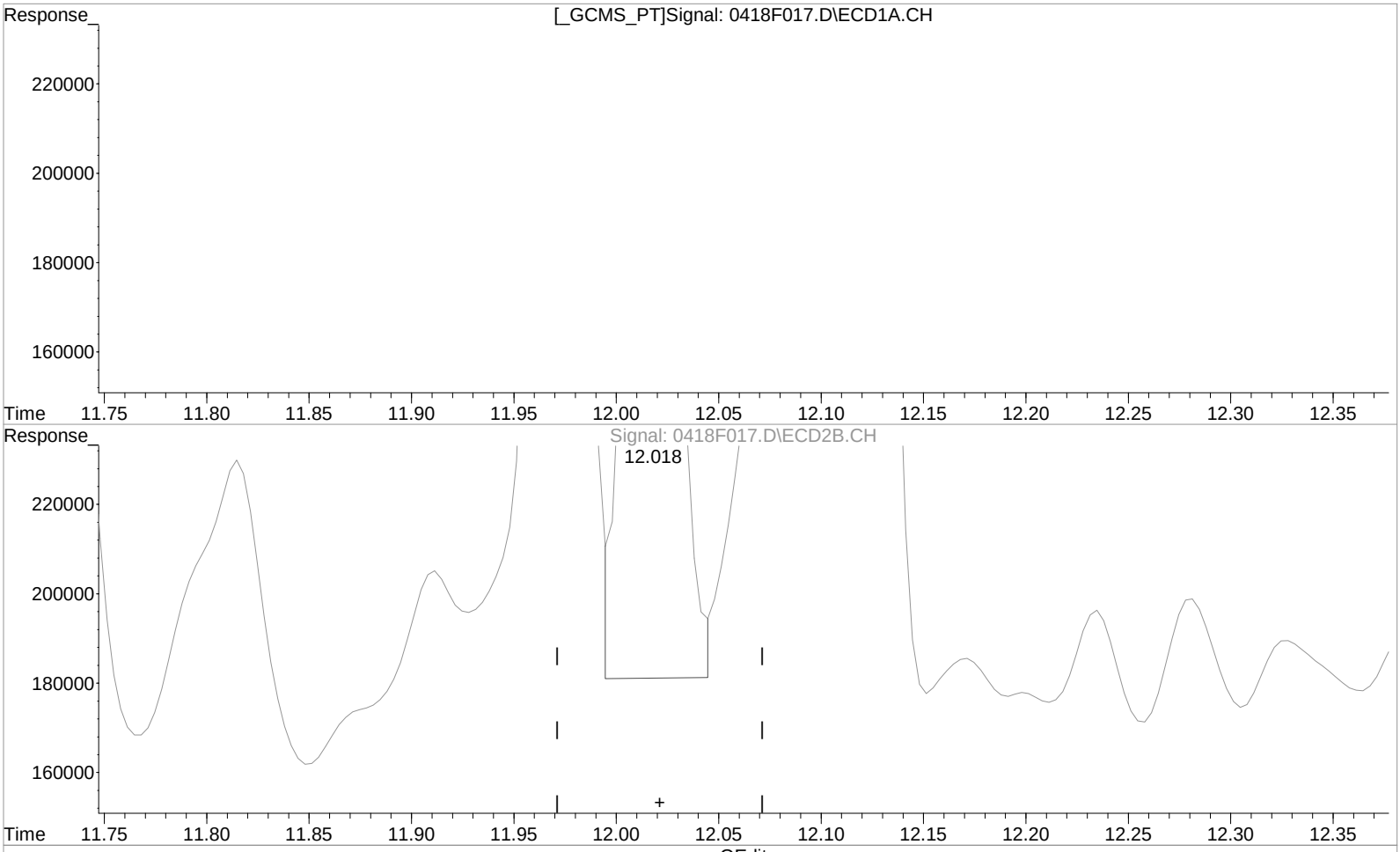
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(41) Chlordane {5}

13.531min 93.268 ug/L

response 164336

Manual Integration:

After

Baseline correction

04/21/20

(41) Chlordane {5} #2

12.018min 99.326 ug/L m

response 437905

(+) = Expected Retention Time

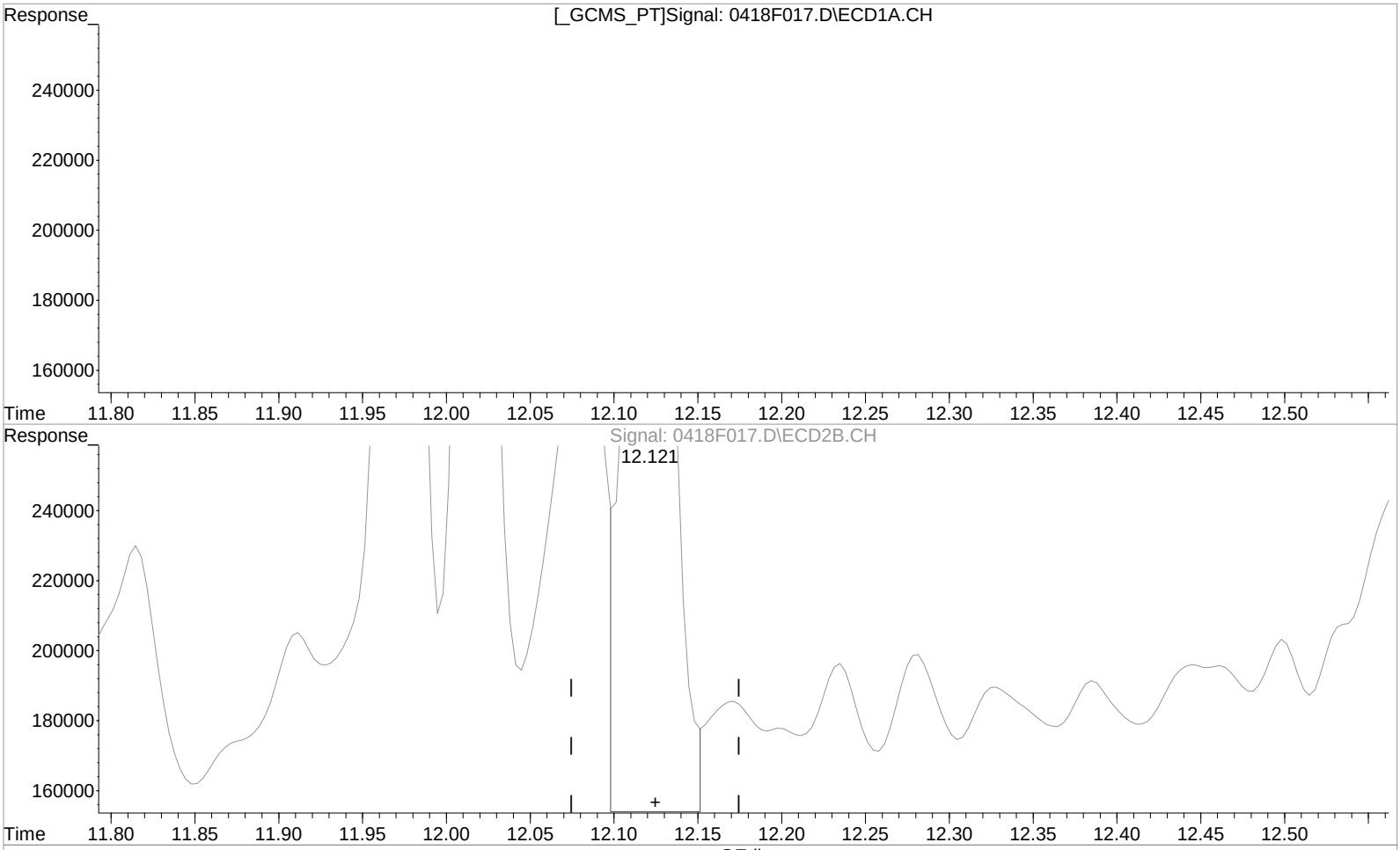
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(42) Chlordane {6}

13.614min 100.021 ug/L

response 129373

Manual Integration:

Before

04/21/20

(42) Chlordane {6} #2

12.121min 101.410 ug/L

response 647353

(+) = Expected Retention Time

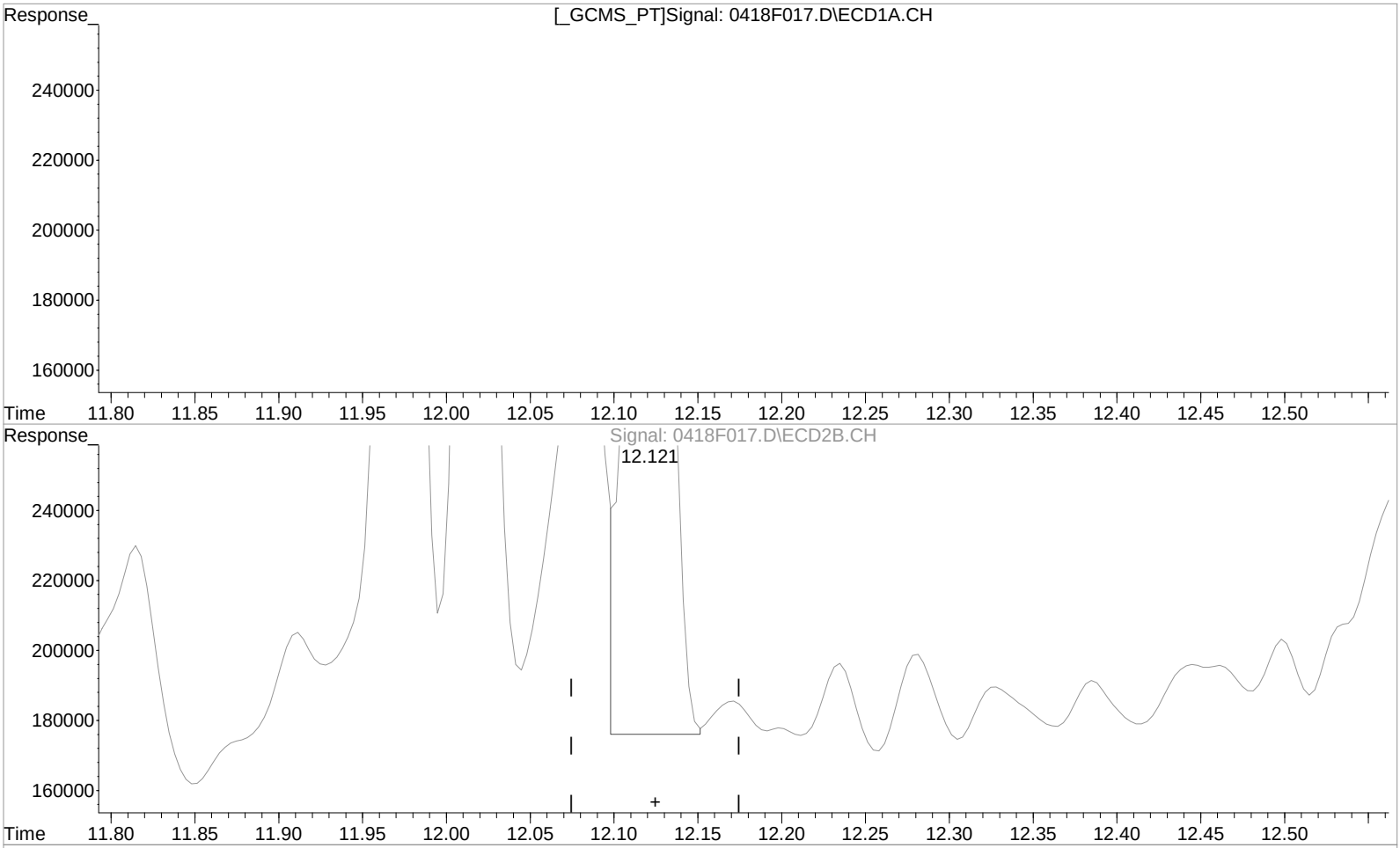
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F017.D Vial: 11
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:30 am Operator: LM
Sample : K2002652-001 T/C MS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:26:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(42) Chlordane {6}

13.614min 100.021 ug/L

response 129373

Manual Integration:

After

Baseline correction

04/21/20

(42) Chlordane {6} #2

12.121min 90.357 ug/L m

response 576798

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F015.D\
Lab ID: KQ2004496-02
RunType: DMS
Matrix: Water

Date Acquired: 4/19/20 02:31:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F015.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 02:31:00	**Vial:**	15
Run Type:	DMS	**Dilution:**	1
Lab ID:	KQ2004496-02	**Raw Units:**	ug/L

Bottle ID:	K2002652-001.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	KQ2004496
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.48	-0.0 c	1144901	4846443	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.48	-0.0 c	1144901	4846443	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.48	c	1144901	4846443	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.07 +0.01	94960	354949	4.661	4.543	93	91	91	14 - 160	Y
Tetrachloro-m-xylene	8.98	7.27	85863	313460	5.173	5.220	103	104	103	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	12.21	10.52	101253	398773	5.517	5.221	27.6	26.1	**26.1**	Y
alpha-BHC	9.82	8.50	101199	402887	5.299	5.246	26.5	26.2	**26.2**	Y
beta-BHC	11.08	9.78	42903	167670	4.202	4.602	21.0	23.0	**21.0**	Y
gamma-BHC (Lindane)	10.49	9.24	98012	379347	5.311	5.074	26.6	25.4	**25.4**	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	14.00	12.64 +0.01	95868	367757	5.075	5.166	25.4	25.8	**25.4**	Y
Heptachlor	11.69	9.93	109709	521103	5.533	6.863	27.7	34.3	**27.7**	Y
Heptachlor Epoxide	12.93	11.60	96313	366525	4.991	4.894	25.0	24.5	**24.5**	Y
Hexachlorobenzene	9.98	8.28	113943	405812	5.039	5.260	25.2	26.3	**25.2**	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F015.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 02:31:00	**Vial:**	15
Run Type:	DMS	**Dilution:**	1
Lab ID:	KQ2004496-02	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F015.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:31 am Operator: LM
Sample : K2002652-001 81 DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:10:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.200	5.484	1144901	4846443	100.000	100.000	
29)	1-Bromo-2...	6.200	5.484	1144901	4846443	100.000	100.000	
36)	1-Bromo-2...	6.200	5.484	1144901	4846443	100.000	100.000	
43)	1-Bromo-2...	6.200	5.484	1144901	4846443	100.000	100.000	
	System Monitoring Compounds							
2) s	Tetrachlo...	8.977	7.267	85863	313460	5.173	5.220	
28) s	Decachlor...	18.674	17.071	94960	354949	4.661	4.543	
	Target Compounds							
3)	alpha-BHC	9.820	8.501	101199	402887	5.299	5.246	
4)	Hexachlor...	9.984	8.281	113943	405812	5.039	5.260	
5)	beta-BHC	11.080	9.777	42903	167670	4.202	4.602	
6)	gamma-BHC...	10.490	9.244	98012	379347	5.311	5.074m	
7)	delta-BHC	11.584	10.307	86619	339161	4.641	4.640	
8)	Heptachlor	11.690	9.927	109709	521103	5.533	6.863	
9)	Aldrin	12.214	10.517	101253	398773	5.517	5.221	
10)	Isodrin	12.747	11.314	105508	372699	6.700	5.830	
11)	Heptachlo...	12.934	11.601	96313	366525	4.991	4.894	
12)	gamma-Chl...	13.454	11.974	102386	379980	5.305	5.248	
13)	Endosulfan I	13.584	12.191	93724	333792	5.323	5.118	
14)	alpha-Chl...	13.534	12.124	104224	382480	5.425	5.215	
15)	Dieldrin	14.004	12.637	95868	367757	5.075	5.166	
16)	4,4'-DDE	13.807	12.484	95689	330928	5.413	4.828	
17)	Endrin	14.374	13.117	92444	359886	5.362	5.311	
18)	Endosulfa...	14.817	13.551	94887	336789	5.432	5.501	
19)	4,4'-DDD	14.647	13.377	83053	302265	6.078m	5.892	
20)	Endrin Al...	14.997	13.917	70738	252689	4.672	4.985	
21)	Endosulfa...	15.470	14.241	91243	311372	5.127	5.158	
22)	4,4'-DDT	15.147	13.797	75999	335663	5.294	6.787	#
23)	Endrin Ke...	16.160	15.191	98063	371759	5.135	5.148	
24)	Methoxychlor	15.894	14.911	55287	190010	6.351	6.921	
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

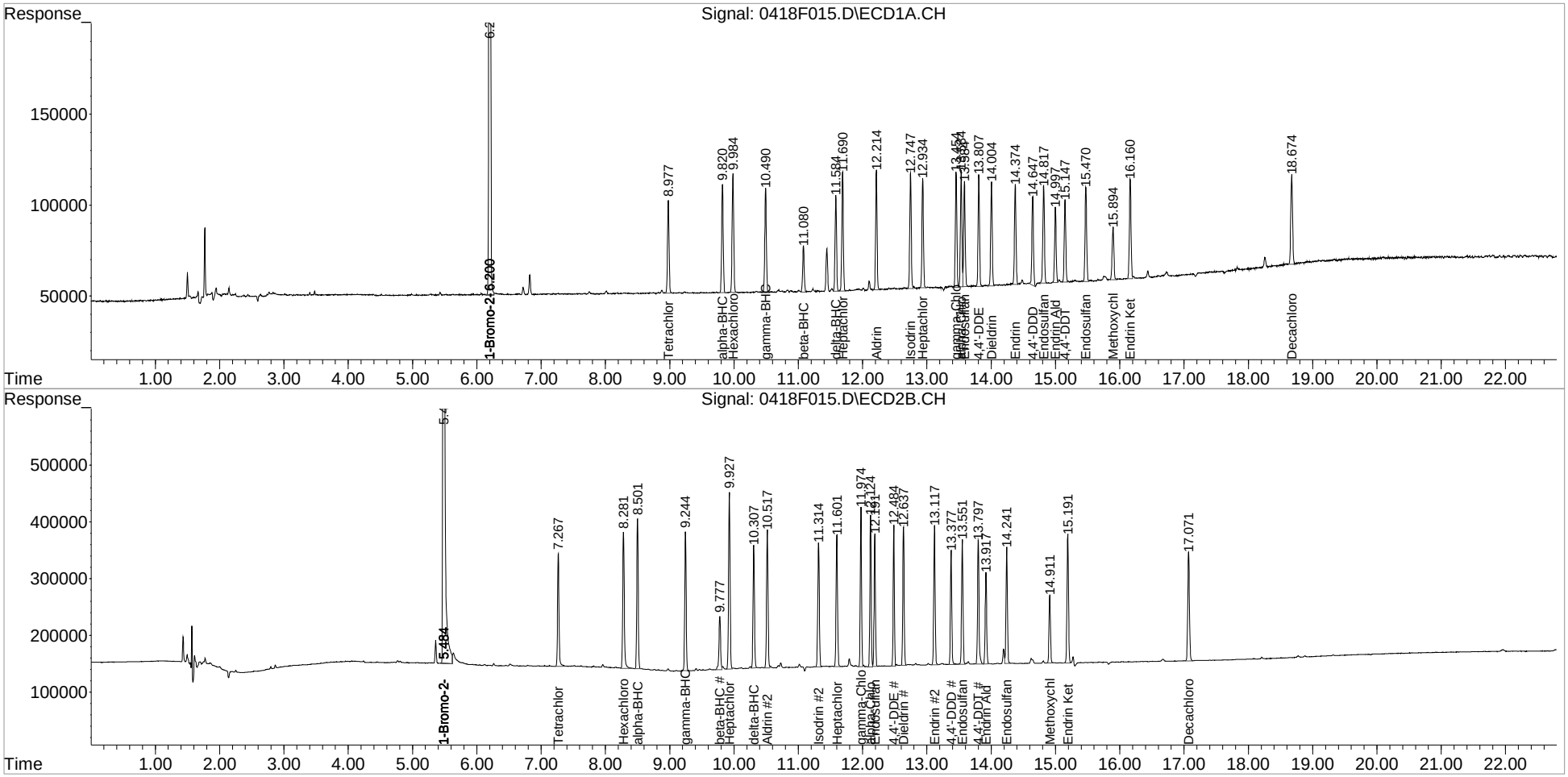
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F015.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:31 am Operator: LM
Sample : K2002652-001 81 DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:10:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



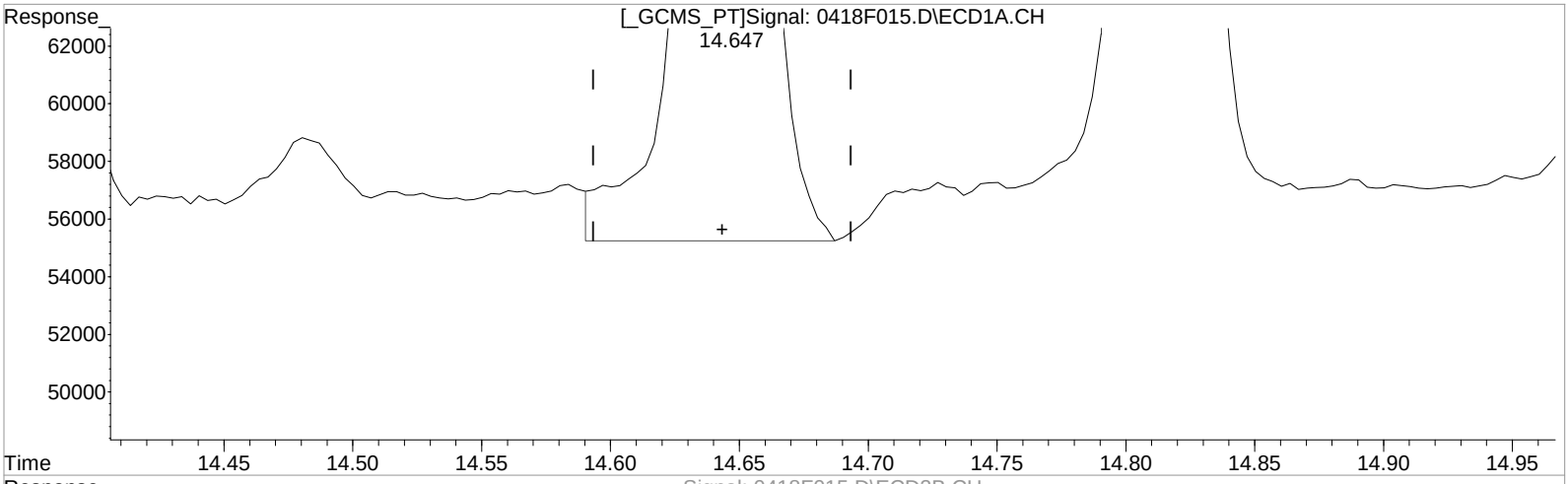
Quantitation Report (Qedit)

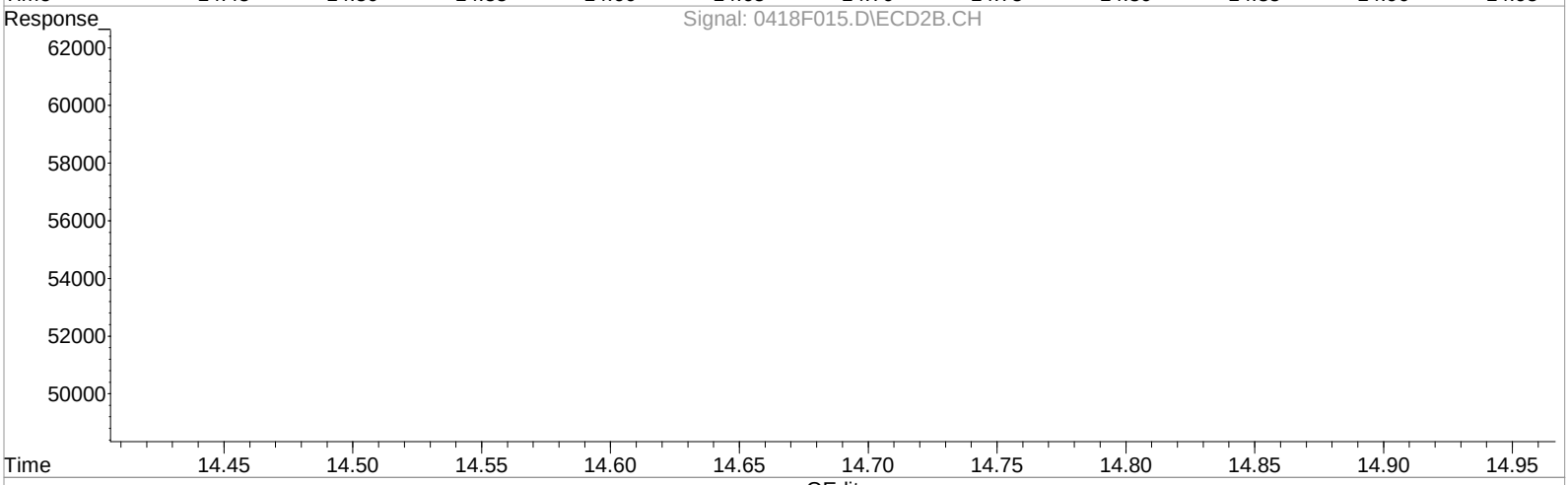
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F015.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:31 am Operator: LM
Sample : K2002652-001 81 DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:08:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.647min 6.425 ug/L

response 87795

Manual Integration:

Before

04/21/20

(19) 4,4'-DDD #2

13.377min 5.892 ug/L

response 302265

(+) = Expected Retention Time

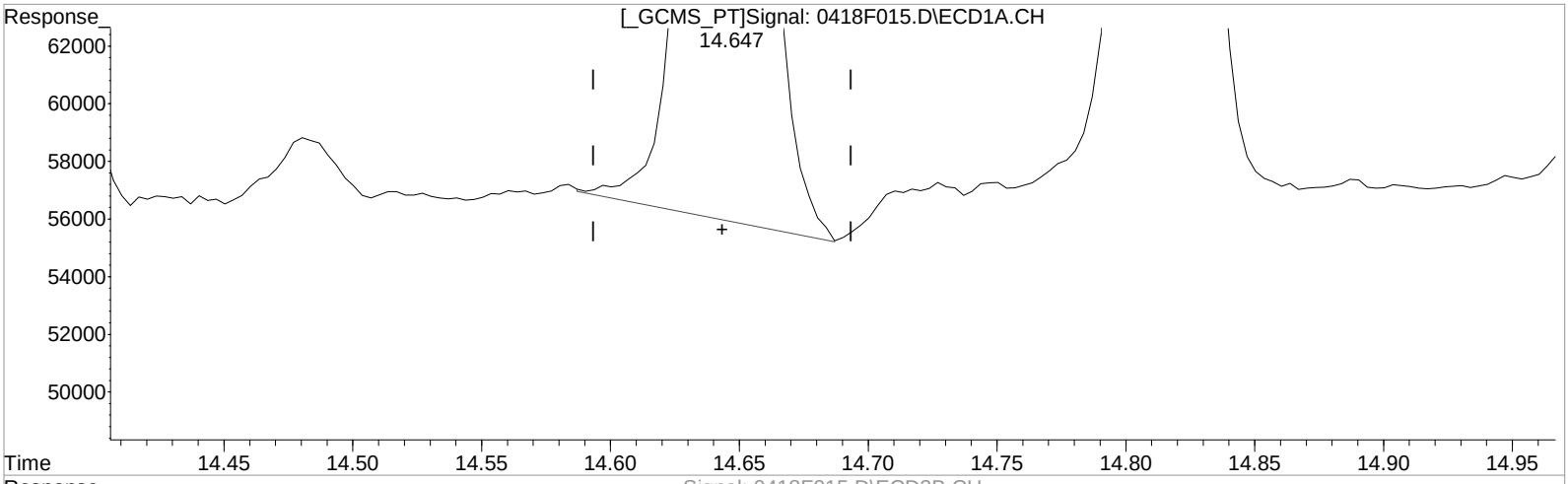
Quantitation Report (Qedit)

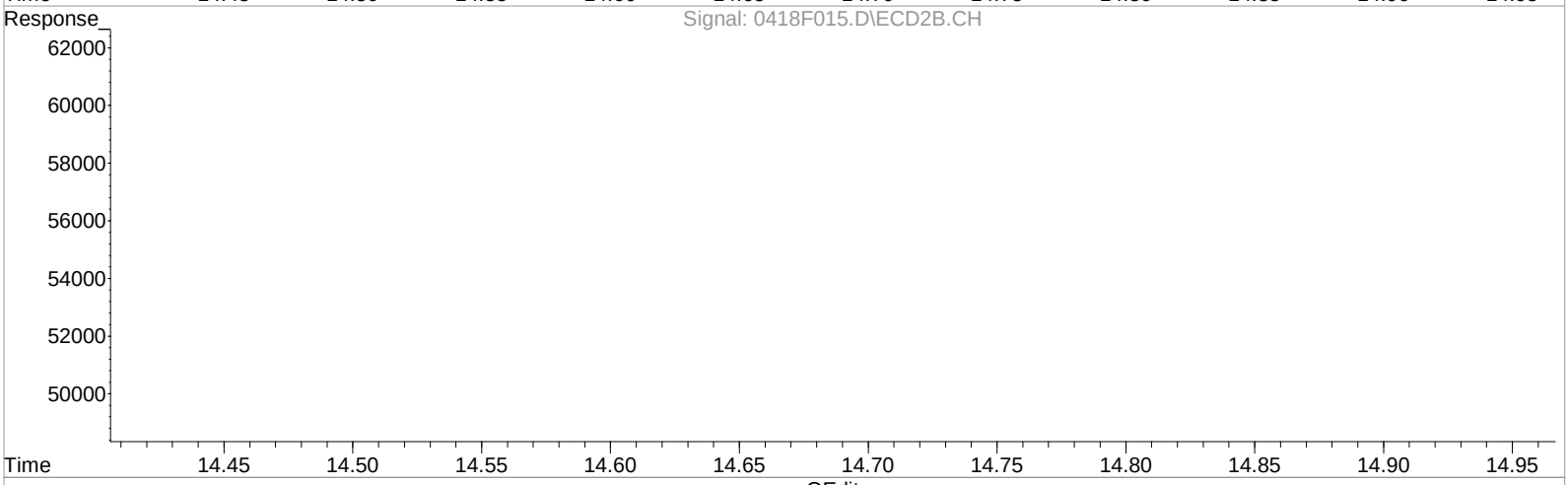
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F015.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:31 am Operator: LM
Sample : K2002652-001 81 DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:08:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(19) 4,4'-DDD

14.647min 6.078 ug/L m

response 83053

Manual Integration:

After

Baseline correction

04/21/20

(19) 4,4'-DDD #2

13.377min 5.892 ug/L

response 302265

(+) = Expected Retention Time

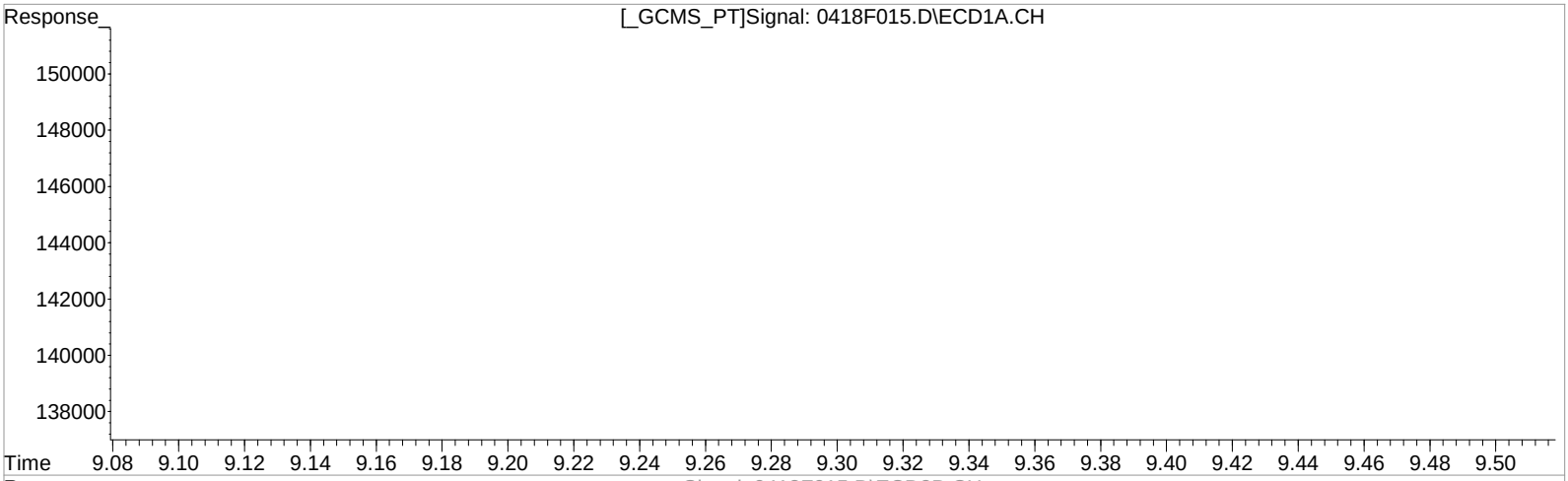
Quantitation Report (Qedit)

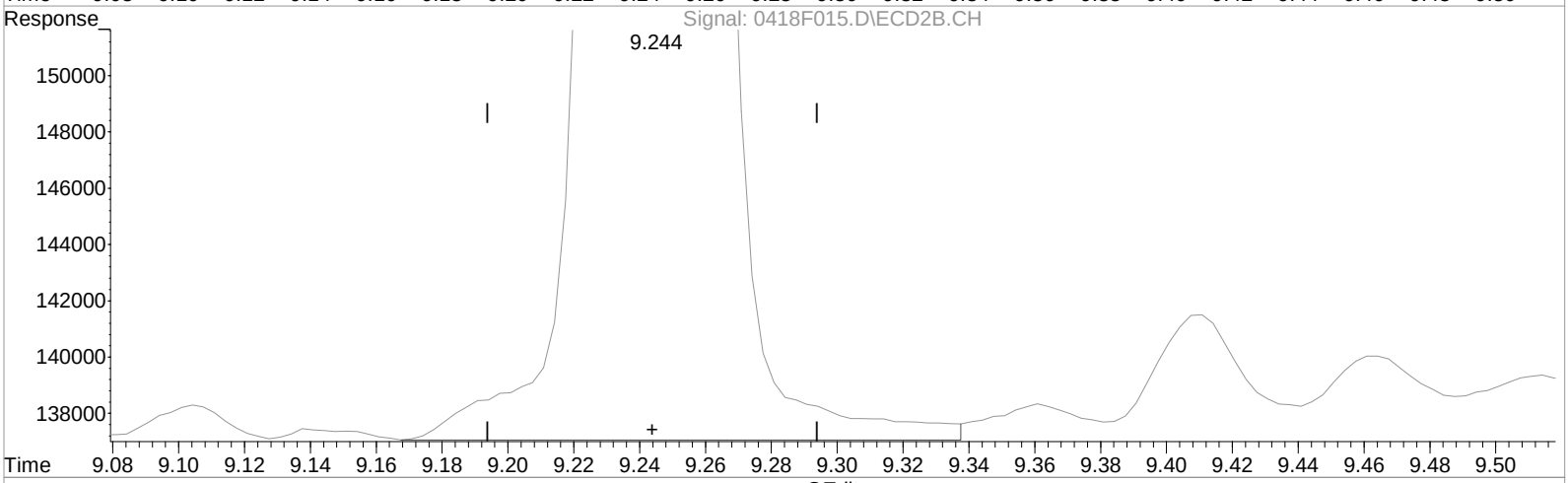
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F015.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:31 am Operator: LM
Sample : K2002652-001 81 DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:08:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(6) gamma-BHC (Lindane)

10.490min 5.311 ug/L

response 98012

Manual Integration:

Before

04/21/20

(6) gamma-BHC (Lindane) #2

9.244min 5.206 ug/L

response 389169

(+) = Expected Retention Time

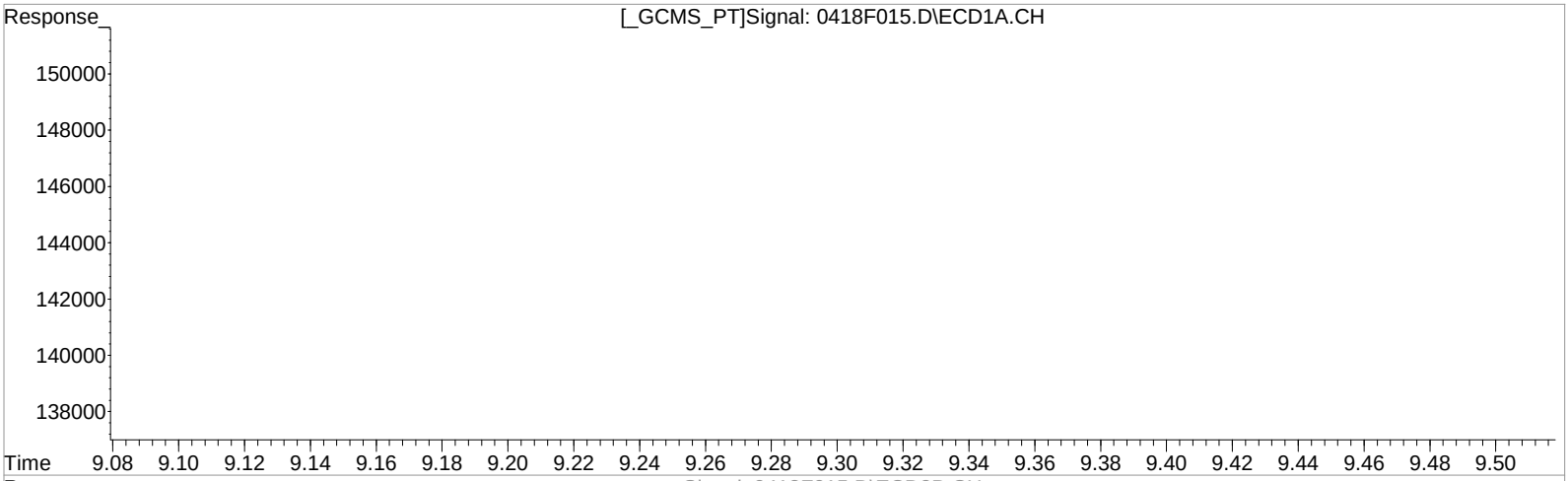
Quantitation Report (Qedit)

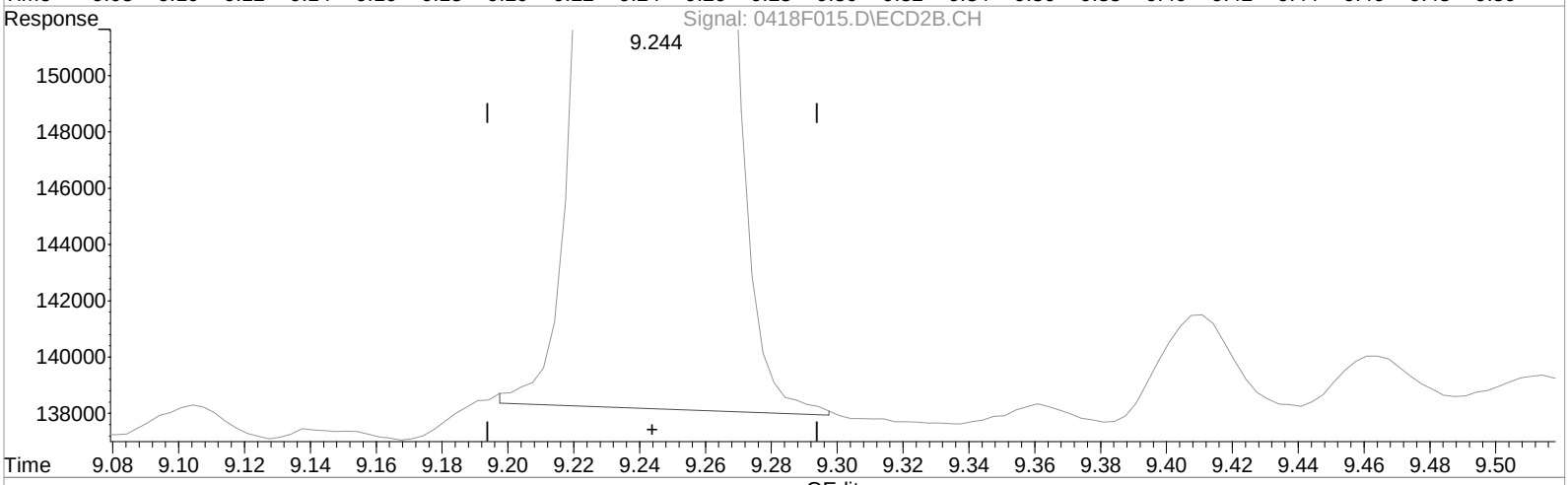
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F015.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 2:31 am Operator: LM
Sample : K2002652-001 81 DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:08:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(6) gamma-BHC (Lindane)

10.490min 5.311 ug/L

response 98012

Manual Integration:

After

Baseline correction

04/21/20

(6) gamma-BHC (Lindane) #2

9.244min 5.074 ug/L m

response 379347

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F018.D\
Lab ID: KQ2004496-05
RunType: DMS
Matrix: Water

Date Acquired: 4/19/20 03:59:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F018.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 03:59:00	**Vial:**	18
Run Type:	DMS	**Dilution:**	1
Lab ID:	KQ2004496-05	**Raw Units:**	ug/L

Bottle ID:	K2002652-001.01	**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**	356225	**Report Group:**	KQ2004496
Analysis	8081B	**Prep Method:**	EPA 3511		
		Prep Date:	3/31/20		

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20 c	5.48 -0.0 c	1145463	4862642	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20 c	5.48 -0.0 c	1145463	4862642	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20 c	5.48 c	1145463	4862642	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	18.67	17.06	81977	283947	4.022	3.622	80	72	72	14 - 160	Y
Tetrachloro-m-xylene	8.97 -0.01	7.26 -0.01	79290	279542	4.774	4.639	95	93	93	30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					96.151	1666666667	481	556	**481**	Y
Chlordane {1}	11.27	9.57	61629	199718	78.923	75.240	395	376		
Chlordane {2}	11.69	11.66	73426	236601	74.233	130.702	371	654		P
Chlordane {3}	12.25	11.81	81770	181635	115.190	151.143	576	756		
Chlordane {4}	13.45	11.97	221710	765712	102.889	105.203	514	526		
Chlordane {5}	13.53	12.02	174433	487946	97.865	109.491	489	547		
Chlordane {6}	13.61	12.12	141057	612683	107.806	94.951	539	475		
Dieldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00	0.00	0	0	0.000	0.000	0U	0U	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					256.71	248.6644	1280	1240	**1240**	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F018.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 03:59:00	**Vial:**	18
Run Type:	DMS	**Dilution:**	1
Lab ID:	KQ2004496-05	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.74 -0.01	13.39	49119	290111	260.981	268.494	1300	1340		
Toxaphene {2}	14.80 -0.01	13.45 -0.01	43789	173952	257.221	209.249	1290	1050		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	14.99 -0.01	13.66 -0.01	56121	83714	246.000	231.333	1230	1160		
Toxaphene {5}	15.34 -0.01	13.93	57093	137441	262.638	236.142	1310	1180		
Toxaphene {6}	0.00	15.43	0	93988	0.000	298.104	0	1490		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:14:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.201	5.485	1145463	4862642	100.000	100.000
29)	1-Bromo-2...	6.201	5.485	1145463	4862642	100.000	100.000
36)	1-Bromo-2...	6.201	5.485	1145463	4862642	100.000	100.000
43)	1-Bromo-2...	6.201	5.485	1145463	4862642	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.974	7.265	79290	279542	4.774	4.639
28) s	Decachlor...	18.671	17.065	81977	283947	4.022	3.622
	Target Compounds						
30)	Toxaphene	14.744	13.388	49119	290111	260.981	268.494m
31)	Toxaphene...	14.804	13.455	43789	173952	257.221m	209.249m
33)	Toxaphene...	14.994	13.662	56121	83714	246.000	231.333m
34)	Toxaphene...	15.341	13.928	57093	137441	262.638	236.142m
35)	Toxaphene...	0.000	15.432	0	93988	N.D. d	298.104m
37)	Chlordane	11.271	9.568	61629	199718	78.923	75.240
38)	Chlordane...	11.688	11.662	73426	236601	74.233	130.702m#
39)	Chlordane...	12.251	11.815	81770	181635	115.190	151.143m#
40)	Chlordane...	13.451	11.972	221710	765712	102.889	105.203m
41)	Chlordane...	13.531	12.018	174433	487946	97.865	109.491m
42)	Chlordane...	13.611	12.122	141057	612683	107.806	94.951m
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

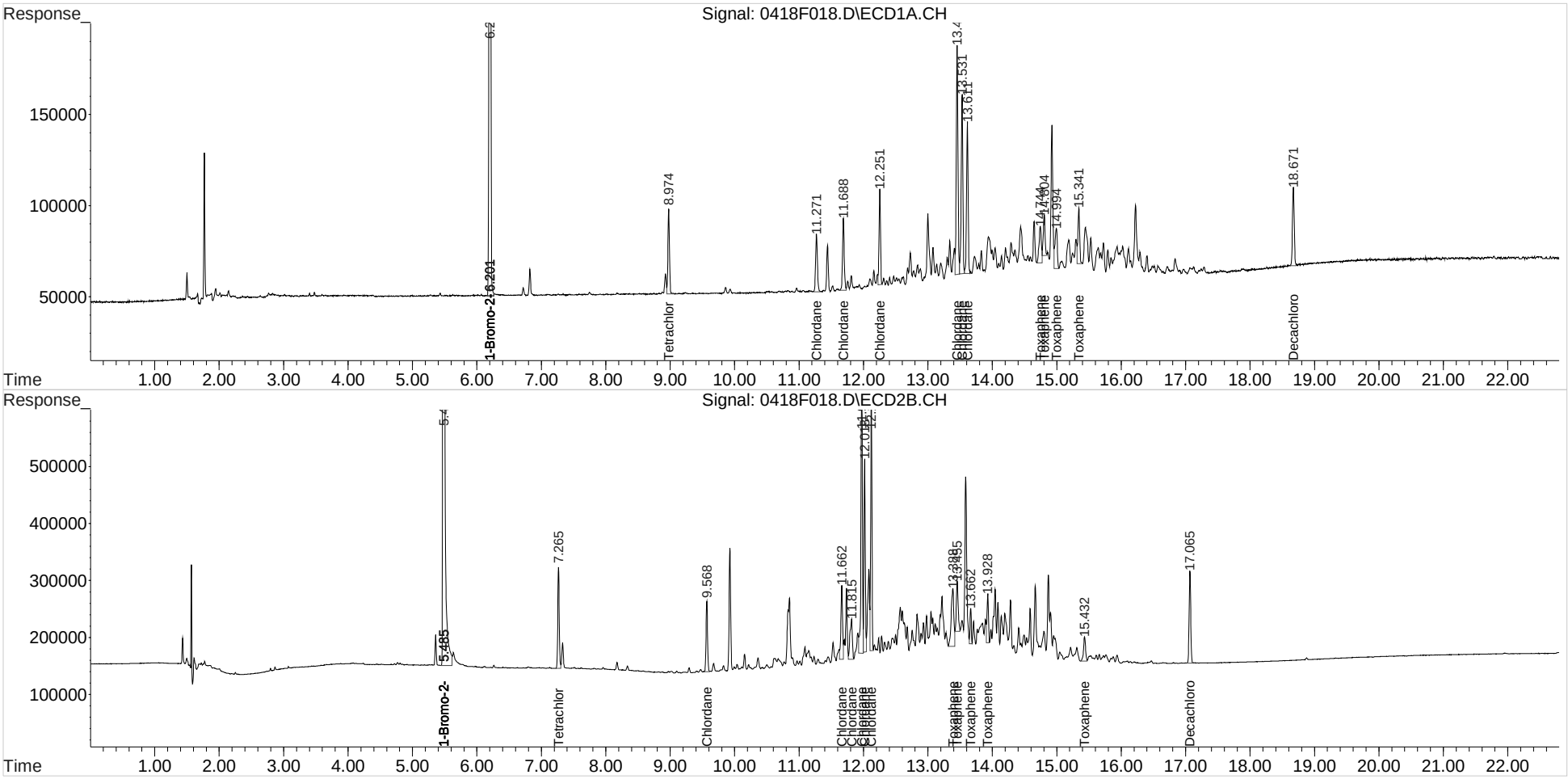
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 19:14:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

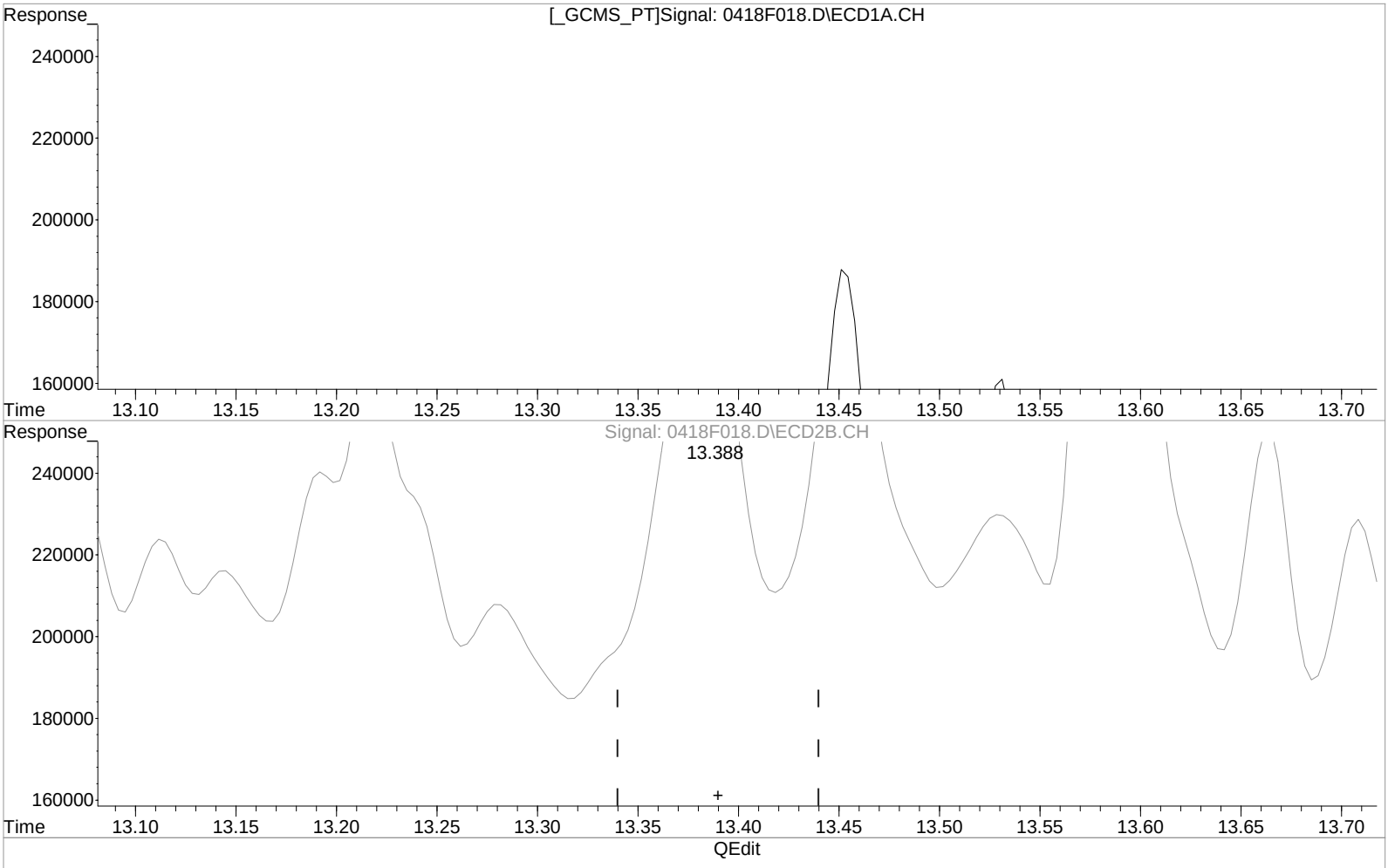


1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.744min 260.981 ug/L

response 49119

Manual Integration:

Before

04/21/20

(30) Toxaphene #2

13.388min 444.321 ug/L

response 480093

(+) = Expected Retention Time

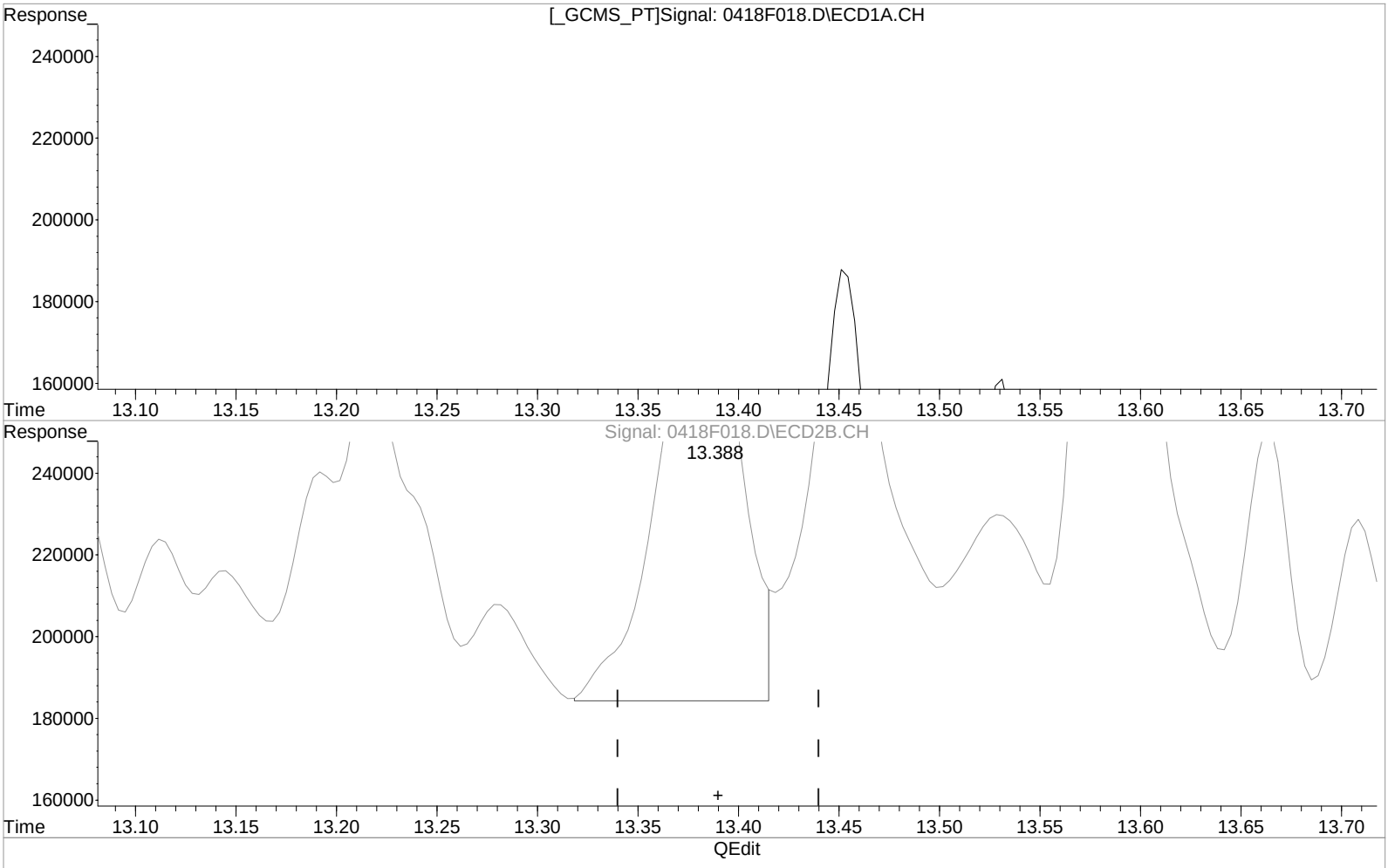
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(30) Toxaphene

14.744min 260.981 ug/L

response 49119

Manual Integration:

After

Baseline correction

04/21/20

(30) Toxaphene #2

13.388min 268.494 ug/L m

response 290111

(+) = Expected Retention Time

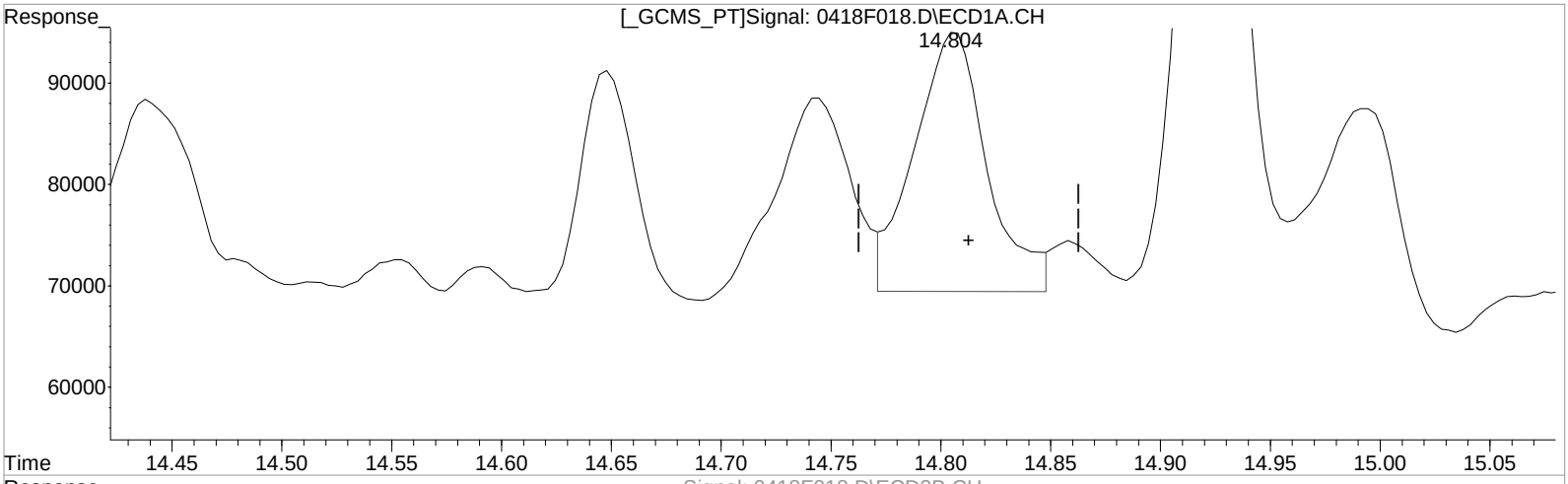
Quantitation Report (Qedit)

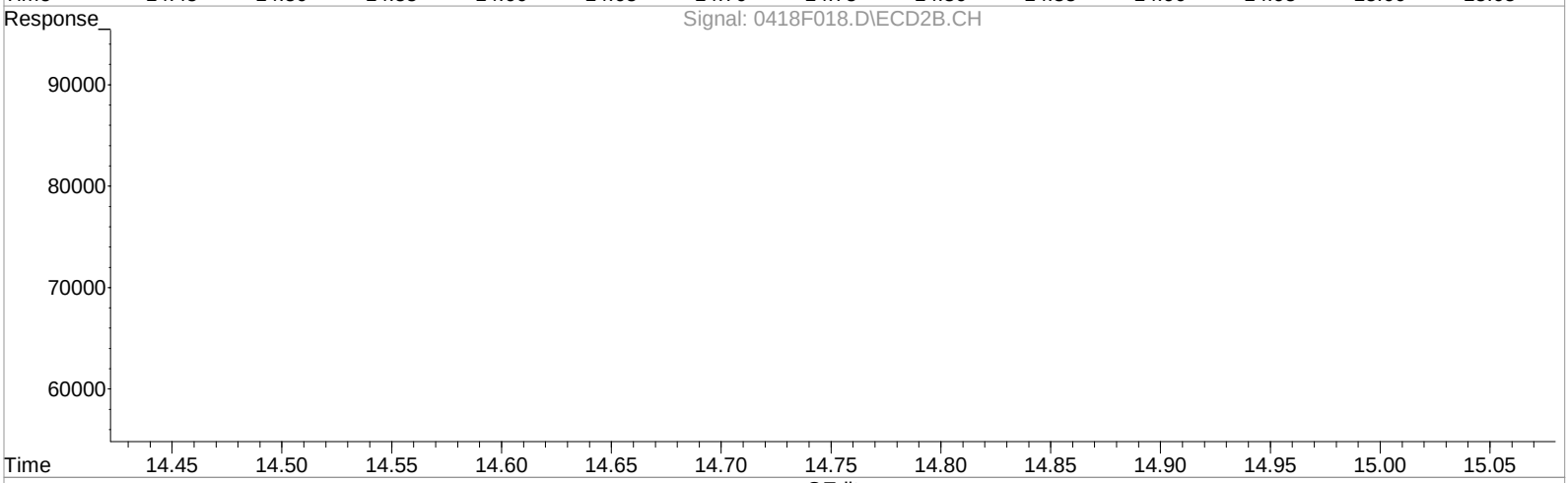
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.804min 344.398 ug/L

response 58630

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.455min 533.075 ug/L

response 443153

(+) = Expected Retention Time

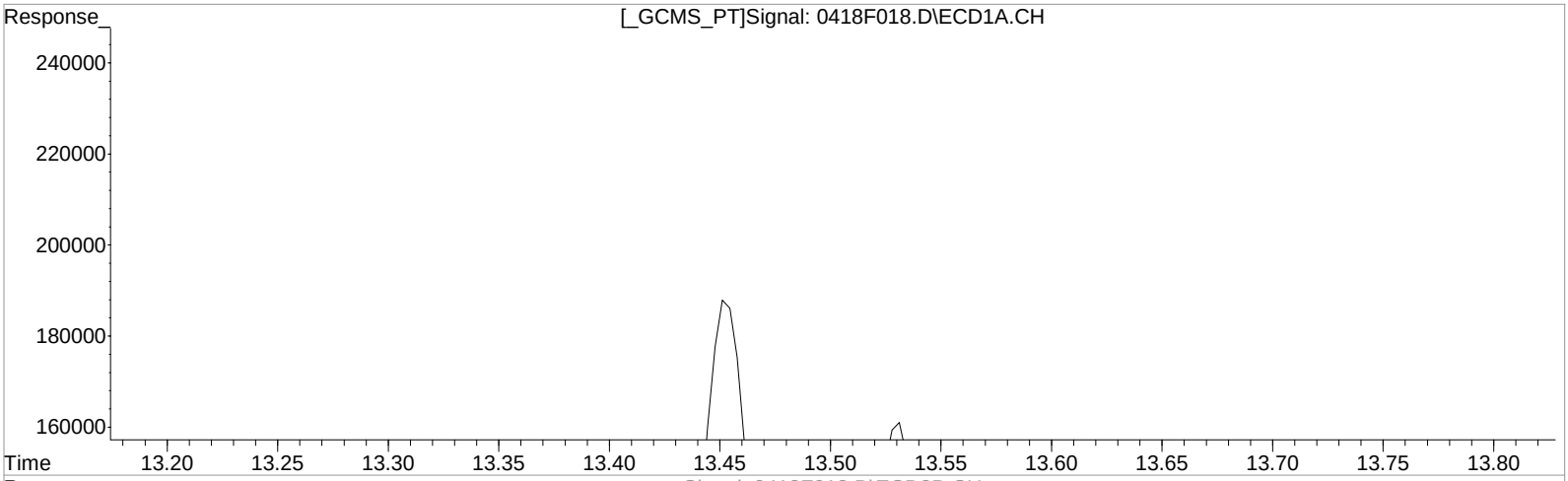
Quantitation Report (Qedit)

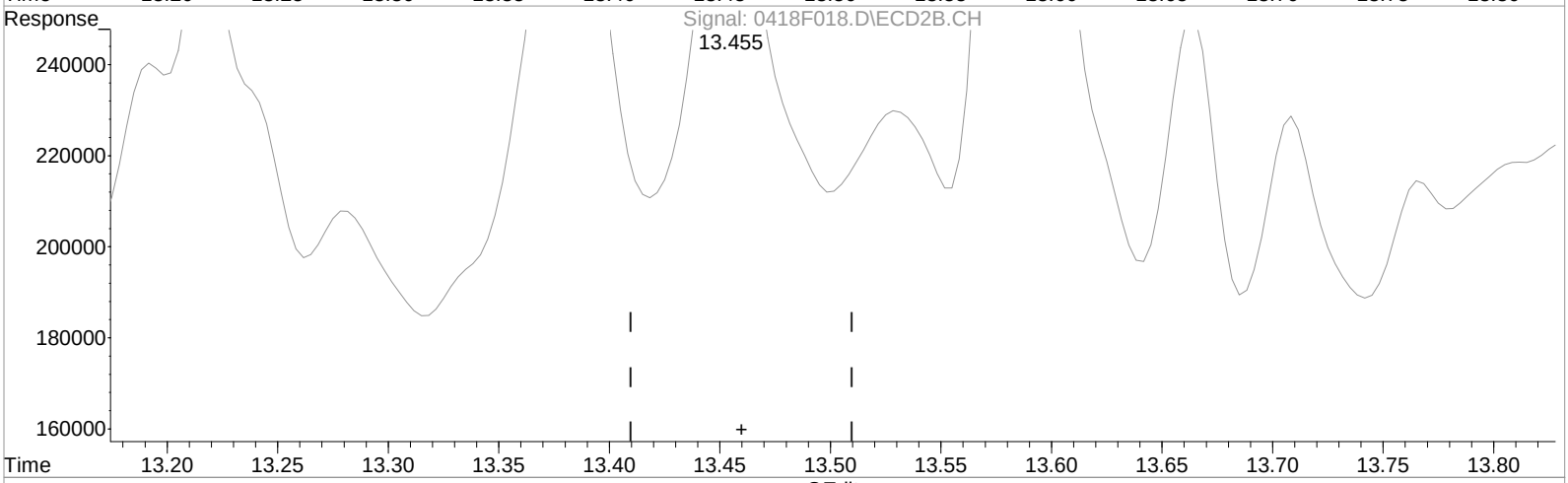
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.804min 257.221 ug/L m

response 43789

Manual Integration:

Before

04/21/20

(31) Toxaphene {2} #2

13.455min 533.075 ug/L

response 443153

(+) = Expected Retention Time

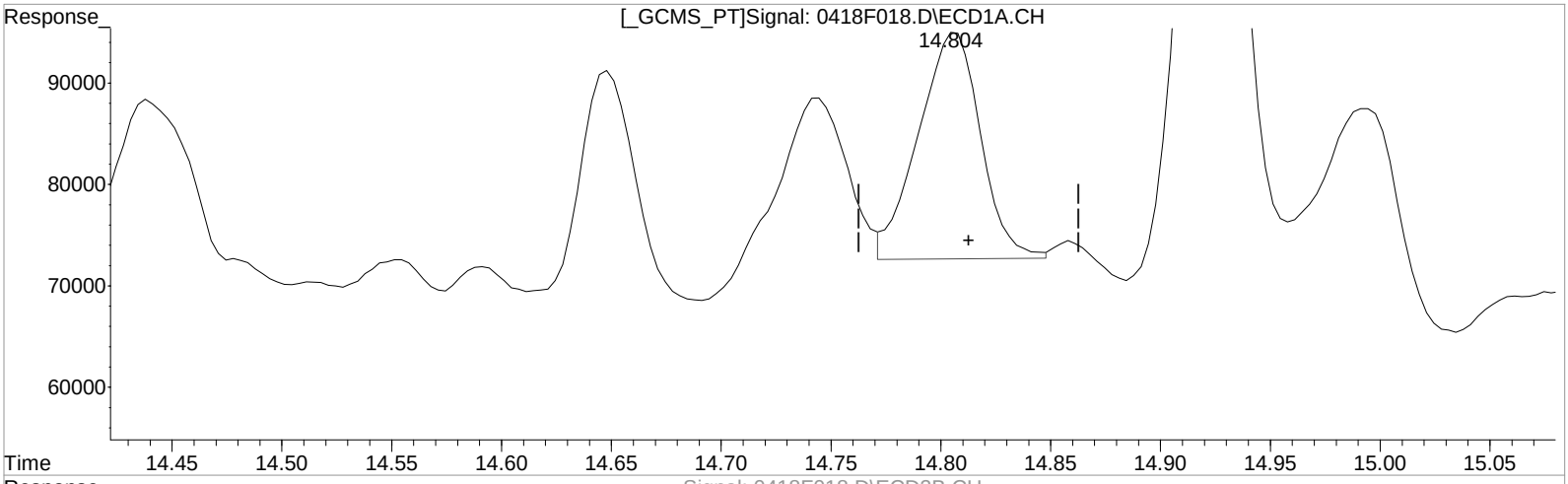
Quantitation Report (Qedit)

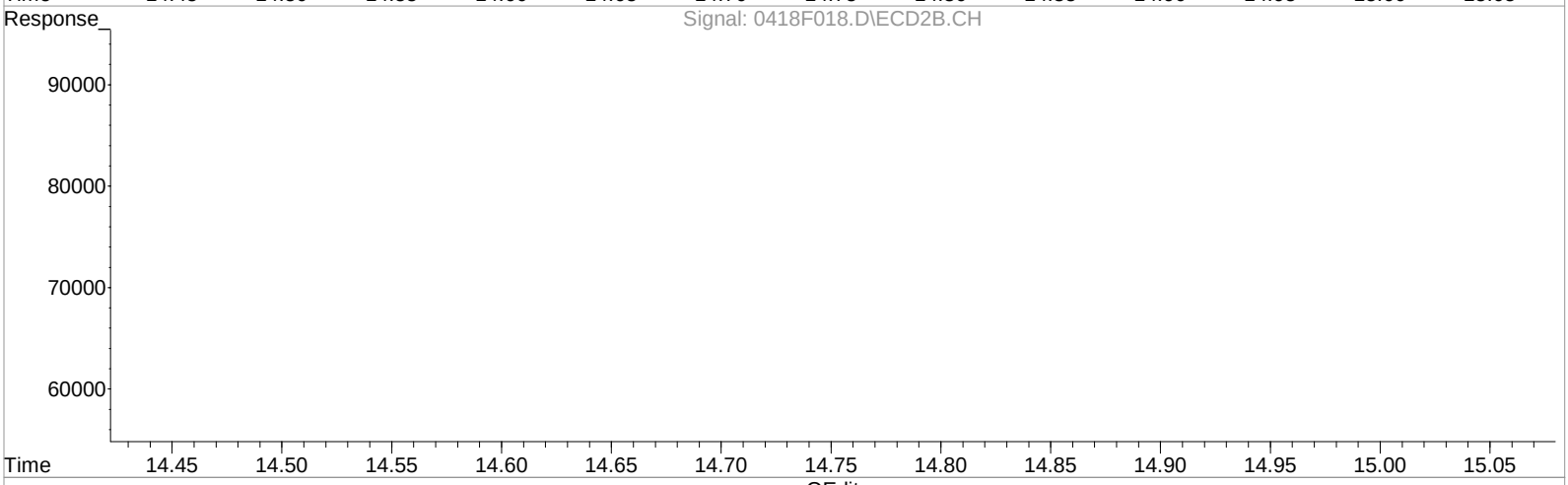
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.804min 257.221 ug/L m

response 43789

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.455min 533.075 ug/L

response 443153

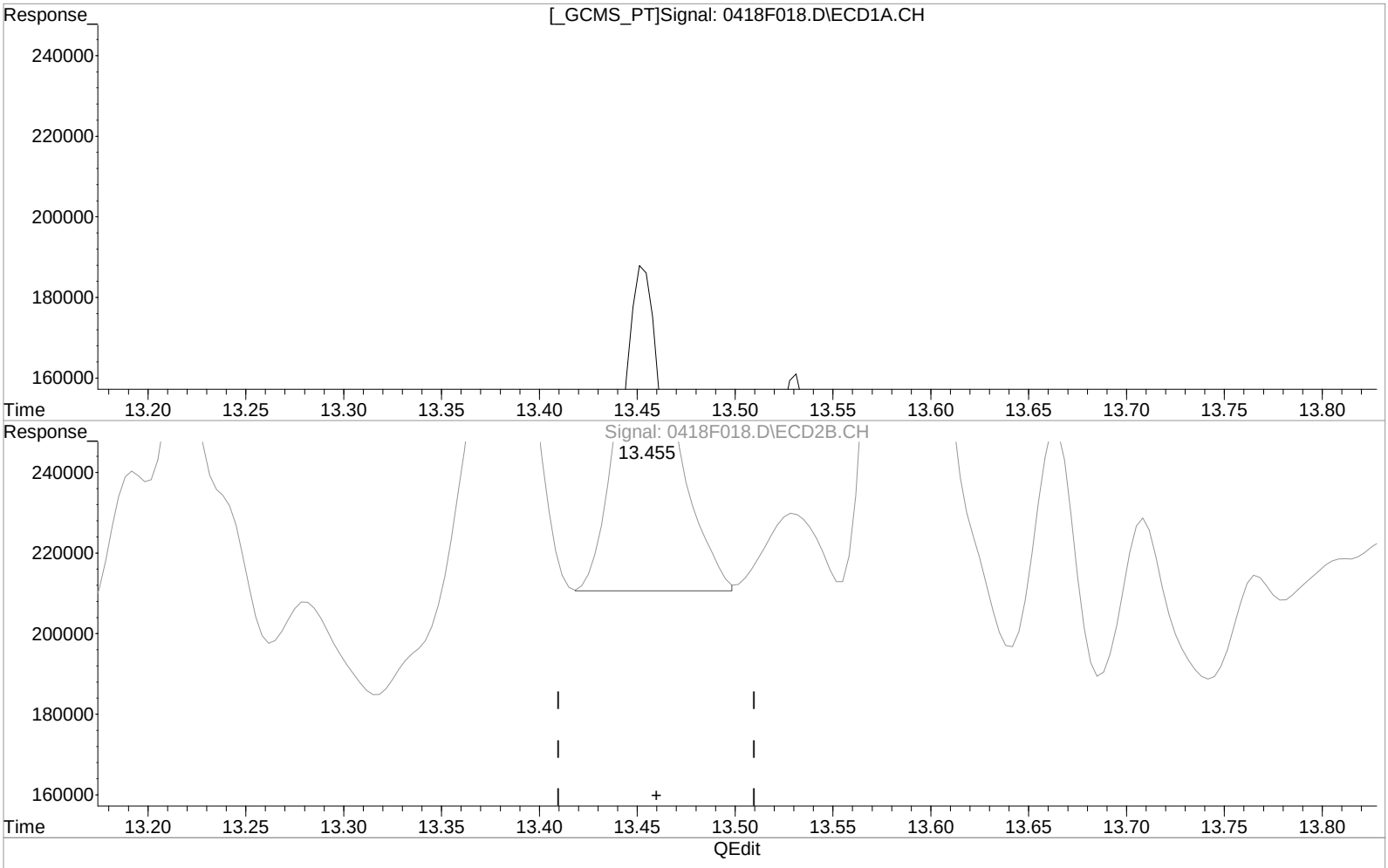
(+) = Expected Retention Time

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(31) Toxaphene {2}

14.804min 257.221 ug/L m

response 43789

Manual Integration:

After

Baseline correction

04/21/20

(31) Toxaphene {2} #2

13.455min 209.249 ug/L m

response 173952

(+) = Expected Retention Time

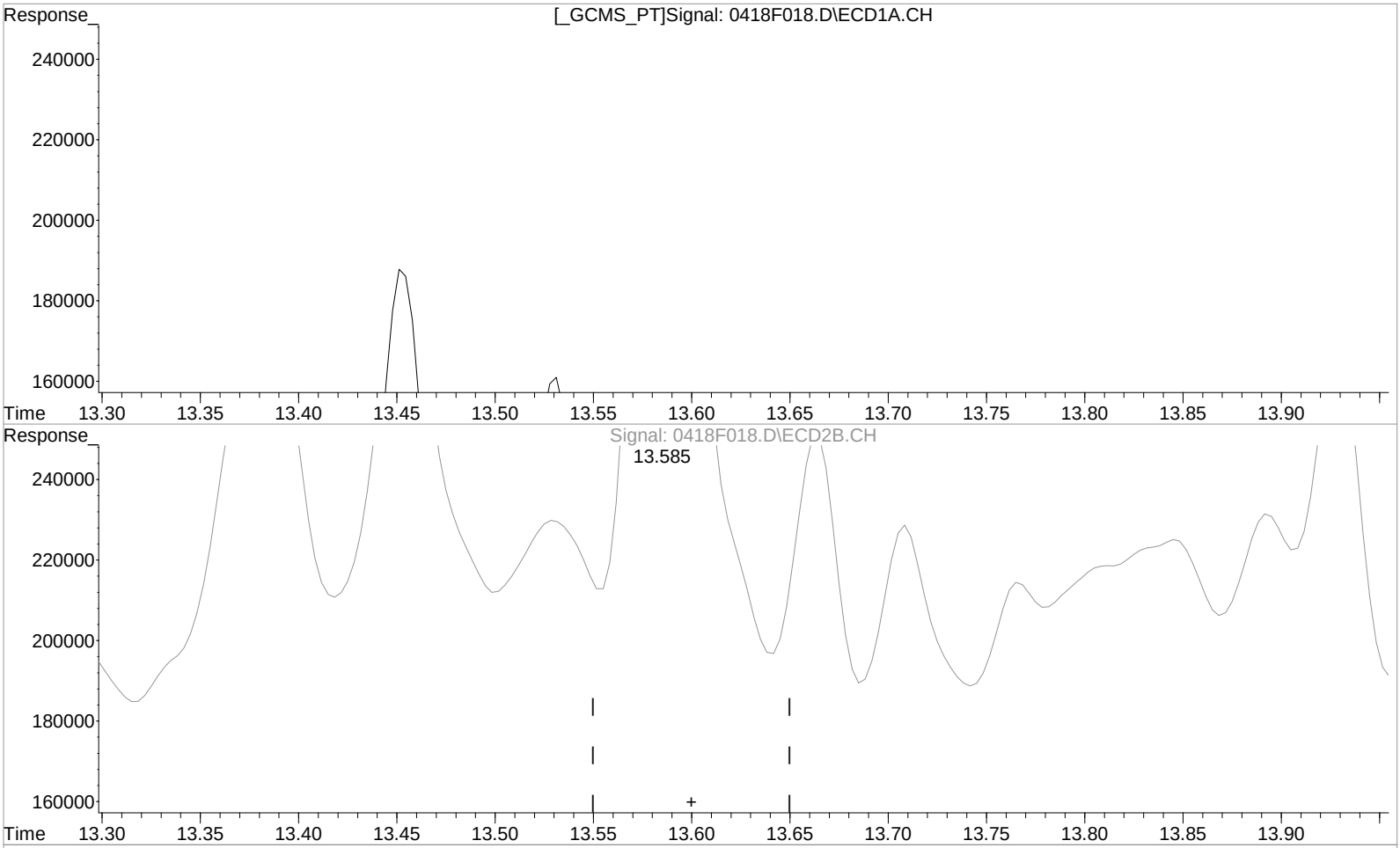
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.924min 419.688 ug/L

response 142366

(32) Toxaphene {3} #2

13.585min 939.599 ug/L

response 774765

Manual Integration:

Before

04/21/20

(+) = Expected Retention Time

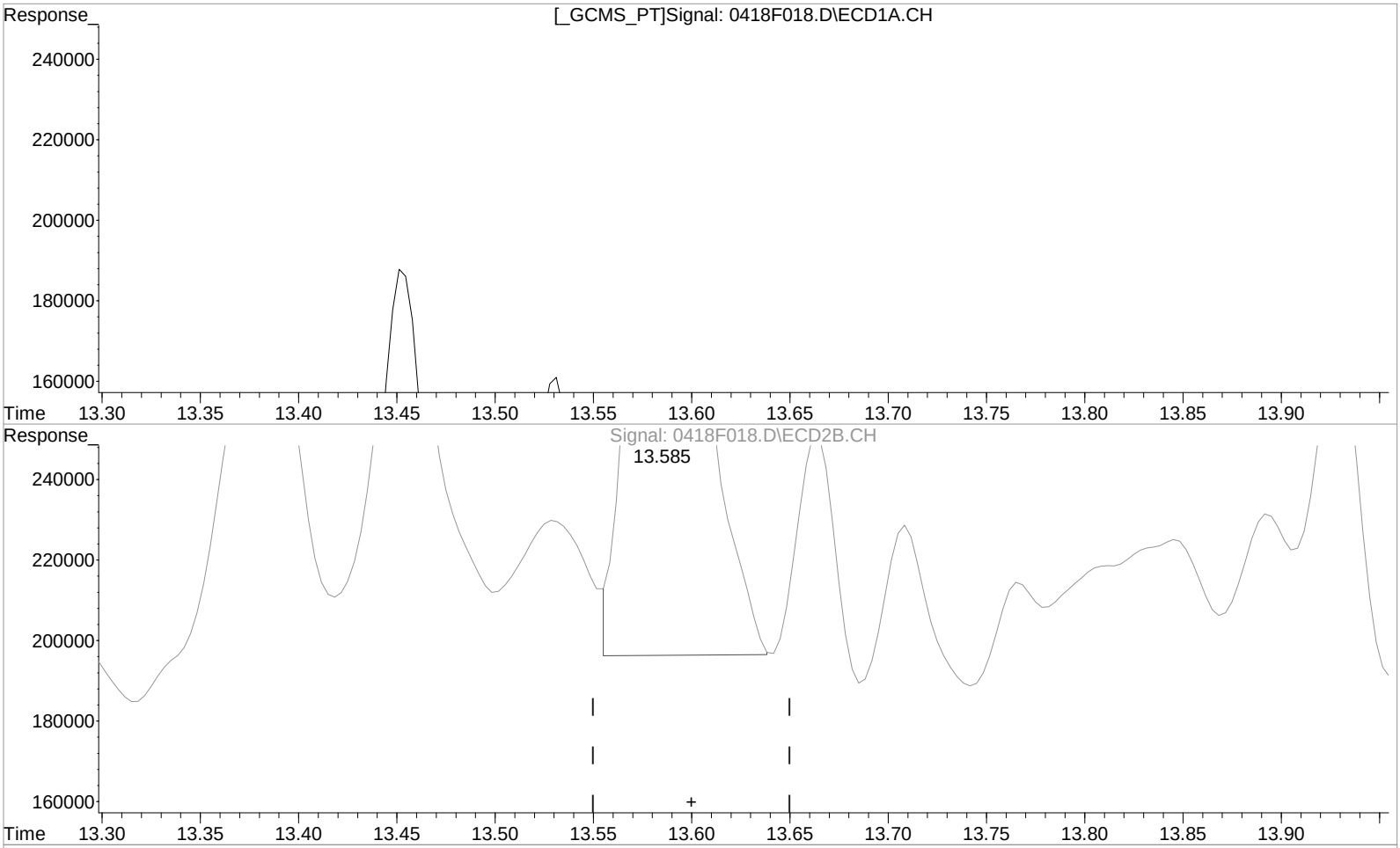
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.924min 419.688 ug/L

response 142366

Manual Integration:

After

Baseline correction

04/21/20

(32) Toxaphene {3} #2

13.585min 619.981 ug/L m

response 557146

(+) = Expected Retention Time

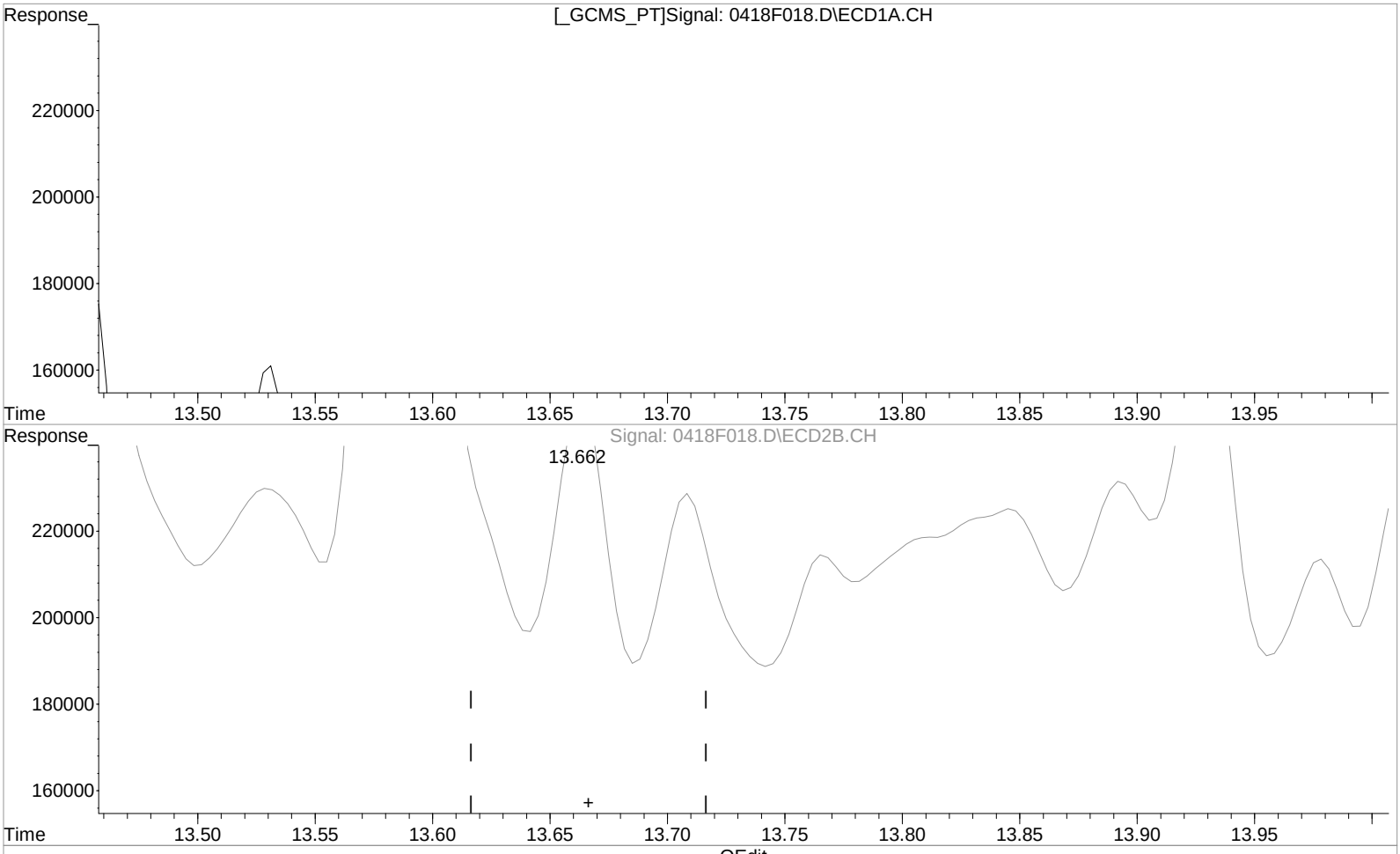
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.994min 246.000 ug/L

response 56121

Manual Integration:

Before

04/21/20

(33) Toxaphene {4} #2

13.662min 512.170 ug/L

response 173504

(+) = Expected Retention Time

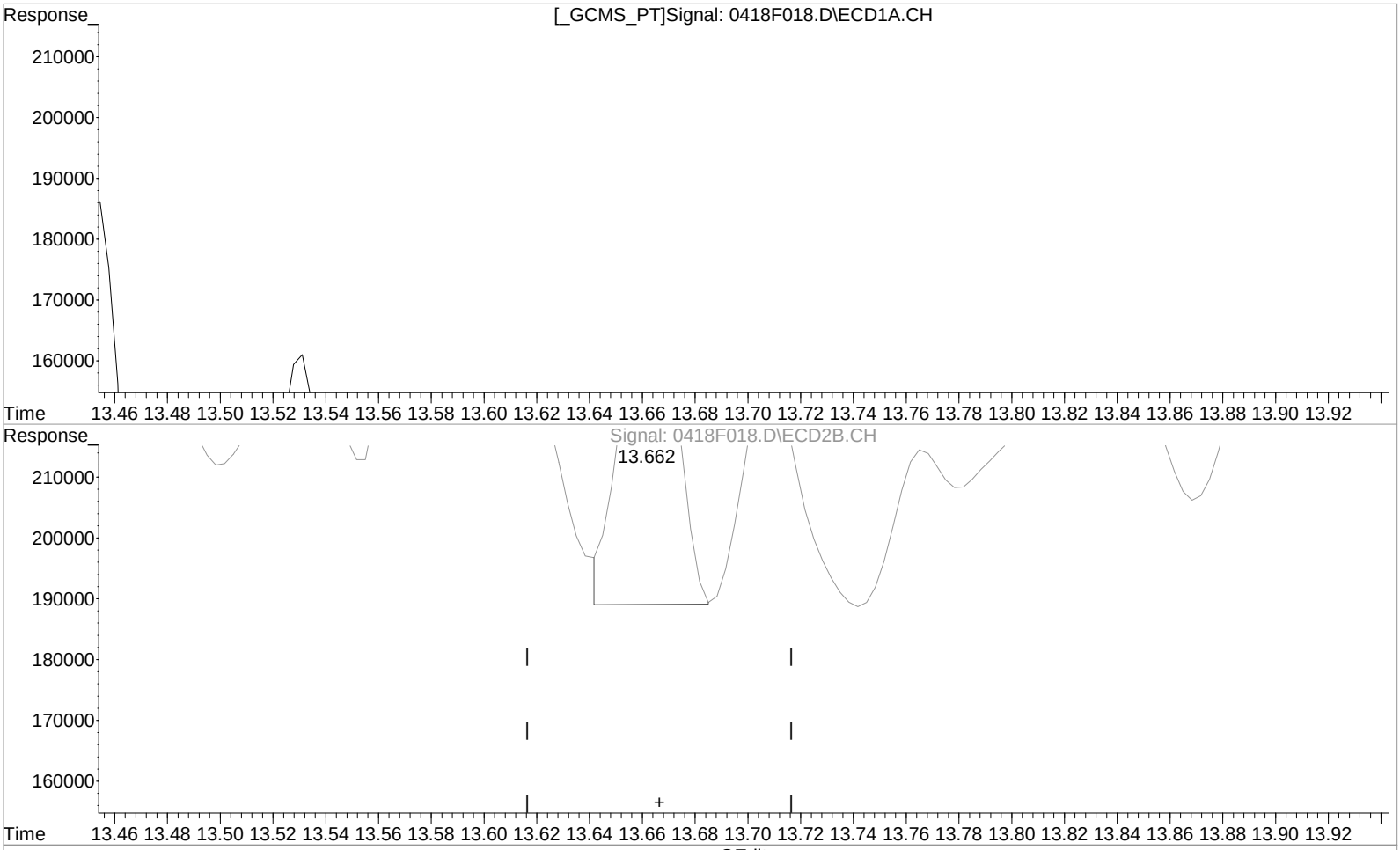
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.994min 246.000 ug/L

response 56121

Manual Integration:

After

Baseline correction

04/21/20

(33) Toxaphene {4} #2

13.662min 231.333 ug/L m

response 83714

(+) = Expected Retention Time

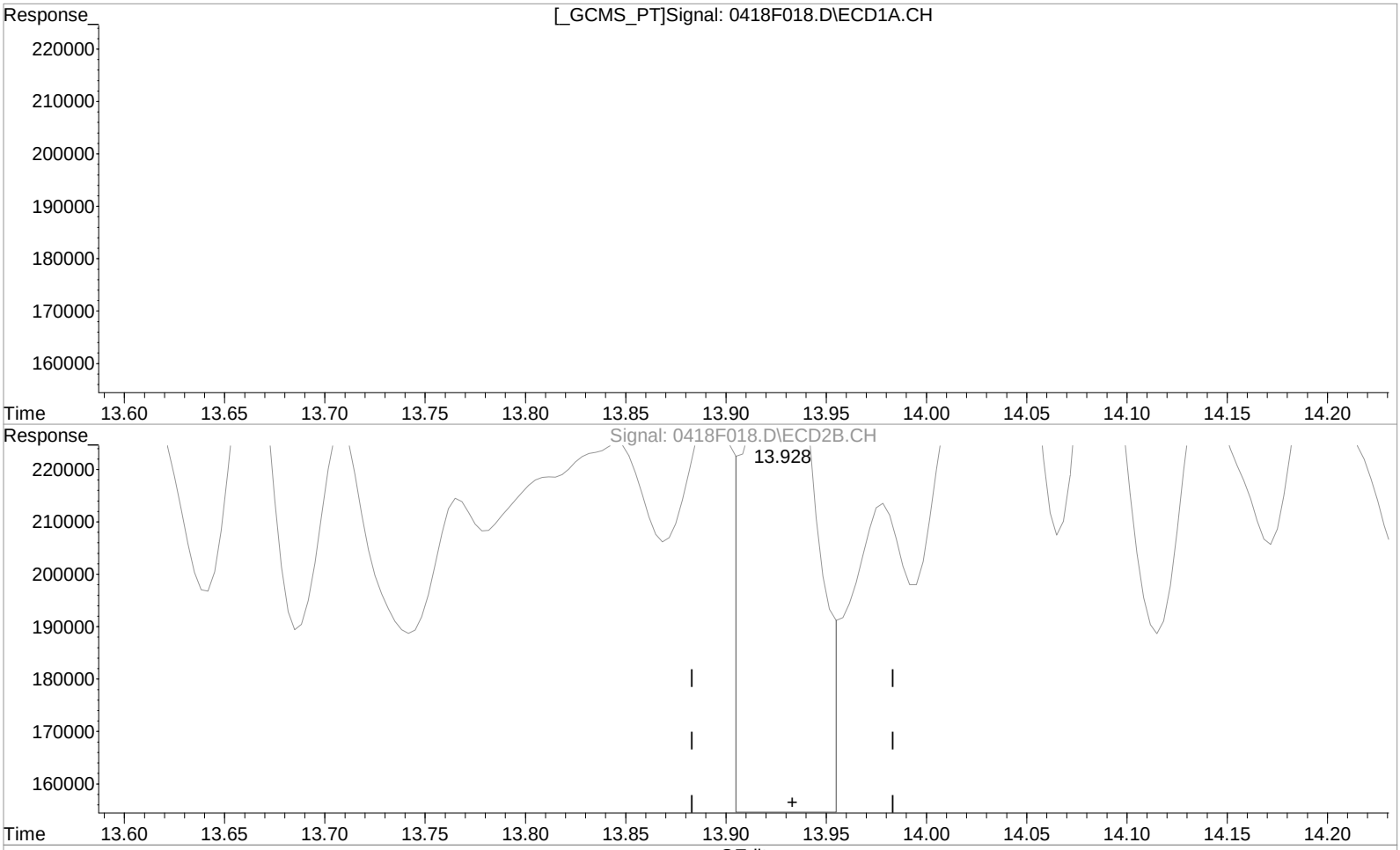
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.341min 262.638 ug/L

response 57093

Manual Integration:

Before

04/21/20

(34) Toxaphene {5} #2

13.928min 421.889 ug/L

response 245551

(+) = Expected Retention Time

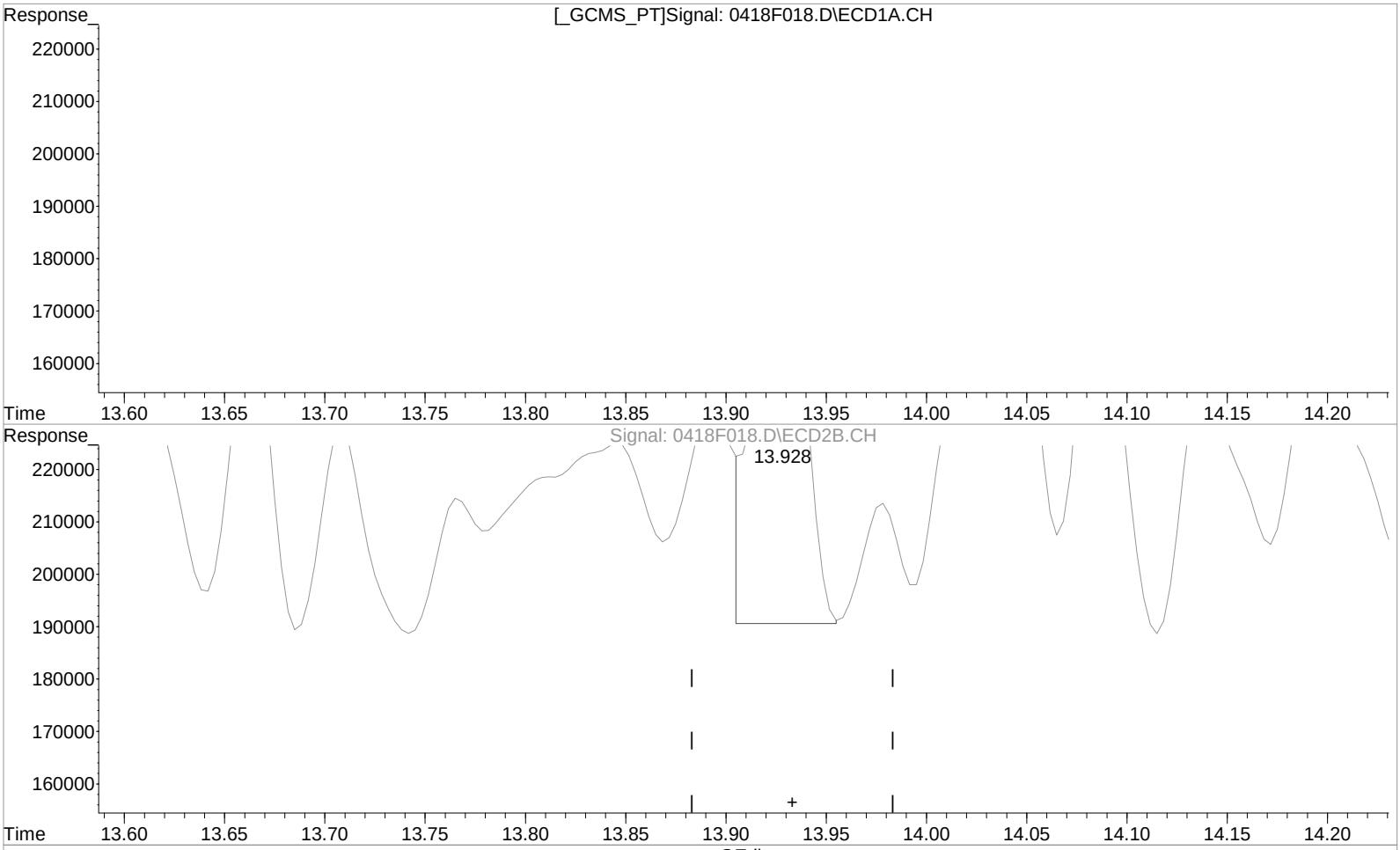
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(34) Toxaphene {5}

15.341min 262.638 ug/L

response 57093

Manual Integration:

After

Baseline correction

04/21/20

(34) Toxaphene {5} #2

13.928min 236.142 ug/L m

response 137441

(+) = Expected Retention Time

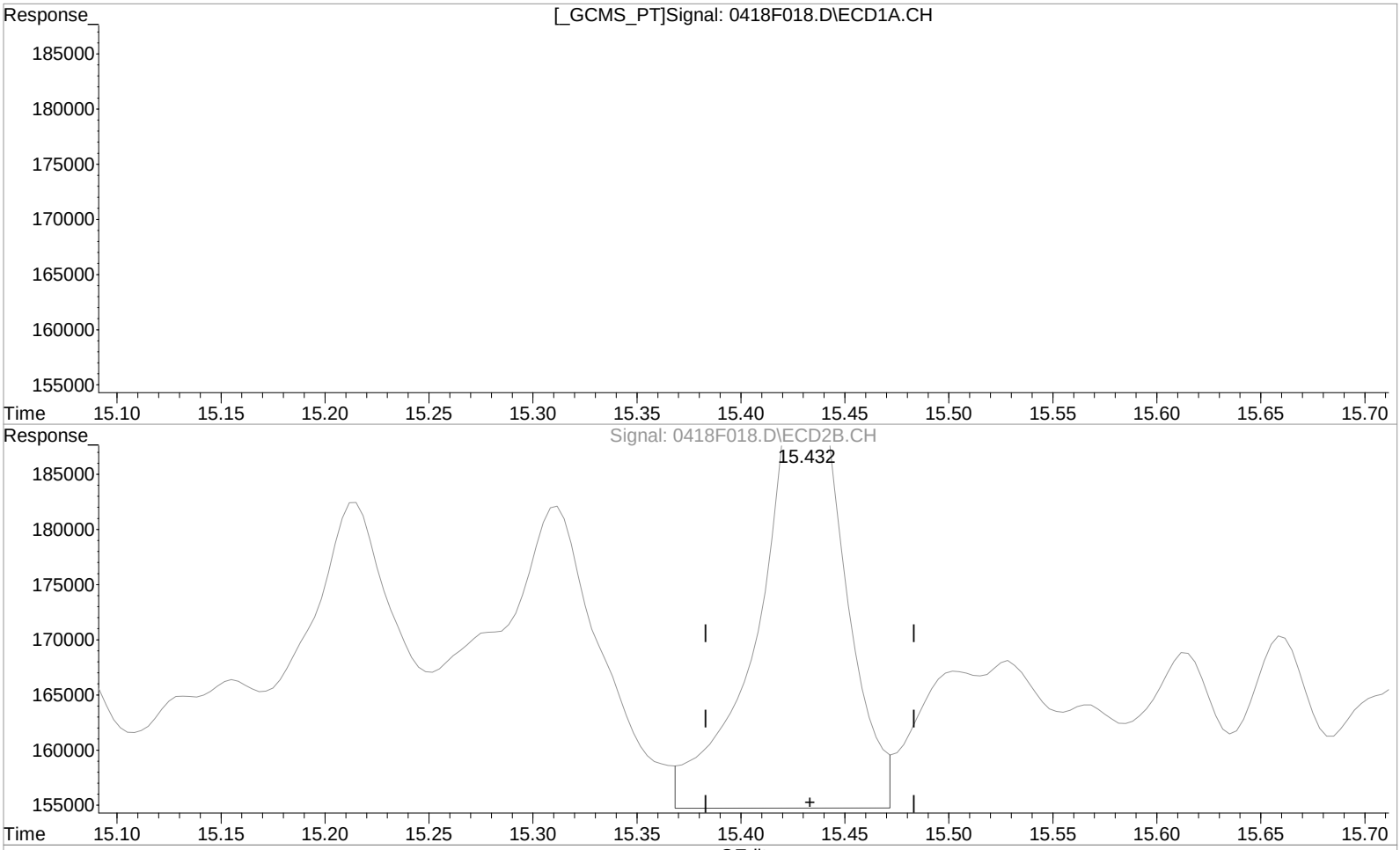
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(35) Toxaphene {6}

15.528min 441.053 ug/L

response 37604

Manual Integration:

Before

04/21/20

(35) Toxaphene {6} #2

15.432min 370.169 ug/L

response 116709

(+) = Expected Retention Time

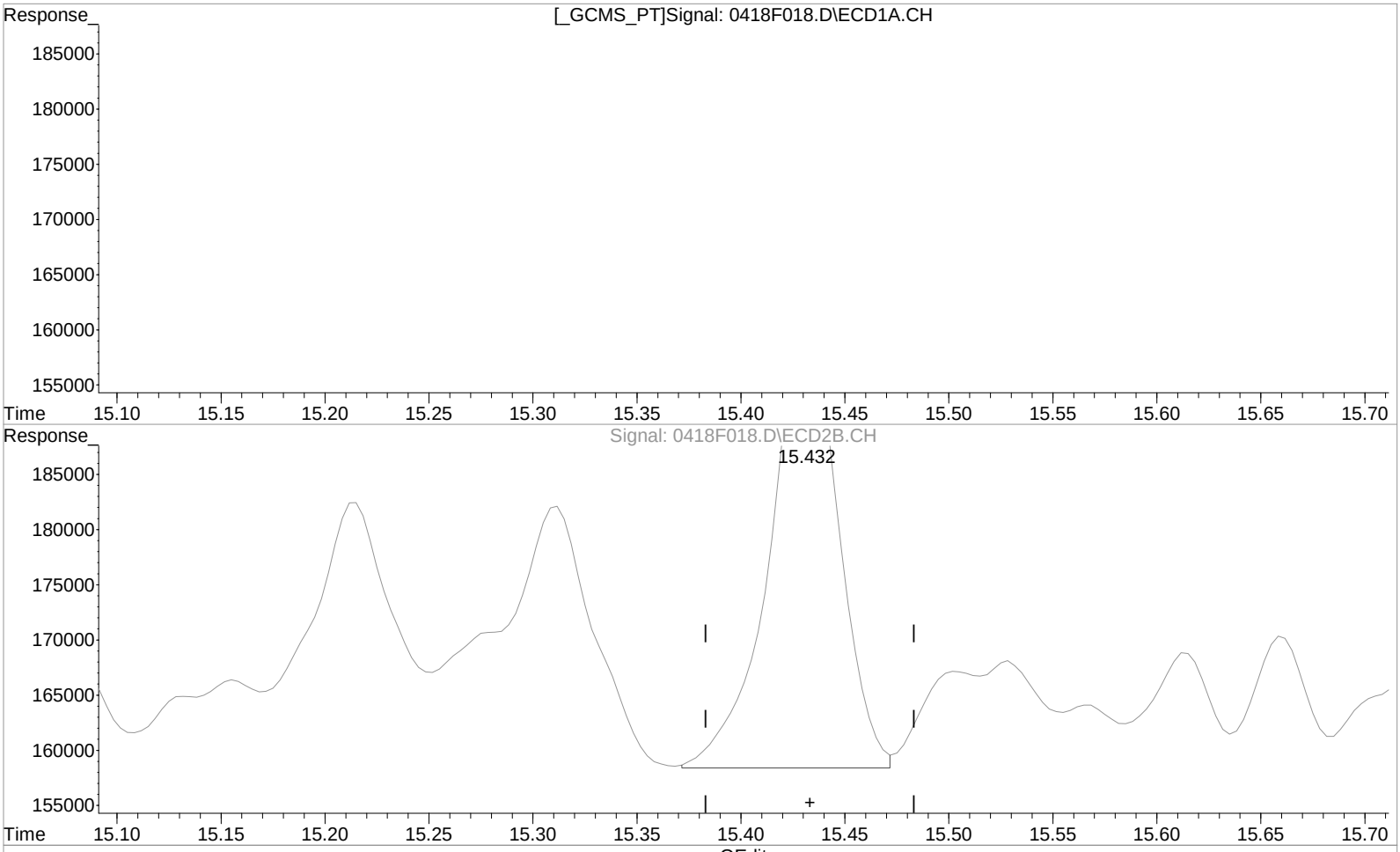
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(35) Toxaphene {6}

15.528min 441.053 ug/L

response 37604

(35) Toxaphene {6} #2

15.432min 298.104 ug/L m

response 93988

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

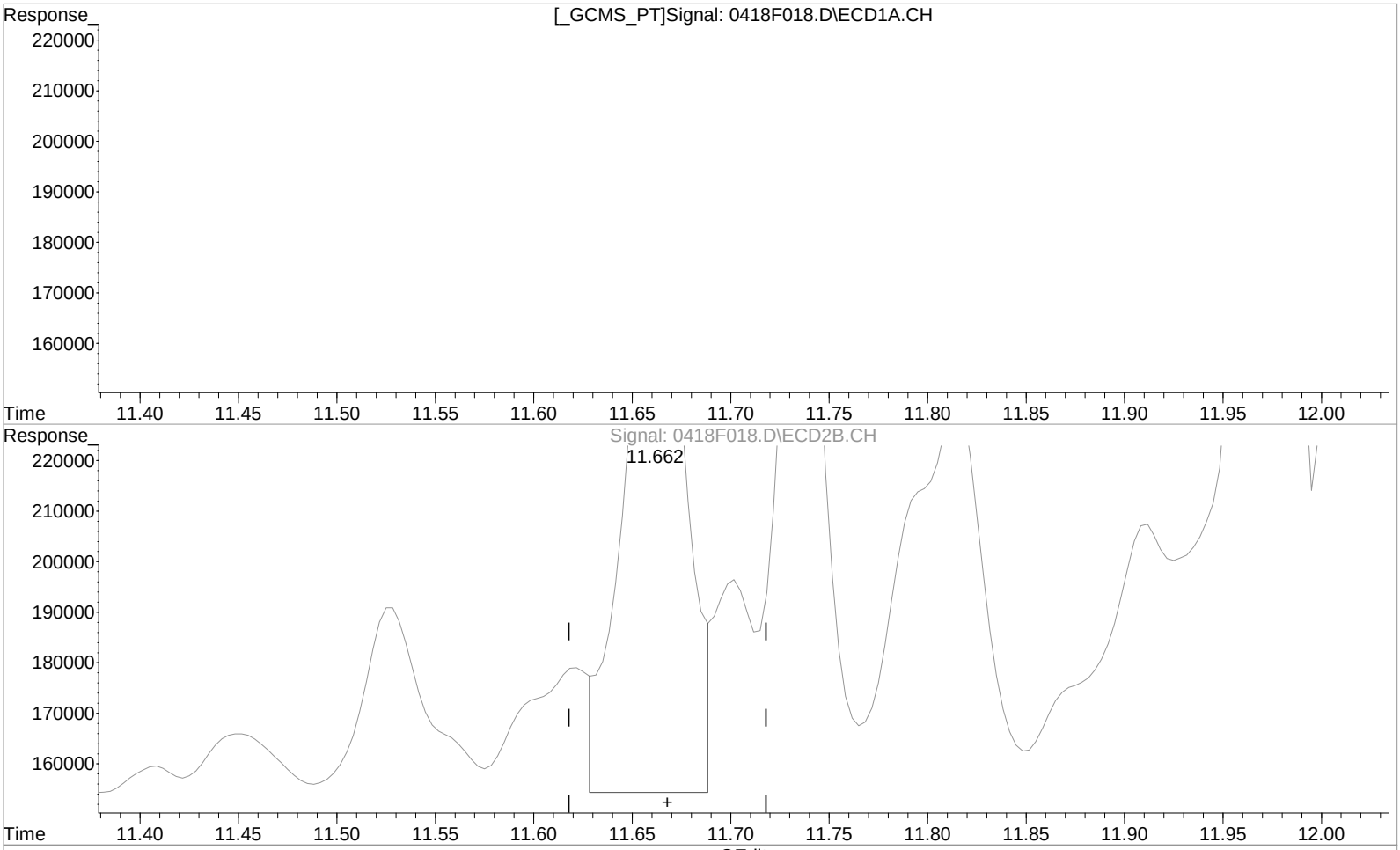
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(38) Chlordane {2}

11.688min 74.233 ug/L

response 73426

Manual Integration:

Before

04/21/20

(38) Chlordane {2} #2

11.662min 145.460 ug/L

response 263316

(+) = Expected Retention Time

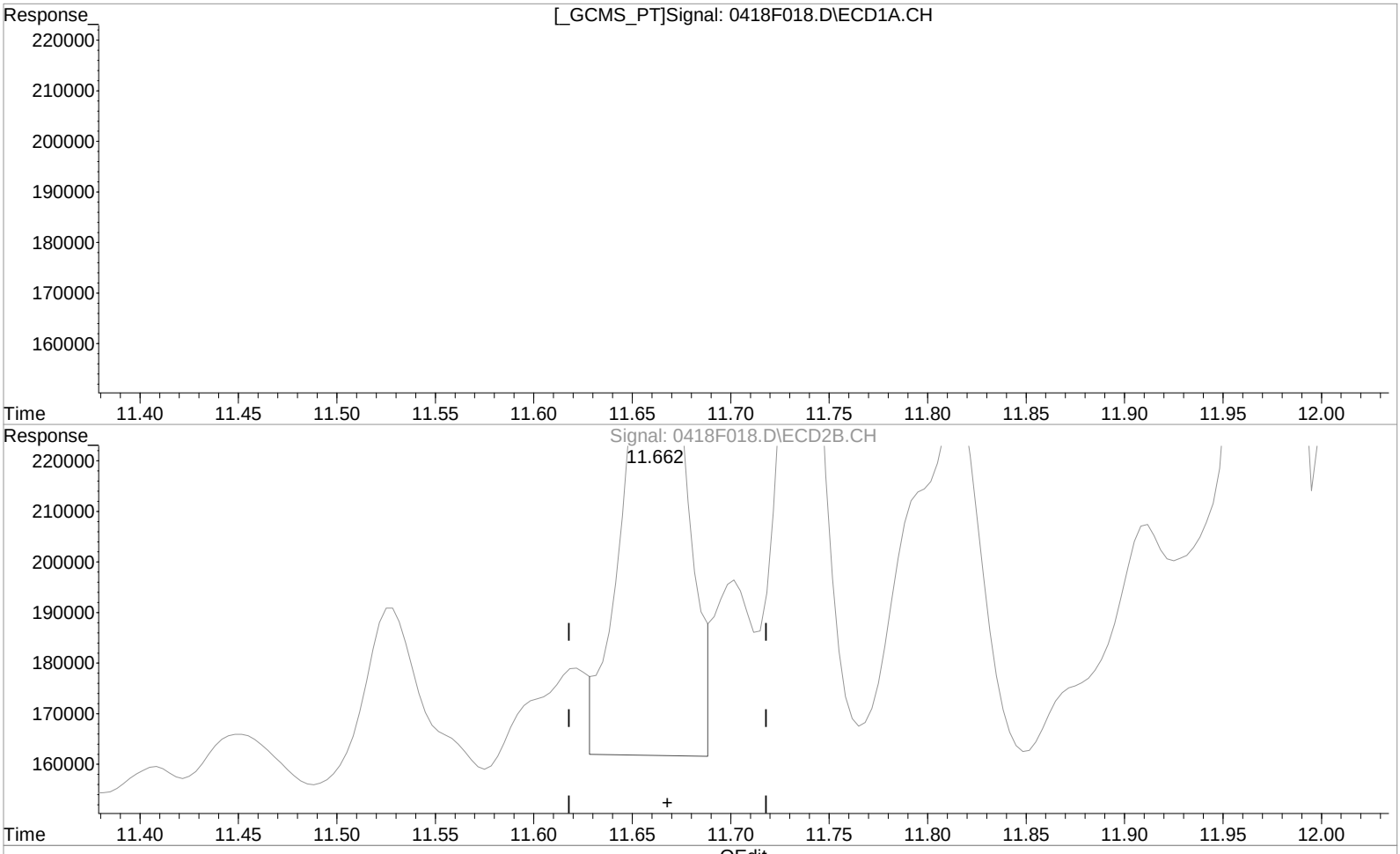
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:37:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(38) Chlordane {2}

11.688min 74.233 ug/L

response 73426

Manual Integration:

After

Baseline correction

04/21/20

(38) Chlordane {2} #2

11.662min 130.702 ug/L m

response 236601

(+) = Expected Retention Time

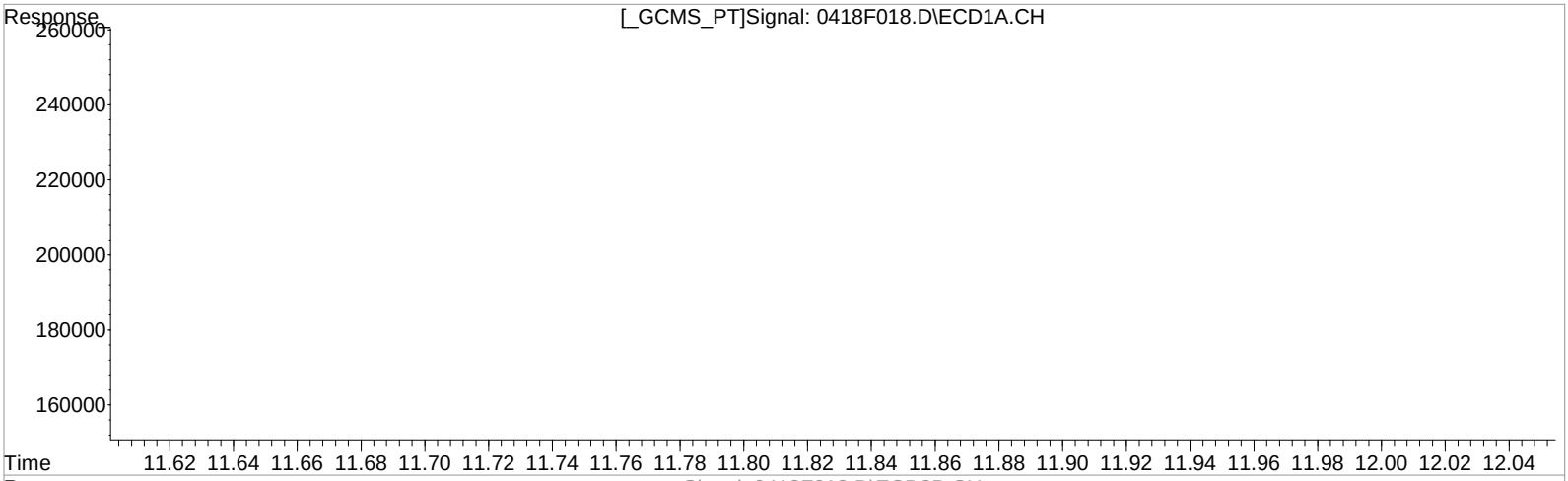
Quantitation Report (Qedit)

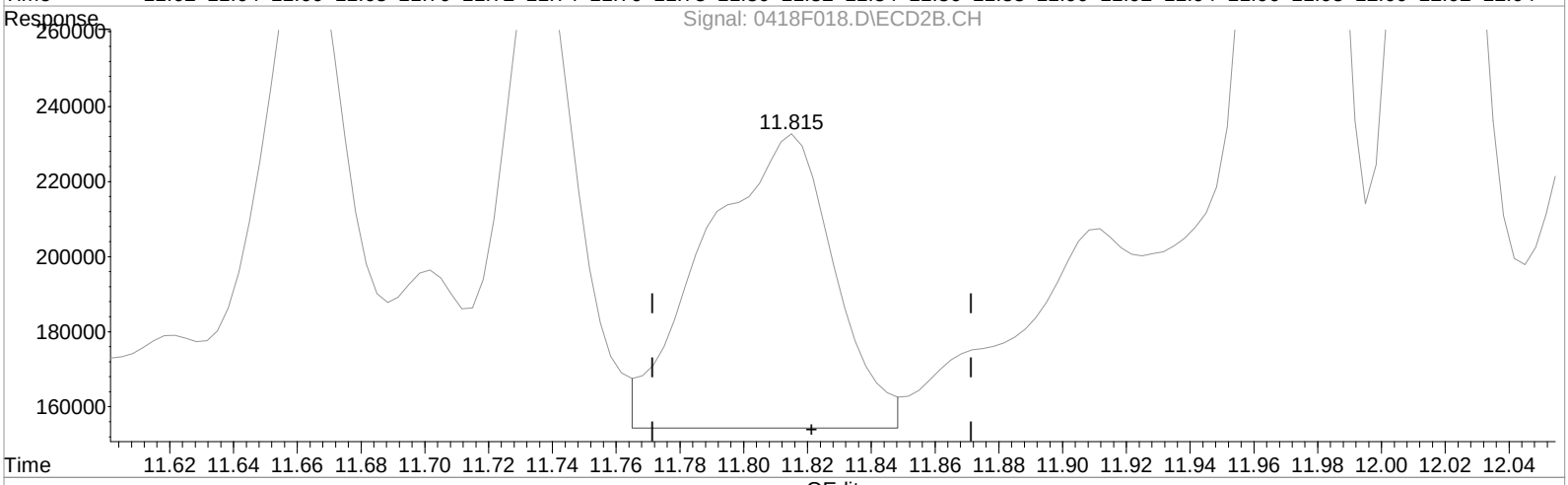
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:40:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(39) Chlordane {3}

12.251min 115.190 ug/L

response 81770

Manual Integration:

Before

04/21/20

(39) Chlordane {3} #2

11.815min 181.265 ug/L

response 217833

(+) = Expected Retention Time

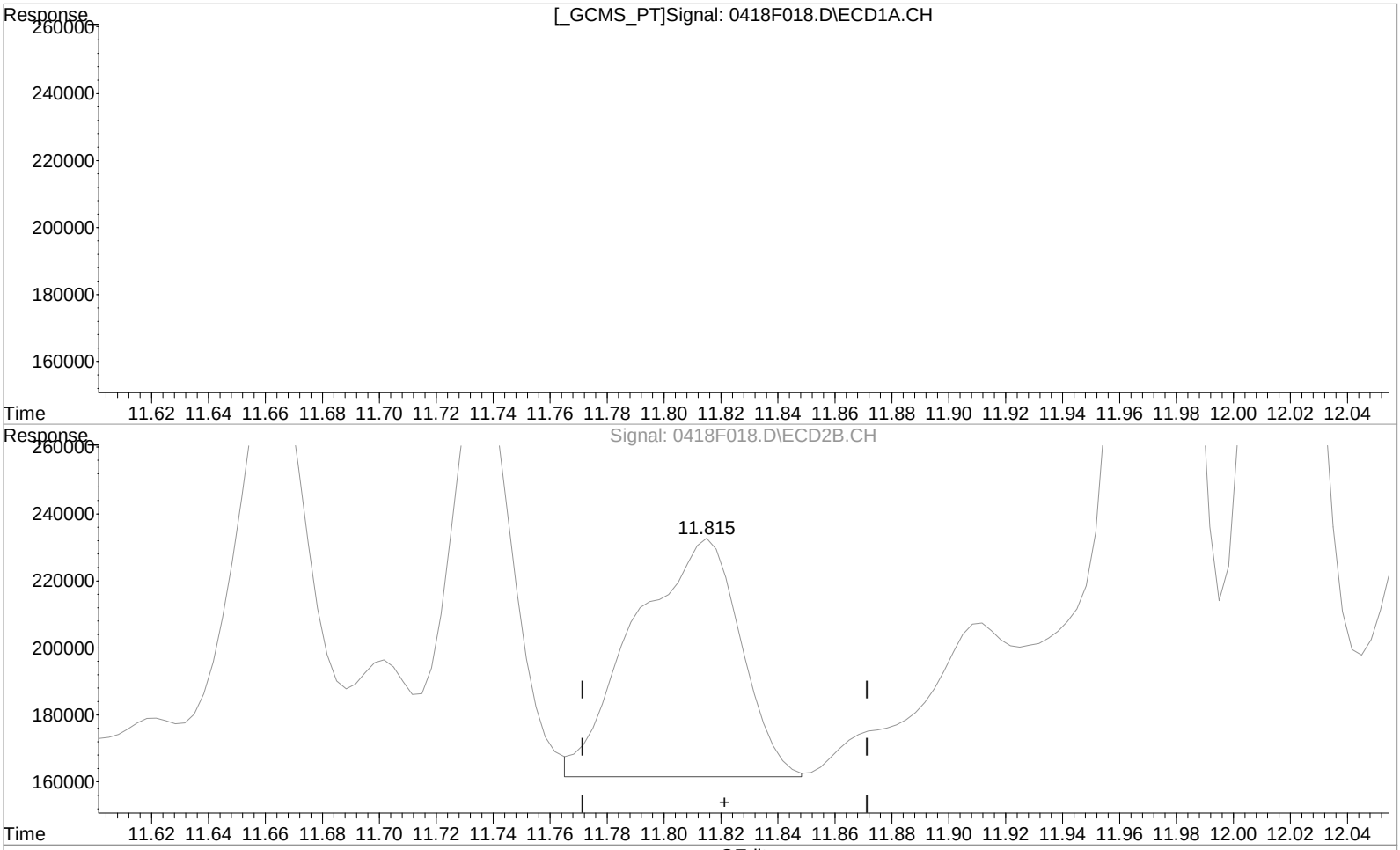
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:40:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(39) Chlordane {3}

12.251min 115.190 ug/L

response 81770

Manual Integration:

After

Baseline correction

04/21/20

(39) Chlordane {3} #2

11.815min 151.143 ug/L m

response 181635

(+) = Expected Retention Time

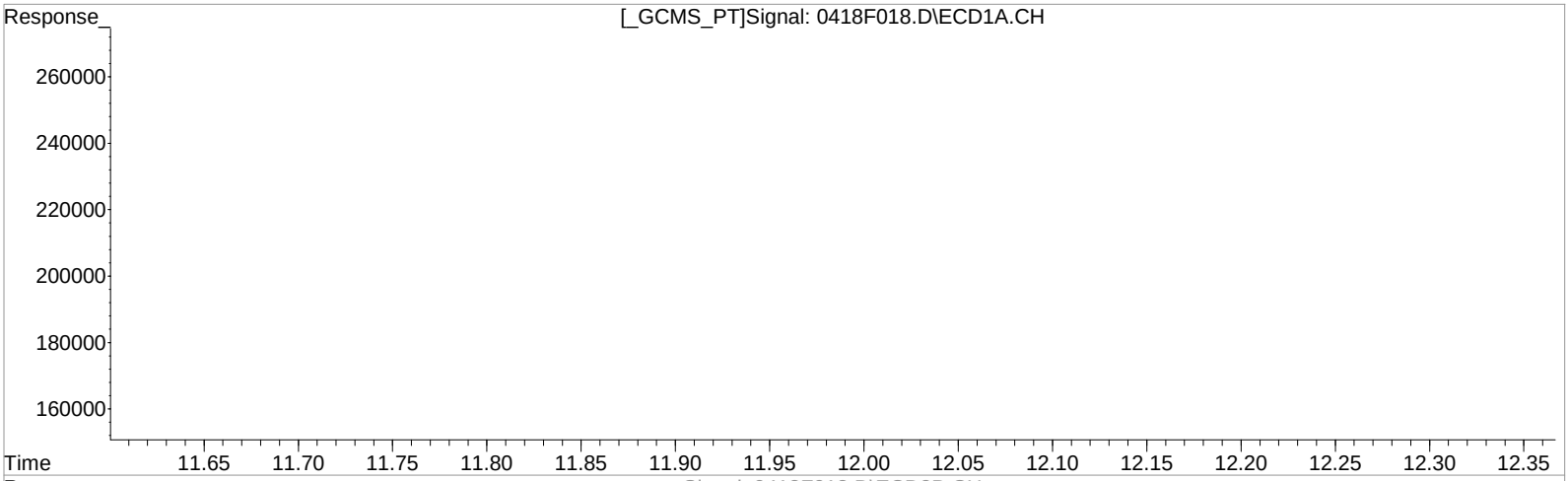
Quantitation Report (Qedit)

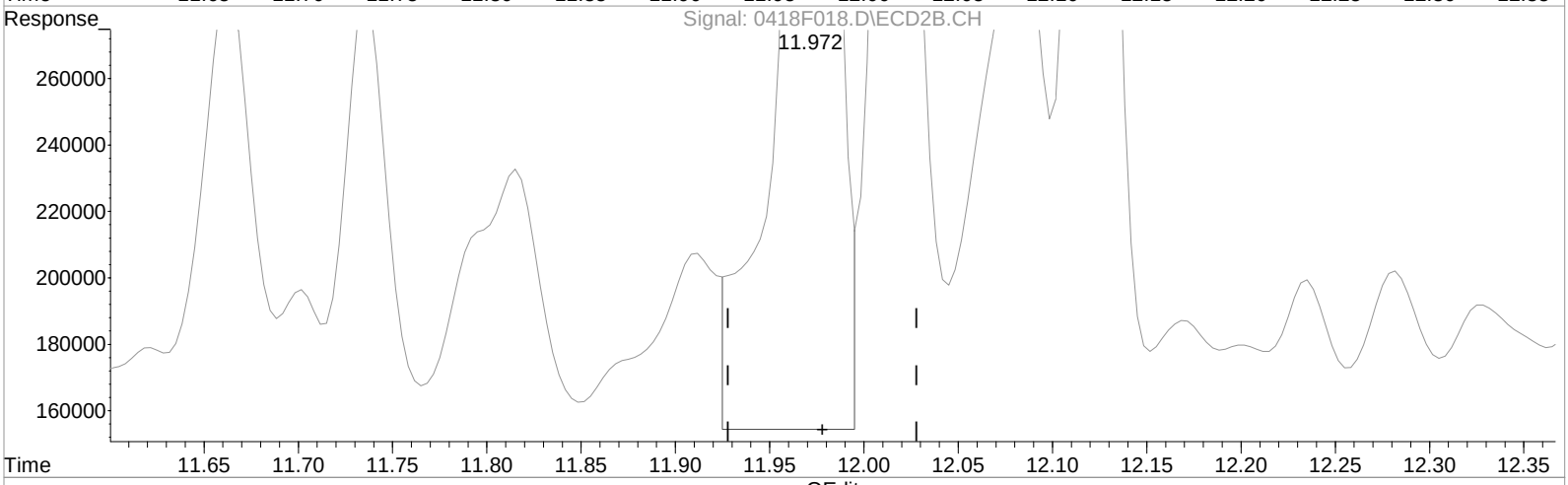
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:40:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.451min 102.889 ug/L

response 221710

Manual Integration:

Before

04/21/20

(40) Chlordane {4} #2

11.972min 115.628 ug/L

response 841584

(+) = Expected Retention Time

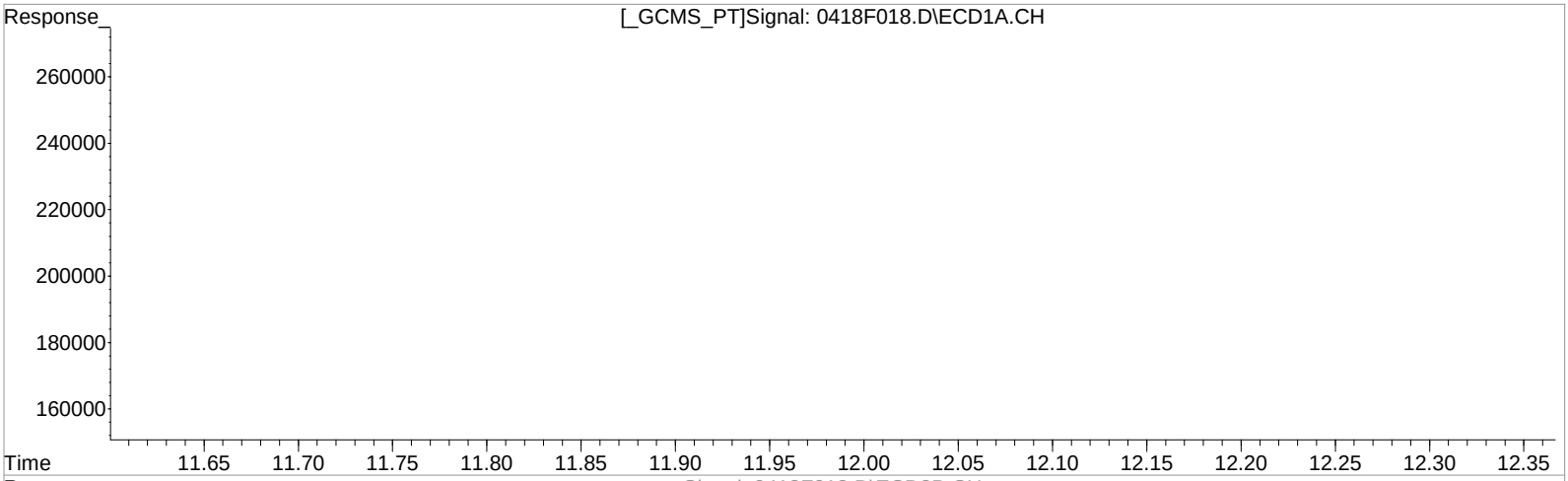
Quantitation Report (Qedit)

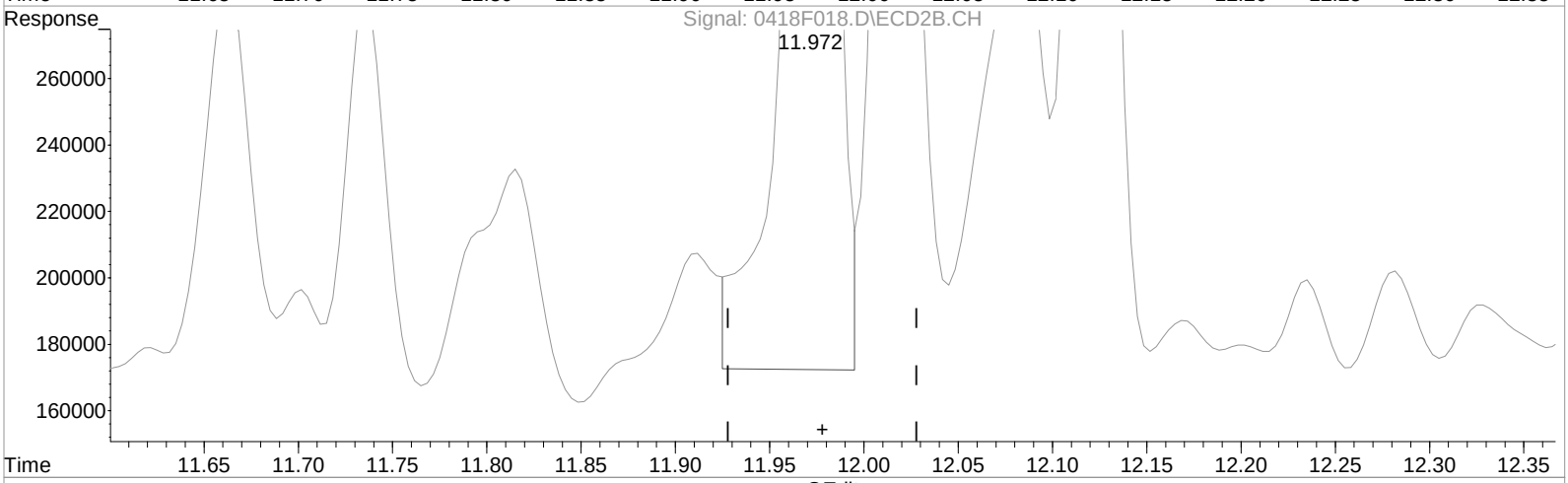
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:40:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.451min 102.889 ug/L

response 221710

(40) Chlordane {4} #2

11.972min 105.203 ug/L m

response 765712

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

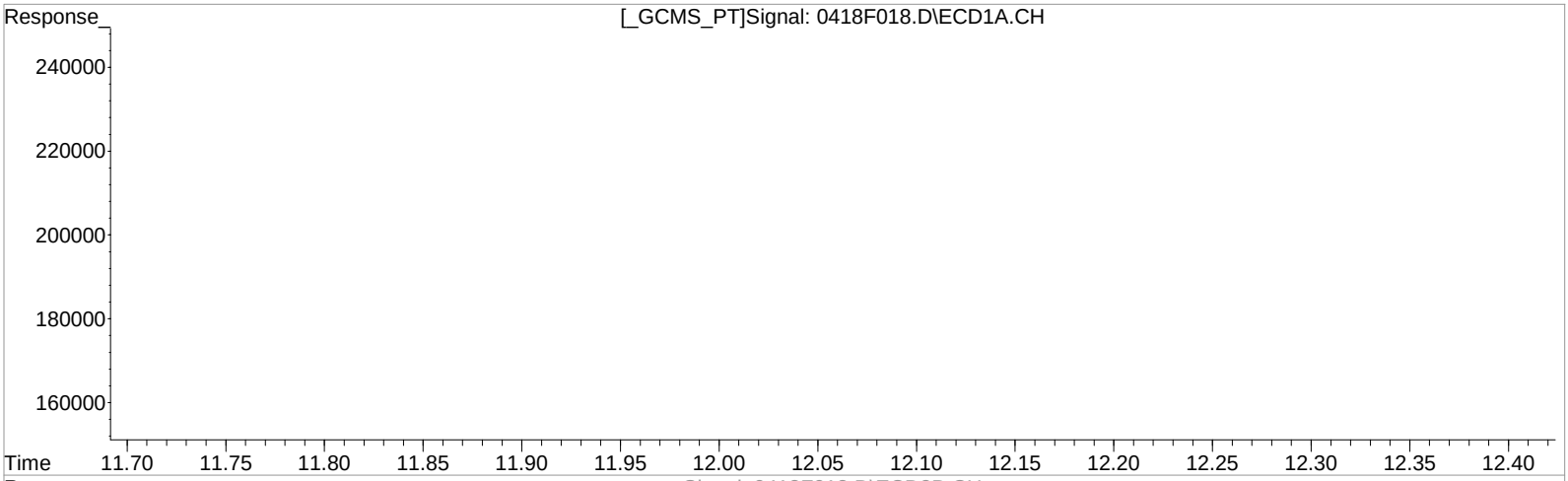
Quantitation Report (Qedit)

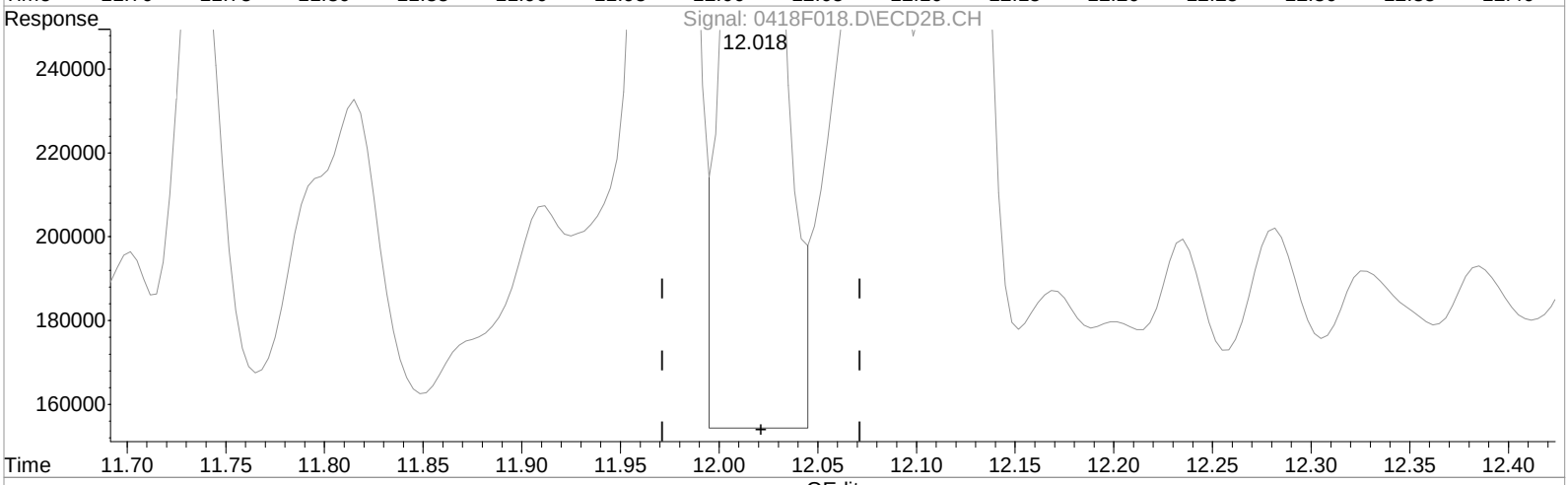
1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:40:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.531min 97.865 ug/L

response 174433

Manual Integration:

Before

04/21/20

(41) Chlordane {5} #2

12.018min 123.041 ug/L

response 548329

(+) = Expected Retention Time

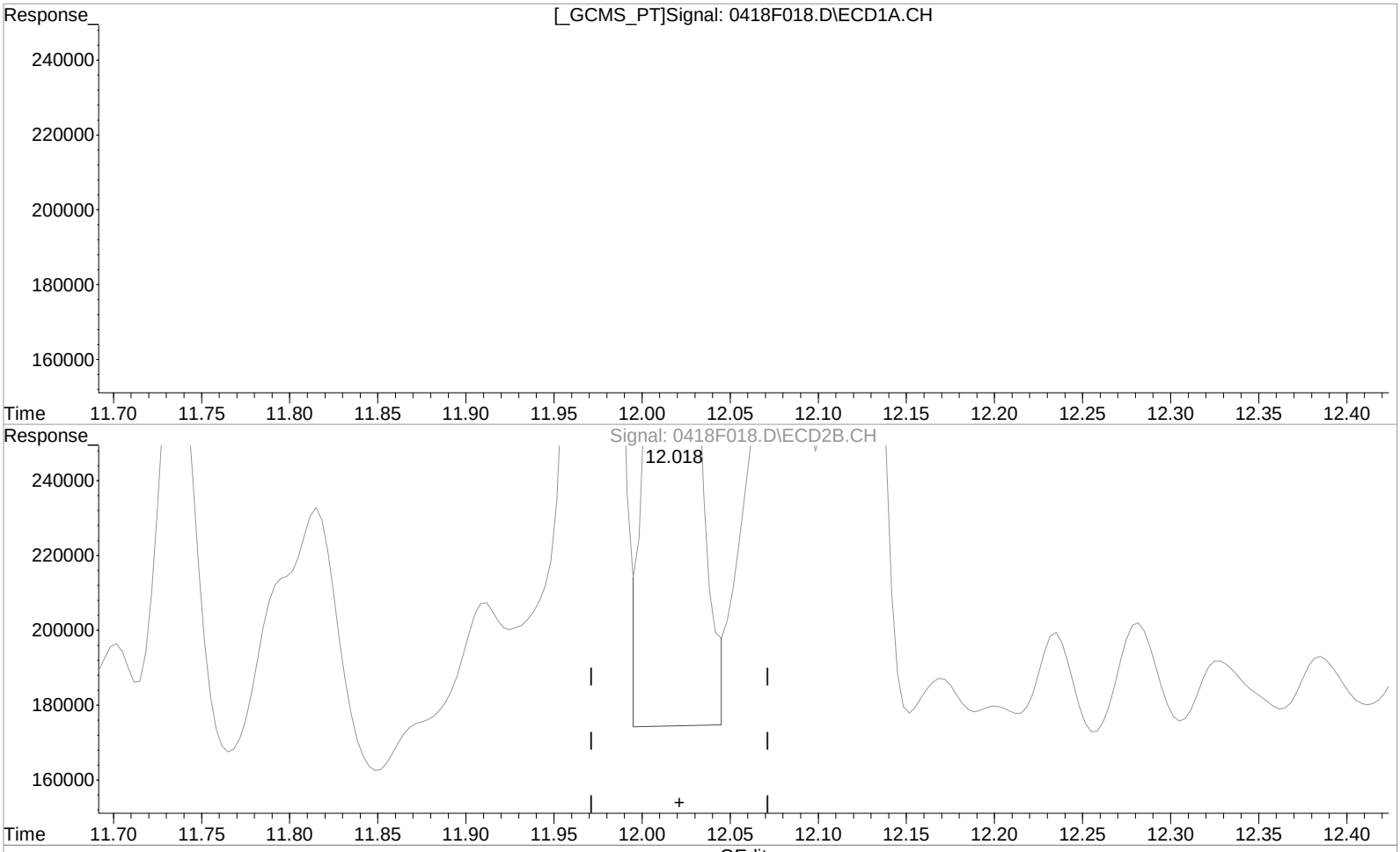
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:40:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(41) Chlordane {5}

13.531min 97.865 ug/L

response 174433

Manual Integration:

After

Baseline correction

04/21/20

(41) Chlordane {5} #2

12.018min 109.491 ug/L m

response 487946

(+) = Expected Retention Time

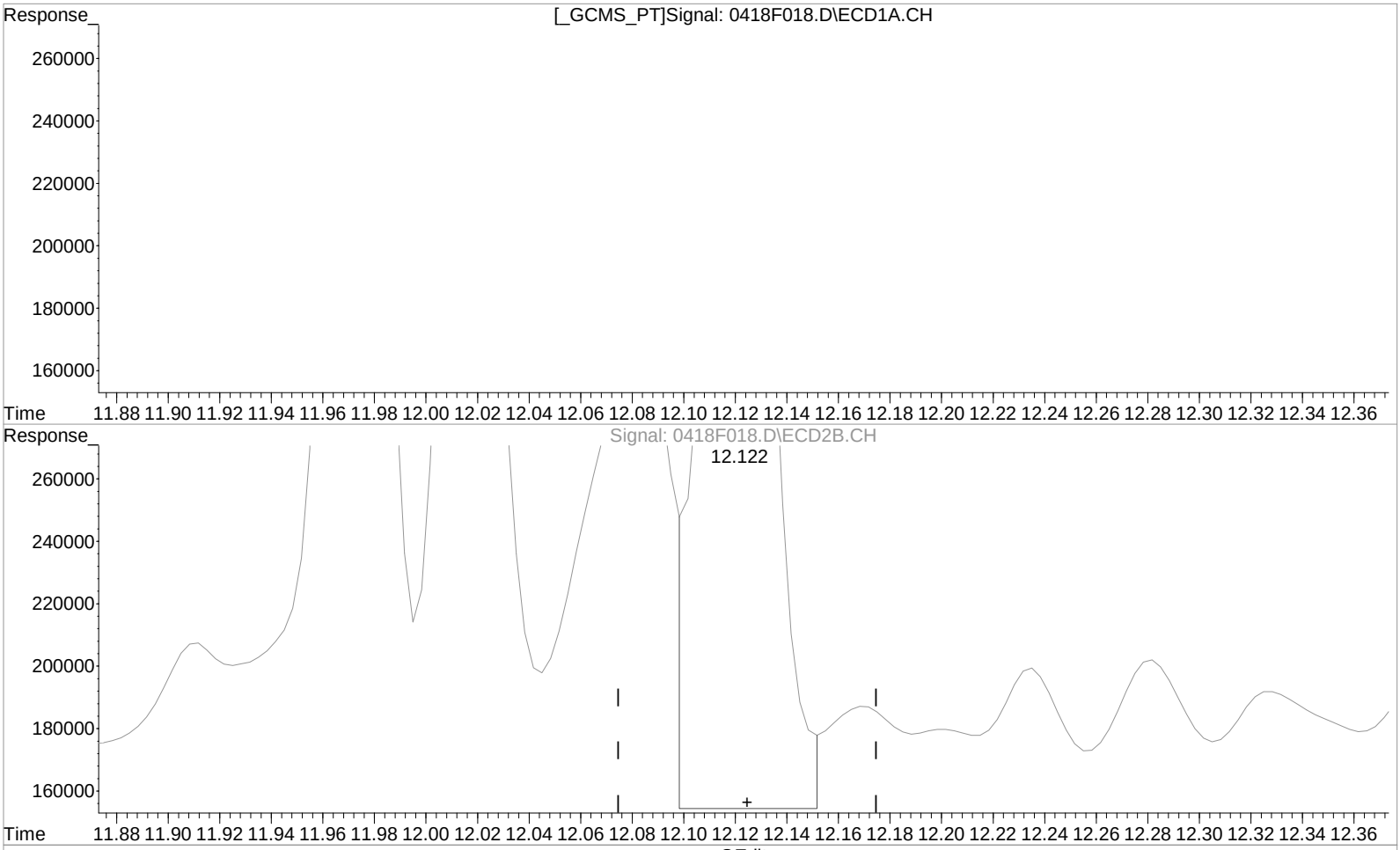
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:40:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(42) Chlordane {6}

13.611min 107.806 ug/L

response 141057

Manual Integration:

Before

04/21/20

(42) Chlordane {6} #2

12.122min 106.191 ug/L

response 685206

(+) = Expected Retention Time

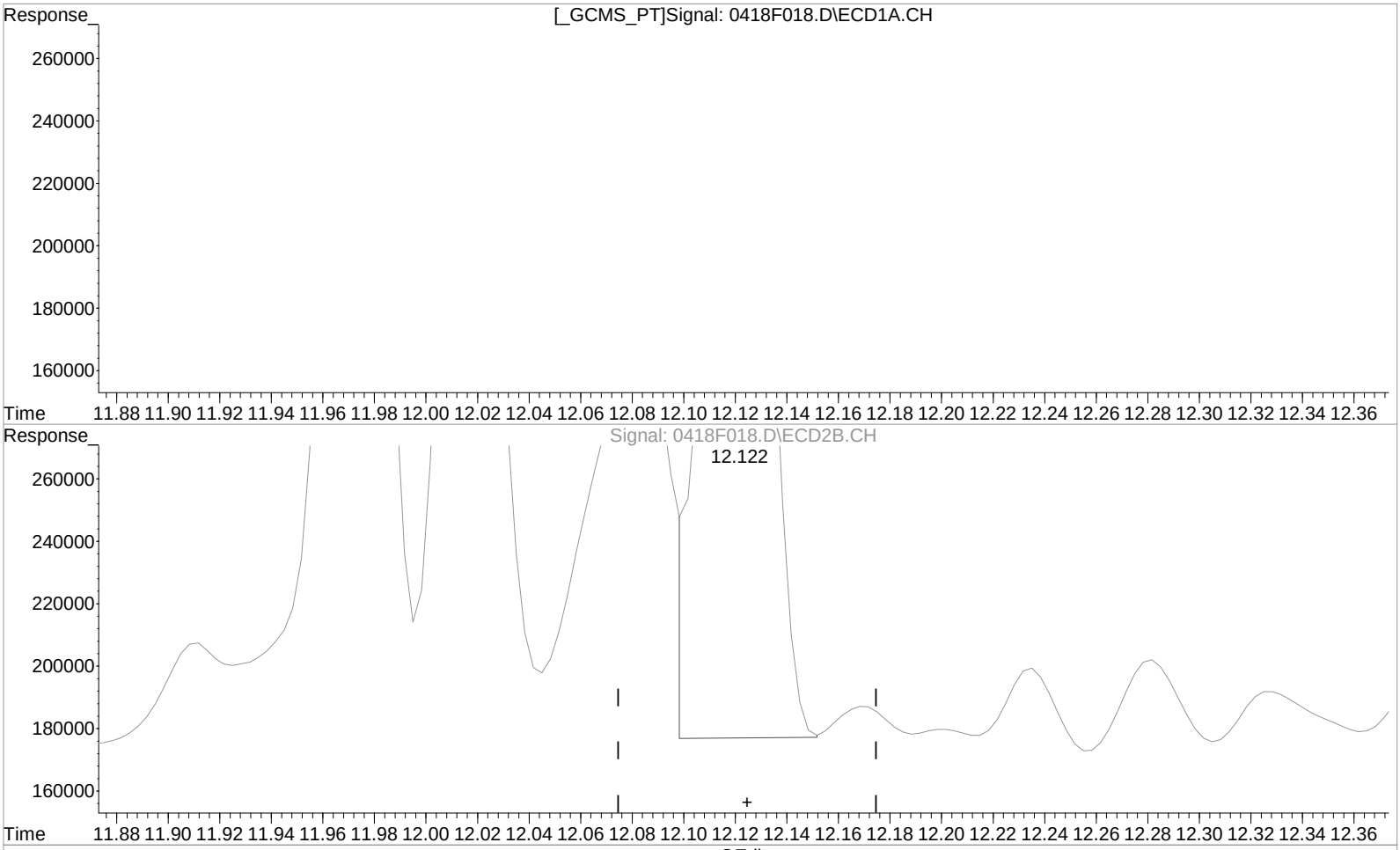
Quantitation Report (Qedit)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F018.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 3:59 am Operator: LM
Sample : K2002652-001 T/C DMS Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 09:40:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(42) Chlordane {6}

13.611min 107.806 ug/L

response 141057

(42) Chlordane {6} #2

12.122min 94.951 ug/L m

response 612683

Manual Integration:

After

Baseline correction

04/21/20

(+) = Expected Retention Time

1st STM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F011.D\
Lab ID: KQ2005306-03
RunType: CCB
Matrix: Water

Date Acquired: 4/19/20 00:32:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.20			SA
	1-Bromo-2-nitrobenzene {2}	6.20			
	1-Bromo-2-nitrobenzene {3}	6.20			
	1-Bromo-2-nitrobenzene {4}	6.20			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.49			
	1-Bromo-2-nitrobenzene {2}	5.49			
	1-Bromo-2-nitrobenzene {3}	5.49			
	1-Bromo-2-nitrobenzene {4}	5.49			

Primary Review: _____

Secondary Review: _____

1st SM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F011.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 00:32:00	**Vial:**	3
Run Type:	CCB	**Dilution:**	1
Lab ID:	KQ2005306-03	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**		**Report Group:**	KQ2005306
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	c	5.49	c	1106434	4701175	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	c	5.49	c	1106434	4701175	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	c	5.49	+0.0 c	1106434	4701175	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000				14 - 160	Y
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000				30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00	0.00	0	0	0.000	0.000	0U	0U	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					0	2.374	0U	12U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F011.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 00:32:00	**Vial:**	3
Run Type:	CCB	**Dilution:**	1
Lab ID:	KQ2005306-03	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	13.37 -0.02	0	2480	0.000	2.374	0	12		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/28/20

Data File : J:\GC23\data\041820\0418F011.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:32 am Operator: LM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 08:56:32 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.204	5.488	1106434	4701175	100.000	100.000	
29)	1-Bromo-2...	6.204	5.488	1106434	4701175	100.000	100.000	
36)	1-Bromo-2...	6.204	5.488	1106434	4701175	100.000	100.000	
43)	1-Bromo-2...	6.204	5.488	1106434	4701175	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
26)	2,4'-DDD	0.000	12.828f	0	4104	N.D.	0.109	#
30)	Toxaphene	0.000	13.368	0	2480	N.D.	2.374	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

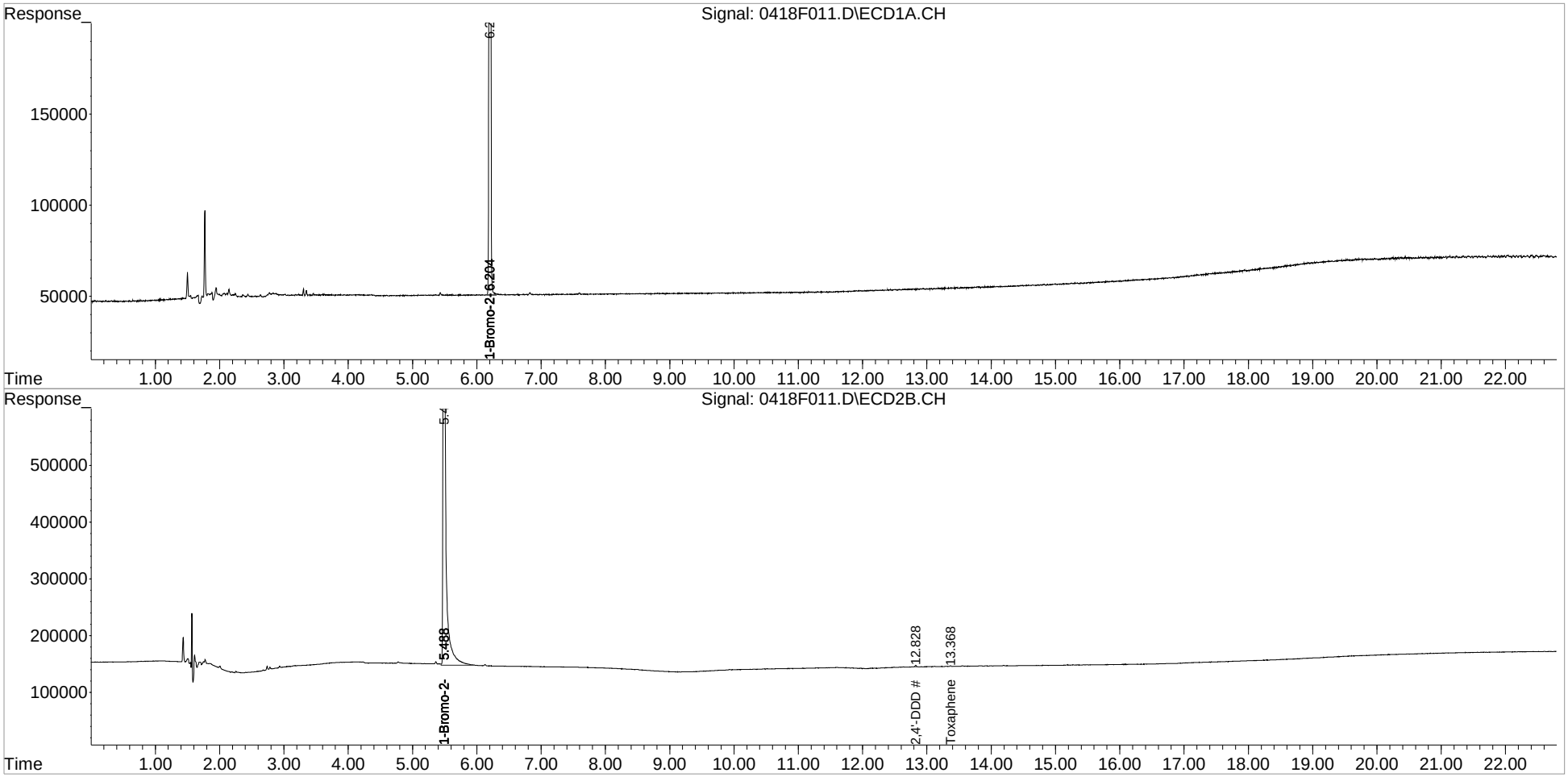
1st 04/21/20
2nd 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F011.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:32 am Operator: LM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 08:56:32 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



1st SM 04/22/20
2nd TP 04/23/20

Validation Report

Data File: J:\GC23\data\041820\0418F033.D\
Lab ID: KQ2005305-03
RunType: CCB
Matrix: Water

Date Acquired: 4/19/20 11:24:00
Batch ID: 677289
Analysis Method: 8081B/Pest OC LL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.19			SA
	1-Bromo-2-nitrobenzene {2}	6.19			
	1-Bromo-2-nitrobenzene {3}	6.19			
	1-Bromo-2-nitrobenzene {4}	6.19			
Analyte Coelutions - DB-35MS	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Secondary Review: _____

1st STM 04/22/20
2nd TP 04/23/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F033.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 11:24:00	**Vial:**	3
Run Type:	CCB	**Dilution:**	1
Lab ID:	KQ2005305-03	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC LL	**Collect Date:**	4/2/20	**Receive Date:**	4/3/20

Analysis Lot:	677289	**Prep Lot:**		**Report Group:**	KQ2005305
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Low Level Organochlorine Pesticides by GC	**Calibration ID:**	KC2000190
		Report List ID:	21312

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19 -0.0 c	5.48 -0.0 c	1141300	4966079	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000				14 - 160	Y
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000				30 - 148	Y

Target Compounds

Final Conc.Units: ug/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Endosulfan I	0.00	0.00	0	0	0.000	0.000	0U	0U	0.00095 U	Y
Endosulfan II	0.00	13.54 -0.01	0	23914	0.000	0.381	0U	0.019	0.0013 U	Y
Endosulfan Sulfate	0.00	0.00	0	0	0.000	0.000	0U	0U	0.0012 U	Y

Prep Amount:	100 mL	**Dilution:**	1
Prep Final Amount:	5.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 18:08
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/22/20
2nd TP 04/23/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F033.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 11:24:00	**Vial:**	3
Run Type:	CCB	**Dilution:**	1
Lab ID:	KQ2005308-03	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**		**Report Group:**	KQ2005308
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19 -0.0℄	5.48 -0.0℄	1141300	4966079	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.19 -0.0℄	5.48 -0.0℄	1141300	4966079	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.19 -0.0℄	5.48 c	1141300	4966079	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000				14 - 160	Y
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000				30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00	0.00	0	0	0.000	0.000	0U	0U	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					0	0	0U	0U	49 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/22/20
2nd TP 04/23/20

Data File:	J:\GC23\data\041820\0418F033.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 11:24:00	**Vial:**	3
Run Type:	CCB	**Dilution:**	1
Lab ID:	KQ2005308-03	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st 04/21/20
2nd 04/23/20

Data File : J:\GC23\data\041820\0418F033.D Vial: 27
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 11:24 am Operator: LM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:33:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.195	5.482	1141300	4966079	100.000	100.000	
29)	1-Bromo-2...	6.195	5.482	1141300	4966079	100.000	100.000	
36)	1-Bromo-2...	6.195	5.482	1141300	4966079	100.000	100.000	
43)	1-Bromo-2...	6.195	5.482	1141300	4966079	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
18)	Endosulfa...	0.000	13.542	0	23914	N.D.	0.381	#
22)	4,4'-DDT	0.000	13.822	0	9359	N.D.	0.185	#
23)	Endrin Ke...	16.201f	0.000	2224	0	0.117	N.D.	d#
24)	Methoxychlor	15.875	0.000	7008	0	0.808	N.D.	#
26)	2,4'-DDD	0.000	12.822	0	6059	N.D.	0.152	#
27)	2,4'-DDT	14.471f	0.000	8624	0	0.697	N.D.	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

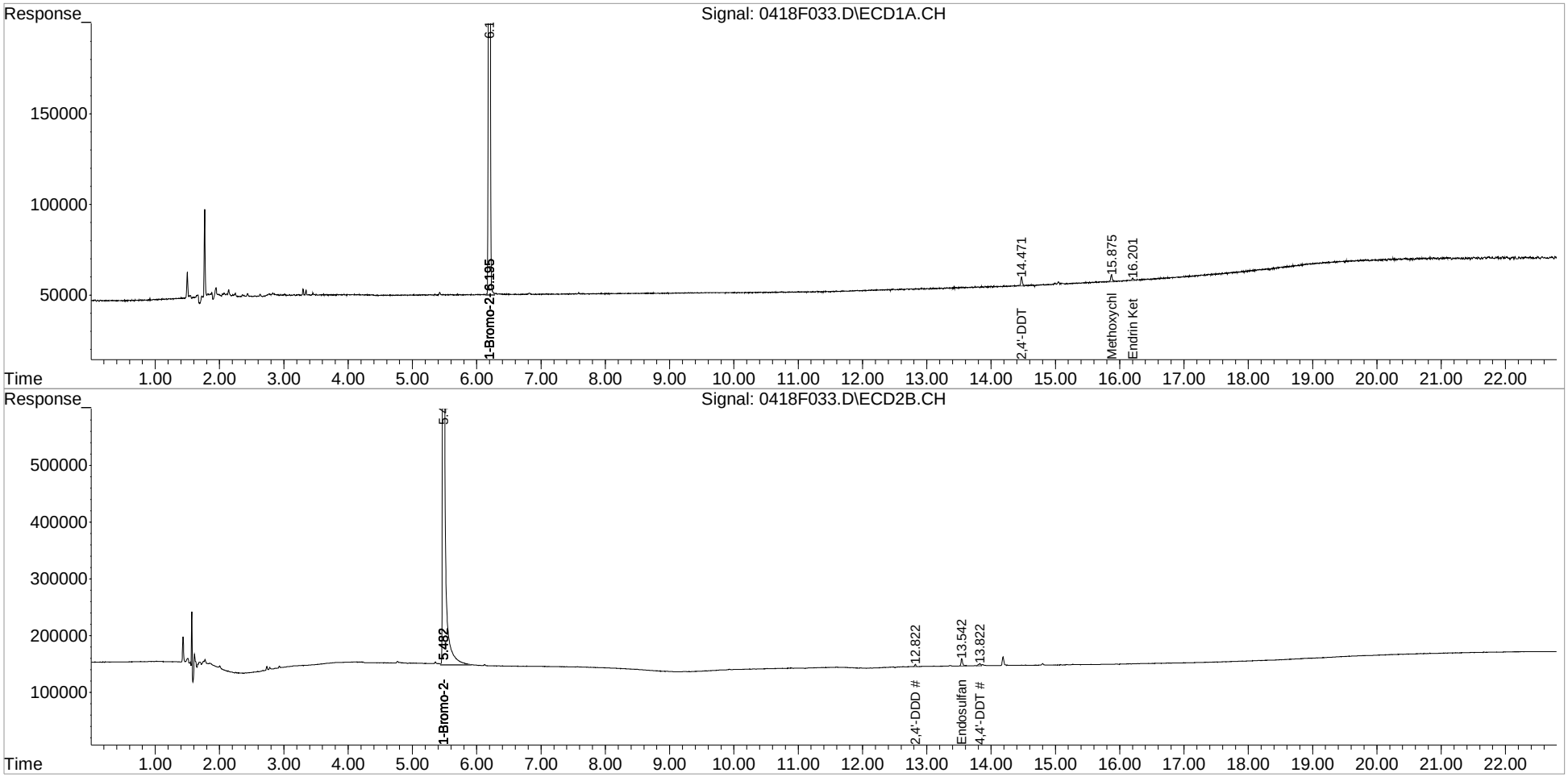
1st 04/21/20
2nd 04/23/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F033.D Vial: 27
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 11:24 am Operator: LM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 21 12:33:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Mon Apr 13 10:42:12 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



1st LM 04/24/20
2nd UA 04/24/20

Validation Report

Data File: J:\GC23\data\042220\0422F031.D\
Lab ID: KQ2005501-03
RunType: CCB
Matrix: Water

Date Acquired: 4/23/20 01:50:00
Batch ID: 677799
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.19			
	1-Bromo-2-nitrobenzene {2}	6.19			
	1-Bromo-2-nitrobenzene {3}	6.19			
	1-Bromo-2-nitrobenzene {4}	6.19			
Analyte Coelutions - DB-35MS	cis-Chlordane	12.15			
	2,4'-DDT	13.21			
	Endosulfan I	12.15			
	cis-Nonachlor	13.21			
	1-Bromo-2-nitrobenzene	5.48			
	1-Bromo-2-nitrobenzene {2}	5.48			
	1-Bromo-2-nitrobenzene {3}	5.48			
	1-Bromo-2-nitrobenzene {4}	5.48			

Primary Review: _____

Printed: 4/25/20 8:09
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st LM 04/24/20
2nd UA 04/24/20

Quantitation Report

Data File:	J:\GC23\data\042220\0422F031.D\	**Instrument:**	K-GC-23
Acqu Date:	4/23/20 01:50:00	**Vial:**	3
Run Type:	CCB	**Dilution:**	1
Lab ID:	KQ2005557-03	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	II	**Matrix:**	Sediment
Prod Code:	Pest OC LL	**Collect Date:**	4/1/20	**Receive Date:**	4/1/20

Analysis Lot:	677930	**Prep Lot:**		**Report Group:**	KQ2005557
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Low Level Organochlorine Pesticides by GC	**Calibration ID:**	KC2000190
		Report List ID:	20324

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19 c	5.48 c	796236	3778269	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.19 +0.01 c	5.48 +0.01 c	796236	3778269	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000				70 - 130	Y
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000				70 - 130	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.59 U	Y
alpha-BHC	0.00	8.48 -0.01	0	1711	0.000	0.029	0U	0.15U	0.29 U	Y
beta-BHC	0.00	9.76 -0.01	0	1888	0.000	0.066	0U	0.33J	0.27 U	Y
delta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.28 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.31 U	Y
cis-Chlordane	0.00	12.15 +0.01 c	0	1236	0.000	0.022	0U	0.11U	0.41 U	Y
trans-Chlordane	0.00	11.95 -0.02	0	1734	0.000	0.031	0U	0.16U	0.38 U	Y
4,4'-DDD	0.00	13.39 +0.02	0	931	0.000	0.023	0U	0.12U	0.60 U	Y
4,4'-DDE	0.00	12.52 +0.04	0	1997	0.000	0.037	0U	0.19U	0.40 U	Y
4,4'-DDT	0.00	0.00	0	0	0.000 CCV	0.000	0U	0U	0.61 U	Y
Dieldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.22 U	Y
Endosulfan I	0.00	12.15 -0.01 c	0	1236	0.000	0.024	0U	0.12U	0.37 U	Y
Endosulfan II	0.00	13.56 +0.02	0	1192	0.000	0.025	0U	0.13U	0.69 U	Y
Endosulfan Sulfate	0.00	14.26 +0.03	0	948	0.000	0.020	0U	0.10U	0.99 U	Y
Endrin	0.00	13.15 +0.04	0	870	0.000	0.016	0U	0.080U	0.32 U	Y
Endrin Aldehyde	0.00	13.91	0	1345	0.000	0.034	0U	0.17U	0.89 U	Y
Endrin Ketone	0.00	0.00	0	0	0.000	0.000	0U	0U	0.45 U	Y
Heptachlor	0.00	9.92	0	1566	0.000	0.026	0U	0.13U	0.39 U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 12:17
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Data File:	J:\GC23\data\042220\0422F031.D\	**Instrument:**	K-GC-23
Acqu Date:	4/23/20 01:50:00	**Vial:**	3
Run Type:	CCB	**Dilution:**	1
Lab ID:	KQ2005557-03	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.66 U	Y
Methoxychlor	0.00	0.00	0	0	0.000[CCV]	0.000	0U	0U	0.71 U	Y
Toxaphene					0	0	0U	0U	34 U	Y
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0	0		

Prep Amount:	2 g	**Dilution:**	1
Prep Final Amount:	10.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F031.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 1:50 am Operator: LM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:12:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.186	5.477	796236	3778269	100.000	100.000	
29)	1-Bromo-2...	6.186	5.477	796236	3778269	100.000	100.000	
36)	1-Bromo-2...	6.186	5.477	796236	3778269	100.000	100.000	
43)	1-Bromo-2...	6.186	5.477	796236	3778269	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
3)	alpha-BHC	0.000	8.480f	0	1711	N.D.	0.029	#
5)	beta-BHC	0.000	9.763	0	1888	N.D.	0.066	#
8)	Heptachlor	0.000	9.917	0	1566	N.D.	0.026	#
12)	gamma-Chl...	0.000	11.953	0	1734	N.D.	0.031	#
13)	Endosulfan I	0.000	12.147f	0	1236	N.D.	0.024	#
14)	alpha-Chl...	0.000	12.147f	0	1236	N.D.	0.022	#
16)	4,4'-DDE	0.000	12.517f	0	1997	N.D.	0.037	#
17)	Endrin	0.000	13.153f	0	870	N.D.	0.016	#
18)	Endosulfa...	0.000	13.563	0	1192	N.D.	0.025	#
19)	4,4'-DDD	0.000	13.390	0	931	N.D.	0.023	#
20)	Endrin Al...	0.000	13.907	0	1345	N.D.	0.034	#
21)	Endosulfa...	0.000	14.263f	0	948	N.D.	0.020	#
27)	2,4'-DDT	0.000	13.213	0	1085	N.D.	0.033	#
44)	Chlorpyrifos	0.000	10.950f	0	1510	N.D.	0.064	#
46)	cis-Nonac...	0.000	13.213	0	1085	N.D.	0.019	#
49)	HCE	0.000	3.427	0	2002	N.D.	0.023	#
52)	Perthane	0.000	12.873	0	1105	N.D.	0.798	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

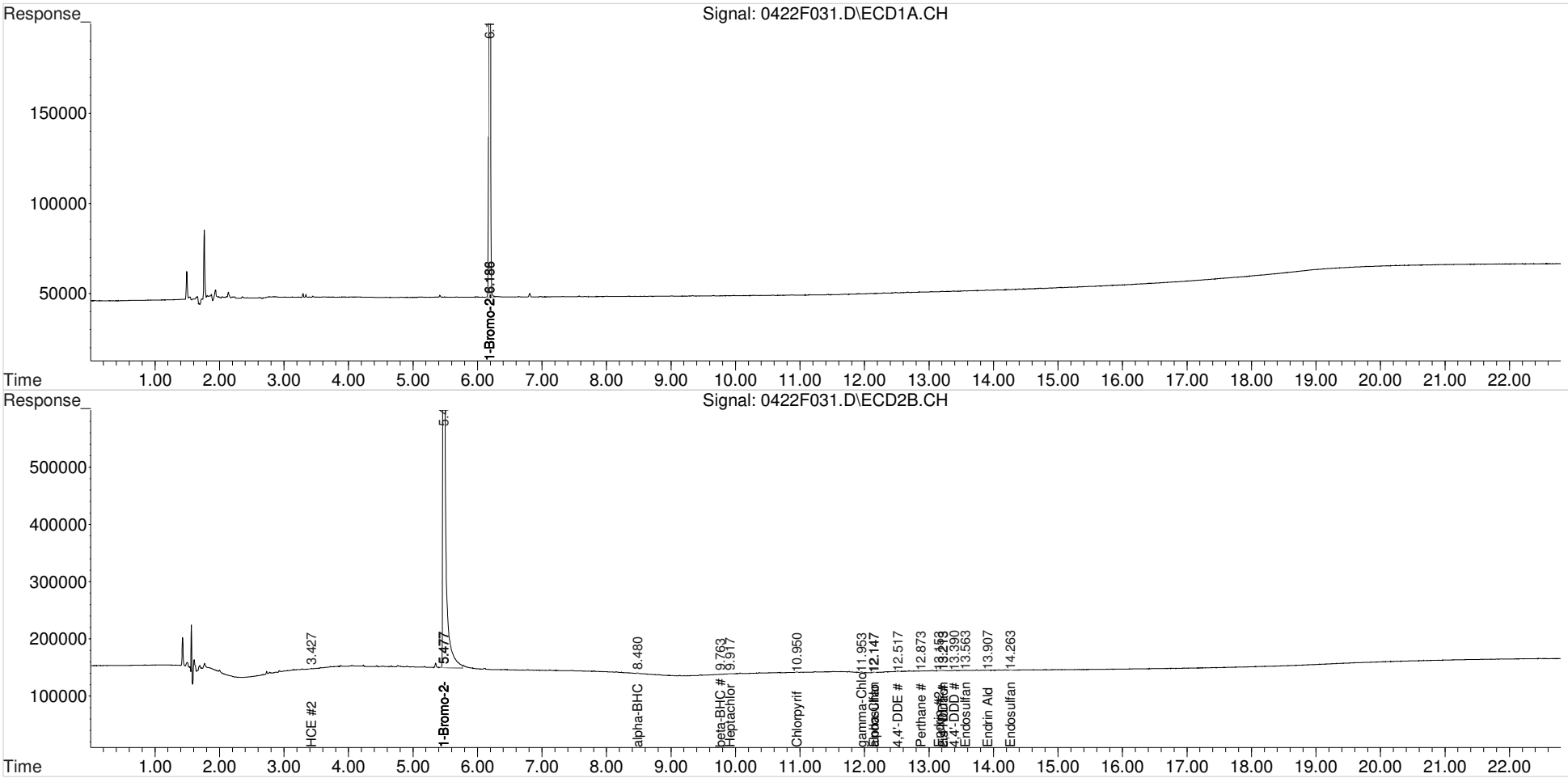
1st LM 04/24/20
2nd UA 04/24/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042220\0422F031.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 1:50 am Operator: LM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:12:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



1st STM 04/25/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\042420B\0424F026.D\
Lab ID: KQ2005597-03
RunType: CCB
Matrix: Water

Date Acquired: 4/25/20 05:42:00
Batch ID: 678037
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions - DB XLB	1-Bromo-2-nitrobenzene	6.19			SA
	1-Bromo-2-nitrobenzene {2}	6.19			
	1-Bromo-2-nitrobenzene {3}	6.19			
	1-Bromo-2-nitrobenzene {4}	6.19			
Analyte Coelutions - DB-35MS	Endosulfan II	13.53			CEND
	Toxaphene {3}	13.53			CEND
	1-Bromo-2-nitrobenzene	5.47			SA
	1-Bromo-2-nitrobenzene {2}	5.47			
	1-Bromo-2-nitrobenzene {3}	5.47			
	1-Bromo-2-nitrobenzene {4}	5.47			

Primary Review: _____

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/26/20
2nd TP 04/28/20

Exception Report

Data File: J:\GC23\DATA\042420B\0424F026.D
Lab ID: KWG2001203-4
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 04/25/2020 05:42
Date Quantitated: 04/25/2020 11:42
Batch ID: KWG2001203
Analysis Method: 8081B
MethodJoinID: MJ1689

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

1st SM 04/26/20
2nd TP 04/28/20

Exception Report

Data File: J:\GC23\DATA\042420B\0424F026.D\0424F026C.D
Lab ID: KWG2001203-4
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 04/25/2020 05:42
Date Quantitated: 04/25/2020 11:42
Batch ID: KWG2001203
Analysis Method: 8081B
MethodJoinID: MJ1689

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA		x
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	4,4'-DDD	-21.4	NA	20	ICVOK

Primary Review: _____

Secondary Review: _____

1st STM 04/25/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\042420B\0424F026.D\	**Instrument:**	K-GC-23
Acqu Date:	4/25/20 05:42:00	**Vial:**	1
Run Type:	CCB	**Dilution:**	1
Lab ID:	KQ2005597-03	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	678037	**Prep Lot:**		**Report Group:**	KQ2005597
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1		RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19	c	5.47	c	767692	3627982	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.19	c	5.47	c	767692	3627982	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.19	c	5.47	c	767692	3627982	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	% Rec	% Rec Criteria	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000				14 - 160	Y
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000				30 - 148	Y

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.77 U	Y
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.25 U	Y
beta-BHC	0.00	0.00	0	0	0.000	0.000	0U	0U	0.17 U	Y
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0U	0U	0.60 U	Y
Chlordane					0	0	0U	0U	3.8 U	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0	0		
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0	0		
Dieldrin	0.00	0.00	0	0	0.000	0.000	0U	0U	0.44 U	Y
Heptachlor	0.00	9.91	0	2542	0.000	0.045	0U	0.23U	0.61 U	Y
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0U	0U	0.29 U	Y
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0U	0U	0.27 U	Y
Toxaphene					16.339	14.4115	82J	72J	**72 J**	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/25/20
2nd TP 04/28/20

Data File:	J:\GC23\data\042420B\0424F026.D\	**Instrument:**	K-GC-23
Acqu Date:	4/25/20 05:42:00	**Vial:**	1
Run Type:	CCB	**Dilution:**	1
Lab ID:	KQ2005597-03	**Raw Units:**	ug/L

Target Compounds

Final Conc.Units: ng/L

Parameter Name	RT 1	RT 2		Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Primary Conc	Rpt?
Toxaphene {1}	14.70	13.36		2061	2608	16.339	3.235	82	16		i
Toxaphene {2}	0.00	0.00		0	0	0.000	0.000	0	0		
Toxaphene {3}	0.00	13.53	c	0	23960	0.000	25.588	0	130		
Toxaphene {4}	0.00	0.00		0	0	0.000	0.000	0	0		
Toxaphene {5}	0.00	0.00		0	0	0.000	0.000	0	0		
Toxaphene {6}	0.00	0.00		0	0	0.000	0.000	0	0		

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st SM 04/26/20
2nd TP 04/28/20

Quantitation Report

Data File #1:	J:\GC23\DATA\042420B\0424F026.D			**Instrument:**	GC23
Data File #2:	J:\GC23\data\042420B\0424F026.D\0424F026c.d			**Vial:**	5
Acqu Date:	04/25/2020 05:42	**Quant Date:**	04/25/2020 11:42	**Dilution:**	1.0
Run Type:	IB	**MethodJoinID:**	MJ1689	**Soln Conc. Units:**	ug/L
Lab ID:	KWG2001203-4				
Signal #1:	DB XLB	**Signal #2:**	DB-35MS		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLI
Prod Code:	8081B PEST OC L	**Collect Date:**		**Receive Date:**	04/25/2020

Analysis Lot:	KWG2001203	**Prep Lot:**		**Report Group:**	
Analysis Method:	8081B	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC23\METHODS\GC23-040620-	**Calibration ID:**	CAL16274
Title:			
MB Ref:		**Method ID:**	MJ1689
		Quant based on Method	

Internal Standard Compounds

IS #	Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ug/L #1	ug/L #2
1	1-Bromo-2-nitrobenzene	6.19	c	5.47	c	767692	3627982	100.00	100.00
2	1-Bromo-2-nitrobenzene {2}	6.19	c	5.47	c	767692	3627982	100.00	100.00
3	1-Bromo-2-nitrobenzene {3}	6.19	c	5.47	c	767692	3627982	100.00	100.00
4	1-Bromo-2-nitrobenzene {4}	6.19	c	5.47	c	767692	3627982	100.00	100.00

Surrogate Compounds

IS #	Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ug/L #1	ug/L #2			Rpt
1	Tetrachloro-m-xylene	0.00		0	0		0.0000			NA
				%Recovery =		NA	NA	**Limits =**	70-130	
1	Decachlorobiphenyl	0.00		0	0		0.0000			NA
				%Recovery =		NA	NA	**Limits =**	70-130	

Target Compounds

Final Conc. Units:

IS #	Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ug/L #1	ug/L #2	ug/Kg #1	ug/Kg #2	Rpt
1	alpha-BHC			0	0**d**	0.0000	0.0000			
1	Hexachlorobenzene			0	0	0.0000	0.0000			
1	beta-BHC			0	0**d**	0.0000	0.0000			
1	gamma-BHC (Lindane)			0	0	0.0000	0.0000			
1	delta-BHC			0	0	0.0000	0.0000			
1	Heptachlor		9.91	0	2542	0.0000	0.0450			
1	Aldrin			0	0	0.0000	0.0000			
1	Isodrin			0	0	0.0000	0.0000			
1	Heptachlor Epoxide			0	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

1st SM 04/26/20
2nd TP 04/28/20

Data File #1:	J:\GC23\DATA\042420B\0424F026.D			**Instrument:**	GC23
Data File #2:	J:\GC23\data\042420B\0424F026.D\0424F026c.d			**Vial:**	5
Acqu Date:	04/25/2020 05:42	**Quant Date:**	04/25/2020 11:42	**Dilution:**	1.0
Run Type:	IB	**MethodJoinID:**	MJ1689	**Soln Conc. Units:**	ug/L
Lab ID:	KWG2001203-4				
Signal #1:	DB XLB	**Signal #2:**	DB-35MS		

Target Compounds

Final Conc. Units:

IS #	Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ug/L #1	ug/L #2	ug/Kg #1	ug/Kg #2	Rpt
1	gamma-Chlordane			0	0	0.0000	0.0000			
1	Endosulfan I			0	0	0.0000	0.0000			
1	alpha-Chlordane			0	0	0.0000	0.0000			
1	Dieldrin			0	0	0.0000	0.0000			
1	4,4'-DDE			0	0**d**	0.0000	0.0000			
1	Endrin			0	0	0.0000	0.0000			
1	Endosulfan II		13.53	0	23960	0.0000	0.5230			
1	4,4'-DDD			0**d**	0**d**	0.0000	0.0000			
1	Endrin Aldehyde			0	0	0.0000	0.0000			
1	Endosulfan Sulfate			0	0	0.0000	0.0000			
1	4,4'-DDT		13.81	0	12315	0.0000	0.3330			
1	Endrin Ketone			0	0**d**	0.0000	0.0000			
1	Methoxychlor	15.86		24193	0	4.15	0.0000			
1	2,4'-DDE			0**d**	0	0.0000	0.0000			
1	2,4'-DDD			0	0**d**	0.0000	0.0000			
1	2,4'-DDT	14.46		7254	0	0.8720	0.0000			
	Toxaphene			0	0	16.34	14.41			
2	Toxaphene {1}	14.70	13.36	2061	2608	16.34	3.24			
2	Toxaphene {2}			0	0	0.0000	0.0000			
2	Toxaphene {3}		13.53	0	23960	0.0000	25.59			
2	Toxaphene {4}			0	0	0.0000	0.0000			
2	Toxaphene {5}			0	0	0.0000	0.0000			
2	Toxaphene {6}			0	0	0.0000	0.0000			
	Chlordane			0	0	0.0000	0.0000			
3	Chlordane {1}			0	0	0.0000	0.0000			
3	Chlordane {2}			0	0	0.0000	0.0000			
3	Chlordane {3}			0	0	0.0000	0.0000			
3	Chlordane {4}			0	0	0.0000	0.0000			
3	Chlordane {5}			0	0	0.0000	0.0000			
3	Chlordane {6}			0	0	0.0000	0.0000			
4	Chlorpyrifos			0	0	0.0000	0.0000			
4	Oxychlordane			0	0	0.0000	0.0000			
4	cis-Nonachlor			0**d**	0	0.0000	0.0000			
4	trans-Nonachlor			0	0	0.0000	0.0000			
4	Mirex			0	0	0.0000	0.0000			
4	Hexachloroethane			0	0	0.0000	0.0000			
4	Hexachlorobutadiene			0	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st SM 04/25/20
2nd TP 04/28/20

Data File : J:\GC23\data\042420B\0424F026.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 5:42 am Operator: SM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 11:42:35 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.187	5.471	767692	3627982	100.000	100.000	
29)	1-Bromo-2...	6.187	5.471	767692	3627982	100.000	100.000	
36)	1-Bromo-2...	6.187	5.471	767692	3627982	100.000	100.000	
43)	1-Bromo-2...	6.187	5.471	767692	3627982	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
8)	Heptachlor	0.000	9.914	0	2542	N.D.	0.045	#
18)	Endosulfa...	0.000	13.531	0	23960	N.D.	0.523	#
22)	4,4'-DDT	0.000	13.814f	0	12315	N.D.	0.333	#
24)	Methoxychlor	15.860	0.000	24193	0	4.145	N.D.	#
27)	2,4'-DDT	14.464f	0.000	7254	0	0.872	N.D.	#
30)	Toxaphene	14.704	13.361	2061	2608	16.339	3.235	#
32)	Toxaphene...	0.000	13.531f	0	23960	N.D.	25.588	#
52)	Perthane	0.000	12.858	0	788	N.D.	0.593	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

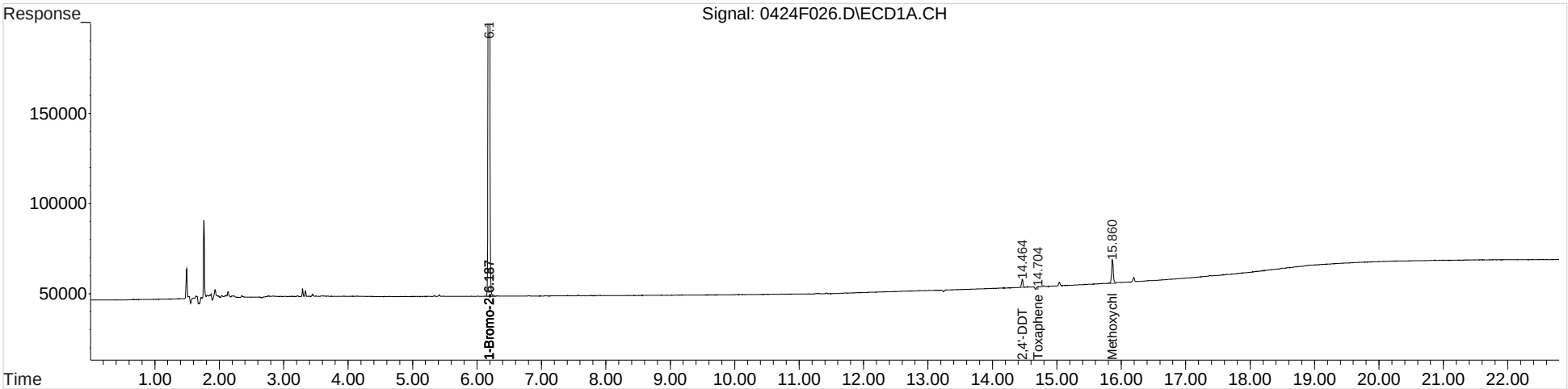
1st SM 04/25/20
2nd TP 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042420B\0424F026.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 5:42 am Operator: SM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 11:42:35 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F008.D\
Lab ID: KQ2005306-02
RunType: CCV
Matrix: Water

Date Acquired: 4/18/20 23:03:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards		X
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards - DB XLB	1-Bromo-2-nitrobenzene {2}	0	506950	2027798	NR
	1-Bromo-2-nitrobenzene {3}	0	504054	2016216	
Internal Standards - DB-35MS	1-Bromo-2-nitrobenzene {2}	0	2361365	9445458	
	1-Bromo-2-nitrobenzene {3}	0	2364940	9459758	

Primary Review: _____

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F008.D\	**Instrument:**	K-GC-23
Acqu Date:	4/18/20 23:03:00	**Vial:**	2
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005306-02	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**		**Report Group:**	KQ2005306
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	5.49	1188666	5022136	100.000	100.000
1-Bromo-2-nitrobenzene {2}	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {3}	0.00	0.00	0*	0*	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	18.67	17.06	39355	135846	1.861	1.678			Y
Tetrachloro-m-xylene	8.98	7.27	30783	107419	1.786	1.726			Y

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	12.21	10.52	36059	134711	1.892	1.702	1.89	1.70	Y
alpha-BHC	9.82	8.50	36819	133788	1.857	1.681	1.86	1.68	Y
beta-BHC	11.08	9.78	19257	67672	1.817	1.793	1.82	1.79	Y
gamma-BHC (Lindane)	10.49	9.24	35143	133152	1.834	1.719	1.83	1.72	Y
Chlordane					0	0	0	0	N
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Dieldrin	14.00	12.63	36036	129975	1.837	1.762	1.84	1.76	Y
Heptachlor	11.69	9.93	39472	144456	1.917	1.836	1.92	1.84	Y
Heptachlor Epoxide	12.93	11.60	38235	134096	1.908	1.728	1.91	1.73	Y
Hexachlorobenzene	9.98	8.28	42314	140766	1.802	1.761	1.80	1.76	Y
Toxaphene					0	0	0	0	N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F008.D\	**Instrument:**	K-GC-23
Acqu Date:	4/18/20 23:03:00	**Vial:**	2
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005306-02	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:26:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.199	5.486	1188666	5022136	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.976	7.266	30783	107419	1.786	1.726
28) s	Decachlor...	18.672	17.063	39355	135846	1.861m	1.678
	Target Compounds						
3)	alpha-BHC	9.819	8.500	36819	133788	1.857	1.681m
4)	Hexachlor...	9.982	8.283	42314	140766	1.802	1.761
5)	beta-BHC	11.079	9.780	19257	67672	1.817	1.793m
6)	gamma-BHC...	10.492	9.243	35143	133152	1.834	1.719
7)	delta-BHC	11.582	10.306	37089	134500	1.914	1.776
8)	Heptachlor	11.689	9.926	39472	144456	1.917	1.836
9)	Aldrin	12.212	10.516	36059	134711	1.892	1.702m
10)	Isodrin	12.746	11.313	32168	117387	1.968	1.772
11)	Heptachlo...	12.932	11.596	38235	134096	1.908	1.728
12)	gamma-Chl...	13.452	11.973	37846	129644	1.889	1.728
13)	Endosulfan I	13.582	12.190	34760	116606	1.902	1.725
14)	alpha-Chl...	13.532	12.123	37618	130693	1.886	1.720
15)	Dieldrin	14.002	12.633	36036	129975	1.837	1.762
16)	4,4'-DDE	13.806	12.483	33246	125396	1.812	1.765
17)	Endrin	14.372	13.116	34384	124192	1.921	1.769
18)	Endosulfa...	14.812	13.550	31922	108291	1.760	1.707
19)	4,4'-DDD	14.642	13.373	28066	98531	1.978	1.853
20)	Endrin Al...	14.996	13.913	29684	96968	1.888	1.846
21)	Endosulfa...	15.469	14.240	36334	111667	1.966	1.785
22)	4,4'-DDT	15.146	13.796	27249	101764	1.828	1.986
23)	Endrin Ke...	16.159	15.186	38791	133050	1.956	1.778
24)	Methoxychlor	15.892	14.910	16172	60436	1.789m	2.124
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

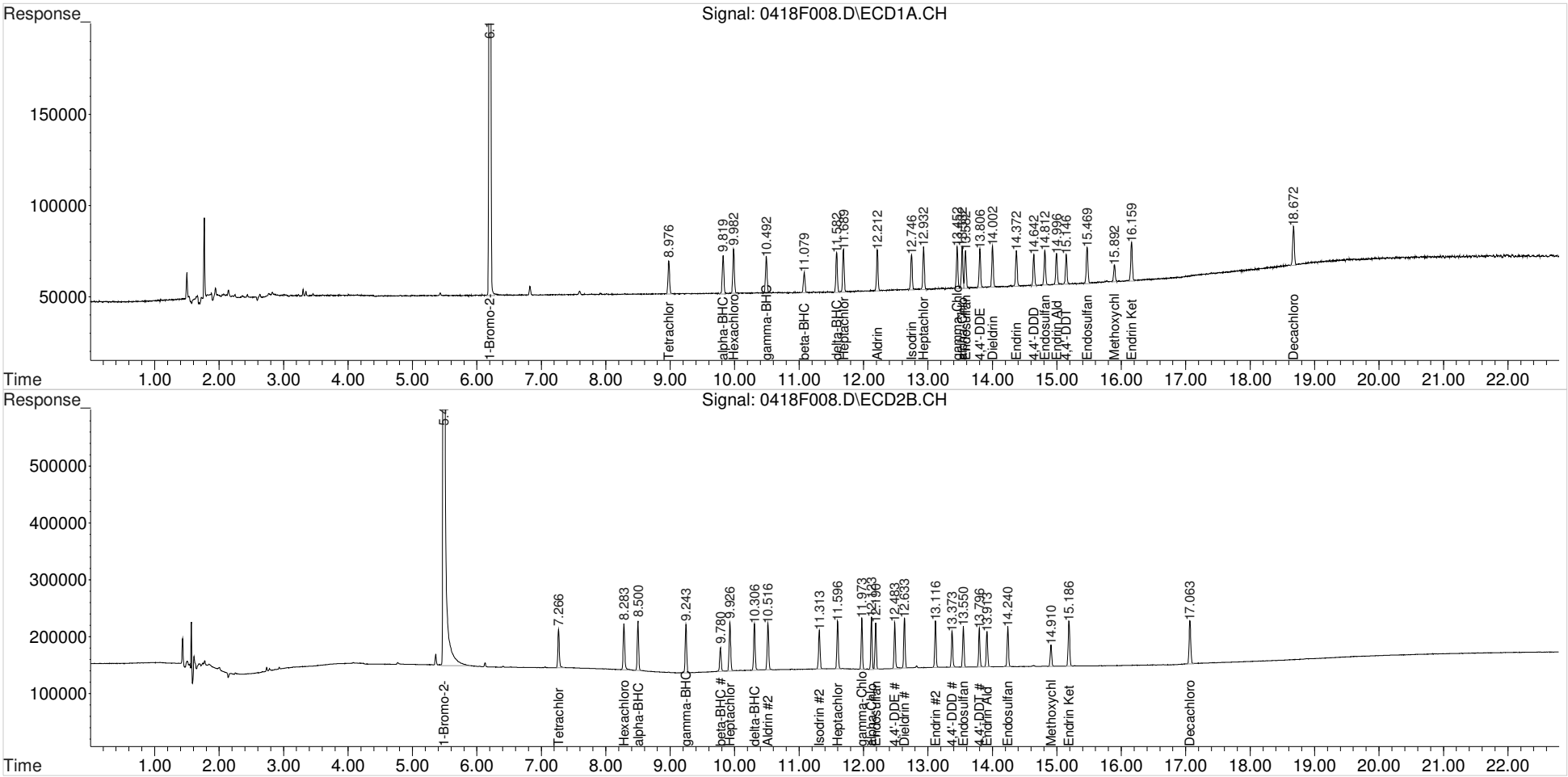
1st LM 04/20/20
2nd TP 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:26:15 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

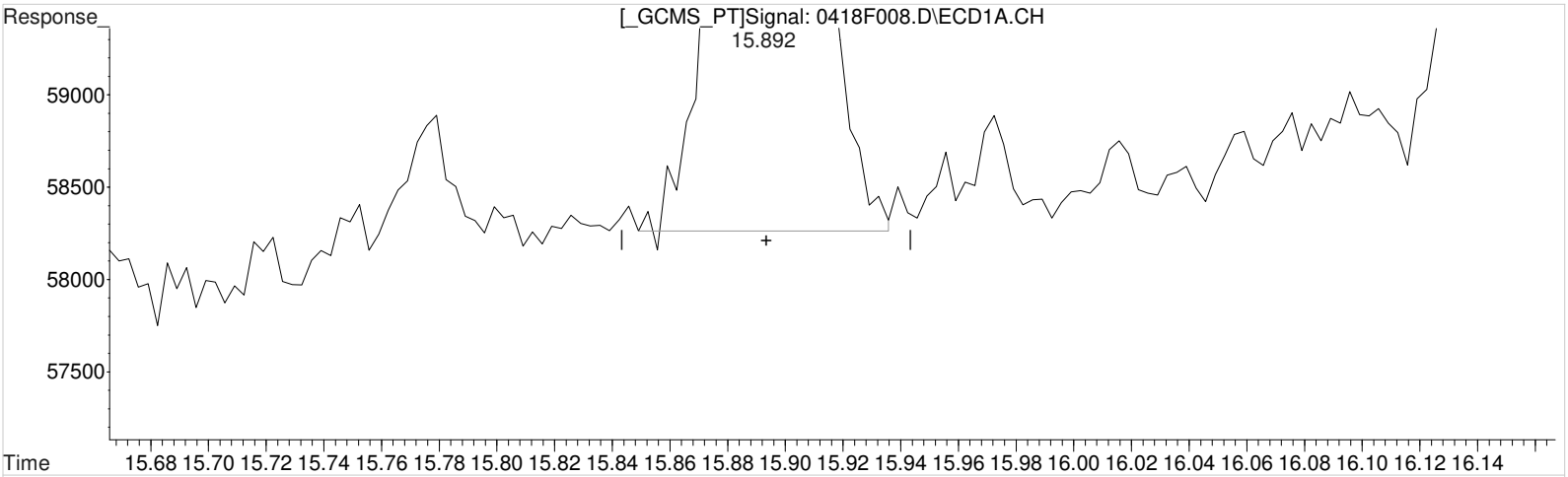


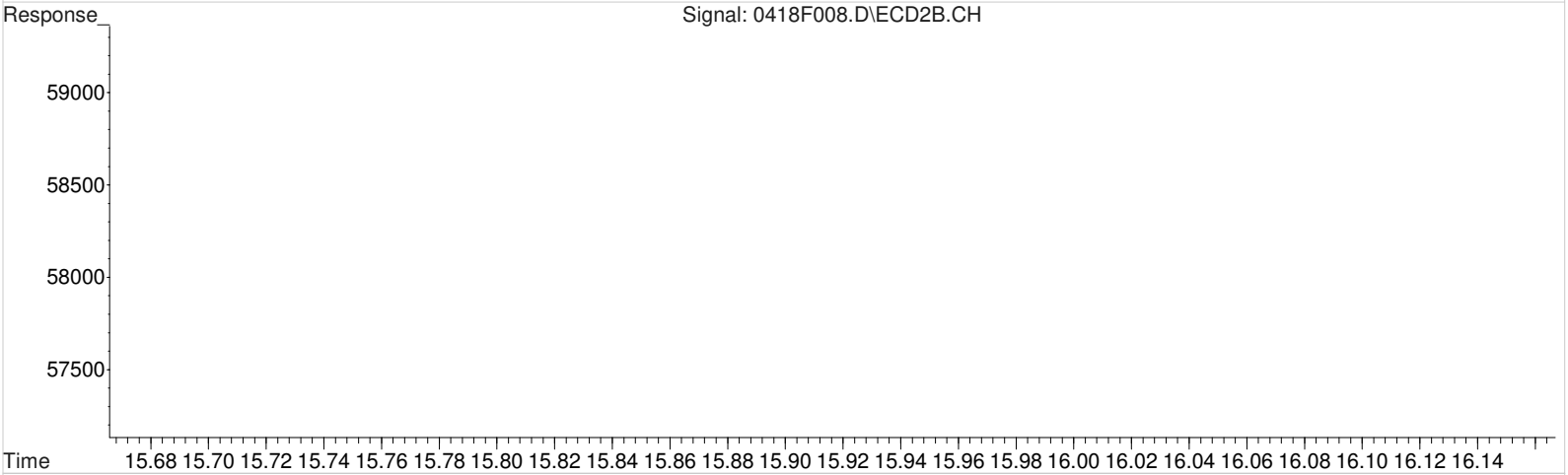
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.892min 1.790 ug/L

response 16179

Manual Integration:

Before

04/20/20

(24) Methoxychlor #2

14.910min 2.124 ug/L

response 60436

(+) = Expected Retention Time

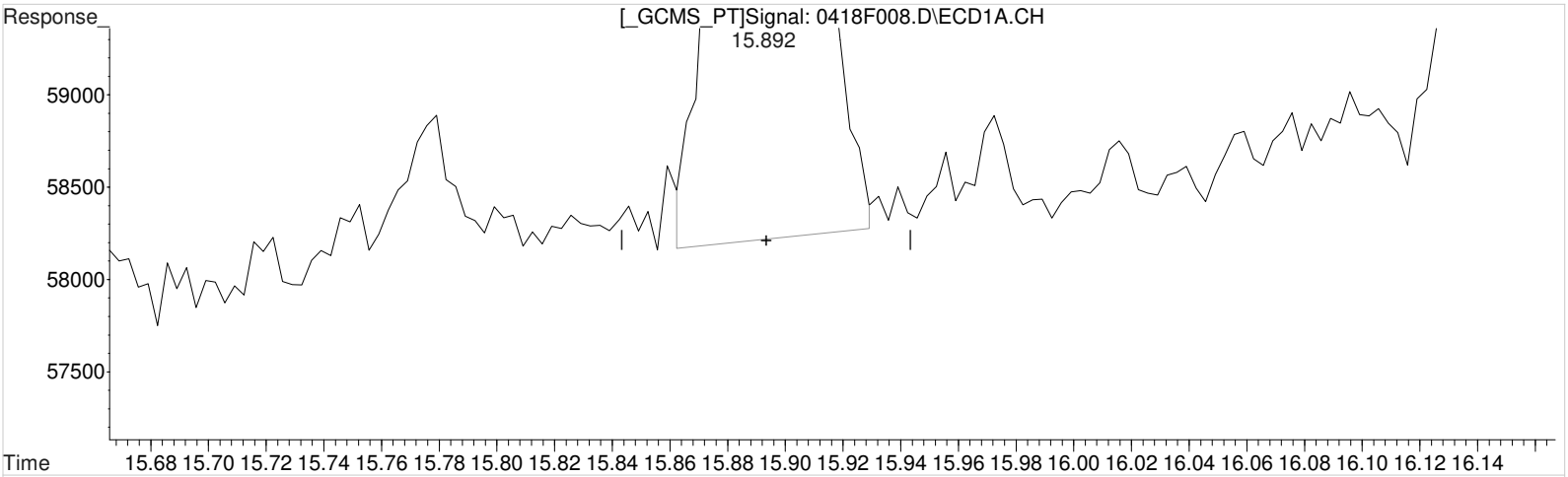
Quantitation Report (Qedit)

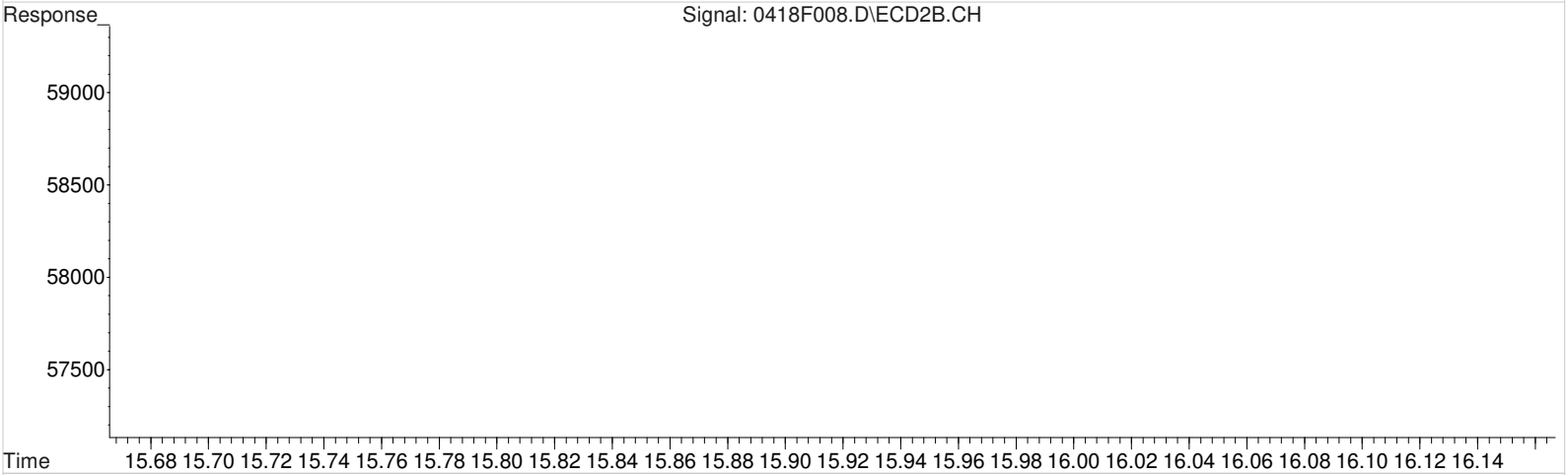
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.892min 1.789 ug/L m

response 16172

Manual Integration:

After

Baseline/Shoulder

04/20/20

(24) Methoxychlor #2

14.910min 2.124 ug/L

response 60436

(+) = Expected Retention Time

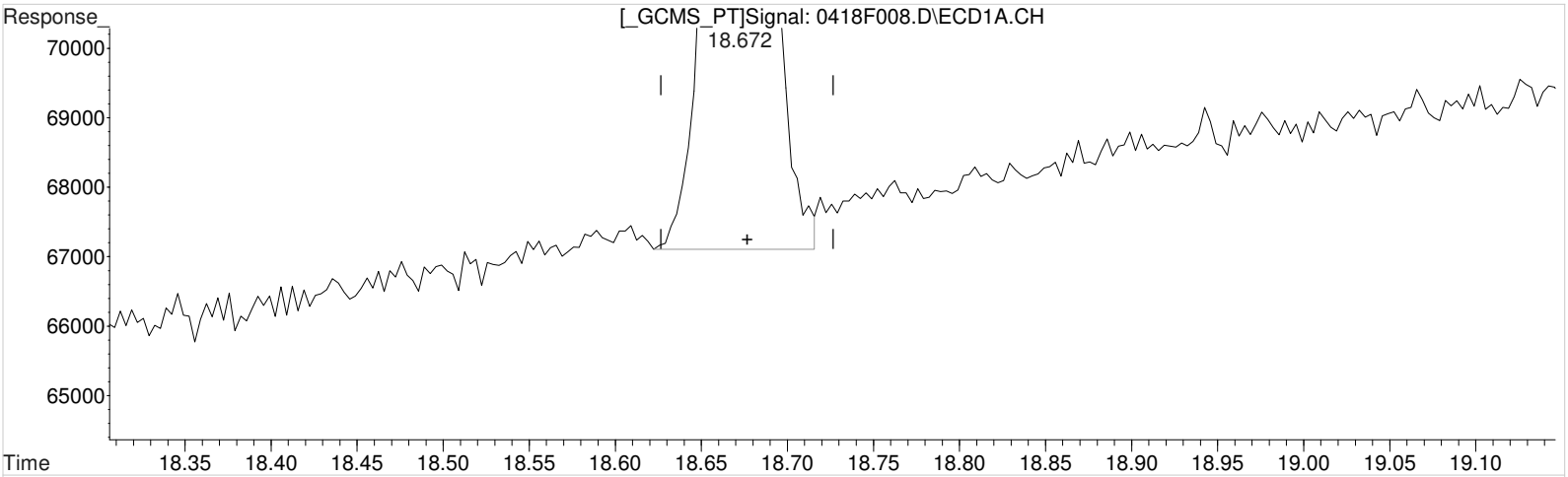
Quantitation Report (Qedit)

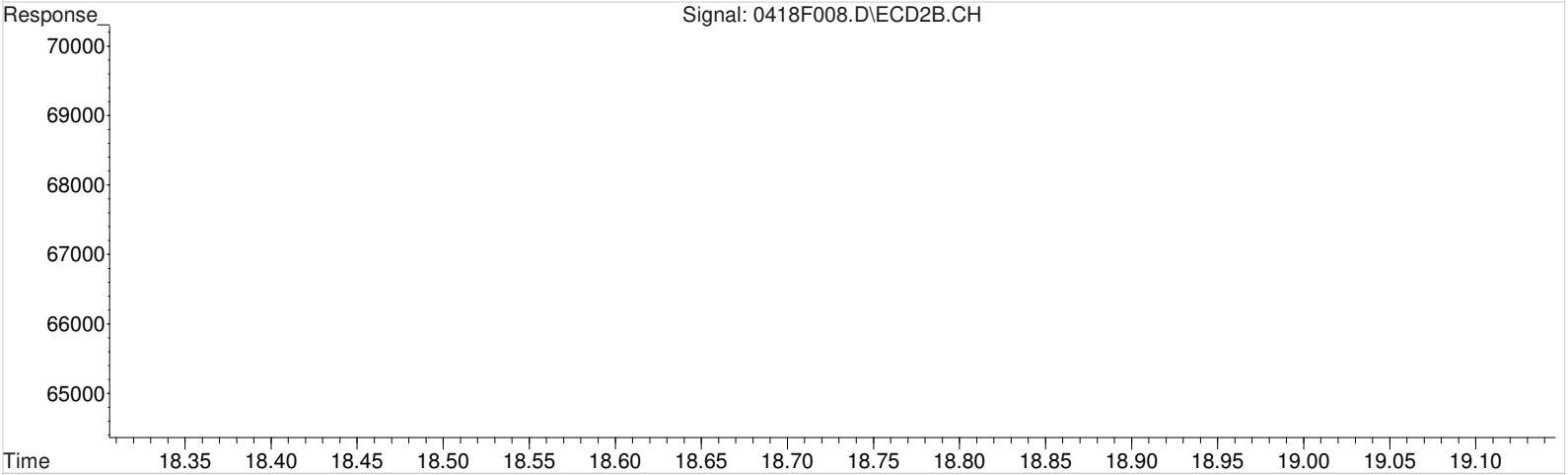
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.672min 1.920 ug/L

response 40619

Manual Integration:

Before

04/20/20

(28) Decachlorobiphenyl #2 (s)

17.063min 1.678 ug/L

response 135846

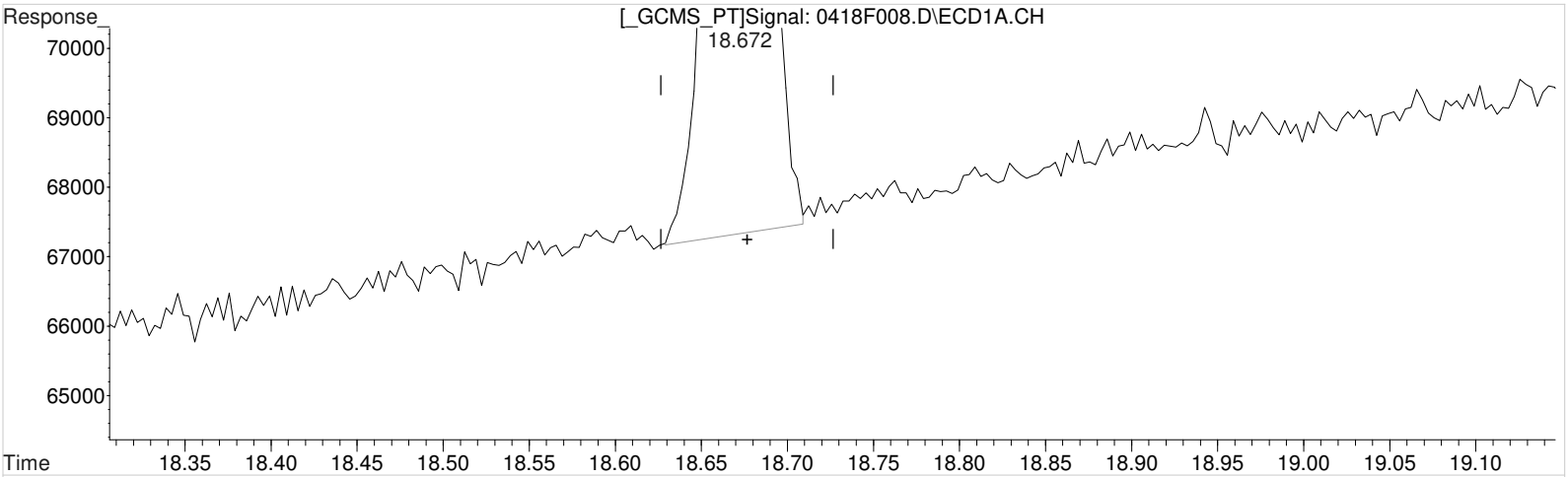
(+) = Expected Retention Time

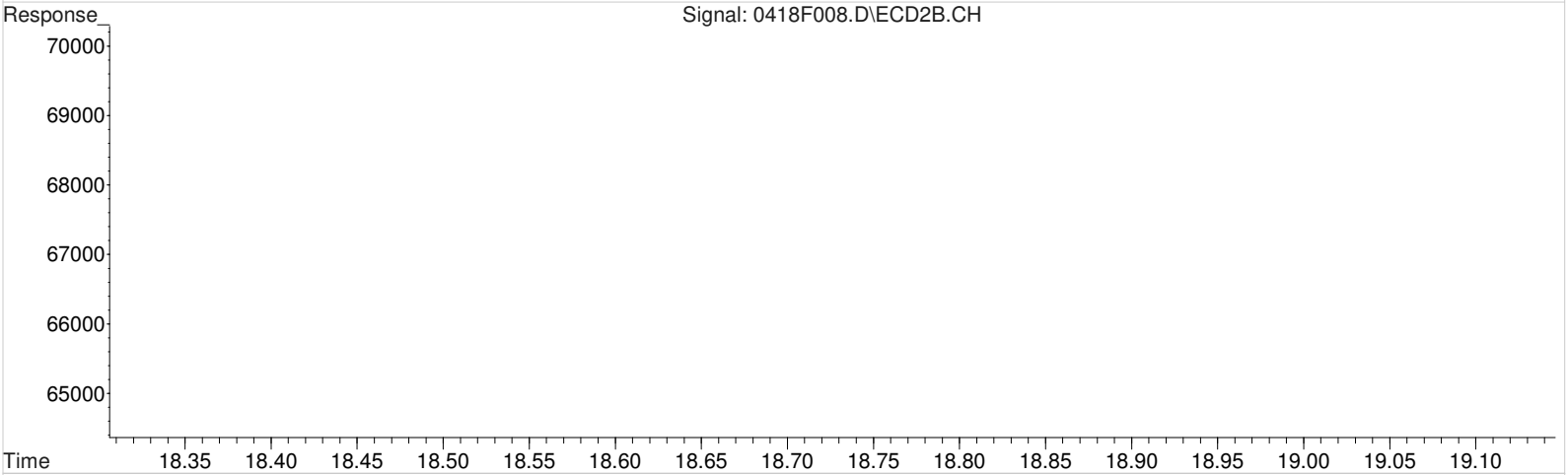
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.672min 1.861 ug/L m

response 39355

Manual Integration:

After

Baseline/Shoulder

04/20/20

(28) Decachlorobiphenyl #2 (s)

17.063min 1.678 ug/L

response 135846

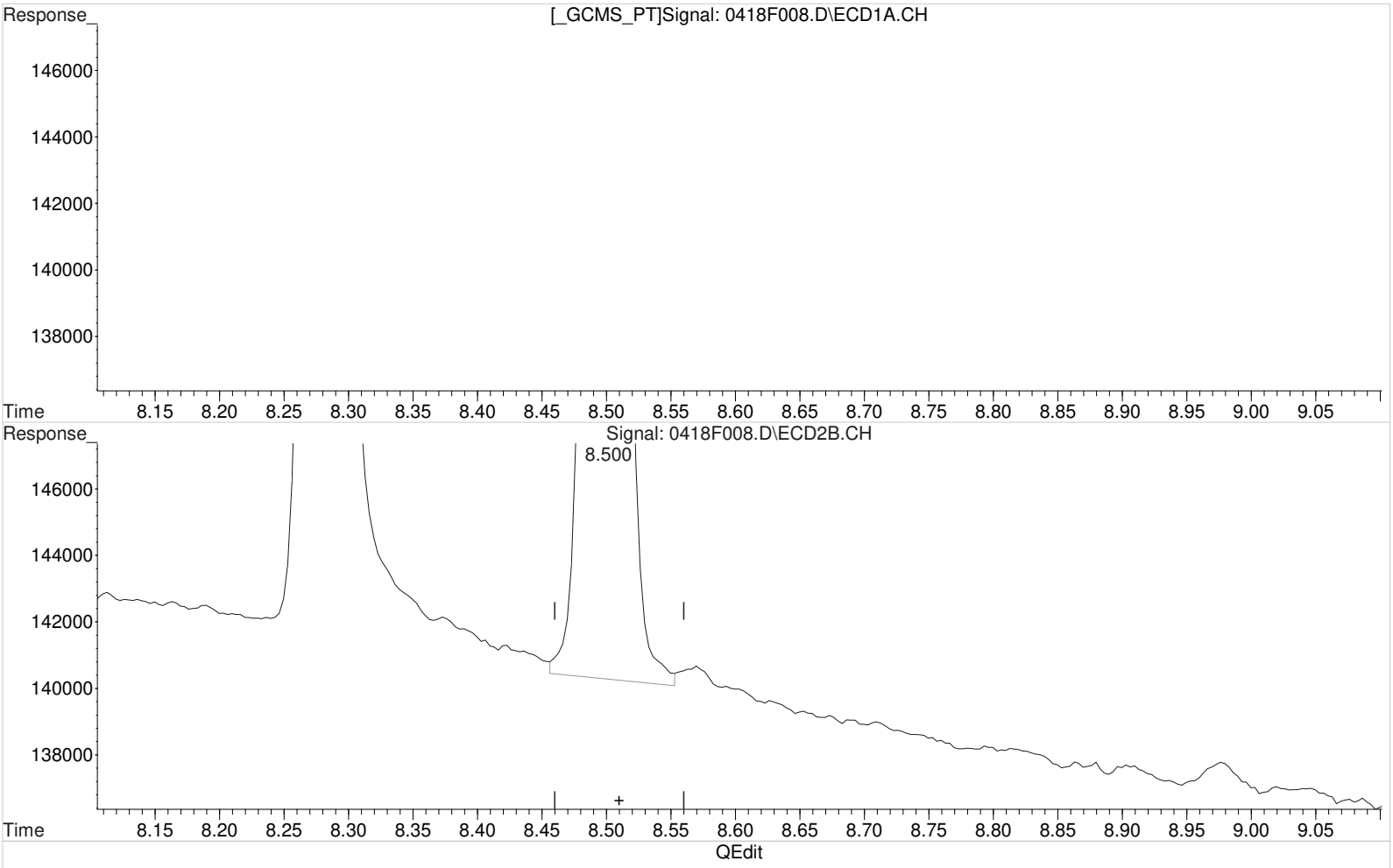
(+) = Expected Retention Time

1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(3) alpha-BHC

9.819min 1.857 ug/L

response 36819

Manual Integration:

Before

04/20/20

(3) alpha-BHC #2

8.500min 1.706 ug/L

response 135737

(+) = Expected Retention Time

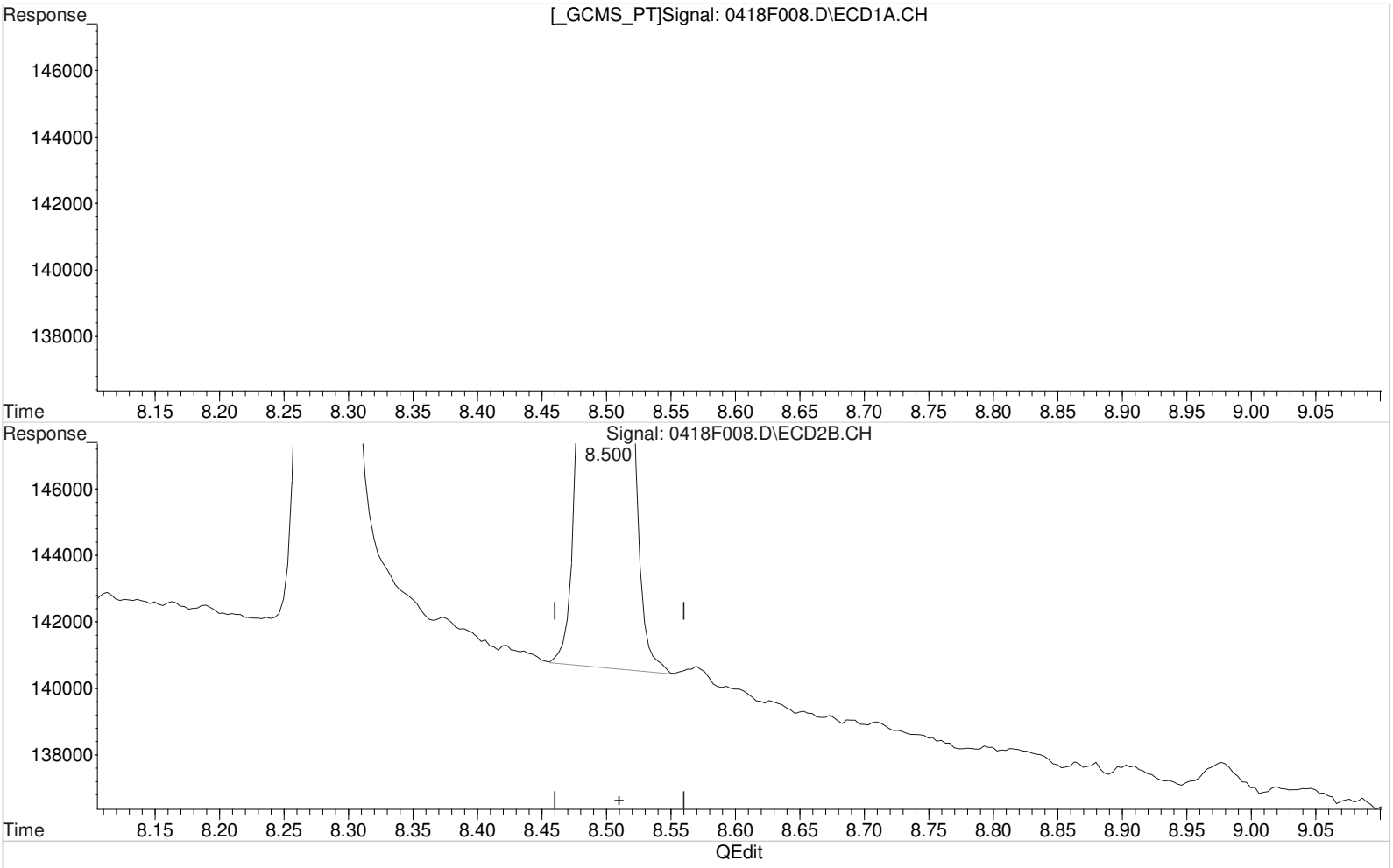
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(3) alpha-BHC

9.819min 1.857 ug/L

response 36819

Manual Integration:

After

Baseline/Shoulder

04/20/20

(3) alpha-BHC #2

8.500min 1.681 ug/L m

response 133788

(+) = Expected Retention Time

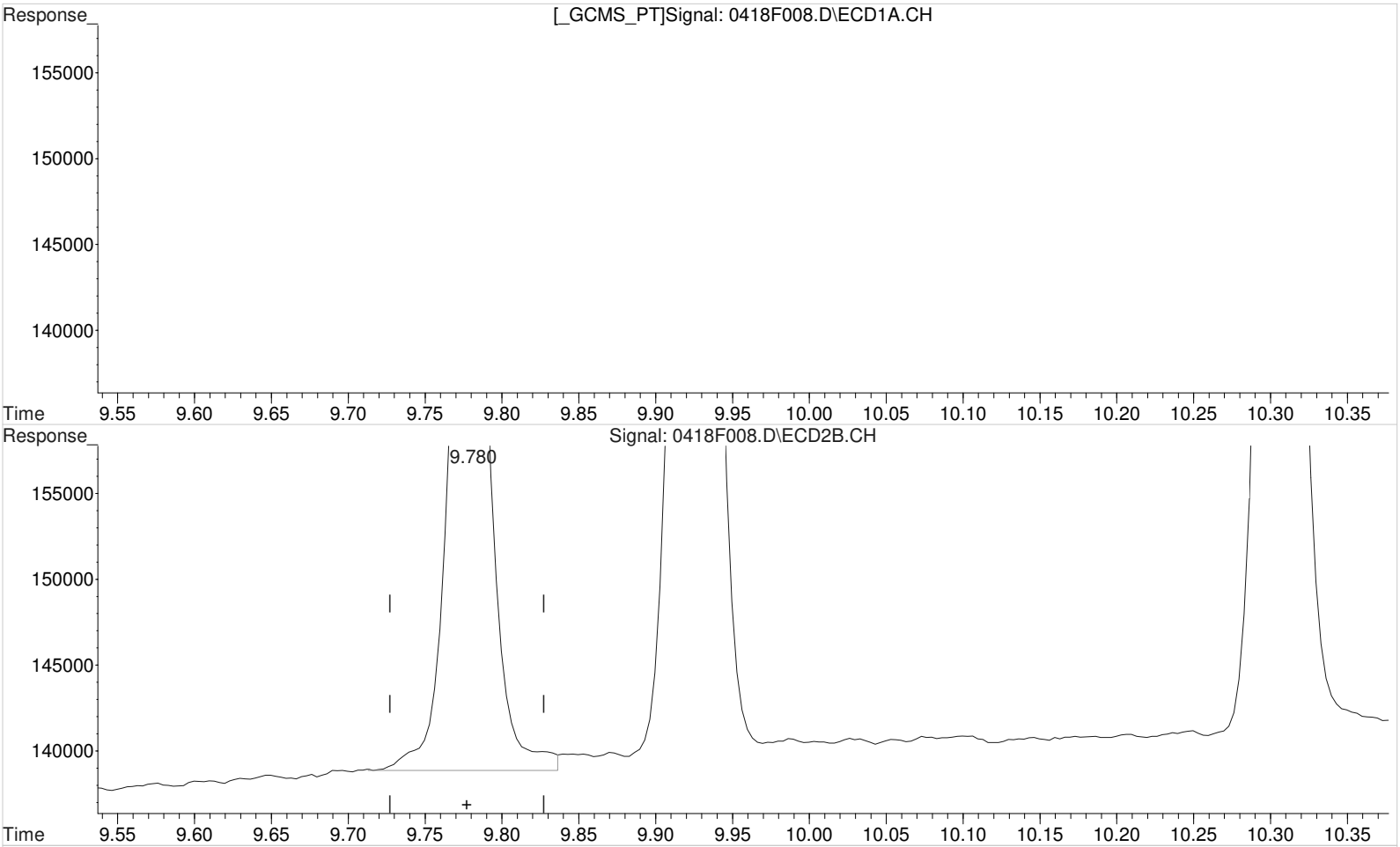
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.079min 1.817 ug/L

response 19257

(5) beta-BHC #2

9.780min 1.883 ug/L

response 71085

Manual Integration:

Before

04/20/20

(+) = Expected Retention Time

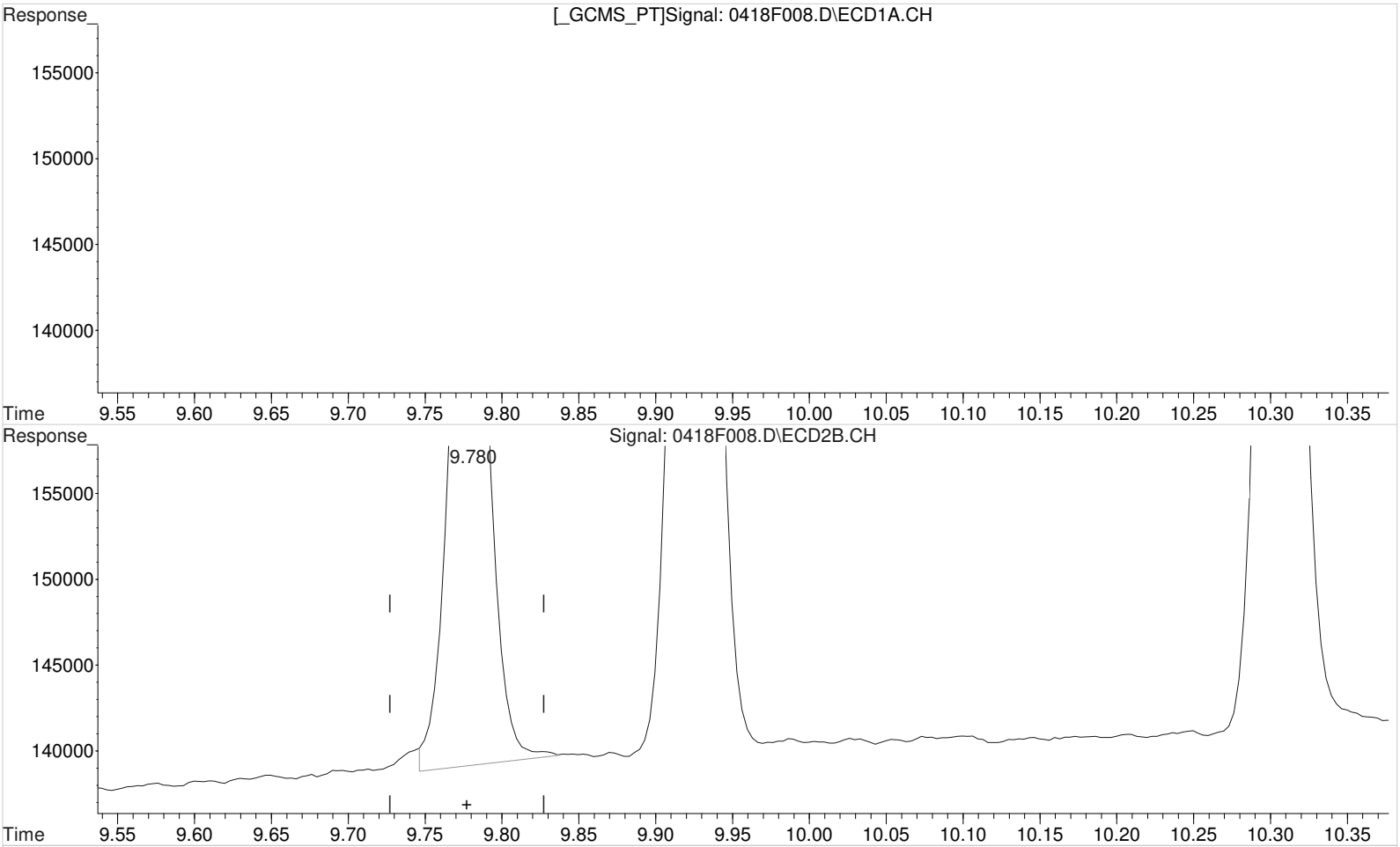
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.079min 1.817 ug/L

response 19257

Manual Integration:

After

Baseline/Shoulder

04/20/20

(5) beta-BHC #2

9.780min 1.793 ug/L m

response 67672

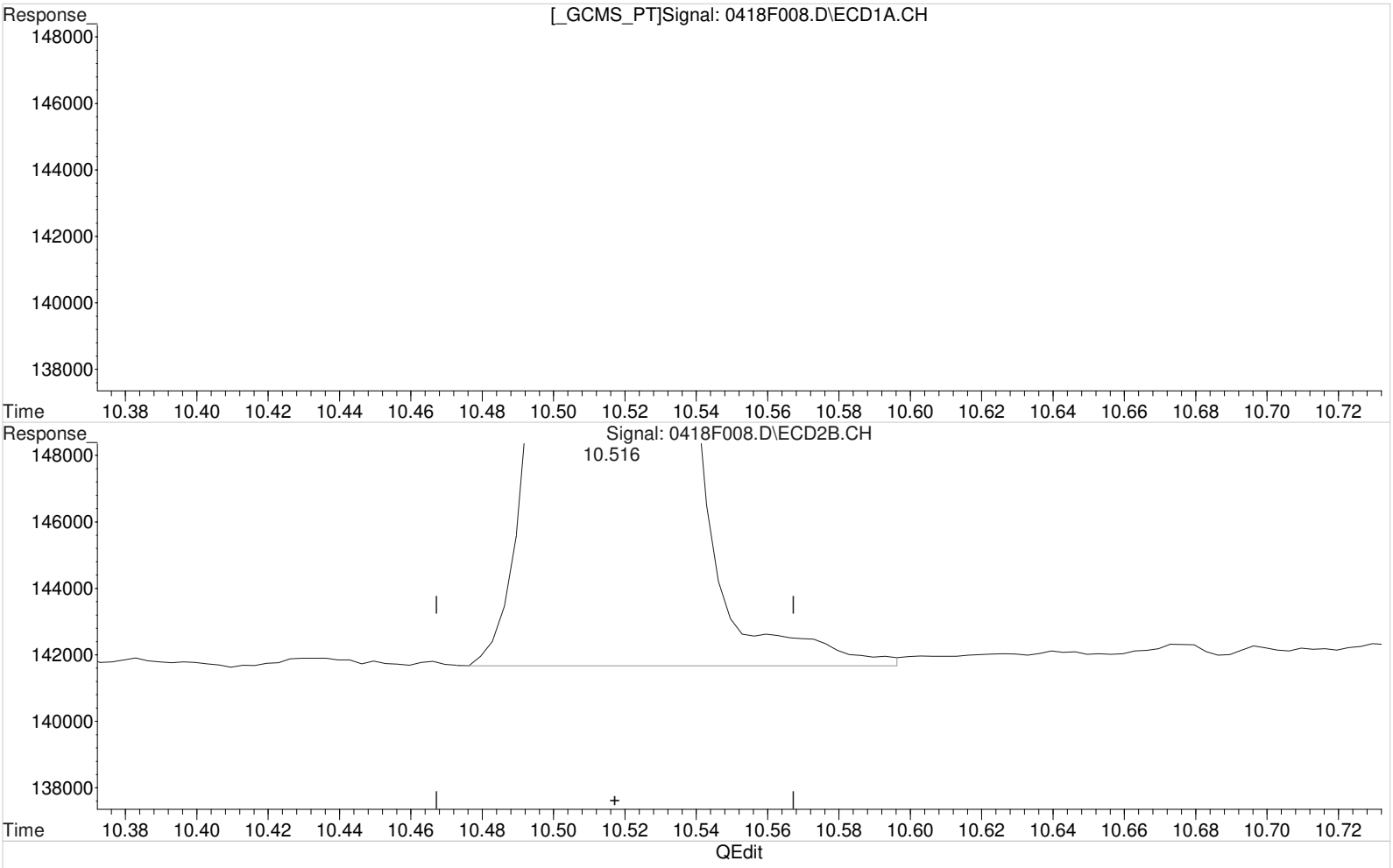
(+) = Expected Retention Time

1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(9) Aldrin

12.212min 1.892 ug/L

response 36059

Manual Integration:

Before

04/20/20

(9) Aldrin #2

10.516min 1.719 ug/L

response 136040

(+) = Expected Retention Time

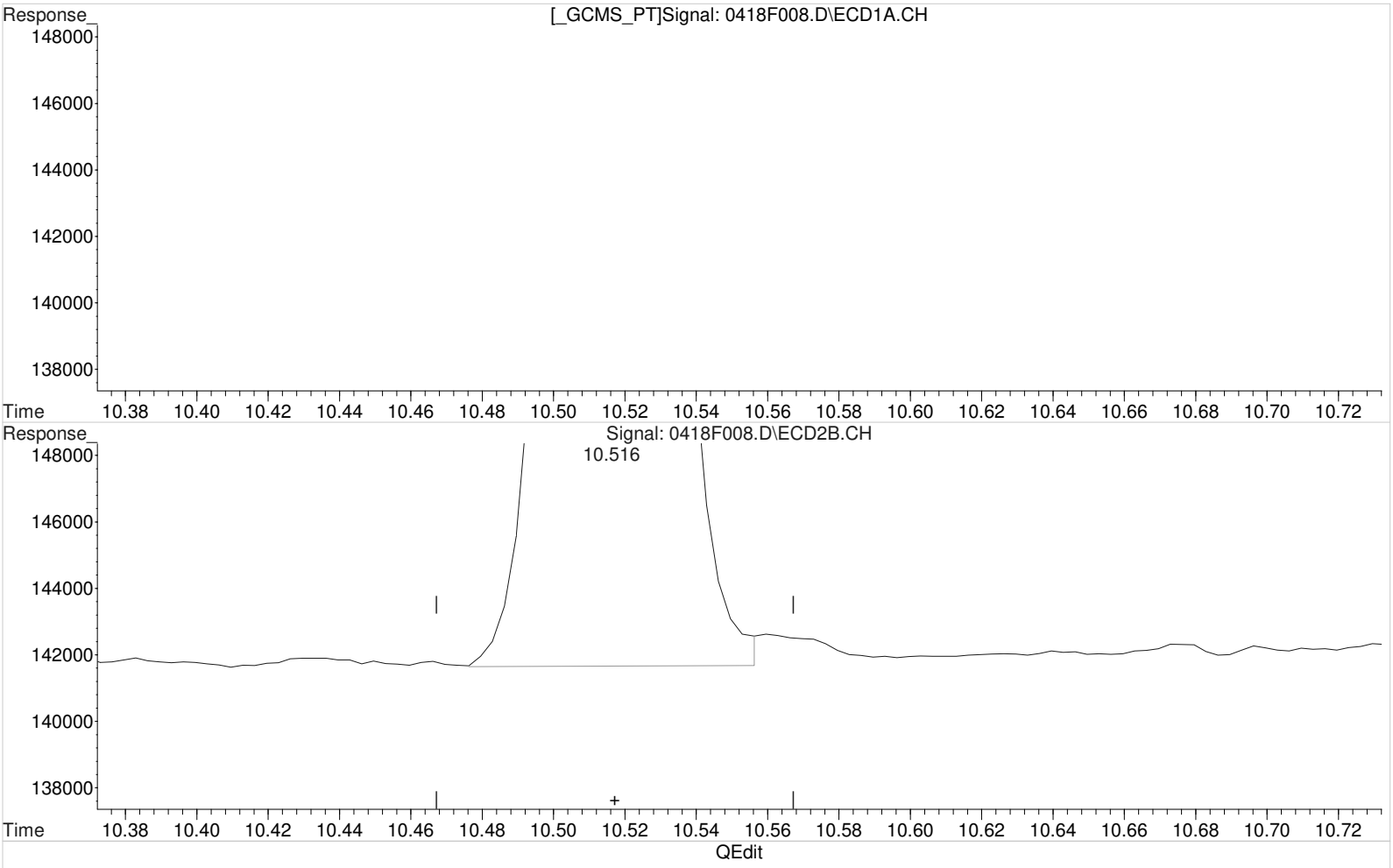
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F008.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:03 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(9) Aldrin

12.212min 1.892 ug/L

response 36059

Manual Integration:

After

Baseline/Shoulder

04/20/20

(9) Aldrin #2

10.516min 1.702 ug/L m

response 134711

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F009.D\
Lab ID: KQ2005306-02.R01
RunType: CCV
Matrix: Water

Date Acquired: 4/18/20 23:33:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards		X
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards - DB XLB	1-Bromo-2-nitrobenzene	0	484615	1938460	NR
	1-Bromo-2-nitrobenzene {3}	0	504054	2016216	
Internal Standards - DB-35MS	1-Bromo-2-nitrobenzene	0	2230535	8922140	
	1-Bromo-2-nitrobenzene {3}	0	2364940	9459758	

Primary Review: _____

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st SM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F009.D\	**Instrument:**	K-GC-23
Acqu Date:	4/18/20 23:33:00	**Vial:**	21
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005306-02.R01	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**		**Report Group:**	KQ2005306
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	5.49	1183301	4966214	100.000	100.000
1-Bromo-2-nitrobenzene {3}	0.00	0.00	0*	0*	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000			N
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000			N

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
beta-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Chlordane					0	0	0	0	N
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Dieldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Toxaphene					1666666667	88.5695	96.5	88.6	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F009.D\	**Instrument:**	K-GC-23
Acqu Date:	4/18/20 23:33:00	**Vial:**	21
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005306-02.R01	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Toxaphene {1}	14.75	13.39	18075	99706	92.966	90.352	93.0	90.4	
Toxaphene {2}	14.81	13.46	16778	70806	95.404	83.397	95.4	83.4	
Toxaphene {3}	14.93	13.60	30973	91825	88.387	83.258	88.4	83.3	
Toxaphene {4}	15.00	13.67	23814	36700	101.048	93.879	101	93.9	
Toxaphene {5}	15.35	13.93	21613	52326	96.244	88.028	96.2	88.0	
Toxaphene {6}	15.54	15.43	10613	29786	104.964	92.503	105	92.5	

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:28:32 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
29)	1-Bromo-2...	6.202	5.486	1183301	4966214	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
30)	Toxaphene	14.749	13.389	18075	99706	92.966m	90.352
31)	Toxaphene...	14.809	13.459	16778	70806	95.404m	83.397m
32)	Toxaphene...	14.932	13.599	30973	91825	88.387	83.258
33)	Toxaphene...	14.999	13.669	23814	36700	101.048	93.879
34)	Toxaphene...	15.349	13.933	21613	52326	96.244	88.028m
35)	Toxaphene...	15.536	15.433	10613	29786	104.964	92.503m
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

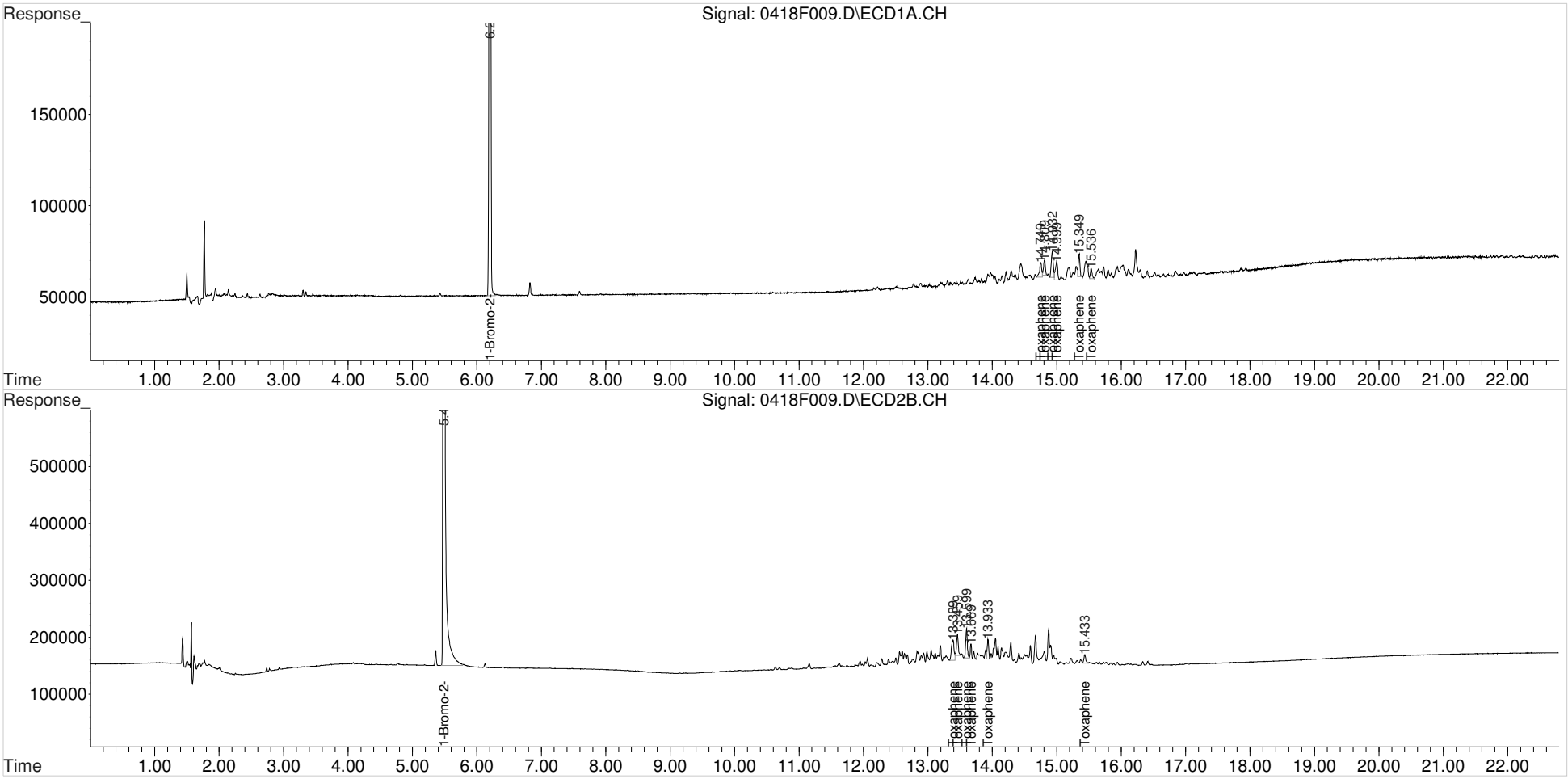
1st LM 04/20/20
2nd TP 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:28:32 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



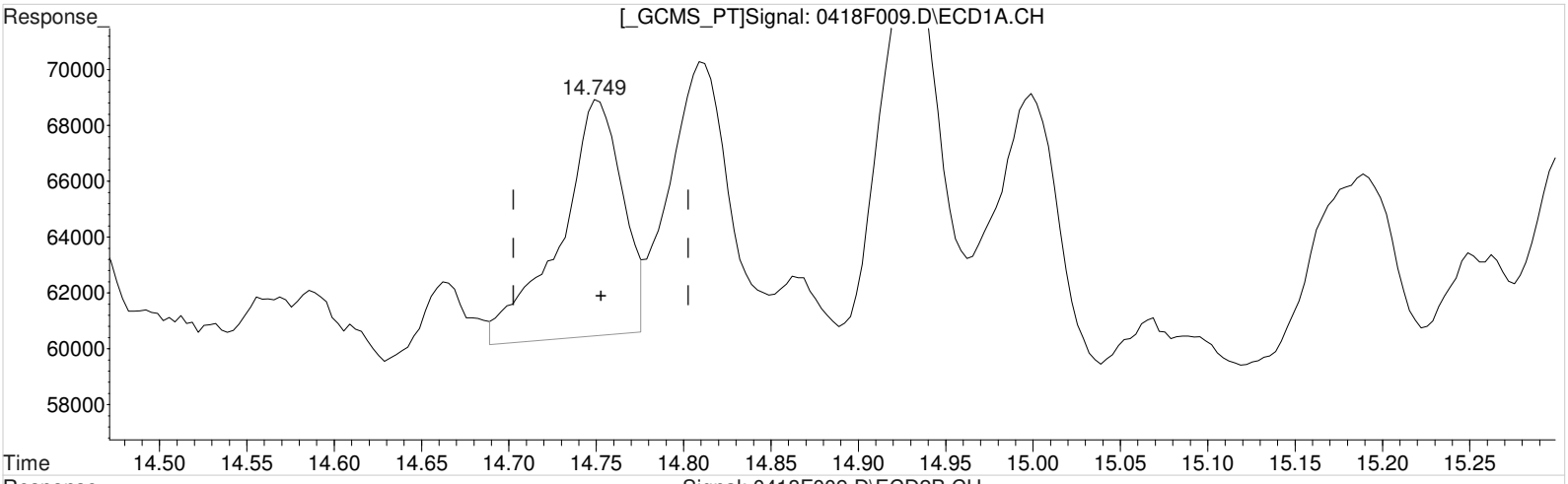
Quantitation Report (Qedit)

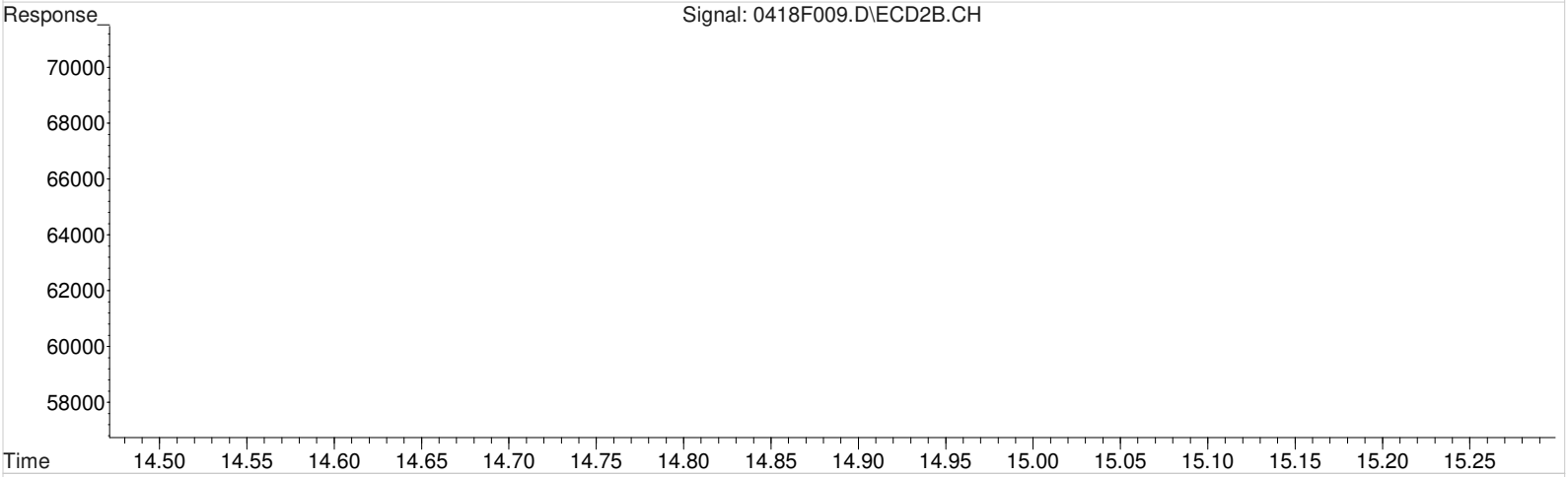
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.749min 108.597 ug/L

response 21114

Manual Integration:

Before

04/20/20

(30) Toxaphene #2

13.389min 90.352 ug/L

response 99706

(+) = Expected Retention Time

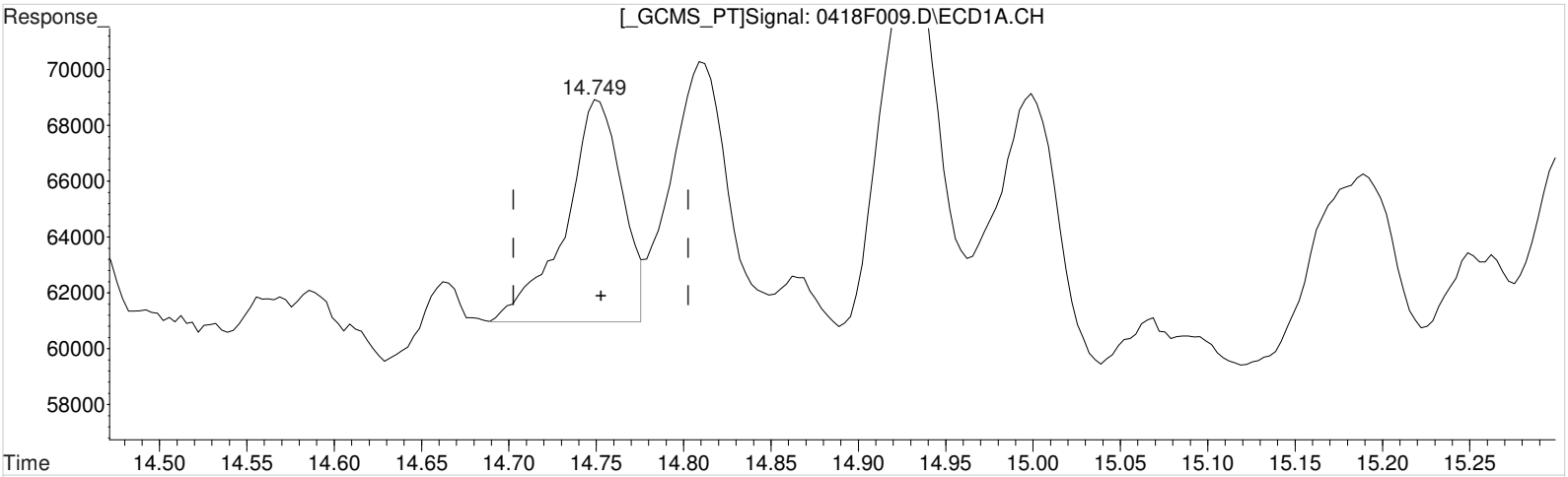
Quantitation Report (Qedit)

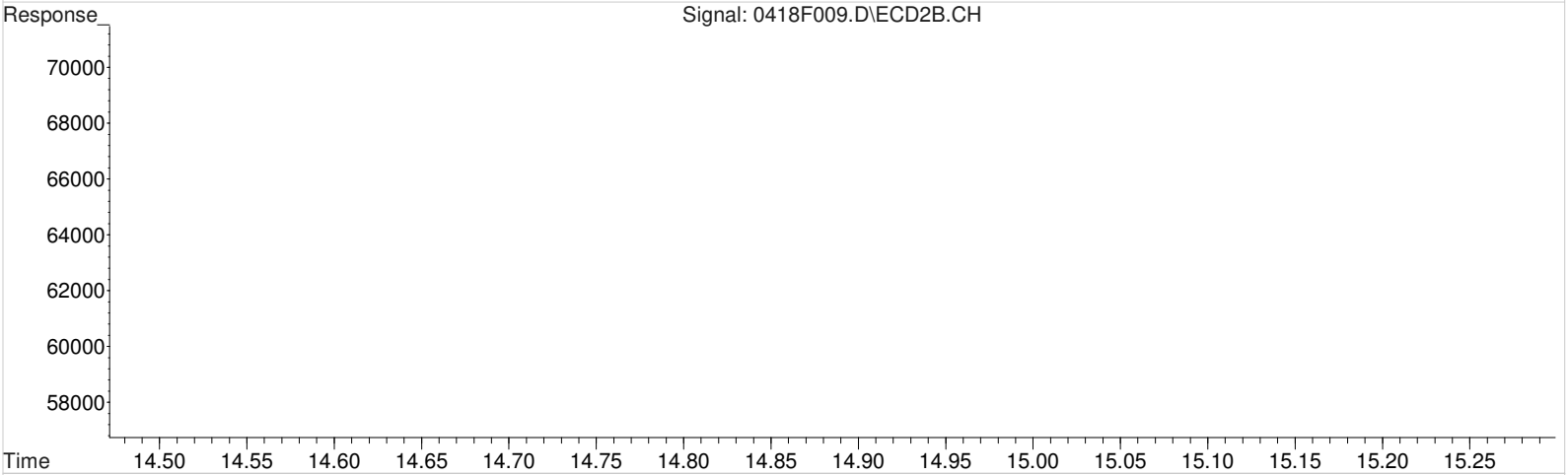
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.749min 92.966 ug/L m

response 18075

Manual Integration:

After

Baseline/Shoulder

04/20/20

(30) Toxaphene #2

13.389min 90.352 ug/L

response 99706

(+) = Expected Retention Time

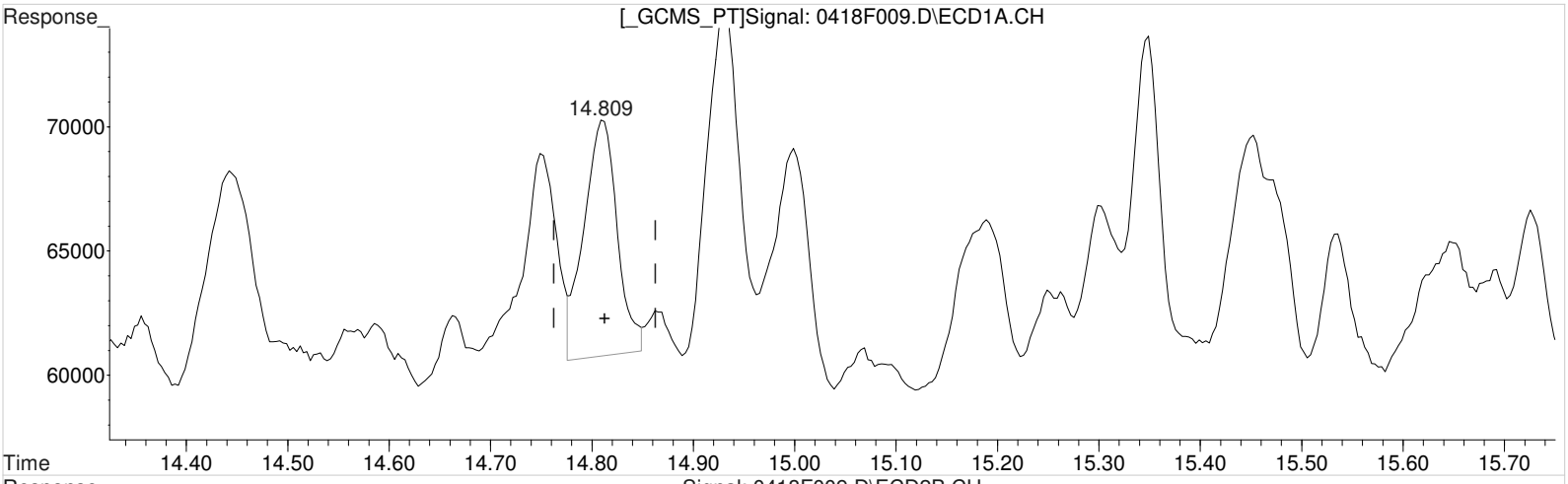
Quantitation Report (Qedit)

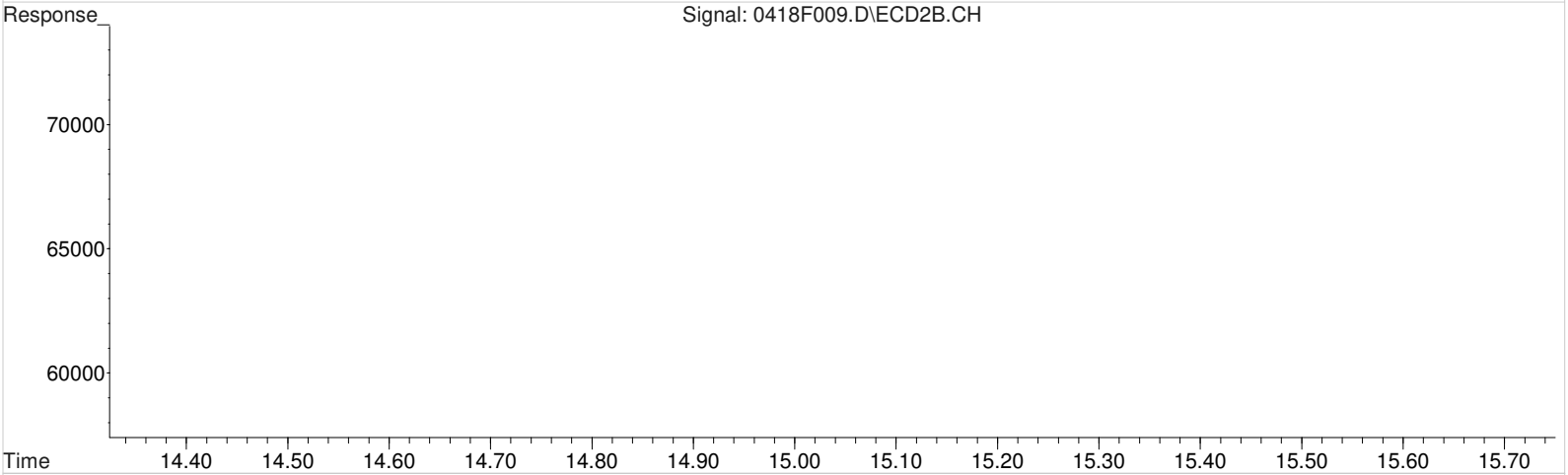
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.809min 123.739 ug/L

response 21761

Manual Integration:

Before

04/20/20

(31) Toxaphene {2} #2

13.459min 107.486 ug/L

response 91258

(+) = Expected Retention Time

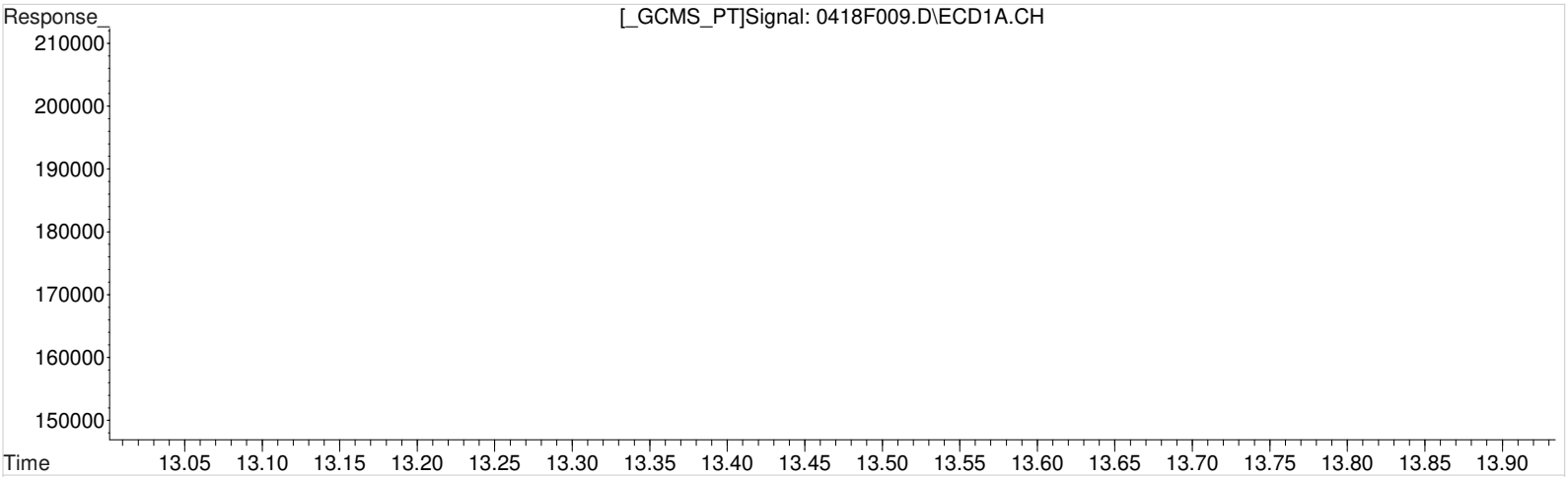
Quantitation Report (Qedit)

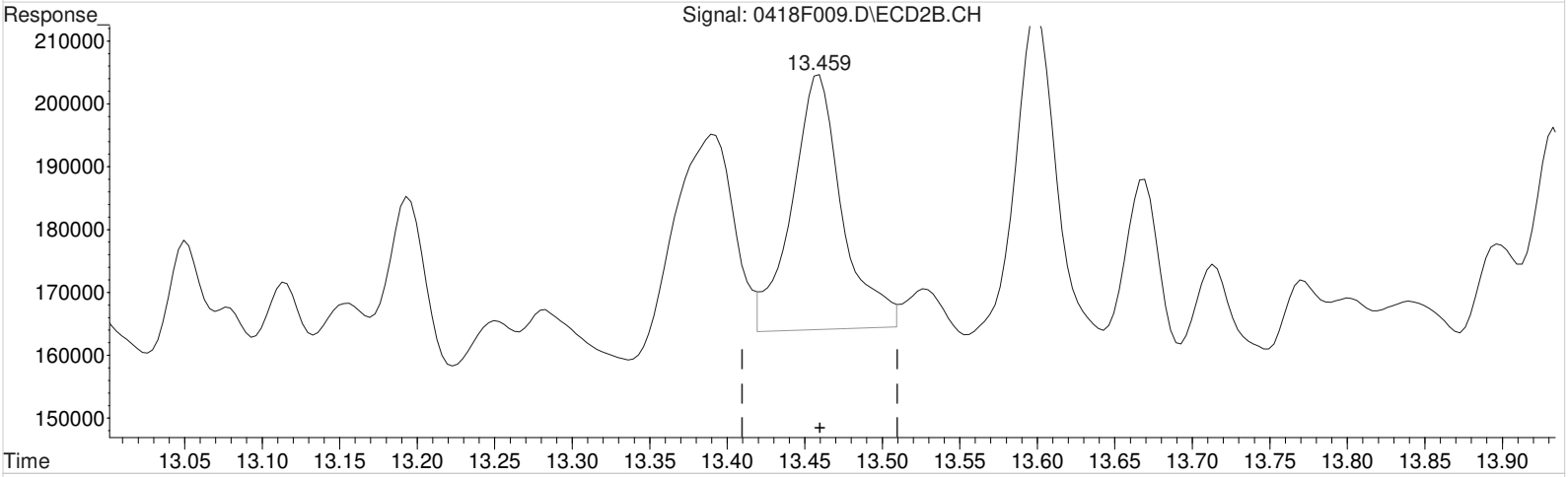
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.809min 95.404 ug/L m

response 16778

Manual Integration:

Before

04/20/20

(31) Toxaphene {2} #2

13.459min 107.486 ug/L

response 91258

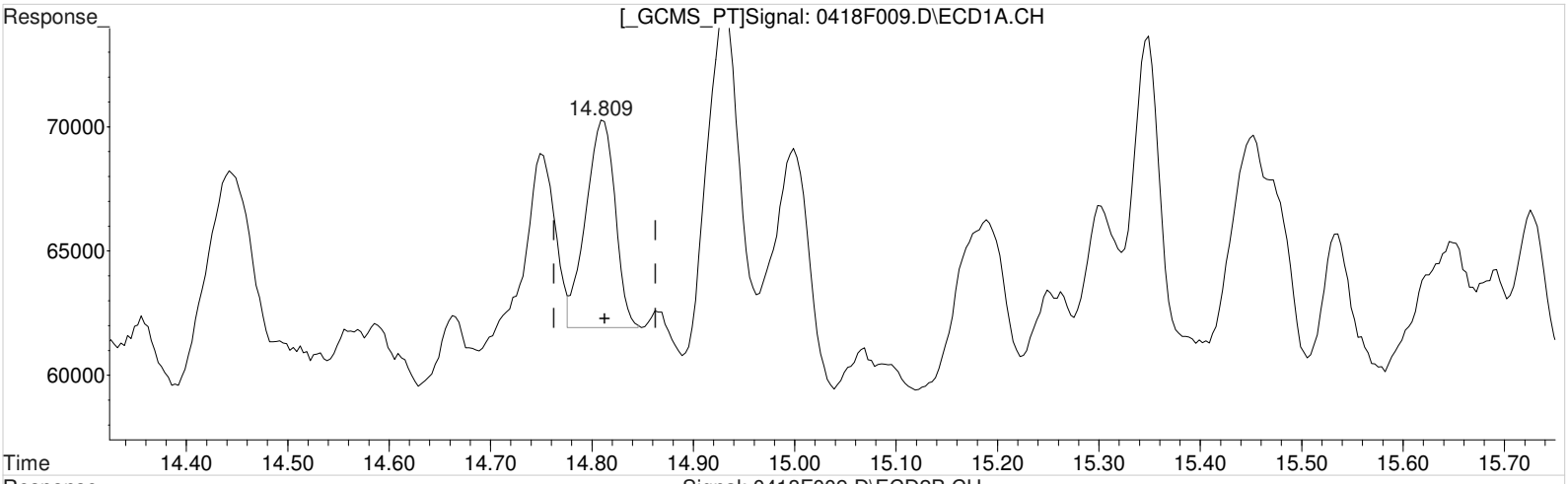
(+) = Expected Retention Time

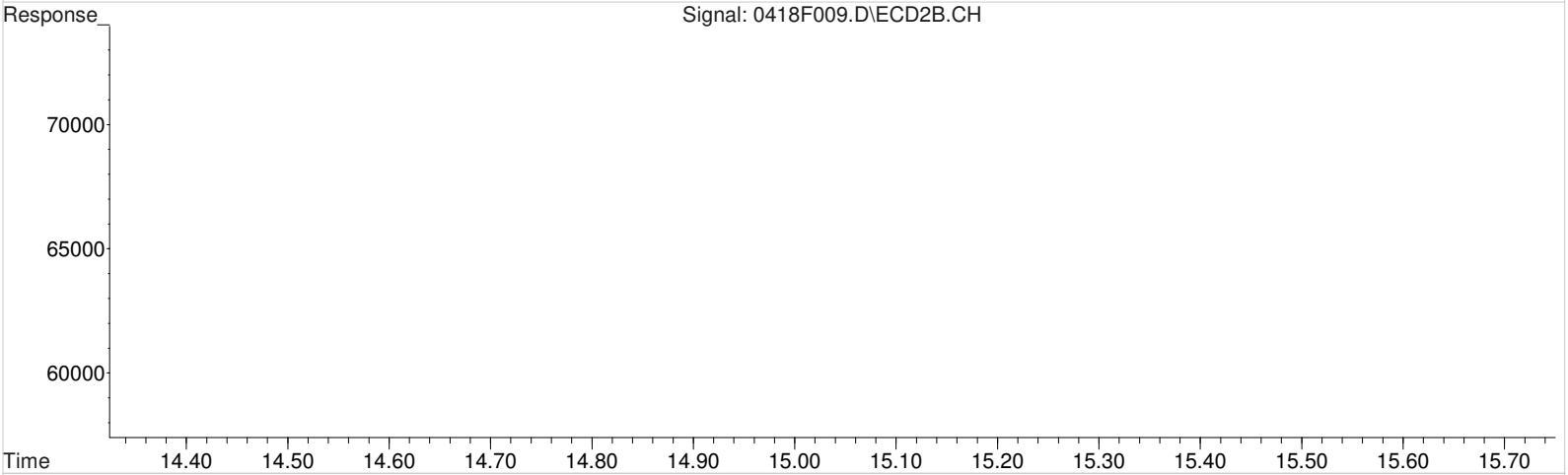
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.809min 95.404 ug/L m

response 16778

Manual Integration:

After

Baseline/Shoulder

04/20/20

(31) Toxaphene {2} #2

13.459min 107.486 ug/L

response 91258

(+) = Expected Retention Time

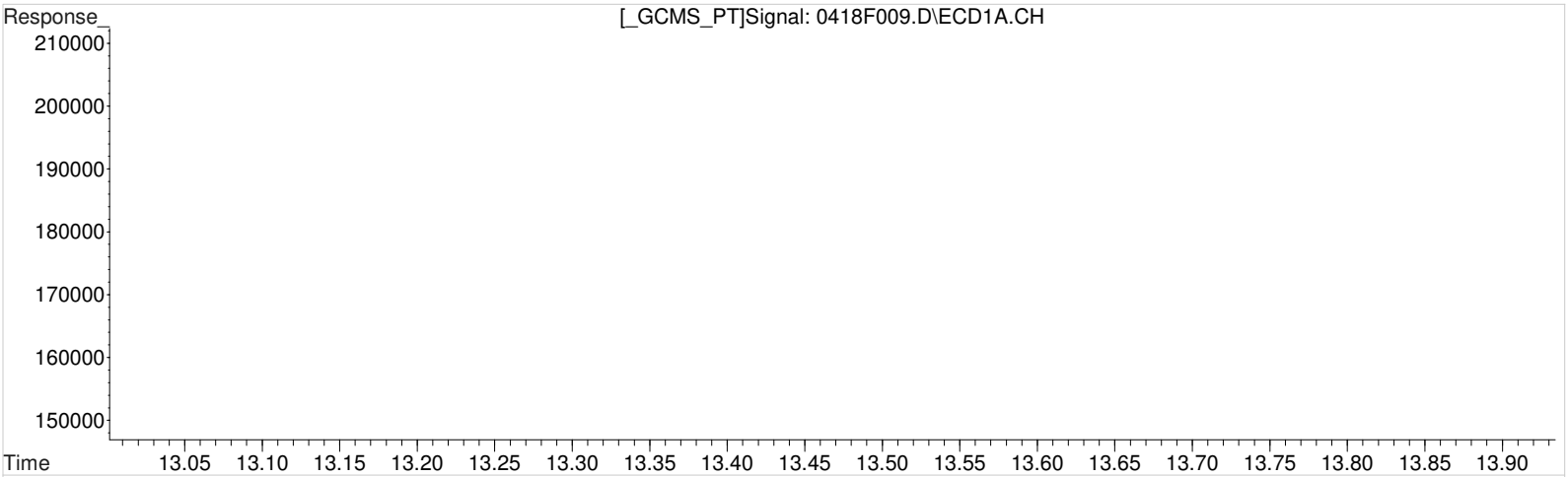
Quantitation Report (Qedit)

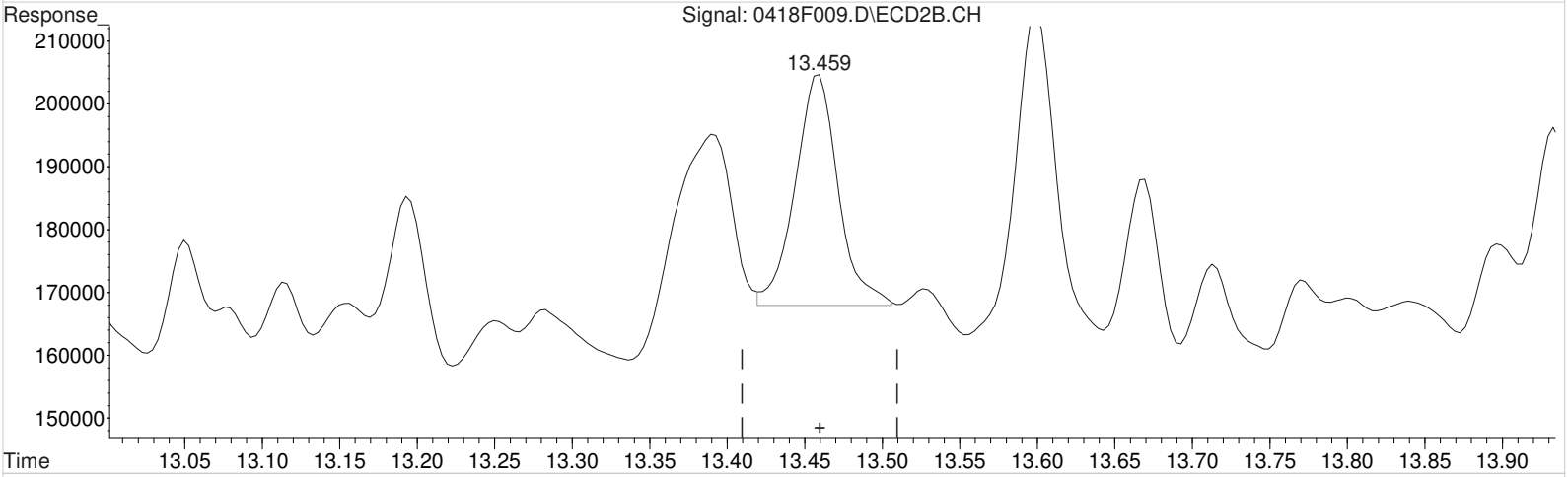
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.809min 95.404 ug/L m

response 16778

Manual Integration:

After

Baseline/Shoulder

04/20/20

(31) Toxaphene {2} #2

13.459min 83.397 ug/L m

response 70806

(+) = Expected Retention Time

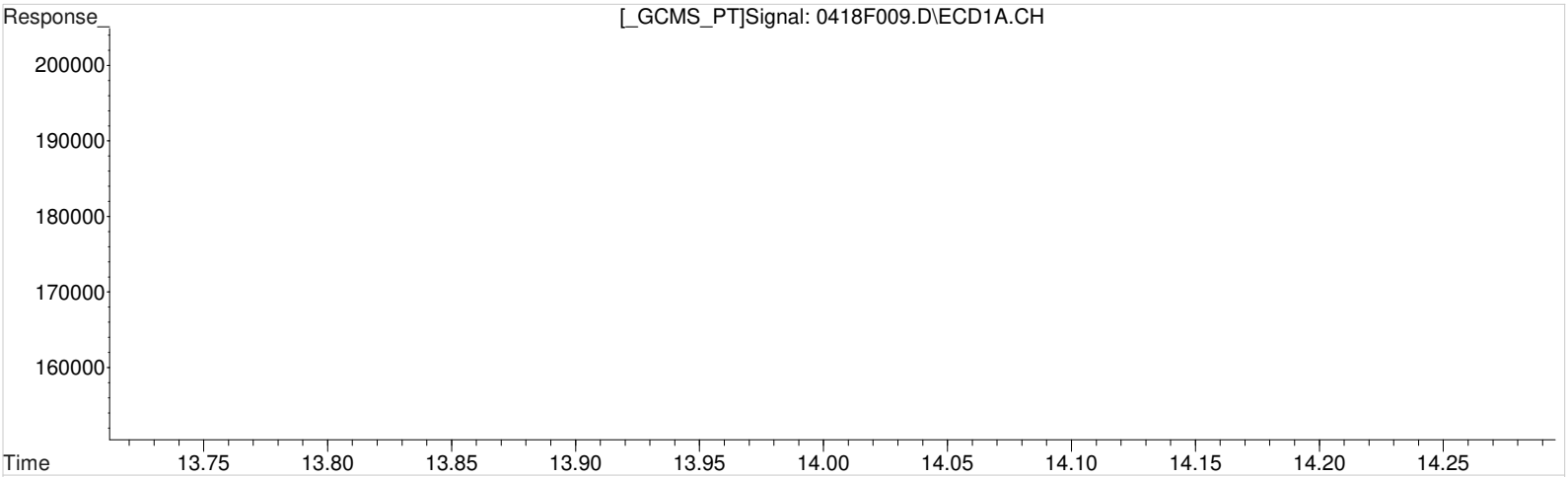
Quantitation Report (Qedit)

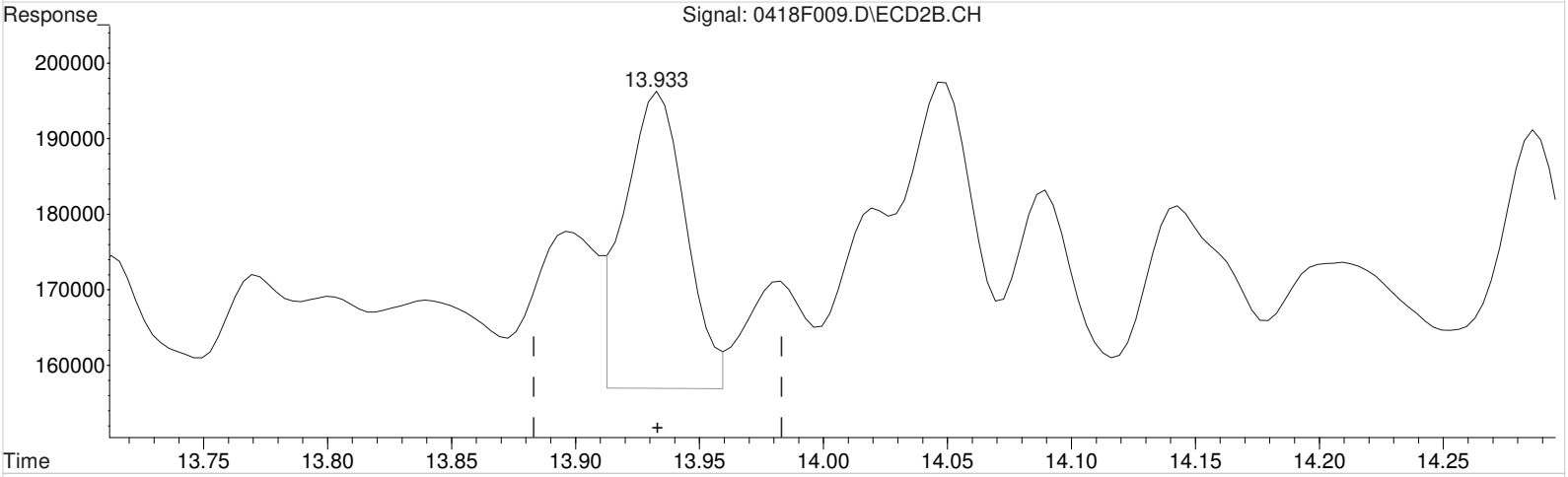
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.349min 96.244 ug/L

response 21613

Manual Integration:

Before

04/20/20

(34) Toxaphene {5} #2

13.933min 110.196 ug/L

response 65503

(+) = Expected Retention Time

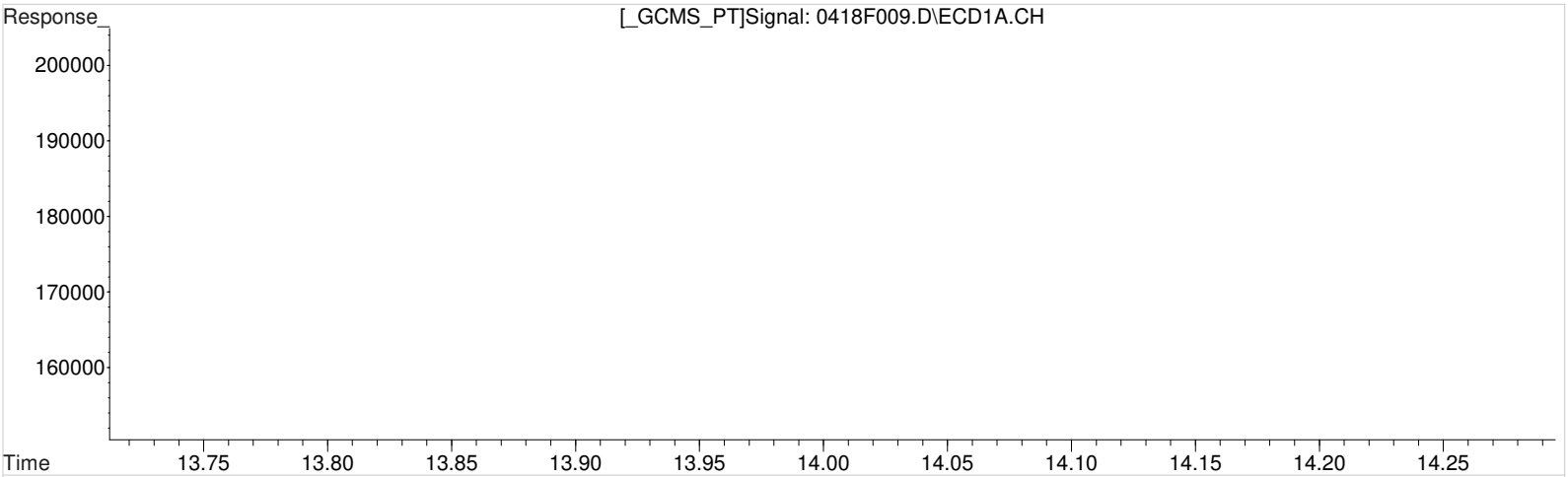
Quantitation Report (Qedit)

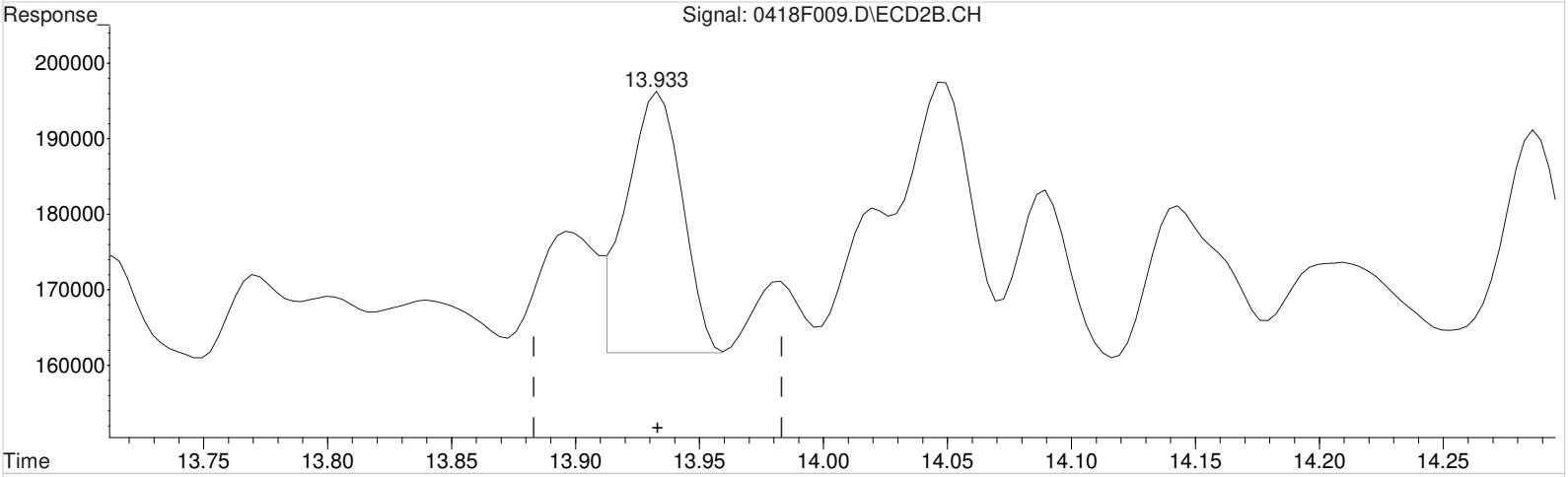
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.349min 96.244 ug/L

response 21613

Manual Integration:

After

Baseline/Shoulder

04/20/20

(34) Toxaphene {5} #2

13.933min 88.028 ug/L m

response 52326

(+) = Expected Retention Time

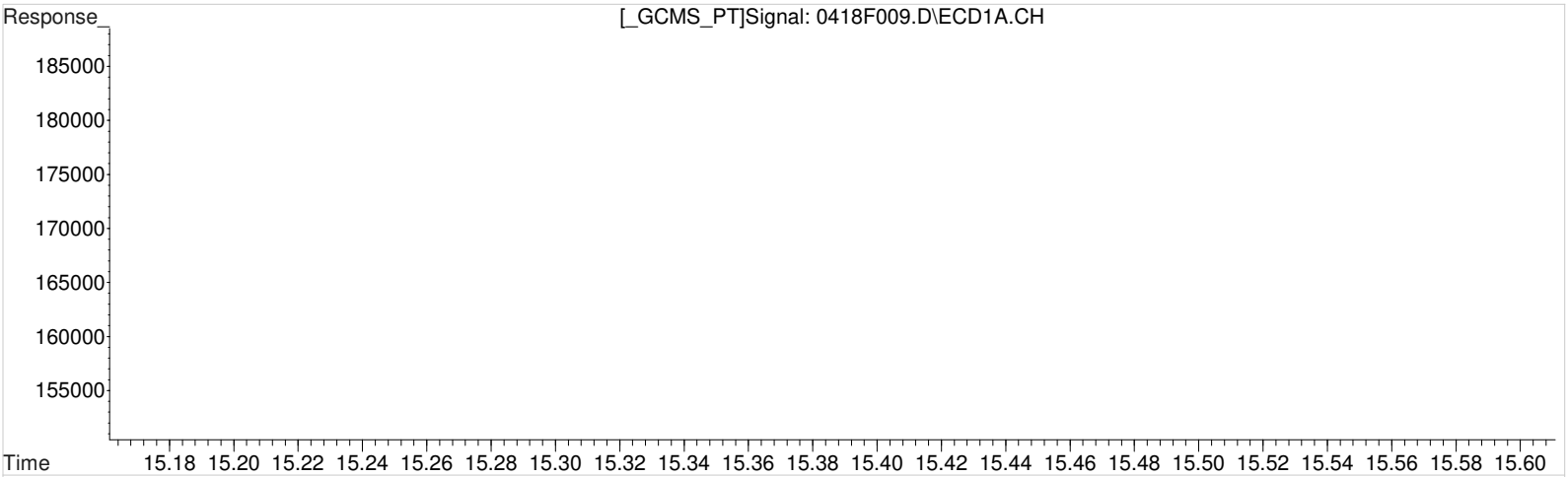
Quantitation Report (Qedit)

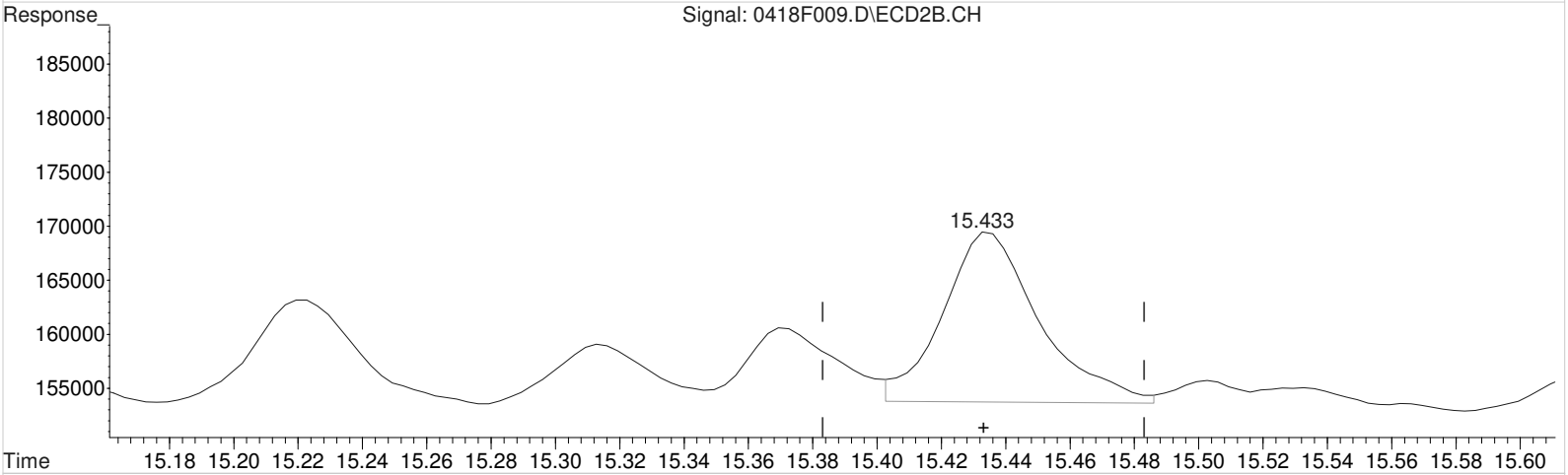
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.536min 104.964 ug/L

response 10613

Manual Integration:

Before

04/20/20

(35) Toxaphene {6} #2

15.433min 101.071 ug/L

response 32545

(+) = Expected Retention Time

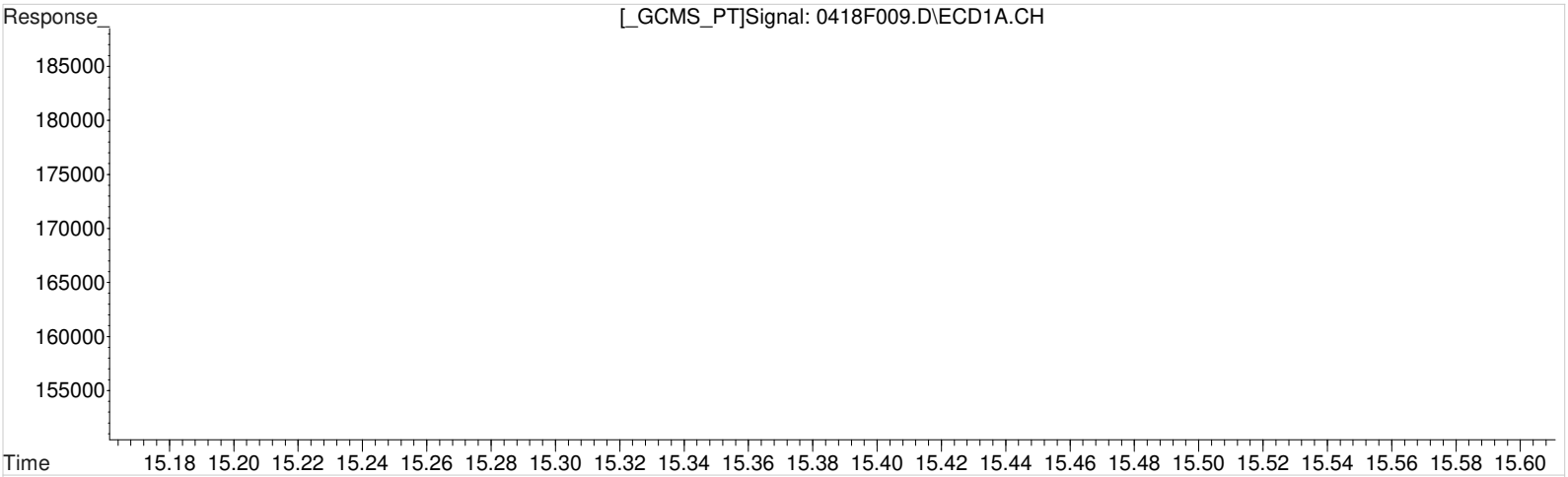
Quantitation Report (Qedit)

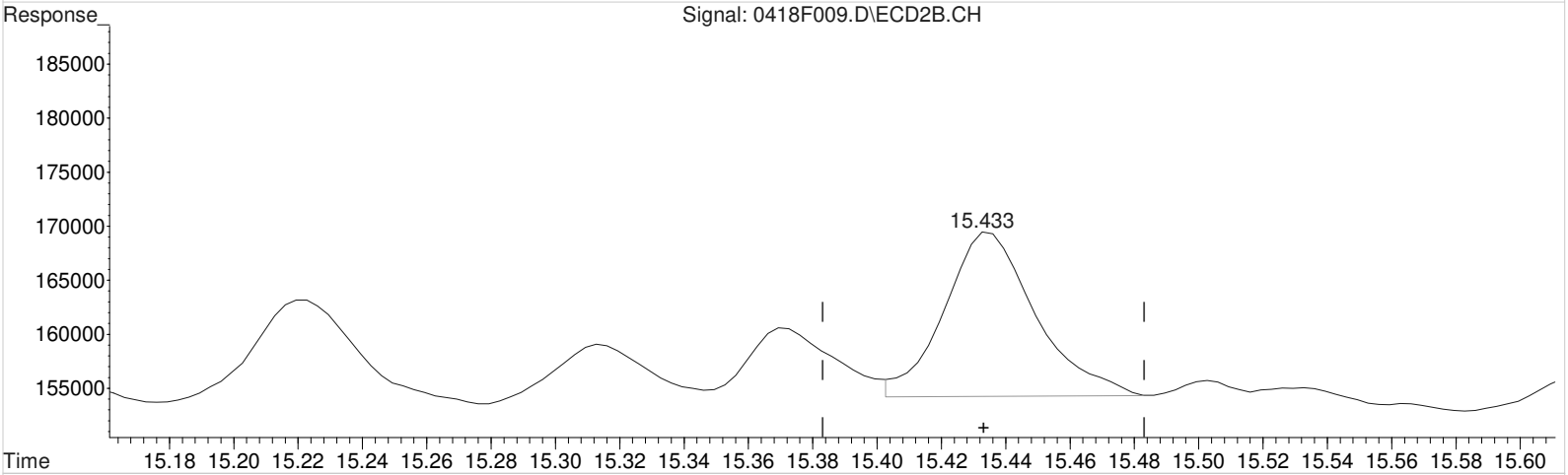
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F009.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Apr 2020 11:33 pm Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:29 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.536min 104.964 ug/L

response 10613

Manual Integration:

After

Baseline/Shoulder

04/20/20

(35) Toxaphene {6} #2

15.433min 92.503 ug/L m

response 29786

(+) = Expected Retention Time

1st SM 04/24/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\041820\0418F010.D\
Lab ID: KQ2005306-02.R02
RunType: CCV
Matrix: Water

Date Acquired: 4/19/20 00:02:00
Batch ID: 677292
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards		X
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards - DB XLB	1-Bromo-2-nitrobenzene	0	484615	1938460	NR
	1-Bromo-2-nitrobenzene {2}	0	506950	2027798	
Internal Standards - DB-35MS	1-Bromo-2-nitrobenzene	0	2230535	8922140	
	1-Bromo-2-nitrobenzene {2}	0	2361365	9445458	

Primary Review: _____

Secondary Review: _____

1st STM 04/24/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F010.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 00:02:00	**Vial:**	22
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005306-02.R02	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677292	**Prep Lot:**		**Report Group:**	KQ2005306
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {2}	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	5.48	1165907	4935302	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000			N
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000			N

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
beta-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Chlordane					22.3665	8333333333	22.4	21.3	Y
Chlordane {1}	11.27	9.57	17851	54258	22.459	20.140	22.5	20.1	
Chlordane {2}	11.69	11.66	22531	40656	22.379	22.128	22.4	22.1	
Chlordane {3}	12.25	11.81	17148	28803	23.733	23.615	23.7	23.6	
Chlordane {4}	13.45	11.97	48192	154027	21.972	20.851	22.0	20.9	
Chlordane {5}	13.53	12.02	40319	92650	22.224	20.484	22.2	20.5	
Chlordane {6}	13.61	12.12	28543	132936	21.432	20.299	21.4	20.3	
Dieldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Toxaphene					0	0	0	0	N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/24/20
2nd TP 04/28/20

Data File:	J:\GC23\data\041820\0418F010.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 00:02:00	**Vial:**	22
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005306-02.R02	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 20:10
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F010.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:02 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:30:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
36)	1-Bromo-2...	6.199	5.483	1165907	4935302	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
37)	Chlordane	11.270	9.567	17851	54258	22.459	20.140
38)	Chlordane...	11.686	11.663	22531	40656	22.379	22.128
39)	Chlordane...	12.253	11.813	17148	28803	23.733	23.615
40)	Chlordane...	13.453	11.973	48192	154027	21.972m	20.851
41)	Chlordane...	13.530	12.017	40319	92650	22.224	20.484
42)	Chlordane...	13.613	12.120	28543	132936	21.432	20.299m
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

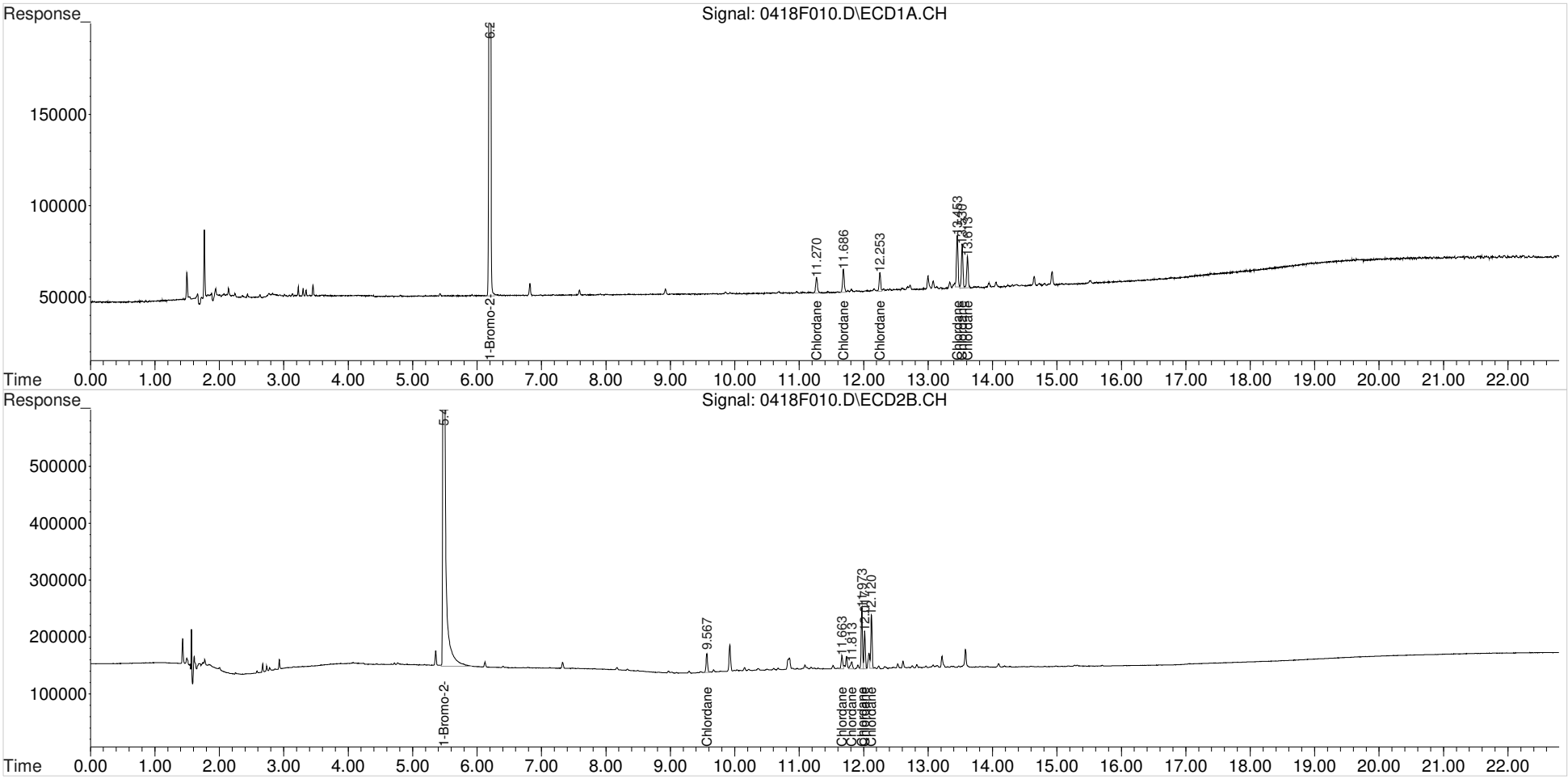
1st LM 04/20/20
2nd TP 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F010.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:02 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:30:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



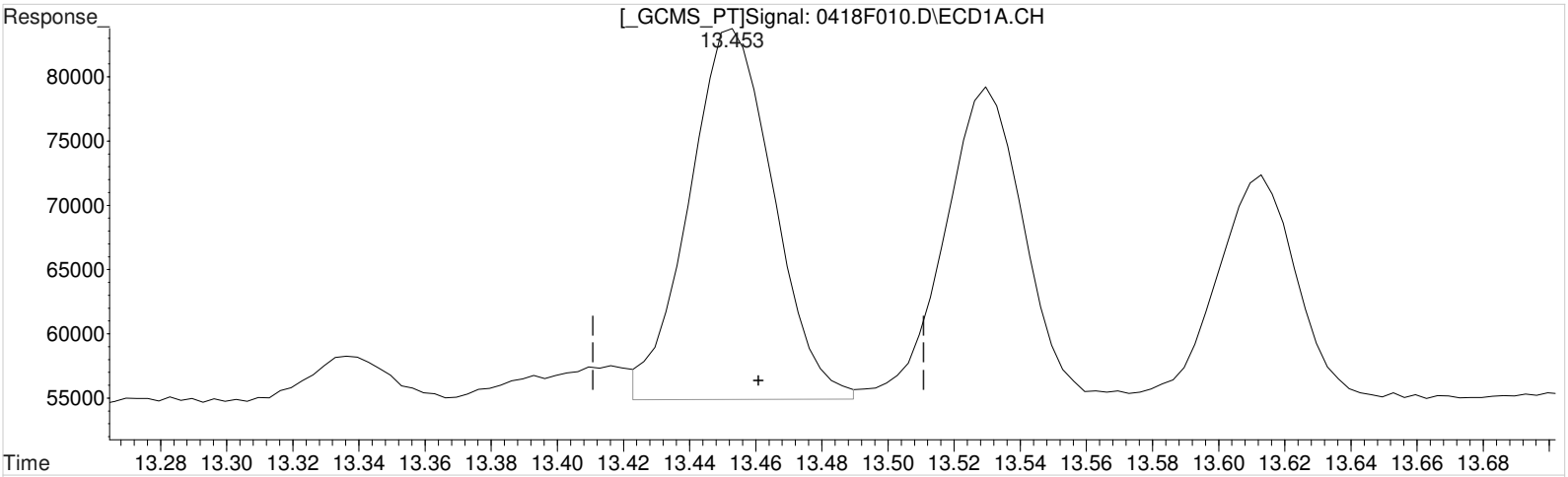
Quantitation Report (Qedit)

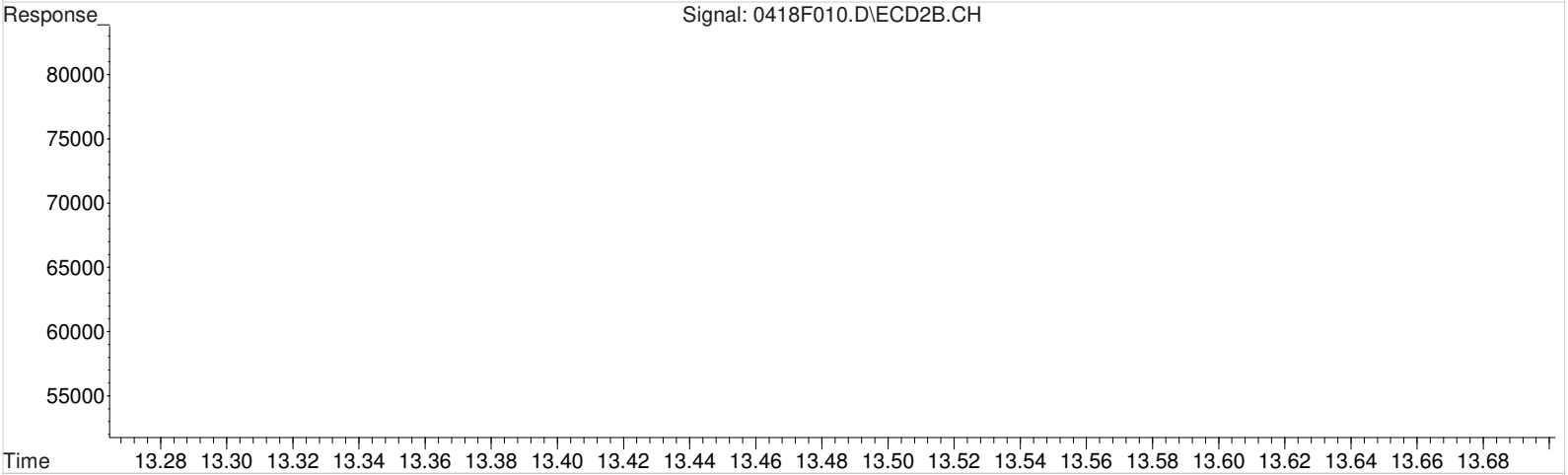
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F010.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:02 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:33 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.453min 23.281 ug/L

response 51062

Manual Integration:

Before

04/20/20

(40) Chlordane {4} #2

11.973min 20.851 ug/L

response 154027

(+) = Expected Retention Time

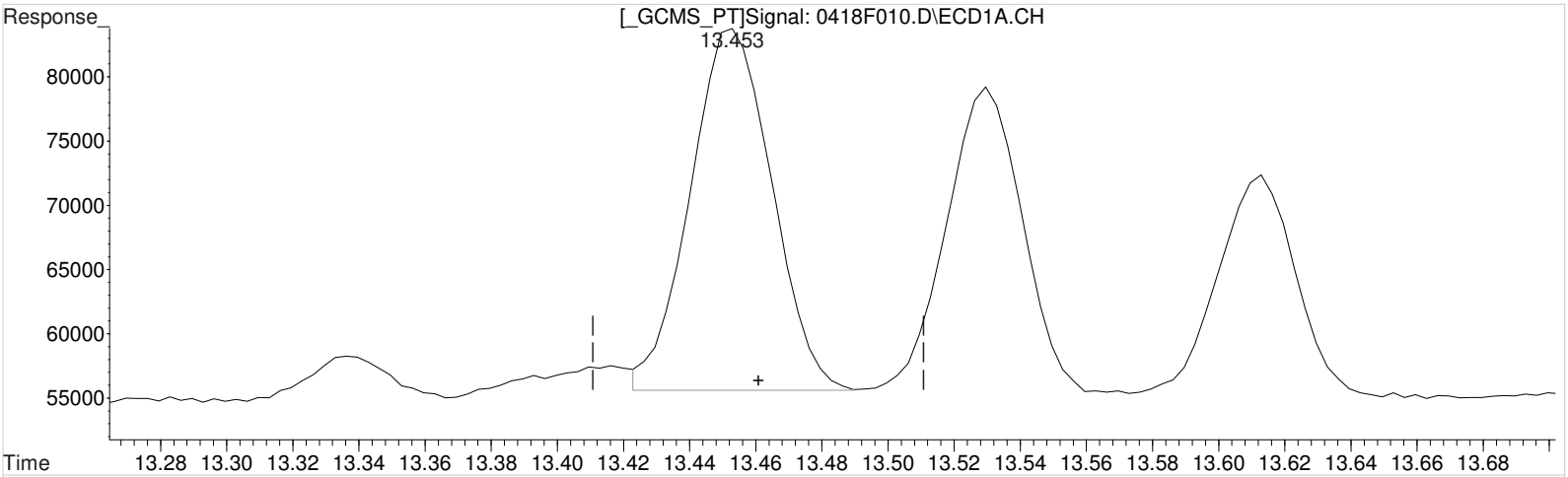
Quantitation Report (Qedit)

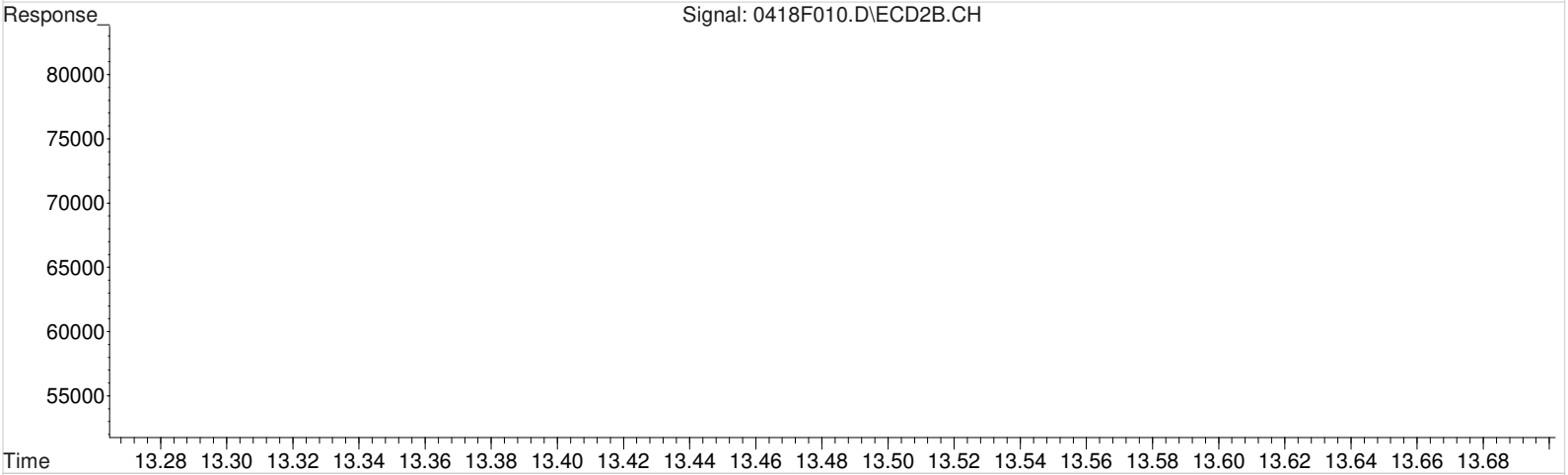
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F010.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:02 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:33 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.453min 21.972 ug/L m

response 48192

Manual Integration:

After

Baseline/Shoulder

04/20/20

(40) Chlordane {4} #2

11.973min 20.851 ug/L

response 154027

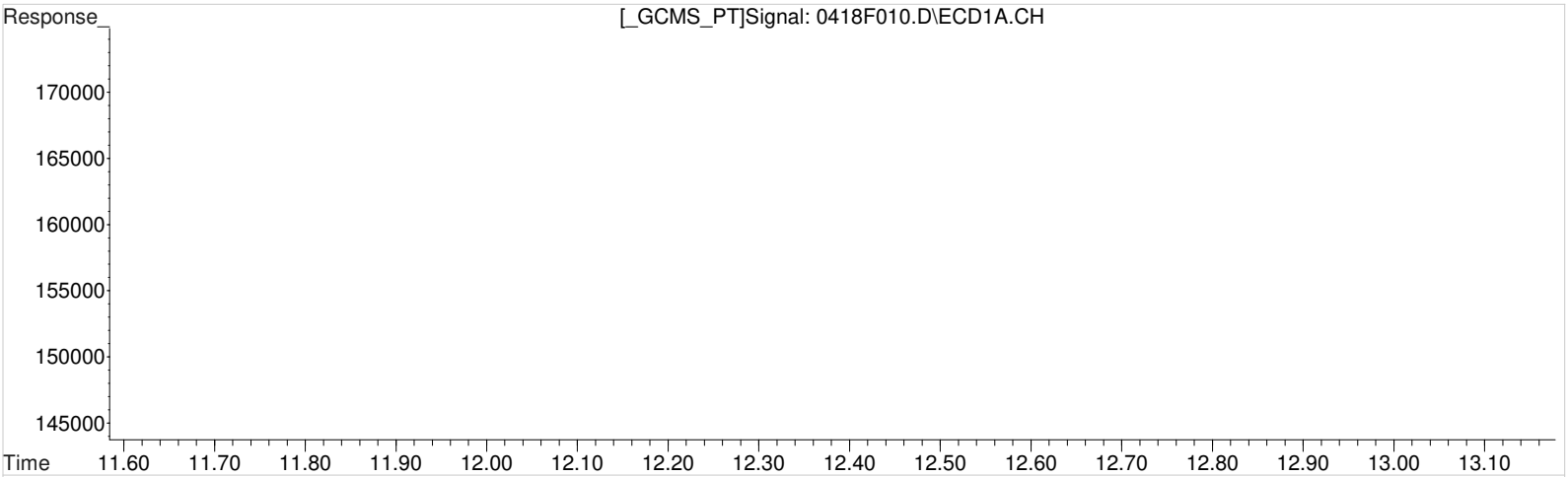
(+) = Expected Retention Time

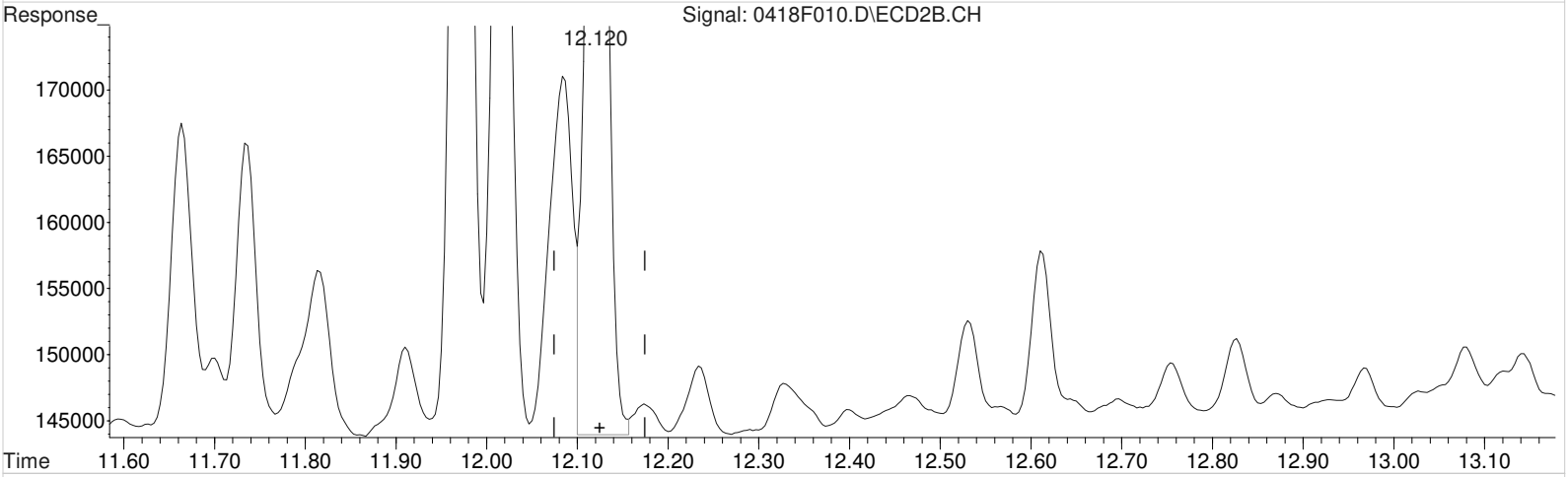
1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F010.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:02 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:33 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(42) Chlordane {6}

13.613min 21.432 ug/L

response 28543

Manual Integration:

Before

04/20/20

(42) Chlordane {6} #2

12.120min 20.467 ug/L

response 134038

(+) = Expected Retention Time

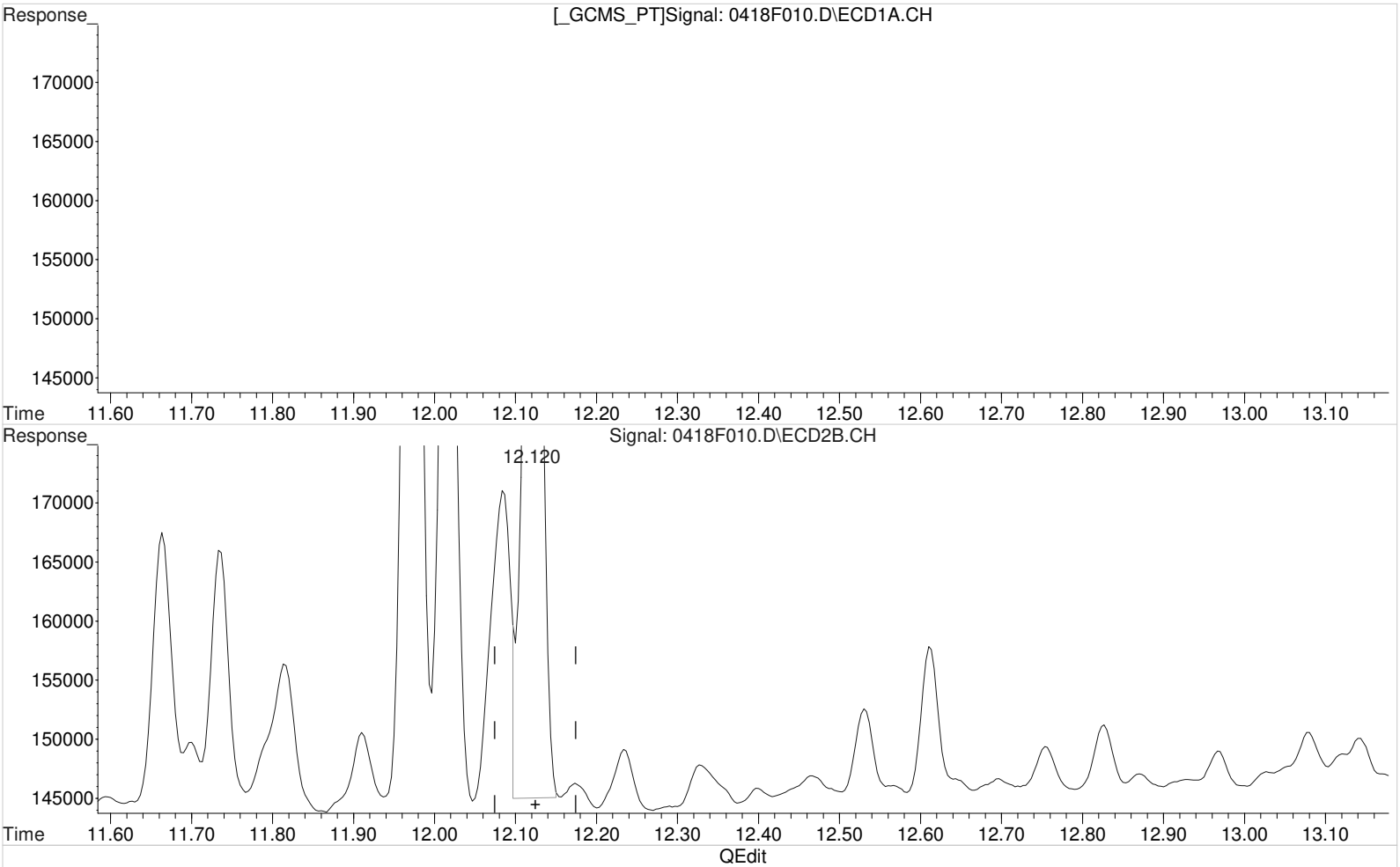
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/28/20

Data File : J:\GC23\data\041820\0418F010.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 12:02 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:33 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(42) Chlordane {6}

13.613min 21.432 ug/L

response 28543

Manual Integration:

After

Baseline/Shoulder

04/20/20

(42) Chlordane {6} #2

12.120min 20.299 ug/L m

response 132936

(+) = Expected Retention Time

1st SM 04/22/20
2nd TP 04/23/20

Validation Report

Data File: J:\GC23\data\041820\0418F030.D\
Lab ID: KQ2005305-02
RunType: CCV
Matrix: Water

Date Acquired: 4/19/20 09:55:00
Batch ID: 677289
Analysis Method: 8081B/Pest OC LL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards	X	
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Primary Review: _____

Printed: 4/22/20 18:08
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/22/20
2nd TP 04/23/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F030.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 09:55:00	**Vial:**	2
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005305-02	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC LL	**Collect Date:**	4/2/20	**Receive Date:**	4/3/20

Analysis Lot:	677289	**Prep Lot:**		**Report Group:**	KQ2005305
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Low Level Organochlorine Pesticides by GC	**Calibration ID:**	KC2000190
		Report List ID:	21312

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	5.49	1211930	5318899	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	18.67	17.07	40422	142115	1.874	1.657			Y
Tetrachloro-m-xylene	8.97	7.27	32067	114702	1.825	1.740			Y

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Endosulfan I	13.58	12.19	34381	121791	1.845	1.701	1.85	1.70	Y
Endosulfan II	14.81	13.55	33395	114663	1.806	1.707	1.81	1.71	Y
Endosulfan Sulfate	15.47	14.24	36462	118634	1.935	1.791	1.94	1.79	Y

Prep Amount:	100 mL	**Dilution:**	1
Prep Final Amount:	5.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 18:08
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/22/20
2nd TP 04/23/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F030.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 09:55:00	**Vial:**	2
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005308-02	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**		**Report Group:**	KQ2005308
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.20	5.49	1211930	5318899	100.000	100.000
1-Bromo-2-nitrobenzene {2}	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {3}	0.00	0.00	0*	0*	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	18.67	17.07	40422	142115	1.874	1.657			Y
Tetrachloro-m-xylene	8.97	7.27	32067	114702	1.825	1.740			Y

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	12.21	10.52	37158	140749	1.913	1.679	1.91	1.68	Y
alpha-BHC	9.82	8.50	37031	140522	1.832	1.667	1.83	1.67	Y
beta-BHC	11.07	9.78	20130	70131	1.863	1.754	1.86	1.75	Y
gamma-BHC (Lindane)	10.49	9.24	35420	139737	1.813	1.703	1.81	1.70	Y
Chlordane					0	0	0	0	N
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Dieldrin	14.00	12.64	36961	134441	1.848	1.721	1.85	1.72	Y
Heptachlor	11.68	9.93	39726	150927	1.893	1.811	1.89	1.81	Y
Heptachlor Epoxide	12.93	11.60	39452	138600	1.931	1.686	1.93	1.69	Y
Hexachlorobenzene	9.98	8.28	43387	147374	1.813	1.741	1.81	1.74	Y
Toxaphene					0	0	0	0	N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/22/20
2nd TP 04/23/20

Data File:	J:\GC23\data\041820\0418F030.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 09:55:00	**Vial:**	2
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005308-02	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:37:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.198	5.485	1211930	5318899	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.975	7.265	32067	114702	1.825	1.740
28) s	Decachlor...	18.671	17.065	40422	142115	1.874m	1.657
	Target Compounds						
3)	alpha-BHC	9.818	8.499	37031	140522	1.832	1.667m
4)	Hexachlor...	9.981	8.282	43387	147374	1.813	1.741m
5)	beta-BHC	11.075	9.779	20130	70131	1.863	1.754m
6)	gamma-BHC...	10.488	9.242	35420	139737	1.813	1.703
7)	delta-BHC	11.581	10.305	37022	139363	1.874	1.737
8)	Heptachlor	11.685	9.925	39726	150927	1.893	1.811
9)	Aldrin	12.211	10.515	37158	140749	1.913	1.679
10)	Isodrin	12.741	11.312	32959	121259	1.977	1.728
11)	Heptachlo...	12.931	11.599	39452	138600	1.931	1.686
12)	gamma-Chl...	13.451	11.972	38185	134357	1.869	1.691
13)	Endosulfan I	13.581	12.189	34381	121791	1.845	1.701
14)	alpha-Chl...	13.528	12.122	38100	135741	1.873	1.686
15)	Dieldrin	13.998	12.635	36961	134441	1.848	1.721
16)	4,4'-DDE	13.801	12.485	35155	124750	1.879	1.658
17)	Endrin	14.371	13.115	35059	129321	1.921	1.739
18)	Endosulfa...	14.811	13.549	33395	114663	1.806	1.707
19)	4,4'-DDD	14.641	13.375	28674	102303	1.982	1.817
20)	Endrin Al...	14.995	13.915	31090	102164	1.940m	1.836
21)	Endosulfa...	15.468	14.239	36462	118634	1.935	1.791
22)	4,4'-DDT	15.145	13.799	28227	109363	1.857m	2.015
23)	Endrin Ke...	16.158	15.189	38164	139175	1.888	1.756
24)	Methoxychlor	15.891	14.909	16269	63078	1.765m	2.094
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

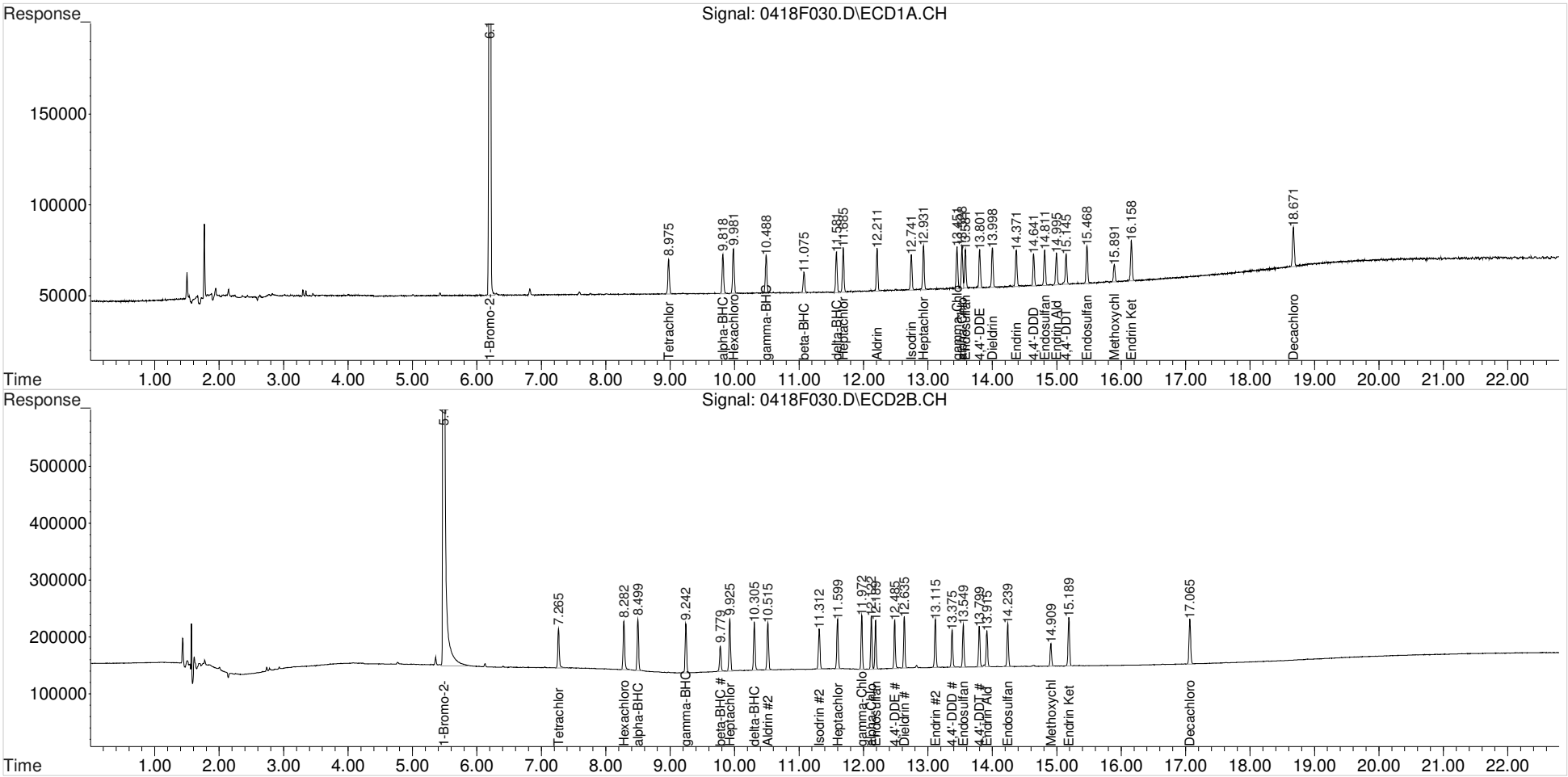
1st LM 04/20/20
2nd TP 04/23/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:37:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



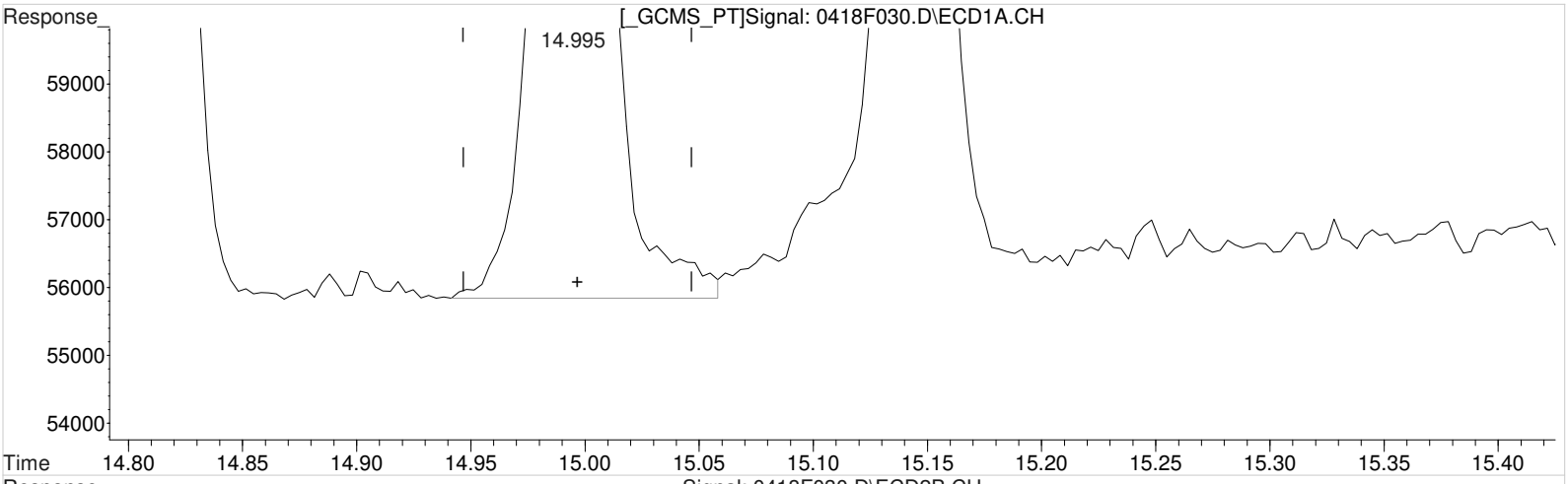
Quantitation Report (Qedit)

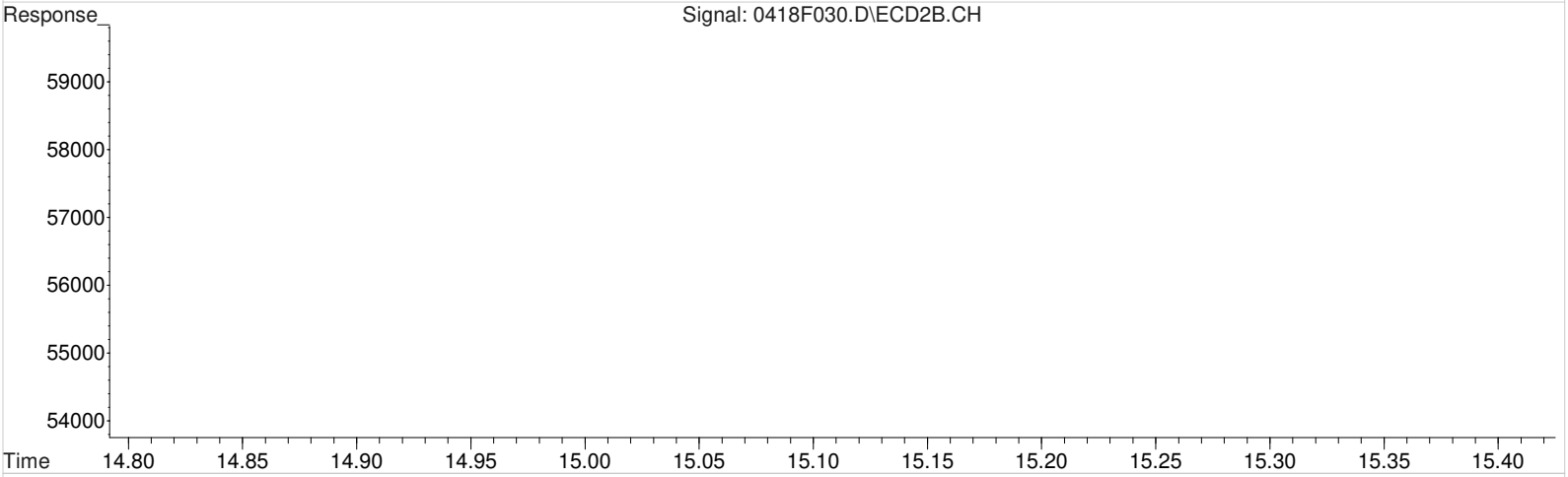
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

14.995min 2.033 ug/L

response 32580

Manual Integration:

Before

04/20/20

(20) Endrin Aldehyde #2

13.915min 1.836 ug/L

response 102164

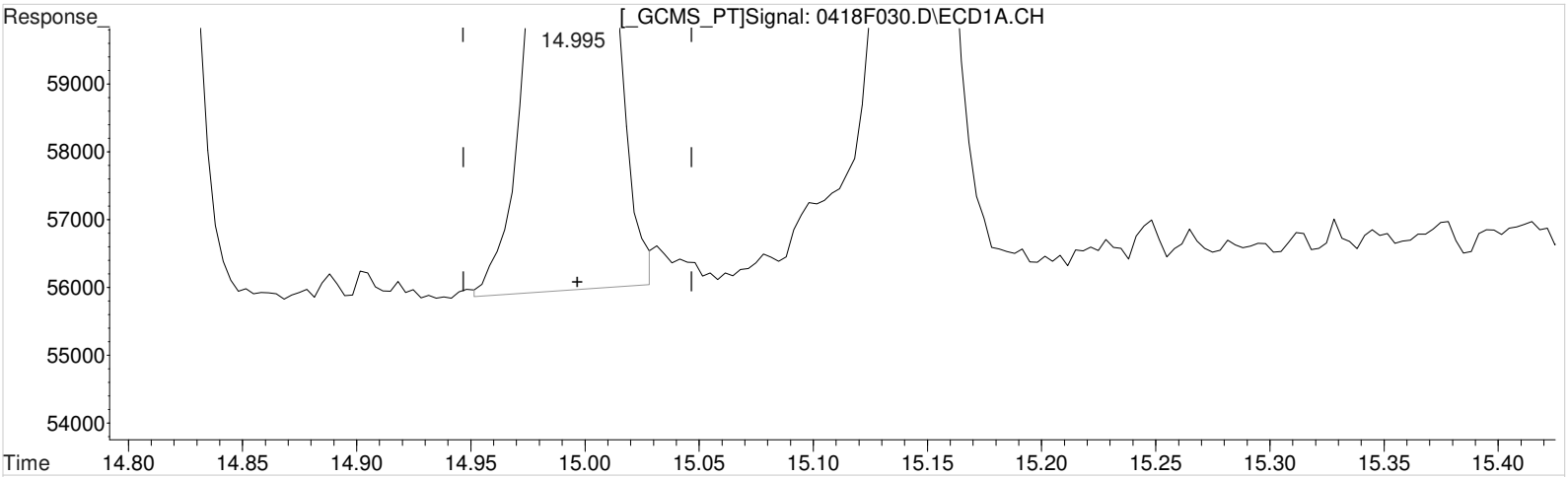
(+) = Expected Retention Time

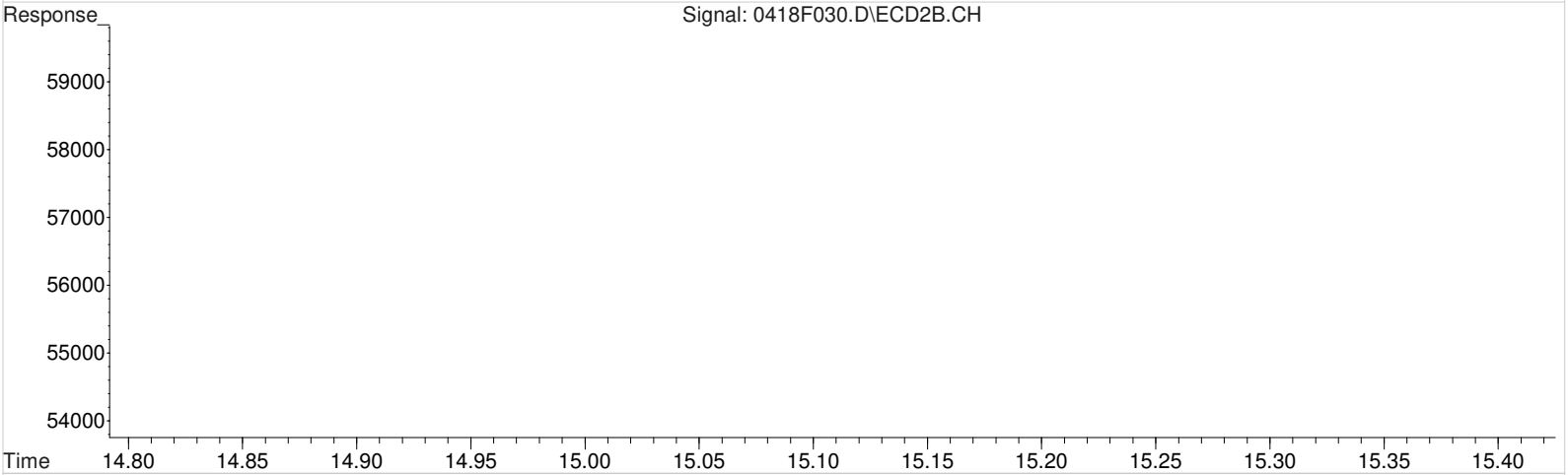
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

14.995min 1.940 ug/L m

response 31090

Manual Integration:

After

Baseline/Shoulder

04/20/20

(20) Endrin Aldehyde #2

13.915min 1.836 ug/L

response 102164

(+) = Expected Retention Time

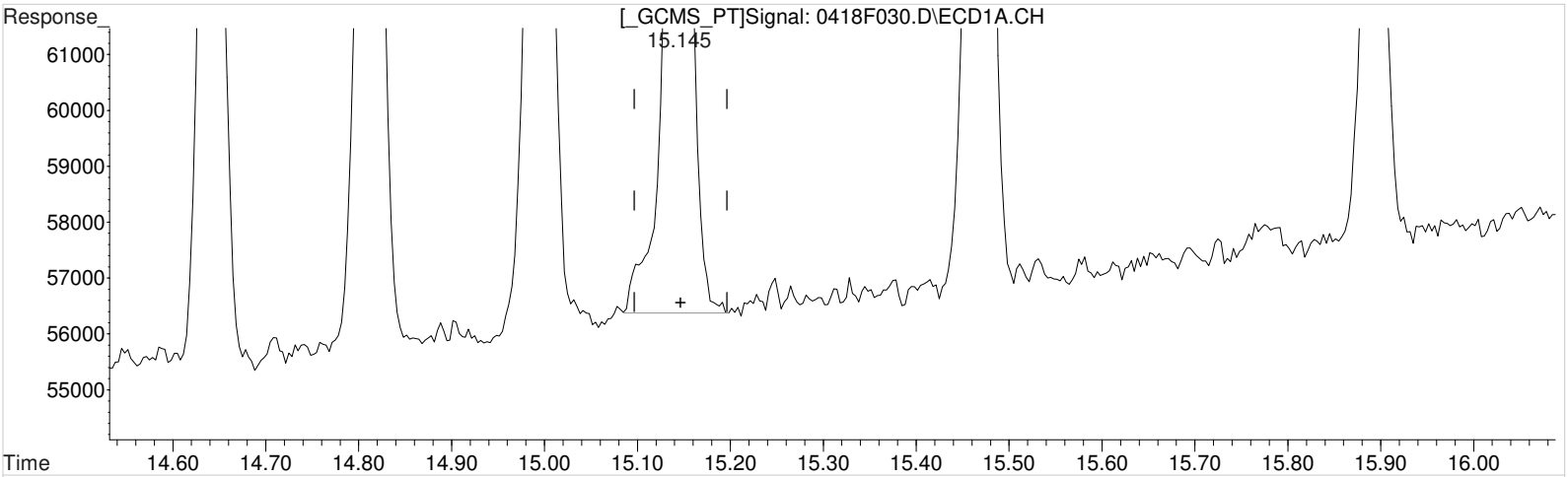
Quantitation Report (Qedit)

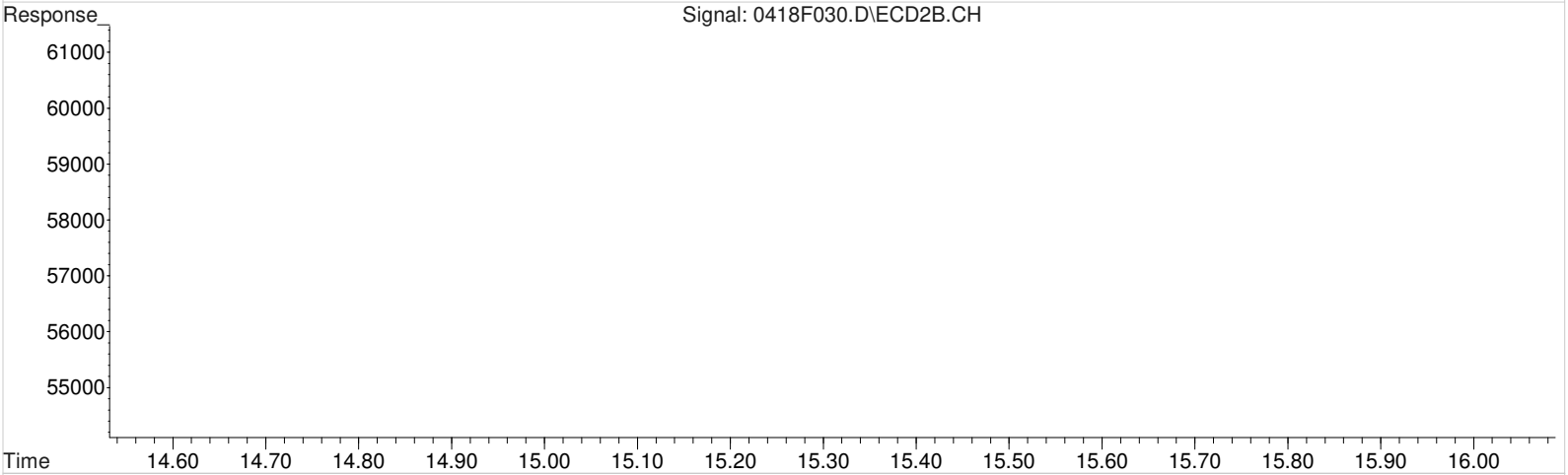
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.145min 1.920 ug/L

response 29171

Manual Integration:

Before

04/20/20

(22) 4,4'-DDT #2

13.799min 2.015 ug/L

response 109363

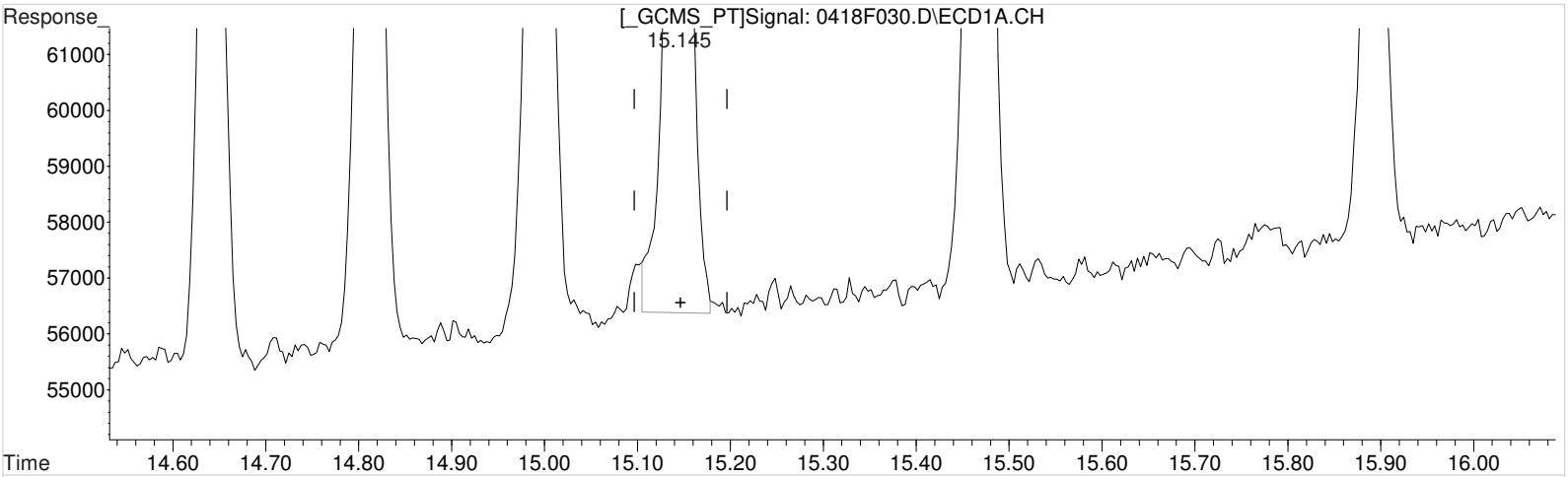
(+) = Expected Retention Time

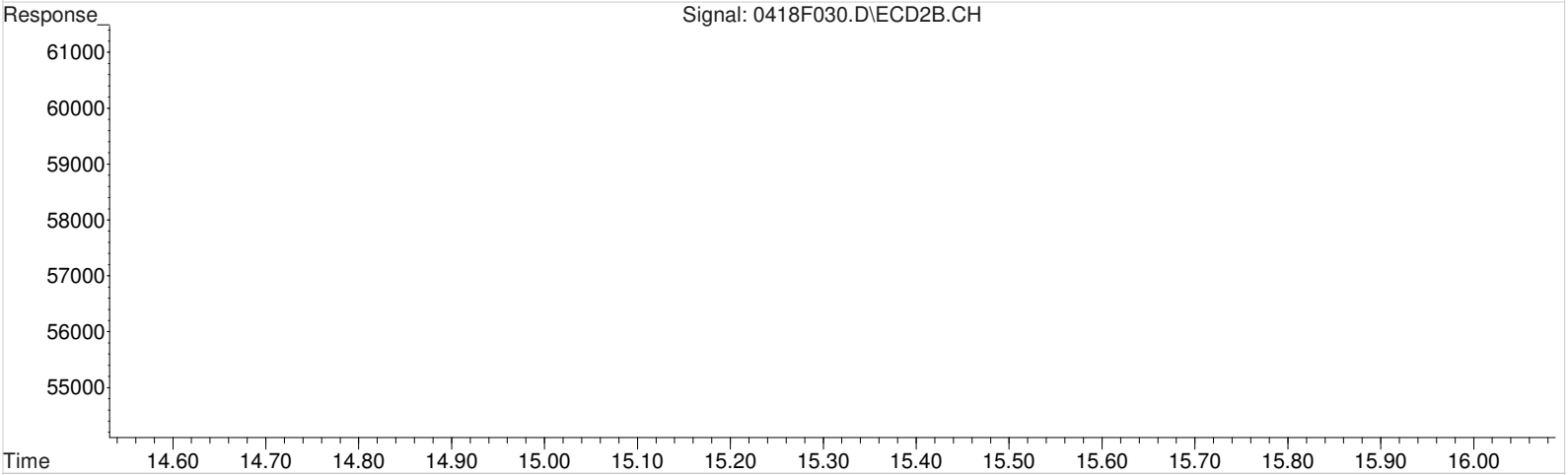
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.145min 1.857 ug/L m

response 28227

Manual Integration:

After

Baseline/Shoulder

04/20/20

(22) 4,4'-DDT #2

13.799min 2.015 ug/L

response 109363

(+) = Expected Retention Time

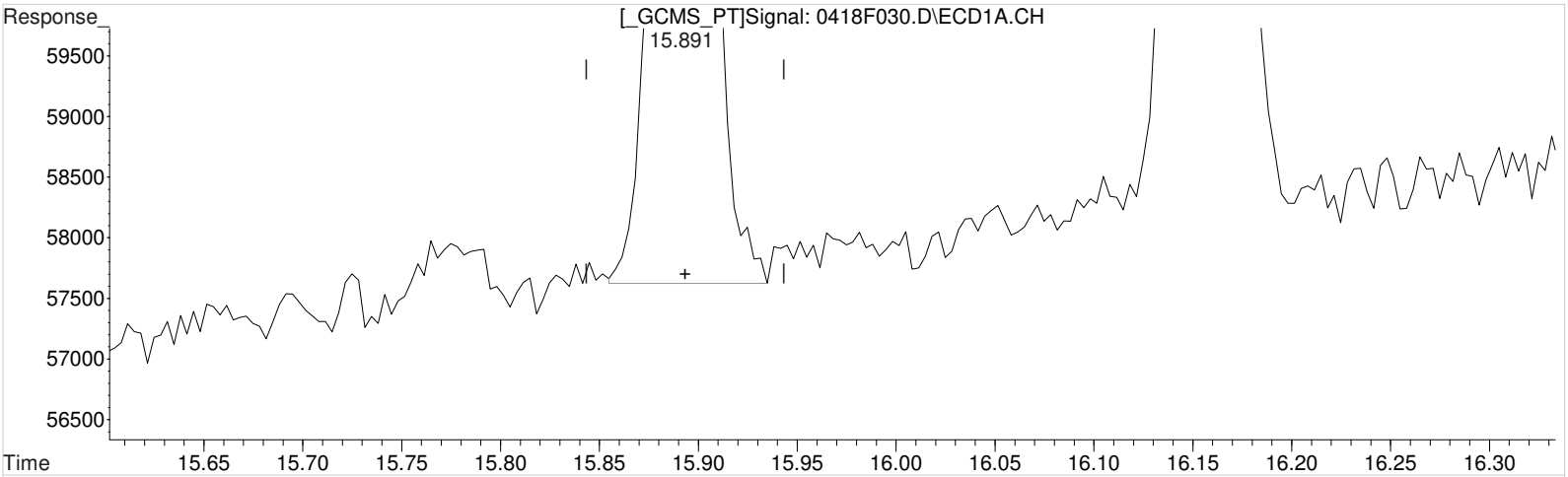
Quantitation Report (Qedit)

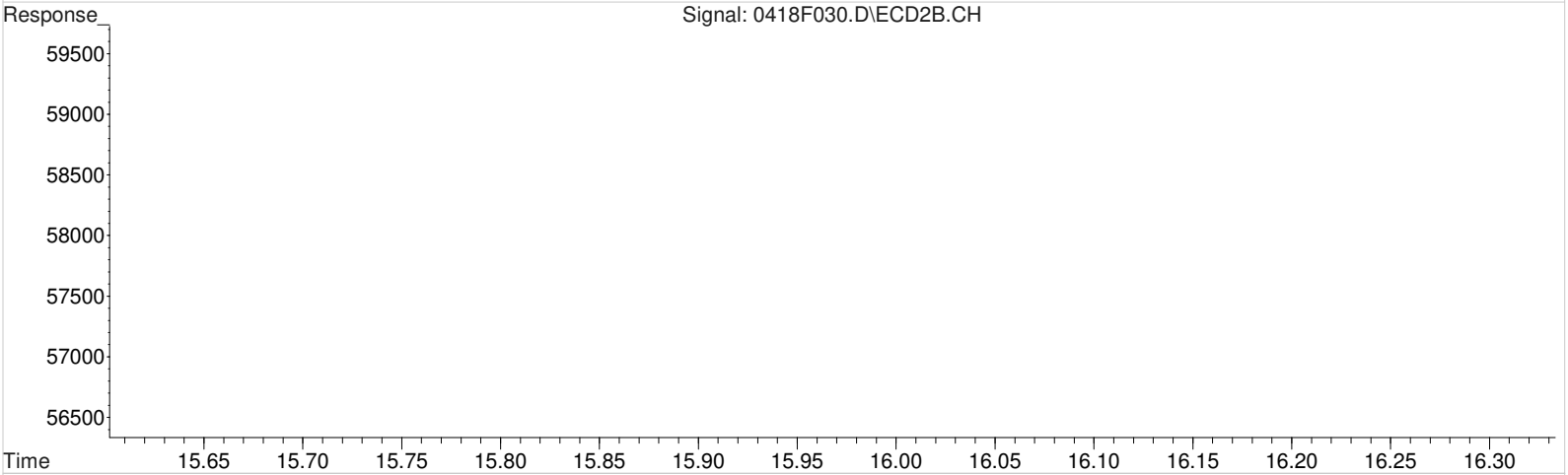
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.891min 1.803 ug/L

response 16614

Manual Integration:

Before

04/20/20

(24) Methoxychlor #2

14.909min 2.094 ug/L

response 63078

(+) = Expected Retention Time

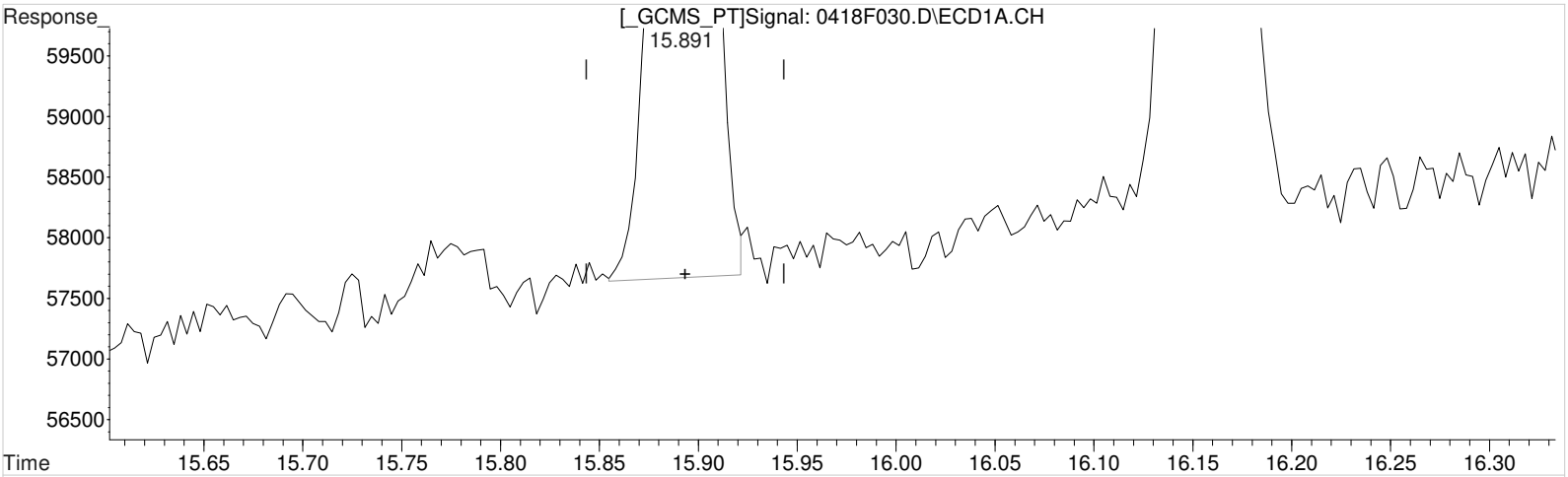
Quantitation Report (Qedit)

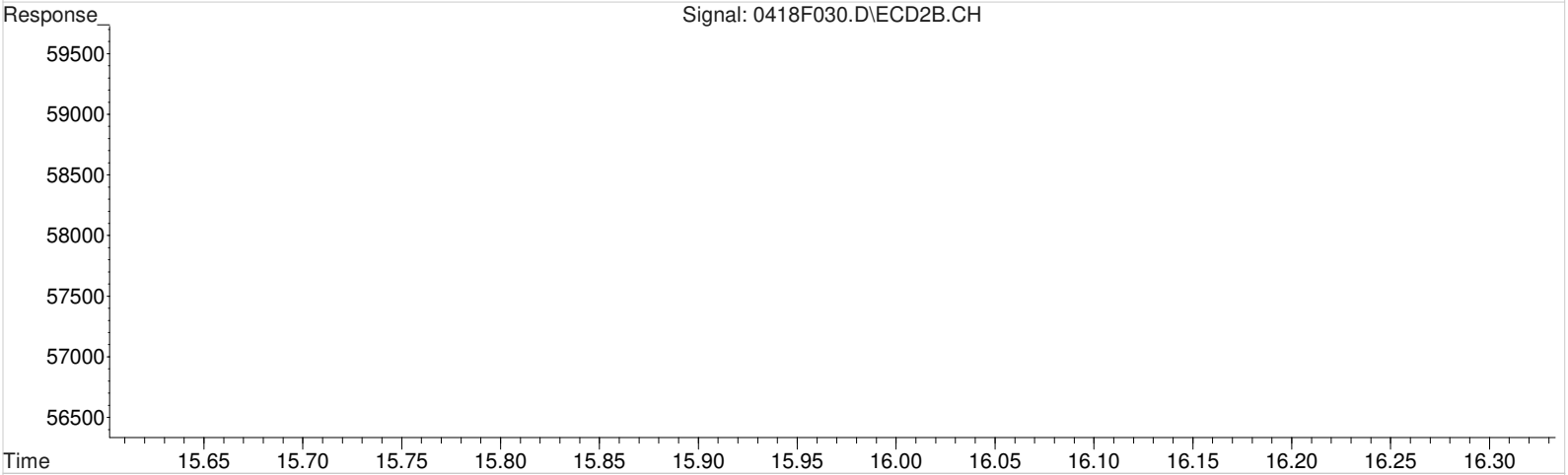
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.891min 1.765 ug/L m

response 16269

Manual Integration:

After

Baseline/Shoulder

04/20/20

(24) Methoxychlor #2

14.909min 2.094 ug/L

response 63078

(+) = Expected Retention Time

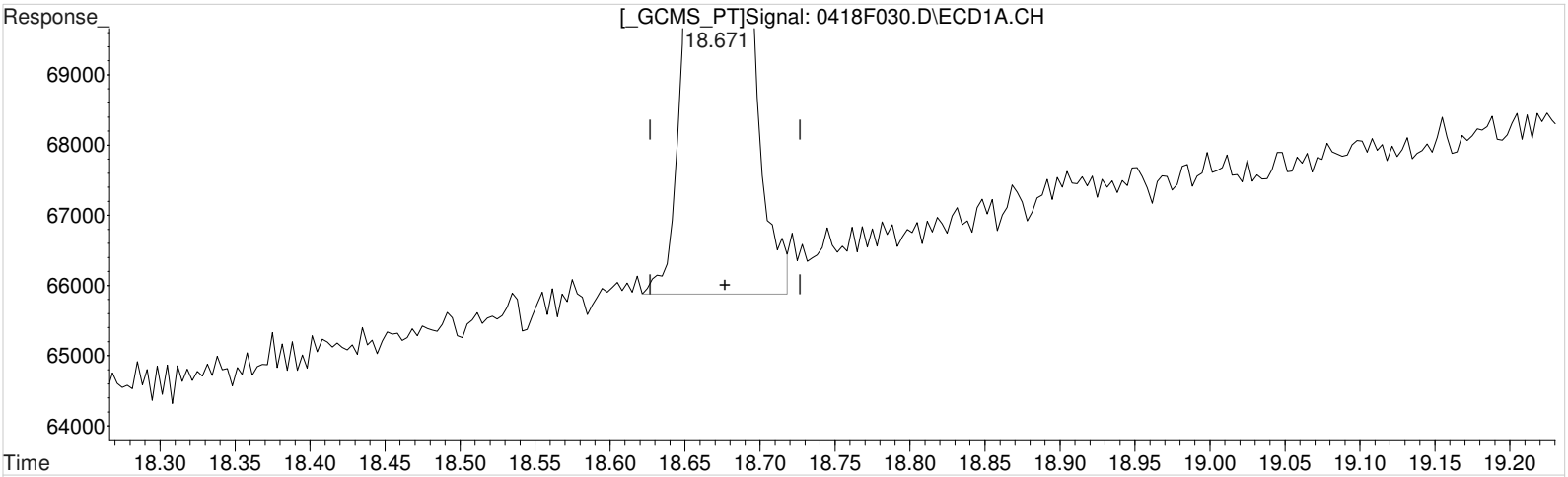
Quantitation Report (Qedit)

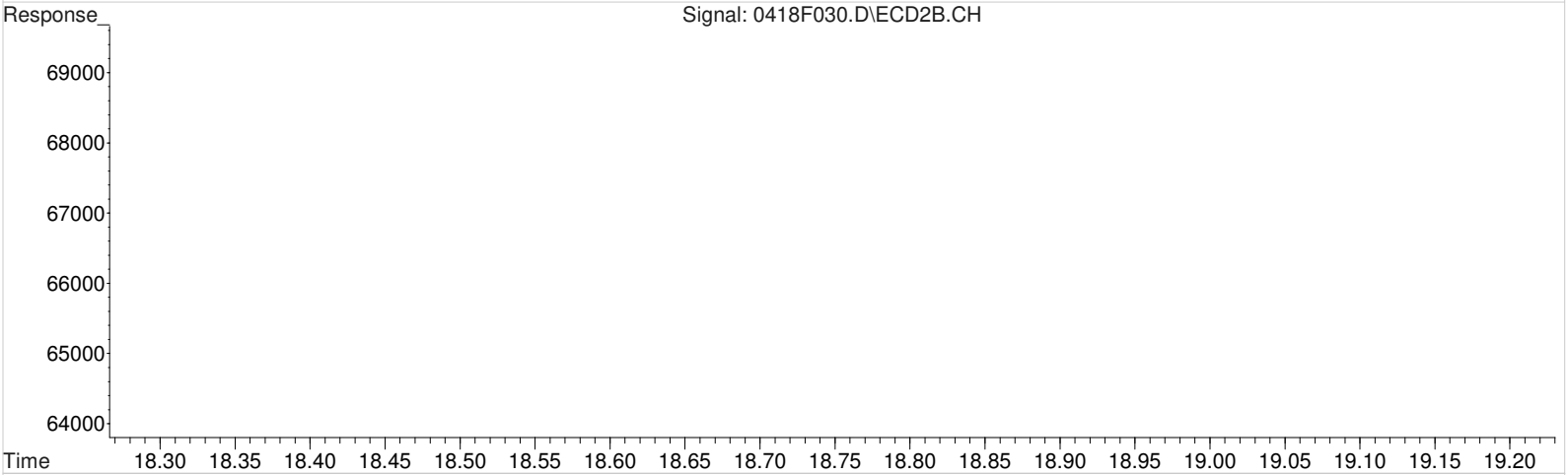
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.671min 1.927 ug/L

response 41548

Manual Integration:

Before

04/20/20

(28) Decachlorobiphenyl #2 (s)

17.065min 1.657 ug/L

response 142115

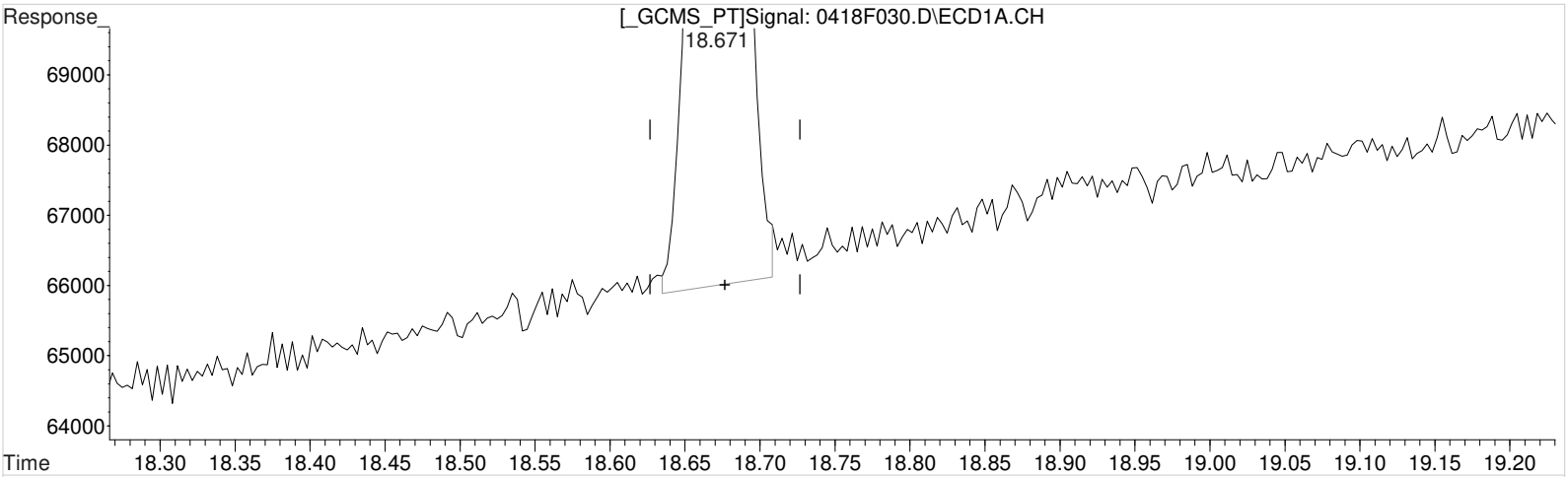
(+) = Expected Retention Time

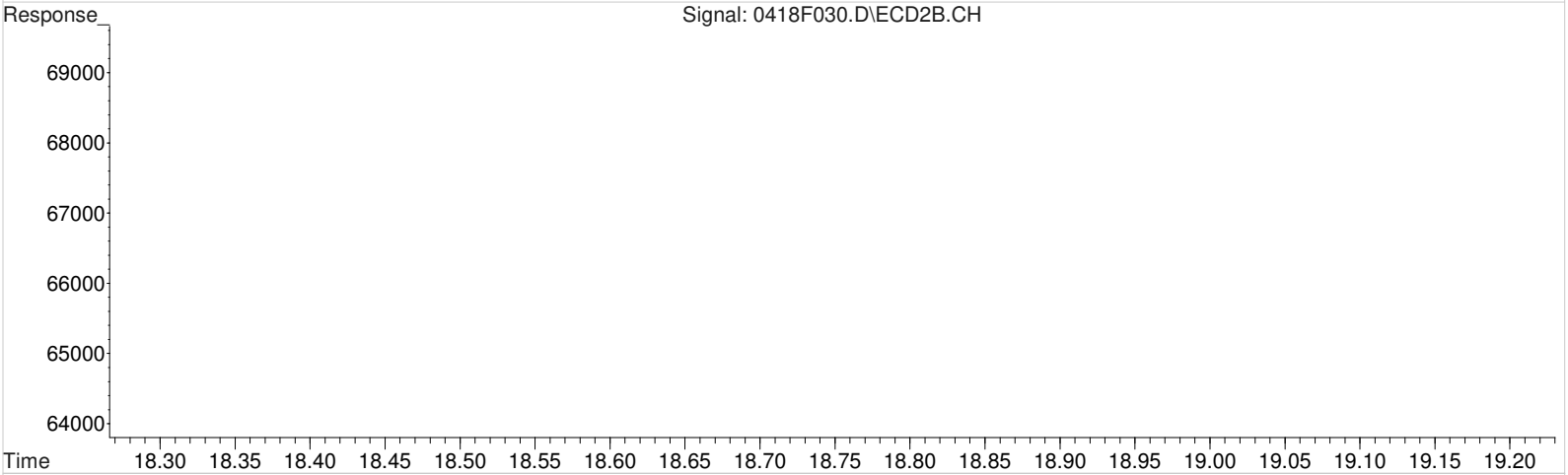
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.671min 1.874 ug/L m

response 40422

Manual Integration:

After

Baseline/Shoulder

04/20/20

(28) Decachlorobiphenyl #2 (s)

17.065min 1.657 ug/L

response 142115

(+) = Expected Retention Time

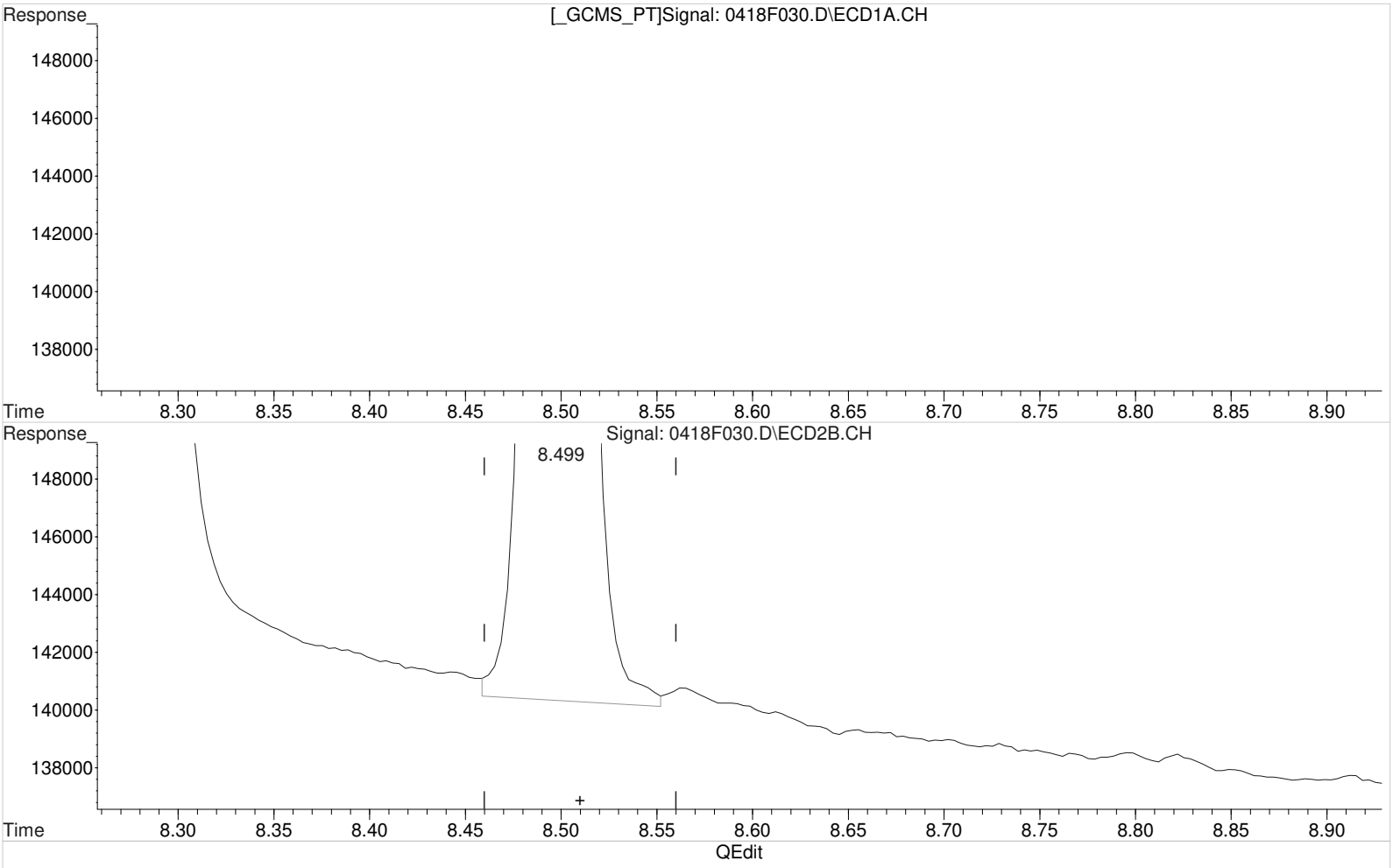
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.818min 1.832 ug/L

response 37031

Manual Integration:

Before

04/20/20

(3) alpha-BHC #2

8.499min 1.696 ug/L

response 142991

(+) = Expected Retention Time

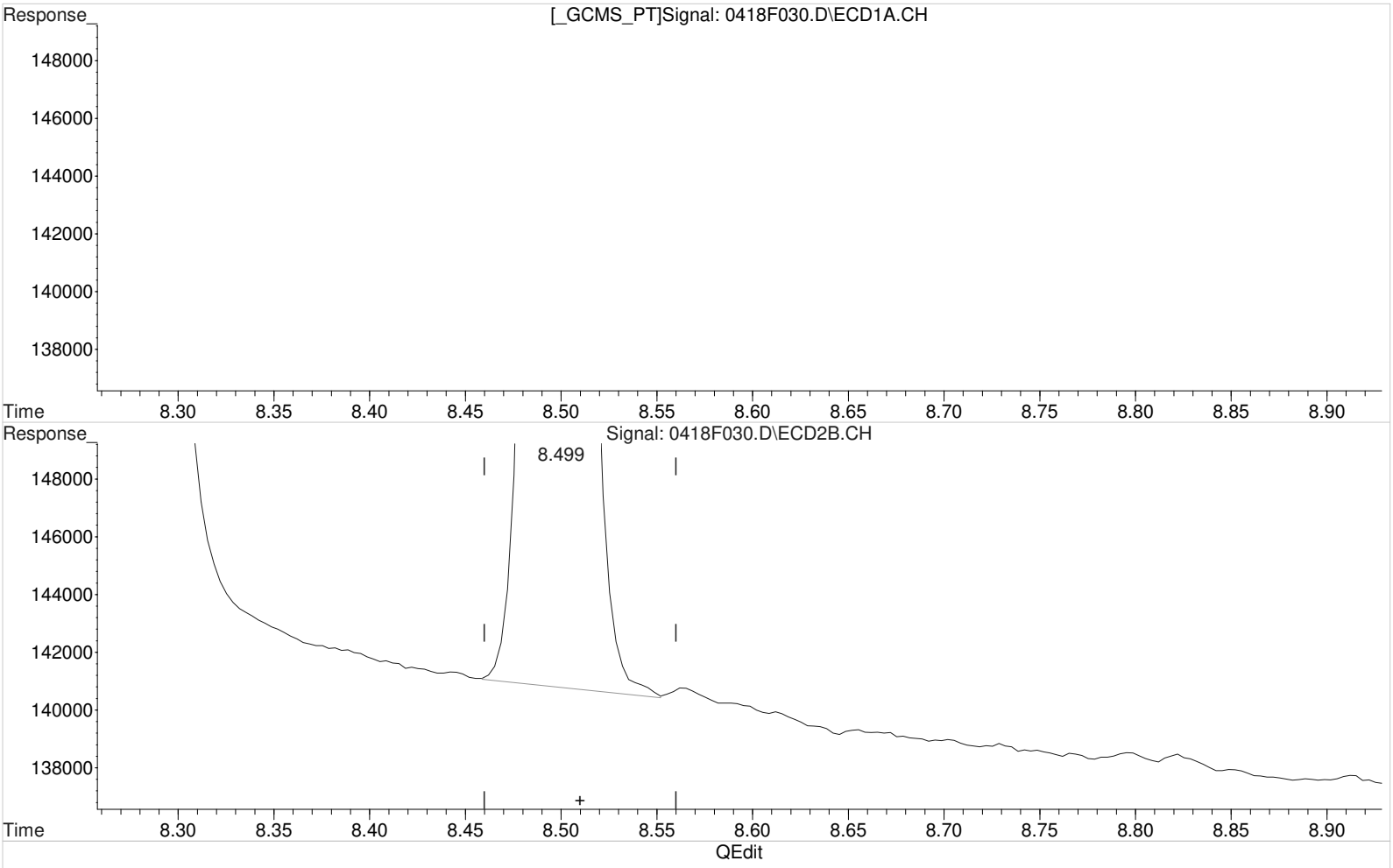
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(3) alpha-BHC

9.818min 1.832 ug/L

response 37031

Manual Integration:

After

Baseline/Shoulder

04/20/20

(3) alpha-BHC #2

8.499min 1.667 ug/L m

response 140522

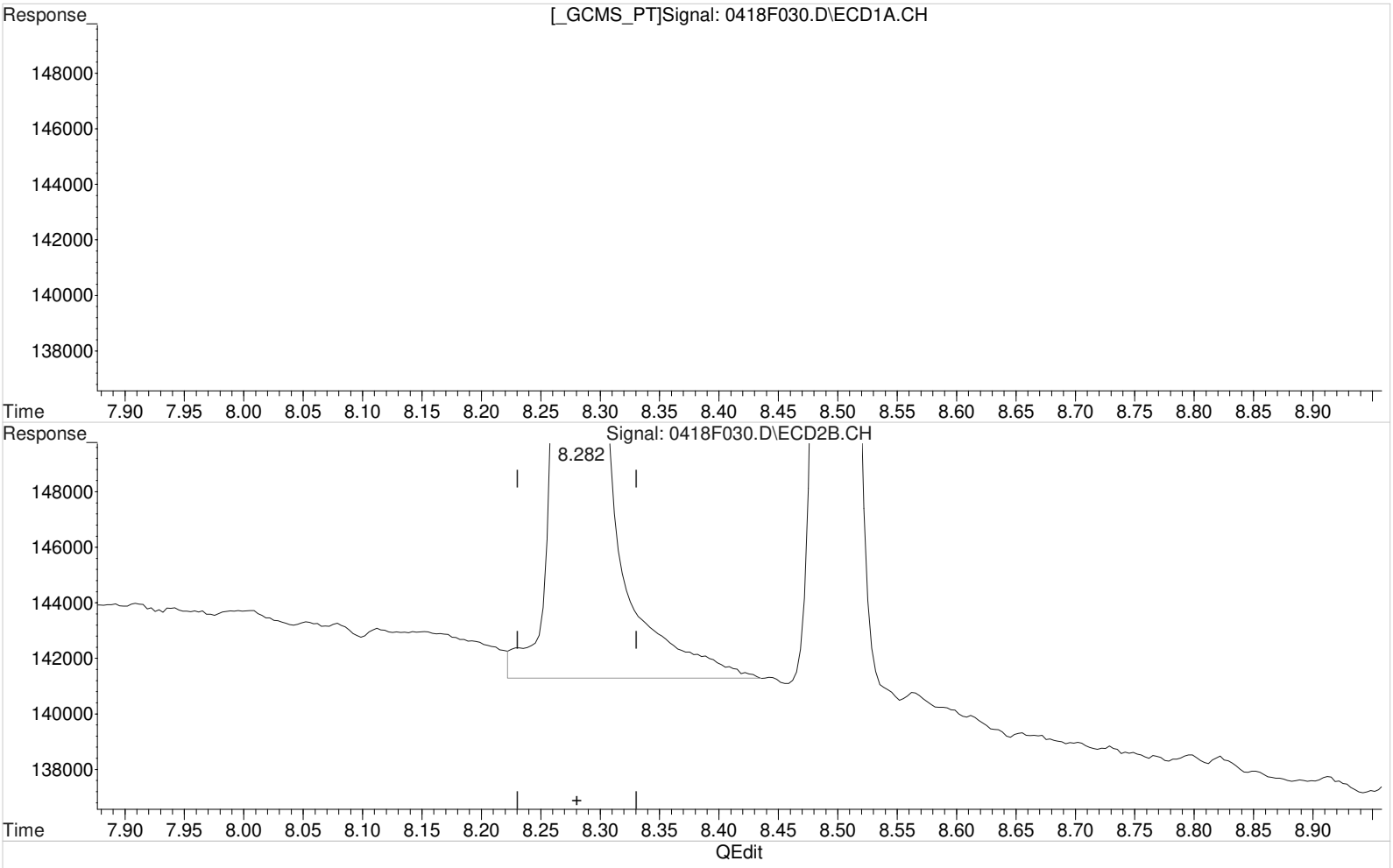
(+) = Expected Retention Time

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(4) Hexachlorobenzene

9.981min 1.813 ug/L

response 43387

Manual Integration:

Before

04/20/20

(4) Hexachlorobenzene #2

8.282min 1.843 ug/L

response 156063

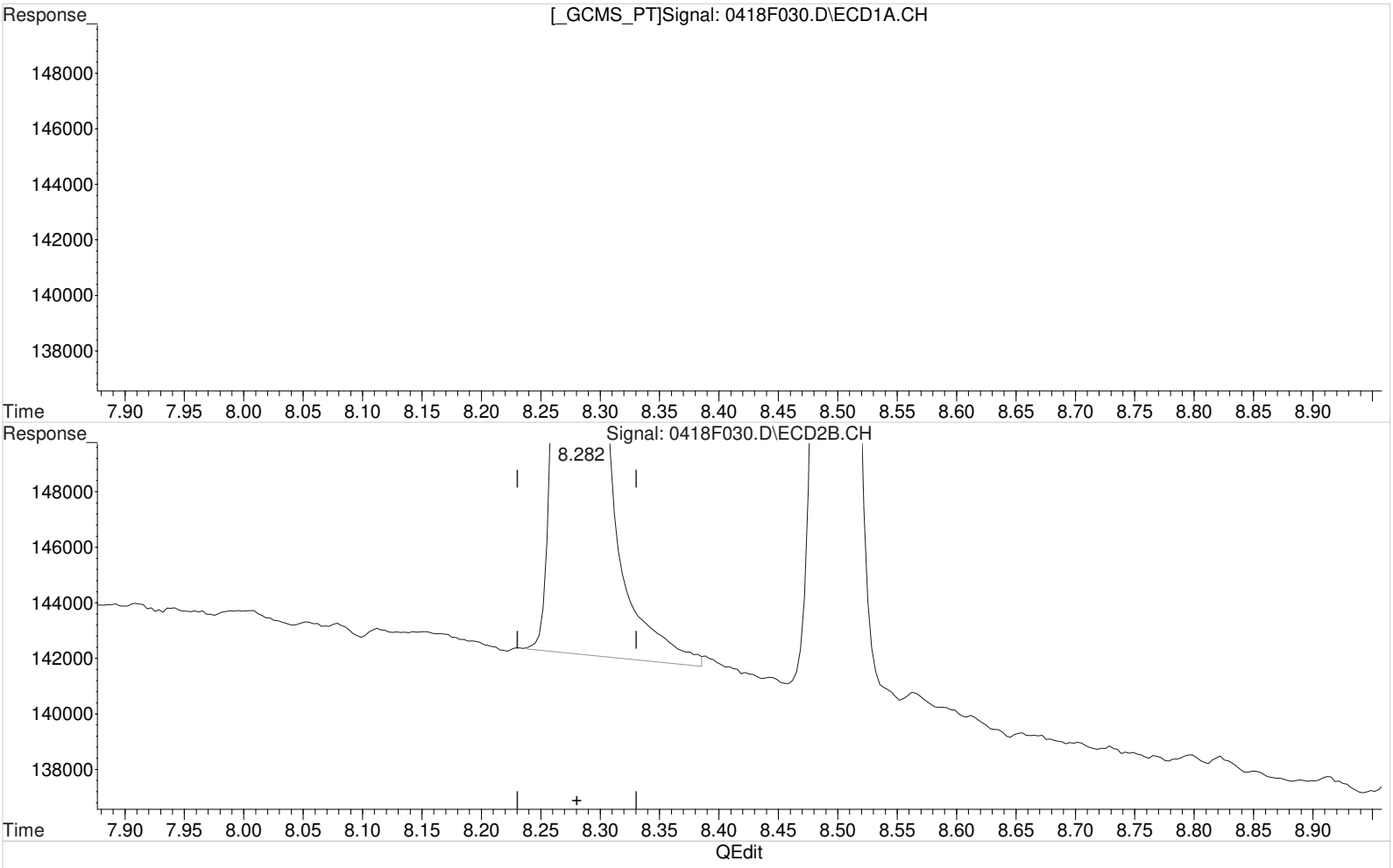
(+) = Expected Retention Time

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(4) Hexachlorobenzene

9.981min 1.813 ug/L

response 43387

Manual Integration:

After

Baseline/Shoulder

04/20/20

(4) Hexachlorobenzene #2

8.282min 1.741 ug/L m

response 147374

(+) = Expected Retention Time

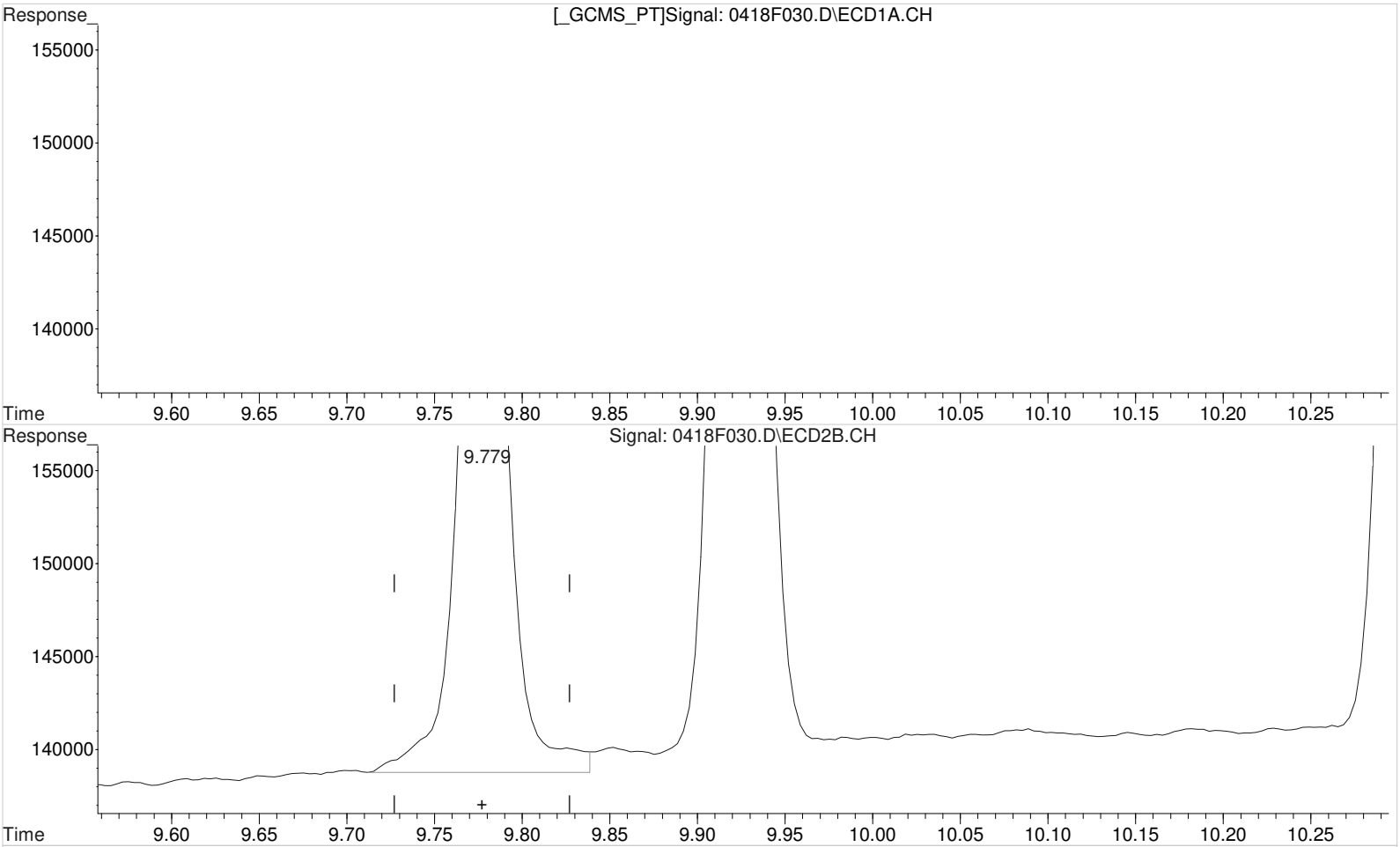
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.075min 1.863 ug/L

response 20130

Manual Integration:

Before

04/20/20

(5) beta-BHC #2

9.779min 1.903 ug/L

response 76097

(+) = Expected Retention Time

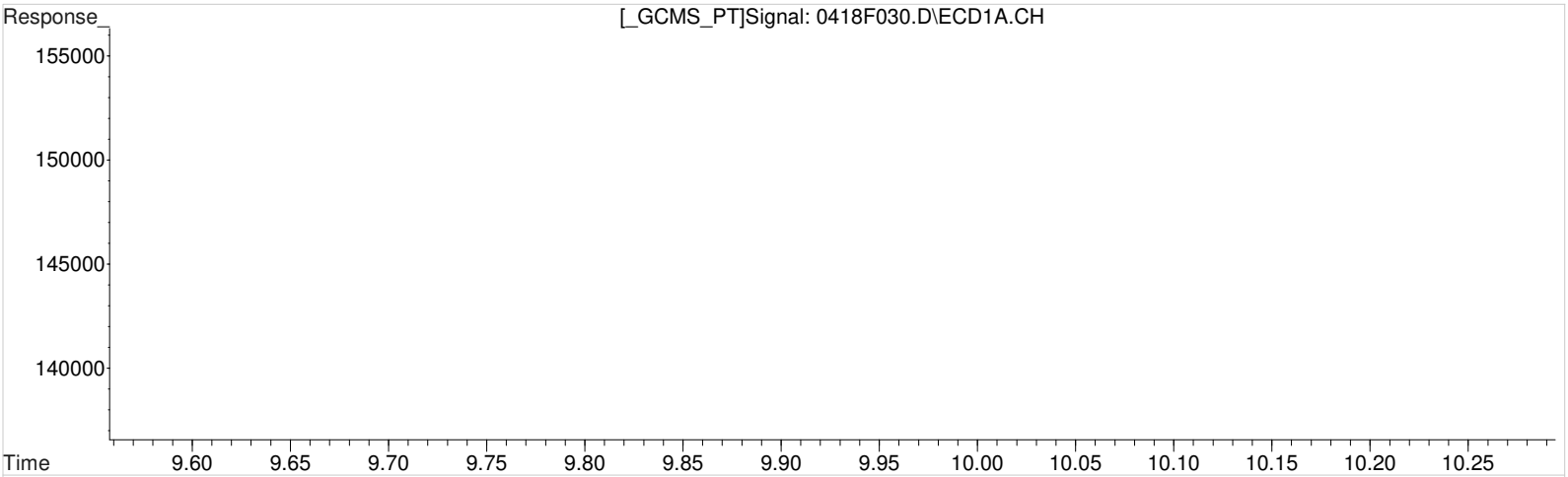
Quantitation Report (Qedit)

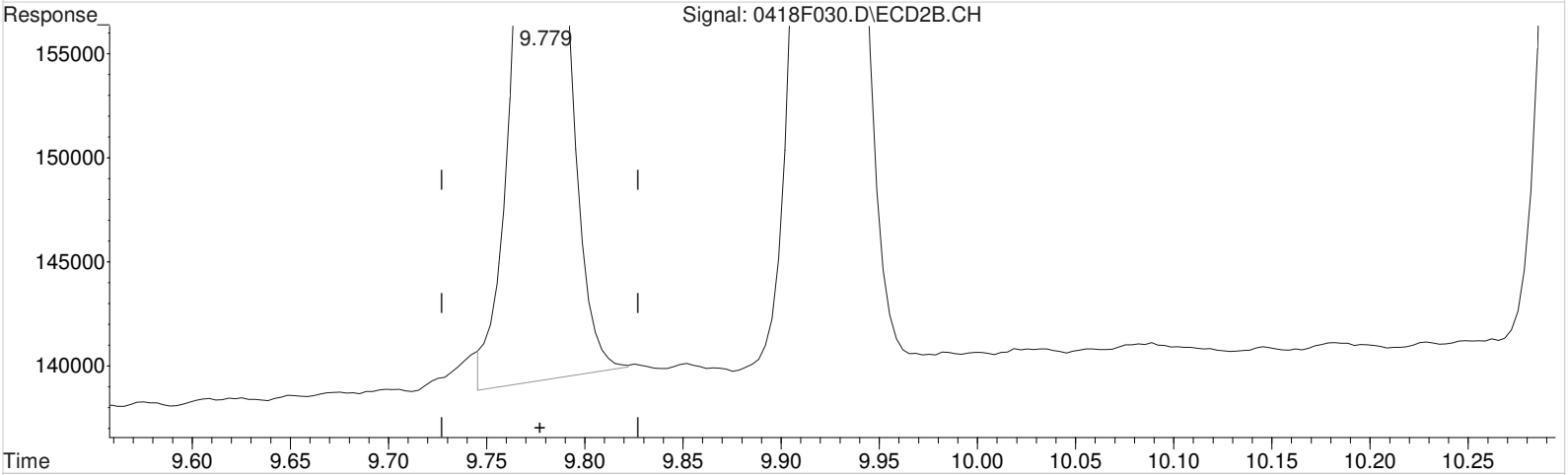
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F030.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 9:55 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(5) beta-BHC

11.075min 1.863 ug/L

response 20130

(5) beta-BHC #2

9.779min 1.754 ug/L m

response 70131

Manual Integration:

After

Baseline/Shoulder

04/20/20

(+) = Expected Retention Time

1st STM 04/22/20
2nd TP 04/23/20

Validation Report

Data File: J:\GC23\data\041820\0418F031.D\
Lab ID: KQ2005308-02.R01
RunType: CCV
Matrix: Water

Date Acquired: 4/19/20 10:25:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards		X
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards - DB XLB	1-Bromo-2-nitrobenzene	0	484615	1938460	NR
	1-Bromo-2-nitrobenzene {3}	0	504054	2016216	NR
Internal Standards - DB-35MS	1-Bromo-2-nitrobenzene	0	2230535	8922140	NR
	1-Bromo-2-nitrobenzene {3}	0	2364940	9459758	NR

Primary Review: _____

Secondary Review: _____

1st STM 04/22/20
2nd TP 04/23/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F031.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 10:25:00	**Vial:**	20
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005308-02.R01	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**		**Report Group:**	KQ2005308
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.20	5.49	1176810	5096370	100.000	100.000
1-Bromo-2-nitrobenzene {3}	0.00	0.00	0*	0*	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000			N
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000			N

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
beta-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Chlordane					0	0	0	0	N
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Dieldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Toxaphene					97.546	6666666666	97.5	92.3	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/22/20
2nd TP 04/23/20

Data File:	J:\GC23\data\041820\0418F031.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 10:25:00	**Vial:**	20
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005308-02.R01	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Toxaphene {1}	14.74	13.39	20695	105802	107.029	93.428	107	93.4	
Toxaphene {2}	14.80	13.45	15748	78566	90.041	90.174	90.0	90.2	
Toxaphene {3}	14.92	13.59	31160	96282	89.411	85.236	89.4	85.2	
Toxaphene {4}	14.99	13.66	22327	38977	95.261	97.399	95.3	97.4	
Toxaphene {5}	15.34	13.93	22722	56354	101.741	92.383	102	92.4	
Toxaphene {6}	15.52	15.43	10258	31410	101.793	95.055	102	95.1	

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:40:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
29)	1-Bromo-2...	6.198	5.485	1176810	5096370	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
30)	Toxaphene	14.741	13.385	20695	105802	107.029	93.428m
31)	Toxaphene...	14.801	13.452	15748	78566	90.041m	90.174m
32)	Toxaphene...	14.918	13.592	31160	96282	89.411	85.236m
33)	Toxaphene...	14.988	13.662	22327	38977	95.261	97.399m
34)	Toxaphene...	15.338	13.925	22722	56354	101.741	92.383m
35)	Toxaphene...	15.525	15.425	10258	31410	101.793	95.055m
	SemiQuant Compounds - Not Calibrated on this Instrument						

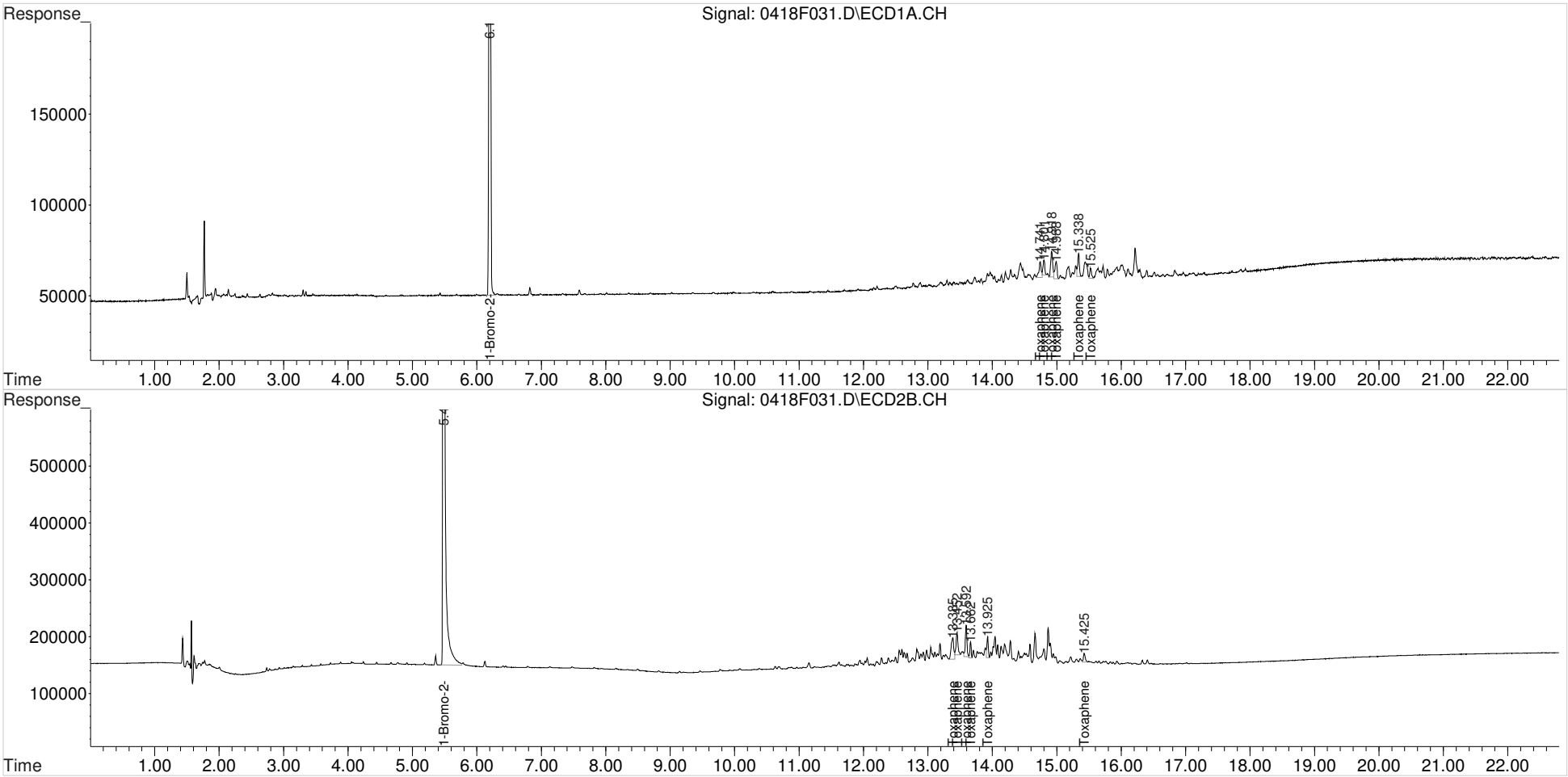
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:40:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



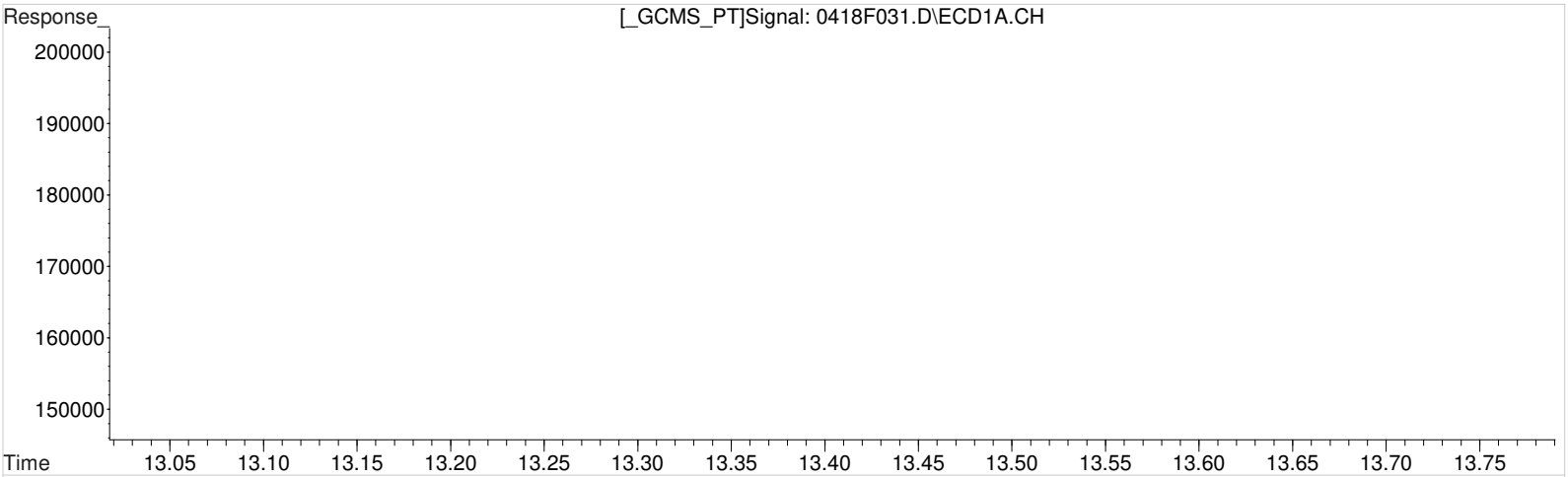
Quantitation Report (Qedit)

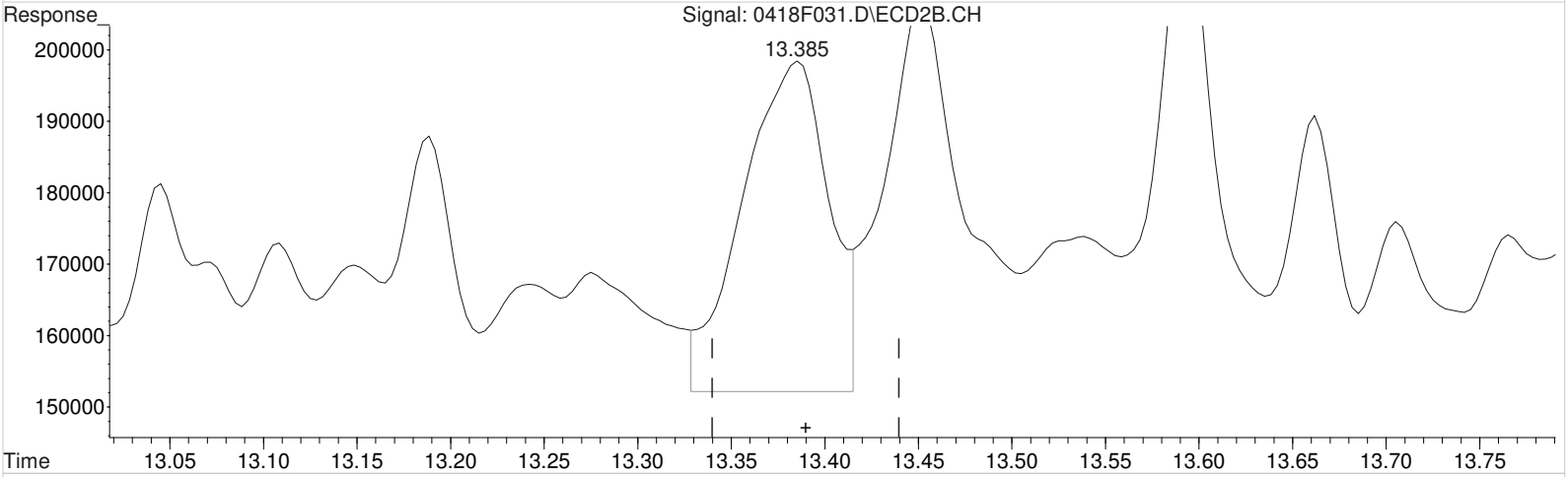
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.741min 107.029 ug/L

response 20695

(30) Toxaphene #2

13.385min 131.858 ug/L

response 149322

Manual Integration:

Before

04/20/20

(+) = Expected Retention Time

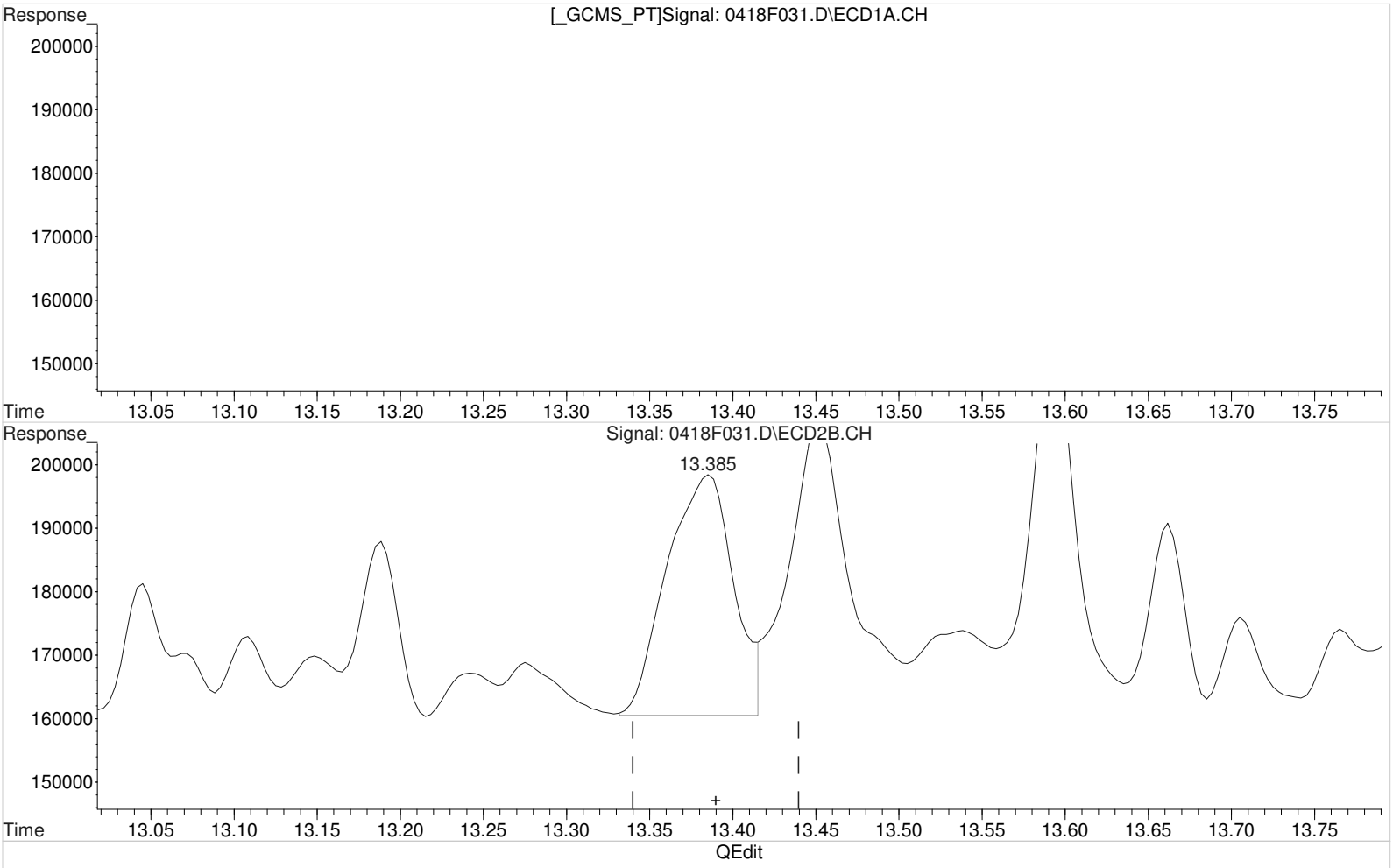
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.741min 107.029 ug/L

response 20695

Manual Integration:

After

Baseline/Shoulder

04/20/20

(30) Toxaphene #2

13.385min 93.428 ug/L m

response 105802

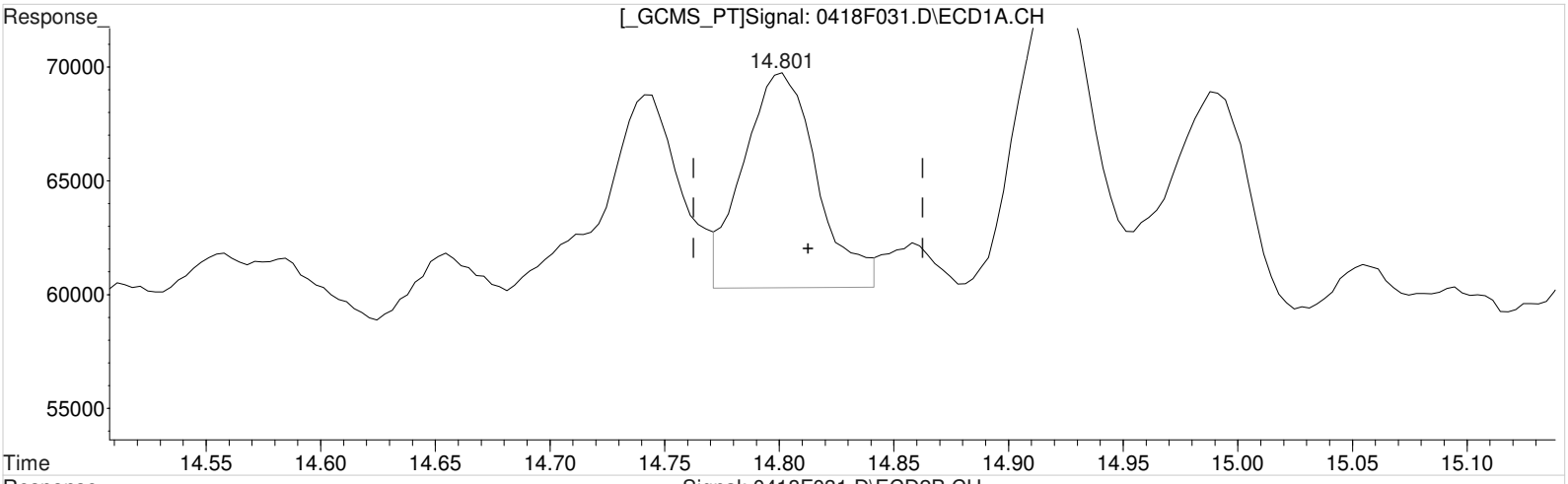
(+) = Expected Retention Time

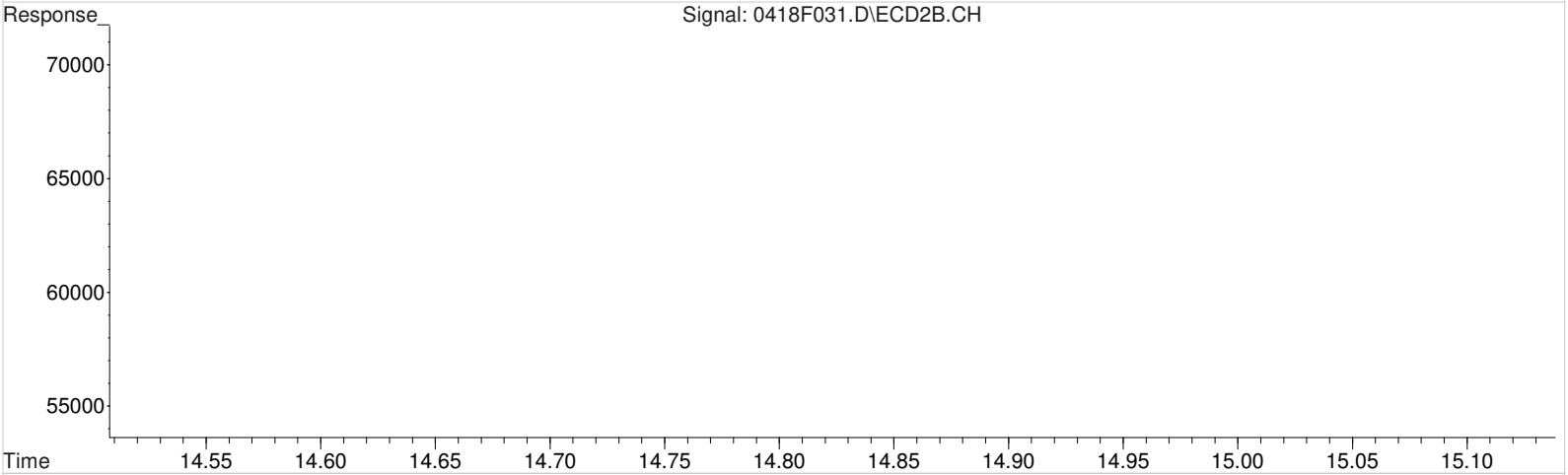
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.801min 120.036 ug/L

response 20994

Manual Integration:

Before

04/20/20

(31) Toxaphene {2} #2

13.452min 190.992 ug/L

response 166406

(+) = Expected Retention Time

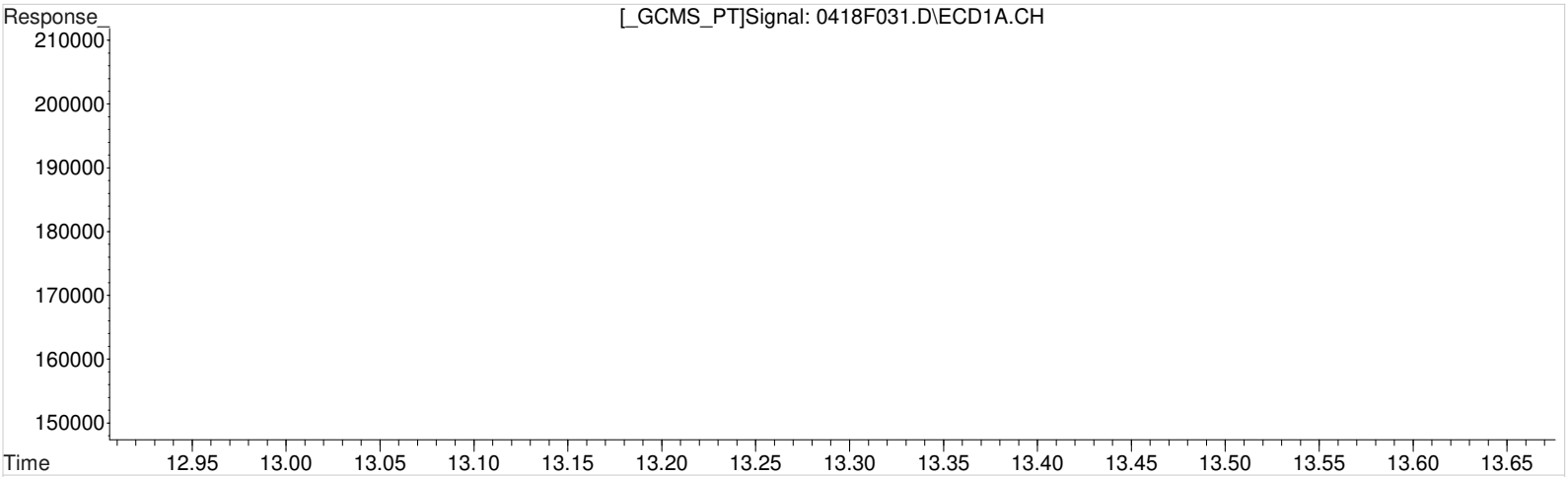
Quantitation Report (Qedit)

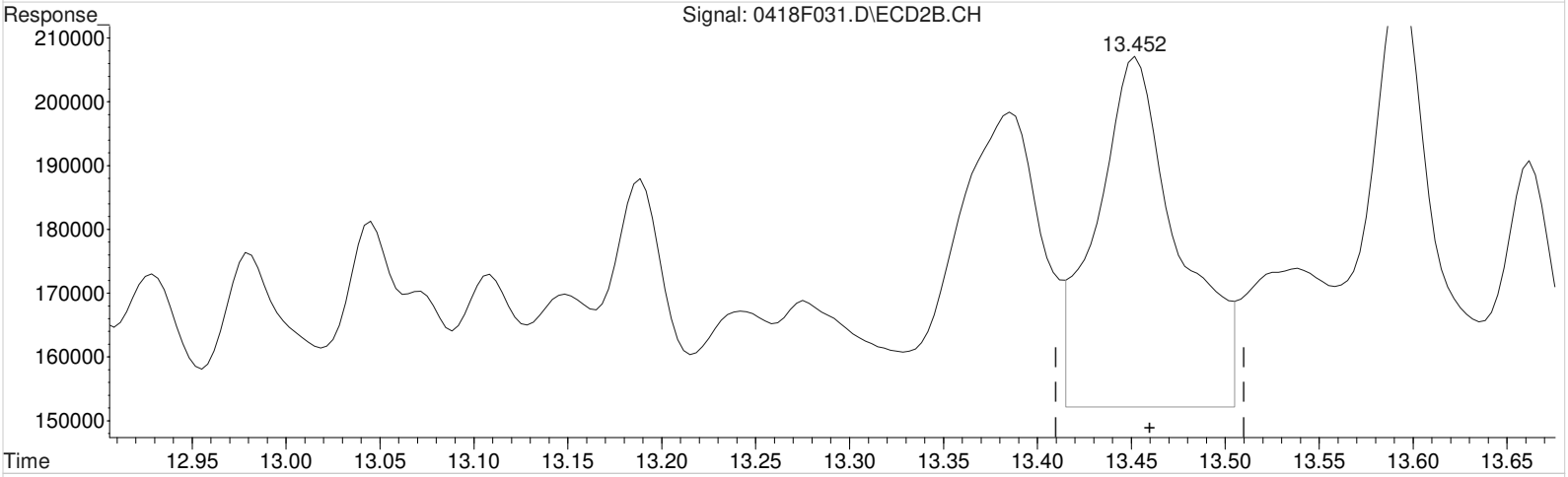
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.801min 90.041 ug/L m

response 15748

Manual Integration:

Before

04/20/20

(31) Toxaphene {2} #2

13.452min 190.992 ug/L

response 166406

(+) = Expected Retention Time

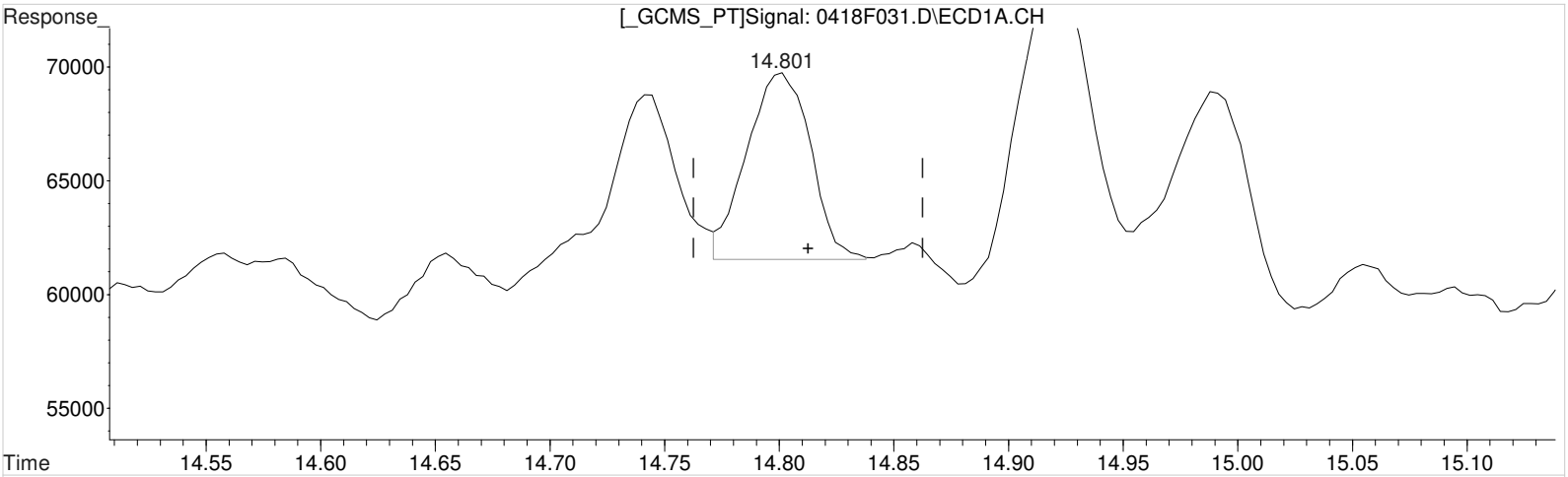
Quantitation Report (Qedit)

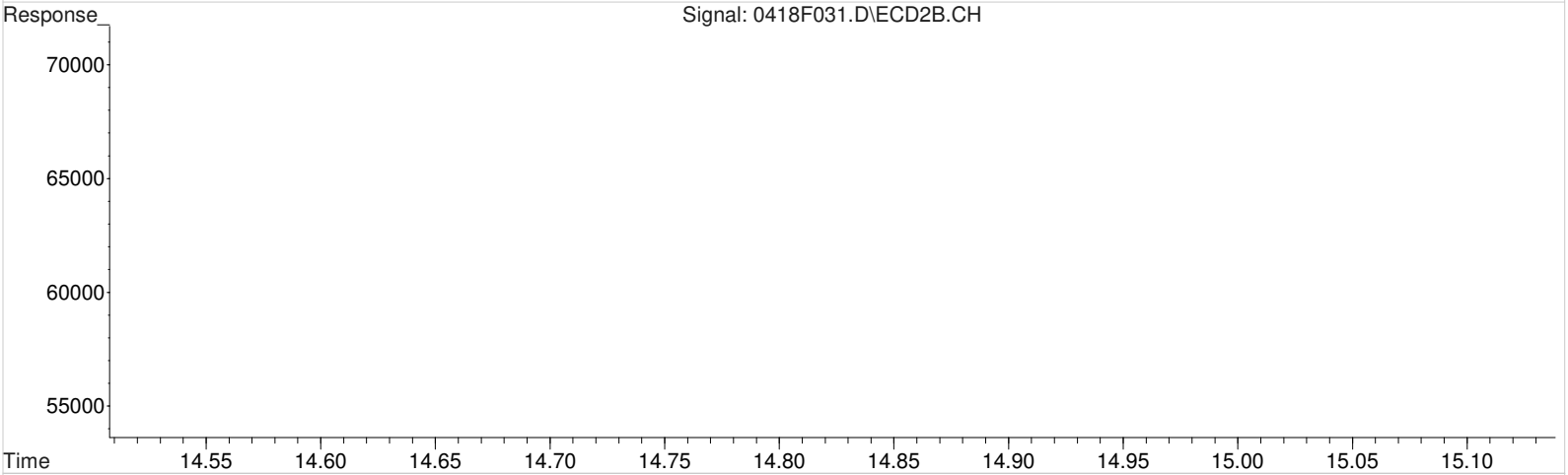
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.801min 90.041 ug/L m

response 15748

Manual Integration:

After

Baseline/Shoulder

04/20/20

(31) Toxaphene {2} #2

13.452min 190.992 ug/L

response 166406

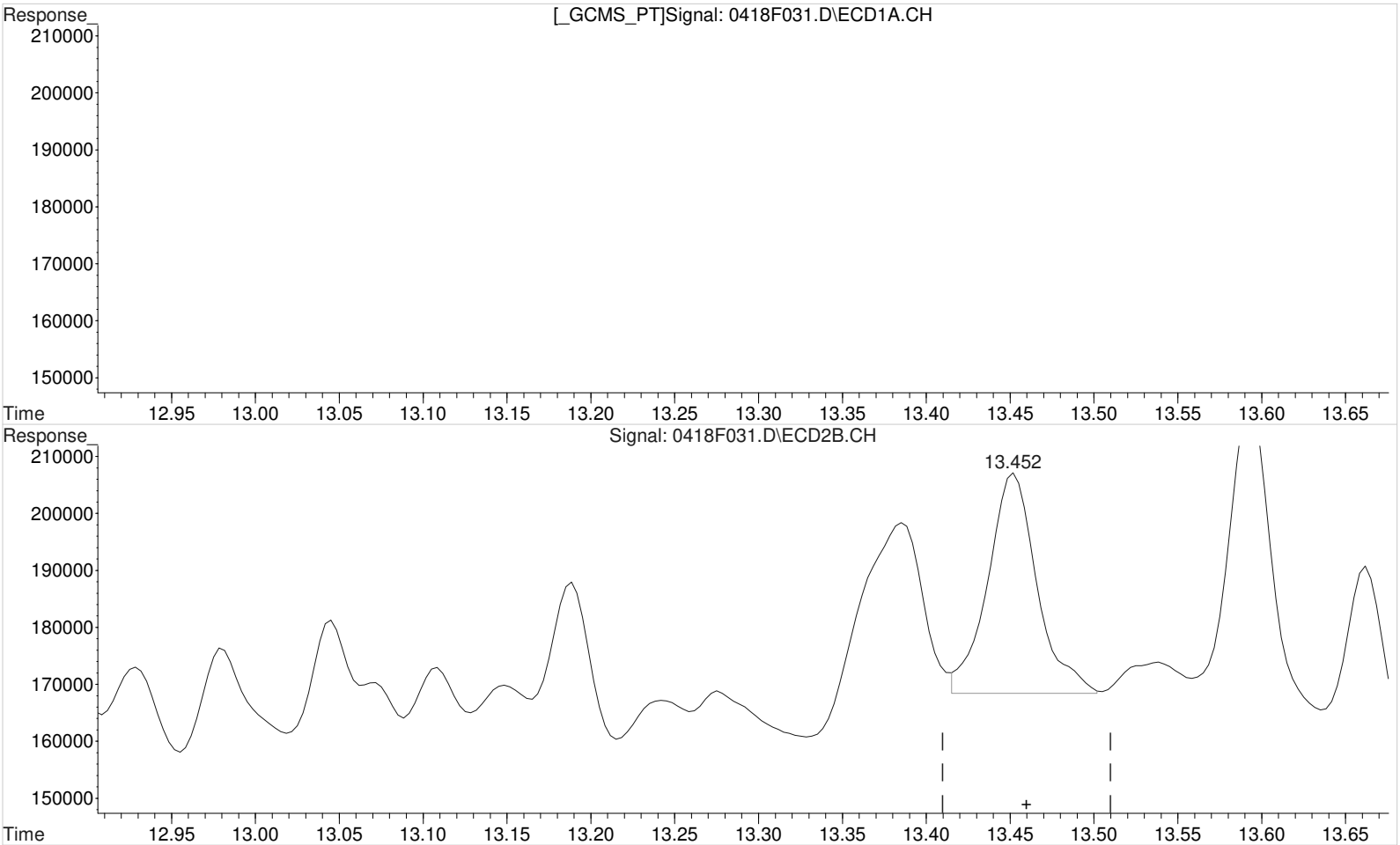
(+) = Expected Retention Time

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(31) Toxaphene {2}

14.801min 90.041 ug/L m

response 15748

Manual Integration:

After

Baseline/Shoulder

04/20/20

(31) Toxaphene {2} #2

13.452min 90.174 ug/L m

response 78566

(+) = Expected Retention Time

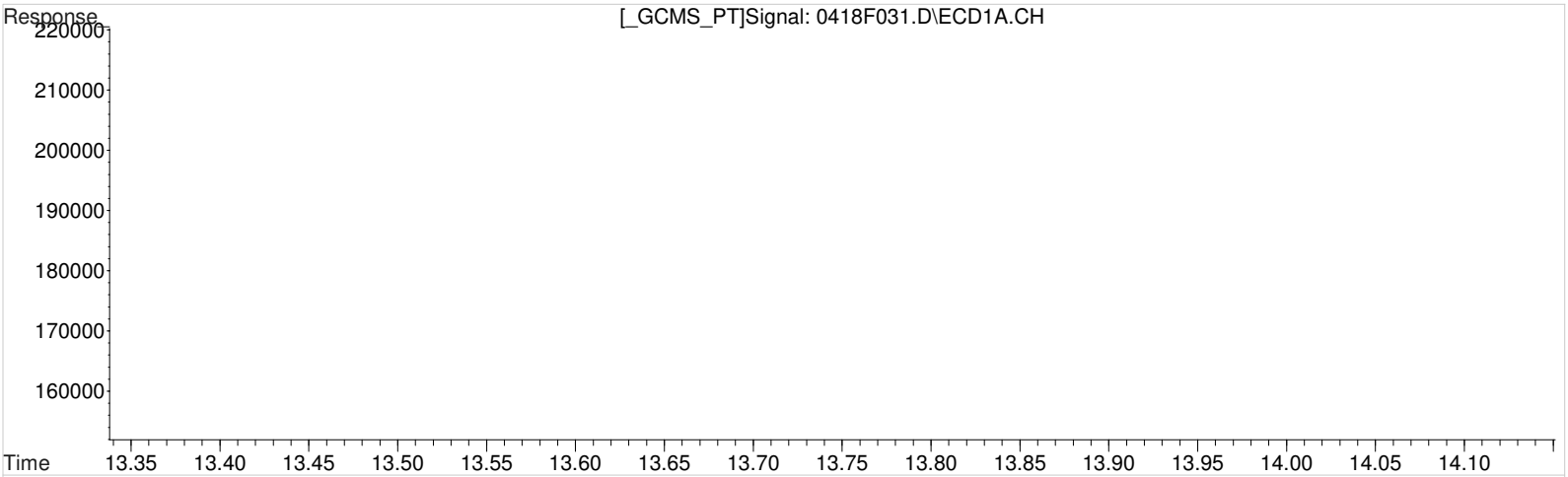
Quantitation Report (Qedit)

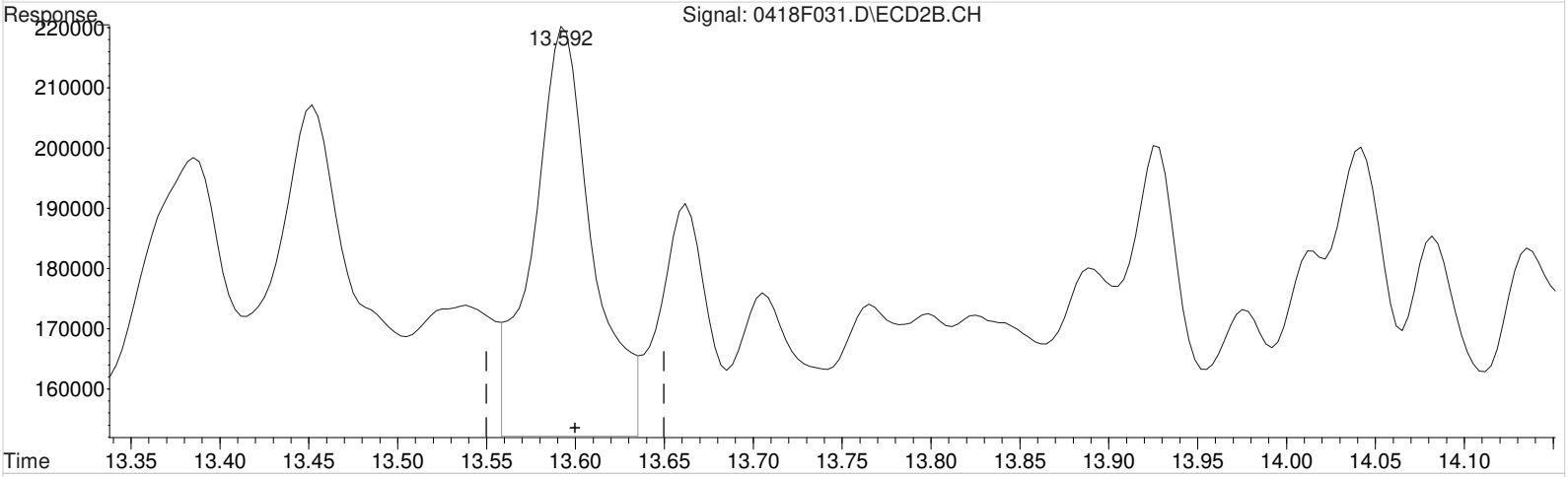
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.918min 89.411 ug/L

response 31160

Manual Integration:

Before

04/20/20

(32) Toxaphene {3} #2

13.592min 144.406 ug/L

response 156772

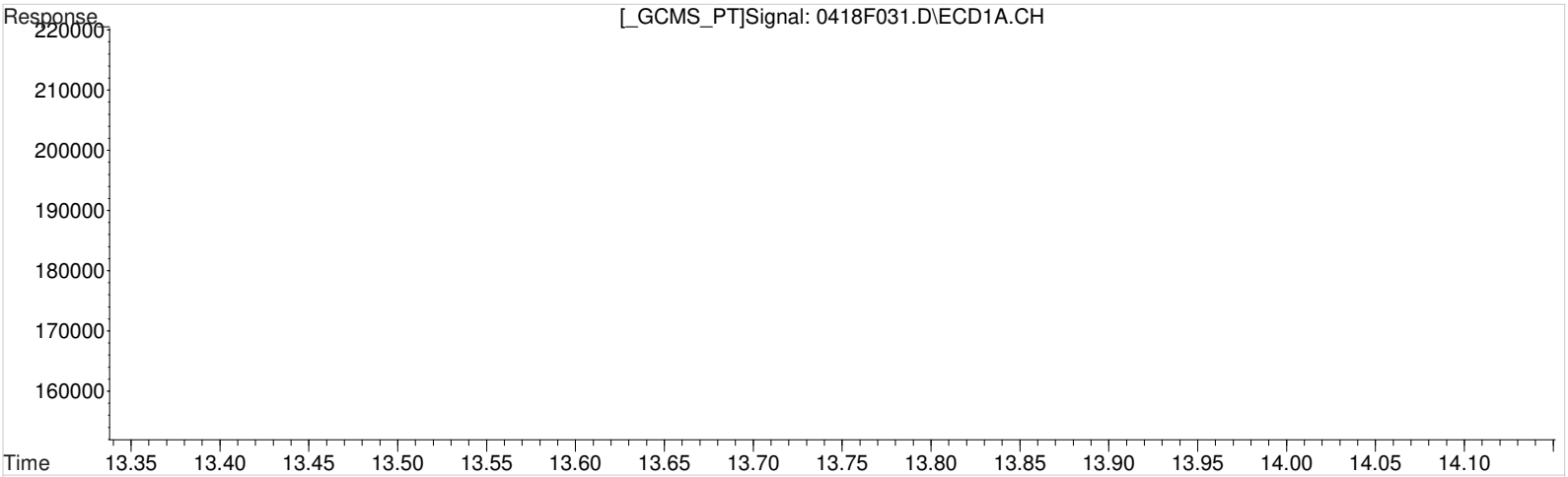
(+) = Expected Retention Time

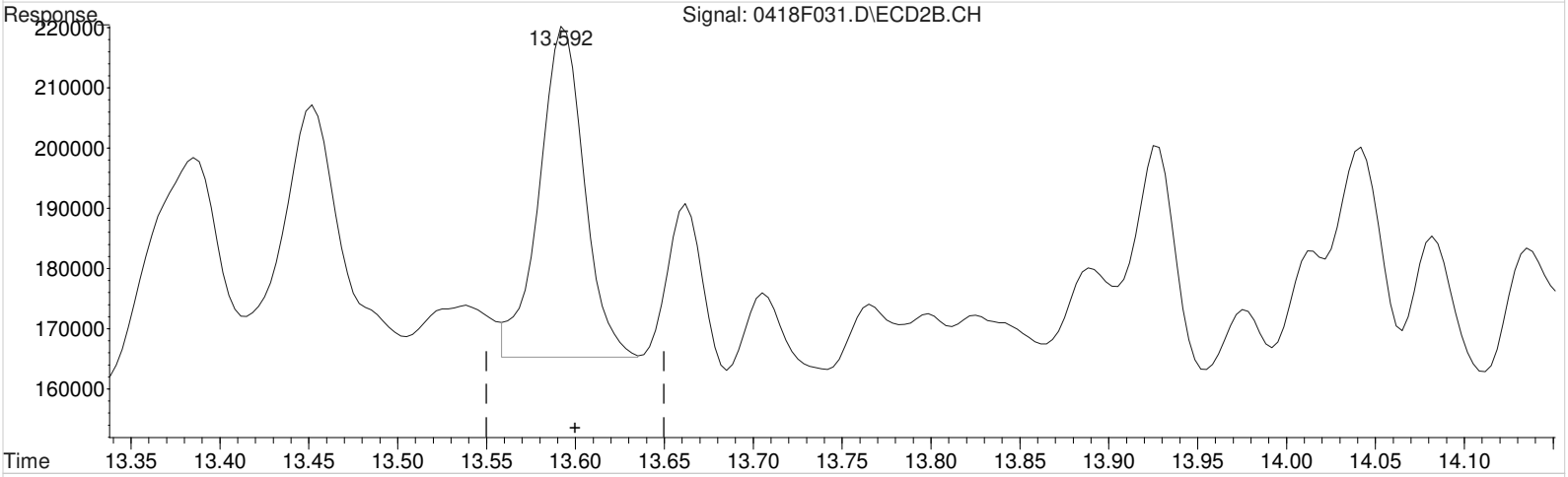
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.918min 89.411 ug/L

response 31160

Manual Integration:

After

Baseline/Shoulder

04/20/20

(32) Toxaphene {3} #2

13.592min 85.236 ug/L m

response 96282

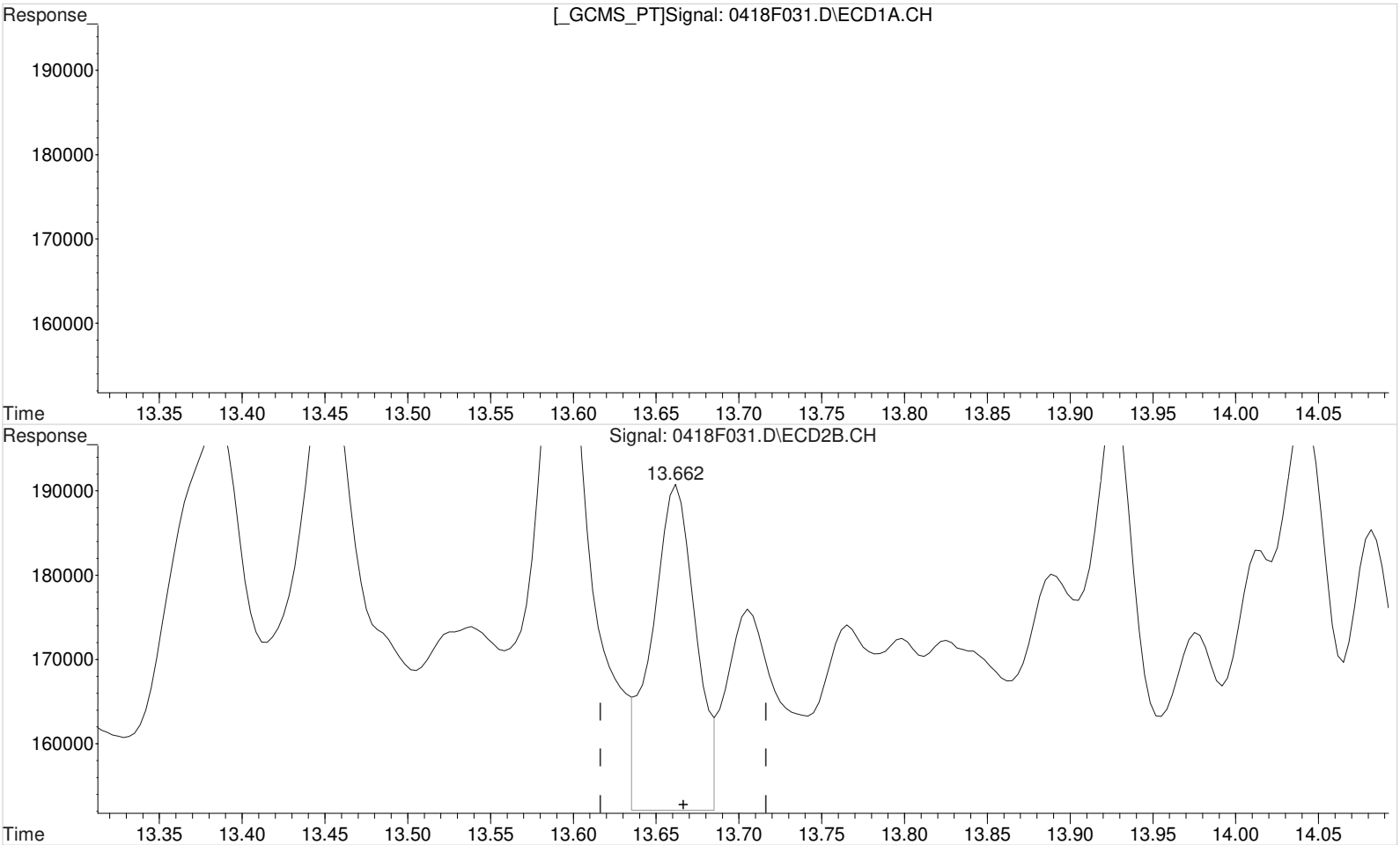
(+) = Expected Retention Time

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.988min 95.261 ug/L

response 22327

Manual Integration:

Before

04/20/20

(33) Toxaphene {4} #2

13.662min 184.903 ug/L

response 71118

(+) = Expected Retention Time

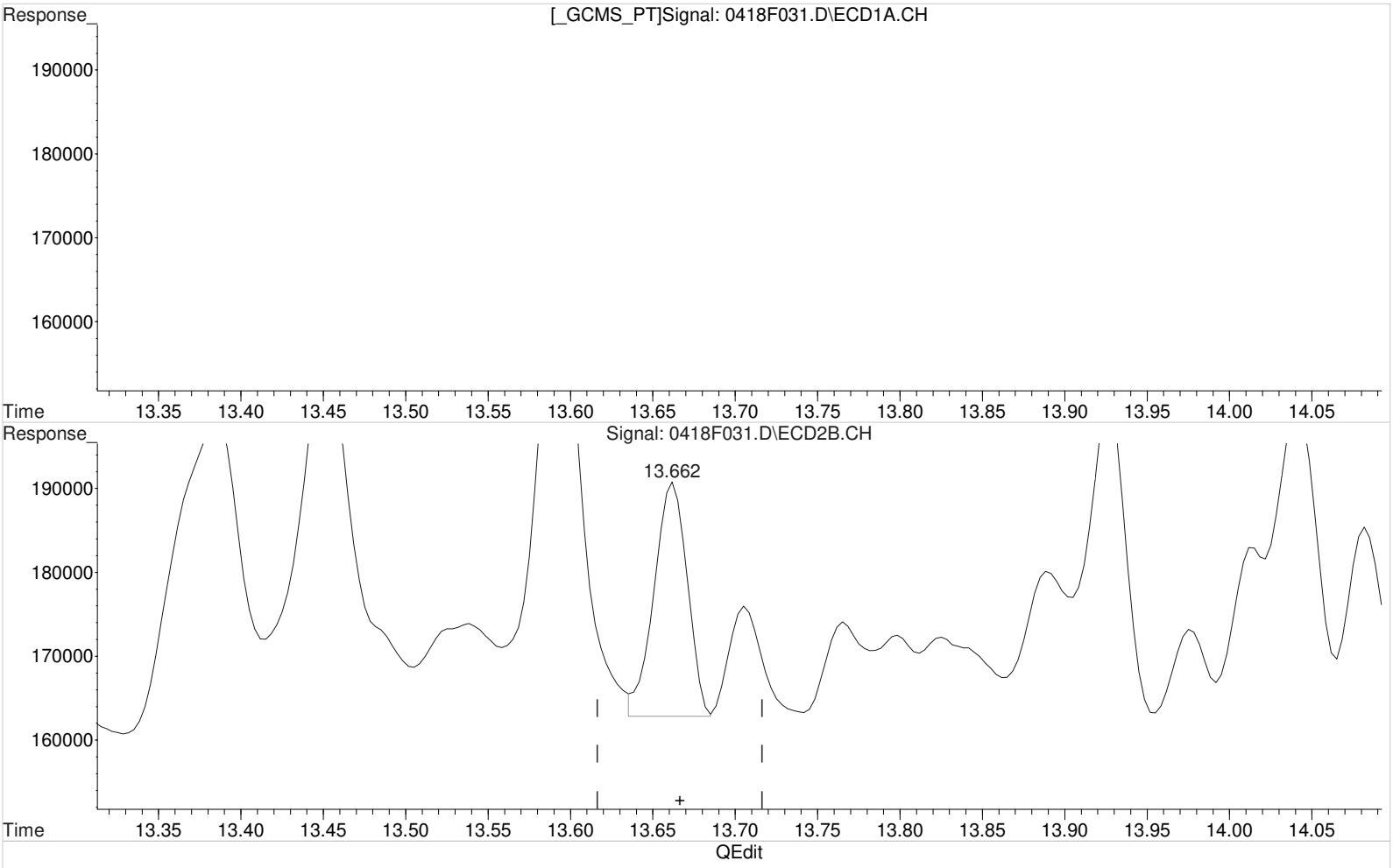
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

14.988min 95.261 ug/L

response 22327

Manual Integration:

After

Baseline/Shoulder

04/20/20

(33) Toxaphene {4} #2

13.662min 97.399 ug/L m

response 38977

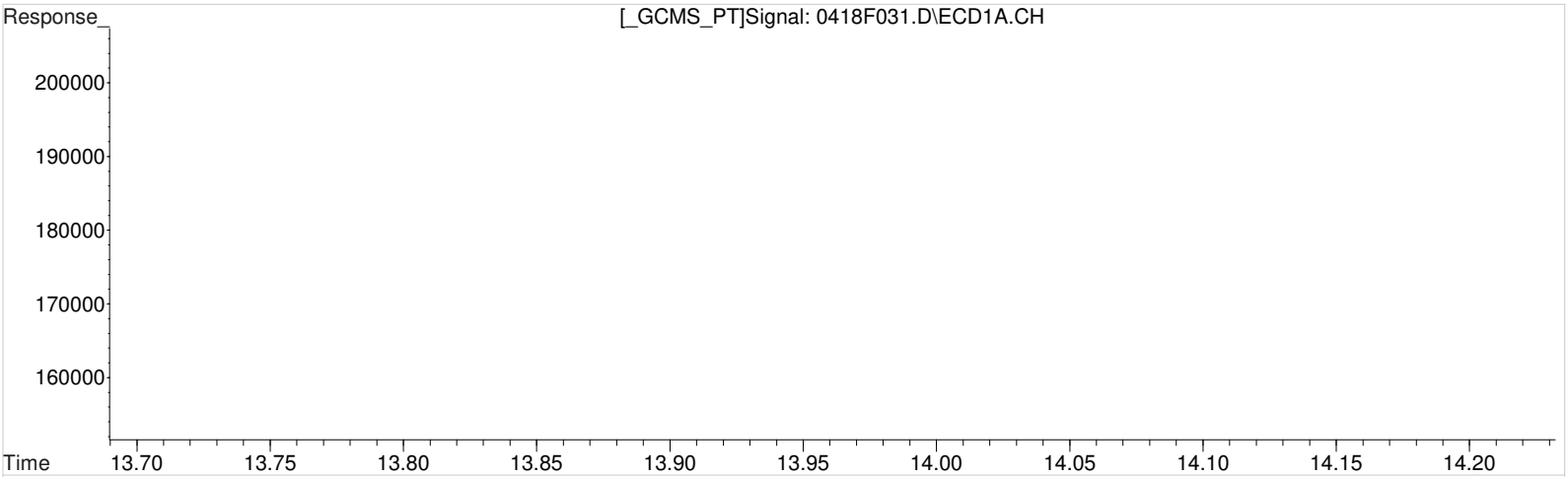
(+) = Expected Retention Time

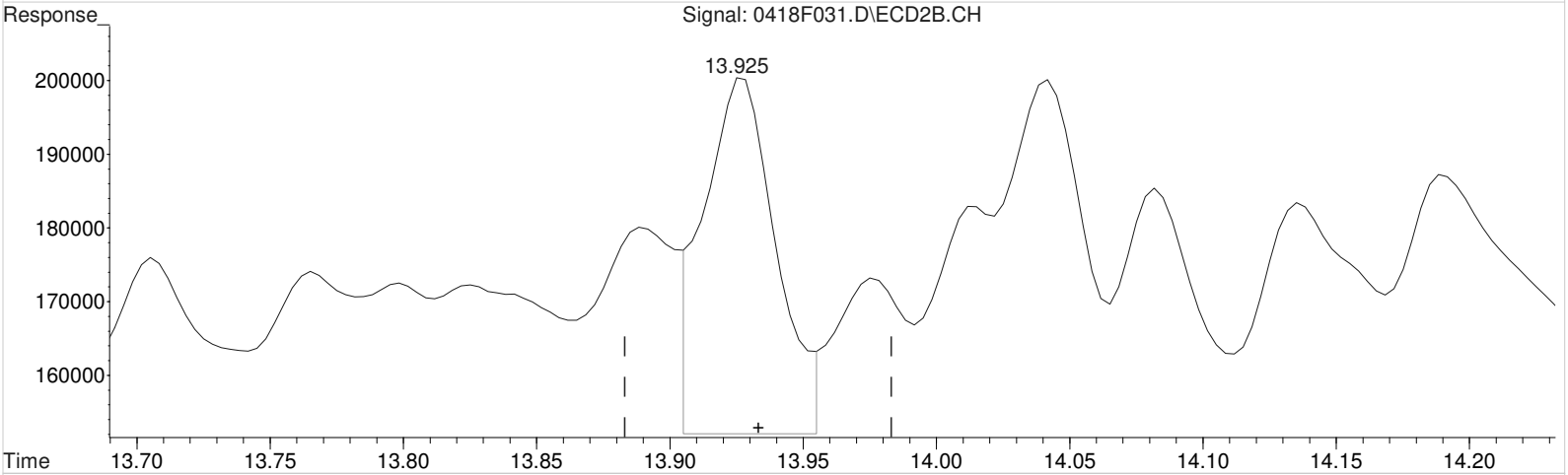
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.338min 101.741 ug/L

response 22722

Manual Integration:

Before

04/20/20

(34) Toxaphene {5} #2

13.925min 147.137 ug/L

response 89754

(+) = Expected Retention Time

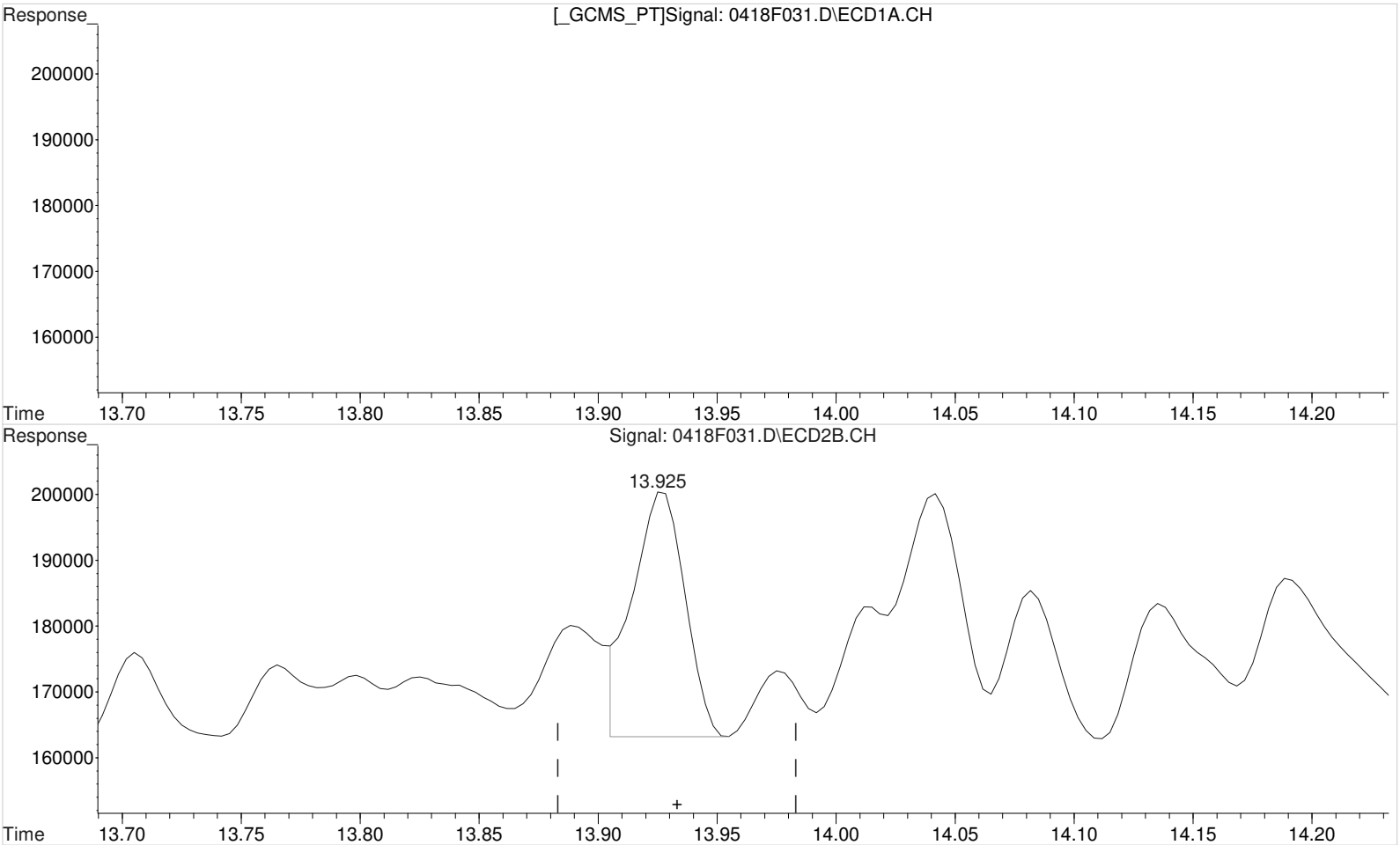
Quantitation Report (Qedit)

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(34) Toxaphene {5}

15.338min 101.741 ug/L

response 22722

Manual Integration:

After

Baseline/Shoulder

04/20/20

(34) Toxaphene {5} #2

13.925min 92.383 ug/L m

response 56354

(+) = Expected Retention Time

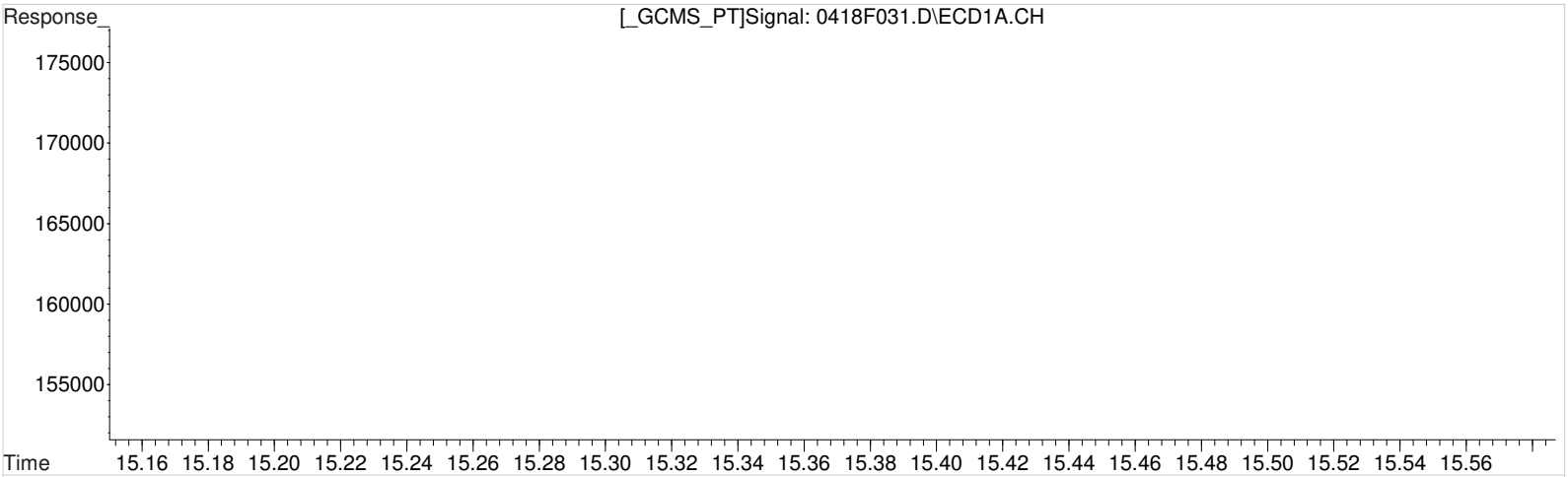
Quantitation Report (Qedit)

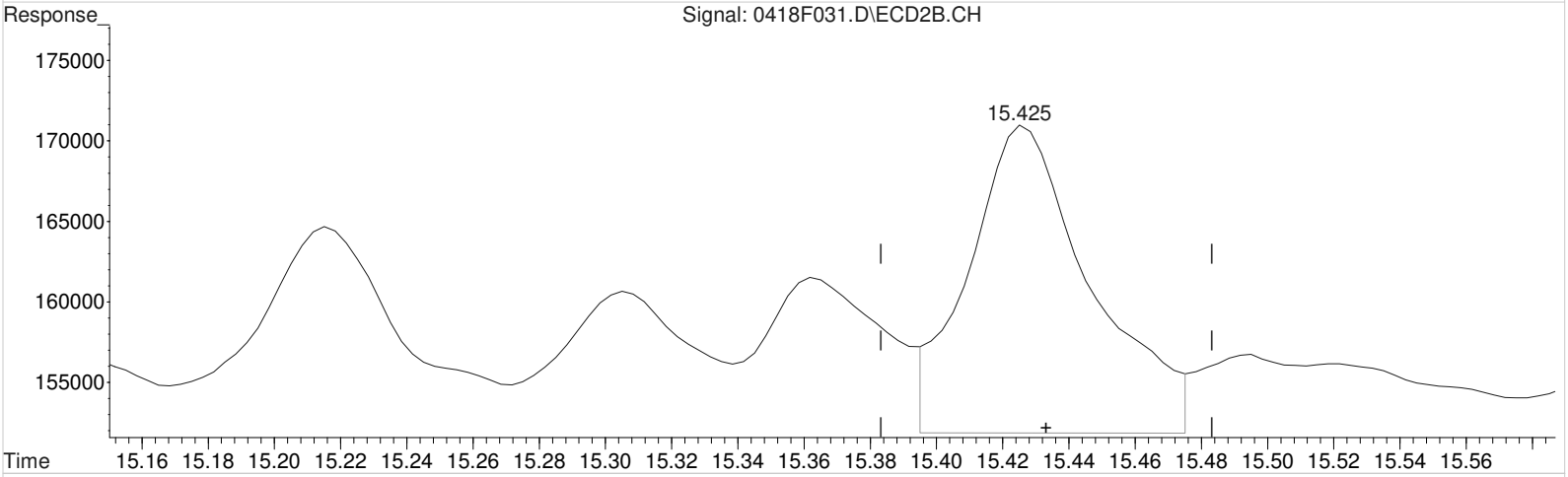
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.525min 101.793 ug/L

response 10258

Manual Integration:

Before

04/20/20

(35) Toxaphene {6} #2

15.425min 147.624 ug/L

response 48781

(+) = Expected Retention Time

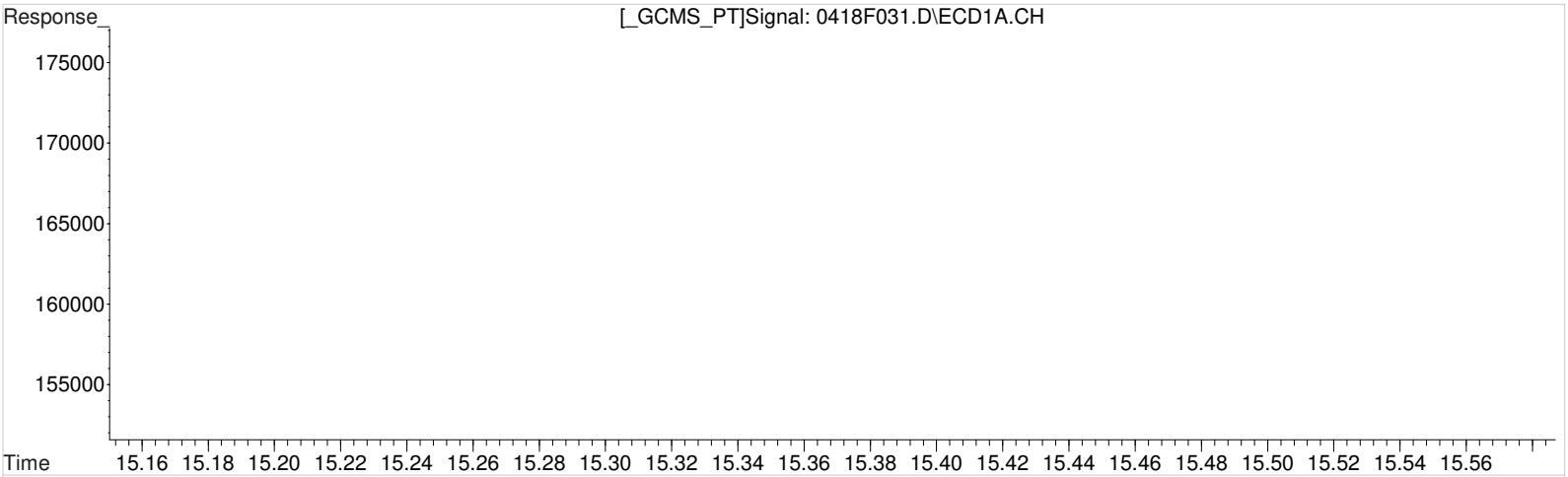
Quantitation Report (Qedit)

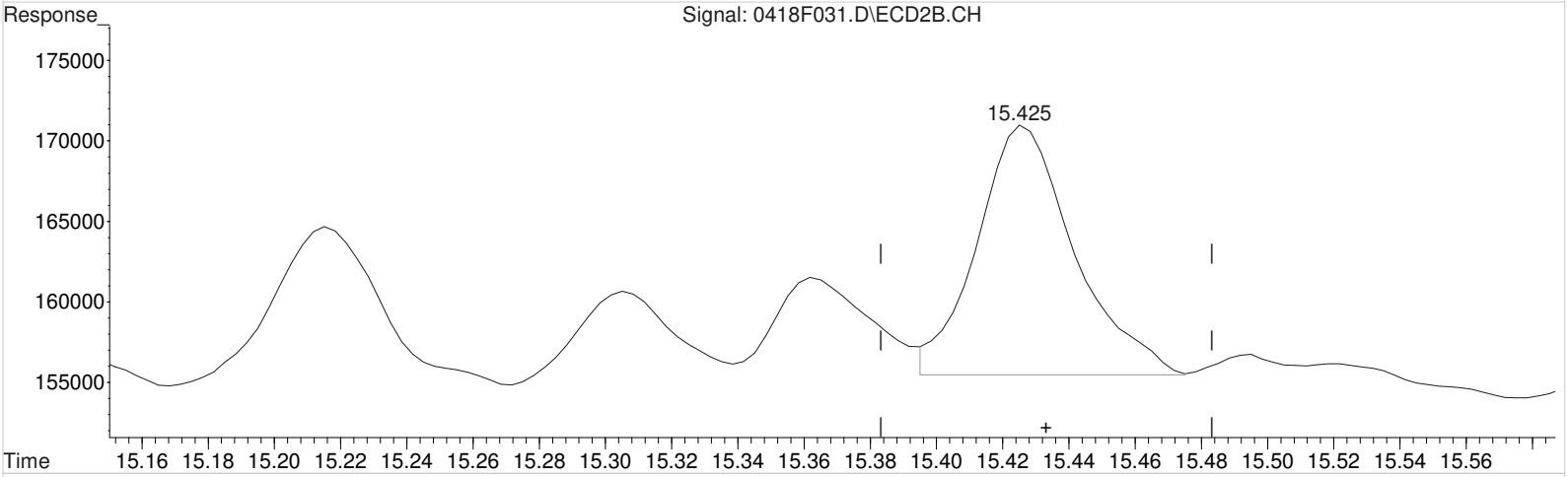
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F031.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:25 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:45 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.525min 101.793 ug/L

response 10258

Manual Integration:

After

Baseline/Shoulder

04/20/20

(35) Toxaphene {6} #2

15.425min 95.055 ug/L m

response 31410

(+) = Expected Retention Time

1st SM 04/22/20
2nd TP 04/23/20

Validation Report

Data File: J:\GC23\data\041820\0418F032.D\
Lab ID: KQ2005308-02.R02
RunType: CCV
Matrix: Water

Date Acquired: 4/19/20 10:55:00
Batch ID: 677293
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards		X
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards - DB XLB	1-Bromo-2-nitrobenzene	0	484615	1938460	NR
	1-Bromo-2-nitrobenzene {2}	0	506950	2027798	NR
Internal Standards - DB-35MS	1-Bromo-2-nitrobenzene	0	2230535	8922140	NR
	1-Bromo-2-nitrobenzene {2}	0	2361365	9445458	NR

Primary Review: _____

Secondary Review: _____

1st STM 04/22/20
2nd TP 04/23/20

Quantitation Report

Data File:	J:\GC23\data\041820\0418F032.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 10:55:00	**Vial:**	21
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005308-02.R02	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677293	**Prep Lot:**		**Report Group:**	KQ2005308
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {2}	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.20	5.48	1182857	5094261	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000			N
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000			N

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
alpha-BHC	0.00	8.50	0	2906	0.000	0.000	0.000	0.000	N
beta-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Chlordane					6666666666	6666666666	22.5	21.3	Y
Chlordane {1}	11.27	9.57	19368	55251	24.019	19.869	24.0	19.9	
Chlordane {2}	11.69	11.67	22624	42745	22.149	22.539	22.1	22.5	
Chlordane {3}	12.25	11.82	17131	30022	23.370	23.846	23.4	23.8	
Chlordane {4}	13.45	11.97	48437	157731	21.767	20.686	21.8	20.7	
Chlordane {5}	13.53	12.02	41004	96112	22.278	20.586	22.3	20.6	
Chlordane {6}	13.61	12.12	29097	138418	21.535	20.476	21.5	20.5	
Dieldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Toxaphene					0	0	0	0	N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/22/20
2nd TP 04/23/20

Data File:	J:\GC23\data\041820\0418F032.D\	**Instrument:**	K-GC-23
Acqu Date:	4/19/20 10:55:00	**Vial:**	21
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005308-02.R02	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/22/20 12:43
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Quantitation Report (QT Reviewed)

1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F032.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:55 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:41:36 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
36)	1-Bromo-2...	6.200	5.484	1182857	5094261	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
37)	Chlordane	11.270	9.570	19368	55251	24.019	19.869
38)	Chlordane...	11.686	11.667	22624	42745	22.149	22.539
39)	Chlordane...	12.253	11.817	17131	30022	23.370	23.846
40)	Chlordane...	13.453	11.974	48437	157731	21.767m	20.686
41)	Chlordane...	13.530	12.017	41004	96112	22.278	20.586
42)	Chlordane...	13.613	12.124	29097	138418	21.535	20.476
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

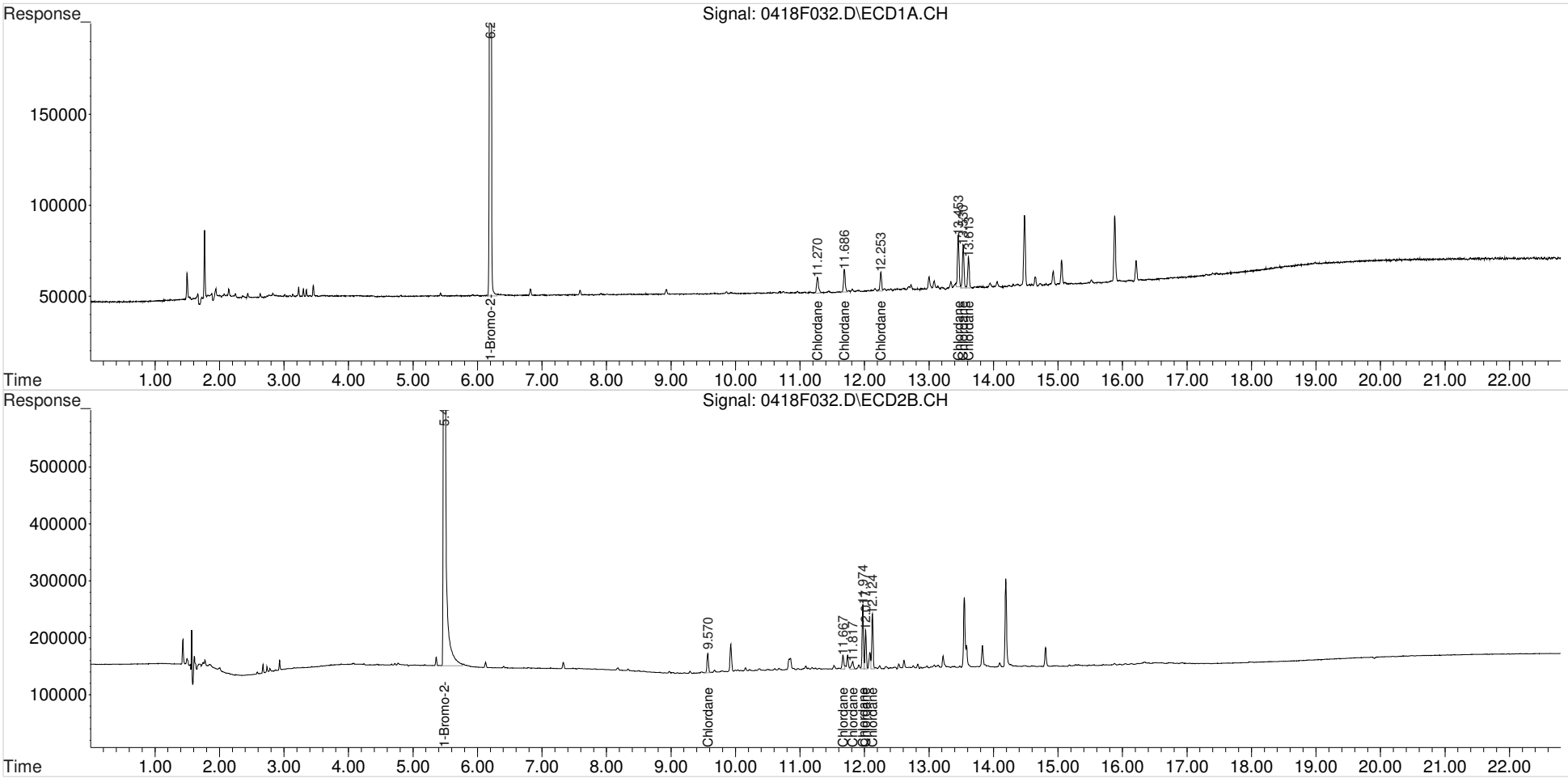
1st LM 04/20/20
2nd TP 04/23/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\041820\0418F032.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:55 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:41:36 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



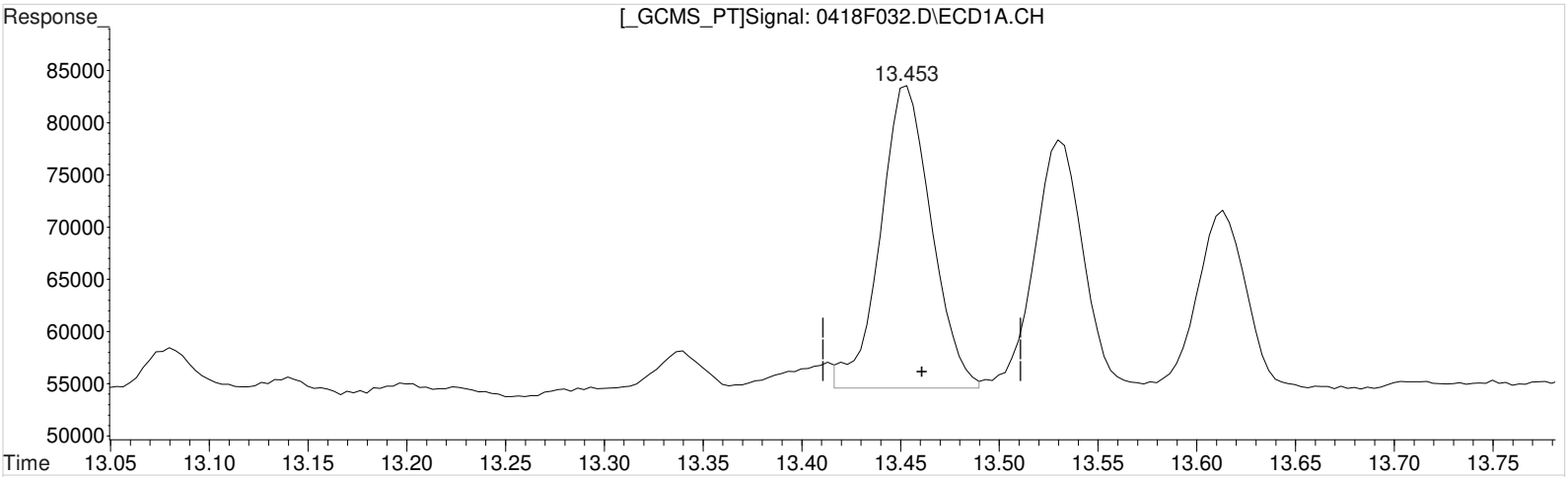
Quantitation Report (Qedit)

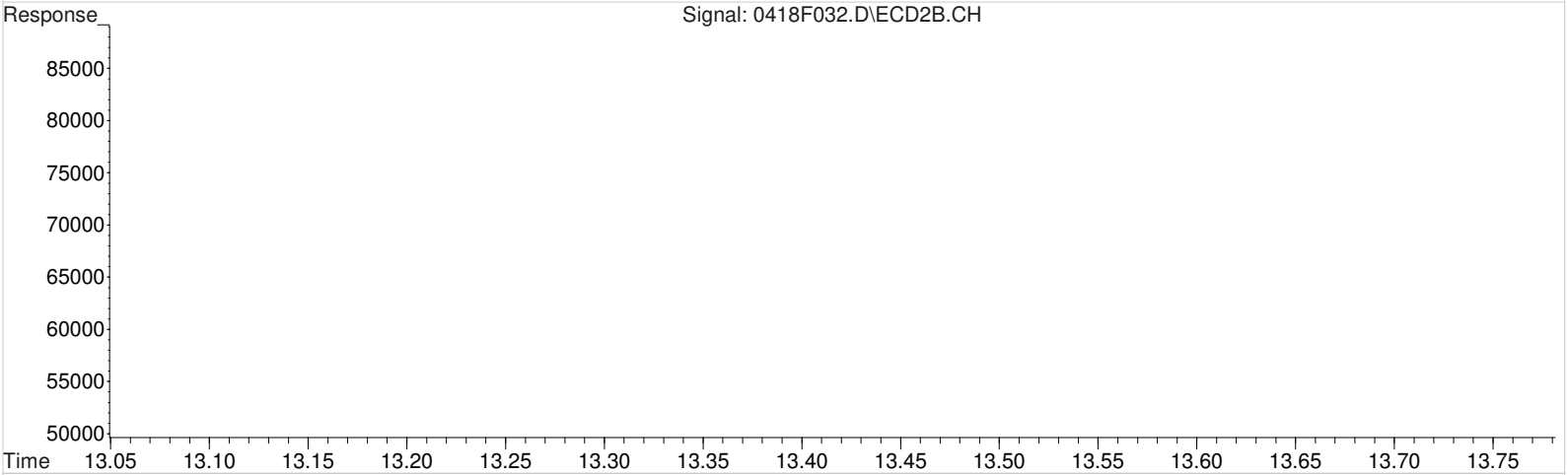
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F032.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:55 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.453min 23.317 ug/L

response 51885

(40) Chlordane {4} #2

11.974min 20.686 ug/L

response 157731

Manual Integration:

Before

04/20/20

(+) = Expected Retention Time

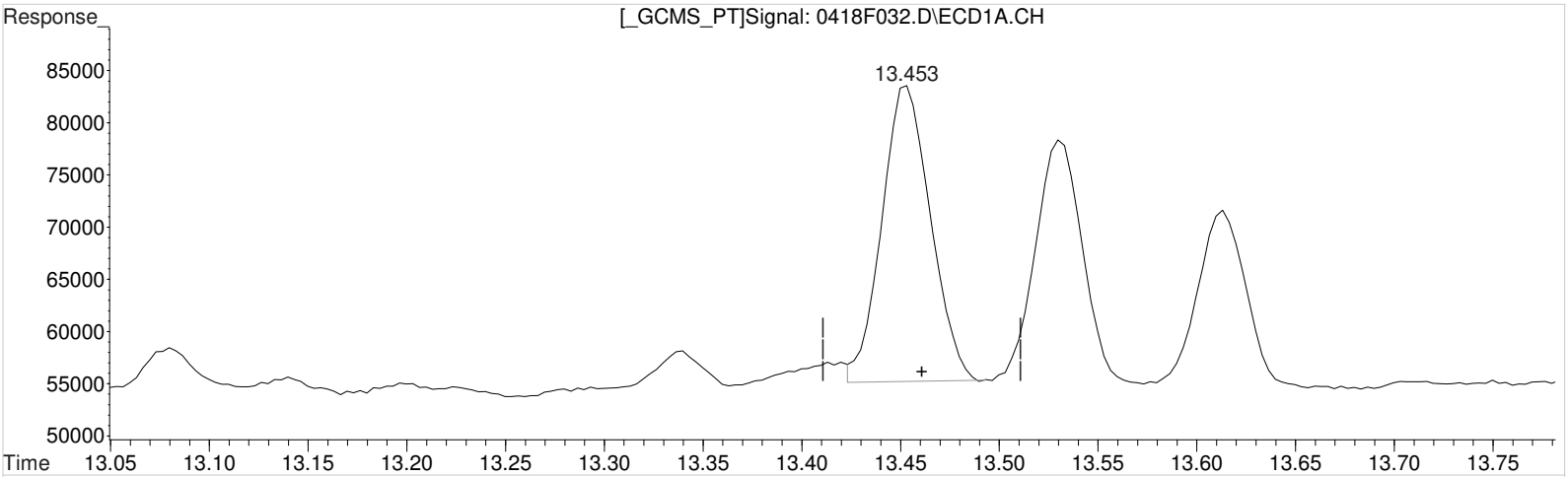
Quantitation Report (Qedit)

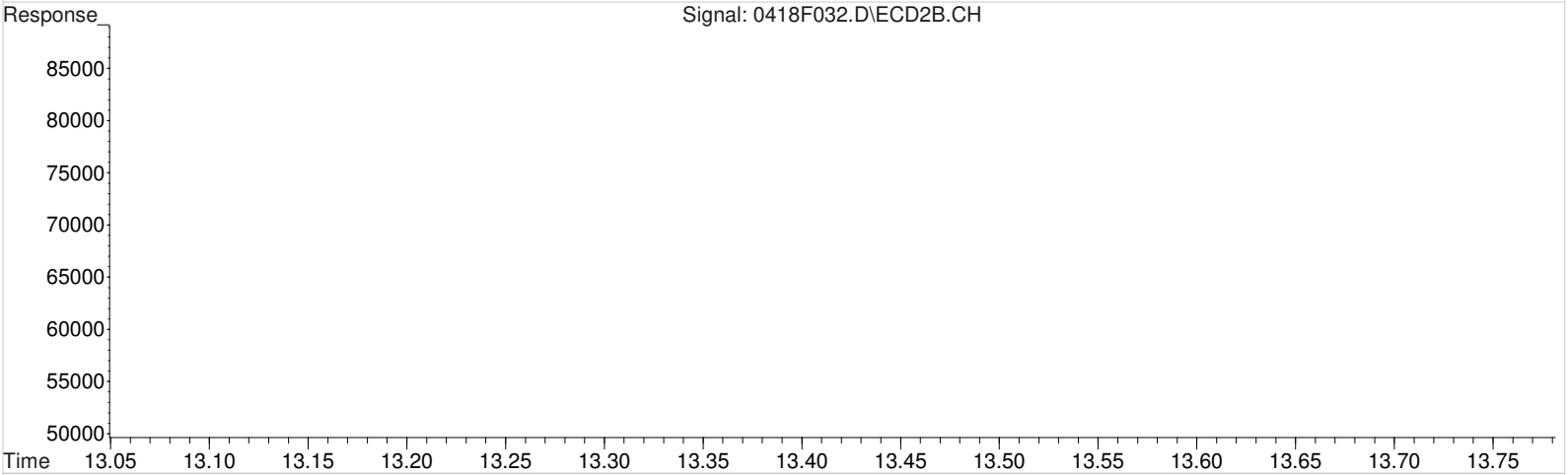
1st LM 04/20/20
2nd TP 04/23/20

Data File : J:\GC23\data\041820\0418F032.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2020 10:55 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 20 09:02:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.453min 21.767 ug/L m

response 48437

(40) Chlordane {4} #2

11.974min 20.686 ug/L

response 157731

Manual Integration:

After

Baseline/Shoulder

04/20/20

(+) = Expected Retention Time

1st STM 04/25/20
2nd 04/27/20

Validation Report

Data File: J:\GC23\data\042220\0422F004.D\
Lab ID: KQ2005500-02
RunType: CCV
Matrix: Water

Date Acquired: 4/22/20 10:53:00
Batch ID: 677794
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards		X
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards - DB XLB	1-Bromo-2-nitrobenzene {2}	0	506950	2027798	ICVOK
	1-Bromo-2-nitrobenzene {3}	0	504054	2016216	NR
Internal Standards - DB-35MS	1-Bromo-2-nitrobenzene {2}	0	2361365	9445458	
	1-Bromo-2-nitrobenzene {3}	0	2364940	9459758	

Primary Review: _____

Printed: 4/25/20 8:30
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st LM 04/22/20
2nd SM 04/22/20

Exception Report

Data File: J:\GC23\DATA\042220\0422F004.D
Lab ID: KWG2001147-8
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 04/22/2020 10:53
Date Quantitated: 04/22/2020 11:19
Batch ID: KWG2001147
Analysis Method: 8081B
MethodJoinID: MJ1689

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards	1-Bromo-2-nitrobenzene {2}	0	5949.416666	27797.66666	NR
	1-Bromo-2-nitrobenzene {3}	0	4053.928571	16215.71428	
	1-Bromo-2-nitrobenzene {4}	0	7766.285714	21065.14285	

Primary Review: _____

Secondary Review: _____

1st LM 04/22/20
2nd SM 04/22/20

Exception Report

Data File: J:\GC23\DATA\042220\0422F004.D\0422F004C.D
Lab ID: KWG2001147-8
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 04/22/2020 10:53
Date Quantitated: 04/22/2020 11:19
Batch ID: KWG2001147
Analysis Method: 8081B
MethodJoinID: MJ1689

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Internal Standards	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	4,4'-DDD	-21.4	NA	20	ICVOK
Internal Standards	1-Bromo-2-nitrobenzene {2}	0	51364.58333	45458.33333	NR
	1-Bromo-2-nitrobenzene {3}	0	54939.28571	59757.14285	
	1-Bromo-2-nitrobenzene {4}	0	02514.92857	10059.71428	

Primary Review: _____

Secondary Review: _____

1st STM 04/25/20
2nd 04/27/20

Quantitation Report

Data File:	J:\GC23\data\042220\0422F004.D\	**Instrument:**	K-GC-23
Acqu Date:	4/22/20 10:53:00	**Vial:**	2
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005494-02	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	II	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	4/7/20	**Receive Date:**	4/14/20

Analysis Lot:	677783	**Prep Lot:**		**Report Group:**	KQ2005494
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	21370

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19	5.48	907215	3764705	100.000	100.000
1-Bromo-2-nitrobenzene {2}	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {3}	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {4}	0.00	0.00	0*	0*	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	18.66	17.05	35902	126424	2.224	2.083			Y
Tetrachloro-m-xylene	8.97	7.26	27186	100548	2.067	2.155			Y

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	12.20	10.51	31218	126101	2.147	2.125	2.15	2.13	Y
gamma-BHC (Lindane)	10.48	9.23	30655	121588	2.096	2.094	2.10	2.09	Y
Chlordane					0	0	0	0	N
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
2,4'-DDD	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
4,4'-DDD	14.63	13.37	23968	83507	2.214	2.096	2.21	2.10	Y
2,4'-DDE	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
4,4'-DDE	13.80	12.48	29689	104843	2.120	1.969	2.12	1.97	Y
2,4'-DDT	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
4,4'-DDT	15.14	13.79	19817	84862	1.742	2.209	1.74	2.21	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 7:15
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st 04/25/20
2nd 04/27/20

Data File:	J:\GC23\data\042220\0422F004.D\	**Instrument:**	K-GC-23
Acqu Date:	4/22/20 10:53:00	**Vial:**	2
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005494-02	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Dieldrin	13.99	12.62	31913	121732	2.132	2.201	2.13	2.20	Y
Endosulfan I	13.57	12.18	30829	111378	2.210	2.198	2.21	2.20	Y
Endosulfan II	14.80	13.54	28341	101776	2.048	2.140	2.05	2.14	Y
Endosulfan Sulfate	15.46	14.23	31579	105865	2.239	2.258	2.24	2.26	Y
Endrin	14.36	13.11	30572	113445	2.238	2.155	2.24	2.16	Y
Endrin Aldehyde	14.98	13.91	26710	91166	2.226	2.315	2.23	2.32	Y
Endrin Ketone	16.15	15.18	30575	121580	2.021	2.167	2.02	2.17	Y
Heptachlor	11.68	9.91	33732	127992	2.147	2.170	2.15	2.17	Y
Methoxychlor	15.88	14.90	11188	50019	1.622	2.346	1.62	2.35	Y
Mirex	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Perthane	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Toxaphene					0	0	0	0	N
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 7:15
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st LM 04/22/20
2nd SM 04/22/20

Quantitation Report

Data File #1:	J:\GC23\DATA\042220\0422F004.D			**Instrument:**	GC23
Data File #2:	J:\GC23\data\042220\0422F004.D\0422F004c.d			**Vial:**	2
Acqu Date:	04/22/2020 10:53	**Quant Date:**	04/22/2020 11:19	**Dilution:**	1.0
Run Type:	CCV	**MethodJoinID:**	MJ1689	**Soln Conc. Units:**	ug/L
Lab ID:	KWG2001147-8				
Signal #1:	DB XLB	**Signal #2:**	DB-35MS		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLI
Prod Code:	8081A PEST_OC	**Collect Date:**		**Receive Date:**	04/22/2020

Analysis Lot:	KWG2001147	**Prep Lot:**		**Report Group:**	
Analysis Method:	8081B	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC23\METHODS\GC23-040620-	**Calibration ID:**	CAL16274
Title:			
MB Ref:		**Method ID:**	MJ1689
		Quant based on Method	

Internal Standard Compounds

IS #	Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ug/L #1	ug/L #2
1	1-Bromo-2-nitrobenzene	6.19	-0.02	5.48	-0.01	907215	3764705	100.00	100.00
2	1-Bromo-2-nitrobenzene {2}					0**d**	0**d**	100.00	100.00
3	1-Bromo-2-nitrobenzene {3}					0**d**	0**d**	100.00	100.00
4	1-Bromo-2-nitrobenzene {4}					0**d**	0**d**	100.00	100.00

Surrogate Compounds

IS #	Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ug/L #1	ug/L #2			Rpt
1	Tetrachloro-m-xylene	8.97	7.26	27186	100548	2.07	2.16			NA
				%Recovery =		NA	NA	**Limits =**	70-130	
1	Decachlorobiphenyl	18.66	17.05	35902**m**	126424	2.22	2.08			NA
				%Recovery =		NA	NA	**Limits =**	70-130	

Target Compounds

Final Conc. Units:

IS #	Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ug/L #1	ug/L #2	ug/Kg #1	ug/Kg #2	Rpt
1	alpha-BHC	9.81	8.49	31152	128216**m**	2.06	2.15			
1	Hexachlorobenzene	9.97	8.27	37456	134441**m**	2.09	2.24			
1	beta-BHC	11.07	9.77	16954	62753**m**	2.10	2.22			
1	gamma-BHC (Lindane)	10.48	9.23	30655	121588	2.10	2.09			
1	delta-BHC	11.57	10.30	31570	122327	2.14	2.15			
1	Heptachlor	11.68	9.91	33732	127992	2.15	2.17			
1	Aldrin	12.20	10.51	31218	126101	2.15	2.13			
1	Isodrin	12.73	11.30	27248	108718	2.18	2.19			
1	Heptachlor Epoxide	12.92	11.59	32974	125268	2.16	2.15			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC23\DATA\042220\0422F004.D			**Instrument:**	GC23
Data File #2:	J:\GC23\data\042220\0422F004.D\0422F004c.d			**Vial:**	2
Acqu Date:	04/22/2020 10:53	**Quant Date:**	04/22/2020 11:19	**Dilution:**	1.0
Run Type:	CCV	**MethodJoinID:**	MJ1689	**Soln Conc. Units:**	ug/L
Lab ID:	KWG2001147-8				
Signal #1:	DB XLB	**Signal #2:**	DB-35MS		

Target Compounds

Final Conc. Units:

IS #	Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ug/L #1	ug/L #2	ug/Kg #1	ug/Kg #2	Rpt
1	gamma-Chlordane	13.44	11.96	32068	123429	2.10	2.19			
1	Endosulfan I	13.57	12.18	30829	111378	2.21	2.20			
1	alpha-Chlordane	13.52	12.11	32563	121144	2.14	2.13			
1	Dieldrin	13.99	12.62	31913	121732	2.13	2.20			
1	4,4'-DDE	13.80	12.48	29689	104843**m**	2.12	1.97			
1	Endrin	14.36	13.11	30572	113445	2.24	2.16			
1	Endosulfan II	14.80	13.54	28341	101776	2.05	2.14			
1	4,4'-DDD	14.63	13.37	23968	83507	2.21	2.10			
1	Endrin Aldehyde	14.98	13.91	26710	91166	2.23	2.32			
1	Endosulfan Sulfate	15.46	14.23	31579	105865	2.24	2.26			
1	4,4'-DDT	15.14	13.79	19817	84862	1.74	2.21			
1	Endrin Ketone	16.15	15.18	30575	121580	2.02	2.17			
1	Methoxychlor	15.88	14.90	11188**m**	50019	1.62	2.35			
1	2,4'-DDE			0**d**	0**d**	0.0000	0.0000			NR
1	2,4'-DDD			0**d**	0**d**	0.0000	0.0000			NR
1	2,4'-DDT			0**d**	0**d**	0.0000	0.0000			NR
	Toxaphene			0	0	0.0000	0.0000			NR
2	Toxaphene {1}			0**d**	0**d**	0.0000	0.0000			
2	Toxaphene {2}			0**d**	0**d**	0.0000	0.0000			
2	Toxaphene {3}			0**d**	0**d**	0.0000	0.0000			
2	Toxaphene {4}			0**d**	0**d**	0.0000	0.0000			
2	Toxaphene {5}			0**d**	0**d**	0.0000	0.0000			
2	Toxaphene {6}			0**d**	0**d**	0.0000	0.0000			
	Chlordane			0	0	0.0000	0.0000			NR
3	Chlordane {1}			0**d**	0**d**	0.0000	0.0000			
3	Chlordane {2}			0**d**	0**d**	0.0000	0.0000			
3	Chlordane {3}			0**d**	0**d**	0.0000	0.0000			
3	Chlordane {4}			0**d**	0**d**	0.0000	0.0000			
3	Chlordane {5}			0**d**	0**d**	0.0000	0.0000			
3	Chlordane {6}			0**d**	0**d**	0.0000	0.0000			
4	Chlorpyrifos			0**d**	0**d**	0.0000	0.0000			NR
4	Oxychlordane			0**d**	0**d**	0.0000	0.0000			NR
4	cis-Nonachlor			0**d**	0**d**	0.0000	0.0000			NR
4	trans-Nonachlor			0**d**	0**d**	0.0000	0.0000			NR
4	Mirex			0**d**	0**d**	0.0000	0.0000			NR
4	Hexachloroethane			0**d**	0**d**	0.0000	0.0000			NR
4	Hexachlorobutadiene			0**d**	0**d**	0.0000	0.0000			NR

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

1st LM 04/22/20
2nd SM 04/22/20

Quantitation Report

Data File #1:	J:\GC23\DATA\042220\0422F004.D			**Instrument:**	GC23
Data File #2:	J:\GC23\data\042220\0422F004.D\0422F004c.d			**Vial:**	2
Acqu Date:	04/22/2020 10:53	**Quant Date:**	04/22/2020 11:19	**Dilution:**	1.0
Run Type:	CCV	**MethodJoinID:**	MJ1690	**Soln Conc. Units:**	ug/L
Lab ID:	KWG2001147-8				
Signal #1:	DB XLB	**Signal #2:**	DB-35MS		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLI
Prod Code:	8081A PEST_OC	**Collect Date:**		**Receive Date:**	04/22/2020

Analysis Lot:	KWG2001147	**Prep Lot:**		**Report Group:**	
Analysis Method:	8081B	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC23\METHODS\GC23-040620-	**Calibration ID:**	CAL16274
Title:			
MB Ref:		**Method ID:**	MJ1690
		Quant based on Method	

Internal Standard Compounds

IS #	Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ug/L #1	ug/L #2
1	1-Bromo-2-nitrobenzene	6.19	-0.02	5.48	-0.01	907215	3764705	100.00	100.00
2	1-Bromo-2-nitrobenzene {2}					0**d**	0**d**	100.00	100.00
3	1-Bromo-2-nitrobenzene {3}					0**d**	0**d**	100.00	100.00
4	1-Bromo-2-nitrobenzene {4}					0**d**	0**d**	100.00	100.00

Surrogate Compounds

IS #	Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ug/L #1	ug/L #2			Rpt
1	Tetrachloro-m-xylene	8.97	7.26	27186	100548	2.07	2.16			NA
				%Recovery =		NA	NA	**Limits =**	70-130	
1	Decachlorobiphenyl	18.66	17.05	35902**m**	126424	2.22	2.08			NA
				%Recovery =		NA	NA	**Limits =**	70-130	

Target Compounds

Final Conc. Units:

IS #	Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ug/L #1	ug/L #2	mg/Kg #1	mg/Kg #2	Rpt
1	alpha-BHC	9.81	8.49	31152	128216**m**	2.06	2.15			
1	Hexachlorobenzene	9.97	8.27	37456	134441**m**	2.09	2.24			
1	beta-BHC	11.07	9.77	16954	62753**m**	2.10	2.22			
1	gamma-BHC (Lindane)	10.48	9.23	30655	121588	2.10	2.09			
1	delta-BHC	11.57	10.30	31570	122327	2.14	2.15			
1	Heptachlor	11.68	9.91	33732	127992	2.15	2.17			
1	Aldrin	12.20	10.51	31218	126101	2.15	2.13			
1	Isodrin	12.73	11.30	27248	108718	2.18	2.19			
1	Heptachlor Epoxide	12.92	11.59	32974	125268	2.16	2.15			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC23\DATA\042220\0422F004.D			**Instrument:**	GC23
Data File #2:	J:\GC23\data\042220\0422F004.D\0422F004c.d			**Vial:**	2
Acqu Date:	04/22/2020 10:53	**Quant Date:**	04/22/2020 11:19	**Dilution:**	1.0
Run Type:	CCV	**MethodJoinID:**	MJ1690	**Soln Conc. Units:**	ug/L
Lab ID:	KWG2001147-8				
Signal #1:	DB XLB	**Signal #2:**	DB-35MS		

Target Compounds

Final Conc. Units:

IS #	Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ug/L #1	ug/L #2	mg/Kg #1	mg/Kg #2	Rpt
1	gamma-Chlordane	13.44	11.96	32068	123429	2.10	2.19			
1	Endosulfan I	13.57	12.18	30829	111378	2.21	2.20			
1	alpha-Chlordane	13.52	12.11	32563	121144	2.14	2.13			
1	Dieldrin	13.99	12.62	31913	121732	2.13	2.20			
1	4,4'-DDE	13.80	12.48	29689	104843**m**	2.12	1.97			
1	Endrin	14.36	13.11	30572	113445	2.24	2.16			
1	Endosulfan II	14.80	13.54	28341	101776	2.05	2.14			
1	4,4'-DDD	14.63	13.37	23968	83507	2.21	2.10			
1	Endrin Aldehyde	14.98	13.91	26710	91166	2.23	2.32			
1	Endosulfan Sulfate	15.46	14.23	31579	105865	2.24	2.26			
1	4,4'-DDT	15.14	13.79	19817	84862	1.74	2.21			
1	Endrin Ketone	16.15	15.18	30575	121580	2.02	2.17			
1	Methoxychlor	15.88	14.90	11188**m**	50019	1.62	2.35			
1	2,4'-DDE			0**d**	0**d**	0.0000	0.0000			NR
1	2,4'-DDD			0**d**	0**d**	0.0000	0.0000			NR
1	2,4'-DDT			0**d**	0**d**	0.0000	0.0000			NR
	Toxaphene			0	0	0.0000	0.0000			NR
2	Toxaphene {1}			0**d**	0**d**	0.0000	0.0000			
2	Toxaphene {2}			0**d**	0**d**	0.0000	0.0000			
2	Toxaphene {3}			0**d**	0**d**	0.0000	0.0000			
2	Toxaphene {4}			0**d**	0**d**	0.0000	0.0000			
2	Toxaphene {5}			0**d**	0**d**	0.0000	0.0000			
2	Toxaphene {6}			0**d**	0**d**	0.0000	0.0000			
	Chlordane			0	0	0.0000	0.0000			NR
3	Chlordane {1}			0**d**	0**d**	0.0000	0.0000			
3	Chlordane {2}			0**d**	0**d**	0.0000	0.0000			
3	Chlordane {3}			0**d**	0**d**	0.0000	0.0000			
3	Chlordane {4}			0**d**	0**d**	0.0000	0.0000			
3	Chlordane {5}			0**d**	0**d**	0.0000	0.0000			
3	Chlordane {6}			0**d**	0**d**	0.0000	0.0000			
4	Chlorpyrifos			0**d**	0**d**	0.0000	0.0000			NR
4	Oxychlordane			0**d**	0**d**	0.0000	0.0000			NR
4	cis-Nonachlor			0**d**	0**d**	0.0000	0.0000			NR
4	trans-Nonachlor			0**d**	0**d**	0.0000	0.0000			NR
4	Mirex			0**d**	0**d**	0.0000	0.0000			NR
4	Hexachloroethane			0**d**	0**d**	0.0000	0.0000			NR
4	Hexachlorobutadiene			0**d**	0**d**	0.0000	0.0000			NR

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:19:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.192	5.476	907215	3764705	100.000	100.000	
	System Monitoring Compounds							
2) s	Tetrachlo...	8.965	7.256	27186	100548	2.067	2.155	
28) s	Decachlor...	18.662	17.053	35902	126424	2.224m	2.083	
	Target Compounds							
3)	alpha-BHC	9.809	8.489	31152	128216	2.059	2.149m	
4)	Hexachlor...	9.972	8.273	37456	134441	2.090	2.243m	
5)	beta-BHC	11.069	9.766	16954	62753	2.096	2.217m	
6)	gamma-BHC...	10.479	9.233	30655	121588	2.096	2.094	
7)	delta-BHC	11.572	10.296	31570	122327	2.135	2.154	
8)	Heptachlor	11.675	9.913	33732	127992	2.147	2.170	
9)	Aldrin	12.202	10.506	31218	126101	2.147	2.125	
10)	Isodrin	12.732	11.303	27248	108718	2.184	2.189	
11)	Heptachlo...	12.922	11.586	32974	125268	2.156	2.153	
12)	gamma-Chl...	13.442	11.963	32068	123429	2.097	2.194	
13)	Endosulfan I	13.572	12.179	30829	111378	2.210	2.198	
14)	alpha-Chl...	13.522	12.113	32563	121144	2.139	2.126	
15)	Dieldrin	13.992	12.623	31913	121732	2.132	2.201	
16)	4,4'-DDE	13.795	12.476	29689	104843	2.120	1.969m	
17)	Endrin	14.362	13.106	30572	113445	2.238	2.155	
18)	Endosulfa...	14.802	13.539	28341	101776	2.048	2.140	
19)	4,4'-DDD	14.632	13.366	23968	83507	2.214	2.096	
20)	Endrin Al...	14.982	13.906	26710	91166	2.226	2.315	
21)	Endosulfa...	15.459	14.226	31579	105865	2.239	2.258	
22)	4,4'-DDT	15.135	13.786	19817	84862	1.742	2.209	#
23)	Endrin Ke...	16.145	15.176	30575	121580	2.021	2.167	
24)	Methoxychlor	15.882	14.896	11188	50019	1.622m	2.346	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

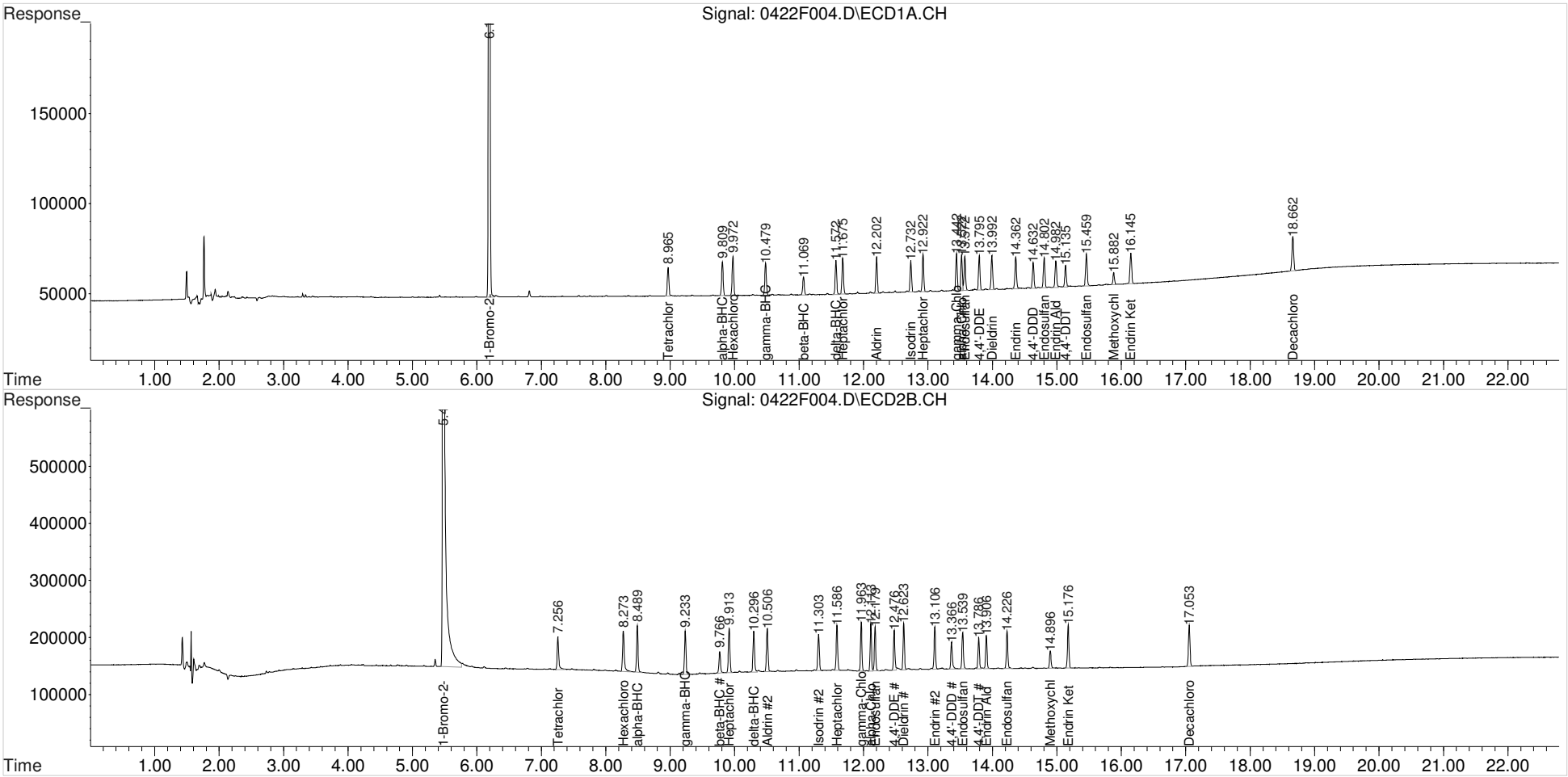
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:19:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



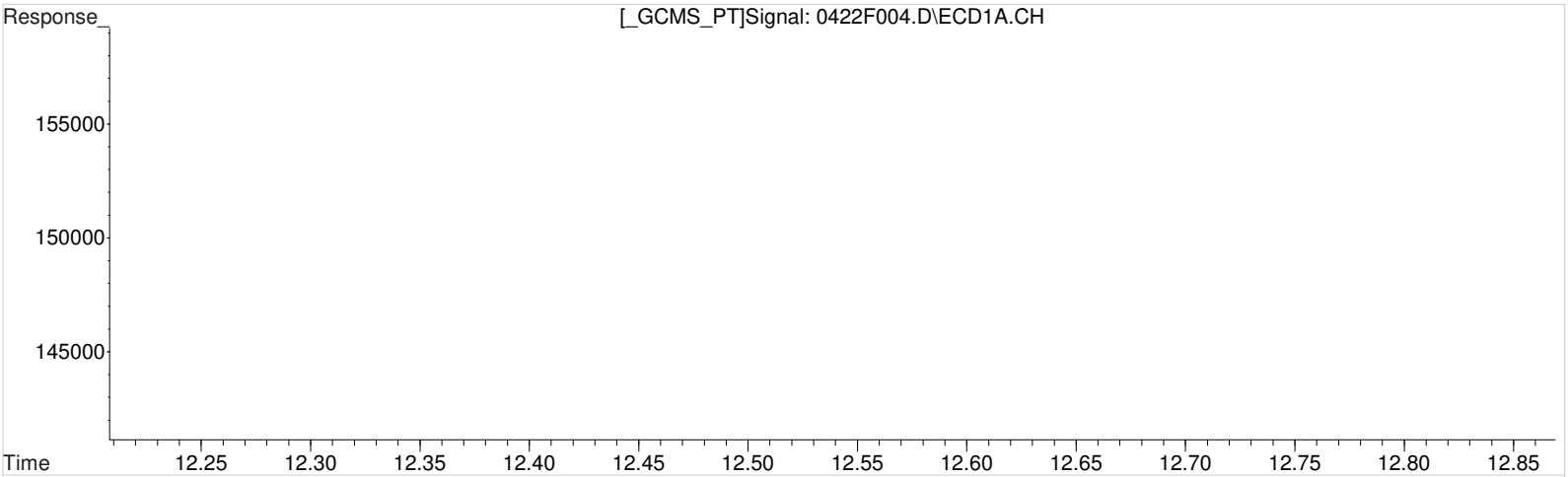
Quantitation Report (Qedit)

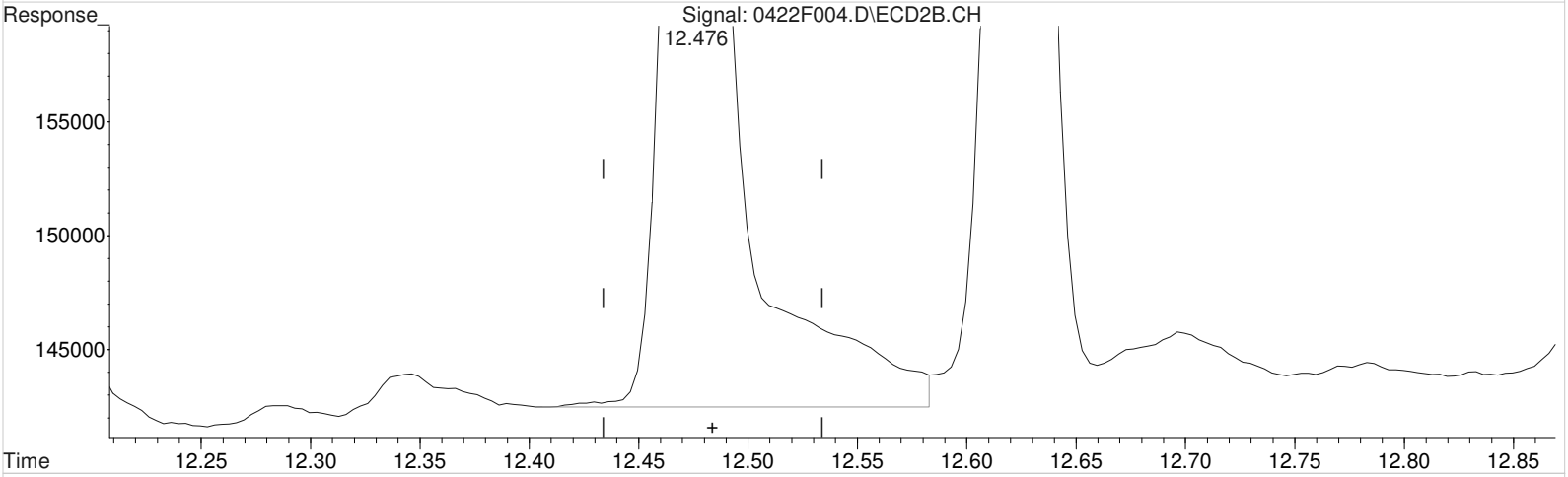
1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.795min 2.120 ug/L

response 29689

Manual Integration:

Before

04/22/20

(16) 4,4'-DDE #2

12.476min 2.234 ug/L

response 118952

(+) = Expected Retention Time

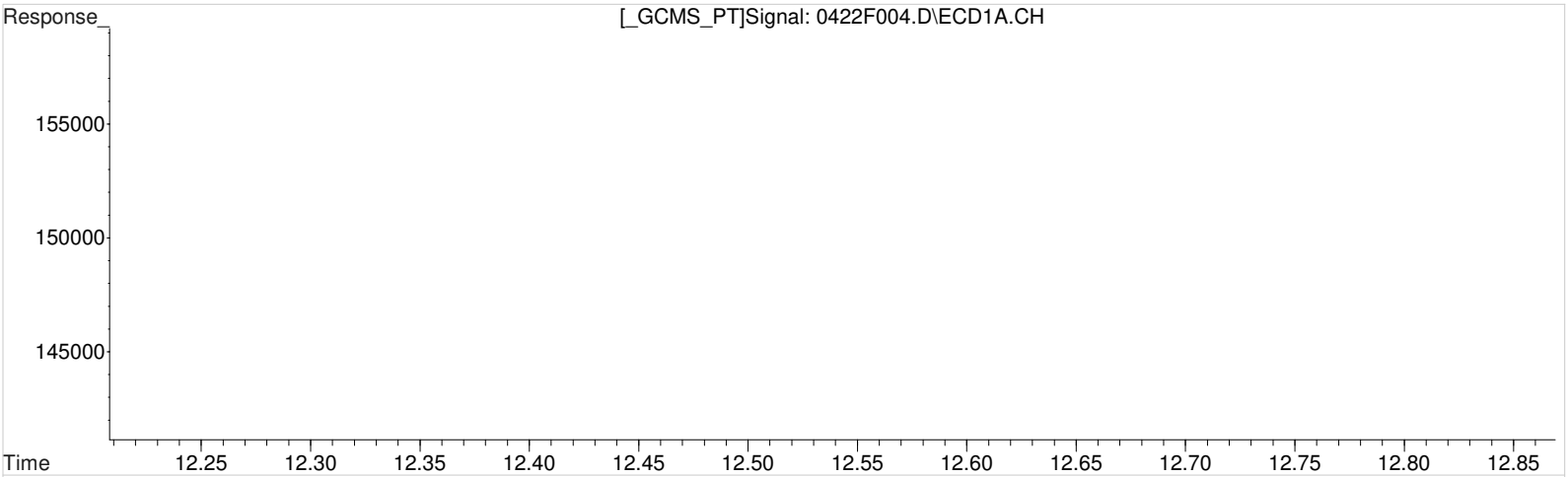
Quantitation Report (Qedit)

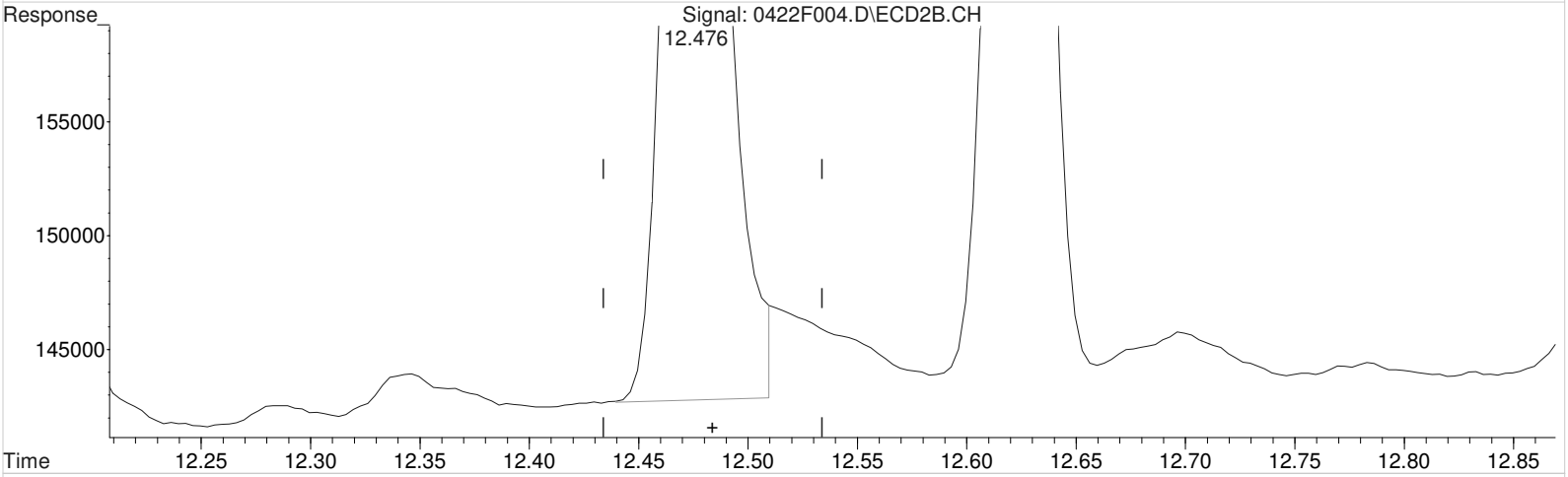
1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(16) 4,4'-DDE

13.795min 2.120 ug/L

response 29689

Manual Integration:

After

Baseline/Shoulder

04/22/20

(16) 4,4'-DDE #2

12.476min 1.969 ug/L m

response 104843

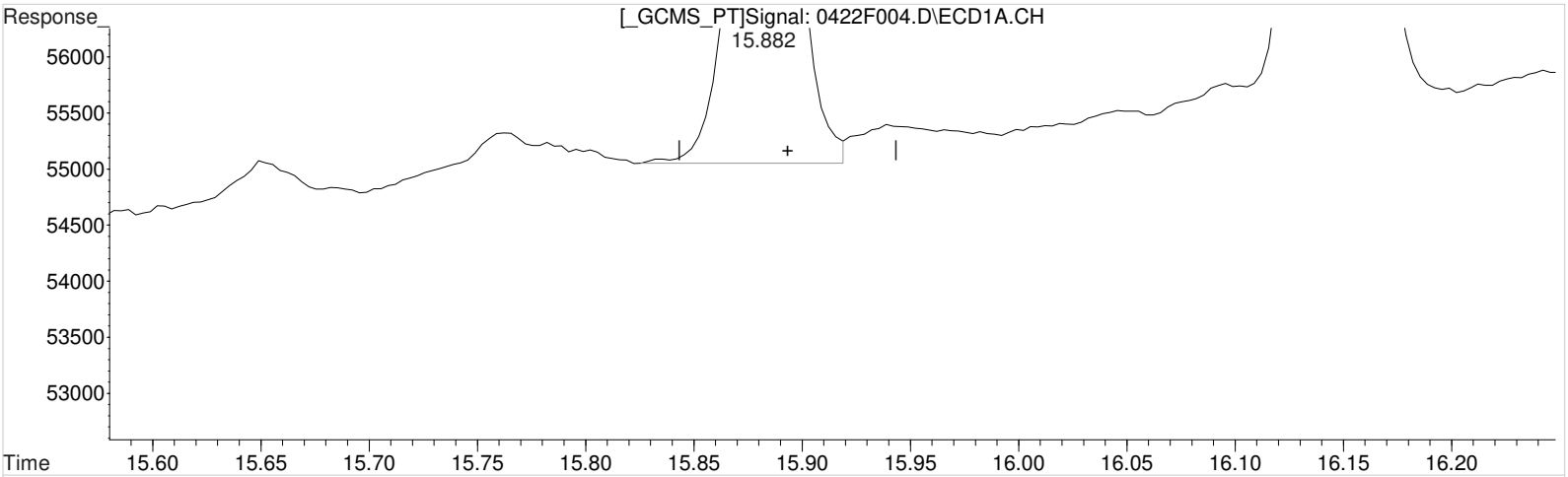
(+) = Expected Retention Time

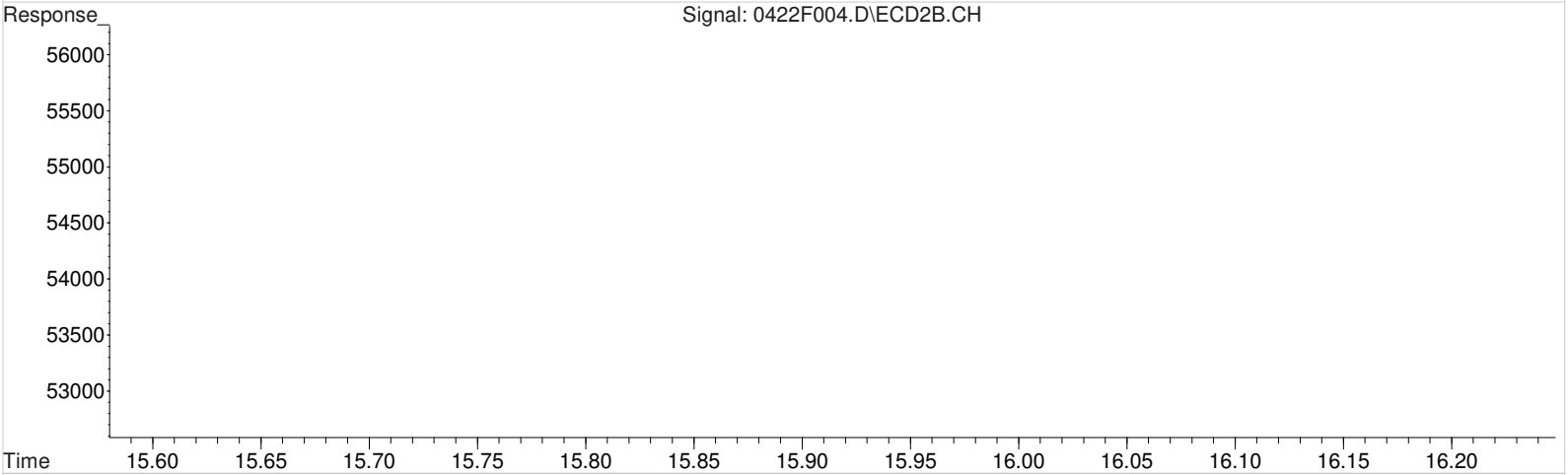
1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.882min 1.646 ug/L

response 11354

Manual Integration:

Before

04/22/20

(24) Methoxychlor #2

14.896min 2.346 ug/L

response 50019

(+) = Expected Retention Time

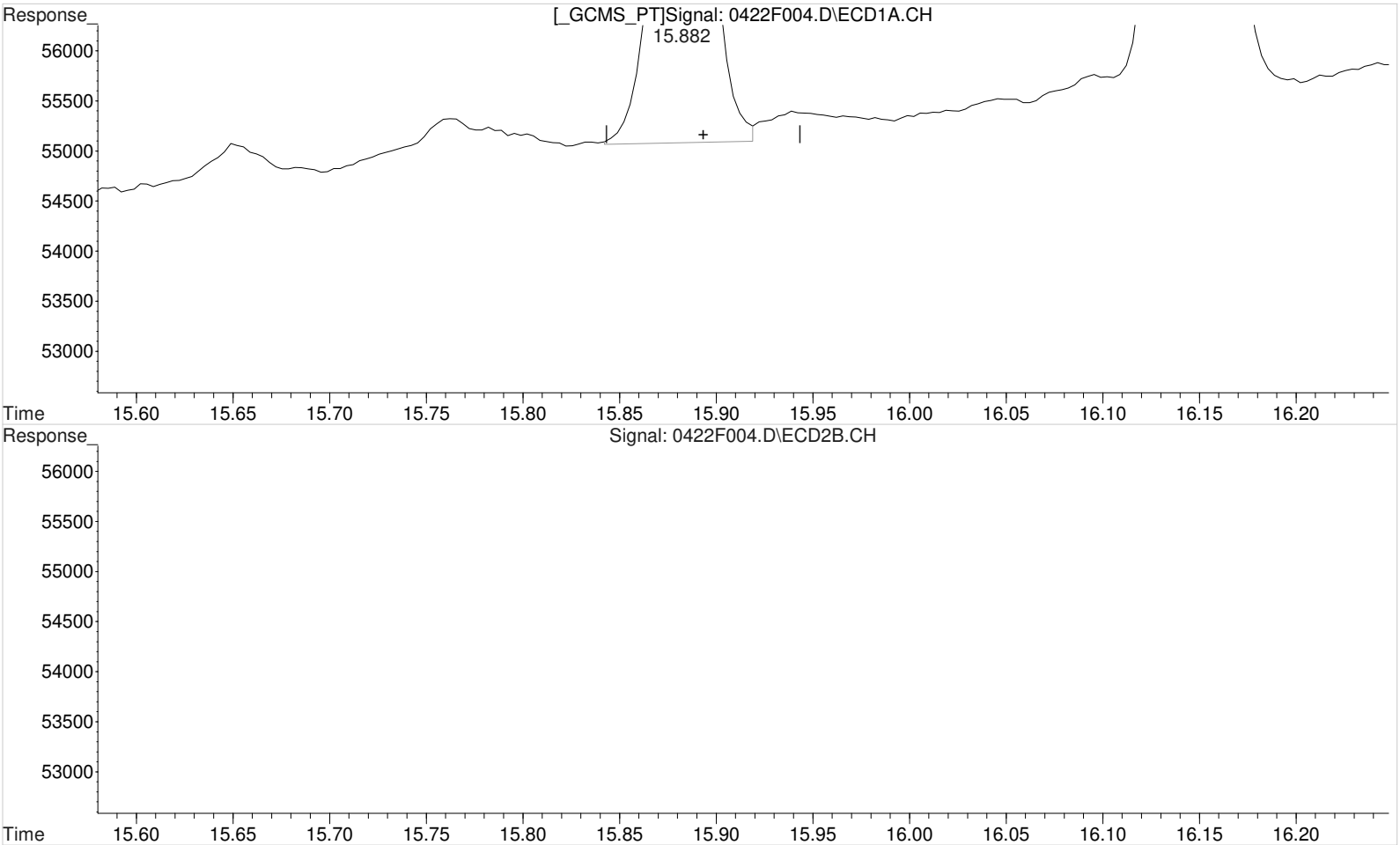
Quantitation Report (Qedit)

1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(24) Methoxychlor

15.882min 1.622 ug/L m

response 11188

Manual Integration:

After

Baseline/Shoulder

04/22/20

(24) Methoxychlor #2

14.896min 2.346 ug/L

response 50019

(+) = Expected Retention Time

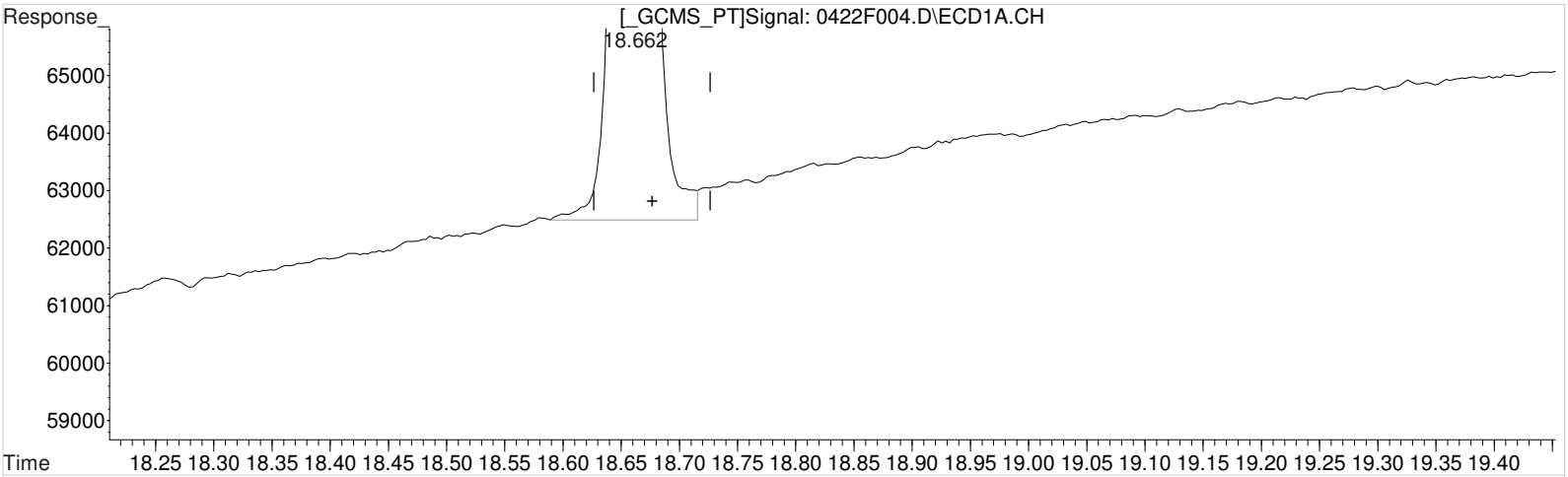
Quantitation Report (Qedit)

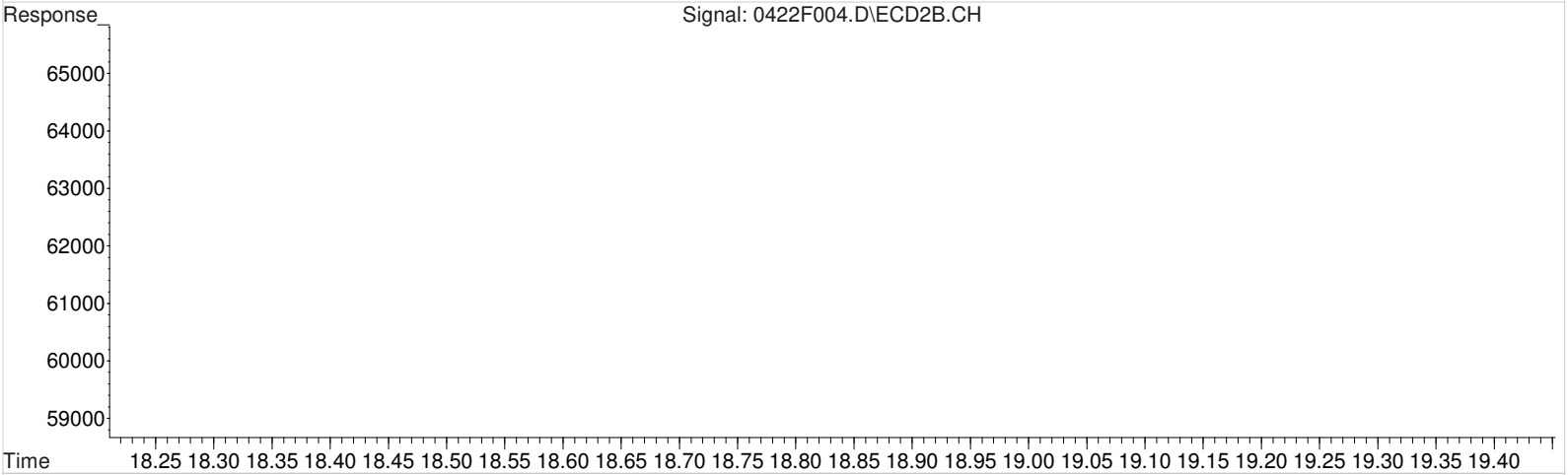
1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.662min 2.345 ug/L

response 37856

Manual Integration:

Before

04/22/20

(28) Decachlorobiphenyl #2 (s)

17.053min 2.083 ug/L

response 126424

(+) = Expected Retention Time

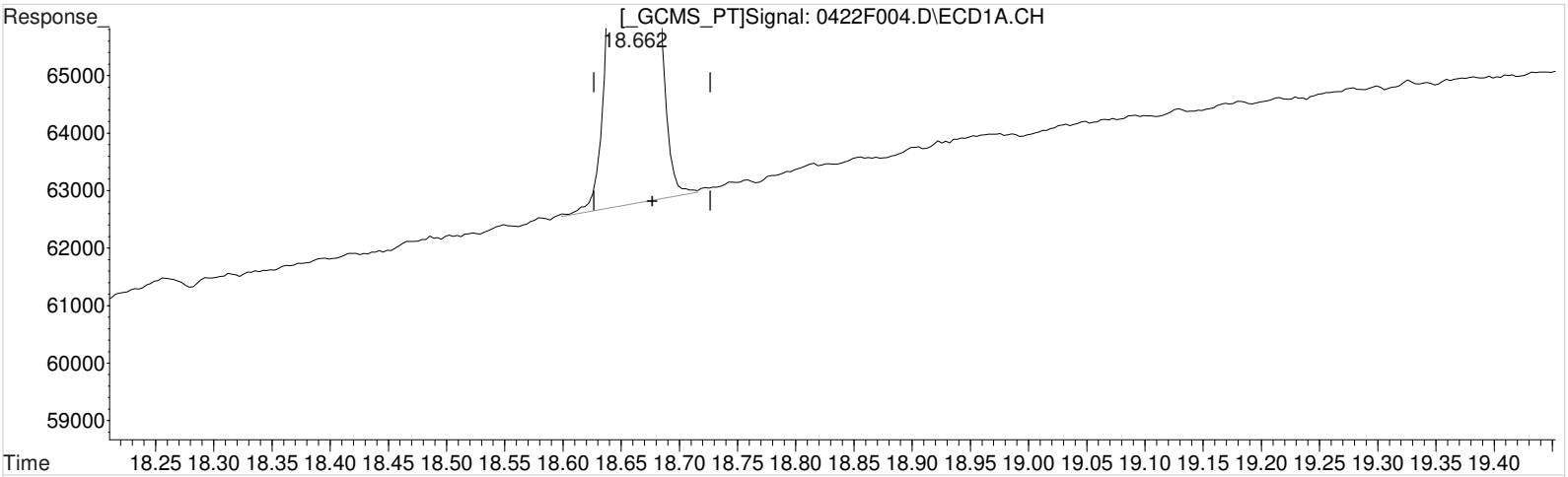
Quantitation Report (Qedit)

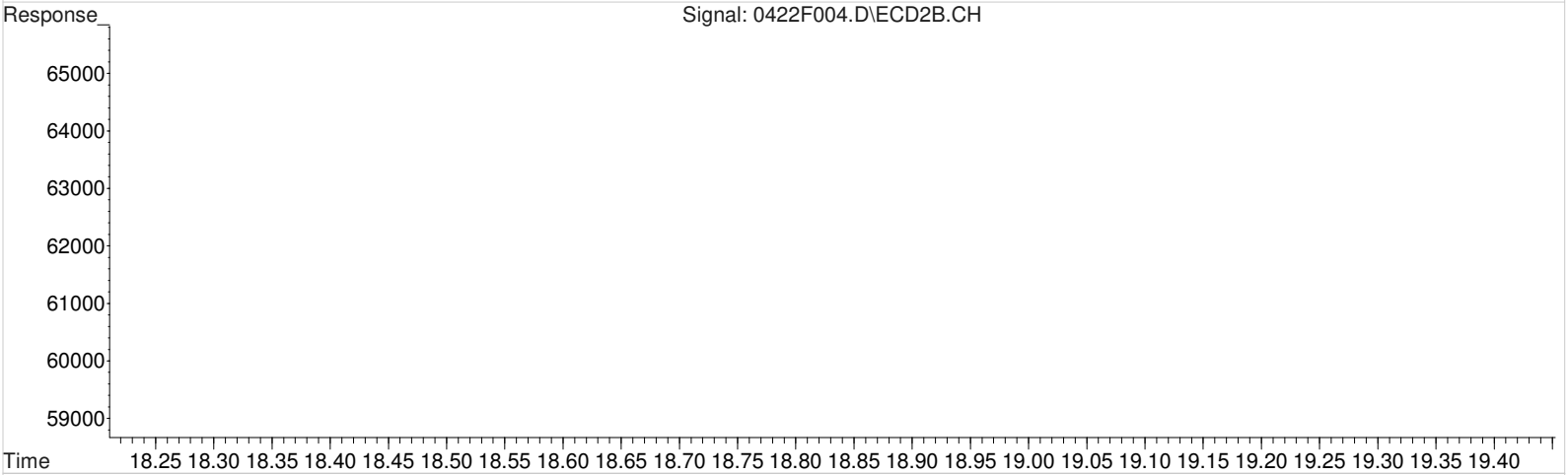
1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.662min 2.224 ug/L m

response 35902

Manual Integration:

After

Baseline/Shoulder

04/22/20

(28) Decachlorobiphenyl #2 (s)

17.053min 2.083 ug/L

response 126424

(+) = Expected Retention Time

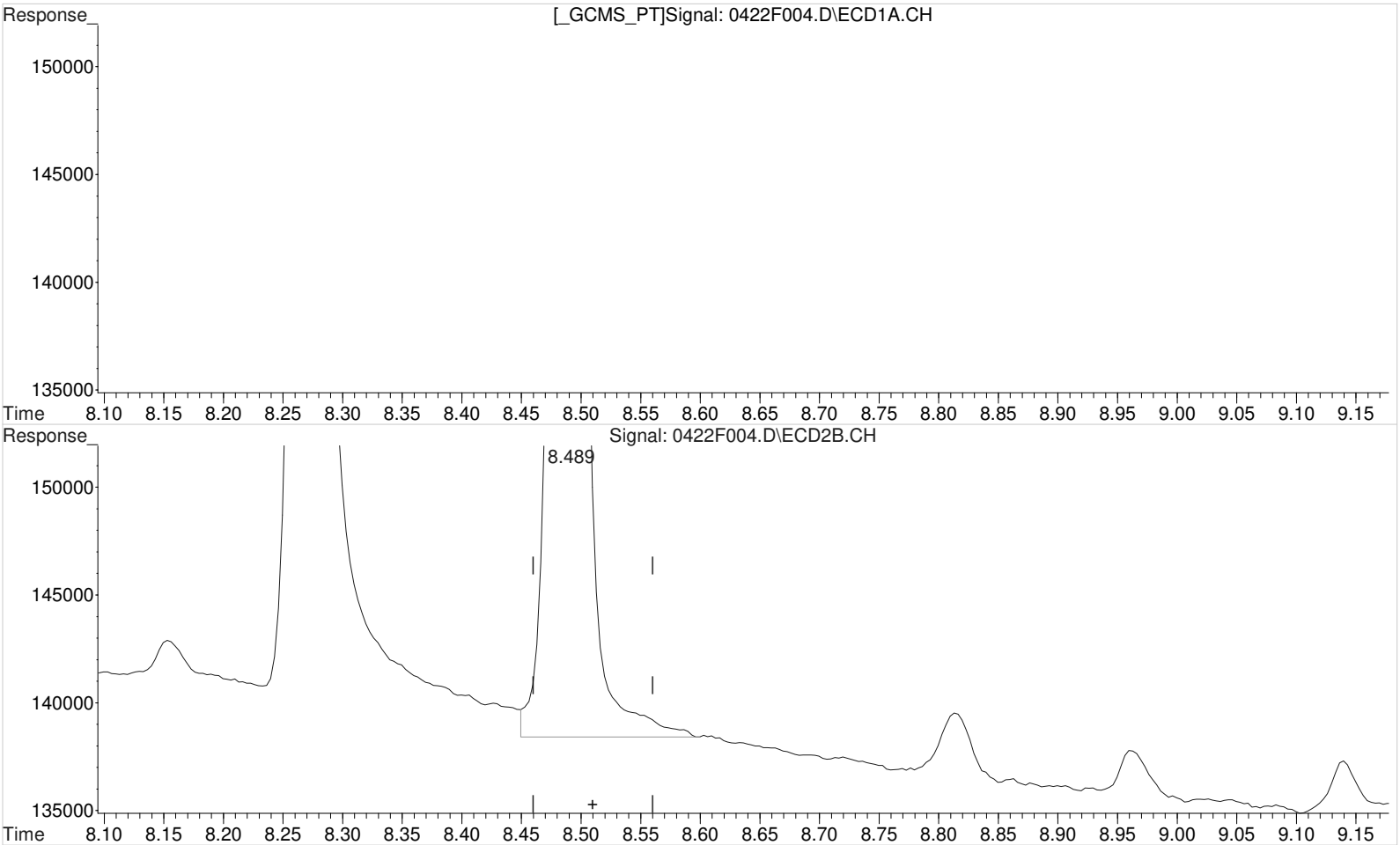
Quantitation Report (Qedit)

1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.809min 2.059 ug/L

response 31152

Manual Integration:

Before

04/22/20

(3) alpha-BHC #2

8.489min 2.238 ug/L

response 133540

(+) = Expected Retention Time

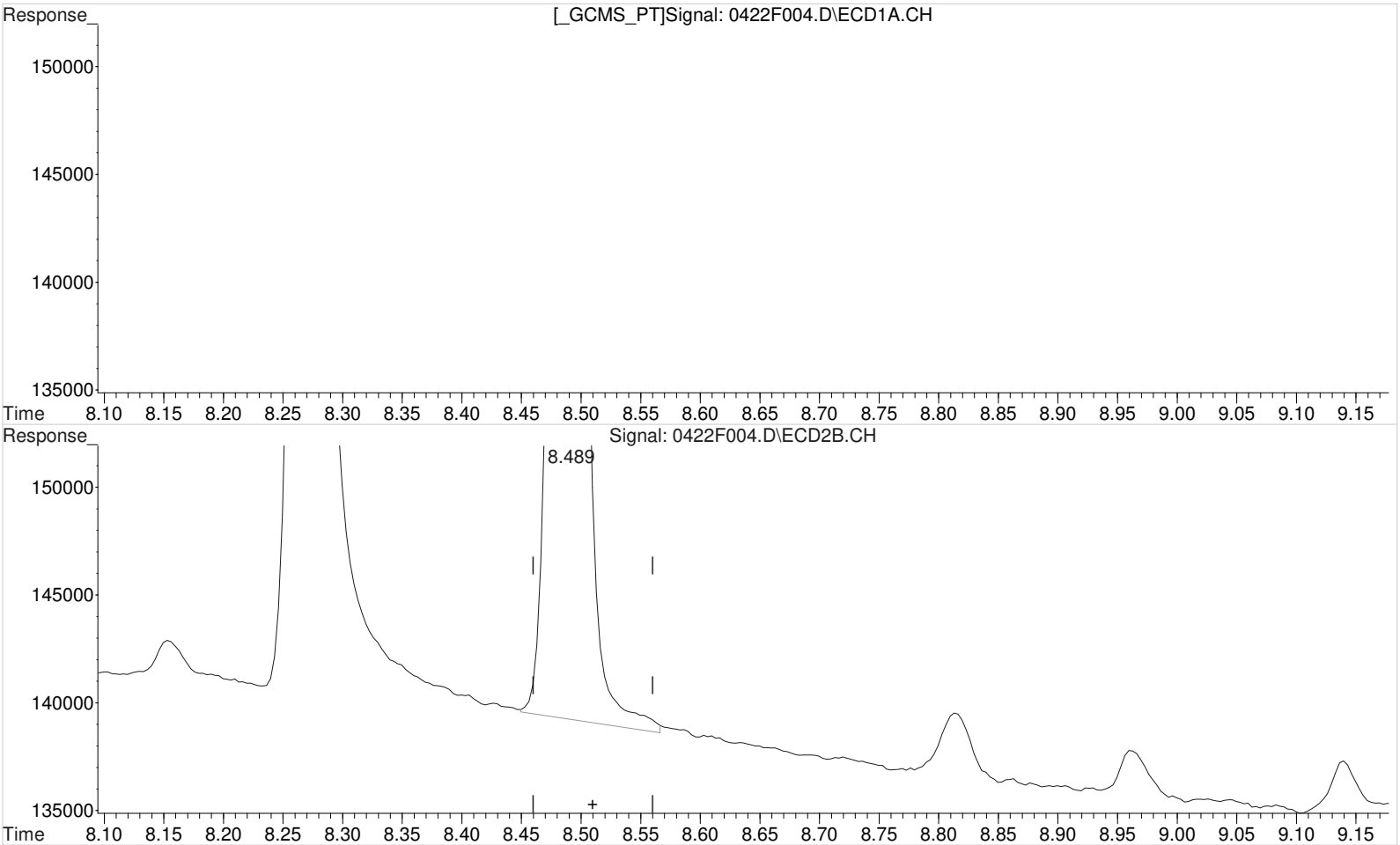
Quantitation Report (Qedit)

1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.809min 2.059 ug/L

response 31152

Manual Integration:

After

Baseline/Shoulder

04/22/20

(3) alpha-BHC #2

8.489min 2.149 ug/L m

response 128216

(+) = Expected Retention Time

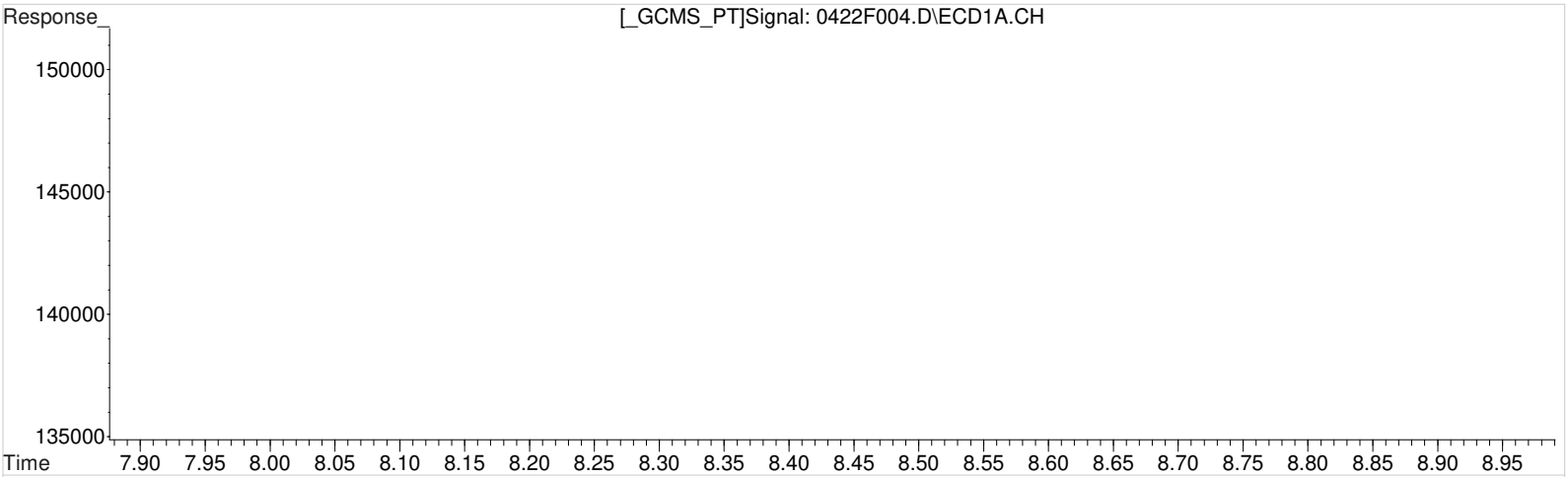
Quantitation Report (Qedit)

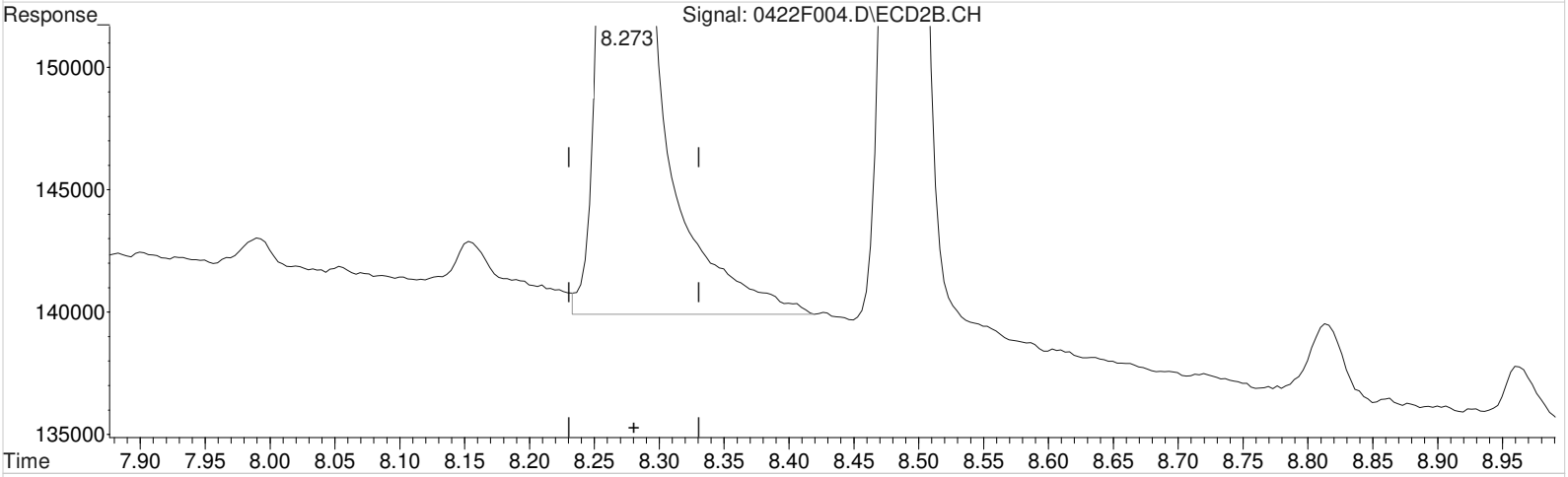
1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(4) Hexachlorobenzene

9.972min 2.090 ug/L

response 37456

Manual Integration:

Before

04/22/20

(4) Hexachlorobenzene #2

8.273min 2.317 ug/L

response 138833

(+) = Expected Retention Time

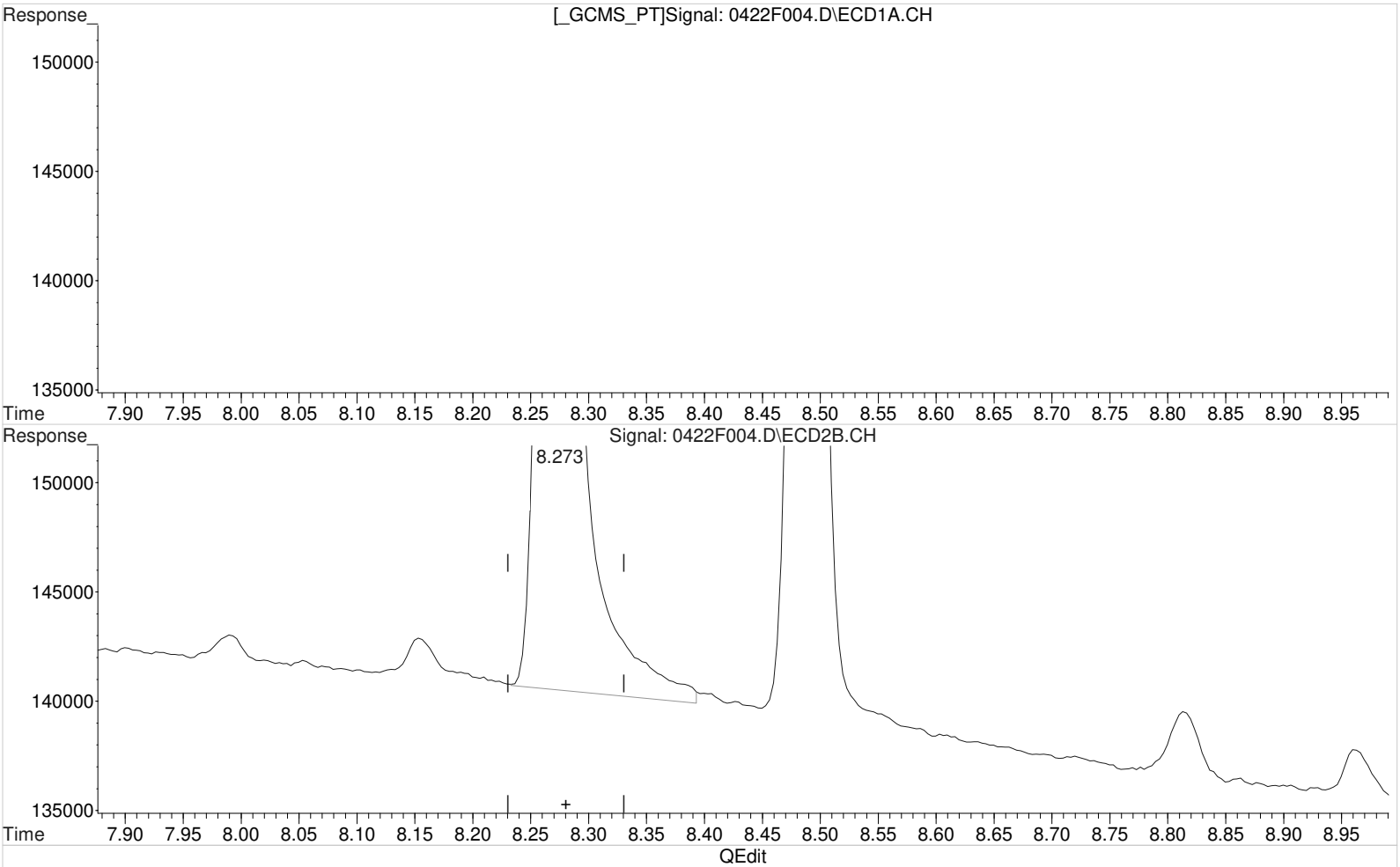
Quantitation Report (Qedit)

1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(4) Hexachlorobenzene

9.972min 2.090 ug/L

response 37456

Manual Integration:

After

Baseline/Shoulder

04/22/20

(4) Hexachlorobenzene #2

8.273min 2.243 ug/L m

response 134441

(+) = Expected Retention Time

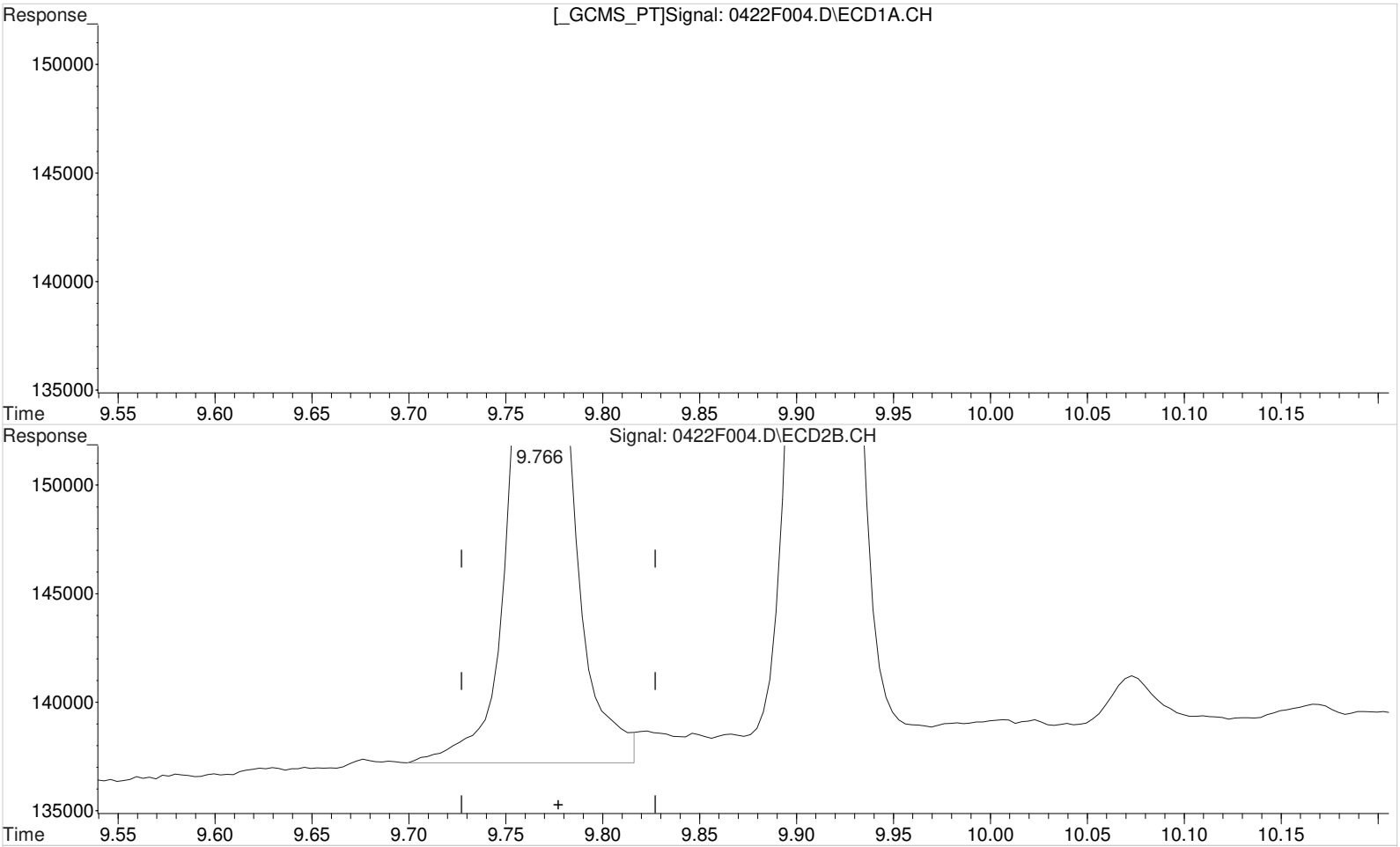
Quantitation Report (Qedit)

1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.069min 2.096 ug/L

response 16954

(5) beta-BHC #2

9.766min 2.381 ug/L

response 67394

Manual Integration:

Before

04/22/20

(+) = Expected Retention Time

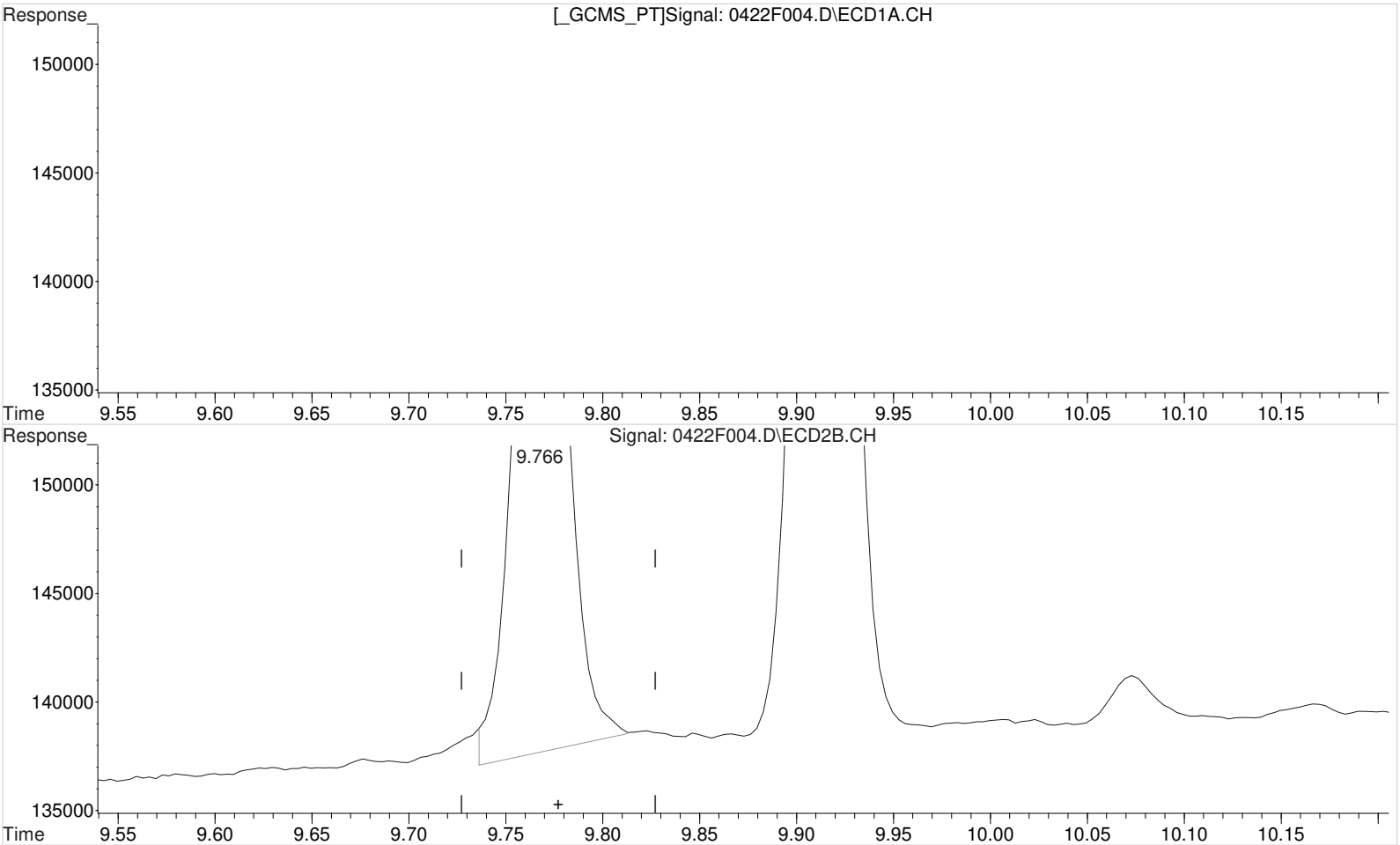
Quantitation Report (Qedit)

1st LM 04/22/20
2nd SM 04/22/20

Data File : J:\GC23\data\042220\0422F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 10:53 am Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 22 11:16:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.069min 2.096 ug/L

response 16954

Manual Integration:

After

Baseline/Shoulder

04/22/20

(5) beta-BHC #2

9.766min 2.217 ug/L m

response 62753

(+) = Expected Retention Time

1st LM 04/24/20
2nd UA 04/24/20

Validation Report

Data File: J:\GC23\data\042220\0422F026.D\
Lab ID: KQ2005501-02
RunType: CCV
Matrix: Water

Date Acquired: 4/22/20 23:22:00
Batch ID: 677799
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards		X
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards - DB XLB	1-Bromo-2-nitrobenzene {2}	0	506950	2027798	ICVOK
	1-Bromo-2-nitrobenzene {3}	0	504054	2016216	SA
Internal Standards - DB-35MS	1-Bromo-2-nitrobenzene {2}	0	2361365	9445458	SA
	1-Bromo-2-nitrobenzene {3}	0	2364940	9459758	

Primary Review: _____

Printed: 4/25/20 8:09
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st LM 04/24/20
2nd UA 04/24/20

Quantitation Report

Data File:	J:\GC23\data\042220\0422F026.D\	**Instrument:**	K-GC-23
Acqu Date:	4/22/20 23:22:00	**Vial:**	2
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005557-02	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	II	**Matrix:**	Sediment
Prod Code:	Pest OC LL	**Collect Date:**	4/1/20	**Receive Date:**	4/1/20

Analysis Lot:	677930	**Prep Lot:**		**Report Group:**	KQ2005557
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Low Level Organochlorine Pesticides by GC	**Calibration ID:**	KC2000190
		Report List ID:	20324

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	6.19	5.48	830512	4061090	100.000	100.000
1-Bromo-2-nitrobenzene {2}	0.00	0.00	0*	0*	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	18.66	17.05	33339	124899	2.256	1.908			Y
Tetrachloro-m-xylene	8.97	7.26	27555	107129	2.288	2.129			Y

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	12.21	10.51	29841	129609	2.241	2.025	2.24	2.03	Y
alpha-BHC	9.81	8.49	29814	133119	2.152	2.068	2.15	2.07	Y
beta-BHC	11.07	9.77	15846	65507	2.140	2.146	2.14	2.15	Y
delta-BHC	11.57	10.30	29199	125610	2.157	2.051	2.16	2.05	Y
gamma-BHC (Lindane)	10.48	9.24	28734	123460	2.147	1.971	2.15	1.97	Y
cis-Chlordane	13.52	12.11	30404	123609	2.182	2.011	2.18	2.01	Y
trans-Chlordane	13.44	11.97	30201	123136	2.157	2.030	2.16	2.03	Y
4,4'-DDD	14.63	13.37	20566	88138	2.075	2.050	2.08	2.05	Y
4,4'-DDE	13.80	12.48	27991	115910	2.183	2.018	2.18	2.02	Y
4,4'-DDT	15.14	13.79	16293	82028	1.565	1.979	1.57	1.98	Y
Dieldrin	13.99	12.63	29857	119479	2.179	2.003	2.18	2.00	Y
Endosulfan I	13.57	12.18	28127	109220	2.202	1.998	2.20	2.00	Y
Endosulfan II	14.81	13.54	25780	99898	2.035	1.947	2.04	1.95	Y
Endosulfan Sulfate	15.46	14.23	28306	104553	2.193	2.067	2.19	2.07	Y
Endrin	14.36	13.11	27019	115119	2.160	2.028	2.16	2.03	Y
Endrin Aldehyde	14.99	13.91	23748	87005	2.162	2.048	2.16	2.05	Y
Endrin Ketone	16.15	15.18	27599	117742	1.992	1.946	1.99	1.95	Y
Heptachlor	11.68	9.92	29321	125912	2.039	1.979	2.04	1.98	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 12:17
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Data File:	J:\GC23\data\042220\0422F026.D\	**Instrument:**	K-GC-23
Acqu Date:	4/22/20 23:22:00	**Vial:**	2
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005557-02	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2		Rpt?
Heptachlor Epoxide	12.92	11.59	30305	127517	2.165	2.032	2.17	2.03		Y
Methoxychlor	15.89	14.90	9073	49742	1.437	2.162	1.44	2.16	P	Y
Toxaphene					0	0	0	0		N
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000		
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000		
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000		
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000		
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000		
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000		

Prep Amount:	2 g	**Dilution:**	1
Prep Final Amount:	10.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:15:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.193	5.477	830512	4061090	100.000	100.000	
	System Monitoring Compounds							
2) s	Tetrachlo...	8.970	7.257	27555	107129	2.288	2.129	
28) s	Decachlor...	18.663	17.054	33339	124899	2.256m	1.908	
	Target Compounds							
3)	alpha-BHC	9.813	8.490	29814	133119	2.152	2.068m	
4)	Hexachlor...	9.973	8.274	37859	140214	2.308	2.169m	
5)	beta-BHC	11.070	9.770	15846	65507	2.140	2.146m	
6)	gamma-BHC...	10.483	9.237	28734	123460	2.147	1.971	
7)	delta-BHC	11.573	10.297	29199	125610	2.157	2.051	
8)	Heptachlor	11.680	9.917	29321	125912	2.039	1.979	
9)	Aldrin	12.206	10.507	29841	129609	2.241	2.025m	
10)	Isodrin	12.733	11.304	25762	111418	2.255	2.080	
11)	Heptachlo...	12.923	11.590	30305	127517	2.165	2.032	
12)	gamma-Chl...	13.443	11.967	30201	123136	2.157	2.030	
13)	Endosulfan I	13.573	12.180	28127	109220	2.202	1.998	
14)	alpha-Chl...	13.520	12.114	30404	123609	2.182	2.011	
15)	Dieldrin	13.993	12.627	29857	119479	2.179	2.003	
16)	4,4'-DDE	13.796	12.477	27991	115910	2.183	2.018	
17)	Endrin	14.363	13.107	27019	115119	2.160	2.028	
18)	Endosulfa...	14.806	13.540	25780	99898	2.035	1.947	
19)	4,4'-DDD	14.633	13.367	20566	88138	2.075	2.050	
20)	Endrin Al...	14.986	13.907	23748	87005	2.162m	2.048	
21)	Endosulfa...	15.460	14.230	28306	104553	2.193	2.067	
22)	4,4'-DDT	15.136	13.787	16293	82028	1.565	1.979	#
23)	Endrin Ke...	16.150	15.177	27599	117742	1.992	1.946	
24)	Methoxychlor	15.886	14.897	9073	49742	1.437	2.162	#

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

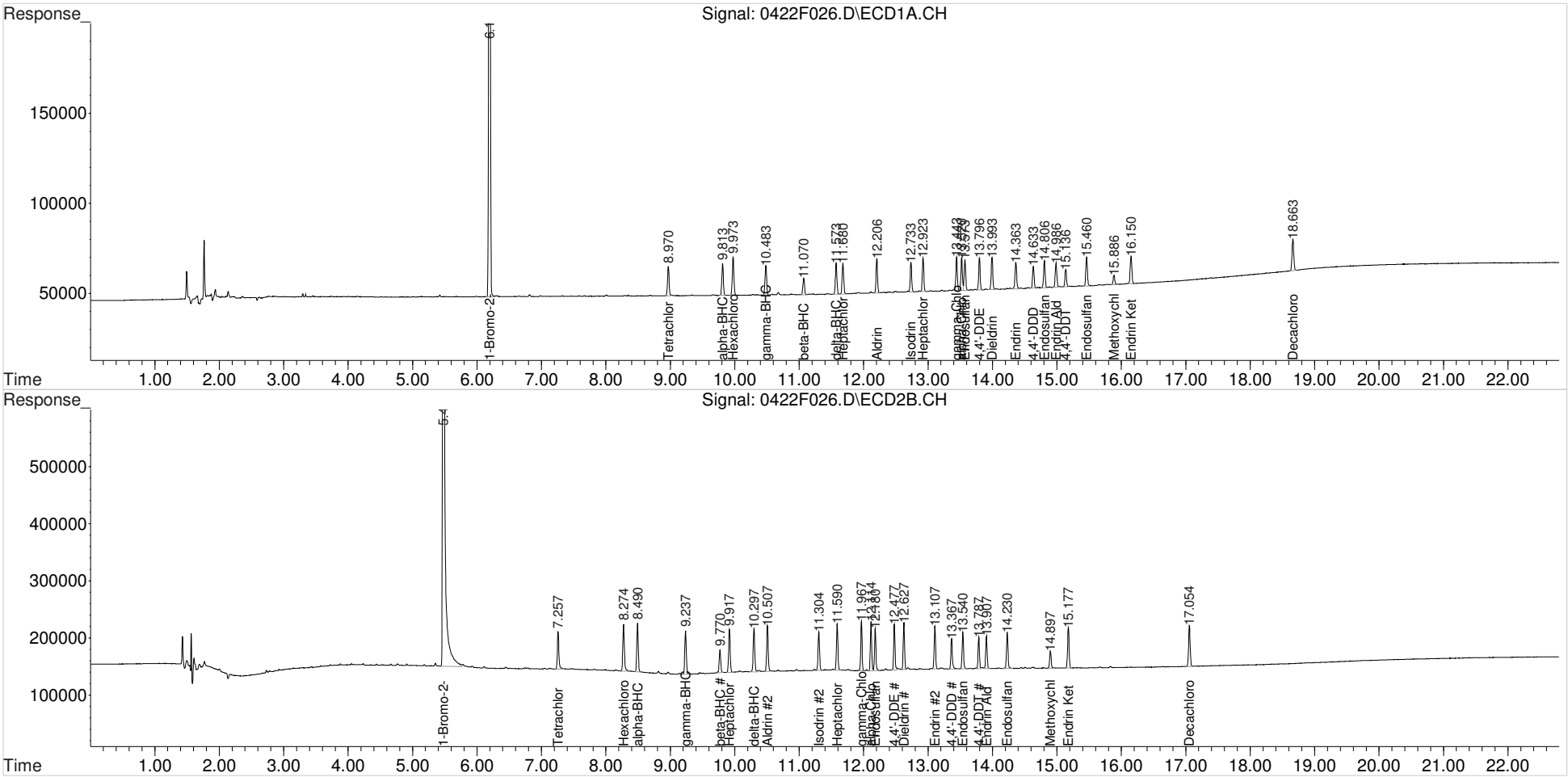
1st LM 04/24/20
2nd UA 04/24/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:15:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



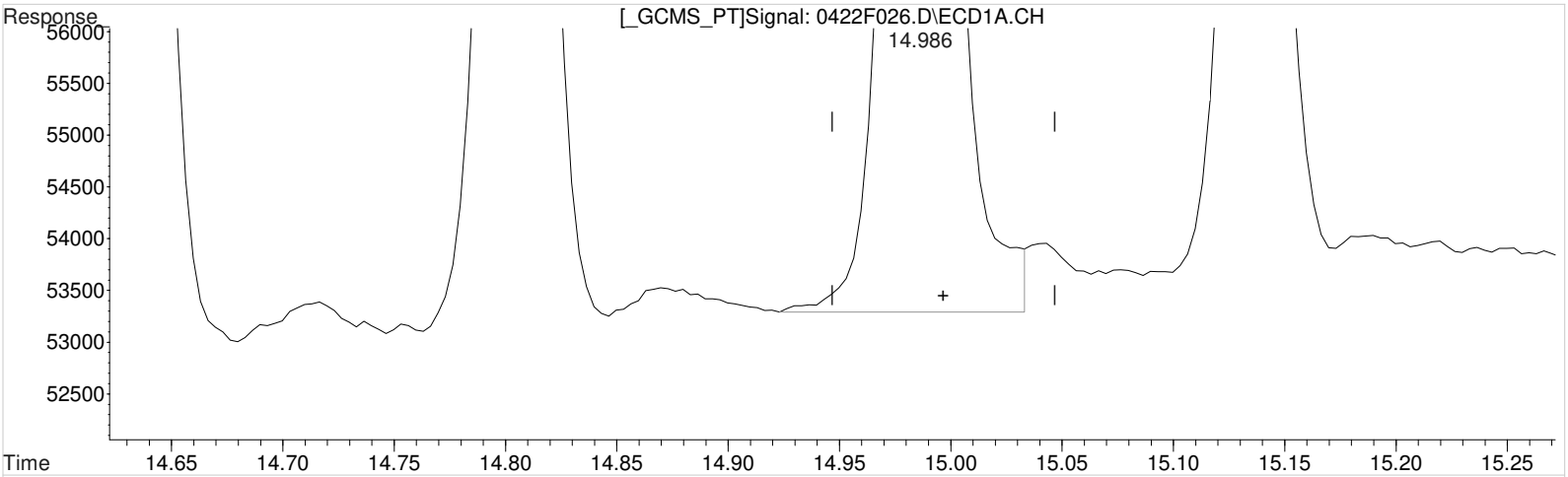
Quantitation Report (Qedit)

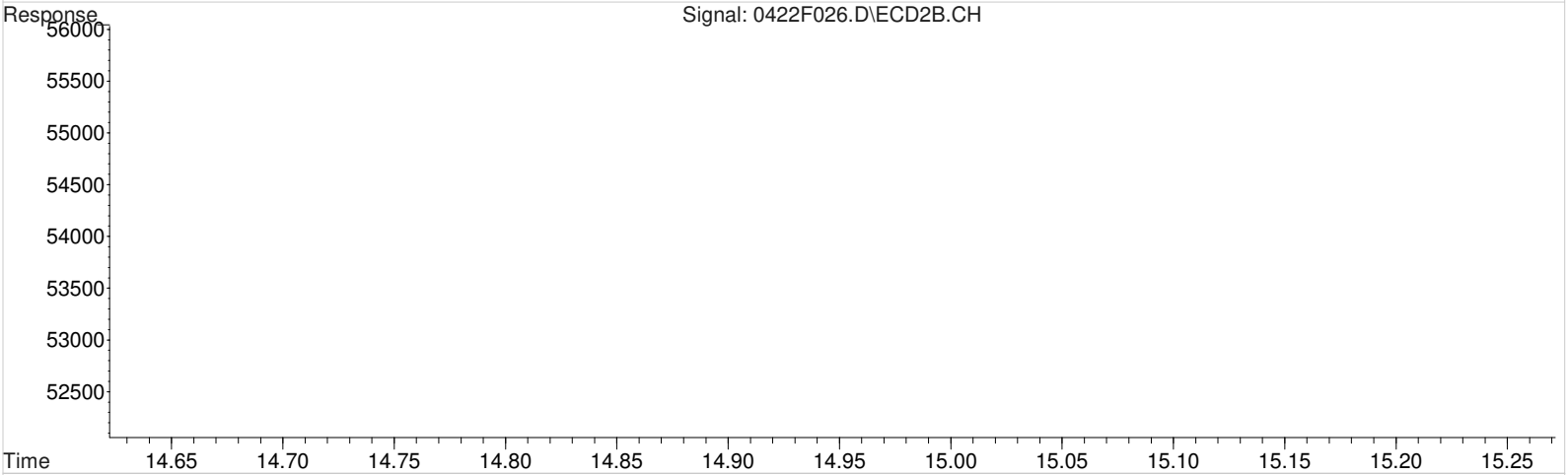
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(20) Endrin Aldehyde

14.986min 2.244 ug/L

response 24642

Manual Integration:

Before

04/23/20

(20) Endrin Aldehyde #2

13.907min 2.048 ug/L

response 87005

(+) = Expected Retention Time

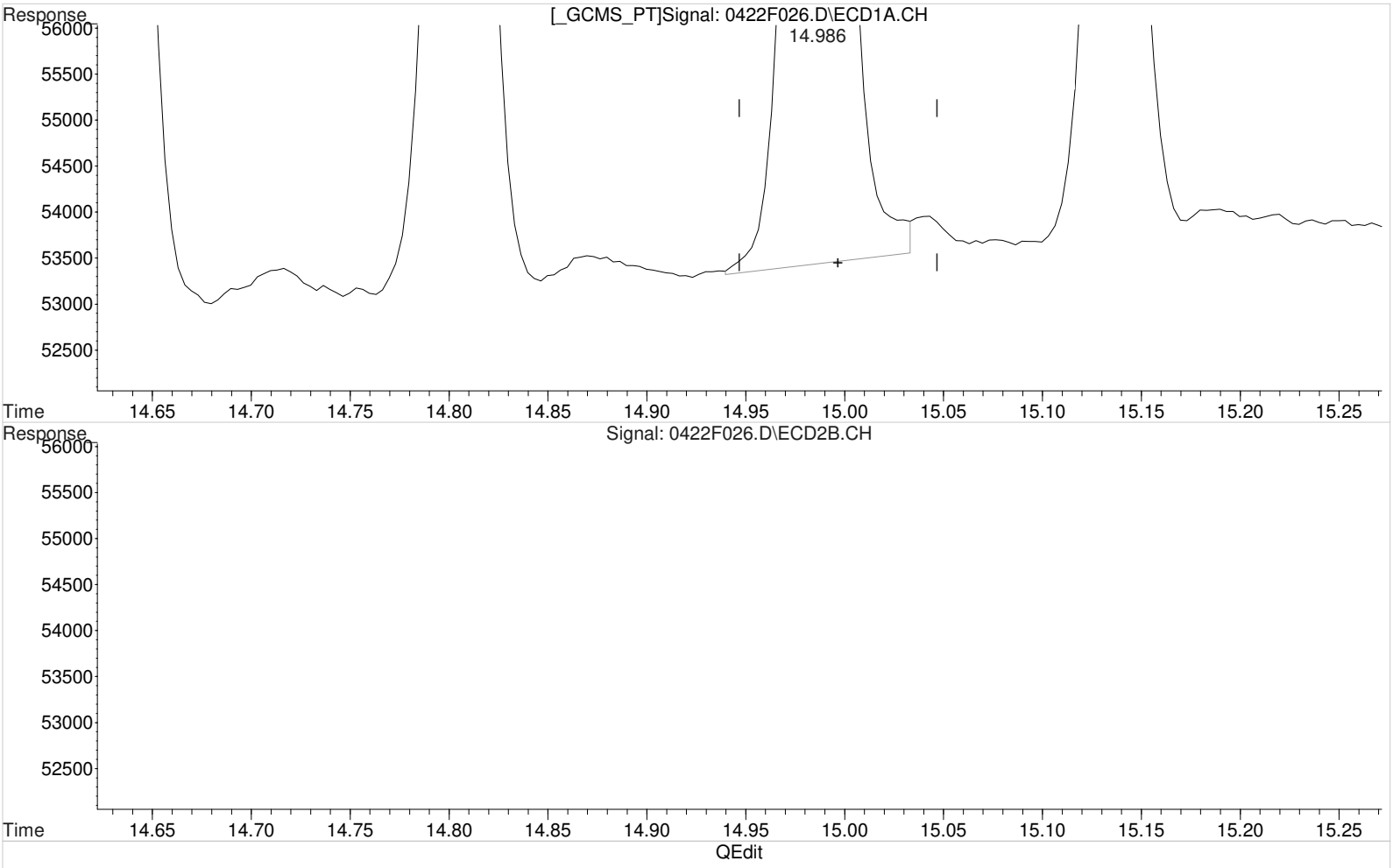
Quantitation Report (Qedit)

1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(20) Endrin Aldehyde

14.986min 2.162 ug/L m

response 23748

Manual Integration:

After

Baseline/Shoulder

04/23/20

(20) Endrin Aldehyde #2

13.907min 2.048 ug/L

response 87005

(+) = Expected Retention Time

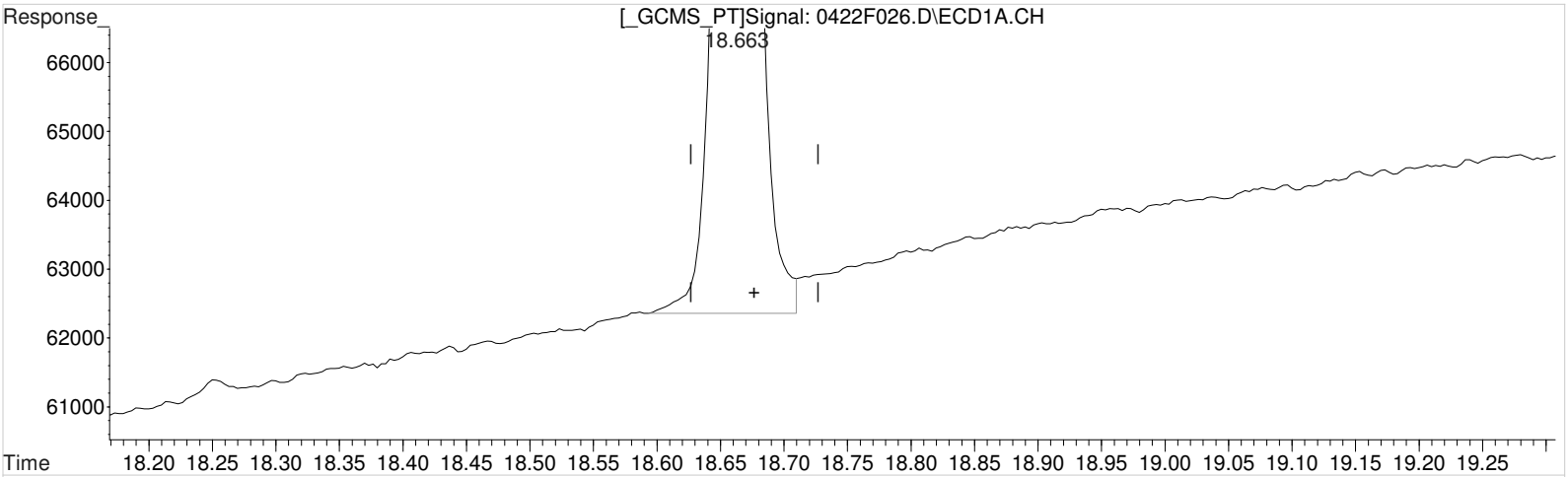
Quantitation Report (Qedit)

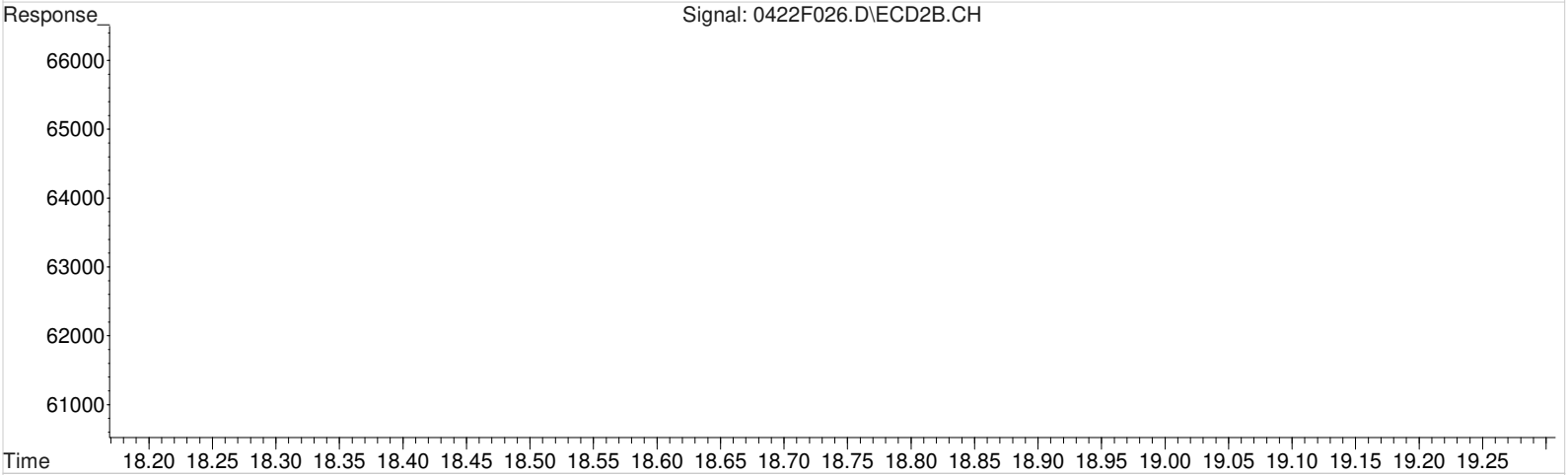
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.663min 2.375 ug/L

response 35096

Manual Integration:

Before

04/23/20

(28) Decachlorobiphenyl #2 (s)

17.054min 1.908 ug/L

response 124899

(+) = Expected Retention Time

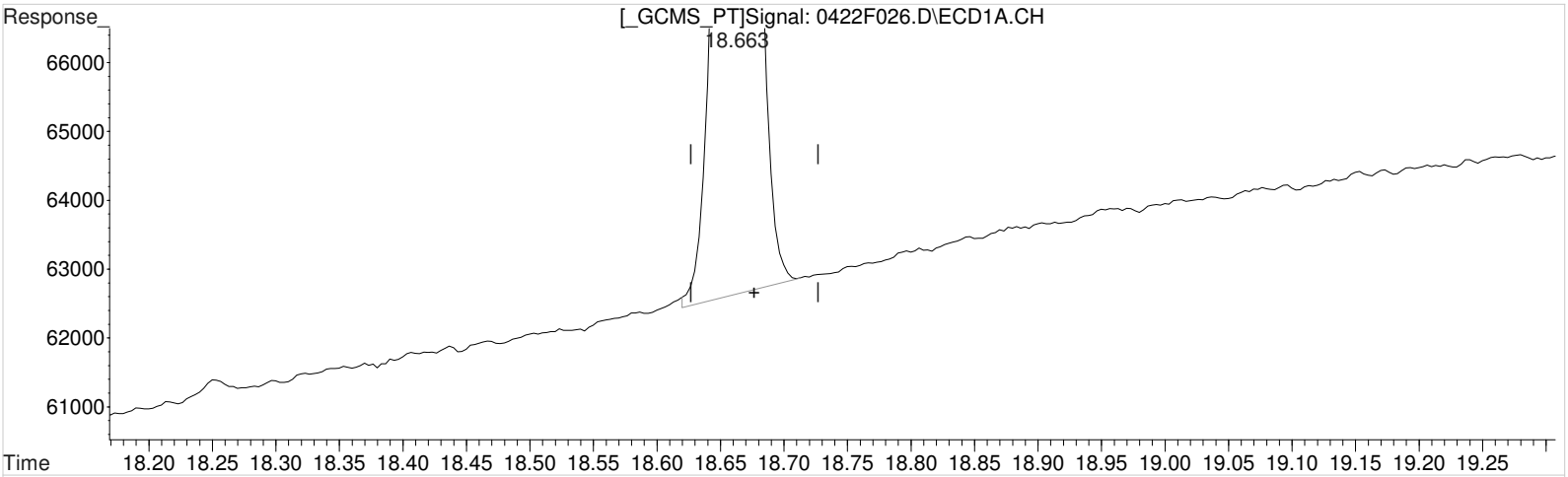
Quantitation Report (Qedit)

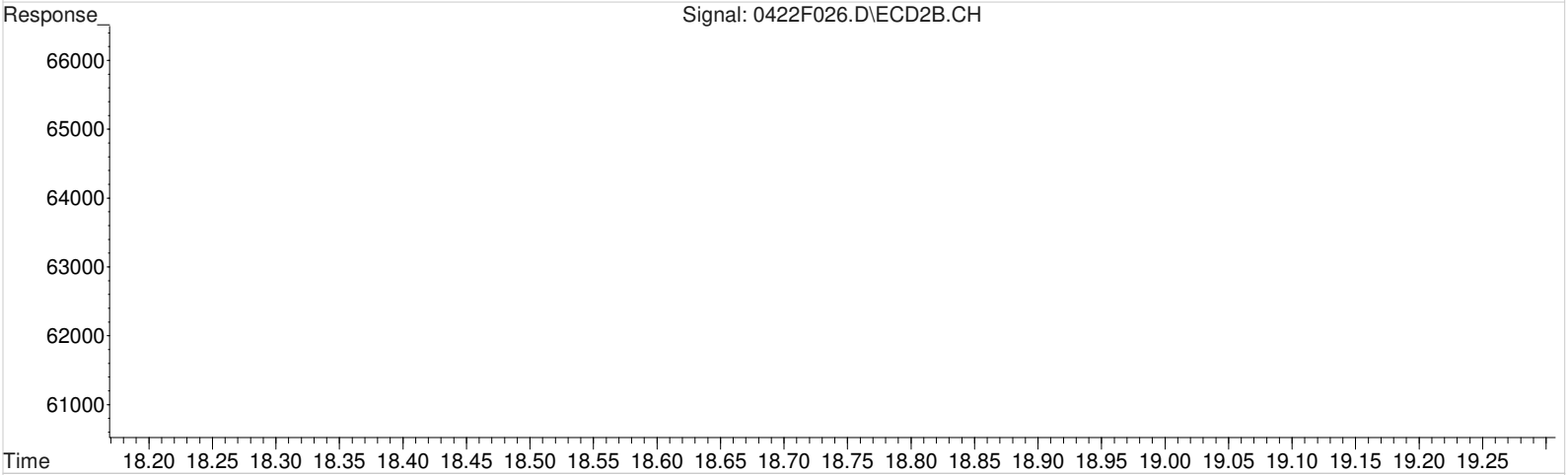
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.663min 2.256 ug/L m

response 33339

Manual Integration:

After

Baseline/Shoulder

04/23/20

(28) Decachlorobiphenyl #2 (s)

17.054min 1.908 ug/L

response 124899

(+) = Expected Retention Time

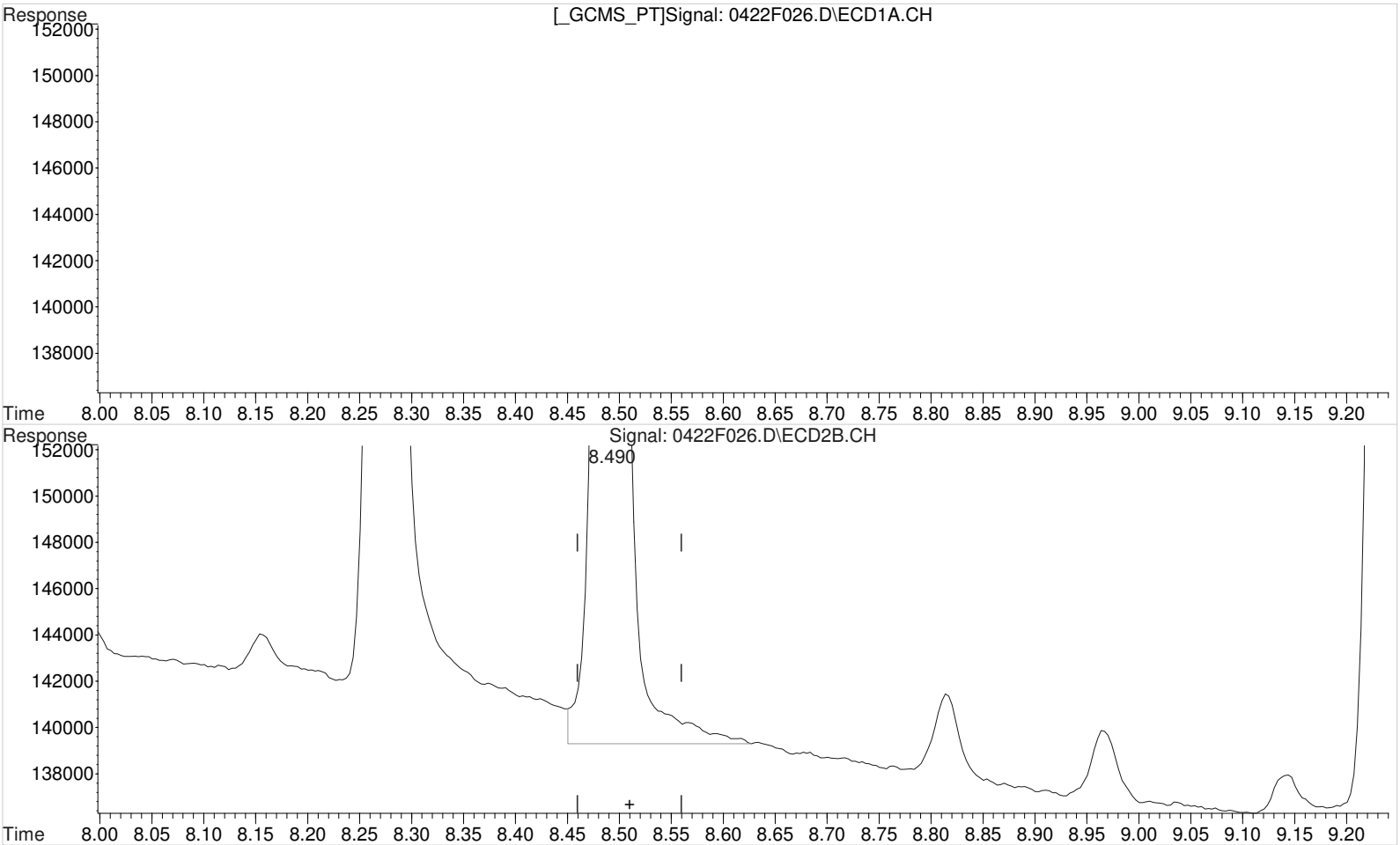
Quantitation Report (Qedit)

1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.813min 2.152 ug/L

response 29814

Manual Integration:

Before

04/23/20

(3) alpha-BHC #2

8.490min 2.197 ug/L

response 141397

(+) = Expected Retention Time

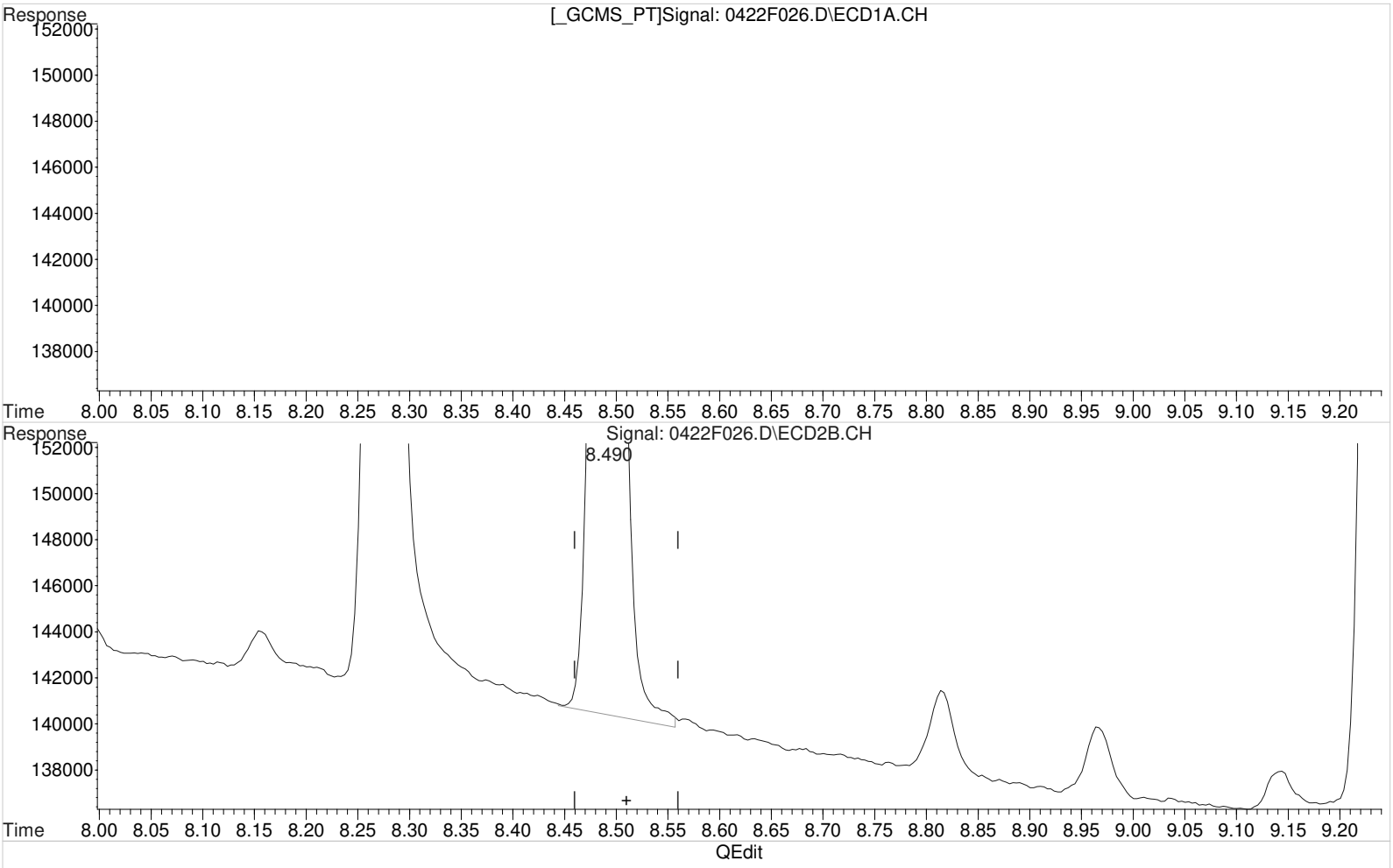
Quantitation Report (Qedit)

1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.813min 2.152 ug/L

response 29814

Manual Integration:

After

Baseline/Shoulder

04/23/20

(3) alpha-BHC #2

8.490min 2.068 ug/L m

response 133119

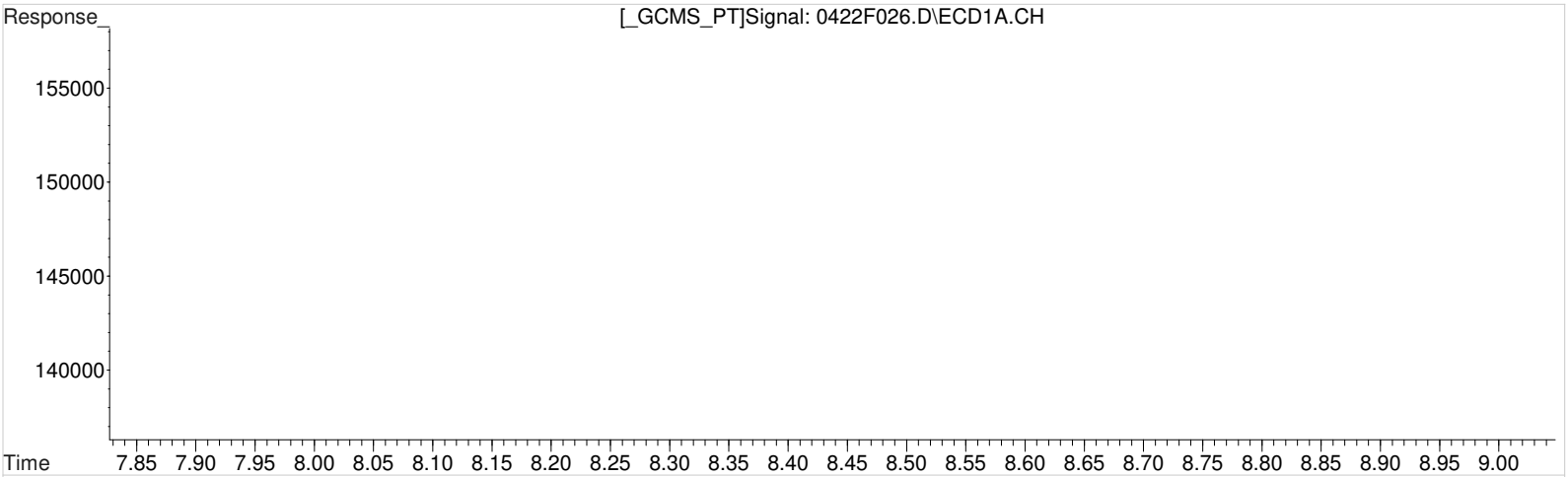
(+) = Expected Retention Time

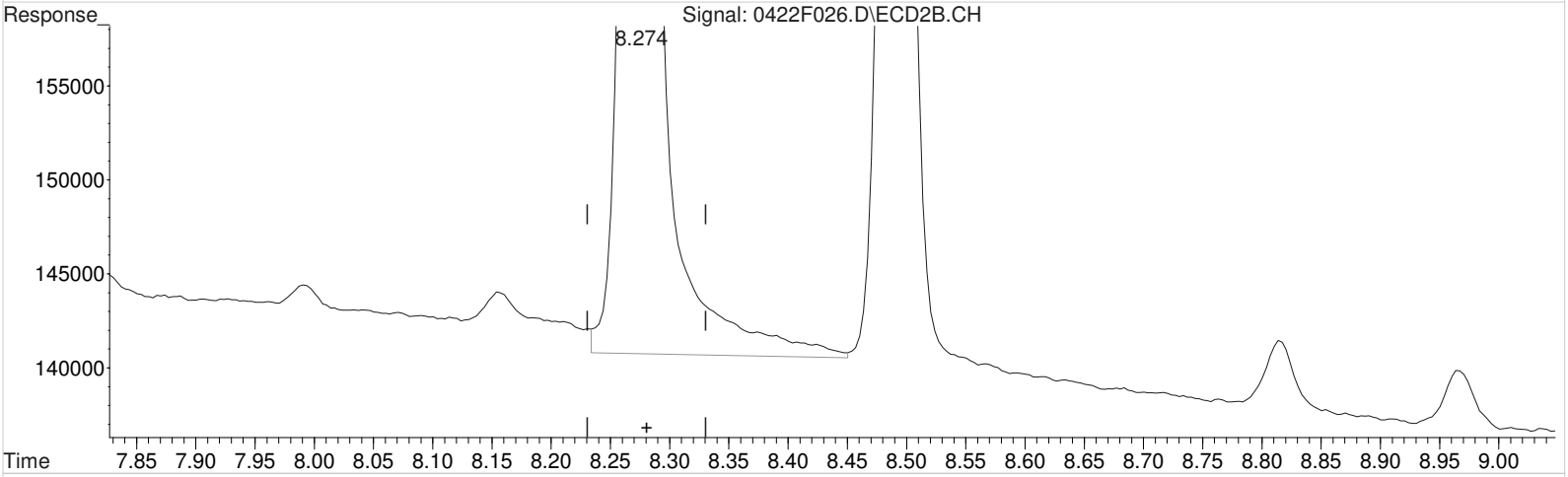
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(4) Hexachlorobenzene

9.973min 2.308 ug/L

response 37859

Manual Integration:

Before

04/23/20

(4) Hexachlorobenzene #2

8.274min 2.363 ug/L

response 152732

(+) = Expected Retention Time

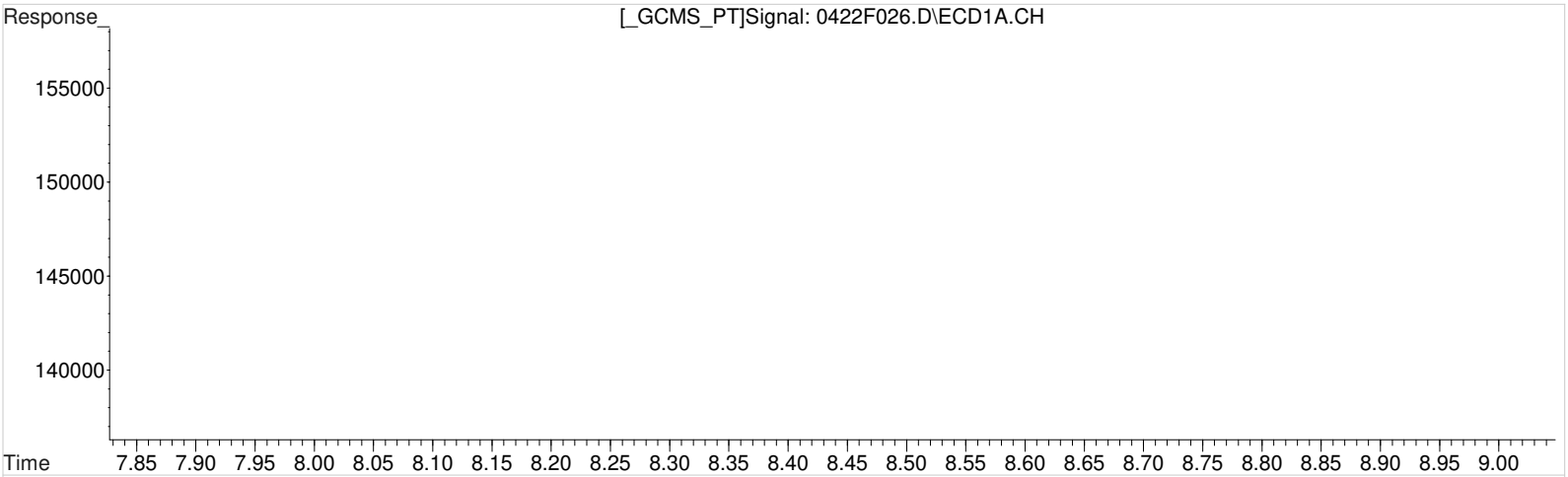
Quantitation Report (Qedit)

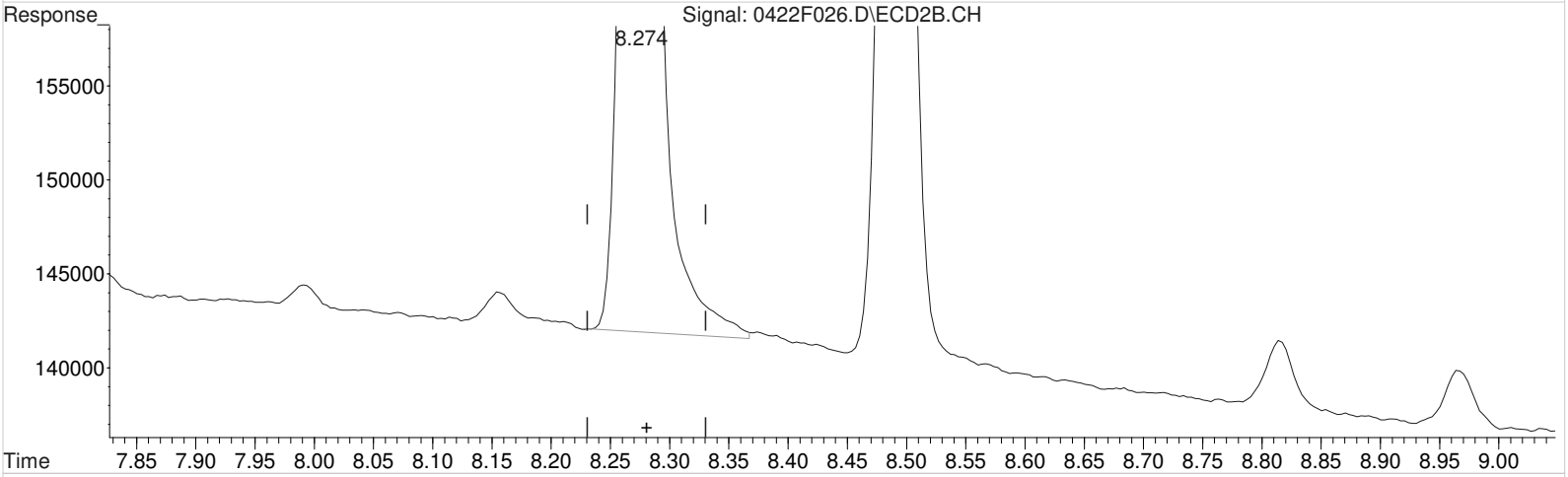
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(4) Hexachlorobenzene

9.973min 2.308 ug/L

response 37859

Manual Integration:

After

Baseline/Shoulder

04/23/20

(4) Hexachlorobenzene #2

8.274min 2.169 ug/L m

response 140214

(+) = Expected Retention Time

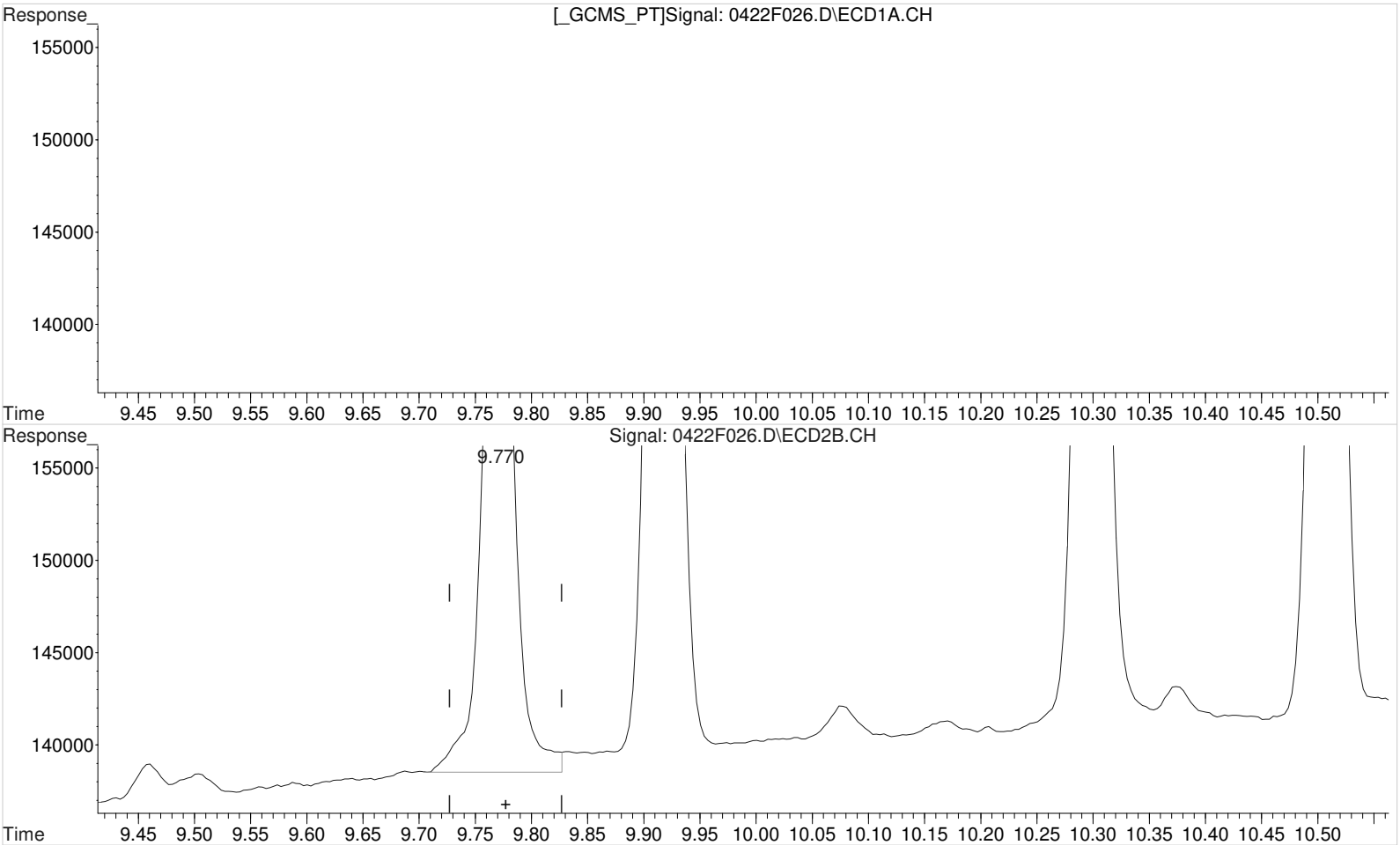
Quantitation Report (Qedit)

1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.070min 2.140 ug/L

response 15846

Manual Integration:

Before

04/23/20

(5) beta-BHC #2

9.770min 2.319 ug/L

response 70781

(+) = Expected Retention Time

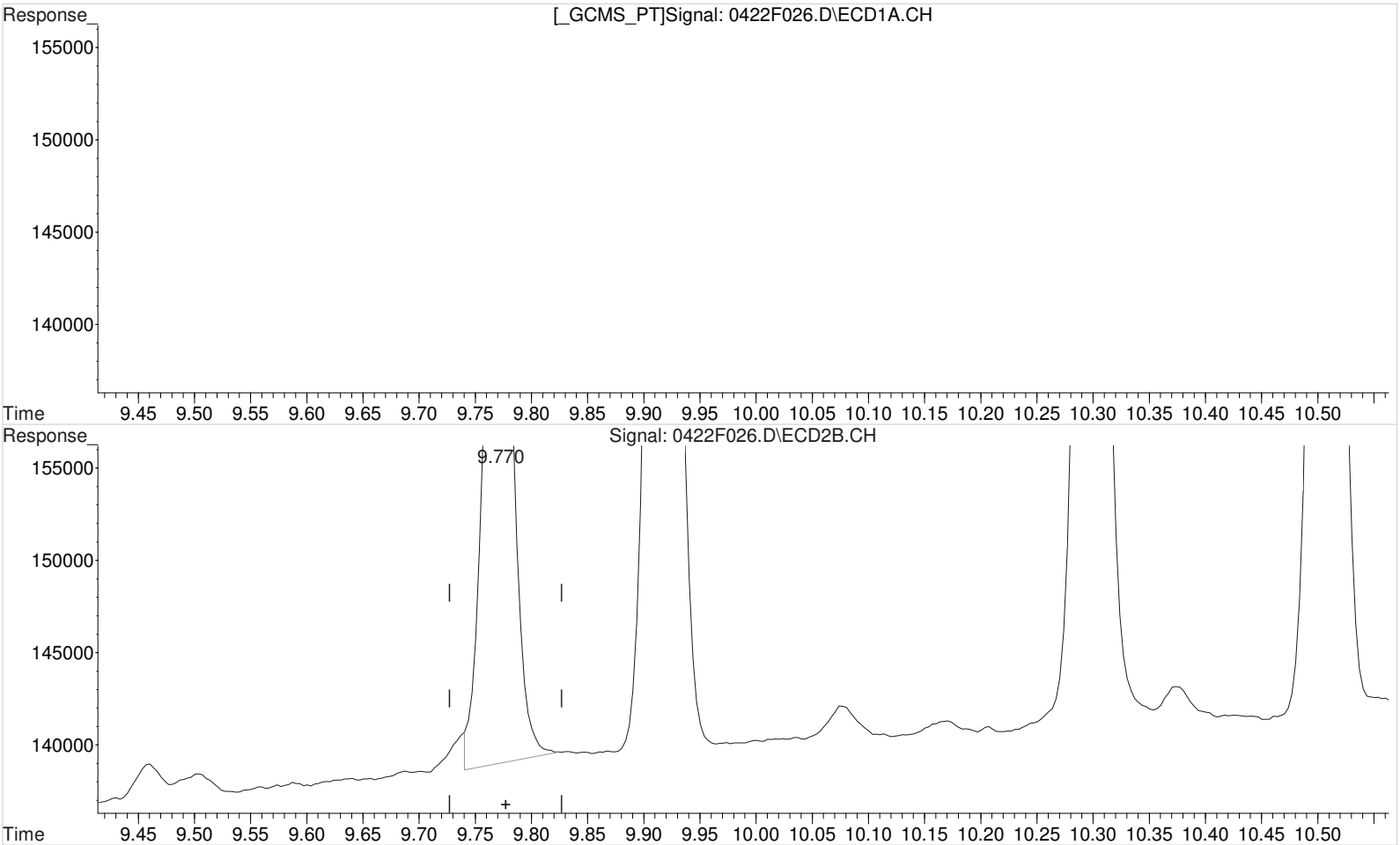
Quantitation Report (Qedit)

1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(5) beta-BHC

11.070min 2.140 ug/L

response 15846

Manual Integration:

After

Baseline/Shoulder

04/23/20

(5) beta-BHC #2

9.770min 2.146 ug/L m

response 65507

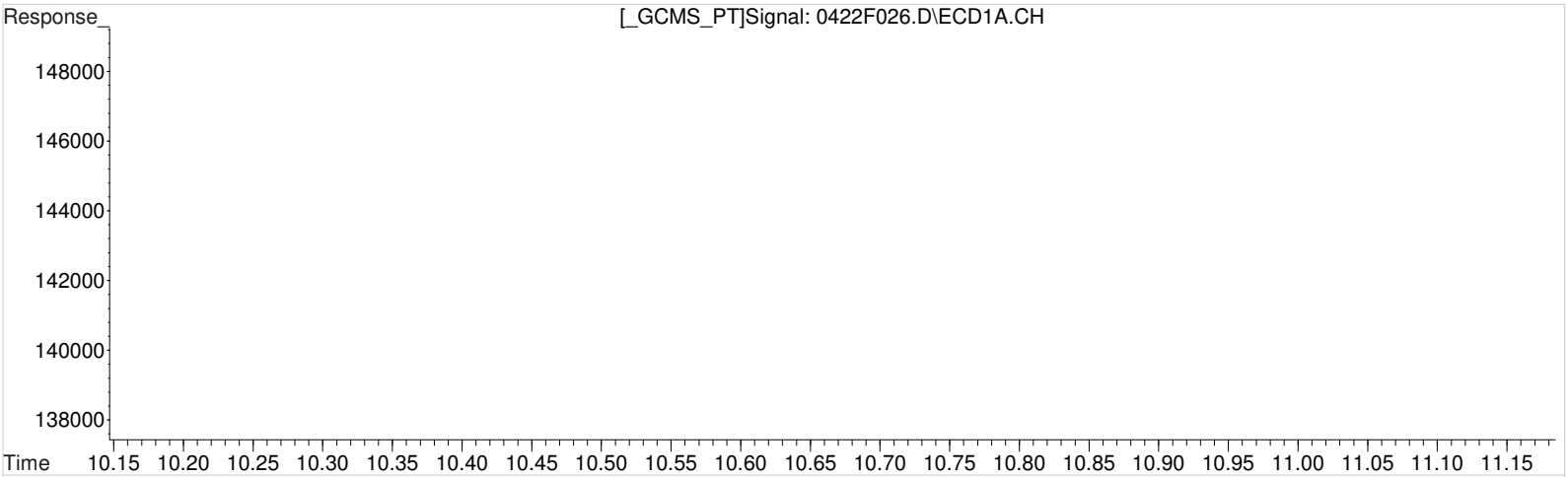
(+) = Expected Retention Time

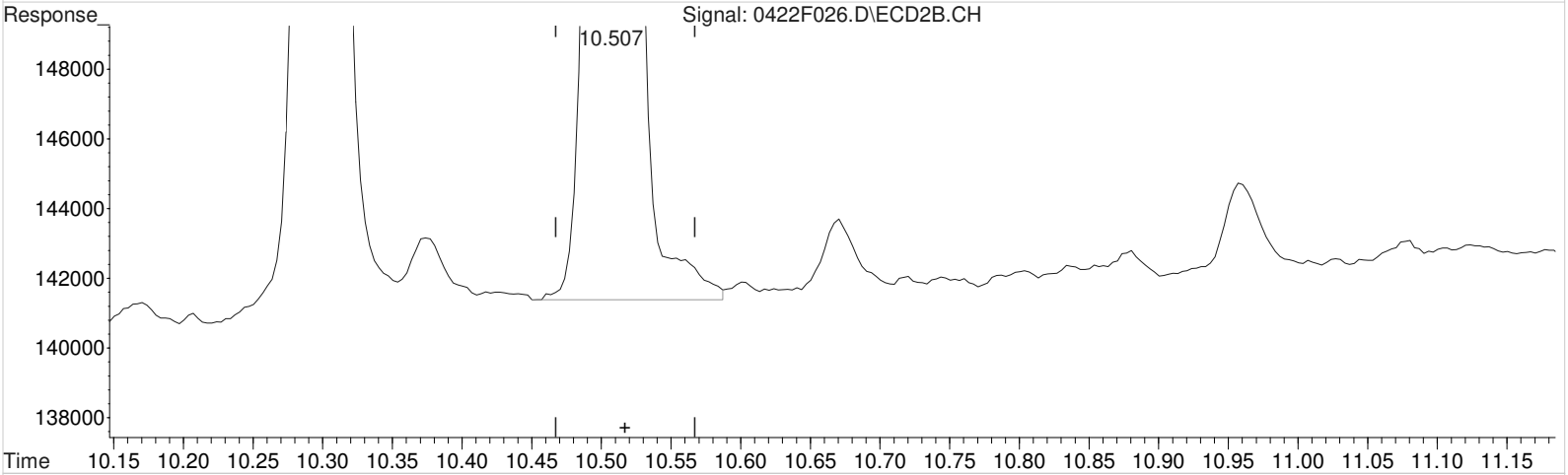
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(9) Aldrin

12.206min 2.241 ug/L

response 29841

(9) Aldrin #2

10.507min 2.068 ug/L

response 132388

Manual Integration:

Before

04/23/20

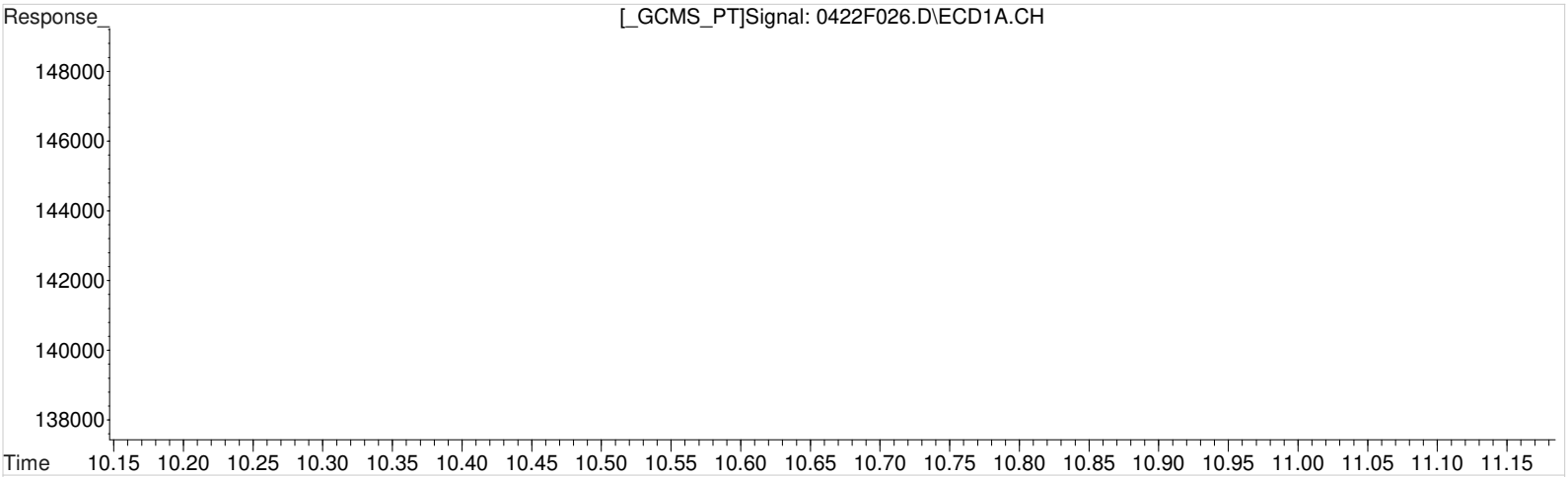
(+) = Expected Retention Time

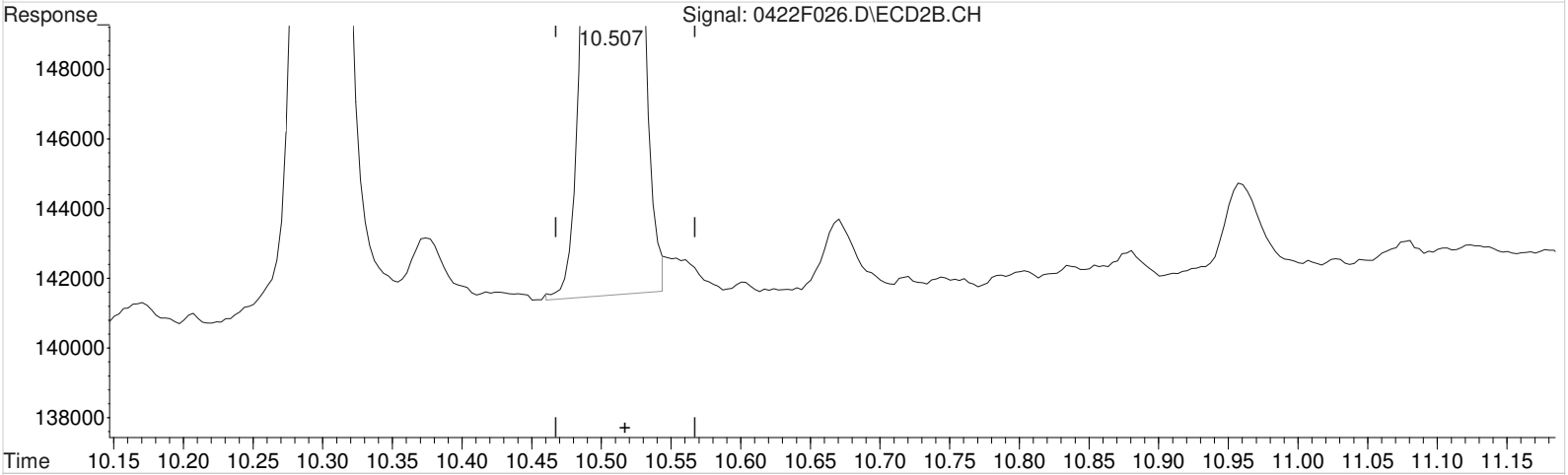
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F026.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 22 Apr 2020 11:22 pm Operator: LM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(9) Aldrin

12.206min 2.241 ug/L

response 29841

Manual Integration:

After

Baseline/Shoulder

04/23/20

(9) Aldrin #2

10.507min 2.025 ug/L m

response 129609

(+) = Expected Retention Time

1st LM 04/24/20
2nd UA 04/24/20

Validation Report

Data File: J:\GC23\data\042220\0422F029.D\
Lab ID: KQ2005501-02.R01
RunType: CCV
Matrix: Water

Date Acquired: 4/23/20 00:51:00
Batch ID: 677799
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards		X
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards - DB XLB	1-Bromo-2-nitrobenzene	0	484615	1938460	ICVOK
	1-Bromo-2-nitrobenzene {3}	0	504054	2016216	SA
Internal Standards - DB-35MS	1-Bromo-2-nitrobenzene	0	2230535	8922140	SA
	1-Bromo-2-nitrobenzene {3}	0	2364940	9459758	

Primary Review: _____

Secondary Review: _____

1st LM 04/24/20
2nd UA 04/24/20

Quantitation Report

Data File:	J:\GC23\data\042220\0422F029.D\	**Instrument:**	K-GC-23
Acqu Date:	4/23/20 00:51:00	**Vial:**	9
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005557-02.R01	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	II	**Matrix:**	Sediment
Prod Code:	Pest OC LL	**Collect Date:**	4/1/20	**Receive Date:**	4/1/20

Analysis Lot:	677930	**Prep Lot:**		**Report Group:**	KQ2005557
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Low Level Organochlorine Pesticides by GC	**Calibration ID:**	KC2000190
		Report List ID:	20324

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {2}	6.18	5.47	840188	4073093	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000			N
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000			N

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
beta-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
delta-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
cis-Chlordane	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
trans-Chlordane	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
4,4'-DDD	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
4,4'-DDE	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
4,4'-DDT	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Dieldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Endosulfan I	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Endosulfan II	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Endosulfan Sulfate	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Endrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Endrin Aldehyde	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Endrin Ketone	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/24/20 12:17
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Data File:	J:\GC23\data\042220\0422F029.D\	**Instrument:**	K-GC-23
Acqu Date:	4/23/20 00:51:00	**Vial:**	9
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005557-02.R01	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Methoxychlor	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Toxaphene					8666666667	95.1505	103	95.2	Y
Toxaphene {1}	14.72	13.37	14520	84416	105.179	93.270	105	93.3	
Toxaphene {2}	14.78	13.43	12619	65301	101.058	93.778	101	93.8	
Toxaphene {3}	14.90	13.57	24720	83396	99.351	93.035	99.4	93.0	
Toxaphene {4}	14.97	13.64	17830	31885	106.553	99.859	107	99.9	
Toxaphene {5}	15.32	13.91	16813	46482	105.445	95.343	105	95.3	
Toxaphene {6}	15.50	15.41	7247	25252	100.646	95.618	101	95.6	

Prep Amount:	2 g	**Dilution:**	1
Prep Final Amount:	10.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F029.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 12:51 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:08:58 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
29)	1-Bromo-2...	6.181	5.468	840188	4073093	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
30)	Toxaphene	14.721	13.365	14520	84416	105.179m	93.270
31)	Toxaphene...	14.781	13.432	12619	65301	101.058m	93.778m
32)	Toxaphene...	14.901	13.572	24720	83396	99.351	93.035
33)	Toxaphene...	14.968	13.642	17830	31885	106.553	99.859
34)	Toxaphene...	15.318	13.905	16813	46482	105.445m	95.343
35)	Toxaphene...	15.504	15.405	7247	25252	100.646	95.618
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

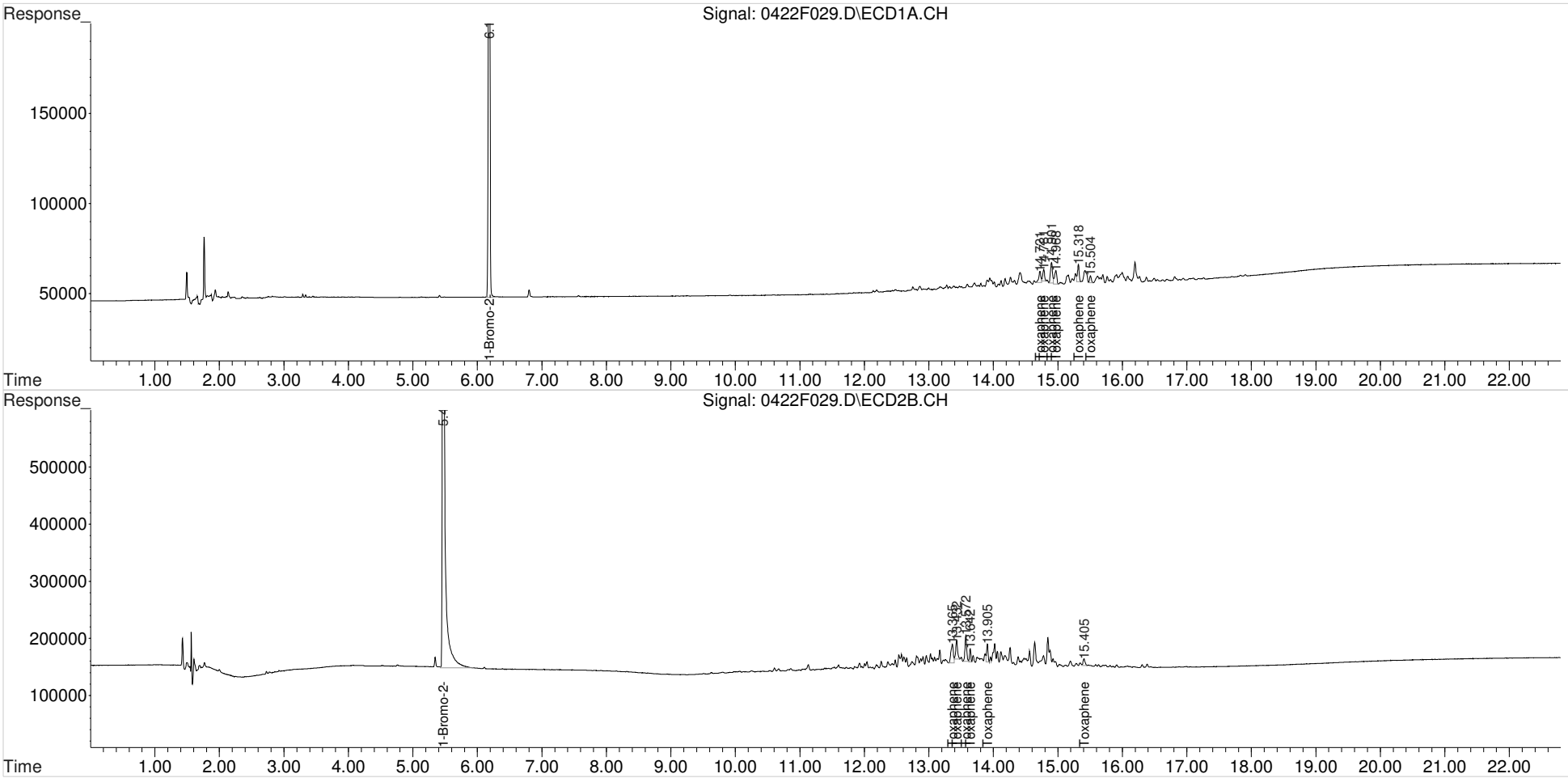
1st LM 04/24/20
2nd UA 04/24/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042220\0422F029.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 12:51 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:08:58 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



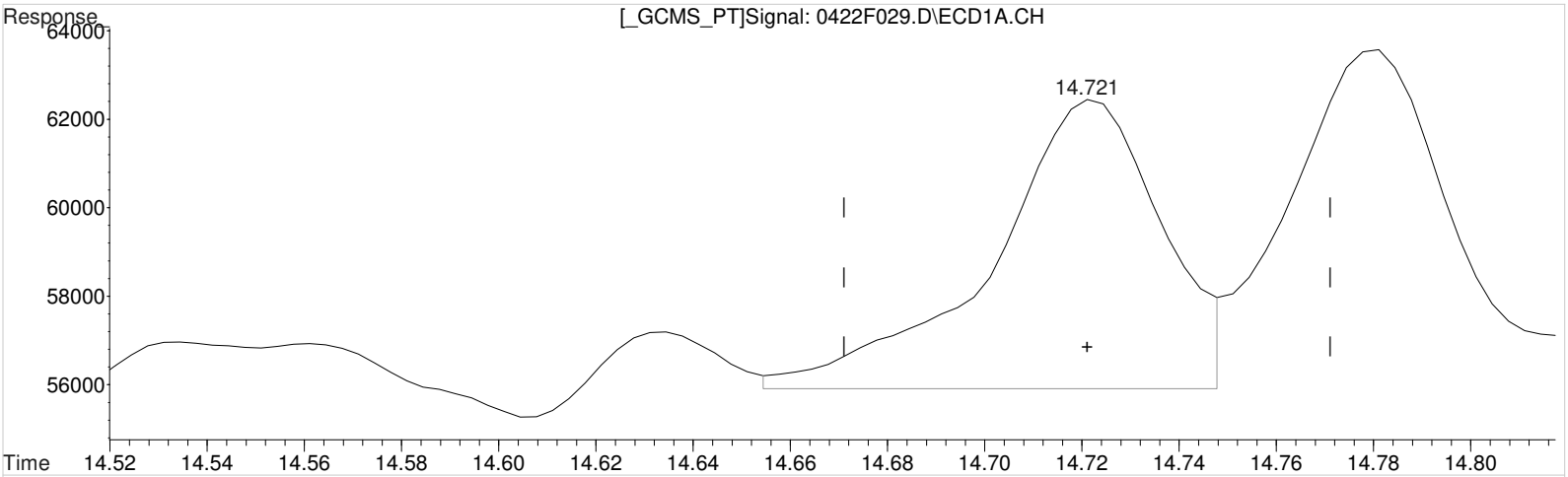
Quantitation Report (Qedit)

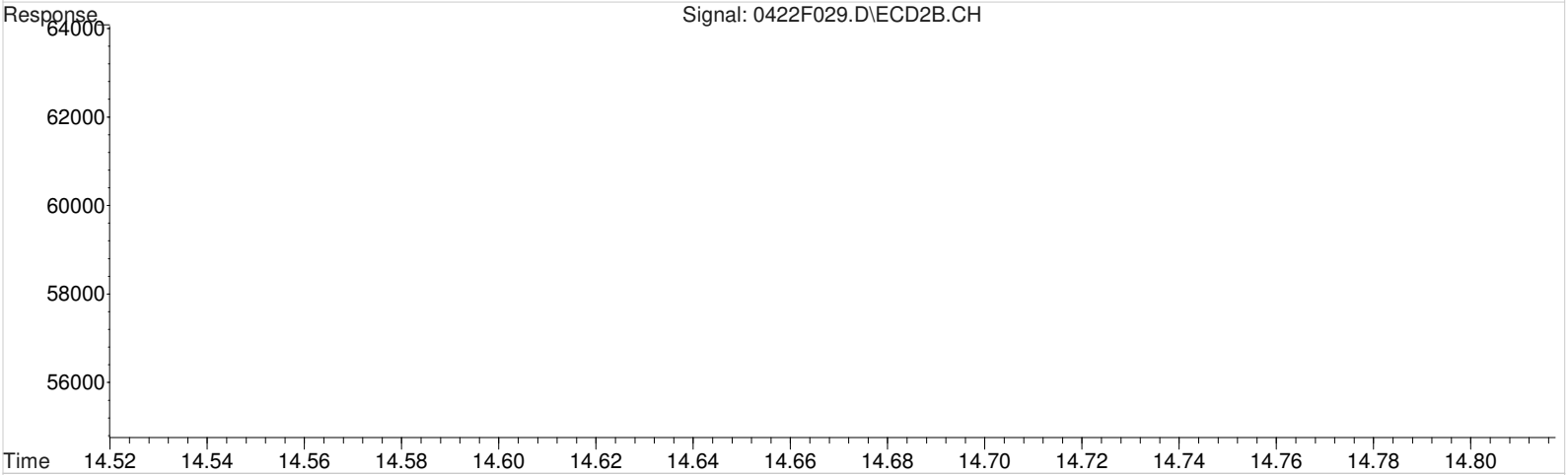
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F029.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 12:51 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:04:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.721min 115.632 ug/L

response 15963

Manual Integration:

Before

04/24/20

(30) Toxaphene #2

13.365min 93.270 ug/L

response 84416

(+) = Expected Retention Time

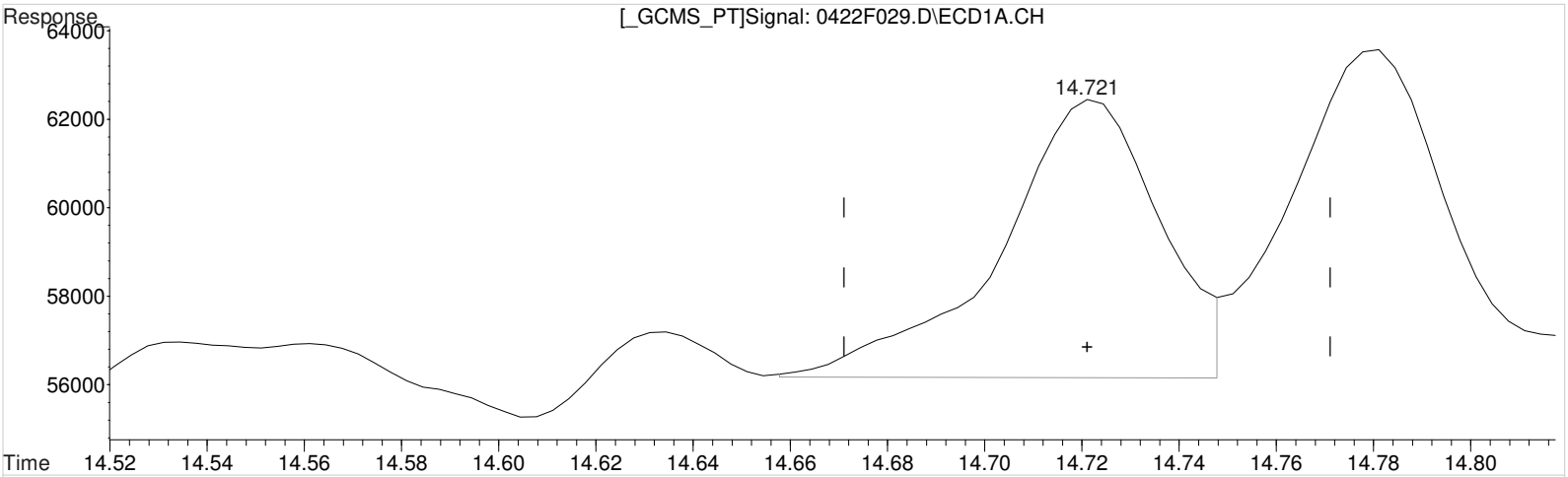
Quantitation Report (Qedit)

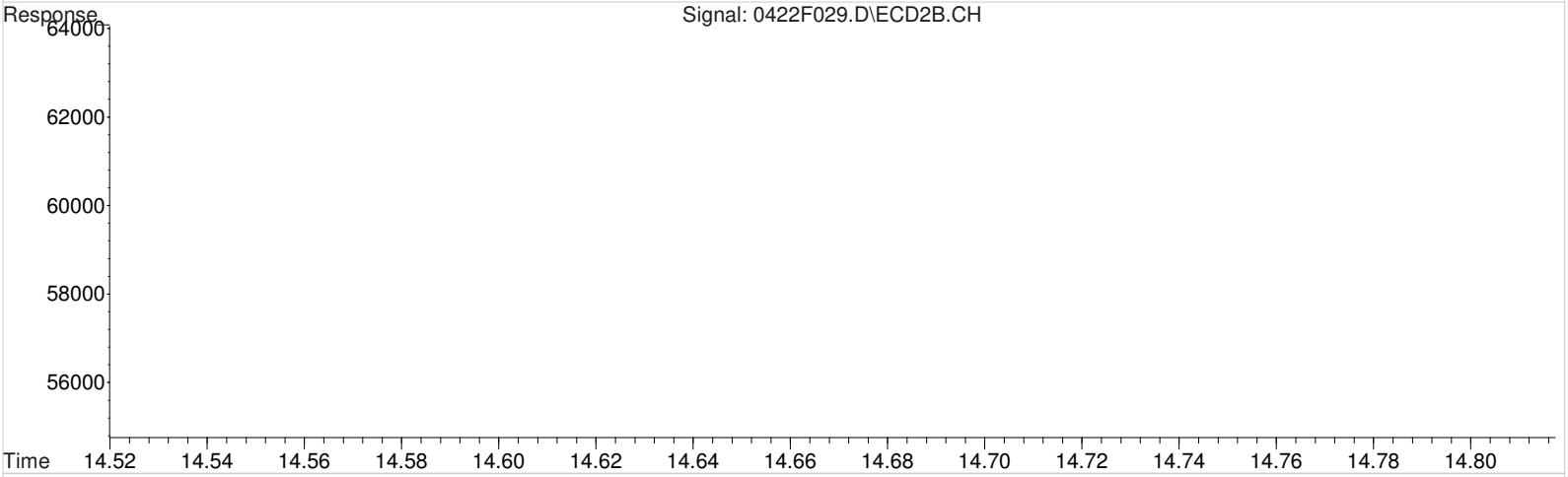
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F029.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 12:51 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:04:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.721min 105.179 ug/L m

response 14520

Manual Integration:

After

Baseline/Shoulder

04/24/20

(30) Toxaphene #2

13.365min 93.270 ug/L

response 84416

(+) = Expected Retention Time

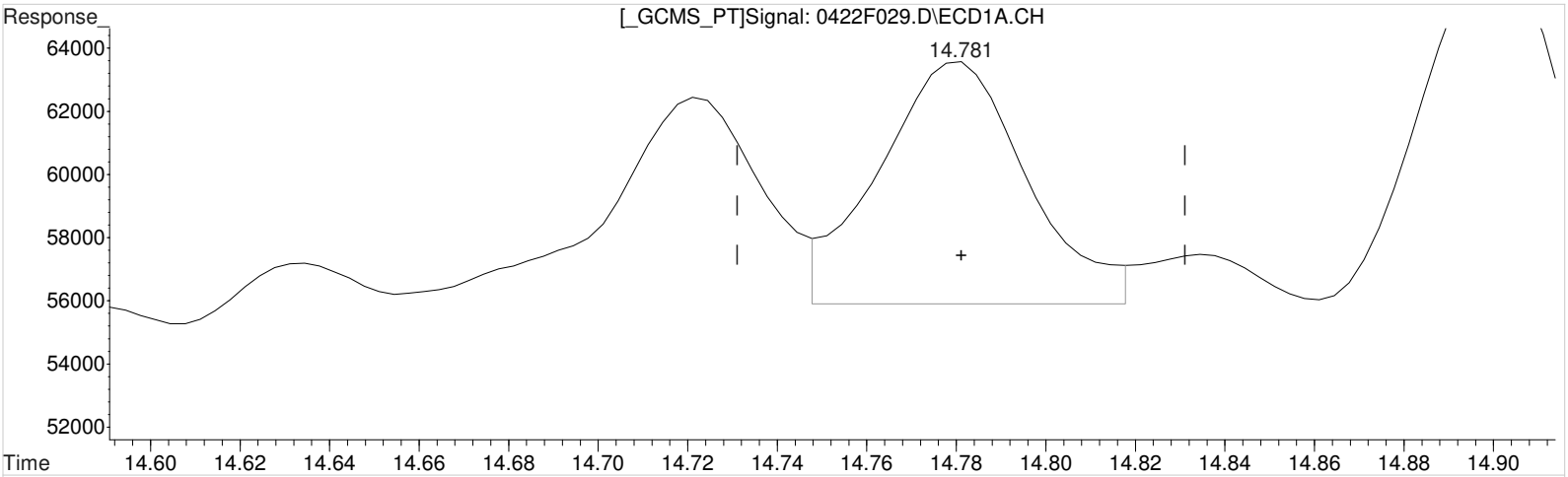
Quantitation Report (Qedit)

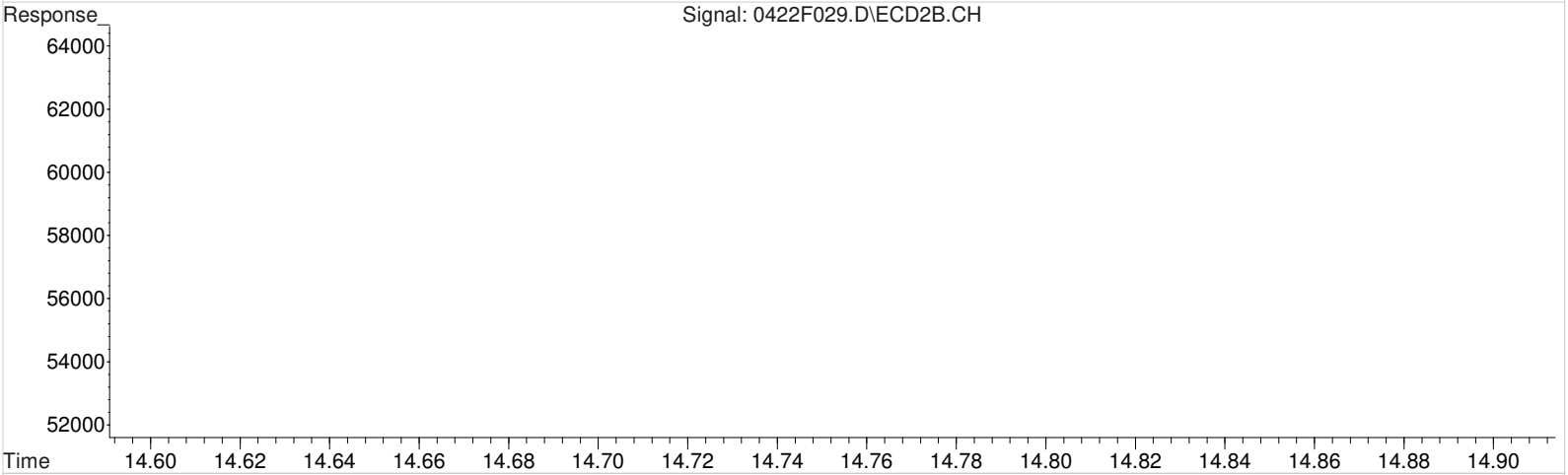
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F029.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 12:51 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:04:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.781min 140.299 ug/L

response 17519

Manual Integration:

Before

04/24/20

(31) Toxaphene {2} #2

13.432min 111.224 ug/L

response 77449

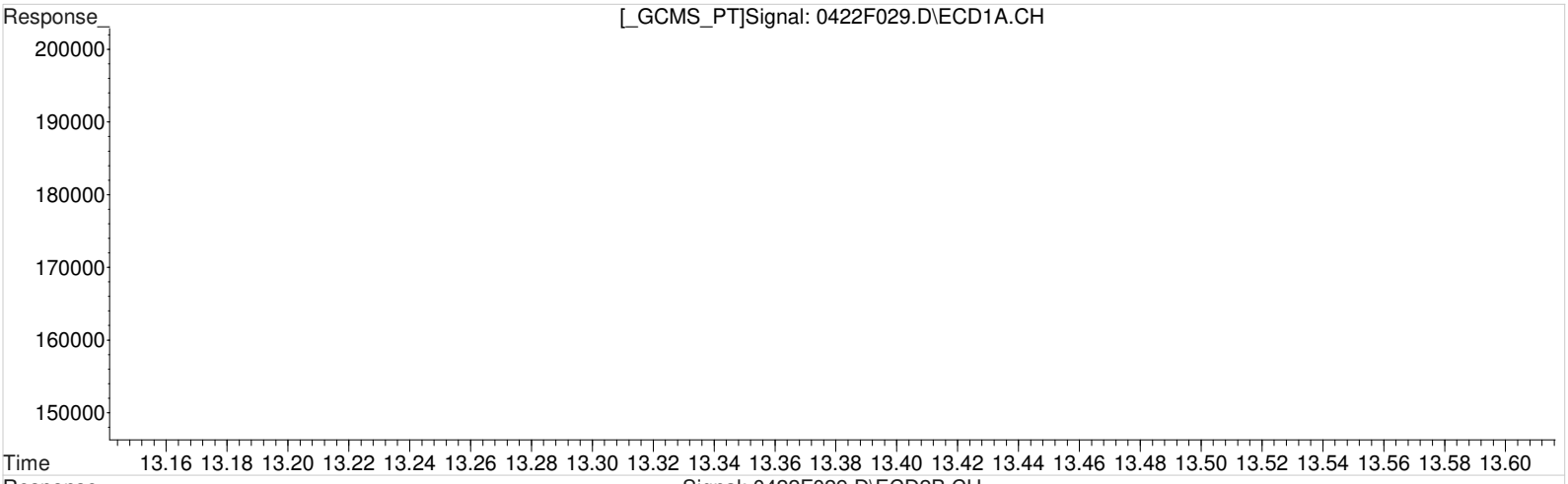
(+) = Expected Retention Time

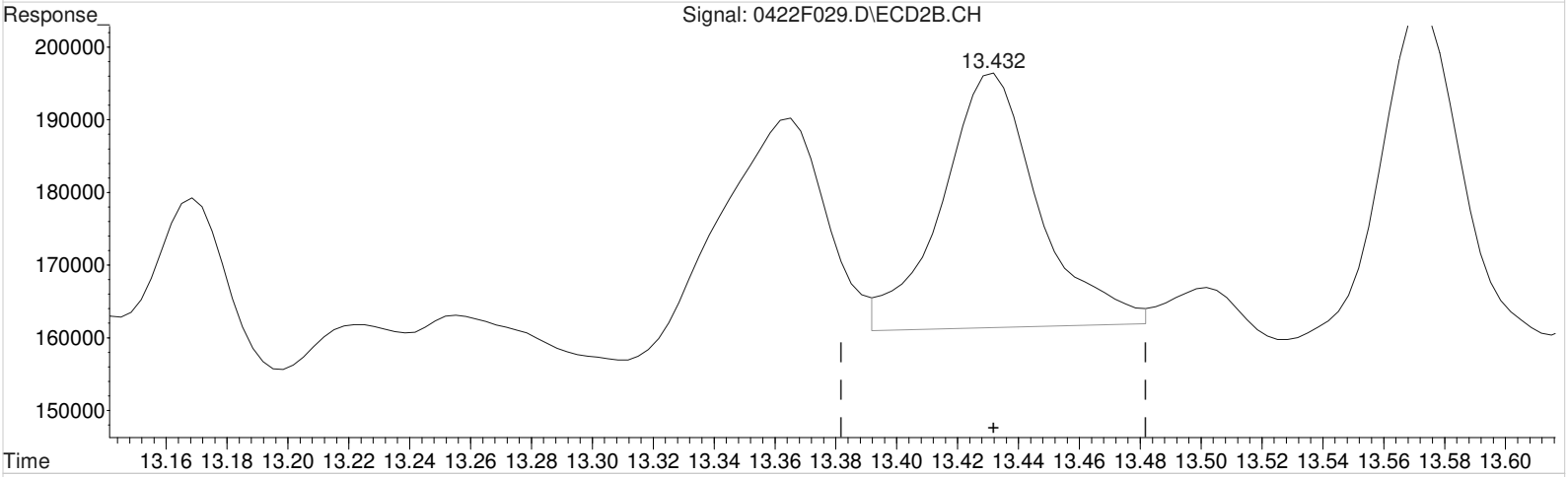
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F029.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 12:51 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:04:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.781min 101.058 ug/L m

response 12619

Manual Integration:

Before

04/24/20

(31) Toxaphene {2} #2

13.432min 111.224 ug/L

response 77449

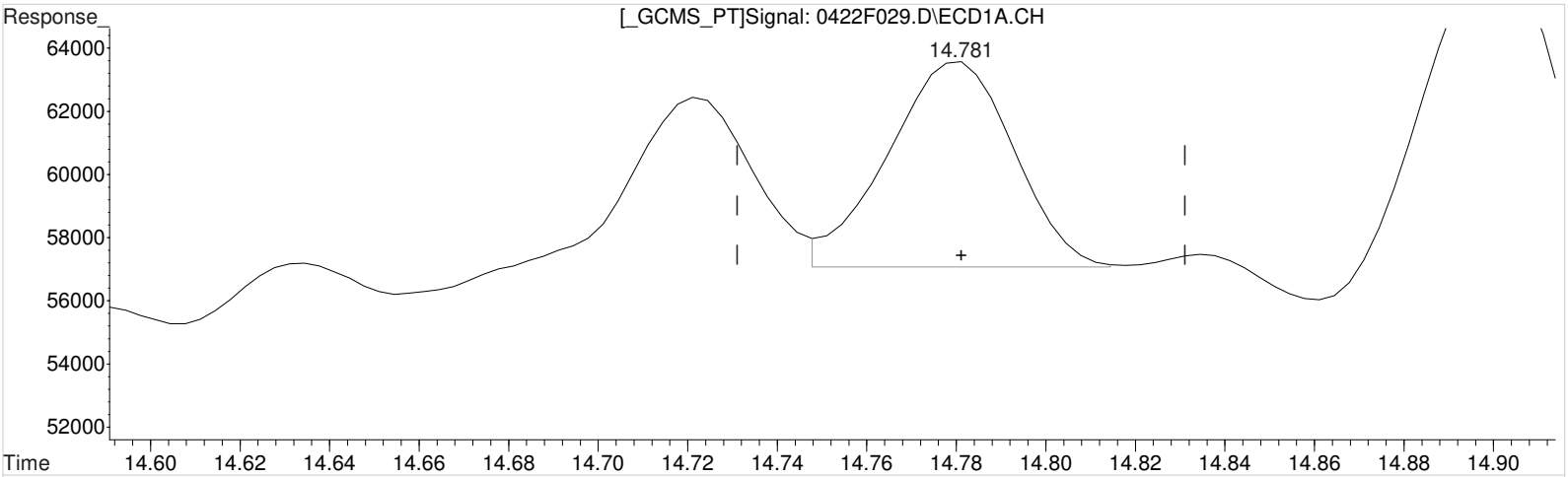
(+) = Expected Retention Time

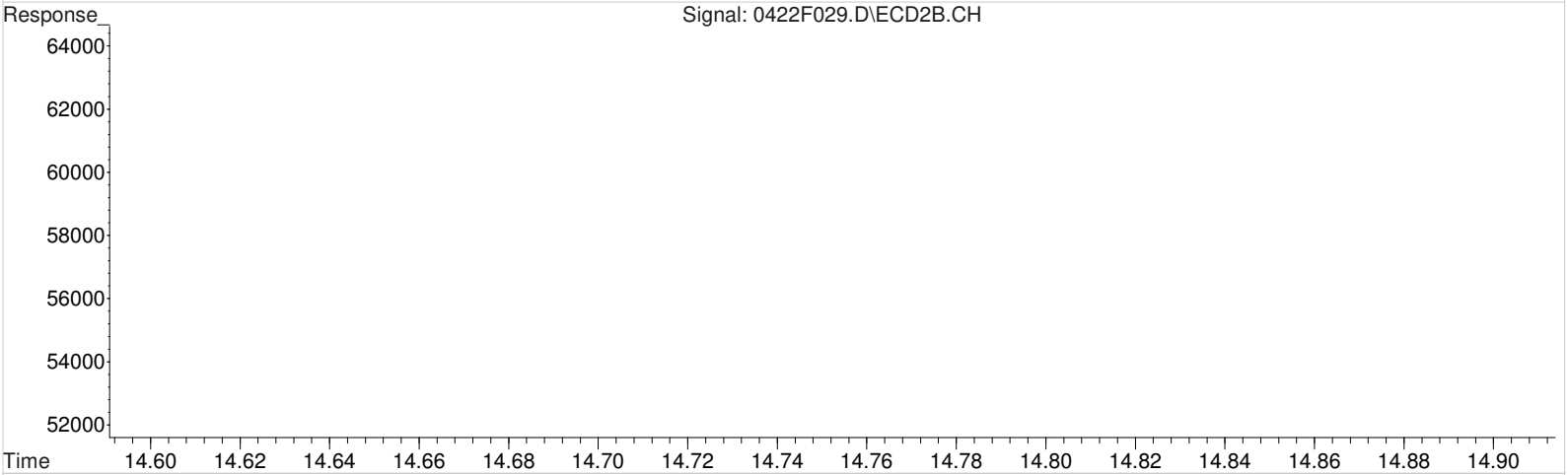
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F029.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 12:51 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:04:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.781min 101.058 ug/L m

response 12619

Manual Integration:

After

Baseline/Shoulder

04/24/20

(31) Toxaphene {2} #2

13.432min 111.224 ug/L

response 77449

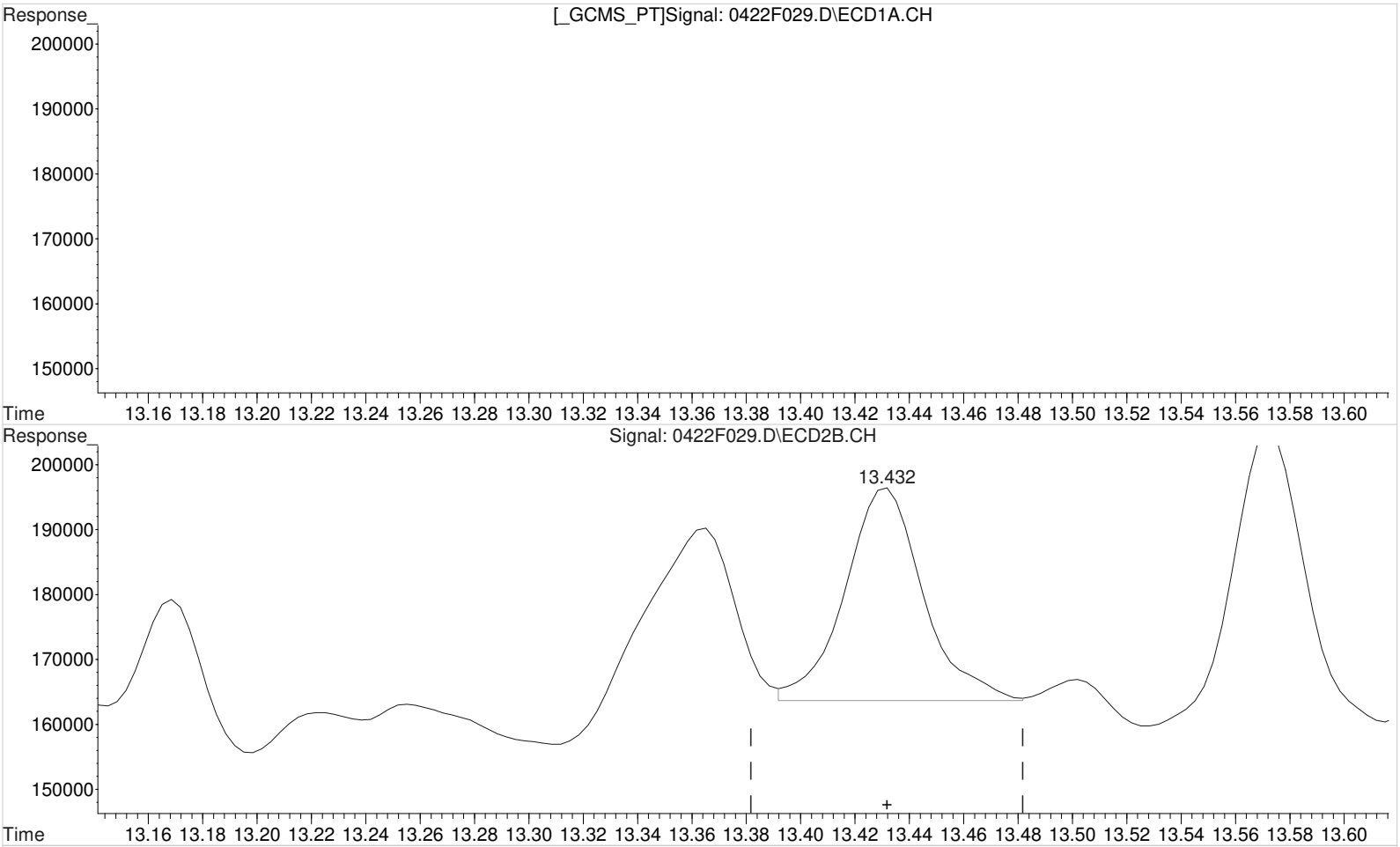
(+) = Expected Retention Time

1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F029.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 12:51 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:04:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(31) Toxaphene {2}

14.781min 101.058 ug/L m

response 12619

Manual Integration:

After

Baseline/Shoulder

04/24/20

(31) Toxaphene {2} #2

13.432min 93.778 ug/L m

response 65301

(+) = Expected Retention Time

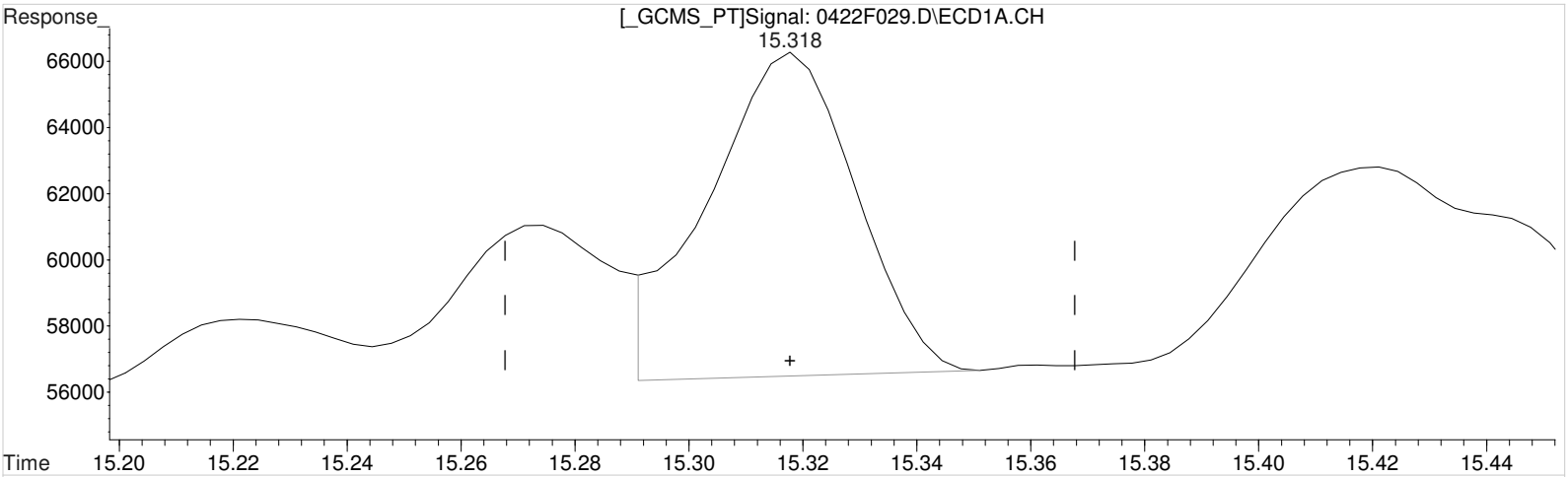
Quantitation Report (Qedit)

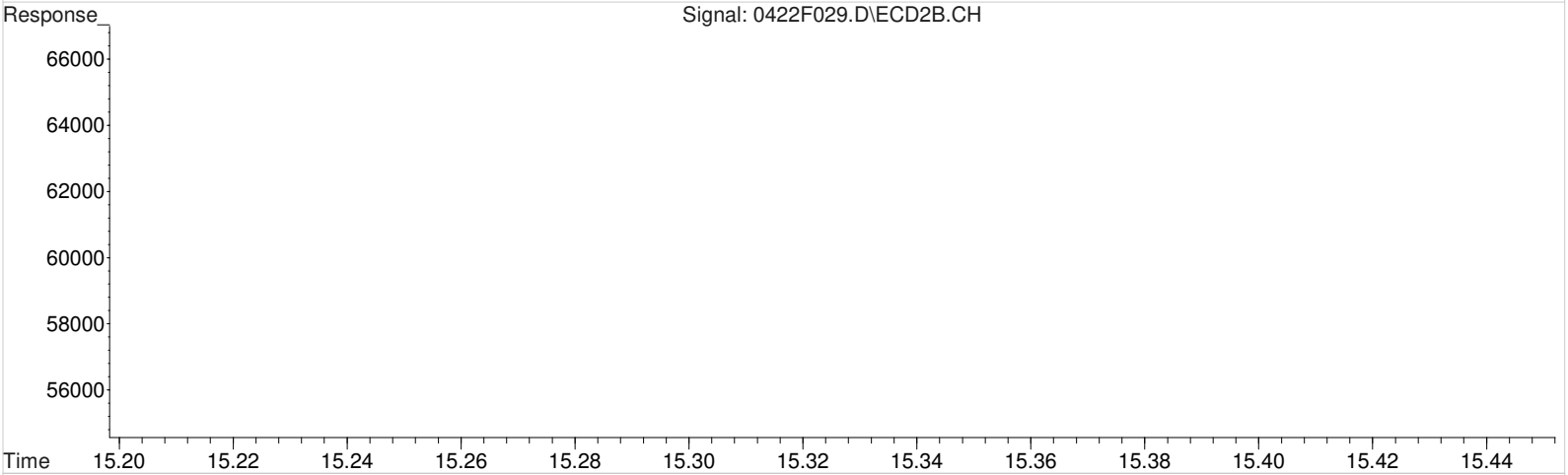
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F029.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 12:51 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:04:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.318min 108.975 ug/L

response 17376

Manual Integration:

Before

04/24/20

(34) Toxaphene {5} #2

13.905min 95.343 ug/L

response 46482

(+) = Expected Retention Time

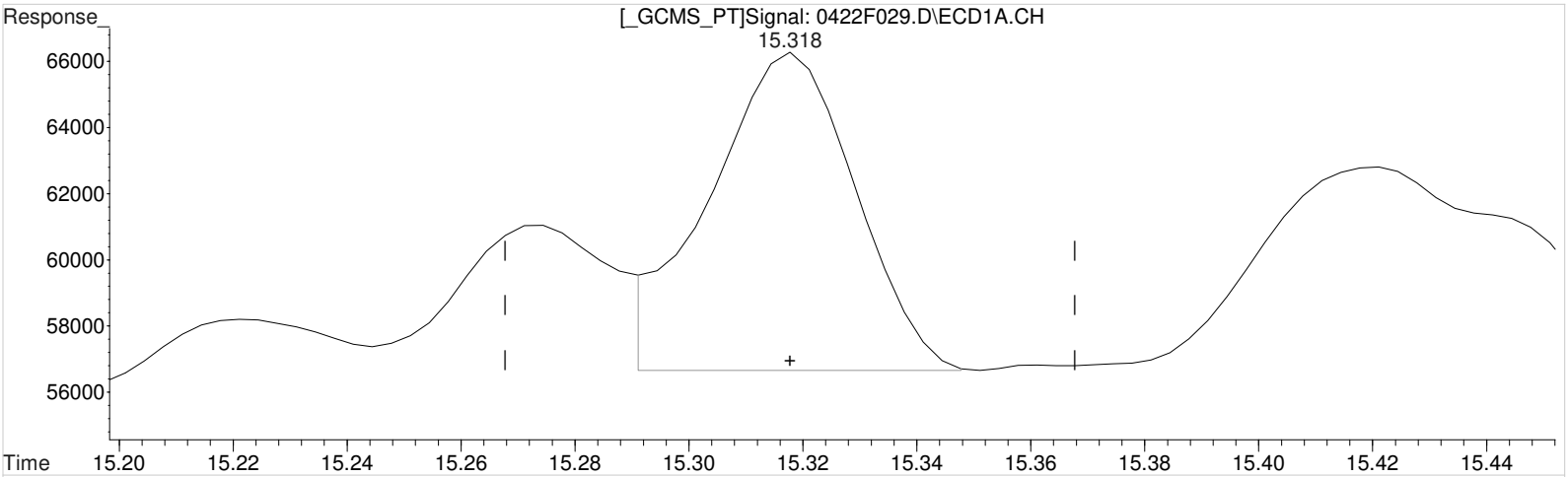
Quantitation Report (Qedit)

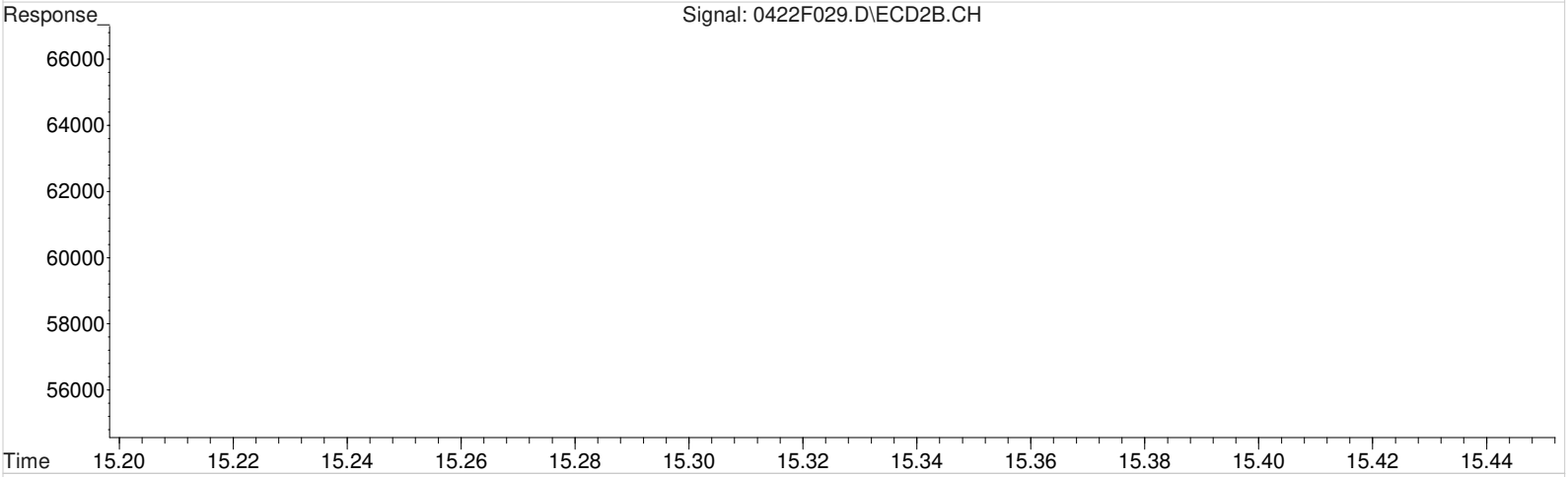
1st LM 04/24/20
2nd UA 04/24/20

Data File : J:\GC23\data\042220\0422F029.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 12:51 am Operator: LM
Sample : TOX 100PPB GCPS8-76J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 24 11:04:17 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.318min 105.445 ug/L m

response 16813

Manual Integration:

After

Baseline/Shoulder

04/24/20

(34) Toxaphene {5} #2

13.905min 95.343 ug/L

response 46482

(+) = Expected Retention Time

1st STM 04/25/20
2nd 04/27/20

Validation Report

Data File: J:\GC23\data\042220\0422F030.D\
Lab ID: KQ2005501-02.R02
RunType: CCV
Matrix: Water

Date Acquired: 4/23/20 01:20:00
Batch ID: 677799
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards		X
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards - DB XLB	1-Bromo-2-nitrobenzene	0	484615	1938460	NR
	1-Bromo-2-nitrobenzene {2}	0	506950	2027798	
Internal Standards - DB-35MS	1-Bromo-2-nitrobenzene	0	2230535	8922140	
	1-Bromo-2-nitrobenzene {2}	0	2361365	9445458	

Primary Review: _____

Printed: 4/25/20 8:09
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st STM 04/25/20
2nd 04/27/20

Quantitation Report

Data File:	J:\GC23\data\042220\0422F030.D\	**Instrument:**	K-GC-23
Acqu Date:	4/23/20 01:20:00	**Vial:**	6
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005501-02.R02	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	677799	**Prep Lot:**		**Report Group:**	KQ2005501
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2
1-Bromo-2-nitrobenzene	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {2}	0.00	0.00	0*	0*	100.000	100.000
1-Bromo-2-nitrobenzene {3}	6.19	5.48	827661	4028104	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	0.00	0.00	0	0	0.000	0.000			N
Tetrachloro-m-xylene	0.00	0.00	0	0	0.000	0.000			N

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
alpha-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
beta-BHC	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
gamma-BHC (Lindane)	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Chlordane					3333333333	3333333333	24.6	23.3	N
Chlordane {1}	11.26	9.56	13852	52438	24.551	23.848	24.6	23.8	
Chlordane {2}	11.68	11.65	16435	35199	22.995	23.473	23.0	23.5	
Chlordane {3}	12.24	11.81	13102	25062	25.544	25.175	25.5	25.2	
Chlordane {4}	13.44	11.96	39369	135870	25.285	22.535	25.3	22.5	
Chlordane {5}	13.52	12.01	31543	80098	24.492	21.697	24.5	21.7	
Chlordane {6}	13.60	12.11	23393	121907	24.744	22.807	24.7	22.8	
Dieldrin	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Heptachlor Epoxide	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Hexachlorobenzene	0.00	0.00	0	0	0.000	0.000	0.000	0.000	N
Toxaphene					0	0	0	0	N

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 8:09
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/25/20
2nd 04/27/20

Data File:	J:\GC23\data\042220\0422F030.D\	**Instrument:**	K-GC-23
Acqu Date:	4/23/20 01:20:00	**Vial:**	6
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005501-02.R02	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st STM 04/25/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F030.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 1:20 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:27:36 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
36)	1-Bromo-2...	6.192	5.476	827661	4028104	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
37)	Chlordane	11.256f	9.556	13852	52438	24.551	23.848
38)	Chlordane...	11.676	11.653	16435	35199	22.995	23.473
39)	Chlordane...	12.242	11.806	13102	25062	25.544	25.175
40)	Chlordane...	13.442	11.963	39369	135870	25.285m	22.535
41)	Chlordane...	13.519	12.006	31543	80098	24.492m	21.697
42)	Chlordane...	13.602	12.113	23393	121907	24.744	22.807
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

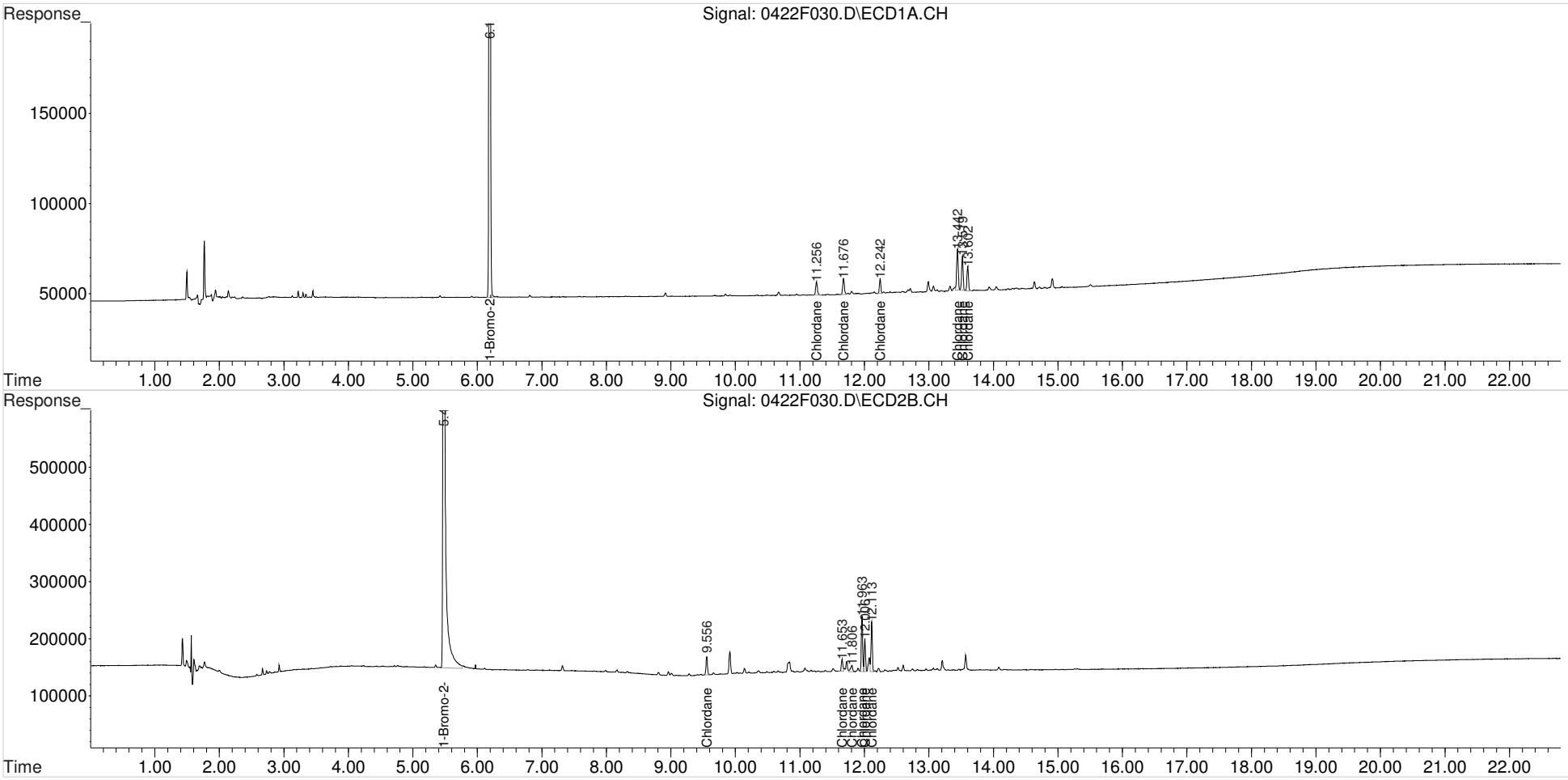
1st SM 04/25/20
2nd 04/27/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042220\0422F030.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 1:20 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:27:36 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



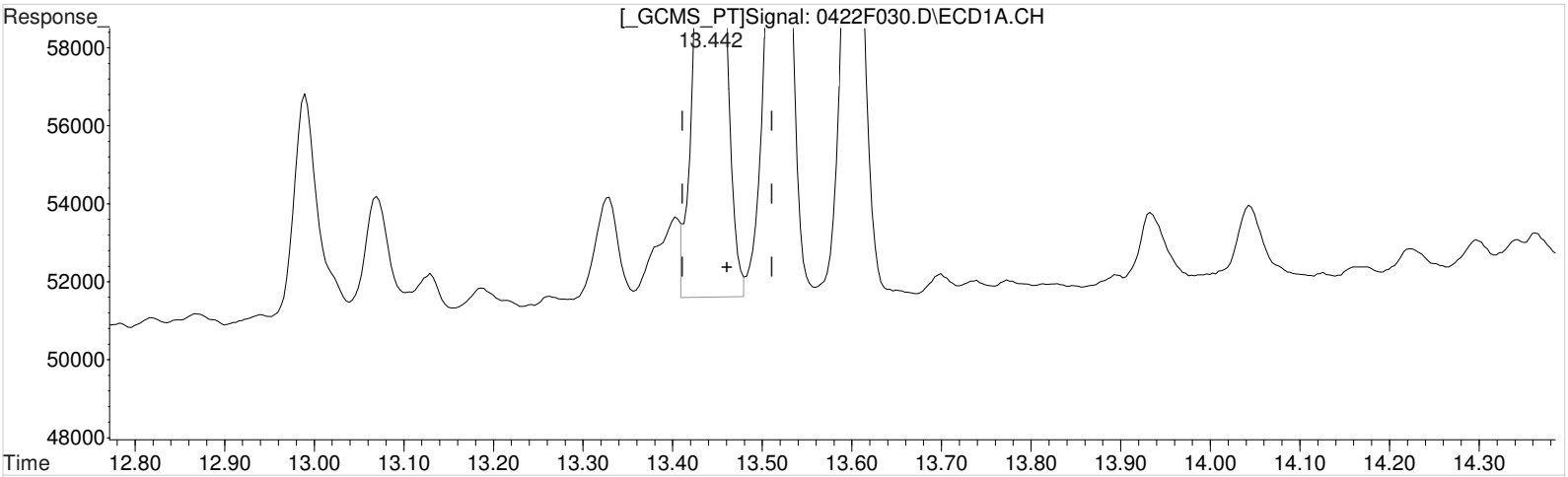
Quantitation Report (Qedit)

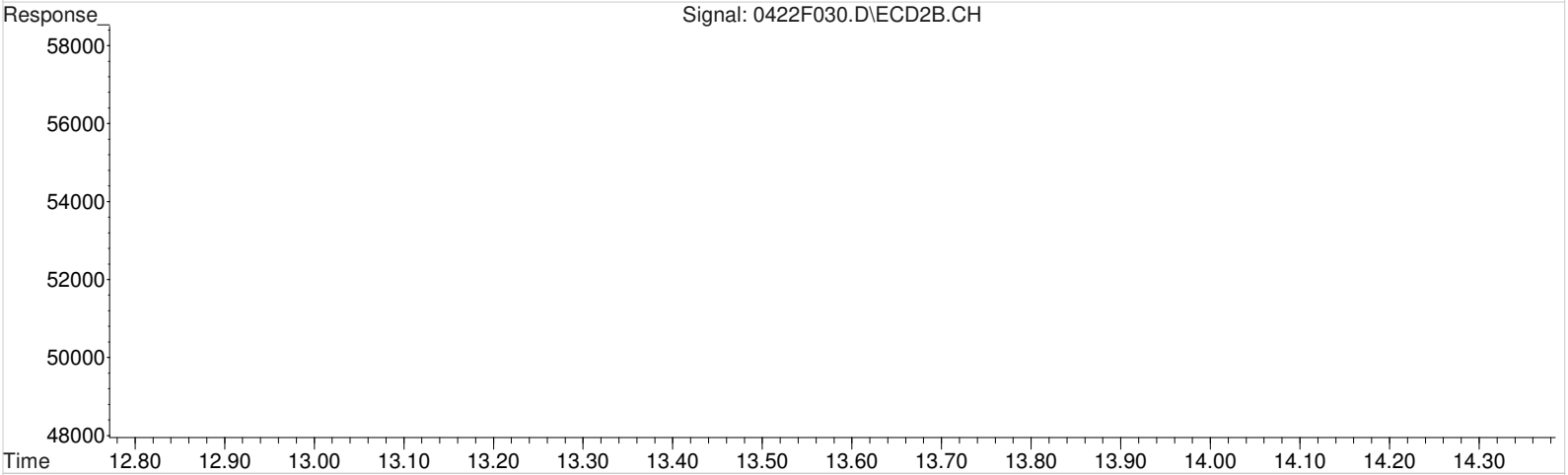
1st 04/25/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F030.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 1:20 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:30 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.442min 26.676 ug/L

response 41535

(40) Chlordane {4} #2

11.963min 22.535 ug/L

response 135870

Manual Integration:

Before

04/23/20

(+) = Expected Retention Time

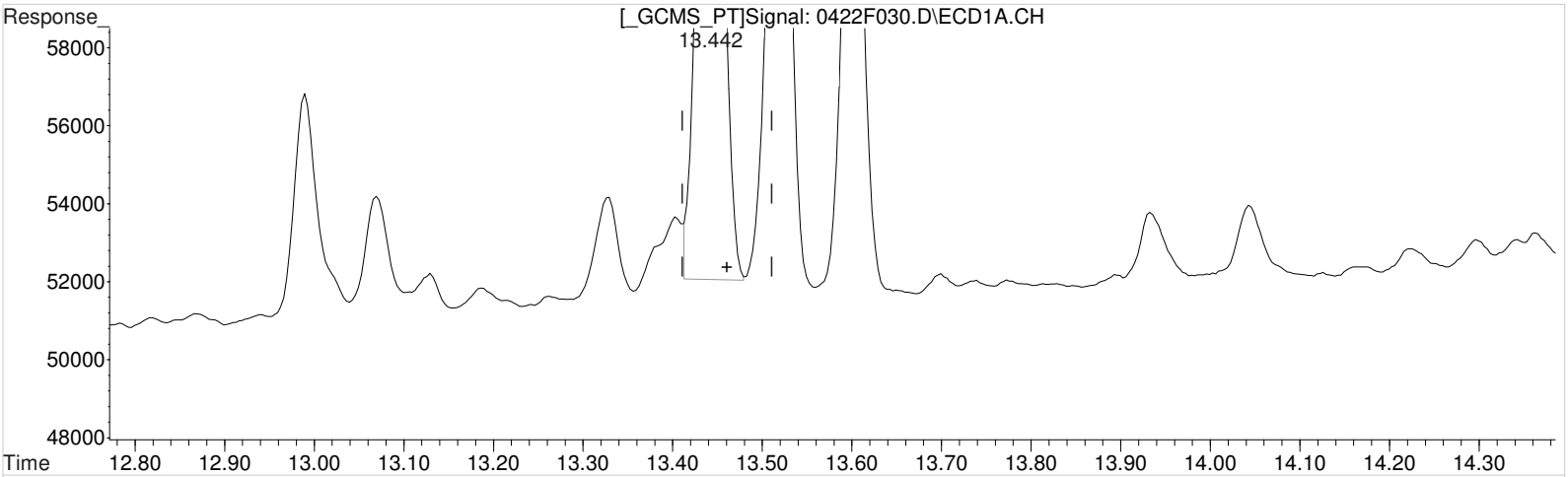
Quantitation Report (Qedit)

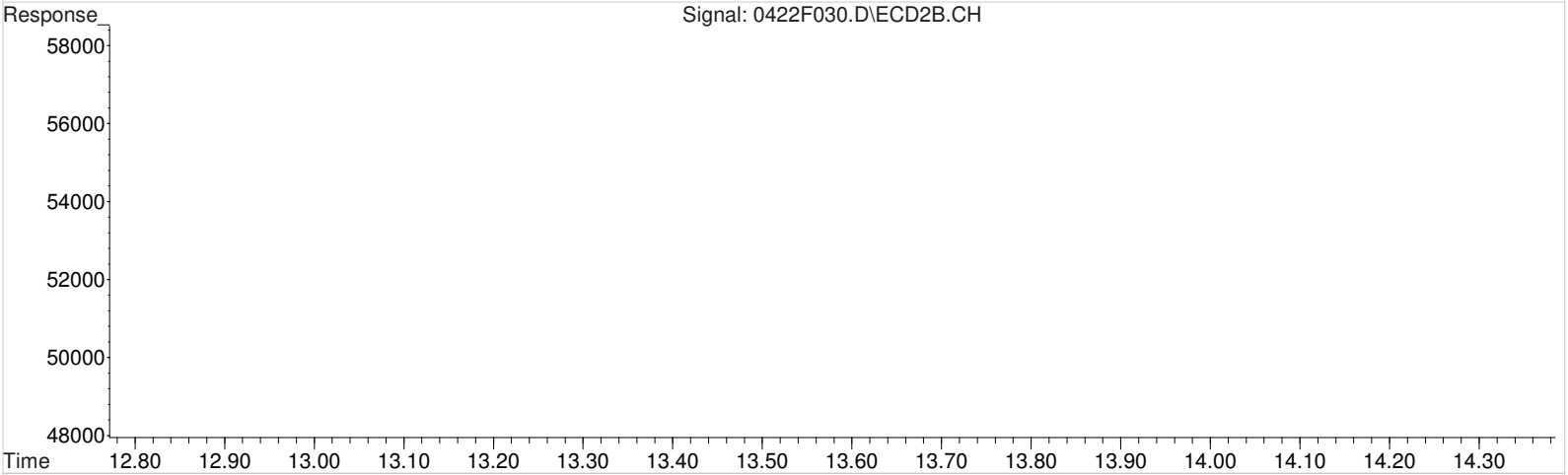
1st 04/25/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F030.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 1:20 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:30 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.442min 25.285 ug/L m

response 39369

Manual Integration:

After

Baseline/Shoulder

04/23/20

(40) Chlordane {4} #2

11.963min 22.535 ug/L

response 135870

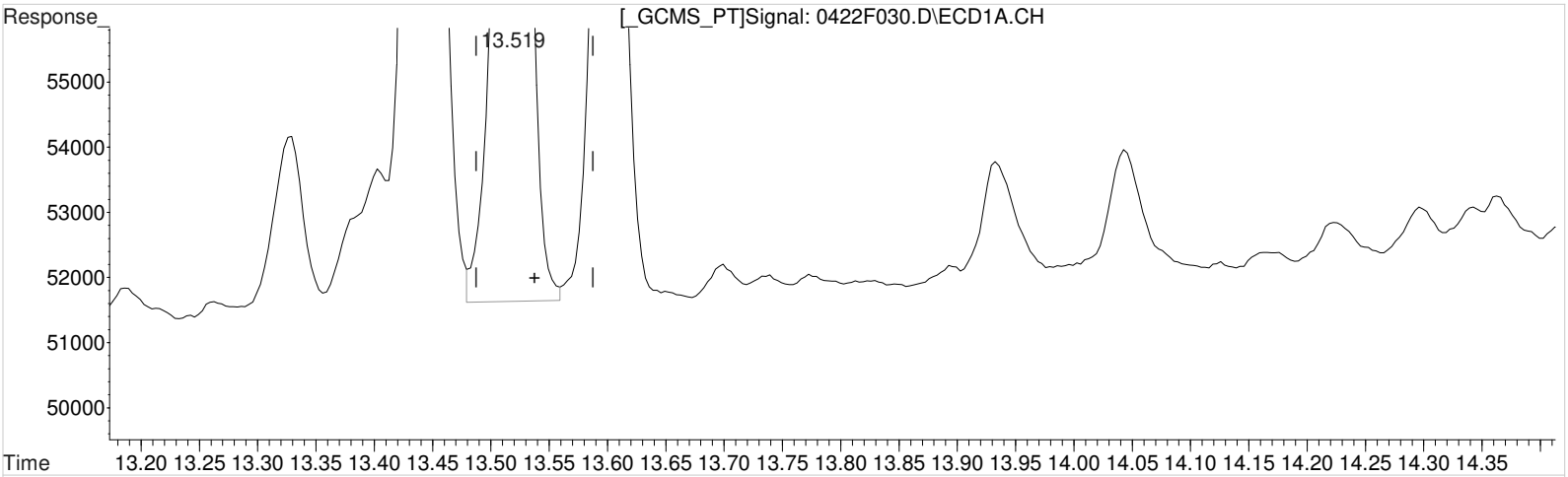
(+) = Expected Retention Time

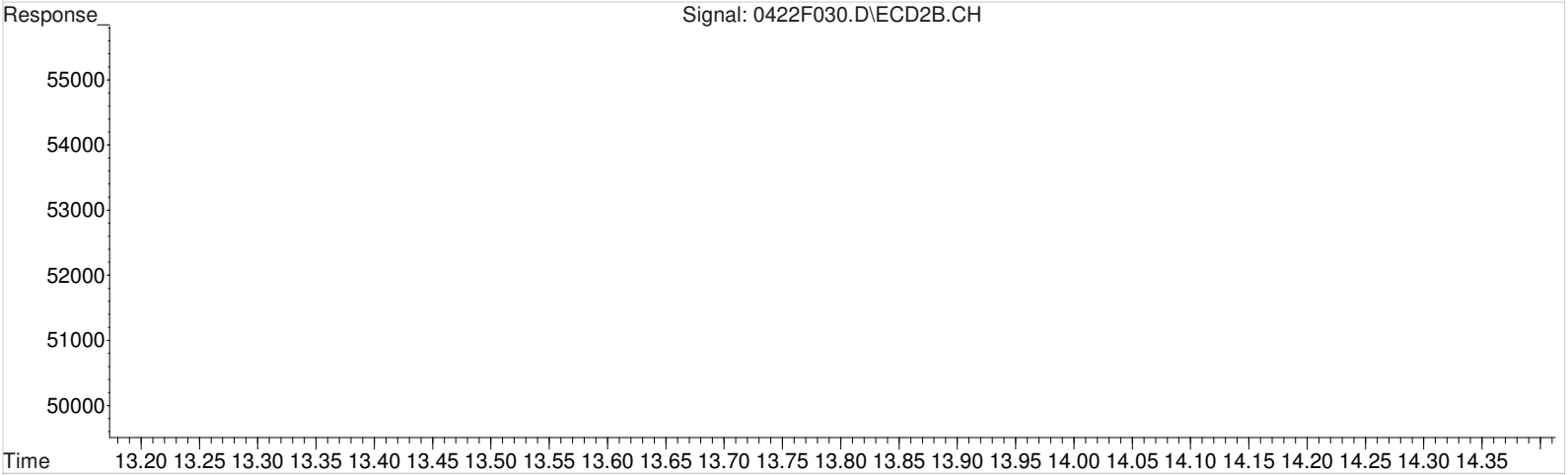
1st 04/25/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F030.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 1:20 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:30 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.519min 25.389 ug/L

response 32698

(41) Chlordane {5} #2

12.006min 21.697 ug/L

response 80098

Manual Integration:

Before

04/23/20

(+) = Expected Retention Time

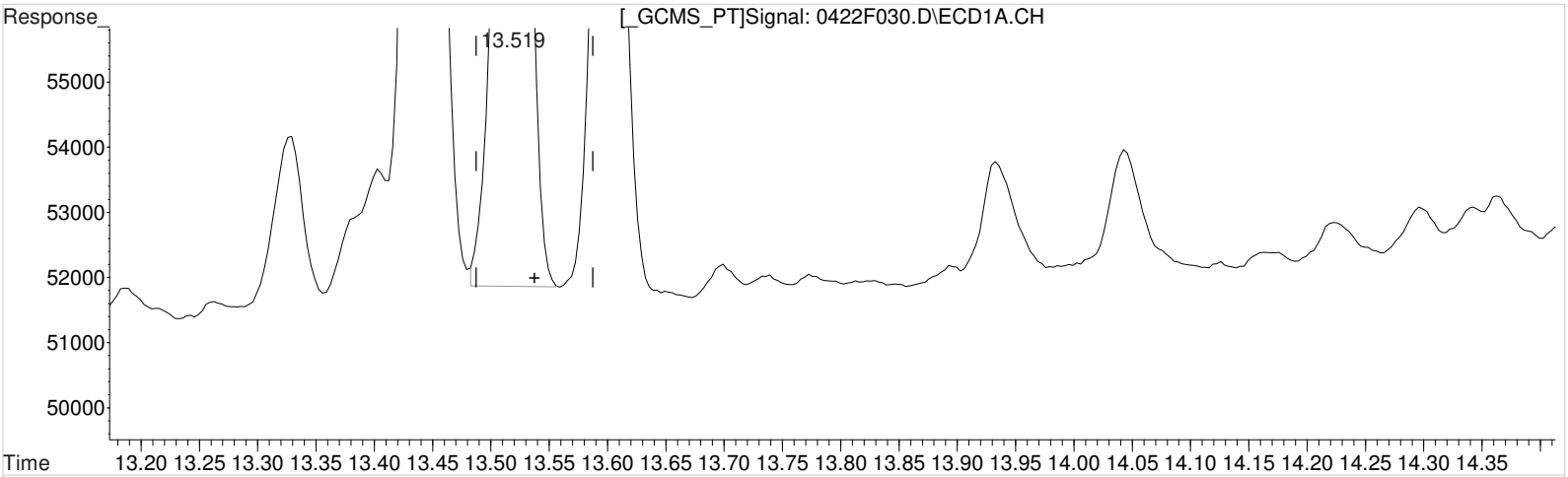
Quantitation Report (Qedit)

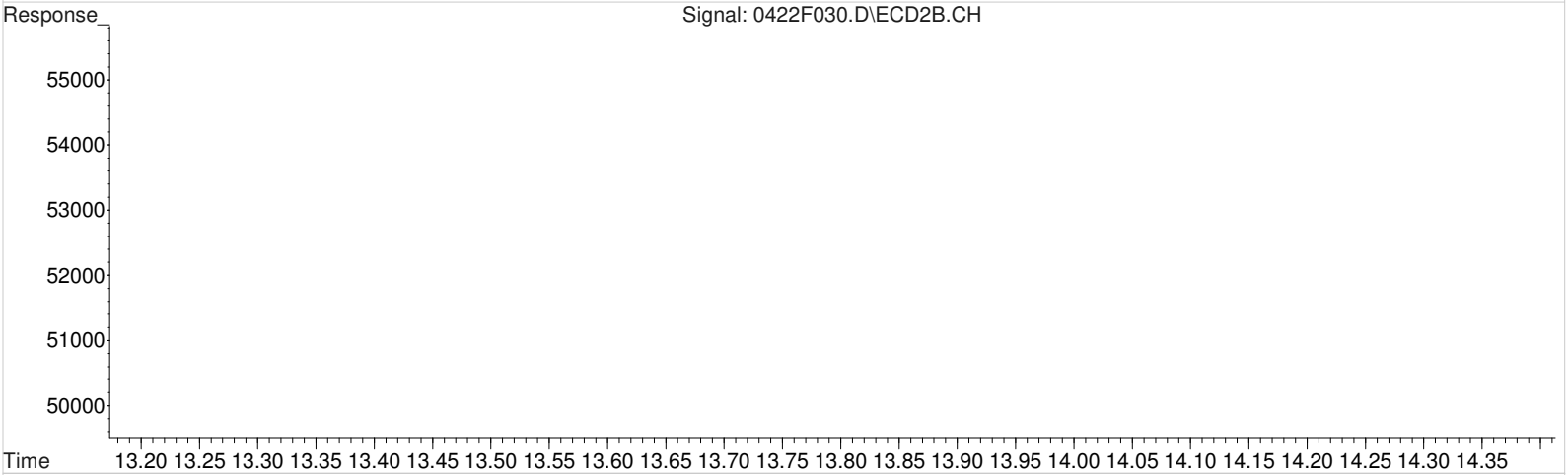
1st 04/25/20
2nd 04/27/20

Data File : J:\GC23\data\042220\0422F030.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Apr 2020 1:20 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 23 07:09:30 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.519min 24.492 ug/L m

response 31543

Manual Integration:

After

Baseline/Shoulder

04/23/20

(41) Chlordane {5} #2

12.006min 21.697 ug/L

response 80098

(+) = Expected Retention Time

1st STM 04/25/20
2nd TP 04/28/20

Validation Report

Data File: J:\GC23\data\042420B\0424F023.D\
Lab ID: KQ2005597-01
RunType: CCV
Matrix: Water

Date Acquired: 4/25/20 04:13:00
Batch ID: 678037
Analysis Method: 8081B/Pest OC ULL

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards		X
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Internal Standards - DB XLB	1-Bromo-2-nitrobenzene {2}	0	506950	2027798	NR
	1-Bromo-2-nitrobenzene {3}	0	504054	2016216	NR
Internal Standards - DB-35MS	1-Bromo-2-nitrobenzene {2}	0	2361365	9445458	NR
	1-Bromo-2-nitrobenzene {3}	0	2364940	9459758	NR

Primary Review: _____

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st SM 04/25/20
2nd TP 04/28/20

Quantitation Report

Data File:	J:\GC23\data\042420B\0424F023.D\	**Instrument:**	K-GC-23
Acqu Date:	4/25/20 04:13:00	**Vial:**	5
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005597-01	**Raw Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	Pest OC ULL	**Collect Date:**	3/25/20	**Receive Date:**	3/27/20

Analysis Lot:	678037	**Prep Lot:**		**Report Group:**	KQ2005597
Analysis	8081B	**Prep Method:**			
		Prep Date:			

Title:	Ultra Low Level Organochlorine Pesticides by GC/ECD	**Calibration ID:**	KC2000190
		Report List ID:	22069

Internal Standard Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2		
1-Bromo-2-nitrobenzene	6.19	5.47	919283	4351915	100.000	100.000	100.000	100.000
1-Bromo-2-nitrobenzene {2}	0.00	0.00	0*	0*	100.000	100.000	100.000	100.000
1-Bromo-2-nitrobenzene {3}	0.00	0.00	0*	0*	100.000	100.000	100.000	100.000

Surrogate Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	% Rec 1	% Rec 2	Rpt?
Decachlorobiphenyl	18.66	17.05	33850	124880	2.069	1.780			Y
Tetrachloro-m-xylene	8.96	7.25	26654	103755	2.000	1.924			Y

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Aldrin	12.20	10.50	30739	127436	2.086	1.858	2.09	1.86	Y
alpha-BHC	9.80	8.49	31366	135008	2.046	1.958	2.05	1.96	Y
beta-BHC	11.06	9.76	16091	66659	1.963	2.038	1.96	2.04	Y
gamma-BHC (Lindane)	10.47	9.23	30421	129030	2.053	1.922	2.05	1.92	Y
Chlordane					0	0	0	0	Y
Chlordane {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Chlordane {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Dieldrin	13.99	12.62	30901	120467	2.037	1.885	2.04	1.89	Y
Heptachlor	11.67	9.91	34526	139989	2.169	2.053	2.17	2.05	Y
Heptachlor Epoxide	12.92	11.58	31605	126976	2.040	1.888	2.04	1.89	Y
Hexachlorobenzene	9.96	8.27	36371	137947	2.003	1.991	2.00	1.99	Y
Toxaphene					0	0	0	0	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 4/25/20 12:34
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st STM 04/25/20
2nd TP 04/28/20

Data File:	J:\GC23\data\042420B\0424F023.D\	**Instrument:**	K-GC-23
Acqu Date:	4/25/20 04:13:00	**Vial:**	5
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ2005597-01	**Raw Units:**	ug/L

Target Compounds

Parameter Name	RT 1	RT 2	Resp 1	Resp 2	Solution Conc 1	Solution Conc 2	Final Conc 1	Final Conc 2	Rpt?
Toxaphene {1}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {2}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {3}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {4}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {5}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	
Toxaphene {6}	0.00	0.00	0	0	0.000	0.000	0.000	0.000	

Prep Amount:	200 mL	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

1st SM 04/25/20
2nd TP 04/28/20

Data File : J:\GC23\data\042420B\0424F023.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 4:13 am Operator: SM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 11:39:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.188	5.472	919283	4351915	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.961	7.252	26654	103755	2.000	1.924
28) s	Decachlor...	18.658	17.052	33850	124880	2.069	1.780
	Target Compounds						
3)	alpha-BHC	9.805	8.485	31366	135008	2.046	1.958
4)	Hexachlor...	9.965	8.265	36371	137947	2.003	1.991
5)	beta-BHC	11.061	9.762	16091	66659	1.963	2.038
6)	gamma-BHC...	10.471	9.229	30421	129030	2.053	1.922
7)	delta-BHC	11.565	10.292	31236	129431	2.084	1.972
8)	Heptachlor	11.671	9.909	34526	139989	2.169	2.053
9)	Aldrin	12.198	10.502	30739	127436	2.086	1.858
10)	Isodrin	12.728	11.295	26855	110374	2.124	1.923
11)	Heptachlo...	12.918	11.582	31605	126976	2.040m	1.888
12)	gamma-Chl...	13.438	11.959	31299	122738	2.020	1.888
13)	Endosulfan I	13.568	12.172	28919	111463	2.046	1.903
14)	alpha-Chl...	13.518	12.109	31153	122426	2.020	1.859
15)	Dieldrin	13.988	12.622	30901	120467	2.037	1.885
16)	4,4'-DDE	13.791	12.469	29125	108967	2.052	1.770
17)	Endrin	14.358	13.102	29219	116289	2.111	1.911
18)	Endosulfa...	14.801	13.535	28287	136713	2.017	2.487
19)	4,4'-DDD	14.631	13.362	25401	96712	2.315	2.099
20)	Endrin Al...	14.981	13.902	24455	88894	2.012	1.953
21)	Endosulfa...	15.455	14.225	29642	107646	2.074	1.986
22)	4,4'-DDT	15.131	13.782	23371	105663	2.027	2.379m
23)	Endrin Ke...	16.145	15.175	31341	128872	2.044	1.987
24)	Methoxychlor	15.875	14.895	28312	64541	4.050	2.618 #
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

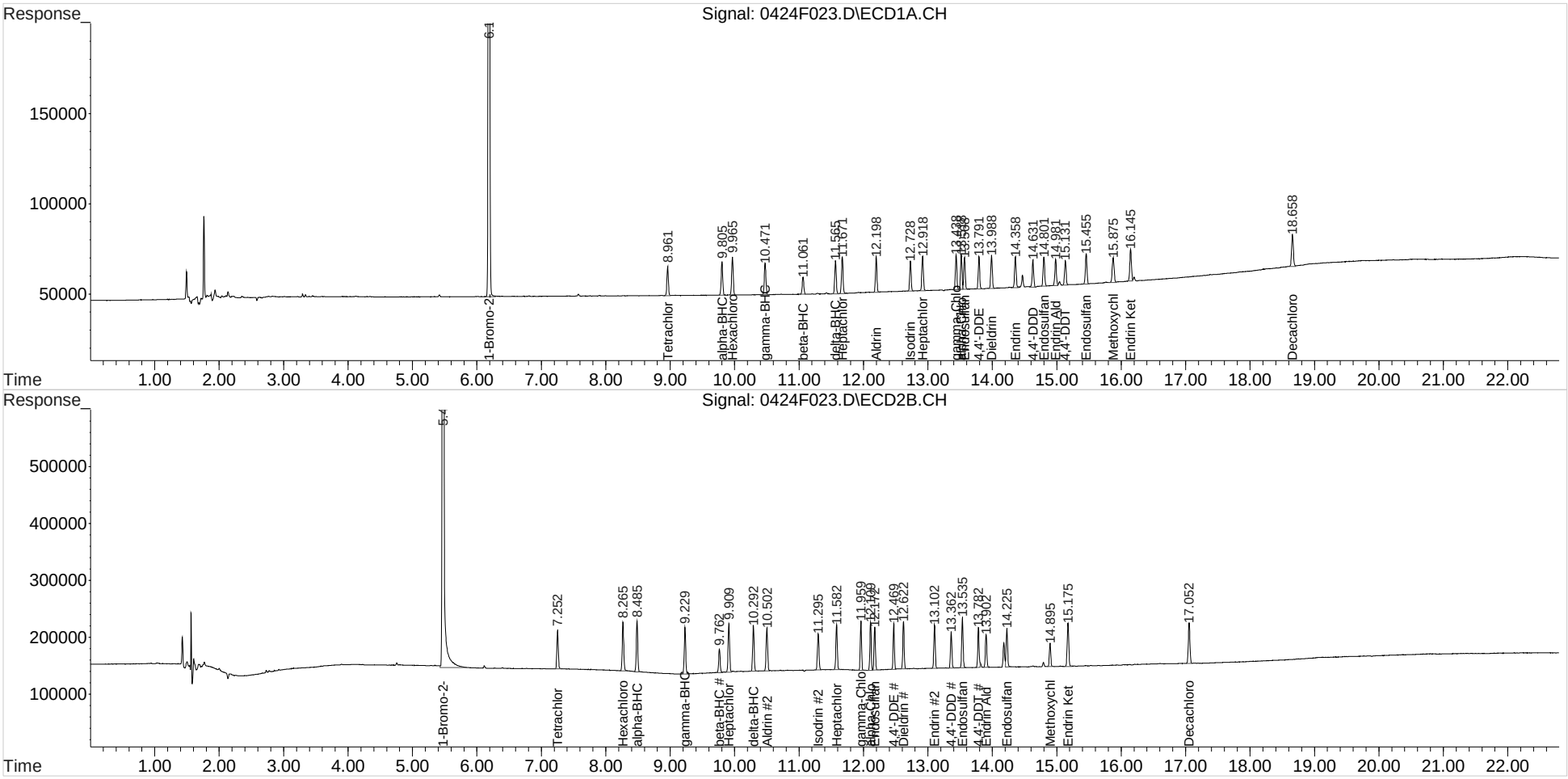
1st SM 04/25/20
2nd TP 04/28/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\042420B\0424F023.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 4:13 am Operator: SM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 11:39:41 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



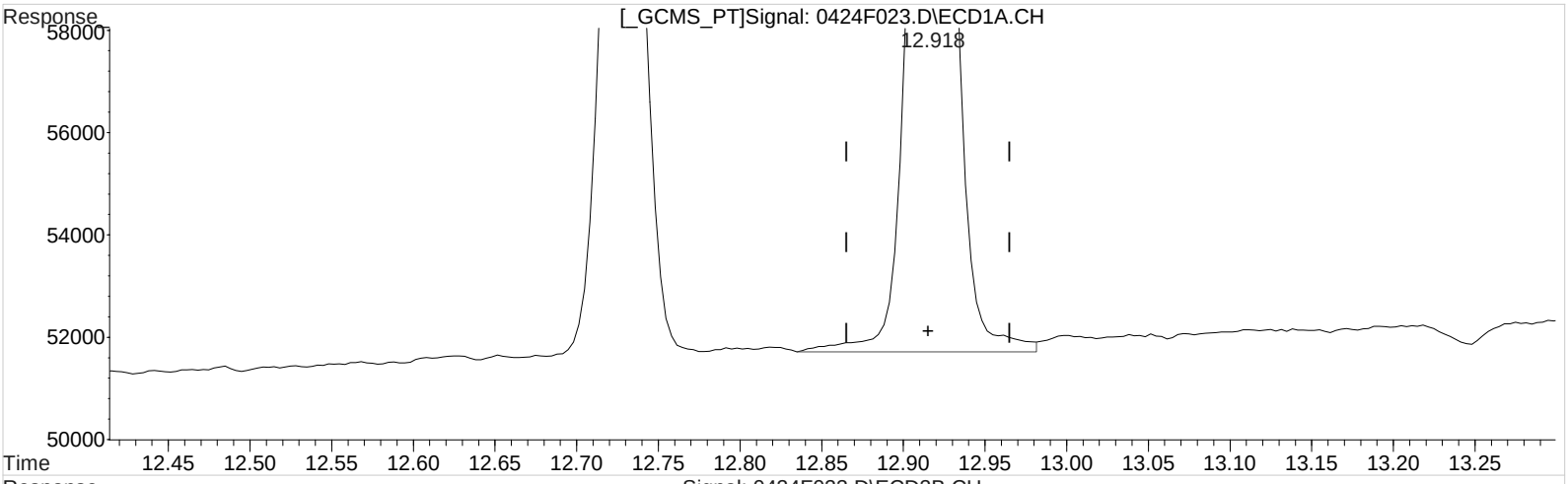
Quantitation Report (Qedit)

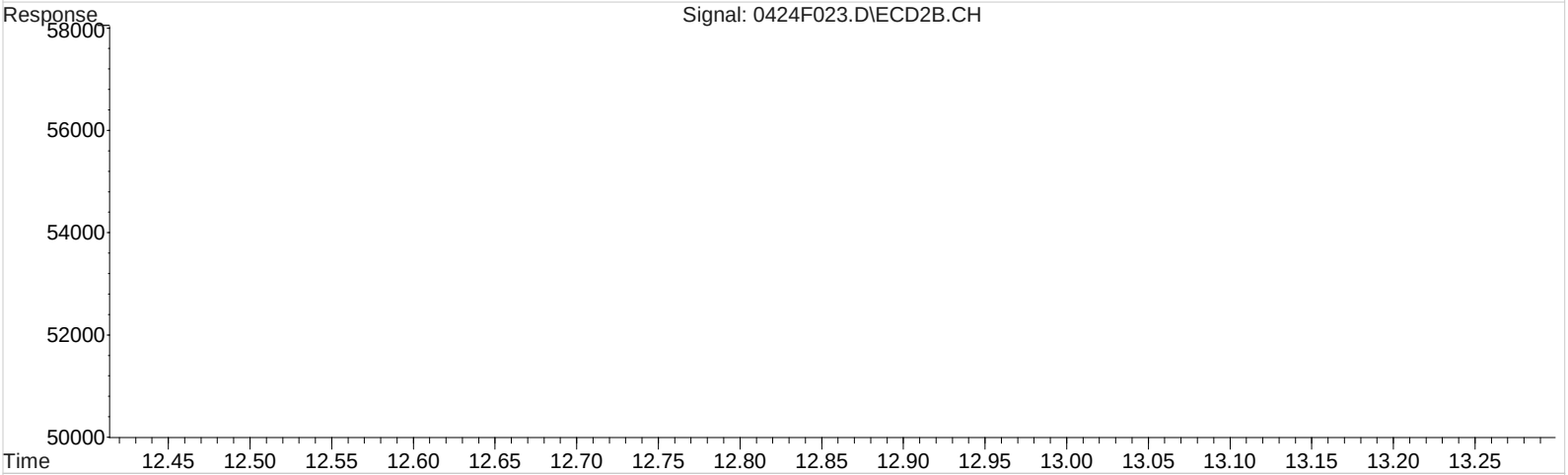
1st SM 04/25/20
2nd TP 04/28/20

Data File : J:\GC23\data\042420B\0424F023.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 4:13 am Operator: SM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:03:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(11) Heptachlor Epoxide

12.918min 2.130 ug/L

response 33009

Manual Integration:

Before

04/25/20

(11) Heptachlor Epoxide #2

11.582min 1.888 ug/L

response 126976

(+) = Expected Retention Time

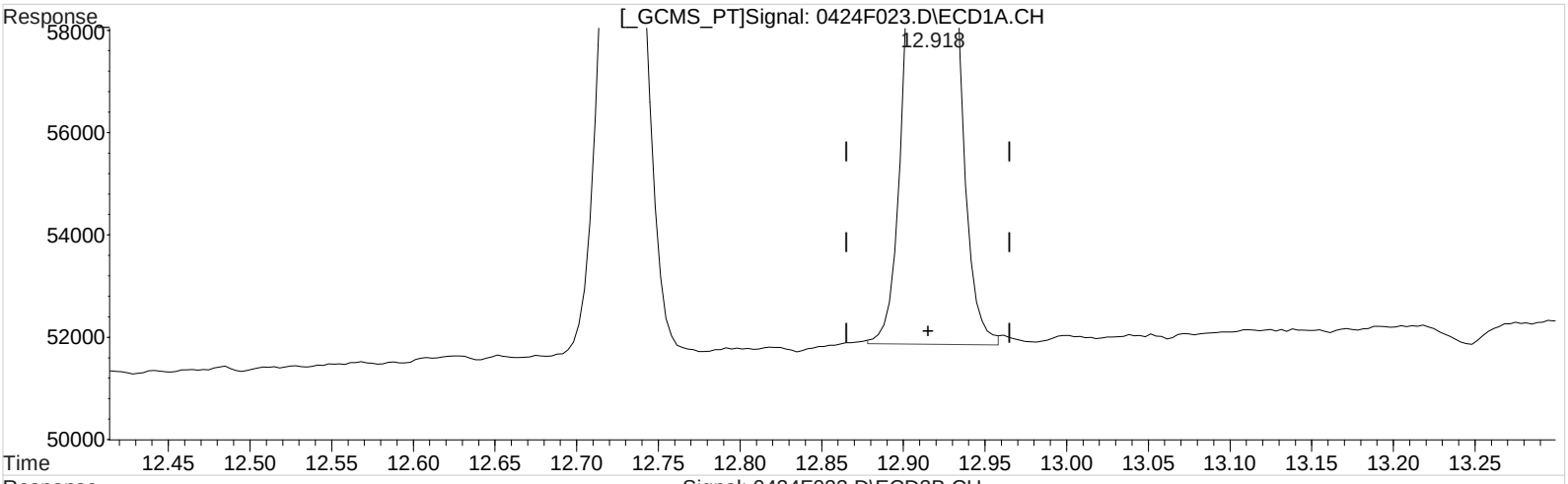
Quantitation Report (Qedit)

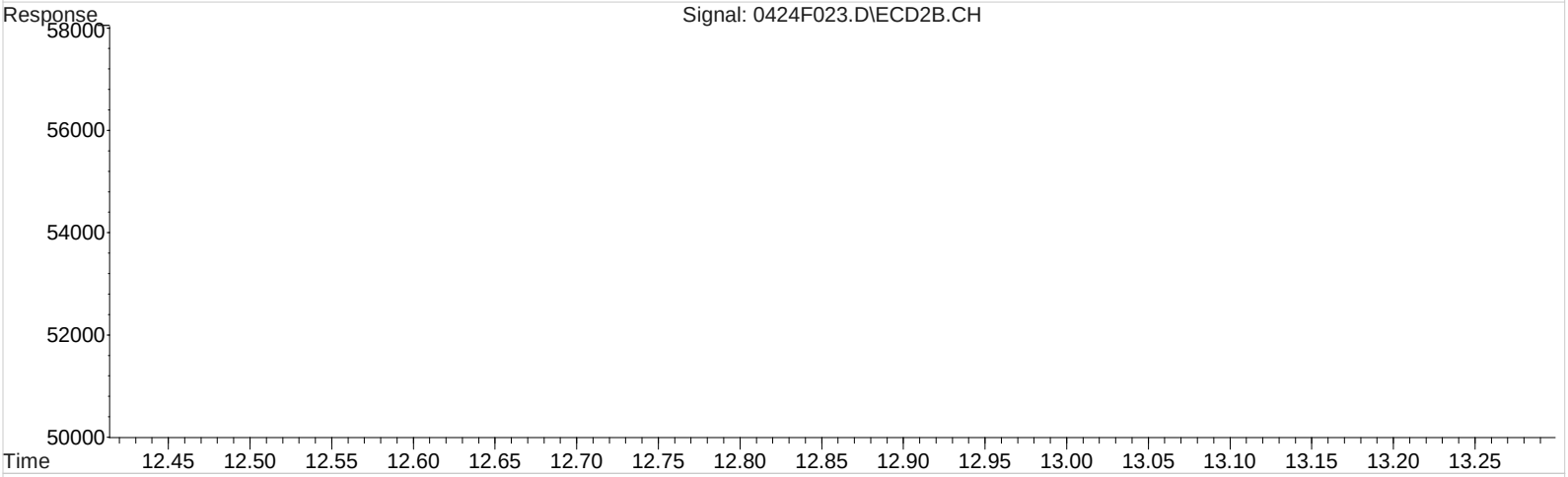
1st SM 04/25/20
2nd TP 04/28/20

Data File : J:\GC23\data\042420B\0424F023.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 4:13 am Operator: SM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:03:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(11) Heptachlor Epoxide

12.918min 2.040 ug/L m

response 31605

Manual Integration:

After

Baseline/Shoulder

04/25/20

(11) Heptachlor Epoxide #2

11.582min 1.888 ug/L

response 126976

(+) = Expected Retention Time

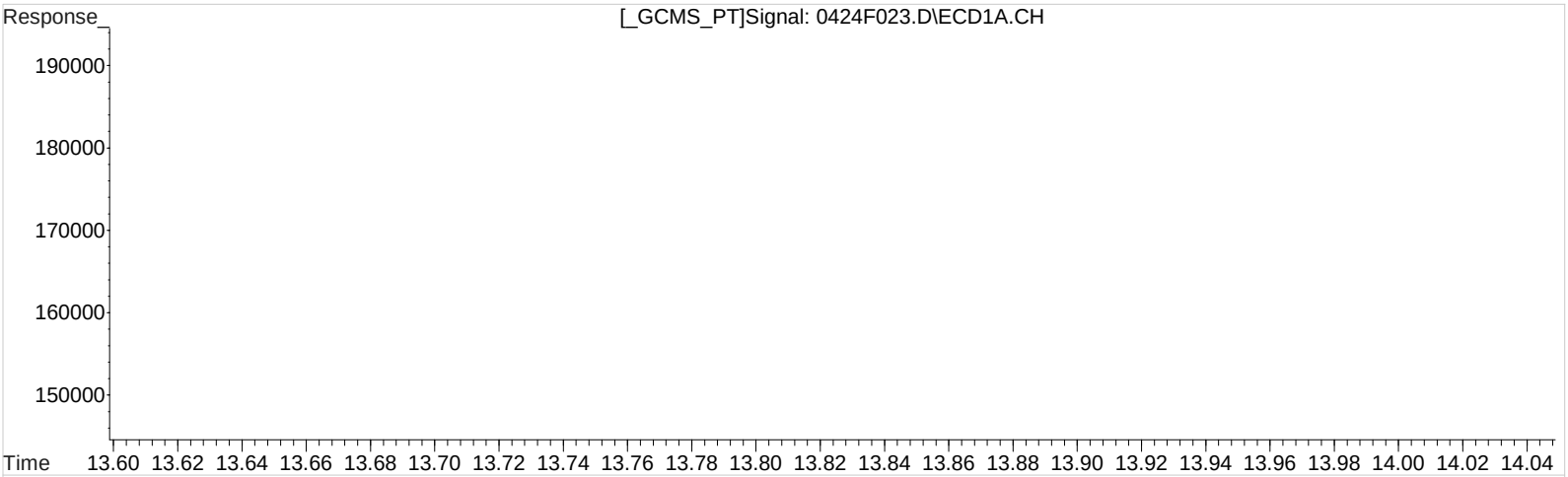
Quantitation Report (Qedit)

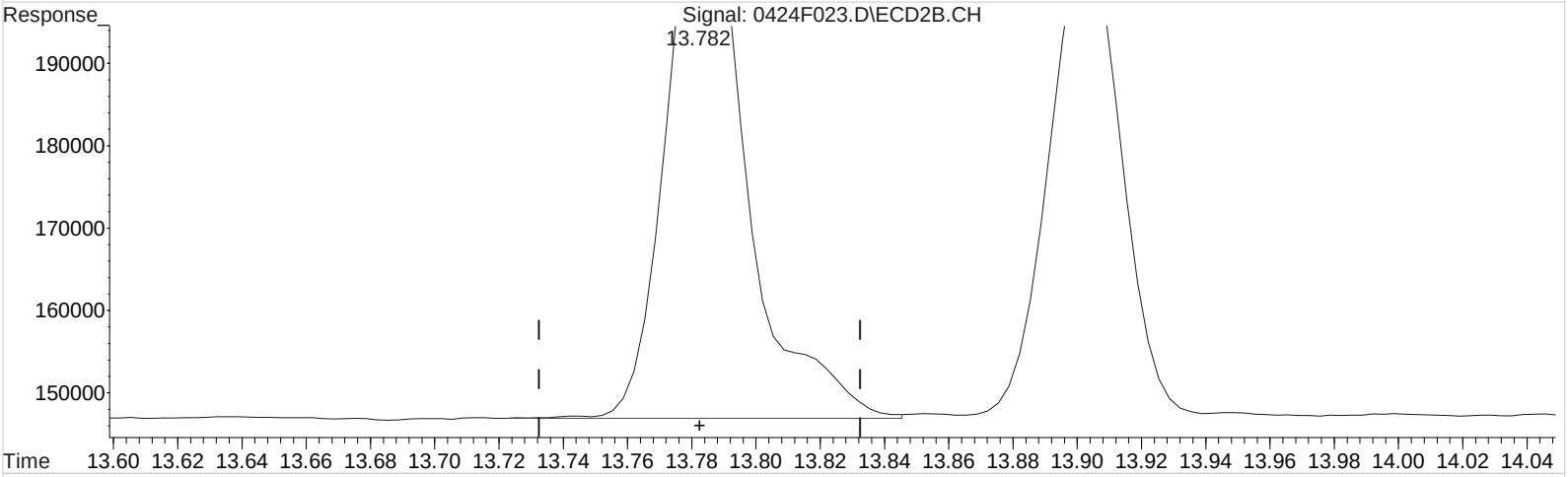
1st SM 04/25/20
2nd TP 04/28/20

Data File : J:\GC23\data\042420B\0424F023.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 4:13 am Operator: SM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:03:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.131min 2.027 ug/L

response 23371

Manual Integration:

Before

04/25/20

(22) 4,4'-DDT #2

13.782min 2.594 ug/L

response 115214

(+) = Expected Retention Time

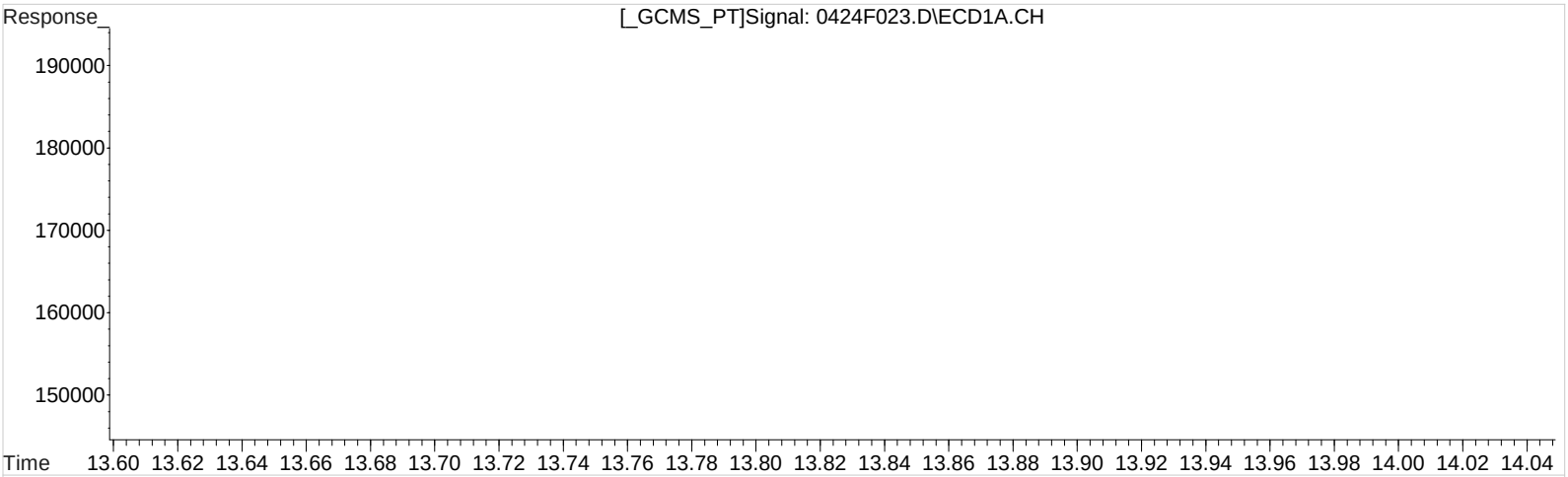
Quantitation Report (Qedit)

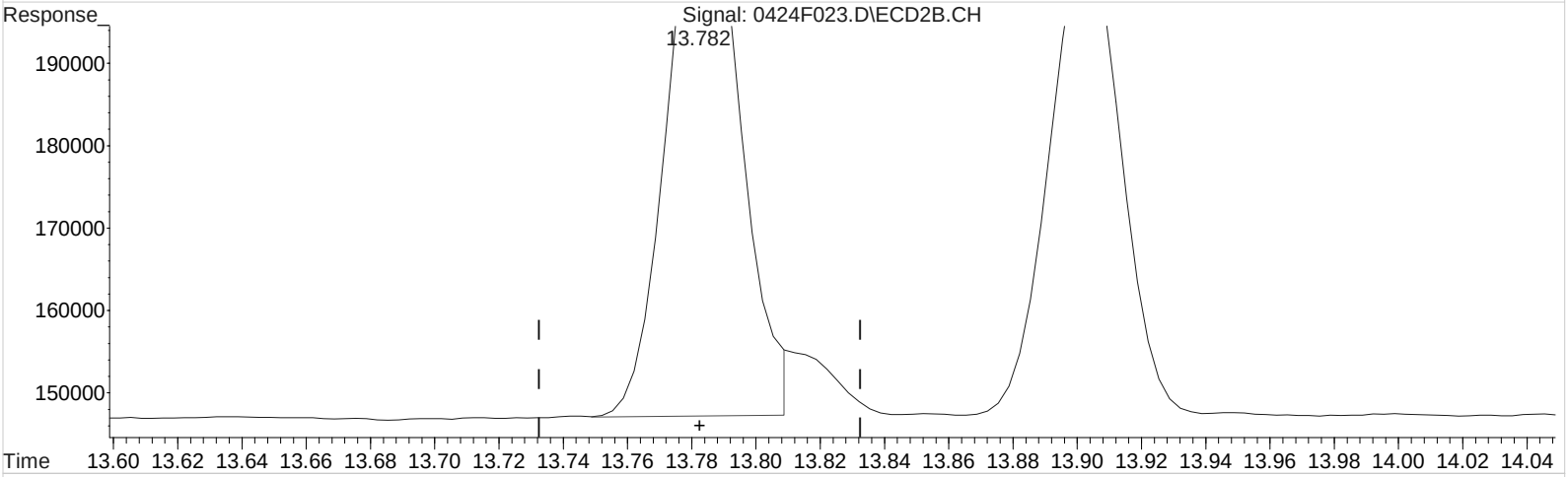
1st SM 04/25/20
2nd TP 04/28/20

Data File : J:\GC23\data\042420B\0424F023.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2020 4:13 am Operator: SM
Sample : 81 2PPB GCPS8-76H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 25 07:03:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Sat Apr 25 07:01:34 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(22) 4,4'-DDT

15.131min 2.027 ug/L

response 23371

Manual Integration:

After

Baseline/Shoulder

04/25/20

(22) 4,4'-DDT #2

13.782min 2.379 ug/L m

response 105663

(+) = Expected Retention Time

Sequence Name: C:\GC23\SEQUENCE\040620ICAL.S
Comment: OC PESTICIDES VIA 8081B
Operator: LM
Data Path: C:\GC23\DATA\040520ICAL\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	IB	100	0406F001	PESTCLI2	HEX
2	IB	100	0406F002	PESTCLI2	HEX
3	PEM	1	0406F003	PESTCLI2	PEM GCPS8-73M
4	IB	2	0406F004	PESTCLI2	IB
5	ICAL	3	0406F005	PESTCLI2	81 0.2PPB GCPS8-74N @10X
6	ICAL	4	0406F006	PESTCLI2	81 0.5PPB GCPS8-74N @4X
7	ICAL	5	0406F007	PESTCLI2	81 1PPB GCPS8-74N @2X
8	ICAL	6	0406F008	PESTCLI2	81 2PPB GCPS8-74N
9	ICAL	7	0406F009	PESTCLI2	81 5PPB GCPS8-74O @2X
10	ICAL	8	0406F010	PESTCLI2	81 10PPB GCPS8-74O
11	ICV	9	0406F011	PESTCLI2	81 ICV 2PPB GCPS8-73E
12	ICAL	10	0406F012	PESTCLI2	24 0.2PPB GCPS8-74B @10X
13	ICAL	11	0406F013	PESTCLI2	24 0.5PPB GCPS8-74B @4X NR
14	ICAL	12	0406F014	PESTCLI2	24 1PPB GCPS8-74B @2X
15	ICAL	13	0406F015	PESTCLI2	24 2PPB GCPS8-74B
16	ICAL	14	0406F016	PESTCLI2	24 5PPB GCPS8-74A @2X
17	ICAL	15	0406F017	PESTCLI2	24 10PPB GCPS8-74A
18	ICV	16	0406F018	PESTCLI2	24 ICV 2PPB GCPS8-67G NR
19	ICAL	17	0406F019	PESTCLI2	M/P .2/1PPB GCPS8-76D @10X
20	ICAL	18	0406F020	PESTCLI2	M/P .5/2.5PPB GCPS8-76D @4X
21	ICAL	19	0406F021	PESTCLI2	M/P 1/5PPB GCPS8-76D @2X
22	ICAL	20	0406F022	PESTCLI2	M/P 2/10PPB GCPS8-76D
23	ICAL	21	0406F023	PESTCLI2	M/P 5/25PPB GCPS8-74G @2X
24	ICAL	22	0406F024	PESTCLI2	M/P 10/50PPB GCPS8-74G
25	ICAL	23	0406F025	PESTCLI2	PERTH 100PPB GCPS8-72A @50X
26	ICV	24	0406F026	PESTCLI2	MISC ICV 2PPB GCPS8-74E
27	ICV	25	0406F027	PESTCLI2	PERTH ICV 25PPB GCPS8-71J
28	ICAL	26	0406F028	PESTCLI2	TOX 10PPB GCPS8-74H @10X
29	ICAL	27	0406F029	PESTCLI2	TOX 25PPB GCPS8-7H4H@4X
30	ICAL	28	0406F030	PESTCLI2	TOX 50PPB GCPS8-74H @2X
31	ICAL	29	0406F031	PESTCLI2	TOX 100PPB GCPS8-74H
32	ICAL	30	0406F032	PESTCLI2	TOX 250PPB GCPS8-74I @2X
33	ICAL	31	0406F033	PESTCLI2	TOX 500PPB GCPS8-74I
34	ICV	32	0406F034	PESTCLI2	TOX ICV 100PPB GCPS8-69H
35	ICAL	33	0406F035	PESTCLI2	CHLOR 2PPB GCPS8-74M @10X
36	ICAL	34	0406F036	PESTCLI2	CHLOR 5PPB GCPS8-74M @4X
37	ICAL	35	0406F037	PESTCLI2	CHLOR 10PPB GCPS8-74M @2X
38	ICAL	36	0406F038	PESTCLI2	CHLOR 20PPB GCPS8-74M
39	ICAL	37	0406F039	PESTCLI2	CHLOR 50PPB GCPS8-74C @4X
40	ICAL	38	0406F040	PESTCLI2	CHLOR 100PPB GCPS8-74C @2X
41	ICAL	39	0406F041	PESTCLI2	CHLOR 200PPB GCPS8-74C
42	ICV	40	0406F042	PESTCLI2	CHLOR ICV 50PPB GCPS8-66J

KC 2000190
Cal 16274

Sequence Name: C:\GC23\SEQUENCE\040720ICAL.S
Comment: OC PESTICIDES VIA 8081B
Operator: LM
Data Path: C:\GC23\DATA\040620ICAL\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	IB	100	0407F001	PESTCLI2	HEX
2	IB	100	0407F002	PESTCLI2	HEX
3	PEM	1	0407F003	PESTCLI2	PEM GCPS8-73M
4	IB	2	0407F004	PESTCLI2	IB
5	ICAL	3	0407F005	PESTCLI2	24 0.5PPB GCPS8-74B @4X
6	ICV	4	0407F006	PESTCLI2	24 ICV 2PPB GCPS8-67G

ALS-Columbia Kelso
Initial Calibration Checklist GC

Method: 8081B
ICAL ID or Date: 4C2000190
Instrument: GC 23

16274
4-6-20

Primary Secondary

- ☑ ☑ Was new ICAL saved with a unique ID? (Yes) No
- ☑ ☑ Was ICAL performed continuously (i.e. not interrupted by maintenance event)? Yes No
- ☑ ☑ Are all analytes in blank < ½ MRL? (Yes) No
- ☑ ☑ Does ICAL contain minimum number of concentrations? (Yes) No
- ☑ ☑ For each analyte, no internal levels skipped? (Yes) No
- ☑ ☑ Retention times updated using a midpoint of the calibration? Secondary reviewer double check peak IDs.
- ☑ ☑ Calibration files quantitated with new method? (Yes) No
- ☑ ☑ Check integrations. Primary reviewer must check all integrations electronically. Secondary reviewer will check low point and high point electronically.
- ☑ ☑ ICAL files added to calibration table? (Yes) No
- ☑ ☑ The average RF or COD meets method criteria for all analytes? (Yes) No
- ☑ ☑ ICV quantitated against new ICAL? (Yes) No
- ☑ ☑ ICV meet method criteria? (Yes) No

- ☑ ☑ Linked in Stealth to appropriate method? An appropriate method will be one that contains all analytes that were analyzed.
- ☑ ☑ All calibration reports included? ICAL SUMMARY, ICAL DETAILED, ICV SUMMARY.
- ☑ ☑ Enviroquant responses match those in Stealth. LIMS (Yes) No
- ☑ ☑ All quant reports and manual integrations initialed by primary? (Yes) No

Data packet should be in the following order: Sequence log, Calibration Review, Stealth ICAL reports, and quant reports.

Primary: LM Date: 4-7-20

Secondary: [signature] Date: 4/7/20

Initial Calibration Verification Summary Report

Calibration ID:	KC2000190	**Instrument ID:**	K-GC-23
Datafile ID:	J:\GC23 \data\040720ICAL\0407F006.D	**Column Name:**	DB-35MS

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
2,4'-DDD	KC2000190-38	T	Average RF	2	2.184	ug/L	9.2	<= 20
2,4'-DDD	KC2000190-38	T	Average RF	2	2.184	ug/L	9.2	<= 30
2,4'-DDE	KC2000190-38	T	Average RF	2	2.158	ug/L	7.9	<= 20
2,4'-DDE	KC2000190-38	T	Average RF	2	2.158	ug/L	7.9	<= 30
2,4'-DDT	KC2000190-38	T	Average RF	2	2.131	ug/L	6.5	<= 30
2,4'-DDT	KC2000190-38	T	Average RF	2	2.131	ug/L	6.5	<= 20
4,4'-DDD	KC2000190-07	T	Average RF	2	1.572	ug/L	-21.4	<= 30
4,4'-DDD	KC2000190-07	T	Average RF	2	1.572	ug/L	-21.4	<= 20
4,4'-DDE	KC2000190-07	T	Average RF	2	1.674	ug/L	-16.3	<= 30
4,4'-DDE	KC2000190-07	T	Average RF	2	1.674	ug/L	-16.3	<= 20
4,4'-DDT	KC2000190-07	T	Average RF	2	1.689	ug/L	-15.6	<= 30
4,4'-DDT	KC2000190-07	T	Average RF	2	1.689	ug/L	-15.6	<= 20
Aldrin	KC2000190-07	T	Average RF	2	1.710	ug/L	-14.5	<= 20
Aldrin	KC2000190-07	T	Average RF	2	1.710	ug/L	-14.5	<= 30
Chlordane	KC2000190-36	T	NA	50	51.172	ug/L	2.3	<= 20
Chlordane	KC2000190-36	T	NA	50	51.172	ug/L	2.3	<= 30
Chlorpyrifos	KC2000190-20	T	Average RF	2	1.851	ug/L	-7.4	<= 20
Dieldrin	KC2000190-07	T	Average RF	2	1.620	ug/L	-19.0	<= 30
Dieldrin	KC2000190-07	T	Average RF	2	1.620	ug/L	-19.0	<= 20
Endosulfan I	KC2000190-07	T	Average RF	2	1.704	ug/L	-14.8	<= 20
Endosulfan I	KC2000190-07	T	Average RF	2	1.704	ug/L	-14.8	<= 30
Endosulfan II	KC2000190-07	T	Average RF	2	1.735	ug/L	-13.2	<= 30
Endosulfan II	KC2000190-07	T	Average RF	2	1.735	ug/L	-13.2	<= 20
Endosulfan Sulfate	KC2000190-07	T	Average RF	2	1.644	ug/L	-17.8	<= 20
Endosulfan Sulfate	KC2000190-07	T	Average RF	2	1.644	ug/L	-17.8	<= 30
Endrin	KC2000190-07	T	Average RF	2	1.716	ug/L	-14.2	<= 30
Endrin	KC2000190-07	T	Average RF	2	1.716	ug/L	-14.2	<= 20
Endrin Aldehyde	KC2000190-07	T	Average RF	2	1.663	ug/L	-16.9	<= 20
Endrin Aldehyde	KC2000190-07	T	Average RF	2	1.663	ug/L	-16.9	<= 30
Endrin Ketone	KC2000190-07	T	Average RF	2	1.640	ug/L	-18.0	<= 20
Endrin Ketone	KC2000190-07	T	Average RF	2	1.640	ug/L	-18.0	<= 30
Heptachlor	KC2000190-07	T	Average RF	2	1.698	ug/L	-15.1	<= 20
Heptachlor	KC2000190-07	T	Average RF	2	1.698	ug/L	-15.1	<= 30
Heptachlor Epoxide	KC2000190-07	T	Average RF	2	1.673	ug/L	-16.4	<= 20
Heptachlor Epoxide	KC2000190-07	T	Average RF	2	1.673	ug/L	-16.4	<= 30
Hexachlorobenzene	KC2000190-07	T	Average RF	2	1.757	ug/L	-12.1	<= 20
Hexachlorobenzene	KC2000190-07	T	Average RF	2	1.757	ug/L	-12.1	<= 30
Hexachlorobutadiene	KC2000190-20	T	Average RF	2	1.810	ug/L	-9.5	<= 20
Hexachloroethane	KC2000190-20	T	Average RF	2	1.808	ug/L	-9.6	<= 20

Initial Calibration Verification Summary Report

Calibration ID:	KC2000190	**Instrument ID:**	K-GC-23
Datafile ID:	J:\GC23 \data\040720ICAL\0407F006.D	**Column Name:**	DB-35MS

Isodrin	KC2000190-07	T	Average RF	2	2.167	ug/L	8.3	<= 20
Methoxychlor	KC2000190-07	T	Average RF	2	1.693	ug/L	-15.3	<= 20
Methoxychlor	KC2000190-07	T	Average RF	2	1.693	ug/L	-15.3	<= 30
Mirex	KC2000190-20	T	Average RF	2	2.035	ug/L	1.7	<= 20
Oxychlordane	KC2000190-20	T	Average RF	2	1.877	ug/L	-6.2	<= 20
Perthane	KC2000190-21	T	Average RF	25	22.779	ug/L	-8.9	<= 20
Toxaphene	KC2000190-28	T	NA	100	93.858	ug/L	-6.1	<= 20
Toxaphene	KC2000190-28	T	NA	100	93.858	ug/L	-6.1	<= 30
alpha-BHC	KC2000190-07	T	Average RF	2	1.707	ug/L	-14.6	<= 20
alpha-BHC	KC2000190-07	T	Average RF	2	1.707	ug/L	-14.6	<= 30
alpha-Chlordane	KC2000190-07	T	Average RF	2	1.708	ug/L	-14.6	<= 20
alpha-Chlordane	KC2000190-07	T	Average RF	2	1.708	ug/L	-14.6	<= 30
beta-BHC	KC2000190-07	T	Average RF	2	1.707	ug/L	-14.6	<= 20
beta-BHC	KC2000190-07	T	Average RF	2	1.707	ug/L	-14.6	<= 30
beta-Chlordane	KC2000190-07	T	Average RF	2	1.722	ug/L	-13.9	<= 20
beta-Chlordane	KC2000190-07	T	Average RF	2	1.722	ug/L	-13.9	<= 30
cis-Nonachlor	KC2000190-20	T	Average RF	2	1.948	ug/L	-2.6	<= 20
delta-BHC	KC2000190-07	T	Average RF	2	1.725	ug/L	-13.7	<= 30
delta-BHC	KC2000190-07	T	Average RF	2	1.725	ug/L	-13.7	<= 20
gamma-BHC (Lindane)	KC2000190-07	T	Average RF	2	1.712	ug/L	-14.4	<= 30
gamma-BHC (Lindane)	KC2000190-07	T	Average RF	2	1.712	ug/L	-14.4	<= 20
trans-Nonachlor	KC2000190-20	T	Average RF	2	1.957	ug/L	-2.2	<= 20
Chlordane {1}	KC2000190-36	L	Average RF	50	38.222	ug/L	-23.6	<= 100
Chlordane {2}	KC2000190-36	L	Average RF	50	55.364	ug/L	10.7	<= 100
Chlordane {3}	KC2000190-36	L	Average RF	50	66.305	ug/L	32.6	<= 100
Chlordane {4}	KC2000190-36	L	Average RF	50	47.676	ug/L	-4.6	<= 100
Chlordane {5}	KC2000190-36	L	Average RF	50	52.905	ug/L	5.8	<= 100
Chlordane {6}	KC2000190-36	L	Average RF	50	46.559	ug/L	-6.9	<= 100
Toxaphene {1}	KC2000190-28	L	Average RF	100	94.942	ug/L	-5.1	<= 100
Toxaphene {2}	KC2000190-28	L	Average RF	100	89.474	ug/L	-10.5	<= 100
Toxaphene {3}	KC2000190-28	L	Quadratic	100	91.064	ug/L	-8.9	<= 100
Toxaphene {4}	KC2000190-28	L	Quadratic	100	94.928	ug/L	-5.1	<= 100
Toxaphene {5}	KC2000190-28	L	Average RF	100	93.315	ug/L	-6.7	<= 100
Toxaphene {6}	KC2000190-28	L	Average RF	100	99.426	ug/L	-0.6	<= 100

Initial Calibration Verification Summary Report

Calibration ID:	KC2000190	**Instrument ID:**	K-GC-23
Datafile ID:	J:\GC23 \data\040720ICAL\0407F006.D	**Column Name:**	DB-35MS

Exceptions

QAP	Method
LAB QAP	8081B

Compound	Type	Criteria	Result
4,4'-DDD	Percent Difference	<= 20	

Calibration ID:	KC2000190	**Instrument ID:**	K-GC-23
Datafile ID:	J:\GC23 \data\040720ICAL\0407F006.D	**Column Name:**	DB XLB

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
2,4'-DDD	KC2000190-38	T	Average RF	2	2.101	ug/L	5.0	<= 20
2,4'-DDD	KC2000190-38	T	Average RF	2	2.101	ug/L	5.0	<= 30
2,4'-DDE	KC2000190-38	T	Average RF	2	2.150	ug/L	7.5	<= 30
2,4'-DDE	KC2000190-38	T	Average RF	2	2.150	ug/L	7.5	<= 20
2,4'-DDT	KC2000190-38	T	Average RF	2	2.118	ug/L	5.9	<= 20
2,4'-DDT	KC2000190-38	T	Average RF	2	2.118	ug/L	5.9	<= 30
4,4'-DDD	KC2000190-07	T	Average RF	2	1.644	ug/L	-17.8	<= 20
4,4'-DDD	KC2000190-07	T	Average RF	2	1.644	ug/L	-17.8	<= 30
4,4'-DDE	KC2000190-07	T	Average RF	2	1.729	ug/L	-13.6	<= 20
4,4'-DDE	KC2000190-07	T	Average RF	2	1.729	ug/L	-13.6	<= 30
4,4'-DDT	KC2000190-07	T	Average RF	2	1.767	ug/L	-11.7	<= 30
4,4'-DDT	KC2000190-07	T	Average RF	2	1.767	ug/L	-11.7	<= 20
Aldrin	KC2000190-07	T	Average RF	2	1.775	ug/L	-11.3	<= 30
Aldrin	KC2000190-07	T	Average RF	2	1.775	ug/L	-11.3	<= 20
Chlordane	KC2000190-36	T	NA	50	46.795	ug/L	-6.4	<= 30
Chlordane	KC2000190-36	T	NA	50	46.795	ug/L	-6.4	<= 20
Chlorpyrifos	KC2000190-20	T	Average RF	2	1.860	ug/L	-7.0	<= 20
Dieldrin	KC2000190-07	T	Average RF	2	1.633	ug/L	-18.3	<= 30
Dieldrin	KC2000190-07	T	Average RF	2	1.633	ug/L	-18.3	<= 20
Endosulfan I	KC2000190-07	T	Average RF	2	1.742	ug/L	-12.9	<= 20
Endosulfan I	KC2000190-07	T	Average RF	2	1.742	ug/L	-12.9	<= 30
Endosulfan II	KC2000190-07	T	Average RF	2	1.741	ug/L	-13.0	<= 20
Endosulfan II	KC2000190-07	T	Average RF	2	1.741	ug/L	-13.0	<= 30
Endosulfan Sulfate	KC2000190-07	T	Average RF	2	1.612	ug/L	-19.4	<= 20
Endosulfan Sulfate	KC2000190-07	T	Average RF	2	1.612	ug/L	-19.4	<= 30
Endrin	KC2000190-07	T	Average RF	2	1.728	ug/L	-13.6	<= 20
Endrin	KC2000190-07	T	Average RF	2	1.728	ug/L	-13.6	<= 30
Endrin Aldehyde	KC2000190-07	T	Average RF	2	1.659	ug/L	-17.1	<= 20
Endrin Aldehyde	KC2000190-07	T	Average RF	2	1.659	ug/L	-17.1	<= 30

Initial Calibration Verification Summary Report

Calibration ID:	KC2000190	**Instrument ID:**	K-GC-23
Datafile ID:	J:\GC23 \data\040720ICAL\0407F006.D	**Column Name:**	DB XLB

Endrin Ketone	KC2000190-07	T	Average RF	2	1.703	ug/L	-14.9	<= 20
Endrin Ketone	KC2000190-07	T	Average RF	2	1.703	ug/L	-14.9	<= 30
Heptachlor	KC2000190-07	T	Average RF	2	1.756	ug/L	-12.2	<= 30
Heptachlor	KC2000190-07	T	Average RF	2	1.756	ug/L	-12.2	<= 20
Heptachlor Epoxide	KC2000190-07	T	Average RF	2	1.726	ug/L	-13.7	<= 30
Heptachlor Epoxide	KC2000190-07	T	Average RF	2	1.726	ug/L	-13.7	<= 20
Hexachlorobenzene	KC2000190-07	T	Average RF	2	1.738	ug/L	-13.1	<= 20
Hexachlorobenzene	KC2000190-07	T	Average RF	2	1.738	ug/L	-13.1	<= 30
Hexachlorobutadiene	KC2000190-20	T	Average RF	2	1.848	ug/L	-7.6	<= 20
Hexachloroethane	KC2000190-20	T	Average RF	2	1.828	ug/L	-8.6	<= 20
Isodrin	KC2000190-07	T	Average RF	2	2.186	ug/L	9.3	<= 20
Methoxychlor	KC2000190-07	T	Average RF	2	1.692	ug/L	-15.4	<= 20
Methoxychlor	KC2000190-07	T	Average RF	2	1.692	ug/L	-15.4	<= 30
Mirex	KC2000190-20	T	Average RF	2	2.050	ug/L	2.5	<= 20
Oxychlordane	KC2000190-20	T	Average RF	2	1.896	ug/L	-5.2	<= 20
Perthane	KC2000190-21	T	Average RF	25	22.063	ug/L	-11.7	<= 20
Toxaphene	KC2000190-28	T	NA	100	99.319	ug/L	-0.7	<= 20
Toxaphene	KC2000190-28	T	NA	100	99.319	ug/L	-0.7	<= 30
alpha-BHC	KC2000190-07	T	Average RF	2	1.726	ug/L	-13.7	<= 30
alpha-BHC	KC2000190-07	T	Average RF	2	1.726	ug/L	-13.7	<= 20
alpha-Chlordane	KC2000190-07	T	Average RF	2	1.733	ug/L	-13.4	<= 20
alpha-Chlordane	KC2000190-07	T	Average RF	2	1.733	ug/L	-13.4	<= 30
beta-BHC	KC2000190-07	T	Average RF	2	1.711	ug/L	-14.5	<= 20
beta-BHC	KC2000190-07	T	Average RF	2	1.711	ug/L	-14.5	<= 30
beta-Chlordane	KC2000190-07	T	Average RF	2	1.728	ug/L	-13.6	<= 30
beta-Chlordane	KC2000190-07	T	Average RF	2	1.728	ug/L	-13.6	<= 20
cis-Nonachlor	KC2000190-20	T	Average RF	2	1.985	ug/L	-0.7	<= 20
delta-BHC	KC2000190-07	T	Average RF	2	1.649	ug/L	-17.6	<= 20
delta-BHC	KC2000190-07	T	Average RF	2	1.649	ug/L	-17.6	<= 30
gamma-BHC (Lindane)	KC2000190-07	T	Average RF	2	1.737	ug/L	-13.2	<= 20
gamma-BHC (Lindane)	KC2000190-07	T	Average RF	2	1.737	ug/L	-13.2	<= 30
trans-Nonachlor	KC2000190-20	T	Average RF	2	1.976	ug/L	-1.2	<= 20
Chlordane {1}	KC2000190-36	L	Average RF	50	38.500	ug/L	-23.0	<= 100
Chlordane {2}	KC2000190-36	L	Average RF	50	36.373	ug/L	-27.3	<= 100
Chlordane {3}	KC2000190-36	L	Average RF	50	60.646	ug/L	21.3	<= 100
Chlordane {4}	KC2000190-36	L	Average RF	50	47.325	ug/L	-5.4	<= 100
Chlordane {5}	KC2000190-36	L	Average RF	50	47.844	ug/L	-4.3	<= 100
Chlordane {6}	KC2000190-36	L	Average RF	50	50.083	ug/L	0.2	<= 100
Toxaphene {1}	KC2000190-28	L	Average RF	100	102.624	ug/L	2.6	<= 100
Toxaphene {2}	KC2000190-28	L	Average RF	100	92.046	ug/L	-8.0	<= 100

Initial Calibration Verification Summary Report

Calibration ID:	KC2000190	**Instrument ID:**	K-GC-23
Datafile ID:	J:\GC23 \data\040720ICAL\0407F006.D	**Column Name:**	DB XLB

Toxaphene {3}	KC2000190-28	L	Average RF	100	95.100	ug/L	-4.9	<= 100
Toxaphene {4}	KC2000190-28	L	Average RF	100	104.123	ug/L	4.1	<= 100
Toxaphene {5}	KC2000190-28	L	Average RF	100	108.402	ug/L	8.4	<= 100
Toxaphene {6}	KC2000190-28	L	Quadratic	100	93.618	ug/L	-6.4	<= 100

Exceptions

QAP	Method
LAB QAP	8081B

Compound	Type	Criteria	Result
4,4'-DDD	Percent Difference	<= 20	

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

#	Lab Code	Sample Name	File Location	Aquisition Date
01	KC2000190-01	81 0.2PPB GCPS8-74N @10X	J:\GC23\data\040620ICAL\0406F005.D	04/06/2020 12:53
02	KC2000190-02	81 0.5PPB GCPS8-74N @4X	J:\GC23\data\040620ICAL\0406F006.D	04/06/2020 13:23
03	KC2000190-03	81 1PPB GCPS8-74N @2X	J:\GC23\data\040620ICAL\0406F007.D	04/06/2020 13:53
04	KC2000190-04	81 2PPB GCPS8-74N	J:\GC23\data\040620ICAL\0406F008.D	04/06/2020 14:23
05	KC2000190-05	81 5PPB GCPS8-74O @2X	J:\GC23\data\040620ICAL\0406F009.D	04/06/2020 14:53
06	KC2000190-06	81 10PPB GCPS8-74O	J:\GC23\data\040620ICAL\0406F010.D	04/06/2020 15:22
08	KC2000190-08	24 0.2PPB GCPS8-74B @10X	J:\GC23\data\040620ICAL\0406F012.D	04/06/2020 16:22
09	KC2000190-09	24 1PPB GCPS8-74B @2X	J:\GC23\data\040620ICAL\0406F014.D	04/06/2020 17:21
10	KC2000190-10	24 2PPB GCPS8-74B	J:\GC23\data\040620ICAL\0406F015.D	04/06/2020 17:51
11	KC2000190-11	24 5PPB GCPS8-74A @2X	J:\GC23\data\040620ICAL\0406F016.D	04/06/2020 18:20
12	KC2000190-12	24 10PPB GCPS8-74A	J:\GC23\data\040620ICAL\0406F017.D	04/06/2020 18:50
13	KC2000190-13	M/P .2/1PPB GCPS8-76D @10X	J:\GC23\data\040620ICAL\0406F019.D	04/06/2020 19:49
14	KC2000190-14	M/P .5/2.5PPB GCPS8-76D @4X	J:\GC23\data\040620ICAL\0406F020.D	04/06/2020 20:19
15	KC2000190-15	M/P 1/5PPB GCPS8-76D @2X	J:\GC23\data\040620ICAL\0406F021.D	04/06/2020 20:49
16	KC2000190-16	M/P 2/10PPB GCPS8-76D	J:\GC23\data\040620ICAL\0406F022.D	04/06/2020 21:18
17	KC2000190-17	M/P 5/25PPB GCPS8-74G @2X	J:\GC23\data\040620ICAL\0406F023.D	04/06/2020 21:48
18	KC2000190-18	M/P 10/50PPB GCPS8-74G	J:\GC23\data\040620ICAL\0406F024.D	04/06/2020 22:18
19	KC2000190-19	PERTH 100PPB GCPS8-72A @50X	J:\GC23\data\040620ICAL\0406F025.D	04/06/2020 22:47
22	KC2000190-22	TOX 10PPB GCPS8-74H @10X	J:\GC23\data\040620ICAL\0406F028.D	04/07/2020 00:16
23	KC2000190-23	TOX 25PPB GCPS8-7H4H@4X	J:\GC23\data\040620ICAL\0406F029.D	04/07/2020 00:46
24	KC2000190-24	TOX 50PPB GCPS8-74H @2X	J:\GC23\data\040620ICAL\0406F030.D	04/07/2020 01:15
25	KC2000190-25	TOX 100PPB GCPS8-74H	J:\GC23\data\040620ICAL\0406F031.D	04/07/2020 01:45
26	KC2000190-26	TOX 250PPB GCPS8-74I @2X	J:\GC23\data\040620ICAL\0406F032.D	04/07/2020 02:15
27	KC2000190-27	TOX 500PPB GCPS8-74I	J:\GC23\data\040620ICAL\0406F033.D	04/07/2020 02:44
29	KC2000190-29	CHLOR 2PPB GCPS8-74M @10X	J:\GC23\data\040620ICAL\0406F035.D	04/07/2020 03:43
30	KC2000190-30	CHLOR 5PPB GCPS8-74M @4X	J:\GC23\data\040620ICAL\0406F036.D	04/07/2020 04:13
31	KC2000190-31	CHLOR 10PPB GCPS8-74M @2X	J:\GC23\data\040620ICAL\0406F037.D	04/07/2020 04:43
32	KC2000190-32	CHLOR 20PPB GCPS8-74M	J:\GC23\data\040620ICAL\0406F038.D	04/07/2020 05:12
33	KC2000190-33	CHLOR 50PPB GCPS8-74C @4X	J:\GC23\data\040620ICAL\0406F039.D	04/07/2020 05:42
34	KC2000190-34	CHLOR 100PPB GCPS8-74C @2X	J:\GC23\data\040620ICAL\0406F040.D	04/07/2020 06:12
35	KC2000190-35	CHLOR 200PPB GCPS8-74C	J:\GC23\data\040620ICAL\0406F041.D	04/07/2020 06:41
37	KC2000190-37	24 0.5PPB GCPS8-74B @4X	J:\GC23\data\040720ICAL\0407F005.D	04/07/2020 10:59

Analyte	Curve Fit	Weighting

2,4'-DDD — Average RF — RSD = 8.619 — Average RF = 9.47E-1

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
08	0.200	1.104	09	1.000	0.9376	10	2.000	0.8883	11	5.000	0.9315
12	10.000	0.8765	37	0.500	0.9444						

2,4'-DDE — Average RF — RSD = 6.149 — Average RF = 1.079E0

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
08	0.200	1.174	09	1.000	1.104	10	2.000	1.02	11	5.000	1.061
12	10.000	0.9948	37	0.500	1.118						

2,4'-DDT **Average RF** **RSD = 9.947** **Average RF = 1.084E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
08	0.200	1.281	09	1.000	1.074	10	2.000	1	11	5.000	1.046
12	10.000	0.9849	37	0.500	1.116						

4,4'-DDD **Average RF** **RSD = 10.53** **Average RF = 1.193E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.261	02	0.500	1.365	03	1.000	1.238	04	2.000	1.196
05	5.000	1.08	06	10.000	1.02						

4,4'-DDE **Average RF** **RSD = 13.16** **Average RF = 1.544E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.822	02	0.500	1.701	03	1.000	1.598	04	2.000	1.491
05	5.000	1.366	06	10.000	1.286						

4,4'-DDT **Average RF** **RSD = 10.16** **Average RF = 1.254E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.385	02	0.500	1.373	03	1.000	1.306	04	2.000	1.253
05	5.000	1.133	06	10.000	1.074						

Aldrin **Average RF** **RSD = 9.86** **Average RF = 1.603E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.801	02	0.500	1.738	03	1.000	1.66	04	2.000	1.552
05	5.000	1.484	06	10.000	1.385						

Chlorpyrifos **Average RF** **RSD = 14.67** **Average RF = 9.217E-1**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	1.178	14	0.500	0.9256	15	1.000	0.9199	16	2.000	0.8651
17	5.000	0.8532	18	10.000	0.7883						

Dieldrin **Average RF** **RSD = 12.2** **Average RF = 1.65E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.89	02	0.500	1.799	03	1.000	1.76	04	2.000	1.607
05	5.000	1.473	06	10.000	1.371						

Endosulfan I **Average RF** **RSD = 14.17** **Average RF = 1.538E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.853	02	0.500	1.671	03	1.000	1.596	04	2.000	1.498
05	5.000	1.358	06	10.000	1.25						

Endosulfan II **Average RF** **RSD = 15.43** **Average RF = 1.526E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.828	02	0.500	1.72	03	1.000	1.578	04	2.000	1.501
05	5.000	1.324	06	10.000	1.203						

Endosulfan Sulfate **Average RF** **RSD = 15.91** **Average RF = 1.554E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.943	02	0.500	1.649	03	1.000	1.612	04	2.000	1.534
05	5.000	1.352	06	10.000	1.236						

Endrin **Average RF** **RSD = 12.78** **Average RF = 1.506E0**

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.777	02	0.500	1.642	03	1.000	1.546	04	2.000	1.474
05	5.000	1.343	06	10.000	1.253						

Endrin Aldehyde **Average RF** **RSD = 15.7** **Average RF = 1.322E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.597	02	0.500	1.485	03	1.000	1.379	04	2.000	1.286
05	5.000	1.143	06	10.000	1.045						

Endrin Ketone **Average RF** **RSD = 12.66** **Average RF = 1.668E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.962	02	0.500	1.822	03	1.000	1.709	04	2.000	1.631
05	5.000	1.502	06	10.000	1.382						

Heptachlor **Average RF** **RSD = 12.8** **Average RF = 1.732E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	2.058	02	0.500	1.845	03	1.000	1.807	04	2.000	1.695
05	5.000	1.545	06	10.000	1.441						

Heptachlor Epoxide **Average RF** **RSD = 13.42** **Average RF = 1.686E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.966	02	0.500	1.884	03	1.000	1.748	04	2.000	1.646
05	5.000	1.494	06	10.000	1.376						

Hexachlorobenzene **Average RF** **RSD = 14.93** **Average RF = 1.975E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	2.333	02	0.500	2.191	03	1.000	2.087	04	2.000	1.972
05	5.000	1.715	06	10.000	1.551						

Hexachlorobutadiene **Average RF** **RSD = 7.35** **Average RF = 1.998E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	2.224	14	0.500	2.097	15	1.000	2.018	16	2.000	1.896
17	5.000	1.928	18	10.000	1.822						

Hexachloroethane **Average RF** **RSD = 11.1** **Average RF = 2.412E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	2.902	14	0.500	2.512	15	1.000	2.377	16	2.000	2.193
17	5.000	2.277	18	10.000	2.21						

Isodrin **Average RF** **RSD = 10.6** **Average RF = 1.375E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.583	02	0.500	1.503	03	1.000	1.377	04	2.000	1.302
05	5.000	1.301	06	10.000	1.186						

Methoxychlor **Average RF** **RSD = 13.74** **Average RF = 7.604E-1**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	0.937	02	0.500	0.7833	03	1.000	0.7742	04	2.000	0.7542
05	5.000	0.68	06	10.000	0.6334						

Mirex **Average RF** **RSD = 14.2** **Average RF = 1.394E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	1.745	14	0.500	1.449	15	1.000	1.397	16	2.000	1.323
17	5.000	1.293	18	10.000	1.16						

Oxychlordane **Average RF** **RSD = 12.74** **Average RF = 1.593E0**

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	1.948	14	0.500	1.633	15	1.000	1.634	16	2.000	1.514
17	5.000	1.471	18	10.000	1.357						

Perthane **Average RF** **RSD = 10.32** **Average RF = 0.04759**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
14	2.500	0.05566	15	5.000	0.05083	16	10.000	0.0476	17	25.000	0.04501
18	50.000	0.0431	19	100.000	0.04333						

alpha-BHC **Average RF** **RSD = 9.01** **Average RF = 1.668E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.9	02	0.500	1.73	03	1.000	1.7	04	2.000	1.665
05	5.000	1.54	06	10.000	1.474						

alpha-Chlordane **Average RF** **RSD = 13.27** **Average RF = 1.678E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.976	02	0.500	1.828	03	1.000	1.761	04	2.000	1.636
05	5.000	1.497	06	10.000	1.369						

beta-BHC **Average RF** **RSD = 13.32** **Average RF = 8.917E-1**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.077	02	0.500	0.9037	03	1.000	0.9461	04	2.000	0.8858
05	5.000	0.8084	06	10.000	0.7296						

beta-Chlordane **Average RF** **RSD = 14.84** **Average RF = 1.686E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	2.044	02	0.500	1.862	03	1.000	1.728	04	2.000	1.642
05	5.000	1.482	06	10.000	1.356						

cis-Nonachlor **Average RF** **RSD = 7.804** **Average RF = 1.675E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	1.846	14	0.500	1.789	15	1.000	1.707	16	2.000	1.609
17	5.000	1.604	18	10.000	1.494						

delta-BHC **Average RF** **RSD = 10.62** **Average RF = 1.63E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.895	02	0.500	1.72	03	1.000	1.656	04	2.000	1.622
05	5.000	1.475	06	10.000	1.414						

gamma-BHC (Lindane) **Average RF** **RSD = 10.47** **Average RF = 1.612E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.885	02	0.500	1.685	03	1.000	1.628	04	2.000	1.591
05	5.000	1.483	06	10.000	1.398						

trans-Nonachlor **Average RF** **RSD = 11.12** **Average RF = 1.684E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	2.001	14	0.500	1.762	15	1.000	1.7	16	2.000	1.602
17	5.000	1.578	18	10.000	1.46						

Chlordane {1} **Average RF** **RSD = 9.806** **Average RF = 0.06817**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.07742	30	5.000	0.07126	31	10.000	0.0719	32	20.000	0.07122
33	50.000	0.06494	34	100.000	0.06279	35	200.000	0.05767			

Chlordane {2} **Average RF** **RSD = 8.219** **Average RF = 0.08635**

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.09603	30	5.000	0.08993	31	10.000	0.09059	32	20.000	0.08895
33	50.000	0.08389	34	100.000	0.07979	35	200.000	0.07531			

Chlordane {3} **Average RF** **RSD = 10.47** **Average RF = 0.06197**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.06286	30	5.000	0.06955	31	10.000	0.0684	32	20.000	0.0642
33	50.000	0.06109	34	100.000	0.05667	35	200.000	0.05105			

Chlordane {4} **Average RF** **RSD = 9.831** **Average RF = 0.1881**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.2123	30	5.000	0.2026	31	10.000	0.2026	32	20.000	0.1862
33	50.000	0.1798	34	100.000	0.1723	35	200.000	0.1612			

Chlordane {5} **Average RF** **RSD = 10.85** **Average RF = 0.1556**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.1805	30	5.000	0.167	31	10.000	0.1676	32	20.000	0.1517
33	50.000	0.1489	34	100.000	0.1417	35	200.000	0.1319			

Chlordane {6} **Average RF** **RSD = 12.68** **Average RF = 0.1142**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.1399	30	5.000	0.121	31	10.000	0.1194	32	20.000	0.1123
33	50.000	0.1088	34	100.000	0.1032	35	200.000	0.09495			

Toxaphene {1} **Average RF** **RSD = 18.54** **Average RF = 0.01643**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01408	23	25.000	0.01918	24	50.000	0.01993	25	100.000	0.0183
26	250.000	0.0142	27	500.000	0.01288						

Toxaphene {2} **Average RF** **RSD = 16.81** **Average RF = 0.01486**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01875	23	25.000	0.01573	24	50.000	0.01591	25	100.000	0.01416
26	250.000	0.0129	27	500.000	0.01172						

Toxaphene {3} **Average RF** **RSD = 14.87** **Average RF = 0.02961**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.03543	23	25.000	0.03217	24	50.000	0.03157	25	100.000	0.02942
26	250.000	0.02537	27	500.000	0.02372						

Toxaphene {4} **Average RF** **RSD = 8.998** **Average RF = 0.01992**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01885	23	25.000	0.02109	24	50.000	0.02229	25	100.000	0.02079
26	250.000	0.01912	27	500.000	0.01736						

Toxaphene {5} **Average RF** **RSD = 10.92** **Average RF = 0.01898**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.02097	23	25.000	0.02007	24	50.000	0.02	25	100.000	0.01986
26	250.000	0.01752	27	500.000	0.01546						

Toxaphene {6} **Quadratic** **1/X** **COD = 0.9995** **Y= -0.0002518 X² + 0.008474 X + 3.518E-4**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01232	23	25.000	0.009195	24	50.000	0.009068	25	100.000	0.008968
26	250.000	0.007818	27	500.000	0.007313						

PCB 209 **Average RF** **RSD = 12.42** **Average RF = 1.779E0**

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.987	02	0.500	1.956	03	1.000	1.889	04	2.000	1.822
05	5.000	1.587	06	10.000	1.435						

Tetrachloro-m-xylene **Average RF** **RSD = 11.42** **Average RF = 1.45E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.683	02	0.500	1.543	03	1.000	1.482	04	2.000	1.462
05	5.000	1.312	06	10.000	1.217						

Analyte

2,4'-DDD

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
08	0.200	0.233	16.5	09	1.000	0.990	-1.0	10	2.000	1.88	-6.2
11	5.000	4.92	-1.6	12	10.000	9.26	-7.4	37	0.500	0.499	-0.3

2,4'-DDE

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
08	0.200	0.218	8.8	09	1.000	1.02	2.4	10	2.000	1.89	-5.4
11	5.000	4.92	-1.7	12	10.000	9.22	-7.8	37	0.500	0.518	3.7

2,4'-DDT

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
08	0.200	0.236	18.2	09	1.000	0.991	-0.9	10	2.000	1.85	-7.7
11	5.000	4.83	-3.5	12	10.000	9.09	-9.1	37	0.500	0.515	3.0

4,4'-DDD

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.211	5.7	02	0.500	0.572	14.4	03	1.000	1.04	3.7
04	2.000	2.00	0.2	05	5.000	4.52	-9.5	06	10.000	8.55	-14.5

4,4'-DDE

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.236	18.0	02	0.500	0.551	10.2	03	1.000	1.04	3.5
04	2.000	1.93	-3.4	05	5.000	4.42	-11.6	06	10.000	8.33	-16.7

4,4'-DDT

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.221	10.5	02	0.500	0.548	9.5	03	1.000	1.04	4.1
04	2.000	2.00	-0.1	05	5.000	4.52	-9.6	06	10.000	8.56	-14.4

Aldrin

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.225	12.3	02	0.500	0.542	8.4	03	1.000	1.04	3.5
04	2.000	1.94	-3.2	05	5.000	4.63	-7.5	06	10.000	8.64	-13.6

Chlorpyrifos

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.256	27.8	14	0.500	0.502	0.4	15	1.000	0.998	-0.2

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

16	2.000	1.88	-6.1	17	5.000	4.63	-7.4	18	10.000	8.55	-14.5

Dieldrin

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.229	14.5	02	0.500	0.545	9.0	03	1.000	1.07	6.7
04	2.000	1.95	-2.6	05	5.000	4.47	-10.7	06	10.000	8.31	-16.9

Endosulfan I

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.241	20.5	02	0.500	0.543	8.7	03	1.000	1.04	3.8
04	2.000	1.95	-2.6	05	5.000	4.42	-11.7	06	10.000	8.13	-18.7

Endosulfan II

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.240	19.8	02	0.500	0.564	12.8	03	1.000	1.03	3.4
04	2.000	1.97	-1.6	05	5.000	4.34	-13.2	06	10.000	7.89	-21.1

Endosulfan Sulfate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.250	25.0	02	0.500	0.530	6.1	03	1.000	1.04	3.7
04	2.000	1.97	-1.3	05	5.000	4.35	-13.0	06	10.000	7.95	-20.5

Endrin

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.236	18.0	02	0.500	0.545	9.0	03	1.000	1.03	2.7
04	2.000	1.96	-2.1	05	5.000	4.46	-10.8	06	10.000	8.32	-16.8

Endrin Aldehyde

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.242	20.8	02	0.500	0.561	12.3	03	1.000	1.04	4.3
04	2.000	1.94	-2.8	05	5.000	4.32	-13.6	06	10.000	7.90	-21.0

Endrin Ketone

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.235	17.6	02	0.500	0.546	9.3	03	1.000	1.02	2.5
04	2.000	1.96	-2.2	05	5.000	4.50	-10.0	06	10.000	8.28	-17.2

Heptachlor

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.238	18.8	02	0.500	0.533	6.5	03	1.000	1.04	4.4
04	2.000	1.96	-2.1	05	5.000	4.46	-10.8	06	10.000	8.32	-16.8

Heptachlor Epoxide

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.233	16.7	02	0.500	0.559	11.7	03	1.000	1.04	3.7
04	2.000	1.95	-2.4	05	5.000	4.43	-11.3	06	10.000	8.16	-18.4

Hexachlorobenzene

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

01	0.200	0.236	18.1	02	0.500	0.555	10.9	03	1.000	1.06	5.6
04	2.000	2.00	-0.1	05	5.000	4.34	-13.2	06	10.000	7.85	-21.5

Hexachlorobutadiene

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.223	11.4	14	0.500	0.525	5.0	15	1.000	1.01	1.0
16	2.000	1.90	-5.1	17	5.000	4.83	-3.5	18	10.000	9.12	-8.8

Hexachloroethane

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.241	20.3	14	0.500	0.521	4.2	15	1.000	0.985	-1.5
16	2.000	1.82	-9.1	17	5.000	4.72	-5.6	18	10.000	9.16	-8.4

Isodrin

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.230	15.1	02	0.500	0.546	9.3	03	1.000	1.00	0.1
04	2.000	1.89	-5.3	05	5.000	4.73	-5.4	06	10.000	8.62	-13.8

Methoxychlor

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.246	23.2	02	0.500	0.515	3.0	03	1.000	1.02	1.8
04	2.000	1.98	-0.8	05	5.000	4.47	-10.6	06	10.000	8.33	-16.7

Mirex

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.250	25.1	14	0.500	0.520	3.9	15	1.000	1.00	0.2
16	2.000	1.90	-5.1	17	5.000	4.64	-7.3	18	10.000	8.32	-16.8

Oxychlordane

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.245	22.3	14	0.500	0.513	2.5	15	1.000	1.03	2.6
16	2.000	1.90	-4.9	17	5.000	4.62	-7.7	18	10.000	8.52	-14.8

Perthane

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
14	2.500	2.92	17.0	15	5.000	5.34	6.8	16	10.000	10.0	0.0
17	25.000	23.6	-5.4	18	50.000	45.3	-9.4	19	100.000	91.0	-9.0

alpha-BHC

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.228	13.9	02	0.500	0.519	3.7	03	1.000	1.02	1.9
04	2.000	2.00	-0.2	05	5.000	4.62	-7.7	06	10.000	8.83	-11.7

alpha-Chlordane

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.235	17.7	02	0.500	0.545	9.0	03	1.000	1.05	5.0
04	2.000	1.95	-2.5	05	5.000	4.46	-10.8	06	10.000	8.16	-18.4

beta-BHC

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.241	20.7	02	0.500	0.507	1.3	03	1.000	1.06	6.1
04	2.000	1.99	-0.7	05	5.000	4.53	-9.3	06	10.000	8.18	-18.2

beta-Chlordane

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.242	21.2	02	0.500	0.552	10.4	03	1.000	1.03	2.5
04	2.000	1.95	-2.6	05	5.000	4.40	-12.1	06	10.000	8.05	-19.5

cis-Nonachlor

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.220	10.2	14	0.500	0.534	6.8	15	1.000	1.02	1.9
16	2.000	1.92	-4.0	17	5.000	4.79	-4.2	18	10.000	8.92	-10.8

delta-BHC

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.232	16.2	02	0.500	0.528	5.5	03	1.000	1.02	1.6
04	2.000	1.99	-0.5	05	5.000	4.52	-9.5	06	10.000	8.67	-13.3

gamma-BHC (Lindane)

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.234	16.9	02	0.500	0.523	4.5	03	1.000	1.01	1.0
04	2.000	1.97	-1.3	05	5.000	4.60	-8.0	06	10.000	8.68	-13.2

trans-Nonachlor

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.238	18.9	14	0.500	0.523	4.7	15	1.000	1.01	0.9
16	2.000	1.90	-4.9	17	5.000	4.69	-6.3	18	10.000	8.67	-13.3

Chlordane {1}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	2.27	13.6	30	5.000	5.23	4.5	31	10.000	10.5	5.5
32	20.000	20.9	4.5	33	50.000	47.6	-4.7	34	100.000	92.1	-7.9
35	200.000	169	-15.4								

Chlordane {2}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	2.22	11.2	30	5.000	5.21	4.1	31	10.000	10.5	4.9
32	20.000	20.6	3.0	33	50.000	48.6	-2.9	34	100.000	92.4	-7.6
35	200.000	174	-12.8								

Chlordane {3}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	2.03	1.4	30	5.000	5.61	12.2	31	10.000	11.0	10.4
32	20.000	20.7	3.6	33	50.000	49.3	-1.4	34	100.000	91.4	-8.6
35	200.000	165	-17.6								

Chlordane {4}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

29	2.000	2.26	12.8	30	5.000	5.38	7.7	31	10.000	10.8	7.7
32	20.000	19.8	-1.0	33	50.000	47.8	-4.4	34	100.000	91.6	-8.4
35	200.000	171	-14.3								

Chlordane {5}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	2.32	16.0	30	5.000	5.37	7.3	31	10.000	10.8	7.7
32	20.000	19.5	-2.5	33	50.000	47.8	-4.3	34	100.000	91.1	-8.9
35	200.000	170	-15.2								

Chlordane {6}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	2.45	22.5	30	5.000	5.30	5.9	31	10.000	10.5	4.5
32	20.000	19.7	-1.7	33	50.000	47.6	-4.8	34	100.000	90.4	-9.6
35	200.000	166	-16.9								

Toxaphene {1}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	8.57	-14.3	23	25.000	29.2	16.7	24	50.000	60.7	21.3
25	100.000	111	11.4	26	250.000	216	-13.5	27	500.000	392	-21.6

Toxaphene {2}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	12.6	26.2	23	25.000	26.5	5.8	24	50.000	53.5	7.1
25	100.000	95.3	-4.7	26	250.000	217	-13.2	27	500.000	394	-21.2

Toxaphene {3}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	12.0	19.6	23	25.000	27.2	8.6	24	50.000	53.3	6.6
25	100.000	99.4	-0.6	26	250.000	214	-14.3	27	500.000	400	-19.9

Toxaphene {4}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	9.47	-5.3	23	25.000	26.5	5.9	24	50.000	56.0	11.9
25	100.000	104	4.4	26	250.000	240	-4.0	27	500.000	436	-12.8

Toxaphene {5}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	11.0	10.5	23	25.000	26.4	5.7	24	50.000	52.7	5.4
25	100.000	105	4.6	26	250.000	231	-7.7	27	500.000	407	-18.6

Toxaphene {6}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	10.4	4.2	23	25.000	23.1	-7.5	24	50.000	50.1	0.2
25	100.000	105	4.9	26	250.000	244	-2.3	27	500.000	502	0.5

PCB 209

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.223	11.7	02	0.500	0.550	9.9	03	1.000	1.06	6.2
04	2.000	2.05	2.4	05	5.000	4.46	-10.8	06	10.000	8.06	-19.4

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB XLB

Tetrachloro-m-xylene

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.232	16.1	02	0.500	0.532	6.4	03	1.000	1.02	2.2
04	2.000	2.02	0.8	05	5.000	4.53	-9.5	06	10.000	8.39	-16.1

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

#	Lab Code	Sample Name	File Location	Aquisition Date
01	KC2000190-01	81 0.2PPB GCPS8-74N @10X	J:\GC23\data\040620ICAL\0406F005.D\0406F005c.d	04/06/2020 12:53
02	KC2000190-02	81 0.5PPB GCPS8-74N @4X	J:\GC23\data\040620ICAL\0406F006.D\0406F006c.d	04/06/2020 13:23
03	KC2000190-03	81 1PPB GCPS8-74N @2X	J:\GC23\data\040620ICAL\0406F007.D\0406F007c.d	04/06/2020 13:53
04	KC2000190-04	81 2PPB GCPS8-74N	J:\GC23\data\040620ICAL\0406F008.D\0406F008c.d	04/06/2020 14:23
05	KC2000190-05	81 5PPB GCPS8-74O @2X	J:\GC23\data\040620ICAL\0406F009.D\0406F009c.d	04/06/2020 14:53
06	KC2000190-06	81 10PPB GCPS8-74O	J:\GC23\data\040620ICAL\0406F010.D\0406F010c.d	04/06/2020 15:22
08	KC2000190-08	24 0.2PPB GCPS8-74B @10X	J:\GC23\data\040620ICAL\0406F012.D\0406F012c.d	04/06/2020 16:22
09	KC2000190-09	24 1PPB GCPS8-74B @2X	J:\GC23\data\040620ICAL\0406F014.D\0406F014c.d	04/06/2020 17:21
10	KC2000190-10	24 2PPB GCPS8-74B	J:\GC23\data\040620ICAL\0406F015.D\0406F015c.d	04/06/2020 17:51
11	KC2000190-11	24 5PPB GCPS8-74A @2X	J:\GC23\data\040620ICAL\0406F016.D\0406F016c.d	04/06/2020 18:20
12	KC2000190-12	24 10PPB GCPS8-74A	J:\GC23\data\040620ICAL\0406F017.D\0406F017c.d	04/06/2020 18:50
13	KC2000190-13	M/P .2/1PPB GCPS8-76D @10X	J:\GC23\data\040620ICAL\0406F019.D\0406F019c.d	04/06/2020 19:49
14	KC2000190-14	M/P .5/2.5PPB GCPS8-76D @4X	J:\GC23\data\040620ICAL\0406F020.D\0406F020c.d	04/06/2020 20:19
15	KC2000190-15	M/P 1/5PPB GCPS8-76D @2X	J:\GC23\data\040620ICAL\0406F021.D\0406F021c.d	04/06/2020 20:49
16	KC2000190-16	M/P 2/10PPB GCPS8-76D	J:\GC23\data\040620ICAL\0406F022.D\0406F022c.d	04/06/2020 21:18
17	KC2000190-17	M/P 5/25PPB GCPS8-74G @2X	J:\GC23\data\040620ICAL\0406F023.D\0406F023c.d	04/06/2020 21:48
18	KC2000190-18	M/P 10/50PPB GCPS8-74G	J:\GC23\data\040620ICAL\0406F024.D\0406F024c.d	04/06/2020 22:18
19	KC2000190-19	PERTH 100PPB GCPS8-72A @50X	J:\GC23\data\040620ICAL\0406F025.D\0406F025c.d	04/06/2020 22:47
22	KC2000190-22	TOX 10PPB GCPS8-74H @10X	J:\GC23\data\040620ICAL\0406F028.D\0406F028c.d	04/07/2020 00:16
23	KC2000190-23	TOX 25PPB GCPS8-7H4H@4X	J:\GC23\data\040620ICAL\0406F029.D\0406F029c.d	04/07/2020 00:46
24	KC2000190-24	TOX 50PPB GCPS8-74H @2X	J:\GC23\data\040620ICAL\0406F030.D\0406F030c.d	04/07/2020 01:15
25	KC2000190-25	TOX 100PPB GCPS8-74H	J:\GC23\data\040620ICAL\0406F031.D\0406F031c.d	04/07/2020 01:45
26	KC2000190-26	TOX 250PPB GCPS8-74I @2X	J:\GC23\data\040620ICAL\0406F032.D\0406F032c.d	04/07/2020 02:15
27	KC2000190-27	TOX 500PPB GCPS8-74I	J:\GC23\data\040620ICAL\0406F033.D\0406F033c.d	04/07/2020 02:44
29	KC2000190-29	CHLOR 2PPB GCPS8-74M @10X	J:\GC23\data\040620ICAL\0406F035.D\0406F035c.d	04/07/2020 03:43
30	KC2000190-30	CHLOR 5PPB GCPS8-74M @4X	J:\GC23\data\040620ICAL\0406F036.D\0406F036c.d	04/07/2020 04:13
31	KC2000190-31	CHLOR 10PPB GCPS8-74M @2X	J:\GC23\data\040620ICAL\0406F037.D\0406F037c.d	04/07/2020 04:43
32	KC2000190-32	CHLOR 20PPB GCPS8-74M	J:\GC23\data\040620ICAL\0406F038.D\0406F038c.d	04/07/2020 05:12
33	KC2000190-33	CHLOR 50PPB GCPS8-74C @4X	J:\GC23\data\040620ICAL\0406F039.D\0406F039c.d	04/07/2020 05:42
34	KC2000190-34	CHLOR 100PPB GCPS8-74C @2X	J:\GC23\data\040620ICAL\0406F040.D\0406F040c.d	04/07/2020 06:12
35	KC2000190-35	CHLOR 200PPB GCPS8-74C	J:\GC23\data\040620ICAL\0406F041.D\0406F041c.d	04/07/2020 06:41
37	KC2000190-37	24 0.5PPB GCPS8-74B @4X	J:\GC23\data\040720ICAL\0407F005.D\0407F005c.d	04/07/2020 10:59

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

Analyte **Curve Fit** **Weighting**

2,4'-DDD

Average RF | RSD = 2.151 | Average RF = 8.006E-1

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
08	0.200	0.7893	09	1.000	0.8096	10	2.000	0.7749	11	5.000	0.8246
12	10.000	0.7988	37	0.500	0.8064						

2,4'-DDE

Average RF | RSD = 4.601 | Average RF = 9.232E-1

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
08	0.200	0.9844	09	1.000	0.9202	10	2.000	0.8758	11	5.000	0.957
12	10.000	0.9219	37	0.500	0.8799						

2,4'-DDT

Average RF | RSD = 7.183 | Average RF = 8.682E-1

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
08	0.200	0.9769	09	1.000	0.8639	10	2.000	0.8075	11	5.000	0.8851
12	10.000	0.8678	37	0.500	0.8079						

4,4'-DDD

Average RF | RSD = 7.712 | Average RF = 1.059E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.125	02	0.500	1.171	03	1.000	1.05	04	2.000	1.063
05	5.000	0.99	06	10.000	0.9514						

4,4'-DDE

Average RF | RSD = 12.03 | Average RF = 1.414E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.716	02	0.500	1.461	03	1.000	1.411	04	2.000	1.382
05	5.000	1.286	06	10.000	1.23						

4,4'-DDT

Average RF | RSD = 4.317 | Average RF = 1.021E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.027	02	0.500	1.083	03	1.000	1.03	04	2.000	1.042
05	5.000	0.9774	06	10.000	0.9632						

Aldrin

Average RF | RSD = 9.854 | Average RF = 1.576E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.855	02	0.500	1.641	03	1.000	1.563	04	2.000	1.491
05	5.000	1.47	06	10.000	1.436						

Chlorpyrifos

Average RF | RSD = 4.4 | Average RF = 6.276E-1

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	0.6431	14	0.500	0.5847	15	1.000	0.6669	16	2.000	0.6213
17	5.000	0.6331	18	10.000	0.6167						

Dieldrin

Average RF | RSD = 6.744 | Average RF = 1.469E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.605	02	0.500	1.534	03	1.000	1.5	04	2.000	1.457
05	5.000	1.377	06	10.000	1.339						

Endosulfan I

Average RF | RSD = 9.308 | Average RF = 1.346E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.547	02	0.500	1.408	03	1.000	1.366	04	2.000	1.312
05	5.000	1.248	06	10.000	1.194						

Endosulfan II

Average RF | RSD = 9.941 | Average RF = 1.263E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.468	02	0.500	1.293	03	1.000	1.301	04	2.000	1.247

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

05	5.000	1.162	06	10.000	1.108

Endosulfan Sulfate — Average RF — RSD = 8.995 — Average RF = 1.246E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.4	02	0.500	1.28	03	1.000	1.301	04	2.000	1.258
05	5.000	1.145	06	10.000	1.089						

Endrin — Average RF — RSD = 8.631 — Average RF = 1.398E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.498	02	0.500	1.527	03	1.000	1.446	04	2.000	1.413
05	5.000	1.273	06	10.000	1.231						

Endrin Aldehyde — Average RF — RSD = 6.937 — Average RF = 1.046E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.13	02	0.500	1.093	03	1.000	1.087	04	2.000	1.043
05	5.000	0.9859	06	10.000	0.9375						

Endrin Ketone — Average RF — RSD = 8.534 — Average RF = 1.49E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.619	02	0.500	1.633	03	1.000	1.515	04	2.000	1.477
05	5.000	1.381	06	10.000	1.314						

Heptachlor — Average RF — RSD = 10.36 — Average RF = 1.567E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.831	02	0.500	1.63	03	1.000	1.611	04	2.000	1.517
05	5.000	1.425	06	10.000	1.385						

Heptachlor Epoxide — Average RF — RSD = 10.82 — Average RF = 1.545E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.823	02	0.500	1.592	03	1.000	1.592	04	2.000	1.508
05	5.000	1.408	06	10.000	1.349						

Hexachlorobenzene — Average RF — RSD = 9.3 — Average RF = 1.592E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.731	02	0.500	1.743	03	1.000	1.652	04	2.000	1.585
05	5.000	1.472	06	10.000	1.37						

Hexachlorobutadiene — Average RF — RSD = 7.455 — Average RF = 1.891E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	2.136	14	0.500	1.935	15	1.000	1.81	16	2.000	1.721
17	5.000	1.892	18	10.000	1.85						

Hexachloroethane — Average RF — RSD = 8.381 — Average RF = 2.335E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	2.686	14	0.500	2.273	15	1.000	2.207	16	2.000	2.123
17	5.000	2.334	18	10.000	2.388						

Isodrin — Average RF — RSD = 8.391 — Average RF = 1.319E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.486	02	0.500	1.418	03	1.000	1.296	04	2.000	1.254
05	5.000	1.268	06	10.000	1.192						

Methoxychlor — Average RF — RSD = 7.805 — Average RF = 5.665E-1

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	0.6406	02	0.500	0.5721	03	1.000	0.5775	04	2.000	0.5621
05	5.000	0.5366	06	10.000	0.5099						

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

Mirex

Average RF | RSD = 11.12 | Average RF = 1.114E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	1.334	14	0.500	1.166	15	1.000	1.105	16	2.000	1.035
17	5.000	1.05	18	10.000	0.9912						

Oxychlordane

Average RF | RSD = 9.615 | Average RF = 1.413E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	1.653	14	0.500	1.483	15	1.000	1.39	16	2.000	1.315
17	5.000	1.342	18	10.000	1.293						

Perthane

Average RF | RSD = 5.192 | Average RF = 0.03664

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
14	2.500	0.03488	15	5.000	0.03969	16	10.000	0.03763	17	25.000	0.03647
18	50.000	0.03448	19	100.000	0.03667						

alpha-BHC

Average RF | RSD = 5.133 | Average RF = 1.585E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.715	02	0.500	1.615	03	1.000	1.611	04	2.000	1.564
05	5.000	1.513	06	10.000	1.49						

alpha-Chlordane

Average RF | RSD = 11.18 | Average RF = 1.513E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.792	02	0.500	1.591	03	1.000	1.537	04	2.000	1.464
05	5.000	1.376	06	10.000	1.32						

beta-BHC

Average RF | RSD = 7.651 | Average RF = 7.517E-1

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	0.8065	02	0.500	0.7783	03	1.000	0.7993	04	2.000	0.7648
05	5.000	0.6932	06	10.000	0.6682						

beta-Chlordane

Average RF | RSD = 9.496 | Average RF = 1.494E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.731	02	0.500	1.55	03	1.000	1.511	04	2.000	1.466
05	5.000	1.374	06	10.000	1.333						

cis-Nonachlor

Average RF | RSD = 4.499 | Average RF = 1.474E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	1.562	14	0.500	1.542	15	1.000	1.47	16	2.000	1.391
17	5.000	1.452	18	10.000	1.426						

delta-BHC

Average RF | RSD = 5.345 | Average RF = 1.508E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.641	02	0.500	1.539	03	1.000	1.524	04	2.000	1.495
05	5.000	1.429	06	10.000	1.423						

gamma-BHC (Lindane)

Average RF | RSD = 7.589 | Average RF = 1.543E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.717	02	0.500	1.634	03	1.000	1.541	04	2.000	1.514
05	5.000	1.444	06	10.000	1.404						

trans-Nonachlor

Average RF | RSD = 6.293 | Average RF = 1.455E0

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
13	0.200	1.624	14	0.500	1.487	15	1.000	1.436	16	2.000	1.371
17	5.000	1.42	18	10.000	1.394						

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

Chlordane {1} Average RF RSD = 8.073 Average RF = 0.05459

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.05908	30	5.000	0.05878	31	10.000	0.05722	32	20.000	0.05631
33	50.000	0.0525	34	100.000	0.05064	35	200.000	0.04759			

Chlordane {2} Average RF RSD = 6.784 Average RF = 0.03723

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.0354	30	5.000	0.04229	31	10.000	0.03799	32	20.000	0.03668
33	50.000	0.03754	34	100.000	0.03616	35	200.000	0.03454			

Chlordane {3} Average RF RSD = 17.09 Average RF = 0.02471

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.01829	30	5.000	0.01955	31	10.000	0.02989	32	20.000	0.02723
33	50.000	0.02664	34	100.000	0.02612	35	200.000	0.02526			

Chlordane {4} Average RF RSD = 3.223 Average RF = 0.1497

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.1601	30	5.000	0.1501	31	10.000	0.1482	32	20.000	0.1452
33	50.000	0.1476	34	100.000	0.1484	35	200.000	0.1482			

Chlordane {5} Average RF RSD = 7.621 Average RF = 0.09165

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.1068	30	5.000	0.09056	31	10.000	0.09251	32	20.000	0.0898
33	50.000	0.08808	34	100.000	0.08745	35	200.000	0.08635			

Chlordane {6} Average RF RSD = 5.024 Average RF = 0.1327

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
29	2.000	0.146	30	5.000	0.1345	31	10.000	0.1351	32	20.000	0.1299
33	50.000	0.1274	34	100.000	0.128	35	200.000	0.1278			

Toxaphene {1} Average RF RSD = 11.78 Average RF = 0.02222

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.02628	23	25.000	0.02341	24	50.000	0.02298	25	100.000	0.02181
26	250.000	0.01951	27	500.000	0.01935						

Toxaphene {2} Average RF RSD = 9.685 Average RF = 0.0171

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01948	23	25.000	0.01792	24	50.000	0.01798	25	100.000	0.0165
26	250.000	0.01561	27	500.000	0.01509						

Toxaphene {3} Quadratic 1/X COD = 0.9984 Y= -0.0004555 X² + 0.02111 X + 0.001234

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.03205	23	25.000	0.0279	24	50.000	0.02158	25	100.000	0.02365
26	250.000	0.0197	27	500.000	0.01921						

Toxaphene {4} Quadratic 1/X COD = 0.9996 Y= -0.0001371 X² + 0.007594 X + 3.814E-4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01198	23	25.000	0.008069	24	50.000	0.008556	25	100.000	0.0081
26	250.000	0.007287	27	500.000	0.007003						

Toxaphene {5} Average RF RSD = 9.357 Average RF = 0.01197

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.01356	23	25.000	0.01291	24	50.000	0.01206	25	100.000	0.01169
26	250.000	0.01085	27	500.000	0.01074						

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

Toxaphene {6} **Average RF** **RSD = 6.93** **Average RF = 0.006484**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
22	10.000	0.006301	23	25.000	0.007277	24	50.000	0.006643	25	100.000	0.00651
26	250.000	0.006038	27	500.000	0.006135						

PCB 209 **Average RF** **RSD = 16.25** **Average RF = 1.612E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	2	02	0.500	1.78	03	1.000	1.643	04	2.000	1.579
05	5.000	1.402	06	10.000	1.269						

Tetrachloro-m-xylene **Average RF** **RSD = 5.818** **Average RF = 1.239E0**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.200	1.295	02	0.500	1.306	03	1.000	1.26	04	2.000	1.269
05	5.000	1.185	06	10.000	1.12						

Analyte

2,4'-DDD

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
08	0.200	0.197	-1.4	09	1.000	1.01	1.1	10	2.000	1.94	-3.2
11	5.000	5.15	3.0	12	10.000	9.98	-0.2	37	0.500	0.504	0.7

2,4'-DDE

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
08	0.200	0.213	6.6	09	1.000	0.997	-0.3	10	2.000	1.90	-5.1
11	5.000	5.18	3.7	12	10.000	9.99	-0.1	37	0.500	0.477	-4.7

2,4'-DDT

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
08	0.200	0.225	12.5	09	1.000	0.995	-0.5	10	2.000	1.86	-7.0
11	5.000	5.10	1.9	12	10.000	10.0	-0.0	37	0.500	0.465	-6.9

4,4'-DDD

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.213	6.3	02	0.500	0.553	10.6	03	1.000	0.992	-0.8
04	2.000	2.01	0.4	05	5.000	4.68	-6.5	06	10.000	8.99	-10.1

4,4'-DDE

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.243	21.4	02	0.500	0.516	3.3	03	1.000	0.997	-0.3
04	2.000	1.95	-2.3	05	5.000	4.55	-9.1	06	10.000	8.70	-13.0

4,4'-DDT

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.201	0.6	02	0.500	0.531	6.2	03	1.000	1.01	1.0
04	2.000	2.04	2.1	05	5.000	4.79	-4.2	06	10.000	9.44	-5.6

Aldrin

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.235	17.7	02	0.500	0.521	4.1	03	1.000	0.992	-0.8

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

04	2.000	1.89	-5.4	05	5.000	4.66	-6.7	06	10.000	9.11	-8.9

Chlorpyrifos

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.205	2.5	14	0.500	0.466	-6.8	15	1.000	1.06	6.2
16	2.000	1.98	-1.0	17	5.000	5.04	0.9	18	10.000	9.83	-1.7

Dieldrin

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.219	9.3	02	0.500	0.522	4.5	03	1.000	1.02	2.1
04	2.000	1.98	-0.8	05	5.000	4.69	-6.2	06	10.000	9.12	-8.8

Endosulfan I

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.230	14.9	02	0.500	0.523	4.6	03	1.000	1.02	1.5
04	2.000	1.95	-2.5	05	5.000	4.64	-7.2	06	10.000	8.87	-11.3

Endosulfan II

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.232	16.2	02	0.500	0.512	2.4	03	1.000	1.03	3.0
04	2.000	1.97	-1.3	05	5.000	4.60	-8.0	06	10.000	8.77	-12.3

Endosulfan Sulfate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.225	12.4	02	0.500	0.514	2.8	03	1.000	1.04	4.4
04	2.000	2.02	1.0	05	5.000	4.60	-8.1	06	10.000	8.75	-12.5

Endrin

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.214	7.1	02	0.500	0.546	9.2	03	1.000	1.03	3.4
04	2.000	2.02	1.1	05	5.000	4.55	-9.0	06	10.000	8.80	-12.0

Endrin Aldehyde

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.216	8.0	02	0.500	0.522	4.5	03	1.000	1.04	4.0
04	2.000	1.99	-0.3	05	5.000	4.71	-5.7	06	10.000	8.96	-10.4

Endrin Ketone

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.217	8.7	02	0.500	0.548	9.6	03	1.000	1.02	1.7
04	2.000	1.98	-0.9	05	5.000	4.63	-7.3	06	10.000	8.82	-11.8

Heptachlor

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.234	16.9	02	0.500	0.520	4.0	03	1.000	1.03	2.9
04	2.000	1.94	-3.2	05	5.000	4.55	-9.0	06	10.000	8.84	-11.6

Heptachlor Epoxide

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

01	0.200	0.236	17.9	02	0.500	0.515	3.0	03	1.000	1.03	3.0
04	2.000	1.95	-2.4	05	5.000	4.56	-8.9	06	10.000	8.73	-12.7

Hexachlorobenzene

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.217	8.7	02	0.500	0.547	9.5	03	1.000	1.04	3.8
04	2.000	1.99	-0.5	05	5.000	4.62	-7.6	06	10.000	8.60	-14.0

Hexachlorobutadiene

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.226	13.0	14	0.500	0.512	2.3	15	1.000	0.957	-4.3
16	2.000	1.82	-9.0	17	5.000	5.00	0.1	18	10.000	9.78	-2.2

Hexachloroethane

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.230	15.0	14	0.500	0.487	-2.7	15	1.000	0.945	-5.5
16	2.000	1.82	-9.1	17	5.000	5.00	-0.1	18	10.000	10.2	2.3

Isodrin

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.225	12.7	02	0.500	0.538	7.5	03	1.000	0.982	-1.8
04	2.000	1.90	-4.9	05	5.000	4.81	-3.9	06	10.000	9.04	-9.6

Methoxychlor

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.226	13.1	02	0.500	0.505	1.0	03	1.000	1.02	2.0
04	2.000	1.98	-0.8	05	5.000	4.74	-5.3	06	10.000	9.00	-10.0

Mirex

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.240	19.8	14	0.500	0.524	4.7	15	1.000	0.993	-0.7
16	2.000	1.86	-7.0	17	5.000	4.71	-5.7	18	10.000	8.90	-11.0

Oxychlordane

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.234	17.0	14	0.500	0.525	5.0	15	1.000	0.984	-1.6
16	2.000	1.86	-6.9	17	5.000	4.75	-5.0	18	10.000	9.15	-8.5

Perthane

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
14	2.500	2.38	-4.8	15	5.000	5.42	8.3	16	10.000	10.3	2.7
17	25.000	24.9	-0.5	18	50.000	47.1	-5.9	19	100.000	100	0.1

alpha-BHC

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.216	8.2	02	0.500	0.509	1.9	03	1.000	1.02	1.7
04	2.000	1.97	-1.3	05	5.000	4.77	-4.5	06	10.000	9.40	-6.0

alpha-Chlordane

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.237	18.4	02	0.500	0.526	5.1	03	1.000	1.02	1.6
04	2.000	1.93	-3.3	05	5.000	4.55	-9.1	06	10.000	8.72	-12.8

beta-BHC

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.215	7.3	02	0.500	0.518	3.5	03	1.000	1.06	6.3
04	2.000	2.03	1.7	05	5.000	4.61	-7.8	06	10.000	8.89	-11.1

beta-Chlordane

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.232	15.8	02	0.500	0.519	3.8	03	1.000	1.01	1.1
04	2.000	1.96	-1.9	05	5.000	4.60	-8.0	06	10.000	8.92	-10.8

cis-Nonachlor

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.212	6.0	14	0.500	0.523	4.6	15	1.000	0.997	-0.3
16	2.000	1.89	-5.6	17	5.000	4.93	-1.5	18	10.000	9.67	-3.3

delta-BHC

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.218	8.8	02	0.500	0.510	2.0	03	1.000	1.01	1.0
04	2.000	1.98	-0.9	05	5.000	4.74	-5.3	06	10.000	9.44	-5.6

gamma-BHC (Lindane)

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.223	11.3	02	0.500	0.530	5.9	03	1.000	0.999	-0.1
04	2.000	1.96	-1.8	05	5.000	4.68	-6.4	06	10.000	9.10	-9.0

trans-Nonachlor

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
13	0.200	0.223	11.6	14	0.500	0.511	2.2	15	1.000	0.987	-1.3
16	2.000	1.88	-5.8	17	5.000	4.88	-2.4	18	10.000	9.58	-4.2

Chlordane {1}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	2.16	8.2	30	5.000	5.38	7.7	31	10.000	10.5	4.8
32	20.000	20.6	3.1	33	50.000	48.1	-3.8	34	100.000	92.8	-7.2
35	200.000	174	-12.8								

Chlordane {2}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	1.90	-4.9	30	5.000	5.68	13.6	31	10.000	10.2	2.0
32	20.000	19.7	-1.5	33	50.000	50.4	0.8	34	100.000	97.1	-2.9
35	200.000	186	-7.2								

Chlordane {3}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	1.48	-26.0	30	5.000	3.96	-20.9	31	10.000	12.1	21.0

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

32	20.000	22.0	10.2	33	50.000	53.9	7.8	34	100.000	106	5.7
35	200.000	204	2.2								

Chlordane {4}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	2.14	7.0	30	5.000	5.01	0.3	31	10.000	9.90	-1.0
32	20.000	19.4	-3.0	33	50.000	49.3	-1.4	34	100.000	99.1	-0.9
35	200.000	198	-1.0								

Chlordane {5}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	2.33	16.5	30	5.000	4.94	-1.2	31	10.000	10.1	0.9
32	20.000	19.6	-2.0	33	50.000	48.1	-3.9	34	100.000	95.4	-4.6
35	200.000	188	-5.8								

Chlordane {6}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
29	2.000	2.20	10.0	30	5.000	5.07	1.4	31	10.000	10.2	1.8
32	20.000	19.6	-2.1	33	50.000	48.0	-4.0	34	100.000	96.5	-3.5
35	200.000	193	-3.7								

Toxaphene {1}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	11.8	18.3	23	25.000	26.3	5.4	24	50.000	51.7	3.4
25	100.000	98.1	-1.9	26	250.000	219	-12.2	27	500.000	435	-12.9

Toxaphene {2}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	11.4	13.9	23	25.000	26.2	4.8	24	50.000	52.6	5.2
25	100.000	96.5	-3.5	26	250.000	228	-8.7	27	500.000	441	-11.7

Toxaphene {3}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	9.36	-6.4	23	25.000	27.4	9.5	24	50.000	45.7	-8.5
25	100.000	109	8.8	26	250.000	240	-4.0	27	500.000	504	0.8

Toxaphene {4}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	10.8	7.7	23	25.000	21.6	-13.5	24	50.000	51.8	3.6
25	100.000	104	3.6	26	250.000	246	-1.7	27	500.000	501	0.3

Toxaphene {5}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	11.3	13.3	23	25.000	27.0	7.8	24	50.000	50.4	0.8
25	100.000	97.7	-2.3	26	250.000	227	-9.3	27	500.000	449	-10.3

Toxaphene {6}

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
22	10.000	9.72	-2.8	23	25.000	28.1	12.2	24	50.000	51.2	2.4
25	100.000	100	0.4	26	250.000	233	-6.9	27	500.000	473	-5.4

Initial Calibration - Detailed Report

Calibration ID: KC2000190 **Instrument ID:** K-GC-23
Column Name: DB-35MS

PCB 209

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.248	24.1	02	0.500	0.552	10.4	03	1.000	1.02	1.9
04	2.000	1.96	-2.1	05	5.000	4.35	-13.1	06	10.000	7.87	-21.3

Tetrachloro-m-xylene

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.200	0.209	4.5	02	0.500	0.527	5.4	03	1.000	1.02	1.7
04	2.000	2.05	2.4	05	5.000	4.78	-4.4	06	10.000	9.04	-9.6

Initial Calibration - Summary Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB

Parameter Name	Type	Curve Fit	Min RF	Mean RF	Max %RSD	%RSD	Min COD	COD	MRL Check	Conc ½ Low pt.
Tetrachloro-m-xylene	SURR	AverageRF		1.450	20	11.4			NA	
alpha-BHC	MS	AverageRF		1.668	20	9.0			OK	
Hexachlorobenzene	MS	AverageRF		1.975	20	14.9			OK	
beta-BHC	MS	AverageRF		0.892	20	13.3			OK	
gamma-BHC (Lindane)	MS	AverageRF		1.612	20	10.5			OK	
delta-BHC	MS	AverageRF		1.630	20	10.6			OK	
Heptachlor	MS	AverageRF		1.732	20	12.8			OK	
Aldrin	MS	AverageRF		1.603	20	9.9			OK	
Isodrin	MS	AverageRF		1.375	20	10.6			OK	
Heptachlor Epoxide	MS	AverageRF		1.686	20	13.4			OK	
gamma-Chlordane	MS	AverageRF		1.686	20	14.8			OK	
Endosulfan I	MS	AverageRF		1.538	20	14.2			OK	
alpha-Chlordane	MS	AverageRF		1.678	20	13.3			OK	
Dieldrin	MS	AverageRF		1.650	20	12.2			OK	
4,4'-DDE	MS	AverageRF		1.544	20	13.2			OK	
Endrin	MS	AverageRF		1.506	20	12.8			OK	
Endosulfan II	MS	AverageRF		1.526	20	15.4			OK	
4,4'-DDD	MS	AverageRF		1.193	20	10.5			OK	
Endrin Aldehyde	MS	AverageRF		1.322	20	15.7			OK	
Endosulfan Sulfate	MS	AverageRF		1.554	20	15.9			OK	
4,4'-DDT	MS	AverageRF		1.254	20	10.2			OK	
Endrin Ketone	MS	AverageRF		1.668	20	12.7			OK	
Methoxychlor	MS	AverageRF		0.760	20	13.7			OK	
2,4'-DDE	MS	AverageRF		1.079	20	6.1			OK	
2,4'-DDD	MS	AverageRF		0.947	20	8.6			OK	
2,4'-DDT	MS	AverageRF		1.084	20	9.9			OK	
Decachlorobiphenyl	SURR	AverageRF		1.779	20	12.4			NA	
Toxaphene {1}	MULTI	AverageRF		0.016	20	18.5			OK	
Toxaphene {2}	MULTI	AverageRF		0.015	20	16.8			OK	
Toxaphene {3}	MULTI	AverageRF		0.030	20	14.9			OK	
Toxaphene {4}	MULTI	AverageRF		0.020	20	9.0			OK	
Toxaphene {5}	MULTI	AverageRF		0.019	20	10.9			OK	
Toxaphene {6}	MULTI	Quadratic		0.009			0.990	0.9995	OK	3.12
Chlordane {1}	MULTI	AverageRF		0.068	20	9.8			OK	
Chlordane {2}	MULTI	AverageRF		0.086	20	8.2			OK	
Chlordane {3}	MULTI	AverageRF		0.062	20	10.5			OK	
Chlordane {4}	MULTI	AverageRF		0.188	20	9.8			OK	
Chlordane {5}	MULTI	AverageRF		0.156	20	10.8			OK	
Chlordane {6}	MULTI	AverageRF		0.114	20	12.7			OK	
Chlorpyrifos	MS	AverageRF		0.922	20	14.7			OK	
Oxychlordane	MS	AverageRF		1.593	20	12.7			OK	
cis-Nonachlor	MS	AverageRF		1.675	20	7.8			OK	
trans-Nonachlor	MS	AverageRF		1.684	20	11.1			OK	
Mirex	MS	AverageRF		1.394	20	14.2			OK	
Hexachloroethane	MS	AverageRF		2.412	20	11.1			OK	
Hexachlorobutadiene	MS	AverageRF		1.998	20	7.4			OK	
Perthane	MS	AverageRF		0.048	20	10.3			OK	

Initial Calibration - Summary Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

Parameter Name	Type	Curve Fit	Min RF	Mean RF	Max %RSD	%RSD	Min COD	COD	MRL Check	Conc ½ Low pt.
Tetrachloro-m-xylene	SURR	AverageRF		1.239	20	5.8			NA	
alpha-BHC	MS	AverageRF		1.585	20	5.1			OK	
Hexachlorobenzene	MS	AverageRF		1.592	20	9.3			OK	
beta-BHC	MS	AverageRF		0.752	20	7.7			OK	
gamma-BHC (Lindane)	MS	AverageRF		1.543	20	7.6			OK	
delta-BHC	MS	AverageRF		1.508	20	5.3			OK	
Heptachlor	MS	AverageRF		1.567	20	10.4			OK	
Aldrin	MS	AverageRF		1.576	20	9.9			OK	
Isodrin	MS	AverageRF		1.319	20	8.4			OK	
Heptachlor Epoxide	MS	AverageRF		1.545	20	10.8			OK	
gamma-Chlordane	MS	AverageRF		1.494	20	9.5			OK	
Endosulfan I	MS	AverageRF		1.346	20	9.3			OK	
alpha-Chlordane	MS	AverageRF		1.513	20	11.2			OK	
Dieldrin	MS	AverageRF		1.469	20	6.7			OK	
4,4'-DDE	MS	AverageRF		1.414	20	12.0			OK	
Endrin	MS	AverageRF		1.398	20	8.6			OK	
Endosulfan II	MS	AverageRF		1.263	20	9.9			OK	
4,4'-DDD	MS	AverageRF		1.059	20	7.7			OK	
Endrin Aldehyde	MS	AverageRF		1.046	20	6.9			OK	
Endosulfan Sulfate	MS	AverageRF		1.246	20	9.0			OK	
4,4'-DDT	MS	AverageRF		1.021	20	4.3			OK	
Endrin Ketone	MS	AverageRF		1.490	20	8.5			OK	
Methoxychlor	MS	AverageRF		0.566	20	7.8			OK	
2,4'-DDE	MS	AverageRF		0.923	20	4.6			OK	
2,4'-DDD	MS	AverageRF		0.801	20	2.2			OK	
2,4'-DDT	MS	AverageRF		0.868	20	7.2			OK	
Decachlorobiphenyl	SURR	AverageRF		1.612	20	16.2			NA	
Toxaphene {1}	MULTI	AverageRF		0.022	20	11.8			OK	
Toxaphene {2}	MULTI	AverageRF		0.017	20	9.7			OK	
Toxaphene {3}	MULTI	Quadratic		0.024			0.990	0.9984	OK	1.75
Toxaphene {4}	MULTI	Quadratic		0.008			0.990	0.9996	OK	2.87
Toxaphene {5}	MULTI	AverageRF		0.012	20	9.4			OK	
Toxaphene {6}	MULTI	AverageRF		0.006	20	6.9			OK	
Chlordane {1}	MULTI	AverageRF		0.055	20	8.1			OK	
Chlordane {2}	MULTI	AverageRF		0.037	20	6.8			OK	
Chlordane {3}	MULTI	AverageRF		0.025	20	17.1			OK	
Chlordane {4}	MULTI	AverageRF		0.150	20	3.2			OK	
Chlordane {5}	MULTI	AverageRF		0.092	20	7.6			OK	
Chlordane {6}	MULTI	AverageRF		0.133	20	5.0			OK	
Chlorpyrifos	MS	AverageRF		0.628	20	4.4			OK	
Oxychlordane	MS	AverageRF		1.413	20	9.6			OK	
cis-Nonachlor	MS	AverageRF		1.474	20	4.5			OK	
trans-Nonachlor	MS	AverageRF		1.455	20	6.3			OK	
Mirex	MS	AverageRF		1.114	20	11.1			OK	
Hexachloroethane	MS	AverageRF		2.335	20	8.4			OK	
Hexachlorobutadiene	MS	AverageRF		1.891	20	7.5			OK	
Perthane	MS	AverageRF		0.037	20	5.2			OK	

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB
		Calibration Fit:	AverageRF

#	FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
1	292786	J:\GC23\data\040620ICAL\0406F005.D	04/06/2020 12:53	04/07/2020 07:47	04/07/2020 13:34
2	292788	J:\GC23\data\040620ICAL\0406F006.D	04/06/2020 13:23	04/07/2020 07:49	04/07/2020 13:34
3	292790	J:\GC23\data\040620ICAL\0406F007.D	04/06/2020 13:53	04/07/2020 07:53	04/07/2020 13:34
4	292792	J:\GC23\data\040620ICAL\0406F008.D	04/06/2020 14:23	04/07/2020 07:56	04/07/2020 13:34
5	292794	J:\GC23\data\040620ICAL\0406F009.D	04/06/2020 14:53	04/07/2020 07:58	04/07/2020 13:34
6	292796	J:\GC23\data\040620ICAL\0406F010.D	04/06/2020 15:22	04/07/2020 08:01	04/07/2020 13:35
7	292800	J:\GC23\data\040620ICAL\0406F012.D	04/06/2020 16:22	04/07/2020 08:12	04/07/2020 13:35
8	292802	J:\GC23\data\040620ICAL\0406F014.D	04/06/2020 17:21	04/07/2020 08:15	04/07/2020 13:35
9	292804	J:\GC23\data\040620ICAL\0406F015.D	04/06/2020 17:51	04/07/2020 08:15	04/07/2020 13:35
10	292806	J:\GC23\data\040620ICAL\0406F016.D	04/06/2020 18:20	04/07/2020 08:17	04/07/2020 13:35
11	292808	J:\GC23\data\040620ICAL\0406F017.D	04/06/2020 18:50	04/07/2020 08:17	04/07/2020 13:35
12	292810	J:\GC23\data\040620ICAL\0406F019.D	04/06/2020 19:49	04/07/2020 08:22	04/07/2020 13:35
13	292812	J:\GC23\data\040620ICAL\0406F020.D	04/06/2020 20:19	04/07/2020 08:23	04/07/2020 13:35
14	292814	J:\GC23\data\040620ICAL\0406F021.D	04/06/2020 20:49	04/07/2020 08:24	04/07/2020 13:35
15	292816	J:\GC23\data\040620ICAL\0406F022.D	04/06/2020 21:18	04/07/2020 08:26	04/07/2020 13:36
16	292818	J:\GC23\data\040620ICAL\0406F023.D	04/06/2020 21:48	04/07/2020 08:27	04/07/2020 13:36
17	292820	J:\GC23\data\040620ICAL\0406F024.D	04/06/2020 22:18	04/07/2020 08:28	04/07/2020 13:36
18	292822	J:\GC23\data\040620ICAL\0406F025.D	04/06/2020 22:47	04/07/2020 08:29	04/07/2020 13:36
19	292828	J:\GC23\data\040620ICAL\0406F028.D	04/07/2020 00:16	04/07/2020 10:51	04/07/2020 13:36
20	292830	J:\GC23\data\040620ICAL\0406F029.D	04/07/2020 00:46	04/07/2020 09:47	04/07/2020 13:36
21	292832	J:\GC23\data\040620ICAL\0406F030.D	04/07/2020 01:15	04/07/2020 09:54	04/07/2020 13:36
22	292834	J:\GC23\data\040620ICAL\0406F031.D	04/07/2020 01:45	04/07/2020 09:58	04/07/2020 13:36
23	292836	J:\GC23\data\040620ICAL\0406F032.D	04/07/2020 02:15	04/07/2020 10:42	04/07/2020 13:37
24	292838	J:\GC23\data\040620ICAL\0406F033.D	04/07/2020 02:44	04/07/2020 10:48	04/07/2020 13:37
25	292842	J:\GC23\data\040620ICAL\0406F035.D	04/07/2020 03:43	04/07/2020 11:14	04/07/2020 13:37
26	292844	J:\GC23\data\040620ICAL\0406F036.D	04/07/2020 04:13	04/07/2020 11:17	04/07/2020 13:37
27	292846	J:\GC23\data\040620ICAL\0406F037.D	04/07/2020 04:43	04/07/2020 11:19	04/07/2020 13:37
28	292848	J:\GC23\data\040620ICAL\0406F038.D	04/07/2020 05:12	04/07/2020 11:21	04/07/2020 13:37
29	292850	J:\GC23\data\040620ICAL\0406F039.D	04/07/2020 05:42	04/07/2020 11:23	04/07/2020 13:37
30	292852	J:\GC23\data\040620ICAL\0406F040.D	04/07/2020 06:12	04/07/2020 11:24	04/07/2020 13:37
31	292854	J:\GC23\data\040620ICAL\0406F041.D	04/07/2020 06:41	04/07/2020 11:25	04/07/2020 13:38
32	292858	J:\GC23\data\040720ICAL\0407F005.D	04/07/2020 10:59	04/07/2020 11:38	04/07/2020 13:38

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Tetrachloro-m-xylene	1	1.683	2	1.543	3	1.482	4	1.462	5	1.312	6	1.217	1.450	11.4
alpha-BHC	1	1.900	2	1.730	3	1.700	4	1.665	5	1.540	6	1.474	1.668	9.0

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Hexachlorobenzene	1	2.333	2	2.191	3	2.087	4	1.972	5	1.715	6	1.551	1.975	14.9
beta-BHC	1	1.077	2	0.904	3	0.946	4	0.886	5	0.808	6	0.730	0.892	13.3
gamma-BHC (Lindane)	1	1.885	2	1.685	3	1.628	4	1.591	5	1.483	6	1.398	1.612	10.5
delta-BHC	1	1.895	2	1.720	3	1.656	4	1.622	5	1.475	6	1.414	1.630	10.6
Heptachlor	1	2.058	2	1.845	3	1.807	4	1.695	5	1.545	6	1.441	1.732	12.8
Aldrin	1	1.801	2	1.738	3	1.660	4	1.552	5	1.484	6	1.385	1.603	9.9
Isodrin	1	1.583	2	1.503	3	1.377	4	1.302	5	1.301	6	1.186	1.375	10.6
Heptachlor Epoxide	1	1.966	2	1.884	3	1.748	4	1.646	5	1.494	6	1.376	1.686	13.4

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
gamma-Chlordane	1	2.044	2	1.862	3	1.728	4	1.642	5	1.482	6	1.356	1.686	14.8
Endosulfan I	1	1.853	2	1.671	3	1.596	4	1.498	5	1.358	6	1.250	1.538	14.2
alpha-Chlordane	1	1.976	2	1.828	3	1.761	4	1.636	5	1.497	6	1.369	1.678	13.3
Dieldrin	1	1.890	2	1.799	3	1.760	4	1.607	5	1.473	6	1.371	1.650	12.2
4,4'-DDE	1	1.822	2	1.701	3	1.598	4	1.491	5	1.366	6	1.286	1.544	13.2
Endrin	1	1.777	2	1.642	3	1.546	4	1.474	5	1.343	6	1.253	1.506	12.8
Endosulfan II	1	1.828	2	1.720	3	1.578	4	1.501	5	1.324	6	1.203	1.526	15.4
4,4'-DDD	1	1.261	2	1.365	3	1.238	4	1.196	5	1.080	6	1.020	1.193	10.5

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Endrin Aldehyde	1	1.597	2	1.485	3	1.379	4	1.286	5	1.143	6	1.045	1.322	15.7
Endosulfan Sulfate	1	1.943	2	1.649	3	1.612	4	1.534	5	1.352	6	1.236	1.554	15.9
4,4'-DDT	1	1.385	2	1.373	3	1.306	4	1.253	5	1.133	6	1.074	1.254	10.2
Endrin Ketone	1	1.962	2	1.822	3	1.709	4	1.631	5	1.502	6	1.382	1.668	12.7
Methoxychlor	1	0.937	2	0.783	3	0.774	4	0.754	5	0.680	6	0.633	0.760	13.7
2,4'-DDE	7	1.174	8	1.104	9	1.020	10	1.061	11	0.995			1.079	6.1
			32	1.118										
2,4'-DDD	7	1.104	8	0.938	9	0.888	10	0.931	11	0.877			0.947	8.6
			32	0.944										
2,4'-DDT	7	1.281	8	1.074	9	1.000	10	1.046	11	0.985			1.084	9.9
			32	1.116										

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Decachlorobiphenyl	1	1.987	2	1.956	3	1.889	4	1.822	5	1.587	6	1.435	1.779	12.4
Toxaphene {1}													0.016	18.5
	19	0.014	20	0.019	21	0.020	22	0.018	23	0.014	24	0.013		
Toxaphene {2}													0.015	16.8
	19	0.019	20	0.016	21	0.016	22	0.014	23	0.013	24	0.012		
Toxaphene {3}													0.030	14.9
	19	0.035	20	0.032	21	0.032	22	0.029	23	0.025	24	0.024		
Toxaphene {4}													0.020	9.0
	19	0.019	20	0.021	21	0.022	22	0.021	23	0.019	24	0.017		
Toxaphene {5}													0.019	10.9
	19	0.021	20	0.020	21	0.020	22	0.020	23	0.018	24	0.015		
Toxaphene {6}													0.009	19.1#
	19	0.012	20	0.009	21	0.009	22	0.009	23	0.008	24	0.007		
Chlordane {1}													0.068	9.8
	25	0.077	26	0.071	27	0.072	28	0.071	29	0.065	30	0.063		
	31	0.058												

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB
		Calibration Fit:	AverageRF

Parameter Name	# RF	# RF	# RF	# RF	# RF	# RF	Mean RF	%RSD
Chlordane {2}							0.086	8.2
	25 0.096	26 0.090	27 0.091	28 0.089	29 0.084	30 0.080		
	31 0.075							
Chlordane {3}							0.062	10.5
	25 0.063	26 0.070	27 0.068	28 0.064	29 0.061	30 0.057		
	31 0.051							
Chlordane {4}							0.188	9.8
	25 0.212	26 0.203	27 0.203	28 0.186	29 0.180	30 0.172		
	31 0.161							
Chlordane {5}							0.156	10.8
	25 0.180	26 0.167	27 0.168	28 0.152	29 0.149	30 0.142		
	31 0.132							
Chlordane {6}							0.114	12.7
	25 0.140	26 0.121	27 0.119	28 0.112	29 0.109	30 0.103		
	31 0.095							
Chlorpyrifos						12 1.178	0.922	14.7
	13 0.926	14 0.920	15 0.865	16 0.853	17 0.788			
Oxychlordane						12 1.948	1.593	12.7
	13 1.633	14 1.634	15 1.514	16 1.471	17 1.357			
cis-Nonachlor						12 1.846	1.675	7.8
	13 1.789	14 1.707	15 1.609	16 1.604	17 1.494			

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB
		Calibration Fit:	AverageRF

Parameter Name	# RF	# RF	# RF	# RF	# RF	# RF	Mean RF	%RSD
trans-Nonachlor						12 2.001	1.684	11.1
	13 1.762	14 1.700	15 1.602	16 1.578	17 1.460			
Mirex						12 1.745	1.394	14.2
	13 1.449	14 1.397	15 1.323	16 1.293	17 1.160			
Hexachloroethane						12 2.902	2.412	11.1
	13 2.512	14 2.377	15 2.193	16 2.277	17 2.210			
Hexachlorobutadiene						12 2.224	1.998	7.4
	13 2.097	14 2.018	15 1.896	16 1.928	17 1.822			
Perthane							0.048	10.3
	13 0.056	14 0.051	15 0.048	16 0.045	17 0.043	18 0.043		

 # RSD Not Applicable. Compound being quantitated from curve. Included in Average RF summary for Average %RSD calculation.

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB
		Calibration Fit:	Quadratic

FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
292786	J:\GC23\data\040620ICAL\0406F005.D	04/06/2020 12:53	04/07/2020 07:47	04/07/2020 13:34
292788	J:\GC23\data\040620ICAL\0406F006.D	04/06/2020 13:23	04/07/2020 07:49	04/07/2020 13:34
292790	J:\GC23\data\040620ICAL\0406F007.D	04/06/2020 13:53	04/07/2020 07:53	04/07/2020 13:34
292792	J:\GC23\data\040620ICAL\0406F008.D	04/06/2020 14:23	04/07/2020 07:56	04/07/2020 13:34
292794	J:\GC23\data\040620ICAL\0406F009.D	04/06/2020 14:53	04/07/2020 07:58	04/07/2020 13:34
292796	J:\GC23\data\040620ICAL\0406F010.D	04/06/2020 15:22	04/07/2020 08:01	04/07/2020 13:35
292800	J:\GC23\data\040620ICAL\0406F012.D	04/06/2020 16:22	04/07/2020 08:12	04/07/2020 13:35
292802	J:\GC23\data\040620ICAL\0406F014.D	04/06/2020 17:21	04/07/2020 08:15	04/07/2020 13:35
292804	J:\GC23\data\040620ICAL\0406F015.D	04/06/2020 17:51	04/07/2020 08:15	04/07/2020 13:35
292806	J:\GC23\data\040620ICAL\0406F016.D	04/06/2020 18:20	04/07/2020 08:17	04/07/2020 13:35
292808	J:\GC23\data\040620ICAL\0406F017.D	04/06/2020 18:50	04/07/2020 08:17	04/07/2020 13:35
292810	J:\GC23\data\040620ICAL\0406F019.D	04/06/2020 19:49	04/07/2020 08:22	04/07/2020 13:35
292812	J:\GC23\data\040620ICAL\0406F020.D	04/06/2020 20:19	04/07/2020 08:23	04/07/2020 13:35
292814	J:\GC23\data\040620ICAL\0406F021.D	04/06/2020 20:49	04/07/2020 08:24	04/07/2020 13:35
292816	J:\GC23\data\040620ICAL\0406F022.D	04/06/2020 21:18	04/07/2020 08:26	04/07/2020 13:36
292818	J:\GC23\data\040620ICAL\0406F023.D	04/06/2020 21:48	04/07/2020 08:27	04/07/2020 13:36
292820	J:\GC23\data\040620ICAL\0406F024.D	04/06/2020 22:18	04/07/2020 08:28	04/07/2020 13:36
292822	J:\GC23\data\040620ICAL\0406F025.D	04/06/2020 22:47	04/07/2020 08:29	04/07/2020 13:36
292828	J:\GC23\data\040620ICAL\0406F028.D	04/07/2020 00:16	04/07/2020 10:51	04/07/2020 13:36
292830	J:\GC23\data\040620ICAL\0406F029.D	04/07/2020 00:46	04/07/2020 09:47	04/07/2020 13:36
292832	J:\GC23\data\040620ICAL\0406F030.D	04/07/2020 01:15	04/07/2020 09:54	04/07/2020 13:36
292834	J:\GC23\data\040620ICAL\0406F031.D	04/07/2020 01:45	04/07/2020 09:58	04/07/2020 13:36
292836	J:\GC23\data\040620ICAL\0406F032.D	04/07/2020 02:15	04/07/2020 10:42	04/07/2020 13:37
292838	J:\GC23\data\040620ICAL\0406F033.D	04/07/2020 02:44	04/07/2020 10:48	04/07/2020 13:37
292842	J:\GC23\data\040620ICAL\0406F035.D	04/07/2020 03:43	04/07/2020 11:14	04/07/2020 13:37
292844	J:\GC23\data\040620ICAL\0406F036.D	04/07/2020 04:13	04/07/2020 11:17	04/07/2020 13:37
292846	J:\GC23\data\040620ICAL\0406F037.D	04/07/2020 04:43	04/07/2020 11:19	04/07/2020 13:37
292848	J:\GC23\data\040620ICAL\0406F038.D	04/07/2020 05:12	04/07/2020 11:21	04/07/2020 13:37
292850	J:\GC23\data\040620ICAL\0406F039.D	04/07/2020 05:42	04/07/2020 11:23	04/07/2020 13:37
292852	J:\GC23\data\040620ICAL\0406F040.D	04/07/2020 06:12	04/07/2020 11:24	04/07/2020 13:37
292854	J:\GC23\data\040620ICAL\0406F041.D	04/07/2020 06:41	04/07/2020 11:25	04/07/2020 13:38
292858	J:\GC23\data\040720ICAL\0407F005.D	04/07/2020 10:59	04/07/2020 11:38	04/07/2020 13:38

Parameter Name	CoefX2	CoefX	Y-intercept	COD	Mean RF
Toxaphene {6}		0.008	0.000	0.9995	0.009

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB

#	FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
1	292786	J:\GC23\data\040620ICAL\0406F005.D	04/06/2020 12:53	04/07/2020 07:47	04/07/2020 13:34
2	292788	J:\GC23\data\040620ICAL\0406F006.D	04/06/2020 13:23	04/07/2020 07:49	04/07/2020 13:34
3	292790	J:\GC23\data\040620ICAL\0406F007.D	04/06/2020 13:53	04/07/2020 07:53	04/07/2020 13:34
4	292792	J:\GC23\data\040620ICAL\0406F008.D	04/06/2020 14:23	04/07/2020 07:56	04/07/2020 13:34
5	292794	J:\GC23\data\040620ICAL\0406F009.D	04/06/2020 14:53	04/07/2020 07:58	04/07/2020 13:34
6	292796	J:\GC23\data\040620ICAL\0406F010.D	04/06/2020 15:22	04/07/2020 08:01	04/07/2020 13:35
7	292800	J:\GC23\data\040620ICAL\0406F012.D	04/06/2020 16:22	04/07/2020 08:12	04/07/2020 13:35
8	292802	J:\GC23\data\040620ICAL\0406F014.D	04/06/2020 17:21	04/07/2020 08:15	04/07/2020 13:35
9	292804	J:\GC23\data\040620ICAL\0406F015.D	04/06/2020 17:51	04/07/2020 08:15	04/07/2020 13:35
10	292806	J:\GC23\data\040620ICAL\0406F016.D	04/06/2020 18:20	04/07/2020 08:17	04/07/2020 13:35
11	292808	J:\GC23\data\040620ICAL\0406F017.D	04/06/2020 18:50	04/07/2020 08:17	04/07/2020 13:35
12	292810	J:\GC23\data\040620ICAL\0406F019.D	04/06/2020 19:49	04/07/2020 08:22	04/07/2020 13:35
13	292812	J:\GC23\data\040620ICAL\0406F020.D	04/06/2020 20:19	04/07/2020 08:23	04/07/2020 13:35
14	292814	J:\GC23\data\040620ICAL\0406F021.D	04/06/2020 20:49	04/07/2020 08:24	04/07/2020 13:35
15	292816	J:\GC23\data\040620ICAL\0406F022.D	04/06/2020 21:18	04/07/2020 08:26	04/07/2020 13:36
16	292818	J:\GC23\data\040620ICAL\0406F023.D	04/06/2020 21:48	04/07/2020 08:27	04/07/2020 13:36
17	292820	J:\GC23\data\040620ICAL\0406F024.D	04/06/2020 22:18	04/07/2020 08:28	04/07/2020 13:36
18	292822	J:\GC23\data\040620ICAL\0406F025.D	04/06/2020 22:47	04/07/2020 08:29	04/07/2020 13:36
19	292828	J:\GC23\data\040620ICAL\0406F028.D	04/07/2020 00:16	04/07/2020 10:51	04/07/2020 13:36
20	292830	J:\GC23\data\040620ICAL\0406F029.D	04/07/2020 00:46	04/07/2020 09:47	04/07/2020 13:36
21	292832	J:\GC23\data\040620ICAL\0406F030.D	04/07/2020 01:15	04/07/2020 09:54	04/07/2020 13:36
22	292834	J:\GC23\data\040620ICAL\0406F031.D	04/07/2020 01:45	04/07/2020 09:58	04/07/2020 13:36
23	292836	J:\GC23\data\040620ICAL\0406F032.D	04/07/2020 02:15	04/07/2020 10:42	04/07/2020 13:37
24	292838	J:\GC23\data\040620ICAL\0406F033.D	04/07/2020 02:44	04/07/2020 10:48	04/07/2020 13:37
25	292842	J:\GC23\data\040620ICAL\0406F035.D	04/07/2020 03:43	04/07/2020 11:14	04/07/2020 13:37
26	292844	J:\GC23\data\040620ICAL\0406F036.D	04/07/2020 04:13	04/07/2020 11:17	04/07/2020 13:37
27	292846	J:\GC23\data\040620ICAL\0406F037.D	04/07/2020 04:43	04/07/2020 11:19	04/07/2020 13:37
28	292848	J:\GC23\data\040620ICAL\0406F038.D	04/07/2020 05:12	04/07/2020 11:21	04/07/2020 13:37
29	292850	J:\GC23\data\040620ICAL\0406F039.D	04/07/2020 05:42	04/07/2020 11:23	04/07/2020 13:37
30	292852	J:\GC23\data\040620ICAL\0406F040.D	04/07/2020 06:12	04/07/2020 11:24	04/07/2020 13:37
31	292854	J:\GC23\data\040620ICAL\0406F041.D	04/07/2020 06:41	04/07/2020 11:25	04/07/2020 13:38
32	292858	J:\GC23\data\040720ICAL\0407F005.D	04/07/2020 10:59	04/07/2020 11:38	04/07/2020 13:38

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Tetrachloro-m-xylene	1	0.2	0.2321	16.1	2	0.5	0.5320	6.4	3	1	1.022	2.2
	4	2	2.017	0.8	5	5	4.526	-9.5	6	10	8.395	-16.1

Initial Calibration - Detailed Report

Calibration ID: CAL16274 **Instrument ID:** GC23
Method ID: MJ1647 **Column Name:** DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
alpha-BHC	1	0.2	0.2278	13.9	2	0.5	0.5186	3.7	3	1	1.019	1.9
	4	2	1.996	-0.2	5	5	4.615	-7.7	6	10	8.834	-11.7
Hexachlorobenzene	1	0.2	0.2363	18.1	2	0.5	0.5547	10.9	3	1	1.056	5.6
	4	2	1.997	-0.1	5	5	4.342	-13.2	6	10	7.854	-21.5
beta-BHC	1	0.2	0.2415	20.7	2	0.5	0.5067	1.3	3	1	1.061	6.1
	4	2	1.987	-0.7	5	5	4.533	-9.3	6	10	8.182	-18.2
gamma-BHC (Lindane)	1	0.2	0.2338	16.9	2	0.5	0.5226	4.5	3	1	1.010	1.0
	4	2	1.975	-1.3	5	5	4.602	-8.0	6	10	8.676	-13.2

Initial Calibration - Detailed Report

Calibration ID: CAL16274 **Instrument ID:** GC23
Method ID: MJ1647 **Column Name:** DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
delta-BHC	1	0.2	0.2324	16.2	2	0.5	0.5276	5.5	3	1	1.016	1.6
	4	2	1.990	-0.5	5	5	4.523	-9.5	6	10	8.672	-13.3
Heptachlor	1	0.2	0.2376	18.8	2	0.5	0.5327	6.5	3	1	1.044	4.4
	4	2	1.958	-2.1	5	5	4.460	-10.8	6	10	8.320	-16.8
Aldrin	1	0.2	0.2247	12.3	2	0.5	0.5419	8.4	3	1	1.035	3.5
	4	2	1.936	-3.2	5	5	4.627	-7.5	6	10	8.639	-13.6
Isodrin	1	0.2	0.2303	15.1	2	0.5	0.5463	9.3	3	1	1.001	0.1
	4	2	1.894	-5.3	5	5	4.730	-5.4	6	10	8.621	-13.8

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Heptachlor Epoxide	1	0.2	0.2333	16.7	2	0.5	0.5587	11.7	3	1	1.037	3.7
	4	2	1.953	-2.4	5	5	4.433	-11.3	6	10	8.162	-18.4
gamma-Chlordane	1	0.2	0.2425	21.2	2	0.5	0.5522	10.4	3	1	1.025	2.5
	4	2	1.948	-2.6	5	5	4.397	-12.1	6	10	8.046	-19.5
Endosulfan I	1	0.2	0.2411	20.5	2	0.5	0.5434	8.7	3	1	1.038	3.8
	4	2	1.948	-2.6	5	5	4.416	-11.7	6	10	8.129	-18.7
alpha-Chlordane	1	0.2	0.2355	17.7	2	0.5	0.5448	9.0	3	1	1.050	5.0
	4	2	1.950	-2.5	5	5	4.462	-10.8	6	10	8.160	-18.4

Initial Calibration - Detailed Report

Calibration ID: CAL16274 **Instrument ID:** GC23
Method ID: MJ1647 **Column Name:** DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Dieldrin	1	0.2	0.2291	14.5	2	0.5	0.5452	9.0	3	1	1.067	6.7
	4	2	1.947	-2.6	5	5	4.465	-10.7	6	10	8.309	-16.9
4,4'-DDE	1	0.2	0.2361	18.0	2	0.5	0.5508	10.2	3	1	1.035	3.5
	4	2	1.932	-3.4	5	5	4.422	-11.6	6	10	8.326	-16.7
Endrin	1	0.2	0.2360	18.0	2	0.5	0.5452	9.0	3	1	1.027	2.7
	4	2	1.958	-2.1	5	5	4.459	-10.8	6	10	8.322	-16.8
Endosulfan II	1	0.2	0.2396	19.8	2	0.5	0.5639	12.8	3	1	1.034	3.4
	4	2	1.967	-1.6	5	5	4.340	-13.2	6	10	7.885	-21.1

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
4,4'-DDD	1	0.2	0.2114	5.7	2	0.5	0.5719	14.4	3	1	1.037	3.7
	4	2	2.005	0.2	5	5	4.525	-9.5	6	10	8.546	-14.5
Endrin Aldehyde	1	0.2	0.2415	20.8	2	0.5	0.5614	12.3	3	1	1.043	4.3
	4	2	1.945	-2.8	5	5	4.320	-13.6	6	10	7.903	-21.0
Endosulfan Sulfate	1	0.2	0.2500	25.0	2	0.5	0.5304	6.1	3	1	1.037	3.7
	4	2	1.974	-1.3	5	5	4.350	-13.0	6	10	7.953	-20.5
4,4'-DDT	1	0.2	0.2209	10.5	2	0.5	0.5475	9.5	3	1	1.041	4.1
	4	2	1.998	-0.1	5	5	4.518	-9.6	6	10	8.565	-14.4

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Endrin Ketone	1	0.2	0.2353	17.6	2	0.5	0.5463	9.3	3	1	1.025	2.5
	4	2	1.956	-2.2	5	5	4.502	-10.0	6	10	8.283	-17.2
Methoxychlor	1	0.2	0.2465	23.2	2	0.5	0.5151	3.0	3	1	1.018	1.8
	4	2	1.984	-0.8	5	5	4.471	-10.6	6	10	8.331	-16.7
2,4'-DDE												
	7	0.2	0.2176	8.8	8	1	1.024	2.4	9	2	1.892	-5.4
	10	5	4.917	-1.7	11	10	9.223	-7.8				
					32	0.5	0.5183	3.7				
2,4'-DDD												
	7	0.2	0.2331	16.5	8	1	0.9901	-1.0	9	2	1.876	-6.2
	10	5	4.918	-1.6	11	10	9.256	-7.4				
					32	0.5	0.4986	-0.3				

Initial Calibration - Detailed Report

Calibration ID: CAL16274 **Instrument ID:** GC23
Method ID: MJ1647 **Column Name:** DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
2,4'-DDT												
	7	0.2	0.2364	18.2	8	1	0.9911	-0.9	9	2	1.846	-7.7
	10	5	4.825	-3.5	11	10	9.089	-9.1				
					32	0.5	0.5150	3.0				
Decachlorobiphenyl	1	0.2	0.2234	11.7	2	0.5	0.5496	9.9	3	1	1.062	6.2
	4	2	2.048	2.4	5	5	4.460	-10.8	6	10	8.062	-19.4
Toxaphene {1}												
	19	10	8.569	-14.3	20	25	29.19	16.7	21	50	60.66	21.3
	22	100	111.4	11.4	23	250	216.1	-13.5	24	500	392.1	-21.6
Toxaphene {2}												
	19	10	12.62	26.2	20	25	26.46	5.8	21	50	53.53	7.1
	22	100	95.28	-4.7	23	250	217.0	-13.2	24	500	394.1	-21.2

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Toxaphene {3}												
	19	10	11.96	19.6	20	25	27.16	8.6	21	50	53.30	6.6
	22	100	99.36	-0.6	23	250	214.2	-14.3	24	500	400.5	-19.9
Toxaphene {4}												
	19	10	9.466	-5.3	20	25	26.47	5.9	21	50	55.95	11.9
	22	100	104.4	4.4	23	250	239.9	-4.0	24	500	435.9	-12.8
Toxaphene {5}												
	19	10	11.05	10.5	20	25	26.44	5.7	21	50	52.69	5.4
	22	100	104.6	4.6	23	250	230.8	-7.7	24	500	407.2	-18.6
Toxaphene {6}												
	19	10	10.42	4.2	20	25	23.13	-7.5	21	50	50.10	0.2
	22	100	104.9	4.9	23	250	244.2	-2.3	24	500	502.3	0.5

Initial Calibration - Detailed Report

Calibration ID: CAL16274 **Instrument ID:** GC23
Method ID: MJ1647 **Column Name:** DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Chlordane {1}												
	25	2	2.271	13.6	26	5	5.226	4.5	27	10	10.55	5.5
	28	20	20.89	4.5	29	50	47.63	-4.7	30	100	92.10	-7.9
	31	200	169.2	-15.4								
Chlordane {2}												
	25	2	2.224	11.2	26	5	5.207	4.1	27	10	10.49	4.9
	28	20	20.60	3.0	29	50	48.57	-2.9	30	100	92.40	-7.6
	31	200	174.4	-12.8								
Chlordane {3}												
	25	2	2.029	1.4	26	5	5.611	12.2	27	10	11.04	10.4
	28	20	20.72	3.6	29	50	49.29	-1.4	30	100	91.44	-8.6
	31	200	164.7	-17.6								
Chlordane {4}												
	25	2	2.257	12.8	26	5	5.384	7.7	27	10	10.77	7.7
	28	20	19.79	-1.0	29	50	47.78	-4.4	30	100	91.59	-8.4
	31	200	171.3	-14.3								

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Chlordane {5}												
	25	2	2.319	16.0	26	5	5.367	7.3	27	10	10.77	7.7
	28	20	19.50	-2.5	29	50	47.84	-4.3	30	100	91.05	-8.9
	31	200	169.5	-15.2								
Chlordane {6}												
	25	2	2.450	22.5	26	5	5.296	5.9	27	10	10.45	4.5
	28	20	19.66	-1.7	29	50	47.62	-4.8	30	100	90.36	-9.6
	31	200	166.2	-16.9								
Chlorpyrifos												
									12	0.2	0.2556	27.8
	13	0.5	0.5021	0.4	14	1	0.9980	-0.2	15	2	1.877	-6.1
	16	5	4.629	-7.4	17	10	8.553	-14.5				
Oxychlordane												
									12	0.2	0.2445	22.3
	13	0.5	0.5127	2.5	14	1	1.026	2.6	15	2	1.901	-4.9
	16	5	4.616	-7.7	17	10	8.520	-14.8				

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
cis-Nonachlor												
									12	0.2	0.2204	10.2
	13	0.5	0.5341	6.8	14	1	1.019	1.9	15	2	1.921	-4.0
	16	5	4.789	-4.2	17	10	8.921	-10.8				
trans-Nonachlor												
									12	0.2	0.2377	18.9
	13	0.5	0.5233	4.7	14	1	1.009	0.9	15	2	1.903	-4.9
	16	5	4.685	-6.3	17	10	8.670	-13.3				
Mirex												
									12	0.2	0.2503	25.1
	13	0.5	0.5196	3.9	14	1	1.002	0.2	15	2	1.898	-5.1
	16	5	4.635	-7.3	17	10	8.320	-16.8				
Hexachloroethane												
									12	0.2	0.2406	20.3
	13	0.5	0.5208	4.2	14	1	0.9854	-1.5	15	2	1.819	-9.1
	16	5	4.721	-5.6	17	10	9.162	-8.4				

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Hexachlorobutadiene												
									12	0.2	0.2227	11.4
	13	0.5	0.5249	5.0	14	1	1.010	1.0	15	2	1.898	-5.1
	16	5	4.827	-3.5	17	10	9.119	-8.8				
Perthane												
	13	2.5	2.924	17.0	14	5	5.341	6.8	15	10	10.00	0.0
	16	25	23.65	-5.4	17	50	45.28	-9.4	18	100	91.04	-9.0

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS
		Calibration Fit:	AverageRF

#	FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
1	292787	J:\GC23\data\040620ICAL\0406F005.D\0406F005c.d	04/06/2020 12:53	04/07/2020 07:47	04/07/2020 13:34
2	292789	J:\GC23\data\040620ICAL\0406F006.D\0406F006c.d	04/06/2020 13:23	04/07/2020 07:49	04/07/2020 13:34
3	292791	J:\GC23\data\040620ICAL\0406F007.D\0406F007c.d	04/06/2020 13:53	04/07/2020 07:53	04/07/2020 13:34
4	292793	J:\GC23\data\040620ICAL\0406F008.D\0406F008c.d	04/06/2020 14:23	04/07/2020 07:56	04/07/2020 13:34
5	292795	J:\GC23\data\040620ICAL\0406F009.D\0406F009c.d	04/06/2020 14:53	04/07/2020 07:58	04/07/2020 13:34
6	292797	J:\GC23\data\040620ICAL\0406F010.D\0406F010c.d	04/06/2020 15:22	04/07/2020 08:01	04/07/2020 13:35
7	292801	J:\GC23\data\040620ICAL\0406F012.D\0406F012c.d	04/06/2020 16:22	04/07/2020 08:12	04/07/2020 13:35
8	292803	J:\GC23\data\040620ICAL\0406F014.D\0406F014c.d	04/06/2020 17:21	04/07/2020 08:15	04/07/2020 13:35
9	292805	J:\GC23\data\040620ICAL\0406F015.D\0406F015c.d	04/06/2020 17:51	04/07/2020 08:15	04/07/2020 13:35
10	292807	J:\GC23\data\040620ICAL\0406F016.D\0406F016c.d	04/06/2020 18:20	04/07/2020 08:17	04/07/2020 13:35
11	292809	J:\GC23\data\040620ICAL\0406F017.D\0406F017c.d	04/06/2020 18:50	04/07/2020 08:17	04/07/2020 13:35
12	292811	J:\GC23\data\040620ICAL\0406F019.D\0406F019c.d	04/06/2020 19:49	04/07/2020 08:22	04/07/2020 13:35
13	292813	J:\GC23\data\040620ICAL\0406F020.D\0406F020c.d	04/06/2020 20:19	04/07/2020 08:23	04/07/2020 13:35
14	292815	J:\GC23\data\040620ICAL\0406F021.D\0406F021c.d	04/06/2020 20:49	04/07/2020 08:24	04/07/2020 13:35
15	292817	J:\GC23\data\040620ICAL\0406F022.D\0406F022c.d	04/06/2020 21:18	04/07/2020 08:26	04/07/2020 13:36
16	292819	J:\GC23\data\040620ICAL\0406F023.D\0406F023c.d	04/06/2020 21:48	04/07/2020 08:27	04/07/2020 13:36
17	292821	J:\GC23\data\040620ICAL\0406F024.D\0406F024c.d	04/06/2020 22:18	04/07/2020 08:28	04/07/2020 13:36
18	292823	J:\GC23\data\040620ICAL\0406F025.D\0406F025c.d	04/06/2020 22:47	04/07/2020 08:29	04/07/2020 13:36
19	292829	J:\GC23\data\040620ICAL\0406F028.D\0406F028c.d	04/07/2020 00:16	04/07/2020 10:51	04/07/2020 13:36
20	292831	J:\GC23\data\040620ICAL\0406F029.D\0406F029c.d	04/07/2020 00:46	04/07/2020 09:47	04/07/2020 13:36
21	292833	J:\GC23\data\040620ICAL\0406F030.D\0406F030c.d	04/07/2020 01:15	04/07/2020 09:54	04/07/2020 13:36
22	292835	J:\GC23\data\040620ICAL\0406F031.D\0406F031c.d	04/07/2020 01:45	04/07/2020 09:58	04/07/2020 13:37
23	292837	J:\GC23\data\040620ICAL\0406F032.D\0406F032c.d	04/07/2020 02:15	04/07/2020 10:42	04/07/2020 13:37
24	292839	J:\GC23\data\040620ICAL\0406F033.D\0406F033c.d	04/07/2020 02:44	04/07/2020 10:48	04/07/2020 13:37
25	292843	J:\GC23\data\040620ICAL\0406F035.D\0406F035c.d	04/07/2020 03:43	04/07/2020 11:14	04/07/2020 13:37
26	292845	J:\GC23\data\040620ICAL\0406F036.D\0406F036c.d	04/07/2020 04:13	04/07/2020 11:17	04/07/2020 13:37
27	292847	J:\GC23\data\040620ICAL\0406F037.D\0406F037c.d	04/07/2020 04:43	04/07/2020 11:19	04/07/2020 13:37
28	292849	J:\GC23\data\040620ICAL\0406F038.D\0406F038c.d	04/07/2020 05:12	04/07/2020 11:21	04/07/2020 13:37
29	292851	J:\GC23\data\040620ICAL\0406F039.D\0406F039c.d	04/07/2020 05:42	04/07/2020 11:23	04/07/2020 13:37
30	292853	J:\GC23\data\040620ICAL\0406F040.D\0406F040c.d	04/07/2020 06:12	04/07/2020 11:24	04/07/2020 13:37
31	292855	J:\GC23\data\040620ICAL\0406F041.D\0406F041c.d	04/07/2020 06:41	04/07/2020 11:25	04/07/2020 13:38
32	292859	J:\GC23\data\040720ICAL\0407F005.D\0407F005c.d	04/07/2020 10:59	04/07/2020 11:38	04/07/2020 13:38

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Tetrachloro-m-xylene	1	1.295	2	1.306	3	1.260	4	1.269	5	1.185	6	1.120	1.239	5.8
alpha-BHC	1	1.715	2	1.615	3	1.611	4	1.564	5	1.513	6	1.490	1.585	5.1

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Hexachlorobenzene	1	1.731	2	1.743	3	1.652	4	1.585	5	1.472	6	1.370	1.592	9.3
beta-BHC	1	0.806	2	0.778	3	0.799	4	0.765	5	0.693	6	0.668	0.752	7.7
gamma-BHC (Lindane)	1	1.717	2	1.634	3	1.541	4	1.514	5	1.444	6	1.404	1.543	7.6
delta-BHC	1	1.641	2	1.539	3	1.524	4	1.495	5	1.429	6	1.423	1.508	5.3
Heptachlor	1	1.831	2	1.630	3	1.611	4	1.517	5	1.425	6	1.385	1.567	10.4
Aldrin	1	1.855	2	1.641	3	1.563	4	1.491	5	1.470	6	1.436	1.576	9.9
Isodrin	1	1.486	2	1.418	3	1.296	4	1.254	5	1.268	6	1.192	1.319	8.4
Heptachlor Epoxide	1	1.823	2	1.592	3	1.592	4	1.508	5	1.408	6	1.349	1.545	10.8

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
gamma-Chlordane	1	1.731	2	1.550	3	1.511	4	1.466	5	1.374	6	1.333	1.494	9.5
Endosulfan I	1	1.547	2	1.408	3	1.366	4	1.312	5	1.248	6	1.194	1.346	9.3
alpha-Chlordane	1	1.792	2	1.591	3	1.537	4	1.464	5	1.376	6	1.320	1.513	11.2
Dieldrin	1	1.605	2	1.534	3	1.500	4	1.457	5	1.377	6	1.339	1.469	6.7
4,4'-DDE	1	1.716	2	1.461	3	1.411	4	1.382	5	1.286	6	1.230	1.414	12.0
Endrin	1	1.498	2	1.527	3	1.446	4	1.413	5	1.273	6	1.231	1.398	8.6
Endosulfan II	1	1.468	2	1.293	3	1.301	4	1.247	5	1.162	6	1.108	1.263	9.9
4,4'-DDD	1	1.125	2	1.171	3	1.050	4	1.063	5	0.990	6	0.951	1.059	7.7

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Endrin Aldehyde	1	1.130	2	1.093	3	1.087	4	1.043	5	0.986	6	0.938	1.046	6.9
Endosulfan Sulfate	1	1.400	2	1.280	3	1.301	4	1.258	5	1.145	6	1.089	1.246	9.0
4,4'-DDT	1	1.027	2	1.083	3	1.030	4	1.042	5	0.977	6	0.963	1.021	4.3
Endrin Ketone	1	1.619	2	1.633	3	1.515	4	1.477	5	1.381	6	1.314	1.490	8.5
Methoxychlor	1	0.641	2	0.572	3	0.578	4	0.562	5	0.537	6	0.510	0.566	7.8
2,4'-DDE	7	0.984	8	0.920	9	0.876	10	0.957	11	0.922			0.923	4.6
			32	0.880										
2,4'-DDD	7	0.789	8	0.810	9	0.775	10	0.825	11	0.799			0.801	2.2
			32	0.806										
2,4'-DDT	7	0.977	8	0.864	9	0.808	10	0.885	11	0.868			0.868	7.2
			32	0.808										

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Decachlorobiphenyl	1	2.000	2	1.780	3	1.643	4	1.579	5	1.402	6	1.269	1.612	16.2
Toxaphene {1}													0.022	11.8
	19	0.026	20	0.023	21	0.023	22	0.022	23	0.020	24	0.019		
Toxaphene {2}													0.017	9.7
	19	0.019	20	0.018	21	0.018	22	0.016	23	0.016	24	0.015		
Toxaphene {3}													0.024	21.0#
	19	0.032	20	0.028	21	0.022	22	0.024	23	0.020	24	0.019		
Toxaphene {4}													0.008	21.2#
	19	0.012	20	0.008	21	0.009	22	0.008	23	0.007	24	0.007		
Toxaphene {5}													0.012	9.4
	19	0.014	20	0.013	21	0.012	22	0.012	23	0.011	24	0.011		
Toxaphene {6}													0.006	6.9
	19	0.006	20	0.007	21	0.007	22	0.007	23	0.006	24	0.006		
Chlordane {1}													0.055	8.1
	25	0.059	26	0.059	27	0.057	28	0.056	29	0.052	30	0.051		
	31	0.048												

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS
		Calibration Fit:	AverageRF

Parameter Name	# RF	# RF	# RF	# RF	# RF	# RF	Mean RF	%RSD
Chlordane {2}							0.037	6.8
	25 0.035	26 0.042	27 0.038	28 0.037	29 0.038	30 0.036		
	31 0.035							
Chlordane {3}							0.025	17.1
	25 0.018	26 0.020	27 0.030	28 0.027	29 0.027	30 0.026		
	31 0.025							
Chlordane {4}							0.150	3.2
	25 0.160	26 0.150	27 0.148	28 0.145	29 0.148	30 0.148		
	31 0.148							
Chlordane {5}							0.092	7.6
	25 0.107	26 0.091	27 0.093	28 0.090	29 0.088	30 0.087		
	31 0.086							
Chlordane {6}							0.133	5.0
	25 0.146	26 0.135	27 0.135	28 0.130	29 0.127	30 0.128		
	31 0.128							
Chlorpyrifos						12 0.643	0.628	4.4
	13 0.585	14 0.667	15 0.621	16 0.633	17 0.617			
Oxychlordane						12 1.653	1.413	9.6
	13 1.483	14 1.390	15 1.315	16 1.342	17 1.293			
cis-Nonachlor						12 1.562	1.474	4.5
	13 1.542	14 1.470	15 1.391	16 1.452	17 1.426			

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS
		Calibration Fit:	AverageRF

Parameter Name	# RF	# RF	# RF	# RF	# RF	# RF	Mean RF	%RSD
trans-Nonachlor						12 1.624	1.455	6.3
	13 1.487	14 1.436	15 1.371	16 1.420	17 1.394			
Mirex						12 1.334	1.114	11.1
	13 1.166	14 1.105	15 1.035	16 1.050	17 0.991			
Hexachloroethane						12 2.686	2.335	8.4
	13 2.273	14 2.207	15 2.123	16 2.334	17 2.388			
Hexachlorobutadiene						12 2.136	1.891	7.5
	13 1.935	14 1.810	15 1.721	16 1.892	17 1.850			
Perthane							0.037	5.2
	13 0.035	14 0.040	15 0.038	16 0.036	17 0.034	18 0.037		

 # RSD Not Applicable. Compound being quantitated from curve. Included in Average RF summary for Average %RSD calculation.

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS
		Calibration Fit:	Quadratic

FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
292787	J:\GC23\data\040620ICAL\0406F005.D\0406F005c.d	04/06/2020 12:53	04/07/2020 07:47	04/07/2020 13:34
292789	J:\GC23\data\040620ICAL\0406F006.D\0406F006c.d	04/06/2020 13:23	04/07/2020 07:49	04/07/2020 13:34
292791	J:\GC23\data\040620ICAL\0406F007.D\0406F007c.d	04/06/2020 13:53	04/07/2020 07:53	04/07/2020 13:34
292793	J:\GC23\data\040620ICAL\0406F008.D\0406F008c.d	04/06/2020 14:23	04/07/2020 07:56	04/07/2020 13:34
292795	J:\GC23\data\040620ICAL\0406F009.D\0406F009c.d	04/06/2020 14:53	04/07/2020 07:58	04/07/2020 13:34
292797	J:\GC23\data\040620ICAL\0406F010.D\0406F010c.d	04/06/2020 15:22	04/07/2020 08:01	04/07/2020 13:35
292801	J:\GC23\data\040620ICAL\0406F012.D\0406F012c.d	04/06/2020 16:22	04/07/2020 08:12	04/07/2020 13:35
292803	J:\GC23\data\040620ICAL\0406F014.D\0406F014c.d	04/06/2020 17:21	04/07/2020 08:15	04/07/2020 13:35
292805	J:\GC23\data\040620ICAL\0406F015.D\0406F015c.d	04/06/2020 17:51	04/07/2020 08:15	04/07/2020 13:35
292807	J:\GC23\data\040620ICAL\0406F016.D\0406F016c.d	04/06/2020 18:20	04/07/2020 08:17	04/07/2020 13:35
292809	J:\GC23\data\040620ICAL\0406F017.D\0406F017c.d	04/06/2020 18:50	04/07/2020 08:17	04/07/2020 13:35
292811	J:\GC23\data\040620ICAL\0406F019.D\0406F019c.d	04/06/2020 19:49	04/07/2020 08:22	04/07/2020 13:35
292813	J:\GC23\data\040620ICAL\0406F020.D\0406F020c.d	04/06/2020 20:19	04/07/2020 08:23	04/07/2020 13:35
292815	J:\GC23\data\040620ICAL\0406F021.D\0406F021c.d	04/06/2020 20:49	04/07/2020 08:24	04/07/2020 13:35
292817	J:\GC23\data\040620ICAL\0406F022.D\0406F022c.d	04/06/2020 21:18	04/07/2020 08:26	04/07/2020 13:36
292819	J:\GC23\data\040620ICAL\0406F023.D\0406F023c.d	04/06/2020 21:48	04/07/2020 08:27	04/07/2020 13:36
292821	J:\GC23\data\040620ICAL\0406F024.D\0406F024c.d	04/06/2020 22:18	04/07/2020 08:28	04/07/2020 13:36
292823	J:\GC23\data\040620ICAL\0406F025.D\0406F025c.d	04/06/2020 22:47	04/07/2020 08:29	04/07/2020 13:36
292829	J:\GC23\data\040620ICAL\0406F028.D\0406F028c.d	04/07/2020 00:16	04/07/2020 10:51	04/07/2020 13:36
292831	J:\GC23\data\040620ICAL\0406F029.D\0406F029c.d	04/07/2020 00:46	04/07/2020 09:47	04/07/2020 13:36
292833	J:\GC23\data\040620ICAL\0406F030.D\0406F030c.d	04/07/2020 01:15	04/07/2020 09:54	04/07/2020 13:36
292835	J:\GC23\data\040620ICAL\0406F031.D\0406F031c.d	04/07/2020 01:45	04/07/2020 09:58	04/07/2020 13:37
292837	J:\GC23\data\040620ICAL\0406F032.D\0406F032c.d	04/07/2020 02:15	04/07/2020 10:42	04/07/2020 13:37
292839	J:\GC23\data\040620ICAL\0406F033.D\0406F033c.d	04/07/2020 02:44	04/07/2020 10:48	04/07/2020 13:37
292843	J:\GC23\data\040620ICAL\0406F035.D\0406F035c.d	04/07/2020 03:43	04/07/2020 11:14	04/07/2020 13:37
292845	J:\GC23\data\040620ICAL\0406F036.D\0406F036c.d	04/07/2020 04:13	04/07/2020 11:17	04/07/2020 13:37
292847	J:\GC23\data\040620ICAL\0406F037.D\0406F037c.d	04/07/2020 04:43	04/07/2020 11:19	04/07/2020 13:37
292849	J:\GC23\data\040620ICAL\0406F038.D\0406F038c.d	04/07/2020 05:12	04/07/2020 11:21	04/07/2020 13:37
292851	J:\GC23\data\040620ICAL\0406F039.D\0406F039c.d	04/07/2020 05:42	04/07/2020 11:23	04/07/2020 13:37
292853	J:\GC23\data\040620ICAL\0406F040.D\0406F040c.d	04/07/2020 06:12	04/07/2020 11:24	04/07/2020 13:37
292855	J:\GC23\data\040620ICAL\0406F041.D\0406F041c.d	04/07/2020 06:41	04/07/2020 11:25	04/07/2020 13:38
292859	J:\GC23\data\040720ICAL\0407F005.D\0407F005c.d	04/07/2020 10:59	04/07/2020 11:38	04/07/2020 13:38

Parameter Name	CoefX2	CoefX	Y-intercept	COD	Mean RF
Toxaphene {3}		0.021	0.001	0.9984	0.024
Toxaphene {4}		0.008	0.000	0.9996	0.008

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

#	FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
1	292787	J:\GC23\data\040620ICAL\0406F005.D\0406F005c.d	04/06/2020 12:53	04/07/2020 07:47	04/07/2020 13:34
2	292789	J:\GC23\data\040620ICAL\0406F006.D\0406F006c.d	04/06/2020 13:23	04/07/2020 07:49	04/07/2020 13:34
3	292791	J:\GC23\data\040620ICAL\0406F007.D\0406F007c.d	04/06/2020 13:53	04/07/2020 07:53	04/07/2020 13:34
4	292793	J:\GC23\data\040620ICAL\0406F008.D\0406F008c.d	04/06/2020 14:23	04/07/2020 07:56	04/07/2020 13:34
5	292795	J:\GC23\data\040620ICAL\0406F009.D\0406F009c.d	04/06/2020 14:53	04/07/2020 07:58	04/07/2020 13:34
6	292797	J:\GC23\data\040620ICAL\0406F010.D\0406F010c.d	04/06/2020 15:22	04/07/2020 08:01	04/07/2020 13:35
7	292801	J:\GC23\data\040620ICAL\0406F012.D\0406F012c.d	04/06/2020 16:22	04/07/2020 08:12	04/07/2020 13:35
8	292803	J:\GC23\data\040620ICAL\0406F014.D\0406F014c.d	04/06/2020 17:21	04/07/2020 08:15	04/07/2020 13:35
9	292805	J:\GC23\data\040620ICAL\0406F015.D\0406F015c.d	04/06/2020 17:51	04/07/2020 08:15	04/07/2020 13:35
10	292807	J:\GC23\data\040620ICAL\0406F016.D\0406F016c.d	04/06/2020 18:20	04/07/2020 08:17	04/07/2020 13:35
11	292809	J:\GC23\data\040620ICAL\0406F017.D\0406F017c.d	04/06/2020 18:50	04/07/2020 08:17	04/07/2020 13:35
12	292811	J:\GC23\data\040620ICAL\0406F019.D\0406F019c.d	04/06/2020 19:49	04/07/2020 08:22	04/07/2020 13:35
13	292813	J:\GC23\data\040620ICAL\0406F020.D\0406F020c.d	04/06/2020 20:19	04/07/2020 08:23	04/07/2020 13:35
14	292815	J:\GC23\data\040620ICAL\0406F021.D\0406F021c.d	04/06/2020 20:49	04/07/2020 08:24	04/07/2020 13:35
15	292817	J:\GC23\data\040620ICAL\0406F022.D\0406F022c.d	04/06/2020 21:18	04/07/2020 08:26	04/07/2020 13:36
16	292819	J:\GC23\data\040620ICAL\0406F023.D\0406F023c.d	04/06/2020 21:48	04/07/2020 08:27	04/07/2020 13:36
17	292821	J:\GC23\data\040620ICAL\0406F024.D\0406F024c.d	04/06/2020 22:18	04/07/2020 08:28	04/07/2020 13:36
18	292823	J:\GC23\data\040620ICAL\0406F025.D\0406F025c.d	04/06/2020 22:47	04/07/2020 08:29	04/07/2020 13:36
19	292829	J:\GC23\data\040620ICAL\0406F028.D\0406F028c.d	04/07/2020 00:16	04/07/2020 10:51	04/07/2020 13:36
20	292831	J:\GC23\data\040620ICAL\0406F029.D\0406F029c.d	04/07/2020 00:46	04/07/2020 09:47	04/07/2020 13:36
21	292833	J:\GC23\data\040620ICAL\0406F030.D\0406F030c.d	04/07/2020 01:15	04/07/2020 09:54	04/07/2020 13:36
22	292835	J:\GC23\data\040620ICAL\0406F031.D\0406F031c.d	04/07/2020 01:45	04/07/2020 09:58	04/07/2020 13:37
23	292837	J:\GC23\data\040620ICAL\0406F032.D\0406F032c.d	04/07/2020 02:15	04/07/2020 10:42	04/07/2020 13:37
24	292839	J:\GC23\data\040620ICAL\0406F033.D\0406F033c.d	04/07/2020 02:44	04/07/2020 10:48	04/07/2020 13:37
25	292843	J:\GC23\data\040620ICAL\0406F035.D\0406F035c.d	04/07/2020 03:43	04/07/2020 11:14	04/07/2020 13:37
26	292845	J:\GC23\data\040620ICAL\0406F036.D\0406F036c.d	04/07/2020 04:13	04/07/2020 11:17	04/07/2020 13:37
27	292847	J:\GC23\data\040620ICAL\0406F037.D\0406F037c.d	04/07/2020 04:43	04/07/2020 11:19	04/07/2020 13:37
28	292849	J:\GC23\data\040620ICAL\0406F038.D\0406F038c.d	04/07/2020 05:12	04/07/2020 11:21	04/07/2020 13:37
29	292851	J:\GC23\data\040620ICAL\0406F039.D\0406F039c.d	04/07/2020 05:42	04/07/2020 11:23	04/07/2020 13:37
30	292853	J:\GC23\data\040620ICAL\0406F040.D\0406F040c.d	04/07/2020 06:12	04/07/2020 11:24	04/07/2020 13:37
31	292855	J:\GC23\data\040620ICAL\0406F041.D\0406F041c.d	04/07/2020 06:41	04/07/2020 11:25	04/07/2020 13:38
32	292859	J:\GC23\data\040720ICAL\0407F005.D\0407F005c.d	04/07/2020 10:59	04/07/2020 11:38	04/07/2020 13:38

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Tetrachloro-m-xylene	1	0.2	0.2089	4.5	2	0.5	0.5271	5.4	3	I	1.017	1.7
	4	2	2.048	2.4	5	5	4.780	-4.4	6	10	9.041	-9.6

Initial Calibration - Detailed Report

Calibration ID: CAL16274 **Instrument ID:** GC23
Method ID: MJ1647 **Column Name:** DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
alpha-BHC	1	0.2	0.2164	8.2	2	0.5	0.5095	1.9	3	1	1.017	1.7
	4	2	1.974	-1.3	5	5	4.774	-4.5	6	10	9.402	-6.0
Hexachlorobenzene	1	0.2	0.2175	8.7	2	0.5	0.5474	9.5	3	1	1.038	3.8
	4	2	1.991	-0.5	5	5	4.622	-7.6	6	10	8.603	-14.0
beta-BHC	1	0.2	0.2146	7.3	2	0.5	0.5177	3.5	3	1	1.063	6.3
	4	2	2.035	1.7	5	5	4.611	-7.8	6	10	8.889	-11.1
gamma-BHC (Lindane)	1	0.2	0.2226	11.3	2	0.5	0.5297	5.9	3	1	0.9992	-0.1
	4	2	1.963	-1.8	5	5	4.682	-6.4	6	10	9.102	-9.0

Initial Calibration - Detailed Report

Calibration ID: CAL16274 **Instrument ID:** GC23
Method ID: MJ1647 **Column Name:** DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
delta-BHC	1	0.2	0.2175	8.8	2	0.5	0.5102	2.0	3	1	1.010	1.0
	4	2	1.982	-0.9	5	5	4.735	-5.3	6	10	9.435	-5.6
Heptachlor	1	0.2	0.2338	16.9	2	0.5	0.5202	4.0	3	1	1.029	2.9
	4	2	1.937	-3.2	5	5	4.549	-9.0	6	10	8.838	-11.6
Aldrin	1	0.2	0.2355	17.7	2	0.5	0.5206	4.1	3	1	0.9917	-0.8
	4	2	1.892	-5.4	5	5	4.664	-6.7	6	10	9.110	-8.9
Isodrin	1	0.2	0.2253	12.7	2	0.5	0.5377	7.5	3	1	0.9823	-1.8
	4	2	1.902	-4.9	5	5	4.806	-3.9	6	10	9.038	-9.6

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Heptachlor Epoxide	1	0.2	0.2359	17.9	2	0.5	0.5152	3.0	3	1	1.030	3.0
	4	2	1.951	-2.4	5	5	4.557	-8.9	6	10	8.732	-12.7
gamma-Chlordane	1	0.2	0.2317	15.8	2	0.5	0.5188	3.8	3	1	1.011	1.1
	4	2	1.962	-1.9	5	5	4.599	-8.0	6	10	8.920	-10.8
Endosulfan I	1	0.2	0.2299	14.9	2	0.5	0.5231	4.6	3	1	1.015	1.5
	4	2	1.950	-2.5	5	5	4.638	-7.2	6	10	8.869	-11.3
alpha-Chlordane	1	0.2	0.2369	18.4	2	0.5	0.5257	5.1	3	1	1.016	1.6
	4	2	1.935	-3.3	5	5	4.547	-9.1	6	10	8.720	-12.8

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Dieldrin	1	0.2	0.2185	9.3	2	0.5	0.5223	4.5	3	1	1.021	2.1
	4	2	1.984	-0.8	5	5	4.688	-6.2	6	10	9.119	-8.8
4,4'-DDE	1	0.2	0.2427	21.4	2	0.5	0.5165	3.3	3	1	0.9974	-0.3
	4	2	1.954	-2.3	5	5	4.547	-9.1	6	10	8.697	-13.0
Endrin	1	0.2	0.2143	7.1	2	0.5	0.5461	9.2	3	1	1.034	3.4
	4	2	2.022	1.1	5	5	4.552	-9.0	6	10	8.804	-12.0
Endosulfan II	1	0.2	0.2324	16.2	2	0.5	0.5118	2.4	3	1	1.030	3.0
	4	2	1.975	-1.3	5	5	4.599	-8.0	6	10	8.772	-12.3

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
4,4'-DDD	1	0.2	0.2125	6.3	2	0.5	0.5531	10.6	3	1	0.9924	-0.8
	4	2	2.009	0.4	5	5	4.677	-6.5	6	10	8.988	-10.1
Endrin Aldehyde	1	0.2	0.2161	8.0	2	0.5	0.5223	4.5	3	1	1.040	4.0
	4	2	1.994	-0.3	5	5	4.713	-5.7	6	10	8.963	-10.4
Endosulfan Sulfate	1	0.2	0.2248	12.4	2	0.5	0.5139	2.8	3	1	1.044	4.4
	4	2	2.020	1.0	5	5	4.597	-8.1	6	10	8.745	-12.5
4,4'-DDT	1	0.2	0.2012	0.6	2	0.5	0.5308	6.2	3	1	1.010	1.0
	4	2	2.042	2.1	5	5	4.789	-4.2	6	10	9.438	-5.6

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Endrin Ketone	1	0.2	0.2174	8.7	2	0.5	0.5481	9.6	3	1	1.017	1.7
	4	2	1.983	-0.9	5	5	4.635	-7.3	6	10	8.819	-11.8
Methoxychlor	1	0.2	0.2262	13.1	2	0.5	0.5050	1.0	3	1	1.020	2.0
	4	2	1.984	-0.8	5	5	4.736	-5.3	6	10	9.001	-10.0
2,4'-DDE												
	7	0.2	0.2133	6.6	8	1	0.9968	-0.3	9	2	1.897	-5.1
	10	5	5.183	3.7	11	10	9.985	-0.1				
					32	0.5	0.4765	-4.7				
2,4'-DDD												
	7	0.2	0.1972	-1.4	8	1	1.011	1.1	9	2	1.936	-3.2
	10	5	5.150	3.0	11	10	9.978	-0.2				
					32	0.5	0.5036	0.7				

Initial Calibration - Detailed Report

Calibration ID: CAL16274 **Instrument ID:** GC23
Method ID: MJ1647 **Column Name:** DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
2,4'-DDT												
	7	0.2	0.2251	12.5	8	1	0.9950	-0.5	9	2	1.860	-7.0
	10	5	5.097	1.9	11	10	9.995	0.0				
					32	0.5	0.4653	-6.9				
Decachlorobiphenyl	1	0.2	0.2482	24.1	2	0.5	0.5521	10.4	3	1	1.019	1.9
	4	2	1.959	-2.1	5	5	4.347	-13.1	6	10	7.871	-21.3
Toxaphene {1}												
	19	10	11.83	18.3	20	25	26.34	5.4	21	50	51.71	3.4
	22	100	98.13	-1.9	23	250	219.4	-12.2	24	500	435.3	-12.9
Toxaphene {2}												
	19	10	11.39	13.9	20	25	26.20	4.8	21	50	52.58	5.2
	22	100	96.49	-3.5	23	250	228.3	-8.7	24	500	441.4	-11.7

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Toxaphene {3}												
	19	10	9.361	-6.4	20	25	27.36	9.5	21	50	45.73	-8.5
	22	100	108.8	8.8	23	250	239.9	-4.0	24	500	504.0	0.8
Toxaphene {4}												
	19	10	10.77	7.7	20	25	21.62	-13.5	21	50	51.80	3.6
	22	100	103.6	3.6	23	250	245.8	-1.7	24	500	501.5	0.3
Toxaphene {5}												
	19	10	11.33	13.3	20	25	26.96	7.8	21	50	50.38	0.8
	22	100	97.69	-2.3	23	250	226.7	-9.3	24	500	448.5	-10.3
Toxaphene {6}												
	19	10	9.718	-2.8	20	25	28.06	12.2	21	50	51.22	2.4
	22	100	100.4	0.4	23	250	232.8	-6.9	24	500	473.1	-5.4

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Chlordane {1}												
	25	2	2.165	8.2	26	5	5.384	7.7	27	10	10.48	4.8
	28	20	20.63	3.1	29	50	48.09	-3.8	30	100	92.77	-7.2
	31	200	174.4	-12.8								
Chlordane {2}												
	25	2	1.902	-4.9	26	5	5.679	13.6	27	10	10.20	2.0
	28	20	19.71	-1.5	29	50	50.42	0.8	30	100	97.14	-2.9
	31	200	185.5	-7.2								
Chlordane {3}												
	25	2	1.480	-26.0	26	5	3.956	-20.9	27	10	12.10	21.0
	28	20	22.04	10.2	29	50	53.90	7.8	30	100	105.7	5.7
	31	200	204.4	2.2								
Chlordane {4}												
	25	2	2.139	7.0	26	5	5.014	0.3	27	10	9.901	-1.0
	28	20	19.40	-3.0	29	50	49.30	-1.4	30	100	99.15	-0.9
	31	200	198.0	-1.0								

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Chlordane {5}												
	25	2	2.330	16.5	26	5	4.941	-1.2	27	10	10.09	0.9
	28	20	19.60	-2.0	29	50	48.05	-3.9	30	100	95.42	-4.6
	31	200	188.4	-5.8								
Chlordane {6}												
	25	2	2.200	10.0	26	5	5.068	1.4	27	10	10.18	1.8
	28	20	19.58	-2.1	29	50	48.02	-4.0	30	100	96.49	-3.5
	31	200	192.6	-3.7								
Chlorpyrifos												
									12	0.2	0.2049	2.5
	13	0.5	0.4658	-6.8	14	1	1.062	6.2	15	2	1.980	-1.0
	16	5	5.044	0.9	17	10	9.827	-1.7				
Oxychlordane												
									12	0.2	0.2341	17.0
	13	0.5	0.5248	5.0	14	1	0.9840	-1.6	15	2	1.862	-6.9
	16	5	4.749	-5.0	17	10	9.153	-8.5				

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
cis-Nonachlor												
									12	0.2	0.2119	6.0
	13	0.5	0.5231	4.6	14	1	0.9975	-0.3	15	2	1.888	-5.6
	16	5	4.925	-1.5	17	10	9.675	-3.3				
trans-Nonachlor												
									12	0.2	0.2231	11.6
	13	0.5	0.5110	2.2	14	1	0.9865	-1.3	15	2	1.884	-5.8
	16	5	4.880	-2.4	17	10	9.579	-4.2				
Mirex												
									12	0.2	0.2396	19.8
	13	0.5	0.5235	4.7	14	1	0.9926	-0.7	15	2	1.859	-7.0
	16	5	4.713	-5.7	17	10	8.901	-11.0				
Hexachloroethane												
									12	0.2	0.2301	15.0
	13	0.5	0.4866	-2.7	14	1	0.9450	-5.5	15	2	1.818	-9.1
	16	5	4.997	-0.1	17	10	10.23	2.3				

Initial Calibration - Detailed Report

Calibration ID:	CAL16274	**Instrument ID:**	GC23
Method ID:	MJ1647	**Column Name:**	DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Hexachlorobutadiene												
									12	0.2	0.2260	13.0
	13	0.5	0.5117	2.3	14	1	0.9575	-4.3	15	2	1.820	-9.0
	16	5	5.003	0.1	17	10	9.783	-2.2				
Perthane												
	13	2.5	2.380	-4.8	14	5	5.417	8.3	15	10	10.27	2.7
	16	25	24.88	-0.5	17	50	47.06	-5.9	18	100	100.1	0.1

Second Source Calibration Verification Summary

CalibrationID: CAL16274

Method ID: MJ1647

DataFile Location: J:\GC23\DATA\040620ICAL\0406F011.D

Units: ug/L

Column: DB XLB

Parameter Name	File ID	Curve Fit	Method Criteria	AveRF	SSV RF	% Diff	True Value	Sol'n Conc	% Drift
alpha-BHC	292798	AverageRF	20	1.668	1.439	-13.7	2.00	1.7	
Hexachlorobenzene	292798	AverageRF	20	1.975	1.716	-13.1	2.00	1.7	
beta-BHC	292798	AverageRF	20	0.892	0.763	-14.5	2.00	1.7	
gamma-BHC (Lindane)	292798	AverageRF	20	1.612	1.400	-13.2	2.00	1.7	
delta-BHC	292798	AverageRF	20	1.630	1.344	-17.6	2.00	1.6	
Heptachlor	292798	AverageRF	20	1.732	1.520	-12.2	2.00	1.8	
Aldrin	292798	AverageRF	20	1.603	1.422	-11.3	2.00	1.8	
Isodrin	292798	AverageRF	20	1.375	1.503	9.3	2.00	2.2	
Heptachlor Epoxide	292798	AverageRF	20	1.686	1.455	-13.7	2.00	1.7	
gamma-Chlordane	292798	AverageRF	20	1.686	1.456	-13.6	2.00	1.7	
Endosulfan I	292798	AverageRF	20	1.538	1.340	-12.9	2.00	1.7	
alpha-Chlordane	292798	AverageRF	20	1.678	1.454	-13.4	2.00	1.7	
Dieldrin	292798	AverageRF	20	1.650	1.347	-18.3	2.00	1.6	
4,4'-DDE	292798	AverageRF	20	1.544	1.334	-13.6	2.00	1.7	
Endrin	292798	AverageRF	20	1.506	1.301	-13.6	2.00	1.7	
Endosulfan II	292798	AverageRF	20	1.526	1.328	-13.0	2.00	1.7	
4,4'-DDD	292798	AverageRF	20	1.193	0.981	-17.8	2.00	1.6	
Endrin Aldehyde	292798	AverageRF	20	1.322	1.097	-17.1	2.00	1.7	
Endosulfan Sulfate	292798	AverageRF	20	1.554	1.253	-19.4	2.00	1.6	
4,4'-DDT	292798	AverageRF	20	1.254	1.108	-11.7	2.00	1.8	
Endrin Ketone	292798	AverageRF	20	1.668	1.420	-14.9	2.00	1.7	
Methoxychlor	292798	AverageRF	20	0.760	0.643	-15.4	2.00	1.7	
2,4'-DDE	292860	AverageRF	20	1.079	1.160	7.5	2.00	2.2	
2,4'-DDD	292860	AverageRF	20	0.947	0.995	5.0	2.00	2.1	
2,4'-DDT	292860	AverageRF	20	1.084	1.148	5.9	2.00	2.1	
Toxaphene	292840	NA	20				100.00	99.3	-0.7
Toxaphene {1}	292840	AverageRF	100	0.016	0.017	2.6	100.00	102.6	
Toxaphene {2}	292840	AverageRF	100	0.015	0.014	-8.0	100.00	92.0	
Toxaphene {3}	292840	AverageRF	100	0.030	0.028	-4.9	100.00	95.1	
Toxaphene {4}	292840	AverageRF	100	0.020	0.021	4.1	100.00	104.1	
Toxaphene {5}	292840	AverageRF	100	0.019	0.021	8.4	100.00	108.4	
Toxaphene {6}	292840	Quadratic	100				100.00	93.6	-6.4
Chlordane	292856	NA	20				50.00	46.8	-6.4
Chlordane {1}	292856	AverageRF	100	0.068	0.052	-23.0	50.00	38.5	
Chlordane {2}	292856	AverageRF	100	0.086	0.063	-27.3	50.00	36.4	
Chlordane {3}	292856	AverageRF	100	0.062	0.075	21.3	50.00	60.6	
Chlordane {4}	292856	AverageRF	100	0.188	0.178	-5.4	50.00	47.3	
Chlordane {5}	292856	AverageRF	100	0.156	0.149	-4.3	50.00	47.8	
Chlordane {6}	292856	AverageRF	100	0.114	0.114	0.2	50.00	50.1	
Chlorpyrifos	292824	AverageRF	20	0.922	0.857	-7.0	2.00	1.9	
Oxychlordane	292824	AverageRF	20	1.593	1.510	-5.2	2.00	1.9	
cis-Nonachlor	292824	AverageRF	20	1.675	1.663	-0.7	2.00	2.0	
trans-Nonachlor	292824	AverageRF	20	1.684	1.663	-1.2	2.00	2.0	
Mirex	292824	AverageRF	20	1.394	1.429	2.5	2.00	2.0	
Hexachloroethane	292824	AverageRF	20	2.412	2.204	-8.6	2.00	1.8	
Hexachlorobutadiene	292824	AverageRF	20	1.998	1.845	-7.6	2.00	1.8	
Perthane	292826	AverageRF	20	0.048	0.042	-11.7	25.00	22.1	

Second Source Calibration Verification Summary

CalibrationID: CAL16274

Method ID: MJ1647

DataFile Location: J:\GC23\DATA\040620ICAL\0406F027.D

Units: ug/L

Column: DB XLB

Parameter Name	File ID	Curve Fit	Method Criteria	AveRF	SSV RF	% Diff	True Value	Sol'n Conc	% Drift

Second Source Calibration Verification Summary

CalibrationID: CAL16274

Method ID: MJ1647

DataFile Location: J:\GC23\DATA\040620ICAL\0406F011.D\0406F011C.D

Units: ug/L

Column: DB-35MS

Parameter Name	File ID	Curve Fit	Method Criteria	AveRF	SSV RF	% Diff	True Value	Sol'n Conc	% Drift
alpha-BHC	292799	AverageRF	20	1.585	1.353	-14.6	2.00	1.7	
Hexachlorobenzene	292799	AverageRF	20	1.592	1.398	-12.1	2.00	1.8	
beta-BHC	292799	AverageRF	20	0.752	0.642	-14.6	2.00	1.7	
gamma-BHC (Lindane)	292799	AverageRF	20	1.543	1.320	-14.4	2.00	1.7	
delta-BHC	292799	AverageRF	20	1.508	1.301	-13.7	2.00	1.7	
Heptachlor	292799	AverageRF	20	1.567	1.330	-15.1	2.00	1.7	
Aldrin	292799	AverageRF	20	1.576	1.347	-14.5	2.00	1.7	
Isodrin	292799	AverageRF	20	1.319	1.429	8.3	2.00	2.2	
Heptachlor Epoxide	292799	AverageRF	20	1.545	1.293	-16.4	2.00	1.7	
gamma-Chlordane	292799	AverageRF	20	1.494	1.286	-13.9	2.00	1.7	
Endosulfan I	292799	AverageRF	20	1.346	1.146	-14.8	2.00	1.7	
alpha-Chlordane	292799	AverageRF	20	1.513	1.293	-14.6	2.00	1.7	
Dieldrin	292799	AverageRF	20	1.469	1.190	-19.0	2.00	1.6	
4,4'-DDE	292799	AverageRF	20	1.414	1.183	-16.3	2.00	1.7	
Endrin	292799	AverageRF	20	1.398	1.199	-14.2	2.00	1.7	
Endosulfan II	292799	AverageRF	20	1.263	1.096	-13.2	2.00	1.7	
4,4'-DDD	292799	AverageRF	20	1.059	0.832	-21.4 *	2.00	1.6	
Endrin Aldehyde	292799	AverageRF	20	1.046	0.870	-16.9	2.00	1.7	
Endosulfan Sulfate	292799	AverageRF	20	1.246	1.024	-17.8	2.00	1.6	
4,4'-DDT	292799	AverageRF	20	1.021	0.862	-15.6	2.00	1.7	
Endrin Ketone	292799	AverageRF	20	1.490	1.222	-18.0	2.00	1.6	
Methoxychlor	292799	AverageRF	20	0.566	0.480	-15.3	2.00	1.7	
2,4'-DDE	292861	AverageRF	20	0.923	0.996	7.9	2.00	2.2	
2,4'-DDD	292861	AverageRF	20	0.801	0.874	9.2	2.00	2.2	
2,4'-DDT	292861	AverageRF	20	0.868	0.925	6.5	2.00	2.1	
Toxaphene	292841	NA	20				100.00	93.9	-6.1
Toxaphene {1}	292841	AverageRF	100	0.022	0.021	-5.1	100.00	94.9	
Toxaphene {2}	292841	AverageRF	100	0.017	0.015	-10.5	100.00	89.5	
Toxaphene {3}	292841	Quadratic	100				100.00	91.1	-8.9
Toxaphene {4}	292841	Quadratic	100				100.00	94.9	-5.1
Toxaphene {5}	292841	AverageRF	100	0.012	0.011	-6.7	100.00	93.3	
Toxaphene {6}	292841	AverageRF	100	0.006	0.006	-0.6	100.00	99.4	
Chlordane	292857	NA	20				50.00	51.2	2.3
Chlordane {1}	292857	AverageRF	100	0.055	0.042	-23.6	50.00	38.2	
Chlordane {2}	292857	AverageRF	100	0.037	0.041	10.7	50.00	55.4	
Chlordane {3}	292857	AverageRF	100	0.025	0.033	32.6	50.00	66.3	
Chlordane {4}	292857	AverageRF	100	0.150	0.143	-4.6	50.00	47.7	
Chlordane {5}	292857	AverageRF	100	0.092	0.097	5.8	50.00	52.9	
Chlordane {6}	292857	AverageRF	100	0.133	0.124	-6.9	50.00	46.6	
Chlorpyrifos	292825	AverageRF	20	0.628	0.581	-7.4	2.00	1.9	
Oxychlordane	292825	AverageRF	20	1.413	1.326	-6.2	2.00	1.9	
cis-Nonachlor	292825	AverageRF	20	1.474	1.435	-2.6	2.00	1.9	
trans-Nonachlor	292825	AverageRF	20	1.455	1.424	-2.2	2.00	2.0	
Mirex	292825	AverageRF	20	1.114	1.133	1.7	2.00	2.0	
Hexachloroethane	292825	AverageRF	20	2.335	2.111	-9.6	2.00	1.8	
Hexachlorobutadiene	292825	AverageRF	20	1.891	1.711	-9.5	2.00	1.8	
Perthane	292827	AverageRF	20	0.037	0.033	-8.9	25.00	22.8	

1 compound out of 47 failed max individual %D criteria.

Second Source Calibration Verification Summary

CalibrationID: CAL16274
Method ID: MJ1647
DataFile Location: J:\GC23\DATA\040620ICAL\0406F027.D\0406F027C.D

Units: ug/L
Column: DB-35MS

Parameter Name	File ID	Curve Fit	Method Criteria	AveRF	SSV RF	% Diff	True Value	Sol'n Conc	% Drift

1 compound out of 47 failed max individual %D criteria.

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F003.D Vial: 1
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 11:54 am Operator: LM
Sample : PEM GCPS8-73M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 12:05:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1)	i 1-Bromo-2...	6.212	5.492	997112	4587869	100.000	100.000	
	System Monitoring Compounds							pass <15%
	Target Compounds							
16)	4,4'-DDE	13.825	12.499	1456	9865	0.095	0.152	#
17)	Endrin	14.392	13.129	75109	324741	5.002	5.063	
19)	4,4'-DDD	14.662	13.389	2465	14941	0.207	0.308	#
20)	Endrin Al...	15.015	13.926	1148	6600	0.087	0.138	#
22)	4,4'-DDT	15.168	13.812	122976	496207	9.836	10.598	
23)	Endrin Ke...	16.182	15.202	1863	13467	0.112	0.197	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

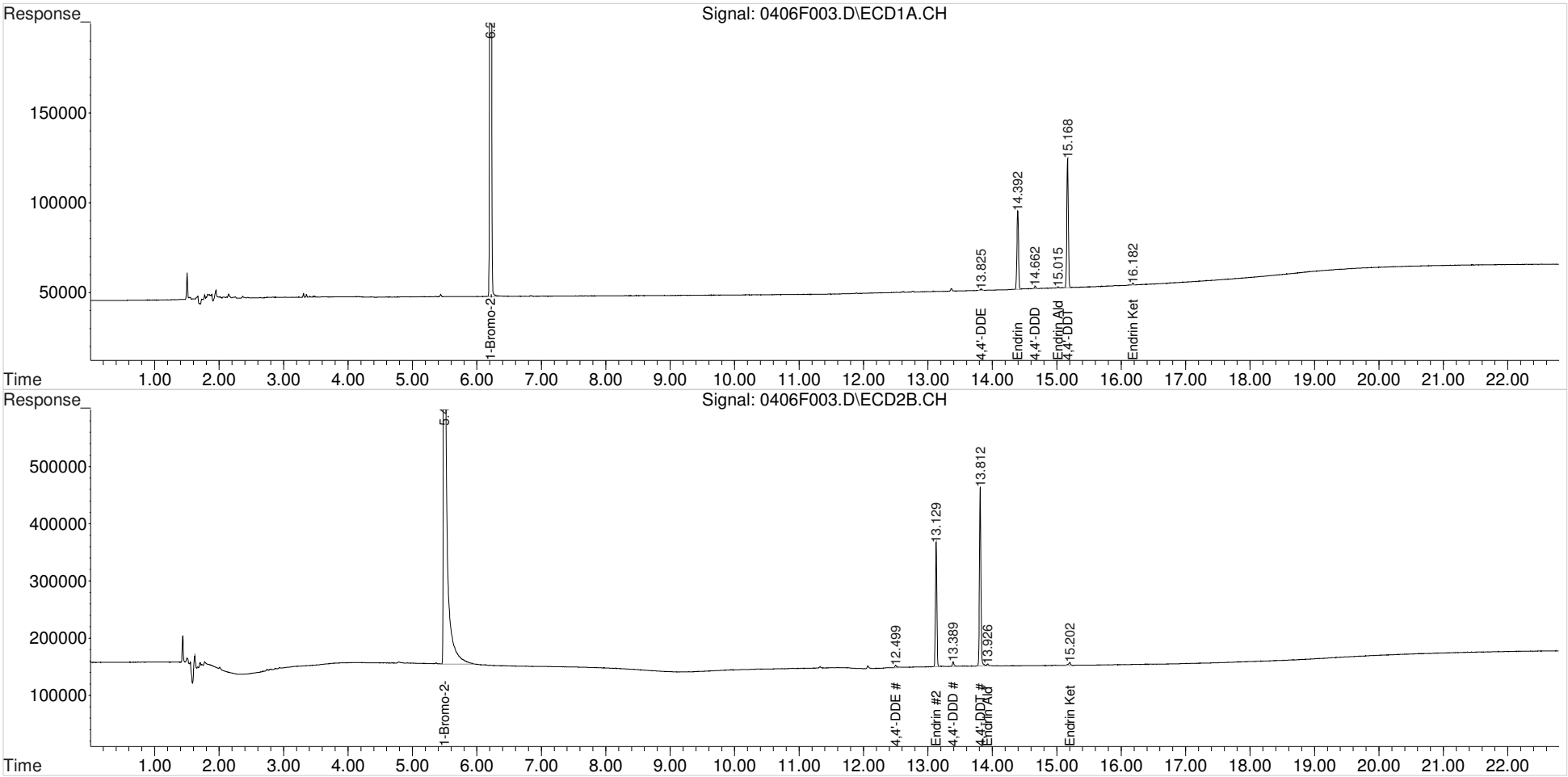
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F003.D Vial: 1
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 11:54 am Operator: LM
Sample : PEM GCPS8-73M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 12:05:24 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:24 pm Operator: LM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 12:47:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
		Internal Standards							
1)	i	1-Bromo-2...	6.213	5.497	940635	4342317	100.000	100.000	
29)		1-Bromo-2...	6.213	5.497	940635	4342317	100.000	100.000	
36)		1-Bromo-2...	6.213	5.497	940635	4342317	100.000	100.000	
43)		1-Bromo-2...	6.213	5.497	940635	4342317	100.000	100.000	
		System Monitoring Compounds							
		Target Compounds							
3)		alpha-BHC	0.000	8.527	0	1166	N.D.	0.017	#
8)		Heptachlor	0.000	9.947	0	991	N.D.	0.015	#
16)		4,4'-DDE	0.000	12.503	0	1417	N.D.	0.023	#
44)		Chlorpyrifos	0.000	10.903	0	863	N.D.	0.032	#
49)		HCE	0.000	3.437	0	1674	N.D.	0.017	#
		SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

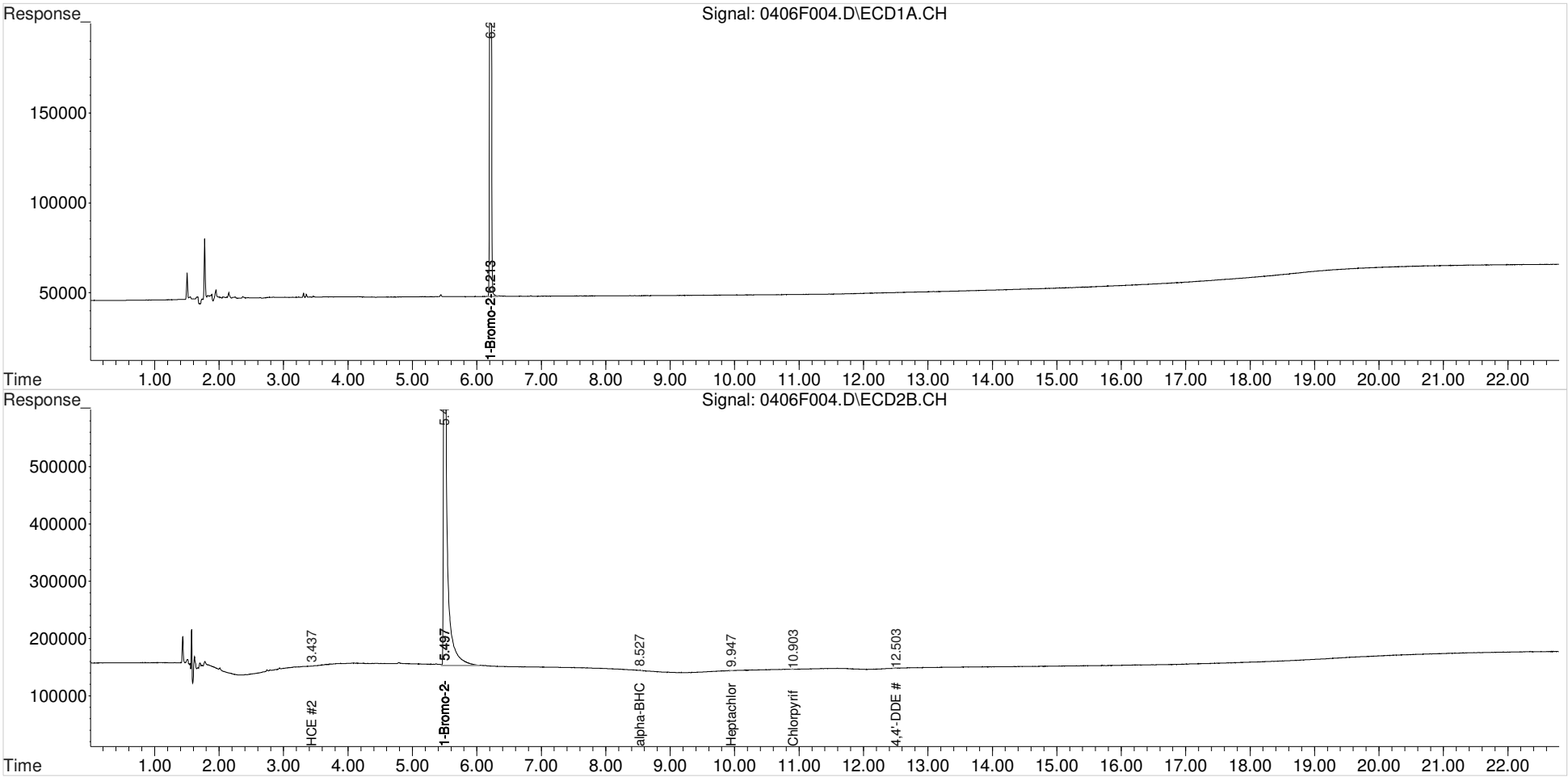
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:24 pm Operator: LM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 12:47:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:47:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	i	1-Bromo-2...	6.213	5.494	948225	4332343	100.000	100.000
		System Monitoring Compounds						
2)	s	Tetrachlo...	8.993	7.277	3191	11217	0.244	0.220
28)	s	Decachlor...	18.707	17.090	3769	17332	0.306m	0.291
		Target Compounds						
3)		alpha-BHC	9.840	8.507	3603	14859	0.245	0.239m
4)		Hexachlor...	10.003	8.290	4425	14997	0.268	0.240m
5)		beta-BHC	11.097	9.790	2042	6988	0.272	0.232m
6)		gamma-BHC...	10.510	9.254	3574	14879	0.254	0.248
7)		delta-BHC	11.603	10.320	3593	14216	0.260	0.244
8)		Heptachlor	11.710	9.937	3902	15869	0.288	0.261
9)		Aldrin	12.237	10.530	3415	16077	0.254	0.266
10)		Isodrin	12.770	11.327	3003	12876	0.260	0.243
11)		Heptachlo...	12.957	11.614	3729	15792	0.279	0.271
12)		gamma-Chl...	13.480	11.987	3876	14996	0.294	0.256
13)		Endosulfan I	13.610	12.204	3515	13402	0.301	0.260
14)		alpha-Chl...	13.557	12.137	3747	15529	0.290	0.268
15)		Dieldrin	14.030	12.650	3584	13907	0.277	0.245
16)		4,4'-DDE	13.830	12.500	3456	14871	0.287	0.291
17)		Endrin	14.400	13.134	3370	12979	0.284	0.258
18)		Endosulfa...	14.843	13.567	3466	12720	0.293	0.249
19)		4,4'-DDD	14.670	13.394	2392	9747	0.258	0.228
20)		Endrin Al...	15.023	13.934	3029	9791	0.307	0.234
21)		Endosulfa...	15.500	14.257	3685	12132	0.308	0.250
22)		4,4'-DDT	15.173	13.817	2627	8897	0.290	0.267
23)		Endrin Ke...	16.190	15.210	3721	14031	0.290	0.237
24)		Methoxychlor	15.920	14.930	1777	5551	0.353m	0.296

SemiQuant Compounds - Not Calibrated on this Instrument

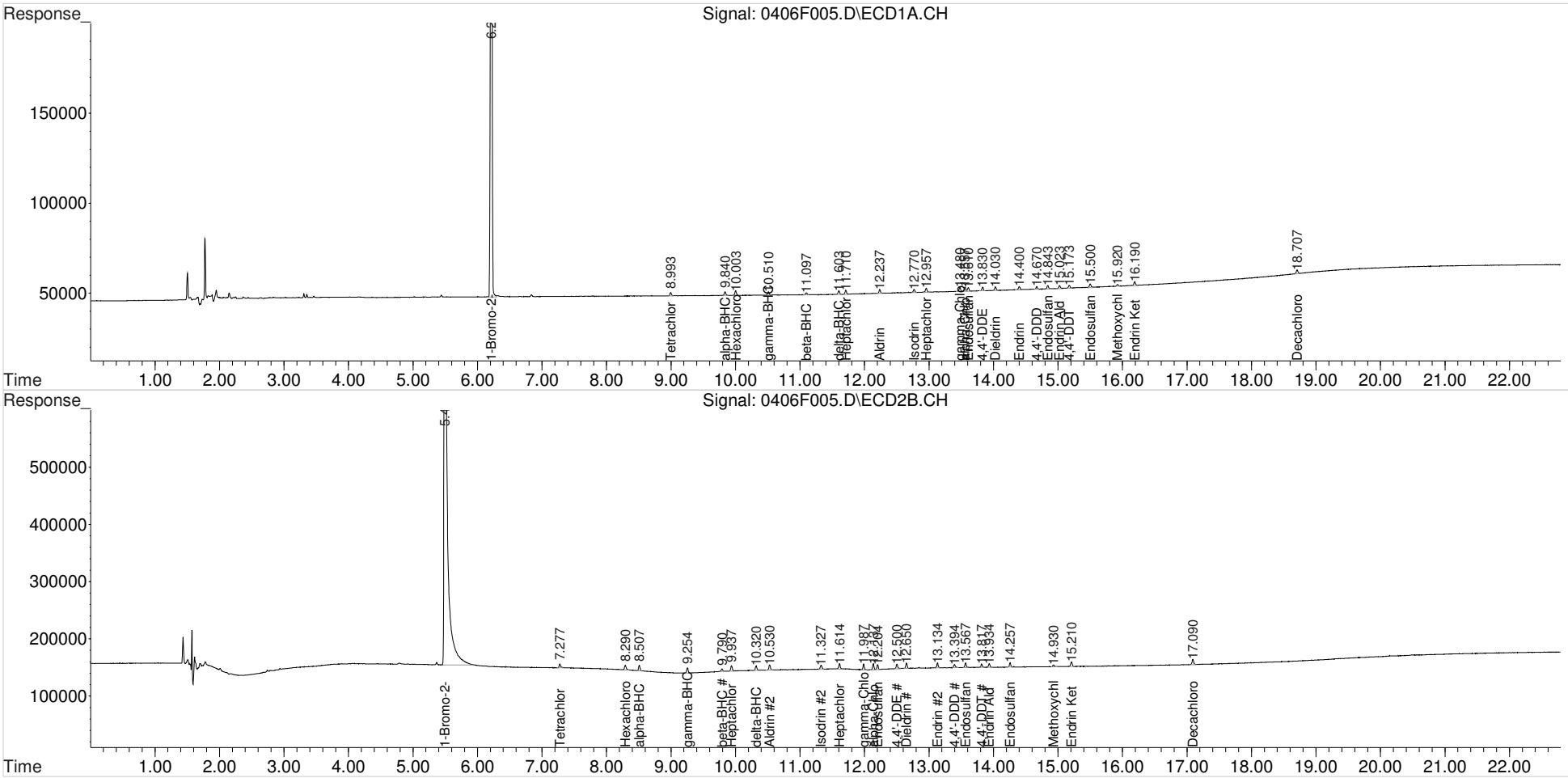
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:47:03 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



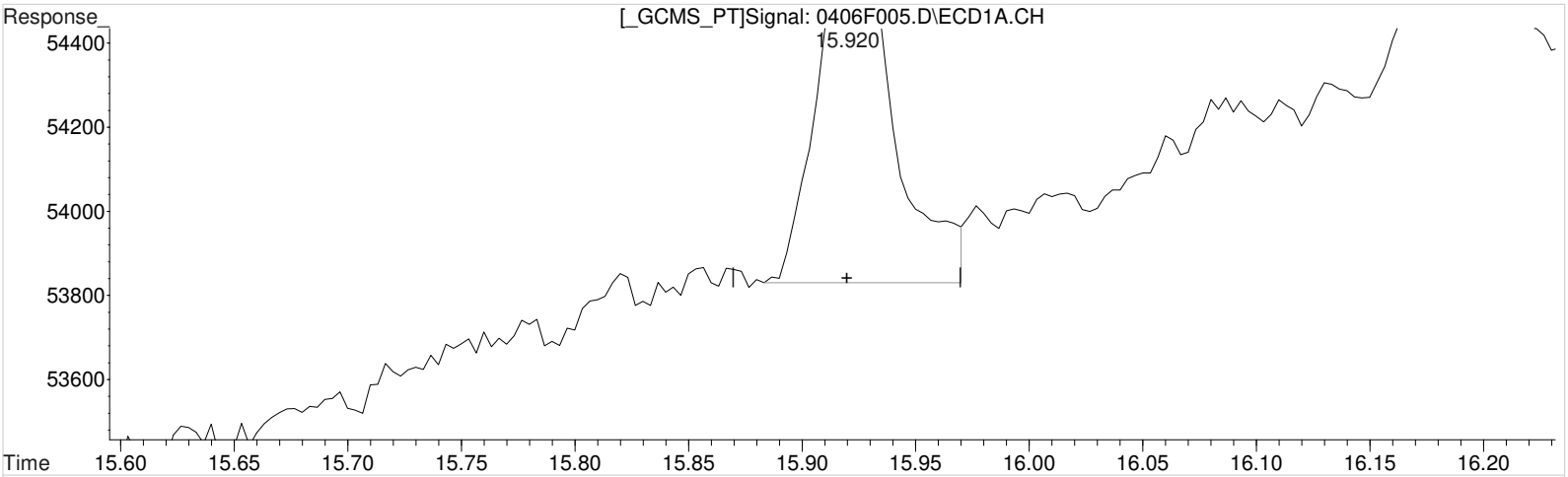
Quantitation Report (Qedit)

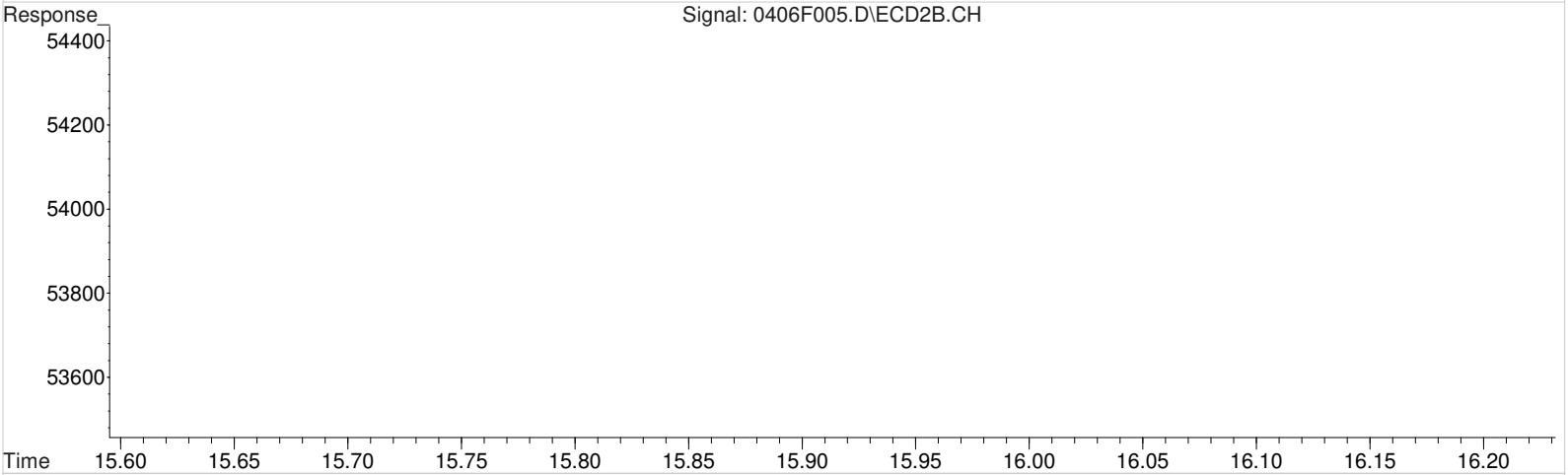
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.920min 0.418 ug/L

response 2104

Manual Integration:

Before

04/07/20

(24) Methoxychlor #2

14.930min 0.296 ug/L

response 5551

(+) = Expected Retention Time

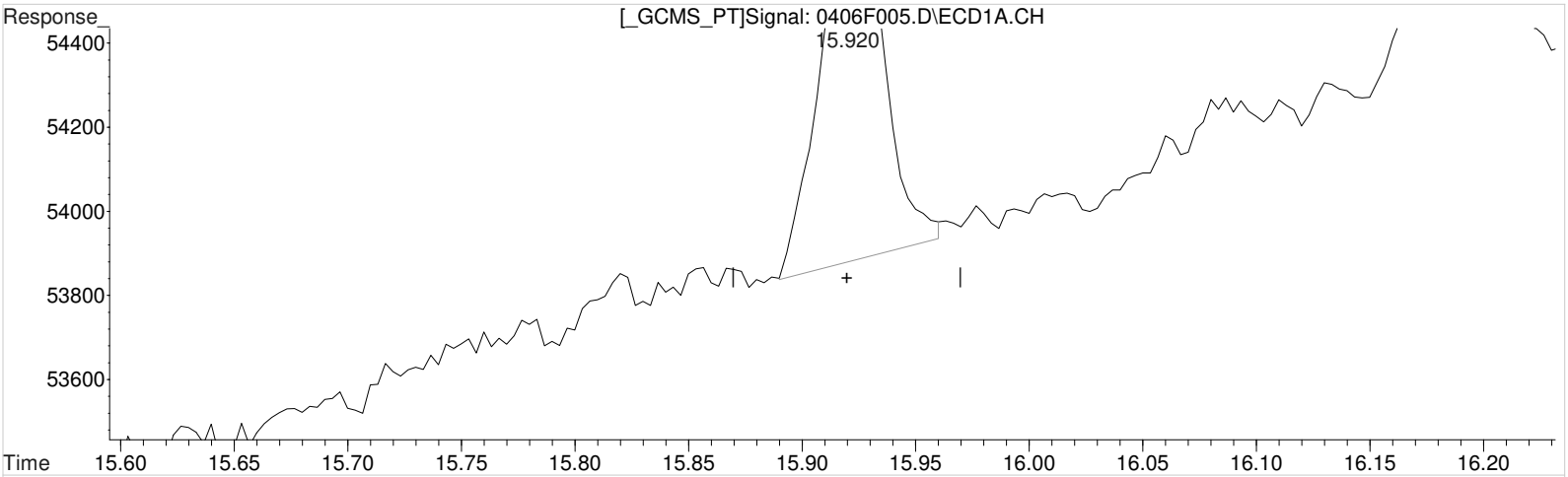
Quantitation Report (Qedit)

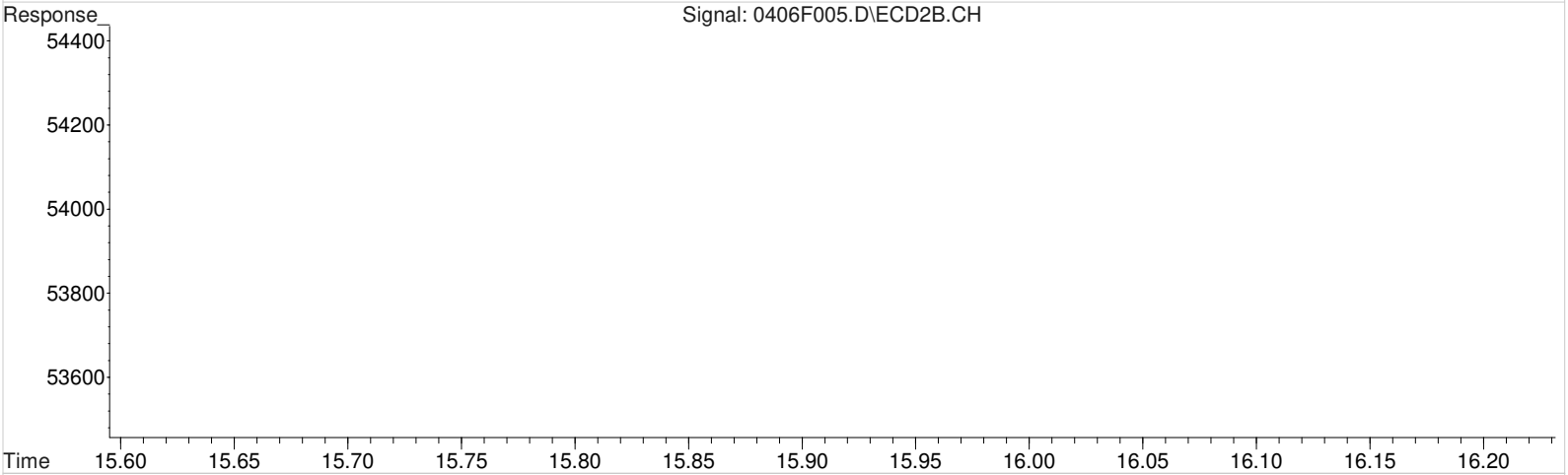
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.920min 0.353 ug/L m

response 1777

Manual Integration:

After

Baseline/Shoulder

04/07/20

(24) Methoxychlor #2

14.930min 0.296 ug/L

response 5551

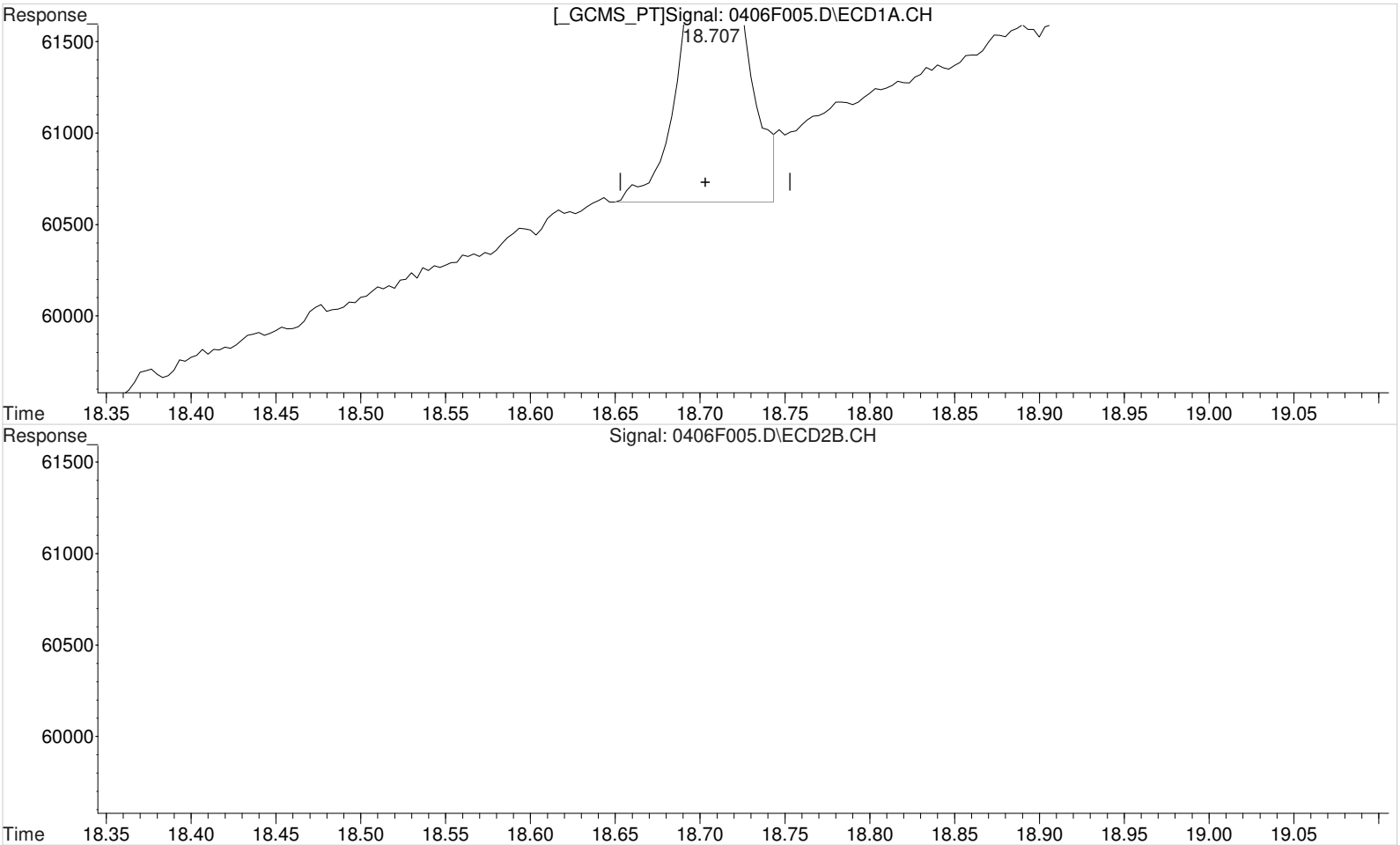
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(28) Decachlorobiphenyl (s)

18.707min 0.396 ug/L

response 4876

Manual Integration:

Before

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.090min 0.291 ug/L

response 17332

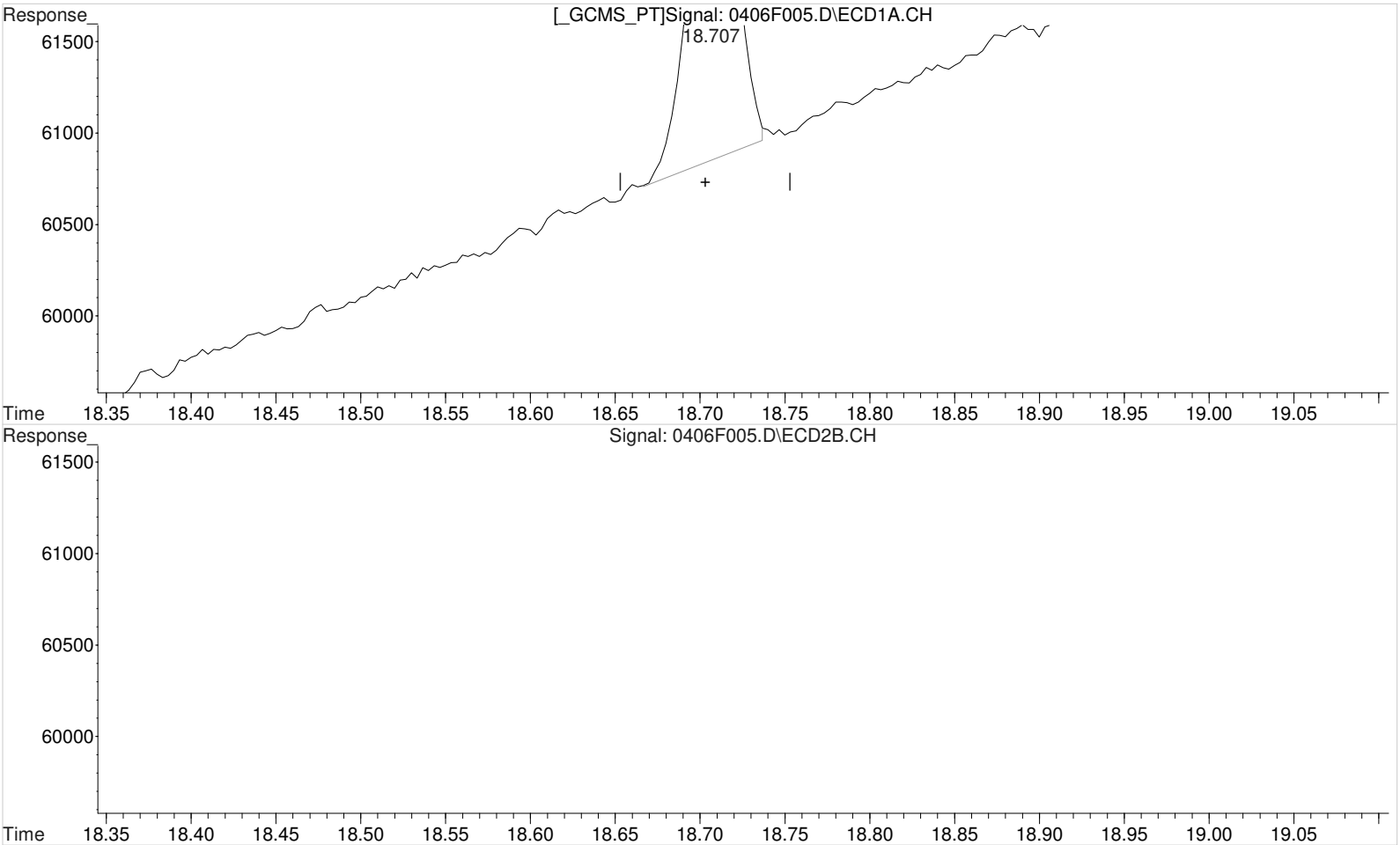
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(28) Decachlorobiphenyl (s)

18.707min 0.306 ug/L m

response 3769

Manual Integration:

After

Baseline/Shoulder

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.090min 0.291 ug/L

response 17332

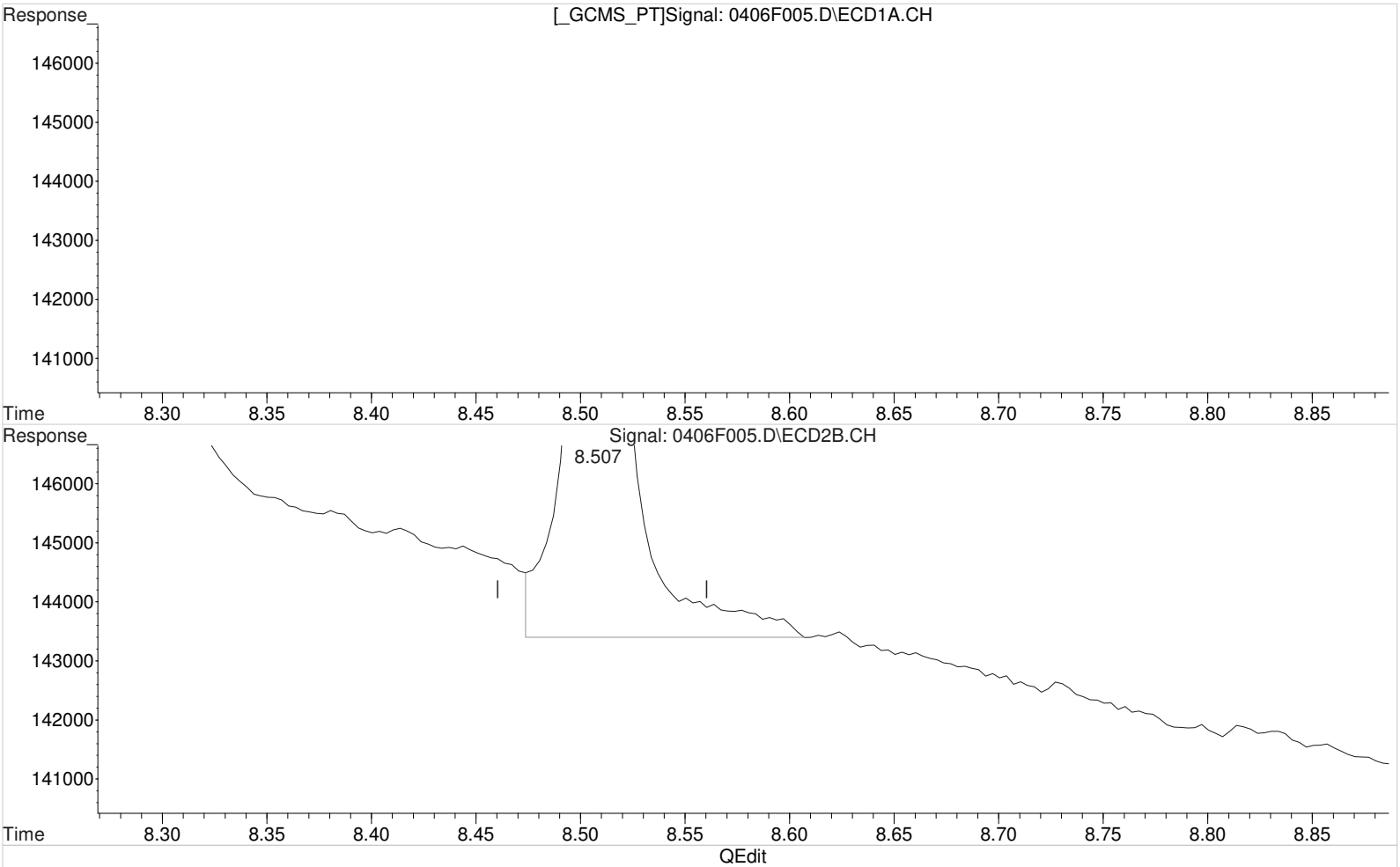
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.840min 0.245 ug/L

response 3603

Manual Integration:

Before

04/07/20

(3) alpha-BHC #2

8.507min 0.322 ug/L

response 20061

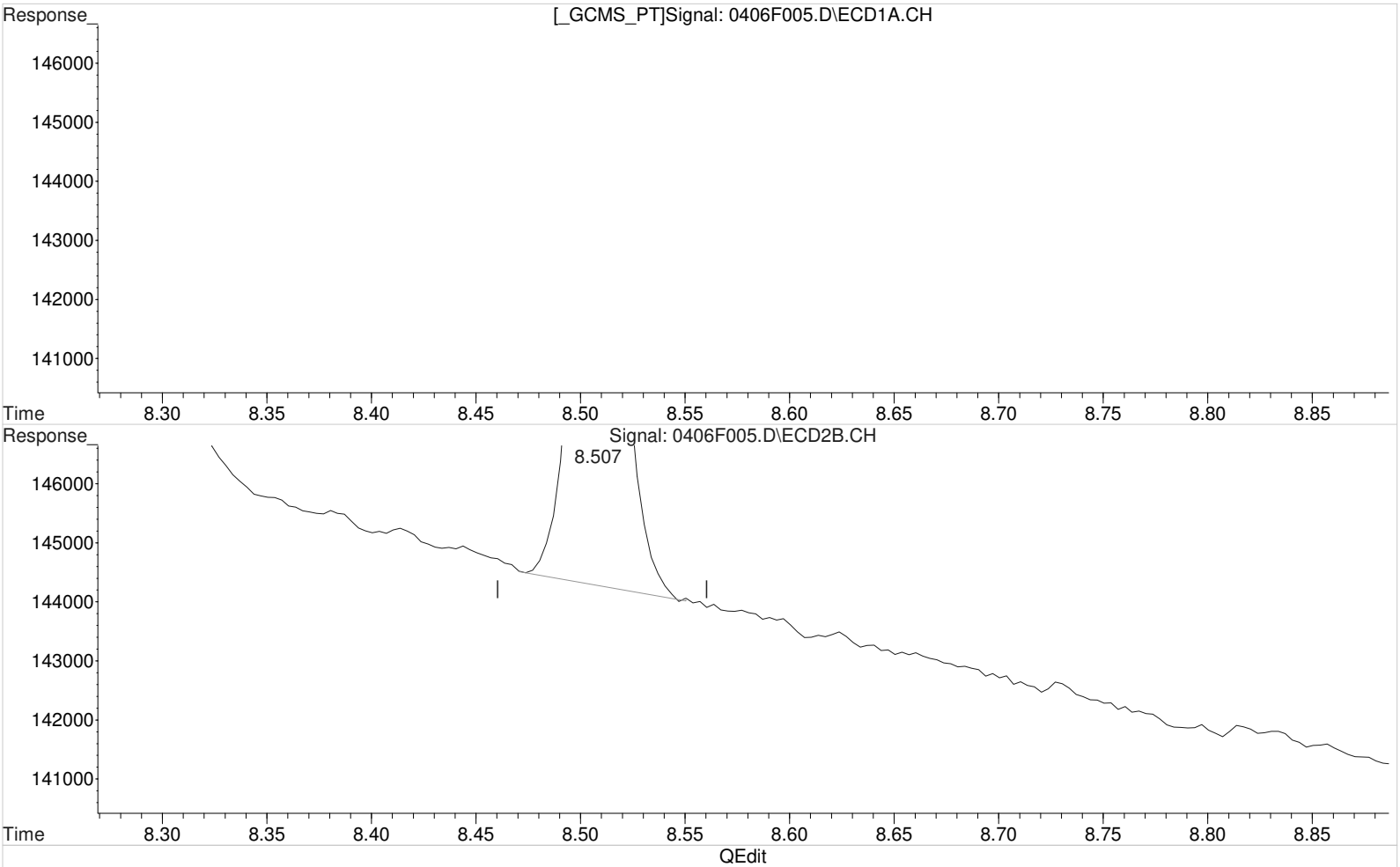
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.840min 0.245 ug/L

response 3603

Manual Integration:

After

Baseline/Shoulder

04/07/20

(3) alpha-BHC #2

8.507min 0.239 ug/L m

response 14859

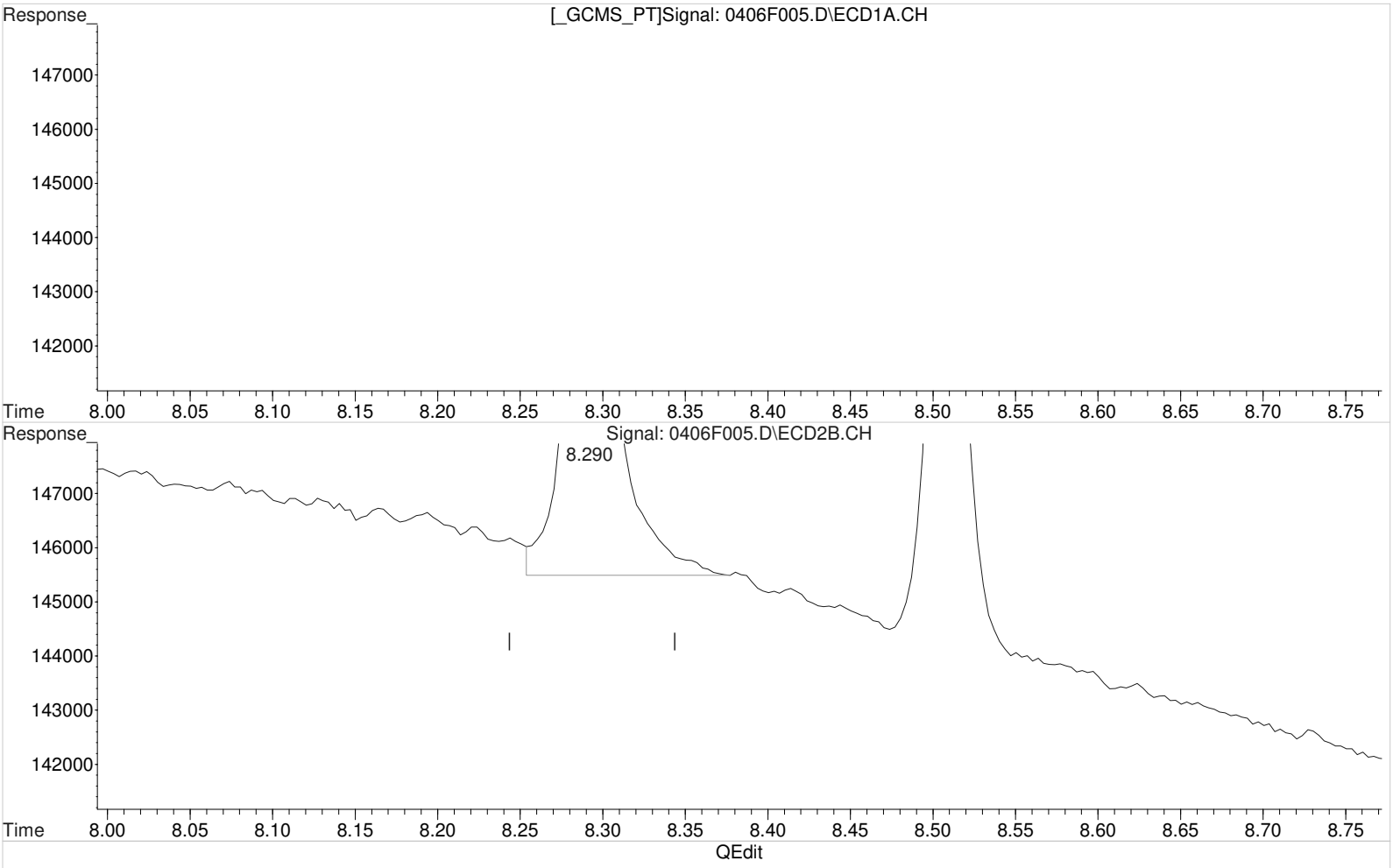
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(4) Hexachlorobenzene

10.003min 0.268 ug/L

response 4425

Manual Integration:

Before

04/07/20

(4) Hexachlorobenzene #2

8.290min 0.273 ug/L

response 17045

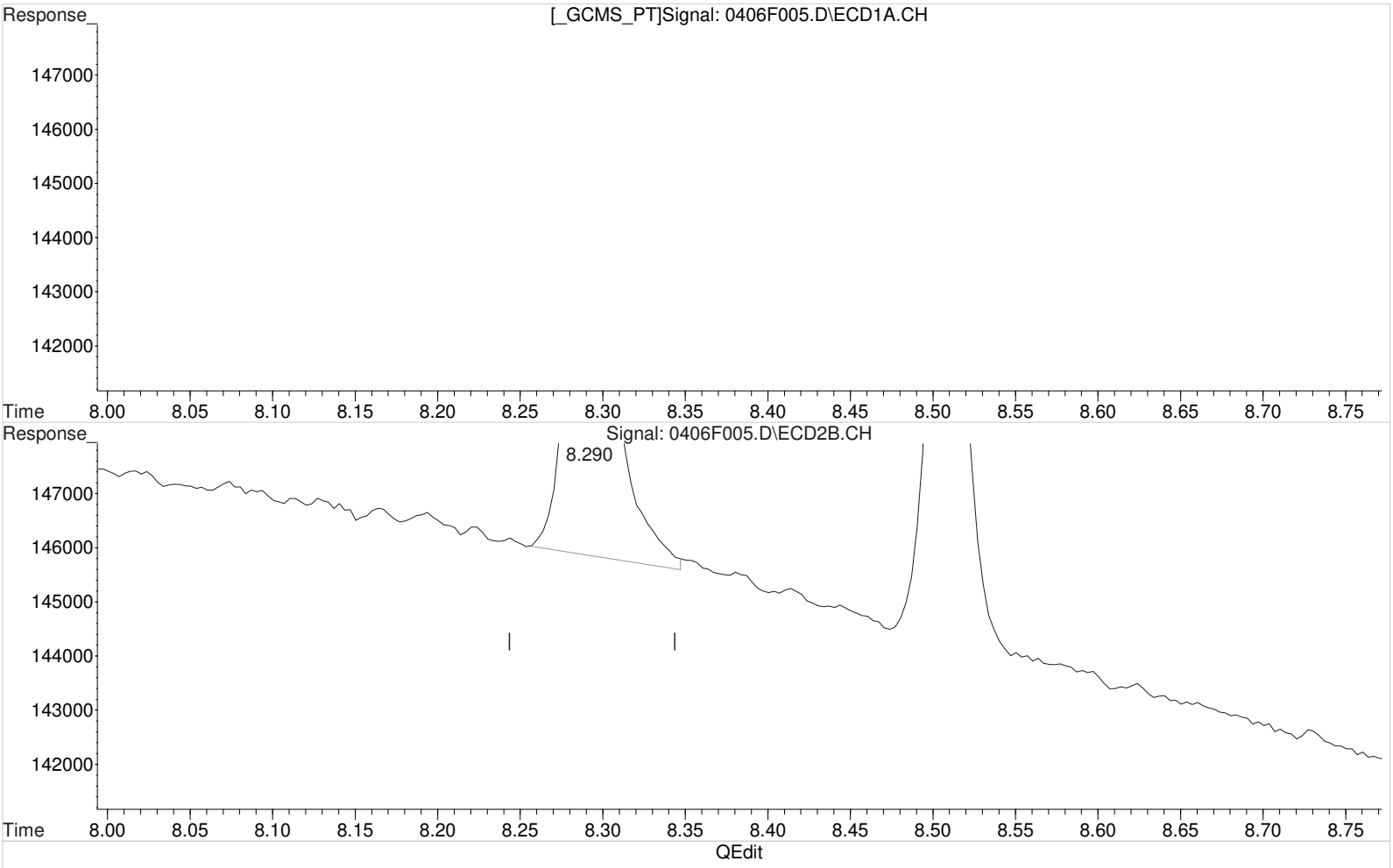
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(4) Hexachlorobenzene

10.003min 0.268 ug/L

response 4425

Manual Integration:

After

Baseline/Shoulder

04/07/20

(4) Hexachlorobenzene #2

8.290min 0.240 ug/L m

response 14997

(+) = Expected Retention Time

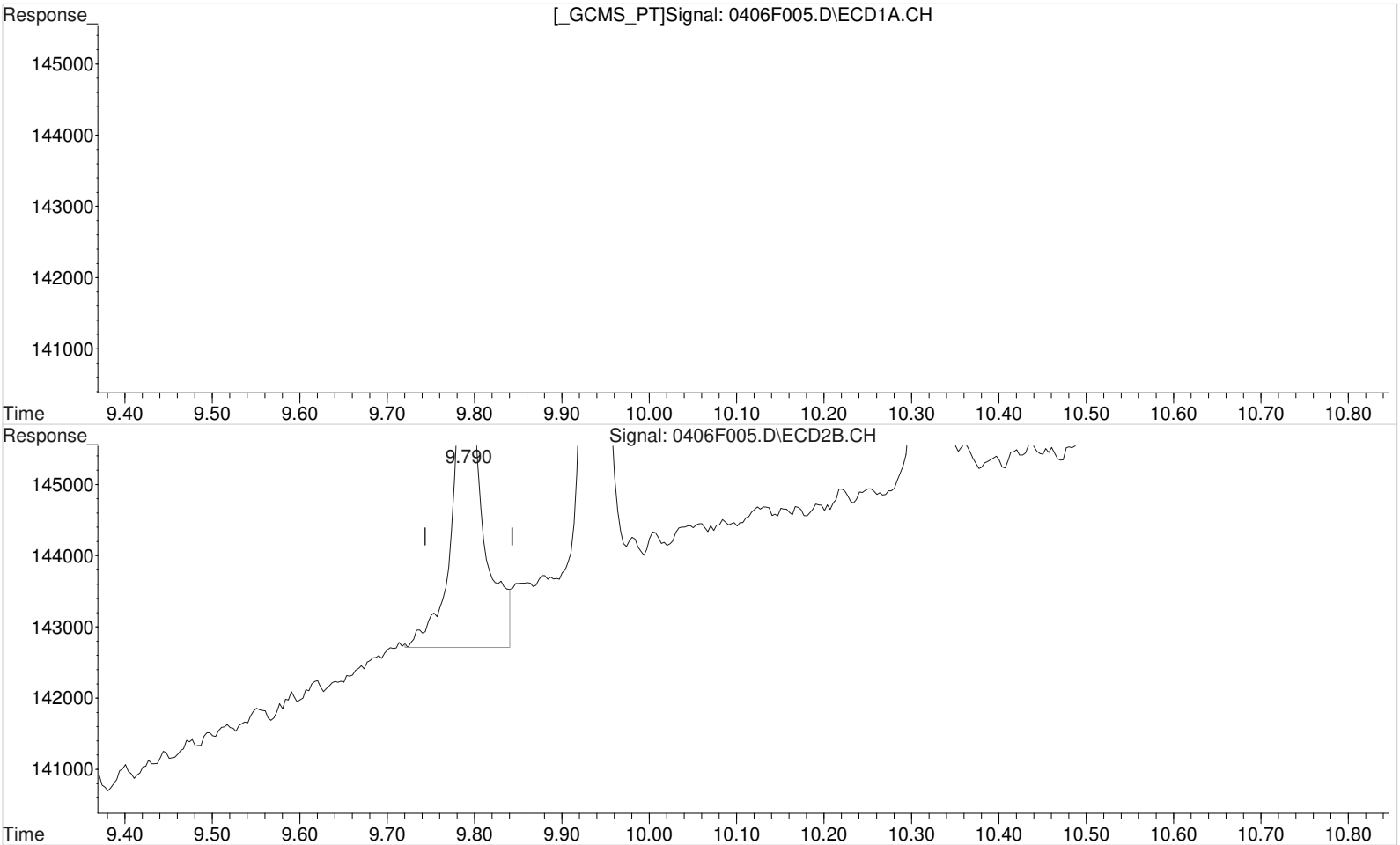
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.097min 0.272 ug/L

response 2042

(5) beta-BHC #2

9.790min 0.353 ug/L

response 10652

Manual Integration:

Before

04/07/20

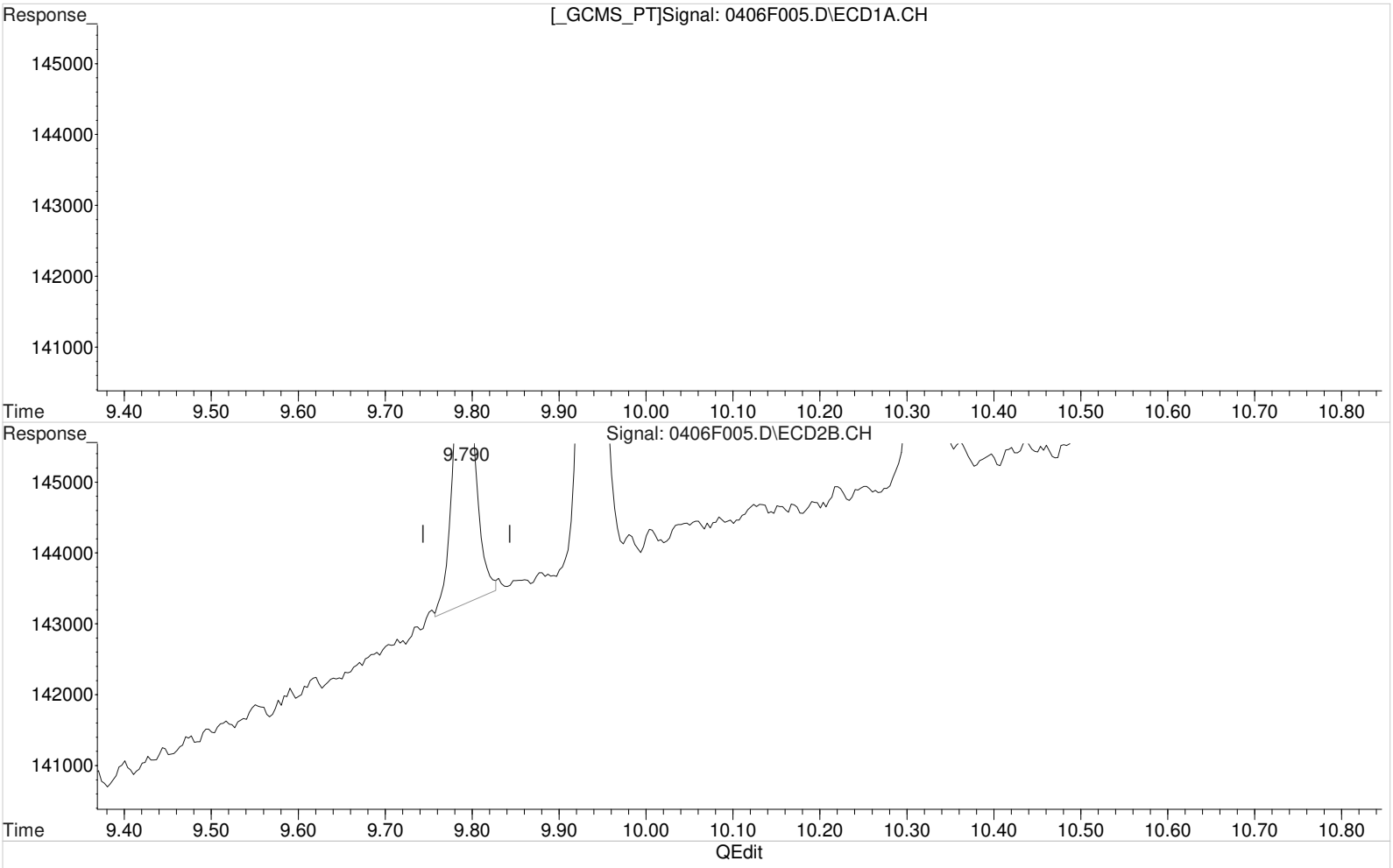
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 12:53 pm Operator: LM
Sample : 81 0.2PPB GCPS8-74N @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(5) beta-BHC

11.097min 0.272 ug/L

response 2042

Manual Integration:

After

Baseline/Shoulder

04/07/20

(5) beta-BHC #2

9.790min 0.232 ug/L m

response 6988

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:49:59 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	i	1-Bromo-2...	6.210	5.494	950076	4378852	100.000	100.000
		System Monitoring Compounds						
2)	s	Tetrachlo...	8.990	7.274	7328	28601	0.558	0.556
28)	s	Decachlor...	18.690	17.077	9291	38973	0.753m	0.648
		Target Compounds						
3)		alpha-BHC	9.833	8.507	8218	35354	0.557	0.562m
4)		Hexachlor...	9.997	8.287	10409	38154	0.630	0.604m
5)		beta-BHC	11.093	9.787	4293	17040	0.571	0.559m
6)		gamma-BHC...	10.507	9.254	8003	35780	0.568	0.589
7)		delta-BHC	11.597	10.317	8171	33697	0.590	0.572
8)		Heptachlor	11.703	9.934	8764	35688	0.646	0.580
9)		Aldrin	12.230	10.527	8254	35925	0.612	0.588
10)		Isodrin	12.760	11.324	7139	31053	0.617	0.580
11)		Heptachlo...	12.950	11.611	8948	34858	0.668	0.591
12)		gamma-Chl...	13.470	11.984	8844	33939	0.669	0.574
13)		Endosulfan I	13.600	12.197	7939	30826	0.678	0.591
14)		alpha-Chl...	13.547	12.134	8686	34839	0.670	0.594
15)		Dieldrin	14.020	12.644	8546	33592	0.660	0.586
16)		4,4'-DDE	13.820	12.497	8079	31986	0.670	0.620
17)		Endrin	14.387	13.127	7801	33434	0.657	0.658
18)		Endosulfa...	14.830	13.557	8173	28307	0.690	0.548
19)		4,4'-DDD	14.657	13.387	6485	25639	0.699	0.594
20)		Endrin Al...	15.010	13.927	7054	23923	0.713	0.566
21)		Endosulfa...	15.483	14.247	7833	28029	0.654	0.571
22)		4,4'-DDT	15.160	13.807	6523	23721	0.718	0.705
23)		Endrin Ke...	16.173	15.197	8657	35759	0.673	0.599
24)		Methoxychlor	15.907	14.921	3721	12525	0.738m	0.660

SemiQuant Compounds - Not Calibrated on this Instrument

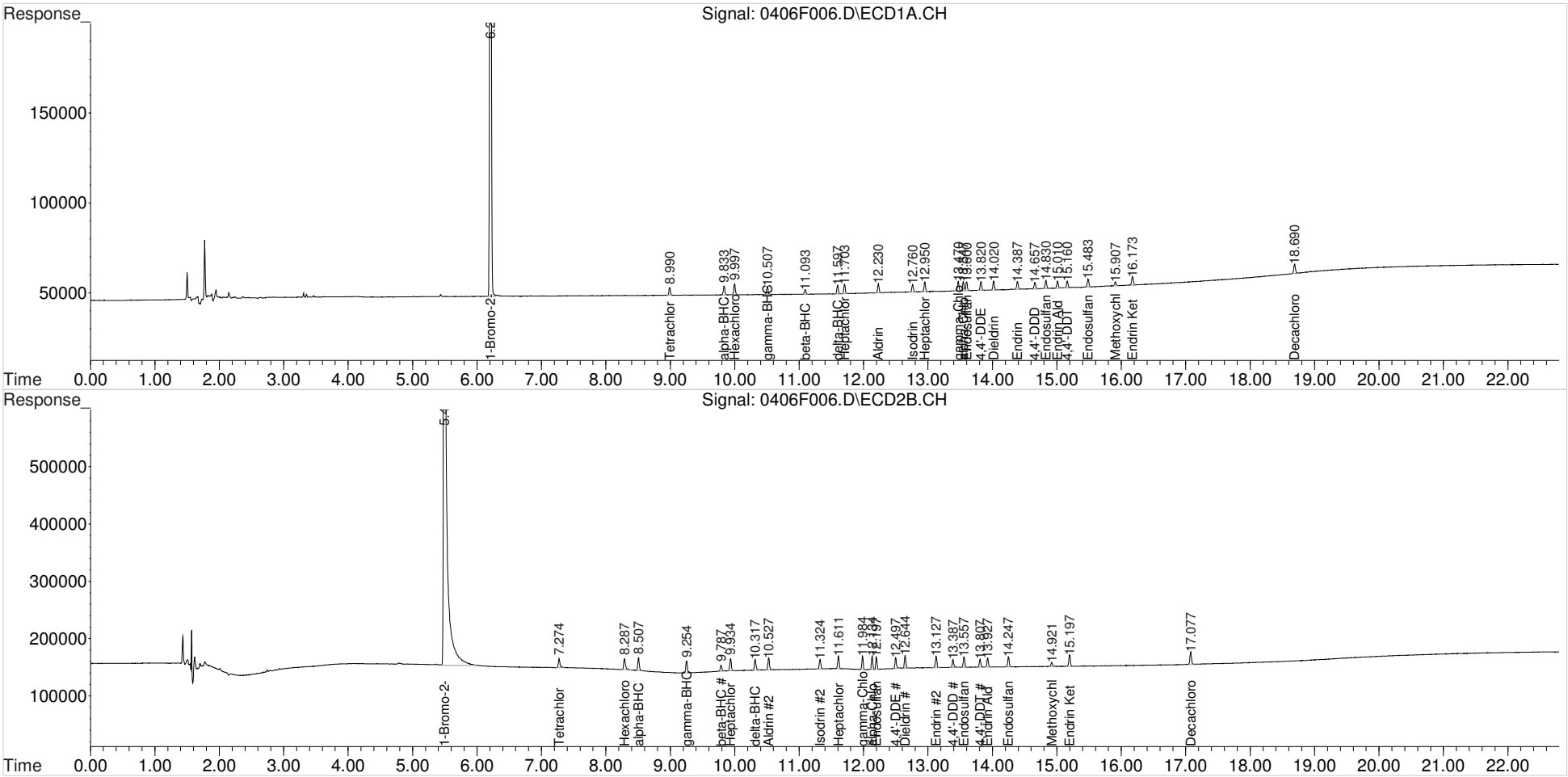
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:49:59 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

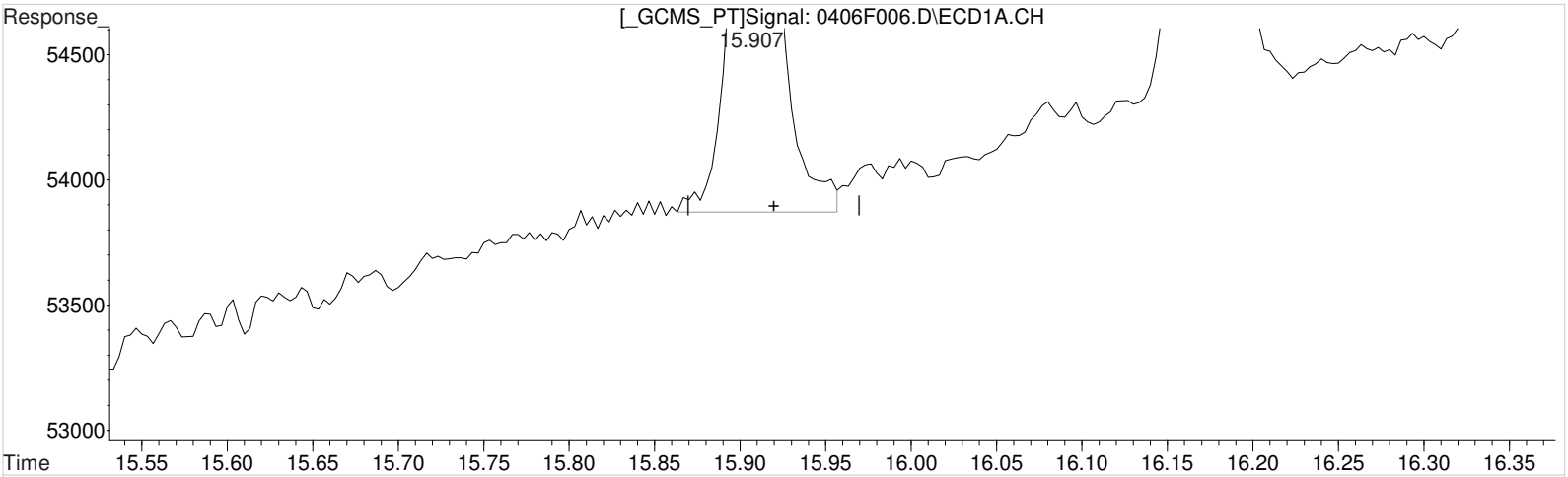


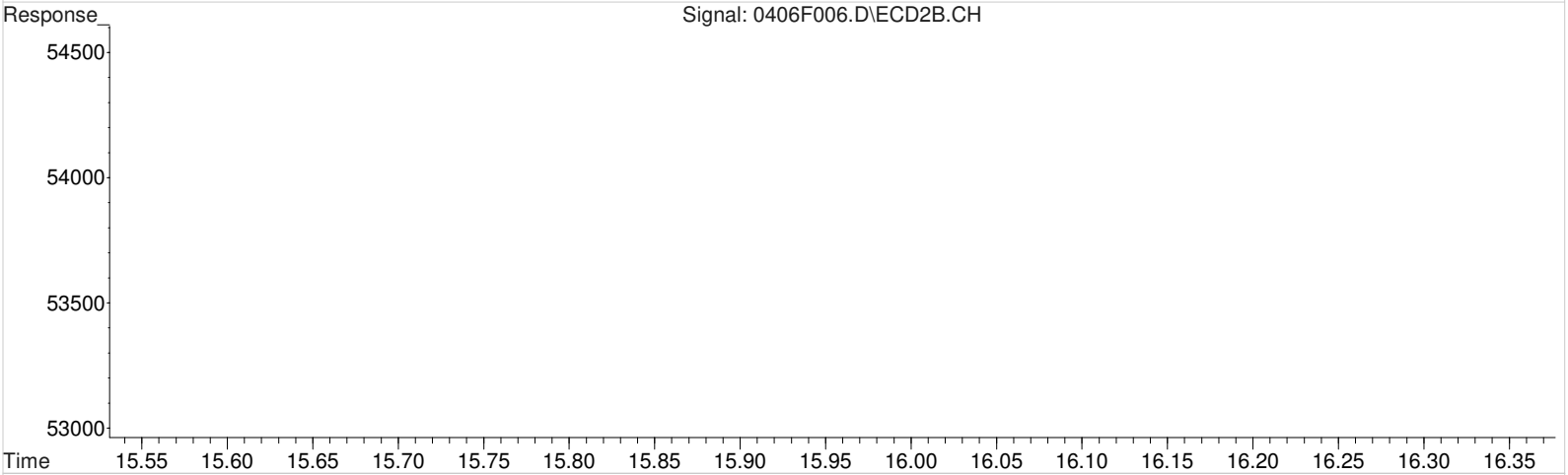
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.907min 0.815 ug/L

response 4111

Manual Integration:

Before

04/07/20

(24) Methoxychlor #2

14.921min 0.660 ug/L

response 12525

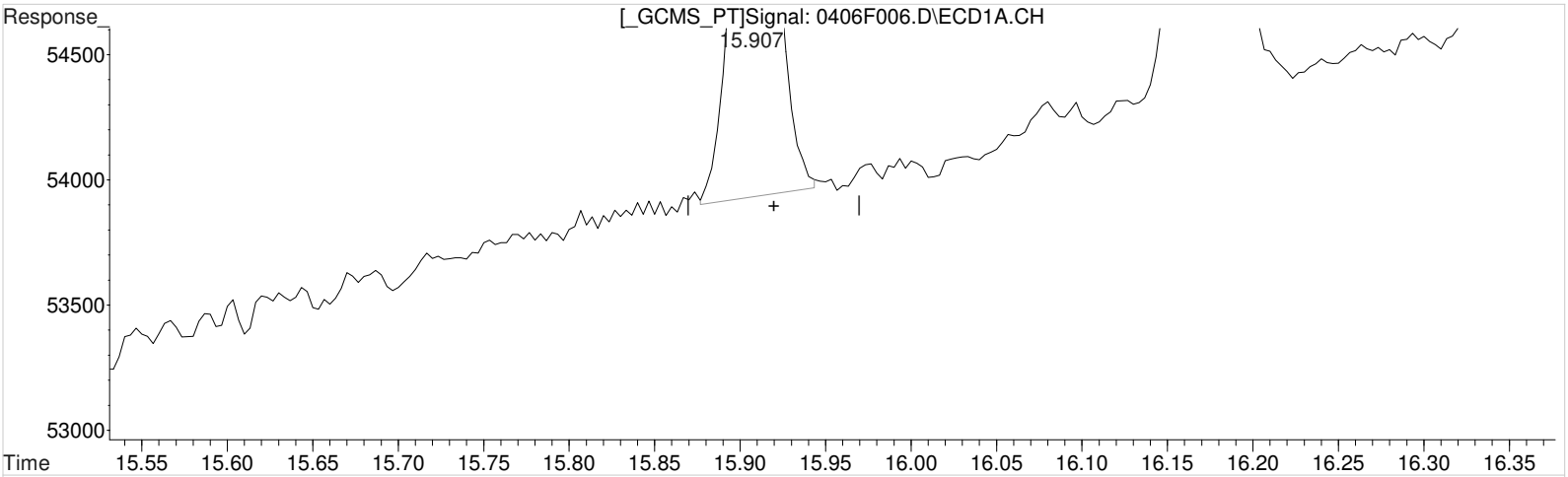
(+) = Expected Retention Time

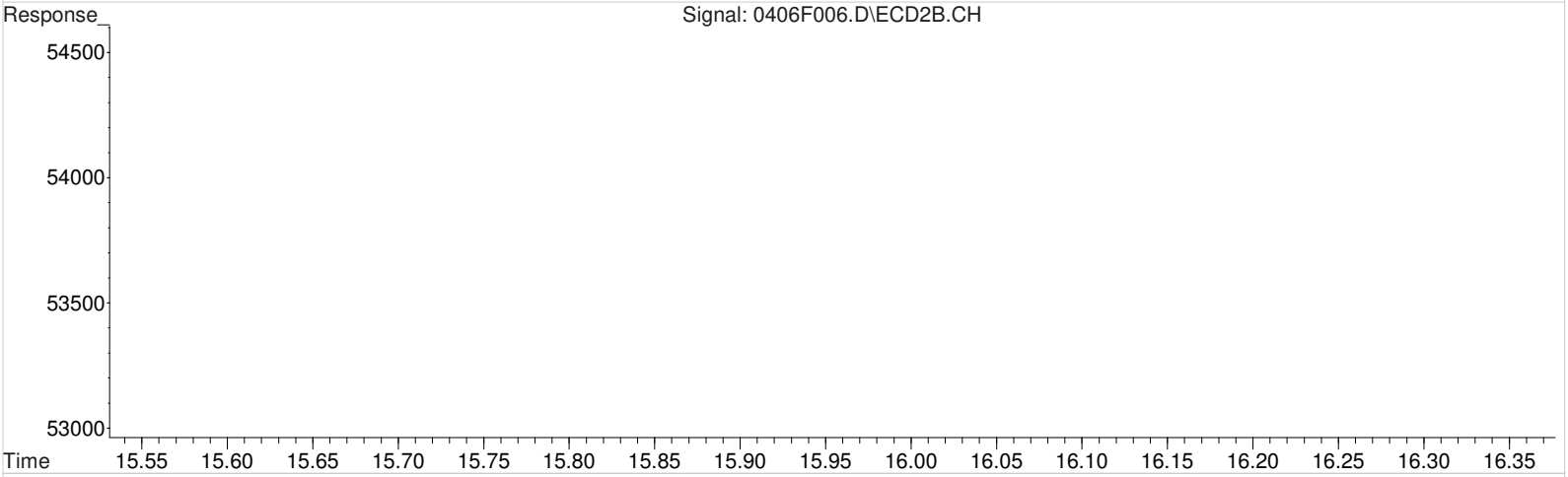
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.907min 0.738 ug/L m

response 3721

Manual Integration:

After

Baseline/Shoulder

04/07/20

(24) Methoxychlor #2

14.921min 0.660 ug/L

response 12525

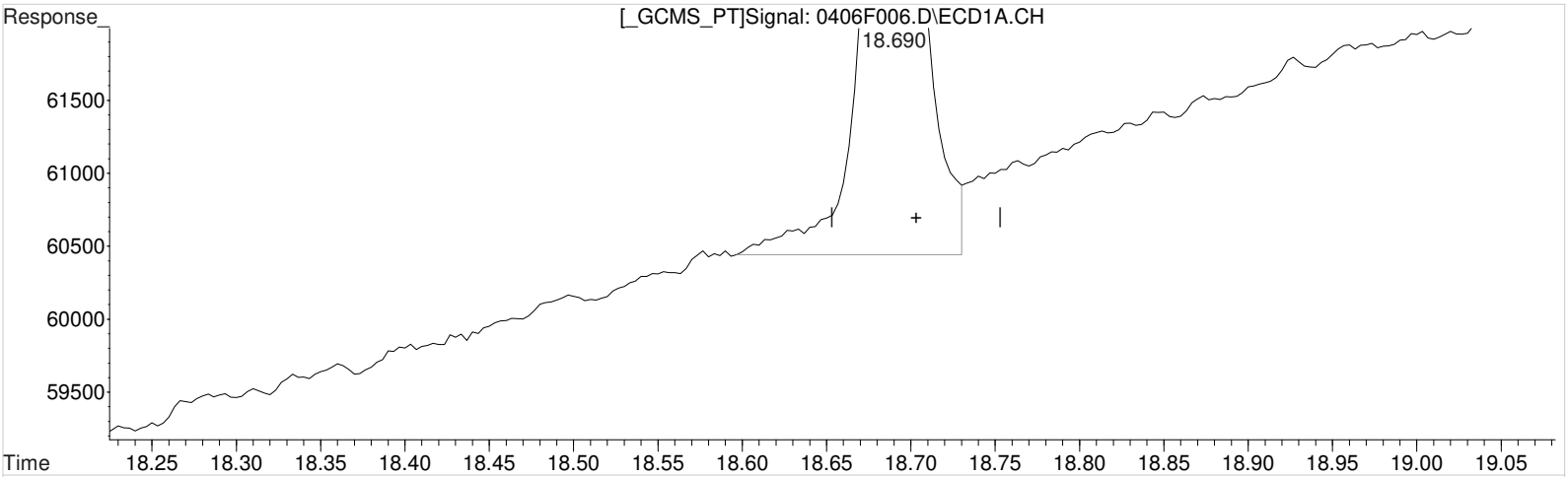
(+) = Expected Retention Time

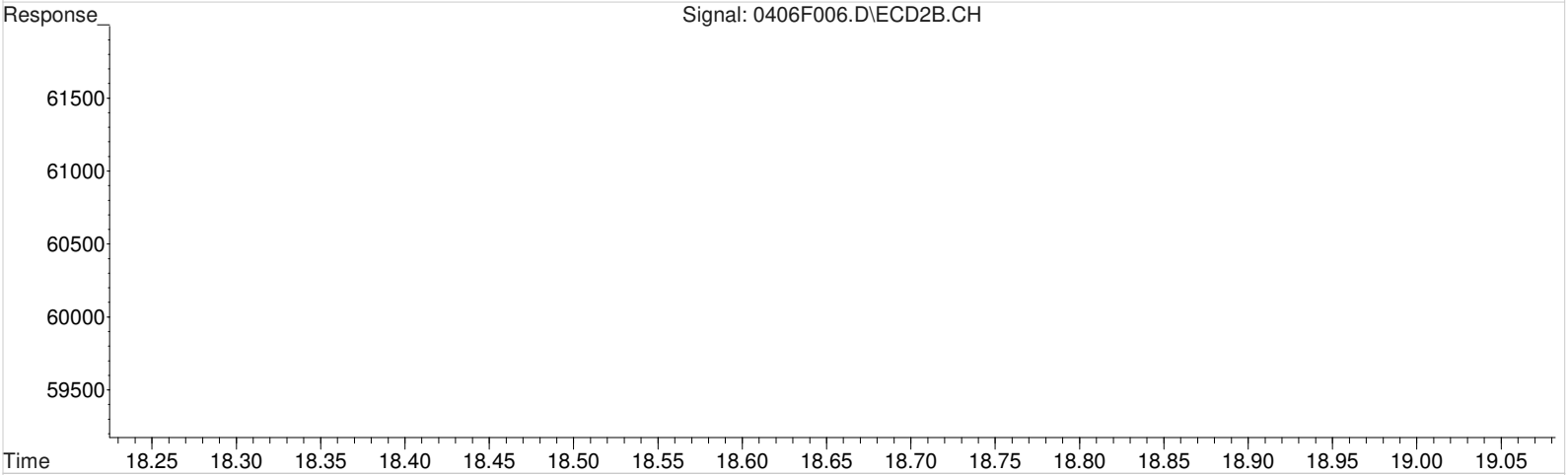
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.690min 0.924 ug/L

response 11394

Manual Integration:

Before

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.077min 0.648 ug/L

response 38973

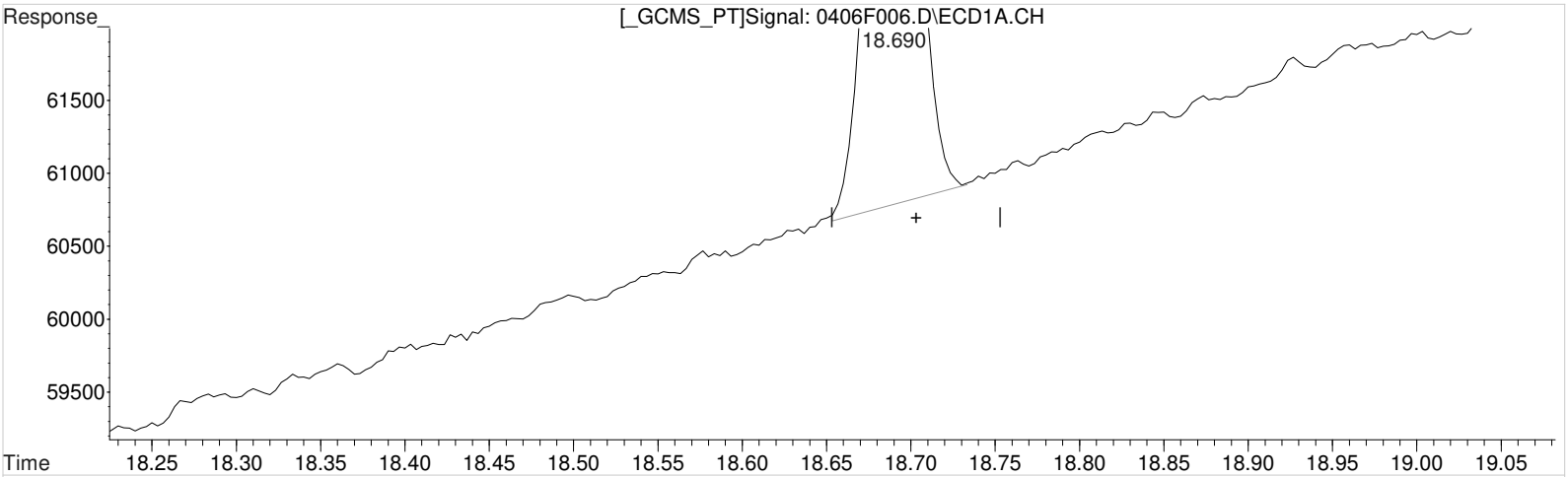
(+) = Expected Retention Time

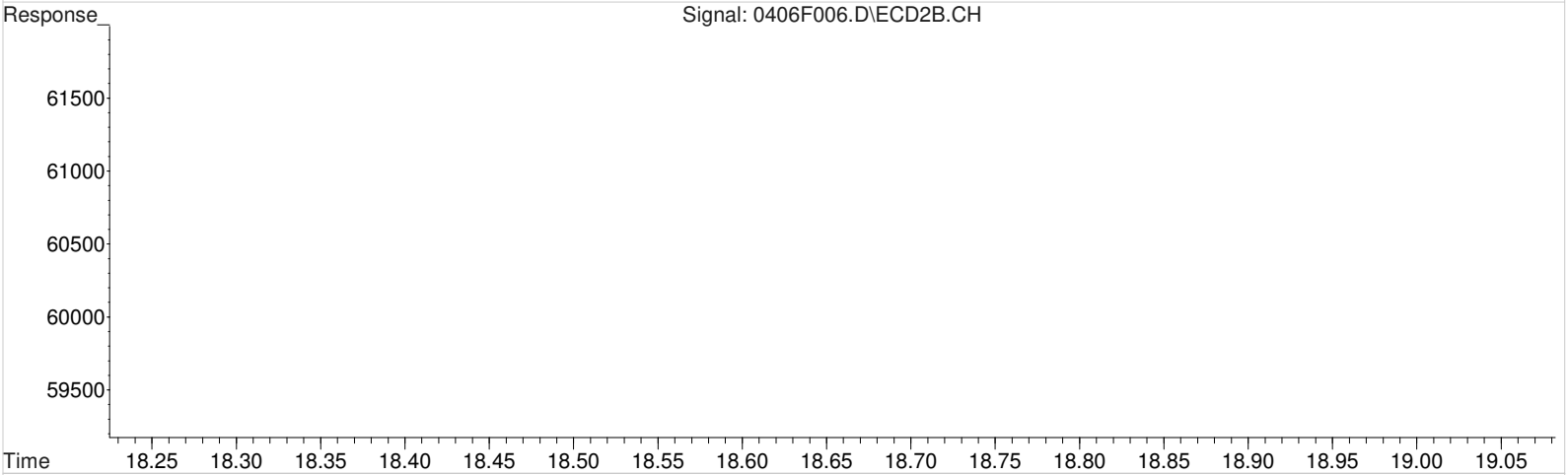
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.690min 0.753 ug/L m

response 9291

Manual Integration:

After

Baseline/Shoulder

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.077min 0.648 ug/L

response 38973

(+) = Expected Retention Time

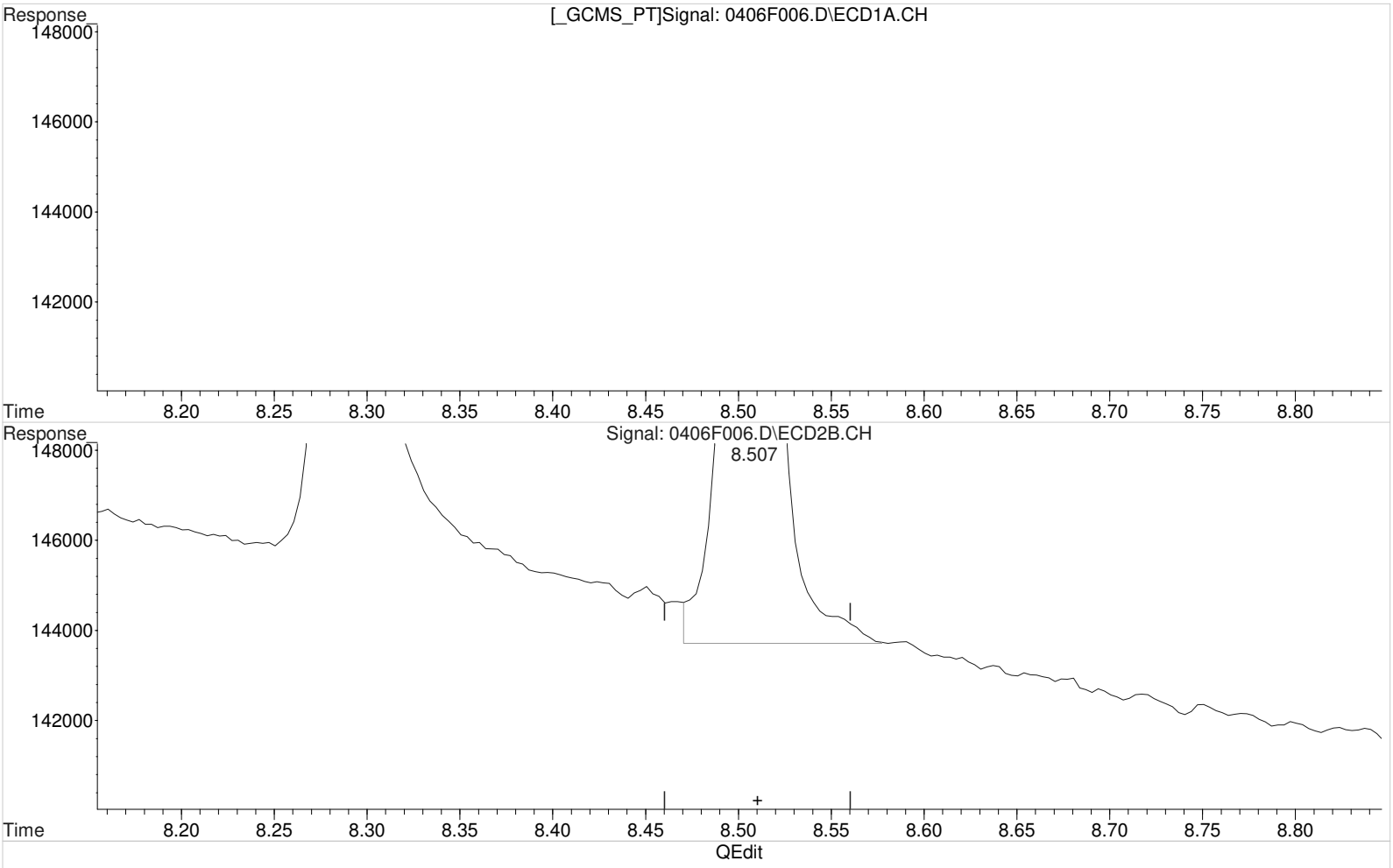
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.833min 0.557 ug/L

response 8218

Manual Integration:

Before

04/07/20

(3) alpha-BHC #2

8.507min 0.614 ug/L

response 38668

(+) = Expected Retention Time

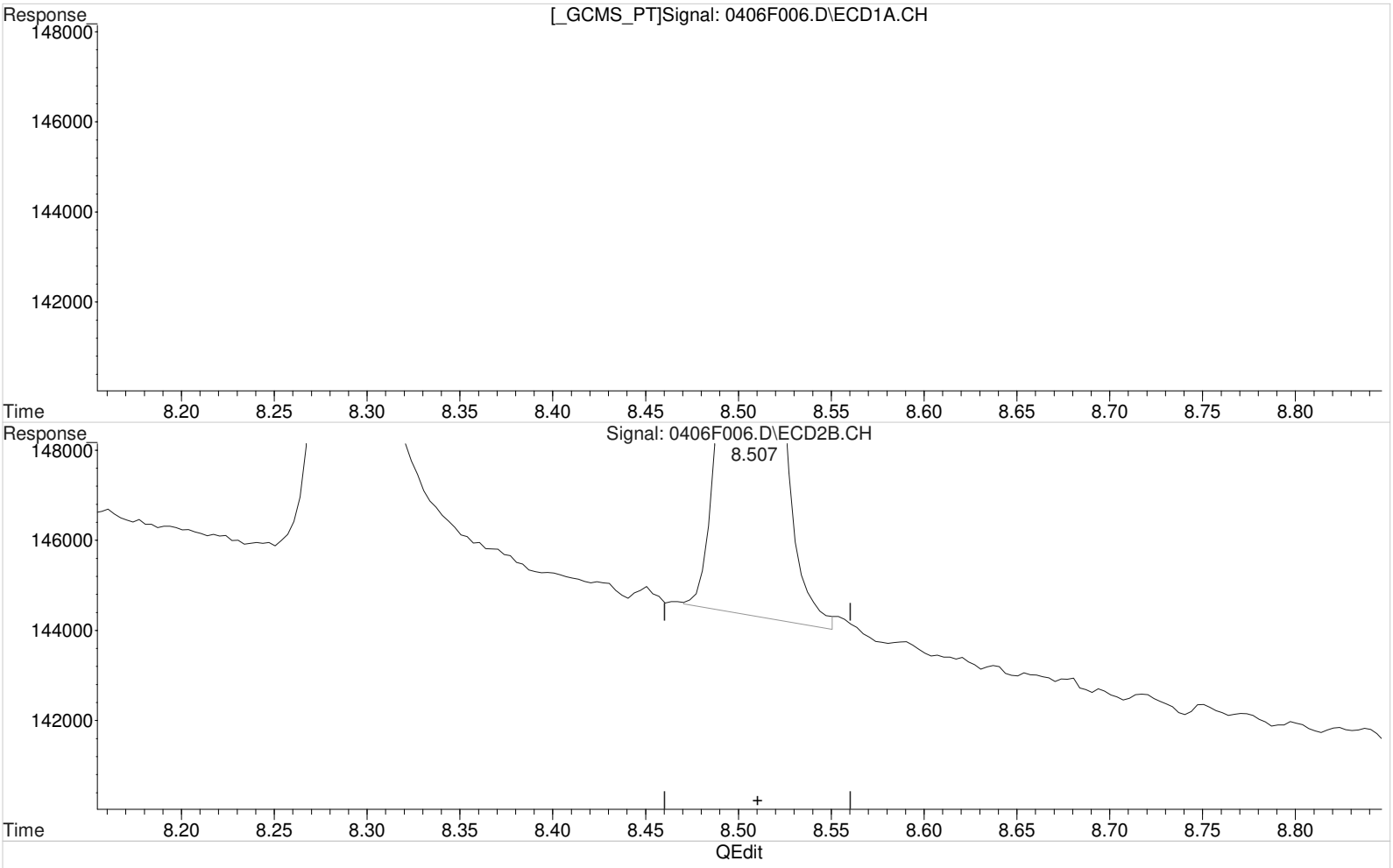
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(3) alpha-BHC

9.833min 0.557 ug/L

response 8218

Manual Integration:

After

Baseline/Shoulder

04/07/20

(3) alpha-BHC #2

8.507min 0.562 ug/L m

response 35354

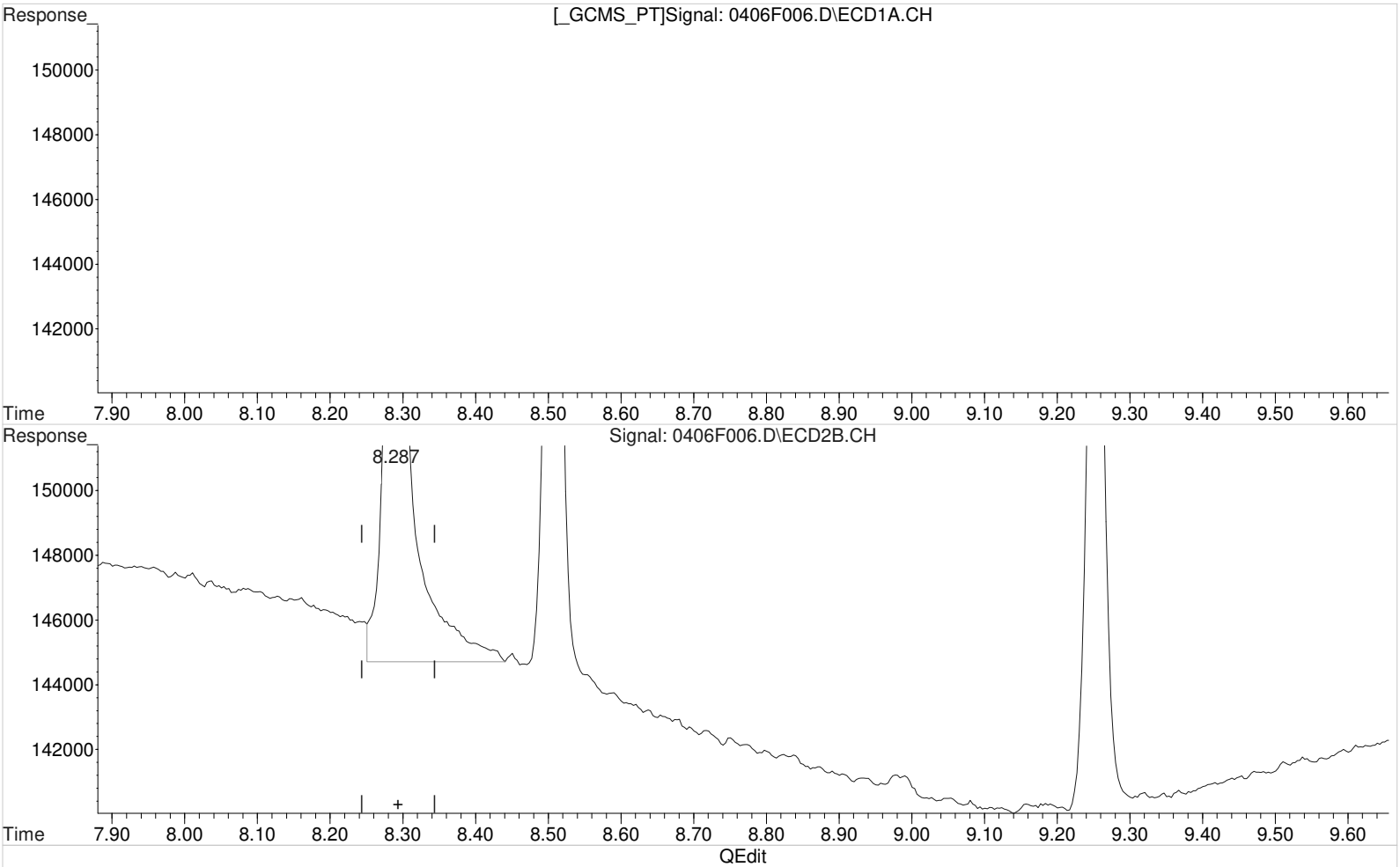
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(4) Hexachlorobenzene

9.997min 0.630 ug/L

response 10409

Manual Integration:

Before

04/07/20

(4) Hexachlorobenzene #2

8.287min 0.732 ug/L

response 46255

(+) = Expected Retention Time

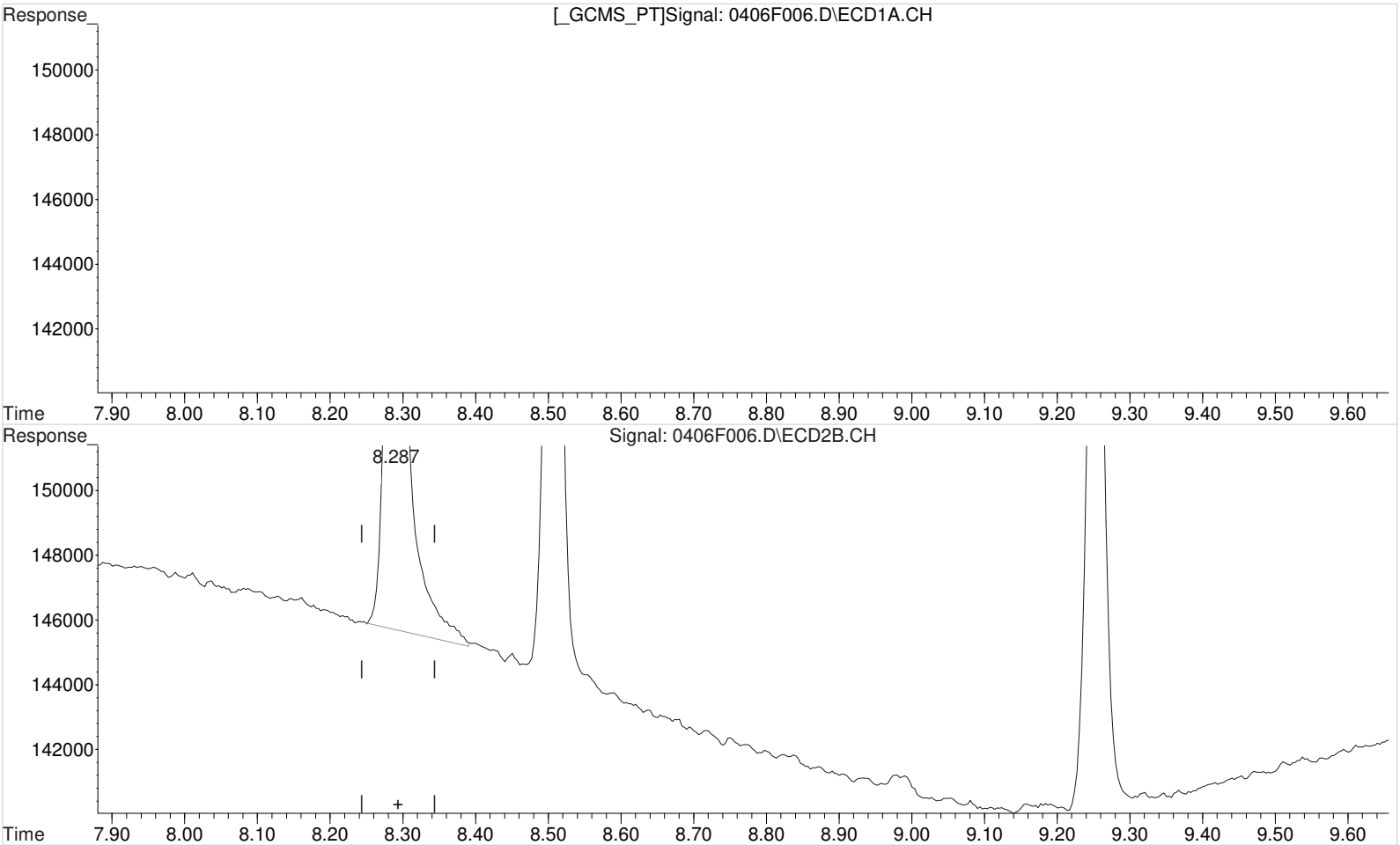
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(4) Hexachlorobenzene

9.997min 0.630 ug/L

response 10409

Manual Integration:

After

Baseline/Shoulder

04/07/20

(4) Hexachlorobenzene #2

8.287min 0.604 ug/L m

response 38154

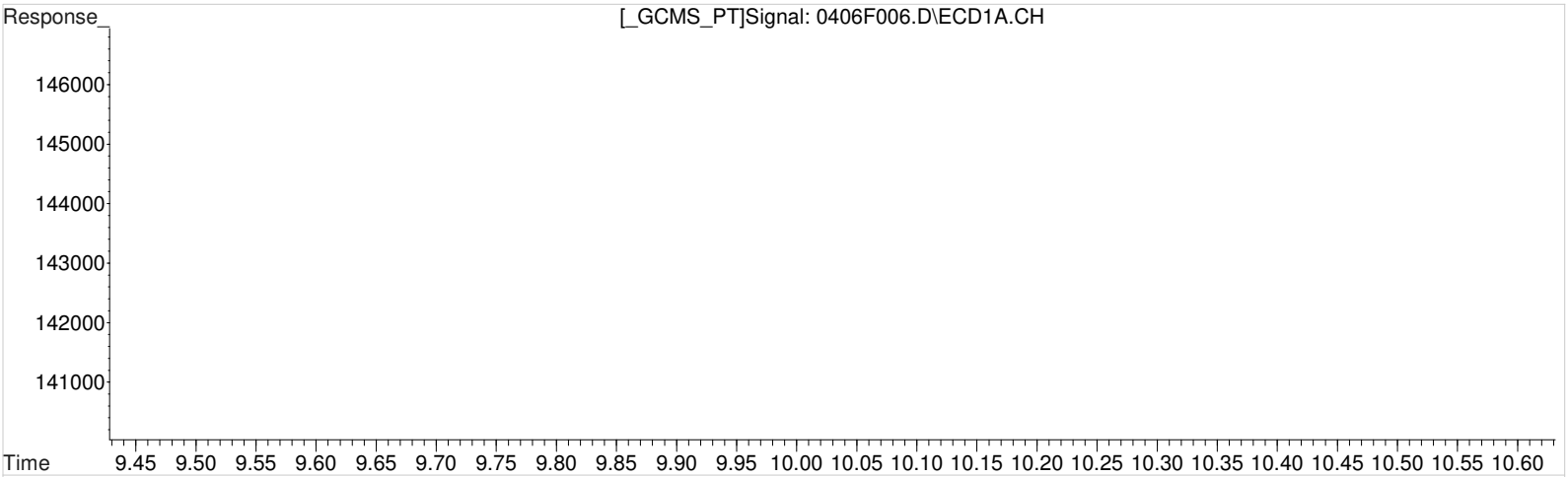
(+) = Expected Retention Time

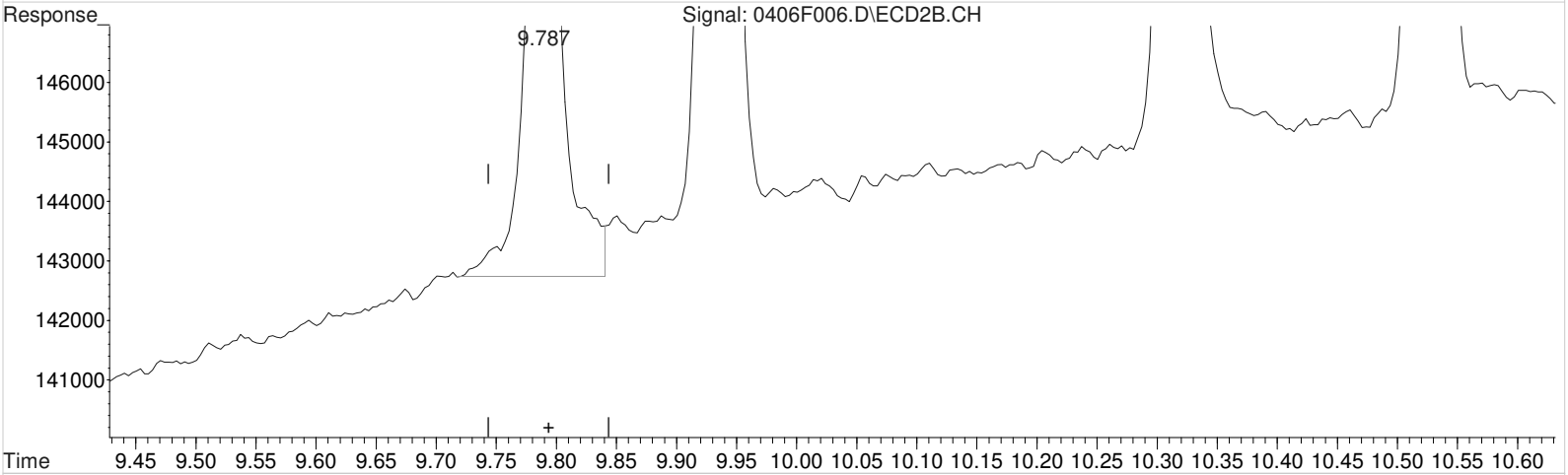
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(5) beta-BHC

11.093min 0.571 ug/L

response 4293

(5) beta-BHC #2

9.787min 0.670 ug/L

response 20431

Manual Integration:

Before

04/07/20

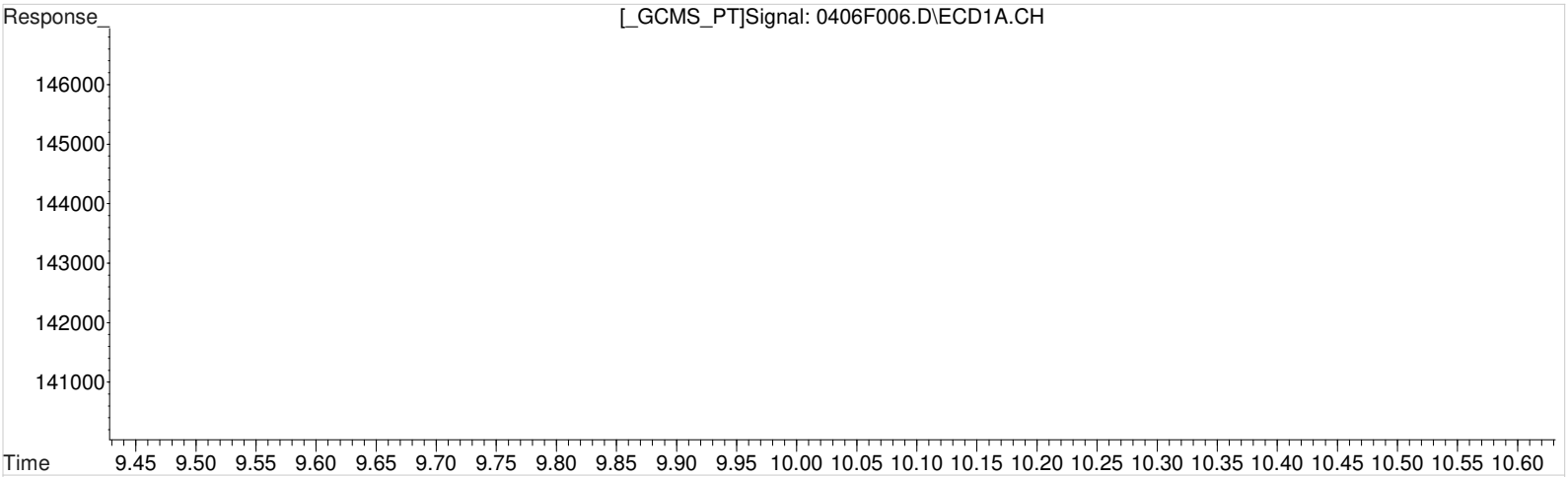
(+) = Expected Retention Time

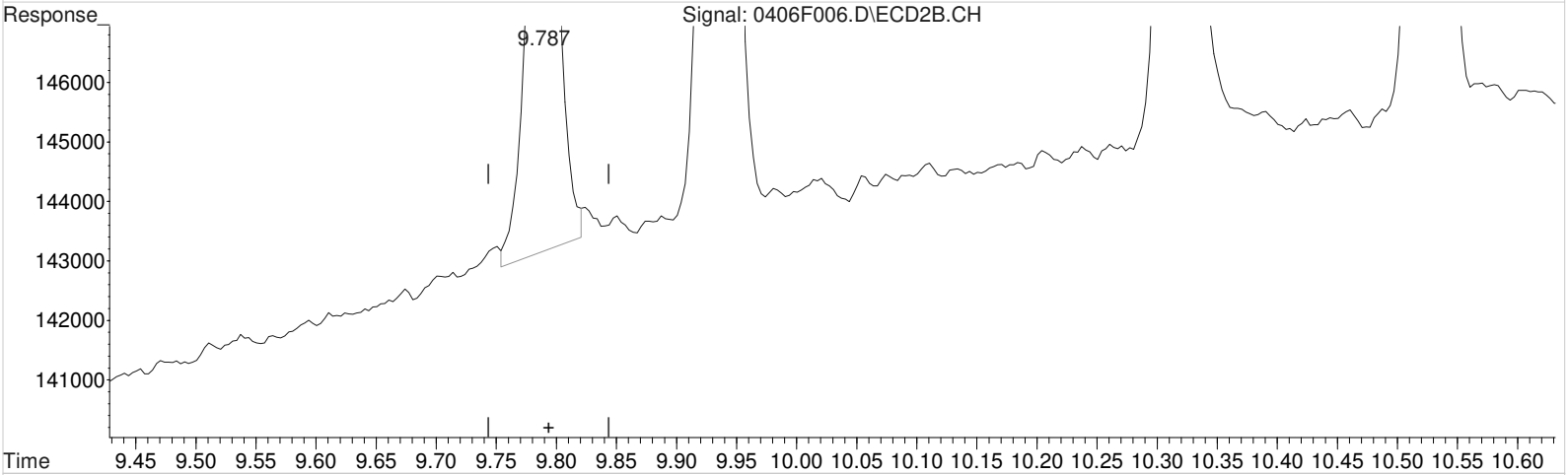
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:23 pm Operator: LM
Sample : 81 0.5PPB GCPS8-74N @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(5) beta-BHC

11.093min 0.571 ug/L

response 4293

Manual Integration:

After

Baseline/Shoulder

04/07/20

(5) beta-BHC #2

9.787min 0.559 ug/L m

response 17040

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:53:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	i	1-Bromo-2...	6.214	5.495	950233	4342672	100.000	100.000
		System Monitoring Compounds						
2)	s	Tetrachlo...	8.998	7.278	14087	54727	1.073	1.073
28)	s	Decachlor...	18.701	17.085	17949	71341	1.455m	1.195
		Target Compounds						
3)		alpha-BHC	9.841	8.512	16156	69968	1.094	1.121m
4)		Hexachlor...	10.004	8.295	19827	71735	1.200	1.145m
5)		beta-BHC	11.101	9.792	8990	34712	1.196	1.148m
6)		gamma-BHC...	10.514	9.258	15473	66935	1.098	1.111
7)		delta-BHC	11.604	10.322	15734	66174	1.136	1.133
8)		Heptachlor	11.711	9.942	17174	69980	1.265	1.147
9)		Aldrin	12.234	10.532	15773	67873	1.170	1.119
10)		Isodrin	12.768	11.328	13086	56265	1.131	1.060
11)		Heptachlo...	12.954	11.612	16607	69115	1.240	1.182
12)		gamma-Chl...	13.474	11.985	16421	65606	1.242	1.118
13)		Endosulfan I	13.604	12.202	15164	59334	1.295	1.147
14)		alpha-Chl...	13.554	12.135	16735	66741	1.291	1.148
15)		Dieldrin	14.024	12.648	16724	65142	1.291	1.146
16)		4,4'-DDE	13.828	12.498	15186	61261	1.259	1.197
17)		Endrin	14.394	13.128	14690	62807	1.237	1.246
18)		Endosulfa...	14.838	13.565	14995	56501	1.266	1.103
19)		4,4'-DDD	14.664	13.392	11763	45619	1.267	1.066
20)		Endrin Al...	15.018	13.932	13102	47221	1.324	1.127
21)		Endosulfa...	15.491	14.255	15317	56488	1.278	1.159
22)		4,4'-DDT	15.168	13.812	12406	44744	1.366	1.340
23)		Endrin Ke...	16.181	15.205	16240	65802	1.262m	1.111
24)		Methoxychlor	15.914	14.925	7357	25081	1.459m	1.333

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

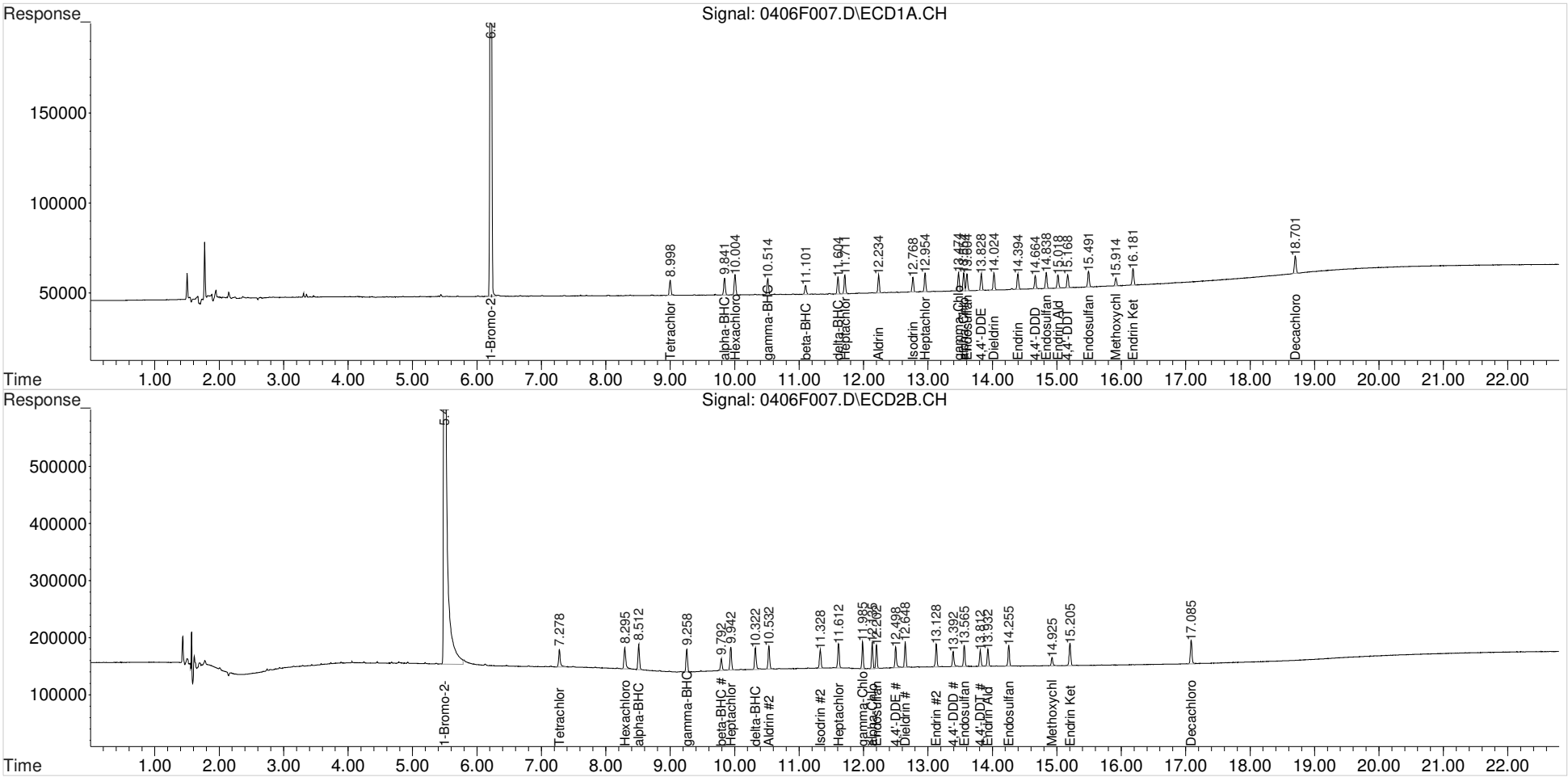
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:53:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



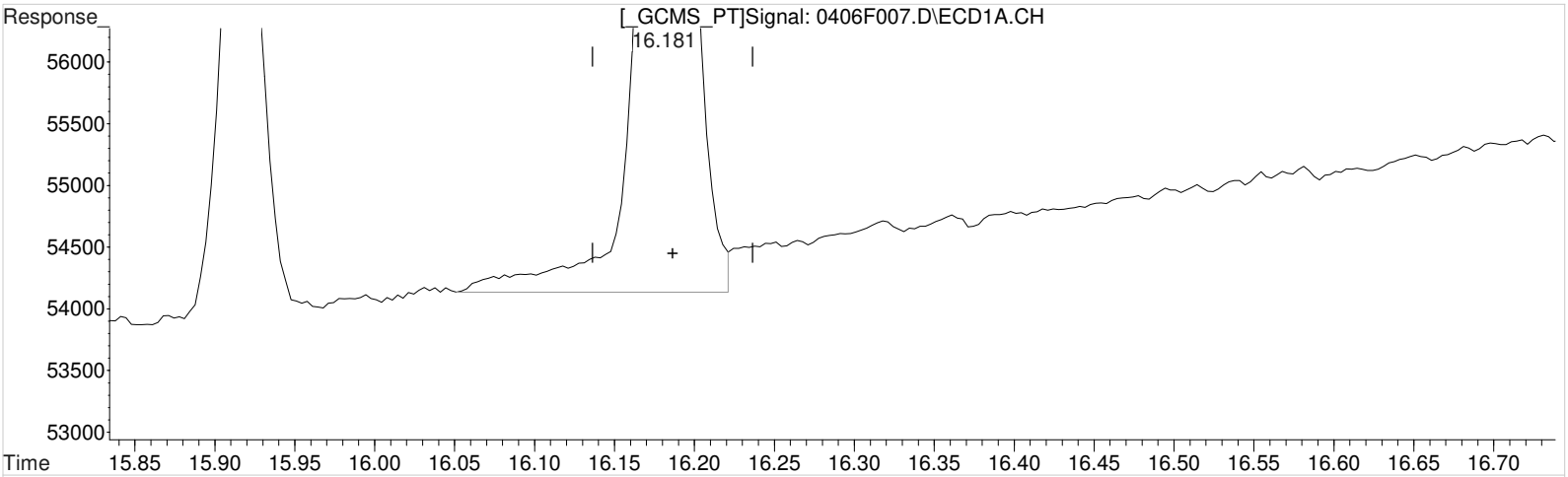
Quantitation Report (Qedit)

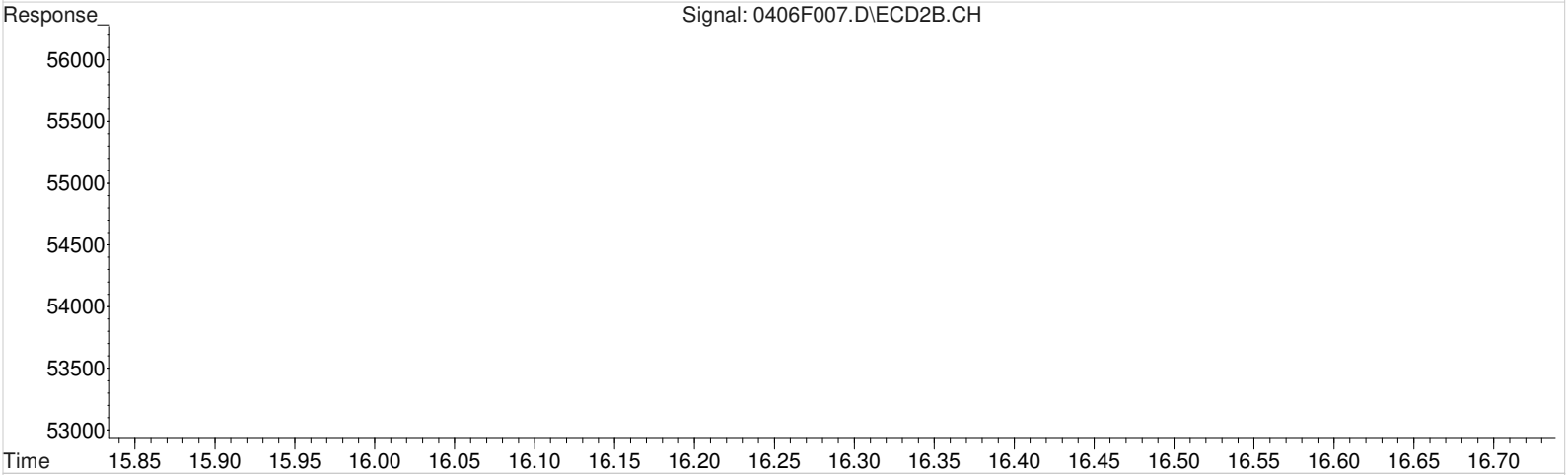
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(23) Endrin Ketone

16.181min 1.434 ug/L

response 18458

Manual Integration:

Before

04/07/20

(23) Endrin Ketone #2

15.205min 1.111 ug/L

response 65802

(+) = Expected Retention Time

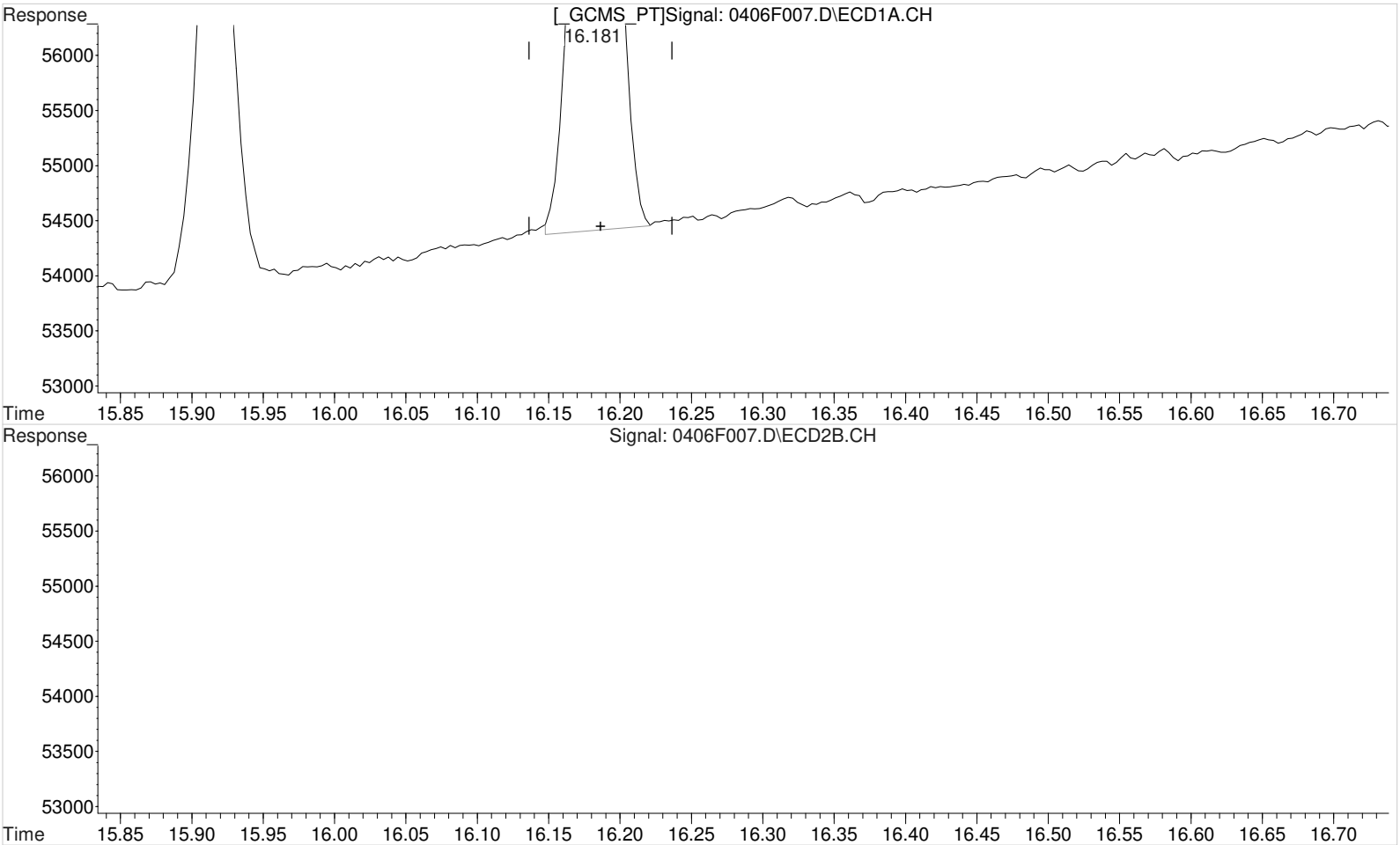
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(23) Endrin Ketone

16.181min 1.262 ug/L m

response 16240

Manual Integration:

After

Baseline/Shoulder

04/07/20

(23) Endrin Ketone #2

15.205min 1.111 ug/L

response 65802

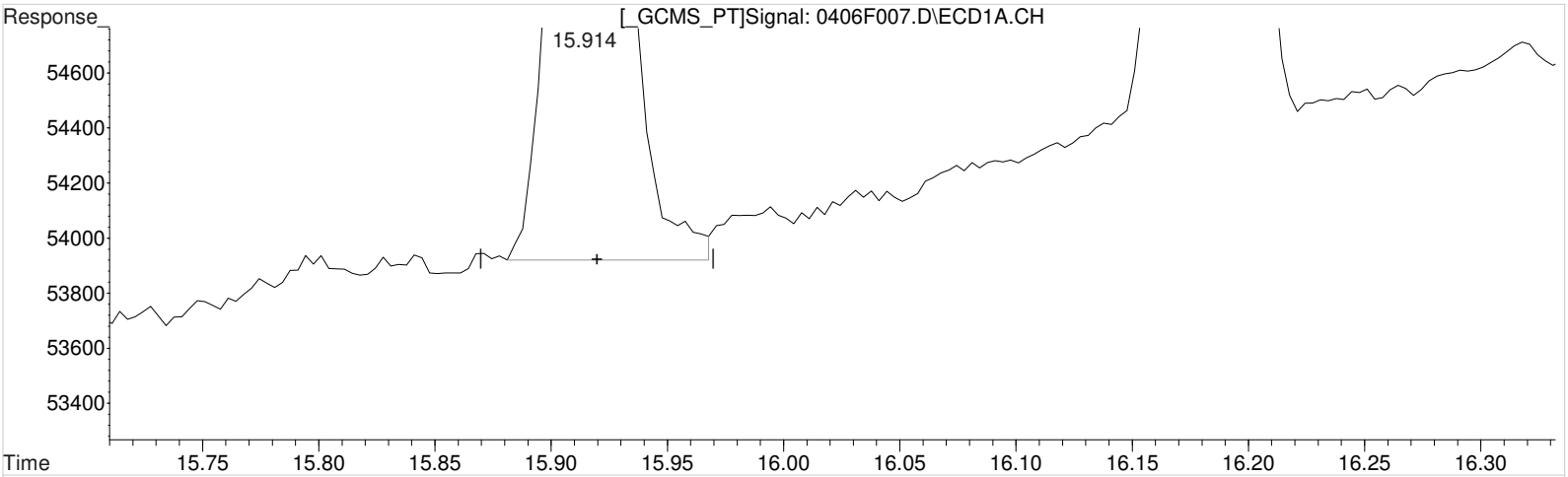
(+) = Expected Retention Time

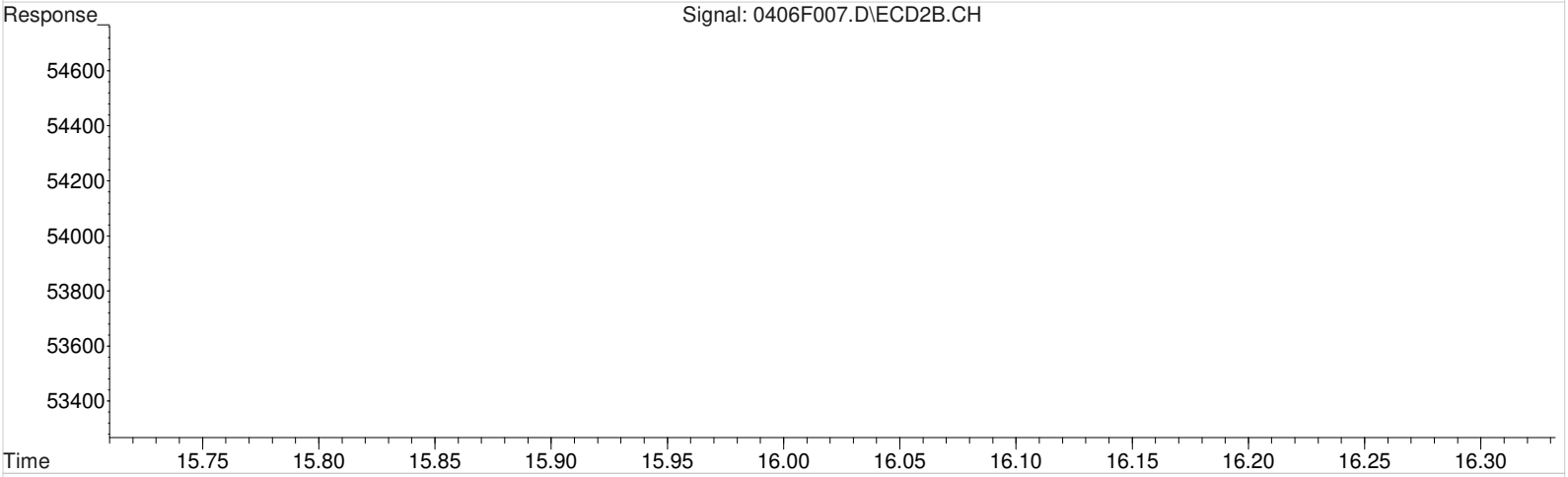
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.914min 1.513 ug/L

response 7630

Manual Integration:

Before

04/07/20

(24) Methoxychlor #2

14.925min 1.333 ug/L

response 25081

(+) = Expected Retention Time

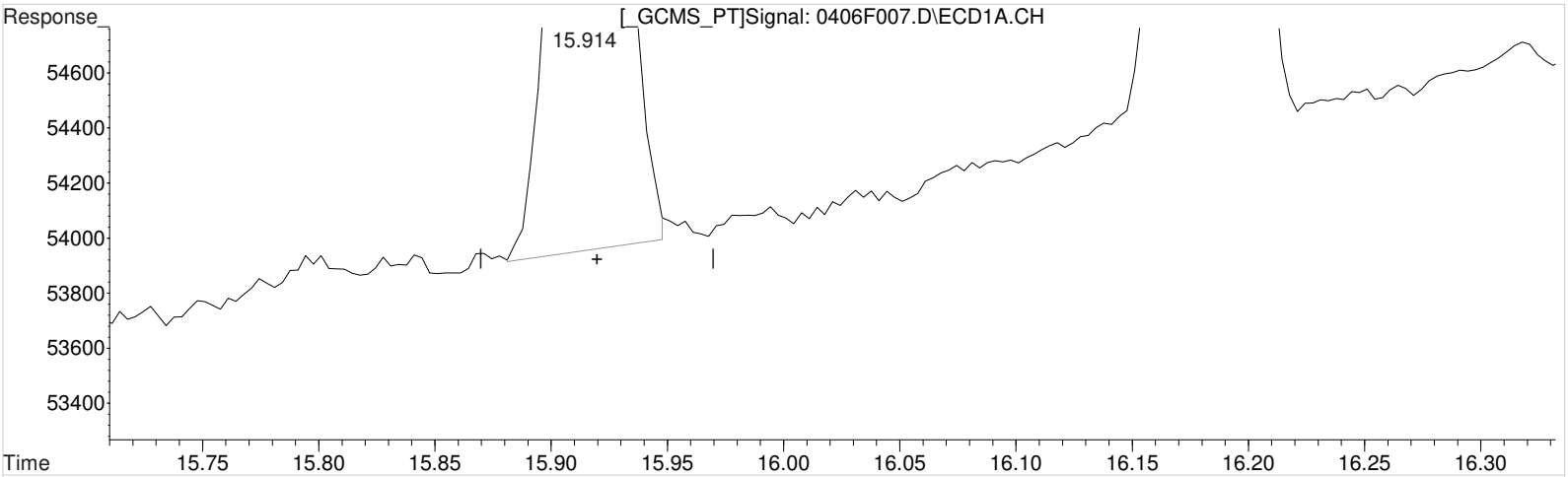
Quantitation Report (Qedit)

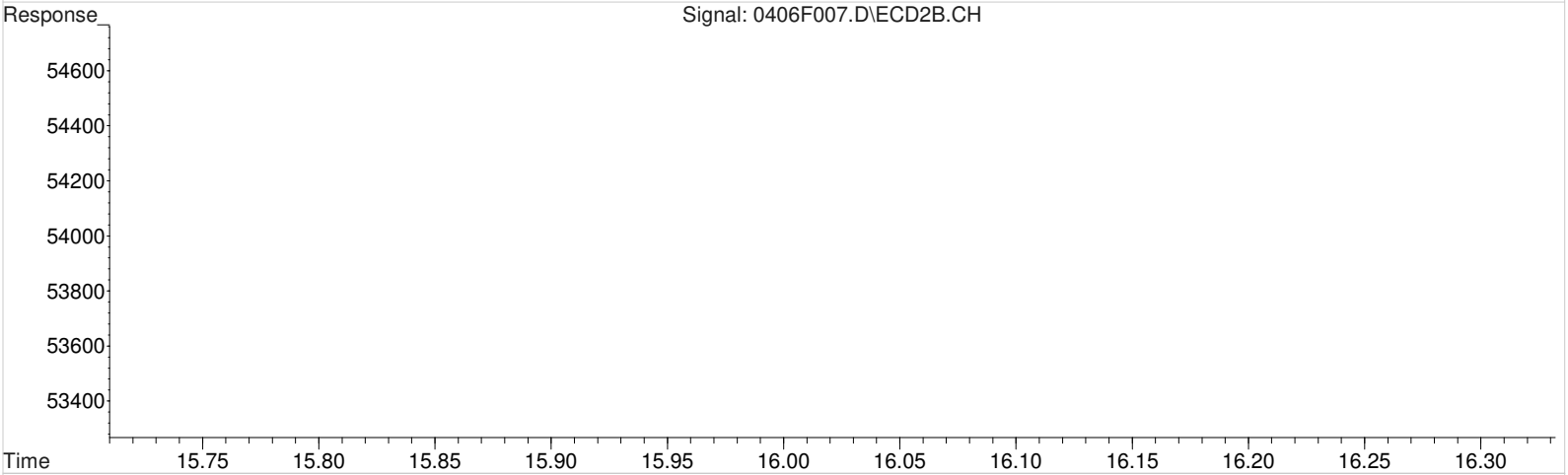
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.914min 1.459 ug/L m

response 7357

Manual Integration:

After

Baseline/Shoulder

04/07/20

(24) Methoxychlor #2

14.925min 1.333 ug/L

response 25081

(+) = Expected Retention Time

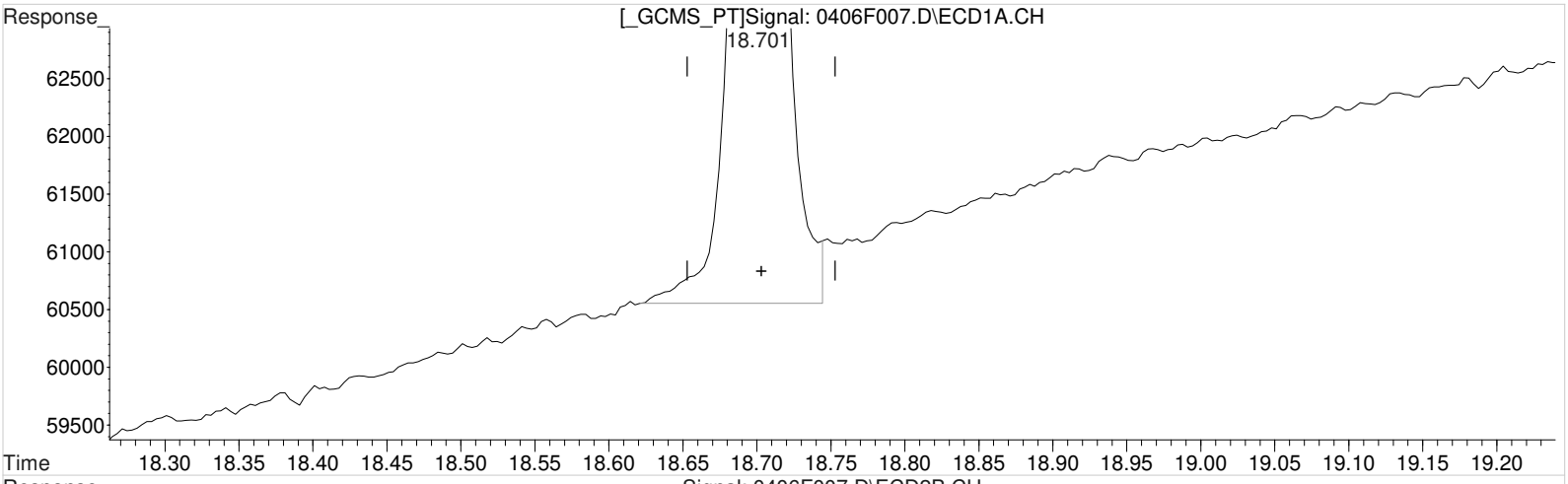
Quantitation Report (Qedit)

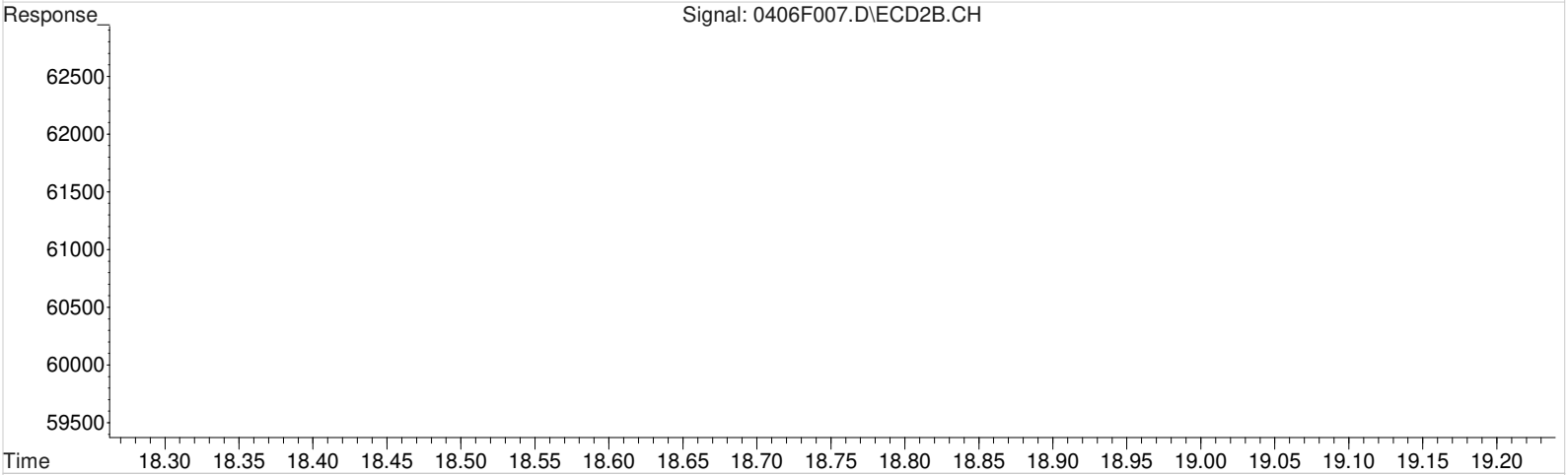
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.701min 1.629 ug/L

response 20101

Manual Integration:

Before

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.085min 1.195 ug/L

response 71341

(+) = Expected Retention Time

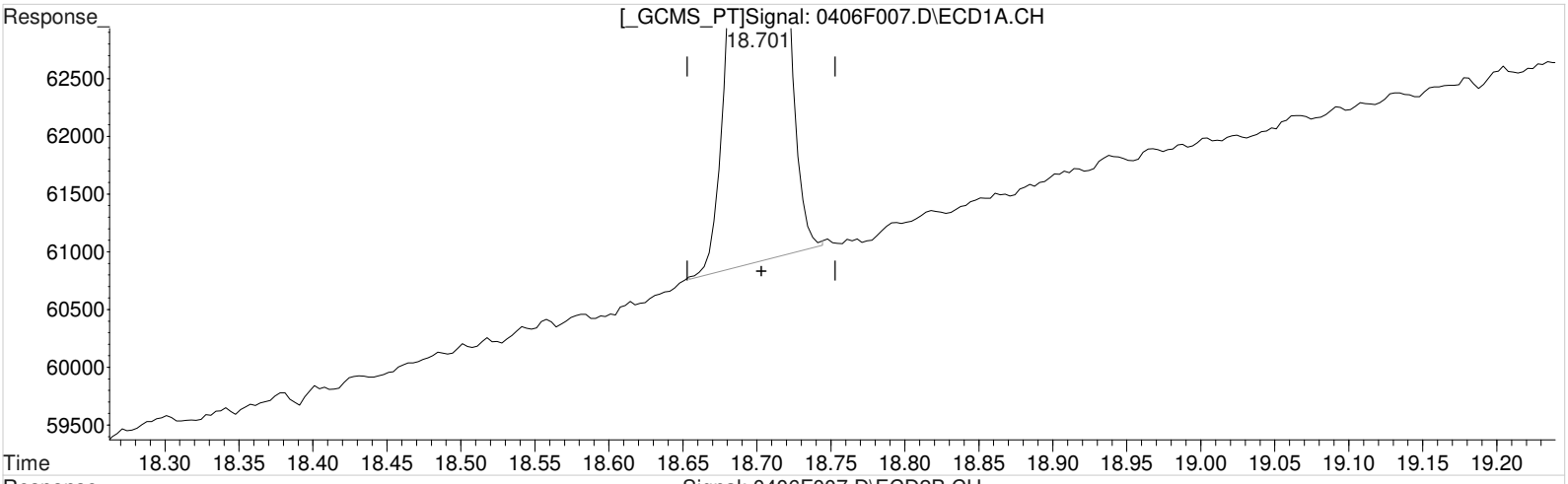
Quantitation Report (Qedit)

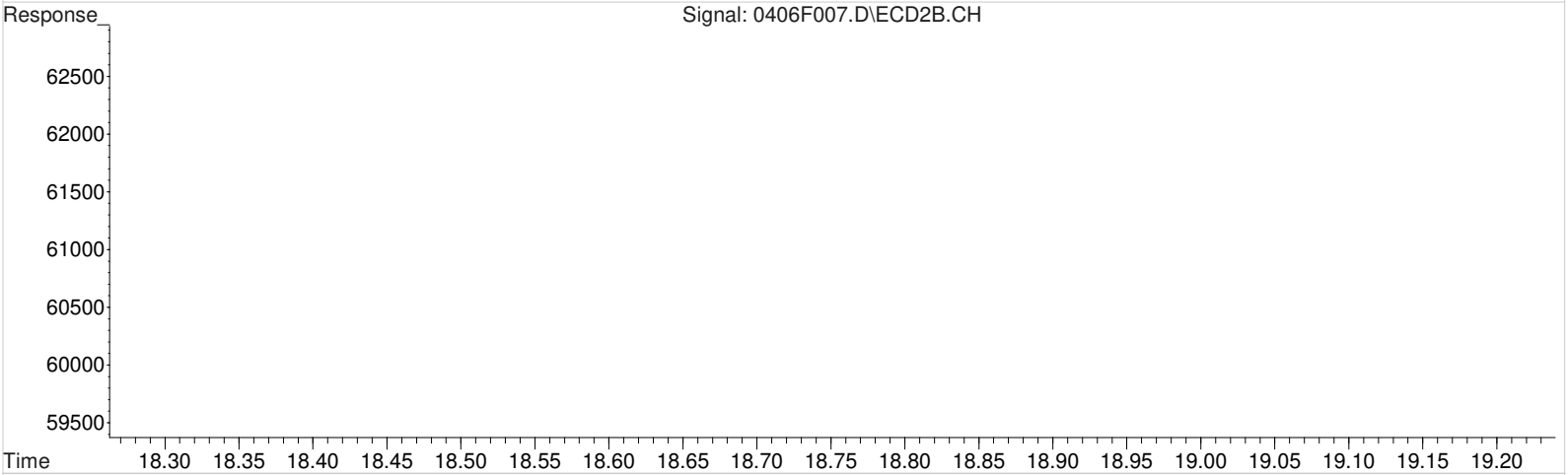
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.701min 1.455 ug/L m

response 17949

Manual Integration:

After

Baseline/Shoulder

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.085min 1.195 ug/L

response 71341

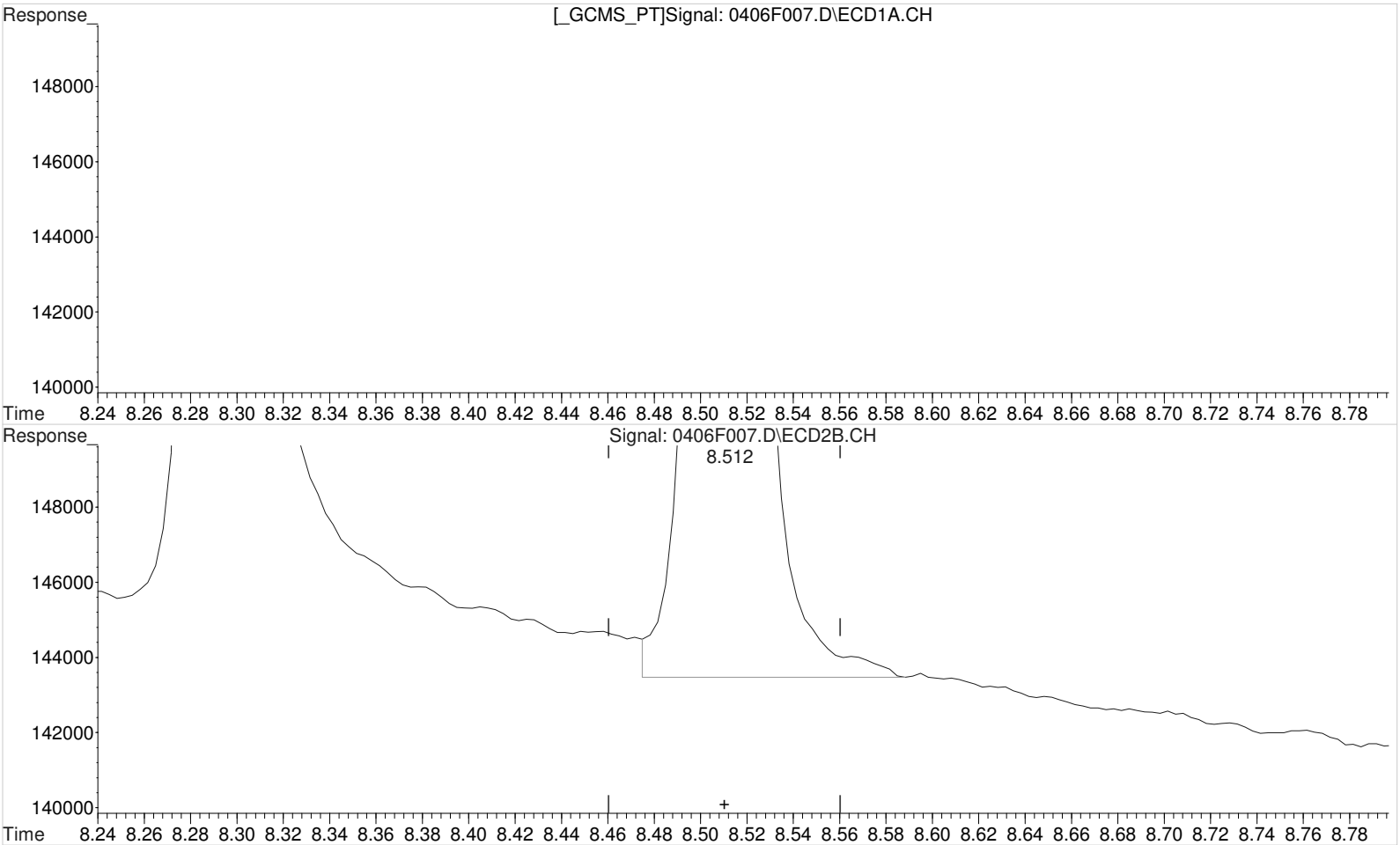
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.841min 1.094 ug/L

response 16156

Manual Integration:

Before

04/07/20

(3) alpha-BHC #2

8.512min 1.183 ug/L

response 73875

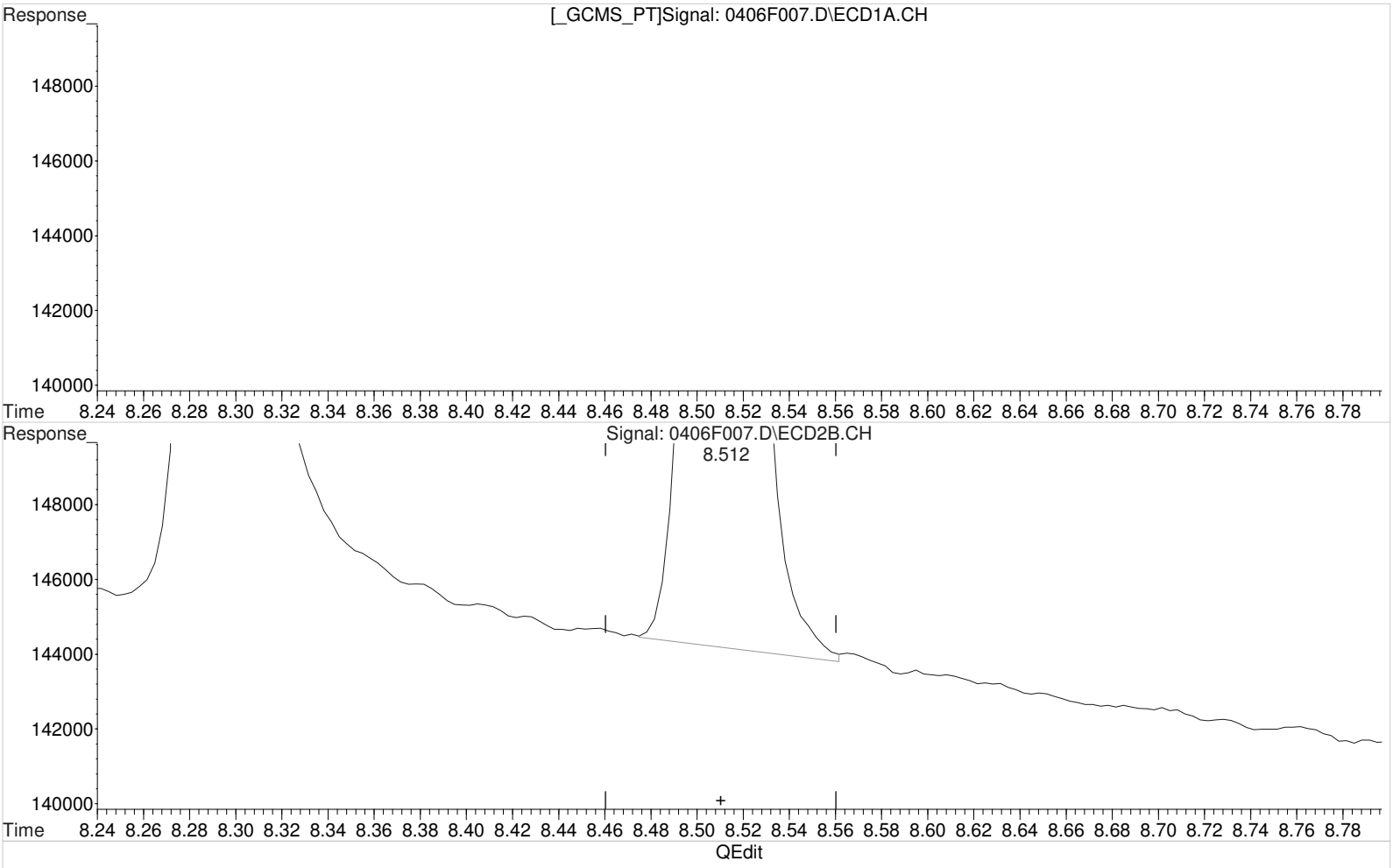
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(3) alpha-BHC

9.841min 1.094 ug/L

response 16156

Manual Integration:

After

Baseline/Shoulder

04/07/20

(3) alpha-BHC #2

8.512min 1.121 ug/L m

response 69968

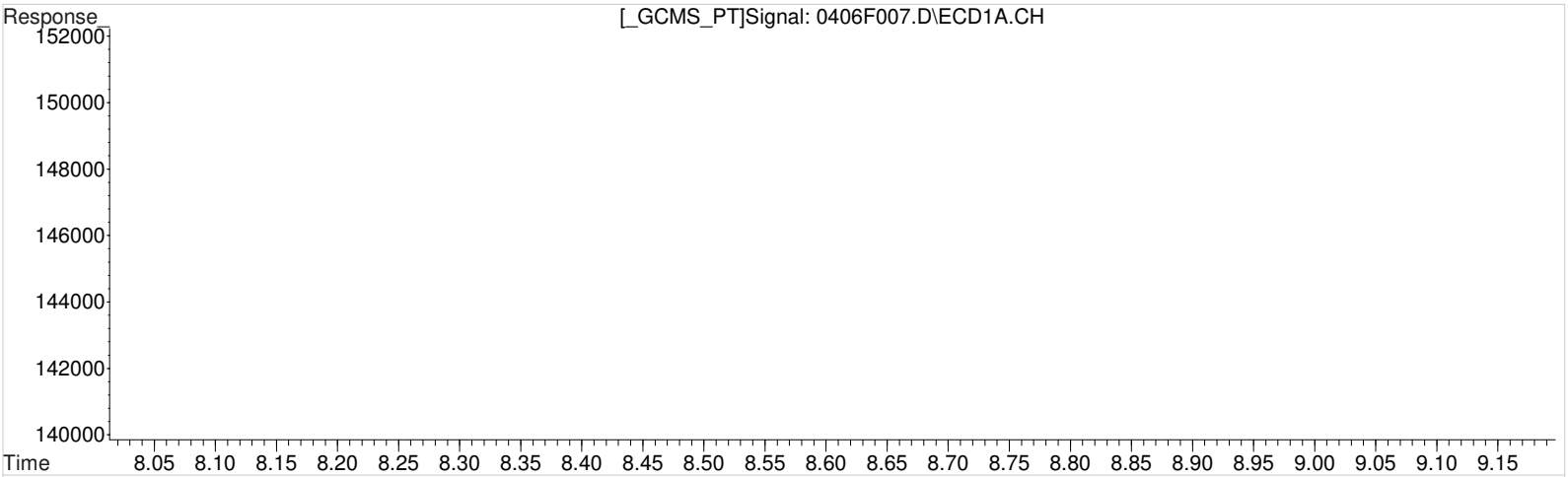
(+) = Expected Retention Time

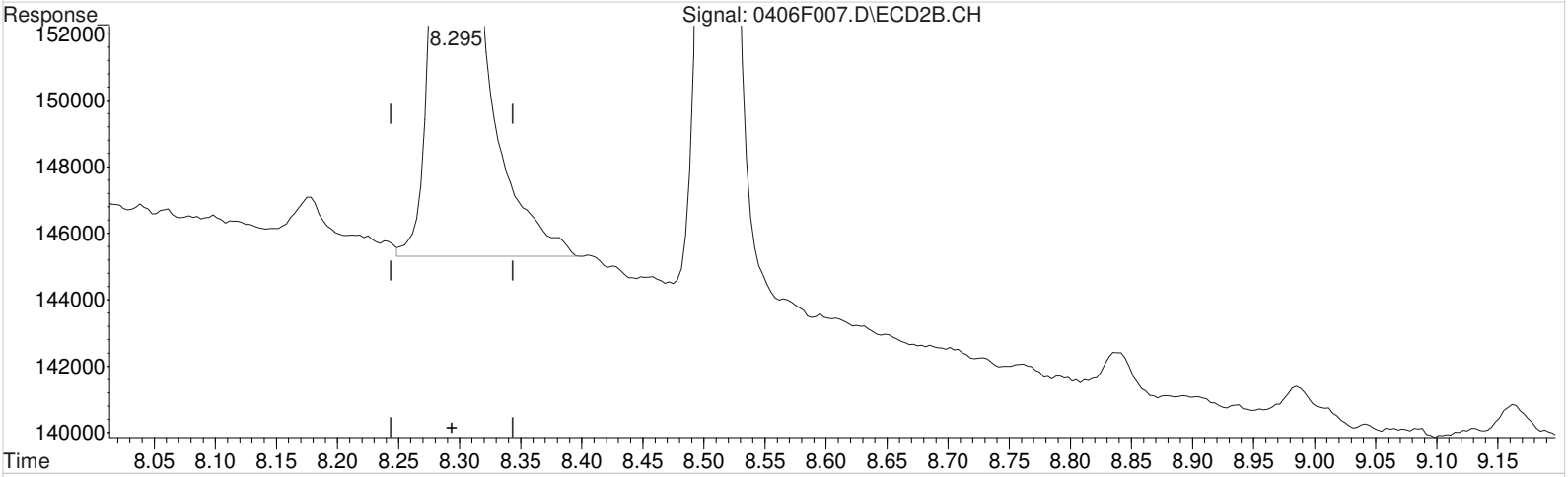
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(4) Hexachlorobenzene

10.004min 1.200 ug/L

response 19827

Manual Integration:

Before

04/07/20

(4) Hexachlorobenzene #2

8.295min 1.166 ug/L

response 73063

(+) = Expected Retention Time

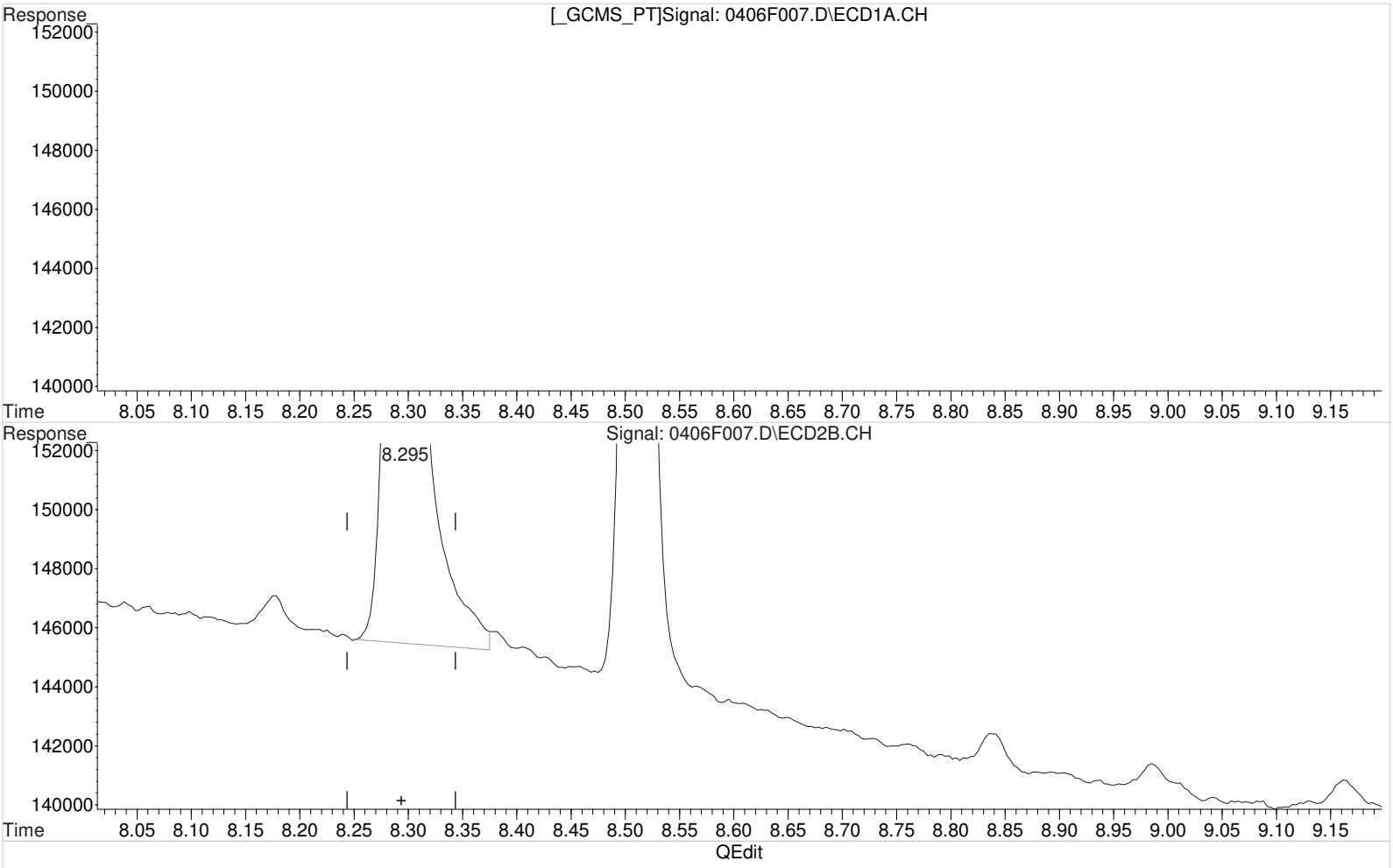
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(4) Hexachlorobenzene

10.004min 1.200 ug/L

response 19827

Manual Integration:

After

Baseline/Shoulder

04/07/20

(4) Hexachlorobenzene #2

8.295min 1.145 ug/L m

response 71735

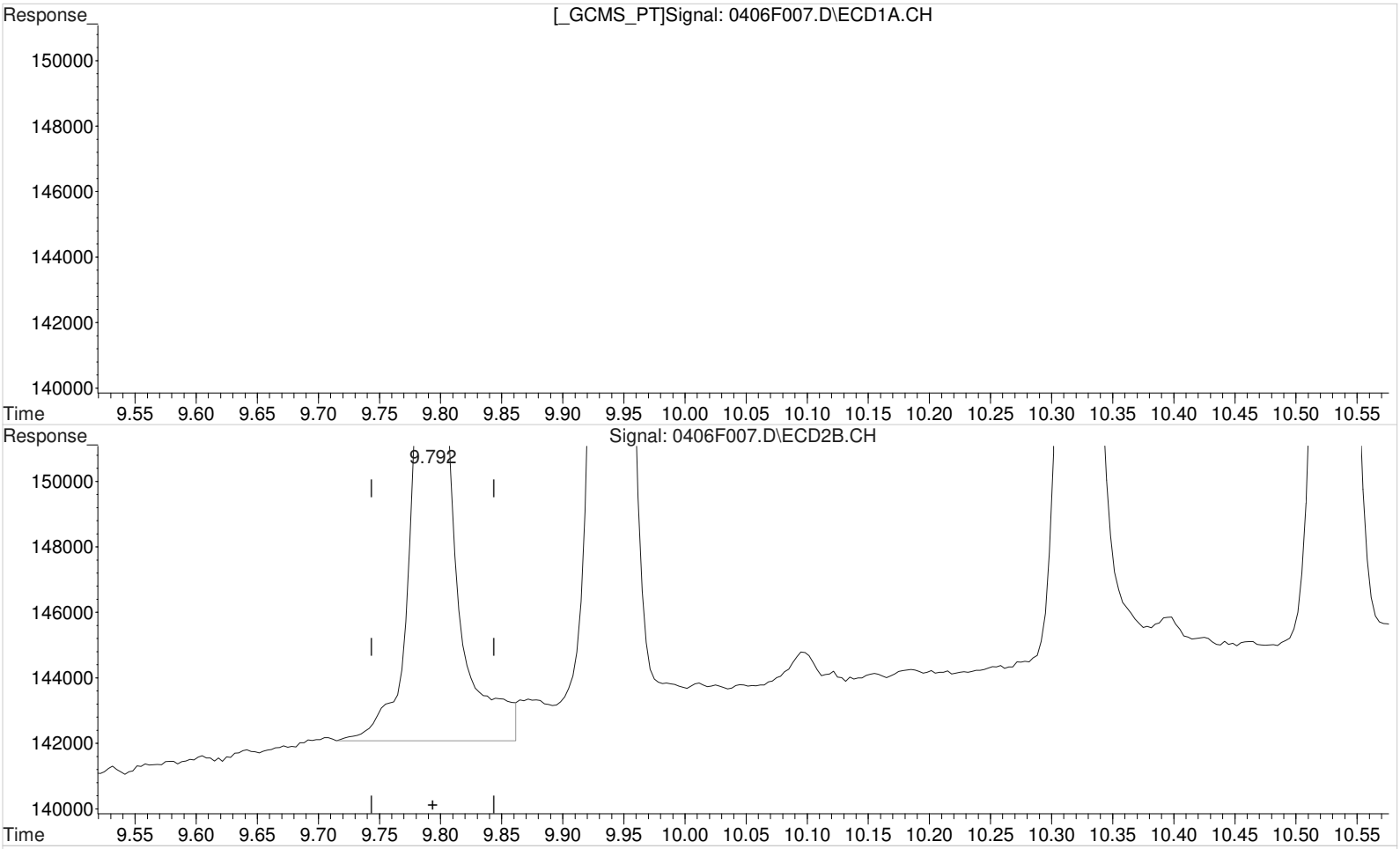
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.101min 1.196 ug/L

response 8990

(5) beta-BHC #2

9.792min 1.361 ug/L

response 41157

Manual Integration:

Before

04/07/20

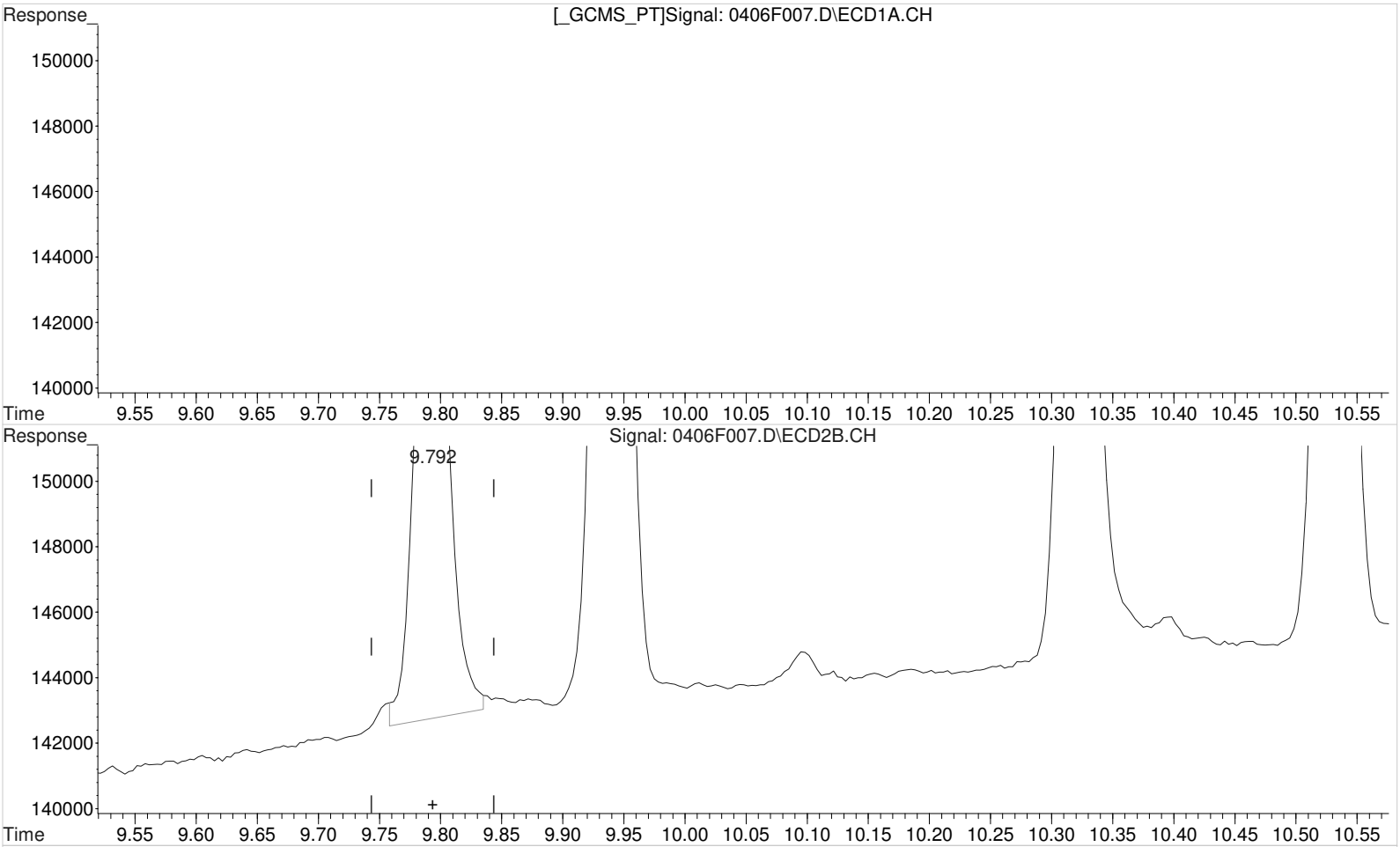
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F007.D Vial: 5
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 1:53 pm Operator: LM
Sample : 81 1PPB GCPS8-74N @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.101min 1.196 ug/L

response 8990

Manual Integration:

After

Baseline/Shoulder

04/07/20

(5) beta-BHC #2

9.792min 1.148 ug/L m

response 34712

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F008.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:23 pm Operator: LM
Sample : 81 2PPB GCPS8-74N Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:56:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.216	5.497	956280	4383244	100.000	100.000
	System Monitoring Compounds						
2) s	Tetrachlo...	8.996	7.277	27961	111228	2.117	2.160
28) s	Decachlor...	18.703	17.087	34850	138404	2.806m	2.298
	Target Compounds						
3)	alpha-BHC	9.843	8.510	31842	137141	2.143	2.176m
4)	Hexachlor...	10.006	8.294	37725	138917	2.270	2.197m
5)	beta-BHC	11.100	9.794	16942	67045	2.240	2.196m
6)	gamma-BHC...	10.513	9.257	30435	132751	2.145	2.184
7)	delta-BHC	11.606	10.324	31023	131060	2.225	2.223
8)	Heptachlor	11.710	9.940	32425	132987	2.374	2.160
9)	Aldrin	12.236	10.530	29677	130696	2.187	2.135
10)	Isodrin	12.770	11.330	24906	109936	2.139	2.052
11)	Heptachlo...	12.960	11.614	31477	132161	2.335	2.239
12)	gamma-Chl...	13.480	11.987	31405	128480	2.360	2.170
13)	Endosulfan I	13.610	12.204	28653	115024	2.431	2.202
14)	alpha-Chl...	13.560	12.137	31291	128325	2.399	2.186
15)	Dieldrin	14.030	12.650	30728	127748	2.357	2.226
16)	4,4'-DDE	13.830	12.504	28523	121133	2.350	2.344
17)	Endrin	14.400	13.134	28197	123900	2.359	2.435
18)	Endosulfa...	14.840	13.567	28700	109335	2.407	2.115
19)	4,4'-DDD	14.670	13.394	22882	93210	2.450	2.157
20)	Endrin Al...	15.023	13.934	24594	91406	2.470	2.162
21)	Endosulfa...	15.496	14.257	29344	110269	2.433	2.242
22)	4,4'-DDT	15.173	13.814	23956	91345	2.621	2.711
23)	Endrin Ke...	16.186	15.207	31193	129500	2.408	2.166
24)	Methoxychlor	15.920	14.930	14425	49273	2.842	2.595
	SemiQuant Compounds - Not Calibrated on this Instrument						

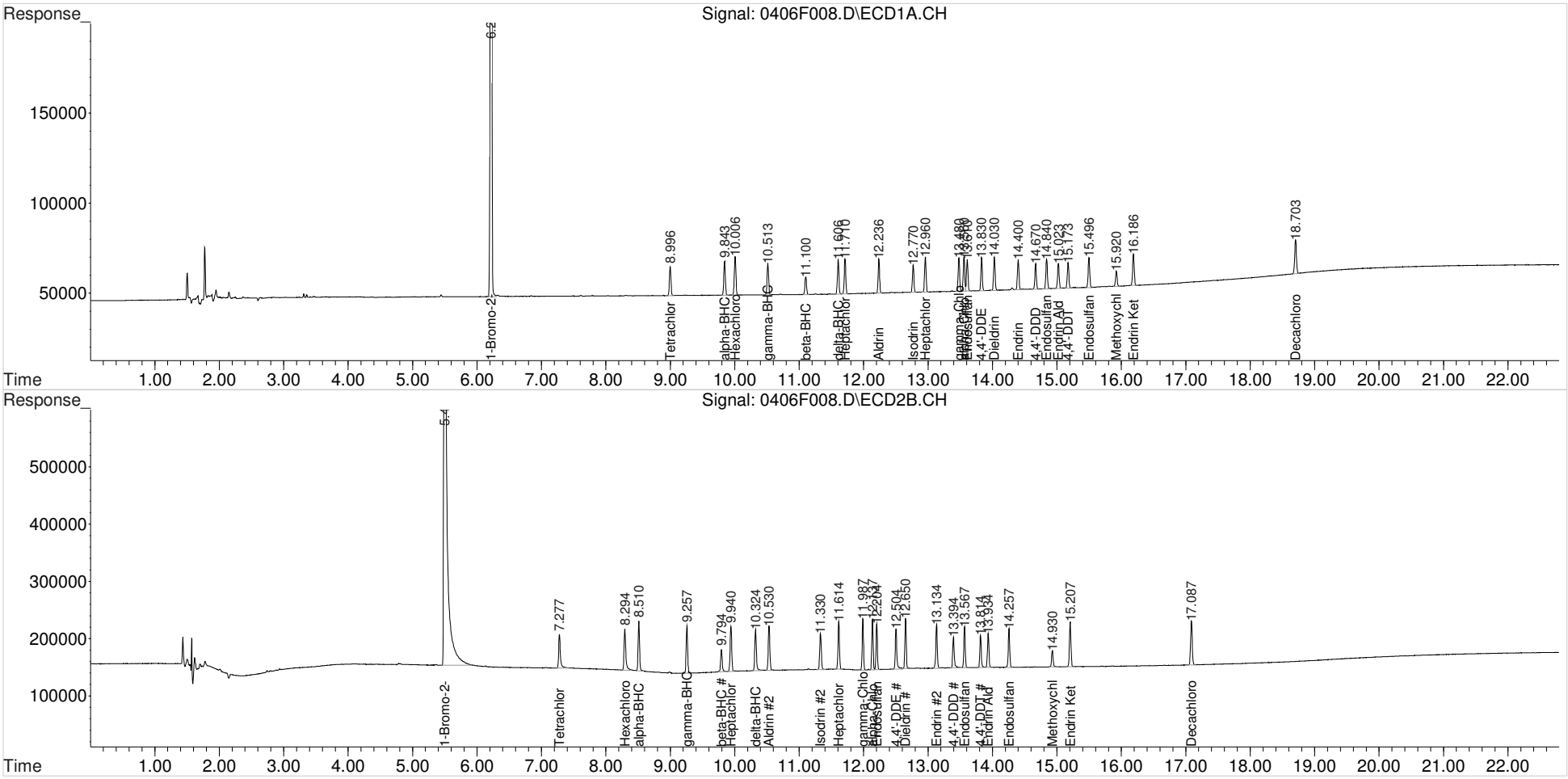
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F008.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:23 pm Operator: LM
Sample : 81 2PPB GCPS8-74N Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:56:11 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



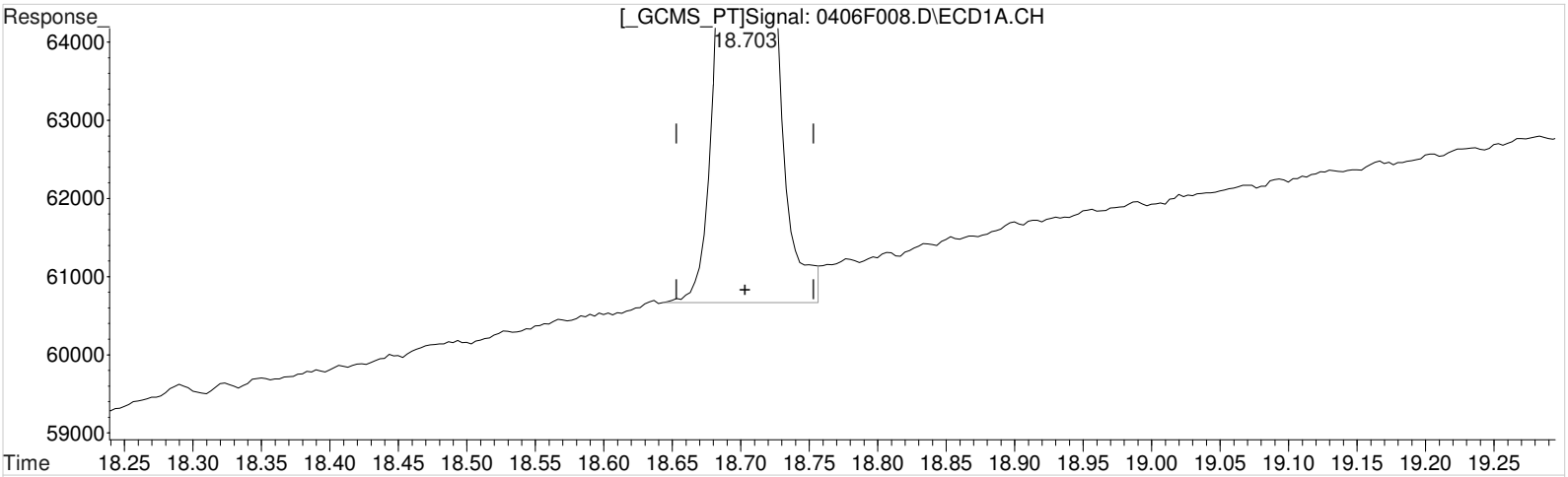
Quantitation Report (Qedit)

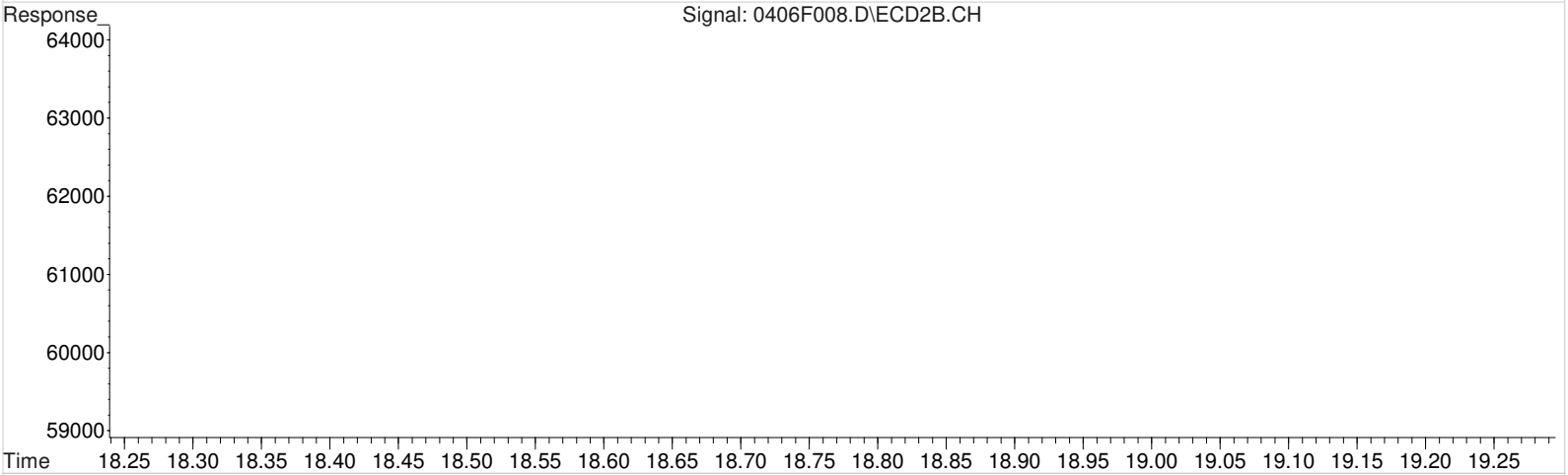
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F008.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:23 pm Operator: LM
Sample : 81 2PPB GCPS8-74N Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.703min 2.923 ug/L

response 36303

Manual Integration:

Before

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.087min 2.298 ug/L

response 138404

(+) = Expected Retention Time

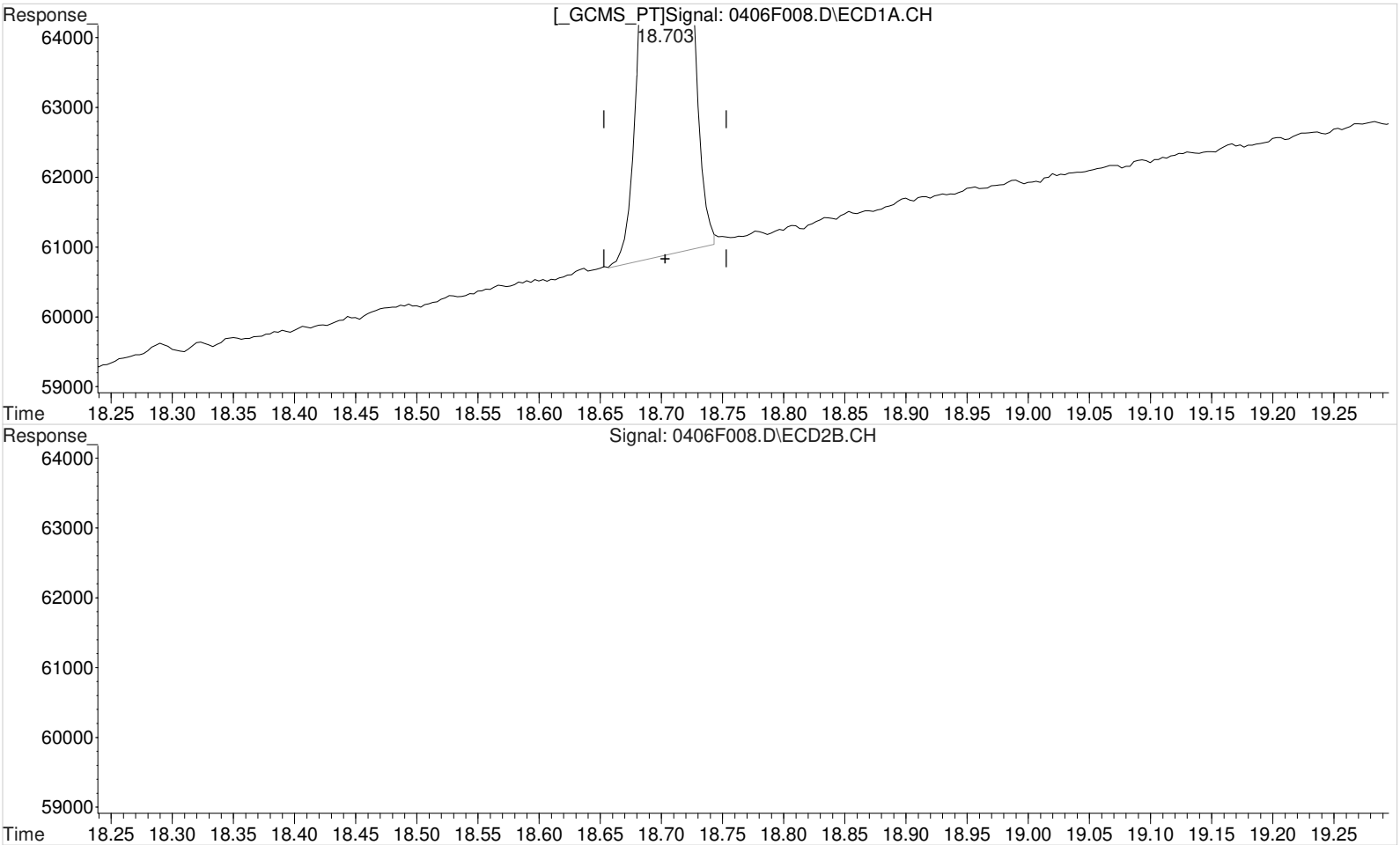
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F008.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:23 pm Operator: LM
Sample : 81 2PPB GCPS8-74N Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(28) Decachlorobiphenyl (s)

18.703min 2.806 ug/L m

response 34850

Manual Integration:

After

Baseline/Shoulder

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.087min 2.298 ug/L

response 138404

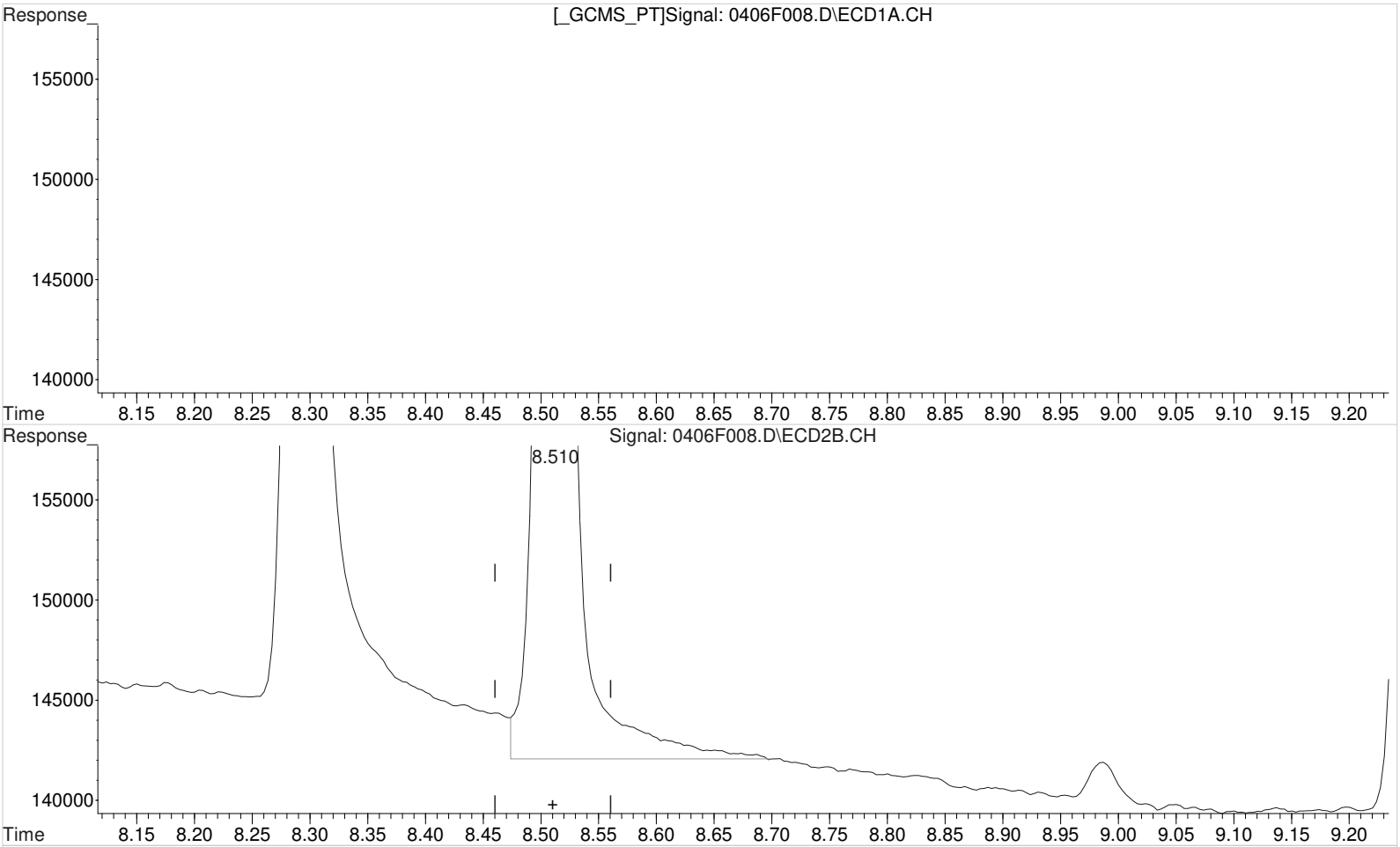
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F008.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:23 pm Operator: LM
Sample : 81 2PPB GCPS8-74N Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.843min 2.143 ug/L

response 31842

Manual Integration:

Before

04/07/20

(3) alpha-BHC #2

8.510min 2.411 ug/L

response 151943

(+) = Expected Retention Time

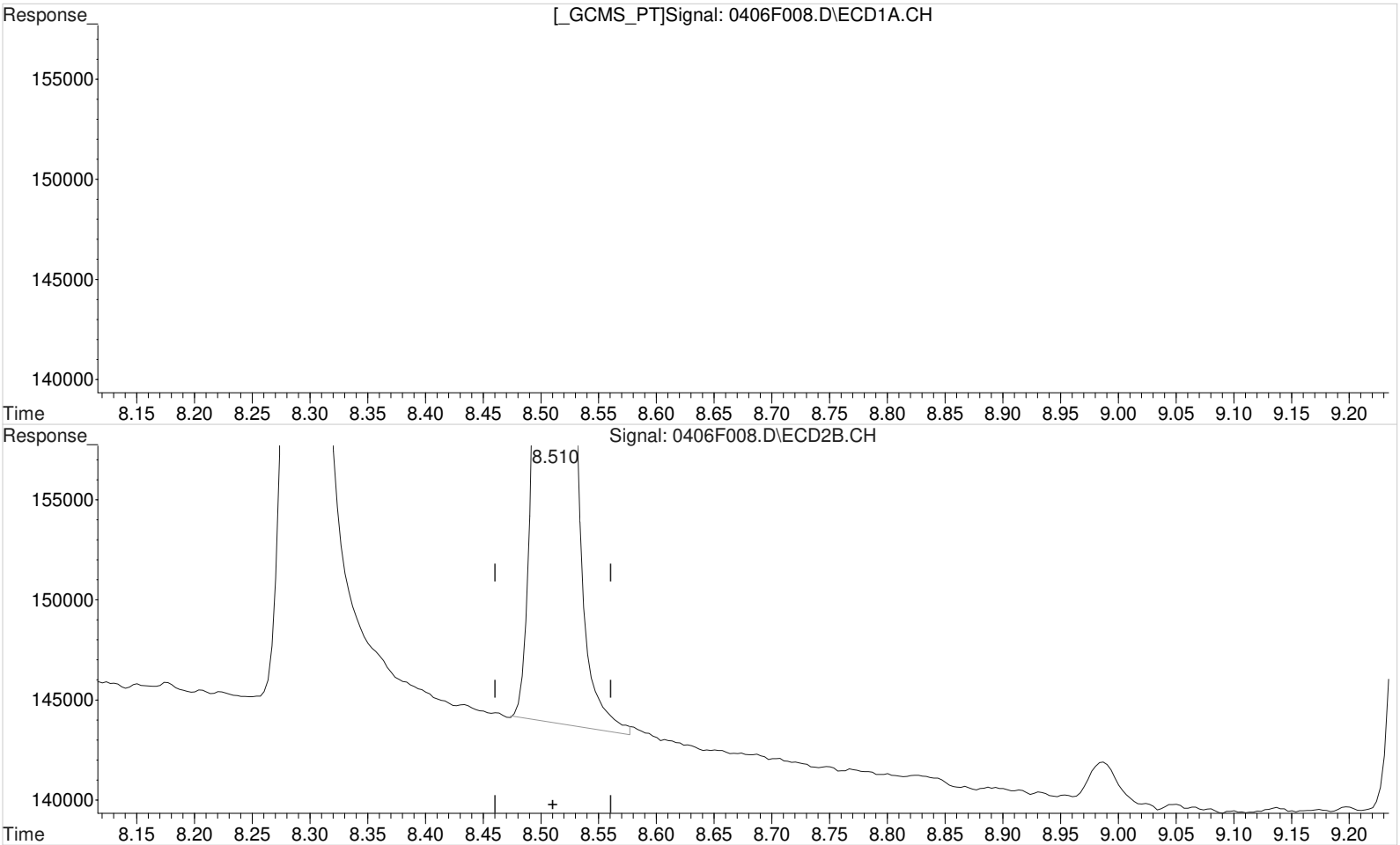
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F008.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:23 pm Operator: LM
Sample : 81 2PPB GCPS8-74N Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.843min 2.143 ug/L

response 31842

Manual Integration:

After

Baseline/Shoulder

04/07/20

(3) alpha-BHC #2

8.510min 2.176 ug/L m

response 137141

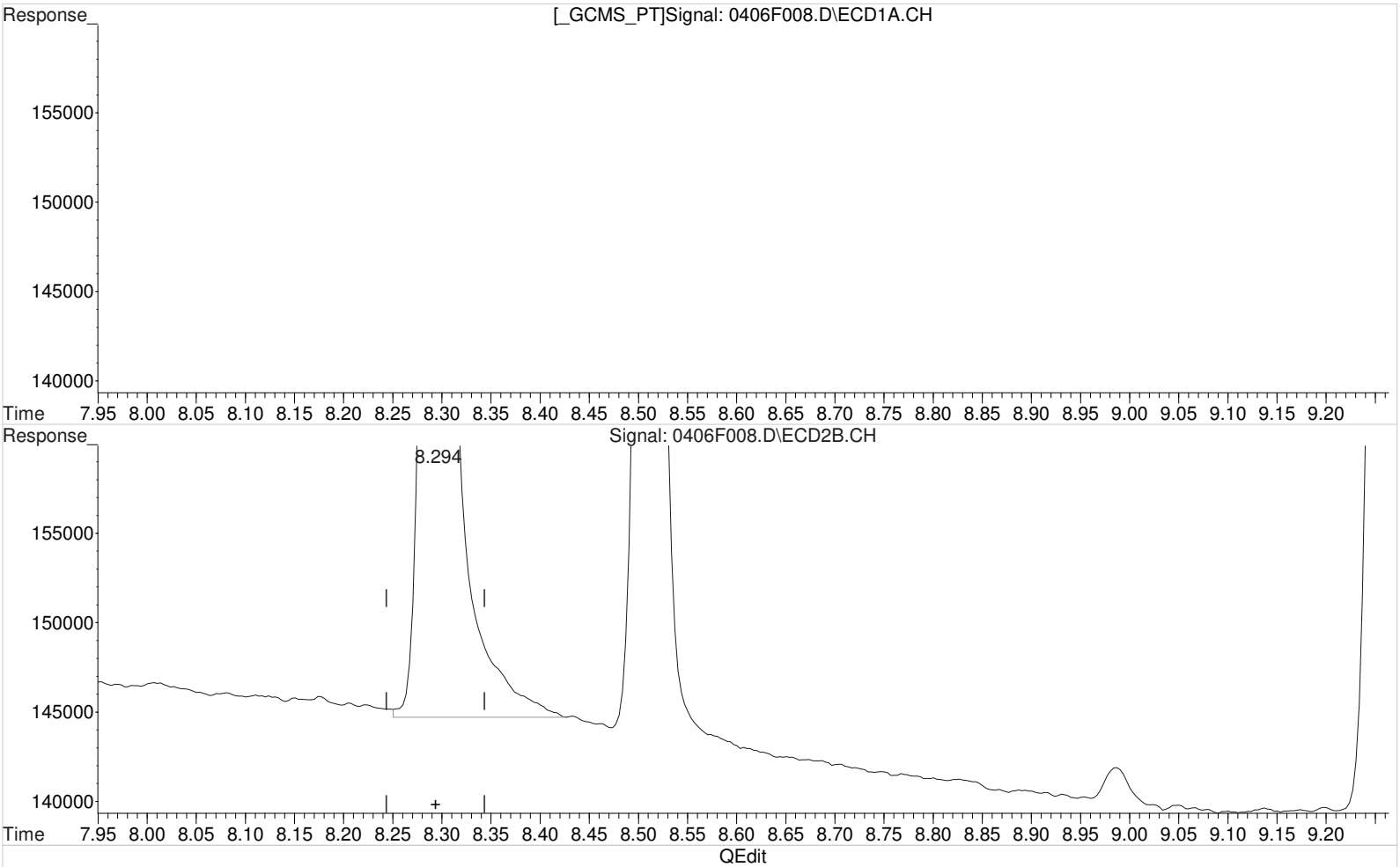
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F008.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:23 pm Operator: LM
Sample : 81 2PPB GCPS8-74N Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(4) Hexachlorobenzene

10.006min 2.270 ug/L

response 37725

Manual Integration:

Before

04/07/20

(4) Hexachlorobenzene #2

8.294min 2.250 ug/L

response 142290

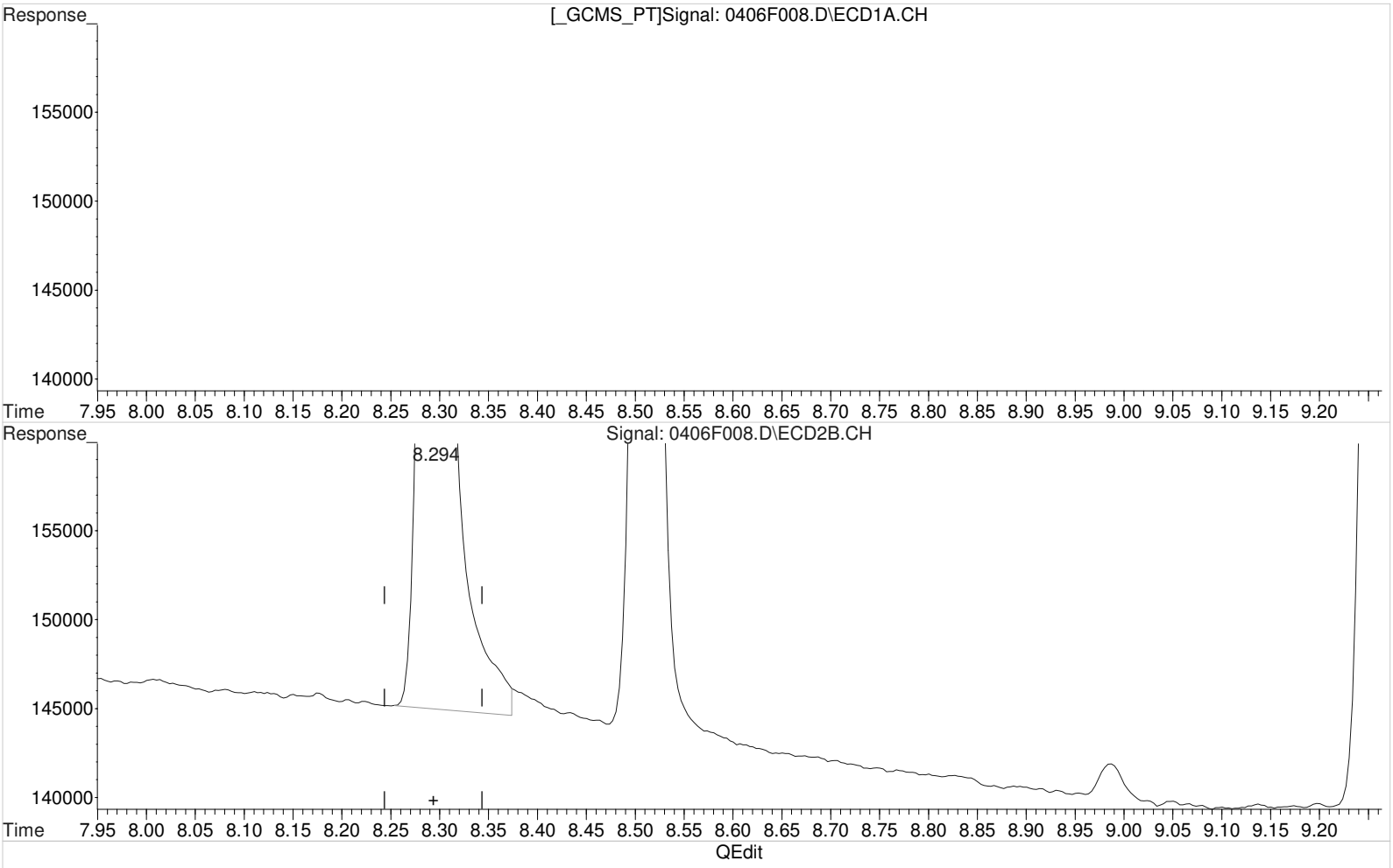
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F008.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:23 pm Operator: LM
Sample : 81 2PPB GCPS8-74N Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(4) Hexachlorobenzene

10.006min 2.270 ug/L

response 37725

Manual Integration:

After

Baseline/Shoulder

04/07/20

(4) Hexachlorobenzene #2

8.294min 2.197 ug/L m

response 138917

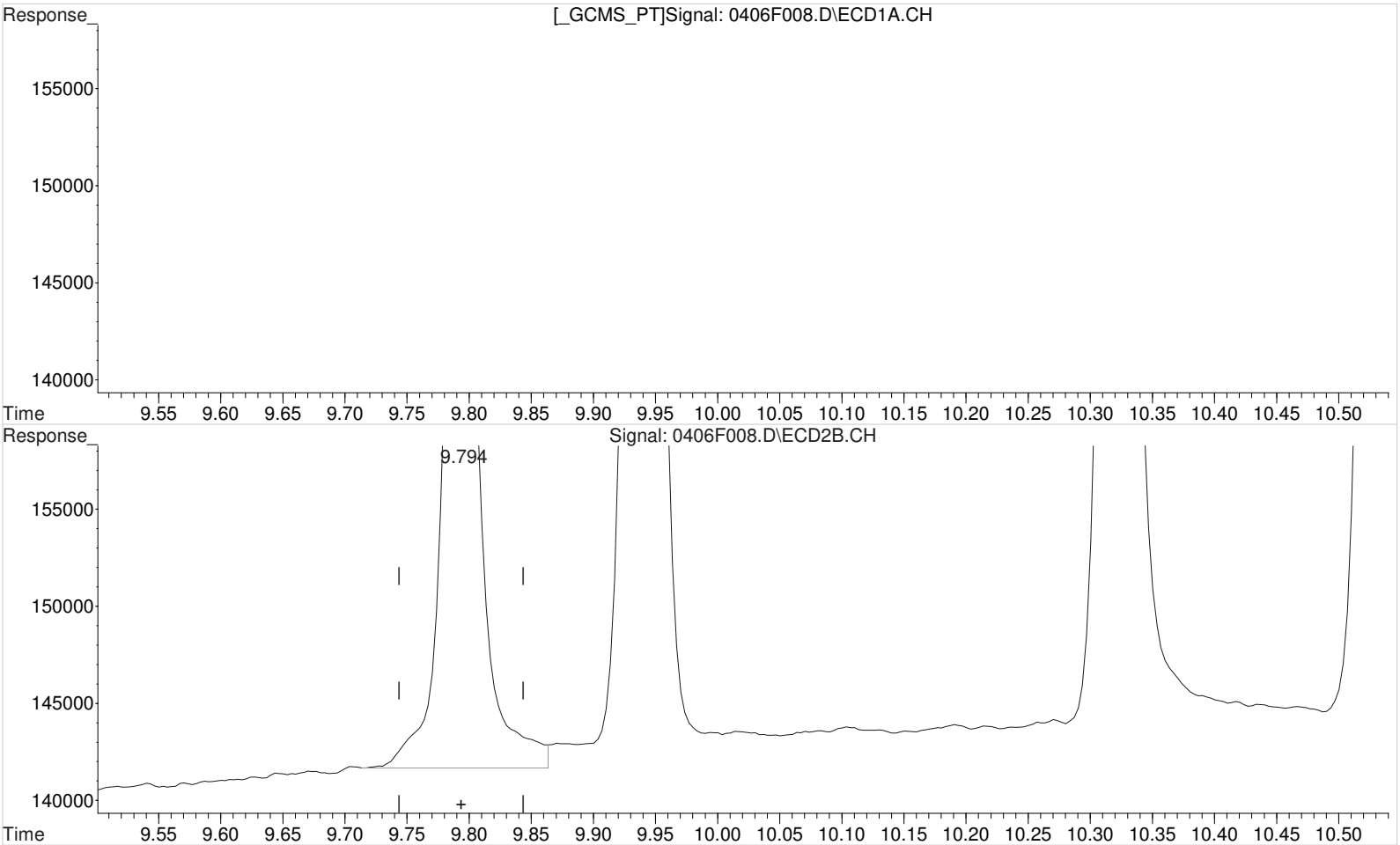
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F008.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:23 pm Operator: LM
Sample : 81 2PPB GCPS8-74N Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.100min 2.240 ug/L

response 16942

Manual Integration:

Before

04/07/20

(5) beta-BHC #2

9.794min 2.406 ug/L

response 73441

(+) = Expected Retention Time

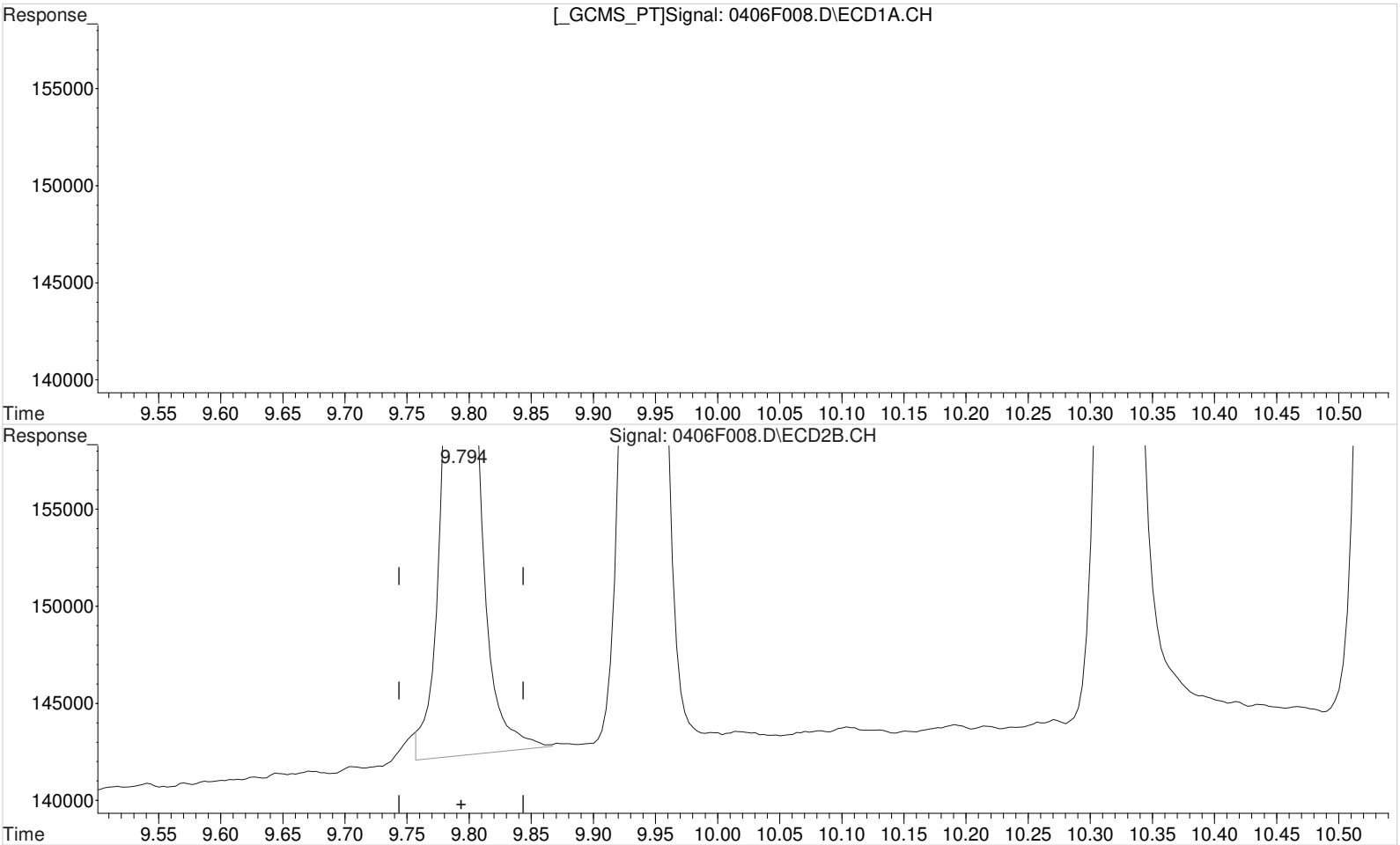
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F008.D Vial: 6
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:23 pm Operator: LM
Sample : 81 2PPB GCPS8-74N Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:42:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(5) beta-BHC

11.100min 2.240 ug/L

response 16942

Manual Integration:

After

Baseline/Shoulder

04/07/20

(5) beta-BHC #2

9.794min 2.196 ug/L m

response 67045

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-74O @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:58:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	i	1-Bromo-2...	6.212	5.496	961943	4395731	100.000	100.000
		System Monitoring Compounds						
2)	s	Tetrachlo...	8.996	7.276	63127	260362	4.751	5.042
28)	s	Decachlor...	18.699	17.083	76341	308057	6.111m	5.100
		Target Compounds						
3)		alpha-BHC	9.839	8.510	74057	332567	4.956	5.262m
4)		Hexachlor...	10.002	8.293	82491	323449	4.933	5.100m
5)		beta-BHC	11.099	9.790	38882	152367	5.110	4.977m
6)		gamma-BHC...	10.509	9.256	71350	317444	4.999	5.207
7)		delta-BHC	11.602	10.320	70929	313970	5.058	5.311
8)		Heptachlor	11.706	9.936	74299	313271	5.407	5.074
9)		Aldrin	12.232	10.530	71353	323130	5.227	5.264
10)		Isodrin	12.762	11.326	62576	278625	5.342	5.185
11)		Heptachlo...	12.952	11.610	71874	309529	5.301	5.228
12)		gamma-Chl...	13.472	11.983	71300	302034	5.326	5.087
13)		Endosulfan I	13.602	12.200	65317	274357	5.509	5.238
14)		alpha-Chl...	13.552	12.133	72024	302465	5.489	5.138
15)		Dieldrin	14.026	12.646	70870	302692	5.405	5.259
16)		4,4'-DDE	13.826	12.496	65681	282678	5.380	5.454
17)		Endrin	14.392	13.126	64587	279755	5.372	5.483
18)		Endosulfa...	14.836	13.560	63687	255365	5.310	4.927
19)		4,4'-DDD	14.666	13.386	51946	217596	5.528	5.022
20)		Endrin Al...	15.019	13.926	54961	216691	5.488	5.111
21)		Endosulfa...	15.492	14.250	65038	251727	5.362	5.104
22)		4,4'-DDT	15.169	13.810	54496	214814	5.928	6.356
23)		Endrin Ke...	16.182	15.200	72240	303556	5.544	5.064
24)		Methoxychlor	15.916	14.923	32705	117928	6.406m	6.194
		SemiQuant Compounds - Not Calibrated on this Instrument						

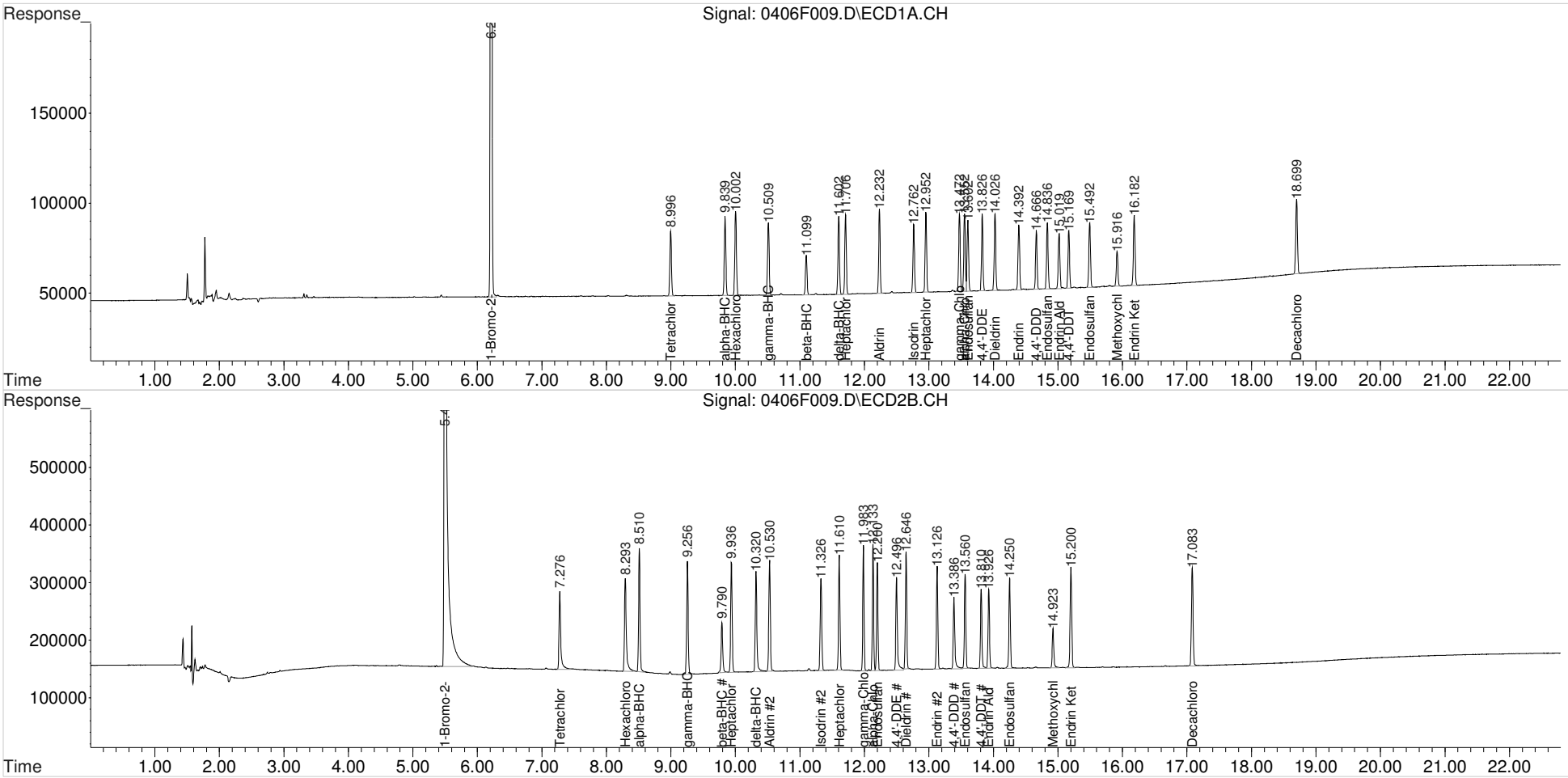
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-740 @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:58:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



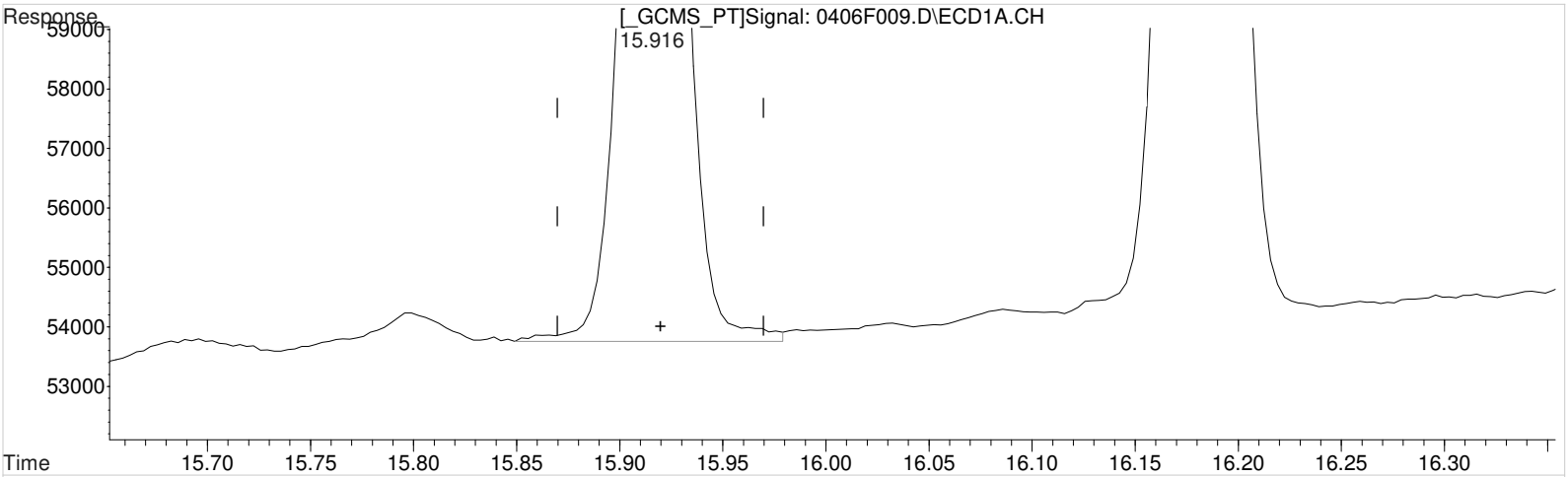
Quantitation Report (Qedit)

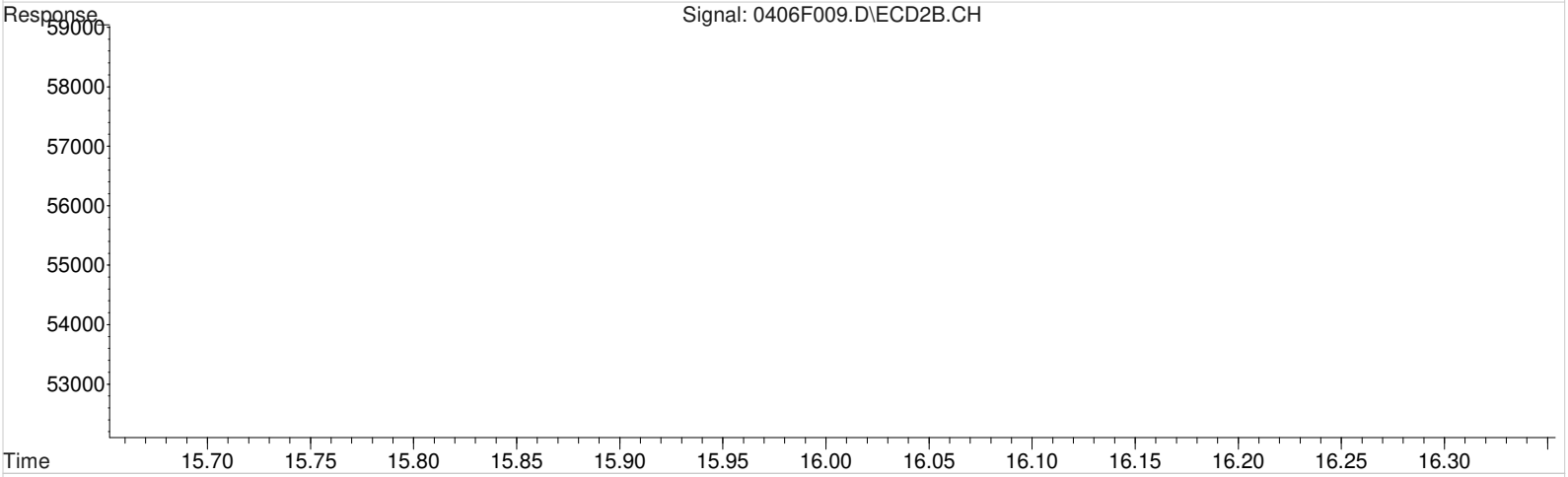
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-74O @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:01 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.916min 6.631 ug/L

response 33853

Manual Integration:

Before

04/07/20

(24) Methoxychlor #2

14.923min 6.194 ug/L

response 117928

(+) = Expected Retention Time

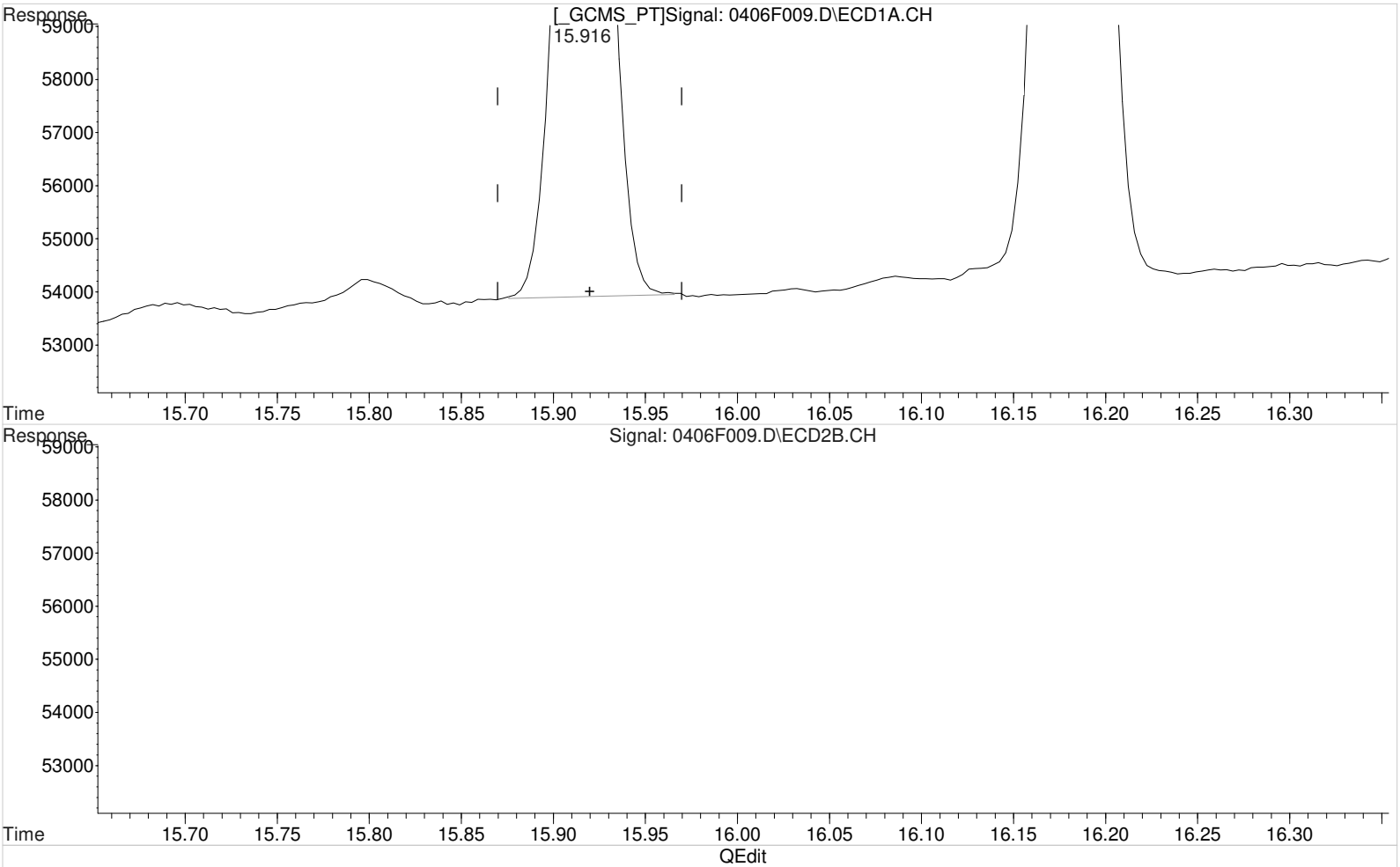
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-74O @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:01 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(24) Methoxychlor

15.916min 6.406 ug/L m

response 32705

Manual Integration:

After

Baseline/Shoulder

04/07/20

(24) Methoxychlor #2

14.923min 6.194 ug/L

response 117928

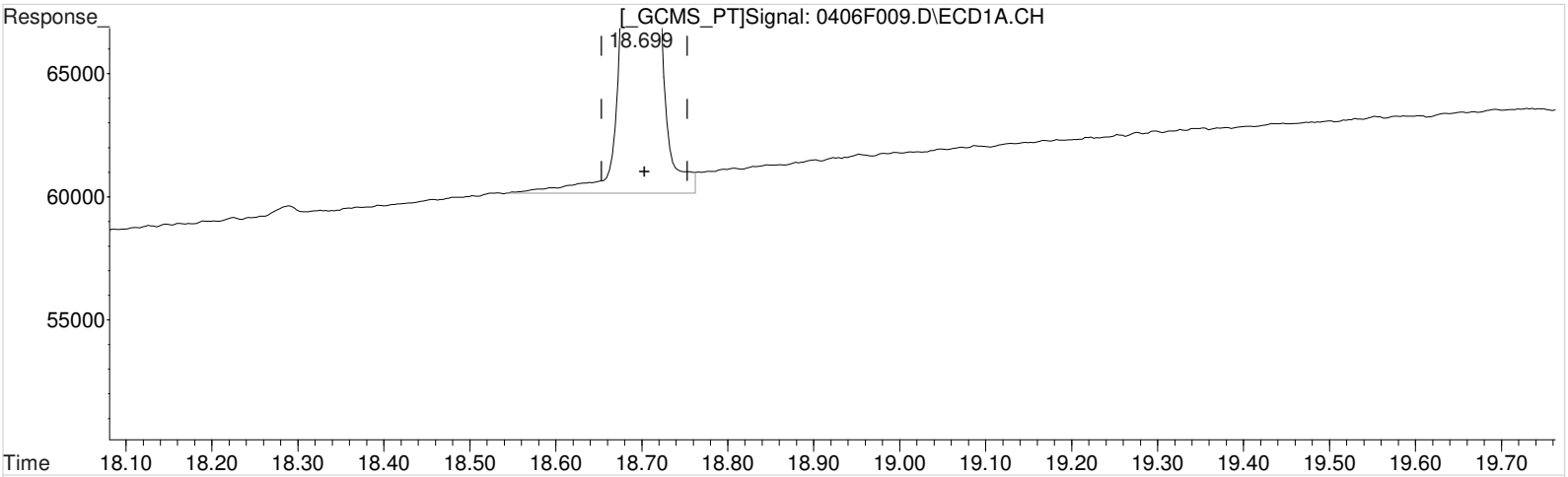
(+) = Expected Retention Time

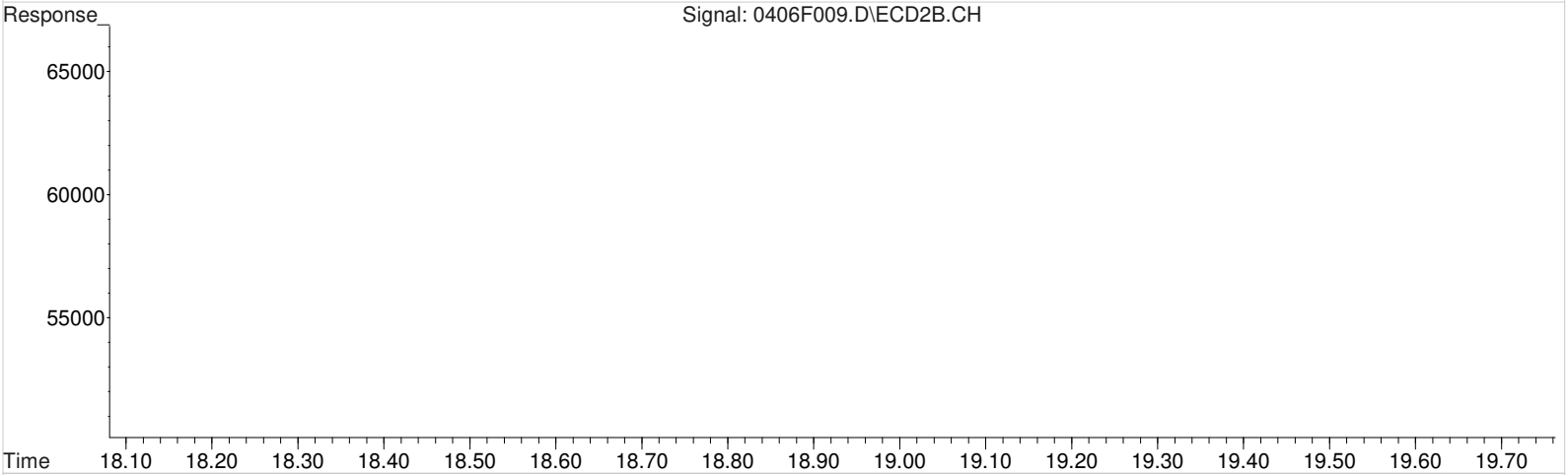
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-740 @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:01 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.699min 6.607 ug/L

response 82538

Manual Integration:

Before

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.083min 5.100 ug/L

response 308057

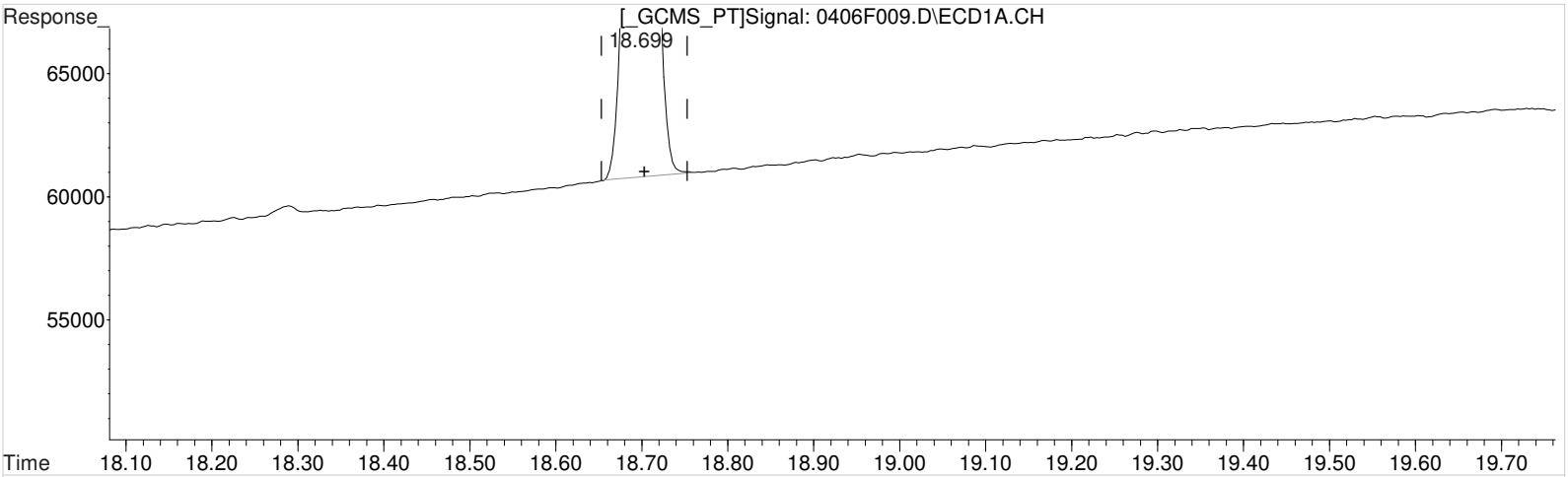
(+) = Expected Retention Time

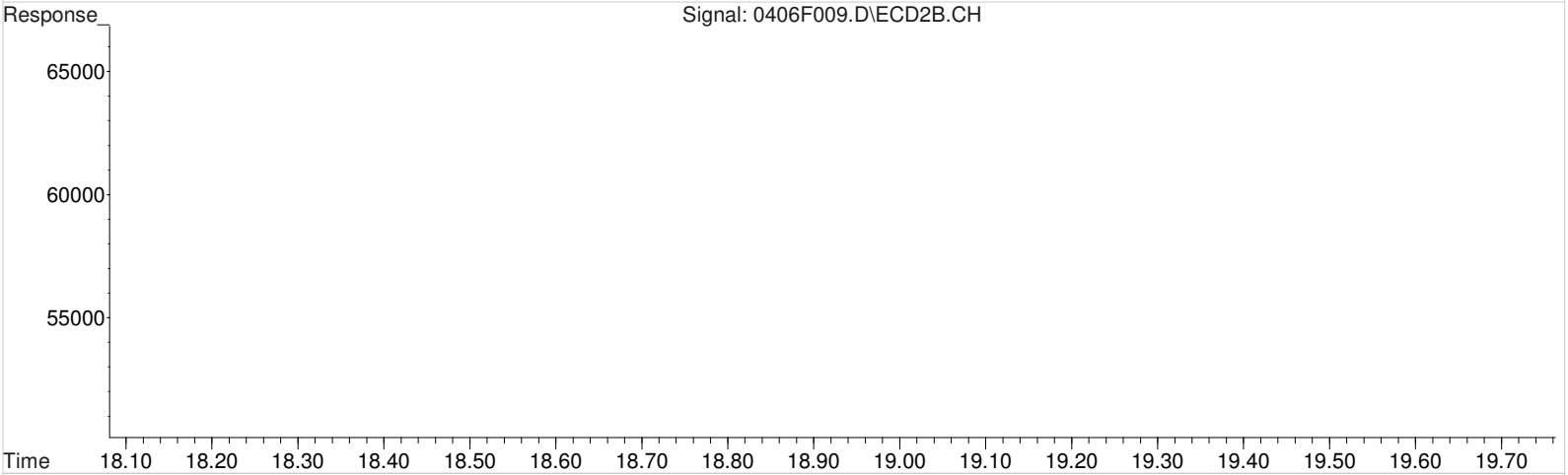
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-740 @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:01 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(28) Decachlorobiphenyl (s)

18.699min 6.111 ug/L m

response 76341

Manual Integration:

After

Baseline/Shoulder

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.083min 5.100 ug/L

response 308057

(+) = Expected Retention Time

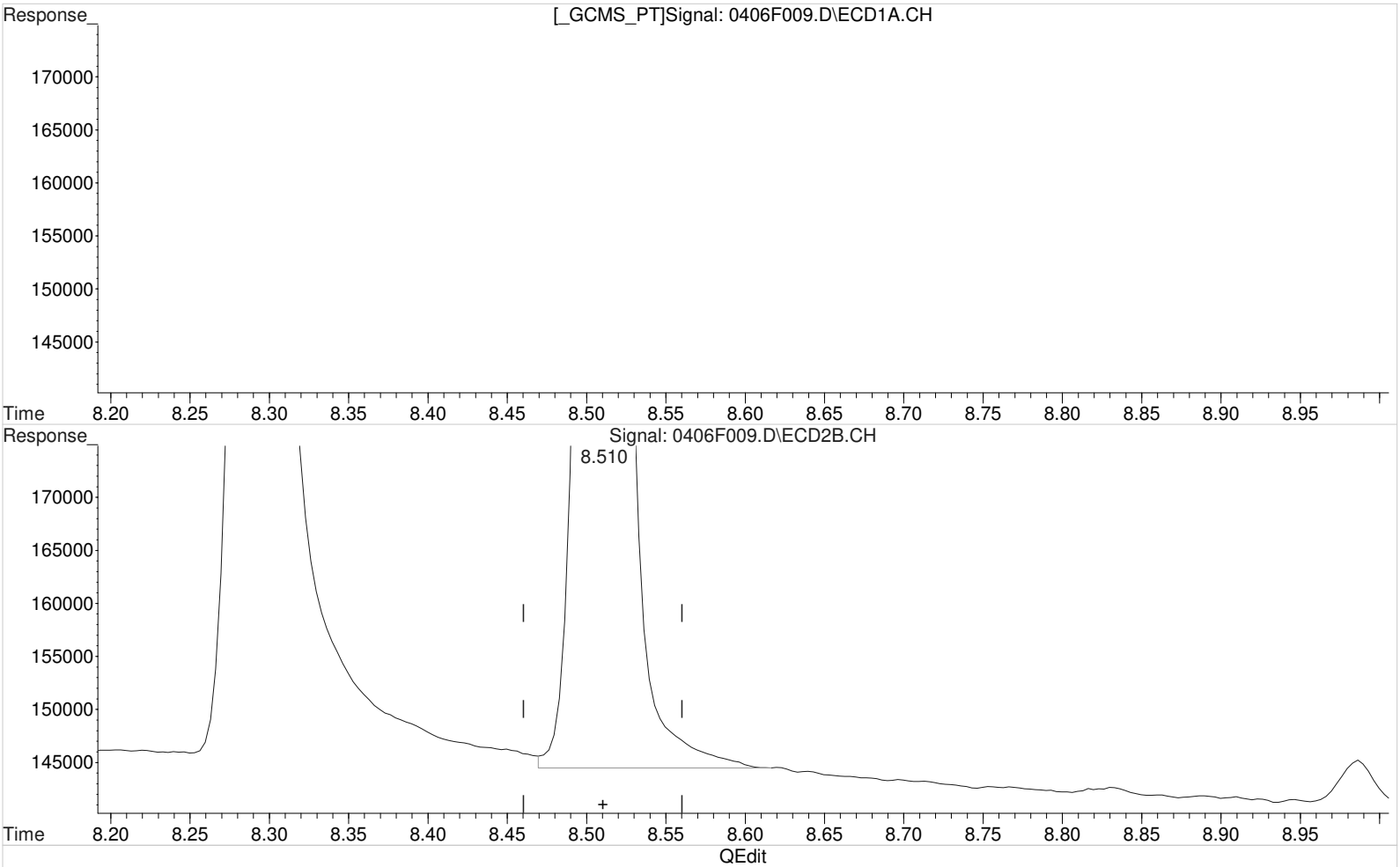
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-74O @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:01 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.839min 4.956 ug/L

response 74057

Manual Integration:

Before

04/07/20

(3) alpha-BHC #2

8.510min 5.331 ug/L

response 336927

(+) = Expected Retention Time

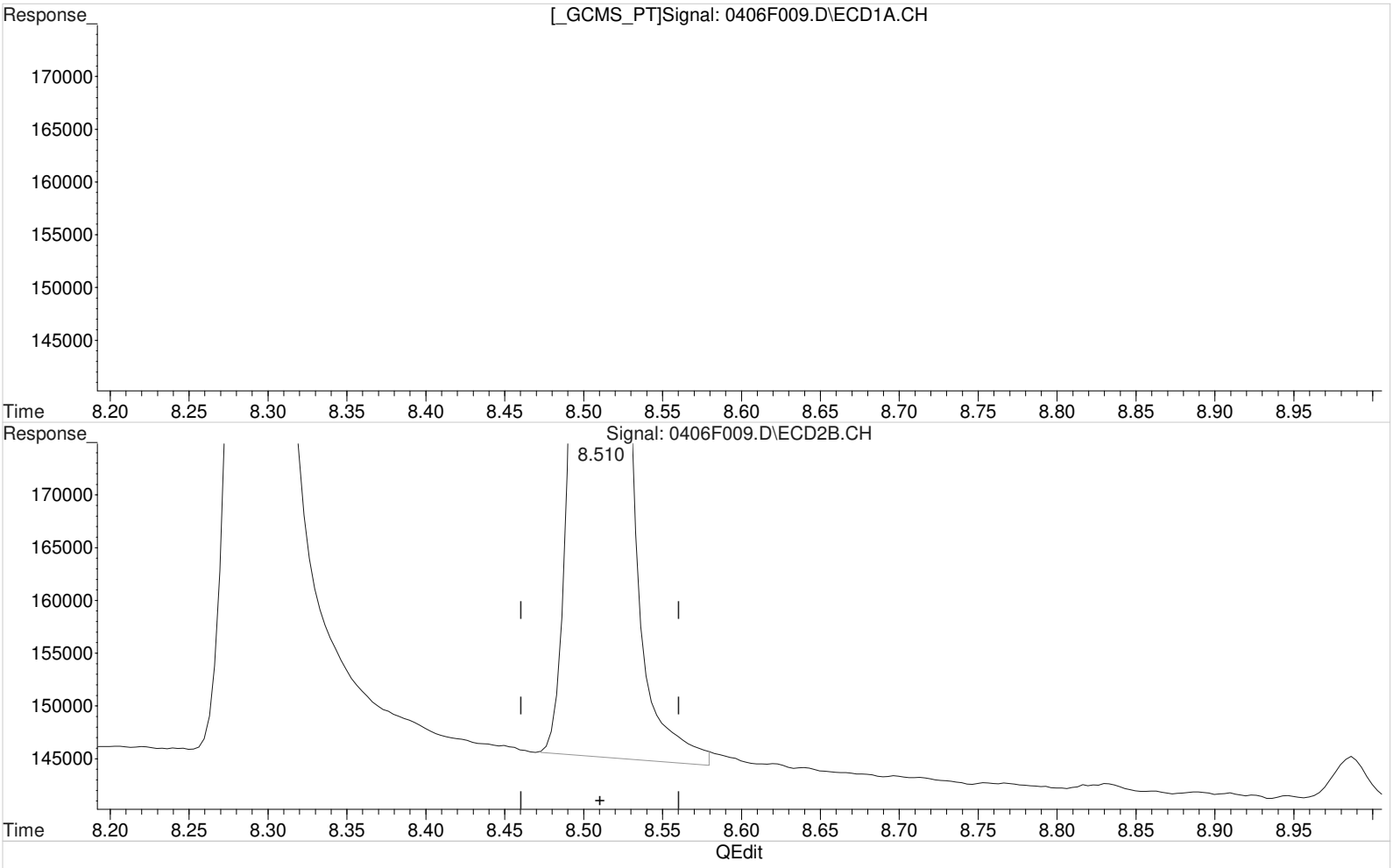
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-740 @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:01 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.839min 4.956 ug/L

response 74057

Manual Integration:

After

Baseline/Shoulder

04/07/20

(3) alpha-BHC #2

8.510min 5.262 ug/L m

response 332567

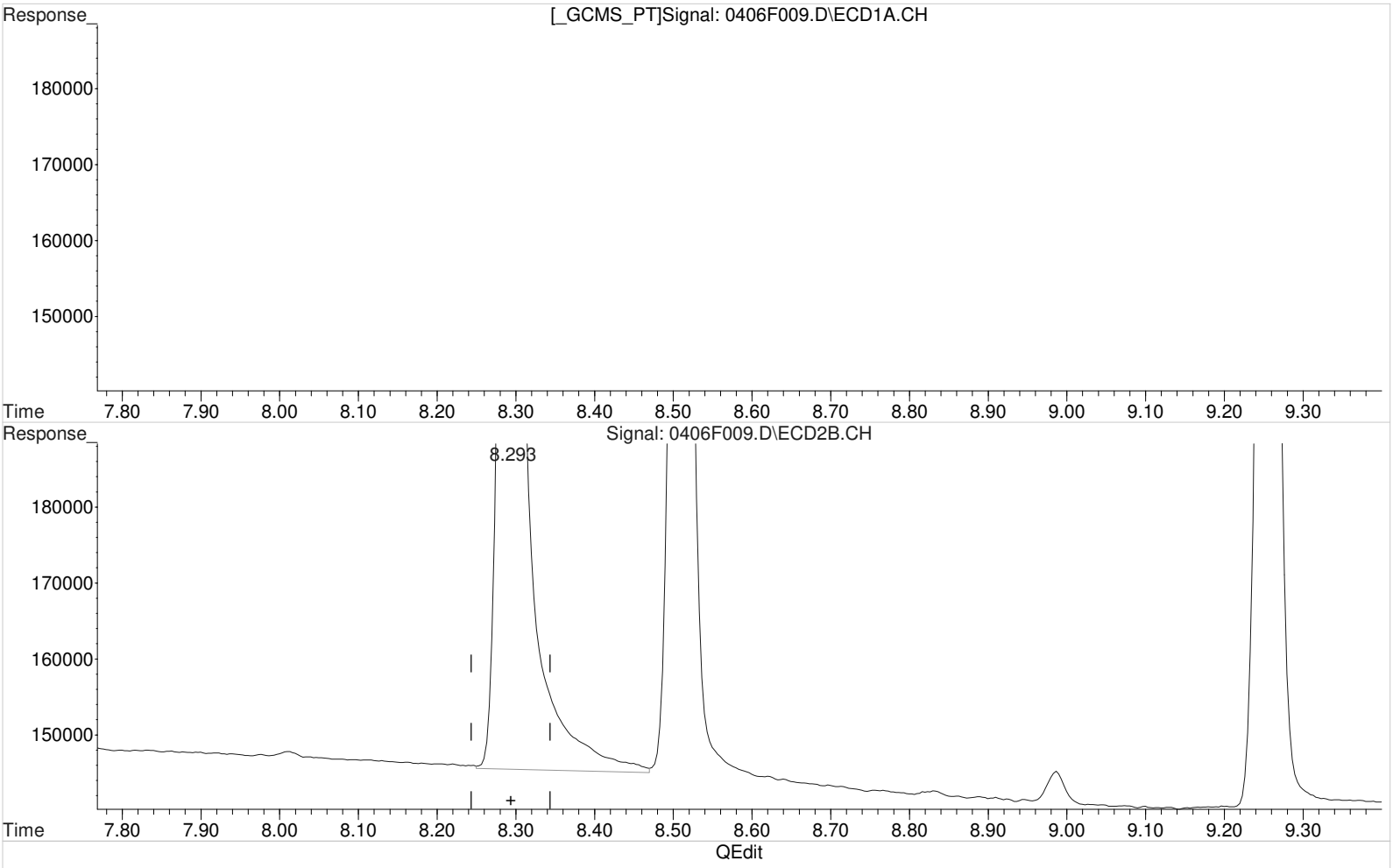
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-74O @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:01 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(4) Hexachlorobenzene

10.002min 4.933 ug/L

response 82491

Manual Integration:

Before

04/07/20

(4) Hexachlorobenzene #2

8.293min 5.229 ug/L

response 331577

(+) = Expected Retention Time

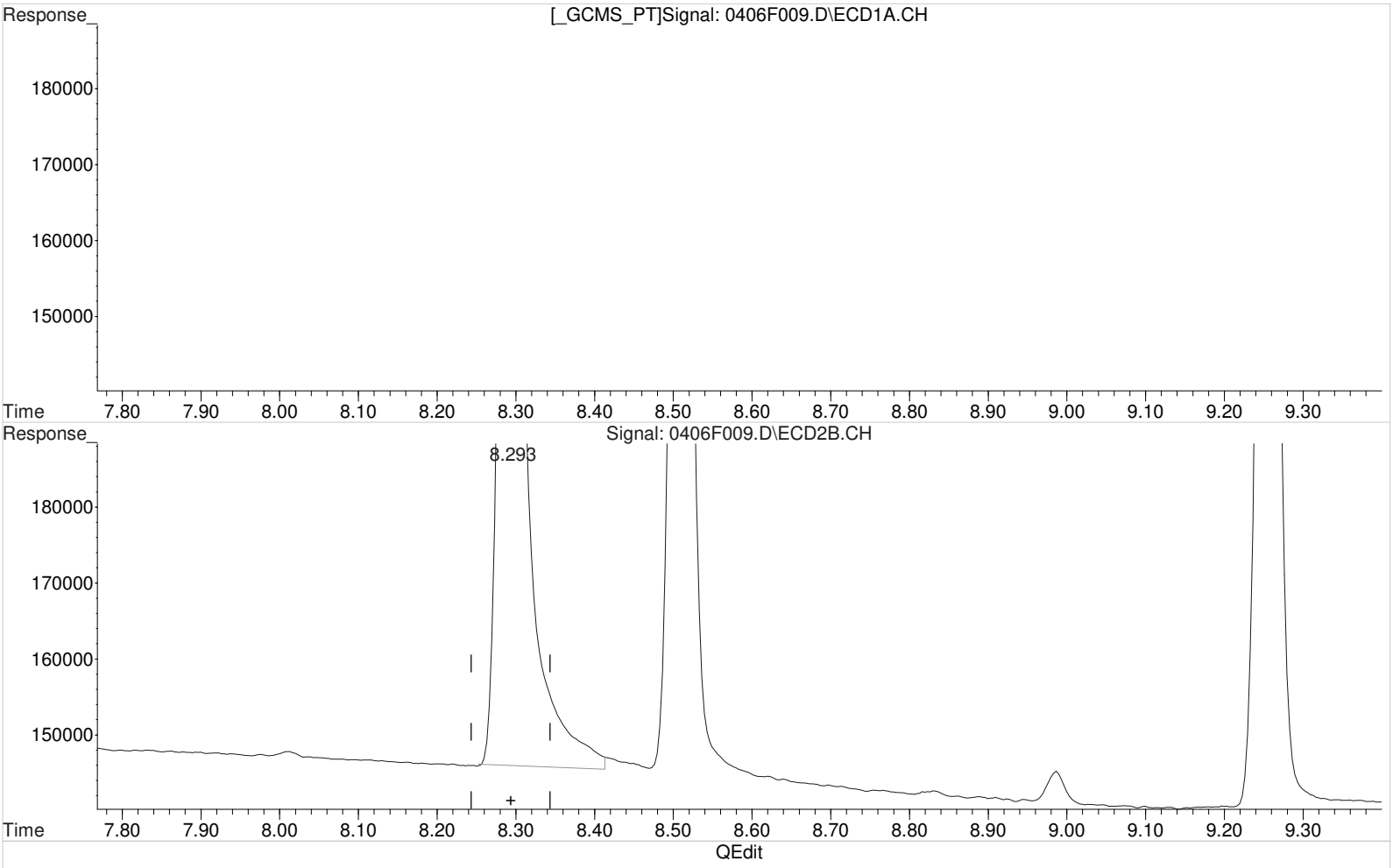
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-740 @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:01 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(4) Hexachlorobenzene

10.002min 4.933 ug/L

response 82491

Manual Integration:

After

Baseline/Shoulder

04/07/20

(4) Hexachlorobenzene #2

8.293min 5.100 ug/L m

response 323449

(+) = Expected Retention Time

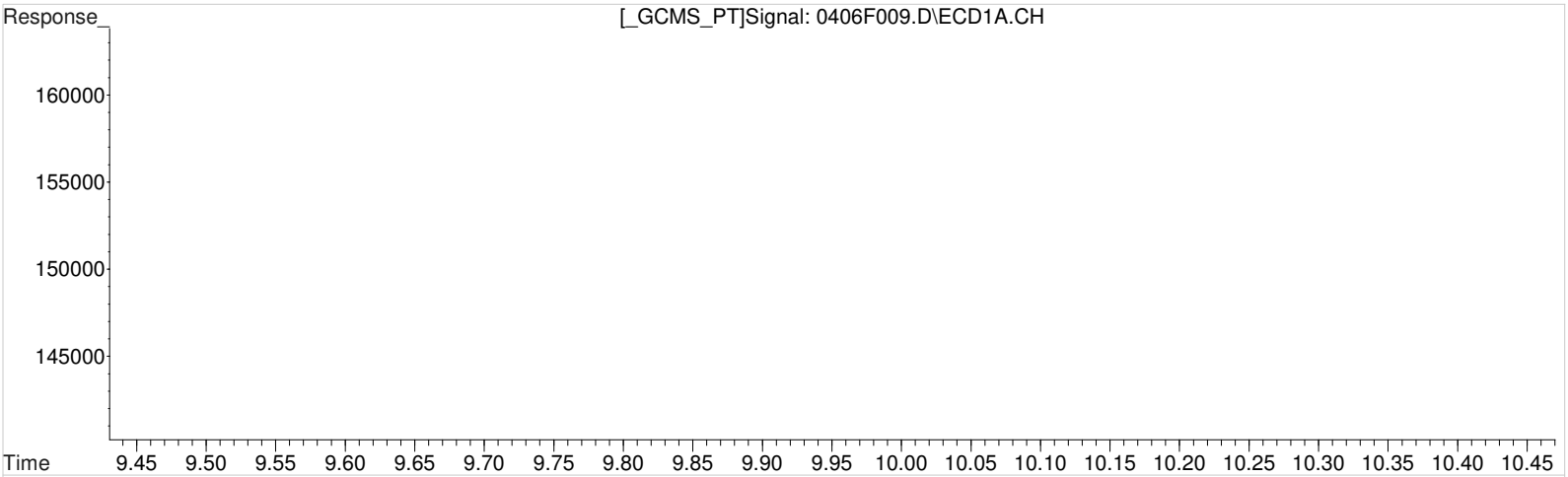
Quantitation Report (Qedit)

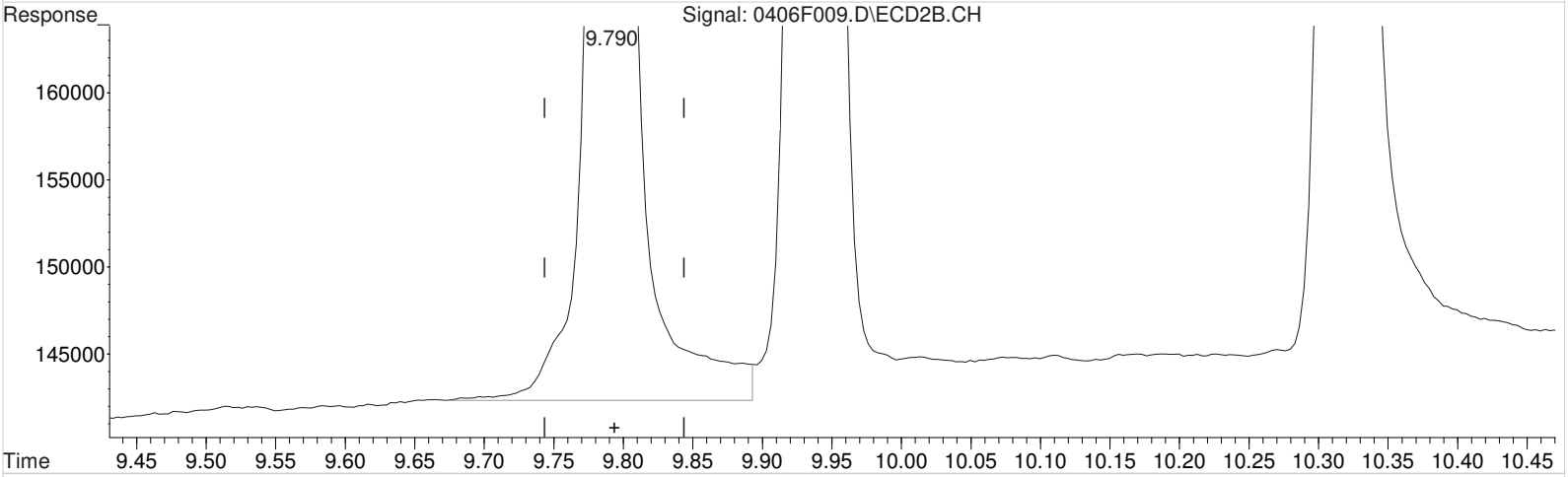
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-740 @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:01 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(5) beta-BHC

11.099min 5.110 ug/L

response 38882

Manual Integration:

Before

04/07/20

(5) beta-BHC #2

9.790min 5.568 ug/L

response 170430

(+) = Expected Retention Time

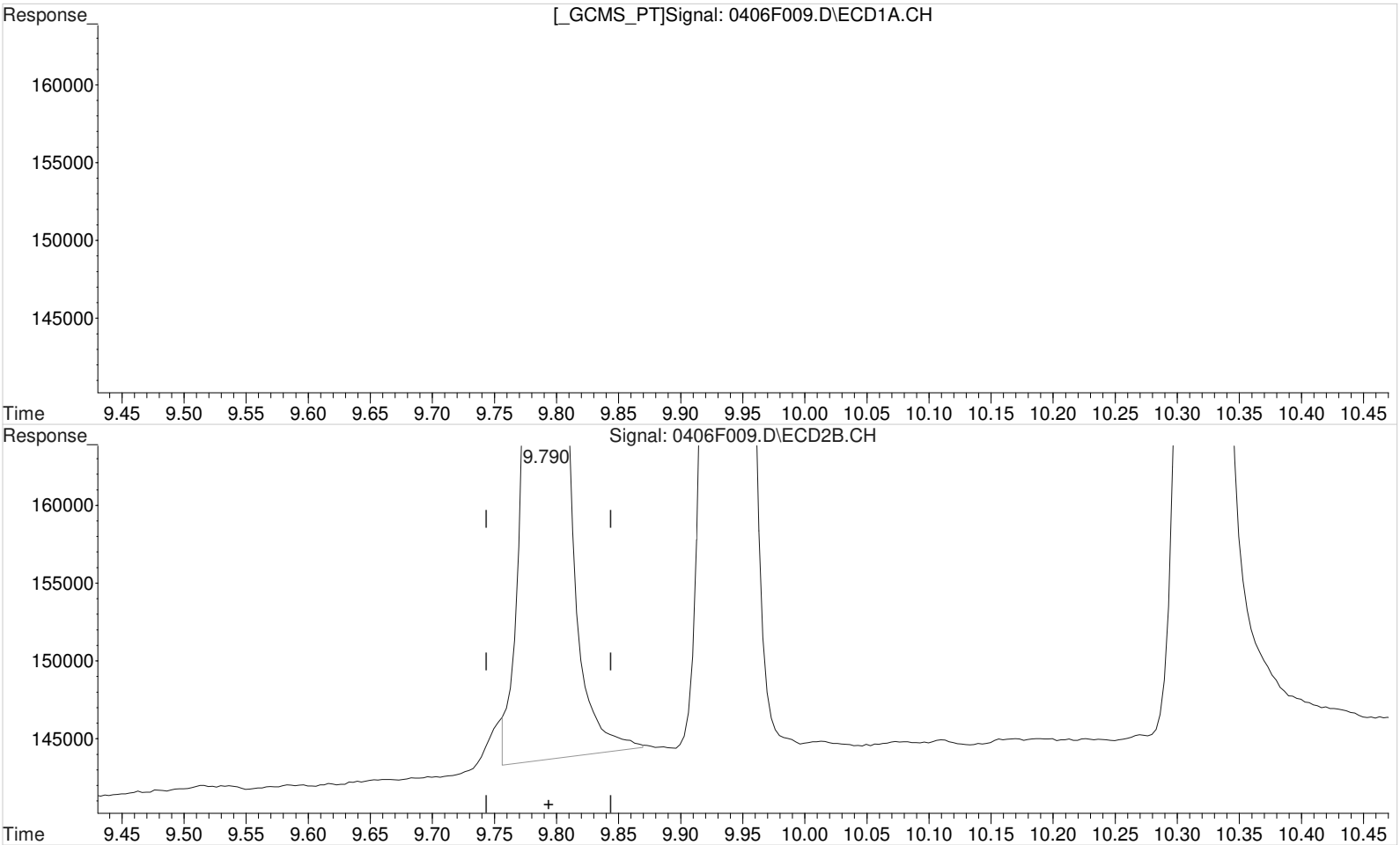
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F009.D Vial: 7
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 2:53 pm Operator: LM
Sample : 81 5PPB GCPS8-740 @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:01 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.099min 5.110 ug/L

response 38882

Manual Integration:

After

Baseline/Shoulder

04/07/20

(5) beta-BHC #2

9.790min 4.977 ug/L m

response 152367

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F010.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:22 pm Operator: LM
Sample : 81 10PPB GCPS8-74O Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:01:08 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	i	1-Bromo-2...	6.210	5.491	1023813	4723752	100.000	100.000
		System Monitoring Compounds						
2)	s	Tetrachlo...	8.990	7.274	124613	529232	8.812	9.536
28)	s	Decachlor...	18.694	17.077	146866	599412	11.047m	9.234
		Target Compounds						
3)		alpha-BHC	9.834	8.504	150859	703776	9.485	10.363m
4)		Hexachlor...	9.997	8.287	158817	646939	8.924	9.493m
5)		beta-BHC	11.094	9.787	74699	315639	9.224	9.595m
6)		gamma-BHC...	10.504	9.251	143165	663252	9.425	10.123
7)		delta-BHC	11.597	10.314	144731	672275	9.697	10.583
8)		Heptachlor	11.704	9.934	147510	654078	10.086	9.859
9)		Aldrin	12.227	10.524	141789	678223	9.759	10.282
10)		Isodrin	12.760	11.321	121402	563138	9.738	9.752
11)		Heptachlo...	12.947	11.607	140864	637334	9.761	10.018
12)		gamma-Chl...	13.470	11.981	138867	629514	9.747	9.866
13)		Endosulfan I	13.597	12.197	127975	563842	10.142	10.017
14)		alpha-Chl...	13.547	12.131	140184	623359	10.037	9.854
15)		Dieldrin	14.017	12.644	140360	632738	10.057	10.231
16)		4,4'-DDE	13.820	12.494	131612	581042	10.129	10.433
17)		Endrin	14.387	13.124	128301	581444	10.027	10.604
18)		Endosulfa...	14.830	13.557	123163	523452	9.648	9.398
19)		4,4'-DDD	14.660	13.384	104425	449411	10.442	9.651
20)		Endrin Al...	15.014	13.924	107007	442865	10.039	9.721
21)		Endosulfa...	15.487	14.247	126573	514557	9.804	9.709
22)		4,4'-DDT	15.164	13.807	109952	454974	11.237	12.528
23)		Endrin Ke...	16.177	15.197	141448	620740	10.200	9.635
24)		Methoxychlor	15.910	14.921	64851	240847	11.935	11.771

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

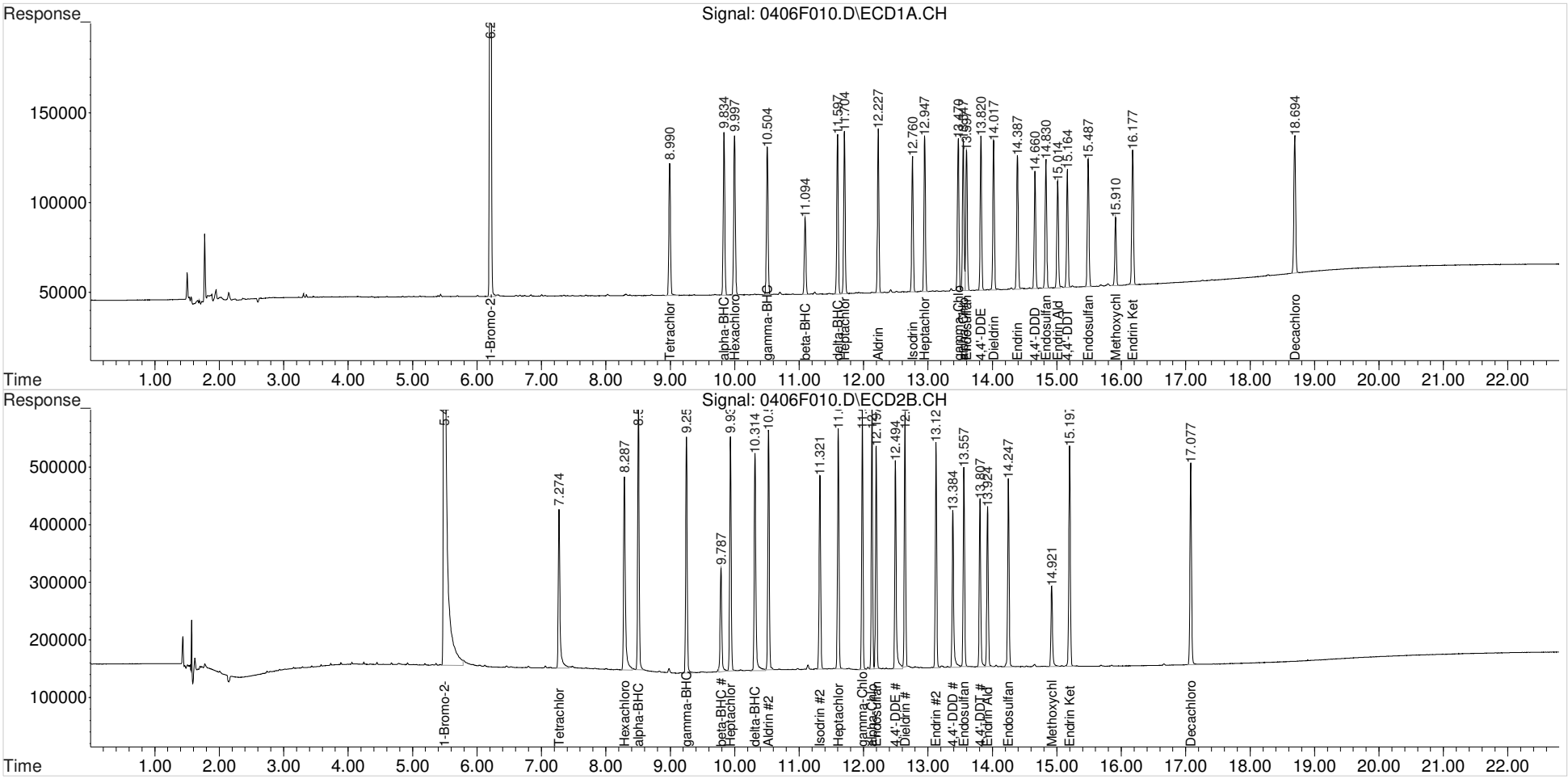
Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F010.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:22 pm Operator: LM
Sample : 81 10PPB GCPS8-74O Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:01:08 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



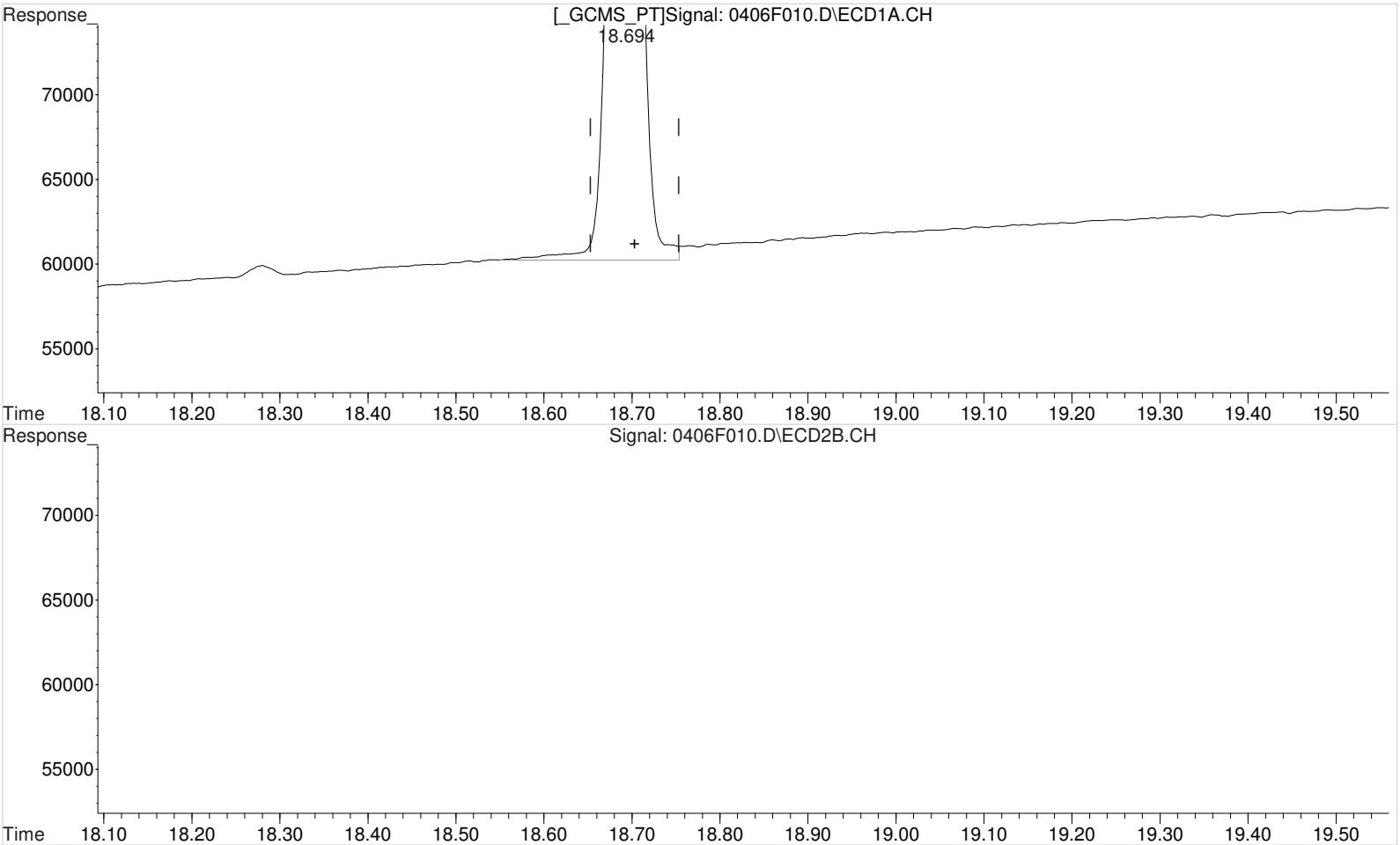
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F010.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:22 pm Operator: LM
Sample : 81 10PPB GCPS8-74O Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(28) Decachlorobiphenyl (s)

18.694min 11.456 ug/L

response 152303

Manual Integration:

Before

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.077min 9.234 ug/L

response 599412

(+) = Expected Retention Time

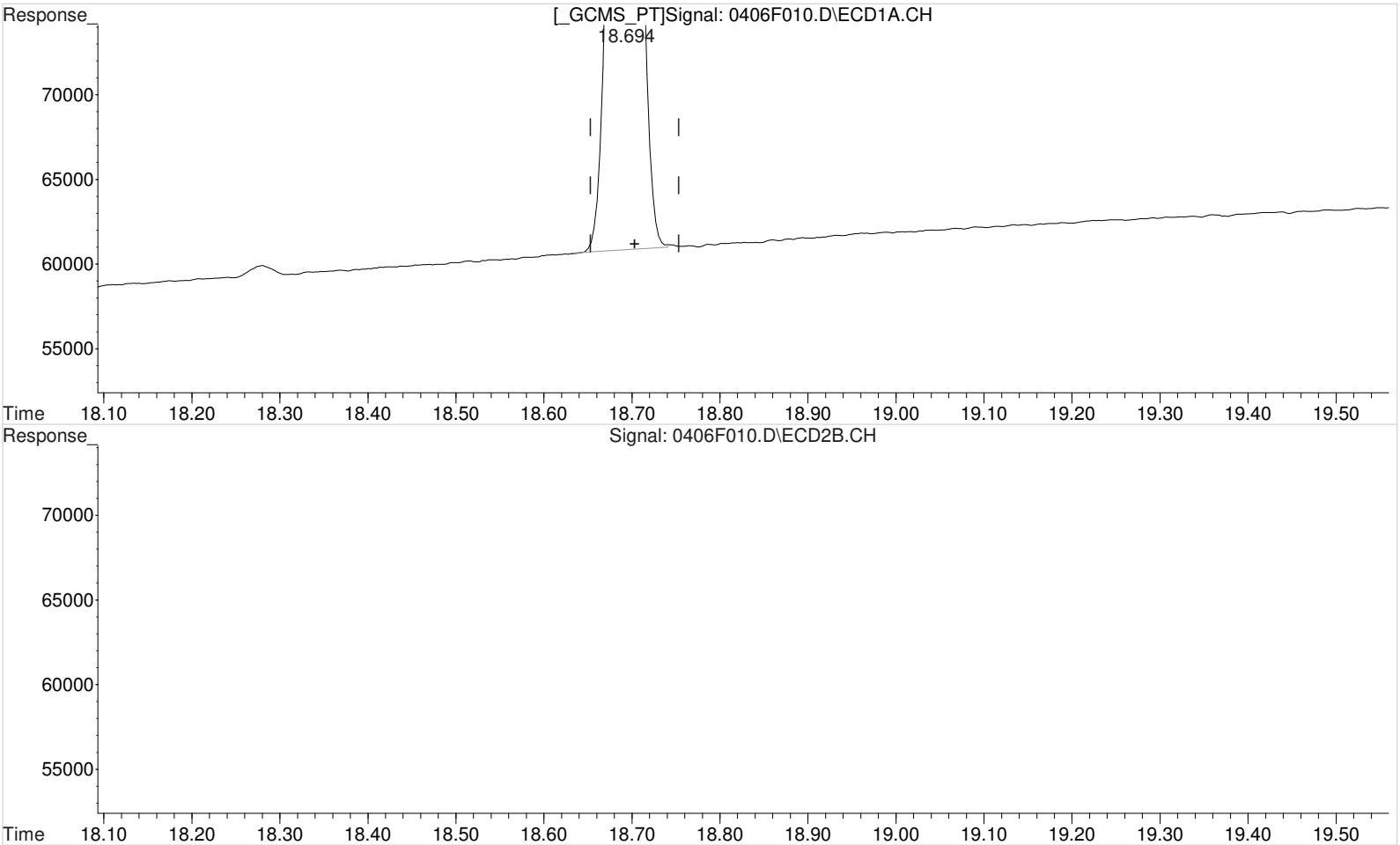
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F010.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:22 pm Operator: LM
Sample : 81 10PPB GCPS8-74O Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(28) Decachlorobiphenyl (s)

18.694min 11.047 ug/L m

response 146866

Manual Integration:

After

Baseline/Shoulder

04/07/20

(28) Decachlorobiphenyl #2 (s)

17.077min 9.234 ug/L

response 599412

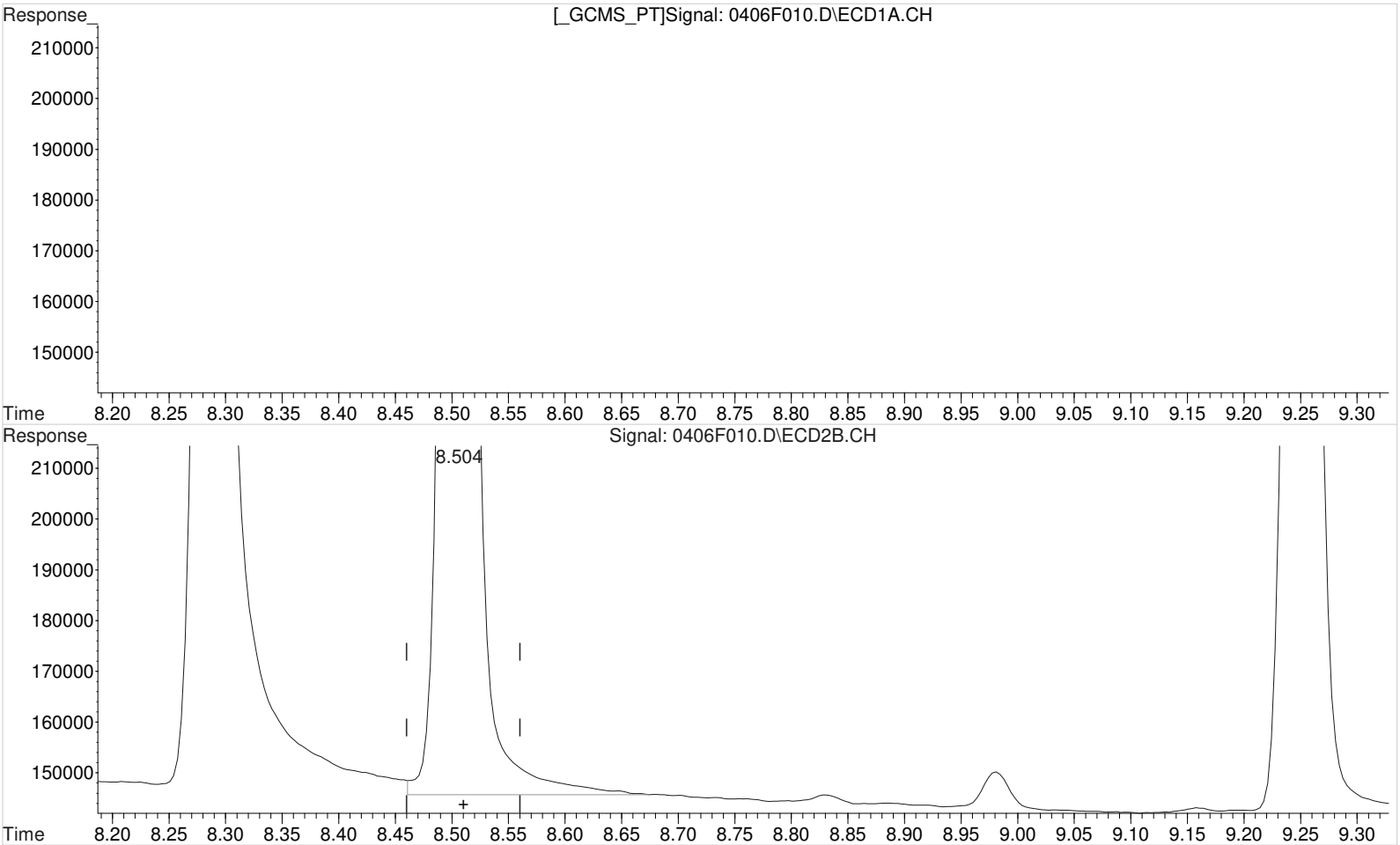
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F010.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:22 pm Operator: LM
Sample : 81 10PPB GCPS8-74O Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.834min 9.485 ug/L

response 150859

Manual Integration:

Before

04/07/20

(3) alpha-BHC #2

8.504min 10.721 ug/L

response 728135

(+) = Expected Retention Time

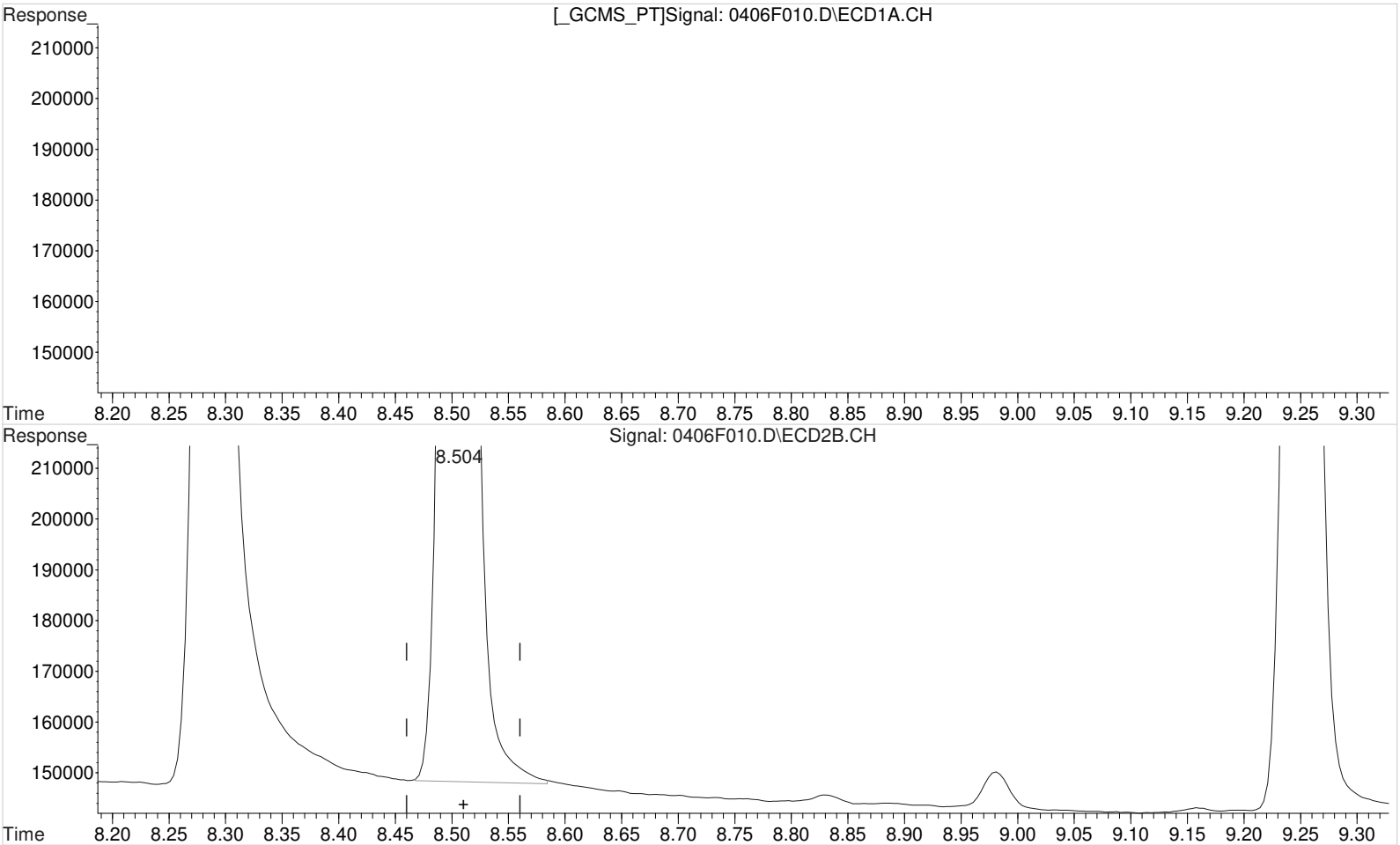
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F010.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:22 pm Operator: LM
Sample : 81 10PPB GCPS8-74O Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.834min 9.485 ug/L

response 150859

Manual Integration:

After

Baseline/Shoulder

04/07/20

(3) alpha-BHC #2

8.504min 10.363 ug/L m

response 703776

(+) = Expected Retention Time

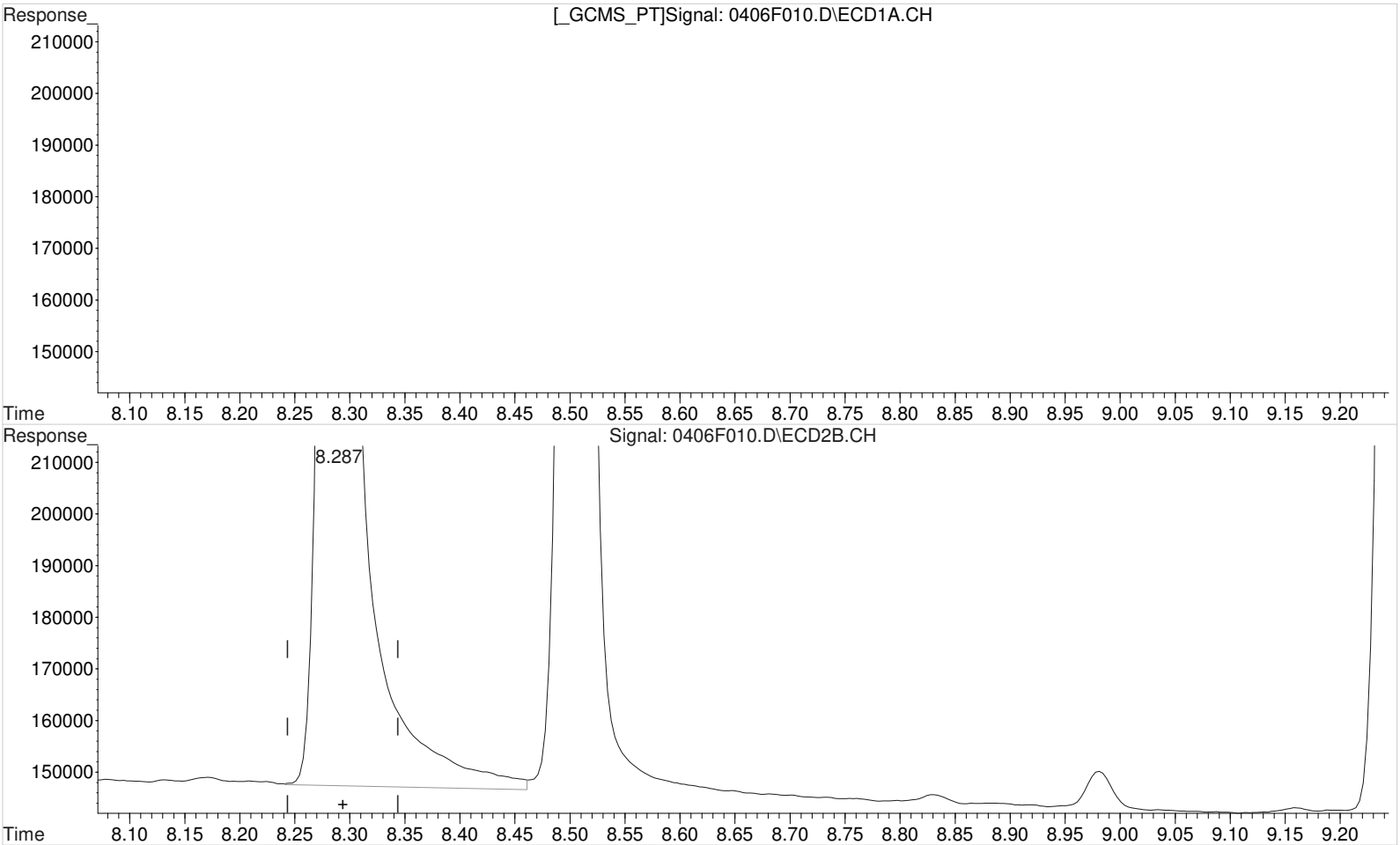
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F010.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:22 pm Operator: LM
Sample : 81 10PPB GCPS8-74O Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(4) Hexachlorobenzene

9.997min 8.924 ug/L

response 158817

Manual Integration:

Before

04/07/20

(4) Hexachlorobenzene #2

8.287min 9.676 ug/L

response 659391

(+) = Expected Retention Time

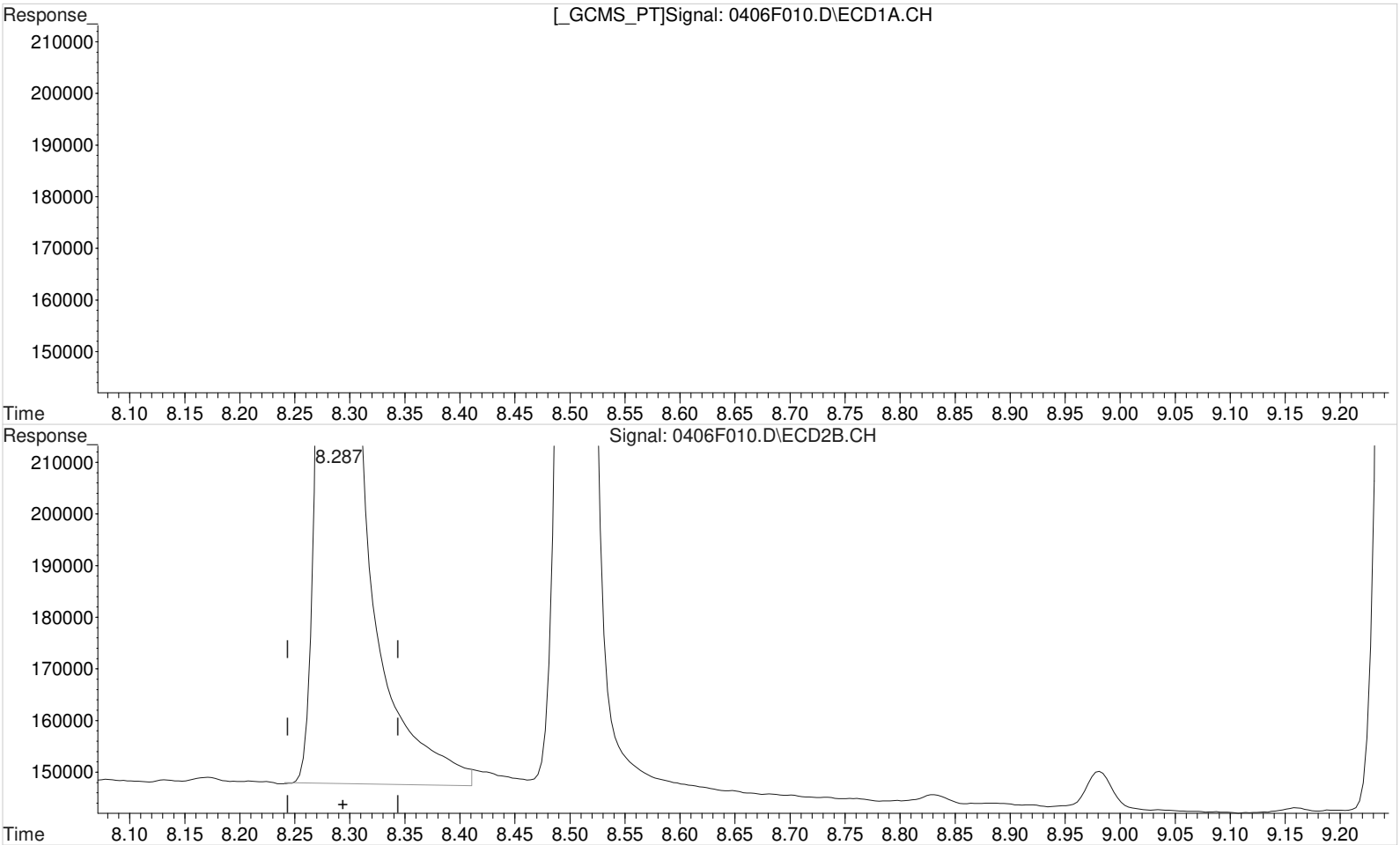
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F010.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:22 pm Operator: LM
Sample : 81 10PPB GCPS8-74O Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(4) Hexachlorobenzene

9.997min 8.924 ug/L

response 158817

Manual Integration:

After

Baseline/Shoulder

04/07/20

(4) Hexachlorobenzene #2

8.287min 9.493 ug/L m

response 646939

(+) = Expected Retention Time

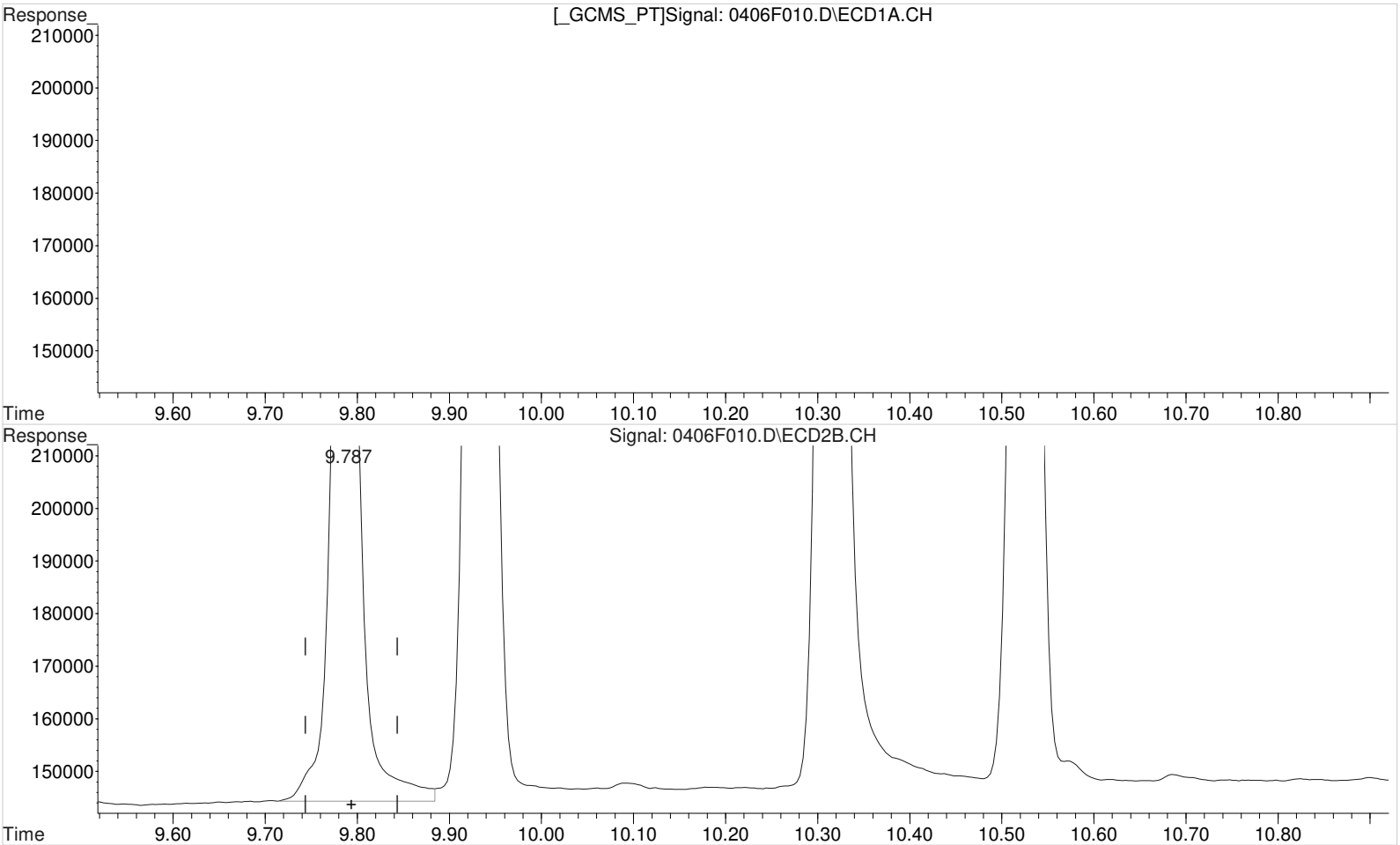
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F010.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:22 pm Operator: LM
Sample : 81 10PPB GCPS8-74O Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.094min 9.224 ug/L

response 74699

Manual Integration:

Before

04/07/20

(5) beta-BHC #2

9.787min 9.983 ug/L

response 328413

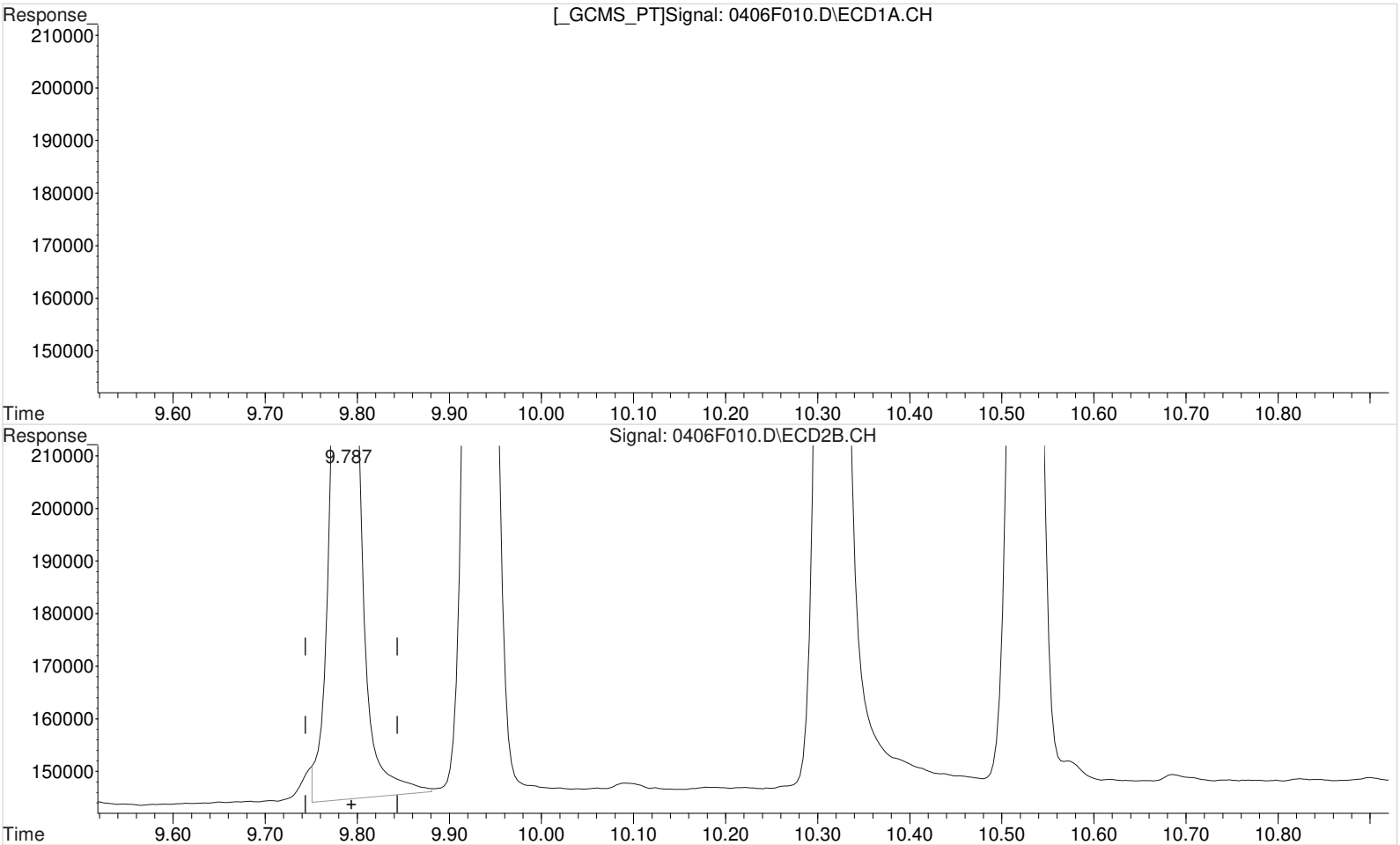
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F010.D Vial: 8
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:22 pm Operator: LM
Sample : 81 10PPB GCPS8-74O Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 07:43:05 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Mar 24 12:54:03 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.094min 9.224 ug/L

response 74699

Manual Integration:

After

Baseline/Shoulder

04/07/20

(5) beta-BHC #2

9.787min 9.595 ug/L m

response 315639

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:09:52 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.209	5.493	1022502	4733114	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
3)	alpha-BHC	9.832	8.503	29430	128066	1.726	1.707m
4)	Hexachlor...	9.995	8.286	35096	132385	1.738	1.757m
5)	beta-BHC	11.089	9.786	15597	60751	1.711	1.707m
6)	gamma-BHC...	10.502	9.249	28624	124992	1.737	1.712
7)	delta-BHC	11.595	10.313	27486	123157	1.649	1.725
8)	Heptachlor	11.699	9.933	31092	125898	1.756	1.698
9)	Aldrin	12.225	10.523	29090	127530	1.775	1.710
10)	Isodrin	12.755	11.323	30738	135271	2.186	2.167
11)	Heptachlo...	12.945	11.606	29747	122357	1.726	1.673
12)	gamma-Chl...	13.465	11.979	29780	121768	1.728	1.722
13)	Endosulfan I	13.595	12.196	27397	108526	1.742	1.704
14)	alpha-Chl...	13.545	12.129	29733	122354	1.733	1.708
15)	Dieldrin	14.015	12.639	27551	112625	1.633	1.620
16)	4,4'-DDE	13.819	12.493	27290	112032	1.729	1.674
17)	Endrin	14.385	13.123	26602	113530	1.728	1.716
18)	Endosulfa...	14.825	13.556	27154	103740	1.741	1.735
19)	4,4'-DDD	14.655	13.383	20066	78775	1.644	1.572
20)	Endrin Al...	15.009	13.923	22429	82314	1.659	1.663
21)	Endosulfa...	15.482	14.246	25626	96948	1.612	1.644
22)	4,4'-DDT	15.159	13.806	22652	81573	1.767	1.689
23)	Endrin Ke...	16.172	15.196	29043	115664	1.703m	1.640
24)	Methoxychlor	15.909	14.919	13151	45395	1.692m	1.693
	SemiQuant Compounds - Not Calibrated on this Instrument						

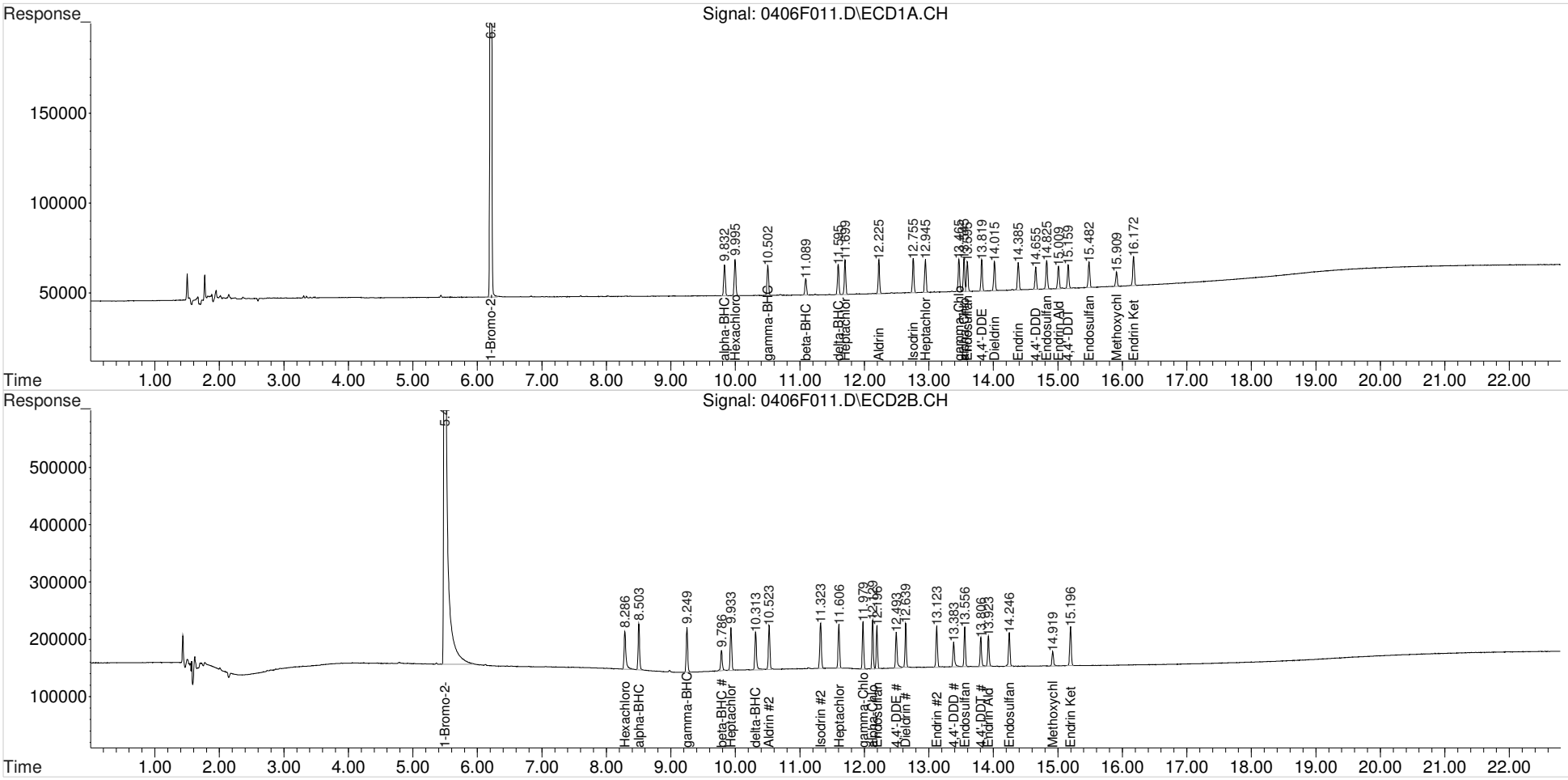
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:09:52 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

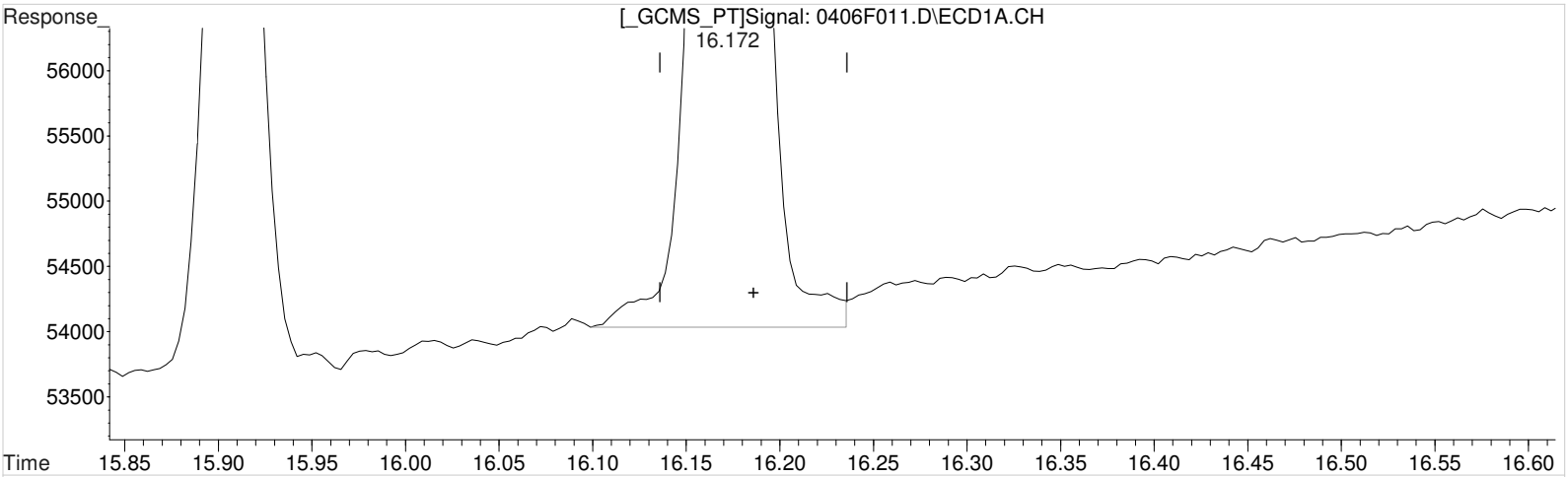


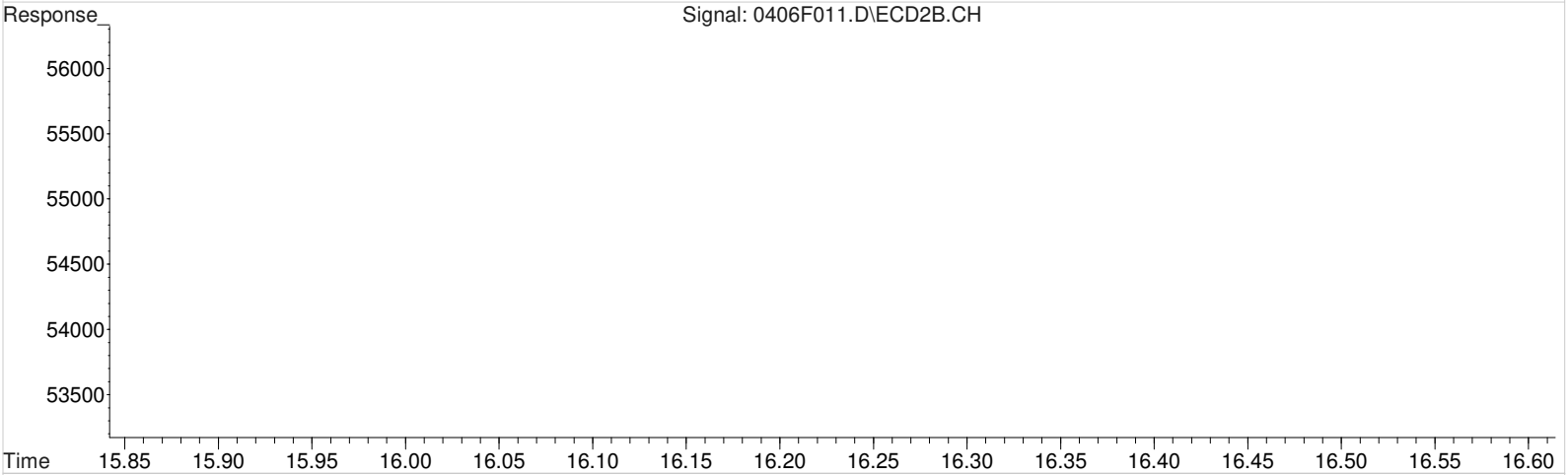
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:06:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(23) Endrin Ketone

16.172min 1.762 ug/L

response 30046

Manual Integration:

Before

04/07/20

(23) Endrin Ketone #2

15.196min 1.640 ug/L

response 115664

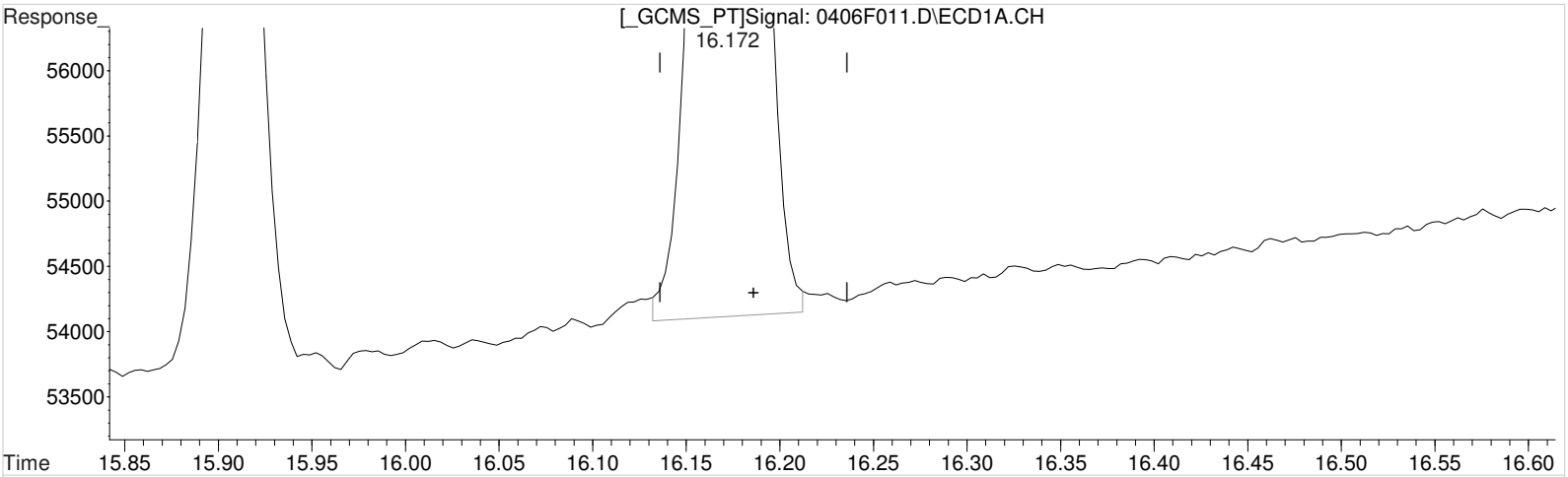
(+) = Expected Retention Time

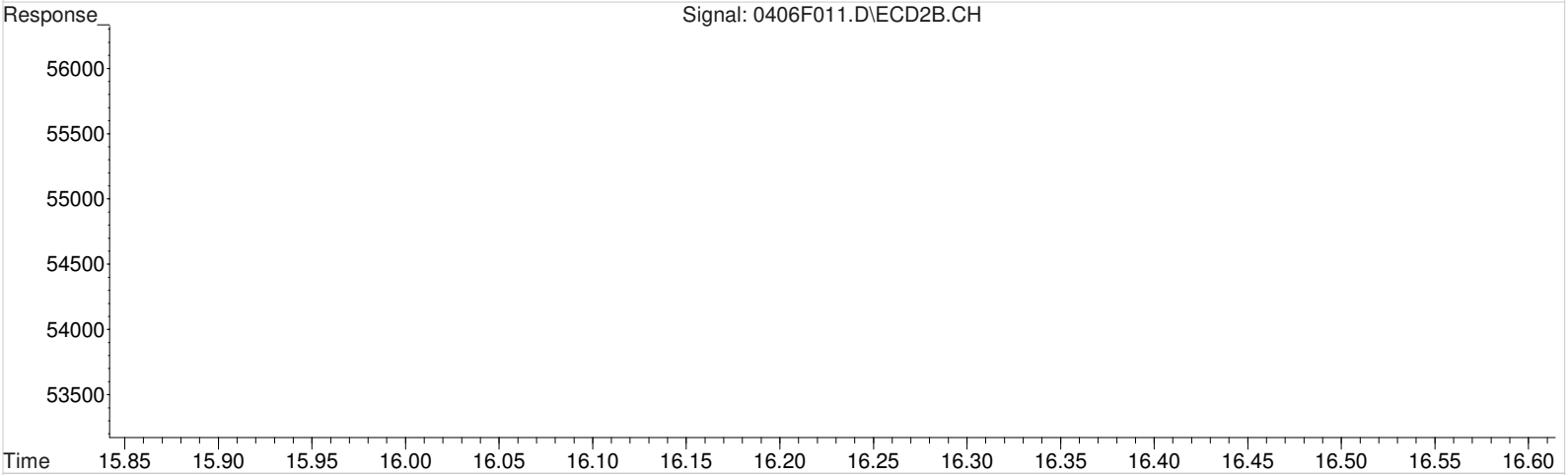
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:06:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(23) Endrin Ketone

16.172min 1.703 ug/L m

response 29043

Manual Integration:

After

Baseline/Shoulder

04/07/20

(23) Endrin Ketone #2

15.196min 1.640 ug/L

response 115664

(+) = Expected Retention Time

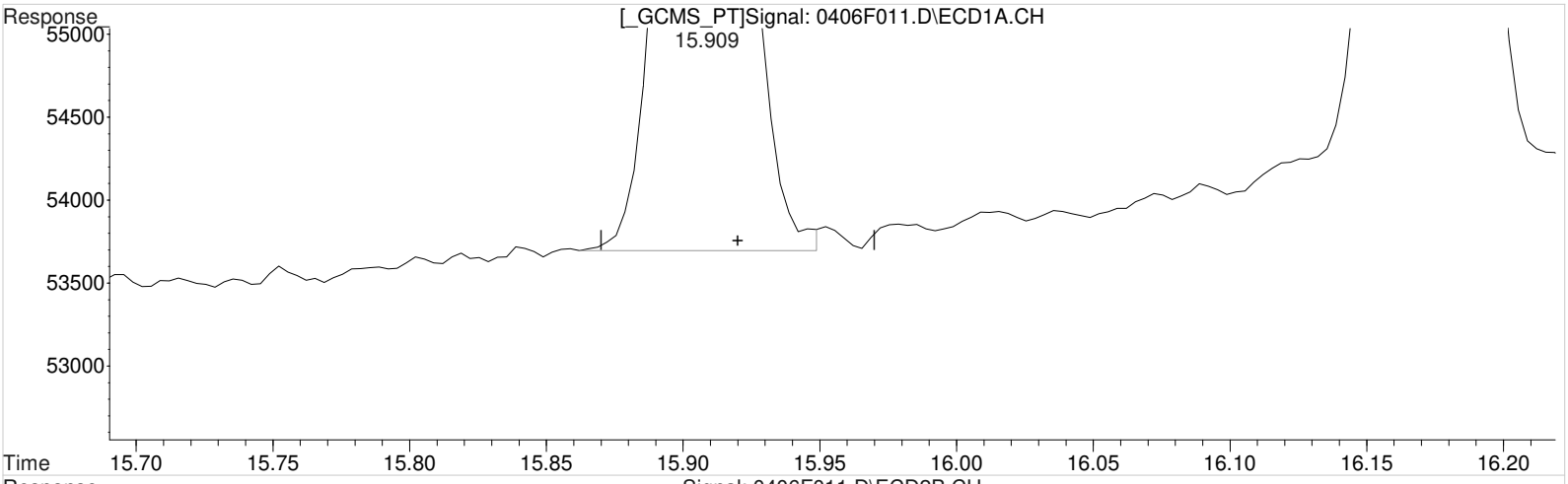
Quantitation Report (Qedit)

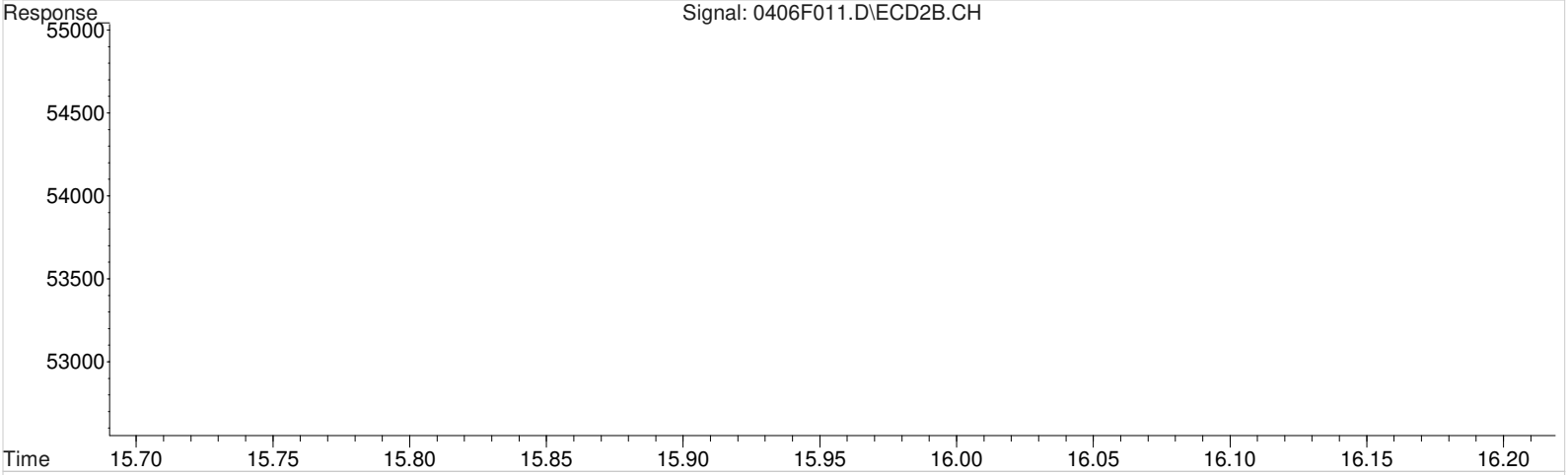
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:06:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.909min 1.720 ug/L

response 13370

Manual Integration:

Before

04/07/20

(24) Methoxychlor #2

14.919min 1.693 ug/L

response 45395

(+) = Expected Retention Time

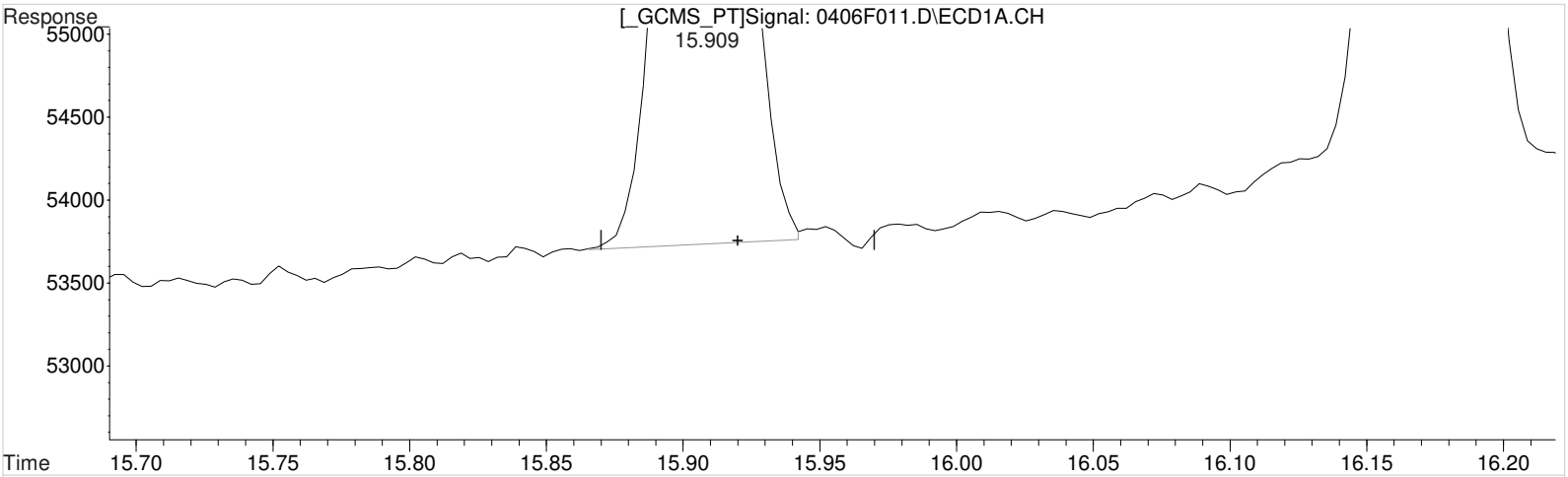
Quantitation Report (Qedit)

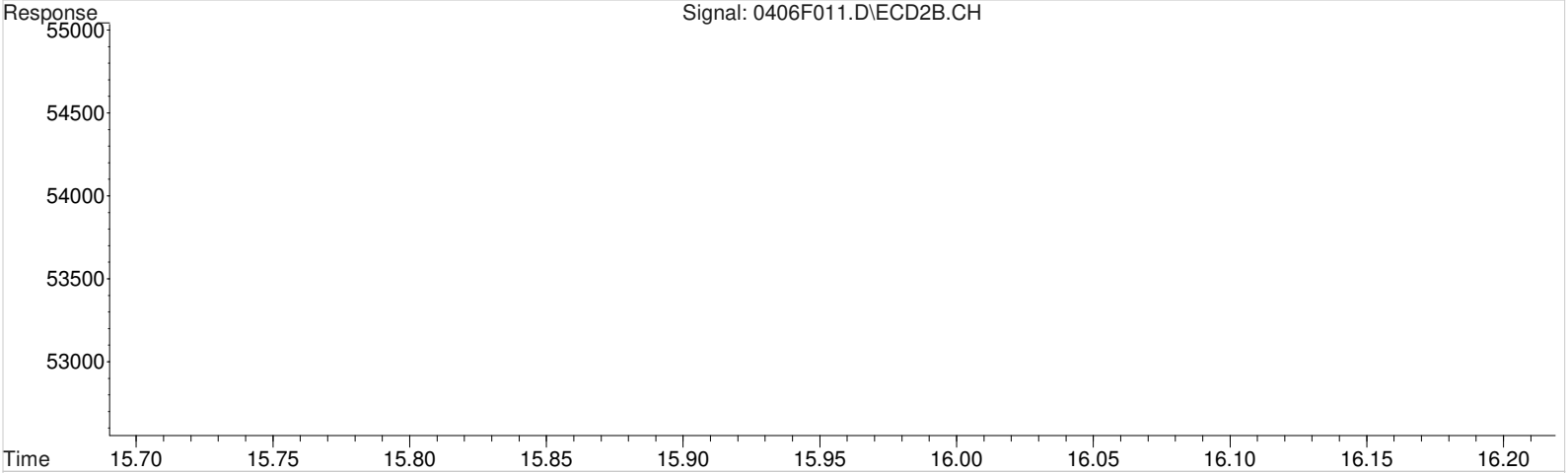
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:06:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(24) Methoxychlor

15.909min 1.692 ug/L m

response 13151

Manual Integration:

After

Baseline/Shoulder

04/07/20

(24) Methoxychlor #2

14.919min 1.693 ug/L

response 45395

(+) = Expected Retention Time

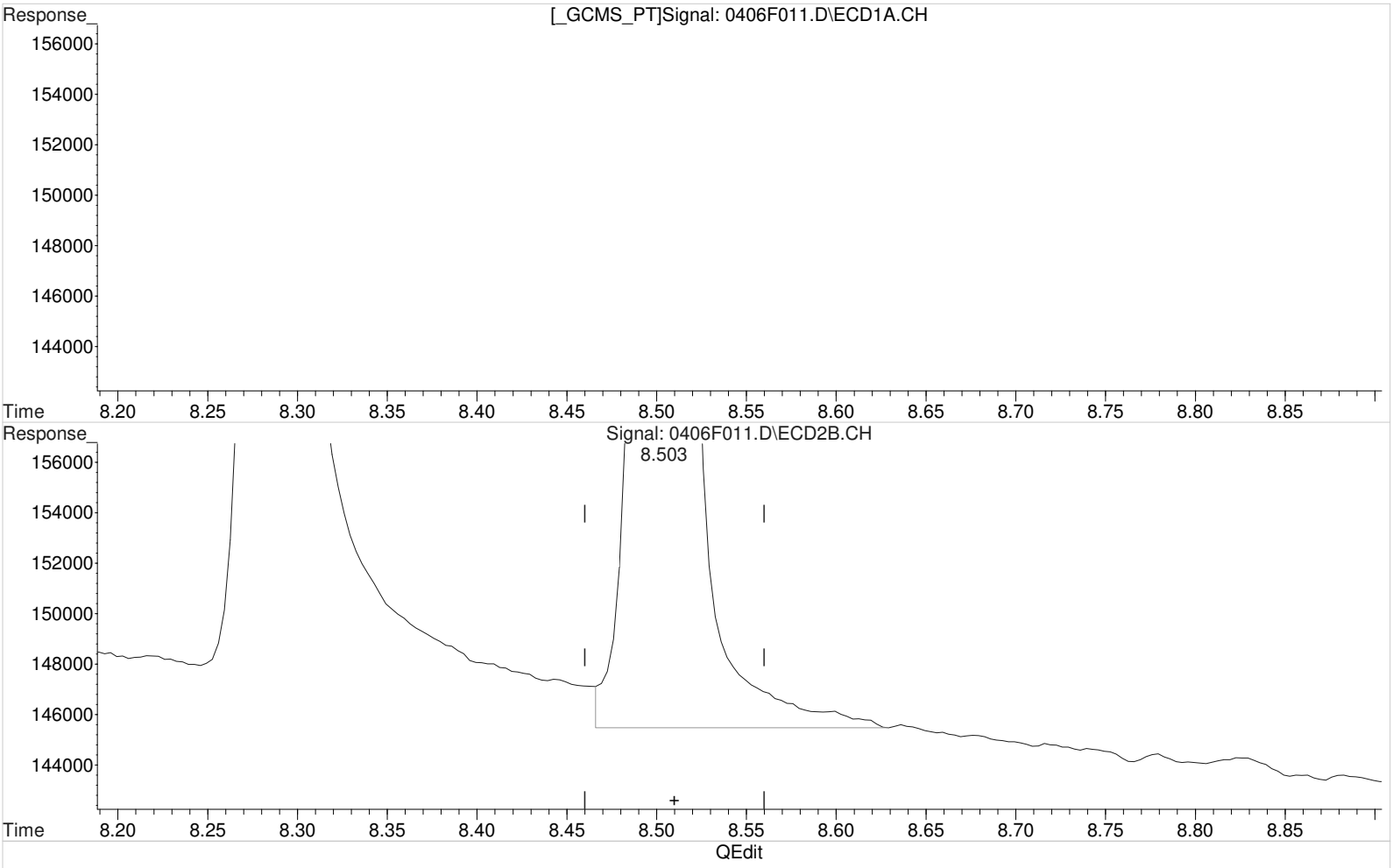
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:06:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(3) alpha-BHC

9.832min 1.726 ug/L

response 29430

Manual Integration:

Before

04/07/20

(3) alpha-BHC #2

8.503min 1.829 ug/L

response 137183

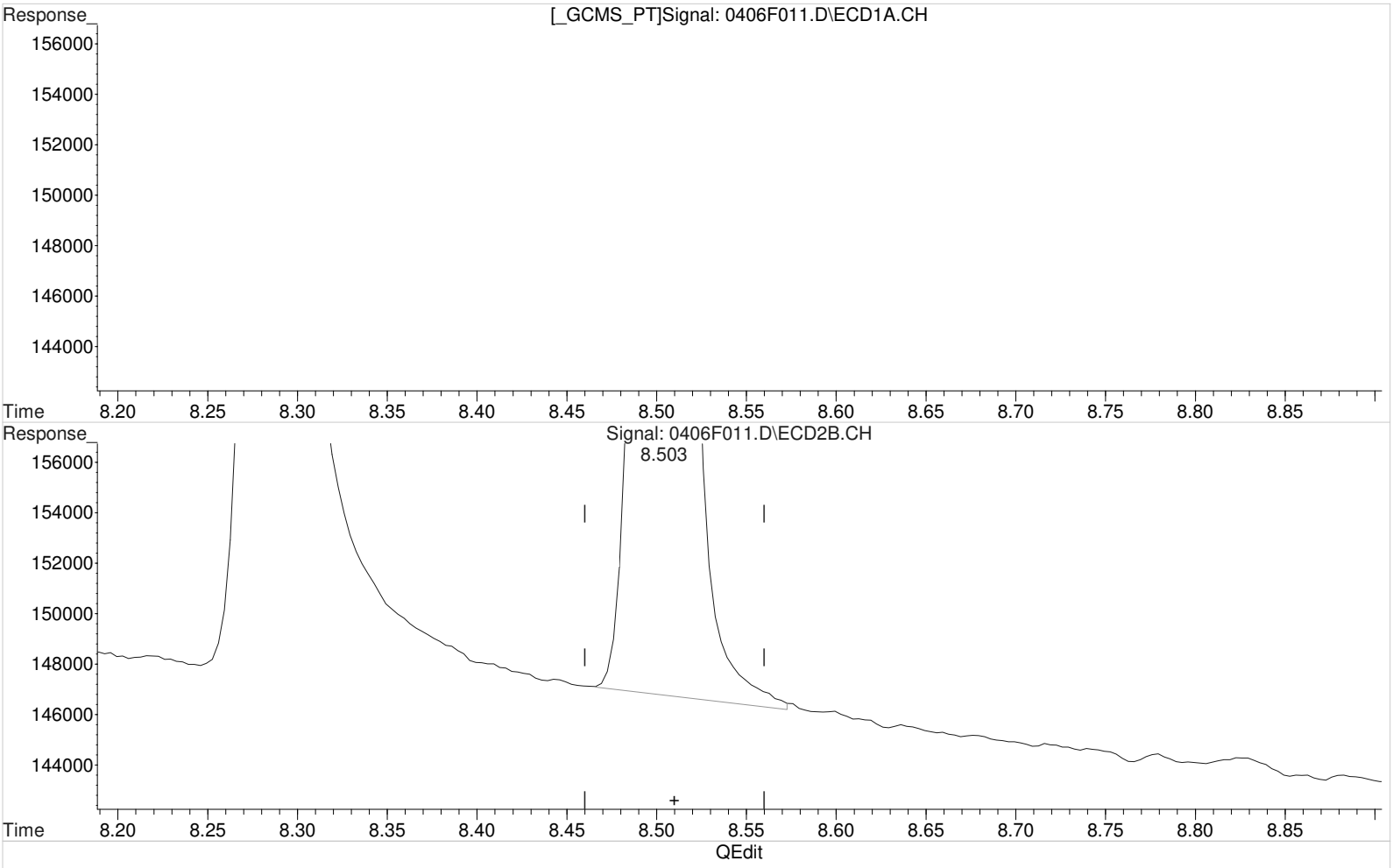
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:06:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(3) alpha-BHC

9.832min 1.726 ug/L

response 29430

Manual Integration:

After

Baseline/Shoulder

04/07/20

(3) alpha-BHC #2

8.503min 1.707 ug/L m

response 128066

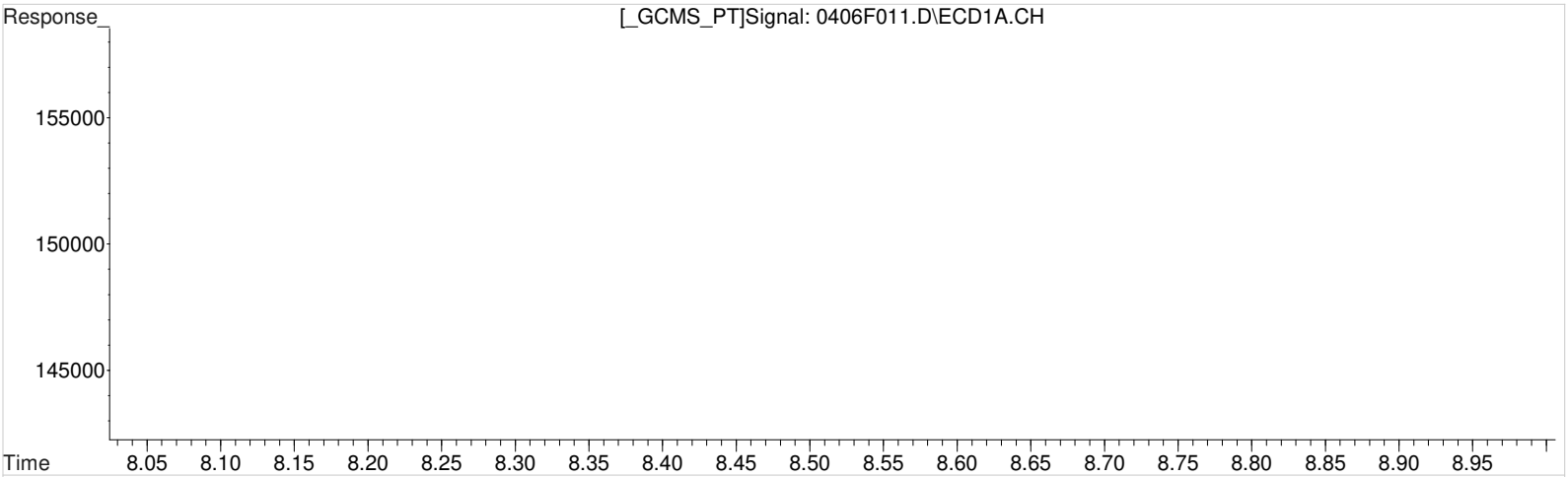
(+) = Expected Retention Time

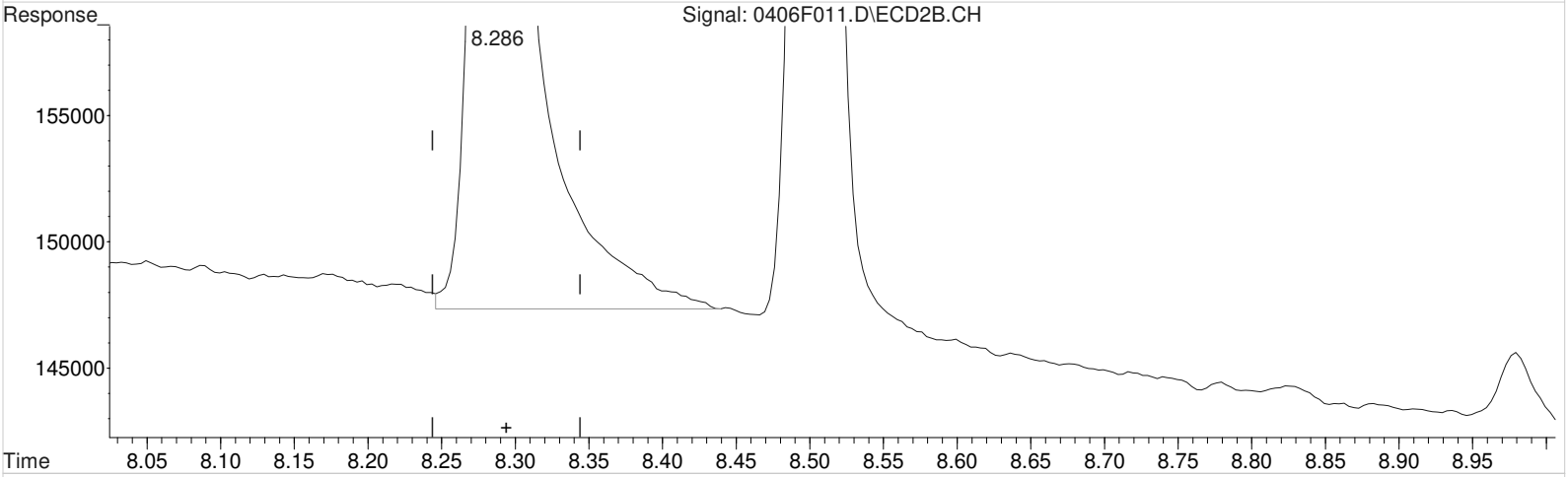
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:06:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(4) Hexachlorobenzene

9.995min 1.738 ug/L

response 35096

Manual Integration:

Before

04/07/20

(4) Hexachlorobenzene #2

8.286min 1.811 ug/L

response 136448

(+) = Expected Retention Time

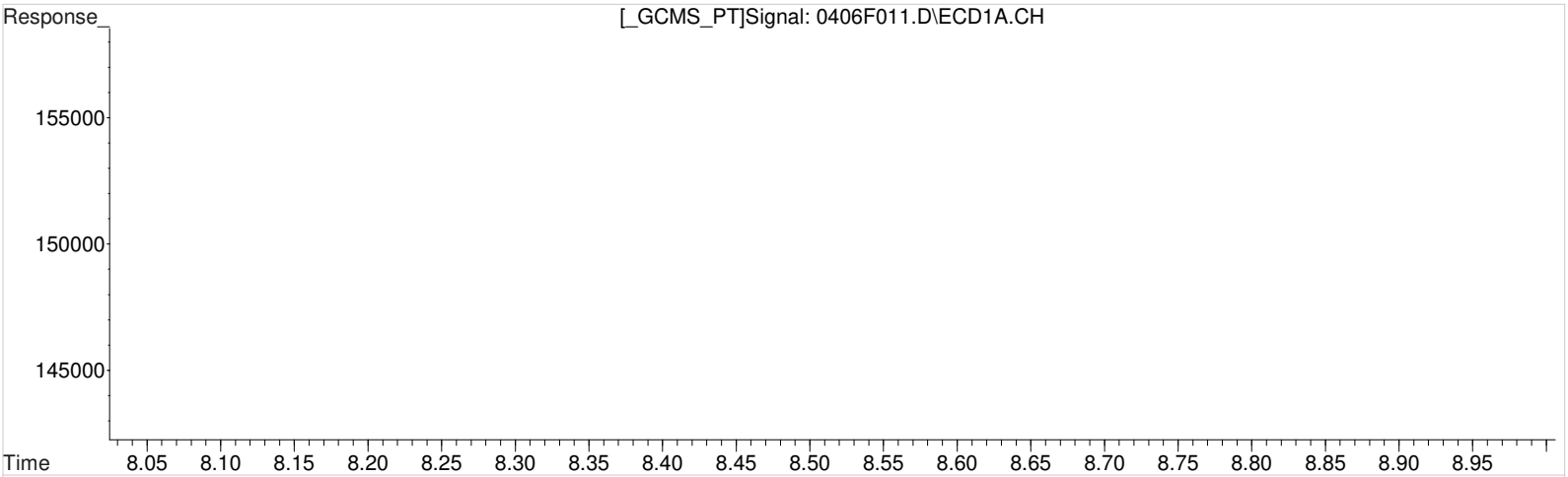
Quantitation Report (Qedit)

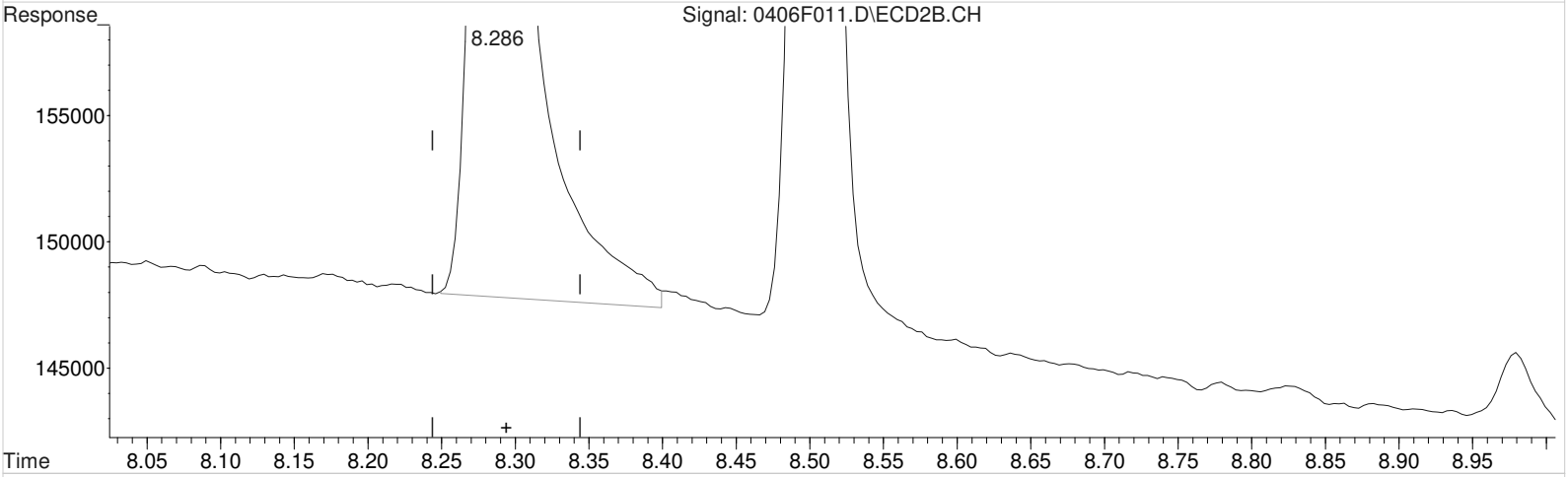
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:06:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(4) Hexachlorobenzene

9.995min 1.738 ug/L

response 35096

Manual Integration:

After

Baseline/Shoulder

04/07/20

(4) Hexachlorobenzene #2

8.286min 1.757 ug/L m

response 132385

(+) = Expected Retention Time

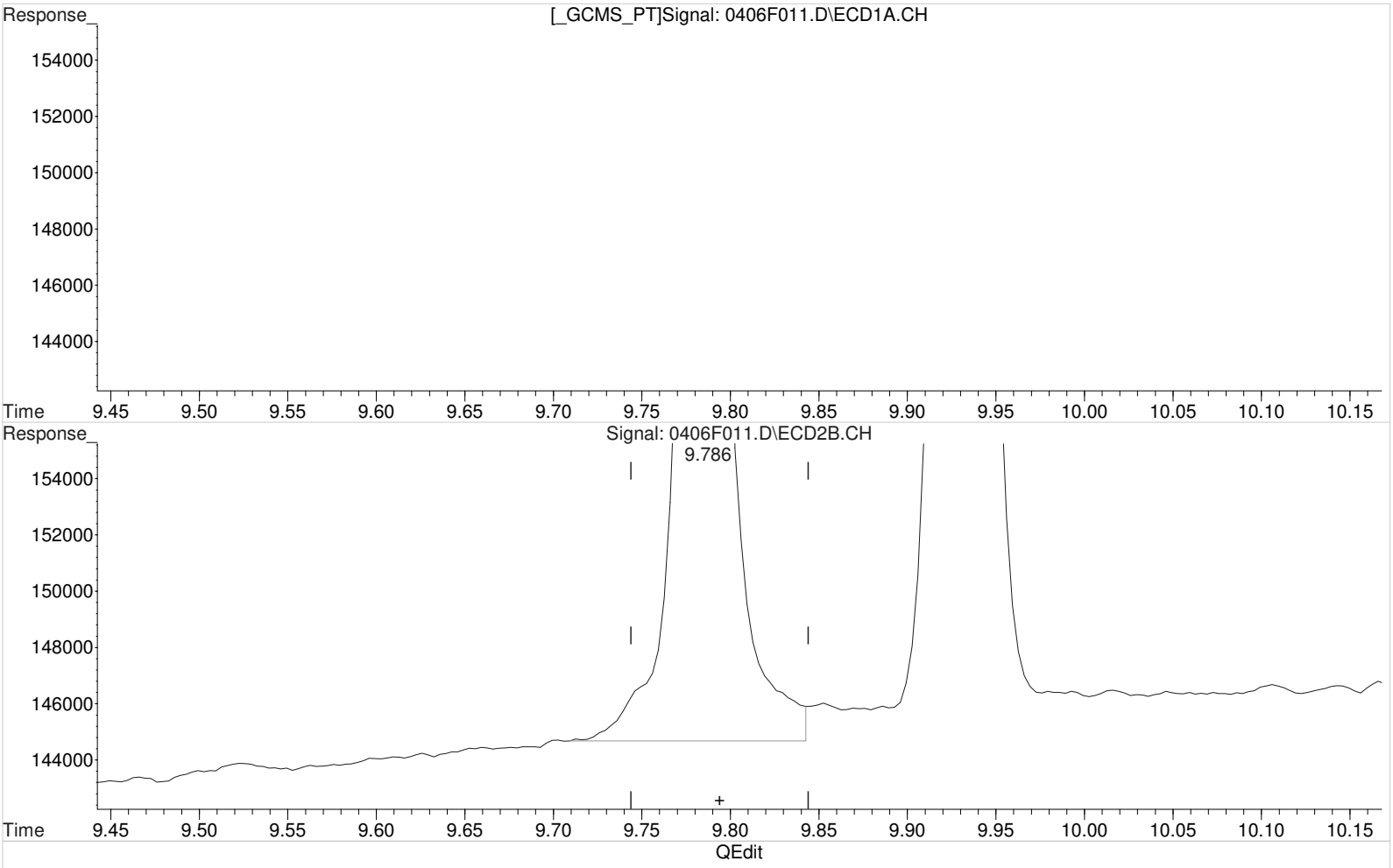
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:06:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.089min 1.711 ug/L

response 15597

(5) beta-BHC #2

9.786min 1.861 ug/L

response 66216

Manual Integration:

Before

04/07/20

(+) = Expected Retention Time

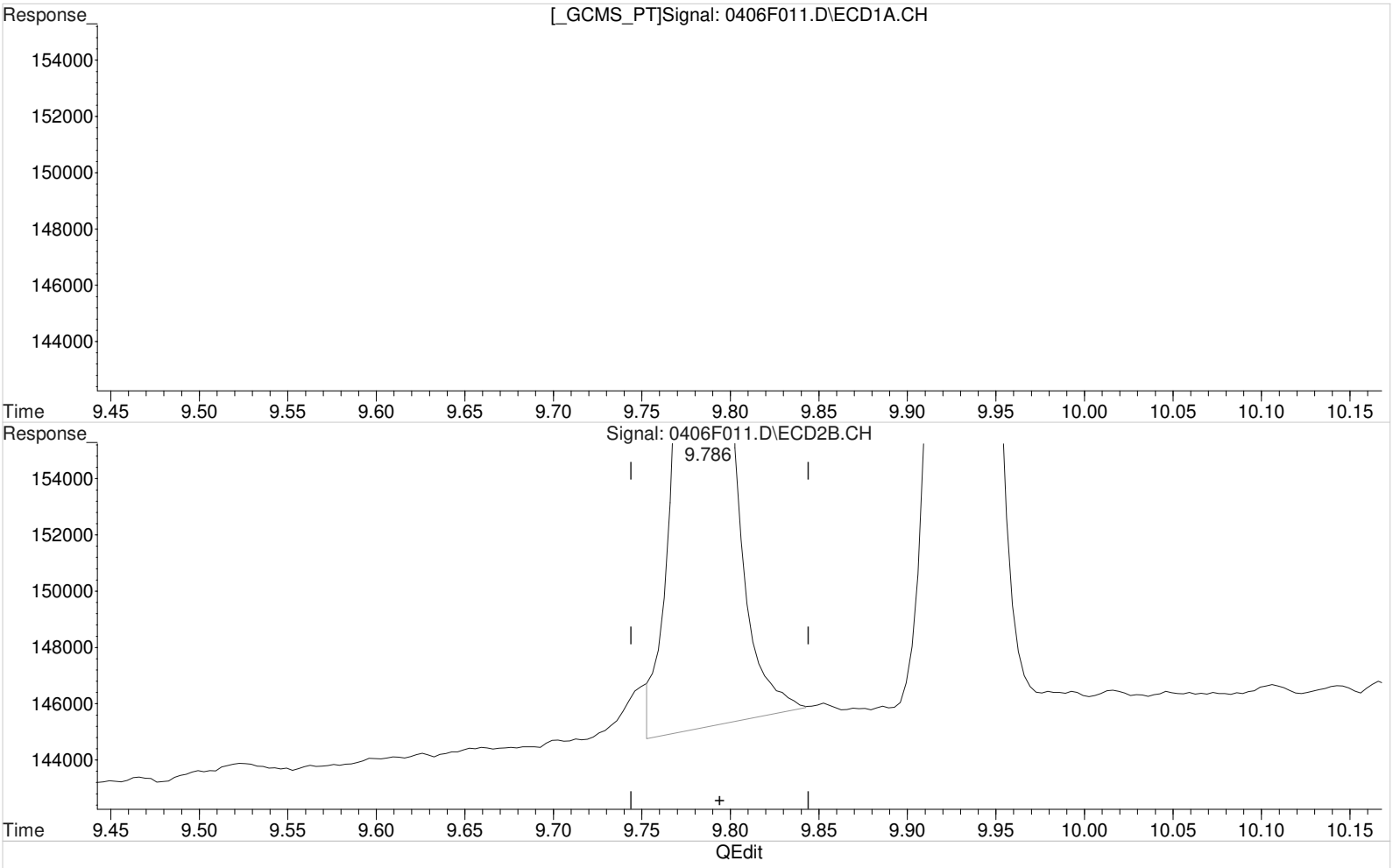
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F011.D Vial: 9
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 3:52 pm Operator: LM
Sample : 81 ICV 2PPB GCPS8-73E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:06:31 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(5) beta-BHC

11.089min 1.711 ug/L

response 15597

Manual Integration:

After

Baseline/Shoulder

04/07/20

(5) beta-BHC #2

9.786min 1.707 ug/L m

response 60751

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F012.D Vial: 10
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 4:22 pm Operator: LM
Sample : 24 0.2PPB GCPS8-74B @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:12:12 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.211	5.495	979892	4522835	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
25)	2,4'-DDE	13.234	12.022	2300	8905	0.248	0.235
26)	2,4'-DDD	13.971	12.795	2163	7140	0.276	0.207
27)	2,4'-DDT	14.468	13.218	2510	8837	0.310	0.265
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

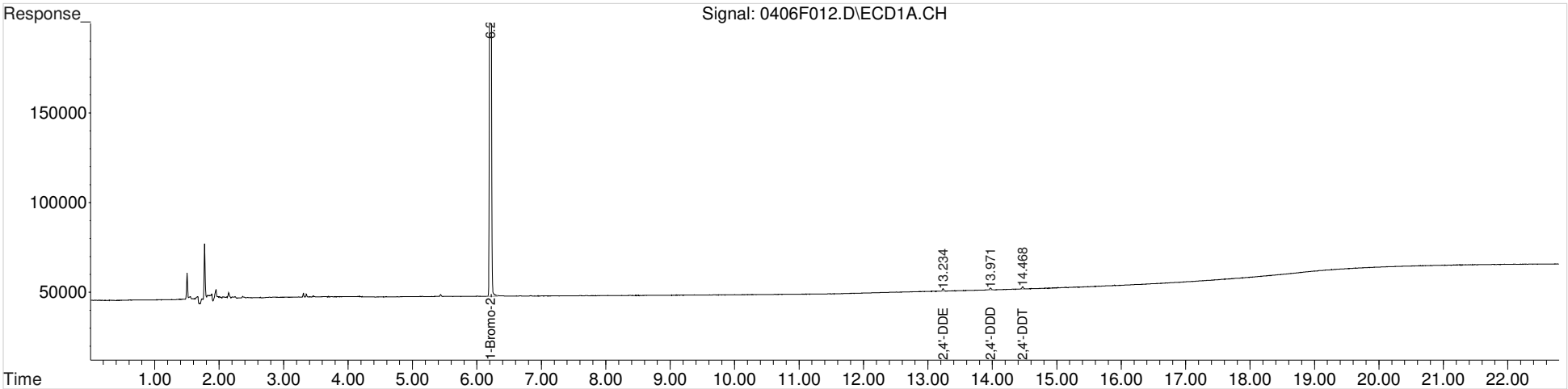
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F012.D Vial: 10
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 4:22 pm Operator: LM
Sample : 24 0.2PPB GCPS8-74B @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:12:12 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F014.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 5:21 pm Operator: LM
Sample : 24 1PPB GCPS8-74B @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:15:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.212	5.496	945073	4335358	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
25)	2,4'-DDE	13.239	12.022	10434	39896	1.165	1.096
26)	2,4'-DDD	13.975	12.799	8861	35097	1.174	1.064m
27)	2,4'-DDT	14.472	13.222	10150	37451	1.302	1.174
	SemiQuant Compounds - Not Calibrated on this Instrument						

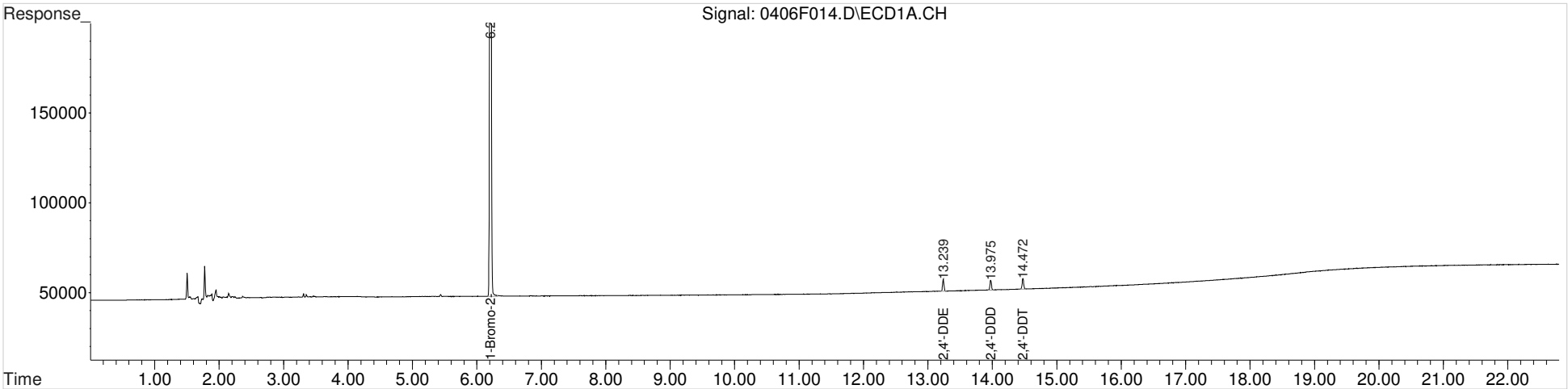
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F014.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 5:21 pm Operator: LM
Sample : 24 1PPB GCPS8-74B @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:15:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

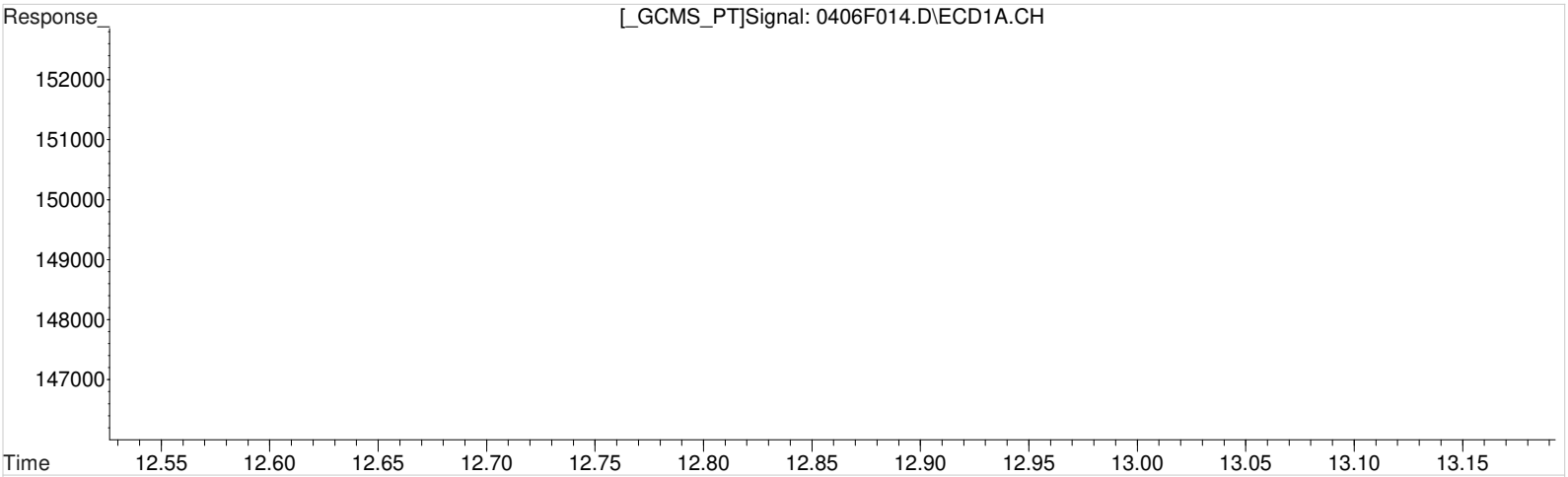


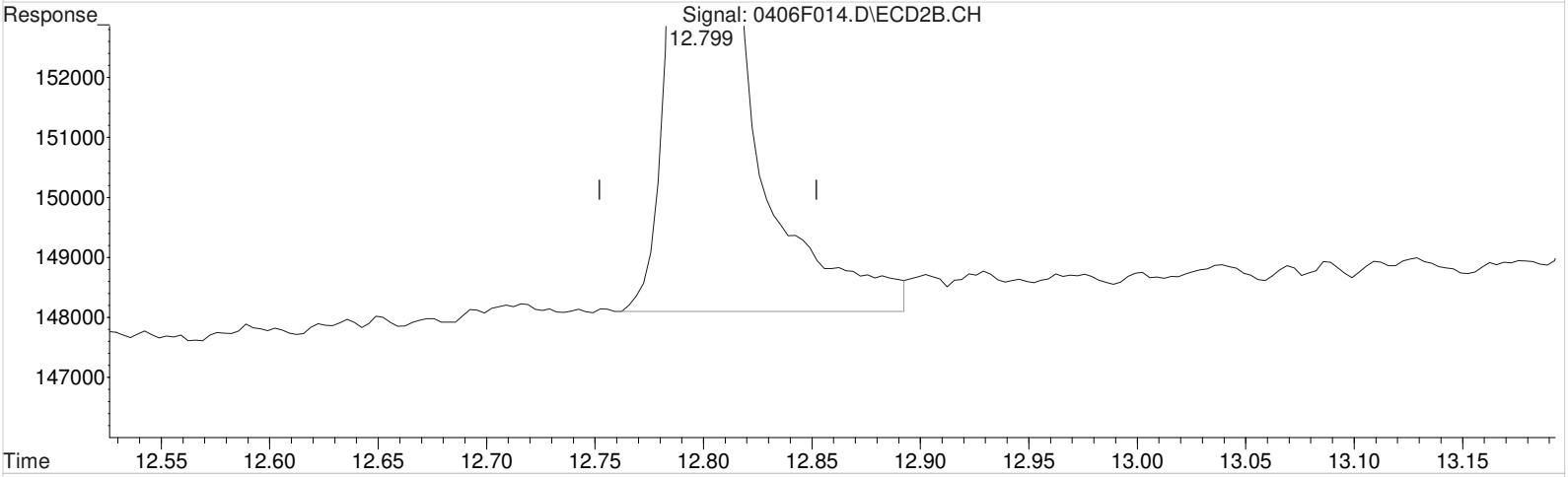
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F014.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 5:21 pm Operator: LM
Sample : 24 1PPB GCPS8-74B @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:11:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.975min 1.174 ug/L

response 8861

Manual Integration:

Before

04/07/20

(26) 2,4'-DDD #2

12.799min 1.150 ug/L

response 37940

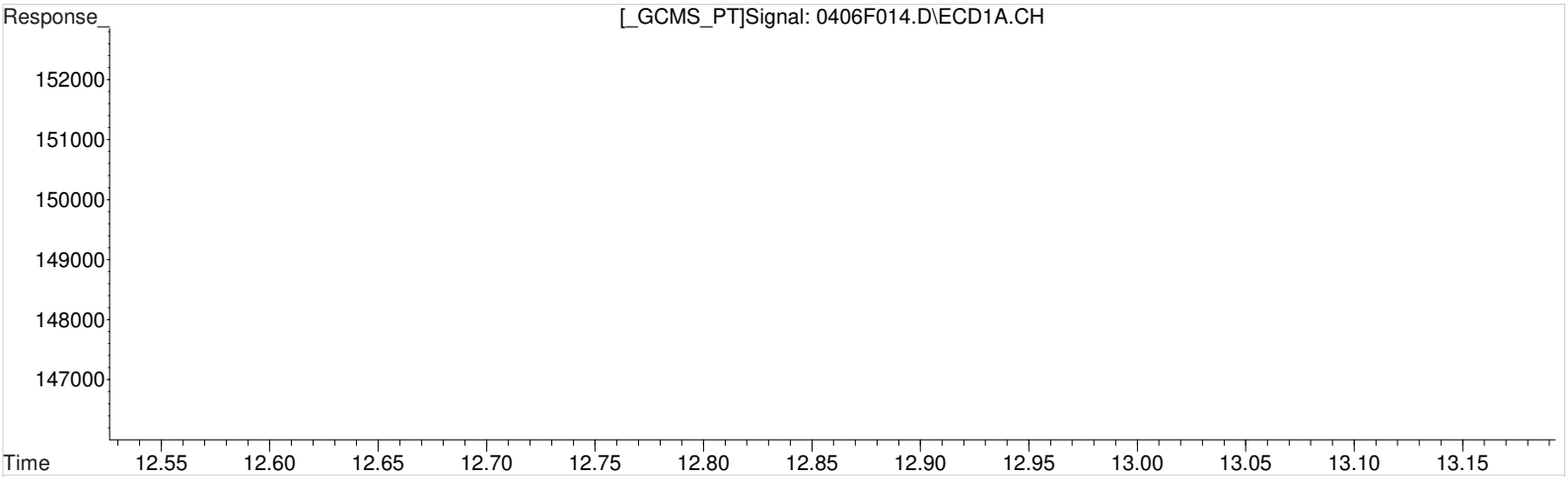
(+) = Expected Retention Time

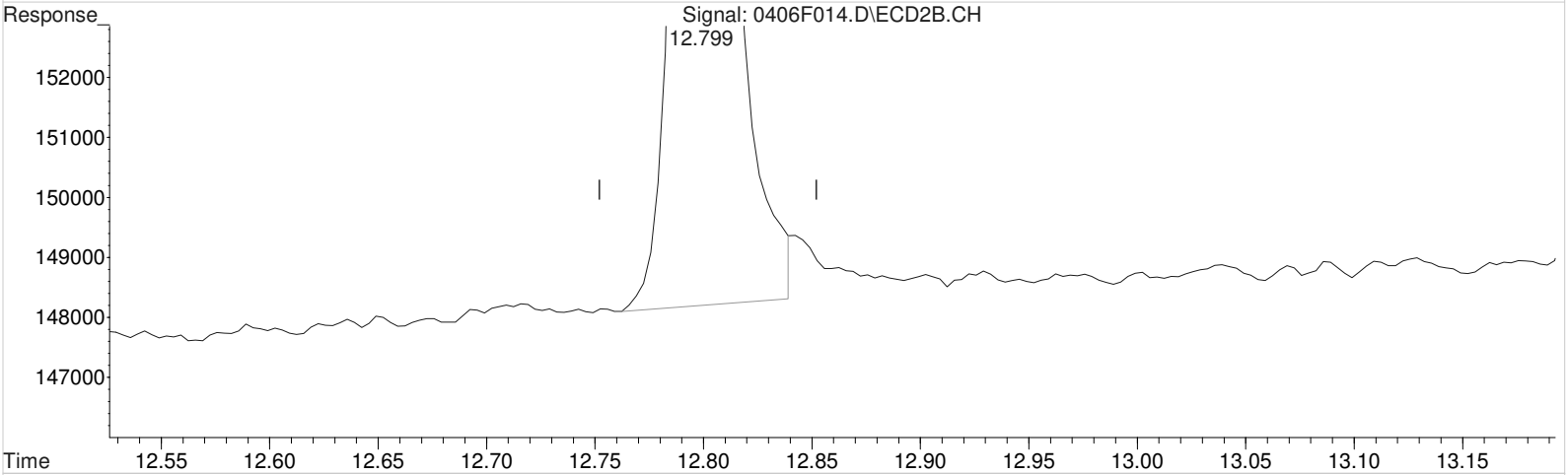
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F014.D Vial: 12
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 5:21 pm Operator: LM
Sample : 24 1PPB GCPS8-74B @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:11:13 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(26) 2,4'-DDD

13.975min 1.174 ug/L

response 8861

Manual Integration:

After

Baseline/Shoulder

04/07/20

(26) 2,4'-DDD #2

12.799min 1.064 ug/L m

response 35097

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F015.D Vial: 13
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 5:51 pm Operator: LM
Sample : 24 2PPB GCPS8-74B Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:15:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.215	5.495	983264	4537198	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
25)	2,4'-DDE	13.238	12.025	20062	79478	2.154	2.086
26)	2,4'-DDD	13.975	12.802	17468	70316	2.225	2.036
27)	2,4'-DDT	14.472	13.222	19675	73280	2.425	2.195
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

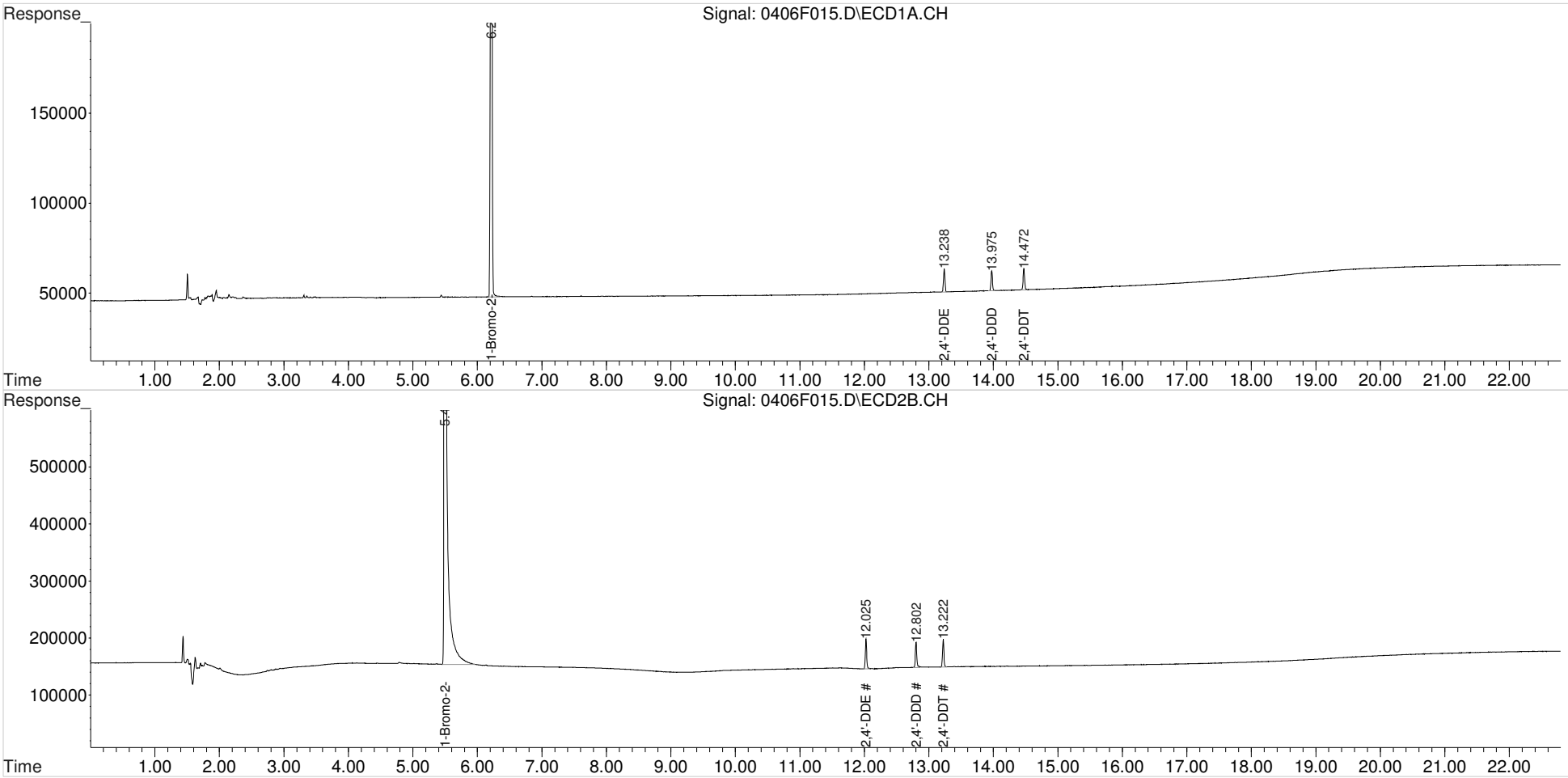
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F015.D Vial: 13
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 5:51 pm Operator: LM
Sample : 24 2PPB GCPS8-74B Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:15:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F016.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 6:20 pm Operator: LM
Sample : 24 5PPB GCPS8-74A @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:17:04 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.209	5.493	963598	4428905	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
25)	2,4'-DDE	13.233	12.020	51107	211914	5.598	5.699
26)	2,4'-DDD	13.969	12.797	44878	182610	5.832	5.417m
27)	2,4'-DDT	14.469	13.217	50386	195998	6.338	6.013
	SemiQuant Compounds - Not Calibrated on this Instrument						

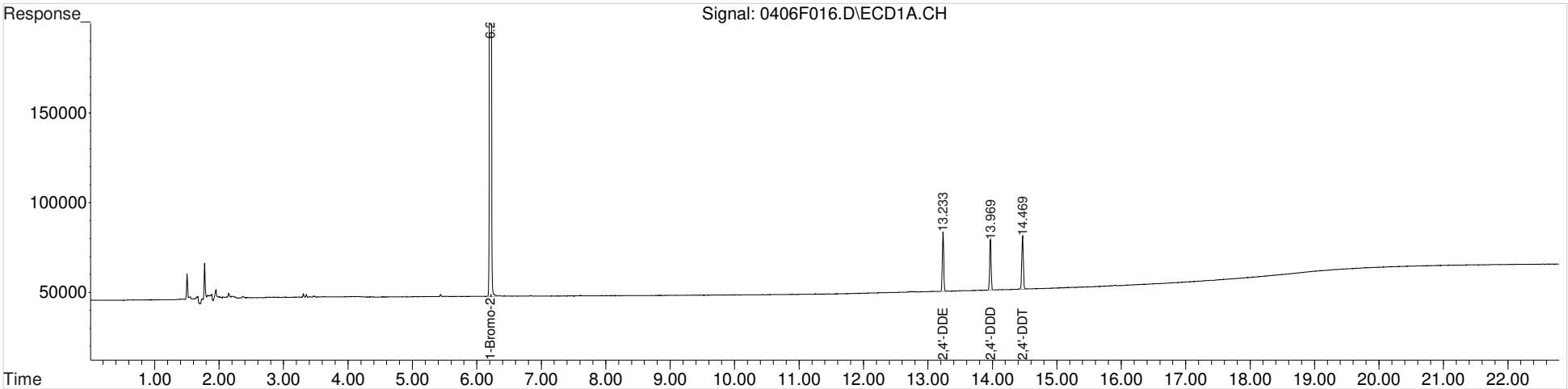
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F016.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 6:20 pm Operator: LM
Sample : 24 5PPB GCPS8-74A @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:17:04 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



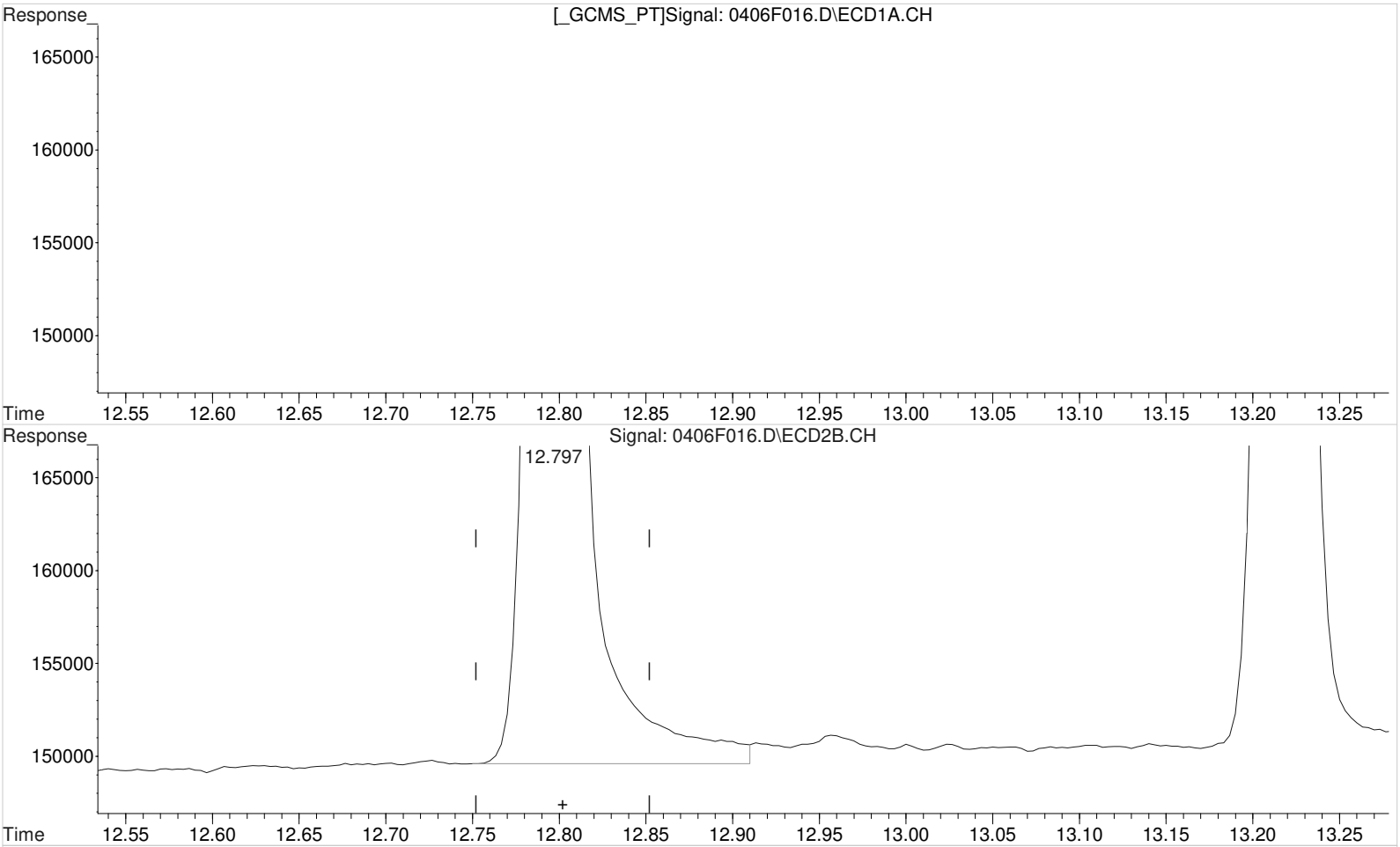
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F016.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 6:20 pm Operator: LM
Sample : 24 5PPB GCPS8-74A @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:11:21 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(26) 2,4'-DDD

13.969min 5.832 ug/L

response 44878

(26) 2,4'-DDD #2

12.797min 5.515 ug/L

response 185901

Manual Integration:

Before

04/07/20

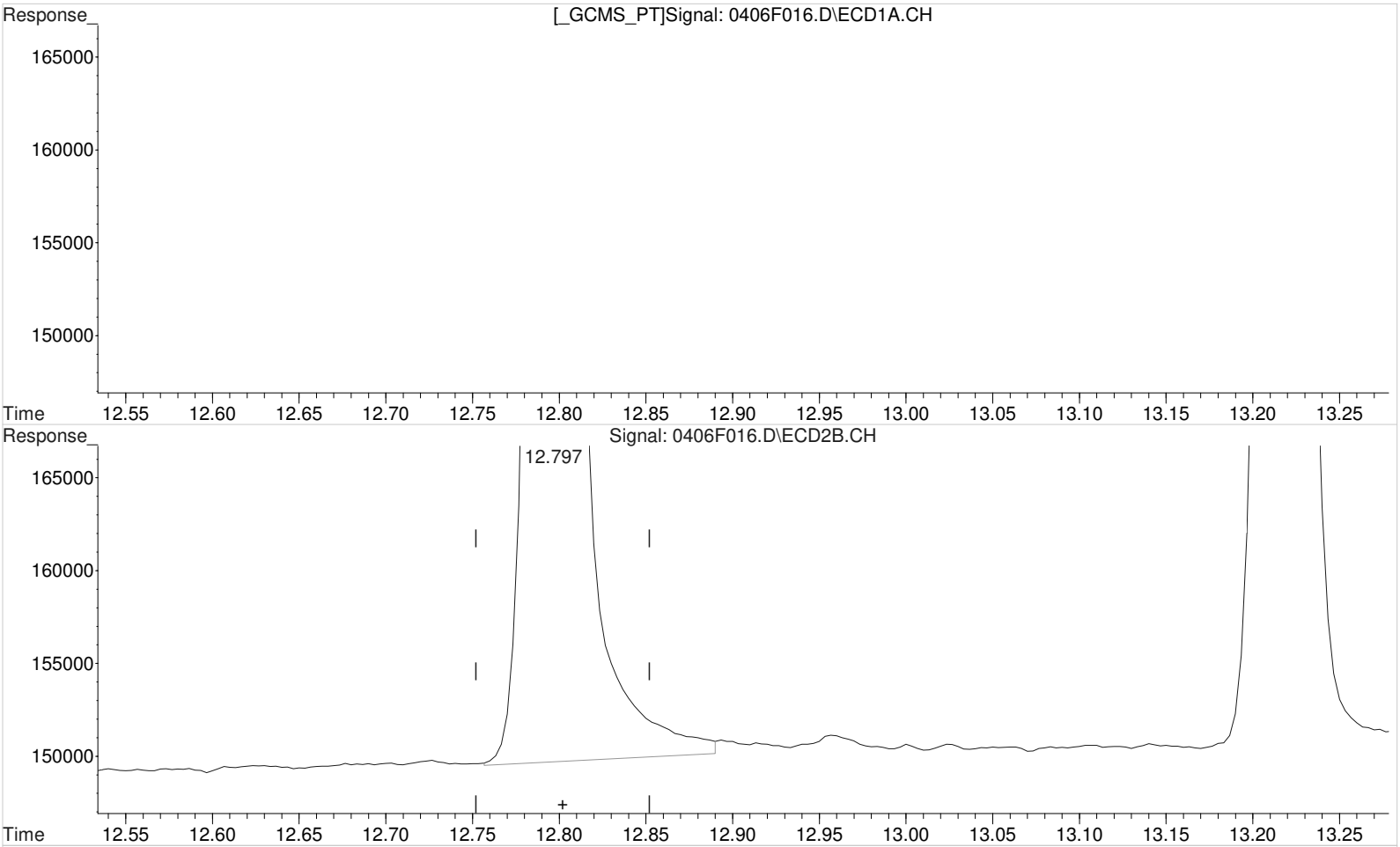
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F016.D Vial: 14
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 6:20 pm Operator: LM
Sample : 24 5PPB GCPS8-74A @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:11:21 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(26) 2,4'-DDD

13.969min 5.832 ug/L

response 44878

Manual Integration:

After

Baseline/Shoulder

04/07/20

(26) 2,4'-DDD #2

12.797min 5.417 ug/L m

response 182610

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F017.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 6:50 pm Operator: LM
Sample : 24 10PPB GCPS8-74A Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:17:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.211	5.495	993159	4645423	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
25)	2,4'-DDE	13.238	12.021	98797	428240	10.499	10.980
26)	2,4'-DDD	13.971	12.798	87052	371075	10.975	10.495
27)	2,4'-DDT	14.471	13.221	97816	403120	11.938	11.792
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

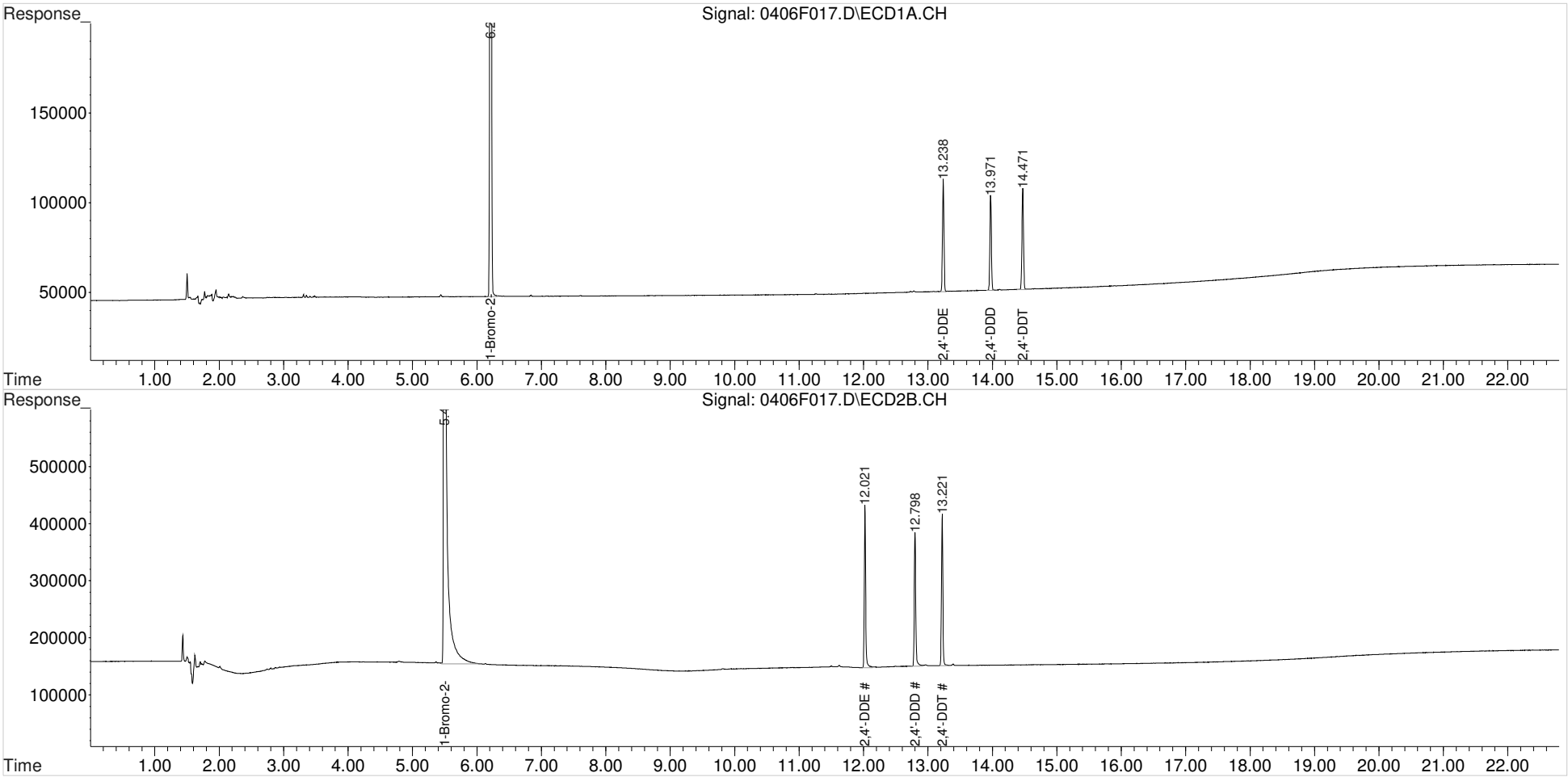
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F017.D Vial: 15
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 6:50 pm Operator: LM
Sample : 24 10PPB GCPS8-74A Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:17:43 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F019.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 7:49 pm Operator: LM
Sample : M/P .2/1PPB GCPS8-76D @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:22:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
43)	1-Bromo-2...	6.211	5.495	986366	4569098	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
44)	Chlorpyrifos	12.148	10.905	2324	5877	0.327	0.181	#
45)	Oxychlordane	12.918	11.395	3842	15110	0.272	0.238	
46)	cis-Nonac...	14.671	13.229	3642	14271	0.249	0.210	
47)	trans-Non...	13.635	12.029	3948	14838	0.267	0.227	
48)	Mirex	17.041	15.385	3442	12193	0.307	0.242	
49)	HCE	4.161	3.449	5725	24548	0.196	0.224	
50)	HCBD	4.948	3.999	4388	19522	0.186	0.218	
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

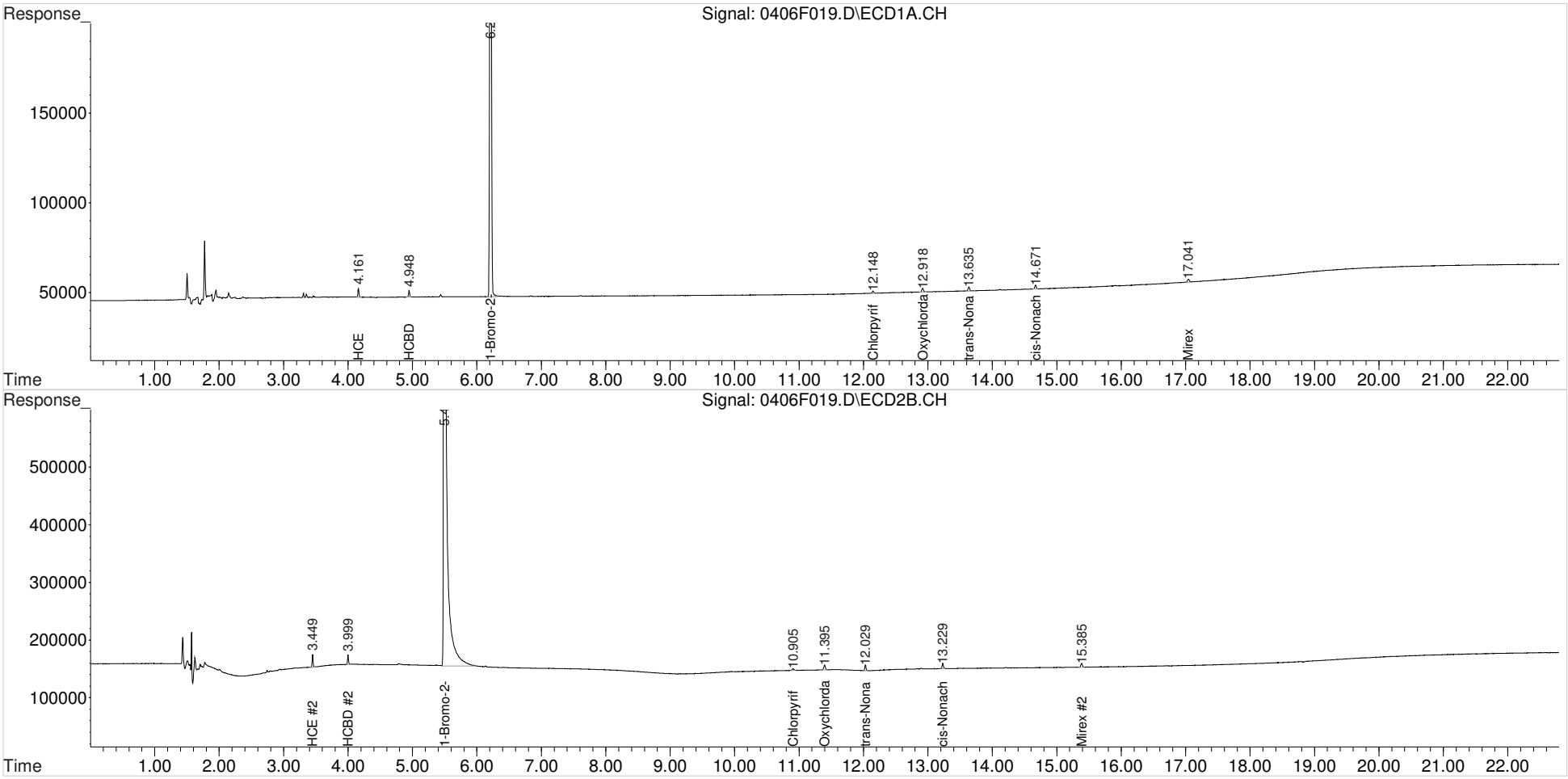
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F019.D Vial: 17
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 7:49 pm Operator: LM
Sample : M/P .2/1PPB GCPS8-76D @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:22:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F020.D Vial: 18
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 8:19 pm Operator: LM
Sample : M/P .5/2.5PPB GCPS8-76D @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:23:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
43)	1-Bromo-2...	6.207	5.491	984479	4548553	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
44)	Chlorpyrifos	12.141	10.901	4556	13297	0.642	0.411	#
45)	Oxychlordane	12.907	11.388	8040	33720	0.570	0.534	
46)	cis-Nonac...	14.661	13.225	8808	35068	0.604	0.519	
47)	trans-Non...	13.624	12.025	8675	33829	0.587	0.520	
48)	Mirex	17.031	15.378	7133	26519	0.638m	0.529	
49)	HCE	4.157	3.448	12367	51689	0.425	0.474	
50)	HCBD	4.944	3.998	10323	44002	0.439	0.495	
52)	Perthane	14.104	12.891	1370	3966	3.185	2.253	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

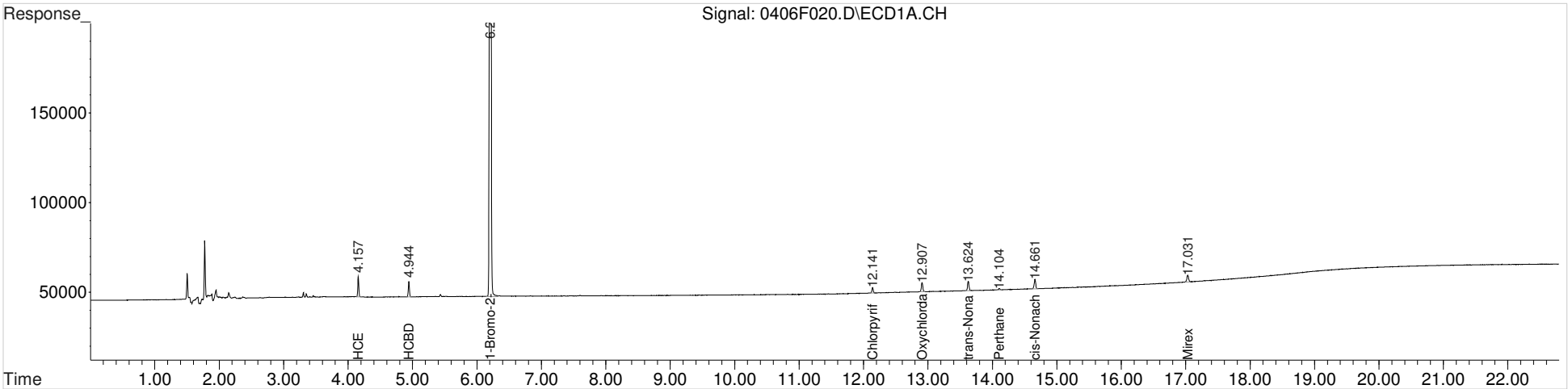
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F020.D Vial: 18
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 8:19 pm Operator: LM
Sample : M/P .5/2.5PPB GCPS8-76D @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:23:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



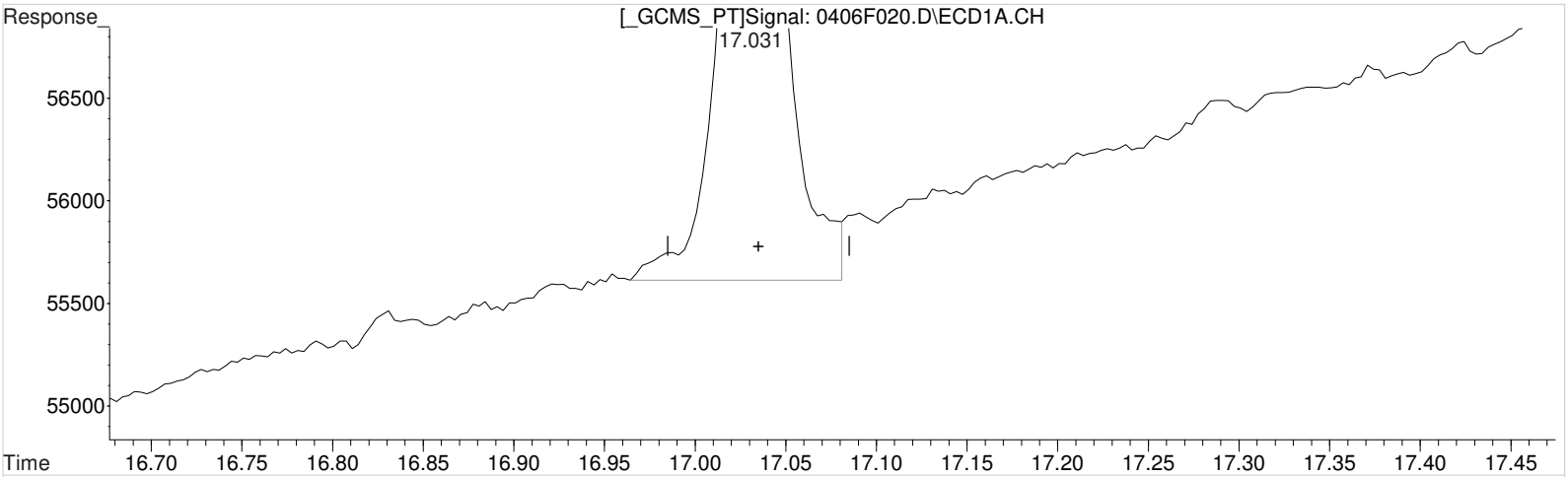
Quantitation Report (Qedit)

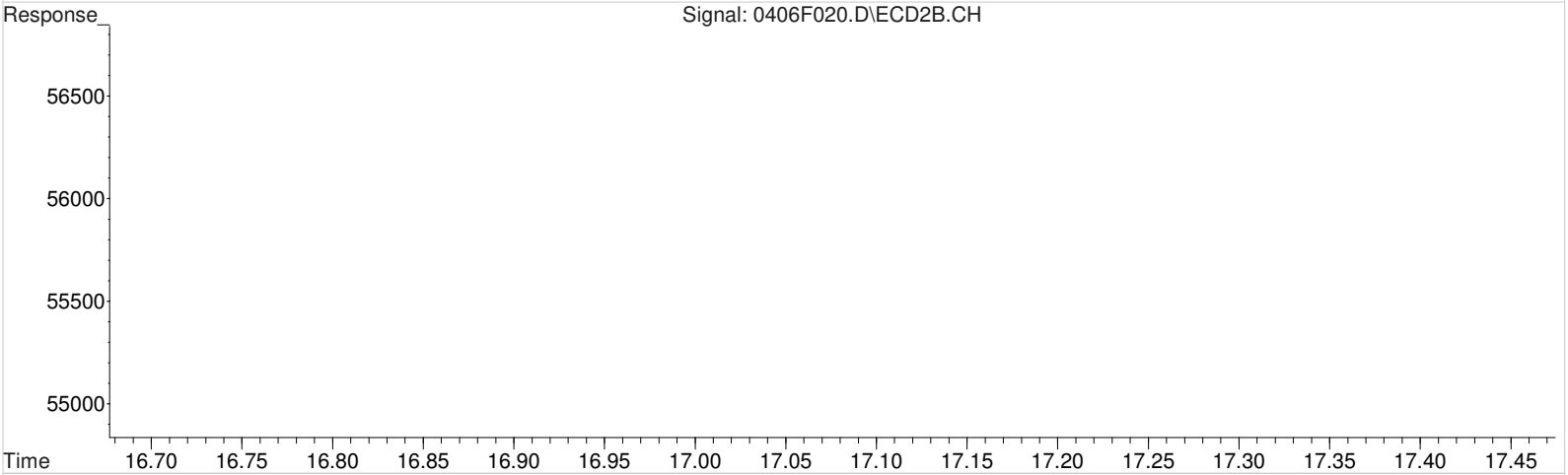
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F020.D Vial: 18
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 8:19 pm Operator: LM
Sample : M/P .5/2.5PPB GCPS8-76D @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:20:23 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(48) Mirex

17.031min 0.741 ug/L

response 8285

Manual Integration:

Before

04/07/20

(48) Mirex #2

15.378min 0.529 ug/L

response 26519

(+) = Expected Retention Time

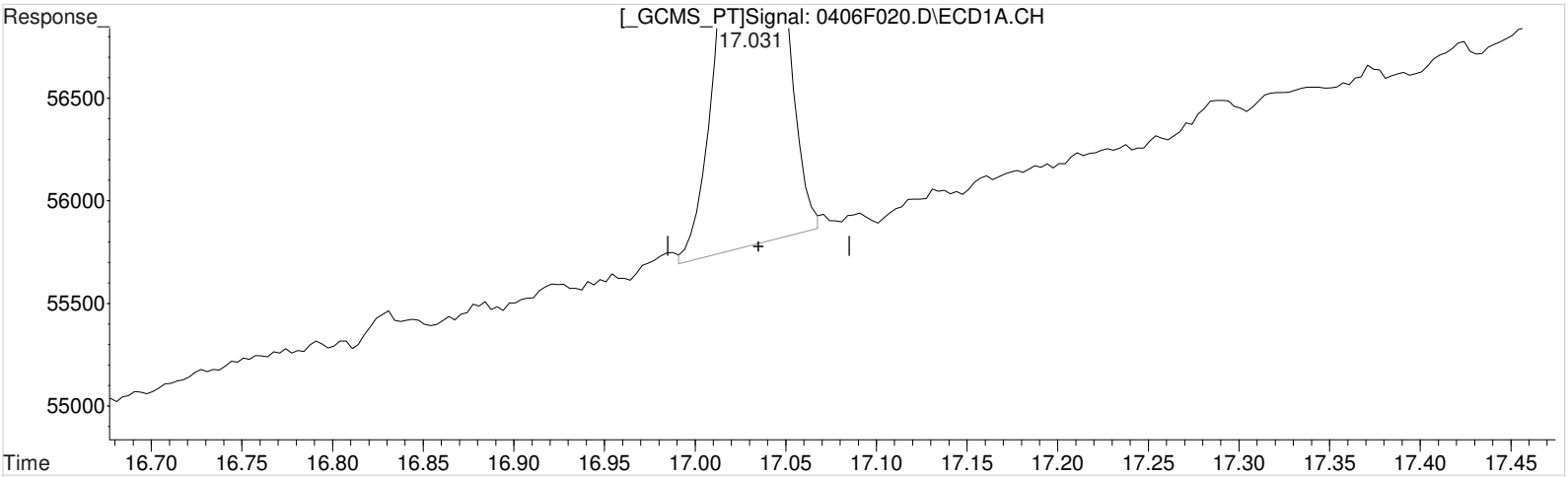
Quantitation Report (Qedit)

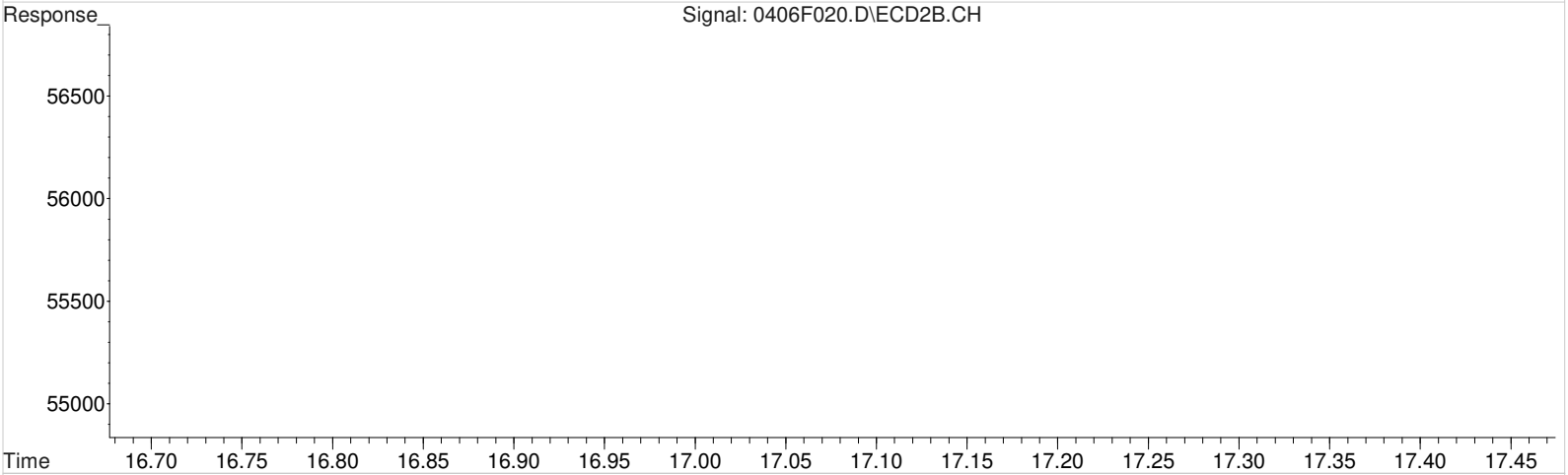
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F020.D Vial: 18
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 8:19 pm Operator: LM
Sample : M/P .5/2.5PPB GCPS8-76D @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:20:23 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(48) Mirex

17.031min 0.638 ug/L m

response 7133

Manual Integration:

After

Baseline/Shoulder

04/07/20

(48) Mirex #2

15.378min 0.529 ug/L

response 26519

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F021.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 8:49 pm Operator: LM
Sample : M/P 1/5PPB GCPS8-76D @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:24:55 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
43)	1-Bromo-2...	6.210	5.493	984831	4557029	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
44)	Chlorpyrifos	12.143	10.900	9059	30389	1.275	0.937	#
45)	Oxychlordane	12.913	11.390	16096	63344	1.141	1.001	
46)	cis-Nonac...	14.663	13.223	16812	66992	1.152	0.989	
47)	trans-Non...	13.630	12.027	16738	65426	1.133	1.003	
48)	Mirex	17.033	15.380	13754	50375	1.230m	1.003	
49)	HCE	4.160	3.447	23406	100560	0.804	0.920	
50)	HCBD	4.943	3.997	19871	82490	0.845	0.925	
52)	Perthane	14.110	12.893	2503	9044	5.817	5.129	
	SemiQuant Compounds - Not Calibrated on this Instrument							

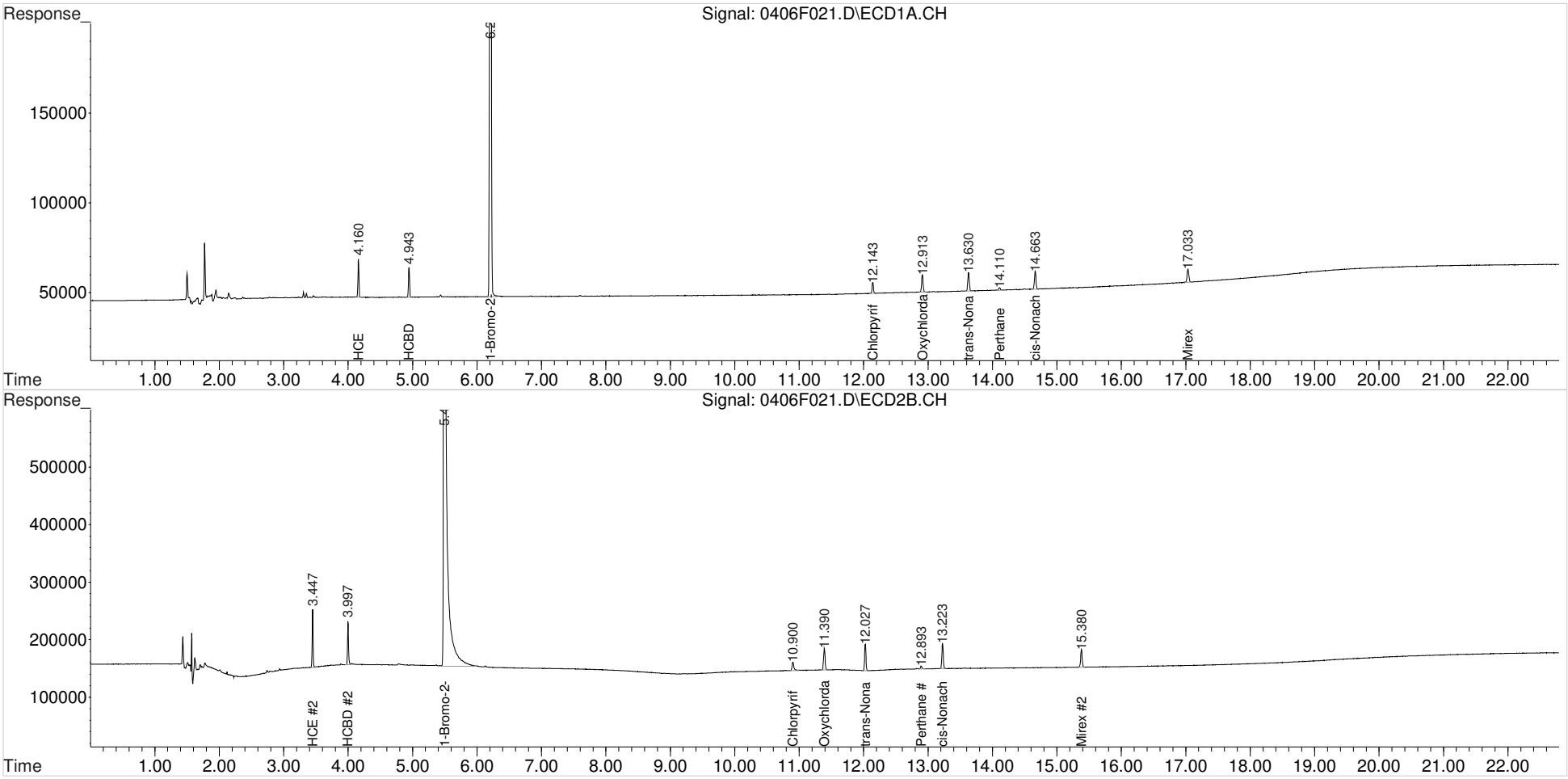
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F021.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 8:49 pm Operator: LM
Sample : M/P 1/5PPB GCPS8-76D @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:24:55 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



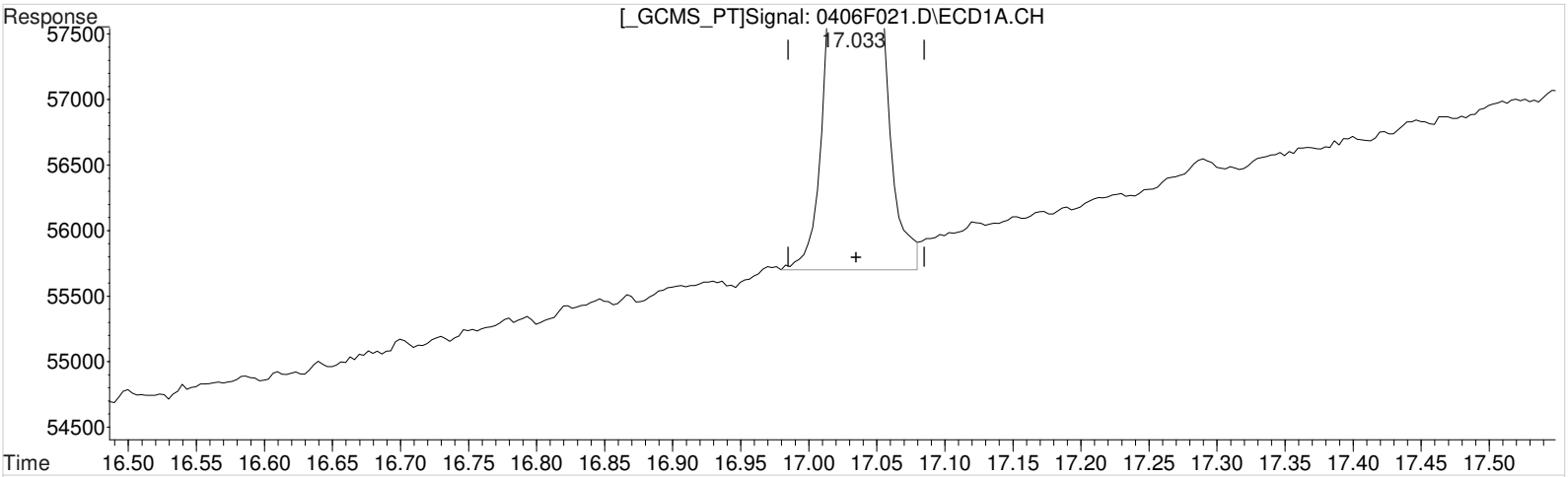
Quantitation Report (Qedit)

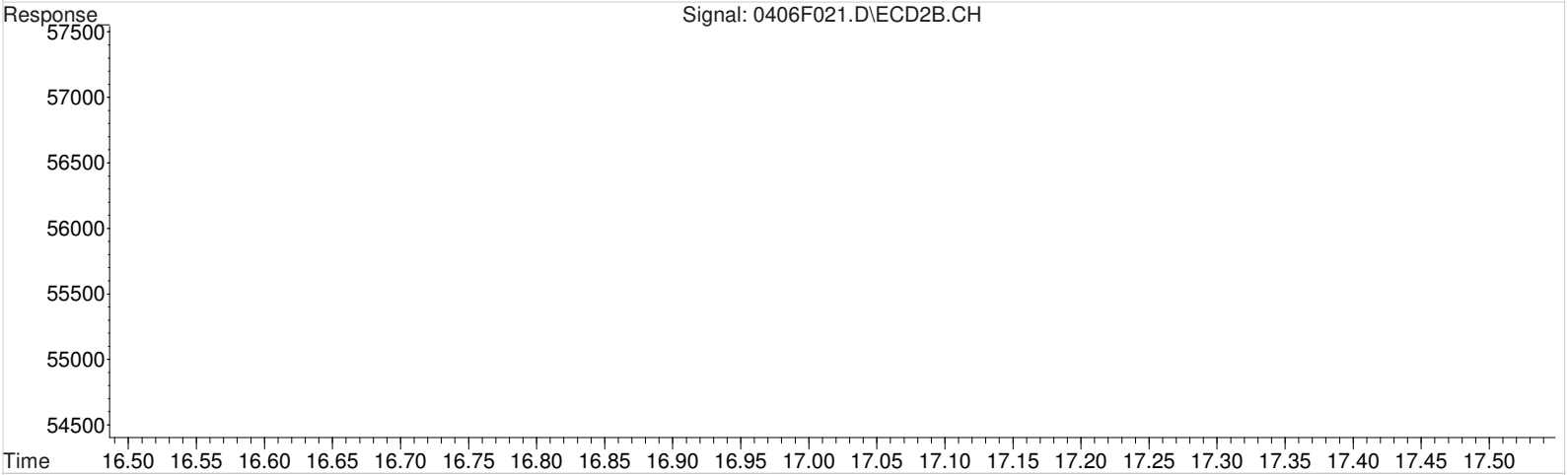
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F021.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 8:49 pm Operator: LM
Sample : M/P 1/5PPB GCPS8-76D @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:20:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(48) Mirex

17.033min 1.280 ug/L

response 14323

Manual Integration:

Before

04/07/20

(48) Mirex #2

15.380min 1.003 ug/L

response 50375

(+) = Expected Retention Time

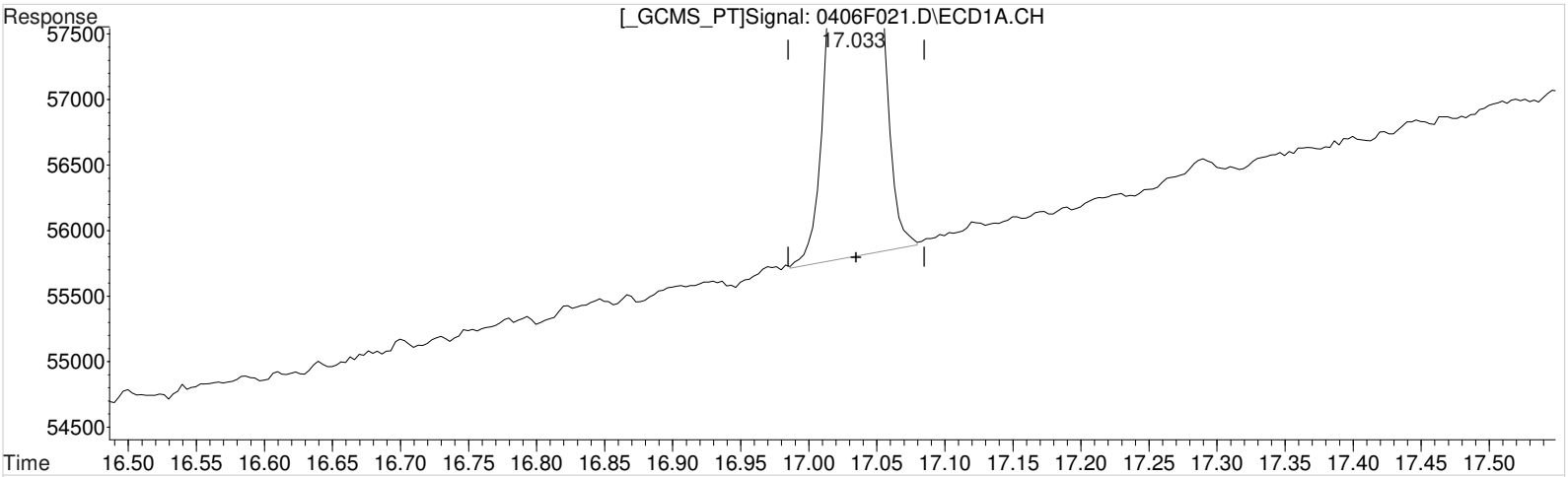
Quantitation Report (Qedit)

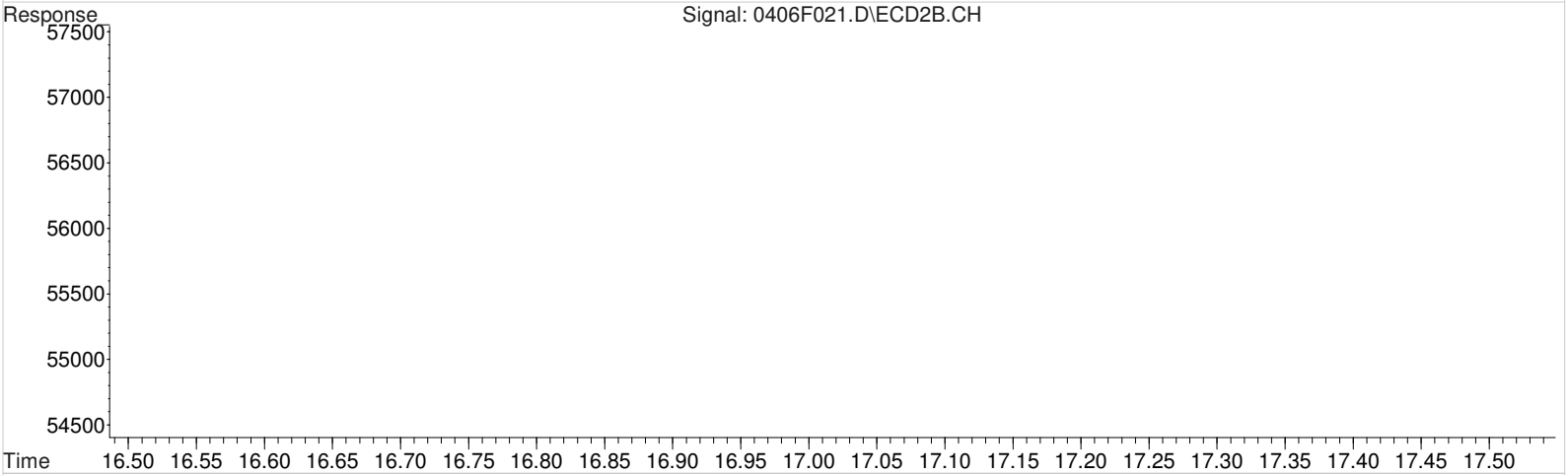
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F021.D Vial: 19
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 8:49 pm Operator: LM
Sample : M/P 1/5PPB GCPS8-76D @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:20:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(48) Mirex

17.033min 1.230 ug/L m

response 13754

Manual Integration:

After

Baseline/Shoulder

04/07/20

(48) Mirex #2

15.380min 1.003 ug/L

response 50375

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F022.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 9:18 pm Operator: LM
Sample : M/P 2/10PPB GCPS8-76D Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:26:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
43)	1-Bromo-2...	6.208	5.492	1023033	4759769	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
44)	Chlorpyrifos	12.142	10.902	17700	59144	2.399	1.746	#
45)	Oxychlordane	12.912	11.392	30985	125208	2.114	1.895	
46)	cis-Nonac...	14.662	13.225	32917	132440	2.172	1.872	
47)	trans-Non...	13.628	12.025	32773	130472	2.135	1.915	
48)	Mirex	17.035	15.379	27071	98560	2.330m	1.879	
49)	HCE	4.158	3.449	44874	202098	1.485	1.770	
50)	HCBD	4.945	3.999	38794	163809	1.588	1.759	
52)	Perthane	14.108	12.892	4870	17910	10.895	9.724	
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

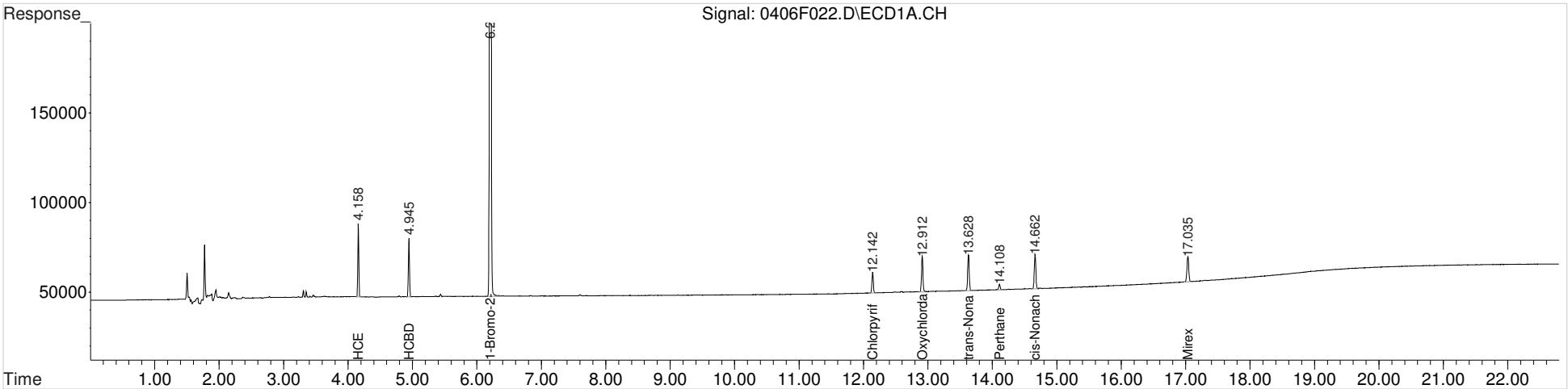
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F022.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 9:18 pm Operator: LM
Sample : M/P 2/10PPB GCPS8-76D Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:26:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

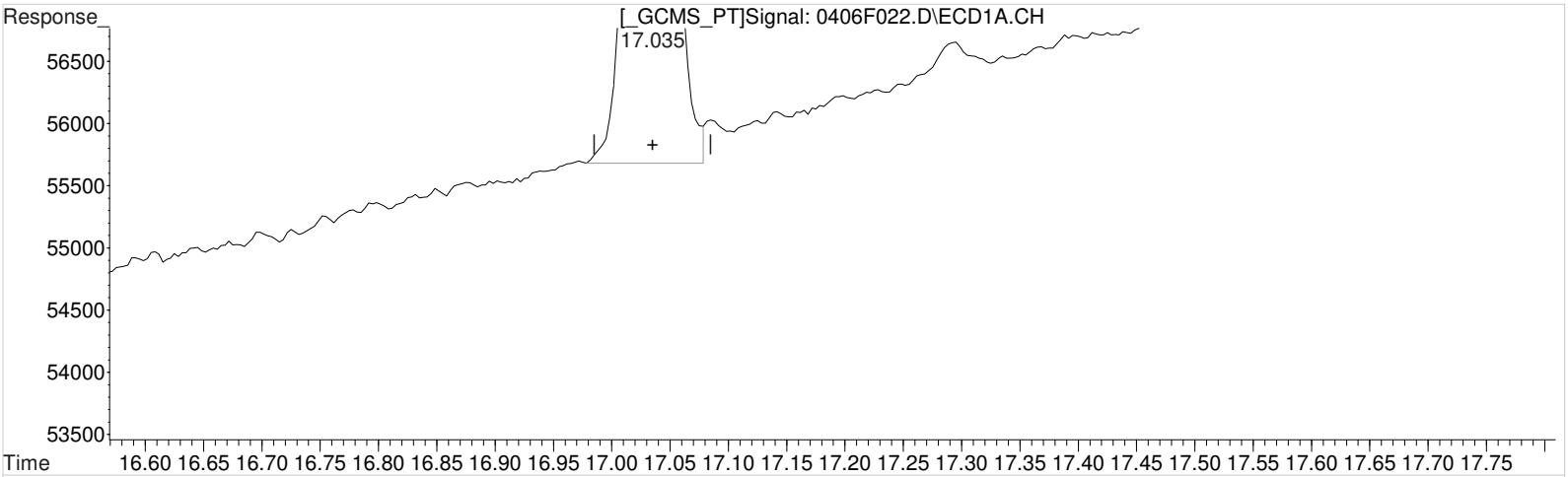


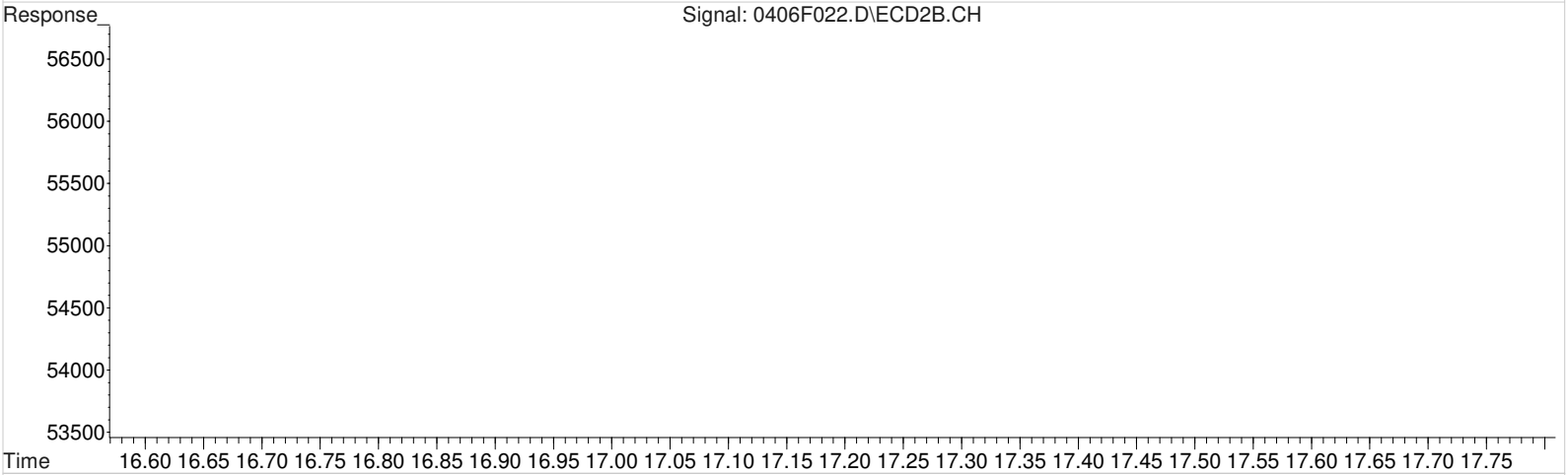
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F022.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 9:18 pm Operator: LM
Sample : M/P 2/10PPB GCPS8-76D Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:20:30 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(48) Mirex

17.035min 2.375 ug/L

response 27600

(48) Mirex #2

15.379min 1.879 ug/L

response 98560

Manual Integration:

Before

04/07/20

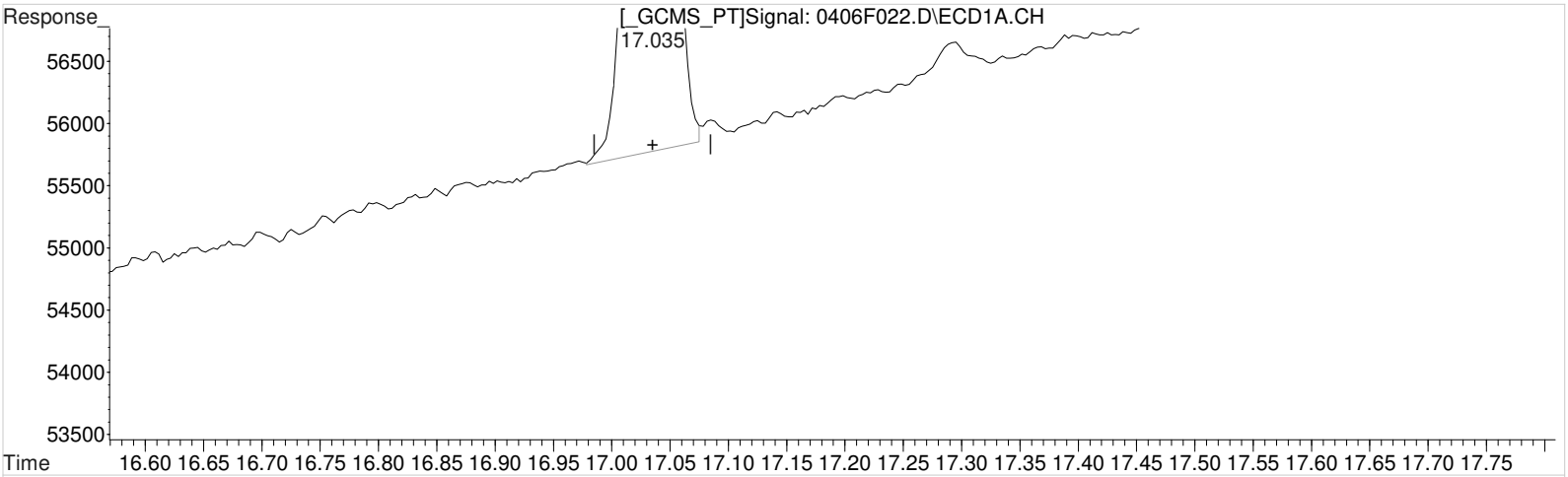
(+) = Expected Retention Time

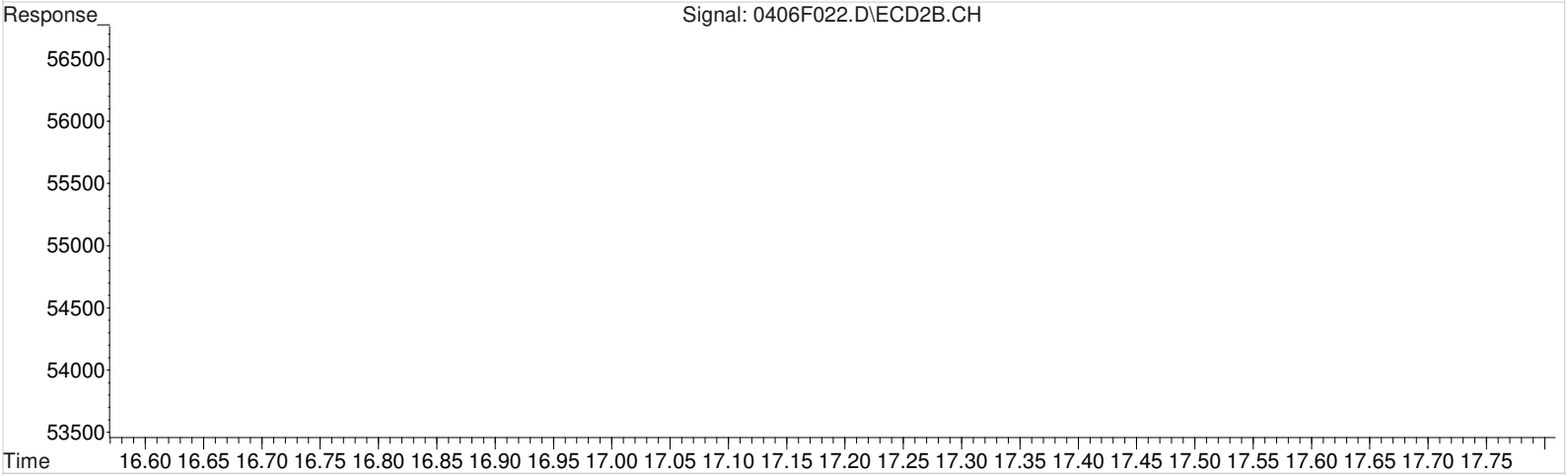
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F022.D Vial: 20
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 9:18 pm Operator: LM
Sample : M/P 2/10PPB GCPS8-76D Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:20:30 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(48) Mirex

17.035min 2.330 ug/L m

response 27071

Manual Integration:

After

Baseline/Shoulder

04/07/20

(48) Mirex #2

15.379min 1.879 ug/L

response 98560

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F023.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 9:48 pm Operator: LM
Sample : M/P 5/25PPB GCPS8-74G @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:27:34 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
43)	1-Bromo-2...	6.203	5.486	986902	4578898	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
44)	Chlorpyrifos	12.133	10.893	42101	144949	5.914	4.448	
45)	Oxychlordane	12.903	11.380	72571	307166	5.131	4.832	
46)	cis-Nonac...	14.653	13.216	79167	332380	5.415	4.884	
47)	trans-Non...	13.619	12.020	77857	325177	5.258	4.962	
48)	Mirex	17.023	15.370	63788	240322	5.690	4.762	
49)	HCE	4.156	3.446	112368	534342	3.854	4.863	#
50)	HCBD	4.939	3.993	95161	433095	4.038	4.835	
52)	Perthane	14.099	12.886	11106	41744	25.756	23.561	
	SemiQuant Compounds - Not Calibrated on this Instrument							

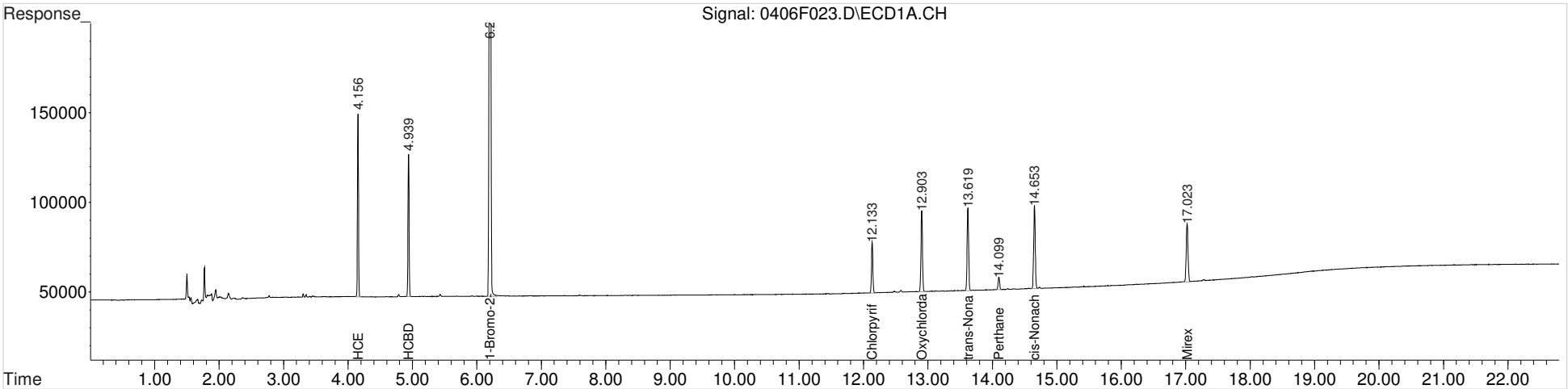
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F023.D Vial: 21
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 9:48 pm Operator: LM
Sample : M/P 5/25PPB GCPS8-74G @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:27:34 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F024.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 10:18 pm Operator: LM
Sample : M/P 10/50PPB GCPS8-74G Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:28:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
43)	1-Bromo-2...	6.206	5.493	1033174	4778276	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
44)	Chlorpyrifos	12.139	10.900	81445	294698	10.928	8.665	
45)	Oxychlordane	12.909	11.386	140222	617836	9.471	9.314	
46)	cis-Nonac...	14.659	13.223	154389	681317	10.087	9.594	
47)	trans-Non...	13.626	12.023	150822	666134	9.729	9.741	
48)	Mirex	17.029	15.376	119864	473644	10.214	8.993	
49)	HCE	4.159	3.450	228297	1141063	7.479	9.952	#
50)	HCBD	4.942	3.996	188204	883761	7.628	9.455	
52)	Perthane	14.106	12.890	22266	82380	49.325	44.556	
	SemiQuant Compounds - Not Calibrated on this Instrument							

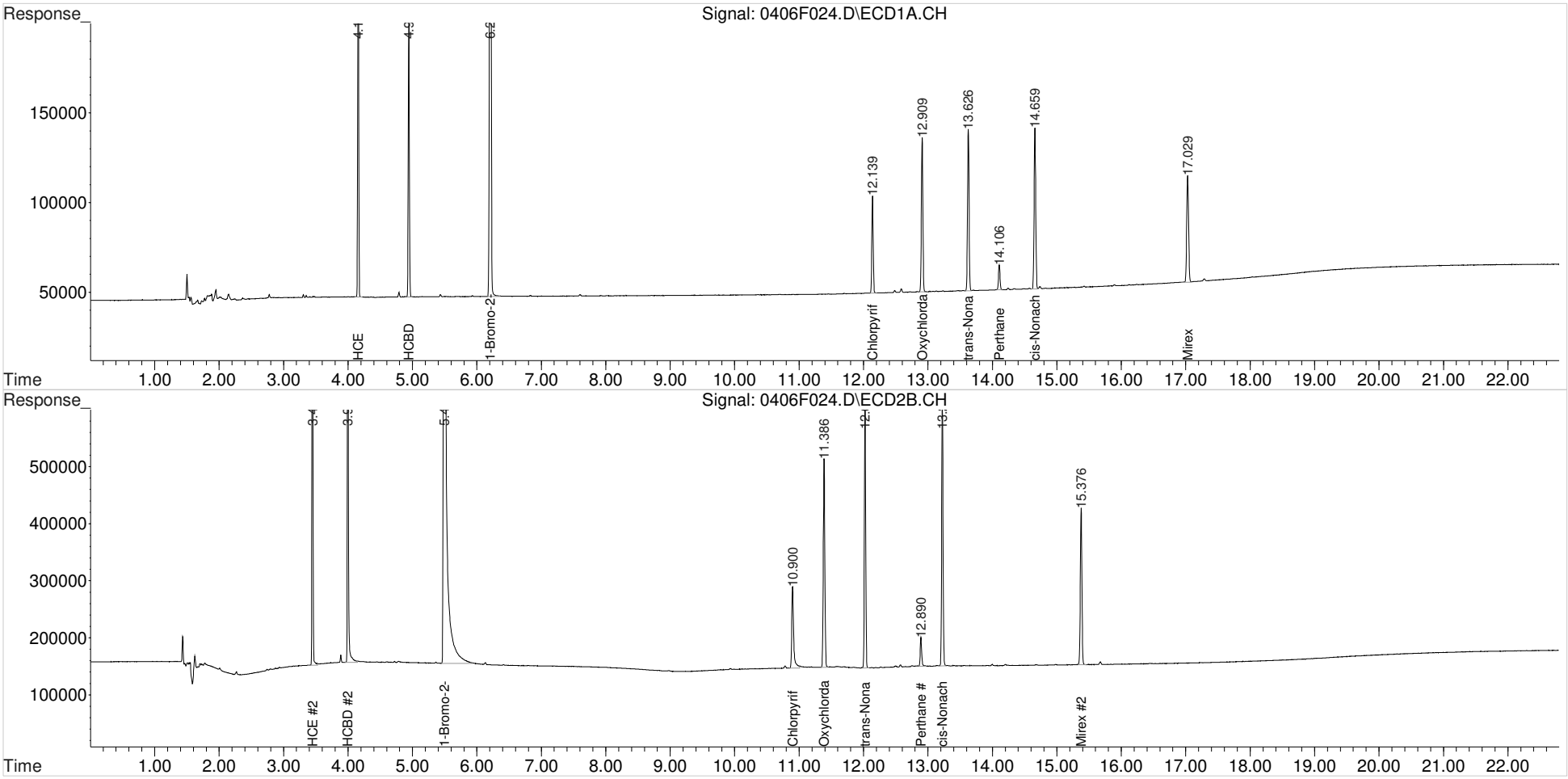
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F024.D Vial: 22
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 10:18 pm Operator: LM
Sample : M/P 10/50PPB GCPS8-74G Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:28:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F025.D Vial: 23
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 10:47 pm Operator: LM
Sample : PERTH 100PPB GCPS8-72A @50X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:29:40 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
43)	1-Bromo-2...	6.205	5.492	969943	4443586	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
52)	Perthane	14.105	12.889	42023	162959	99.161	94.776
	SemiQuant Compounds - Not Calibrated on this Instrument						

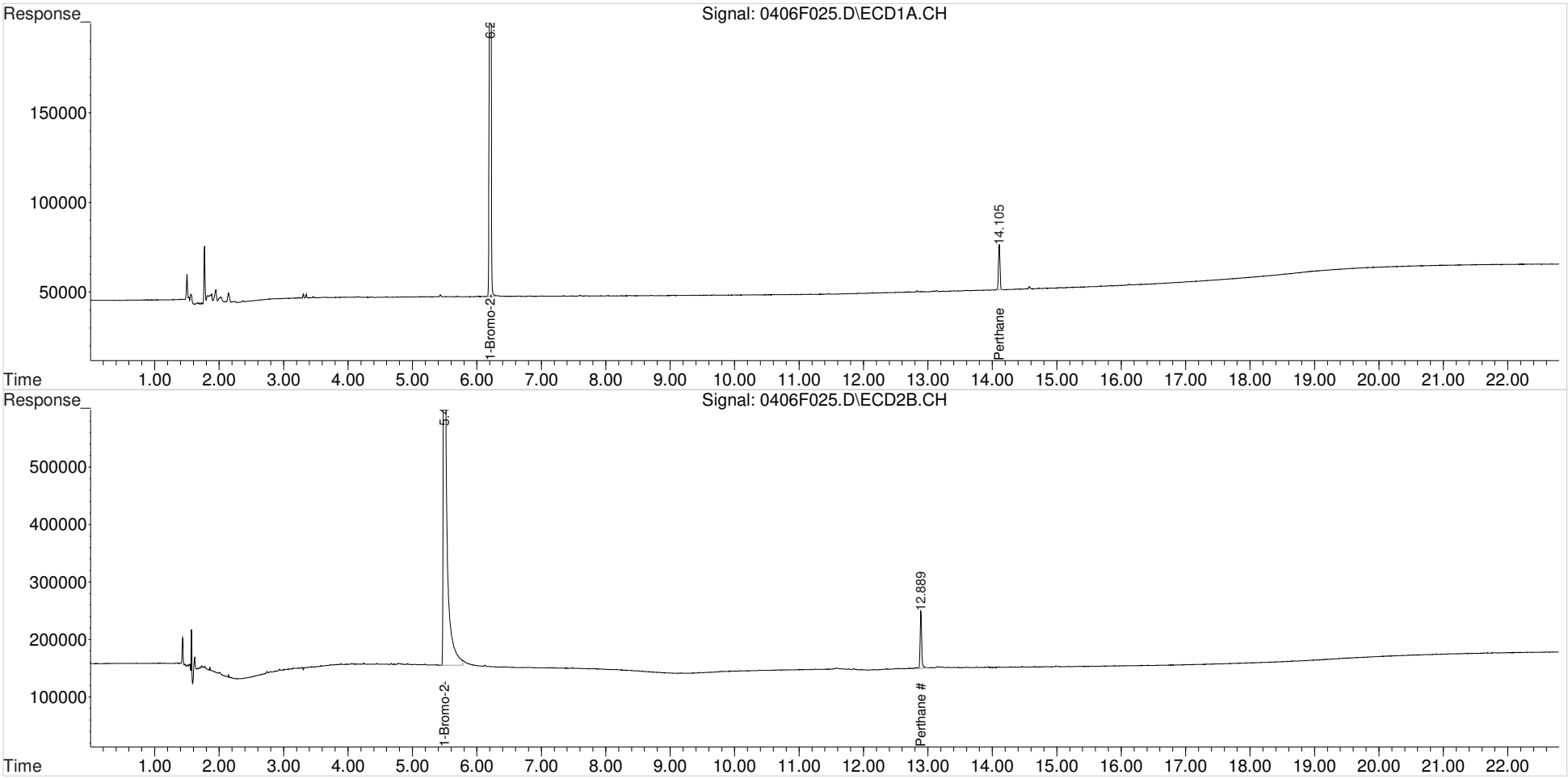
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F025.D Vial: 23
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 10:47 pm Operator: LM
Sample : PERTH 100PPB GCPS8-72A @50X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:29:40 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:04:27 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F026.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 11:17 pm Operator: LM
Sample : MISC ICV 2PPB GCPS8-74E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:36:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
43)	1-Bromo-2...	6.205	5.492	975685	4533836	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
44)	Chlorpyrifos	12.139	10.899	16727	52677	1.860	1.851
45)	Oxychlordane	12.909	11.386	29468	120200	1.896	1.877
46)	cis-Nonac...	14.659	13.222	32444	130144	1.985	1.948
47)	trans-Non...	13.625	12.022	32457	129111	1.976	1.957
48)	Mirex	17.032	15.376	27887	102741	2.050m	2.035
49)	HCE	4.159	3.446	43013	191442	1.828	1.808
50)	HCBD	4.942	3.996	36012	155106	1.848	1.810
	SemiQuant Compounds - Not Calibrated on this Instrument						

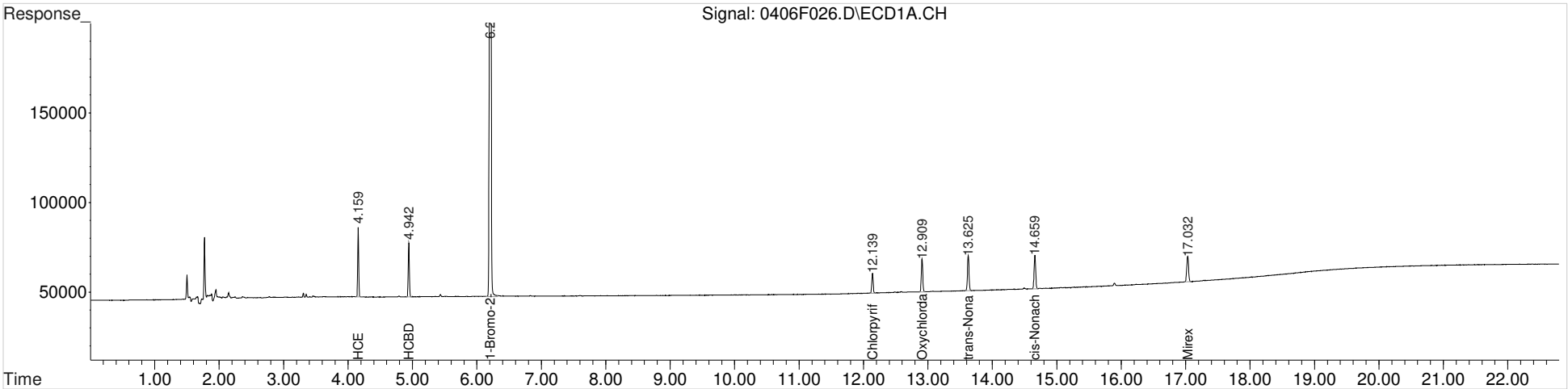
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F026.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 11:17 pm Operator: LM
Sample : MISC ICV 2PPB GCPS8-74E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:36:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

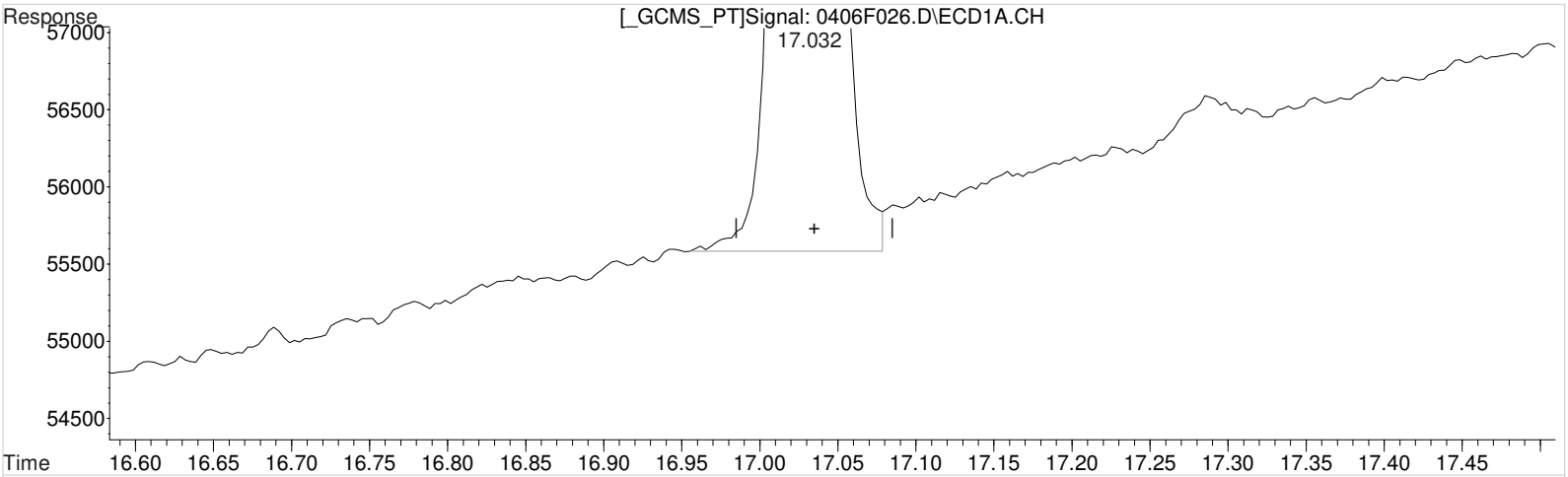


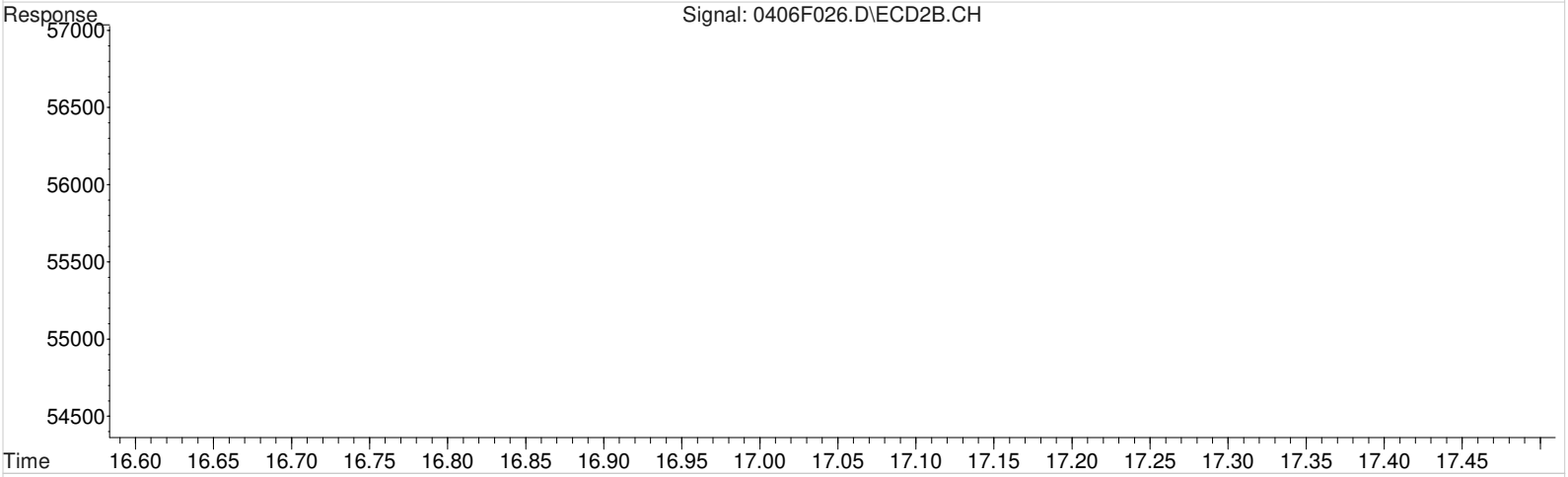
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F026.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 11:17 pm Operator: LM
Sample : MISC ICV 2PPB GCPS8-74E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:35:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(48) Mirex

17.032min 2.124 ug/L

response 28901

Manual Integration:

Before

04/07/20

(48) Mirex #2

15.376min 2.035 ug/L

response 102741

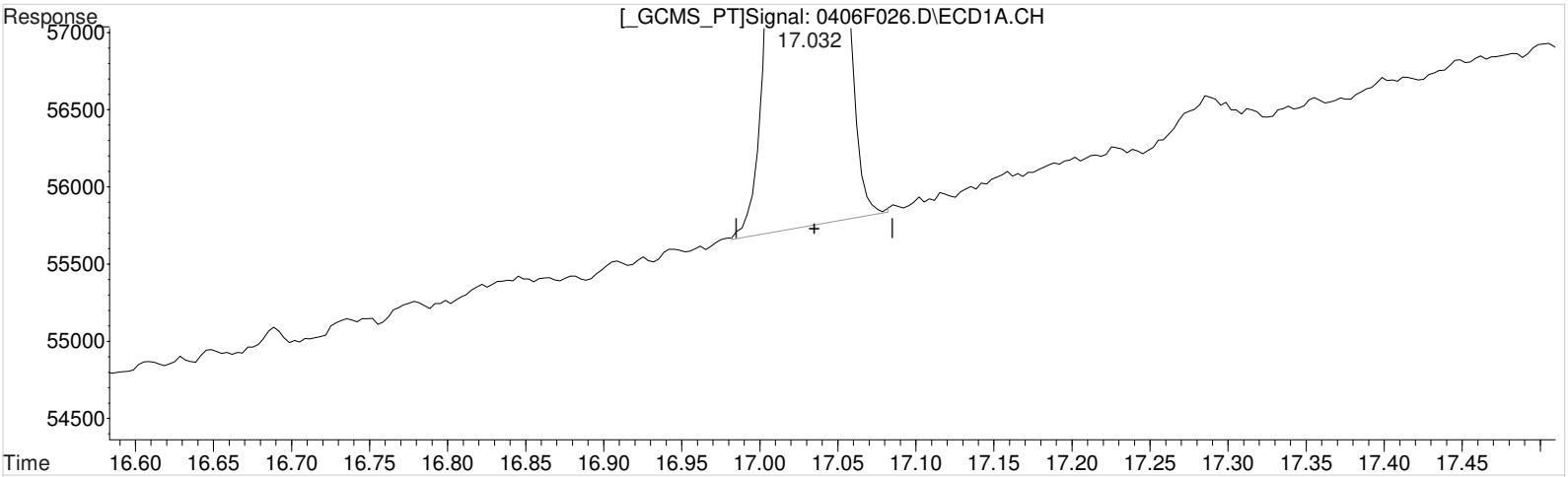
(+) = Expected Retention Time

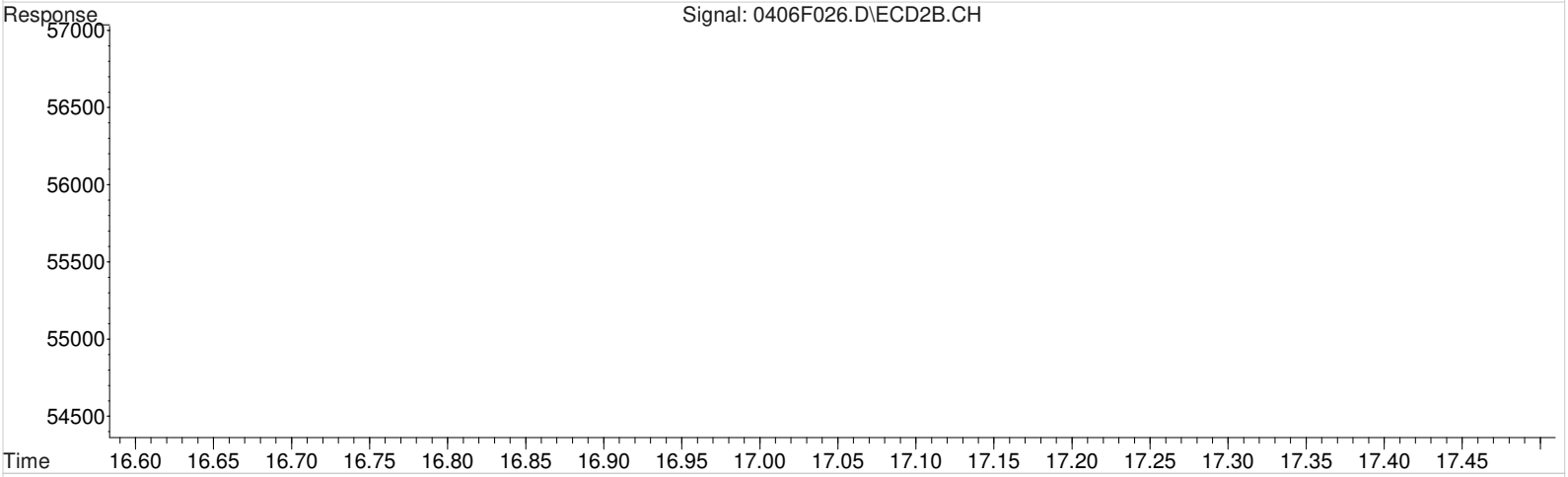
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F026.D Vial: 24
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 11:17 pm Operator: LM
Sample : MISC ICV 2PPB GCPS8-74E Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:35:18 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(48) Mirex

17.032min 2.050 ug/L m

response 27887

Manual Integration:

After

Baseline/Shoulder

04/07/20

(48) Mirex #2

15.376min 2.035 ug/L

response 102741

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F027.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 11:47 pm Operator: LM
Sample : PERTH ICV 25PPB GCPS8-71J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:37:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
43)	1-Bromo-2...	6.200	5.484	1016579	4755777	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
52)	Perthane	14.104	12.891	10674	39689	22.063	22.779
	SemiQuant Compounds - Not Calibrated on this Instrument						

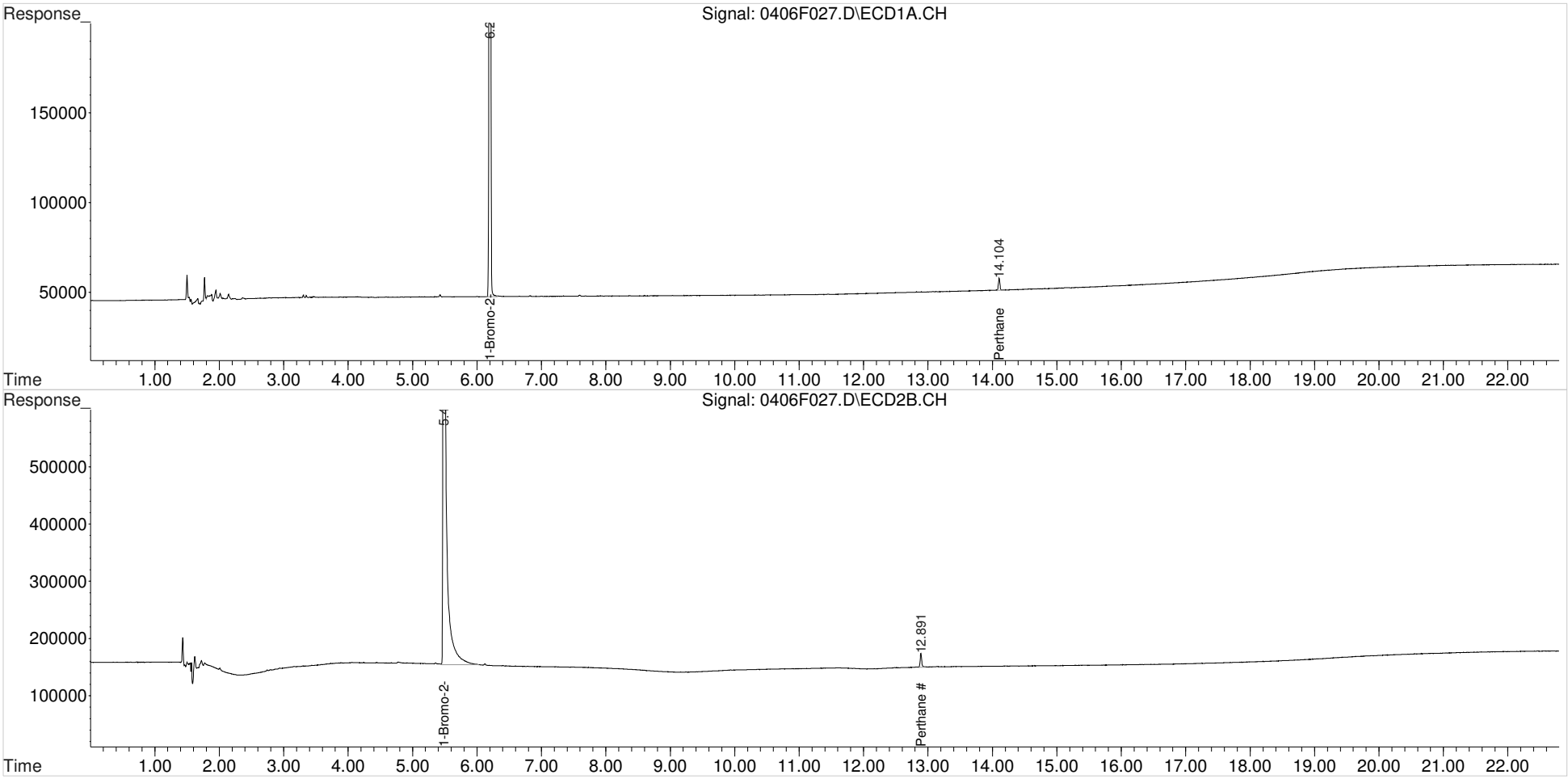
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F027.D Vial: 25
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 06 Apr 2020 11:47 pm Operator: LM
Sample : PERTH ICV 25PPB GCPS8-71J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 08:37:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F028.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:16 am Operator: LM
Sample : TOX 10PPB GCPS8-74H @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:51:23 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
29)	1-Bromo-2...	6.206	5.490	988691	4570938	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
30)	Toxaphene	14.759	13.397	1392	12011	14.921	13.872
31)	Toxaphene...	14.819	13.463	1854	8904	17.253	12.395 #
32)	Toxaphene...	14.939	13.600	3503	14651	15.164	16.393m
33)	Toxaphene...	15.009	13.670	1864	5476	11.931m	17.642m#
34)	Toxaphene...	15.356	13.937	2073	6200	13.625	12.659m
35)	Toxaphene...	15.543	15.440	1218	2880	19.908	12.589 #
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

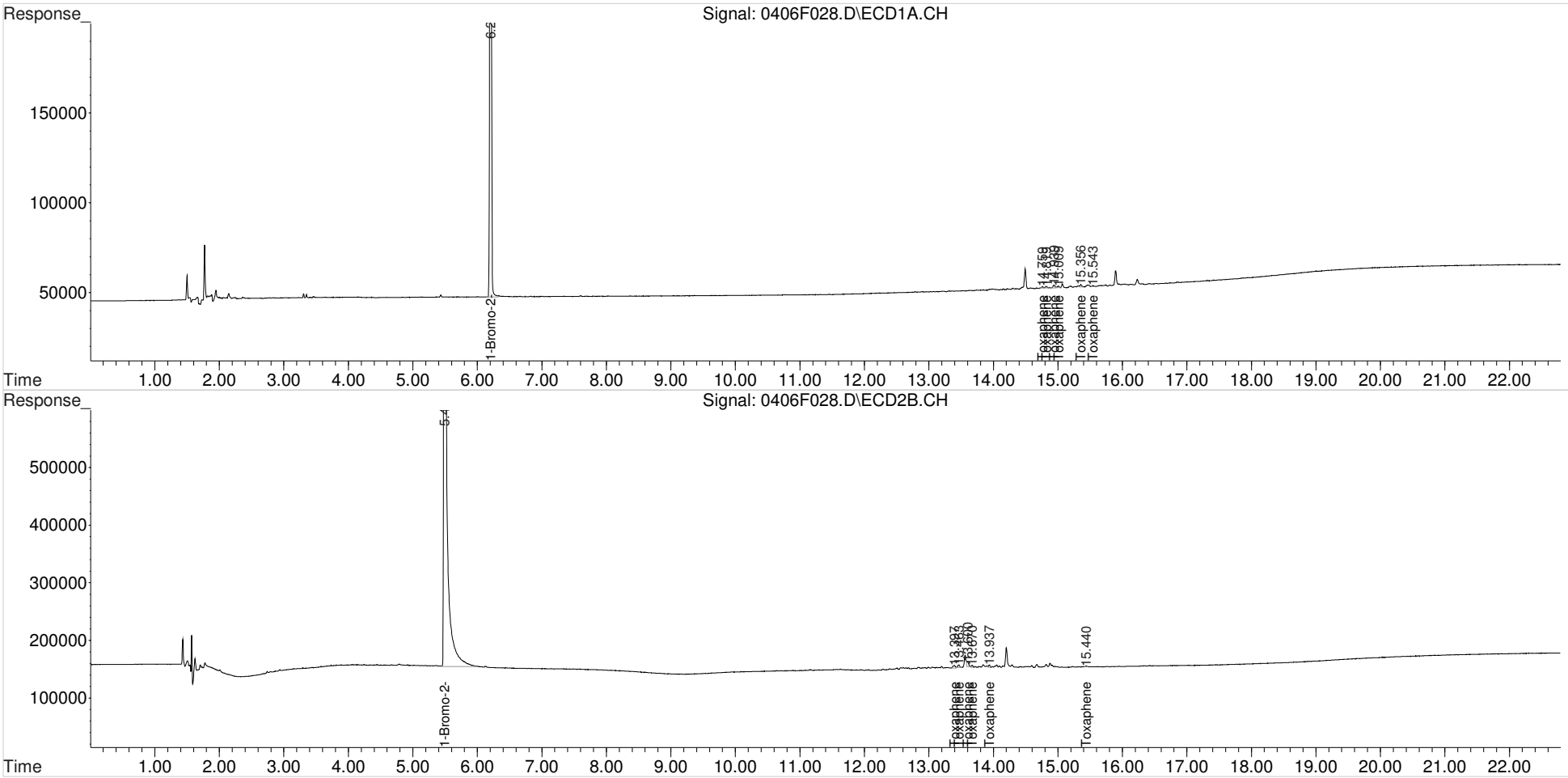
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F028.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:16 am Operator: LM
Sample : TOX 10PPB GCPS8-74H @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:51:23 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

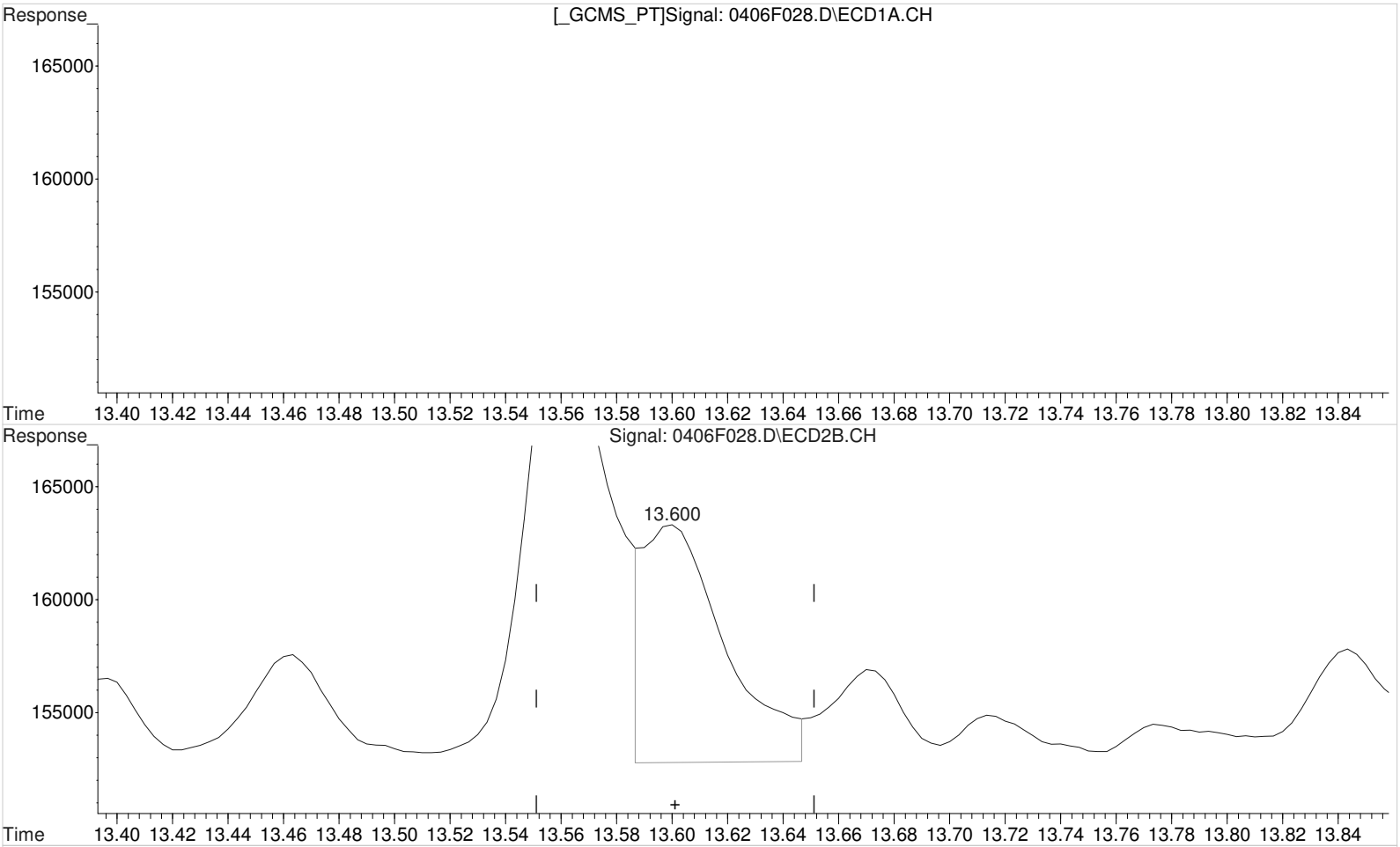


1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F028.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:16 am Operator: LM
Sample : TOX 10PPB GCPS8-74H @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.939min 15.164 ug/L

response 3503

Manual Integration:

Before

04/07/20

(32) Toxaphene {3} #2

13.600min 23.885 ug/L

response 21347

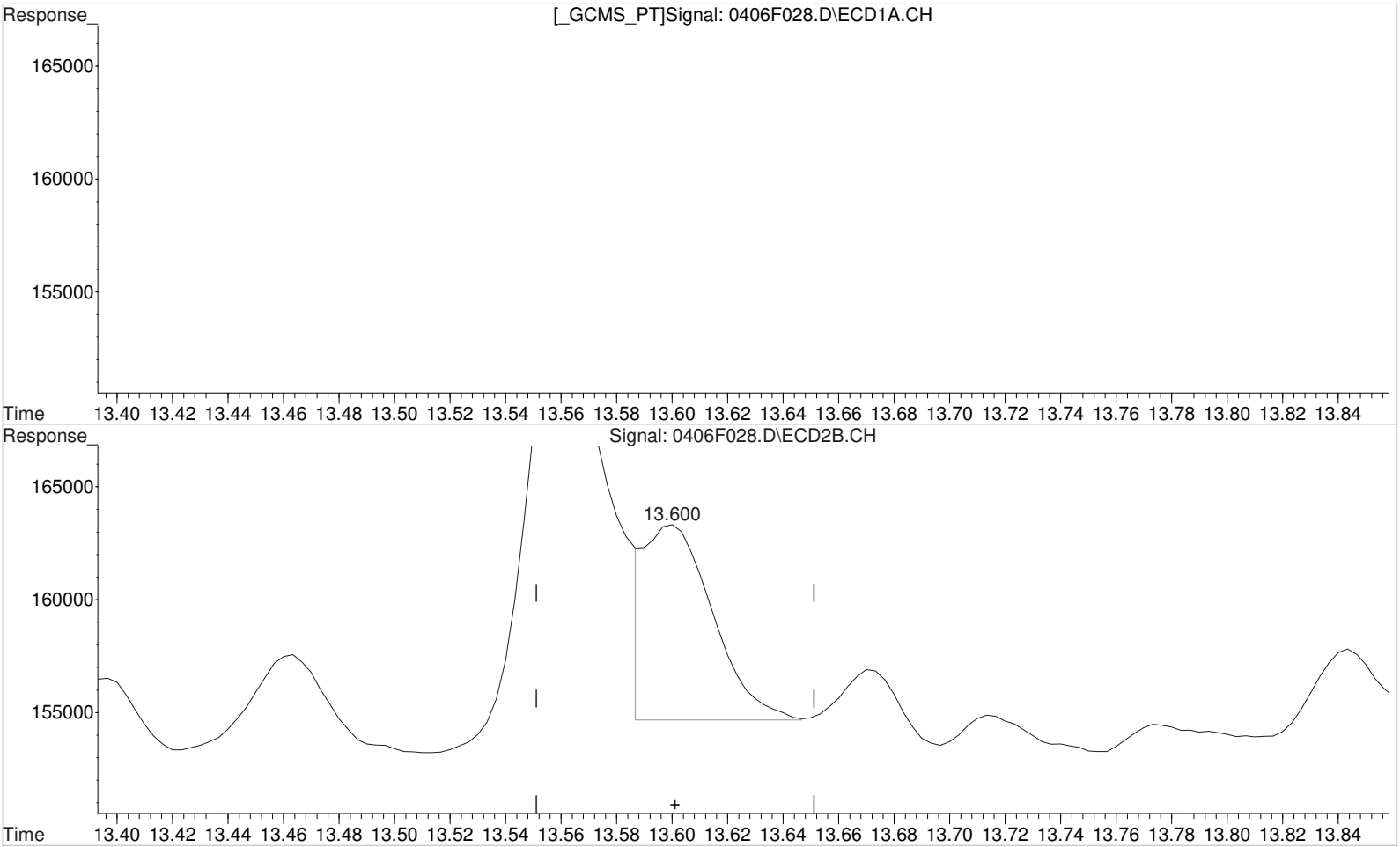
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F028.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:16 am Operator: LM
Sample : TOX 10PPB GCPS8-74H @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(32) Toxaphene {3}

14.939min 15.164 ug/L

response 3503

Manual Integration:

After

Baseline/Shoulder

04/07/20

(32) Toxaphene {3} #2

13.600min 16.393 ug/L m

response 14651

(+) = Expected Retention Time

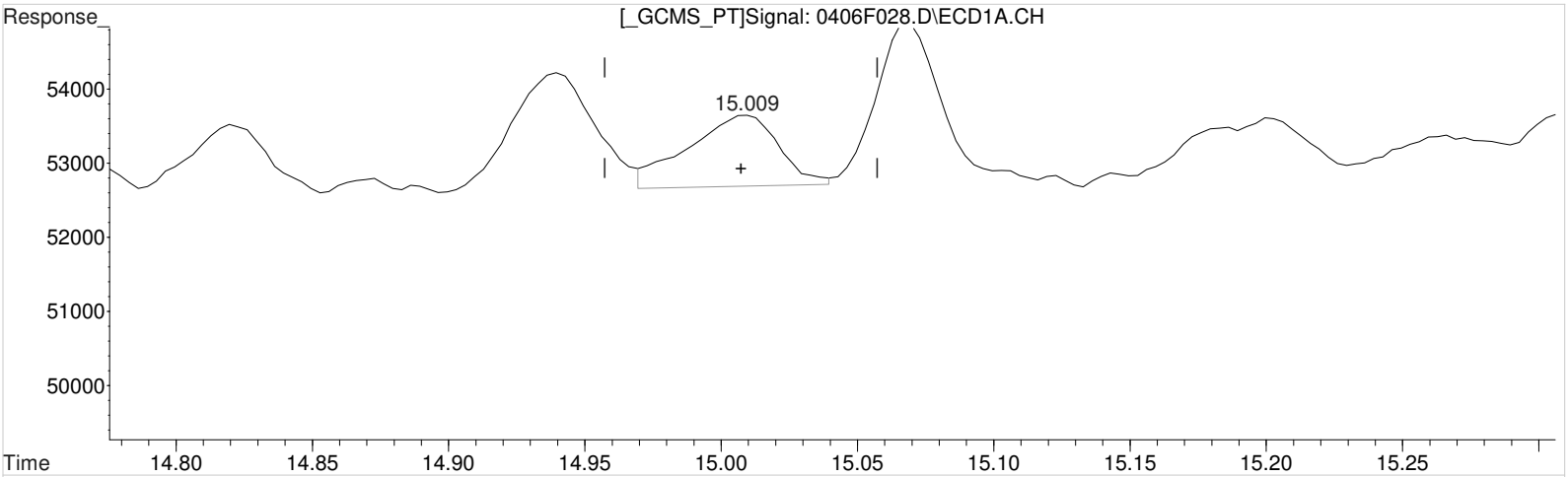
Quantitation Report (Qedit)

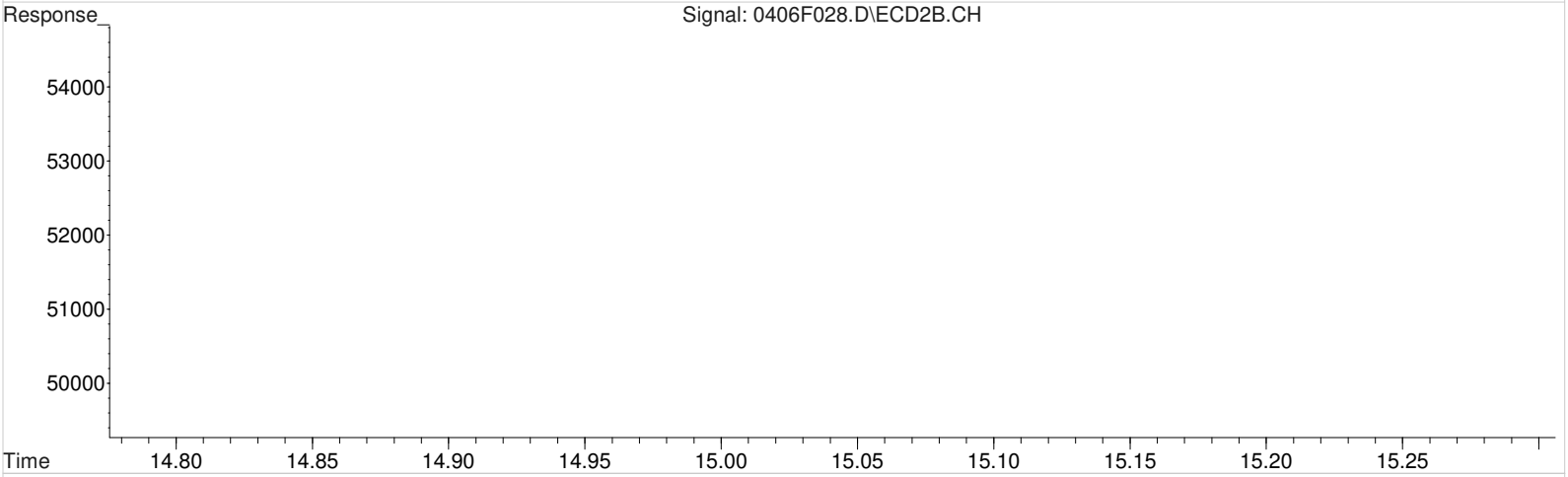
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F028.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:16 am Operator: LM
Sample : TOX 10PPB GCPS8-74H @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

15.009min 14.216 ug/L

response 2221

Manual Integration:

Before

04/07/20

(33) Toxaphene {4} #2

13.670min 23.699 ug/L

response 7356

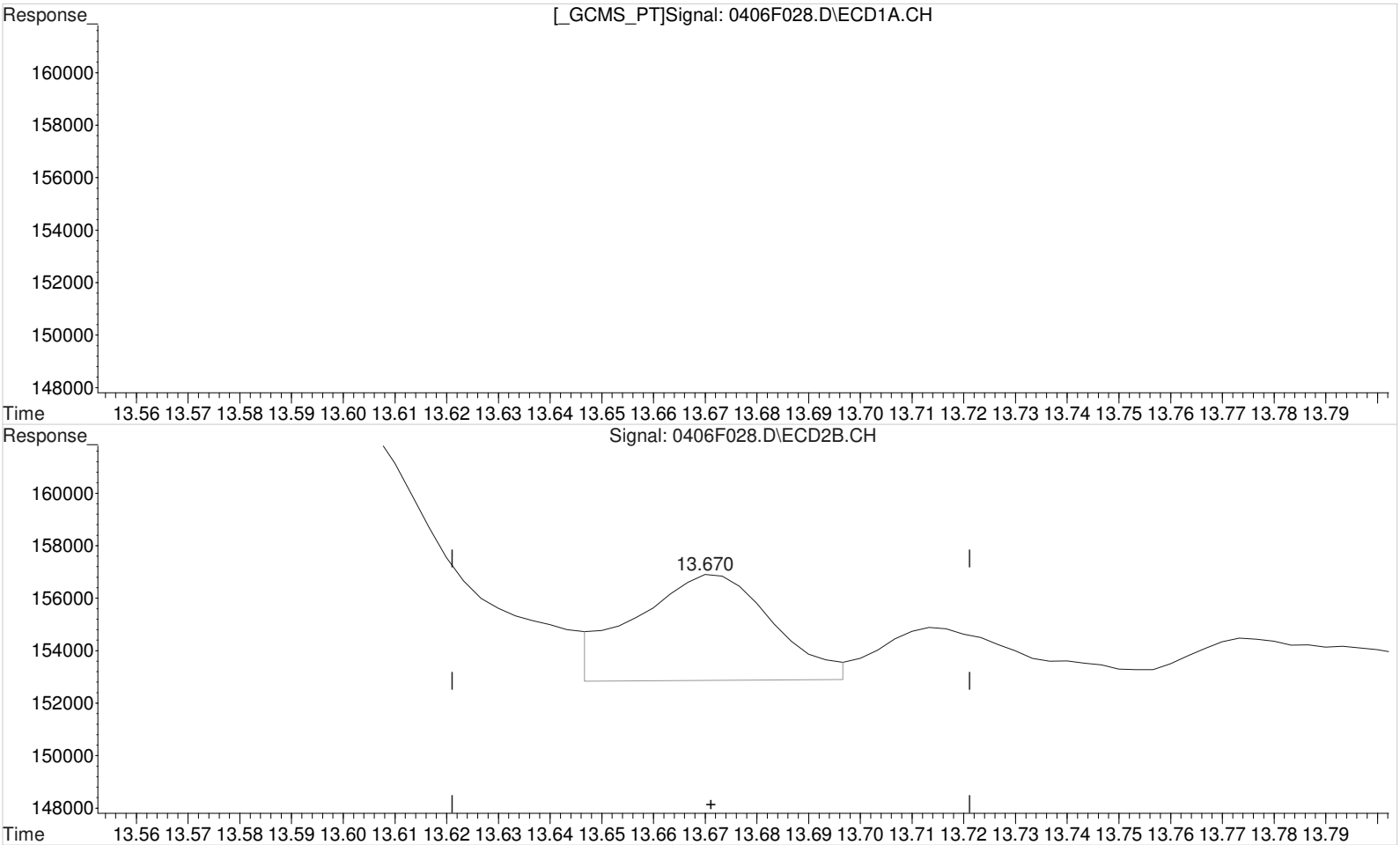
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F028.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:16 am Operator: LM
Sample : TOX 10PPB GCPS8-74H @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

15.009min 11.931 ug/L m

response 1864

(33) Toxaphene {4} #2

13.670min 23.699 ug/L

response 7356

Manual Integration:

Before

04/07/20

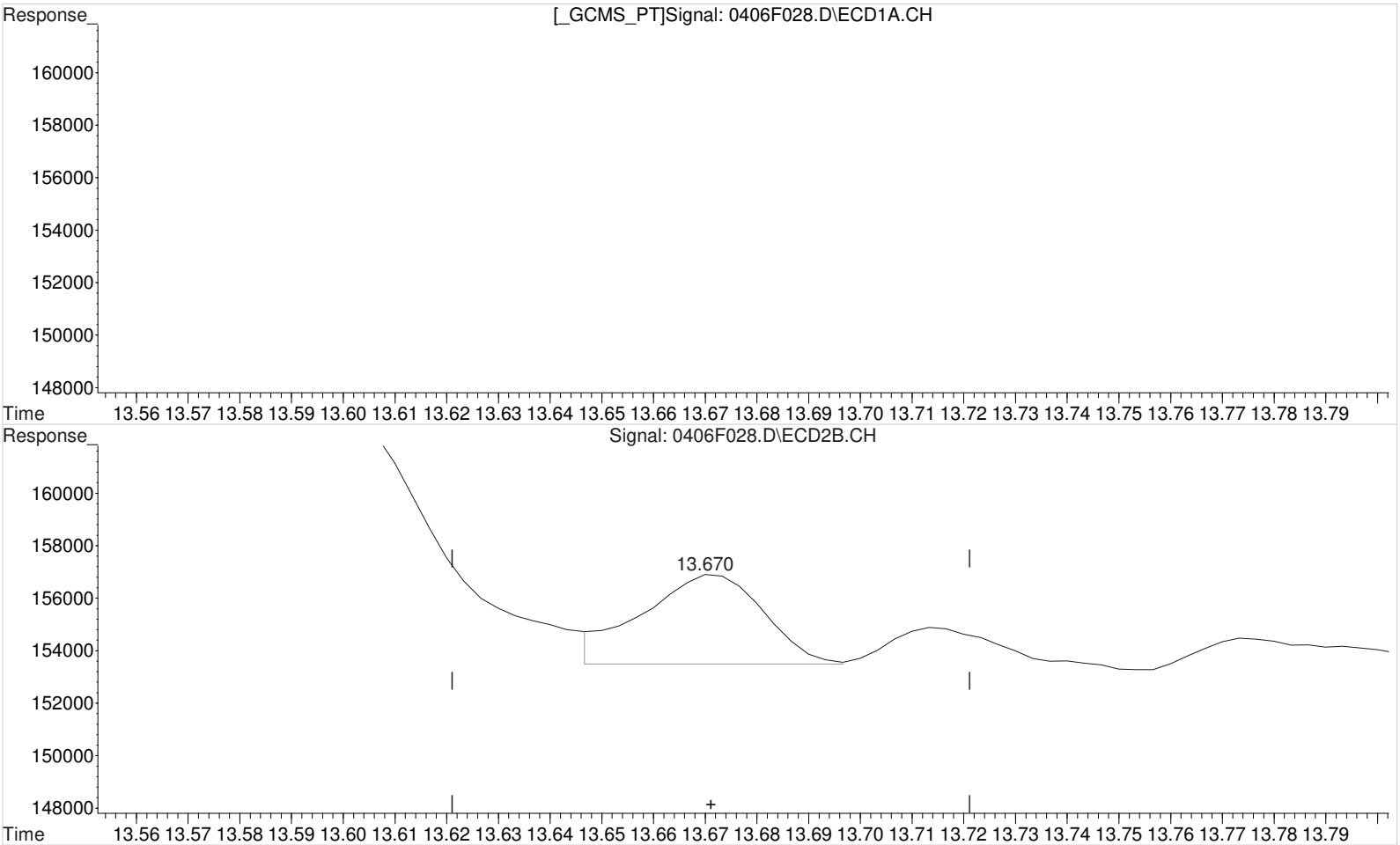
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F028.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:16 am Operator: LM
Sample : TOX 10PPB GCPS8-74H @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

15.009min 11.931 ug/L m

response 1864

Manual Integration:

After

Baseline/Shoulder

04/07/20

(33) Toxaphene {4} #2

13.670min 17.642 ug/L m

response 5476

(+) = Expected Retention Time

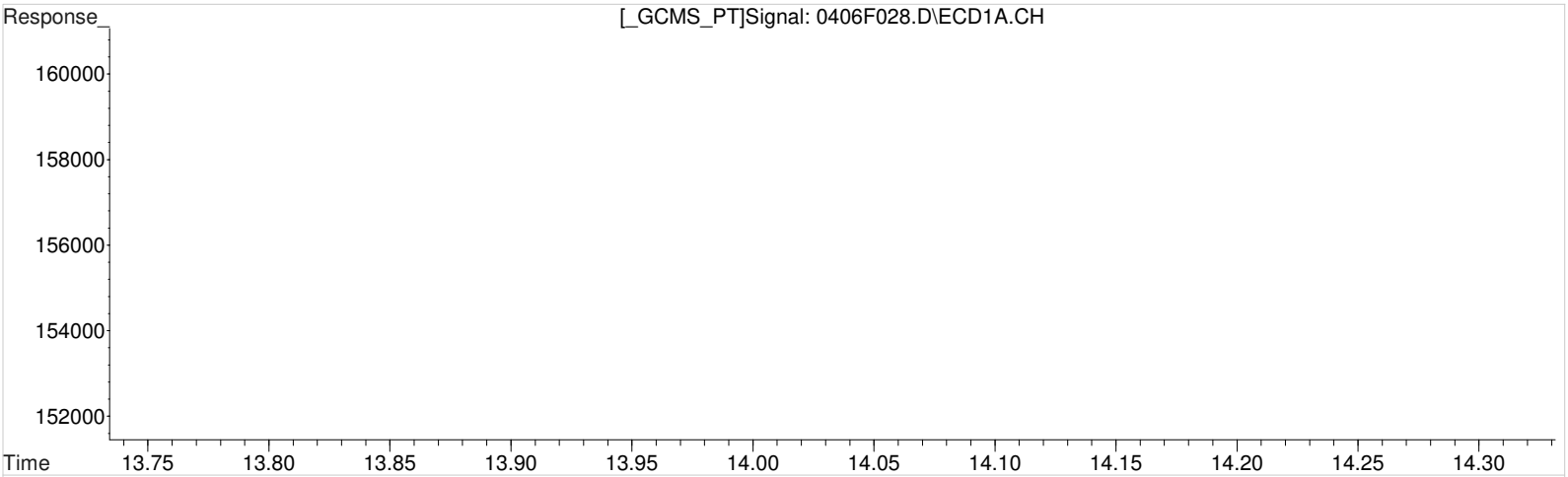
Quantitation Report (Qedit)

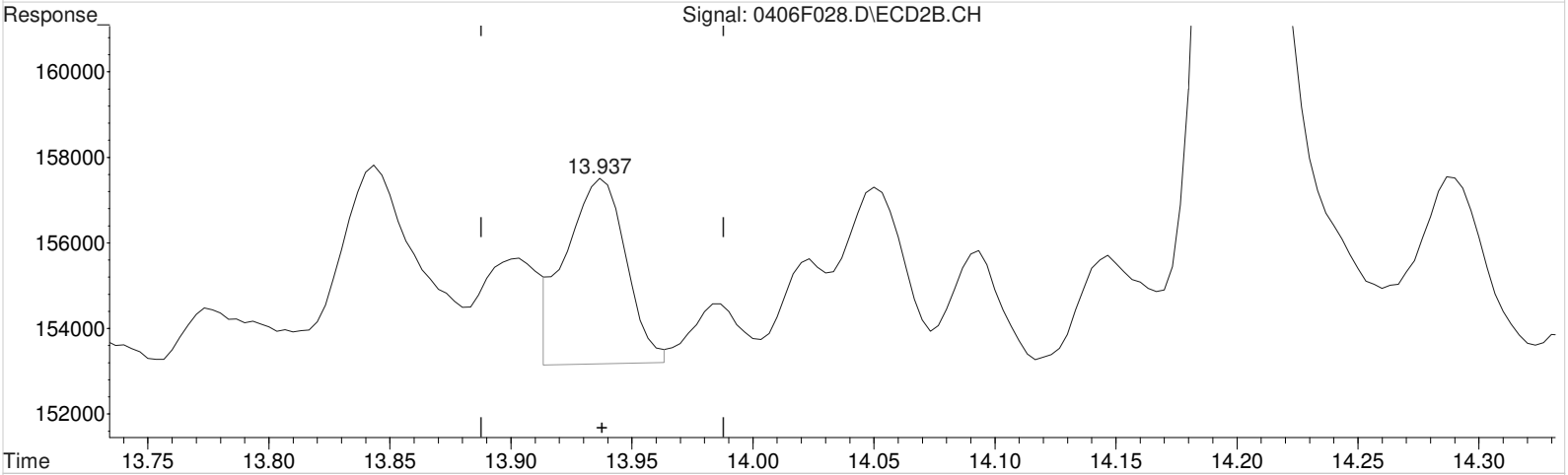
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F028.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:16 am Operator: LM
Sample : TOX 10PPB GCPS8-74H @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.356min 13.625 ug/L

response 2073

Manual Integration:

Before

04/07/20

(34) Toxaphene {5} #2

13.937min 15.110 ug/L

response 7400

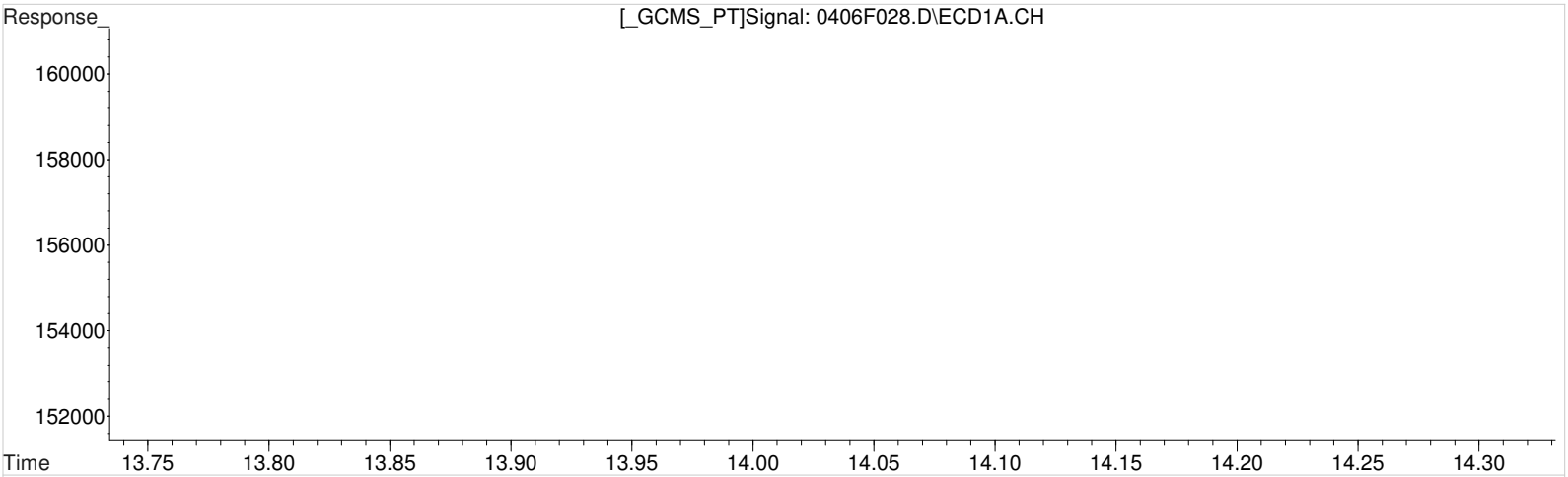
(+) = Expected Retention Time

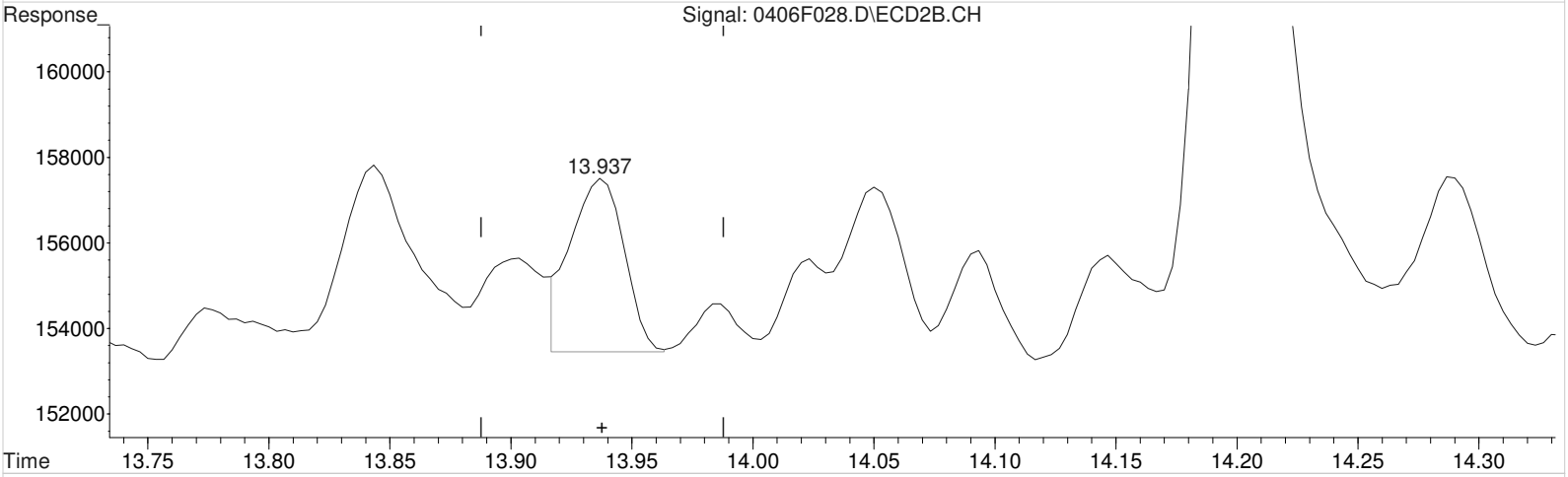
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F028.D Vial: 26
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:16 am Operator: LM
Sample : TOX 10PPB GCPS8-74H @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:37 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.356min 13.625 ug/L

response 2073

Manual Integration:

After

Baseline/Shoulder

04/07/20

(34) Toxaphene {5} #2

13.937min 12.659 ug/L m

response 6200

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F029.D Vial: 27
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:46 am Operator: LM
Sample : TOX 25PPB GCPS8-7H4H@4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:47:51 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
29)	1-Bromo-2...	6.205	5.492	1004030	4648551	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
30)	Toxaphene	14.758	13.392	4815	27206	50.824	30.897 #
31)	Toxaphene...	14.818	13.462	3948	20821	36.178m	28.500m
32)	Toxaphene...	14.938	13.602	8076	32423	34.425	35.673
33)	Toxaphene...	15.008	13.668	5293	9377	33.360	29.706
34)	Toxaphene...	15.355	13.935	5037	15001	32.601	30.118
35)	Toxaphene...	15.541	15.438	2308	8457	37.148	36.351
	SemiQuant Compounds - Not Calibrated on this Instrument						

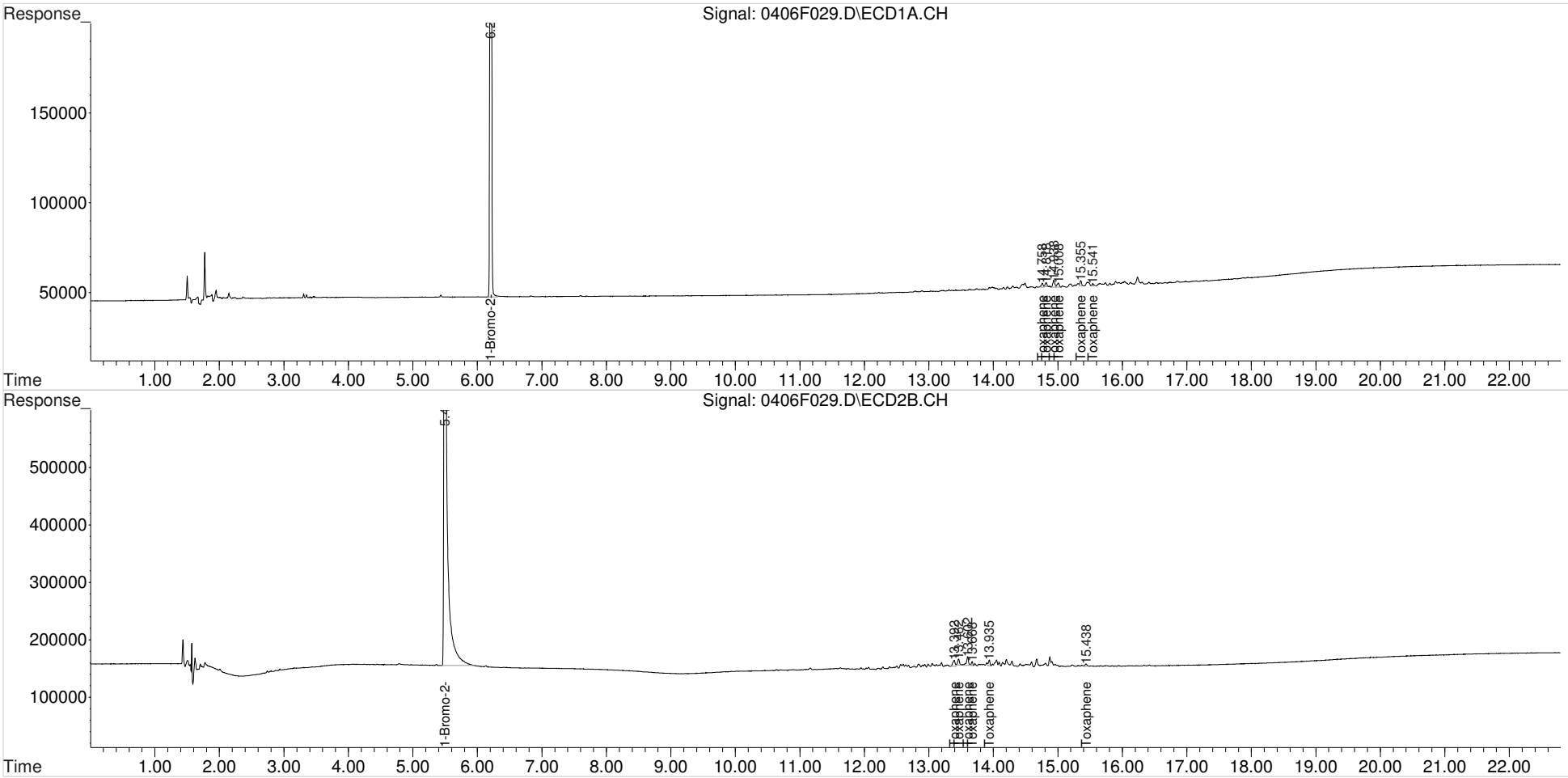
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F029.D Vial: 27
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:46 am Operator: LM
Sample : TOX 25PPB GCPS8-7H4H@4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:47:51 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



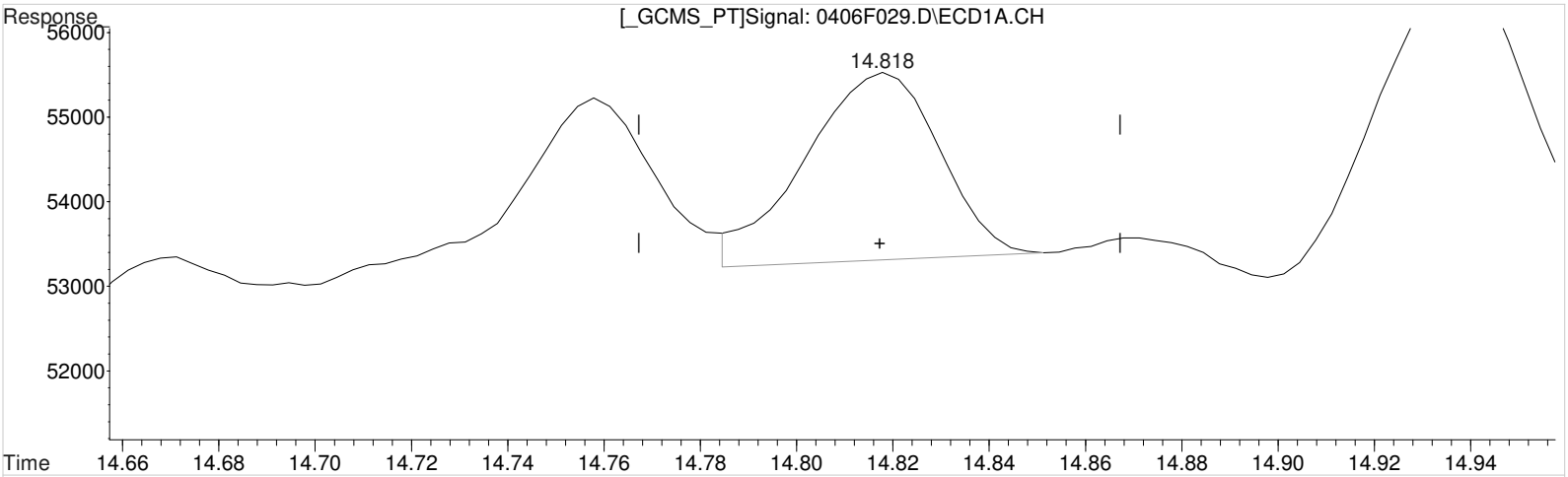
Quantitation Report (Qedit)

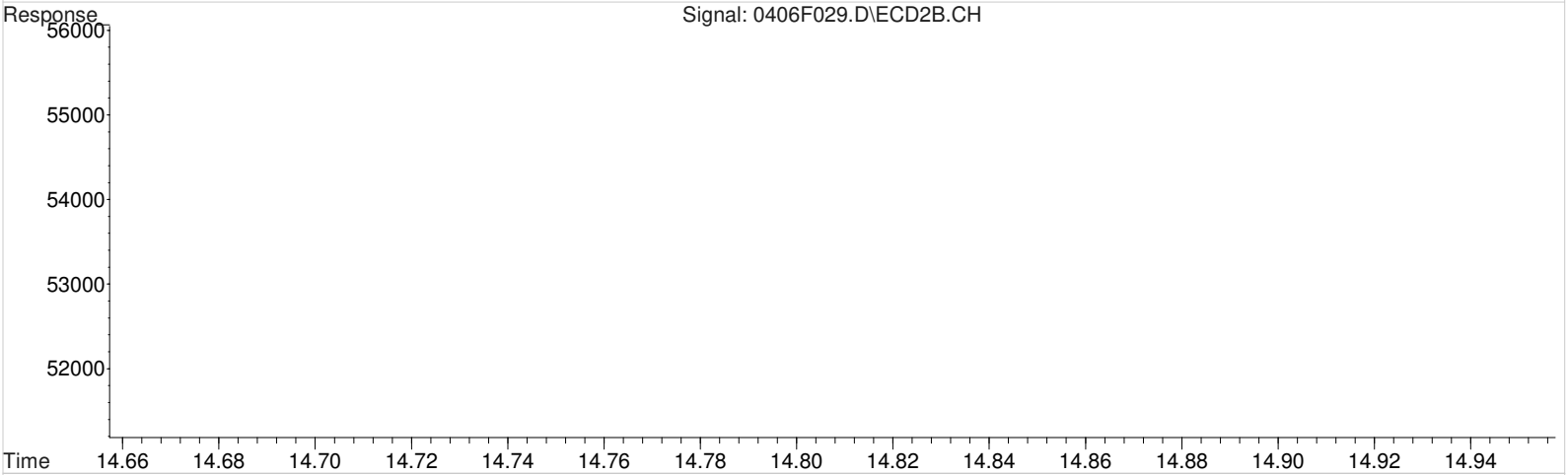
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F029.D Vial: 27
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:46 am Operator: LM
Sample : TOX 25PPB GCPS8-7H4H@4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:40 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.818min 39.220 ug/L

response 4280

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.462min 35.502 ug/L

response 25936

(+) = Expected Retention Time

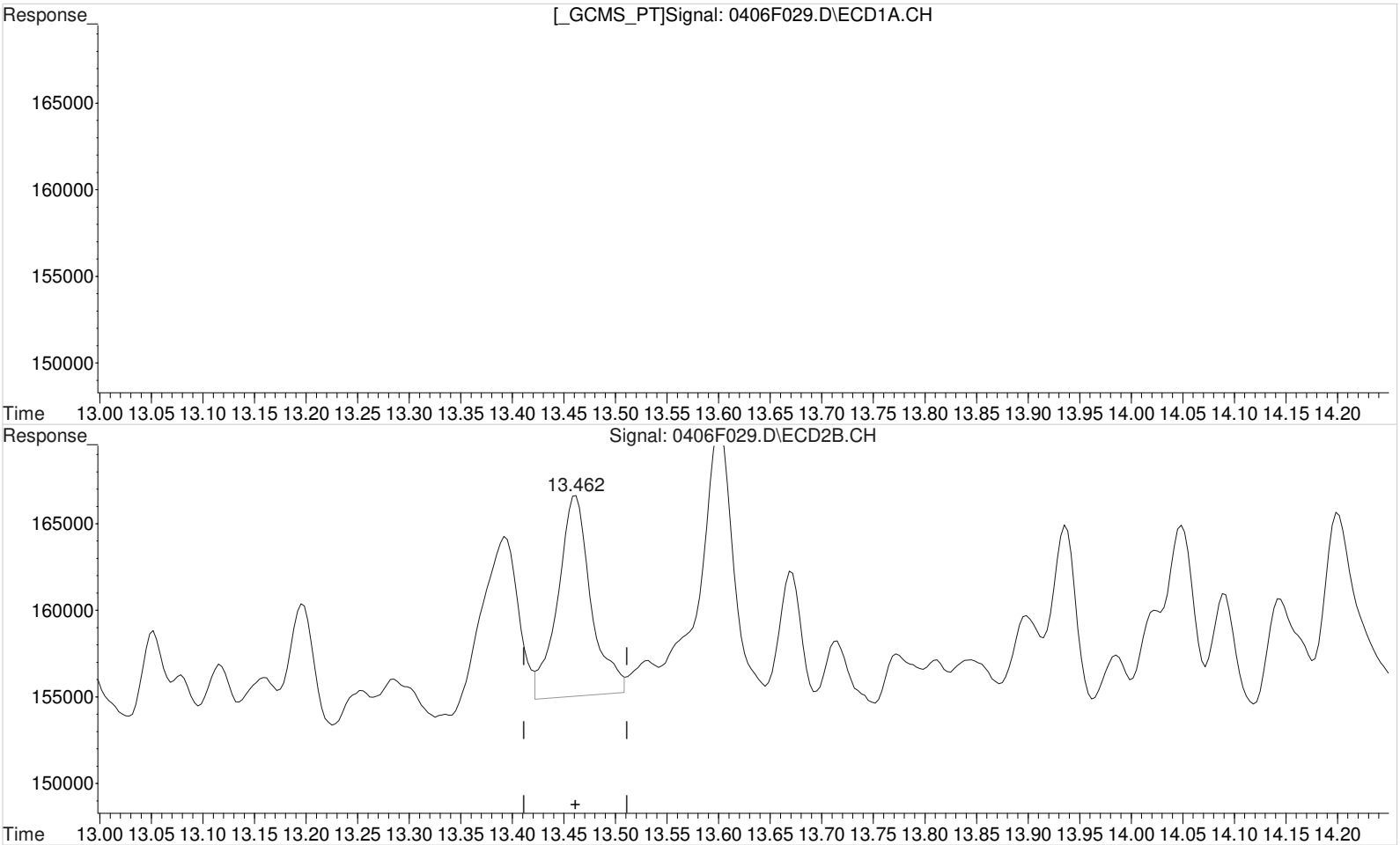
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F029.D Vial: 27
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:46 am Operator: LM
Sample : TOX 25PPB GCPS8-7H4H@4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:40 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.818min 36.178 ug/L m

response 3948

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.462min 35.502 ug/L

response 25936

(+) = Expected Retention Time

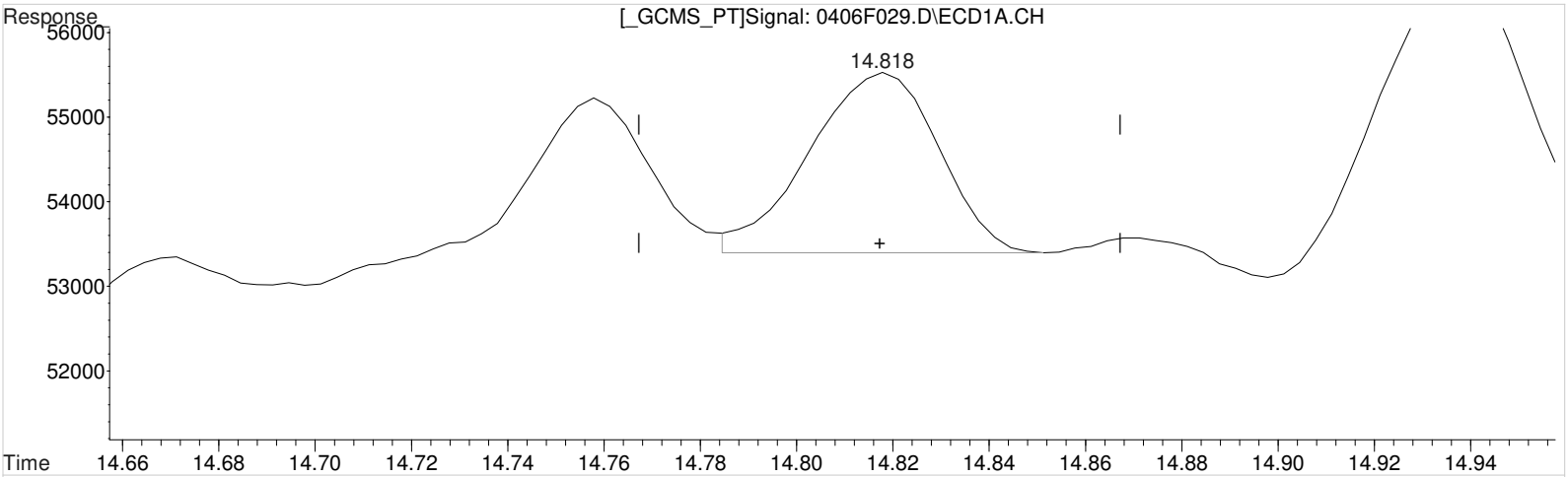
Quantitation Report (Qedit)

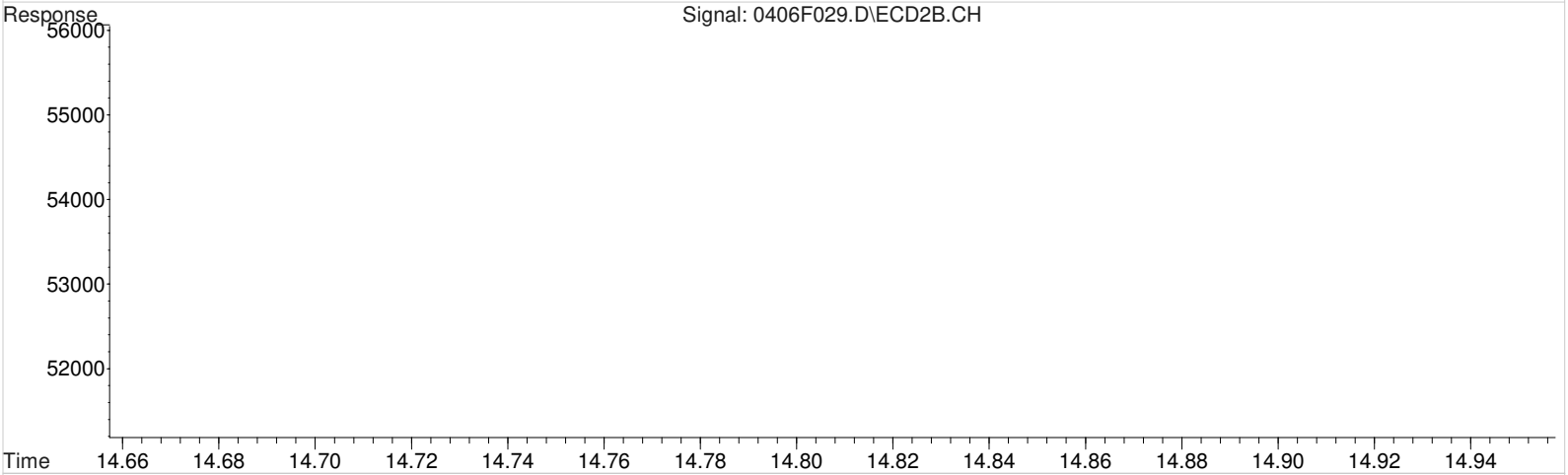
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F029.D Vial: 27
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:46 am Operator: LM
Sample : TOX 25PPB GCPS8-7H4H@4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:40 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.818min 36.178 ug/L m

response 3948

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.462min 35.502 ug/L

response 25936

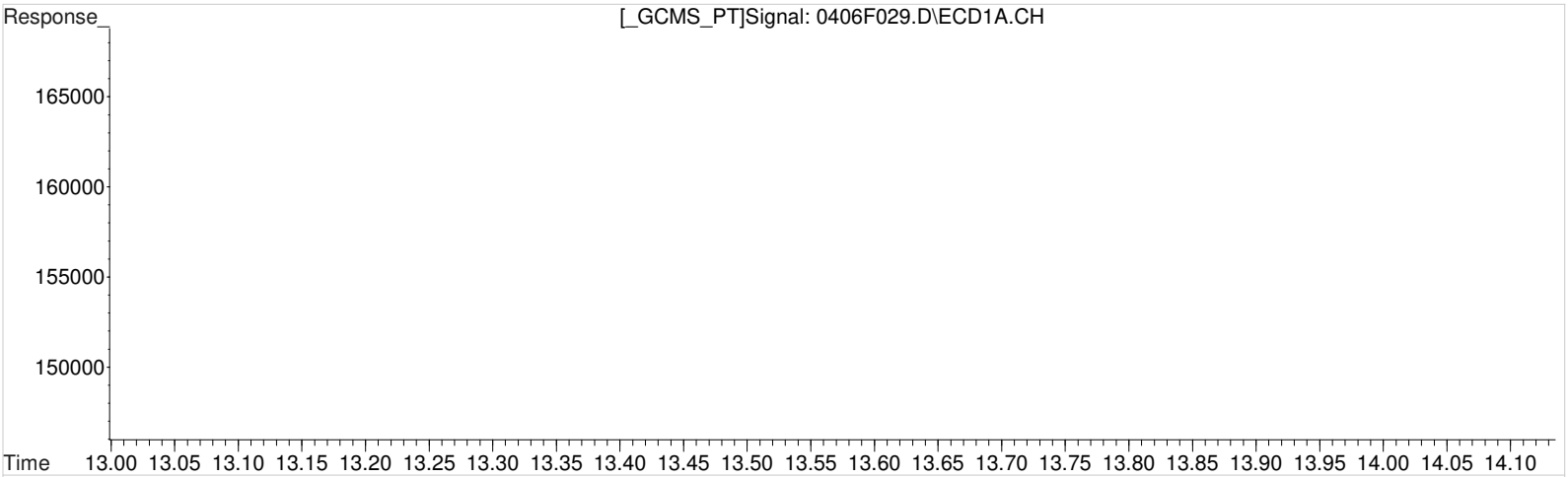
(+) = Expected Retention Time

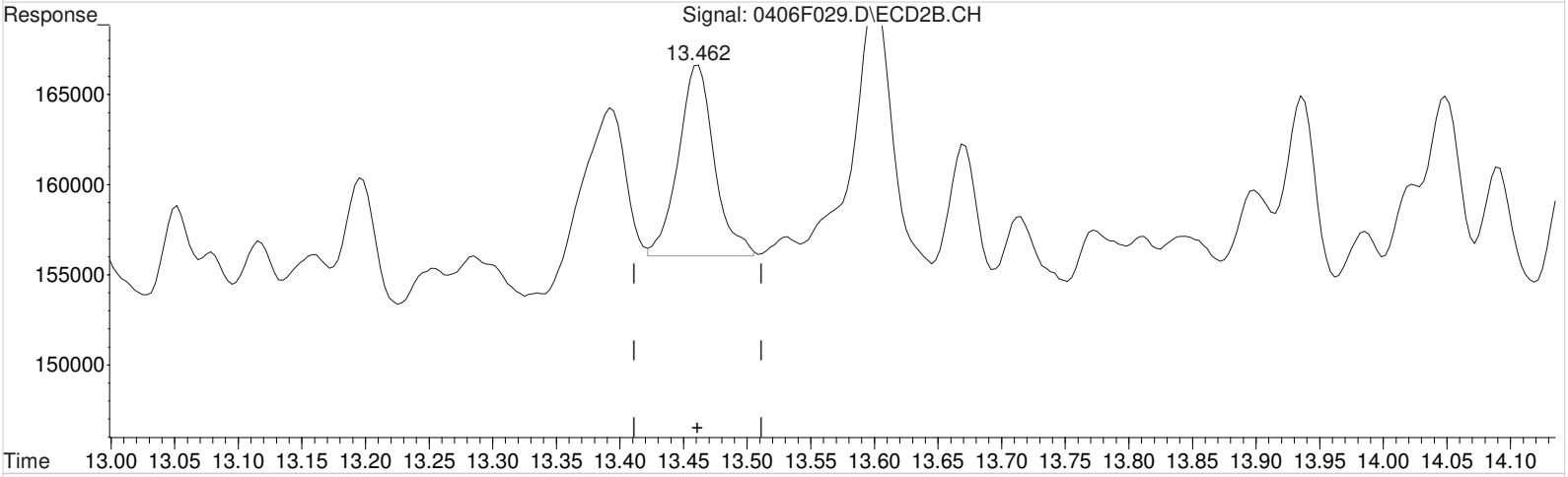
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F029.D Vial: 27
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 12:46 am Operator: LM
Sample : TOX 25PPB GCPS8-7H4H@4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:40 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.818min 36.178 ug/L m

response 3948

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.462min 28.500 ug/L m

response 20821

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:54:20 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
29)	1-Bromo-2...	6.205	5.489	999085	4653045	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
30)	Toxaphene	14.755	13.389	9957	53464	105.619m	60.659m#
31)	Toxaphene...	14.815	13.459	7949	41827	73.202m	57.199m
32)	Toxaphene...	14.935	13.599	15769	50208	67.550m	55.187m
33)	Toxaphene...	15.002	13.666	11133	19906	70.516	63.000m
34)	Toxaphene...	15.349	13.933	9991	28059	64.984m	56.281m
35)	Toxaphene...	15.535	15.433	4530	15454	73.272	66.362
	SemiQuant Compounds - Not Calibrated on this Instrument						

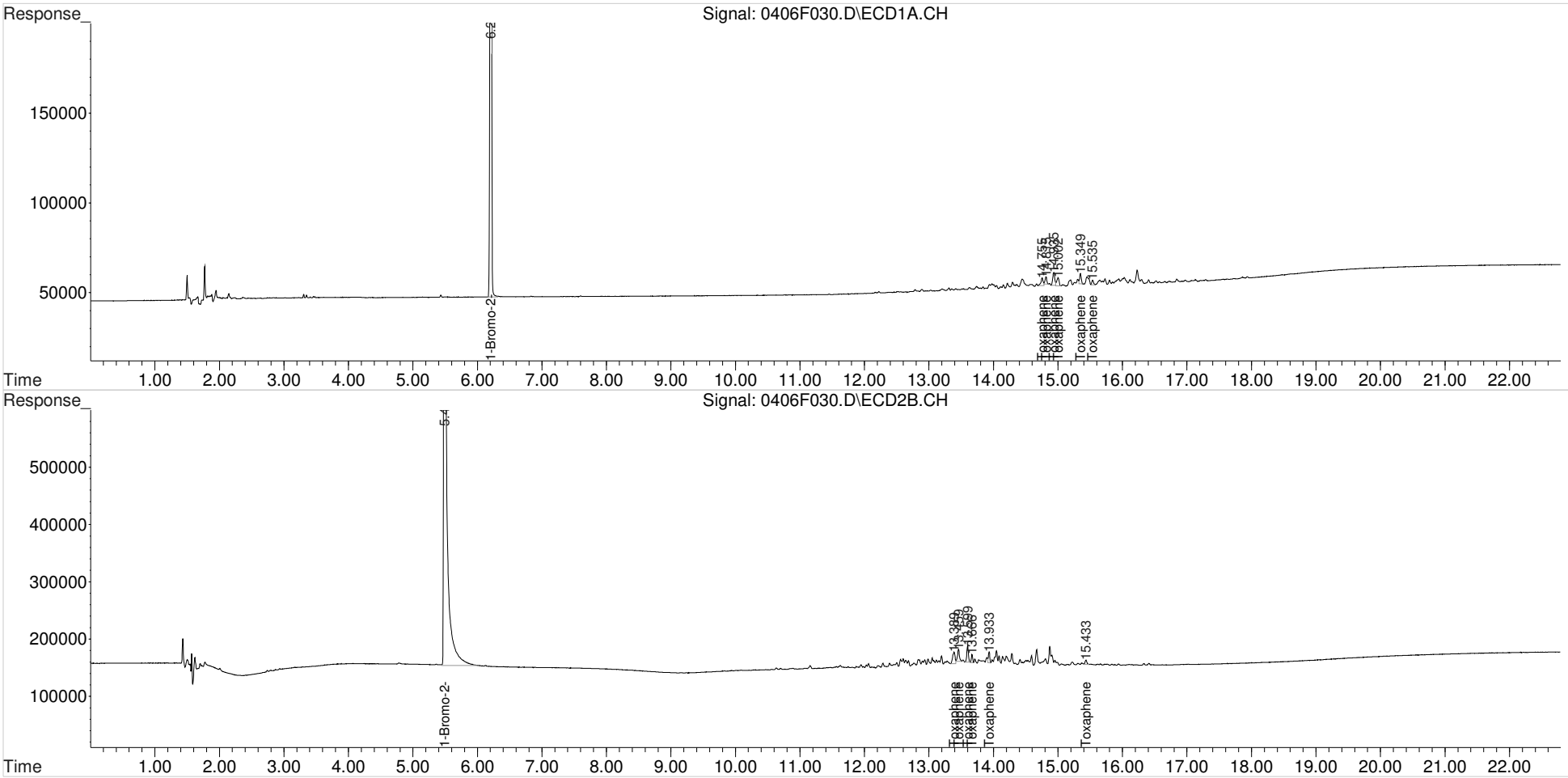
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:54:20 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

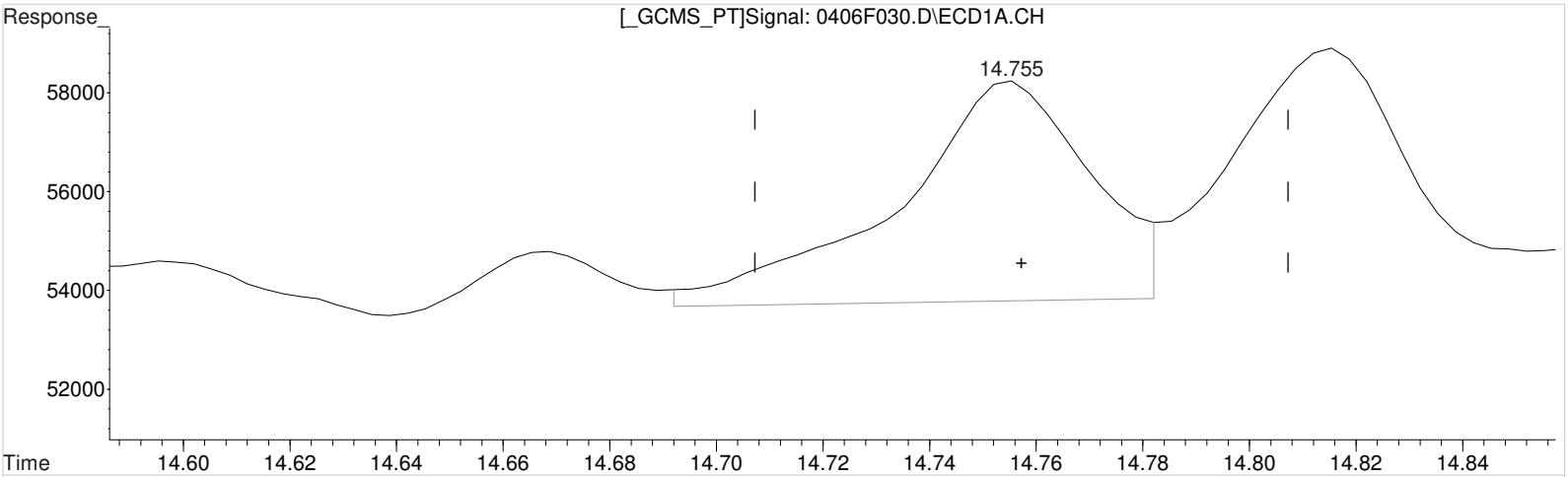


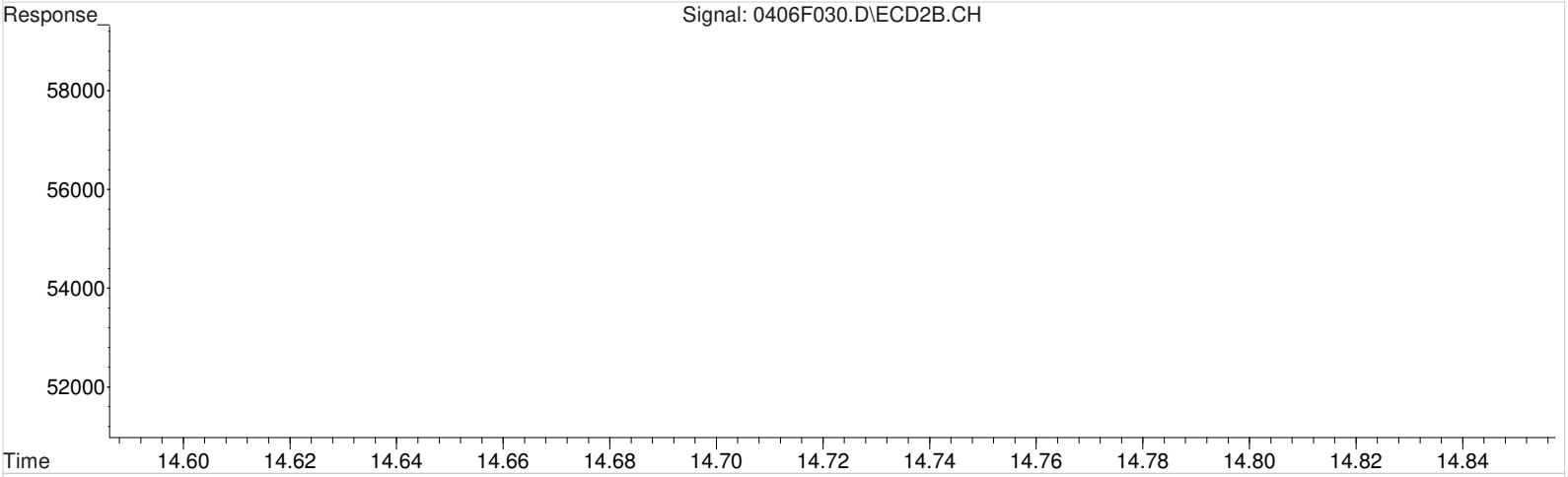
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.755min 119.865 ug/L

response 11300

Manual Integration:

Before

04/07/20

(30) Toxaphene #2

13.389min 73.841 ug/L

response 65083

(+) = Expected Retention Time

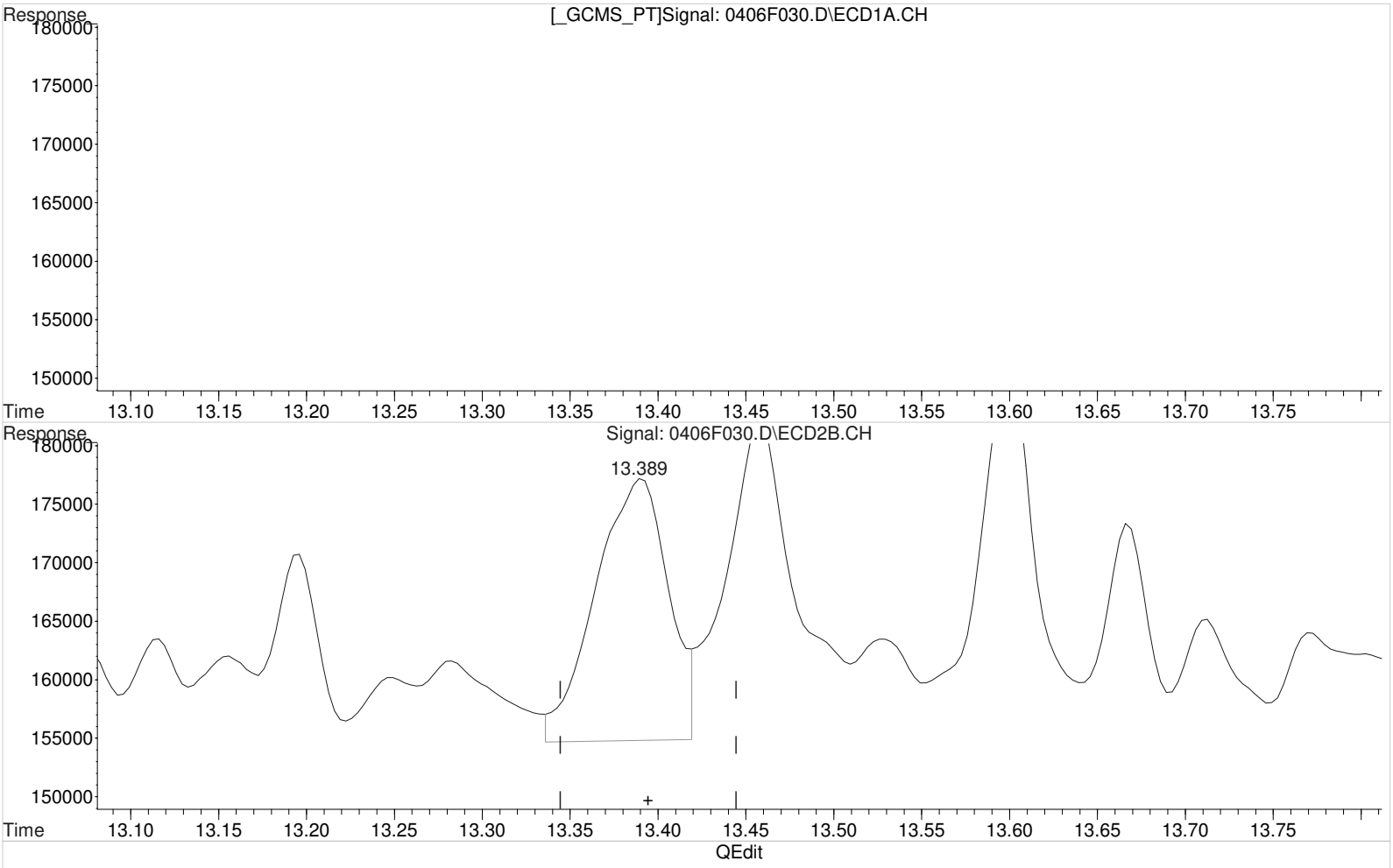
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(30) Toxaphene

14.755min 105.619 ug/L m

response 9957

Manual Integration:

Before

04/07/20

(30) Toxaphene #2

13.389min 73.841 ug/L

response 65083

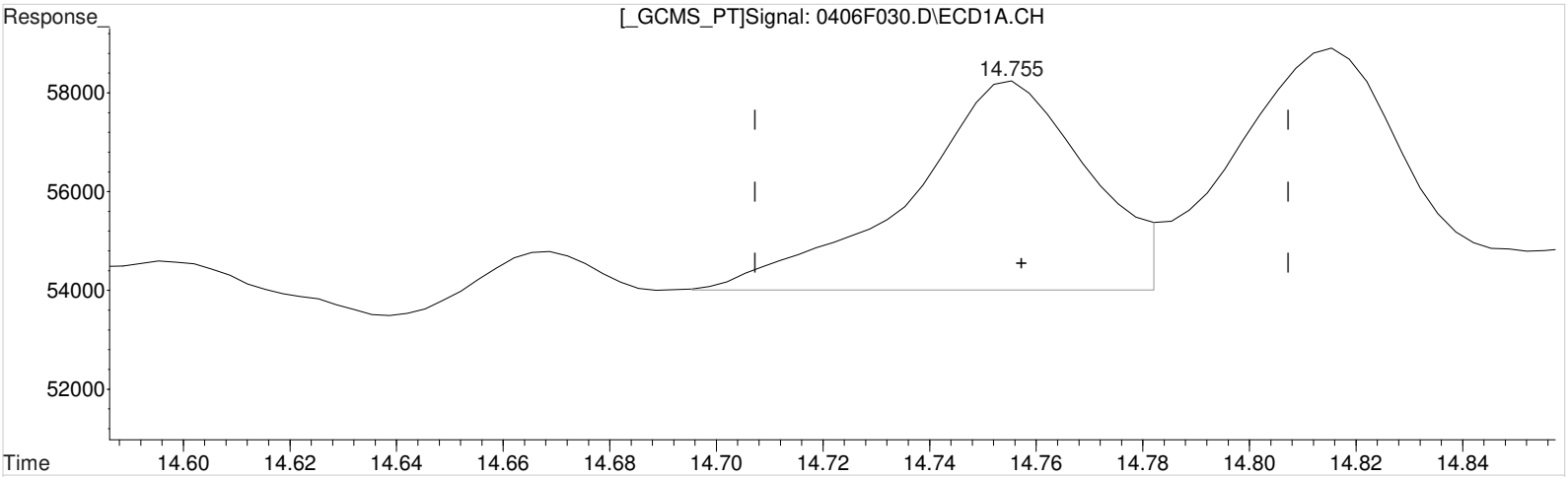
(+) = Expected Retention Time

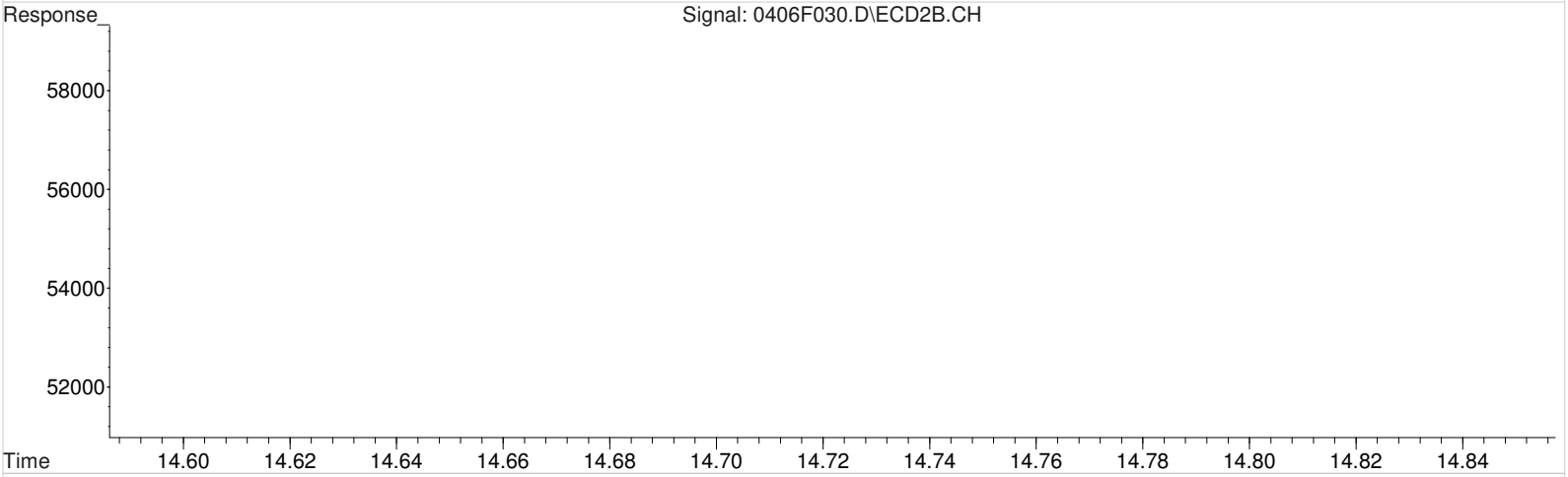
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.755min 105.619 ug/L m

response 9957

Manual Integration:

After

Baseline/Shoulder

04/07/20

(30) Toxaphene #2

13.389min 73.841 ug/L

response 65083

(+) = Expected Retention Time

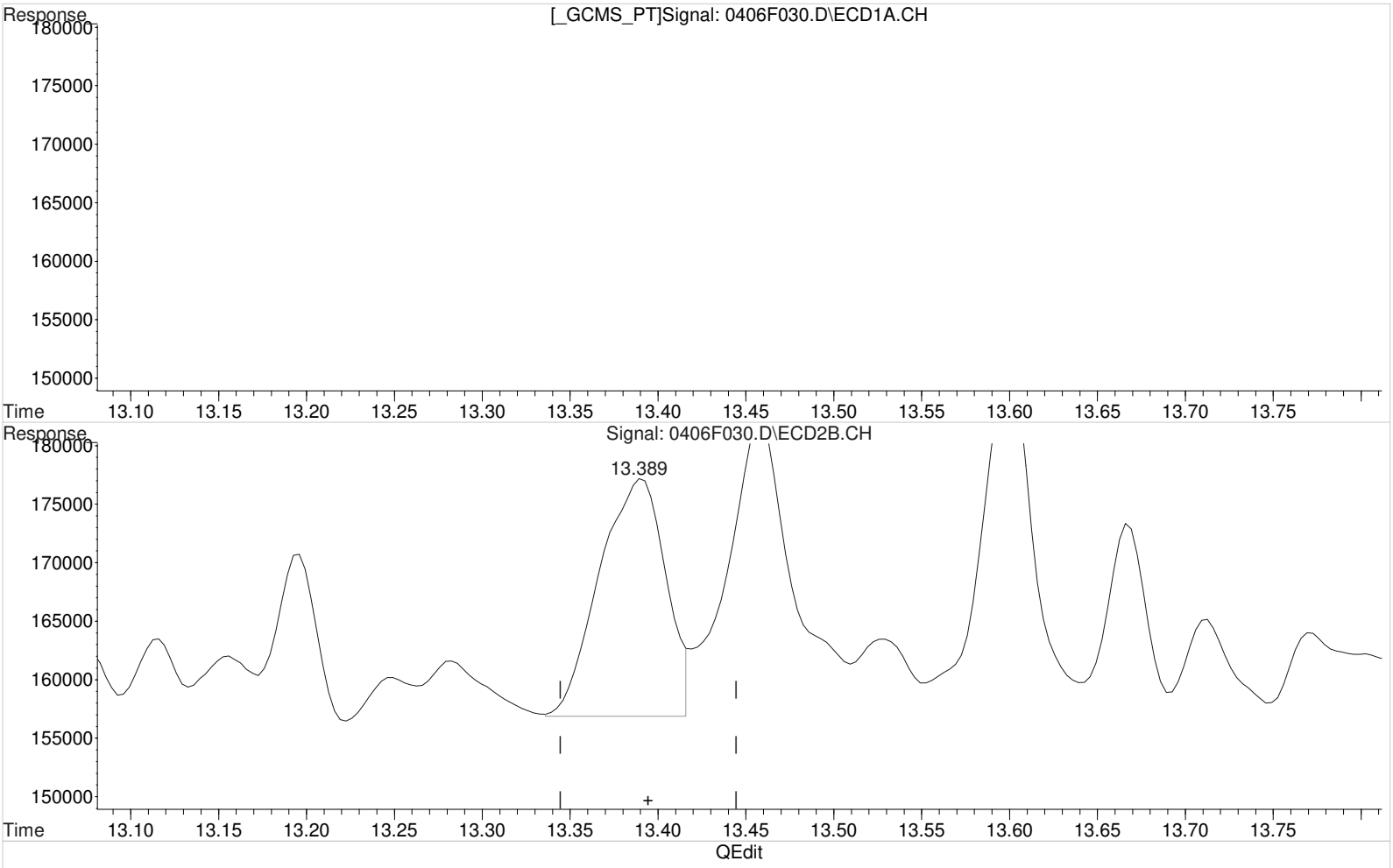
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(30) Toxaphene

14.755min 105.619 ug/L m

response 9957

Manual Integration:

After

Baseline/Shoulder

04/07/20

(30) Toxaphene #2

13.389min 60.659 ug/L m

response 53464

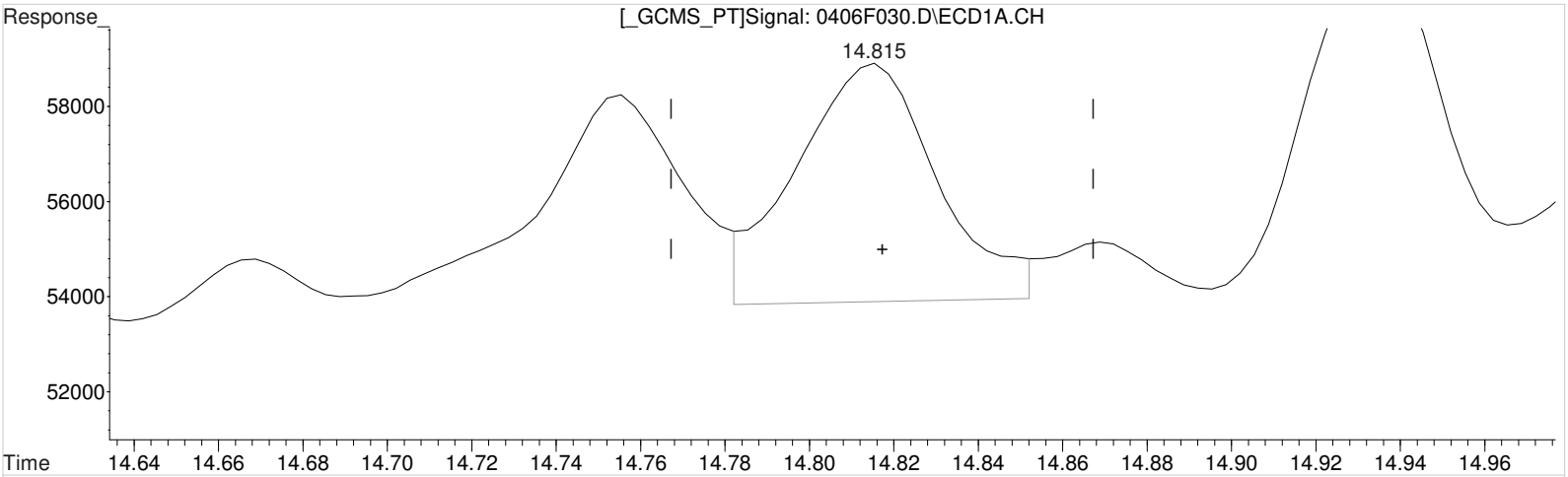
(+) = Expected Retention Time

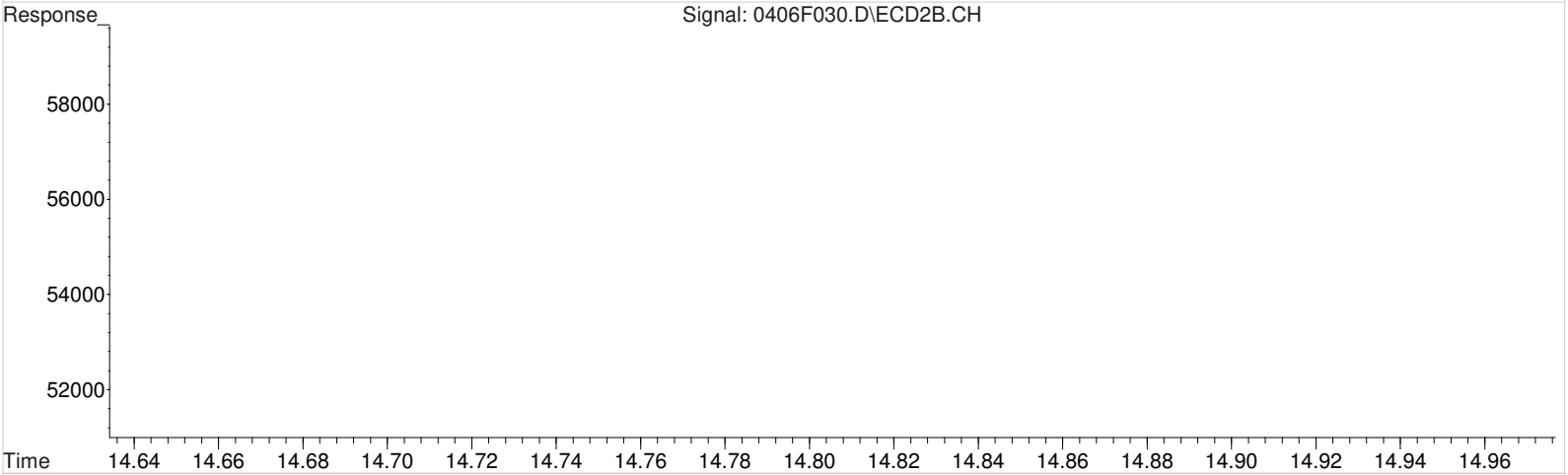
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.815min 106.640 ug/L

response 11580

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.459min 103.478 ug/L

response 75669

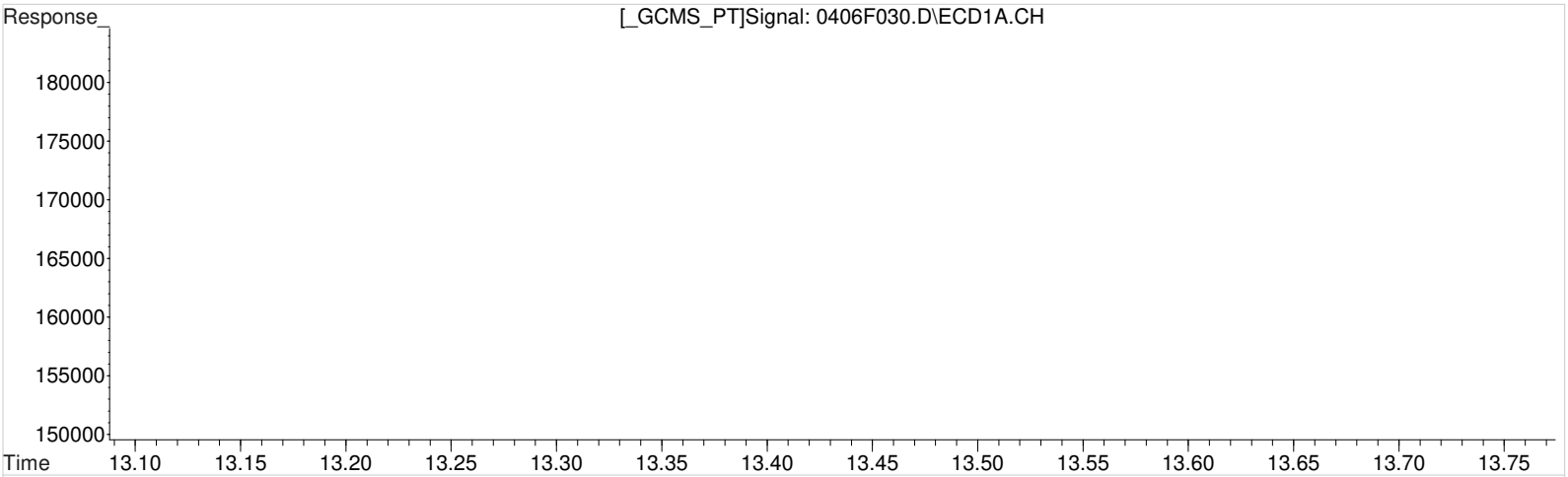
(+) = Expected Retention Time

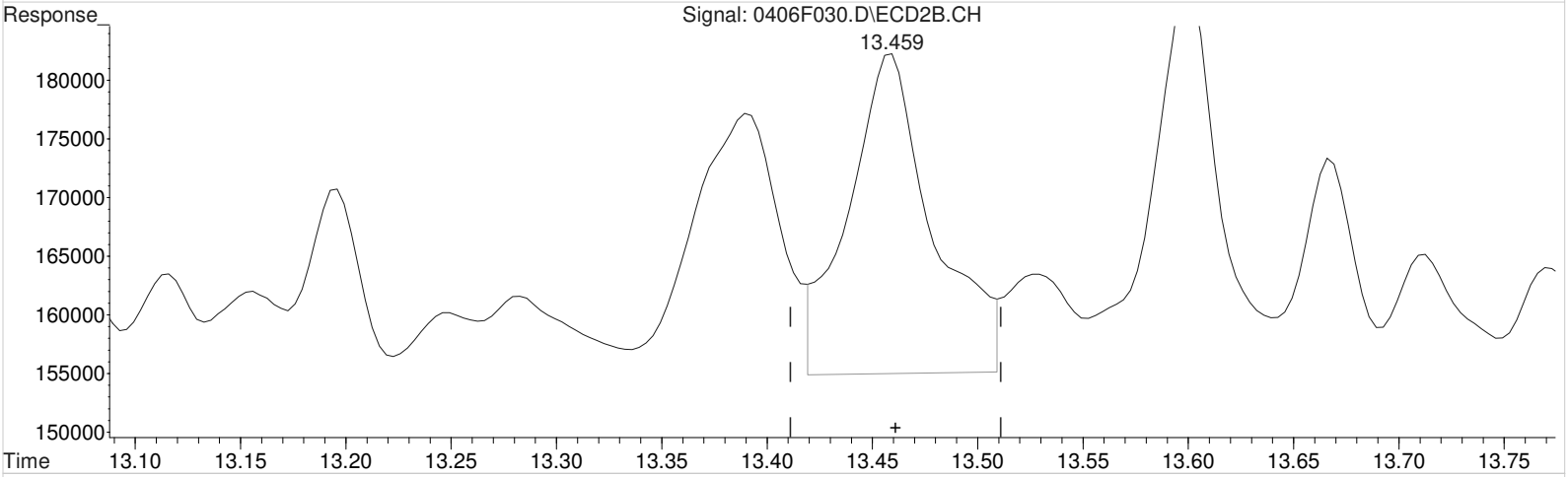
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.815min 73.202 ug/L m

response 7949

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.459min 103.478 ug/L

response 75669

(+) = Expected Retention Time

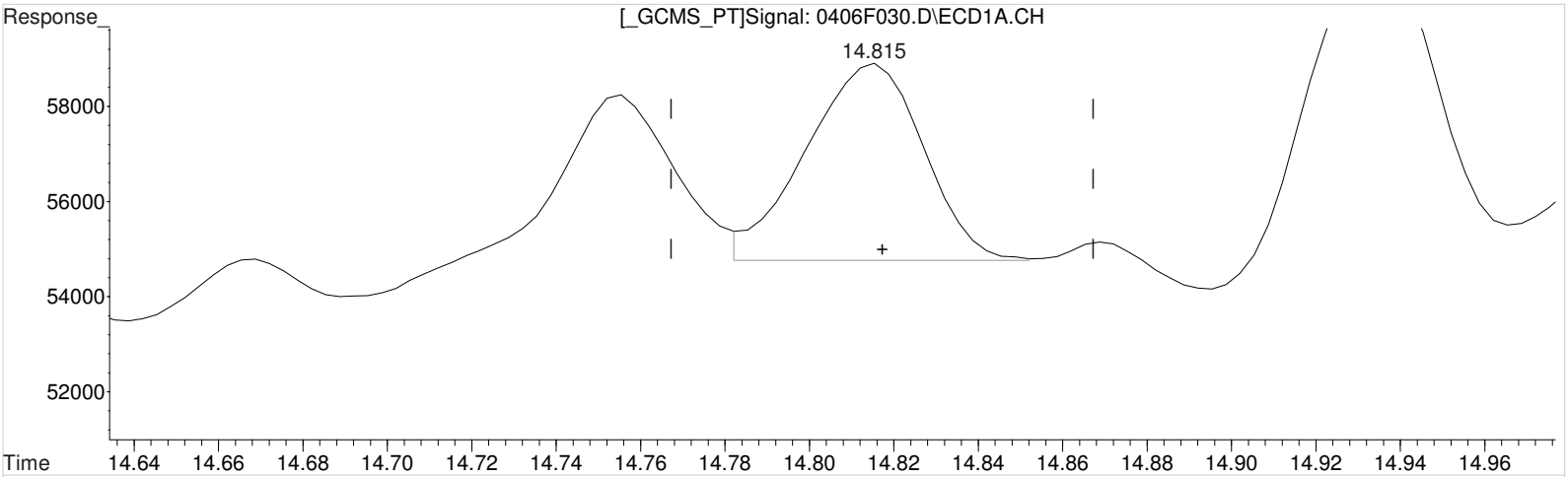
Quantitation Report (Qedit)

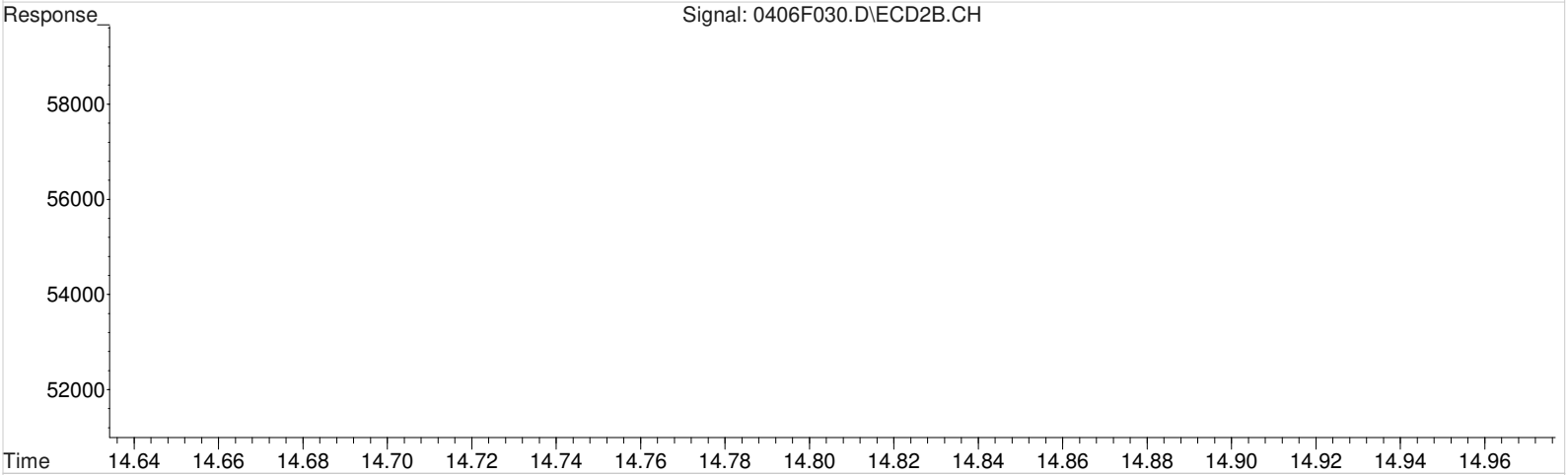
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.815min 73.202 ug/L m

response 7949

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.459min 103.478 ug/L

response 75669

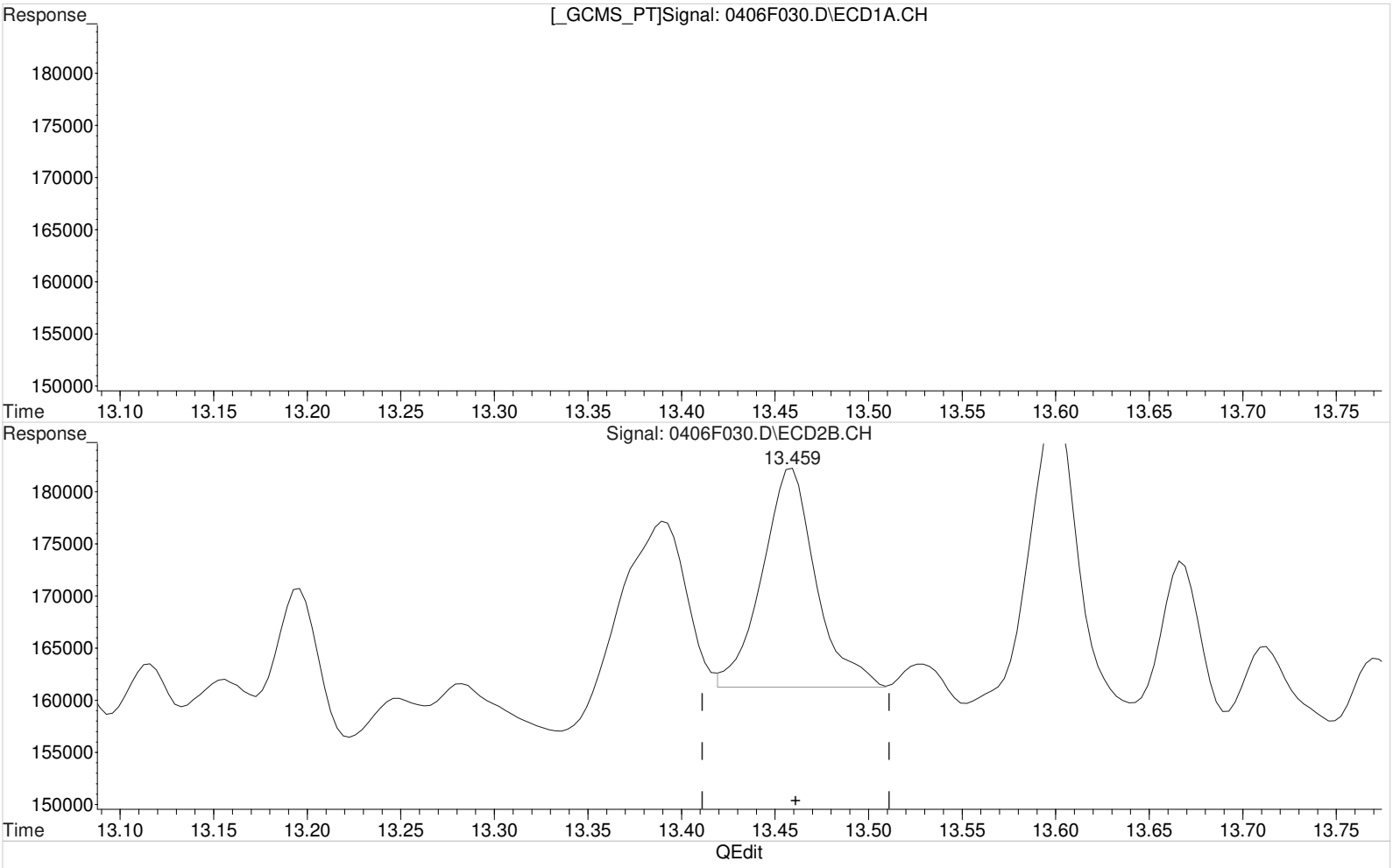
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.815min 73.202 ug/L m

response 7949

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.459min 57.199 ug/L m

response 41827

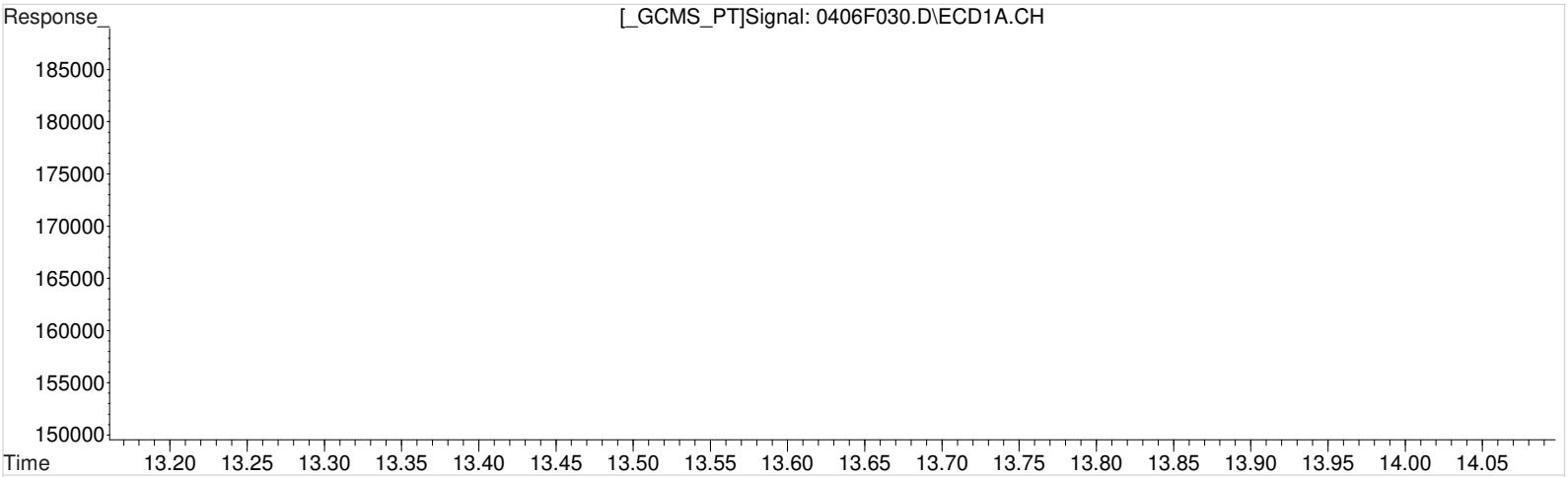
(+) = Expected Retention Time

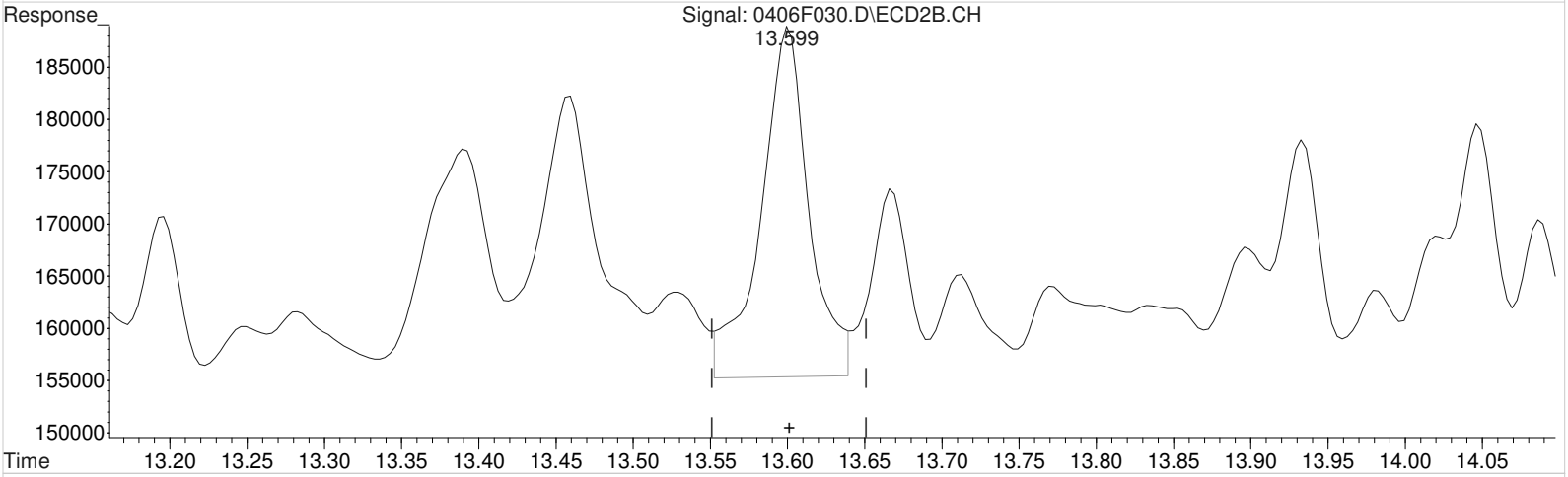
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.935min 67.550 ug/L m

response 15769

Manual Integration:

Before

04/07/20

(32) Toxaphene {3} #2

13.599min 79.802 ug/L

response 72602

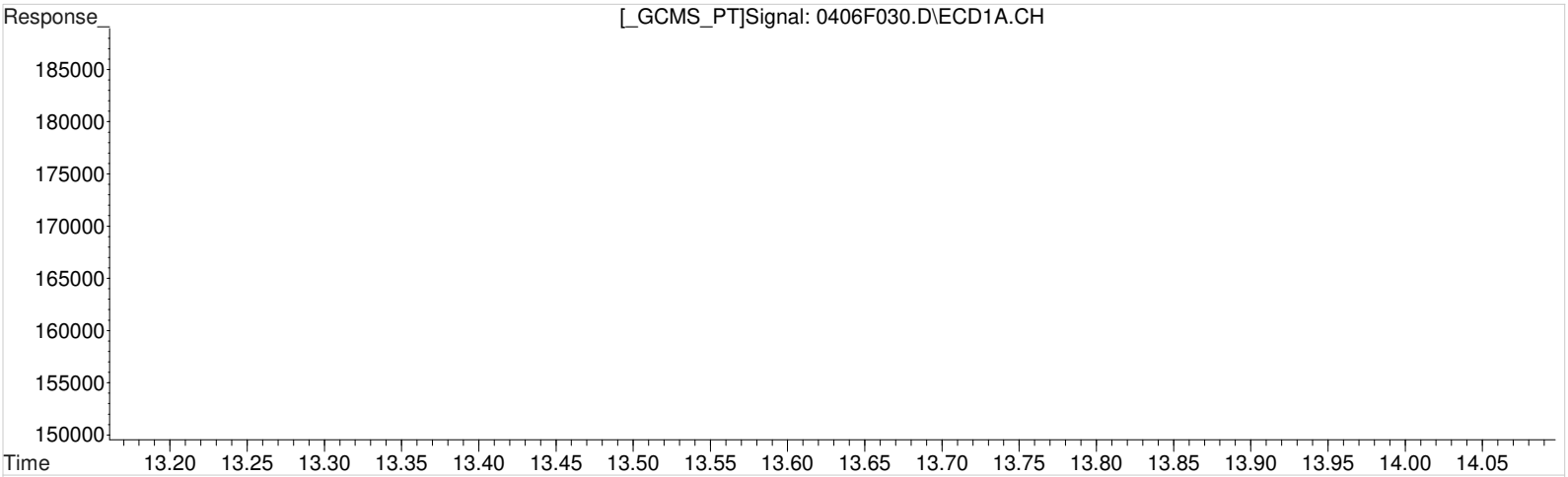
(+) = Expected Retention Time

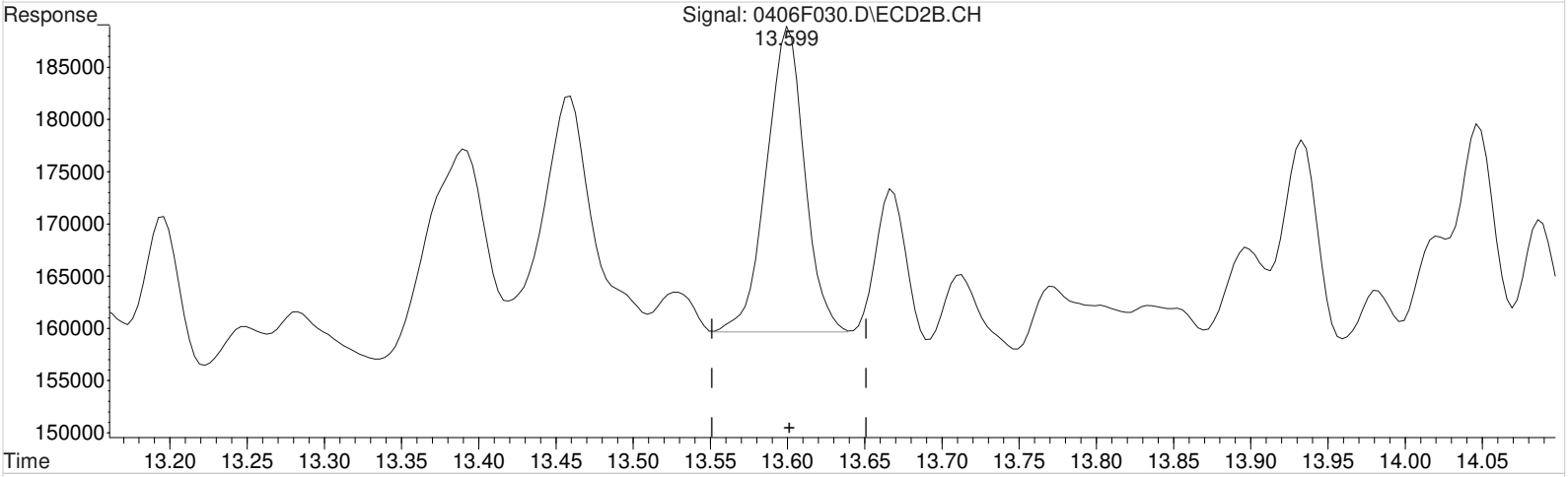
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.935min 67.550 ug/L m

response 15769

Manual Integration:

After

Baseline/Shoulder

04/07/20

(32) Toxaphene {3} #2

13.599min 55.187 ug/L m

response 50208

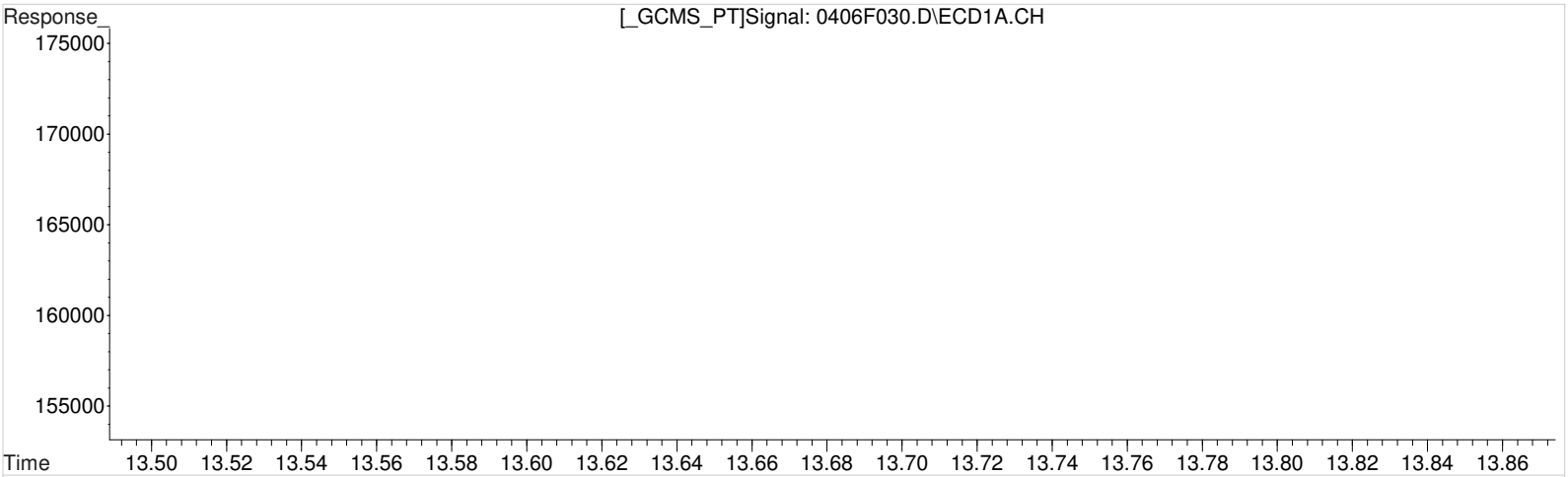
(+) = Expected Retention Time

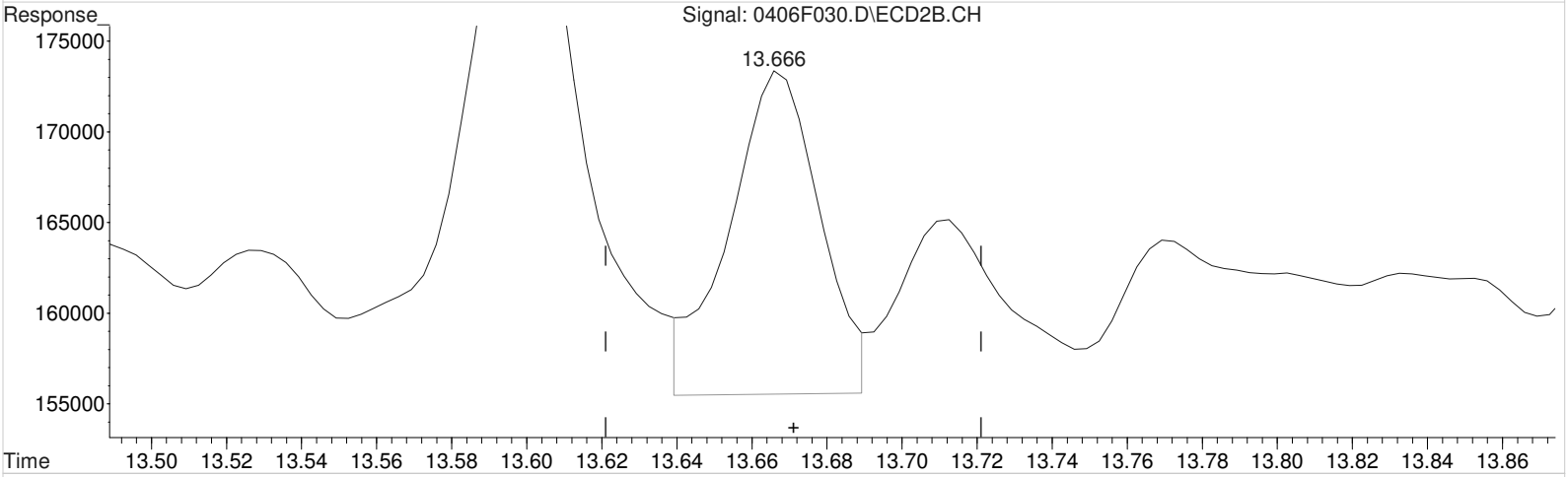
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

15.002min 70.516 ug/L

response 11133

Manual Integration:

Before

04/07/20

(33) Toxaphene {4} #2

13.666min 94.256 ug/L

response 29782

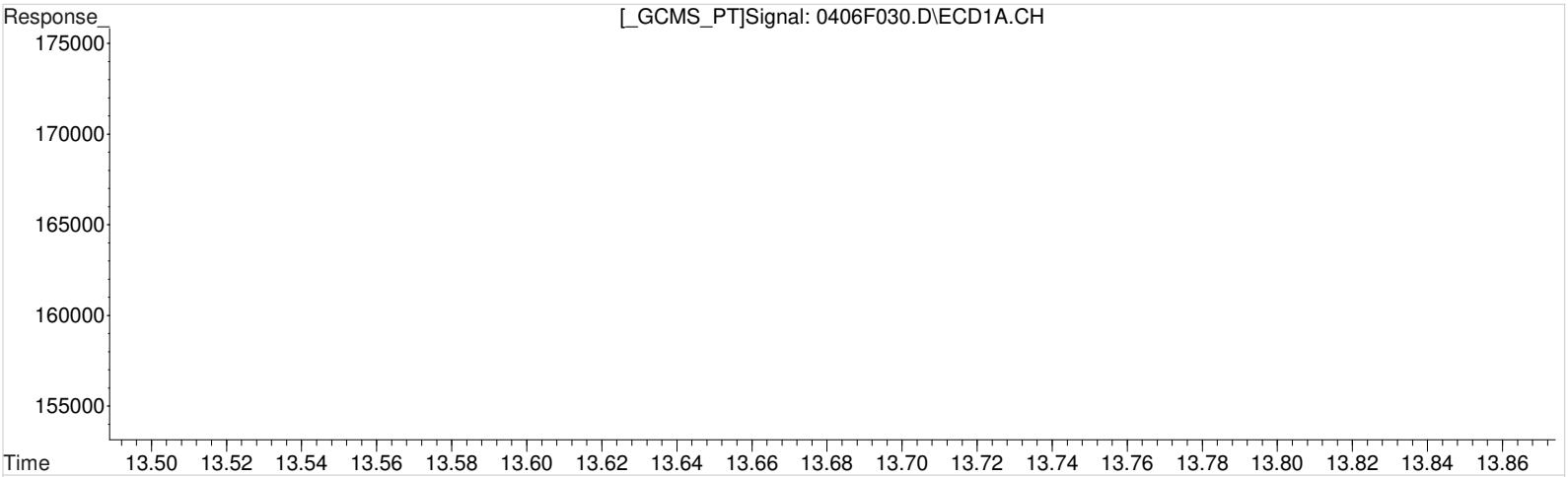
(+) = Expected Retention Time

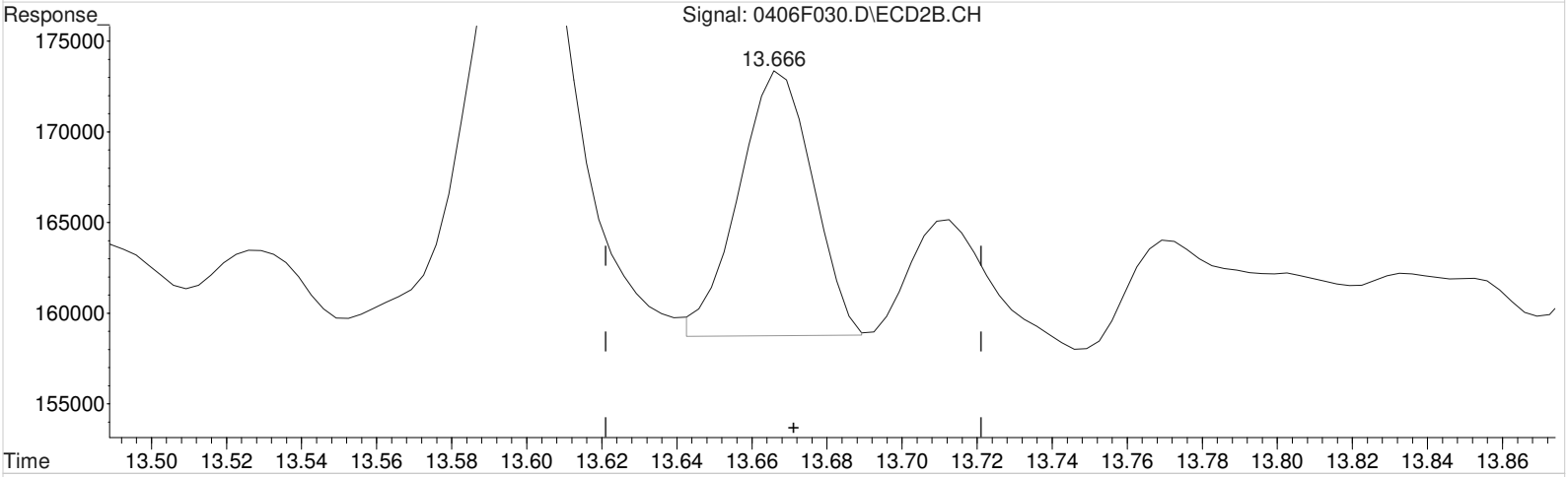
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(33) Toxaphene {4}

15.002min 70.516 ug/L

response 11133

Manual Integration:

After

Baseline/Shoulder

04/07/20

(33) Toxaphene {4} #2

13.666min 63.000 ug/L m

response 19906

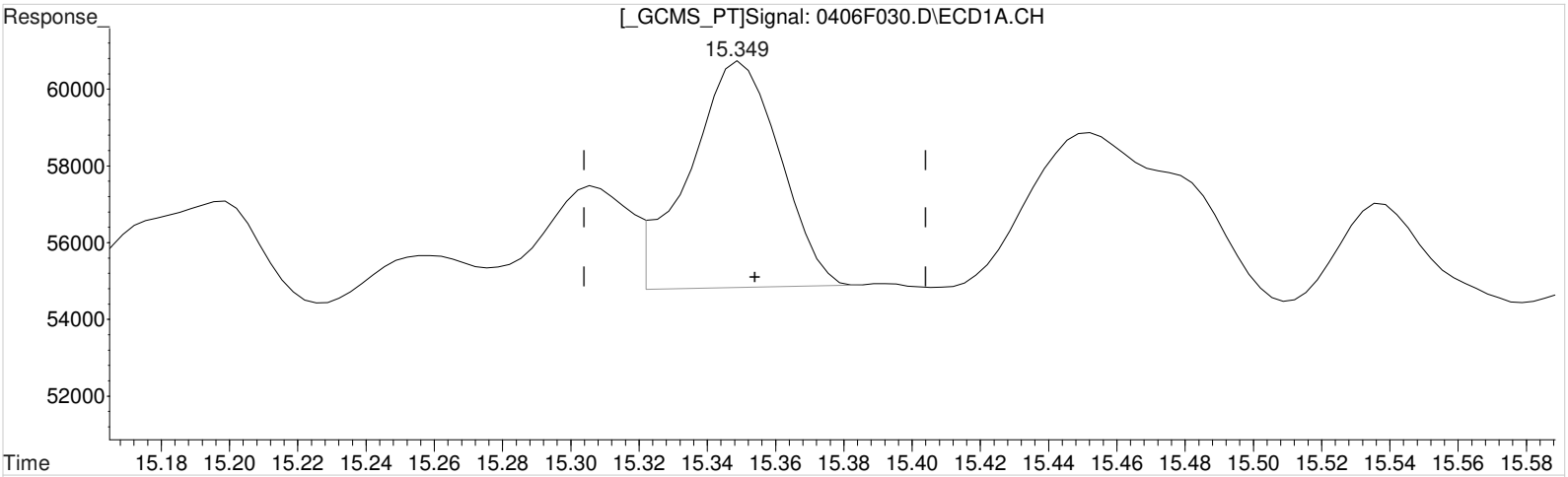
(+) = Expected Retention Time

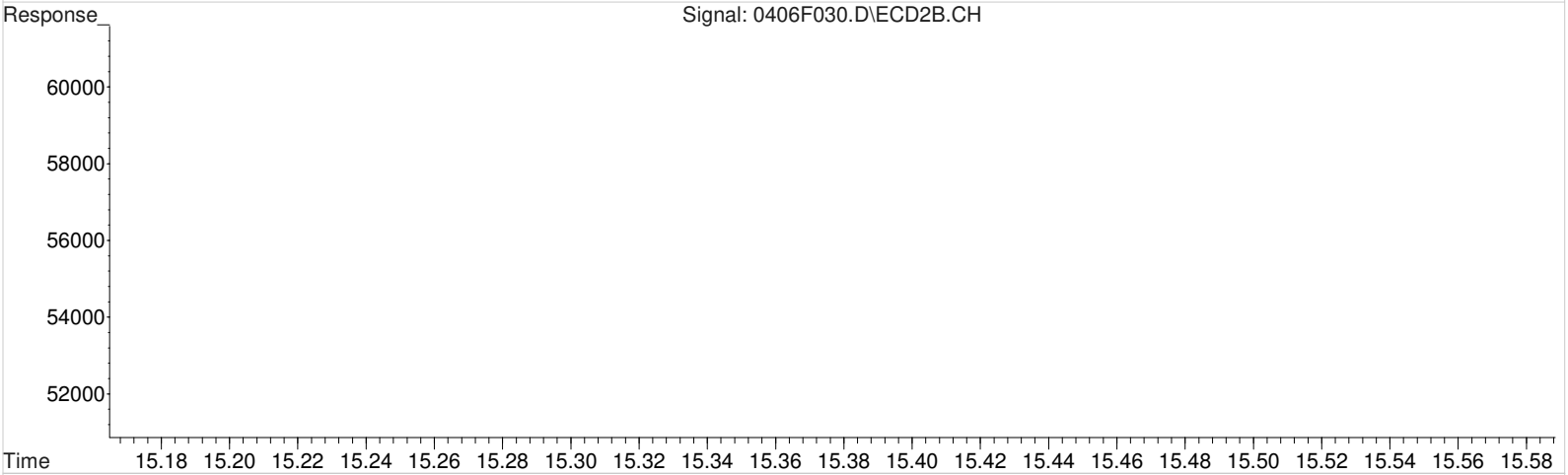
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.349min 68.861 ug/L

response 10587

Manual Integration:

Before

04/07/20

(34) Toxaphene {5} #2

13.933min 71.599 ug/L

response 35696

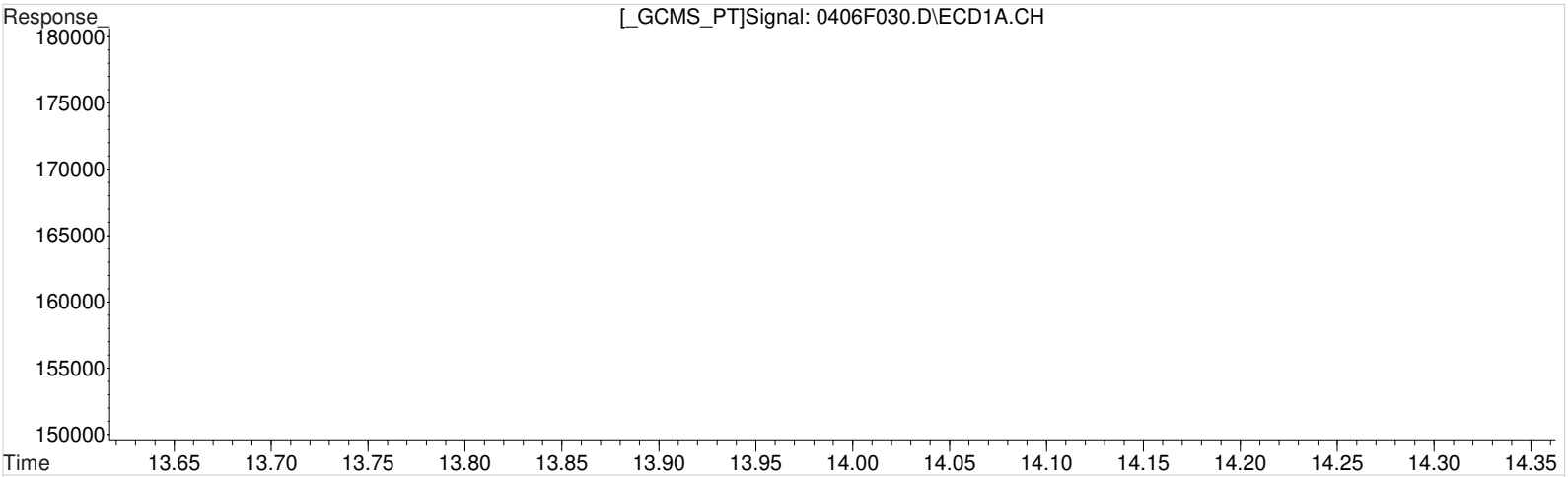
(+) = Expected Retention Time

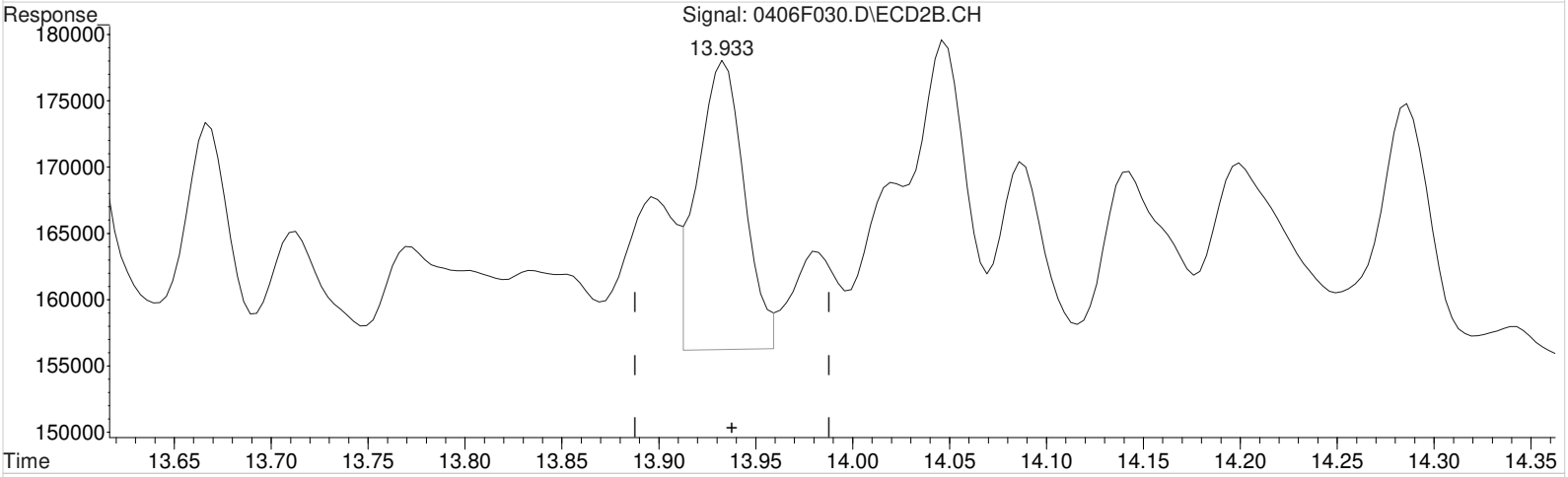
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.349min 64.984 ug/L m

response 9991

Manual Integration:

Before

04/07/20

(34) Toxaphene {5} #2

13.933min 71.599 ug/L

response 35696

(+) = Expected Retention Time

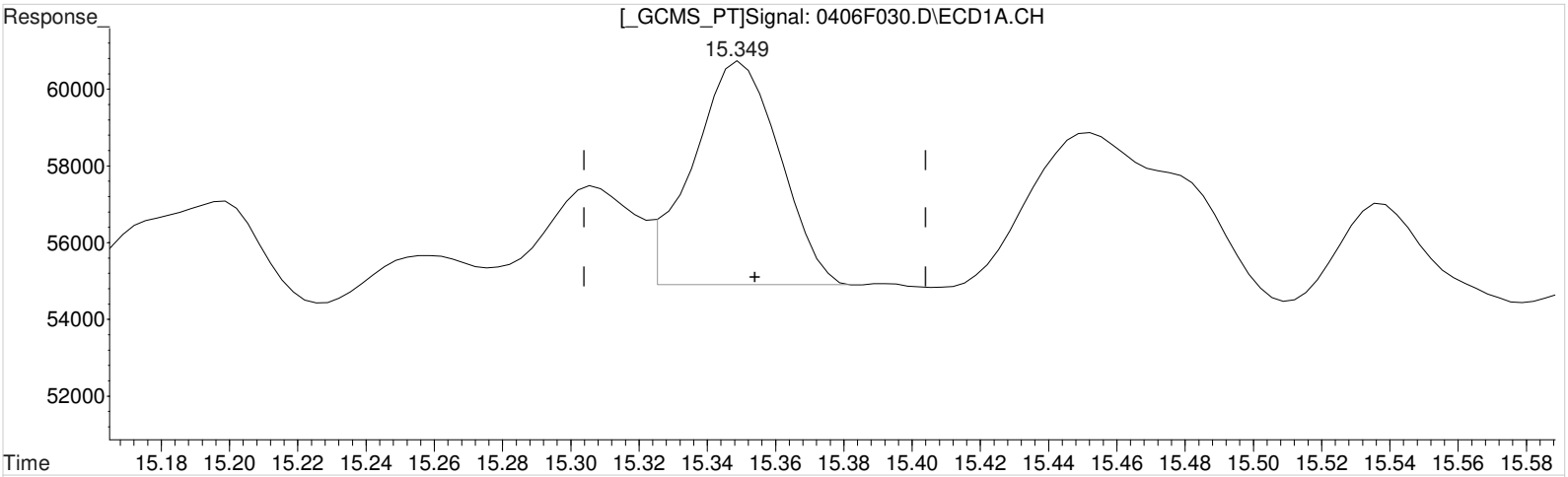
Quantitation Report (Qedit)

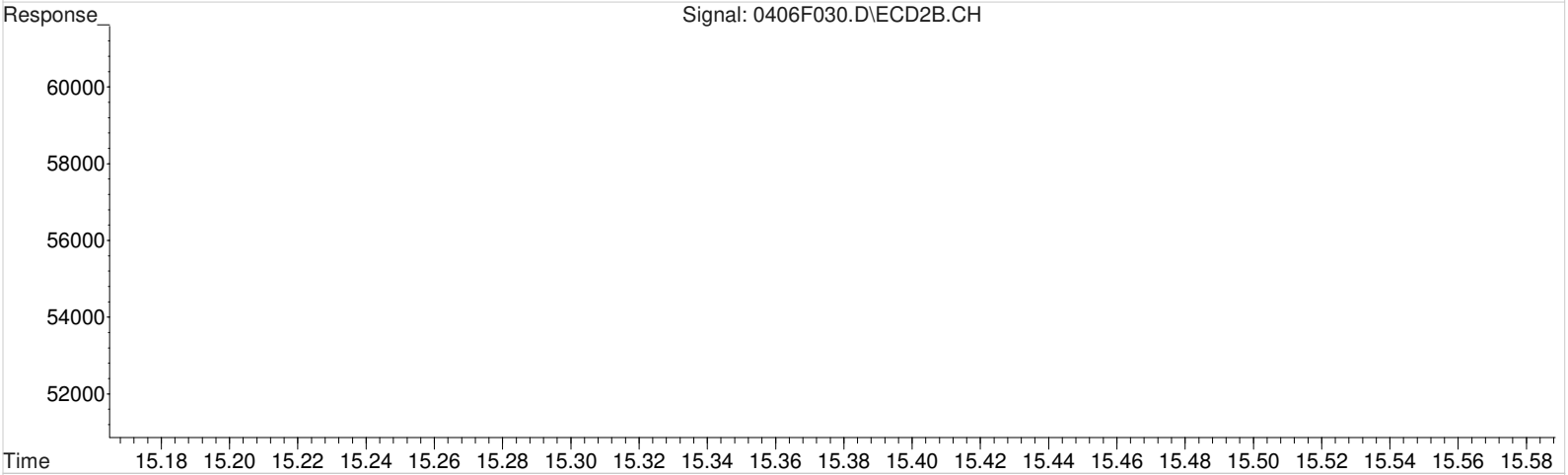
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.349min 64.984 ug/L m

response 9991

Manual Integration:

After

Baseline/Shoulder

04/07/20

(34) Toxaphene {5} #2

13.933min 71.599 ug/L

response 35696

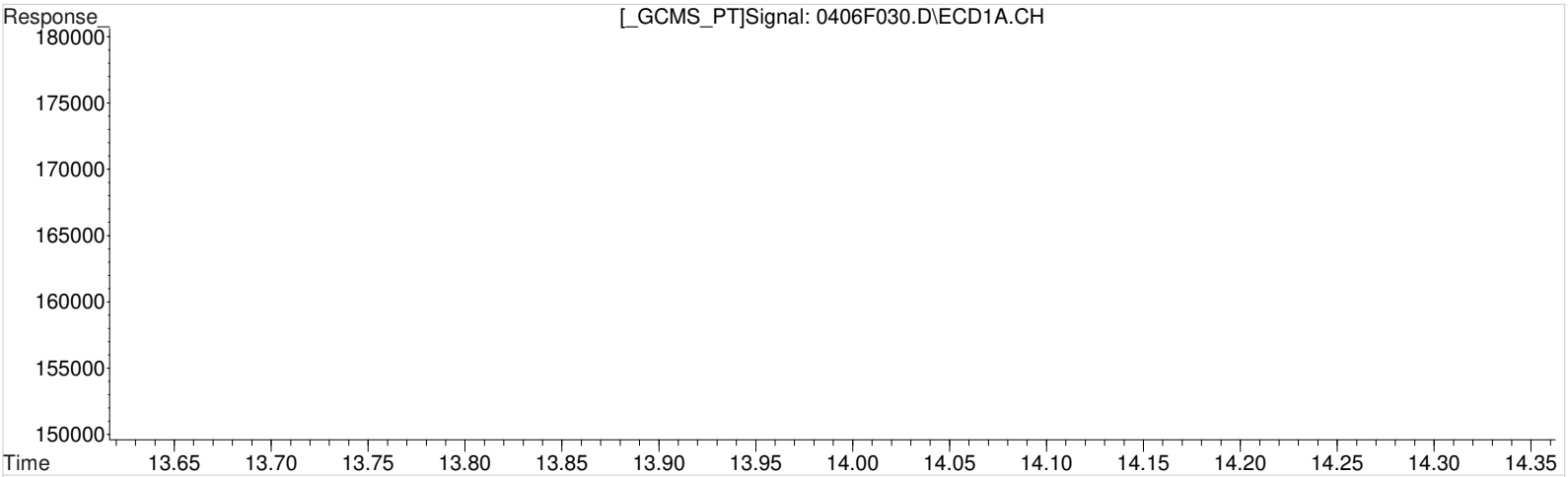
(+) = Expected Retention Time

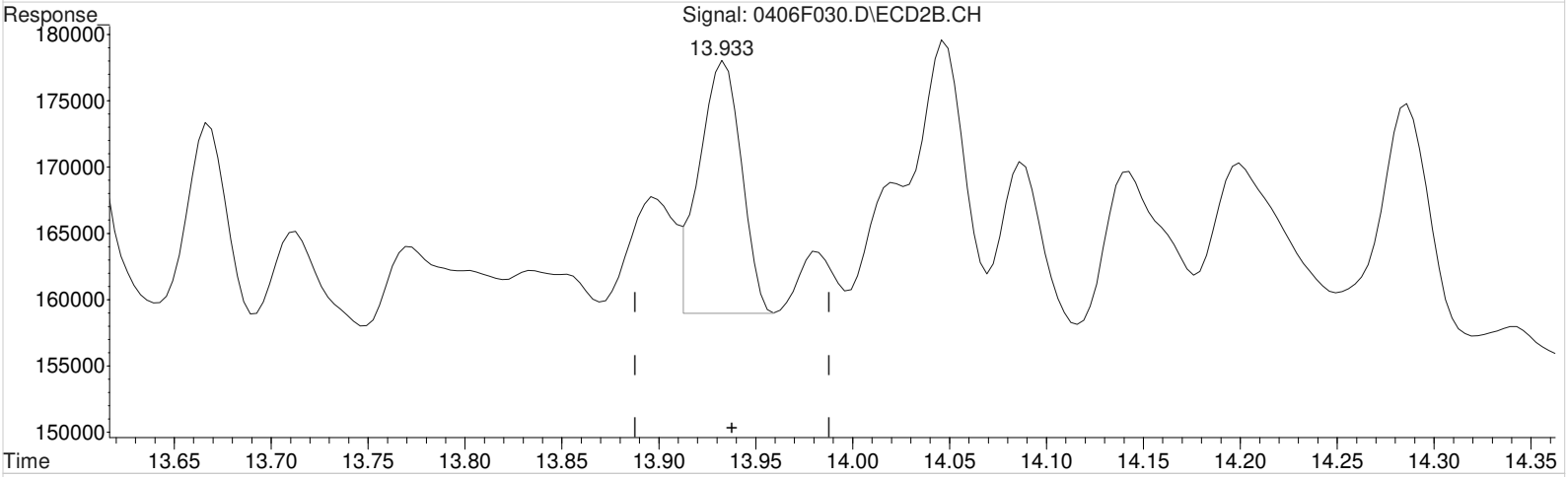
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F030.D Vial: 28
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:15 am Operator: LM
Sample : TOX 50PPB GCPS8-74H @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:44 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.349min 64.984 ug/L m

response 9991

Manual Integration:

After

Baseline/Shoulder

04/07/20

(34) Toxaphene {5} #2

13.933min 56.281 ug/L m

response 28059

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:58:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
29)	1-Bromo-2...	6.207	5.491	1029899	4781614	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
30)	Toxaphene	14.757	13.394	18849	104268	193.959m	115.118m#
31)	Toxaphene...	14.817	13.461	14584	78876	130.286m	104.963m
32)	Toxaphene...	14.937	13.601	30304	113079	125.930m	120.951m
33)	Toxaphene...	15.007	13.671	21416	38733	131.589	119.288m
34)	Toxaphene...	15.354	13.938	20450	55911	129.033	109.131m
35)	Toxaphene...	15.541	15.438	9236	31128	144.921	130.075
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

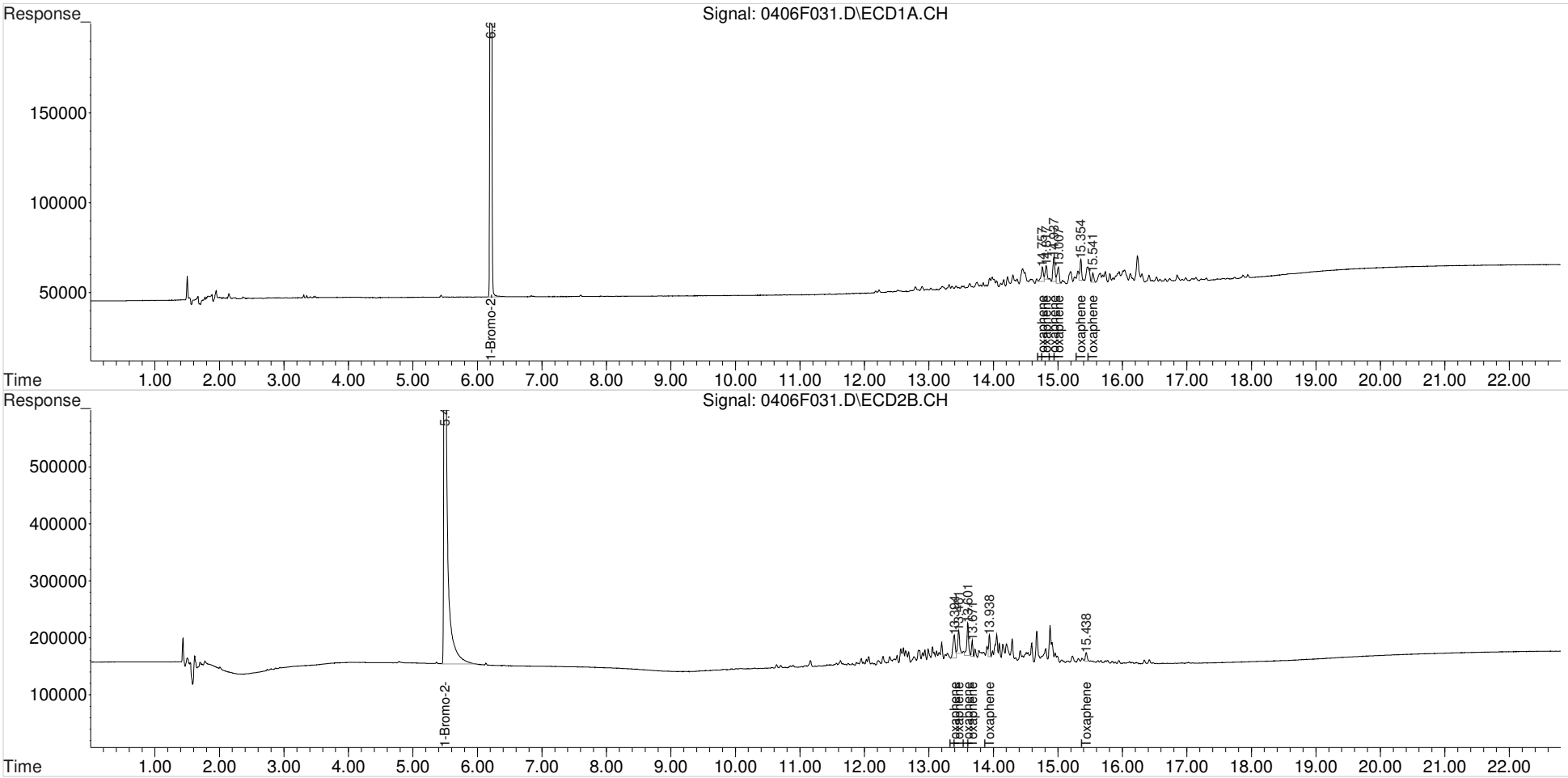
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:58:14 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

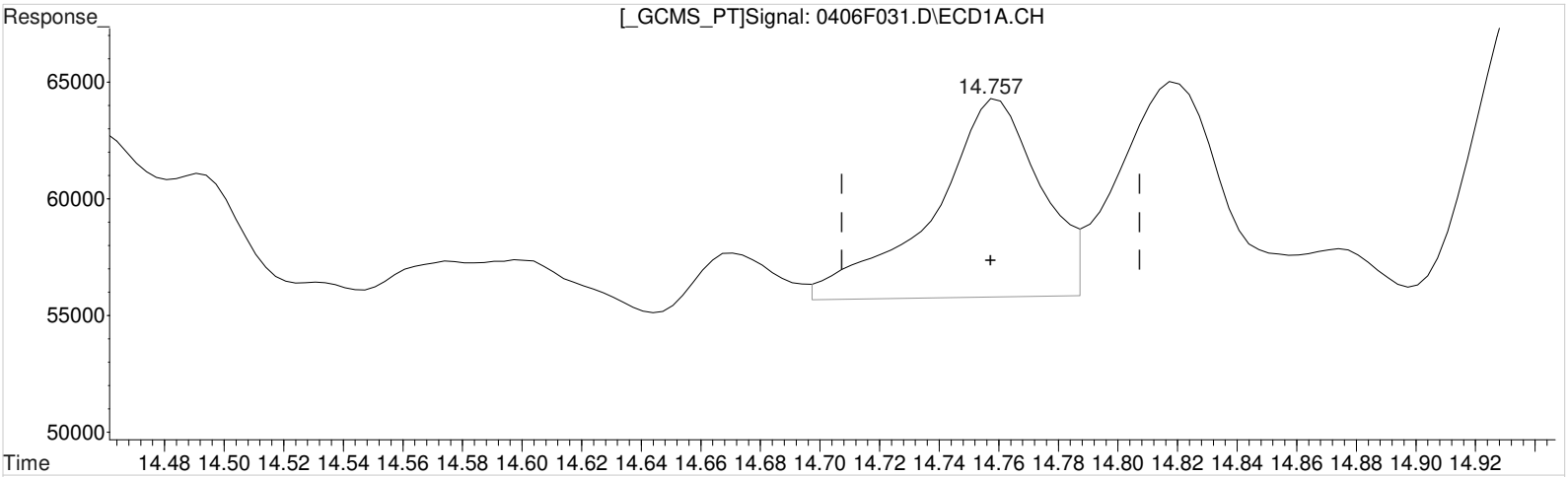


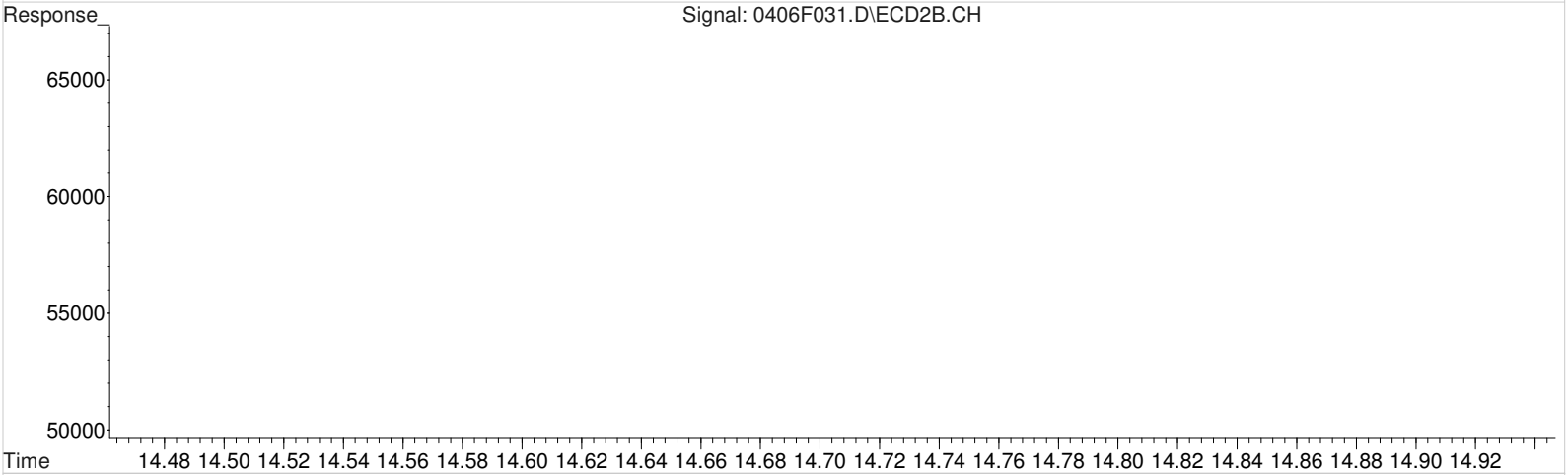
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.757min 222.689 ug/L

response 21641

Manual Integration:

Before

04/07/20

(30) Toxaphene #2

13.394min 137.321 ug/L

response 124378

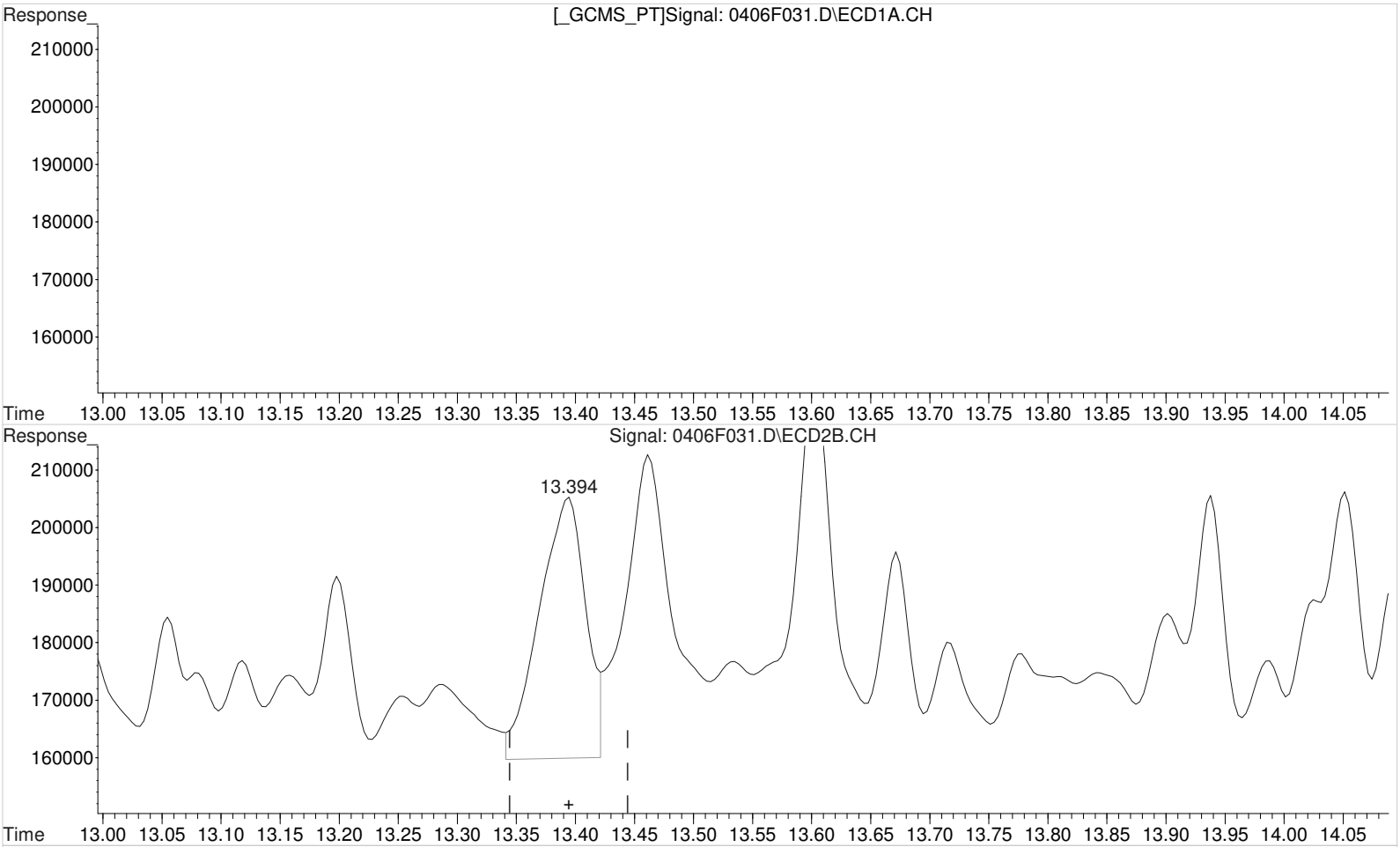
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.757min 193.959 ug/L m

response 18849

Manual Integration:

Before

04/07/20

(30) Toxaphene #2

13.394min 137.321 ug/L

response 124378

(+) = Expected Retention Time

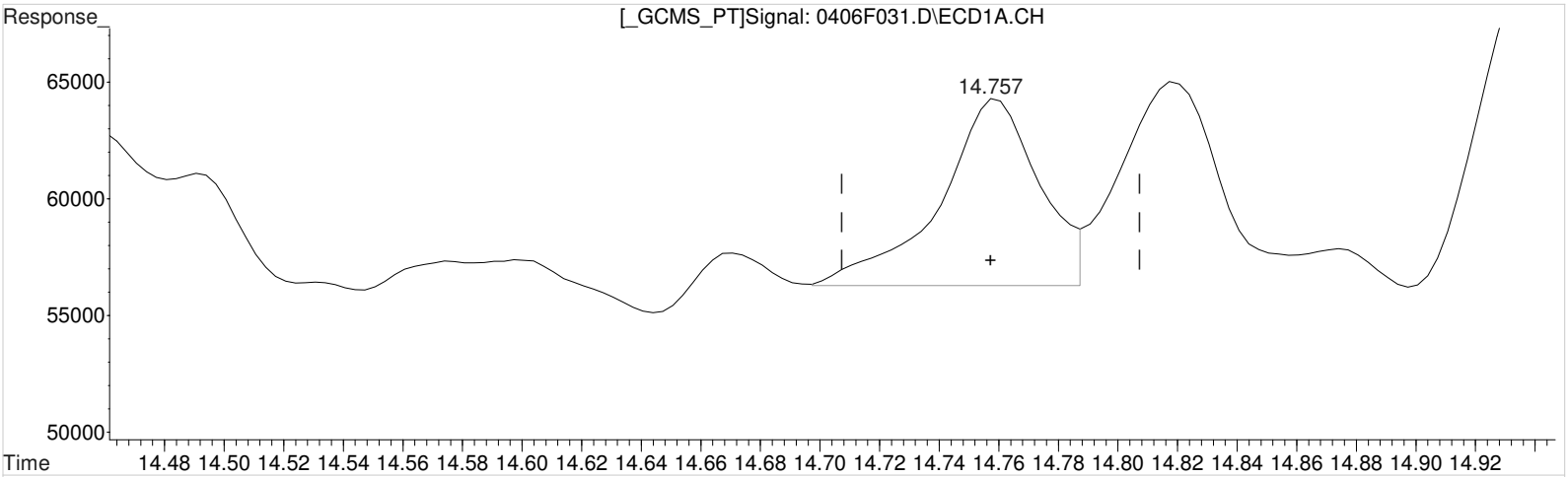
Quantitation Report (Qedit)

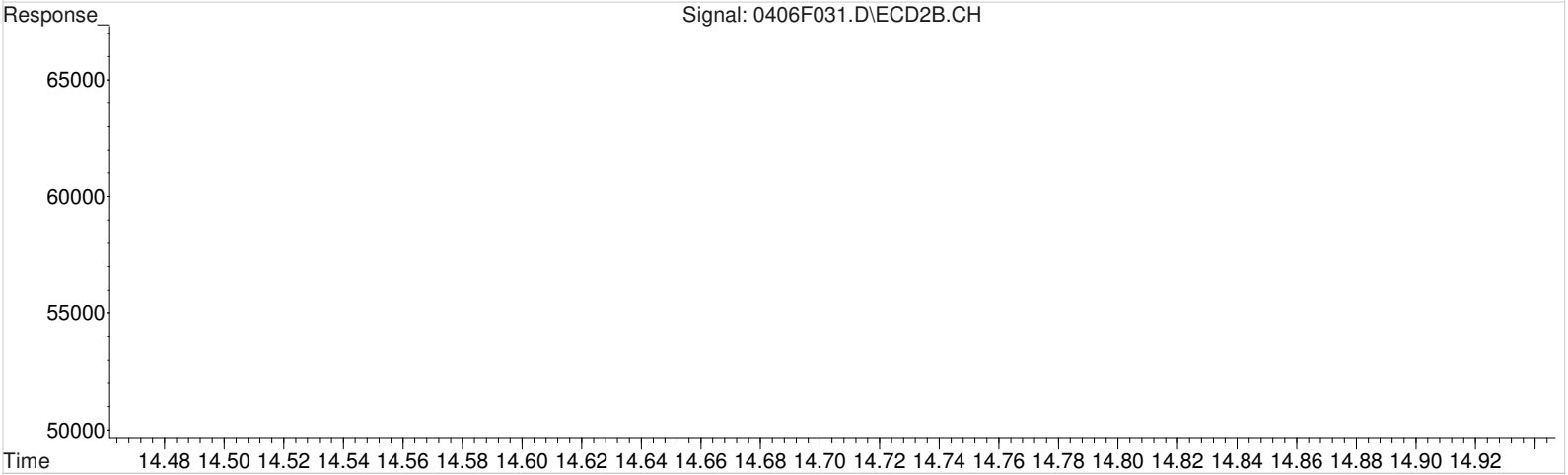
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.757min 193.959 ug/L m

response 18849

Manual Integration:

After

Baseline/Shoulder

04/07/20

(30) Toxaphene #2

13.394min 137.321 ug/L

response 124378

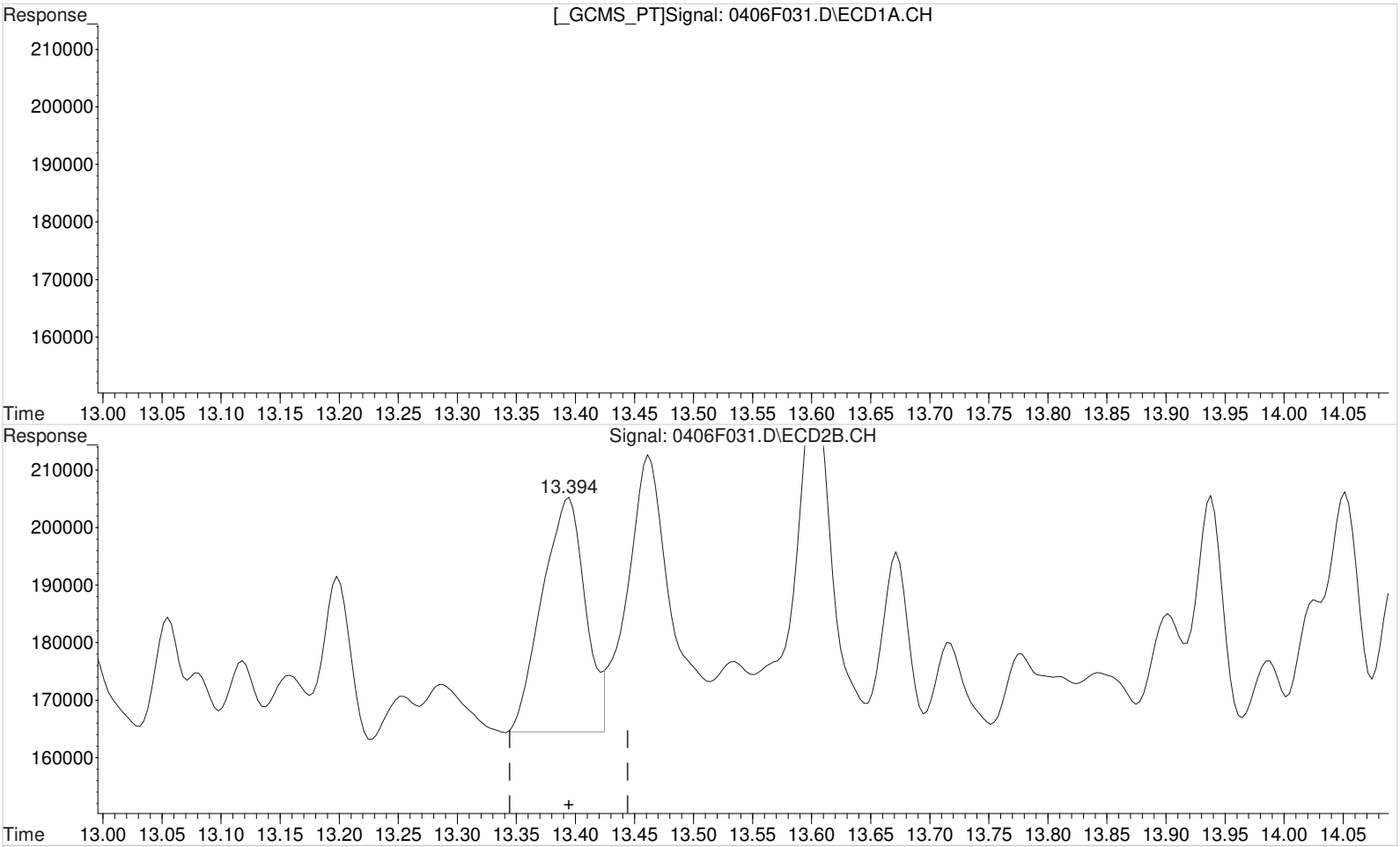
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.757min 193.959 ug/L m

response 18849

Manual Integration:

After

Baseline/Shoulder

04/07/20

(30) Toxaphene #2

13.394min 115.118 ug/L m

response 104268

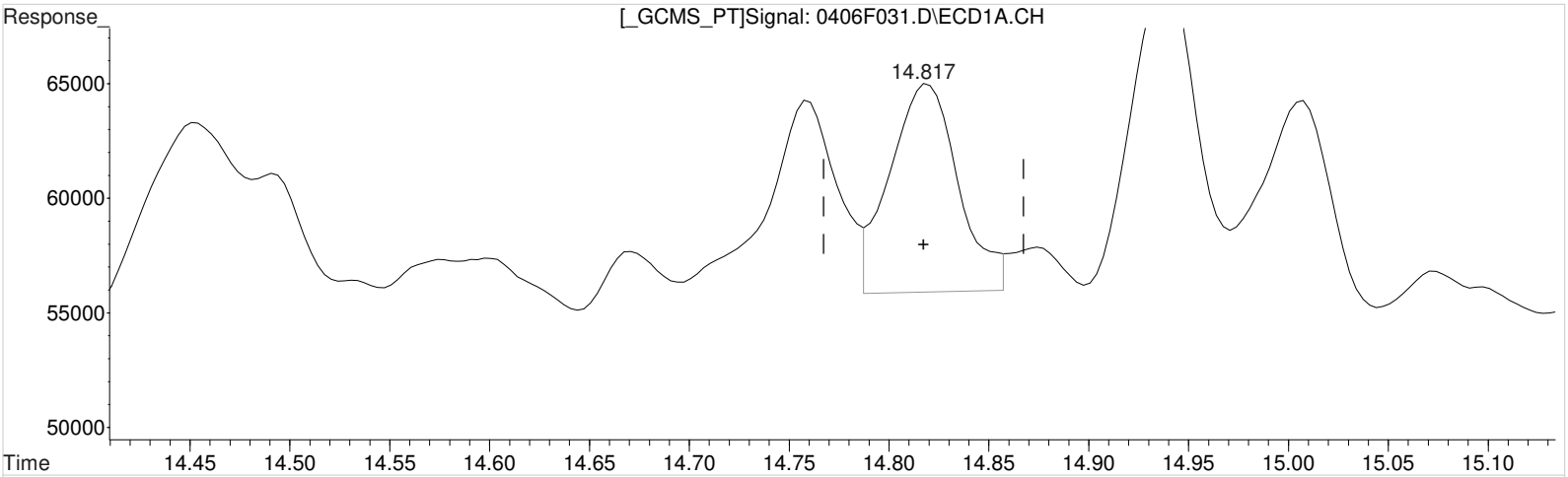
(+) = Expected Retention Time

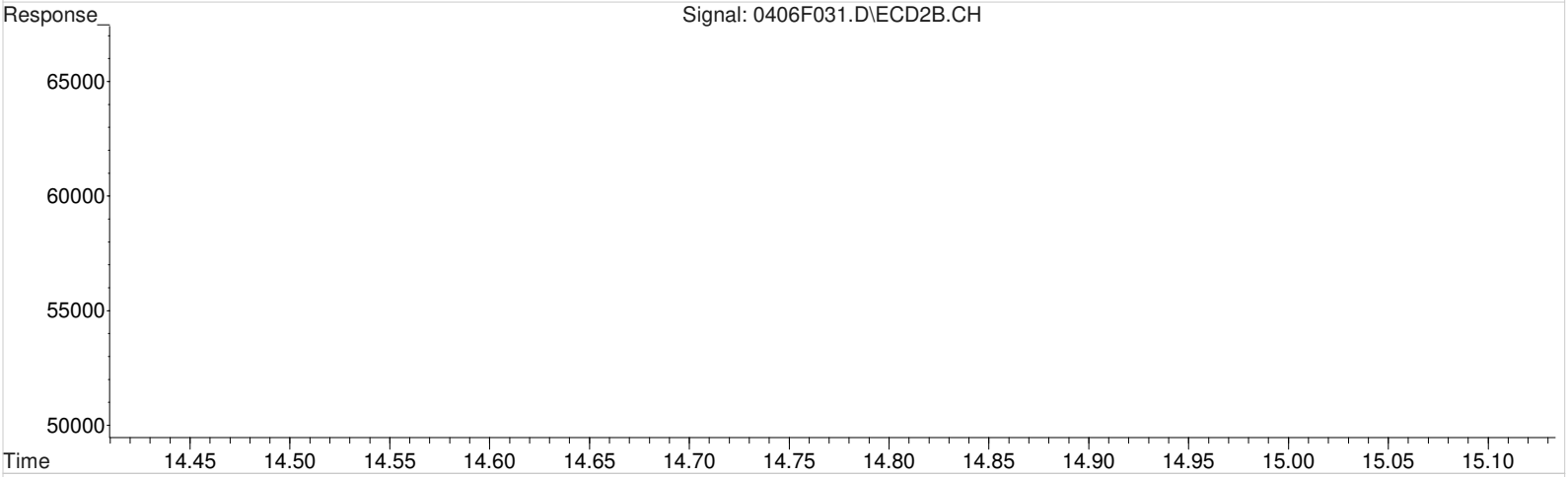
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.817min 192.677 ug/L

response 21568

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.461min 200.943 ug/L

response 151001

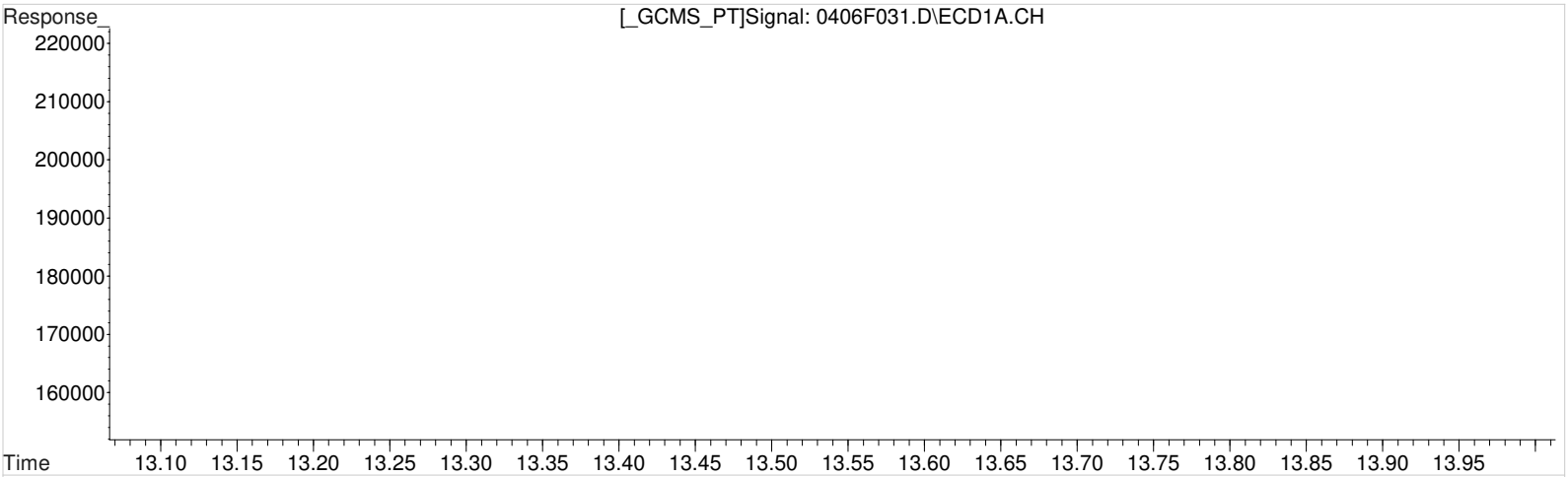
(+) = Expected Retention Time

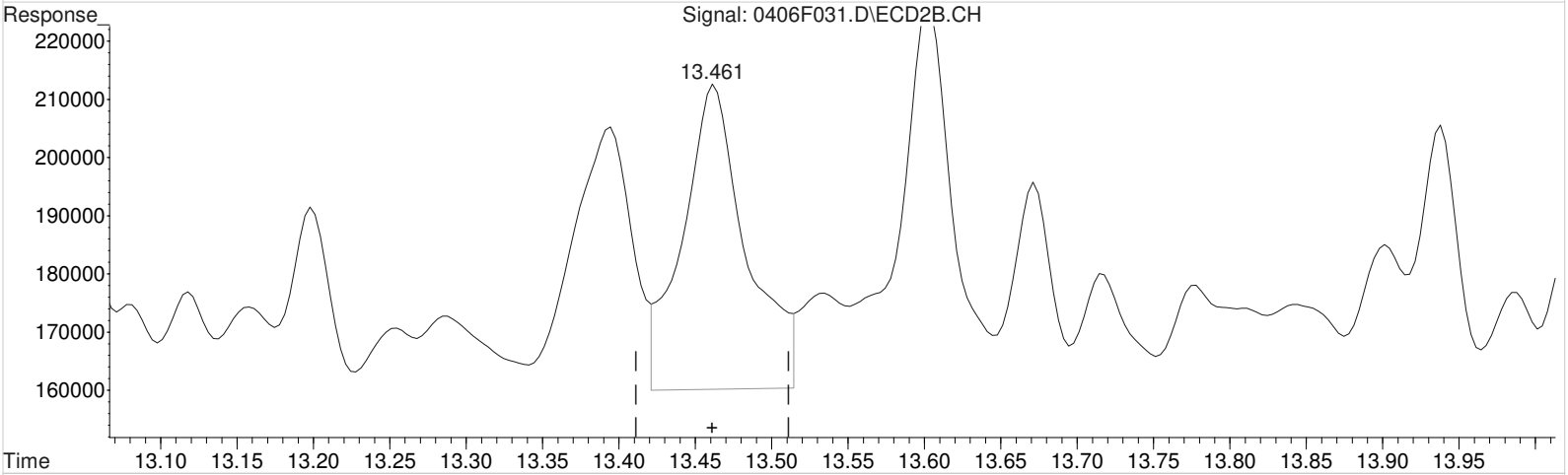
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.817min 130.286 ug/L m

response 14584

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.461min 200.943 ug/L

response 151001

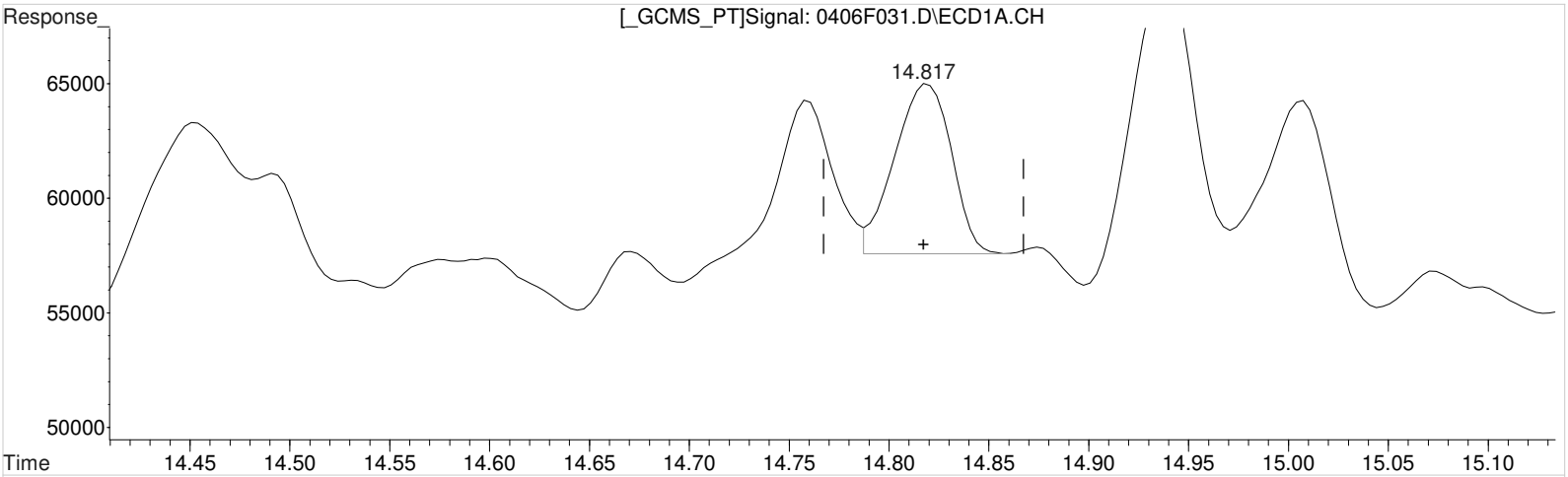
(+) = Expected Retention Time

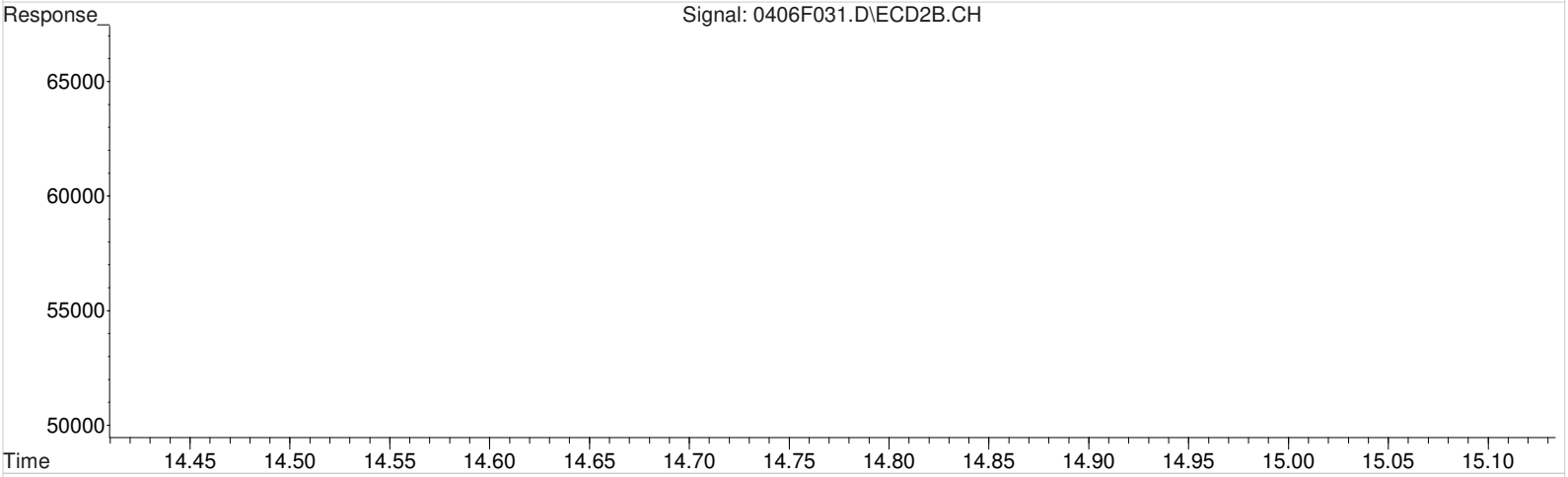
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.817min 130.286 ug/L m

response 14584

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.461min 200.943 ug/L

response 151001

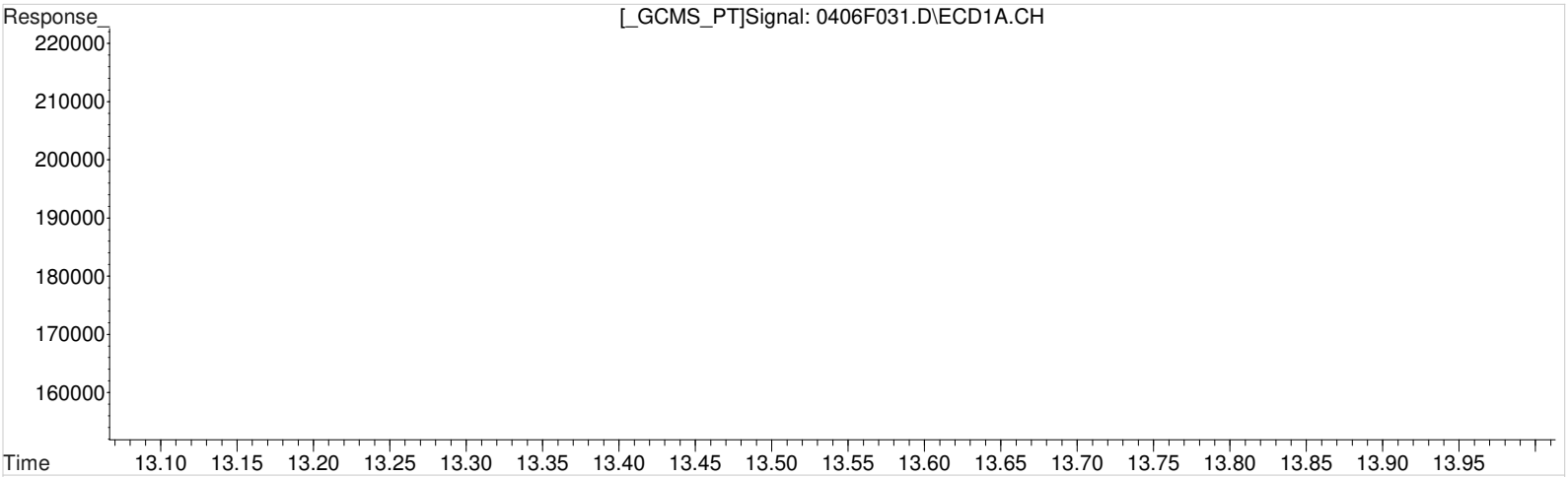
(+) = Expected Retention Time

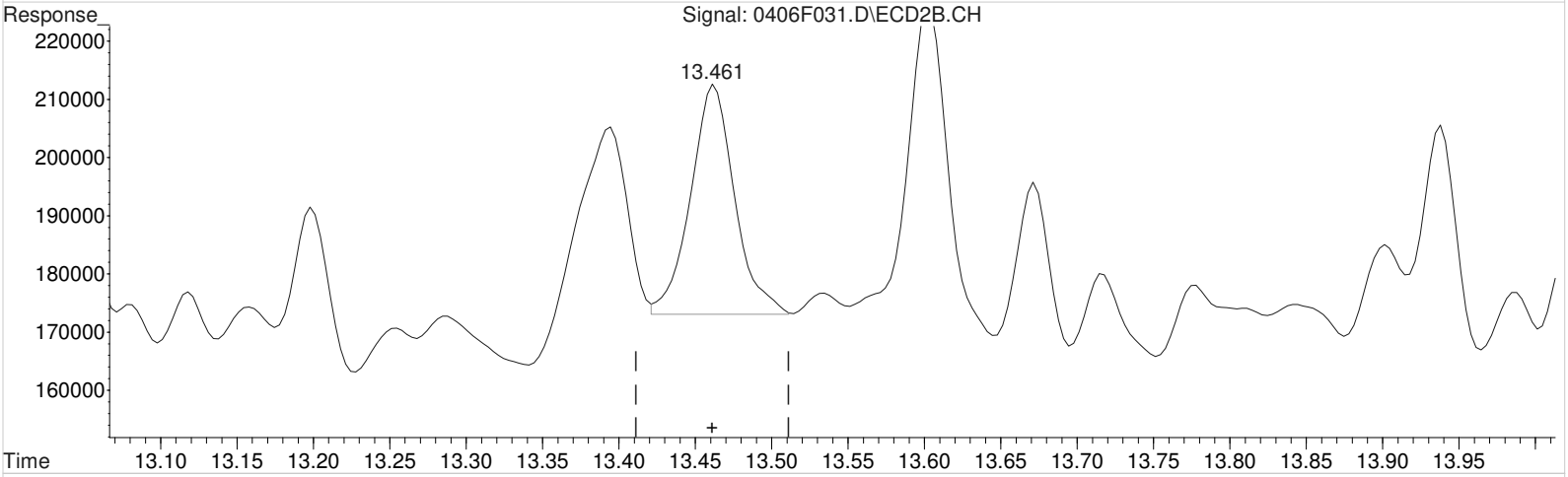
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.817min 130.286 ug/L m

response 14584

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.461min 104.963 ug/L m

response 78876

(+) = Expected Retention Time

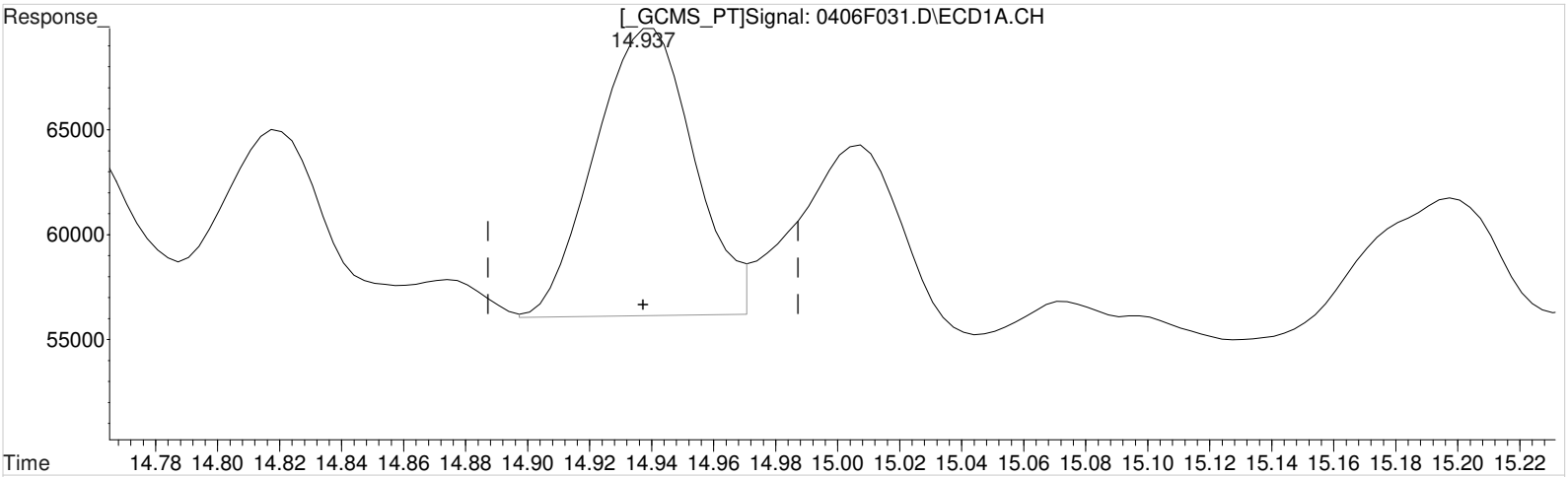
Quantitation Report (Qedit)

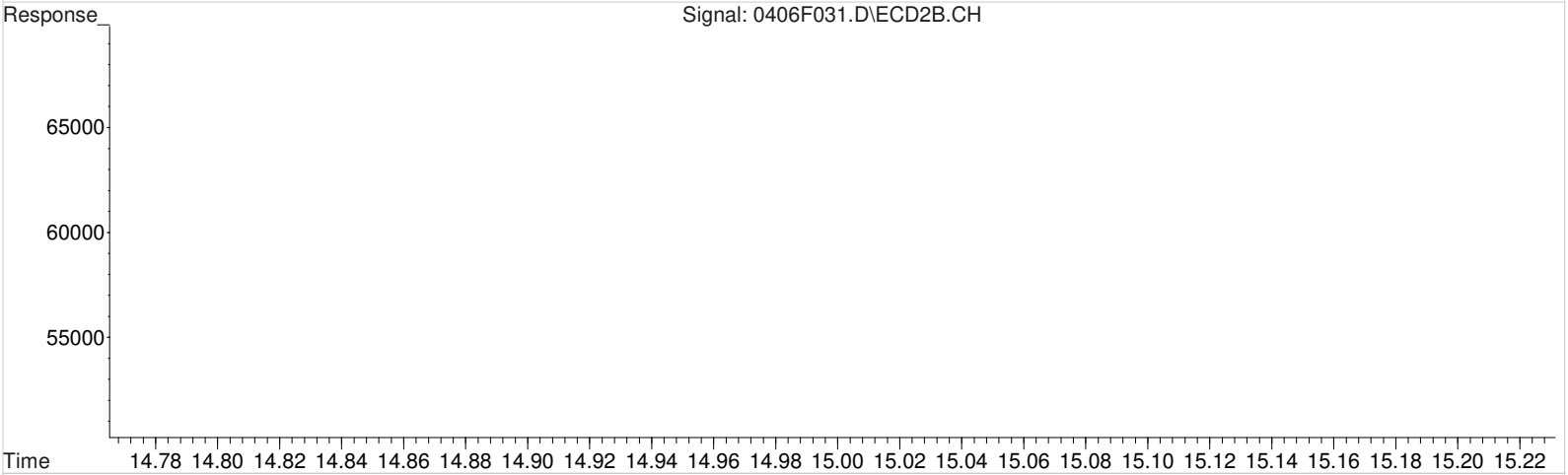
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.937min 127.293 ug/L

response 30632

Manual Integration:

Before

04/07/20

(32) Toxaphene {3} #2

13.601min 170.169 ug/L

response 159094

(+) = Expected Retention Time

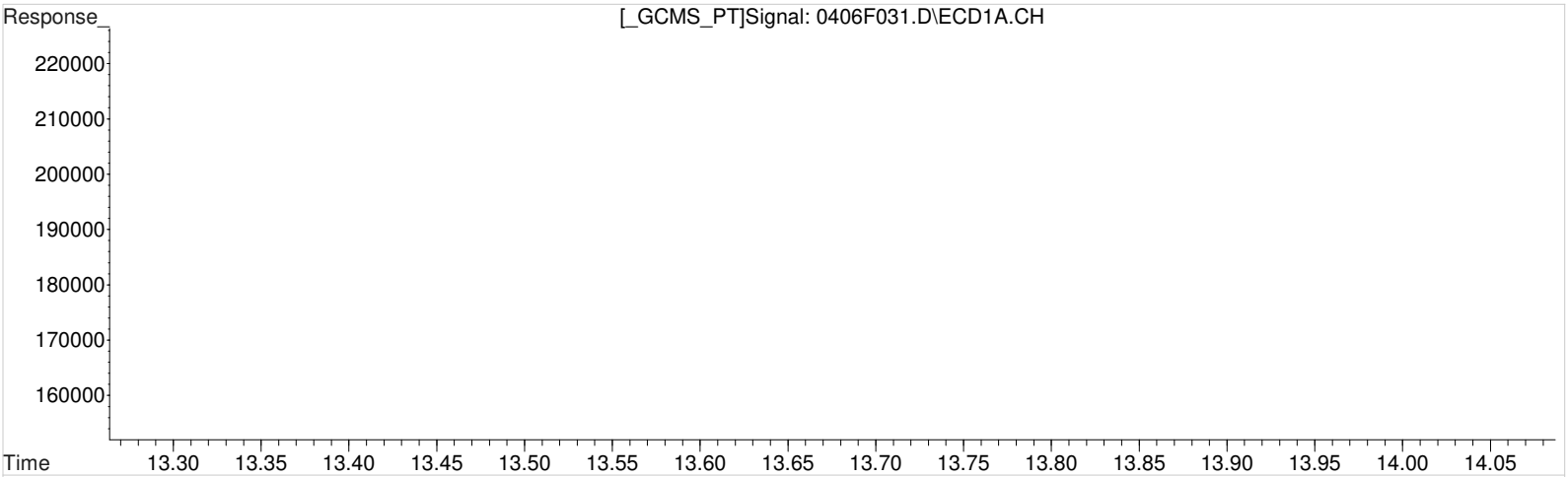
Quantitation Report (Qedit)

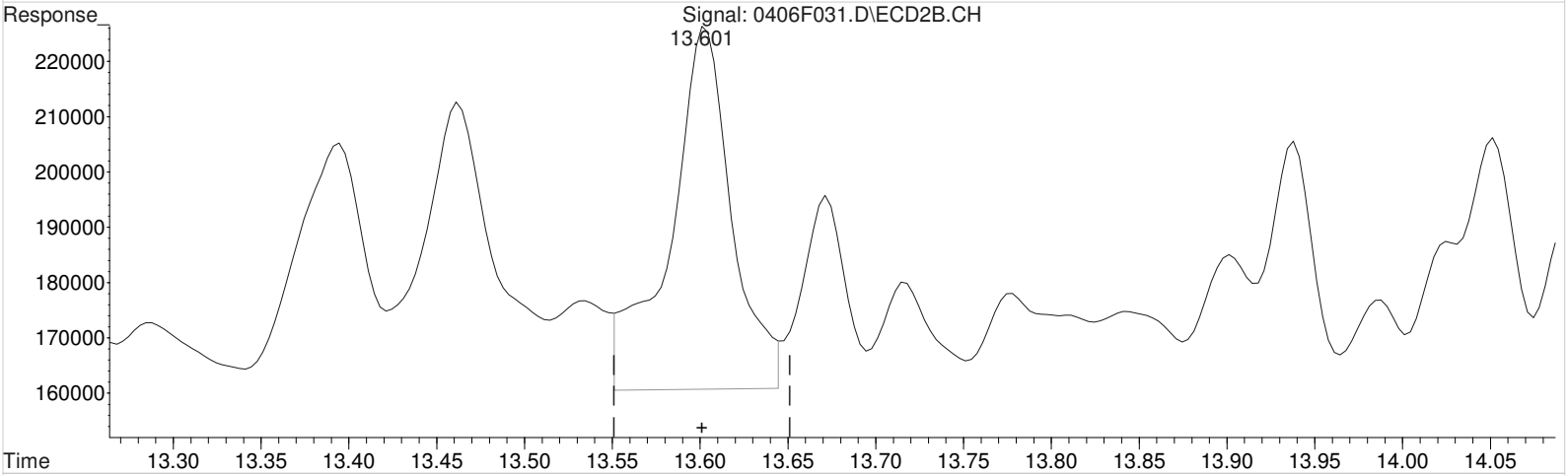
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.937min 125.930 ug/L m

response 30304

(32) Toxaphene {3} #2

13.601min 170.169 ug/L

response 159094

Manual Integration:

Before

04/07/20

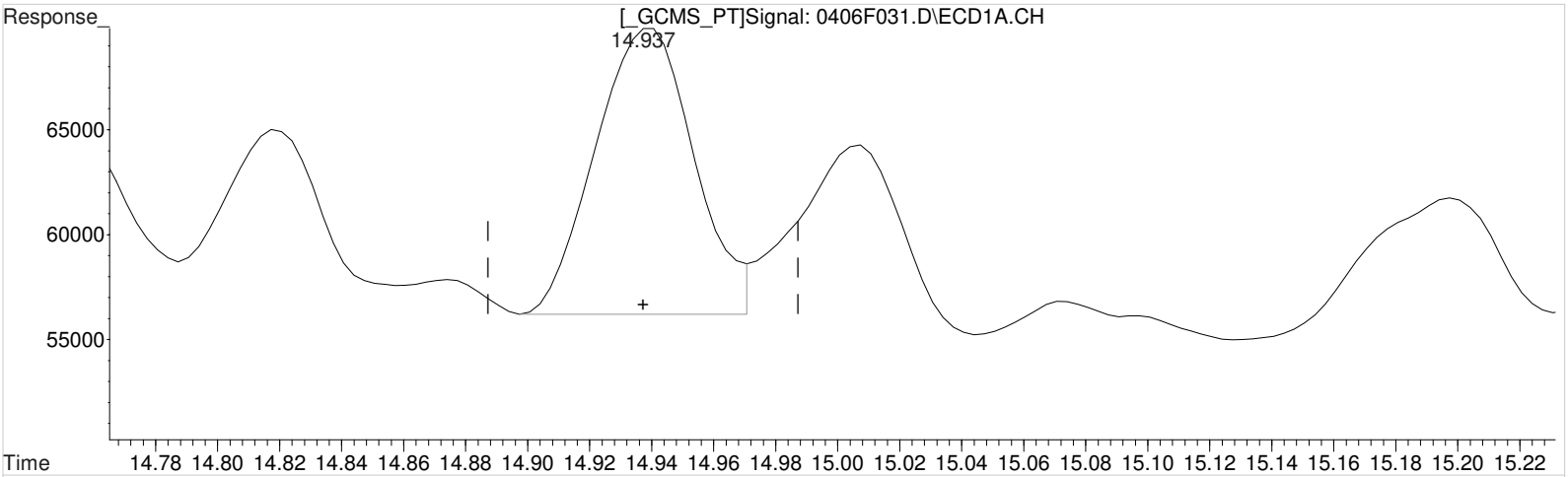
(+) = Expected Retention Time

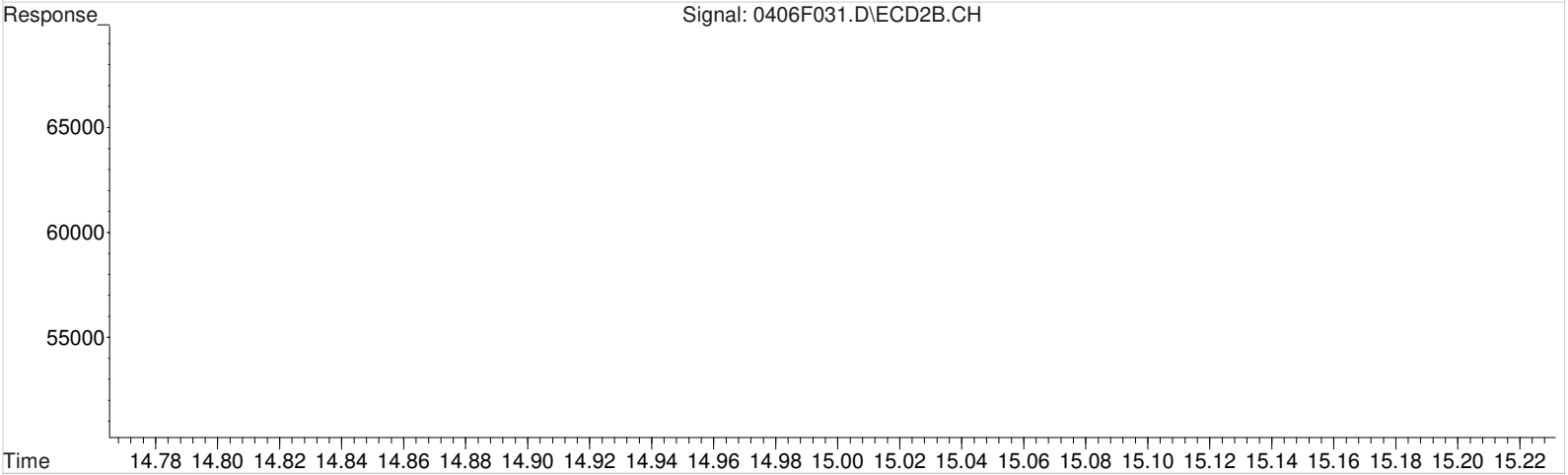
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.937min 125.930 ug/L m

response 30304

Manual Integration:

After

Baseline/Shoulder

04/07/20

(32) Toxaphene {3} #2

13.601min 170.169 ug/L

response 159094

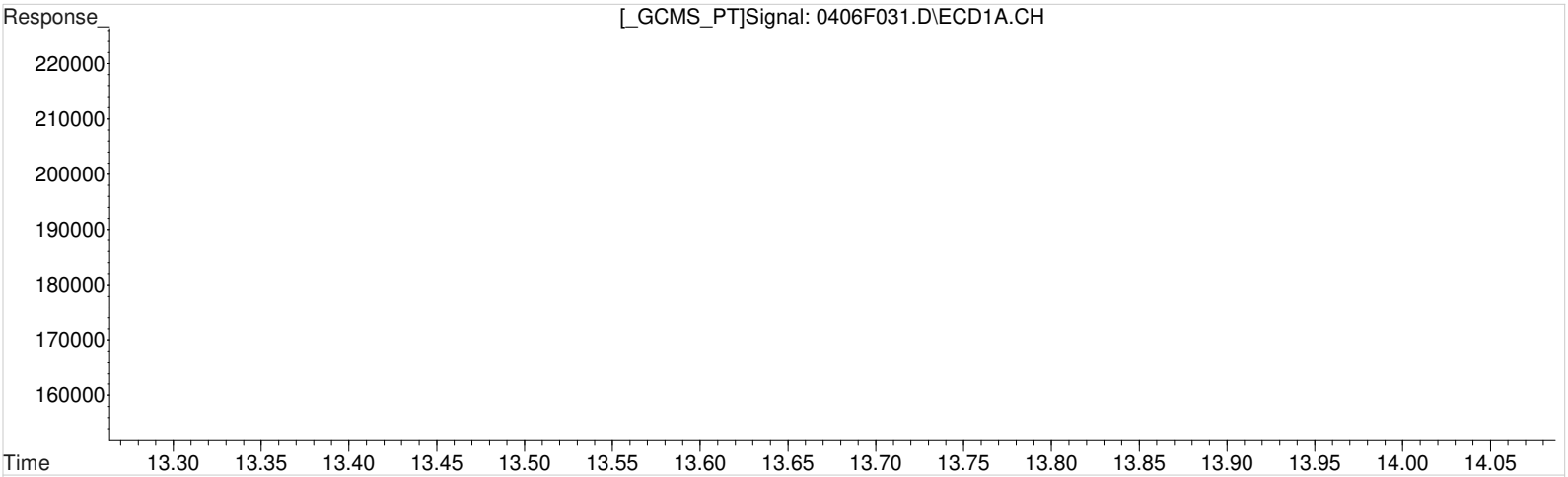
(+) = Expected Retention Time

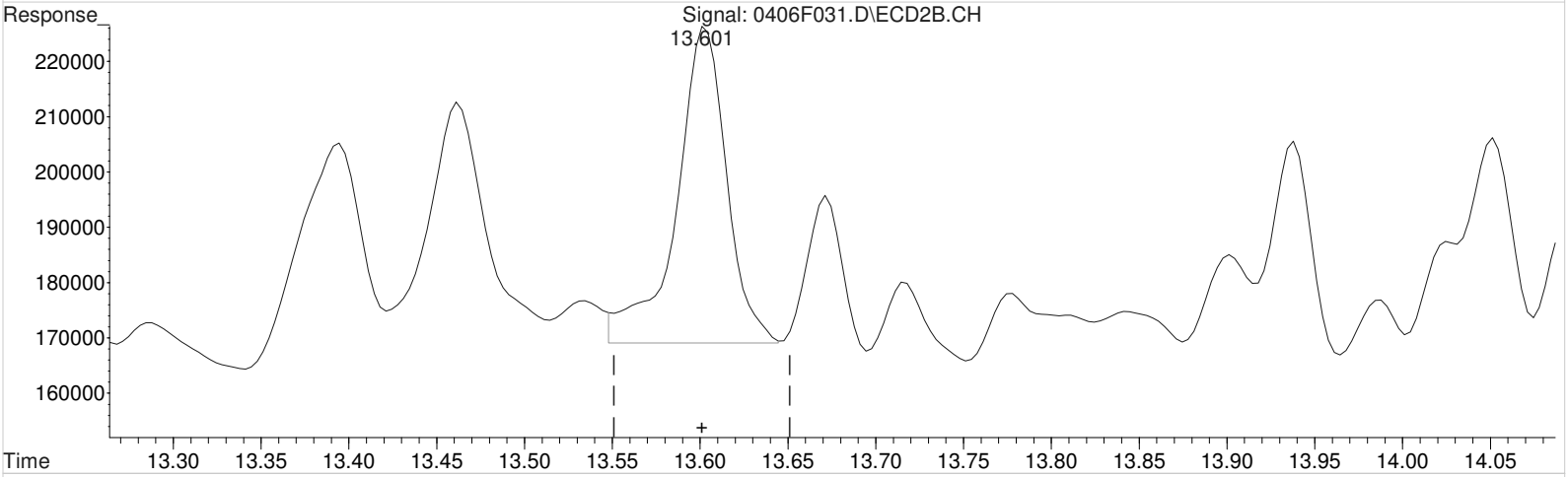
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.937min 125.930 ug/L m

response 30304

Manual Integration:

After

Baseline/Shoulder

04/07/20

(32) Toxaphene {3} #2

13.601min 120.951 ug/L m

response 113079

(+) = Expected Retention Time

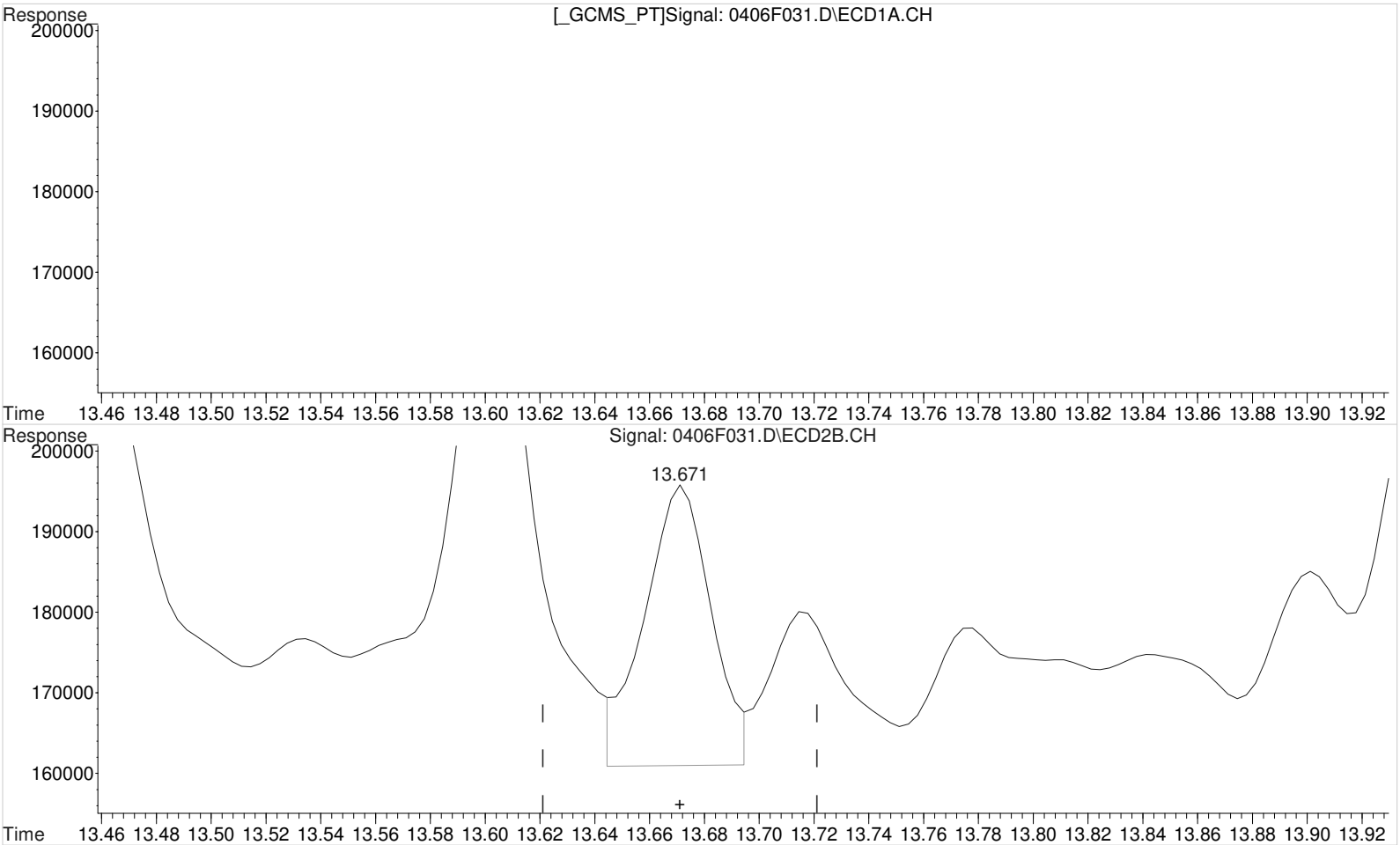
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

15.007min 131.589 ug/L

response 21416

Manual Integration:

Before

04/07/20

(33) Toxaphene {4} #2

13.671min 180.763 ug/L

response 58694

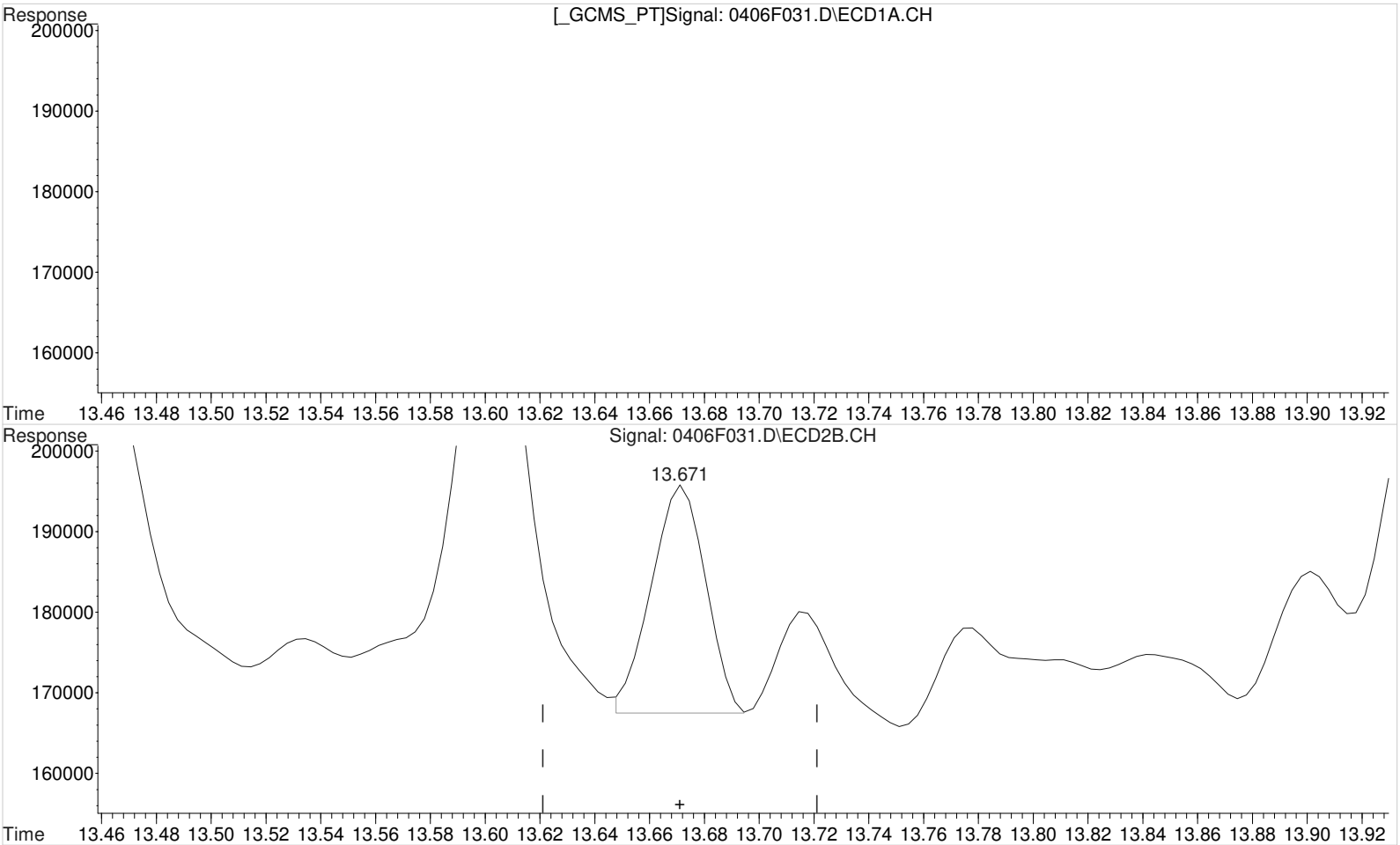
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

15.007min 131.589 ug/L

response 21416

Manual Integration:

After

Baseline/Shoulder

04/07/20

(33) Toxaphene {4} #2

13.671min 119.288 ug/L m

response 38733

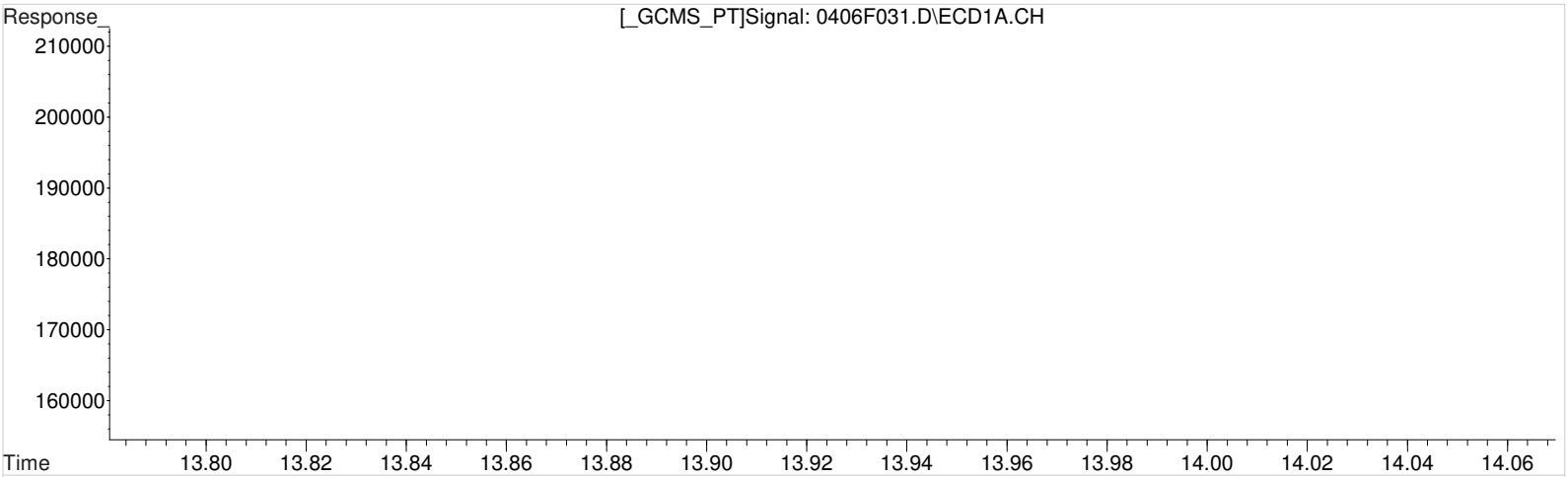
(+) = Expected Retention Time

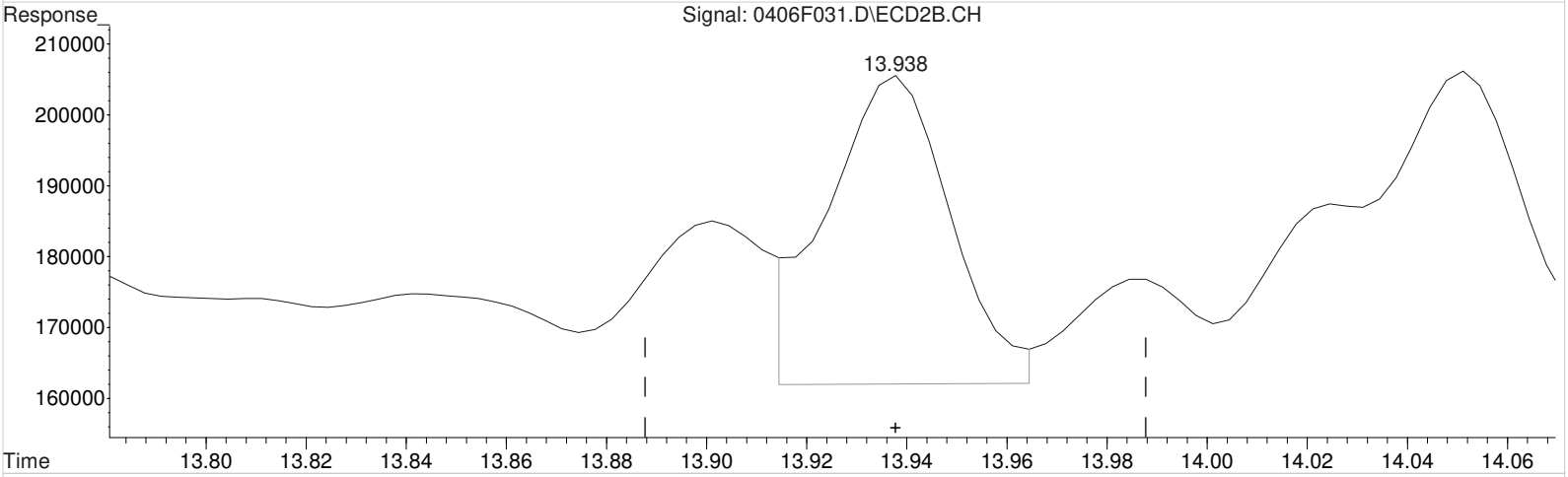
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.354min 129.033 ug/L

response 20450

Manual Integration:

Before

04/07/20

(34) Toxaphene {5} #2

13.938min 142.785 ug/L

response 73153

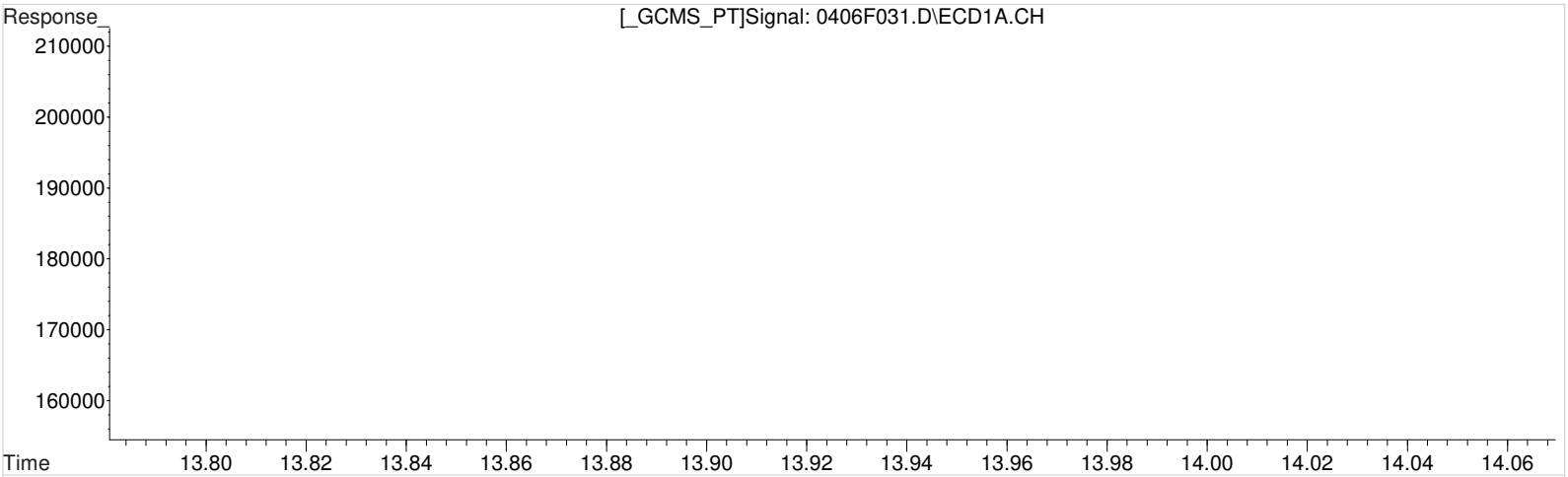
(+) = Expected Retention Time

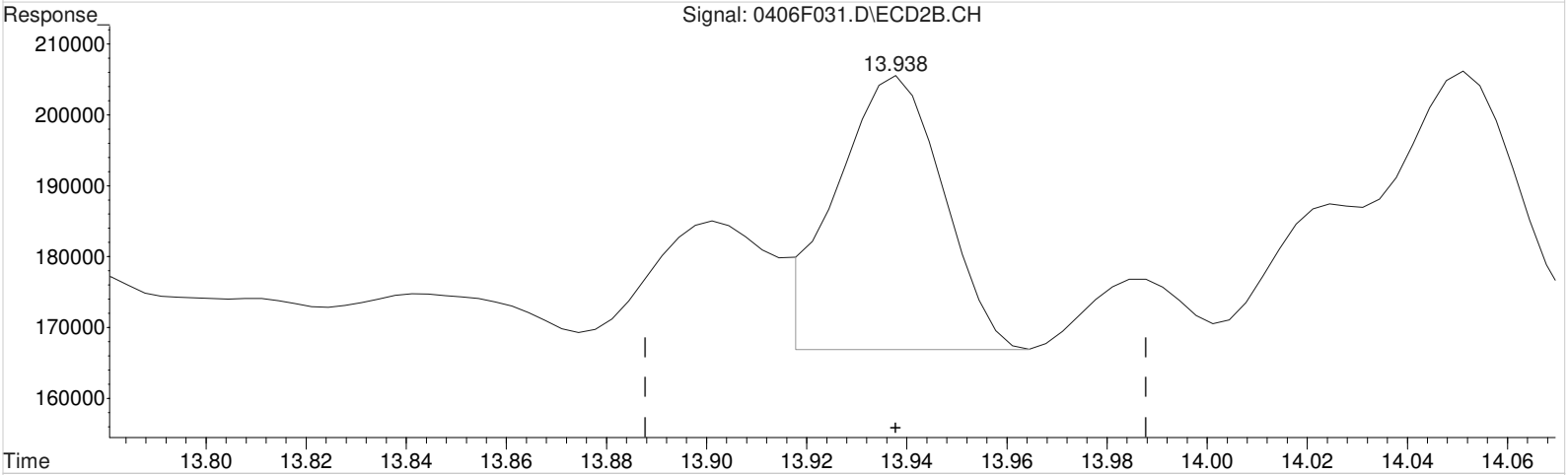
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F031.D Vial: 29
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 1:45 am Operator: LM
Sample : TOX 100PPB GCPS8-74H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:49 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.354min 129.033 ug/L

response 20450

Manual Integration:

After

Baseline/Shoulder

04/07/20

(34) Toxaphene {5} #2

13.938min 109.131 ug/L m

response 55911

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
29)	1-Bromo-2...	6.206	5.490	1000472	4709740	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
30)	Toxaphene	14.759	13.393	35529	229661	376.352m	257.430m#
31)	Toxaphene...	14.816	13.463	32273	183848	296.790m	248.387m
32)	Toxaphene...	14.939	13.603	63449	231911	271.421	251.841m
33)	Toxaphene...	15.006	13.670	47811	85804	302.413	268.288m
34)	Toxaphene...	15.352	13.936	43821	127792	284.629	253.240m
35)	Toxaphene...	15.543	15.436	19554	71089	315.844	301.593
	SemiQuant Compounds - Not Calibrated on this Instrument						

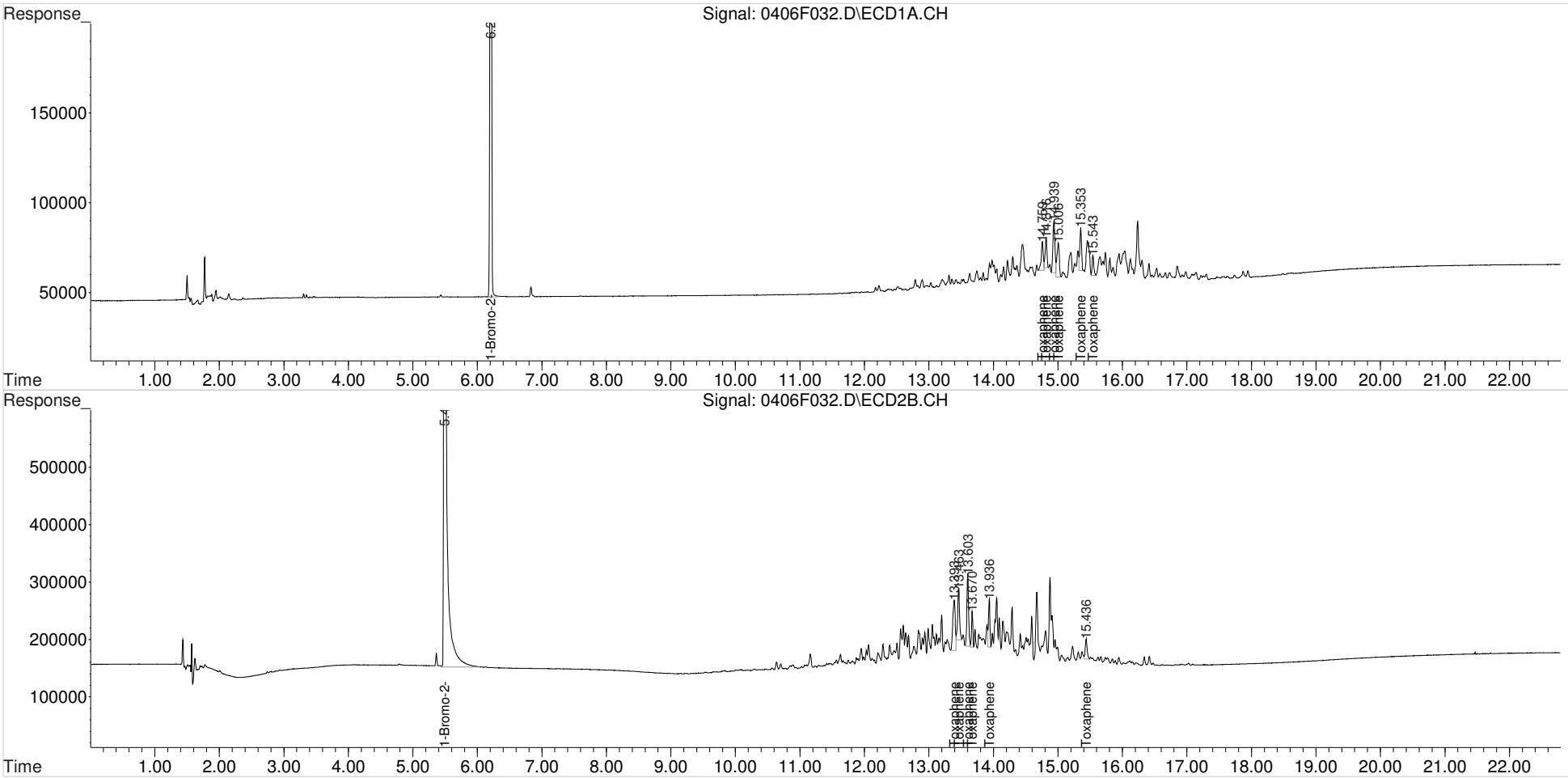
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:42:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

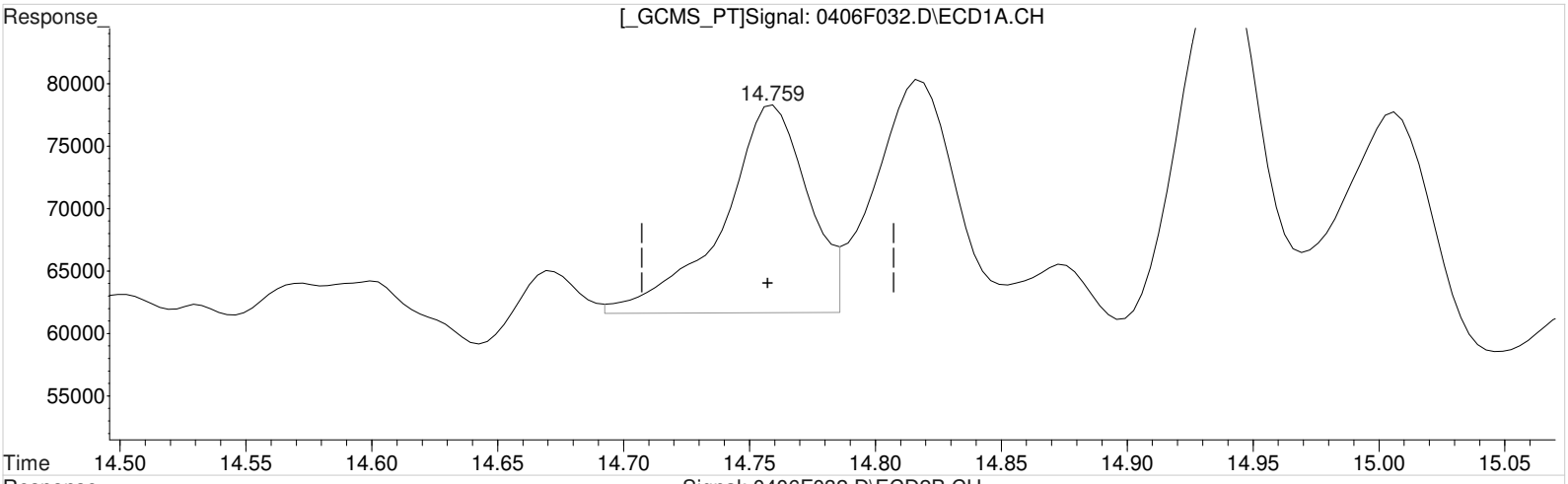


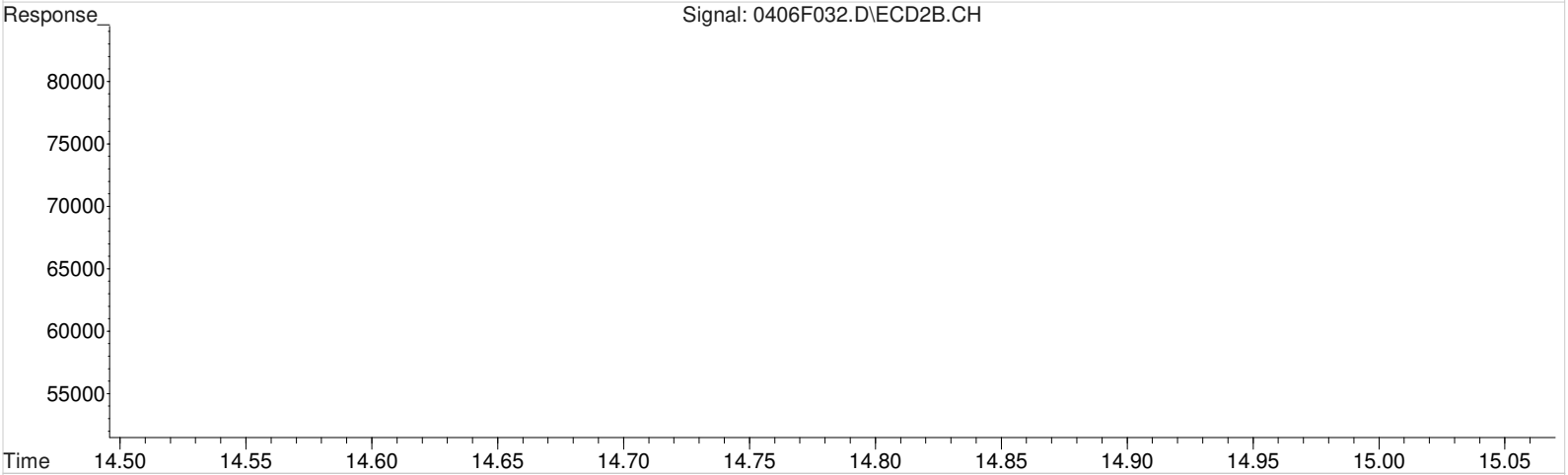
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.759min 421.224 ug/L

response 39765

Manual Integration:

Before

04/07/20

(30) Toxaphene #2

13.393min 389.379 ug/L

response 347377

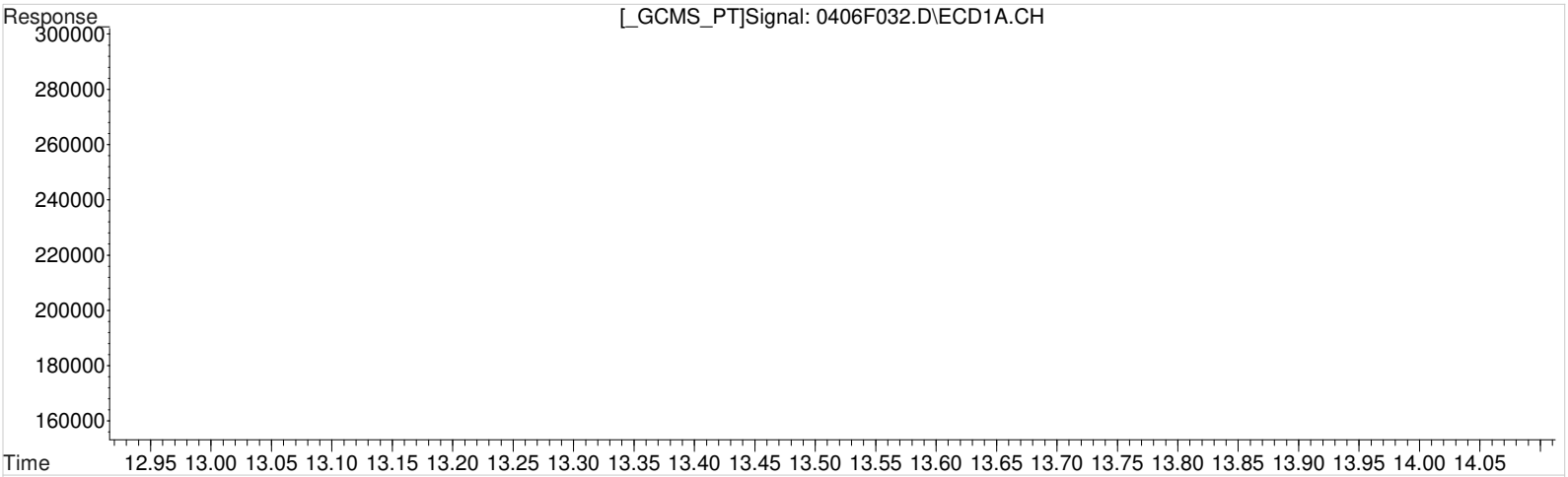
(+) = Expected Retention Time

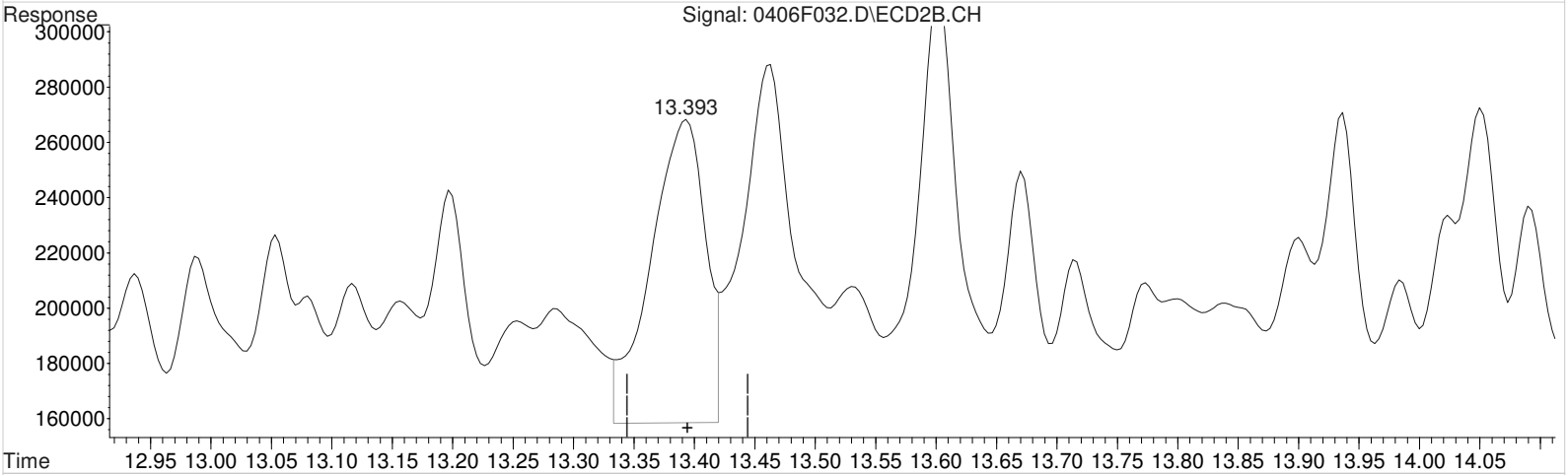
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.759min 376.352 ug/L m

response 35529

Manual Integration:

Before

04/07/20

(30) Toxaphene #2

13.393min 389.379 ug/L

response 347377

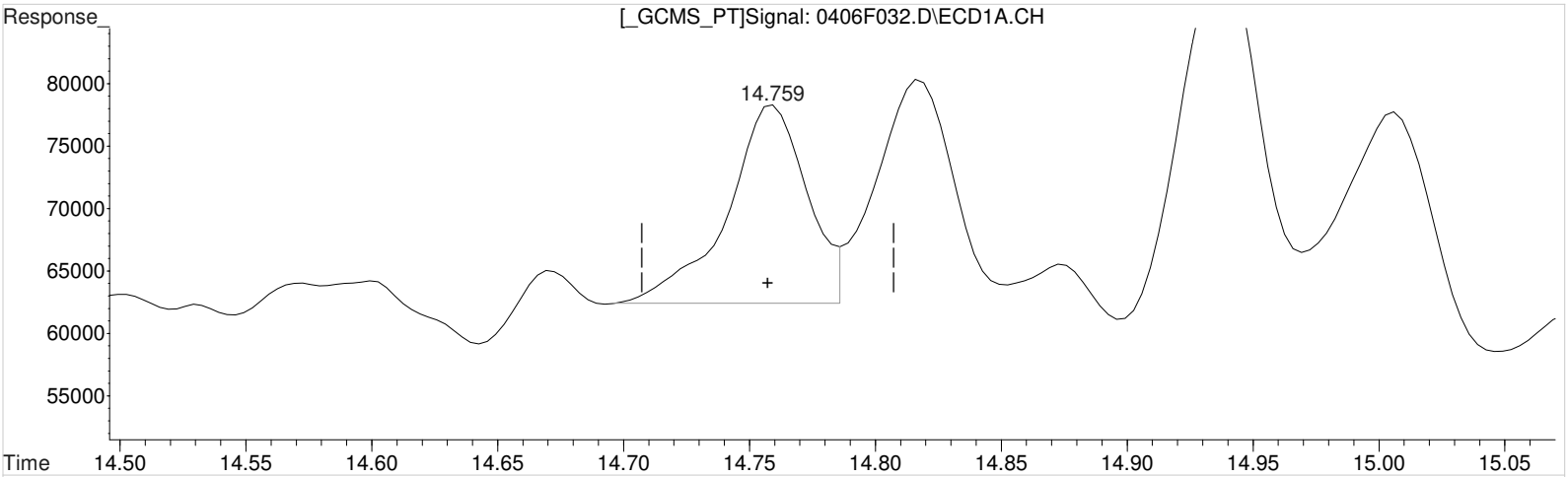
(+) = Expected Retention Time

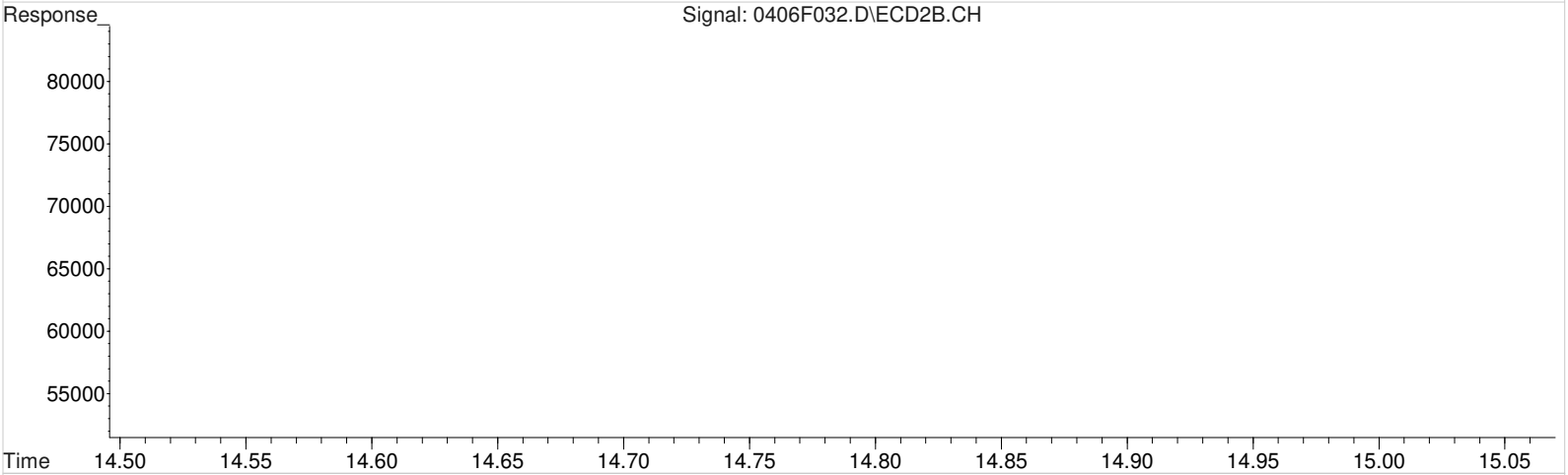
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.759min 376.352 ug/L m

response 35529

Manual Integration:

After

Baseline/Shoulder

04/07/20

(30) Toxaphene #2

13.393min 389.379 ug/L

response 347377

(+) = Expected Retention Time

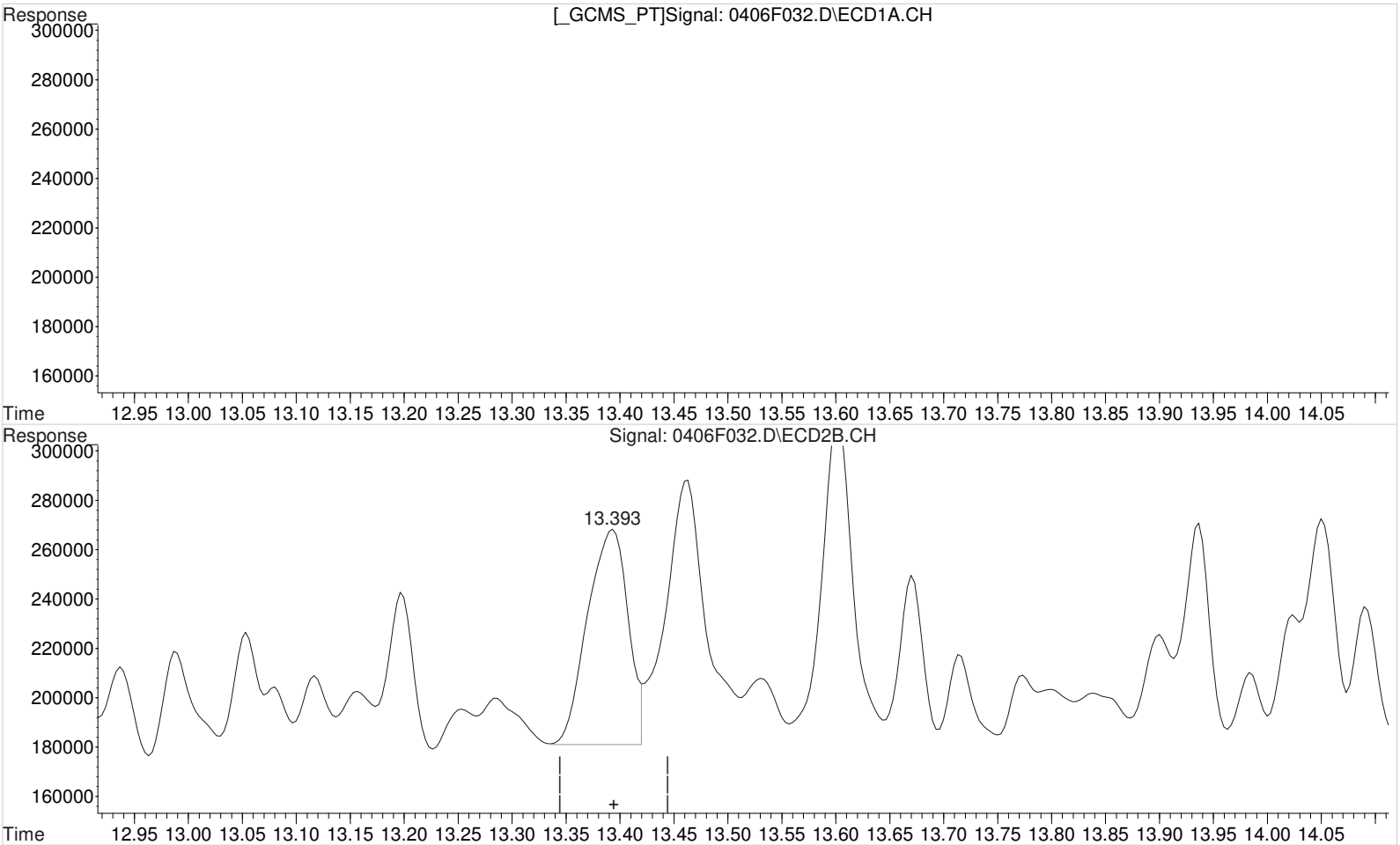
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.759min 376.352 ug/L m

response 35529

Manual Integration:

After

Baseline/Shoulder

04/07/20

(30) Toxaphene #2

13.393min 257.430 ug/L m

response 229661

(+) = Expected Retention Time

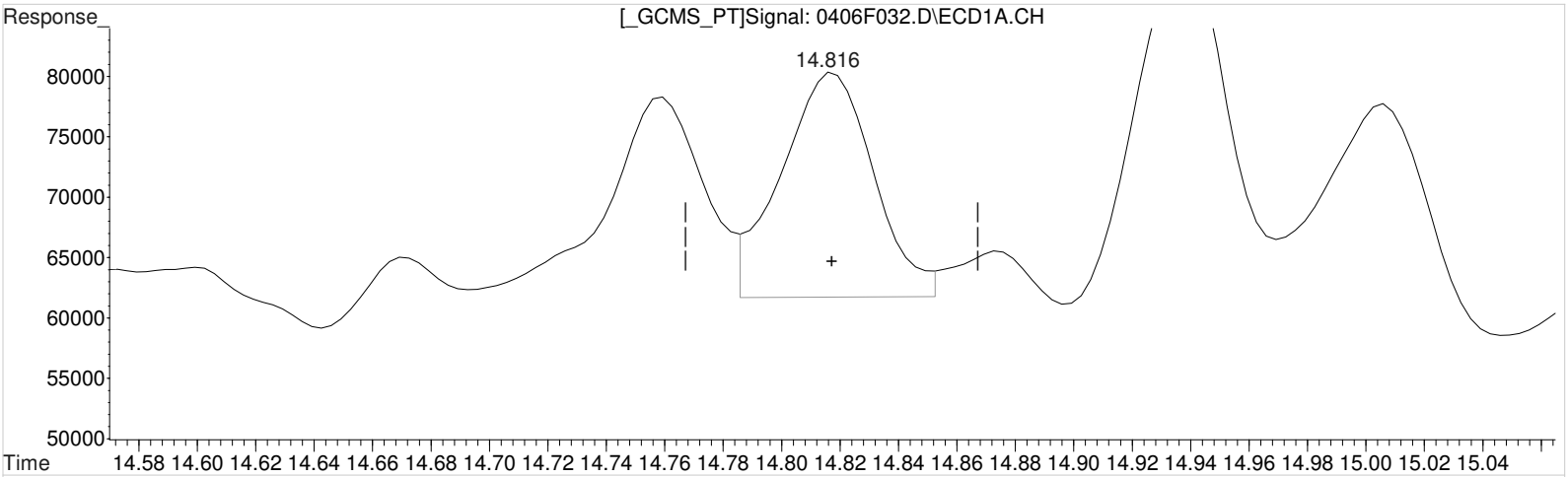
Quantitation Report (Qedit)

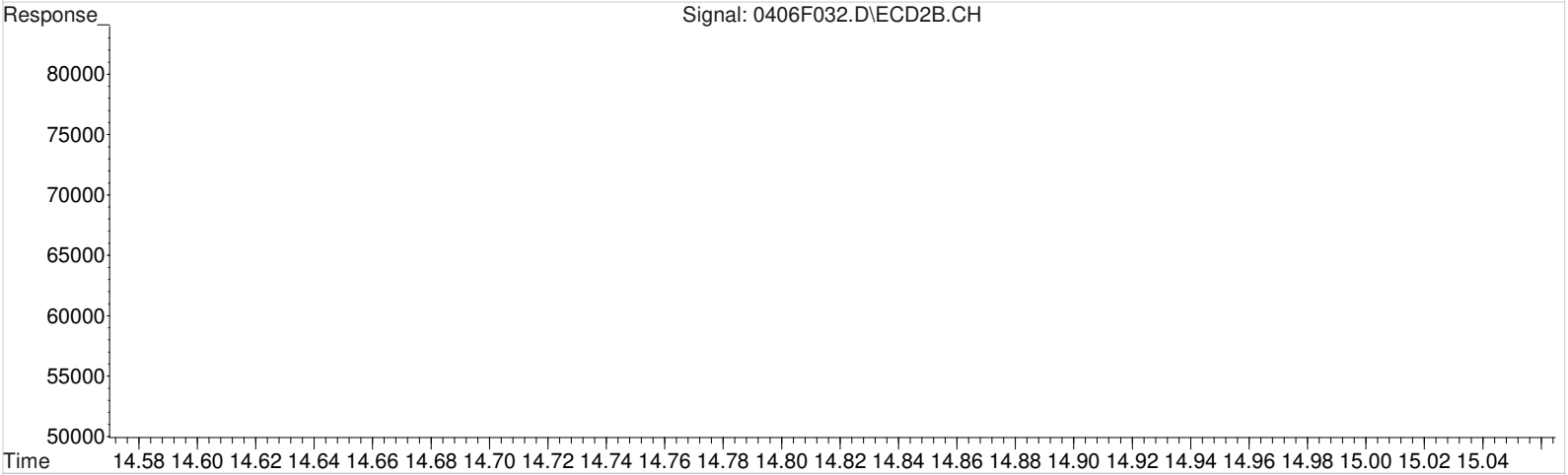
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.816min 371.720 ug/L

response 40421

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.463min 554.529 ug/L

response 410444

(+) = Expected Retention Time

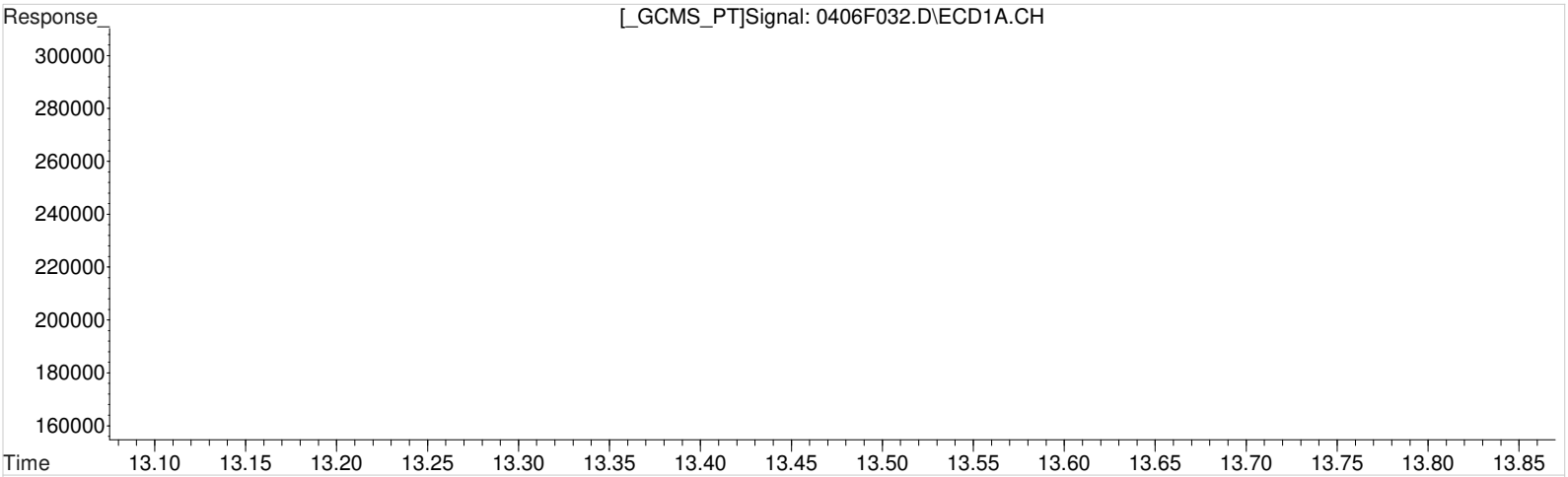
Quantitation Report (Qedit)

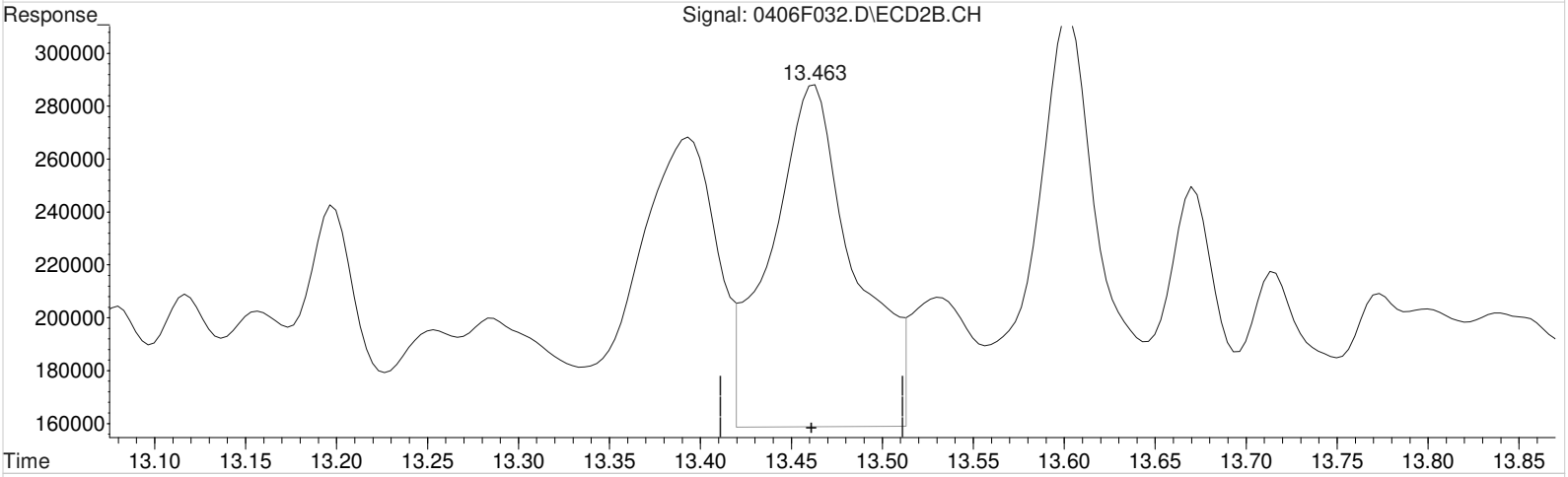
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.816min 296.790 ug/L m

response 32273

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.463min 554.529 ug/L

response 410444

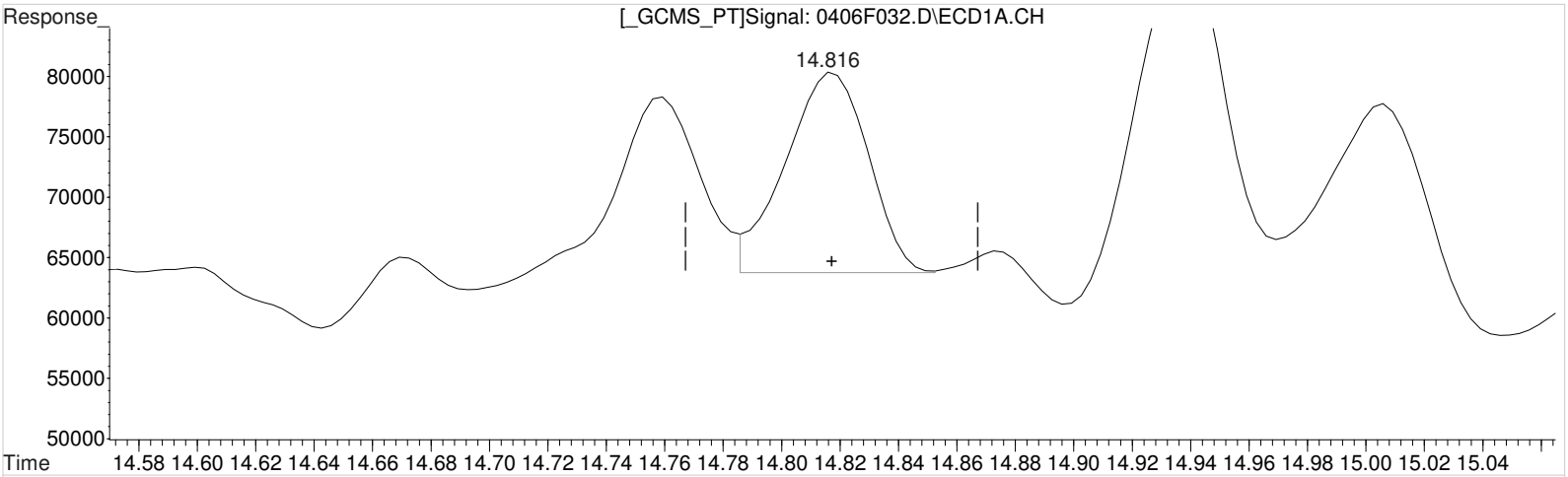
(+) = Expected Retention Time

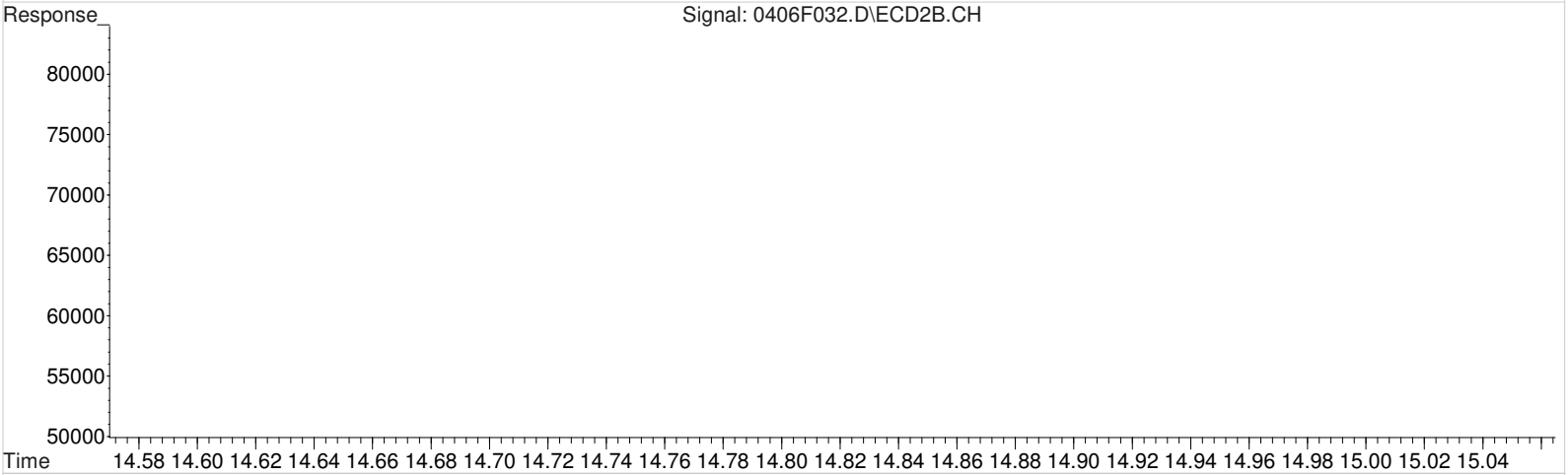
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.816min 296.790 ug/L m

response 32273

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.463min 554.529 ug/L

response 410444

(+) = Expected Retention Time

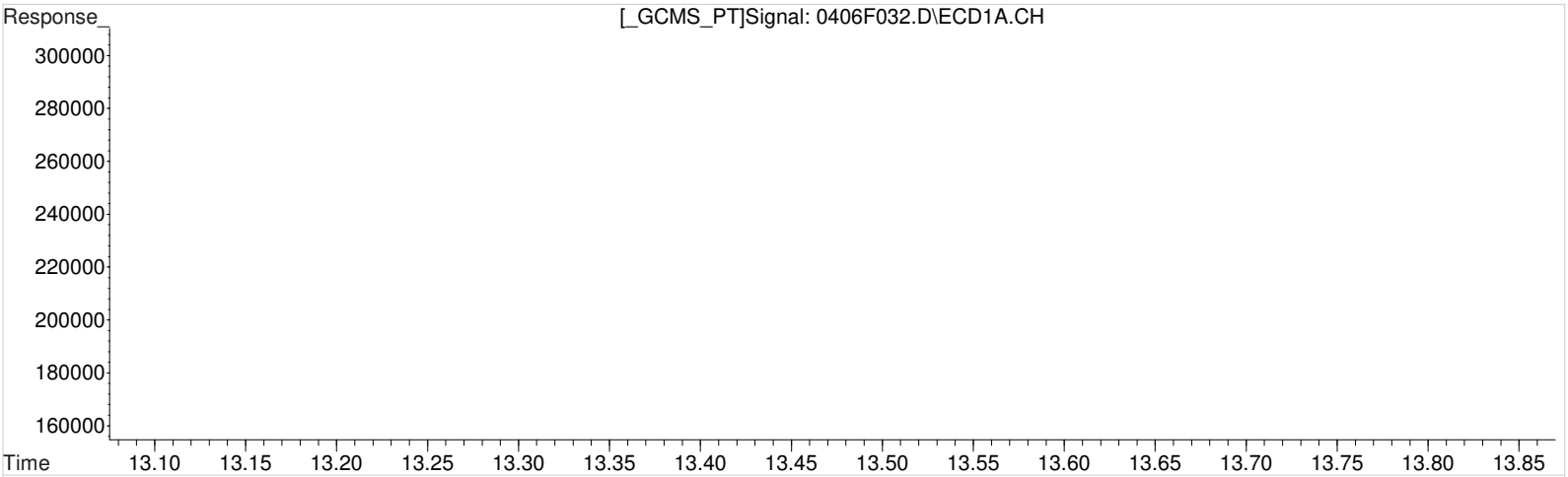
Quantitation Report (Qedit)

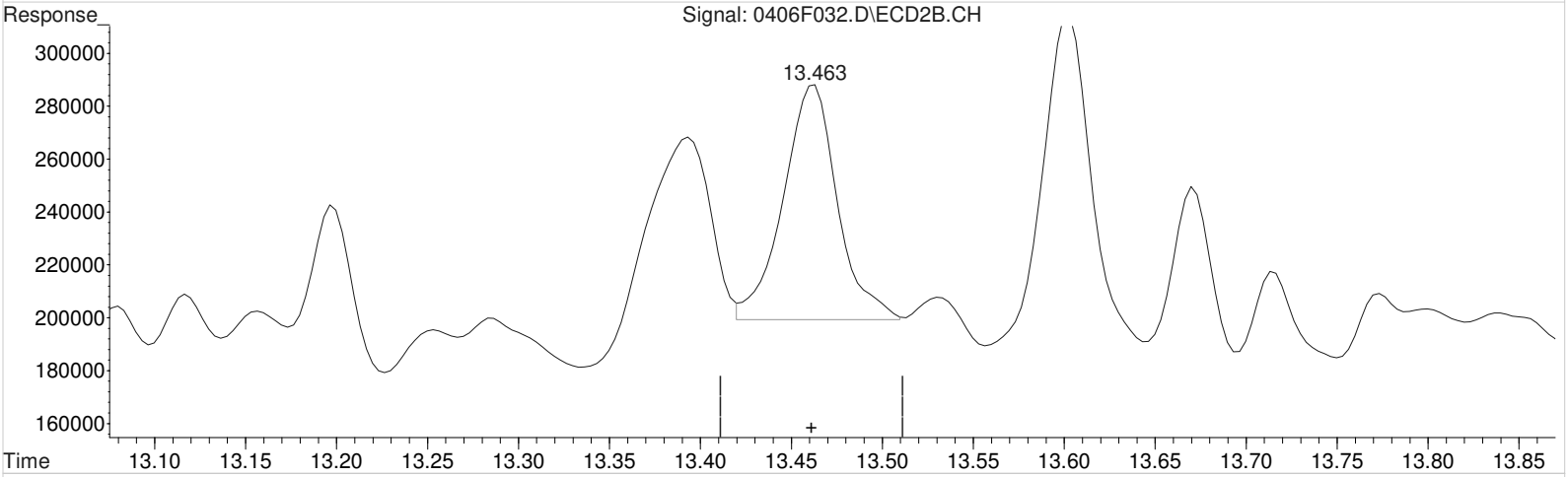
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.816min 296.790 ug/L m

response 32273

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.463min 248.387 ug/L m

response 183848

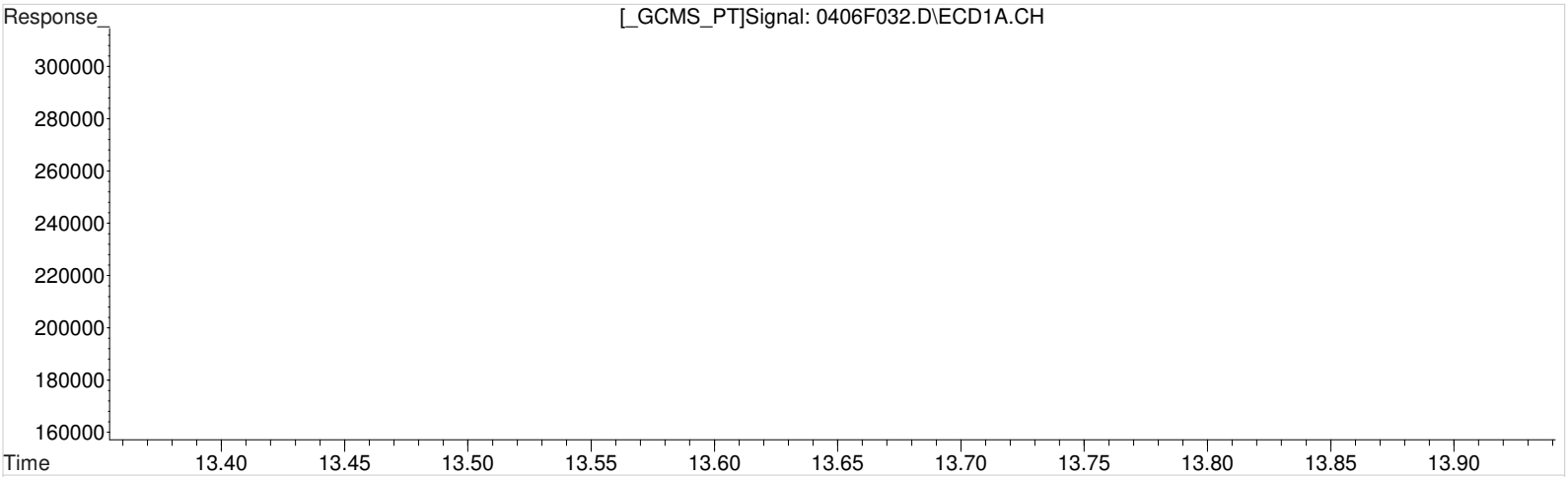
(+) = Expected Retention Time

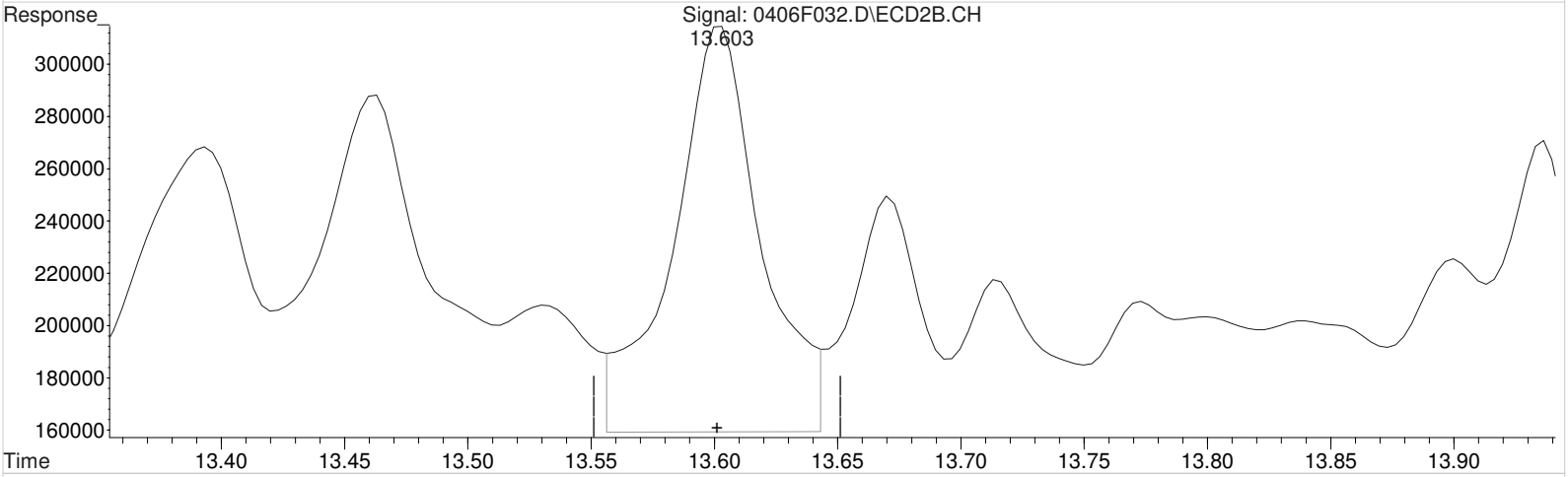
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.939min 271.421 ug/L

response 63449

Manual Integration:

Before

04/07/20

(32) Toxaphene {3} #2

13.603min 417.563 ug/L

response 384518

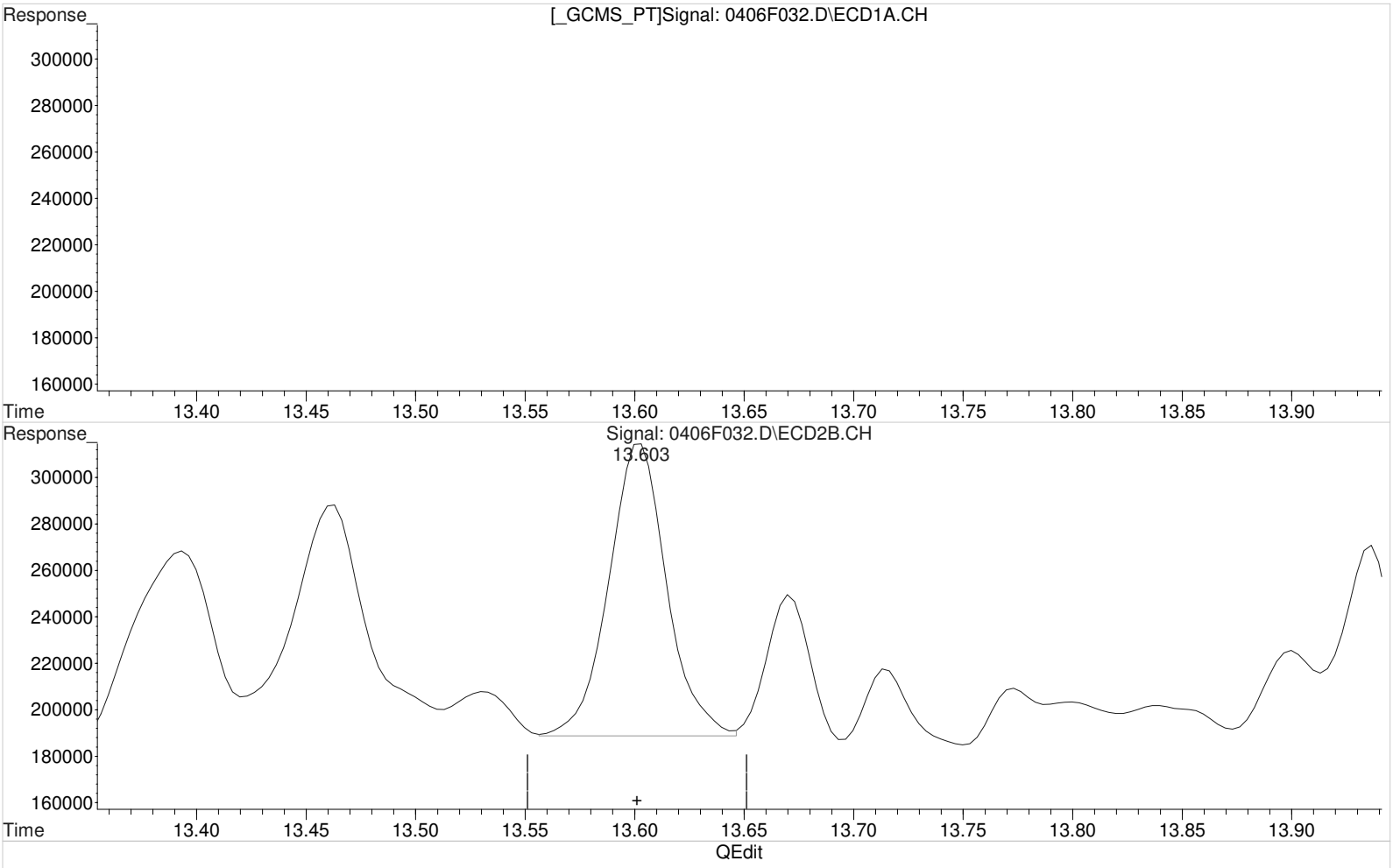
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(32) Toxaphene {3}

14.939min 271.421 ug/L

response 63449

Manual Integration:

After

Baseline/Shoulder

04/07/20

(32) Toxaphene {3} #2

13.603min 251.841 ug/L m

response 231911

(+) = Expected Retention Time

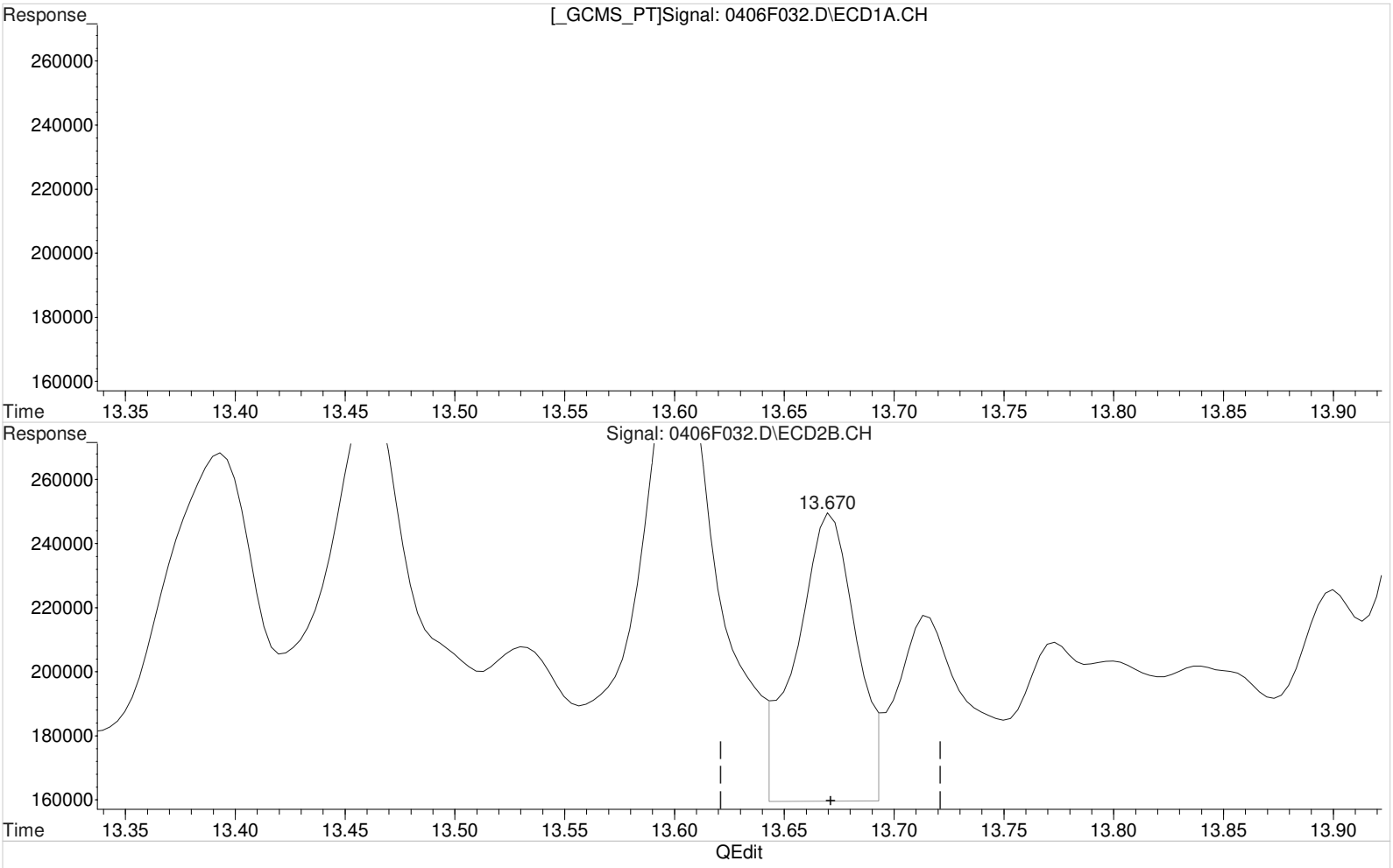
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

15.006min 302.413 ug/L

response 47811

Manual Integration:

Before

04/07/20

(33) Toxaphene {4} #2

13.670min 525.173 ug/L

response 167961

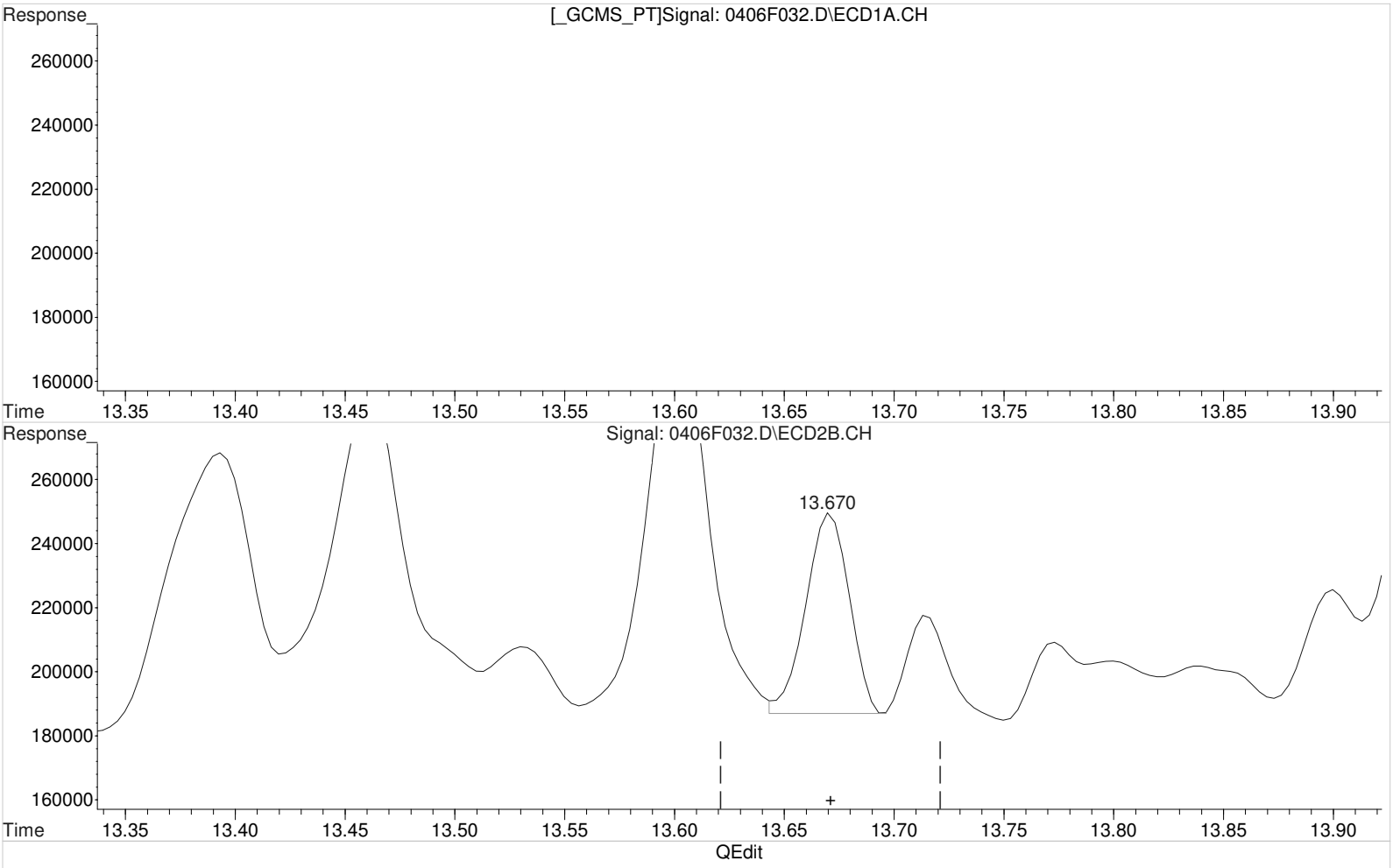
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(33) Toxaphene {4}

15.006min 302.413 ug/L

response 47811

Manual Integration:

After

Baseline/Shoulder

04/07/20

(33) Toxaphene {4} #2

13.670min 268.288 ug/L m

response 85804

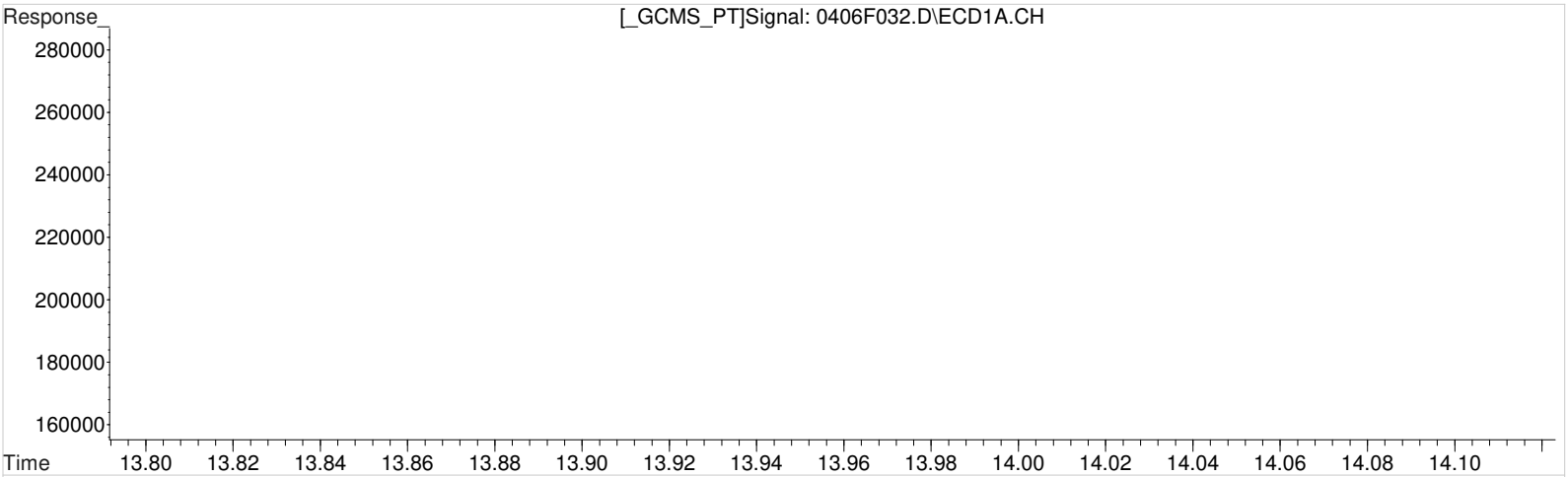
(+) = Expected Retention Time

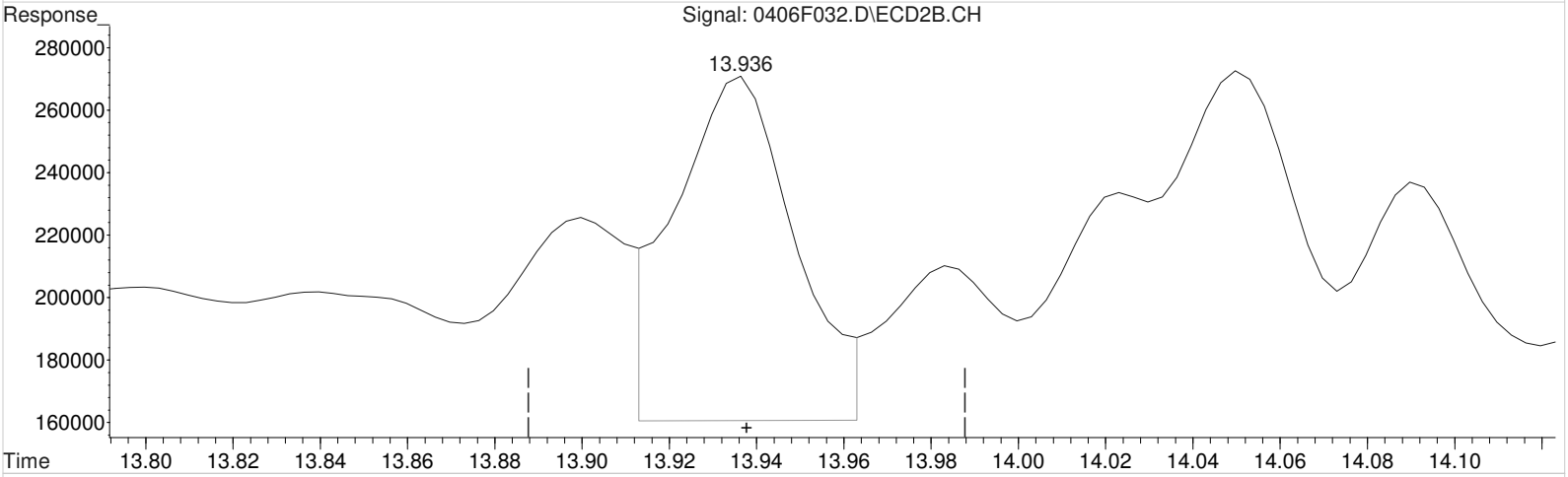
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.352min 284.629 ug/L

response 43821

(34) Toxaphene {5} #2

13.936min 409.426 ug/L

response 206608

Manual Integration:

Before

04/07/20

(+) = Expected Retention Time

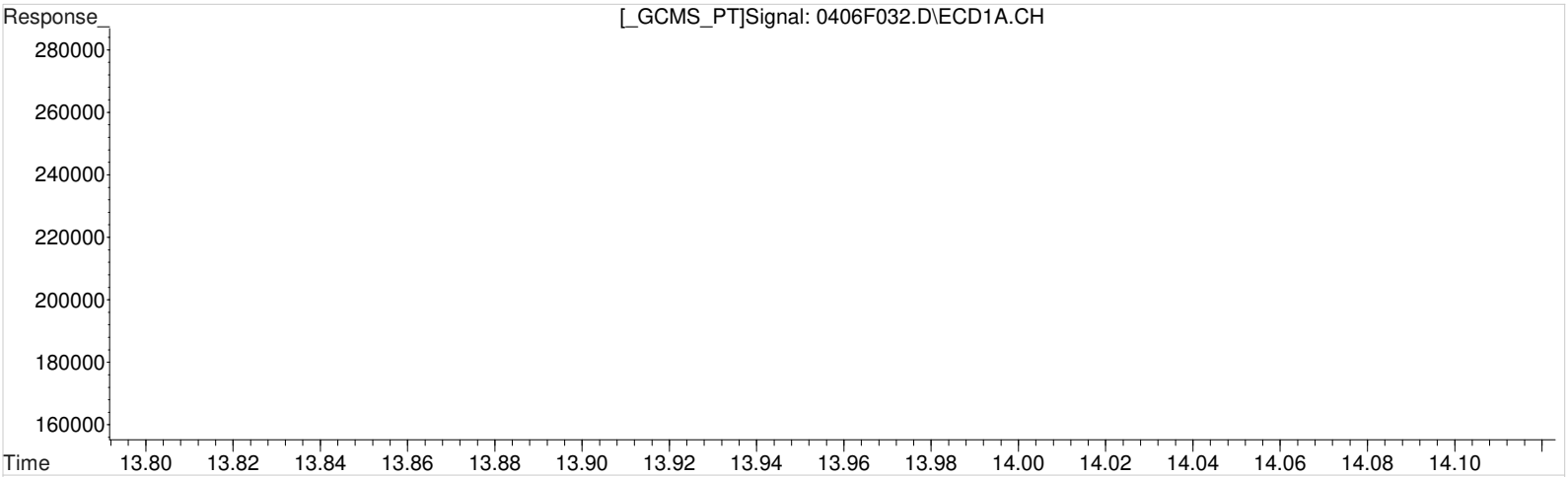
Quantitation Report (Qedit)

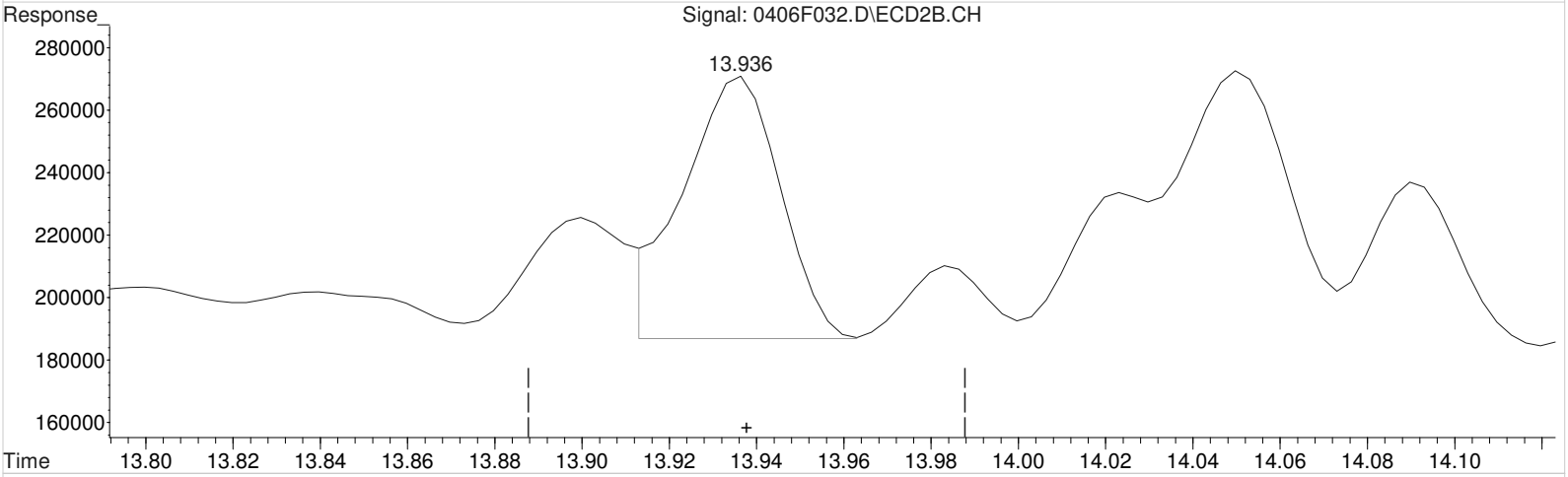
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F032.D Vial: 30
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:15 am Operator: LM
Sample : TOX 250PPB GCPS8-74I @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:53 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.352min 284.629 ug/L

response 43821

Manual Integration:

After

Baseline/Shoulder

04/07/20

(34) Toxaphene {5} #2

13.936min 253.240 ug/L m

response 127792

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:48:30 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
29)	1-Bromo-2...	6.207	5.491	1061216	4972487	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
30)	Toxaphene	14.761	13.395	68364	480969	682.716m	510.636m#
31)	Toxaphene...	14.821	13.461	62162	375214	538.934m	480.146m
32)	Toxaphene...	14.937	13.605	125865	477572	507.603m	491.210m
33)	Toxaphene...	15.007	13.671	92122	174123	549.334	515.672m
34)	Toxaphene...	15.357	13.938	82008	266955	502.174m	501.060m
35)	Toxaphene...	15.544	15.441	38802	152535	590.870m	612.931m
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

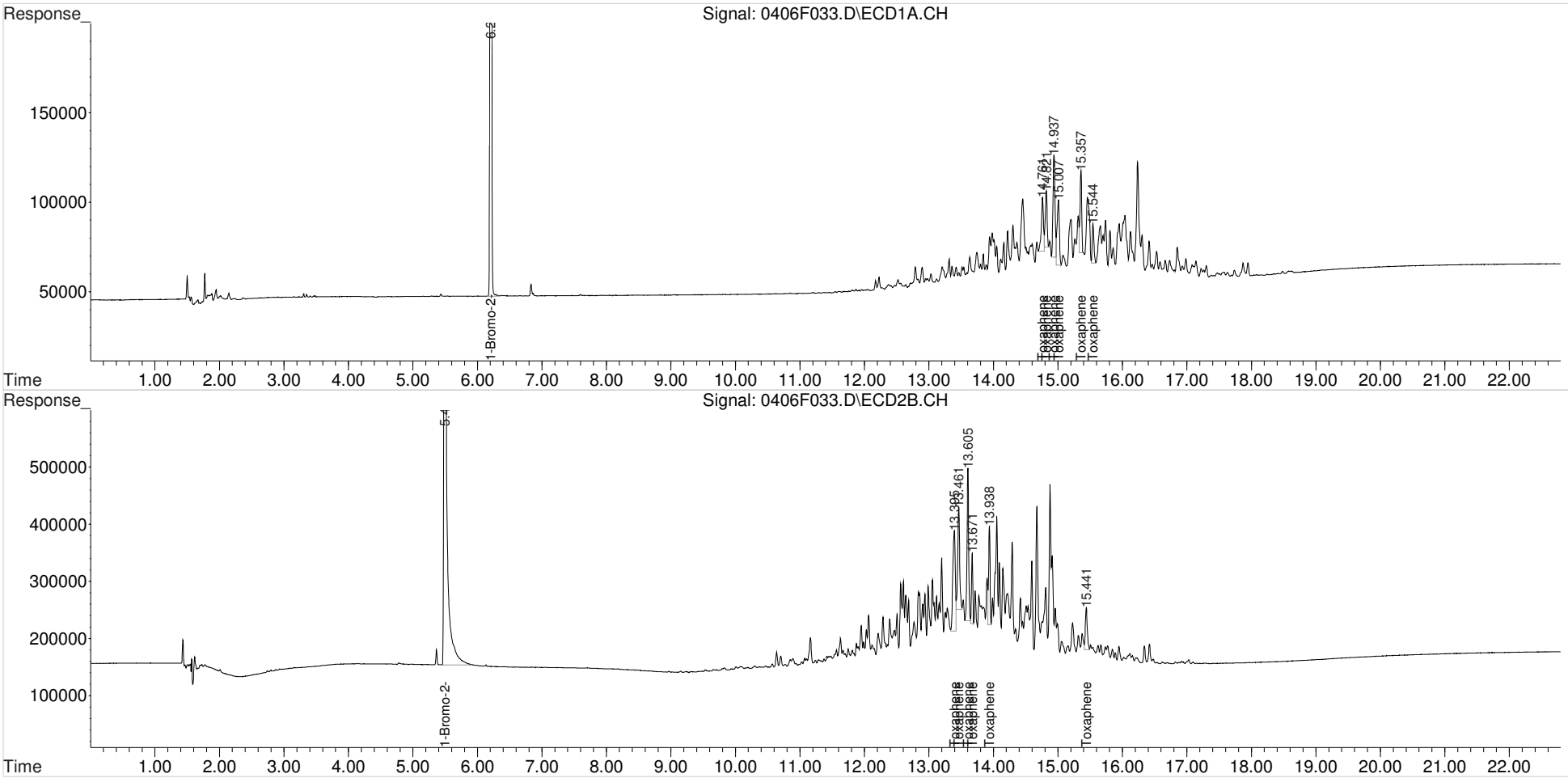
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:48:30 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



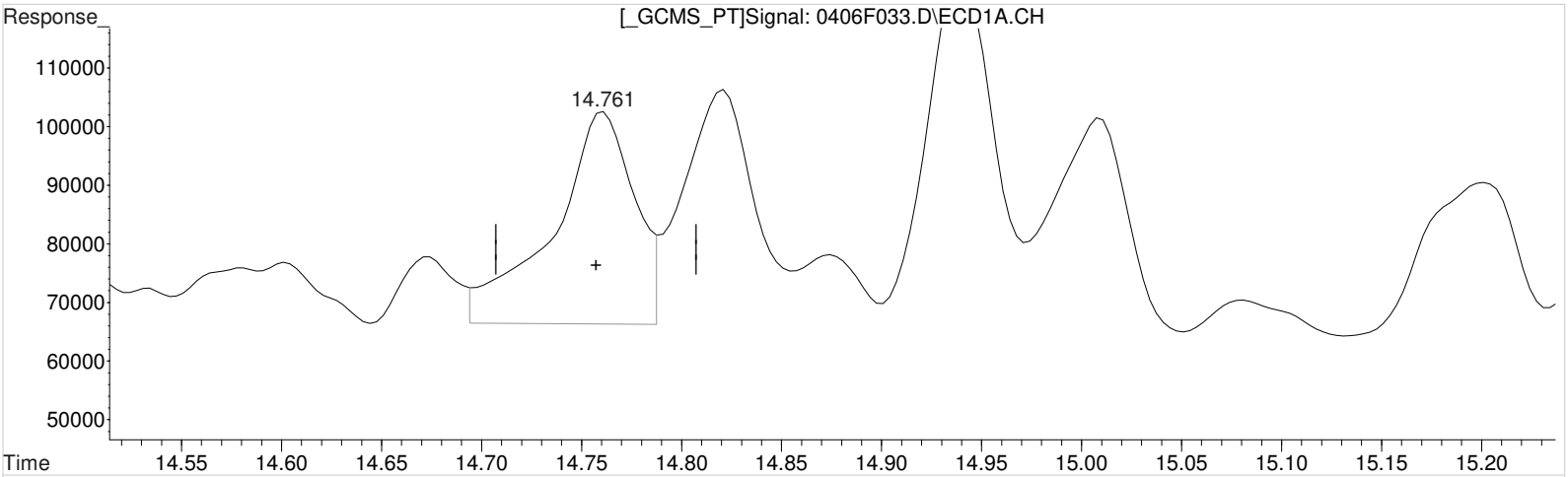
Quantitation Report (Qedit)

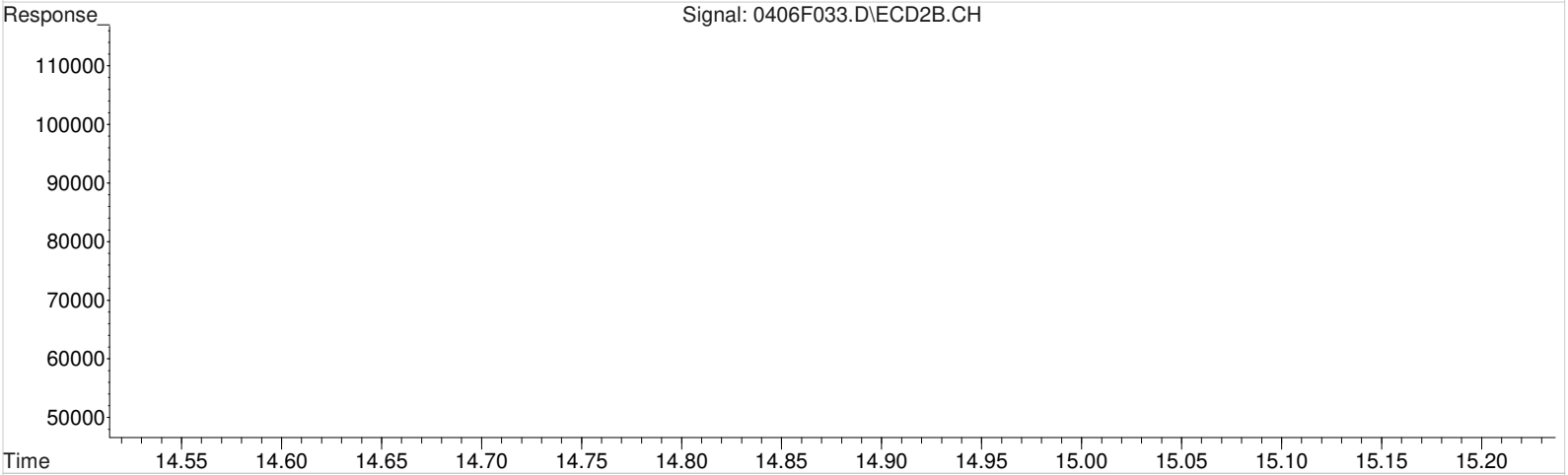
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.761min 1035.599 ug/L

response 103700

Manual Integration:

Before

04/07/20

(30) Toxaphene #2

13.395min 698.295 ug/L

response 657725

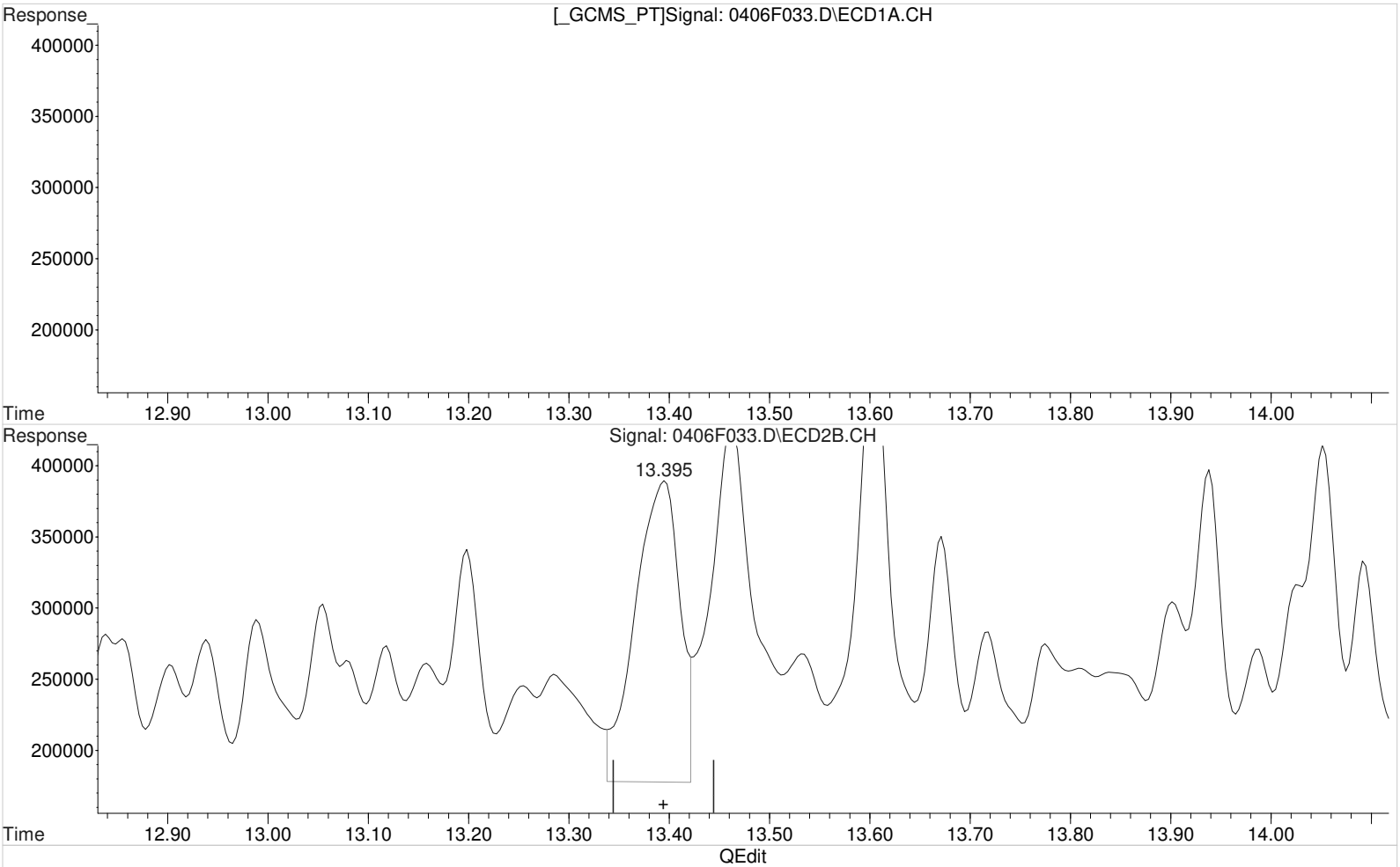
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(30) Toxaphene

14.761min 682.716 ug/L m

response 68364

(30) Toxaphene #2

13.395min 698.295 ug/L

response 657725

Manual Integration:

Before

04/07/20

(+) = Expected Retention Time

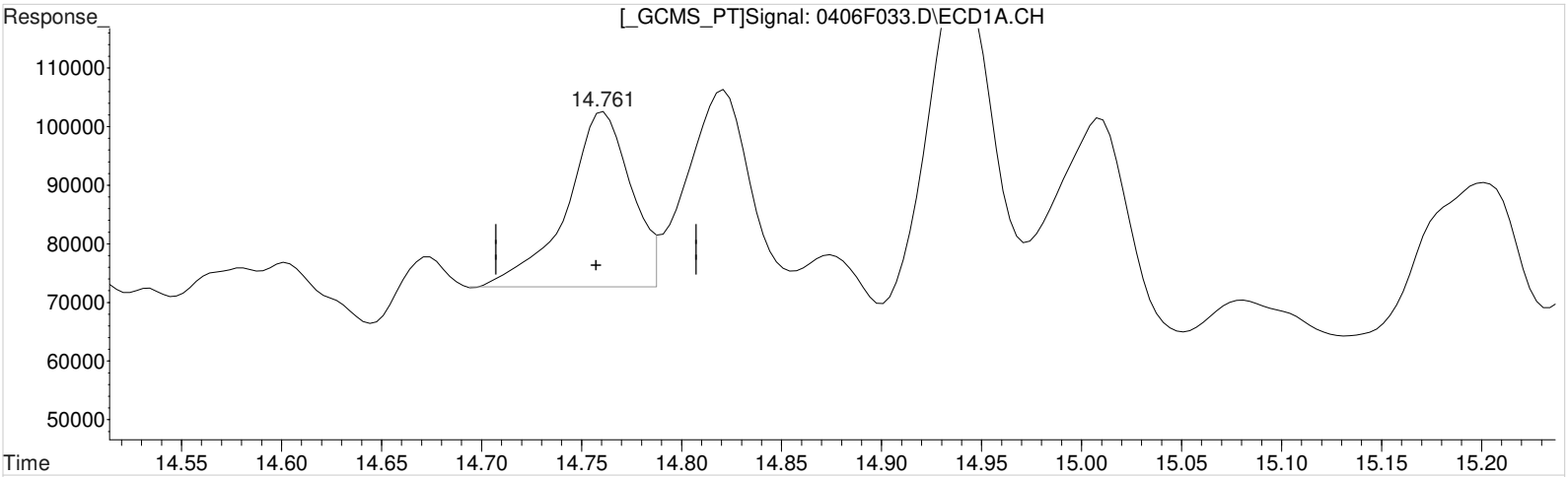
Quantitation Report (Qedit)

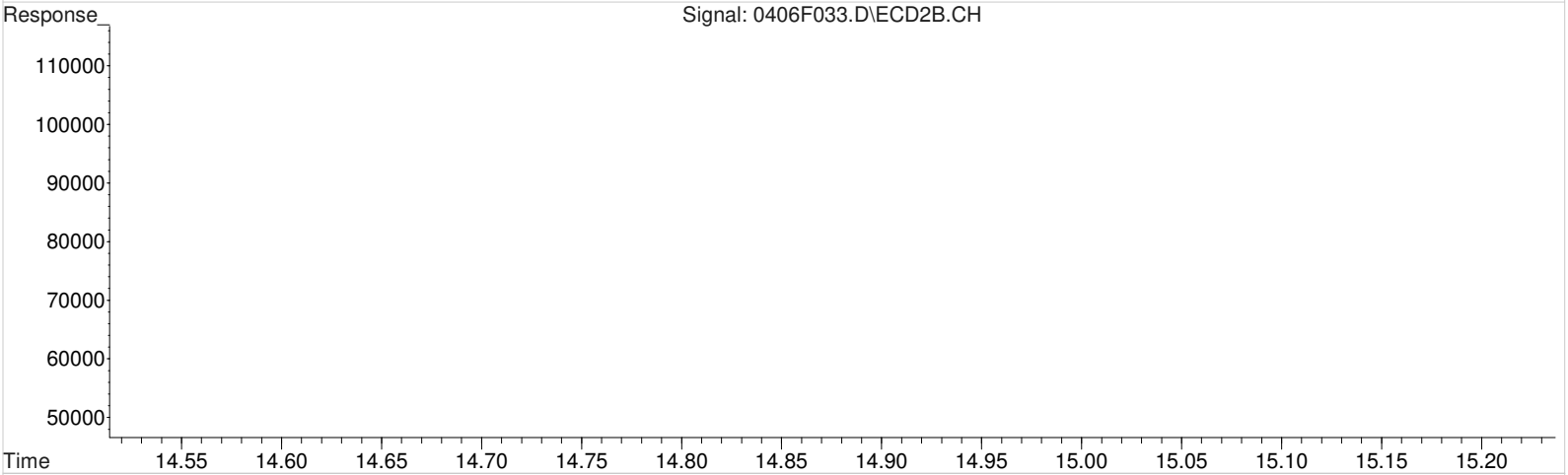
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.761min 682.716 ug/L m

response 68364

Manual Integration:

After

Baseline/Shoulder

04/07/20

(30) Toxaphene #2

13.395min 698.295 ug/L

response 657725

(+) = Expected Retention Time

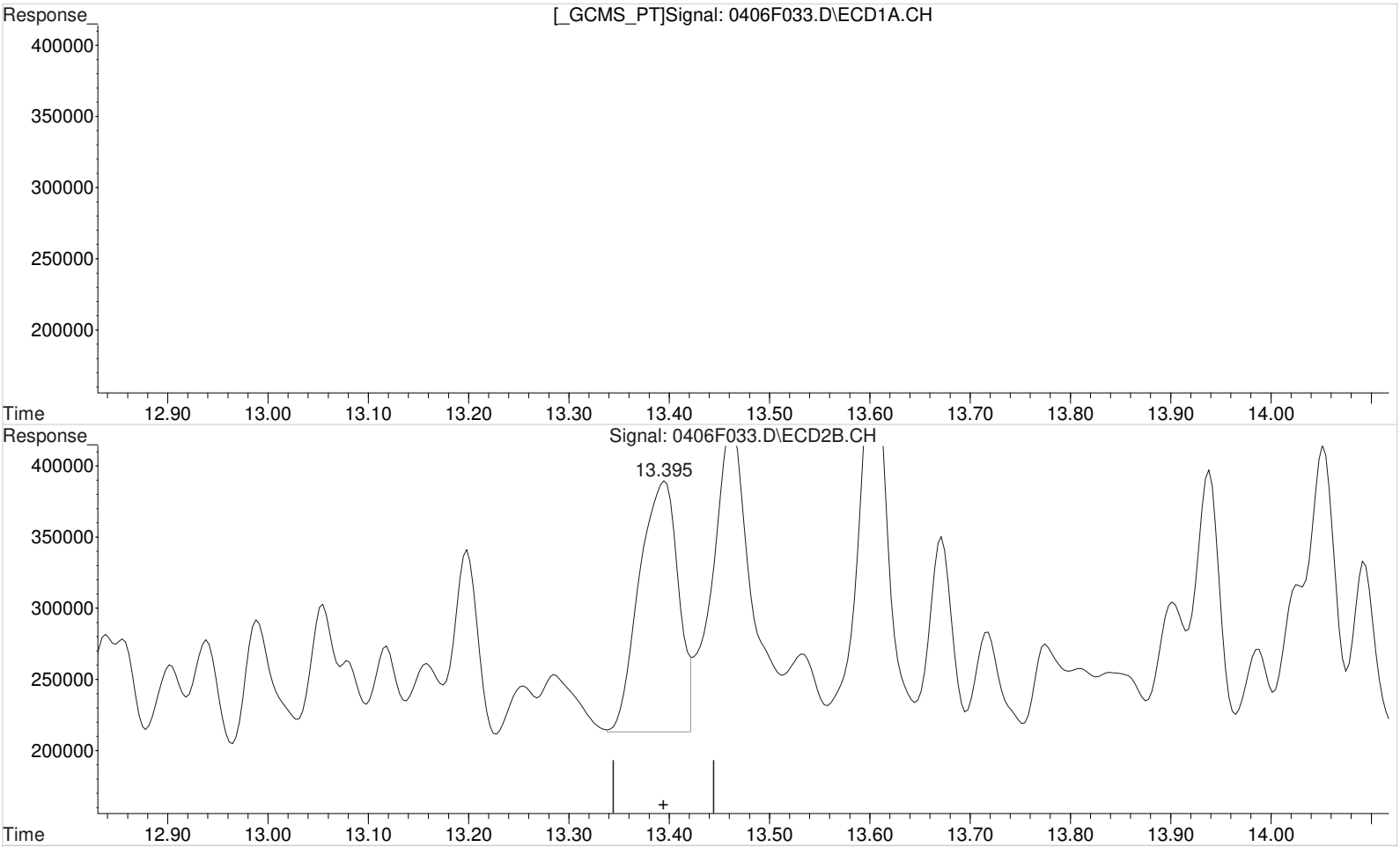
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(30) Toxaphene

14.761min 682.716 ug/L m

response 68364

(30) Toxaphene #2

13.395min 510.636 ug/L m

response 480969

Manual Integration:

After

Baseline/Shoulder

04/07/20

(+) = Expected Retention Time

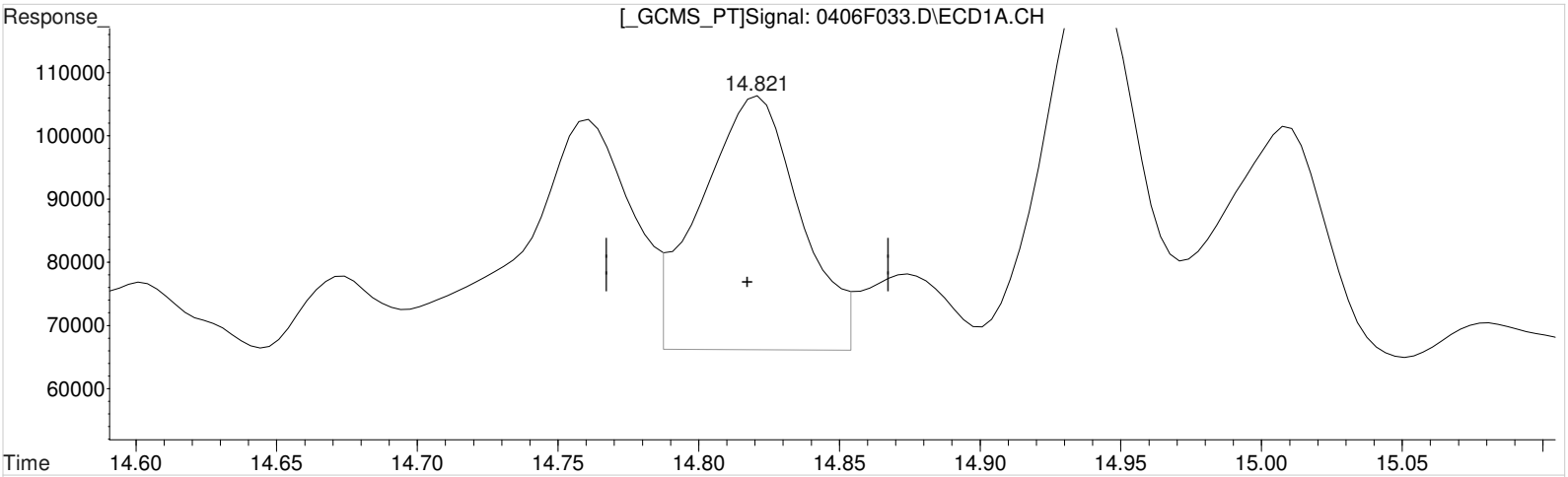
Quantitation Report (Qedit)

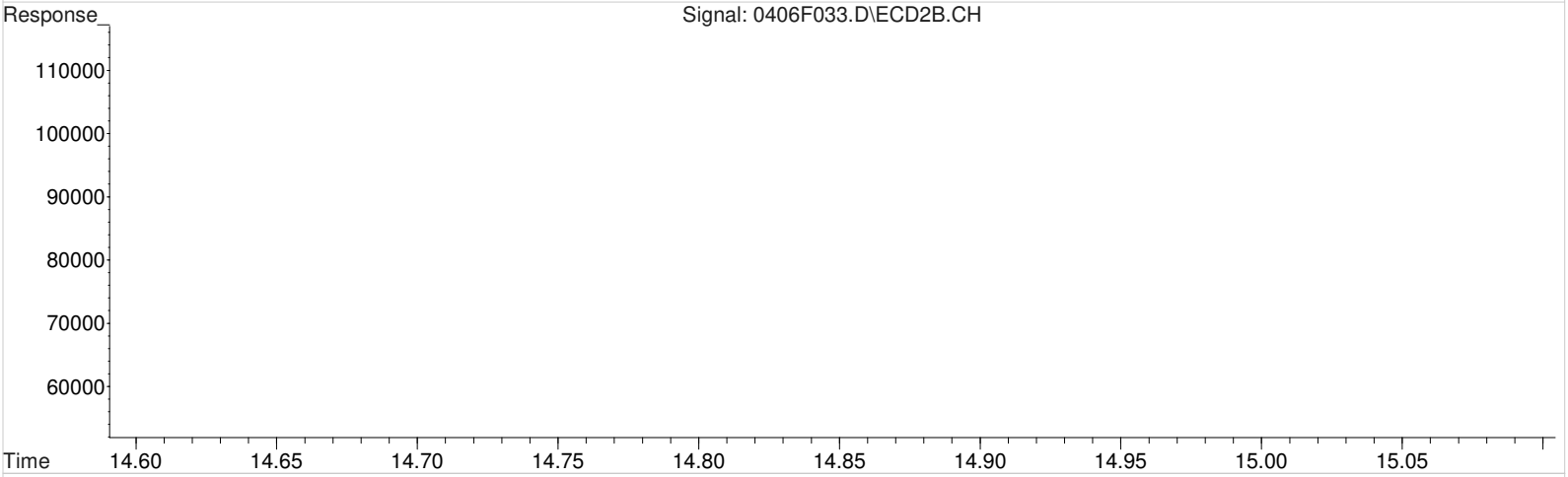
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.821min 847.355 ug/L

response 97736

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.461min 993.752 ug/L

response 776576

(+) = Expected Retention Time

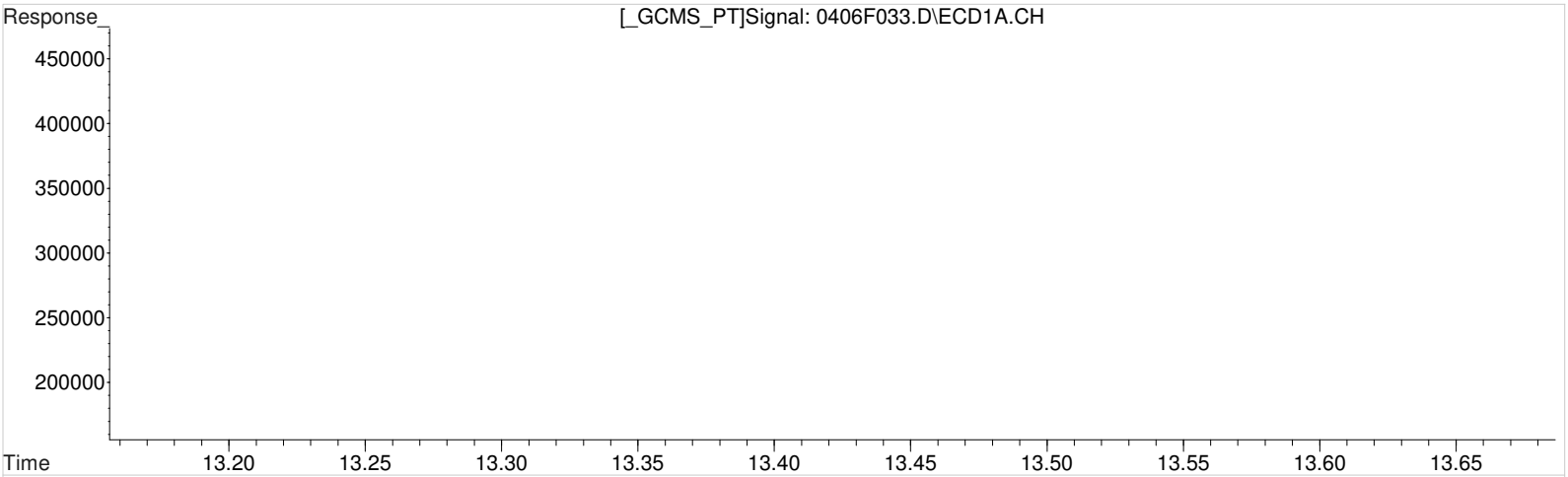
Quantitation Report (Qedit)

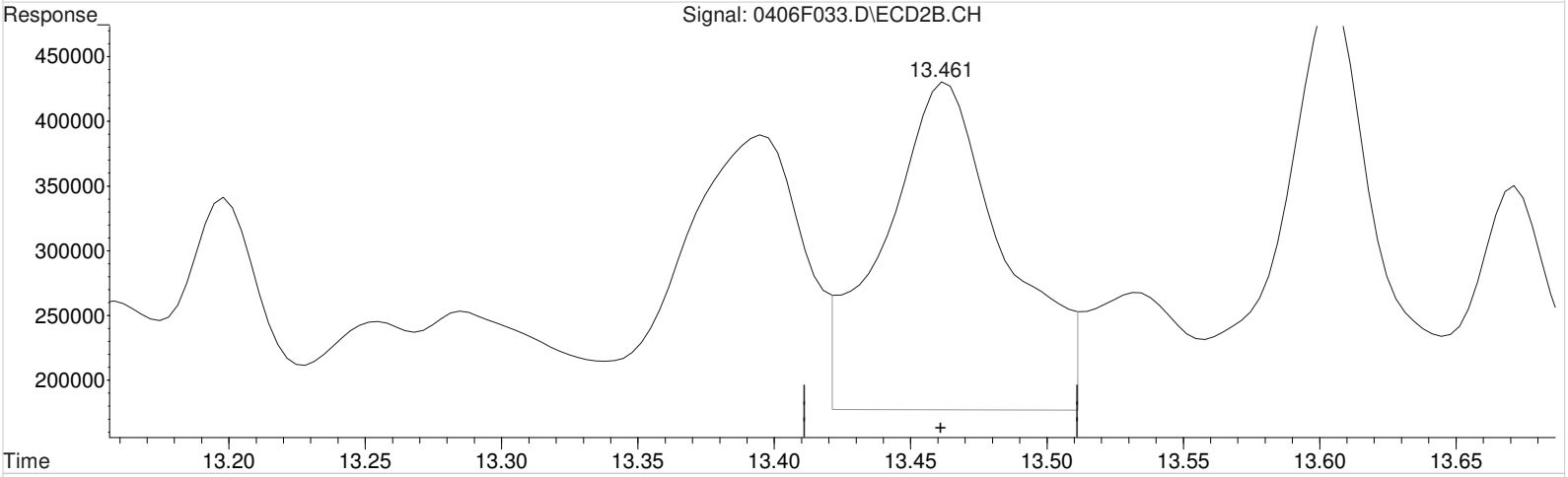
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.821min 538.934 ug/L m

response 62162

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.461min 993.752 ug/L

response 776576

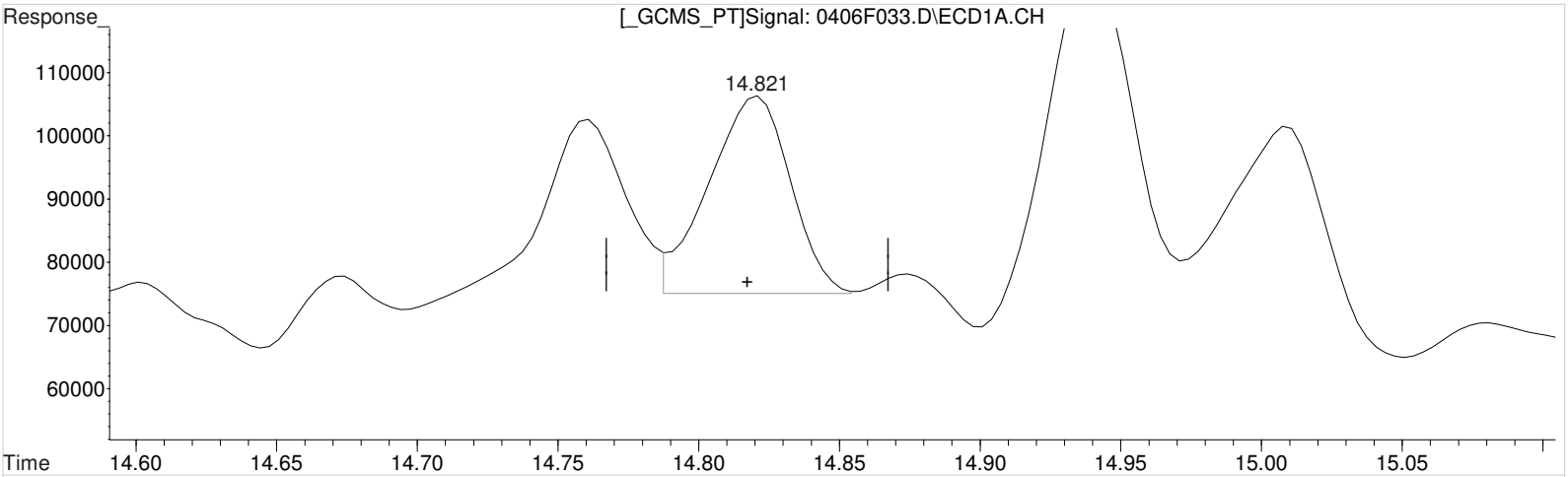
(+) = Expected Retention Time

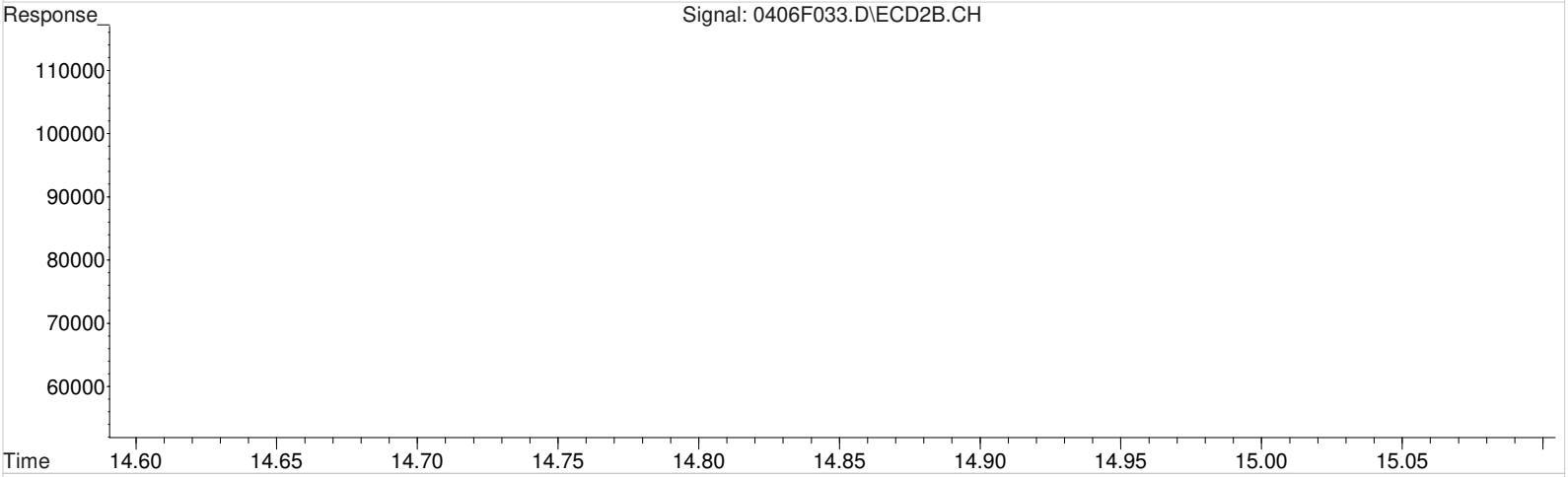
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.821min 538.934 ug/L m

response 62162

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.461min 993.752 ug/L

response 776576

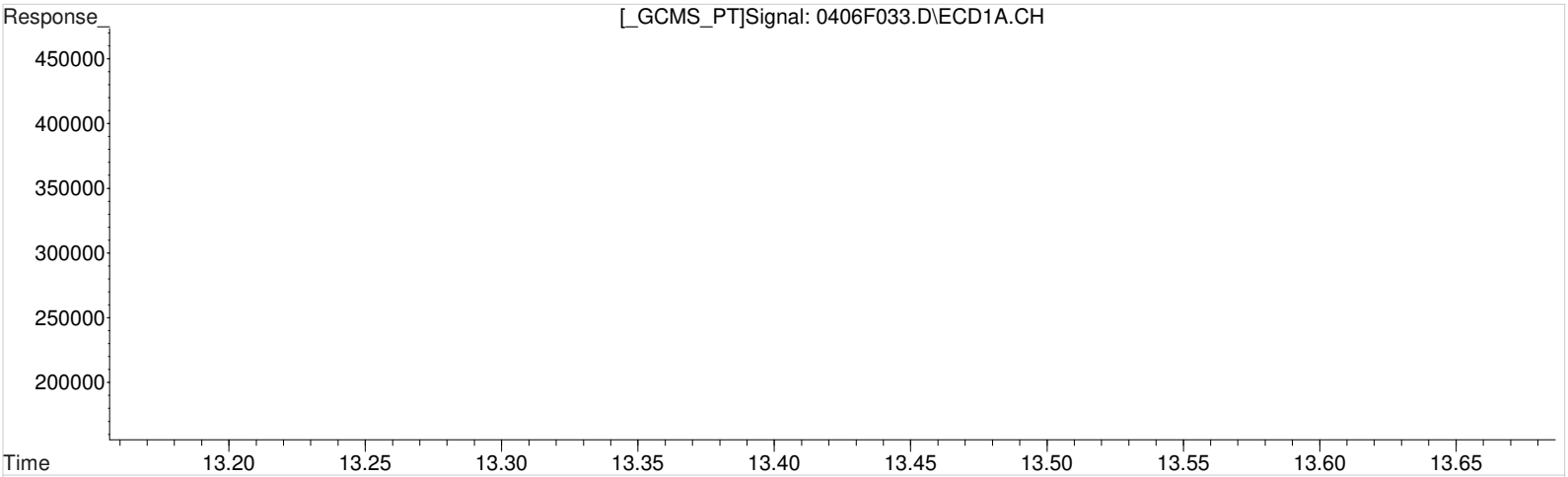
(+) = Expected Retention Time

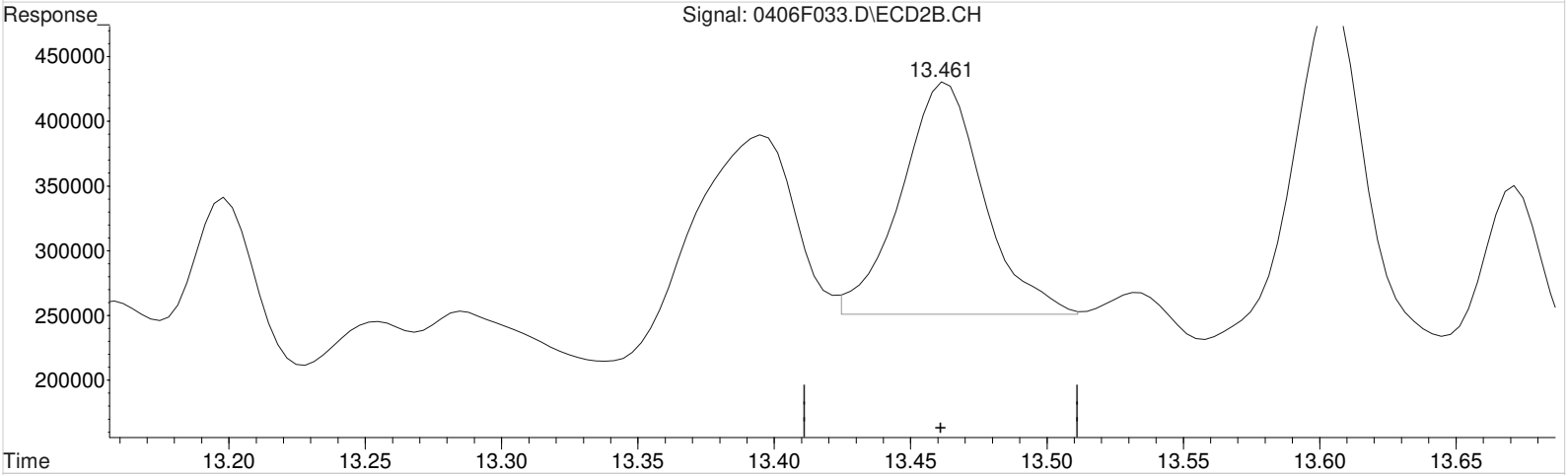
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.821min 538.934 ug/L m

response 62162

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.461min 480.146 ug/L m

response 375214

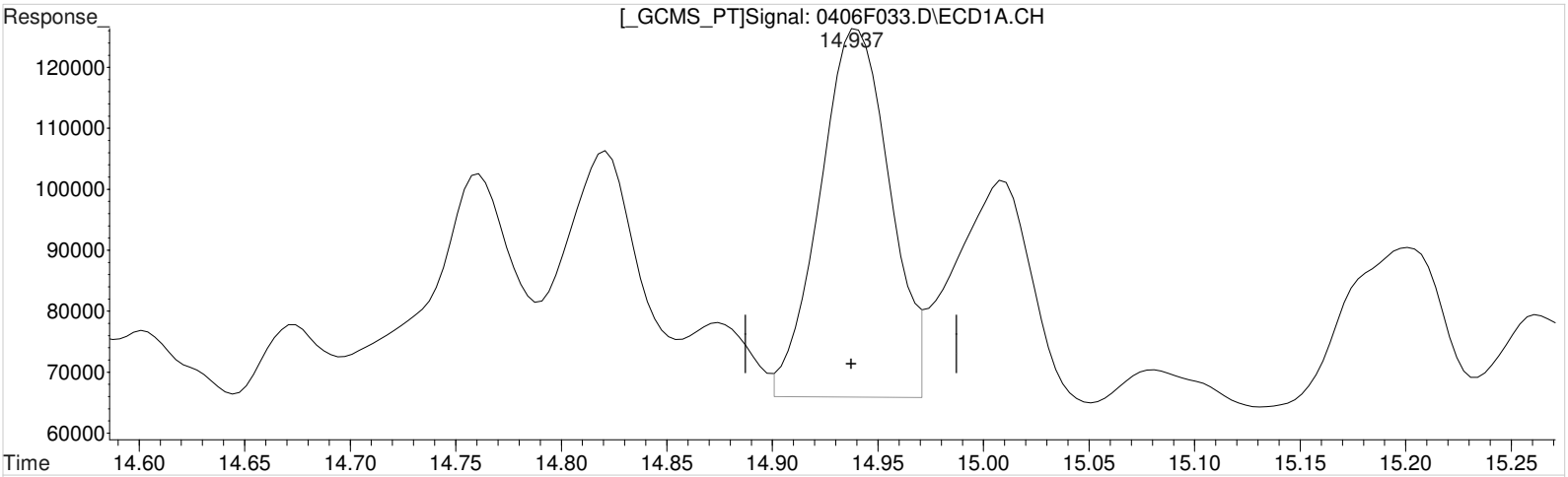
(+) = Expected Retention Time

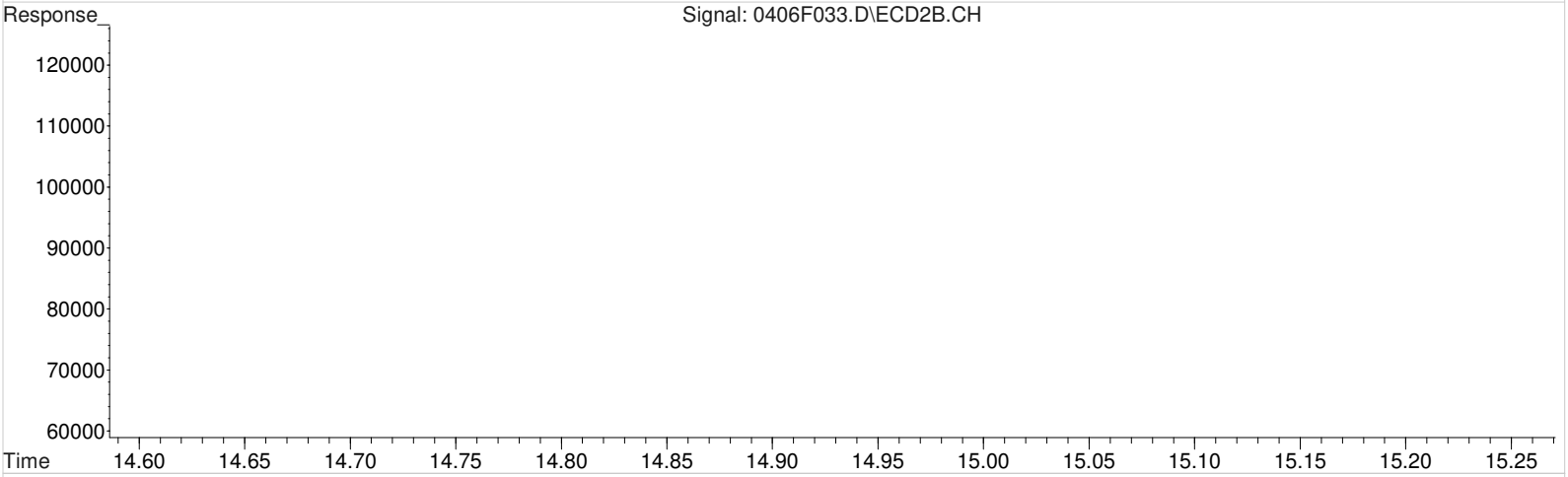
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.937min 566.726 ug/L

response 140525

Manual Integration:

Before

04/07/20

(32) Toxaphene {3} #2

13.605min 783.583 ug/L

response 761828

(+) = Expected Retention Time

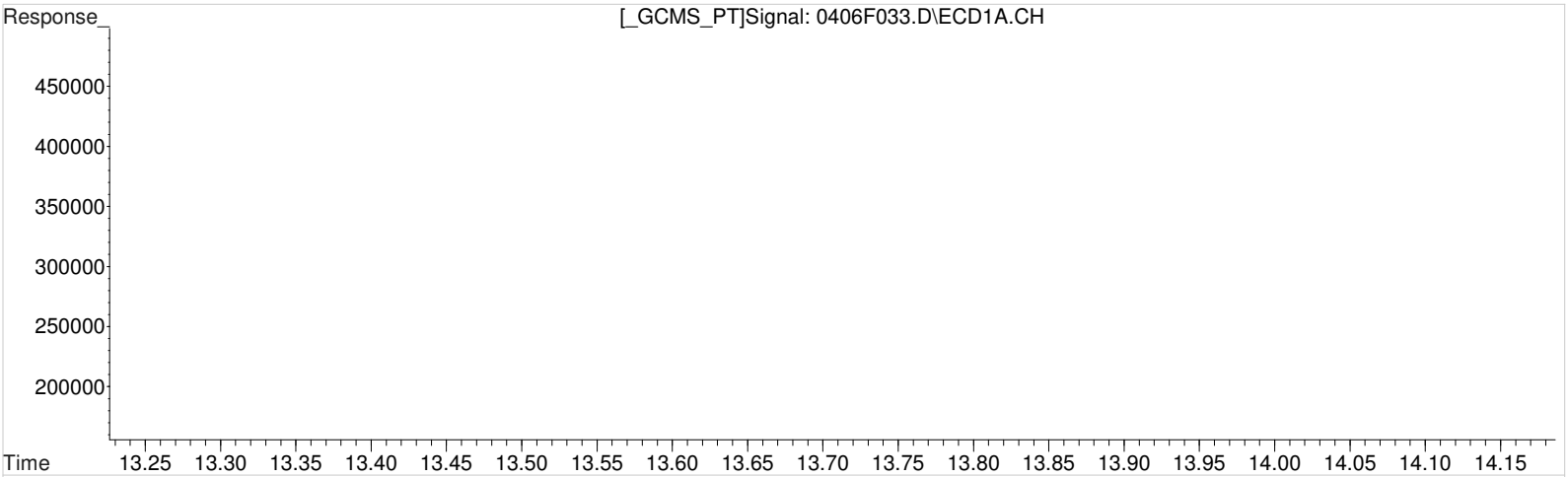
Quantitation Report (Qedit)

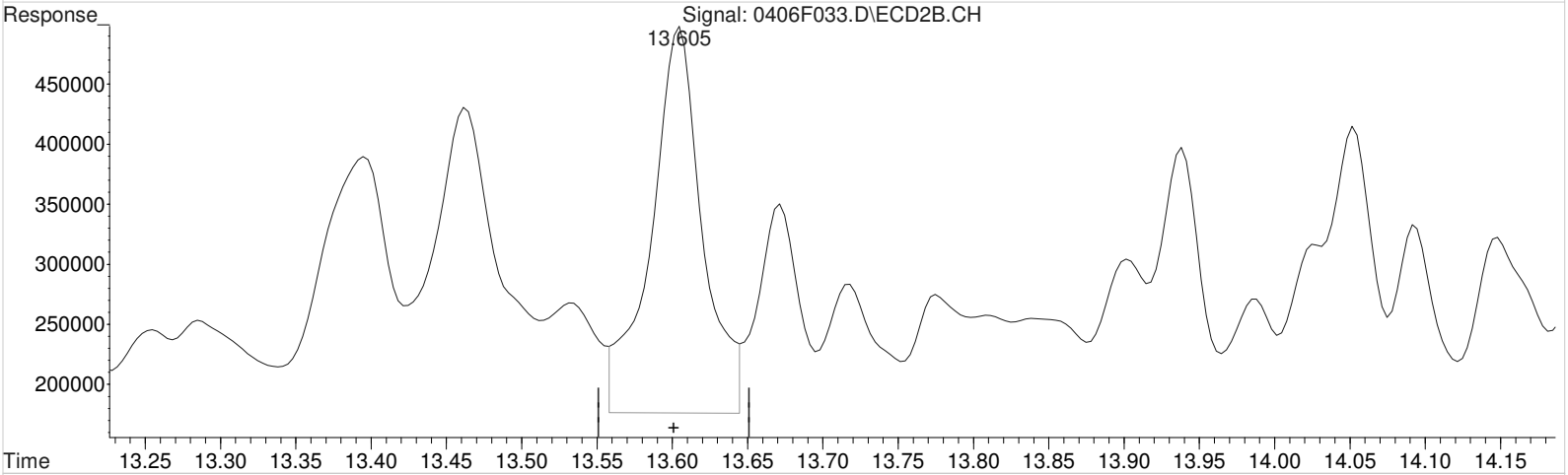
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.937min 507.603 ug/L m

response 125865

Manual Integration:

Before

04/07/20

(32) Toxaphene {3} #2

13.605min 783.583 ug/L

response 761828

(+) = Expected Retention Time

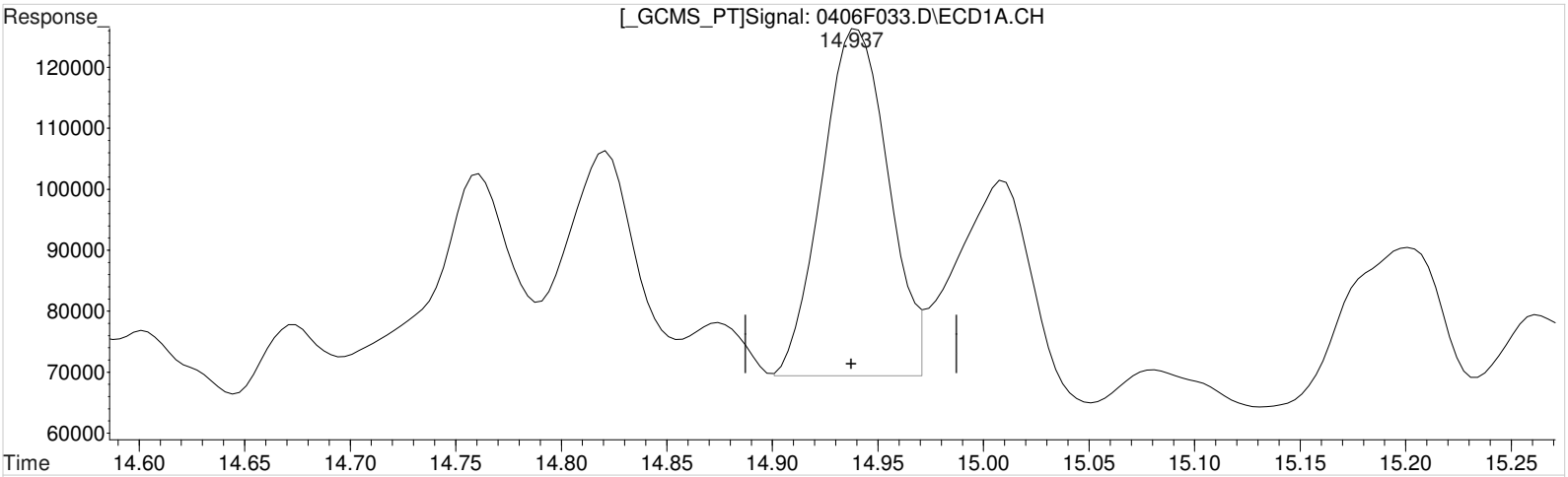
Quantitation Report (Qedit)

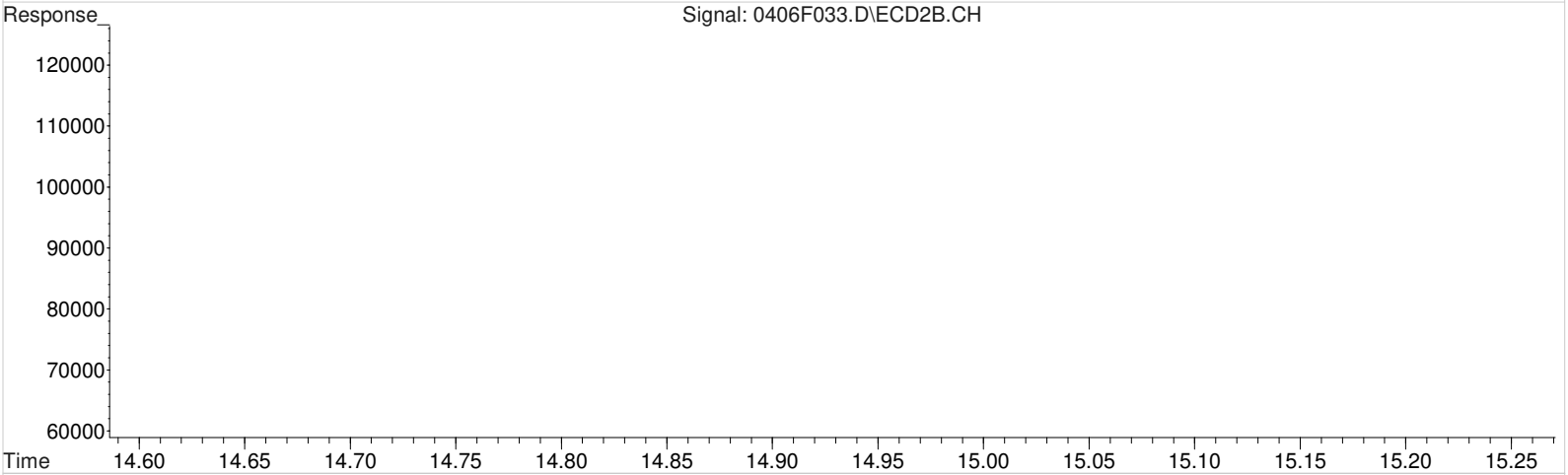
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.937min 507.603 ug/L m

response 125865

Manual Integration:

After

Baseline/Shoulder

04/07/20

(32) Toxaphene {3} #2

13.605min 783.583 ug/L

response 761828

(+) = Expected Retention Time

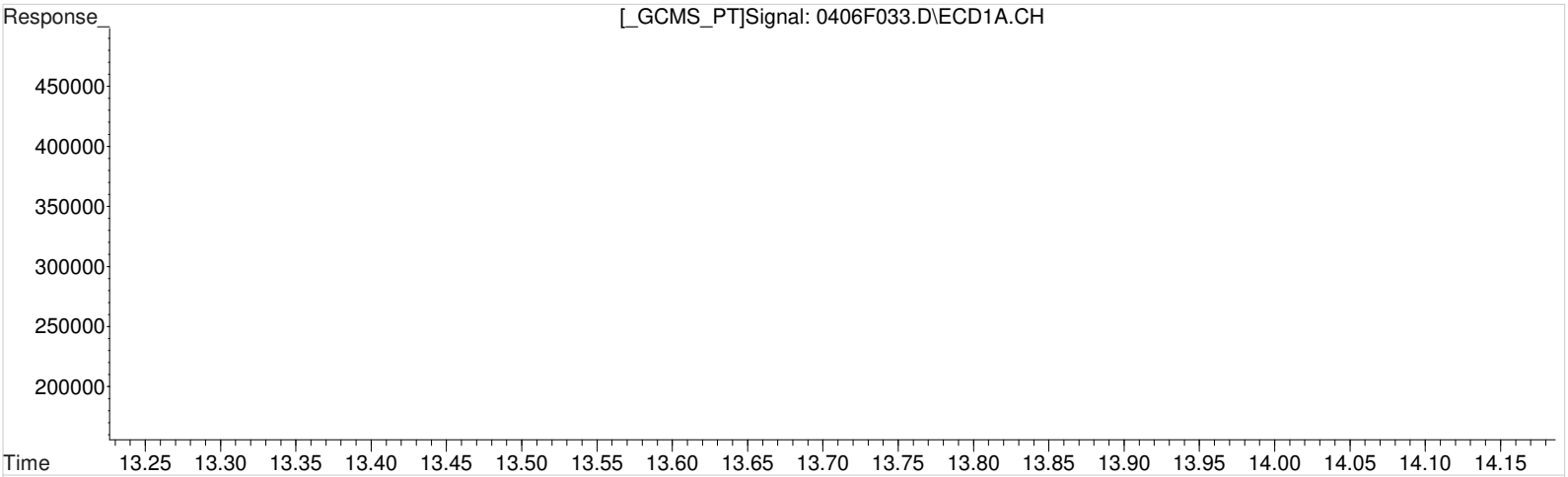
Quantitation Report (Qedit)

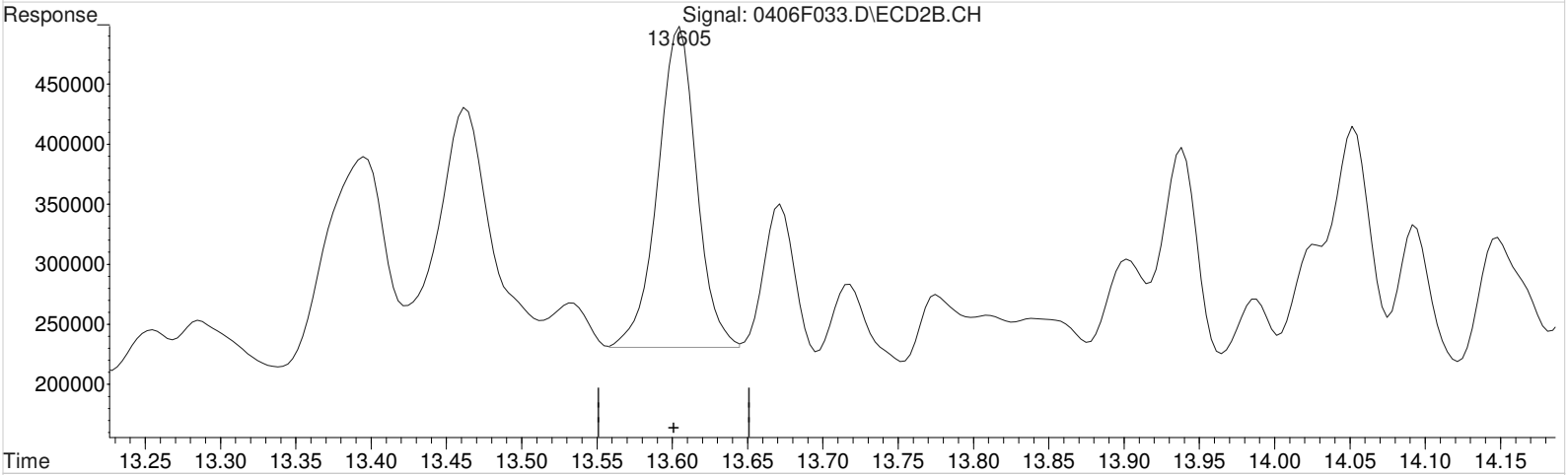
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(32) Toxaphene {3}

14.937min 507.603 ug/L m

response 125865

Manual Integration:

After

Baseline/Shoulder

04/07/20

(32) Toxaphene {3} #2

13.605min 491.210 ug/L m

response 477572

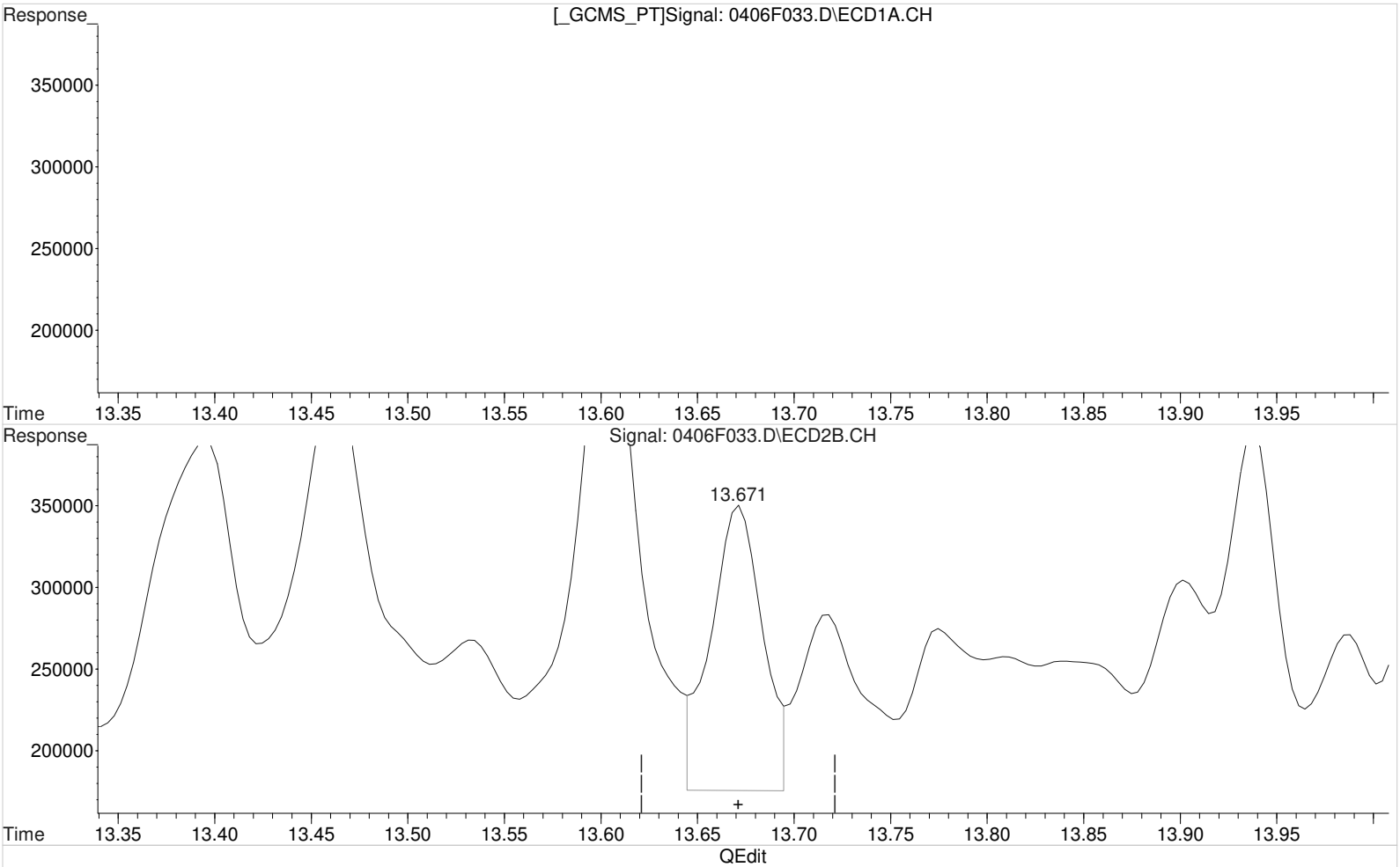
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(33) Toxaphene {4}

15.007min 549.334 ug/L

response 92122

Manual Integration:

Before

04/07/20

(33) Toxaphene {4} #2

13.671min 963.095 ug/L

response 325201

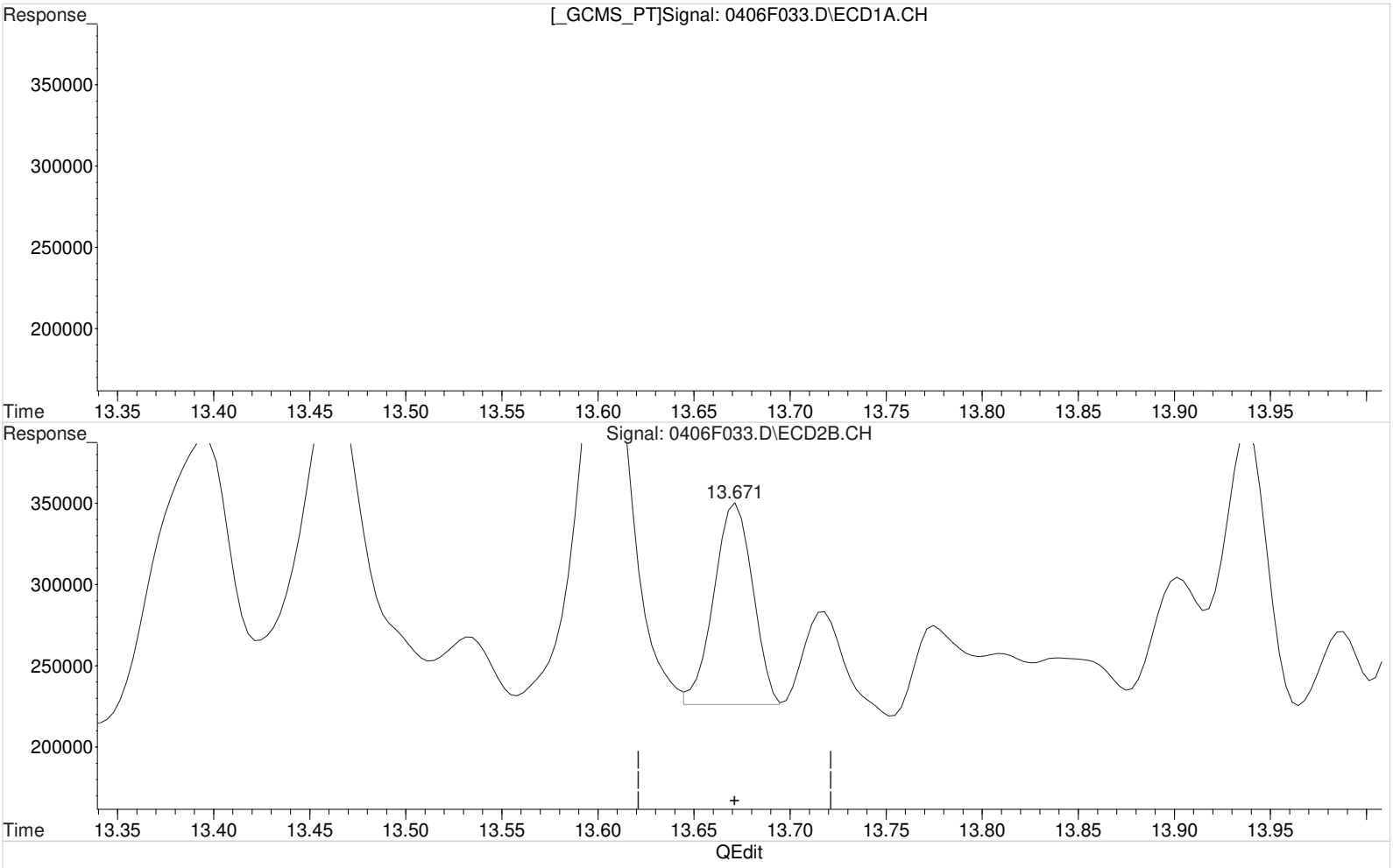
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(33) Toxaphene {4}

15.007min 549.334 ug/L

response 92122

Manual Integration:

After

Baseline/Shoulder

04/07/20

(33) Toxaphene {4} #2

13.671min 515.672 ug/L m

response 174123

(+) = Expected Retention Time

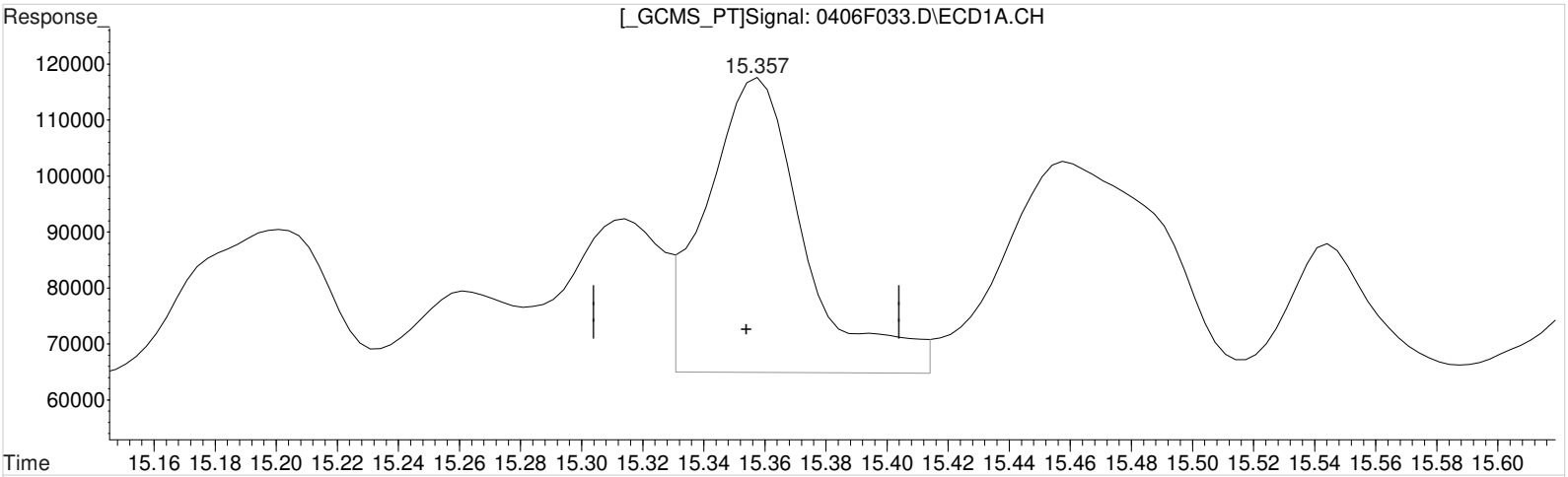
Quantitation Report (Qedit)

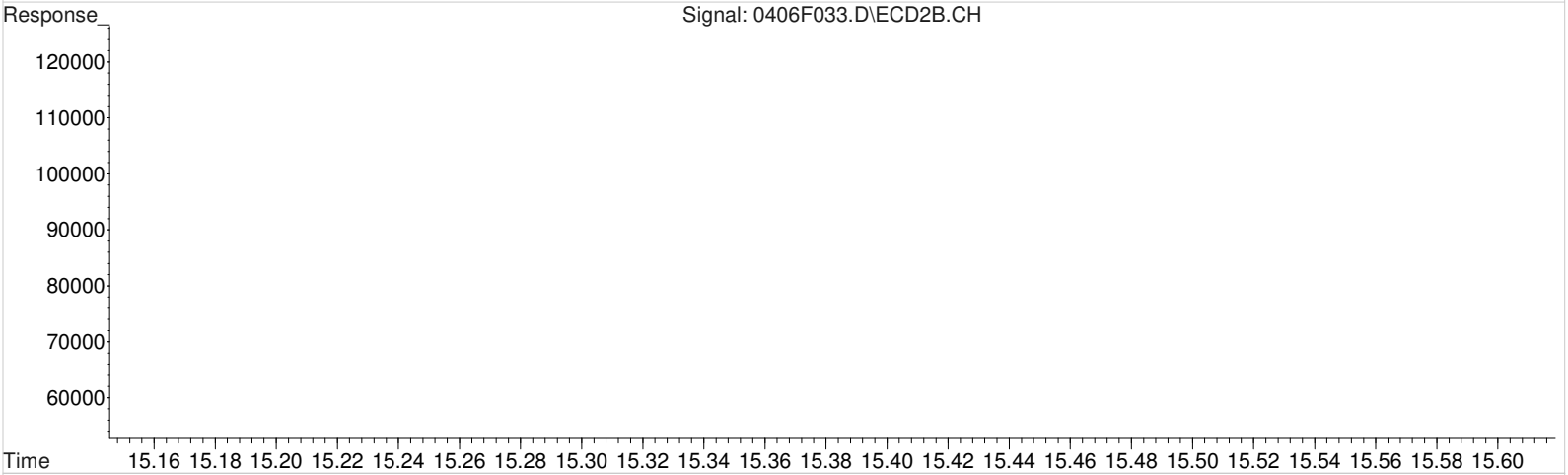
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.357min 708.700 ug/L

response 115735

Manual Integration:

Before

04/07/20

(34) Toxaphene {5} #2

13.938min 785.729 ug/L

response 418621

(+) = Expected Retention Time

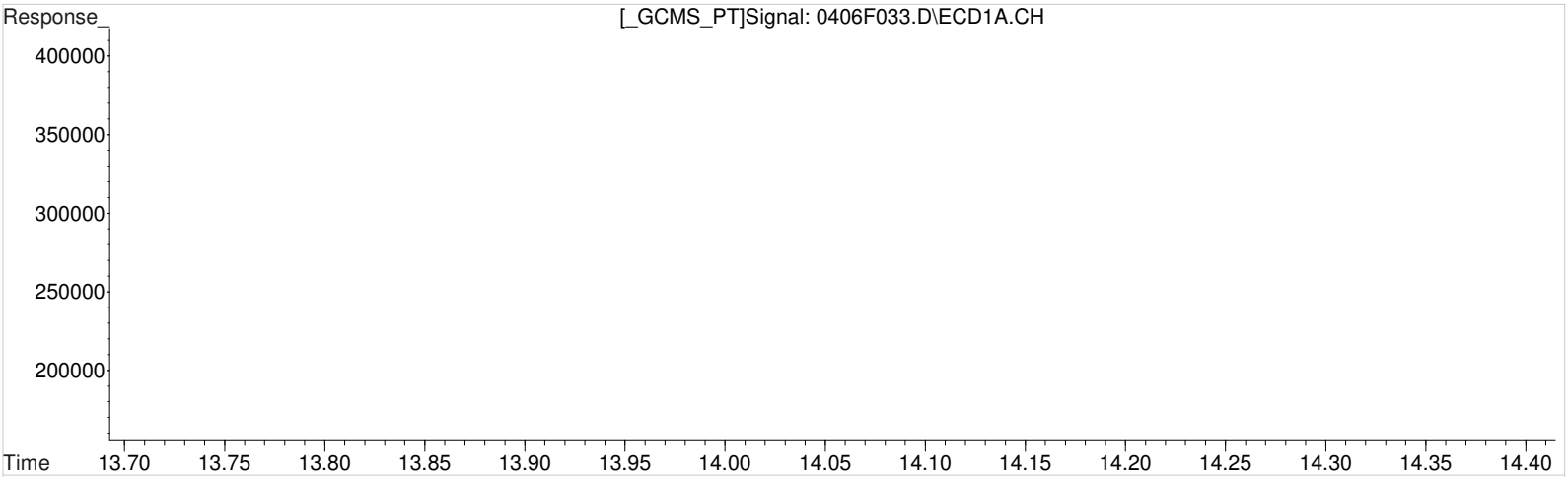
Quantitation Report (Qedit)

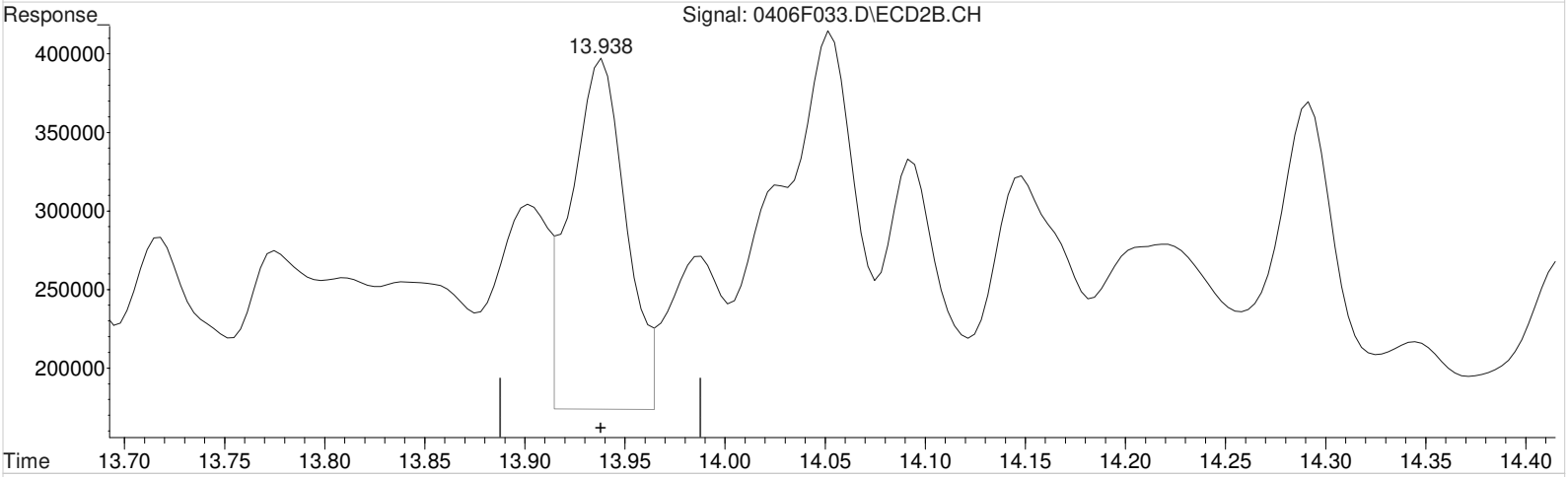
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.357min 502.174 ug/L m

response 82008

Manual Integration:

Before

04/07/20

(34) Toxaphene {5} #2

13.938min 785.729 ug/L

response 418621

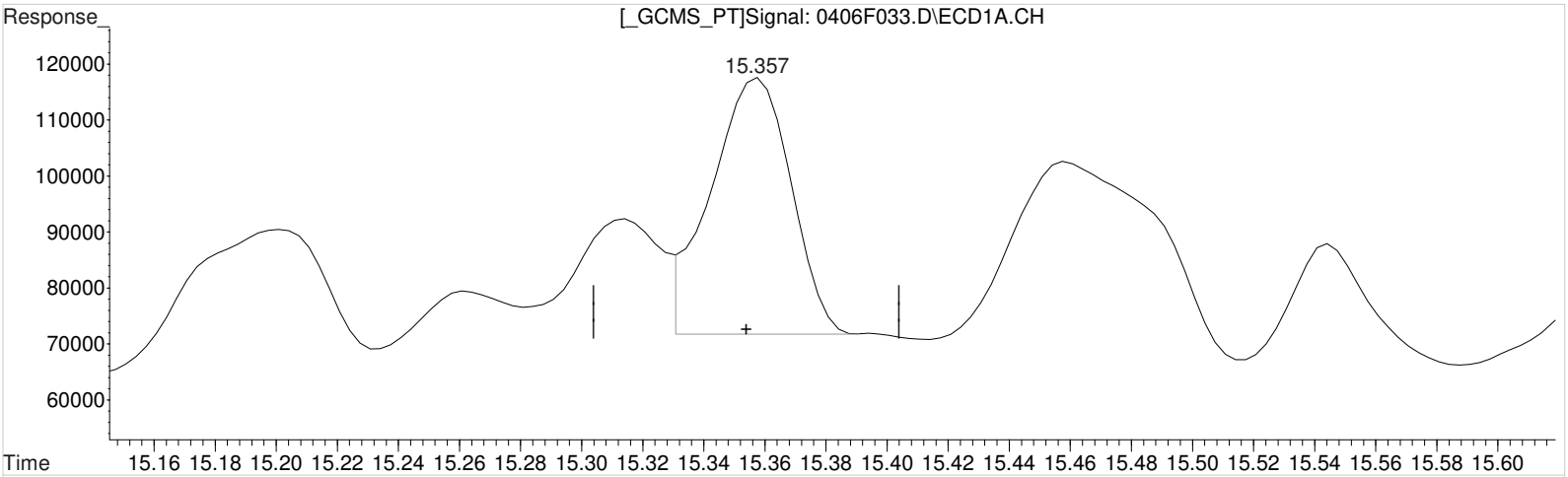
(+) = Expected Retention Time

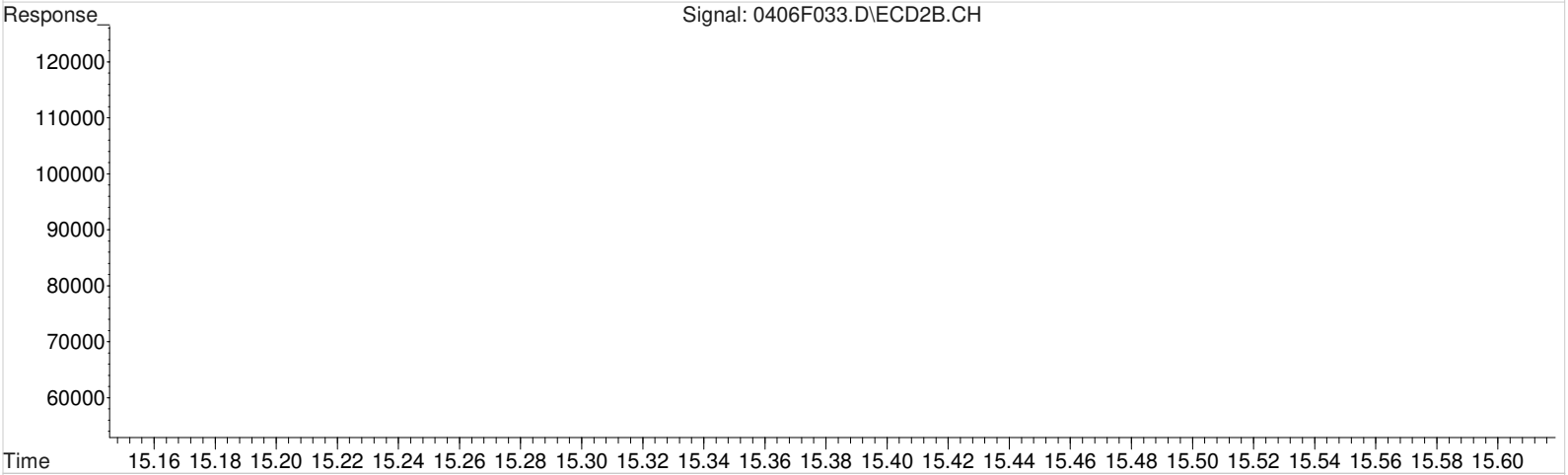
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.357min 502.174 ug/L m

response 82008

Manual Integration:

After

Baseline/Shoulder

04/07/20

(34) Toxaphene {5} #2

13.938min 785.729 ug/L

response 418621

(+) = Expected Retention Time

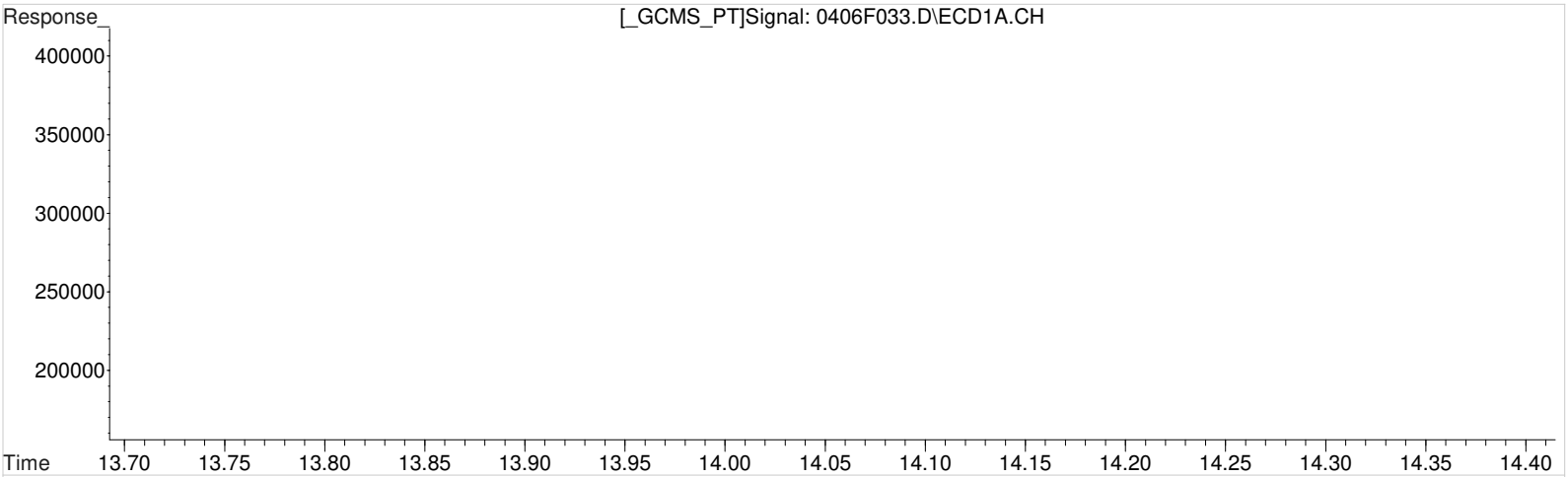
Quantitation Report (Qedit)

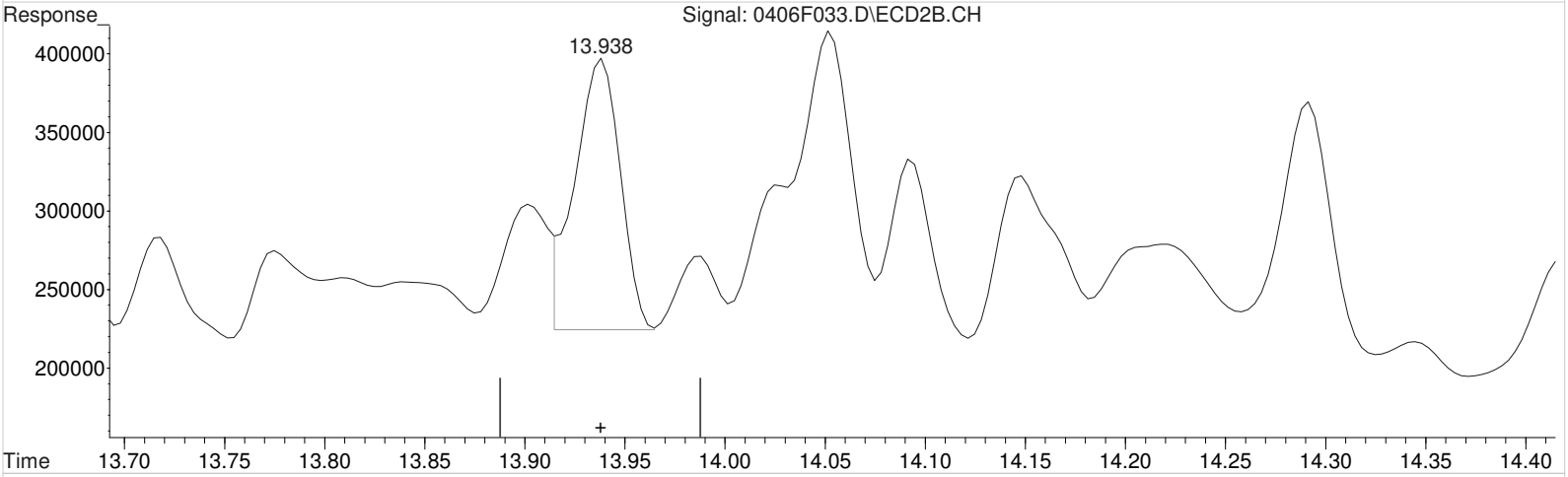
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(34) Toxaphene {5}

15.357min 502.174 ug/L m

response 82008

Manual Integration:

After

Baseline/Shoulder

04/07/20

(34) Toxaphene {5} #2

13.938min 501.060 ug/L m

response 266955

(+) = Expected Retention Time

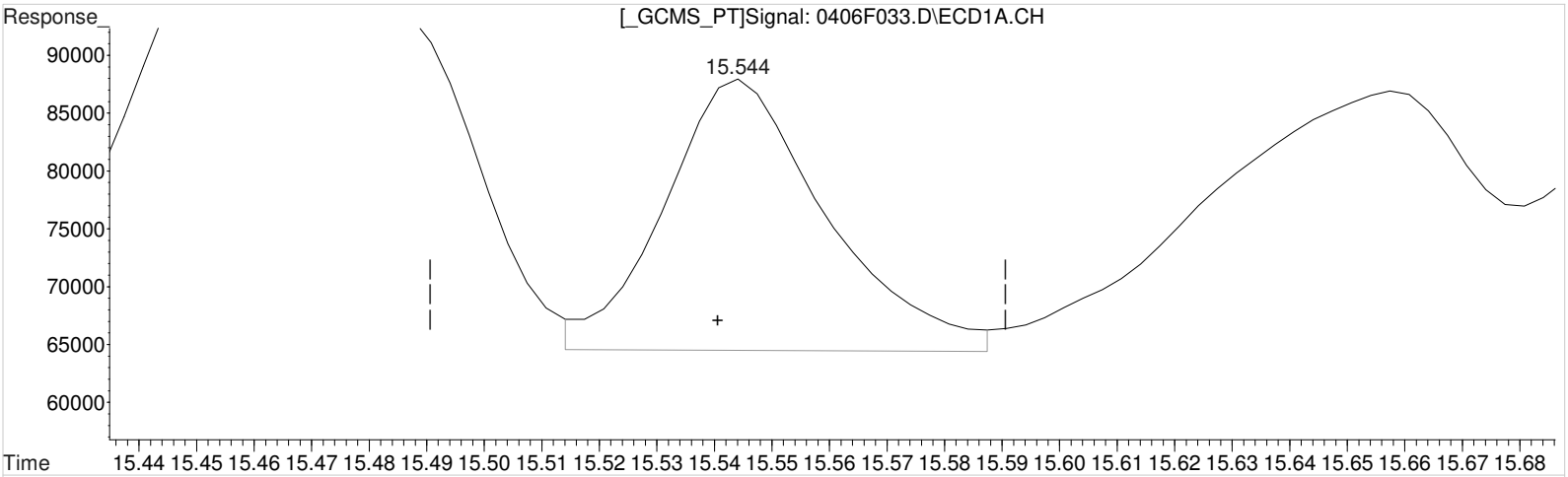
Quantitation Report (Qedit)

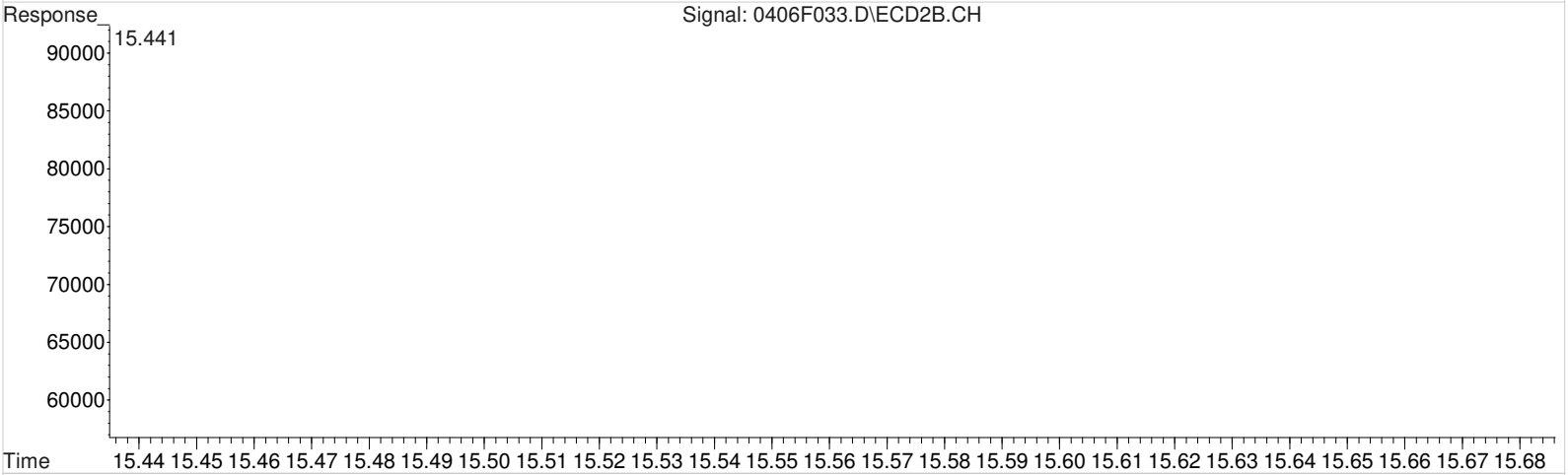
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.544min 696.384 ug/L

response 45731

Manual Integration:

Before

04/07/20

(35) Toxaphene {6} #2

15.441min 957.661 ug/L

response 238325

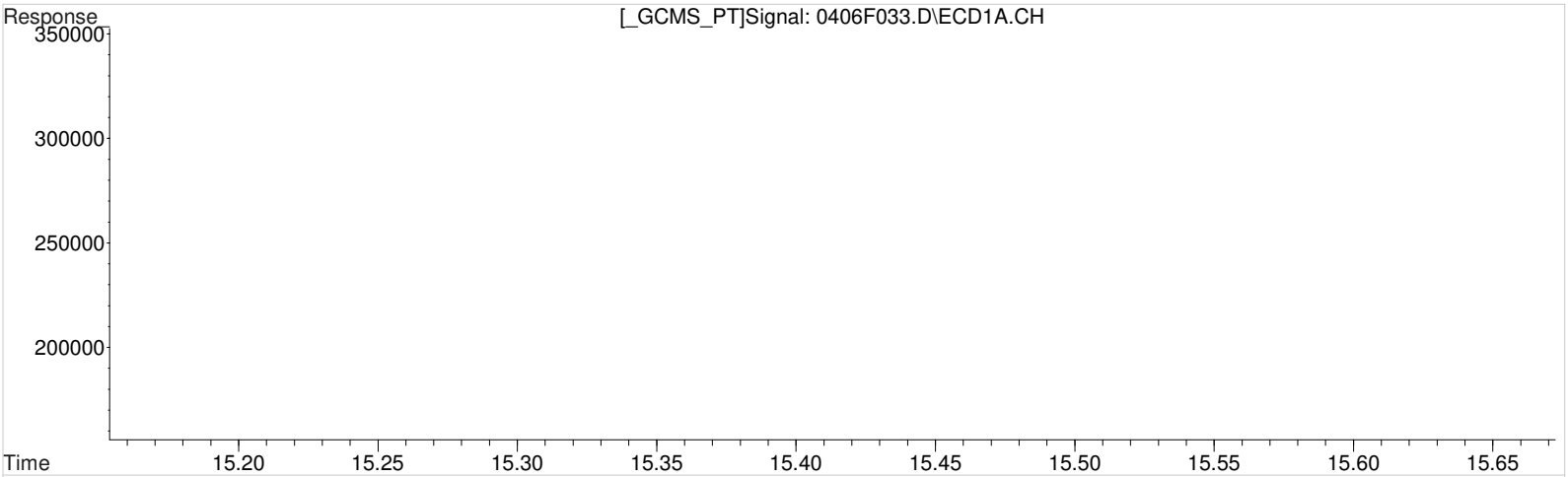
(+) = Expected Retention Time

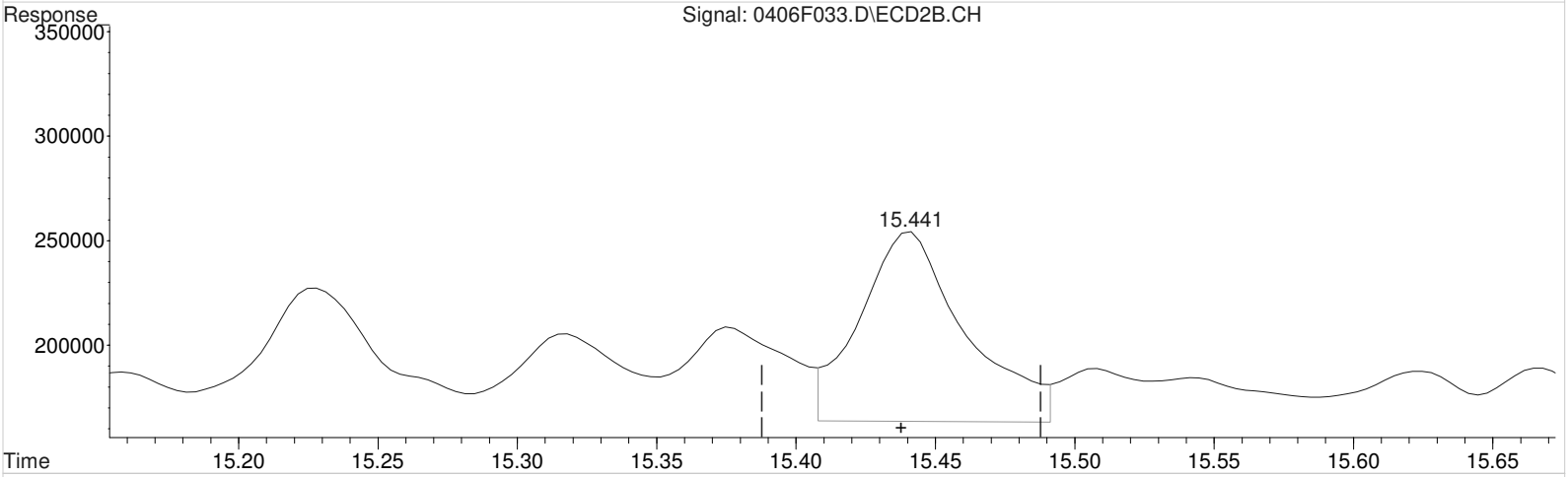
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.544min 590.870 ug/L m

response 38802

Manual Integration:

Before

04/07/20

(35) Toxaphene {6} #2

15.441min 957.661 ug/L

response 238325

(+) = Expected Retention Time

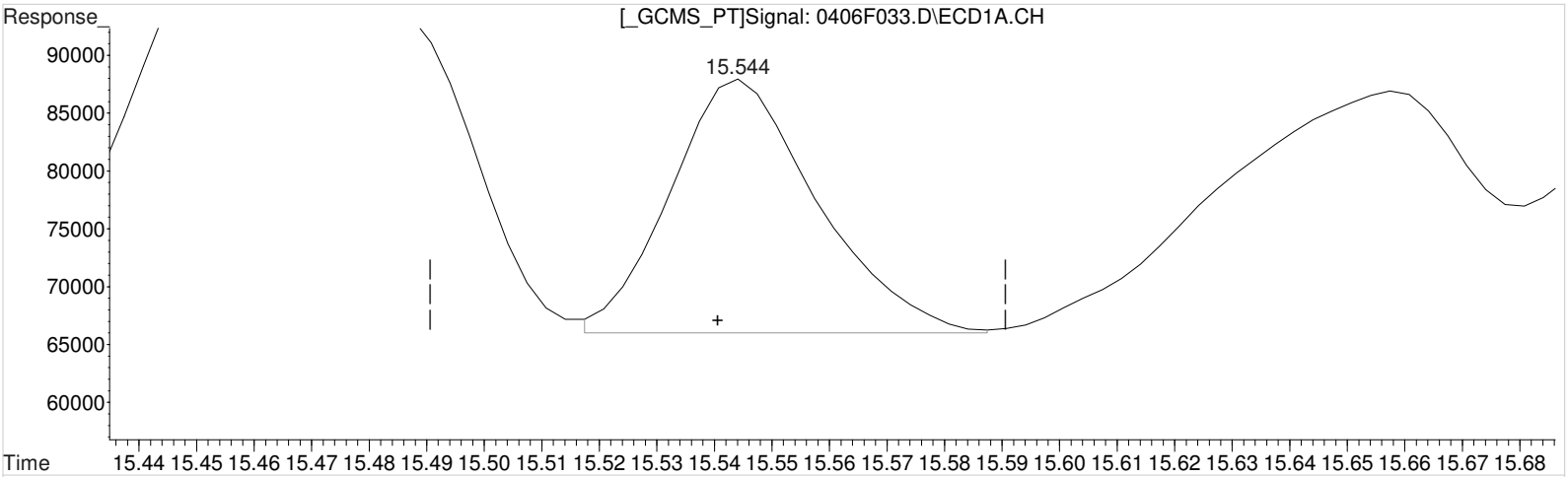
Quantitation Report (Qedit)

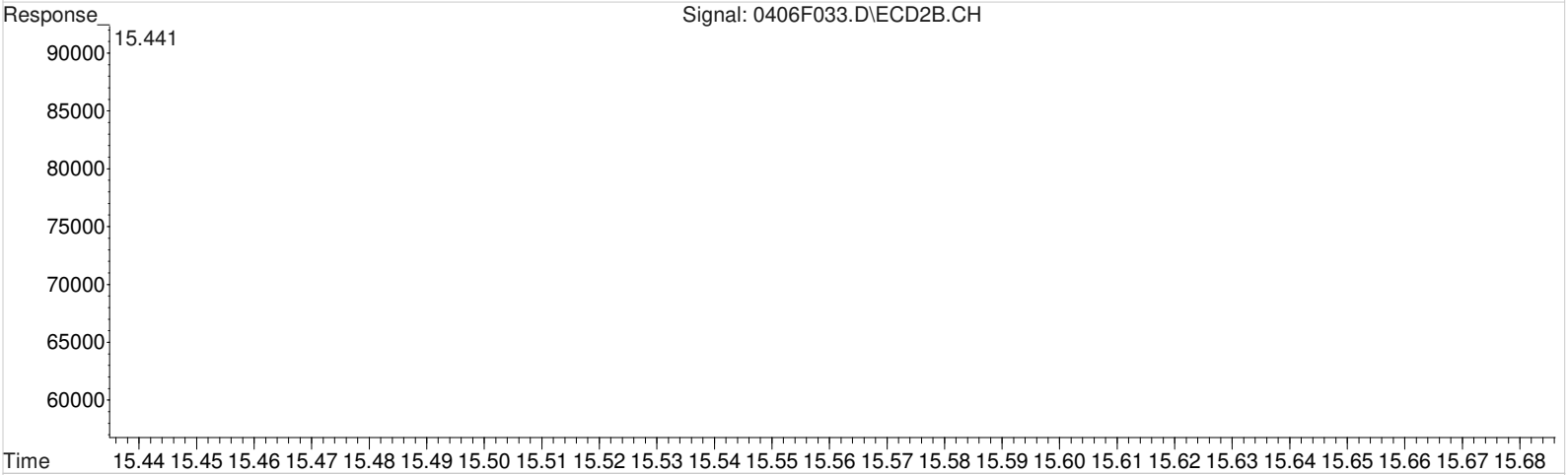
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(35) Toxaphene {6}

15.544min 590.870 ug/L m

response 38802

Manual Integration:

After

Baseline/Shoulder

04/07/20

(35) Toxaphene {6} #2

15.441min 957.661 ug/L

response 238325

(+) = Expected Retention Time

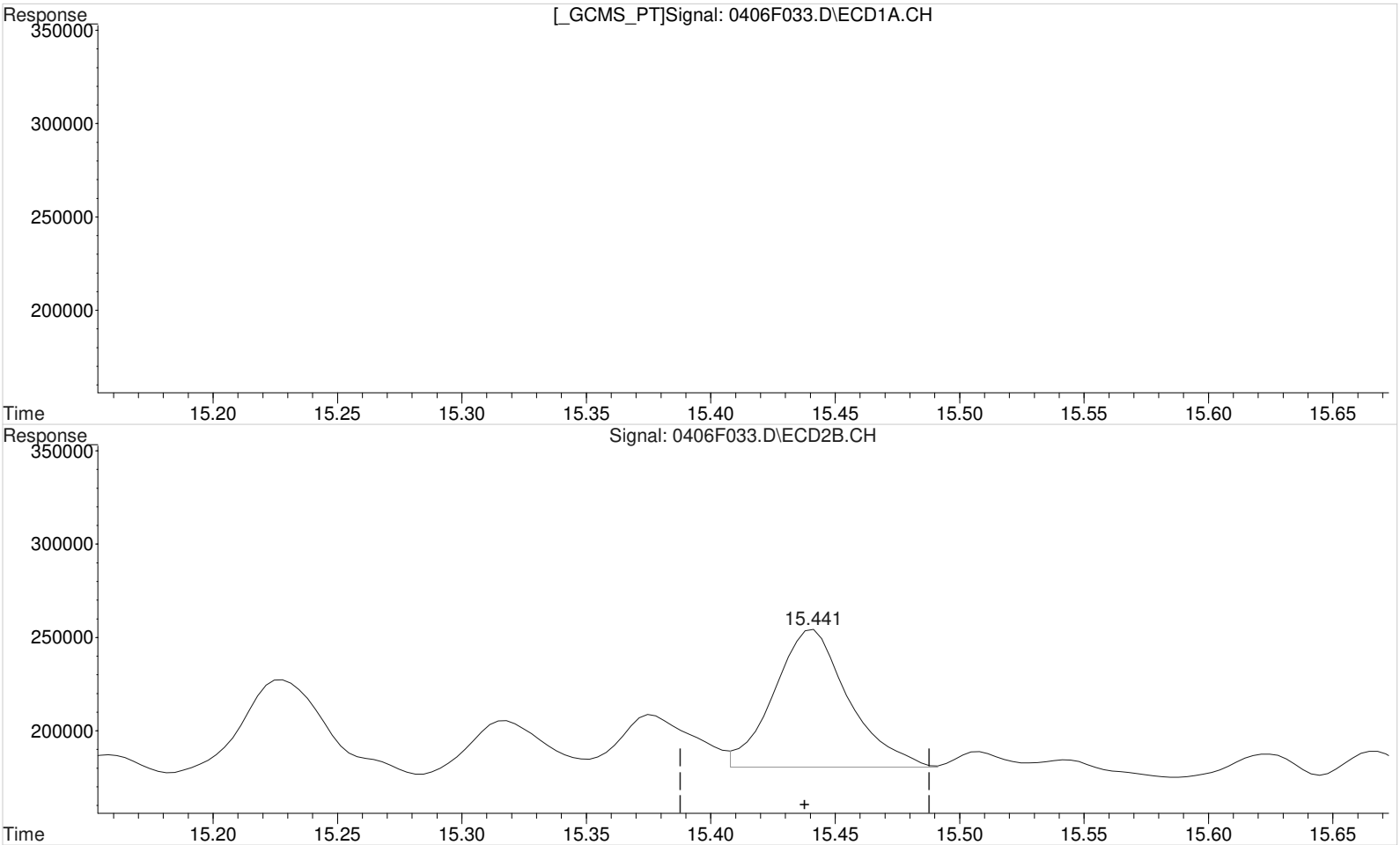
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F033.D Vial: 31
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 2:44 am Operator: LM
Sample : TOX 500PPB GCPS8-74I Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 09:39:57 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 08:34:07 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



(35) Toxaphene {6}

15.544min 590.870 ug/L m

response 38802

Manual Integration:

After

Baseline/Shoulder

04/07/20

(35) Toxaphene {6} #2

15.441min 612.931 ug/L m

response 152535

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F034.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:14 am Operator: LM
Sample : TOX ICV 100PPB GCPS8-69H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:00:47 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
29)	1-Bromo-2...	6.207	5.491	1047086	4934837	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
30)	Toxaphene	14.754	13.391	17656	104109	102.624m	94.942
31)	Toxaphene...	14.814	13.461	14324	75485	92.046m	89.474m
32)	Toxaphene...	14.937	13.601	29489	99069	95.100	91.064
33)	Toxaphene...	15.004	13.668	21714	36848	104.123	94.928
34)	Toxaphene...	15.354	13.934	21541	55118	108.402	93.315
35)	Toxaphene...	15.541	15.434	8444	31813	93.618	99.426
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

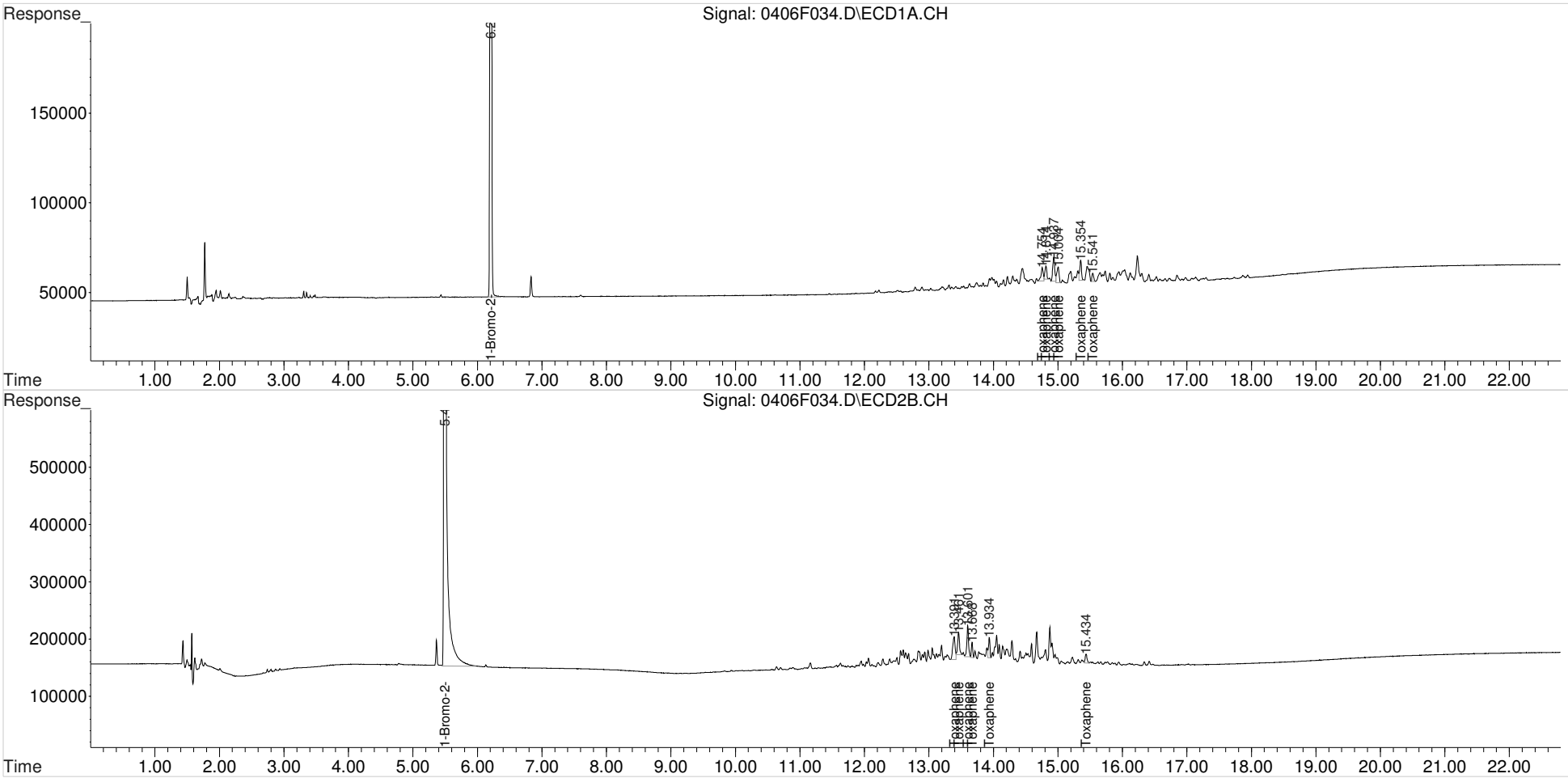
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F034.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:14 am Operator: LM
Sample : TOX ICV 100PPB GCPS8-69H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:00:47 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



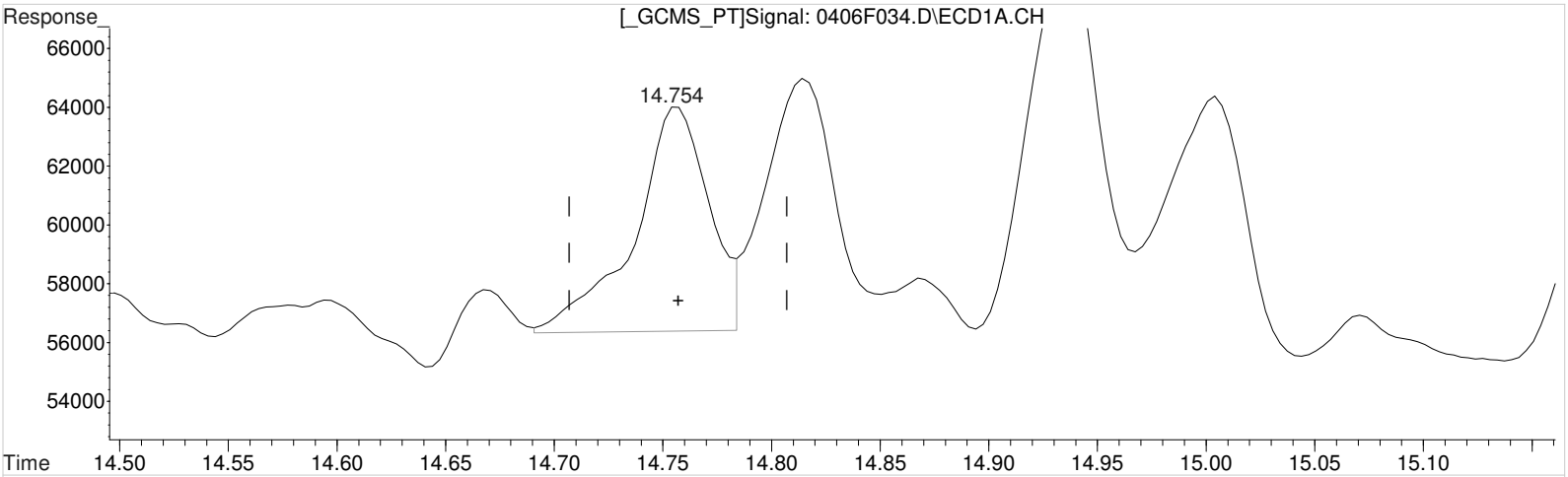
Quantitation Report (Qedit)

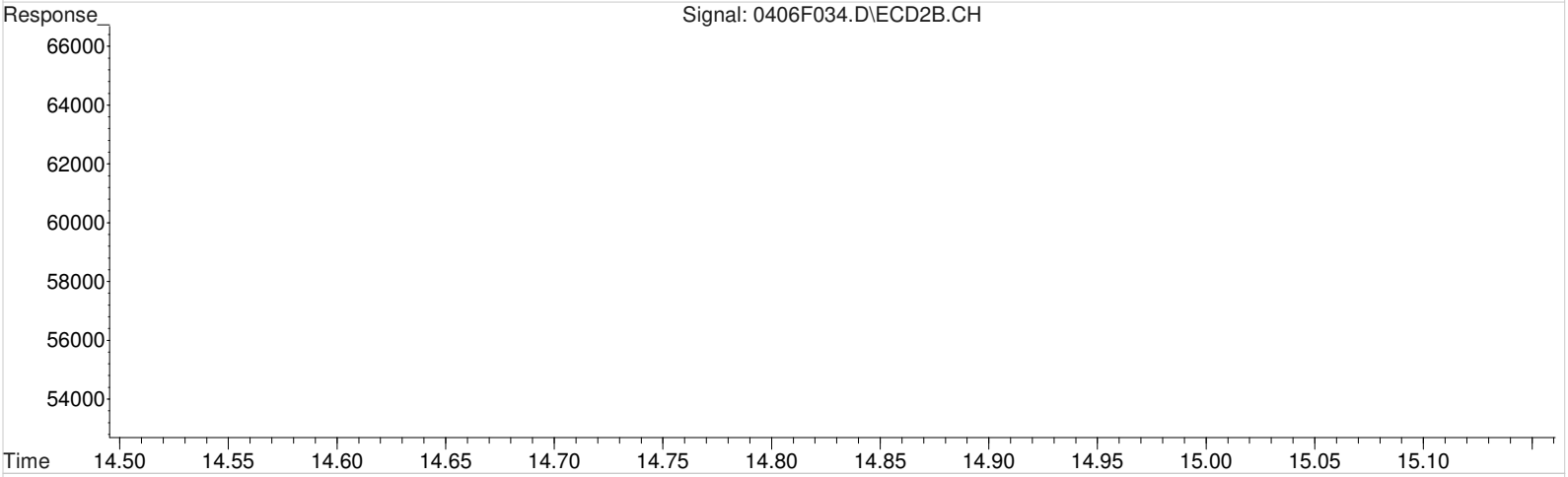
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F034.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:14 am Operator: LM
Sample : TOX ICV 100PPB GCPS8-69H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:58:26 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.754min 107.344 ug/L

response 18468

Manual Integration:

Before

04/07/20

(30) Toxaphene #2

13.391min 94.942 ug/L

response 104109

(+) = Expected Retention Time

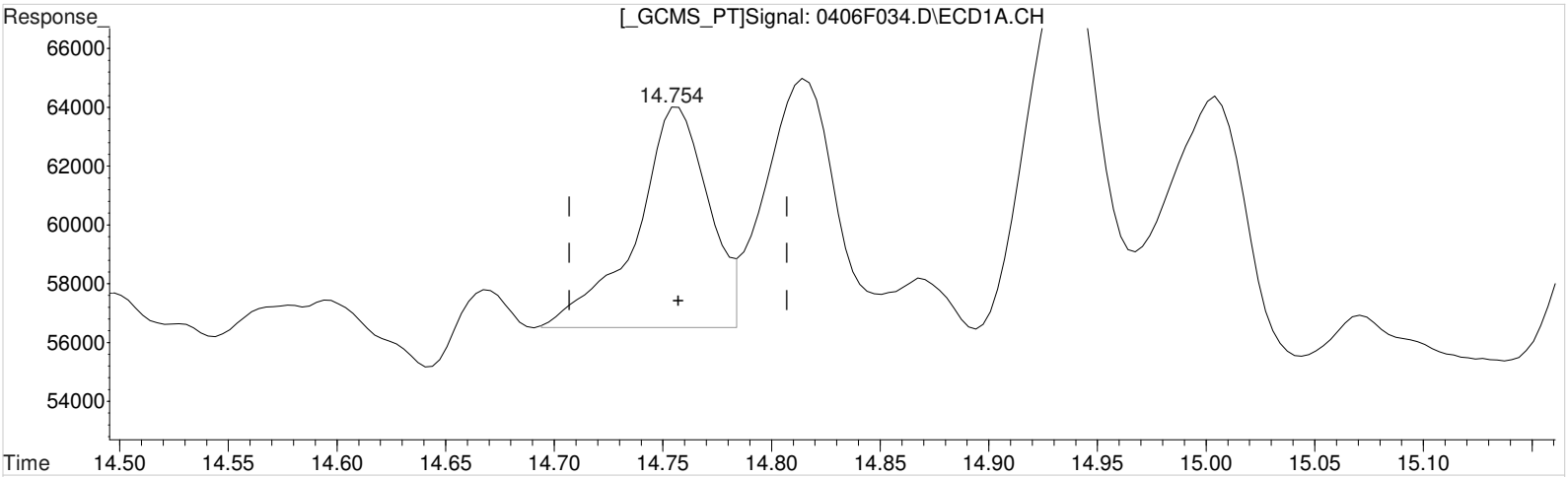
Quantitation Report (Qedit)

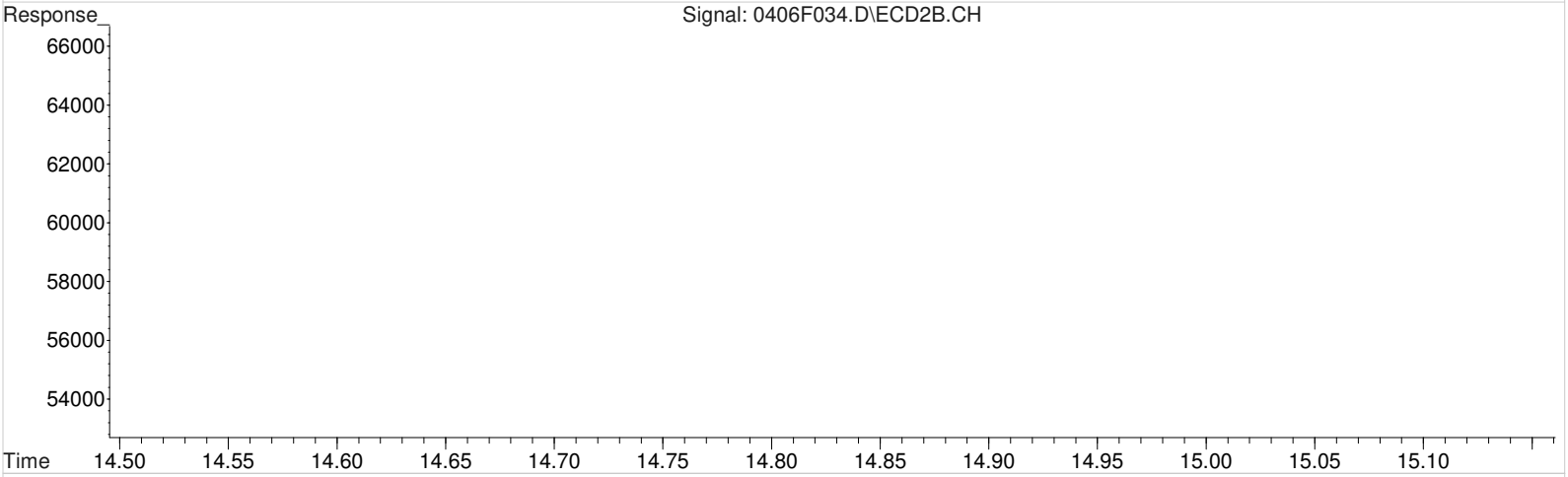
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F034.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:14 am Operator: LM
Sample : TOX ICV 100PPB GCPS8-69H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:58:26 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(30) Toxaphene

14.754min 102.624 ug/L m

response 17656

Manual Integration:

After

Baseline/Shoulder

04/07/20

(30) Toxaphene #2

13.391min 94.942 ug/L

response 104109

(+) = Expected Retention Time

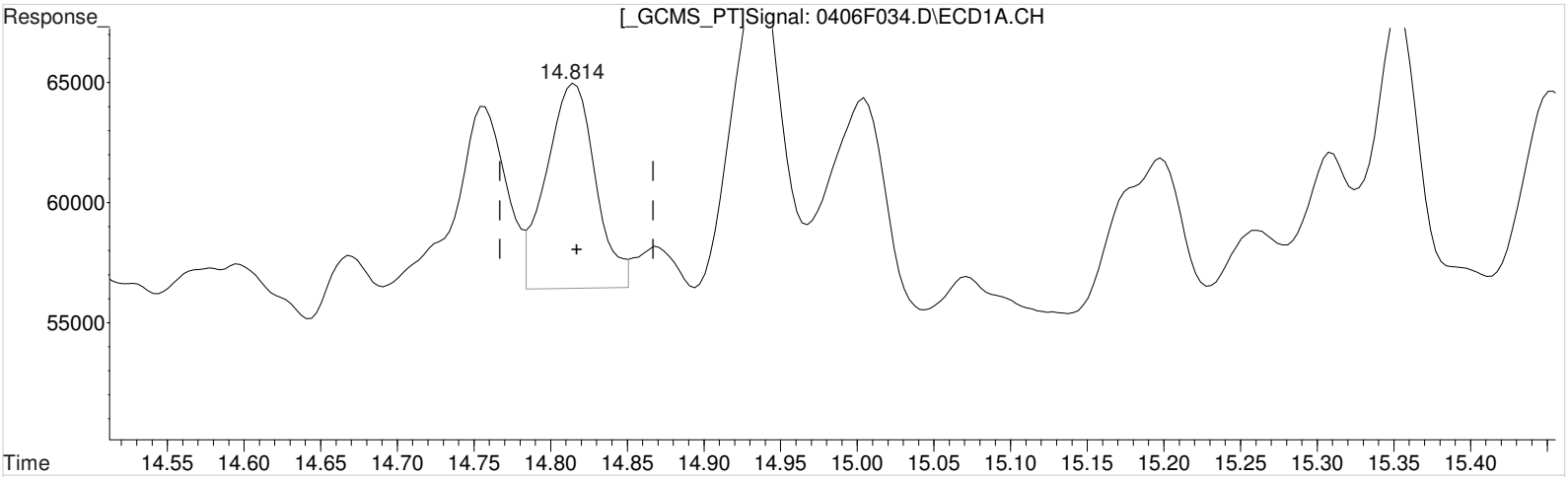
Quantitation Report (Qedit)

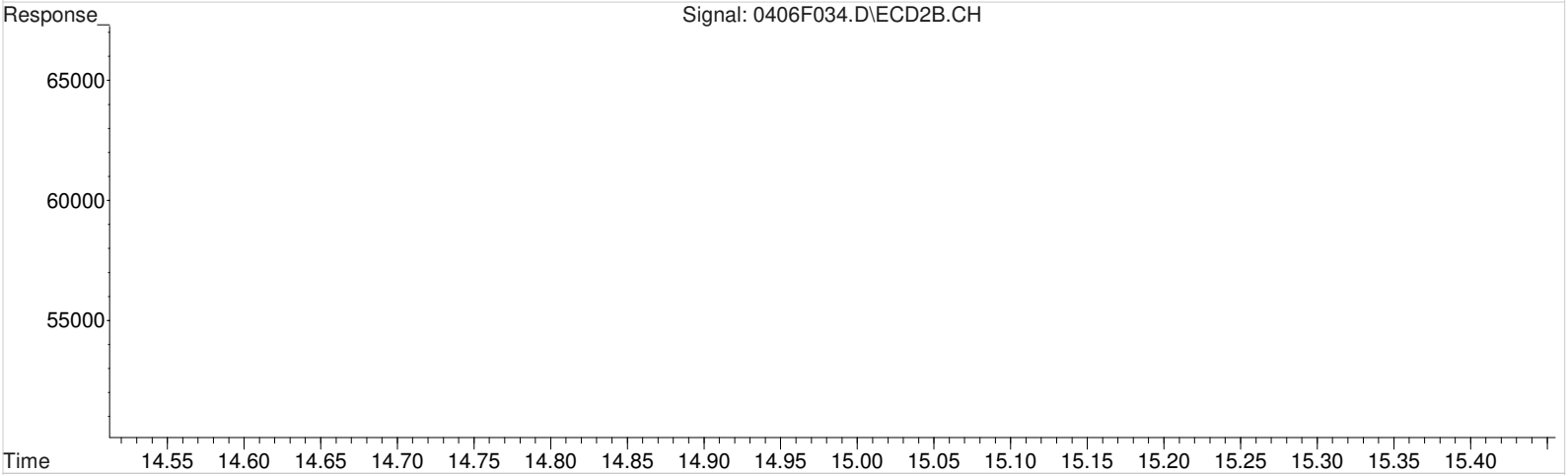
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F034.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:14 am Operator: LM
Sample : TOX ICV 100PPB GCPS8-69H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:58:26 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.814min 121.297 ug/L

response 18876

Manual Integration:

Before

04/07/20

(31) Toxaphene {2} #2

13.461min 119.086 ug/L

response 100468

(+) = Expected Retention Time

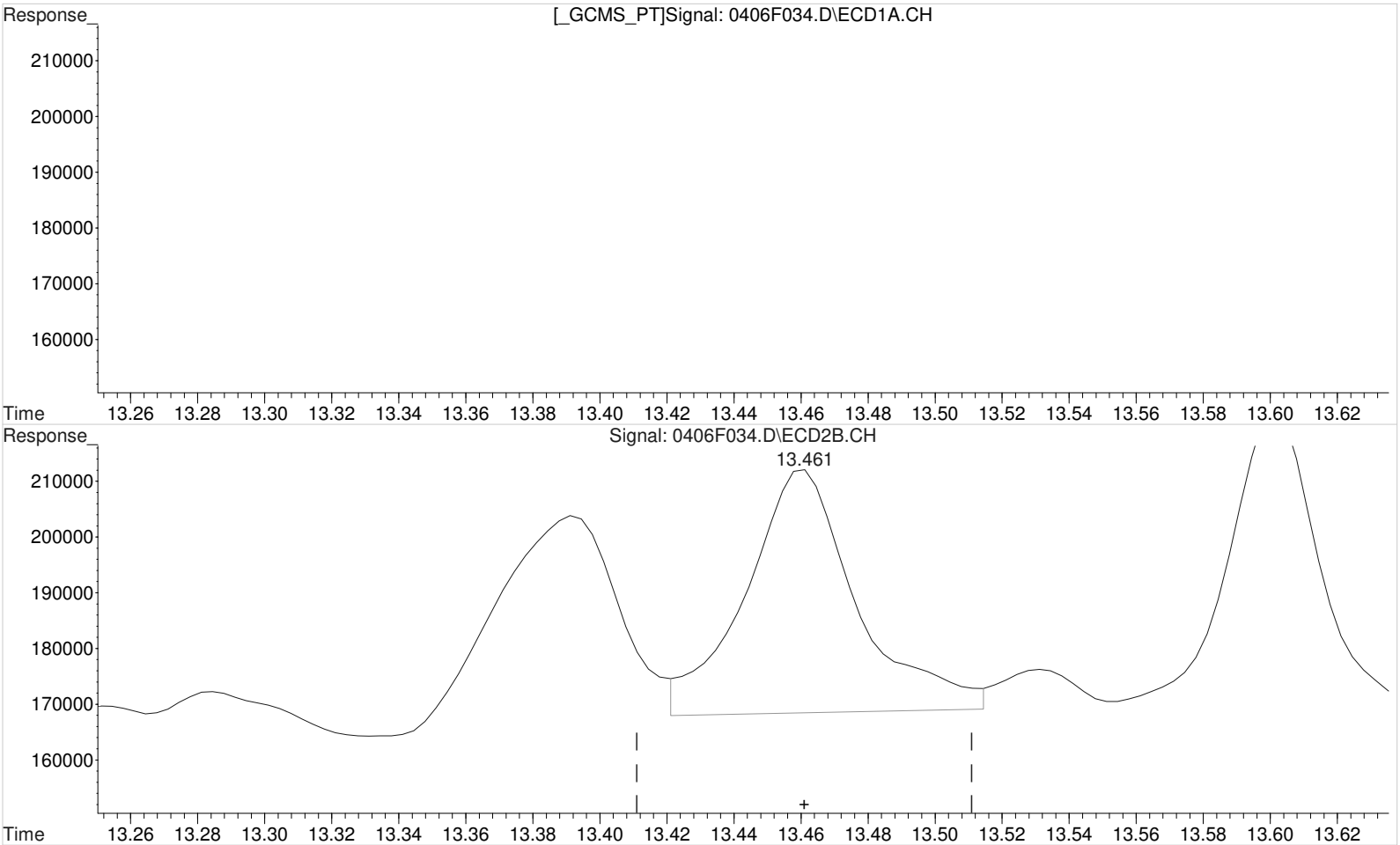
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F034.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:14 am Operator: LM
Sample : TOX ICV 100PPB GCPS8-69H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:58:26 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.814min 92.046 ug/L m

response 14324

(31) Toxaphene {2} #2

13.461min 119.086 ug/L

response 100468

Manual Integration:

Before

04/07/20

(+) = Expected Retention Time

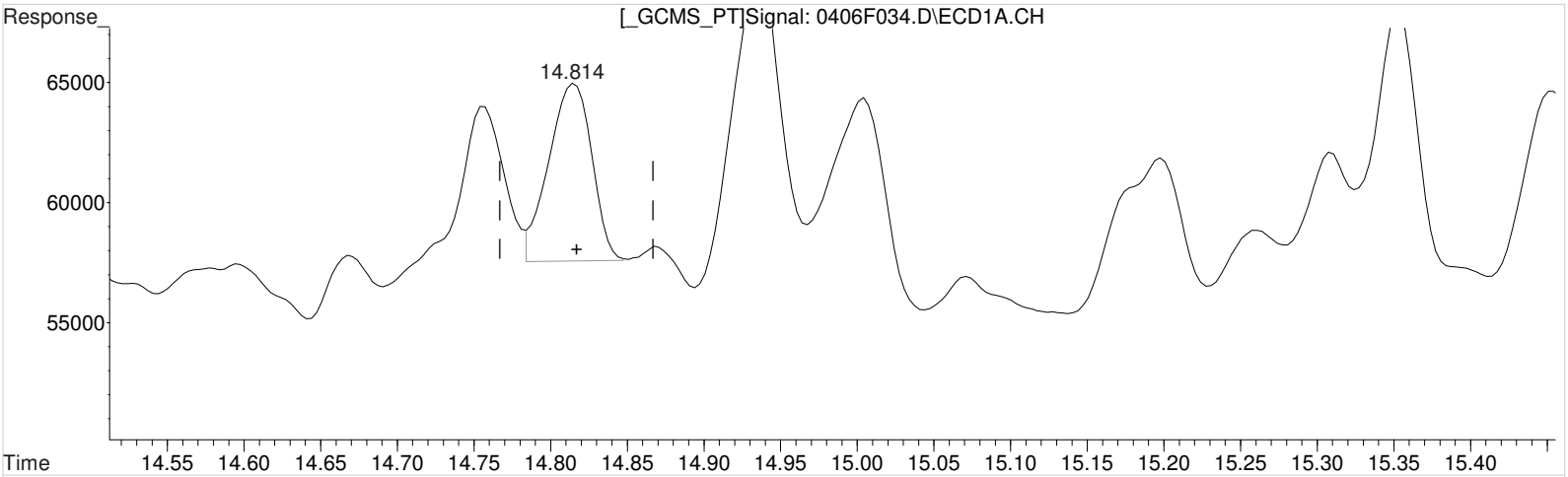
Quantitation Report (Qedit)

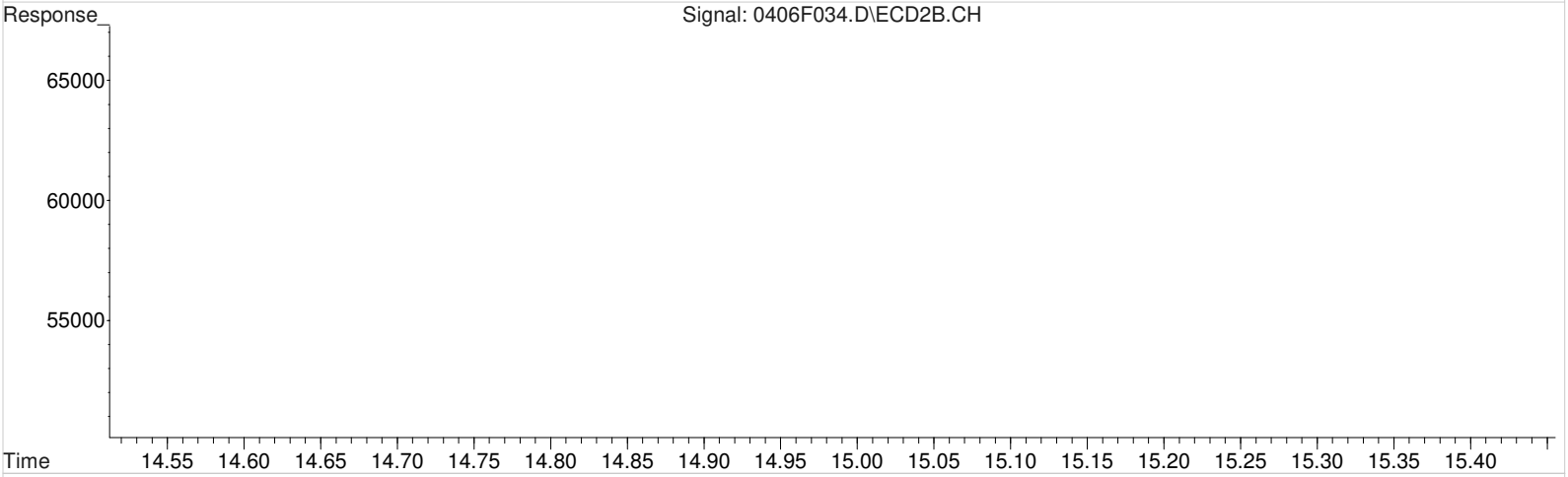
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F034.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:14 am Operator: LM
Sample : TOX ICV 100PPB GCPS8-69H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:58:26 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(31) Toxaphene {2}

14.814min 92.046 ug/L m

response 14324

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.461min 119.086 ug/L

response 100468

(+) = Expected Retention Time

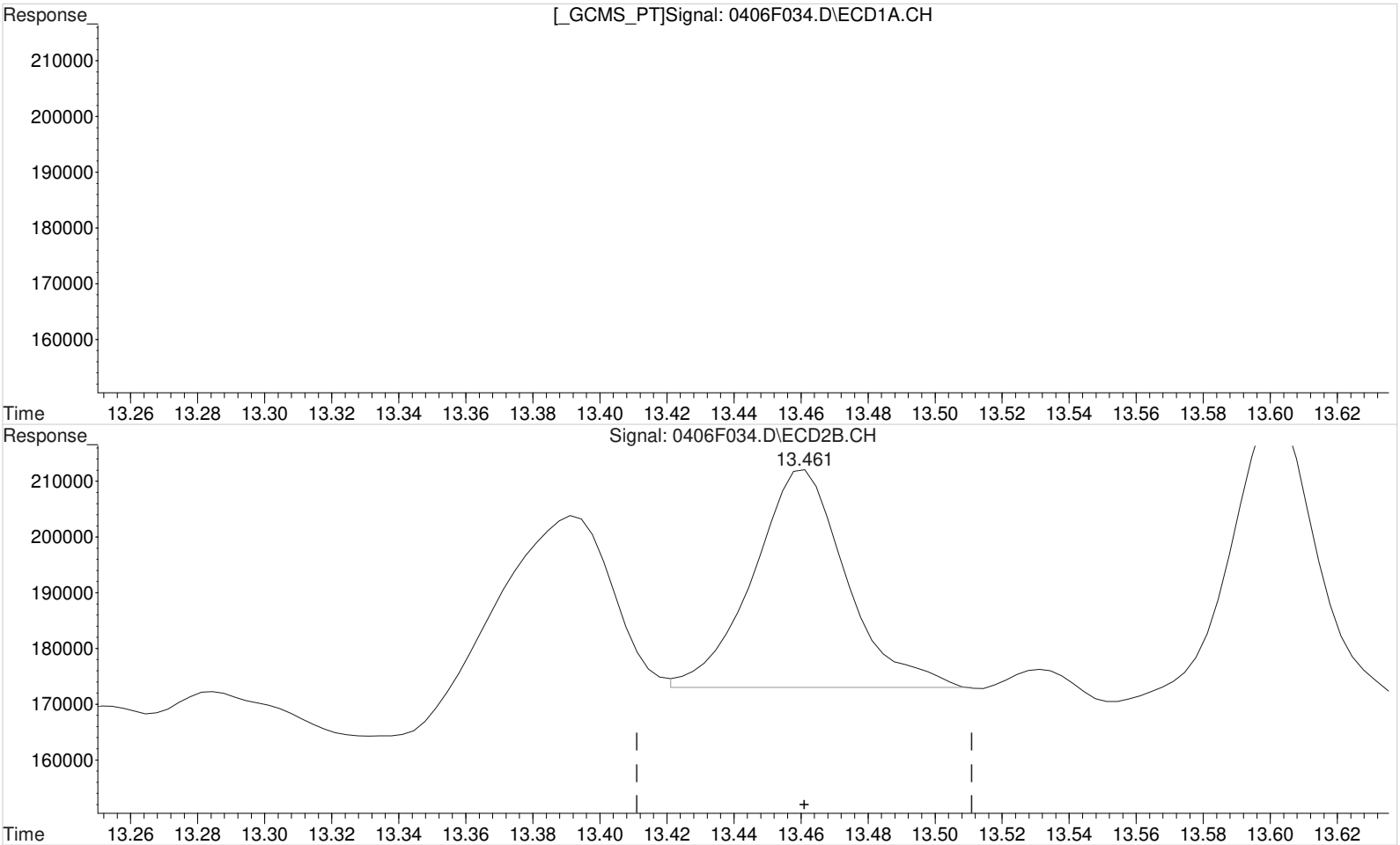
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F034.D Vial: 32
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:14 am Operator: LM
Sample : TOX ICV 100PPB GCPS8-69H Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 10:58:26 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(31) Toxaphene {2}

14.814min 92.046 ug/L m

response 14324

Manual Integration:

After

Baseline/Shoulder

04/07/20

(31) Toxaphene {2} #2

13.461min 89.474 ug/L m

response 75485

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:14:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
36)	1-Bromo-2...	6.202	5.489	978367	4591694	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
37)	Chlordane	11.279	9.573	1515	5426	2.175	0.753m#
38)	Chlordane...	11.695	11.666	1879	3251	2.348m	0.935 #
39)	Chlordane...	12.262	11.816	1230	1680	0.959m	1.335m#
40)	Chlordane...	13.465	11.976	4154	14703	2.340m	2.056
41)	Chlordane...	13.539	12.023	3531	9806	2.447	2.309
42)	Chlordane...	13.622	12.126	2738	13407	2.641	2.106
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

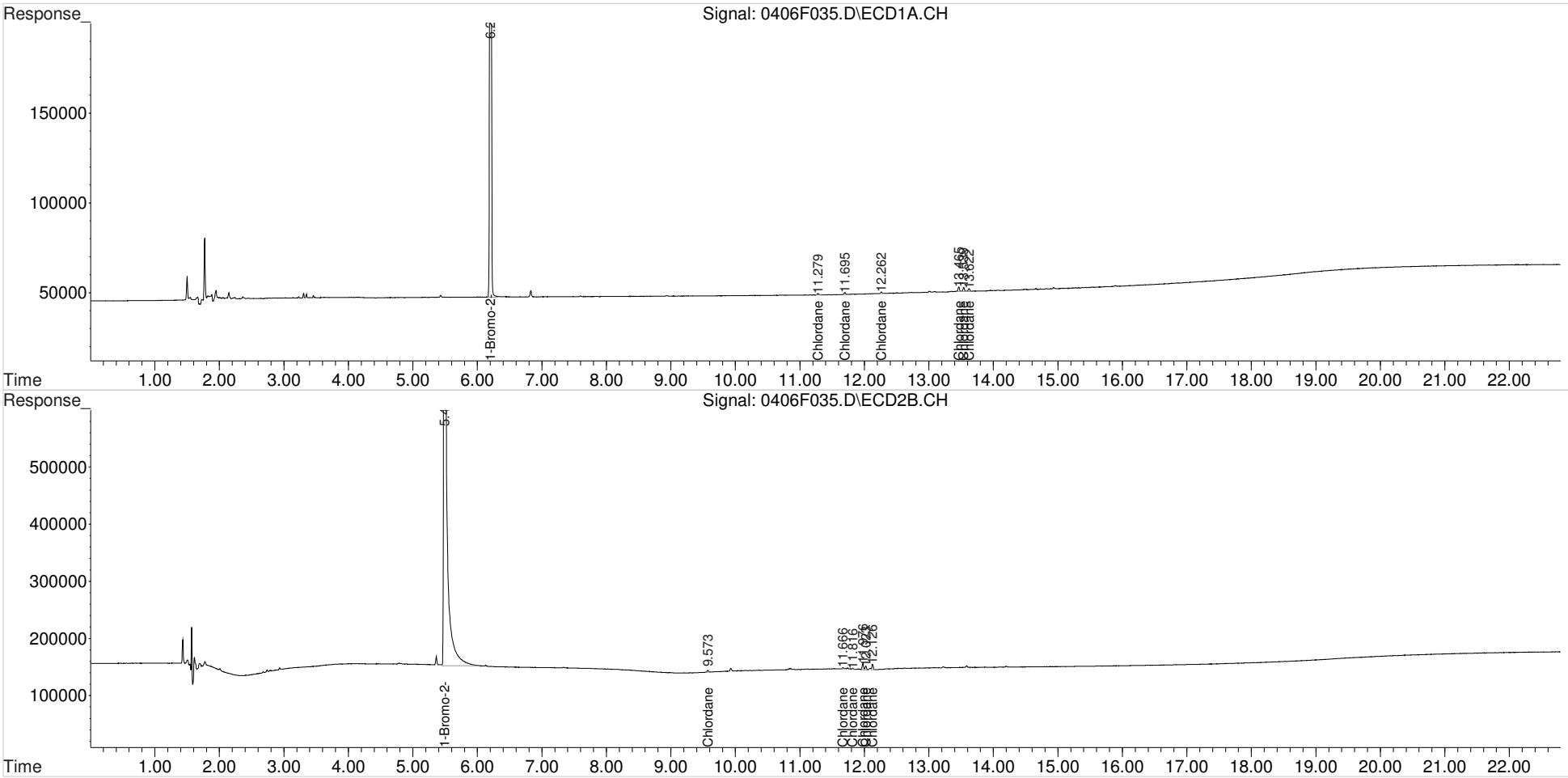
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:14:28 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

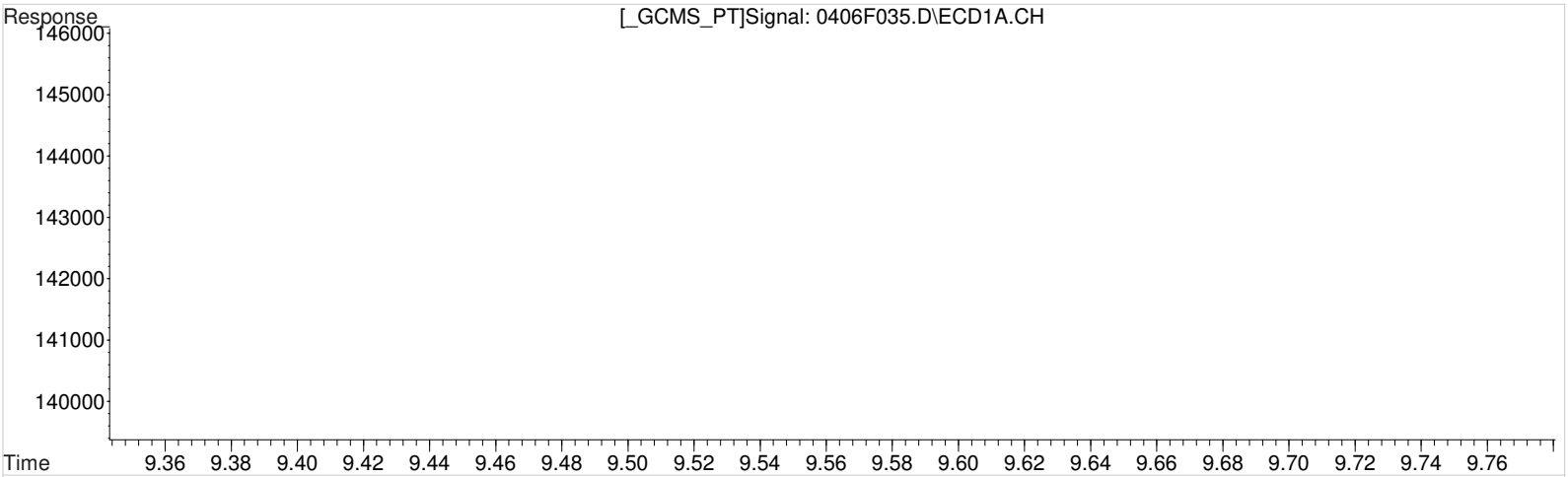


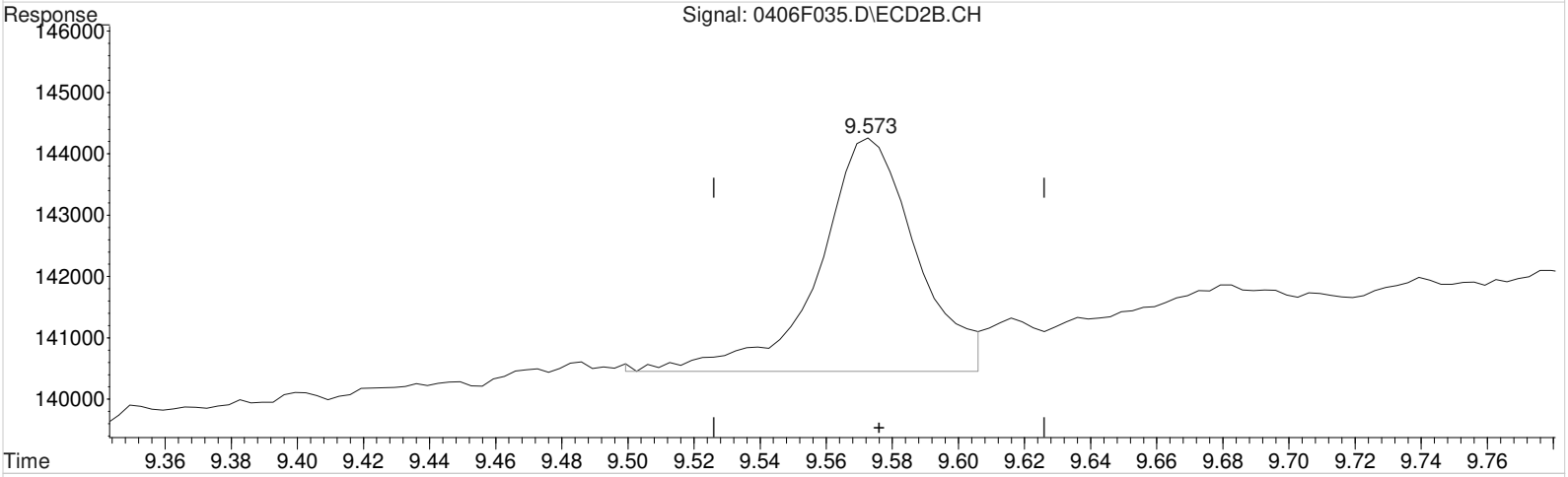
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(37) Chlordane

11.279min 2.175 ug/L

response 1515

Manual Integration:

Before

04/07/20

(37) Chlordane #2

9.573min 1.740 ug/L

response 7865

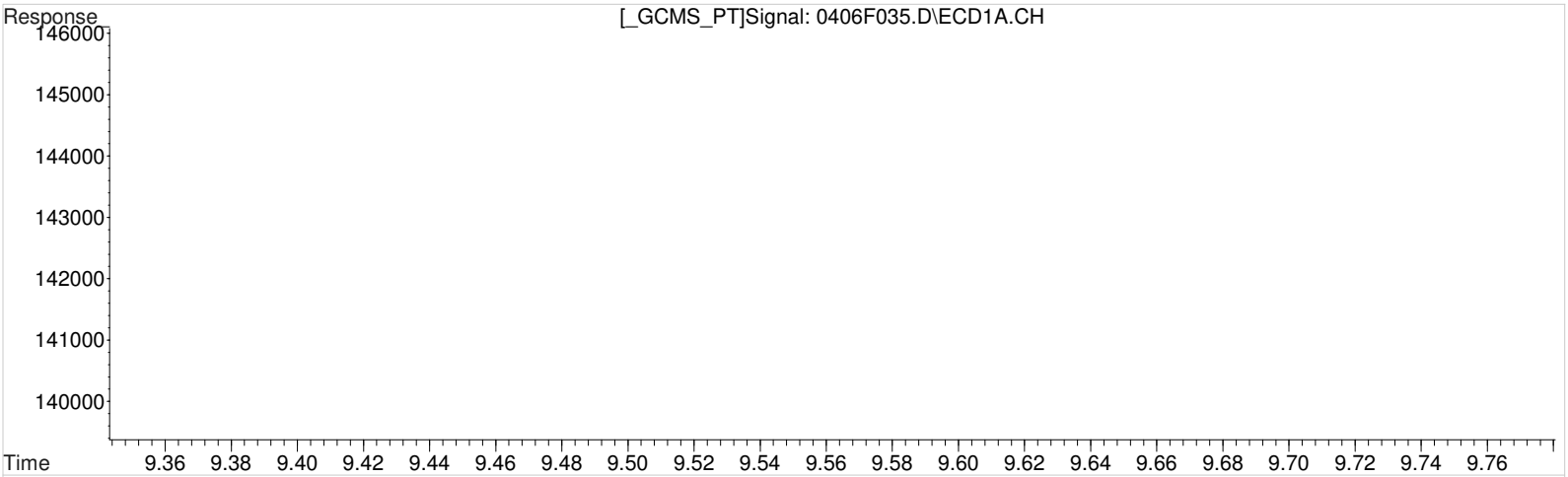
(+) = Expected Retention Time

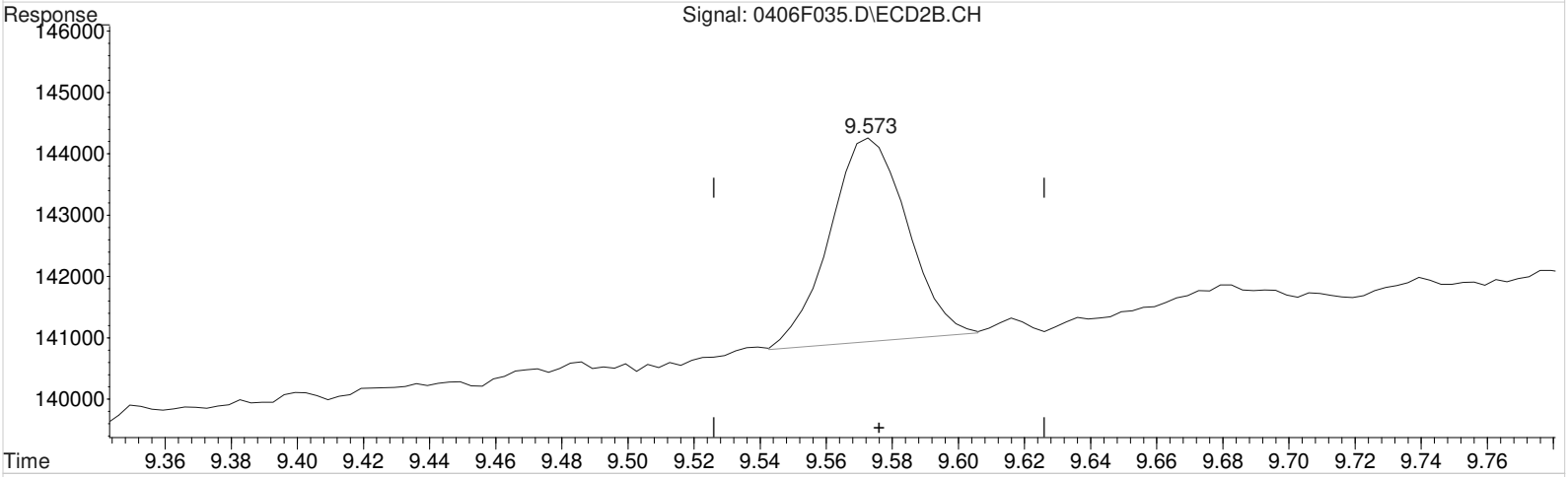
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(37) Chlordane

11.279min 2.175 ug/L

response 1515

(37) Chlordane #2

9.573min 0.753 ug/L m

response 5426

Manual Integration:

After

Baseline/Shoulder

04/07/20

(+) = Expected Retention Time

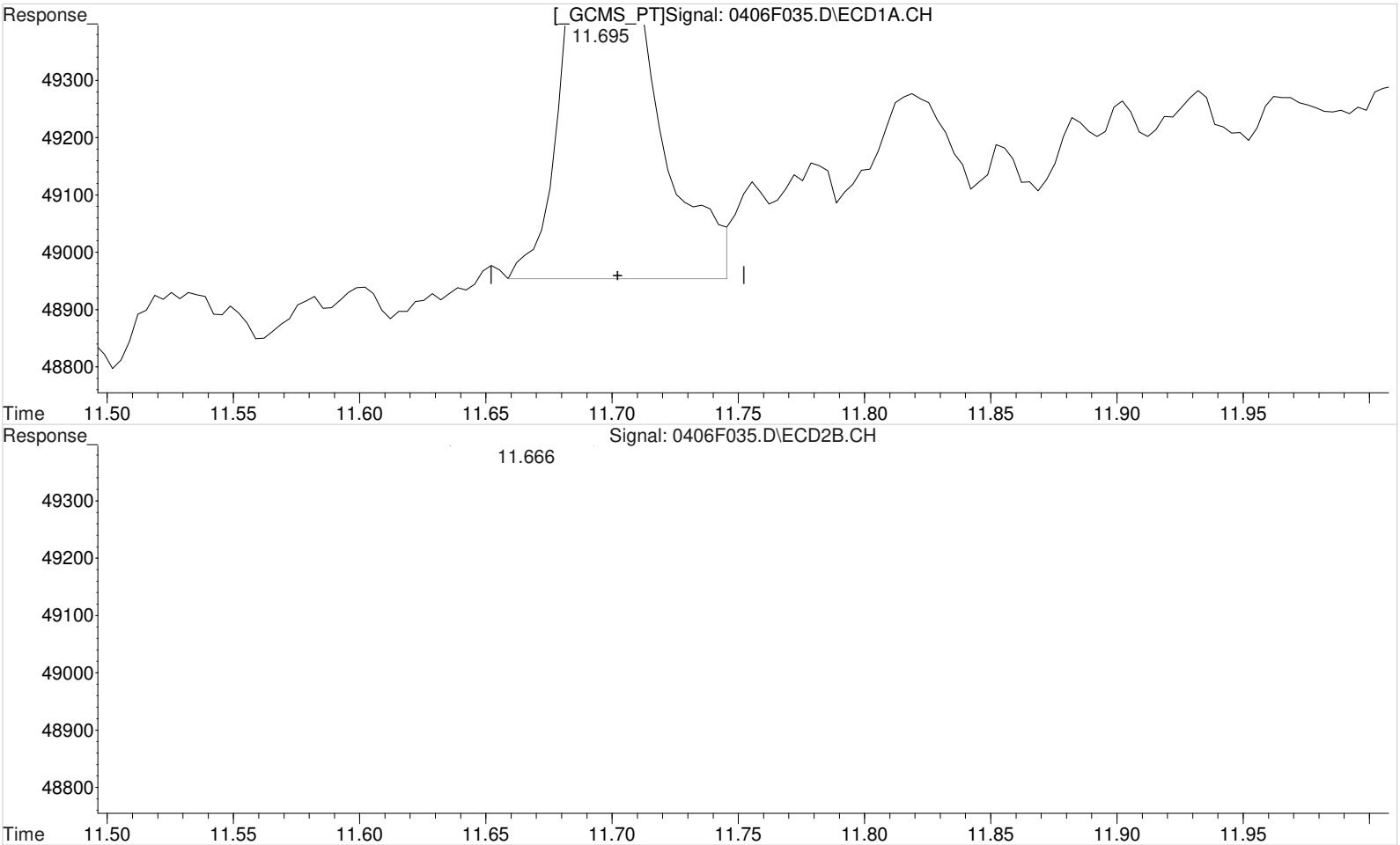
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(38) Chlordane {2}

11.695min 2.654 ug/L

response 2124

Manual Integration:

Before

04/07/20

(38) Chlordane {2} #2

11.666min 0.935 ug/L

response 3251

(+) = Expected Retention Time

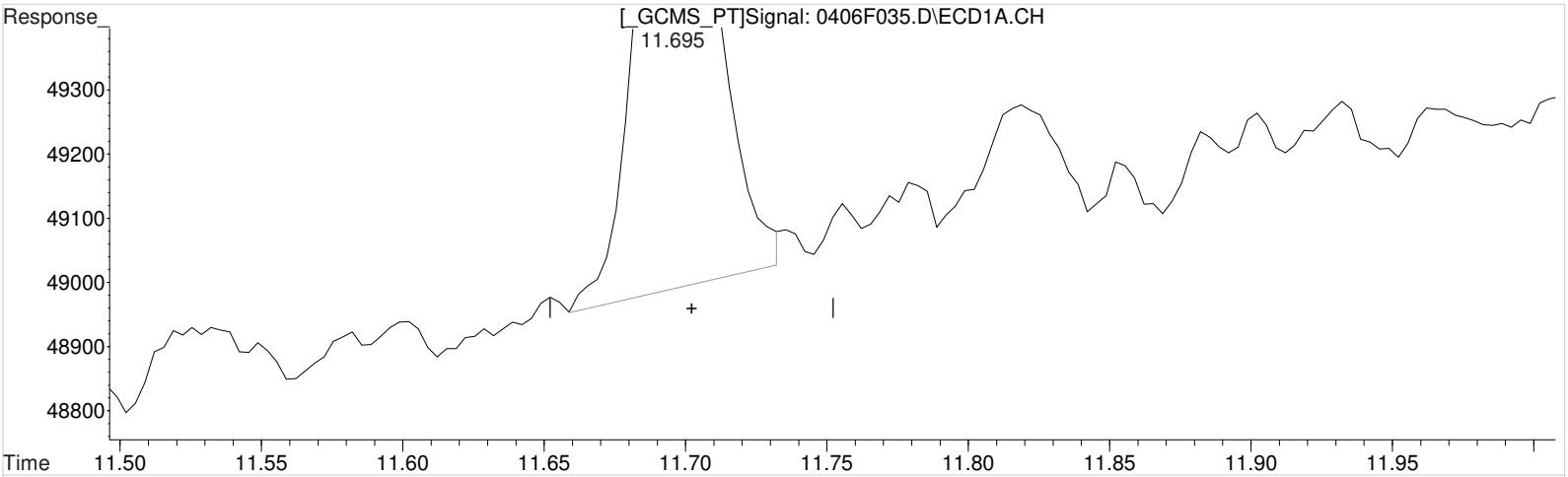
Quantitation Report (Qedit)

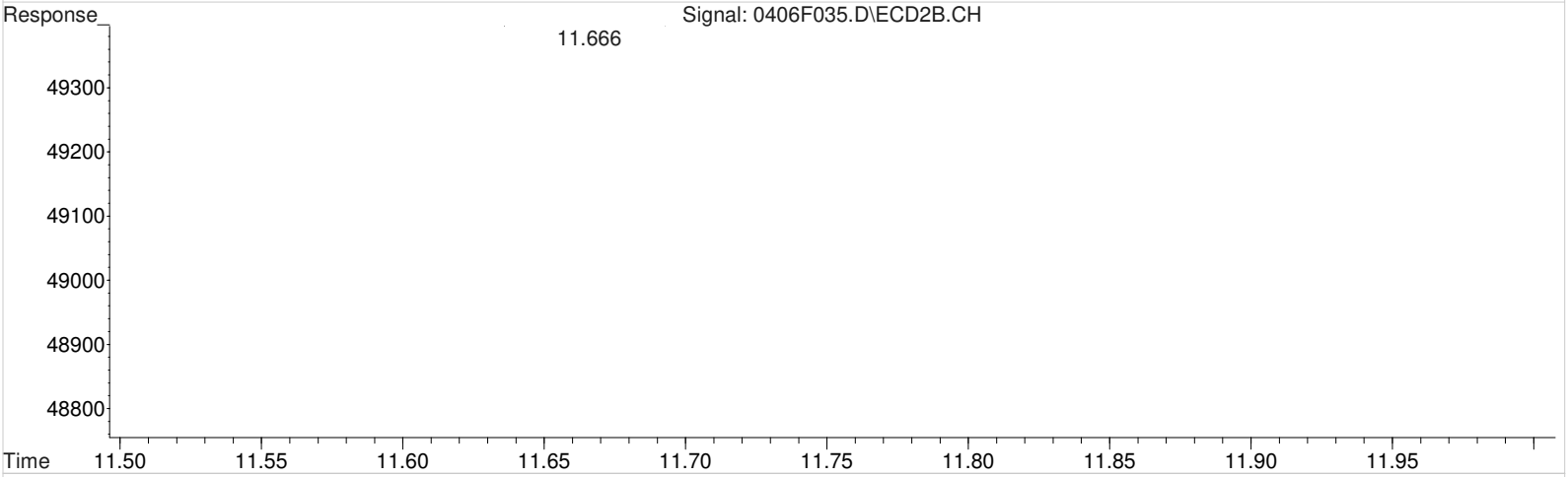
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.695min 2.348 ug/L m

response 1879

Manual Integration:

After

Baseline/Shoulder

04/07/20

(38) Chlordane {2} #2

11.666min 0.935 ug/L

response 3251

(+) = Expected Retention Time

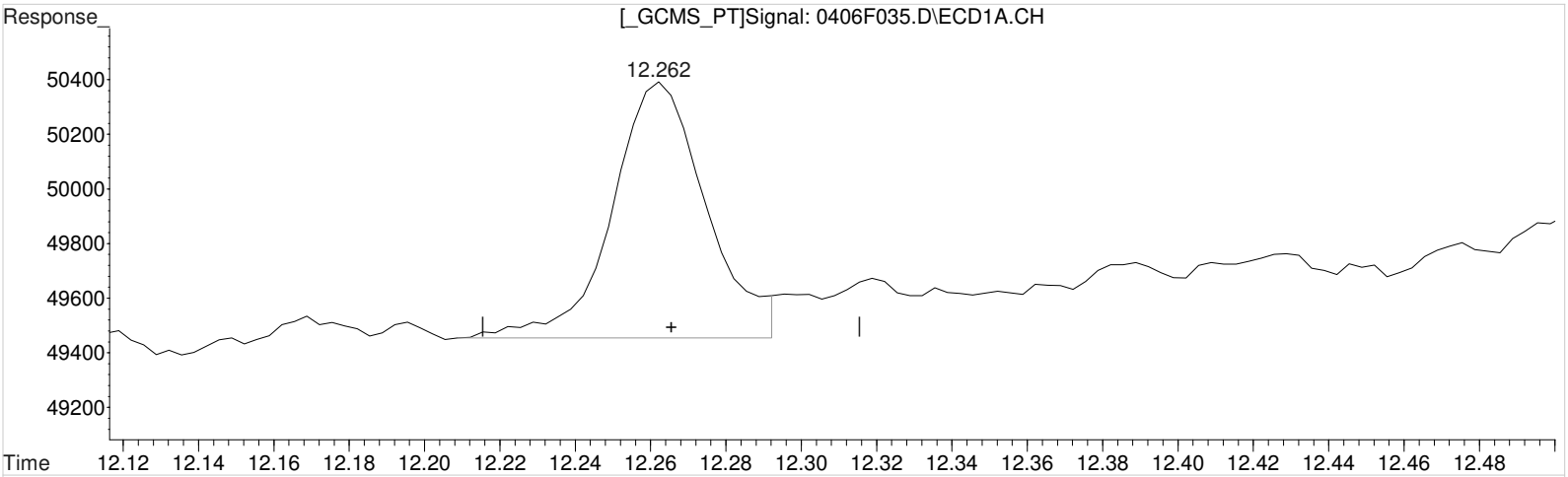
Quantitation Report (Qedit)

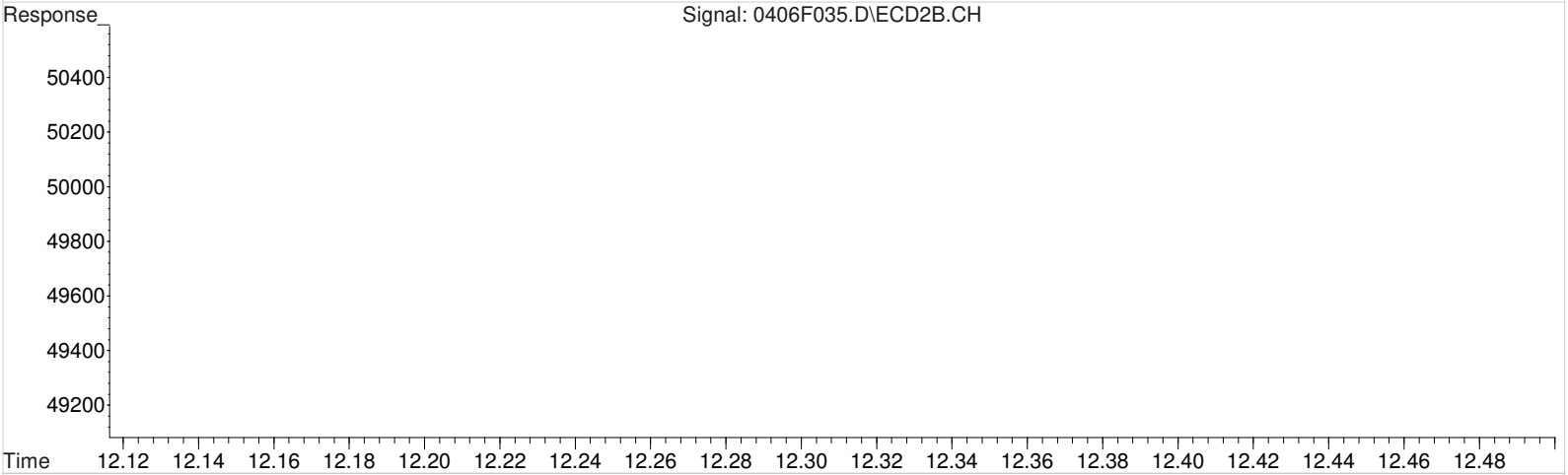
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(39) Chlordane {3}

12.262min 1.634 ug/L

response 1634

(39) Chlordane {3} #2

11.816min 1.904 ug/L

response 2395

Manual Integration:

Before

04/07/20

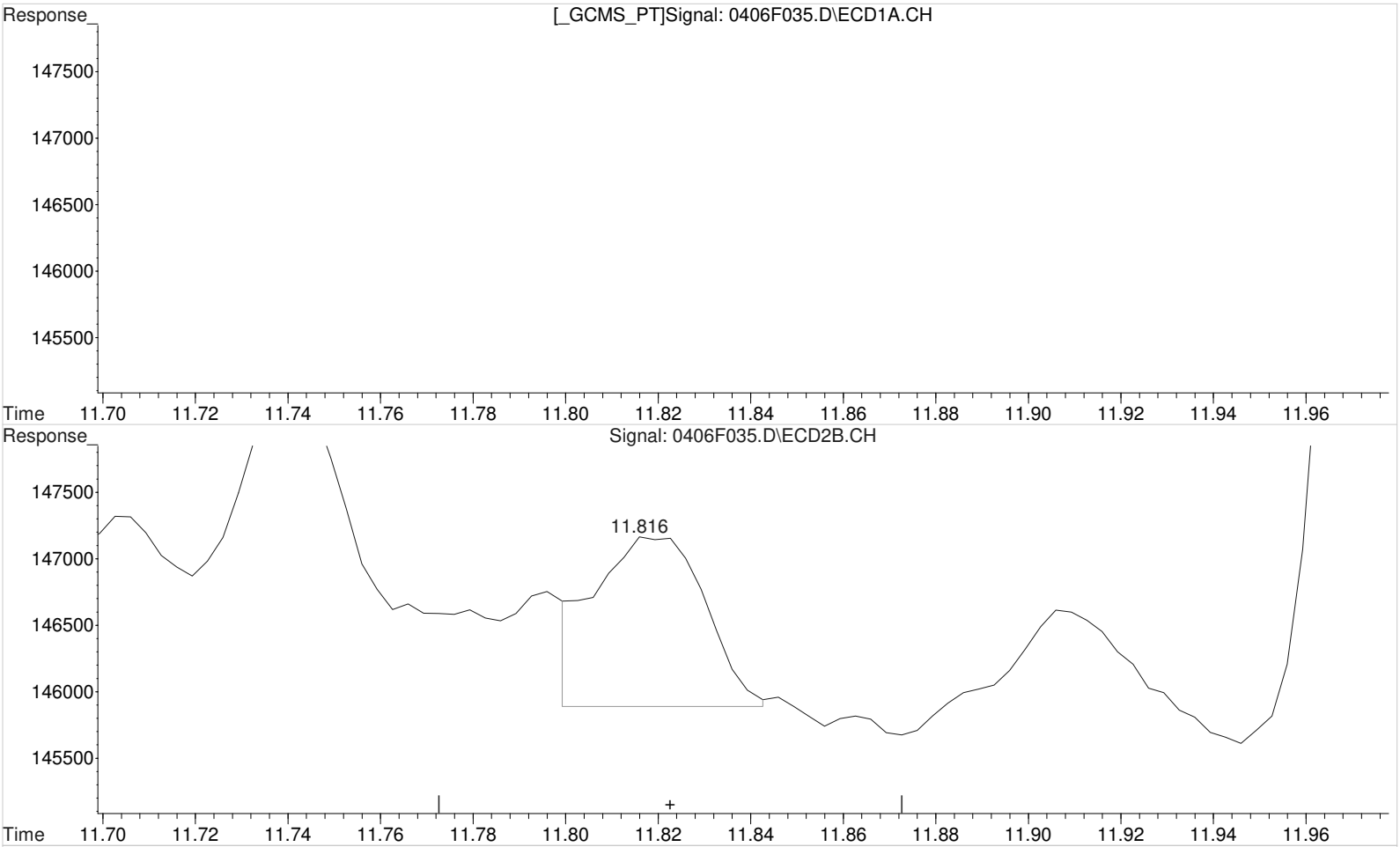
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(39) Chlordane {3}

12.262min 0.959 ug/L m

response 1230

Manual Integration:

Before

04/07/20

(39) Chlordane {3} #2

11.816min 1.676 ug/L m

response 2108

(+) = Expected Retention Time

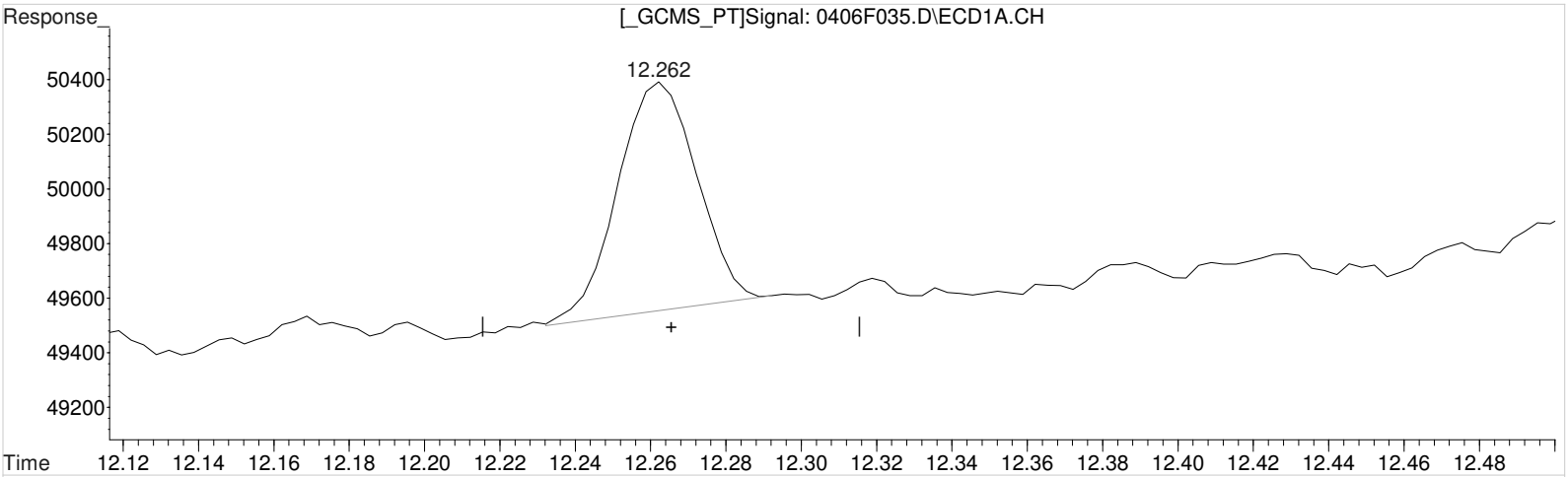
Quantitation Report (Qedit)

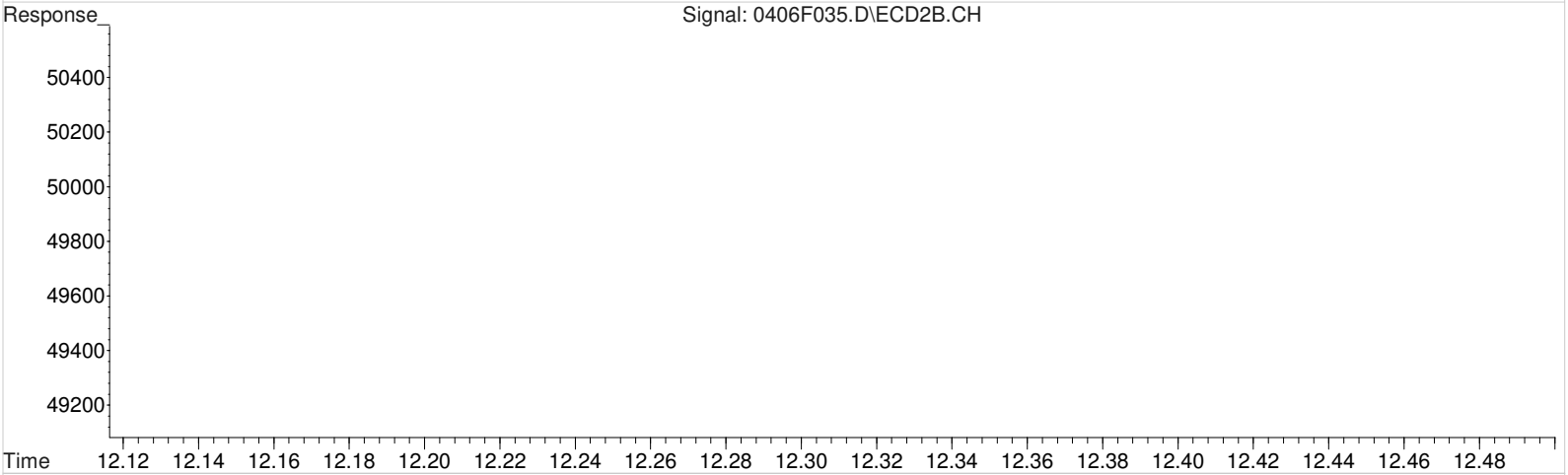
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(39) Chlordane {3}

12.262min 0.959 ug/L m

response 1230

Manual Integration:

After

Baseline/Shoulder

04/07/20

(39) Chlordane {3} #2

11.816min 1.904 ug/L

response 2395

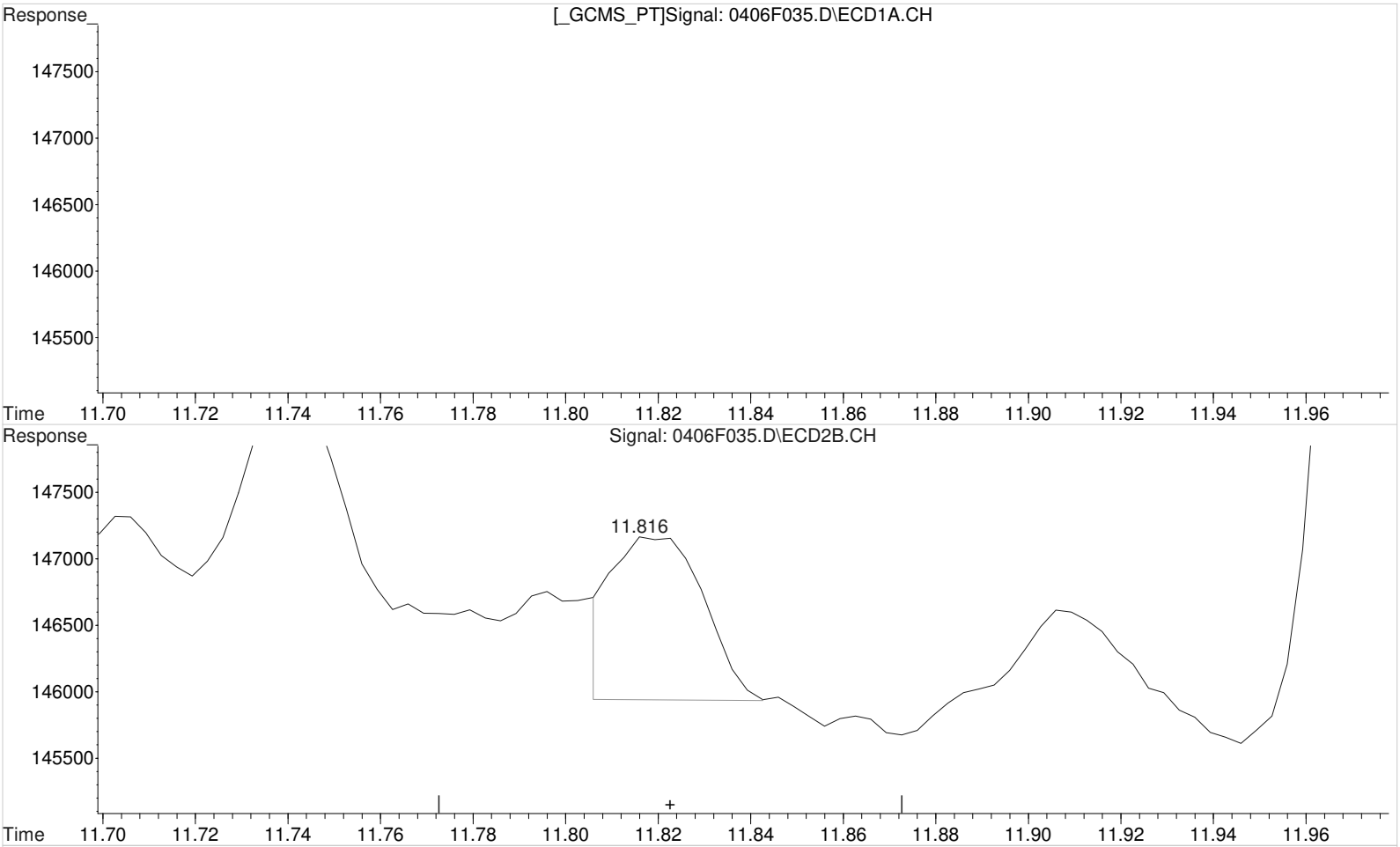
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(39) Chlordane {3}

12.262min 0.959 ug/L m

response 1230

Manual Integration:

After

Baseline/Shoulder

04/07/20

(39) Chlordane {3} #2

11.816min 1.335 ug/L m

response 1680

(+) = Expected Retention Time

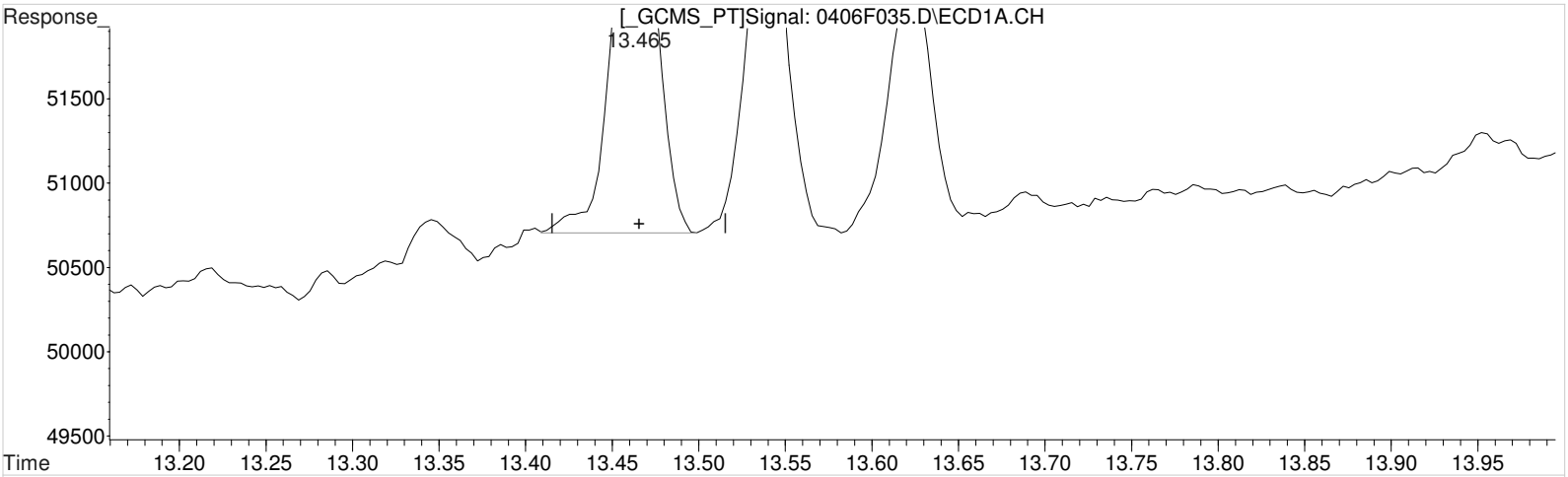
Quantitation Report (Qedit)

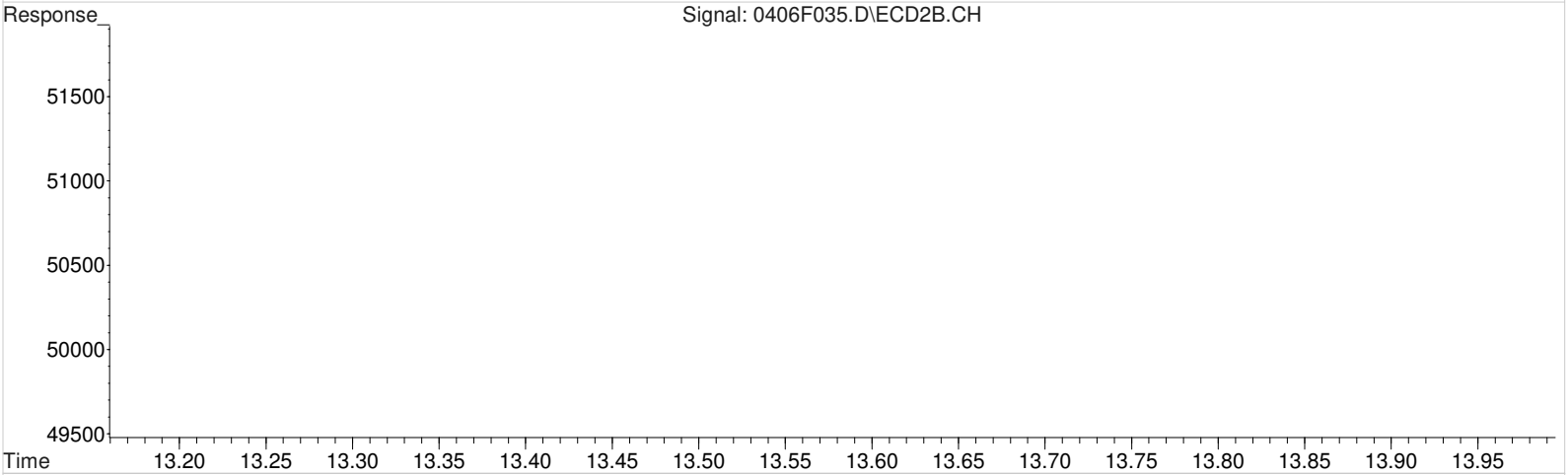
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.465min 2.402 ug/L

response 4264

Manual Integration:

Before

04/07/20

(40) Chlordane {4} #2

11.976min 2.056 ug/L

response 14703

(+) = Expected Retention Time

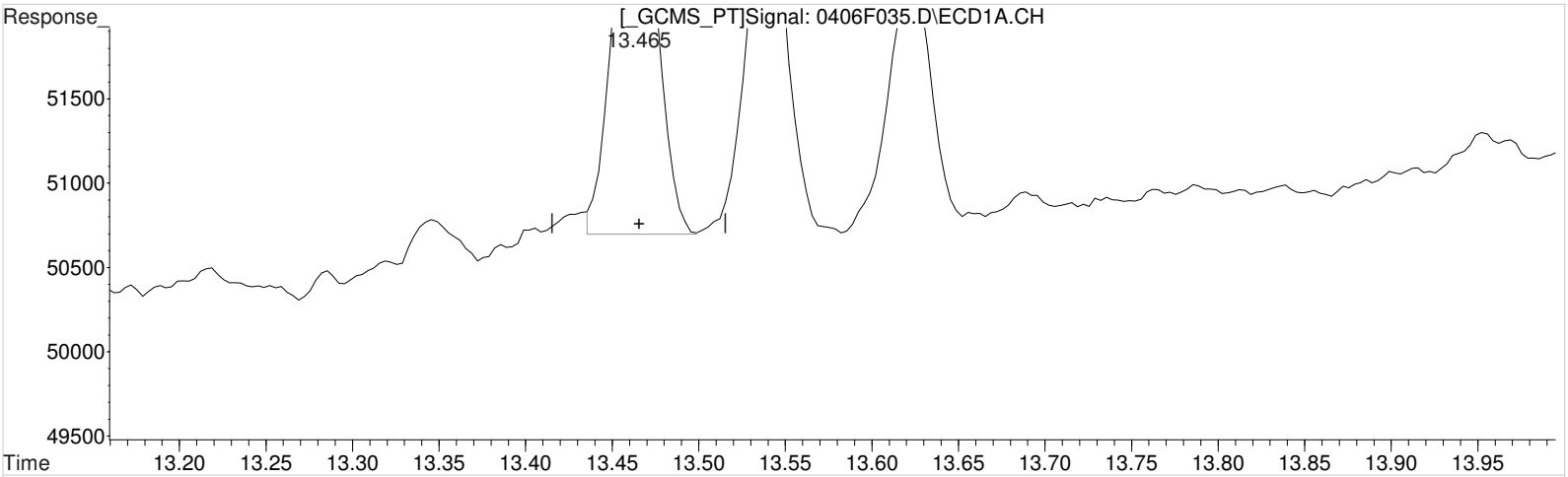
Quantitation Report (Qedit)

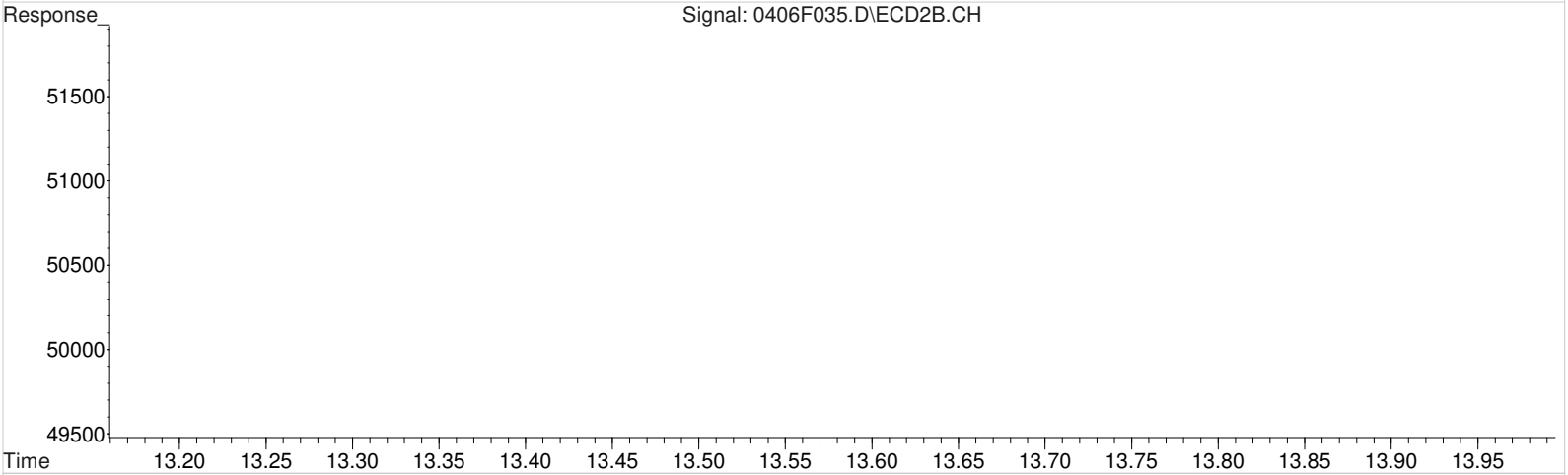
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F035.D Vial: 33
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 3:43 am Operator: LM
Sample : CHLOR 2PPB GCPS8-74M @10X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:04:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.465min 2.340 ug/L m

response 4154

Manual Integration:

After

Baseline/Shoulder

04/07/20

(40) Chlordane {4} #2

11.976min 2.056 ug/L

response 14703

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F036.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:13 am Operator: LM
Sample : CHLOR 5PPB GCPS8-74M @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:17:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
36)	1-Bromo-2...	6.207	5.491	1004810	4697537	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
37)	Chlordane	11.281	9.574	3580	13805	5.004m	4.021m
38)	Chlordane...	11.697	11.671	4518	9932	5.498	4.817
39)	Chlordane...	12.264	11.821	3494	4593	4.601	3.568m
40)	Chlordane...	13.464	11.978	10177	35257	5.581m	4.820
41)	Chlordane...	13.541	12.024	8391	21270	5.662	4.896
42)	Chlordane...	13.624	12.128	6079	31592	5.710	4.850
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

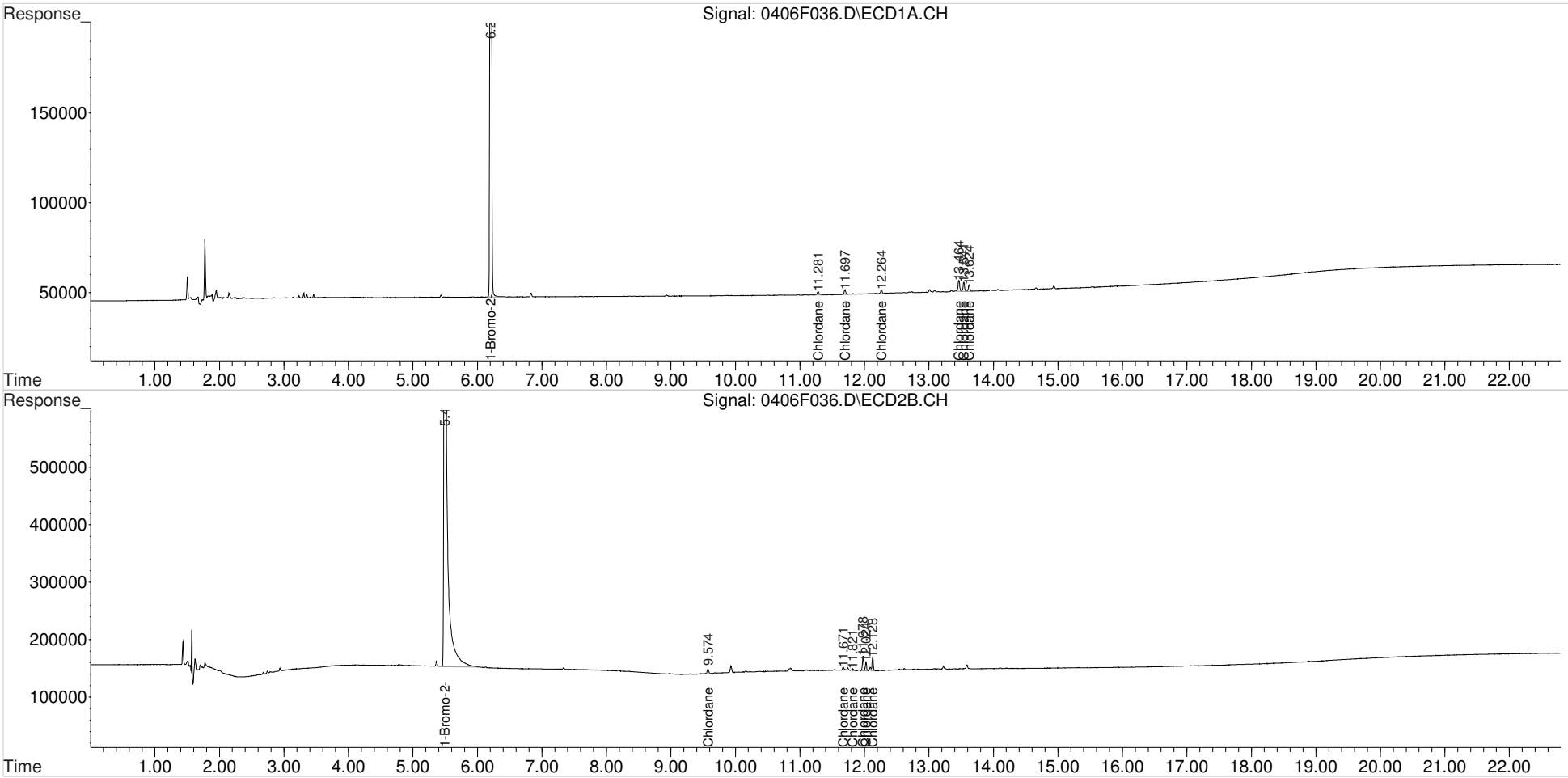
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F036.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:13 am Operator: LM
Sample : CHLOR 5PPB GCPS8-74M @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:17:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



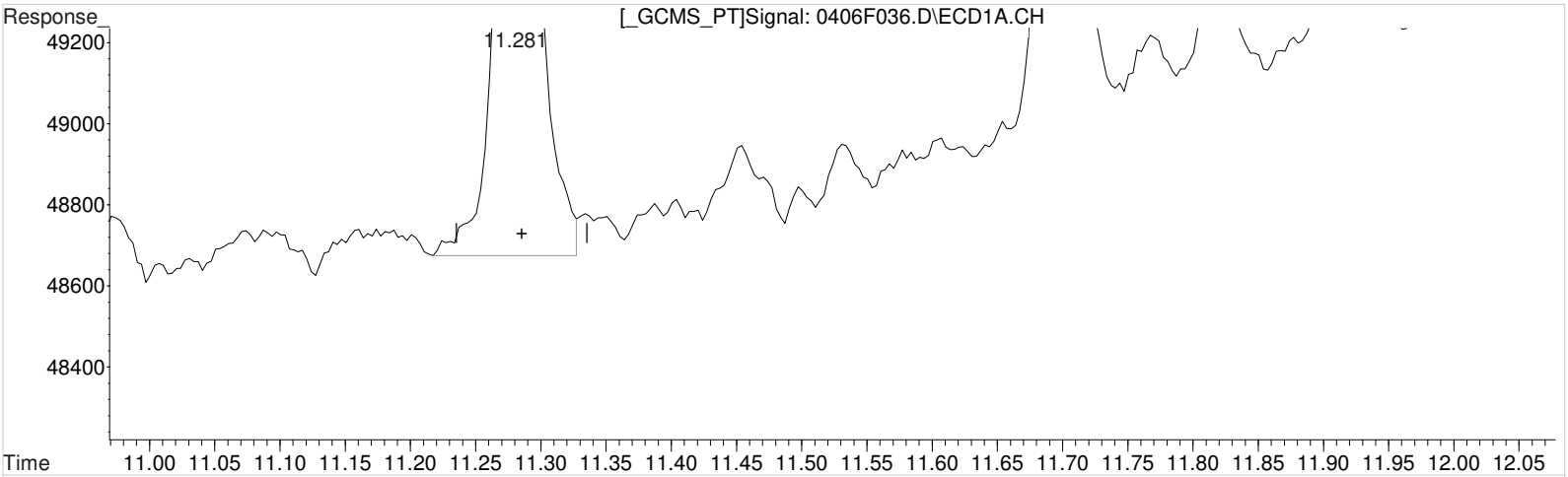
Quantitation Report (Qedit)

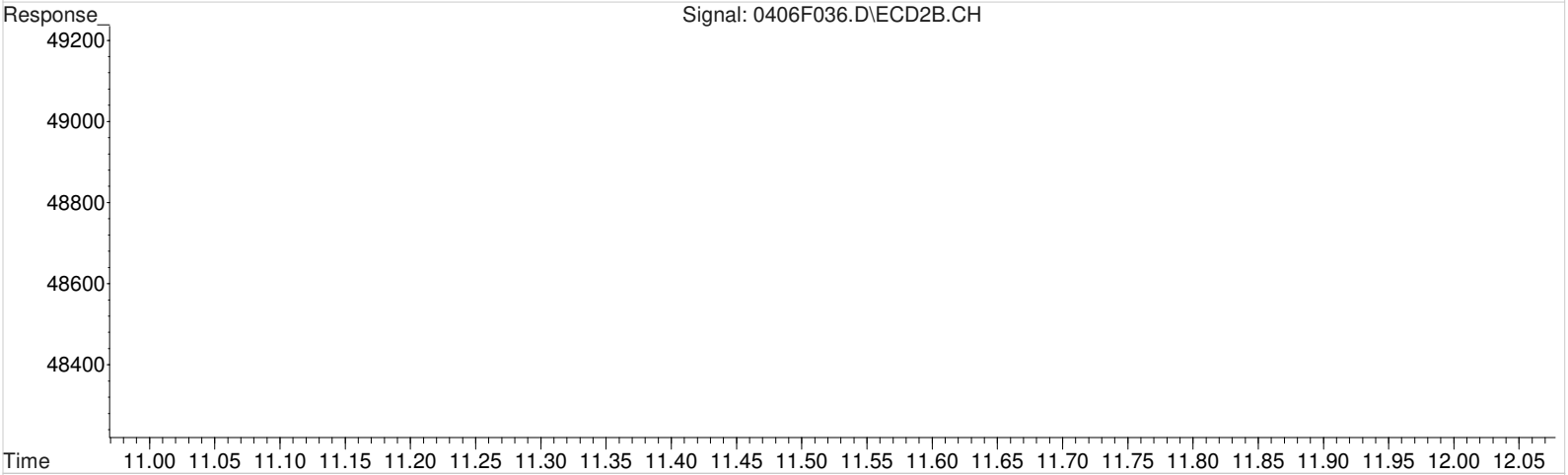
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F036.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:13 am Operator: LM
Sample : CHLOR 5PPB GCPS8-74M @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(37) Chlordane

11.281min 5.376 ug/L

response 3846

Manual Integration:

Before

04/07/20

(37) Chlordane #2

9.574min 4.534 ug/L

response 15096

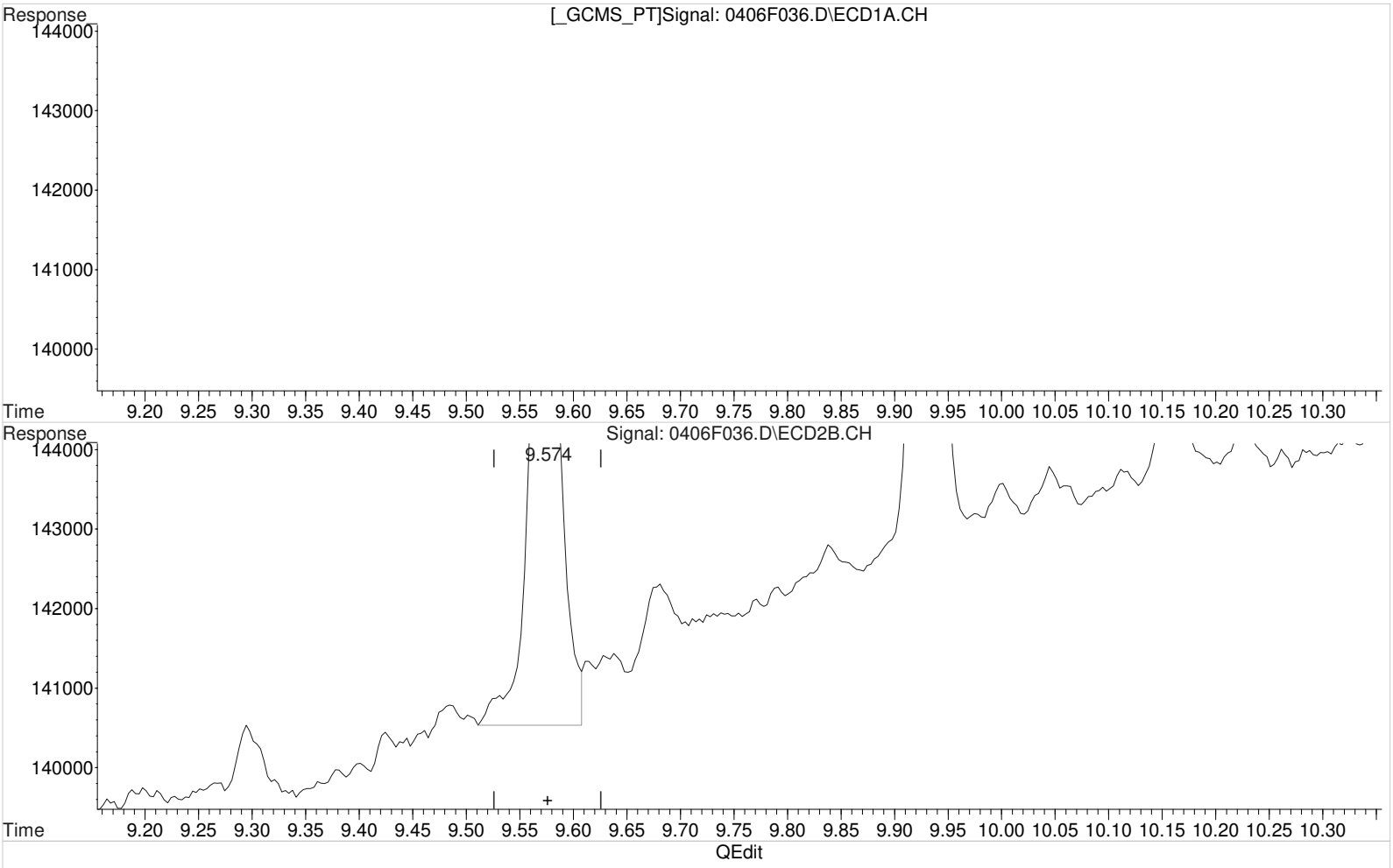
(+) = Expected Retention Time

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F036.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:13 am Operator: LM
Sample : CHLOR 5PPB GCPS8-74M @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(37) Chlordane

11.281min 5.004 ug/L m

response 3580

(37) Chlordane #2

9.574min 4.534 ug/L

response 15096

Manual Integration:

Before

04/07/20

(+) = Expected Retention Time

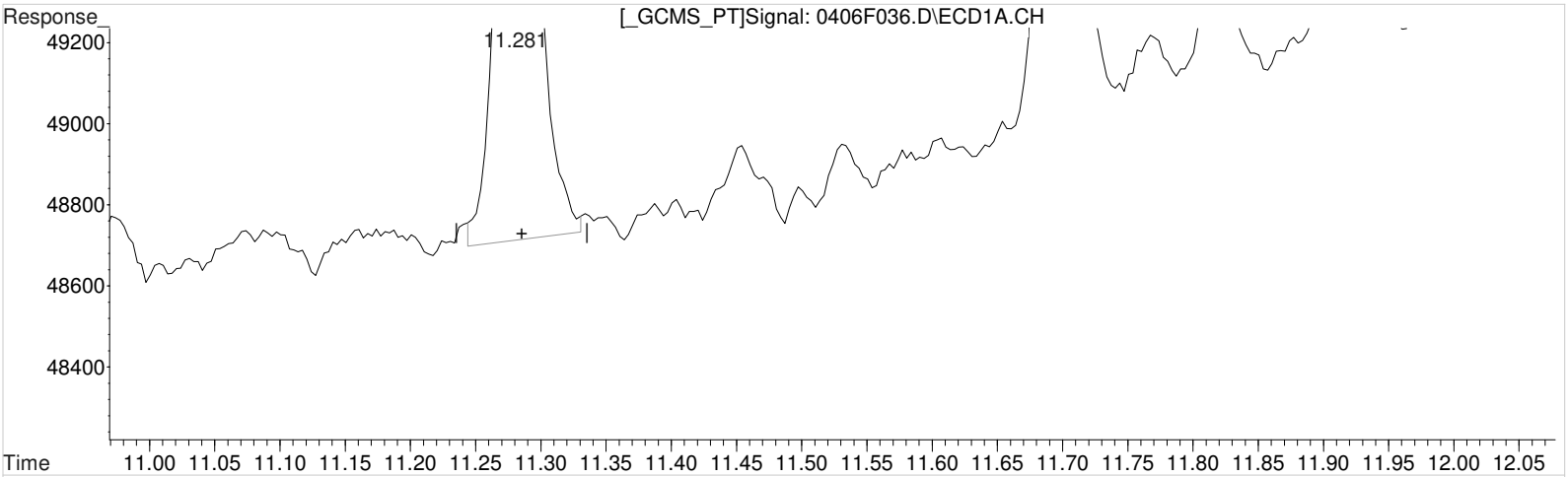
Quantitation Report (Qedit)

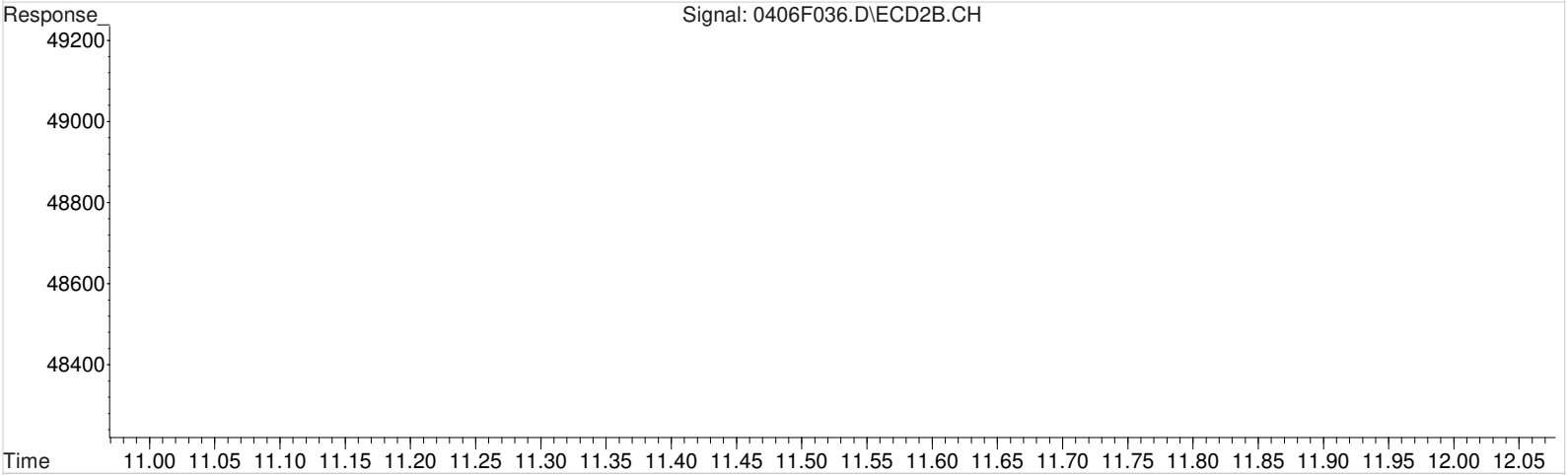
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F036.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:13 am Operator: LM
Sample : CHLOR 5PPB GCPS8-74M @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(37) Chlordane

11.281min 5.004 ug/L m

response 3580

Manual Integration:

After

Baseline/Shoulder

04/07/20

(37) Chlordane #2

9.574min 4.534 ug/L

response 15096

(+) = Expected Retention Time

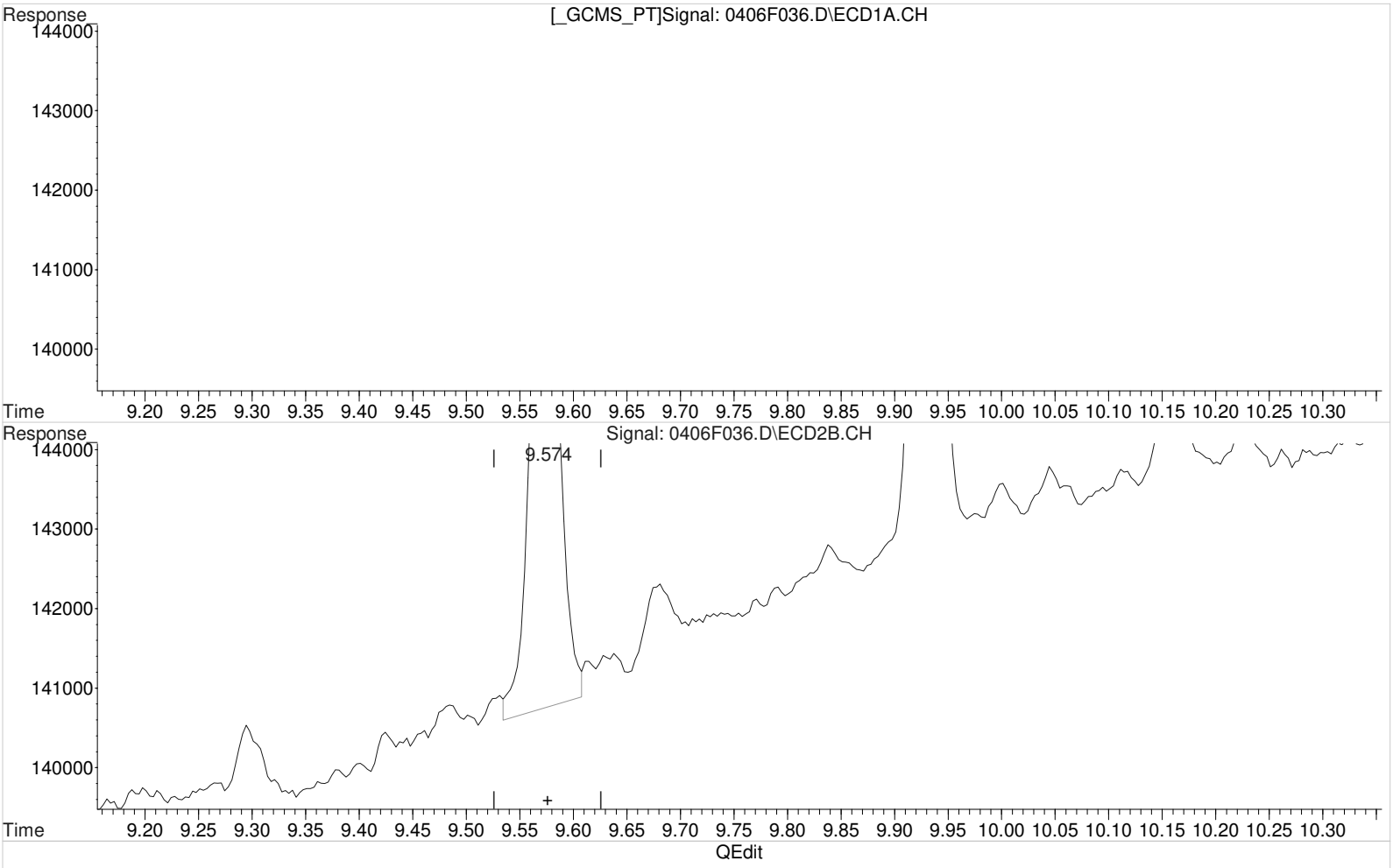
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F036.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:13 am Operator: LM
Sample : CHLOR 5PPB GCPS8-74M @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(37) Chlordane

11.281min 5.004 ug/L m

response 3580

Manual Integration:

After

Baseline/Shoulder

04/07/20

(37) Chlordane #2

9.574min 4.021 ug/L m

response 13805

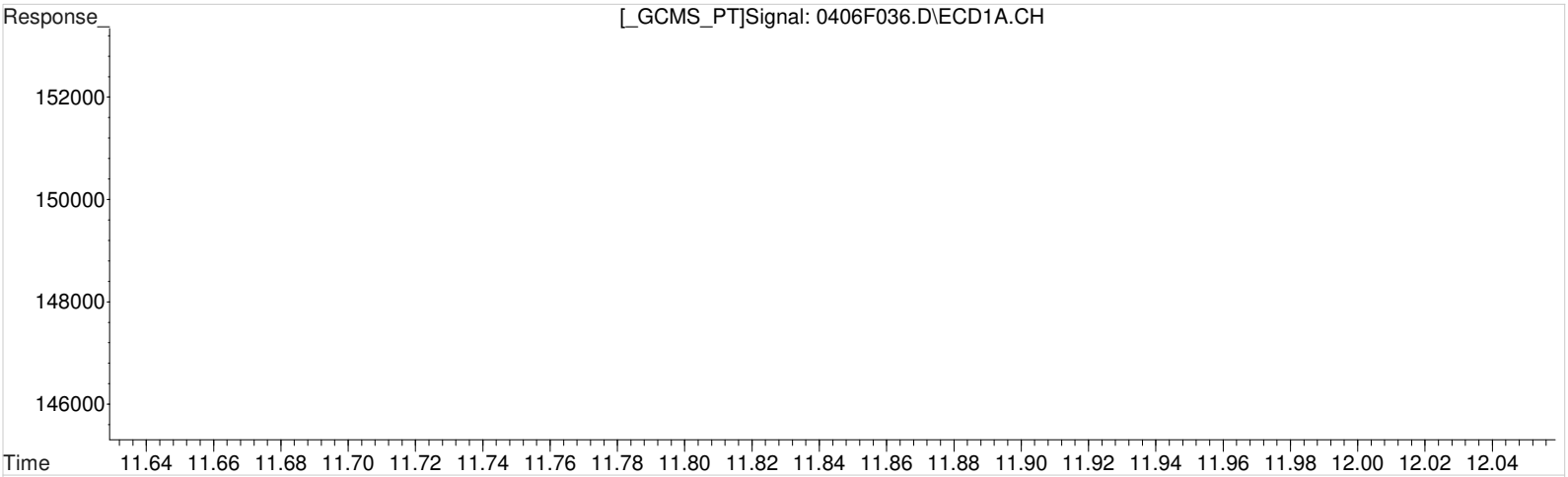
(+) = Expected Retention Time

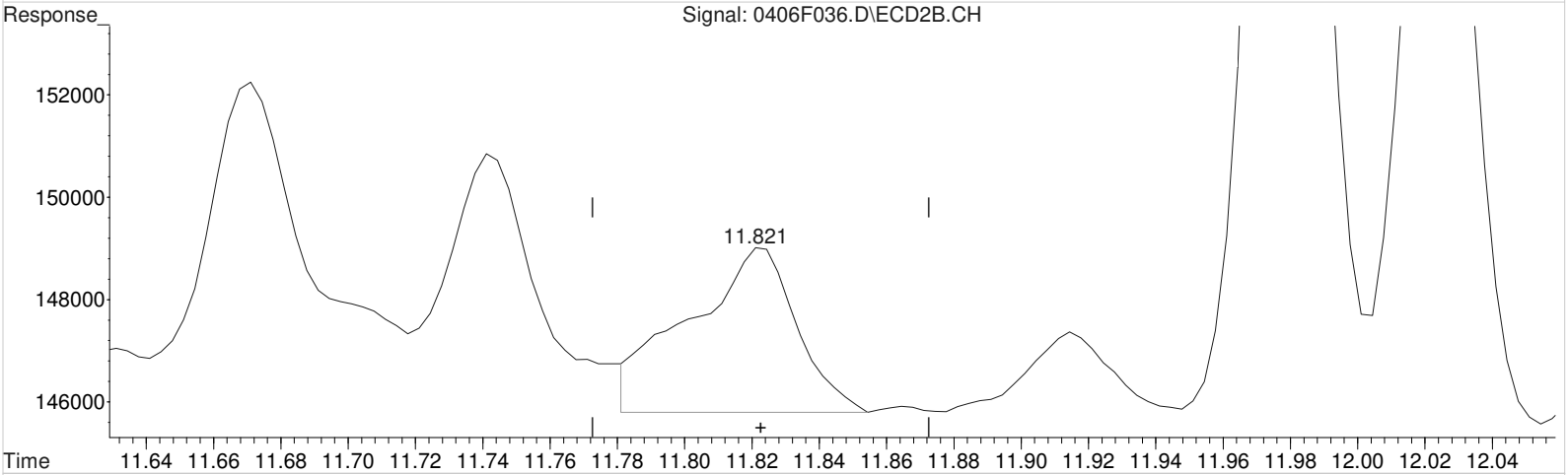
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F036.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:13 am Operator: LM
Sample : CHLOR 5PPB GCPS8-74M @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(39) Chlordane {3}

12.264min 4.601 ug/L

response 3494

Manual Integration:

Before

04/07/20

(39) Chlordane {3} #2

11.821min 5.580 ug/L

response 7182

(+) = Expected Retention Time

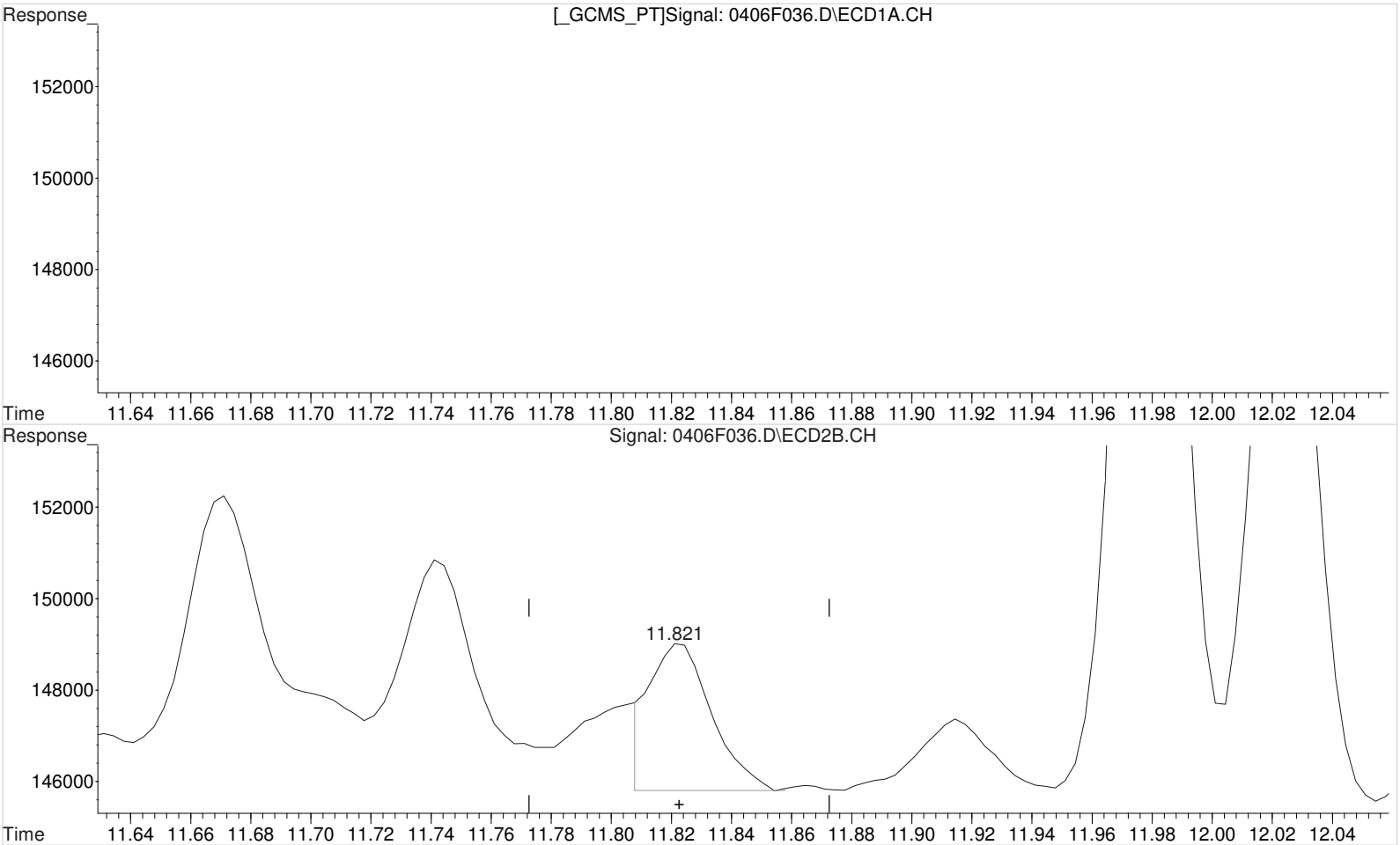
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F036.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:13 am Operator: LM
Sample : CHLOR 5PPB GCPS8-74M @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(39) Chlordane {3}

12.264min 4.601 ug/L

response 3494

Manual Integration:

After

Baseline/Shoulder

04/07/20

(39) Chlordane {3} #2

11.821min 3.568 ug/L m

response 4593

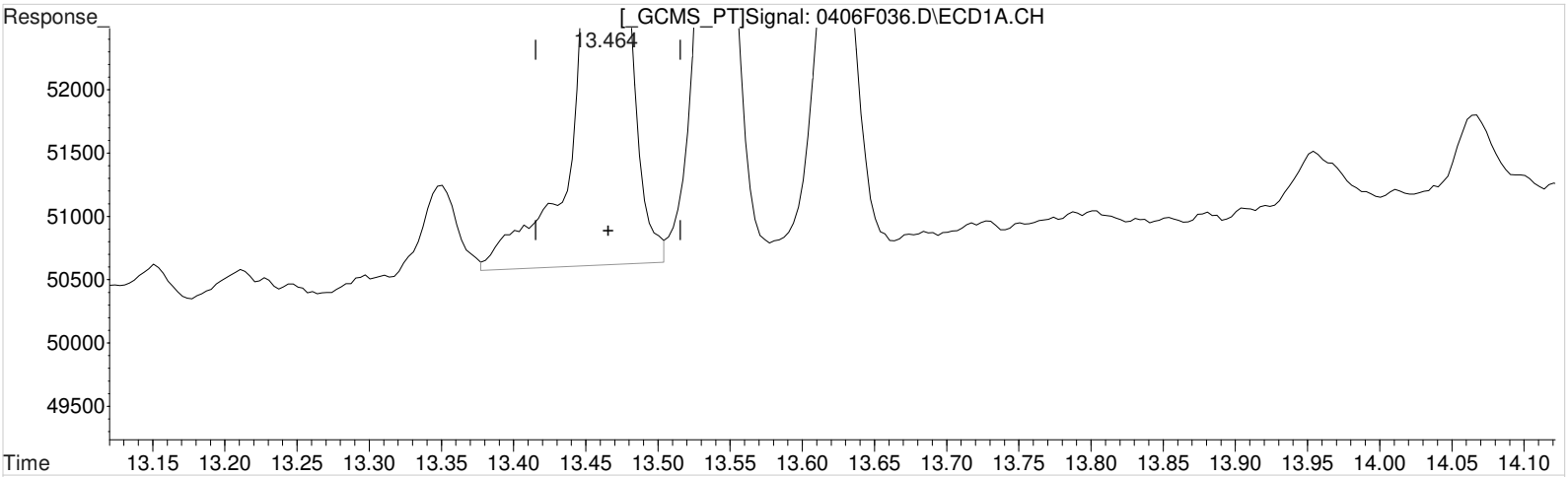
(+) = Expected Retention Time

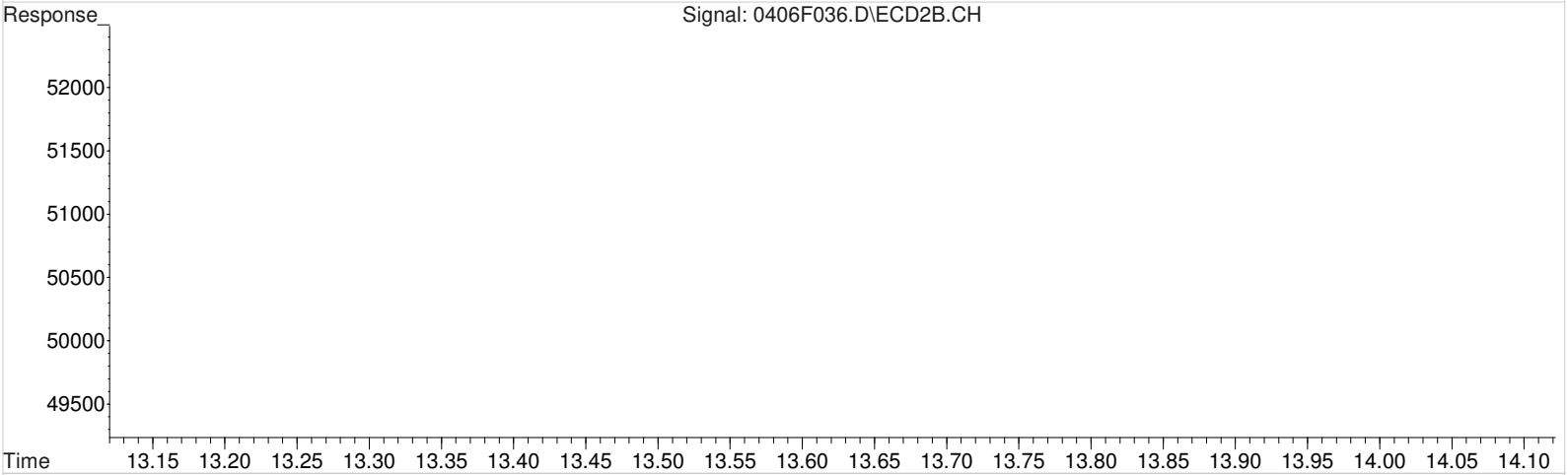
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F036.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:13 am Operator: LM
Sample : CHLOR 5PPB GCPS8-74M @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.464min 6.576 ug/L

response 11991

Manual Integration:

Before

04/07/20

(40) Chlordane {4} #2

11.978min 4.820 ug/L

response 35257

(+) = Expected Retention Time

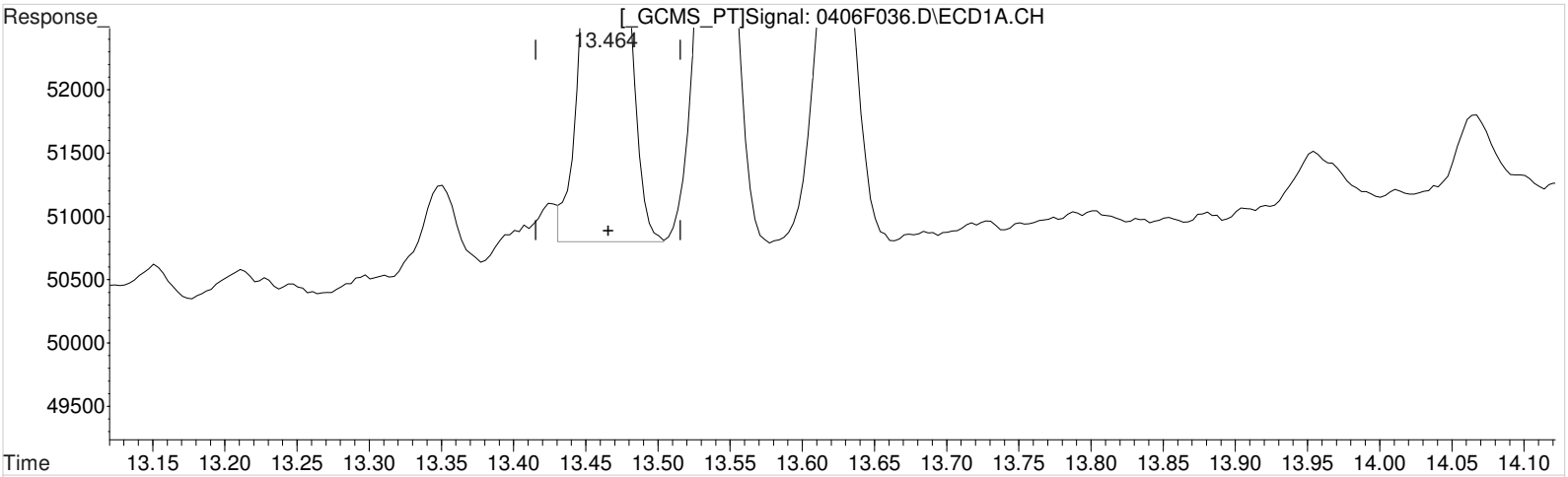
Quantitation Report (Qedit)

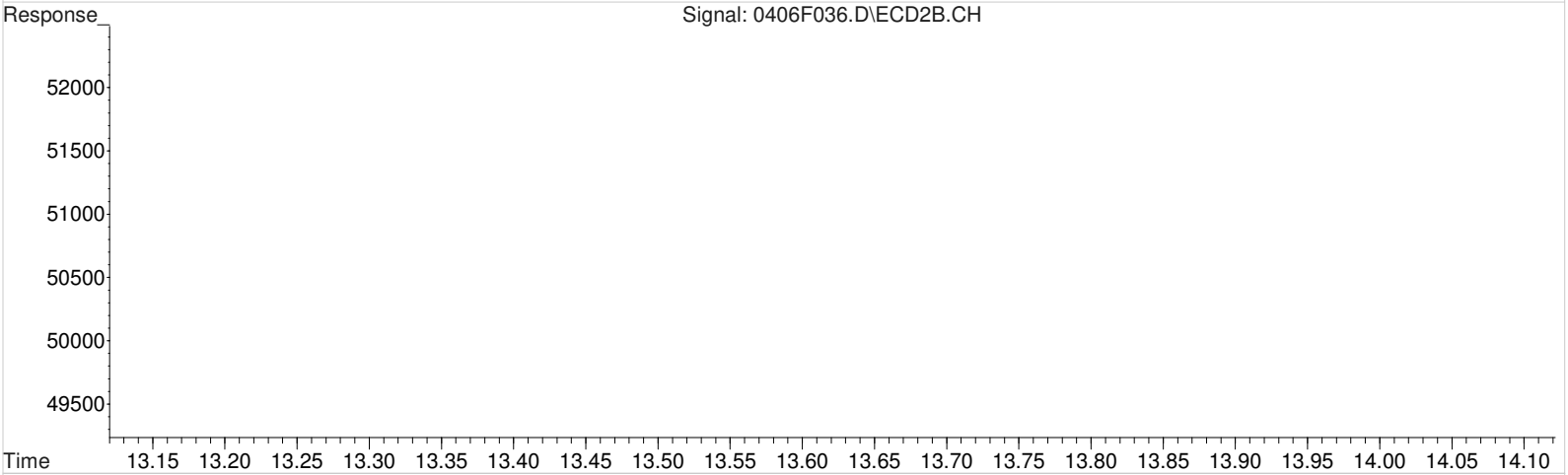
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F036.D Vial: 34
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:13 am Operator: LM
Sample : CHLOR 5PPB GCPS8-74M @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:00 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.464min 5.581 ug/L m

response 10177

(40) Chlordane {4} #2

11.978min 4.820 ug/L

response 35257

Manual Integration:

After

Baseline/Shoulder

04/07/20

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F037.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:43 am Operator: LM
Sample : CHLOR 10PPB GCPS8-74M @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:19:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
36)	1-Bromo-2...	6.208	5.492	998604	4659167	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
37)	Chlordane	11.285	9.575	7180	26658	10.099	9.224
38)	Chlordane...	11.698	11.672	9046	17698	11.076m	9.483
39)	Chlordane...	12.265	11.822	6830	13928	10.169	10.910
40)	Chlordane...	13.465	11.979	20229	69050	11.163m	9.517
41)	Chlordane...	13.545	12.025	16737	43104	11.363	10.003
42)	Chlordane...	13.625	12.129	11925	62967	11.270	9.746
	SemiQuant Compounds - Not Calibrated on this Instrument						

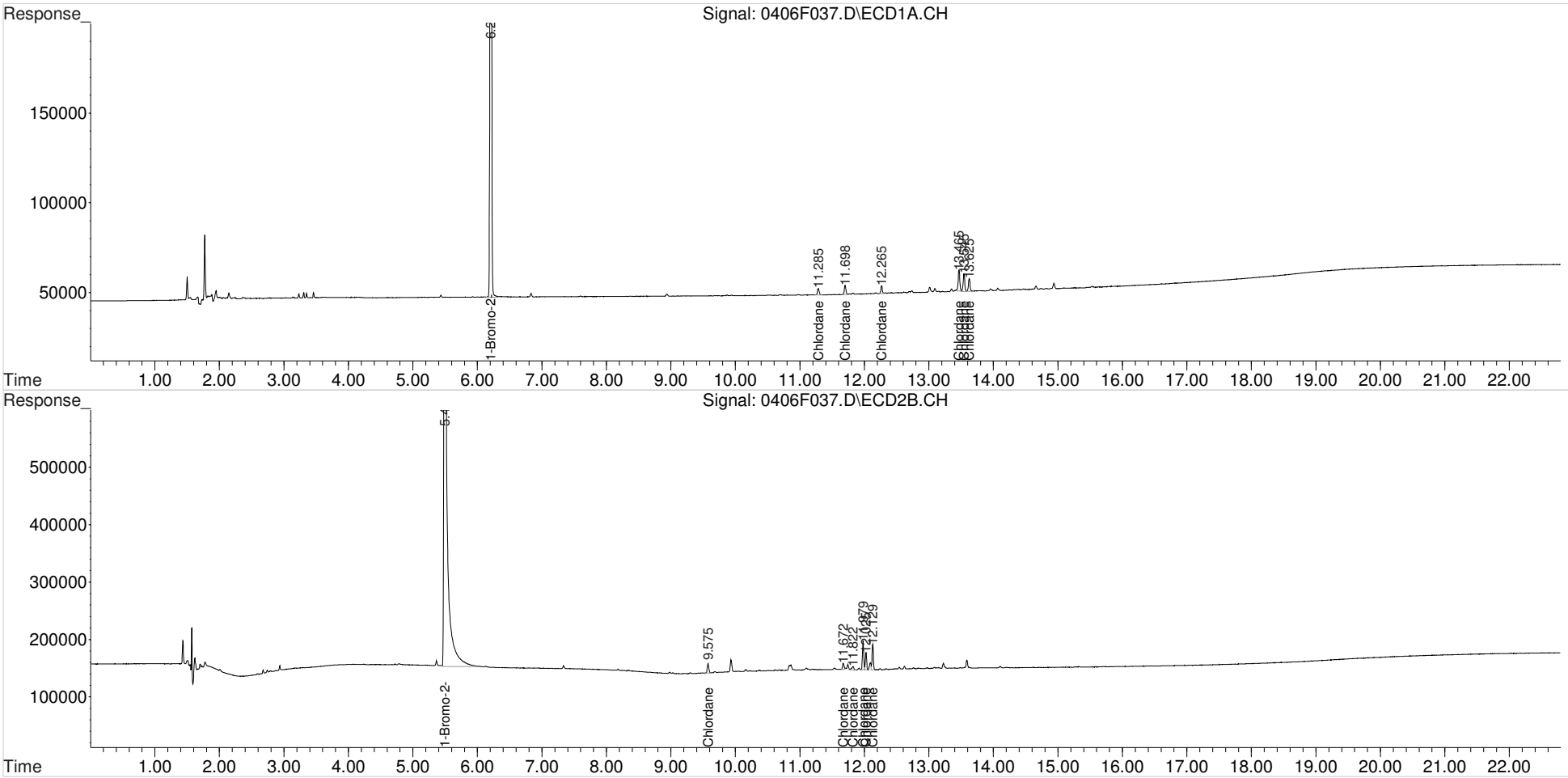
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F037.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:43 am Operator: LM
Sample : CHLOR 10PPB GCPS8-74M @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:19:39 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

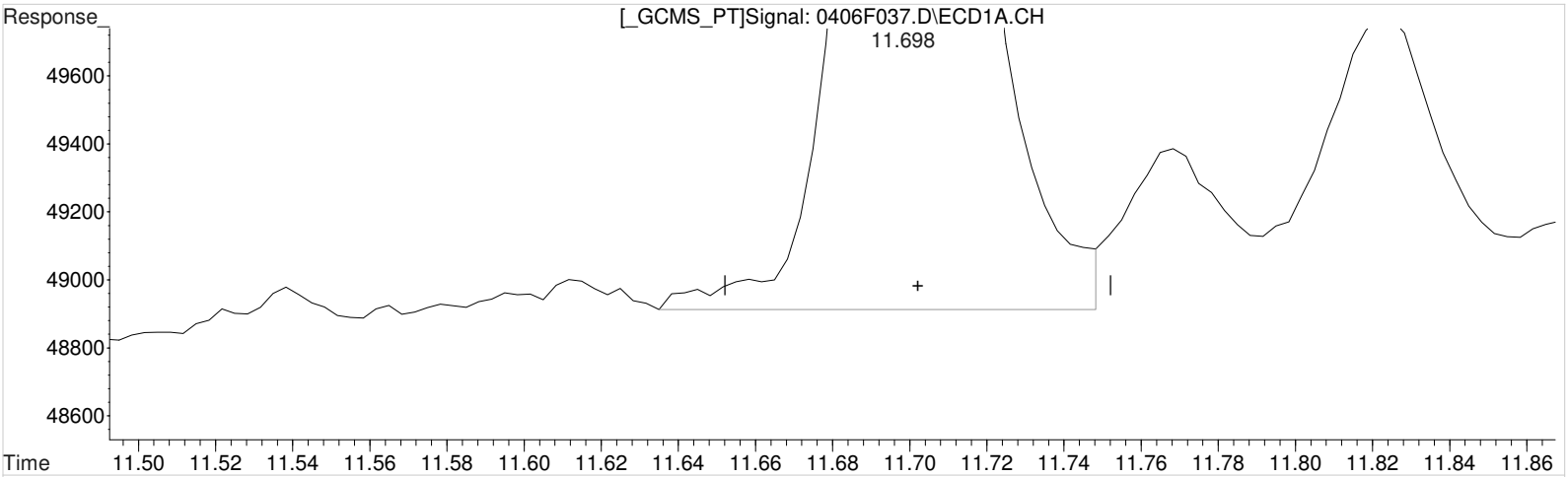


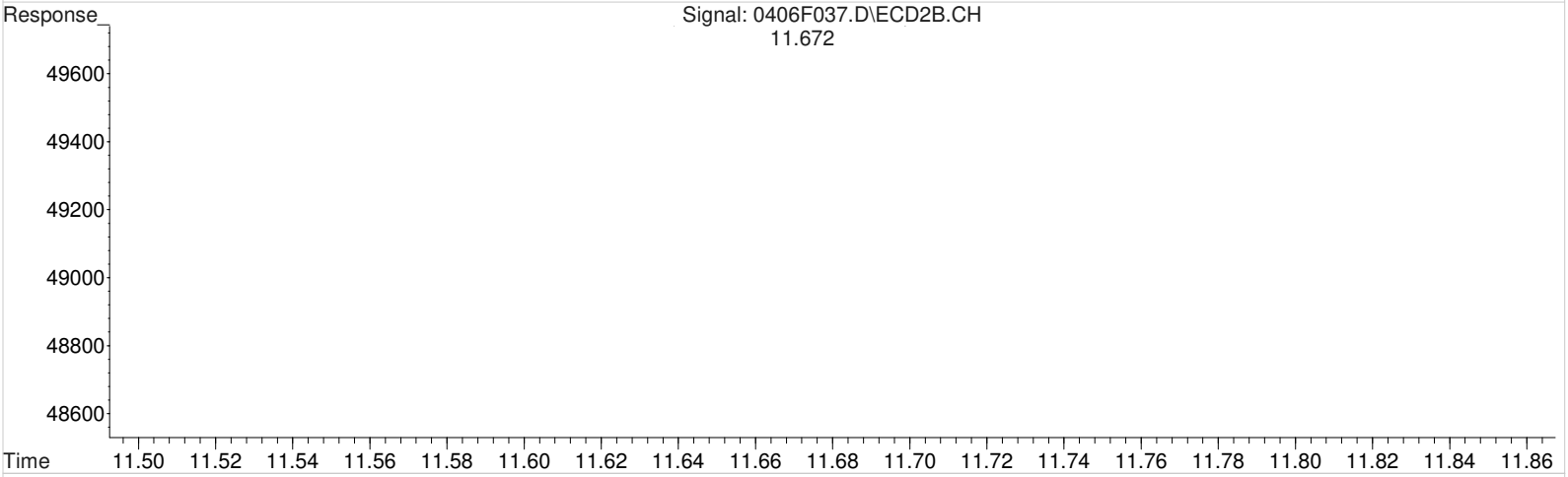
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F037.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:43 am Operator: LM
Sample : CHLOR 10PPB GCPS8-74M @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:04 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.698min 11.632 ug/L

response 9500

Manual Integration:

Before

04/07/20

(38) Chlordane {2} #2

11.672min 9.483 ug/L

response 17698

(+) = Expected Retention Time

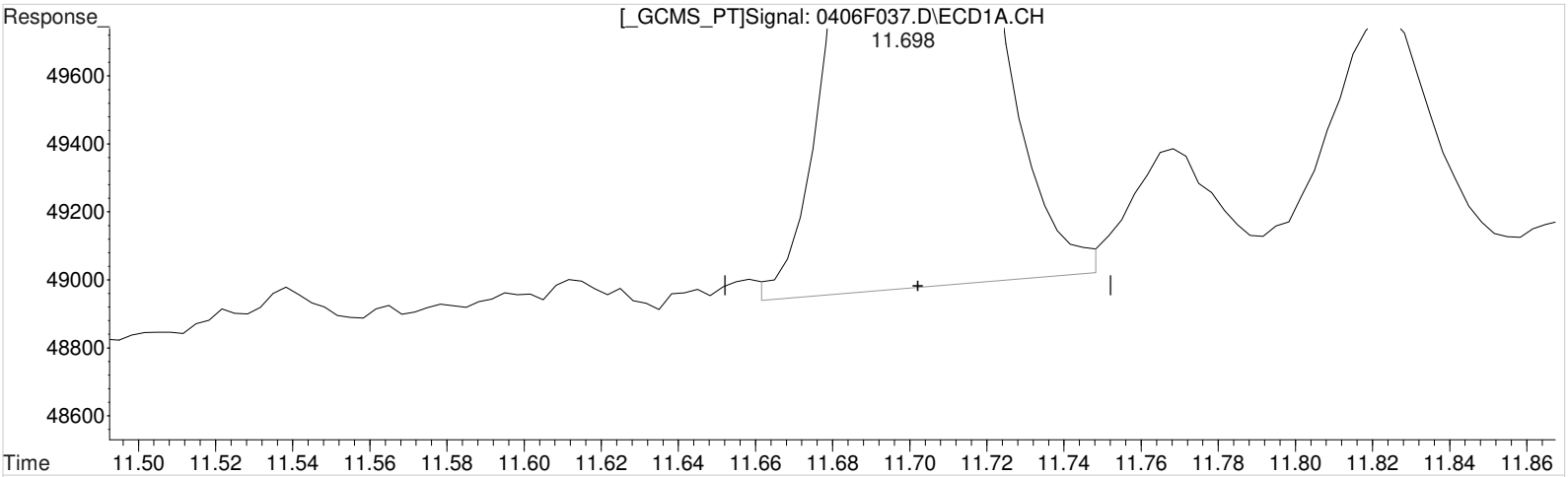
Quantitation Report (Qedit)

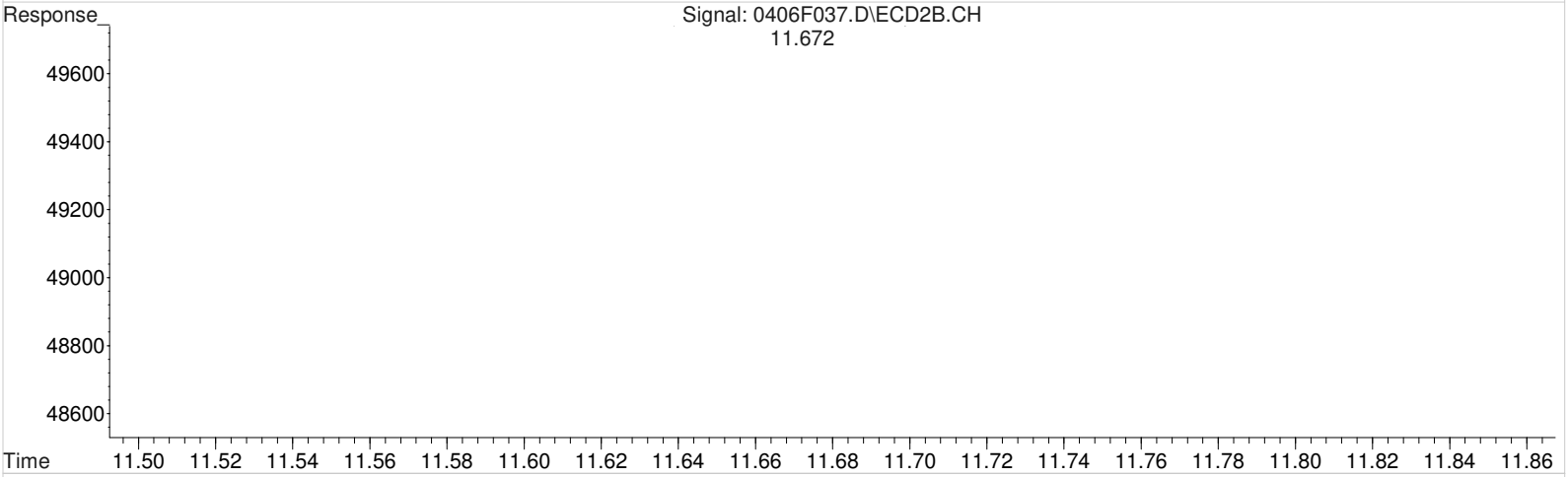
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F037.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:43 am Operator: LM
Sample : CHLOR 10PPB GCPS8-74M @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:04 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(38) Chlordane {2}

11.698min 11.076 ug/L m

response 9046

Manual Integration:

After

Baseline/Shoulder

04/07/20

(38) Chlordane {2} #2

11.672min 9.483 ug/L

response 17698

(+) = Expected Retention Time

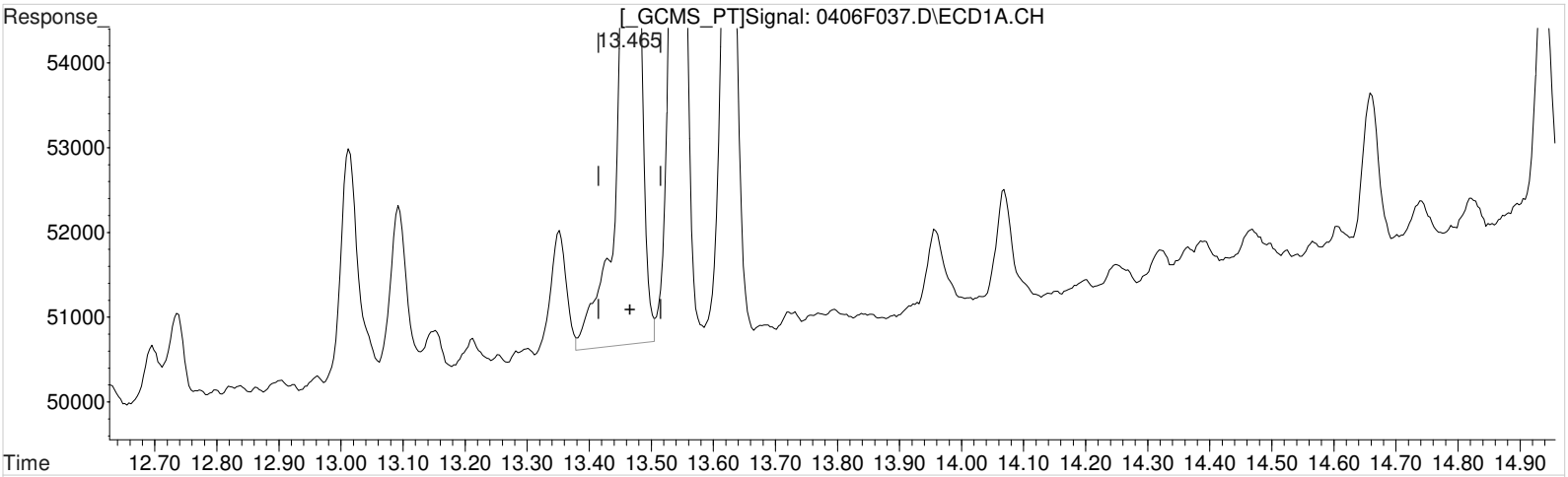
Quantitation Report (Qedit)

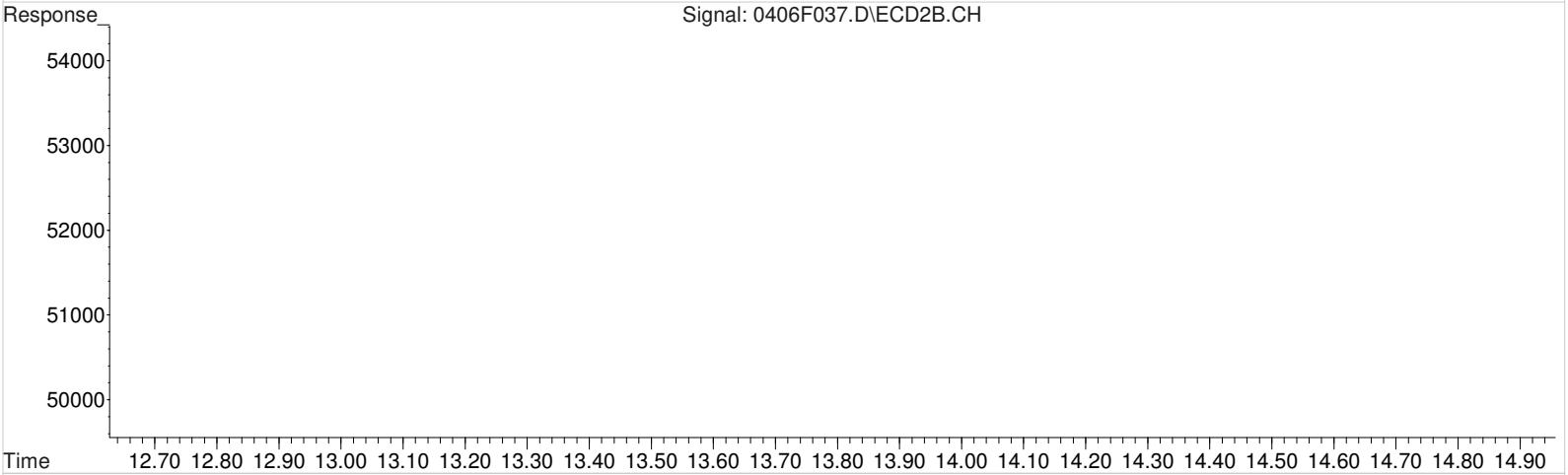
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F037.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:43 am Operator: LM
Sample : CHLOR 10PPB GCPS8-74M @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:04 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.465min 12.914 ug/L

response 23402

Manual Integration:

Before

04/07/20

(40) Chlordane {4} #2

11.979min 9.517 ug/L

response 69050

(+) = Expected Retention Time

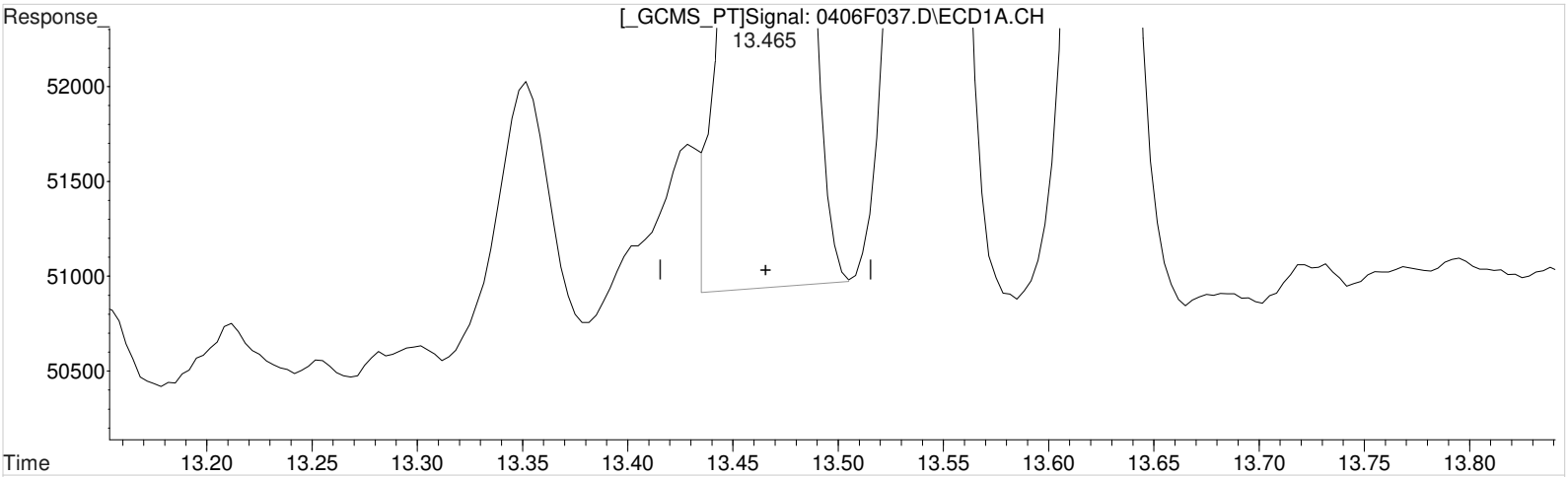
Quantitation Report (Qedit)

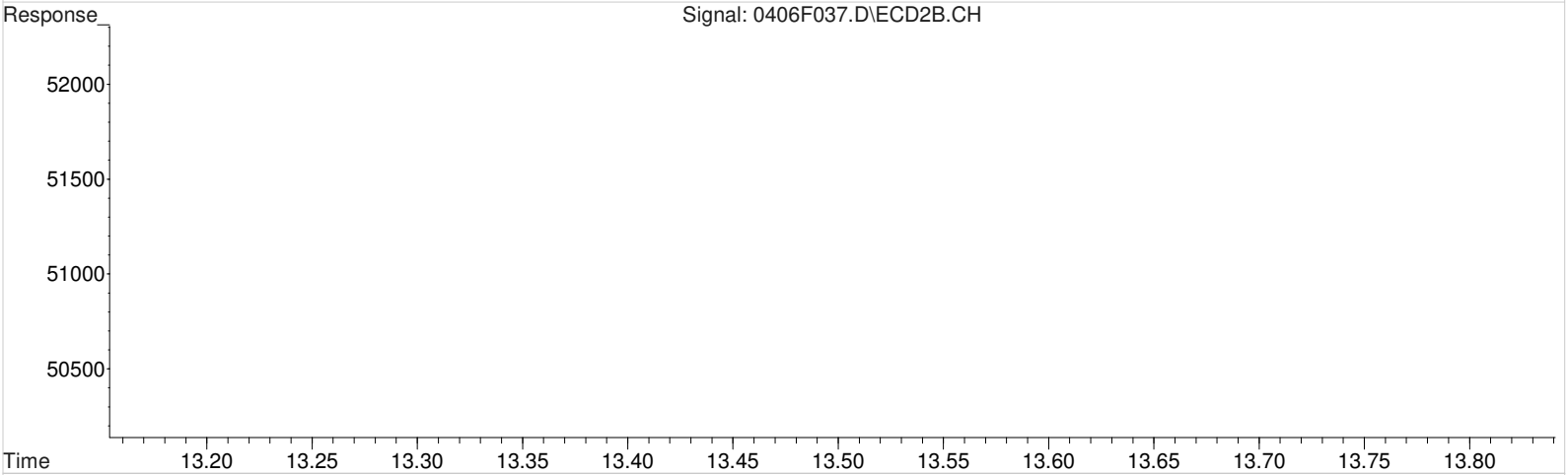
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F037.D Vial: 35
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 4:43 am Operator: LM
Sample : CHLOR 10PPB GCPS8-74M @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:04 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.465min 11.163 ug/L m

response 20229

Manual Integration:

After

Baseline/Shoulder

04/07/20

(40) Chlordane {4} #2

11.979min 9.517 ug/L

response 69050

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F038.D Vial: 36
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 5:12 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:21:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
36)	1-Bromo-2...	6.209	5.493	1032604	4831494	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
37)	Chlordane	11.286	9.576	14708	54408	20.006	19.676
38)	Chlordane...	11.702	11.673	18369	35443	21.750	19.338
39)	Chlordane...	12.265	11.823	13259	26316	20.268	19.879
40)	Chlordane...	13.466	11.979	38448	140268	20.518m	18.643
41)	Chlordane...	13.546	12.026	31328	86771	20.569m	19.418
42)	Chlordane...	13.626	12.129	23190	125561	21.194	18.740
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

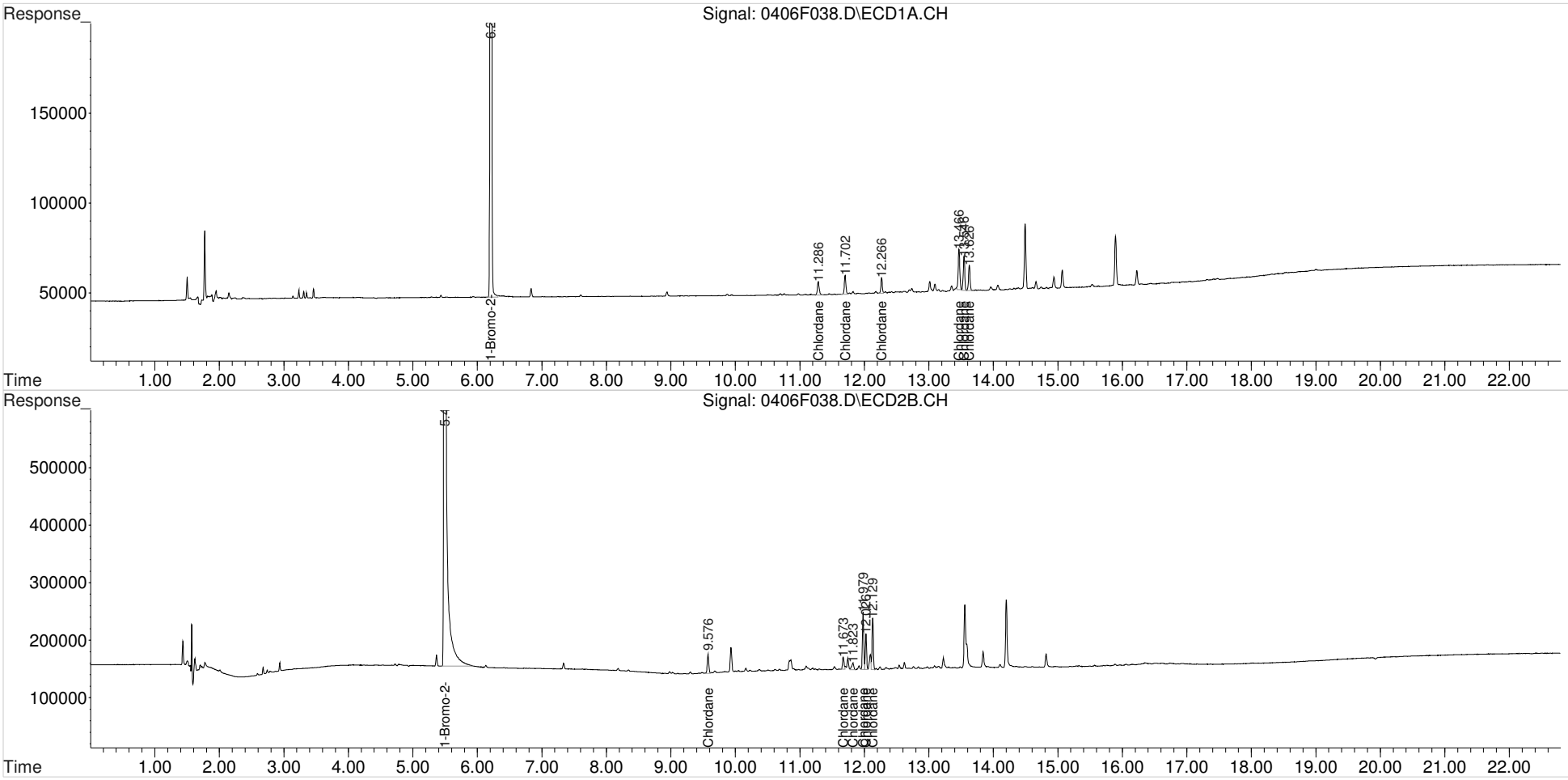
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F038.D Vial: 36
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 5:12 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:21:46 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

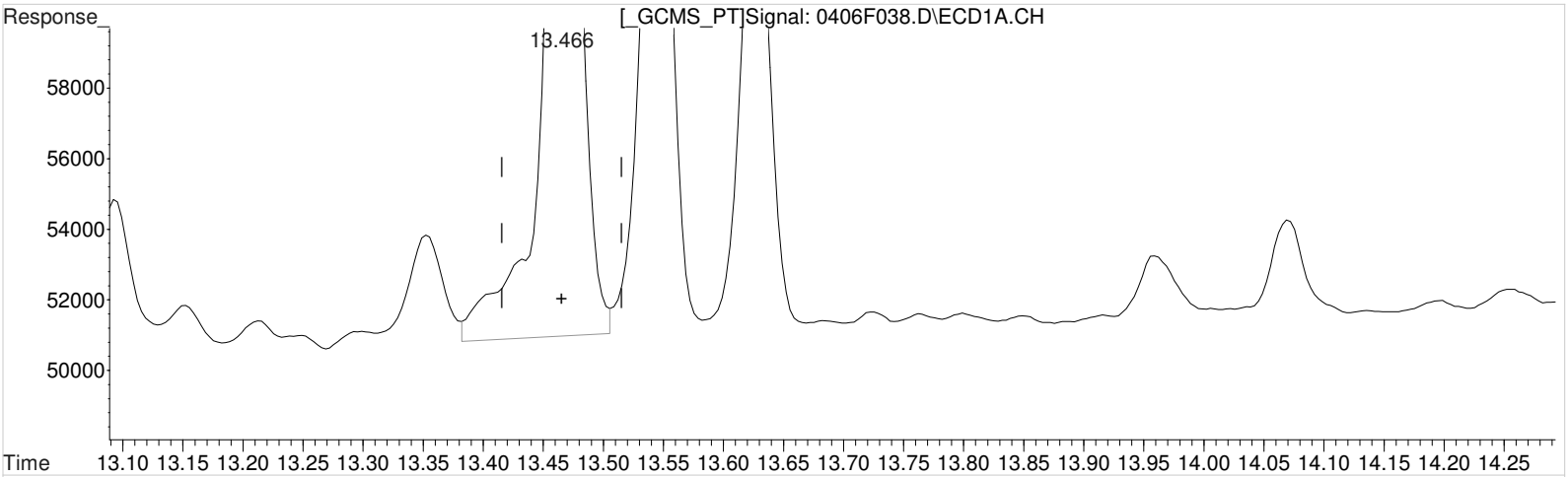


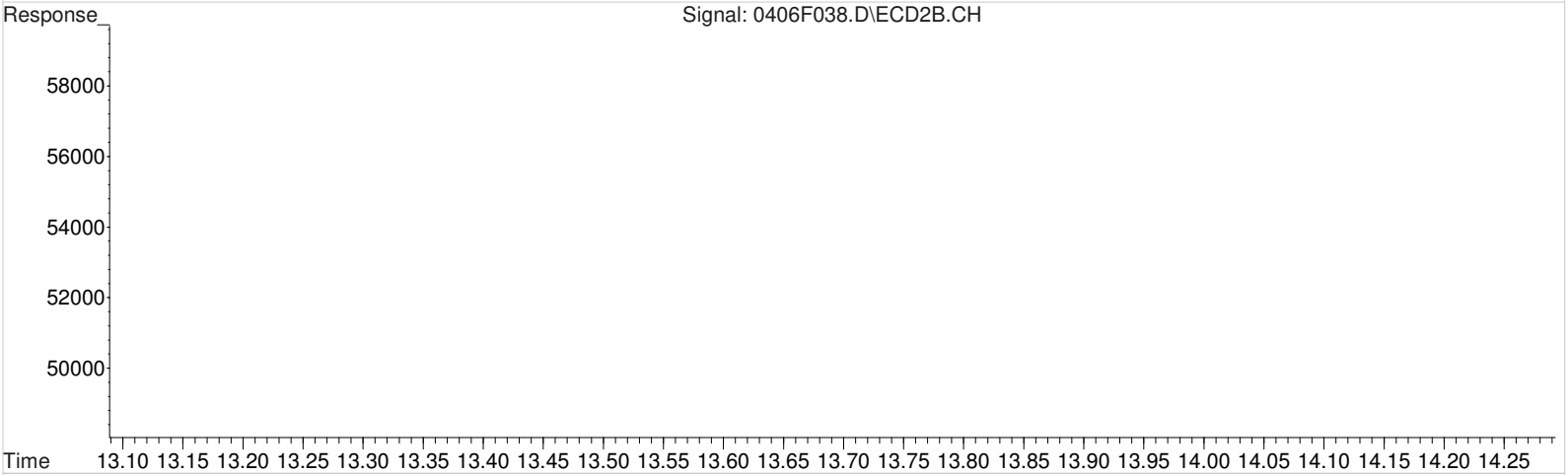
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F038.D Vial: 36
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 5:12 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:08 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.466min 24.913 ug/L

response 46683

(40) Chlordane {4} #2

11.979min 18.643 ug/L

response 140268

Manual Integration:

Before

04/07/20

(+) = Expected Retention Time

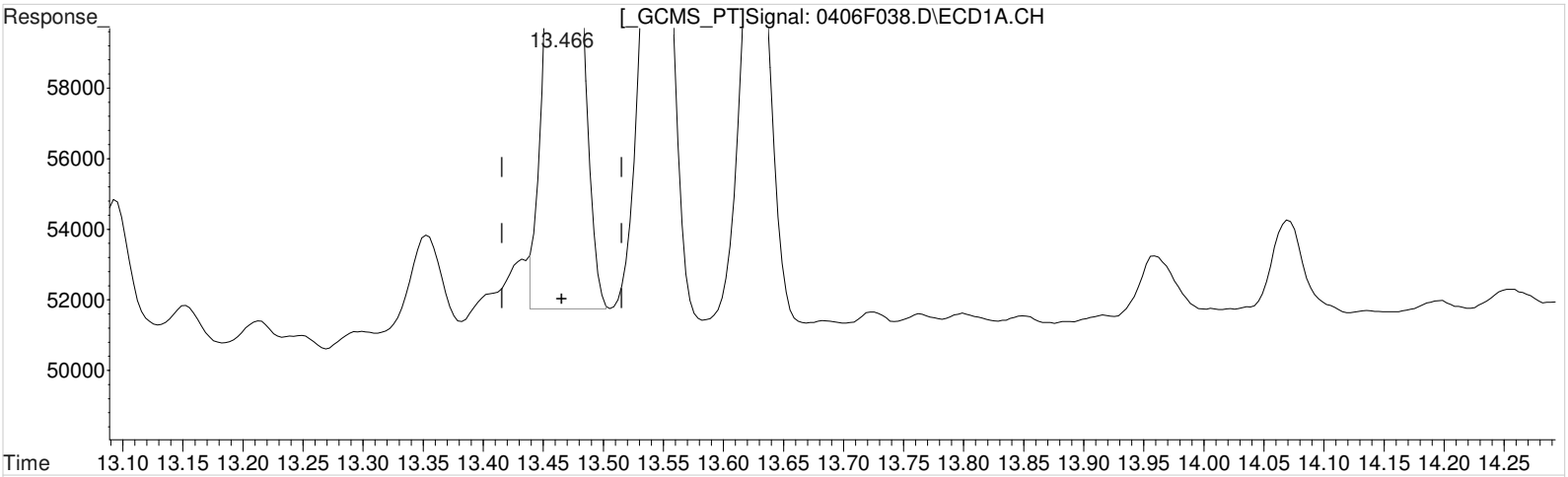
Quantitation Report (Qedit)

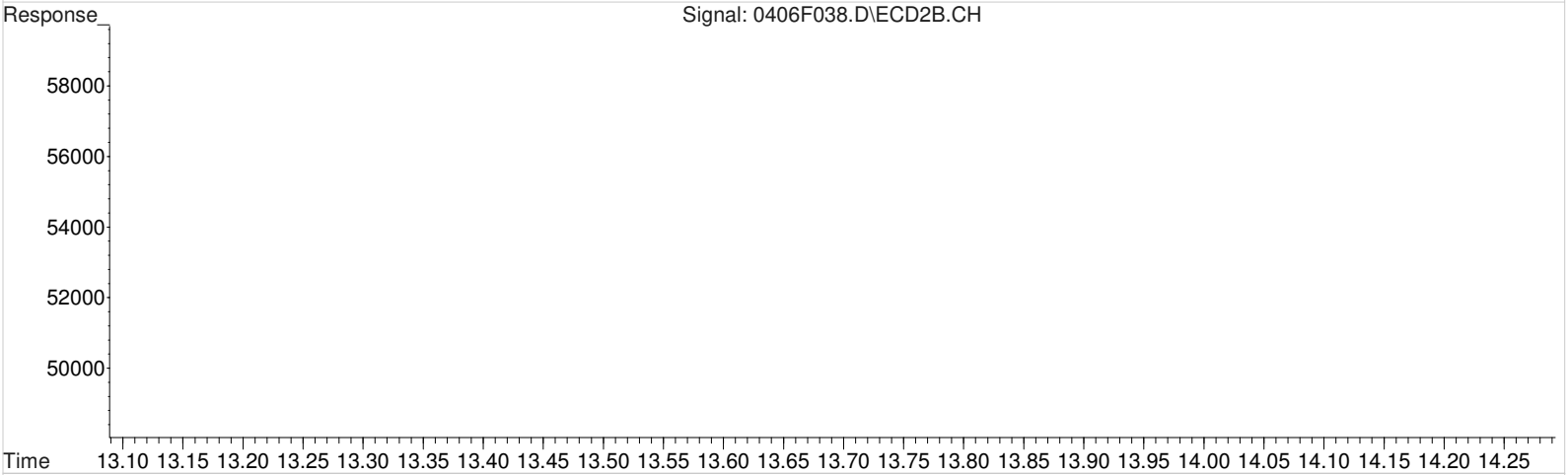
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F038.D Vial: 36
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 5:12 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:08 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.466min 20.518 ug/L m

response 38448

Manual Integration:

After

Baseline/Shoulder

04/07/20

(40) Chlordane {4} #2

11.979min 18.643 ug/L

response 140268

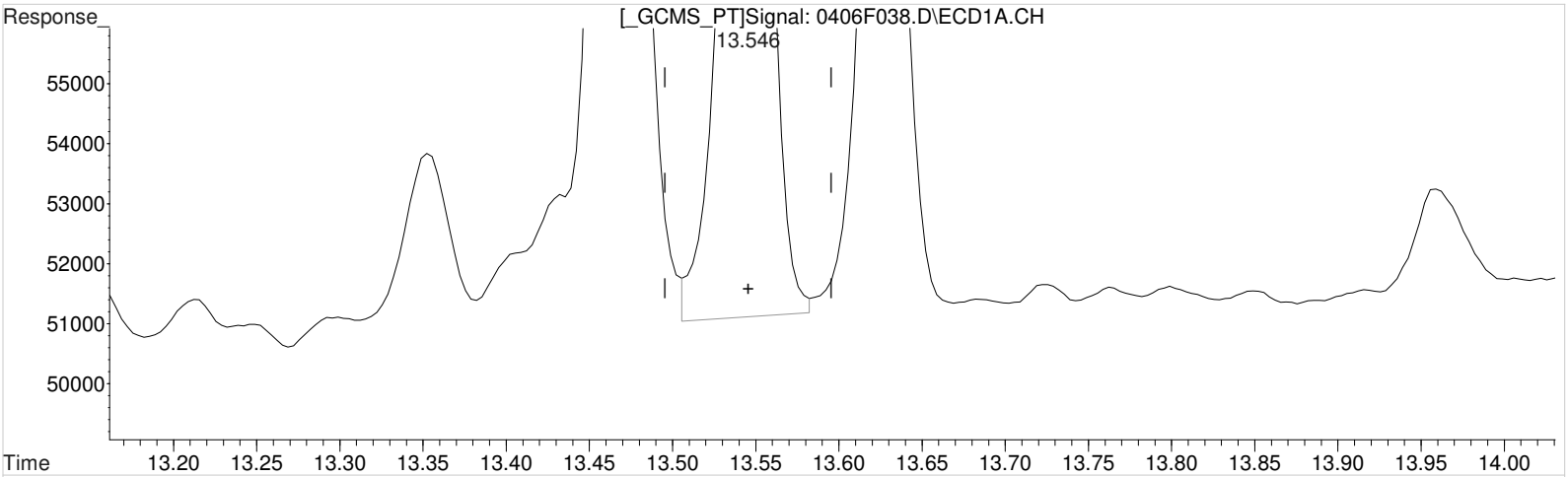
(+) = Expected Retention Time

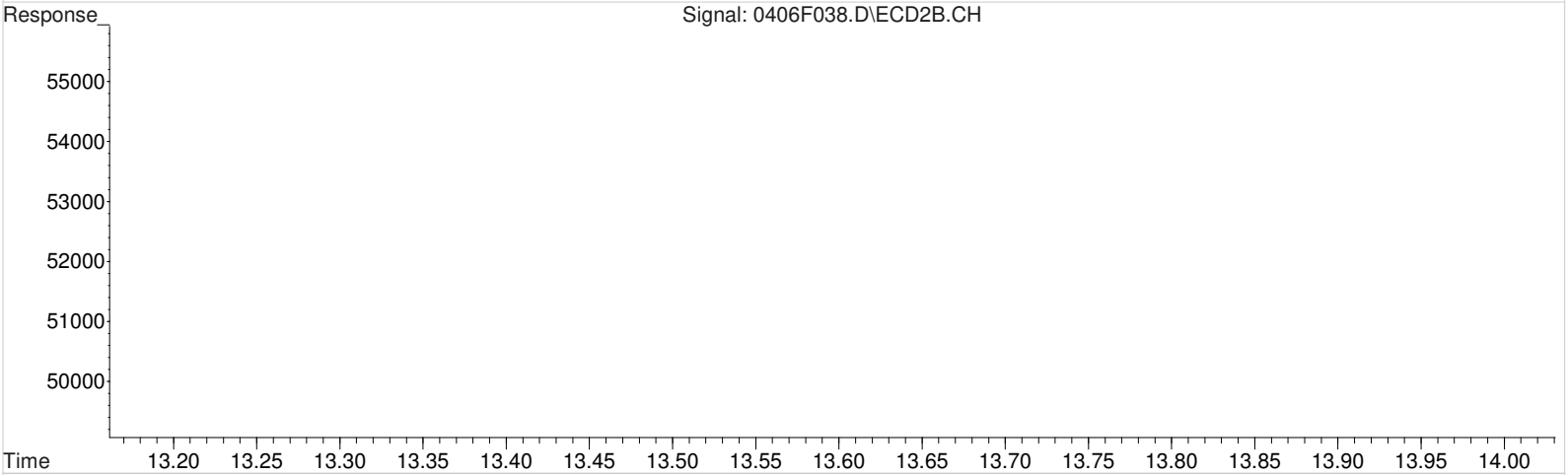
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F038.D Vial: 36
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 5:12 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:08 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(41) Chlordane {5}

13.546min 21.473 ug/L

response 32704

Manual Integration:

Before

04/07/20

(41) Chlordane {5} #2

12.026min 19.418 ug/L

response 86771

(+) = Expected Retention Time

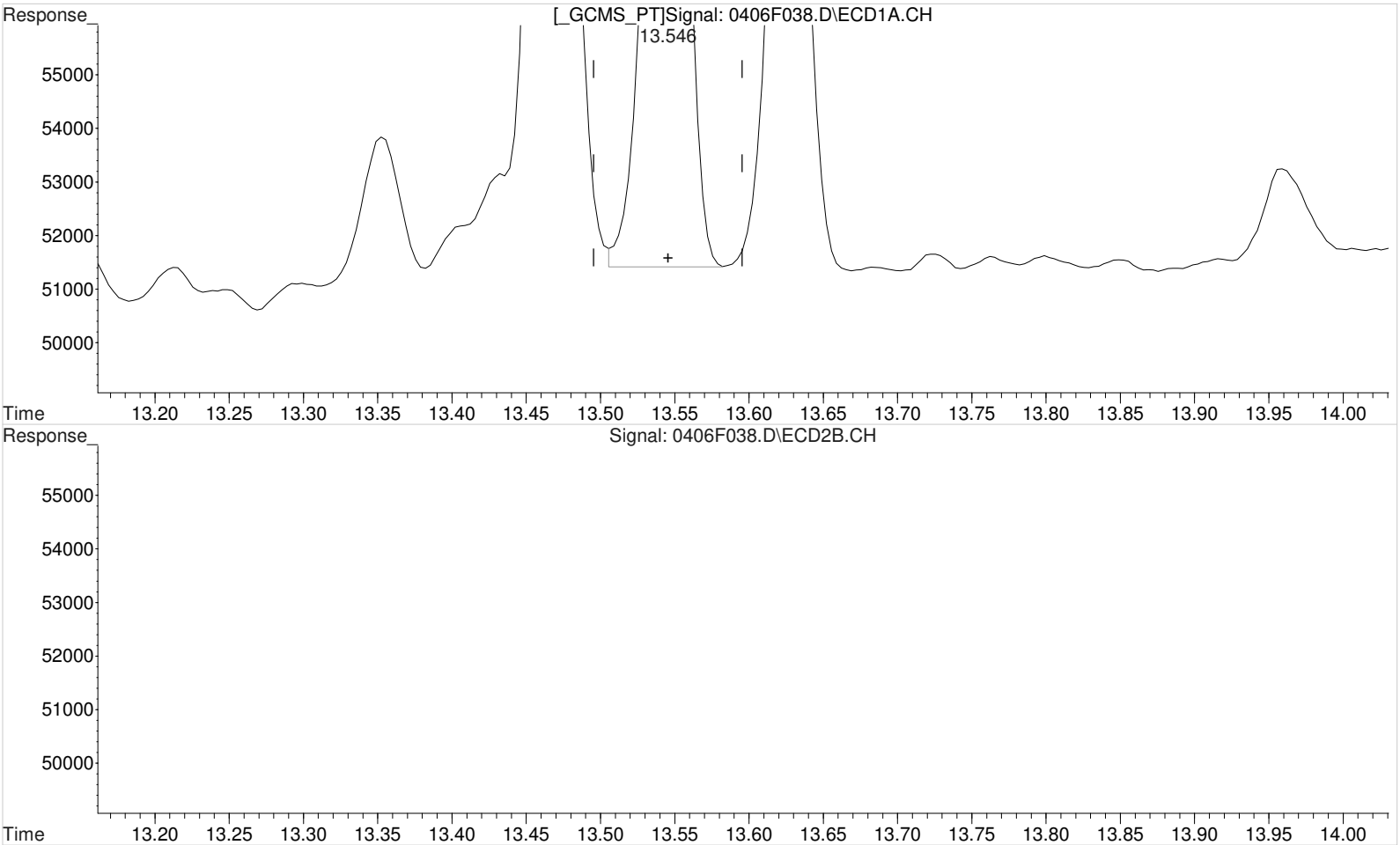
Quantitation Report (Qedit)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F038.D Vial: 36
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 5:12 am Operator: LM
Sample : CHLOR 20PPB GCPS8-74M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:08 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



QEdit

(41) Chlordane {5}

13.546min 20.569 ug/L m

response 31328

Manual Integration:

After

Baseline/Shoulder

04/07/20

(41) Chlordane {5} #2

12.026min 19.418 ug/L

response 86771

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F039.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 5:42 am Operator: LM
Sample : CHLOR 50PPB GCPS8-74C @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:23:09 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
36)	1-Bromo-2...	6.206	5.490	998339	4689313	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
37)	Chlordane	11.283	9.573	32417	123089	45.608	48.637
38)	Chlordane...	11.696	11.670	41873	88019	51.283	51.736
39)	Chlordane...	12.263	11.820	30495	62460	51.393	48.613
40)	Chlordane...	13.463	11.980	89743	346062	49.536m	47.389
41)	Chlordane...	13.540	12.023	74322	206515	50.473	47.615
42)	Chlordane...	13.623	12.127	54306	298823	51.336	45.953
	SemiQuant Compounds - Not Calibrated on this Instrument						

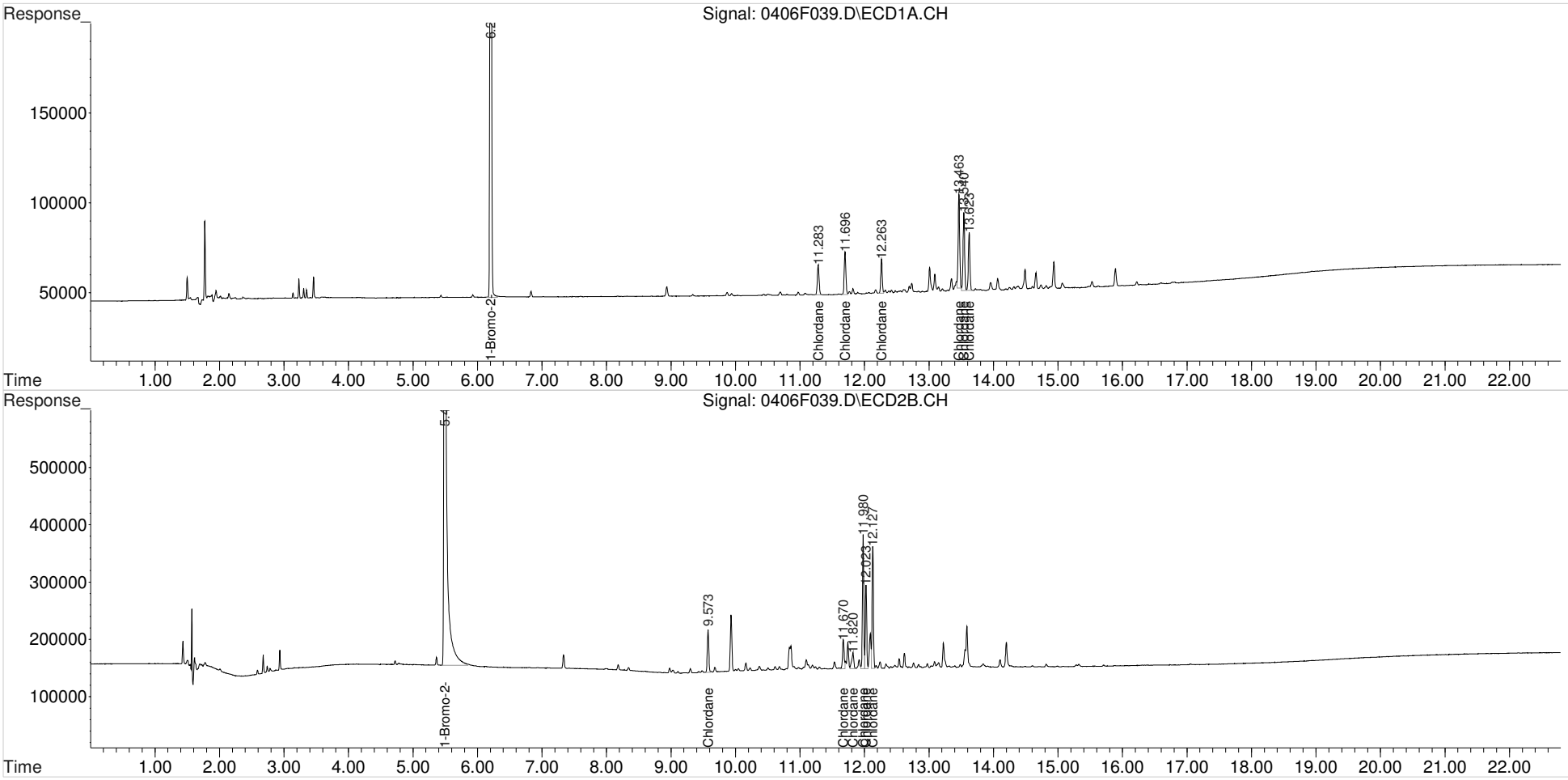
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F039.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 5:42 am Operator: LM
Sample : CHLOR 50PPB GCPS8-74C @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:23:09 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

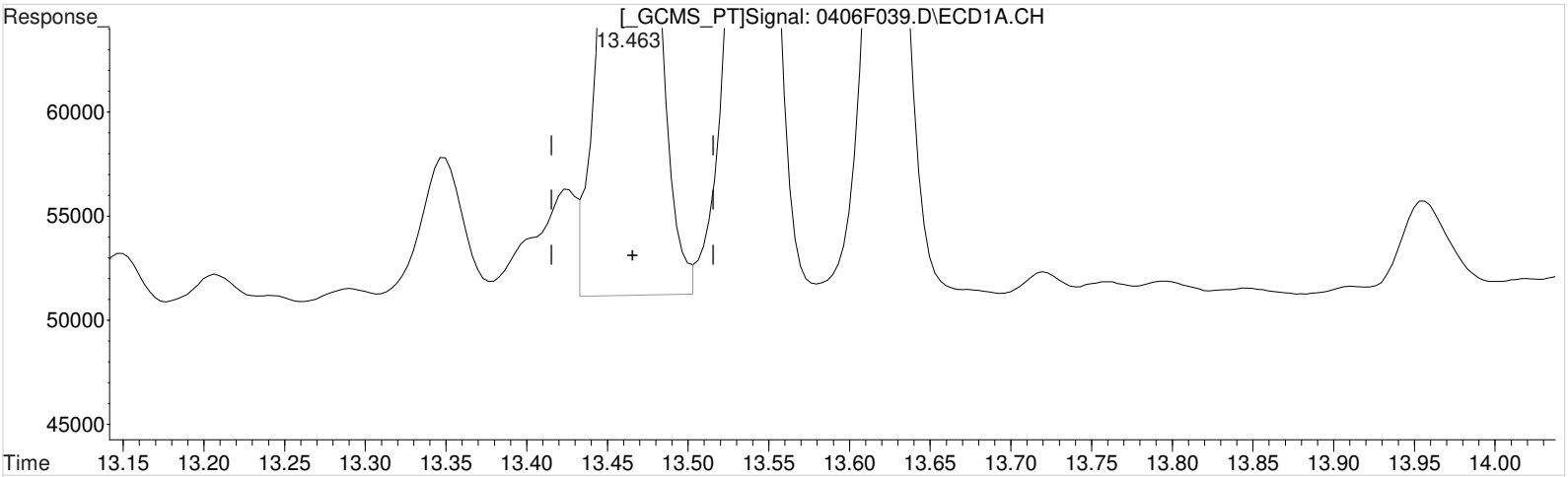


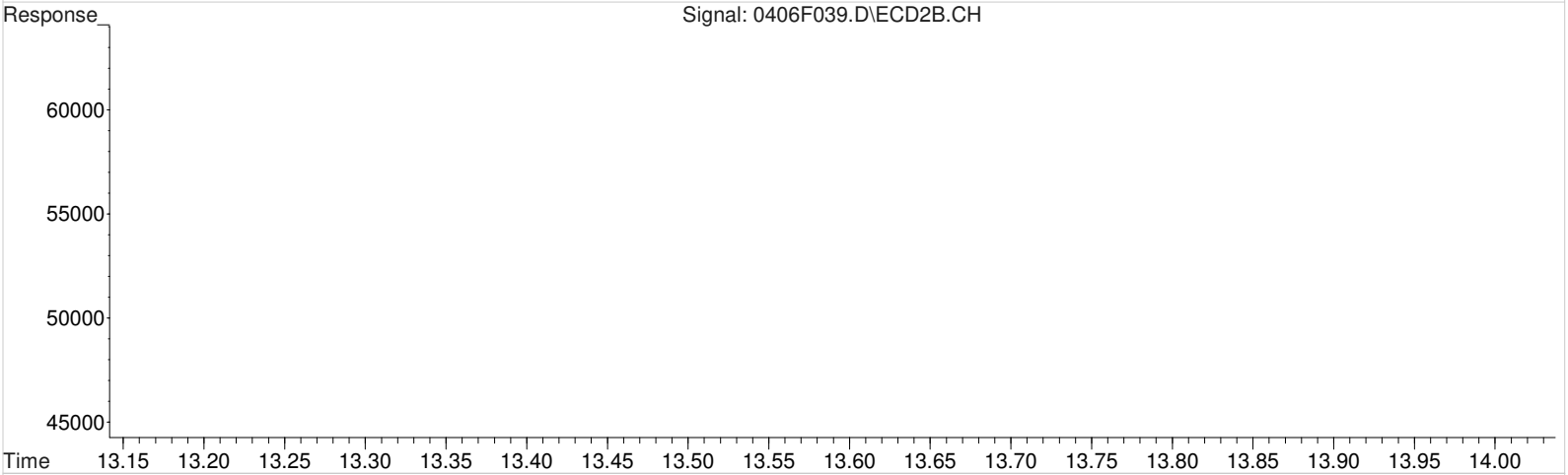
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F039.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 5:42 am Operator: LM
Sample : CHLOR 50PPB GCPS8-74C @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:12 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.463min 52.808 ug/L

response 95669

Manual Integration:

Before

04/07/20

(40) Chlordane {4} #2

11.980min 47.389 ug/L

response 346062

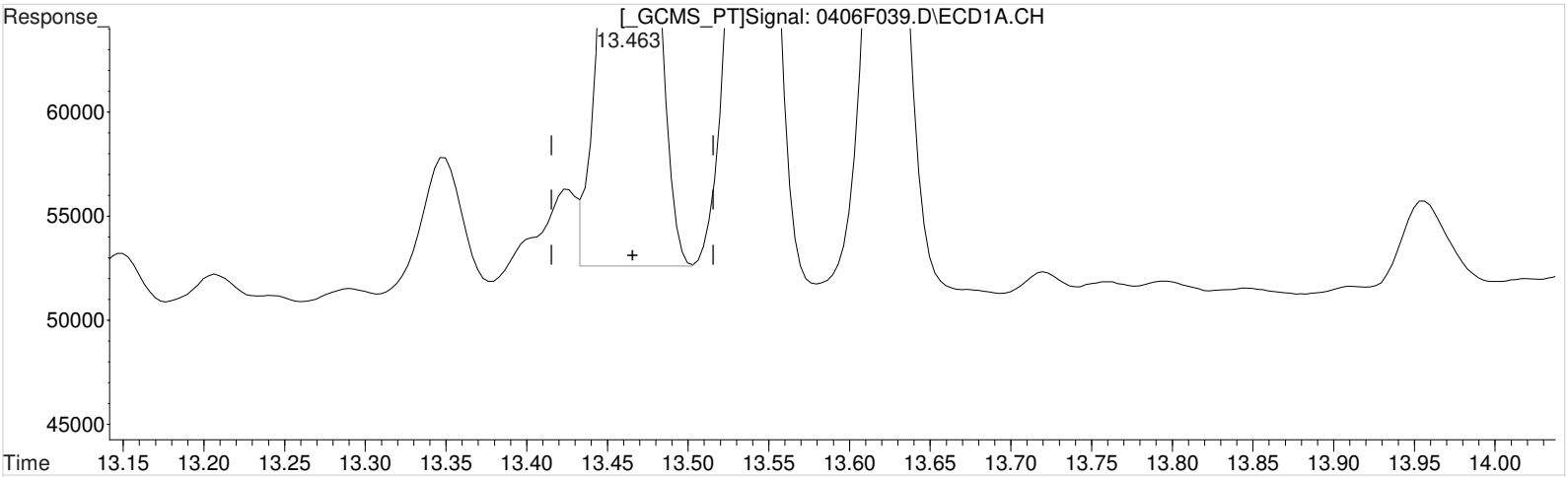
(+) = Expected Retention Time

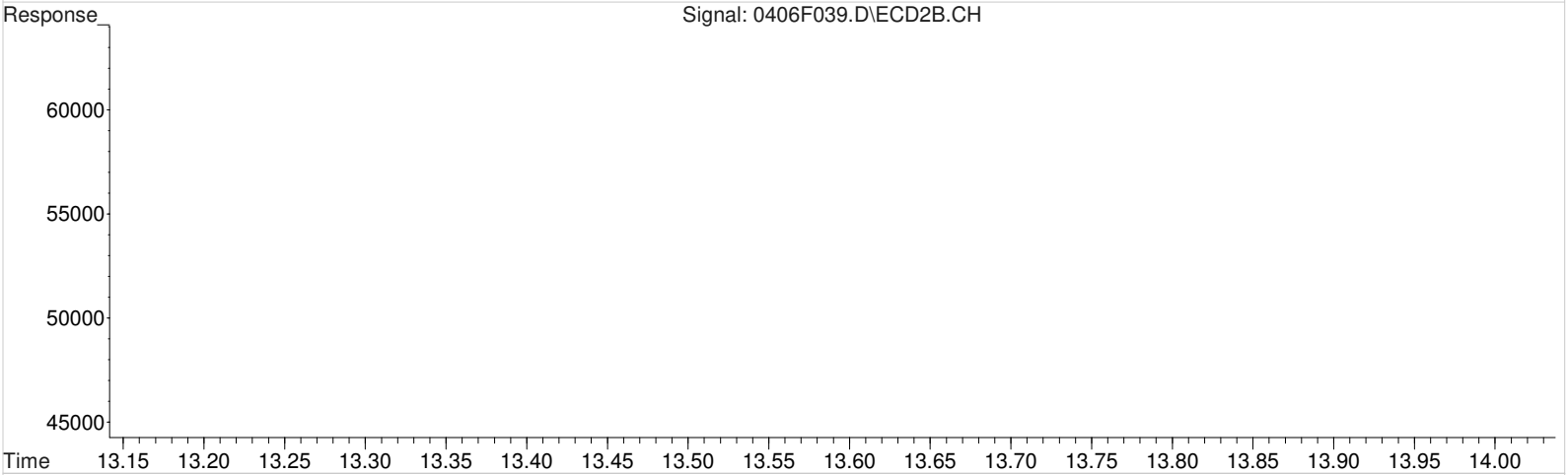
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F039.D Vial: 37
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 5:42 am Operator: LM
Sample : CHLOR 50PPB GCPS8-74C @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:12 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.463min 49.536 ug/L m

response 89743

Manual Integration:

After

Baseline/Shoulder

04/07/20

(40) Chlordane {4} #2

11.980min 47.389 ug/L

response 346062

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F040.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 6:12 am Operator: LM
Sample : CHLOR 100PPB GCPS8-74C @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:24:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
36)	1-Bromo-2...	6.207	5.491	1005444	4719048	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
37)	Chlordane	11.284	9.578	63130	238988	88.191	98.145
38)	Chlordane...	11.701	11.675	80221	170654	97.554	102.723
39)	Chlordane...	12.264	11.825	56974	123262	101.743	95.330
40)	Chlordane...	13.467	11.981	173230	700318	94.944m	95.296
41)	Chlordane...	13.544	12.025	142453	412690	96.058	94.552
42)	Chlordane...	13.624	12.131	103781	604220	97.412	92.331
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

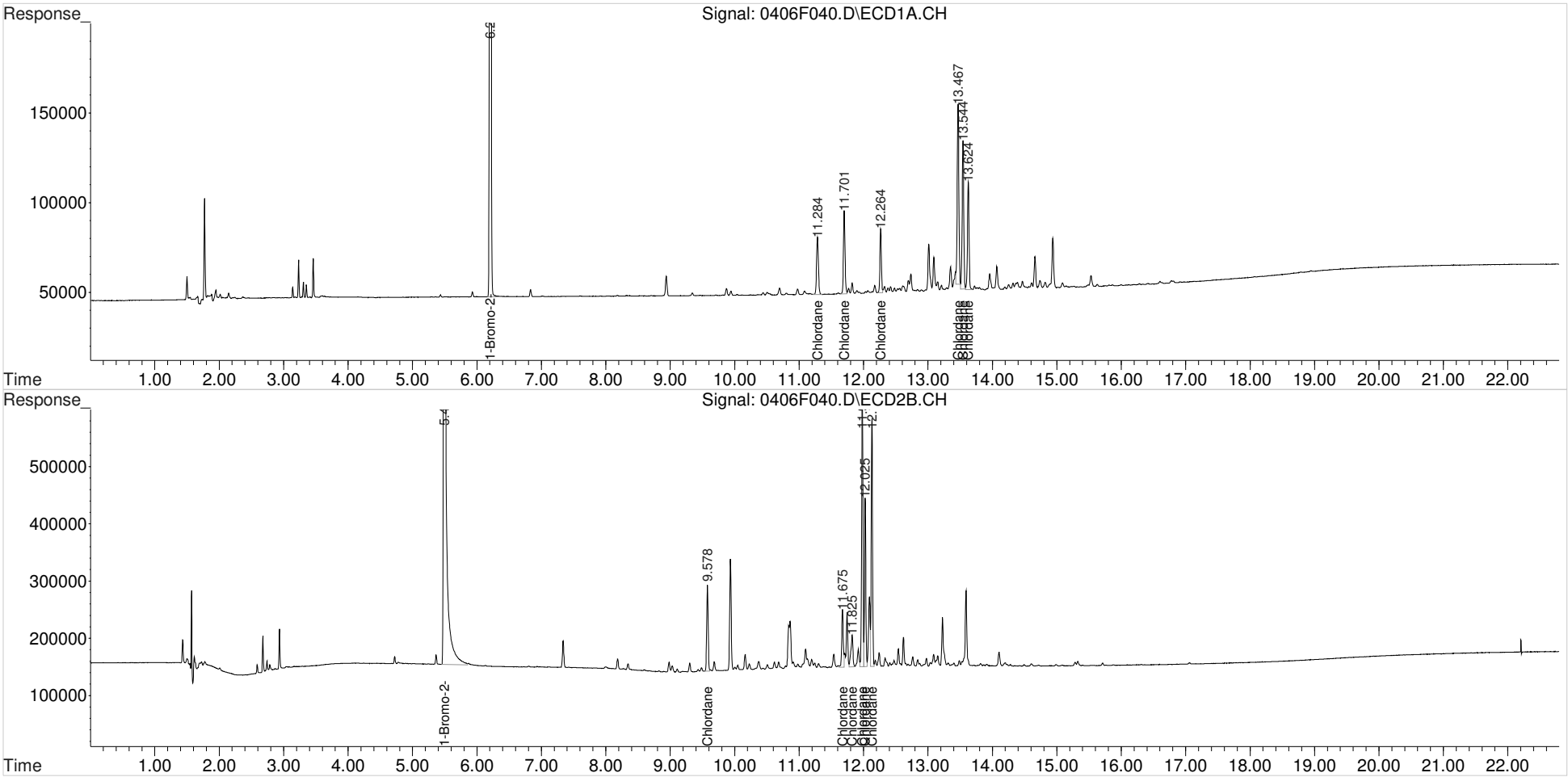
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F040.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 6:12 am Operator: LM
Sample : CHLOR 100PPB GCPS8-74C @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:24:27 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

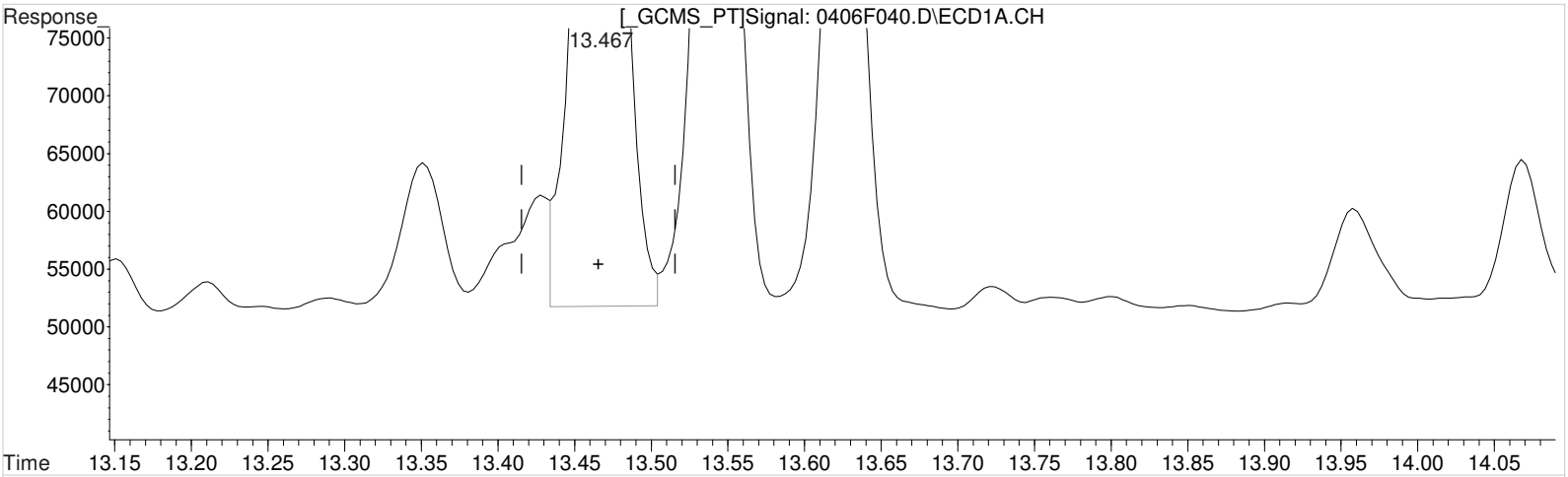


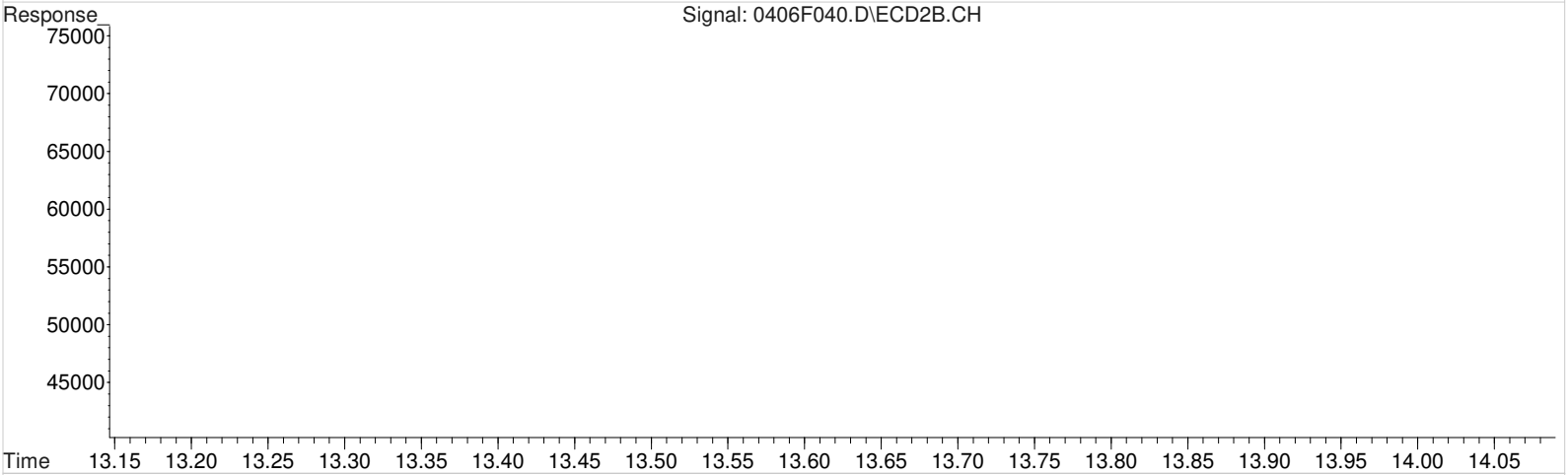
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F040.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 6:12 am Operator: LM
Sample : CHLOR 100PPB GCPS8-74C @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:16 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.467min 101.219 ug/L

response 184679

Manual Integration:

Before

04/07/20

(40) Chlordane {4} #2

11.981min 95.296 ug/L

response 700318

(+) = Expected Retention Time

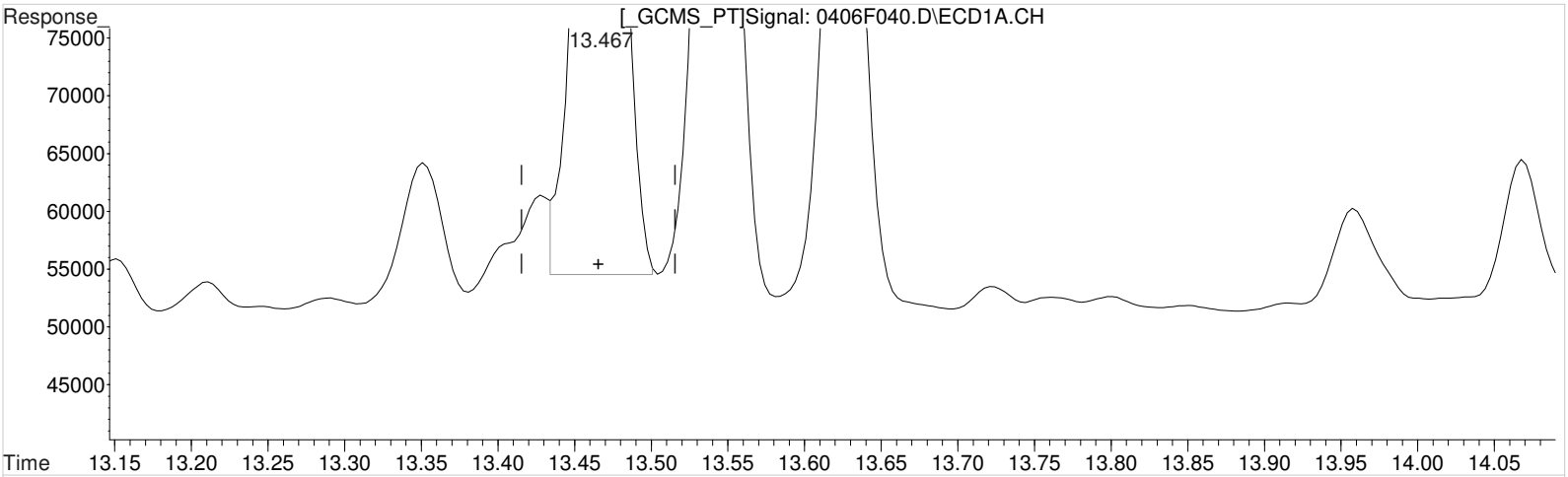
Quantitation Report (Qedit)

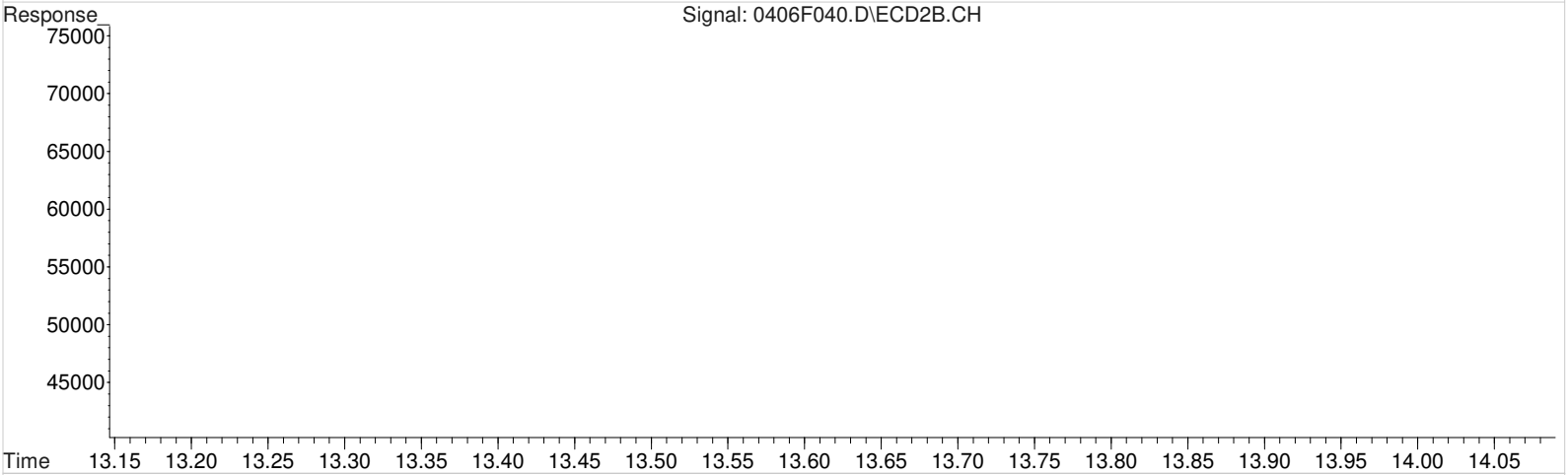
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F040.D Vial: 38
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 6:12 am Operator: LM
Sample : CHLOR 100PPB GCPS8-74C @2X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:16 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.467min 94.944 ug/L m

response 173230

Manual Integration:

After

Baseline/Shoulder

04/07/20

(40) Chlordane {4} #2

11.981min 95.296 ug/L

response 700318

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F041.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 6:41 am Operator: LM
Sample : CHLOR 200PPB GCPS8-74C Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:25:40 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
36)	1-Bromo-2...	6.207	5.491	1038587	4920897	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
37)	Chlordane	11.280	9.574	119782	468365	161.993	198.100
38)	Chlordane...	11.697	11.671	156429	339911	184.157	205.803
39)	Chlordane...	12.264	11.821	106034	248607	209.515	184.385
40)	Chlordane...	13.464	11.977	334776	1458401	177.629m	190.311
41)	Chlordane...	13.540	12.024	273943	849859	178.829	186.726
42)	Chlordane...	13.624	12.128	197231	1257908	179.220	184.336
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

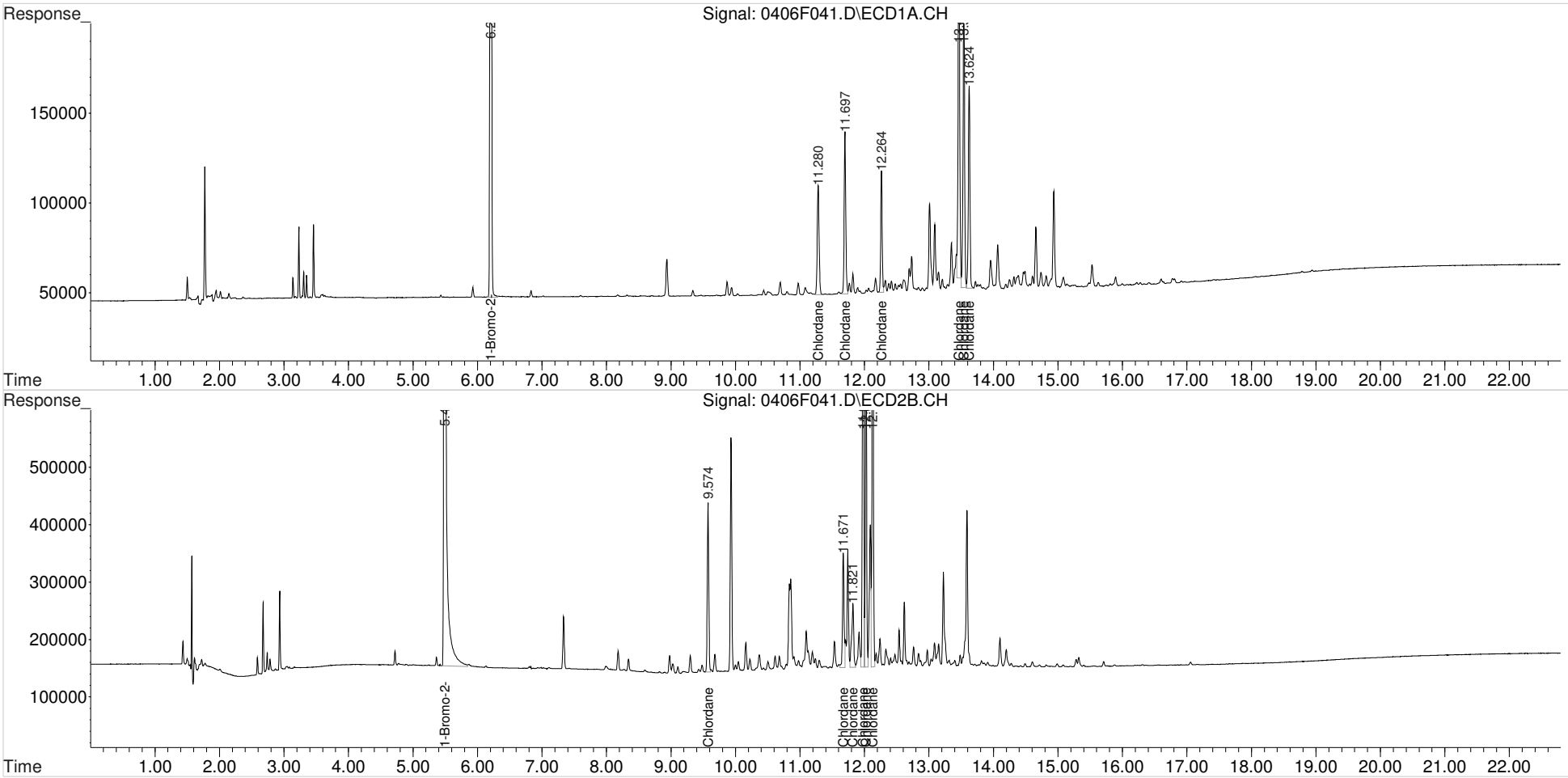
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F041.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 6:41 am Operator: LM
Sample : CHLOR 200PPB GCPS8-74C Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:25:40 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

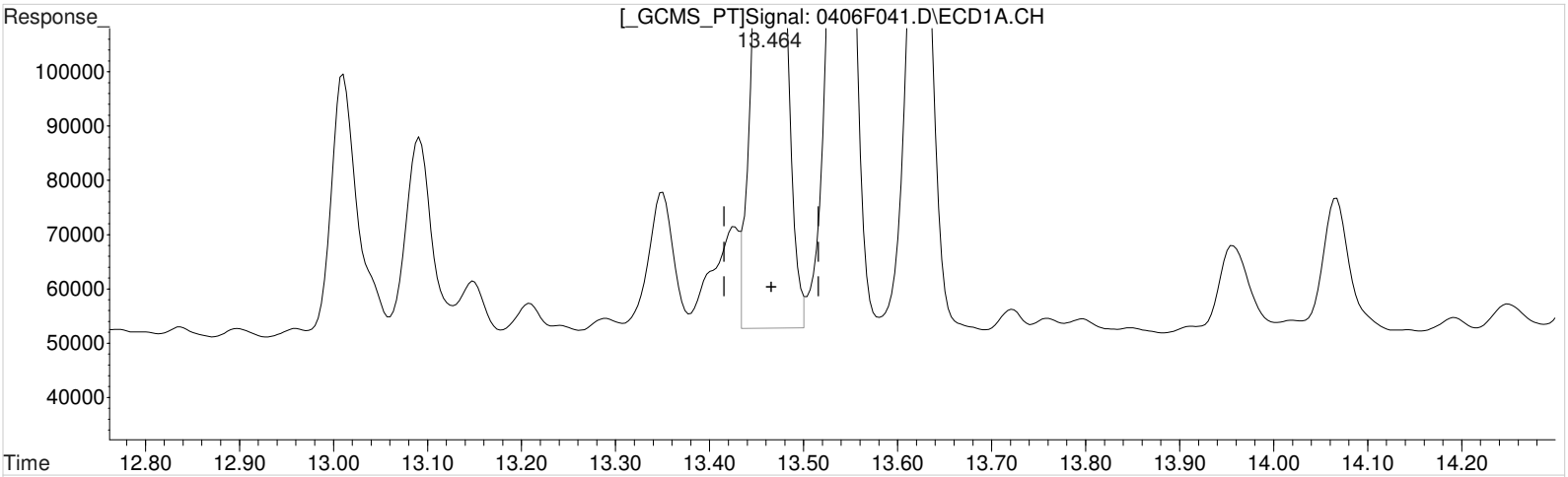


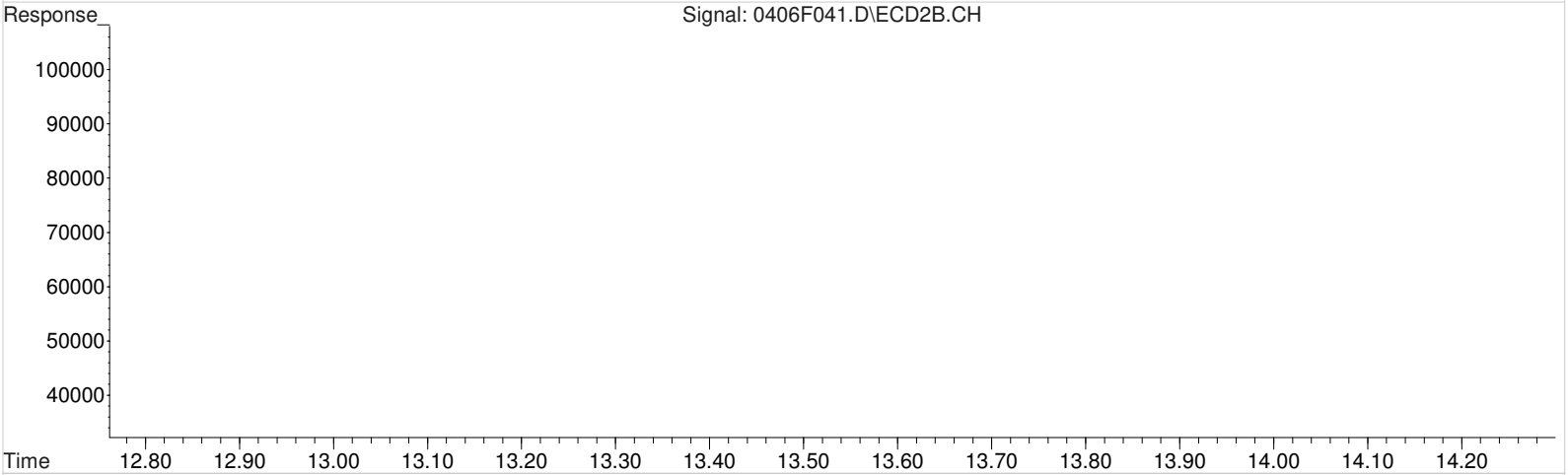
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F041.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 6:41 am Operator: LM
Sample : CHLOR 200PPB GCPS8-74C Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:21 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.464min 189.250 ug/L

response 356678

(40) Chlordane {4} #2

11.977min 190.311 ug/L

response 1458401

Manual Integration:

Before

04/07/20

(+) = Expected Retention Time

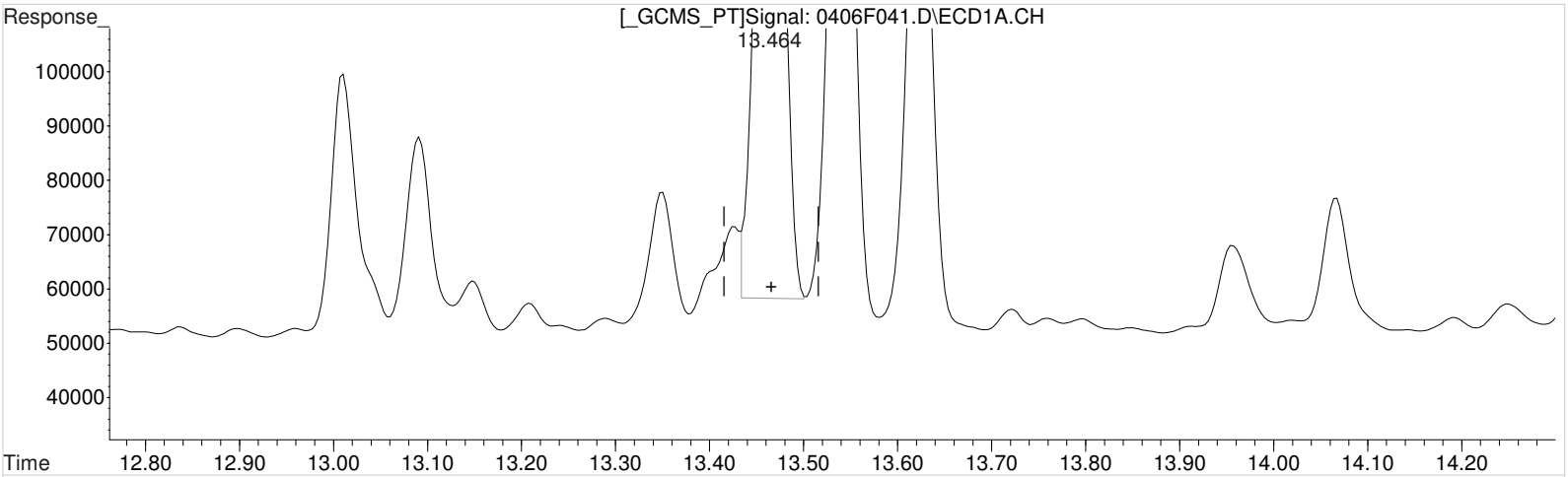
Quantitation Report (Qedit)

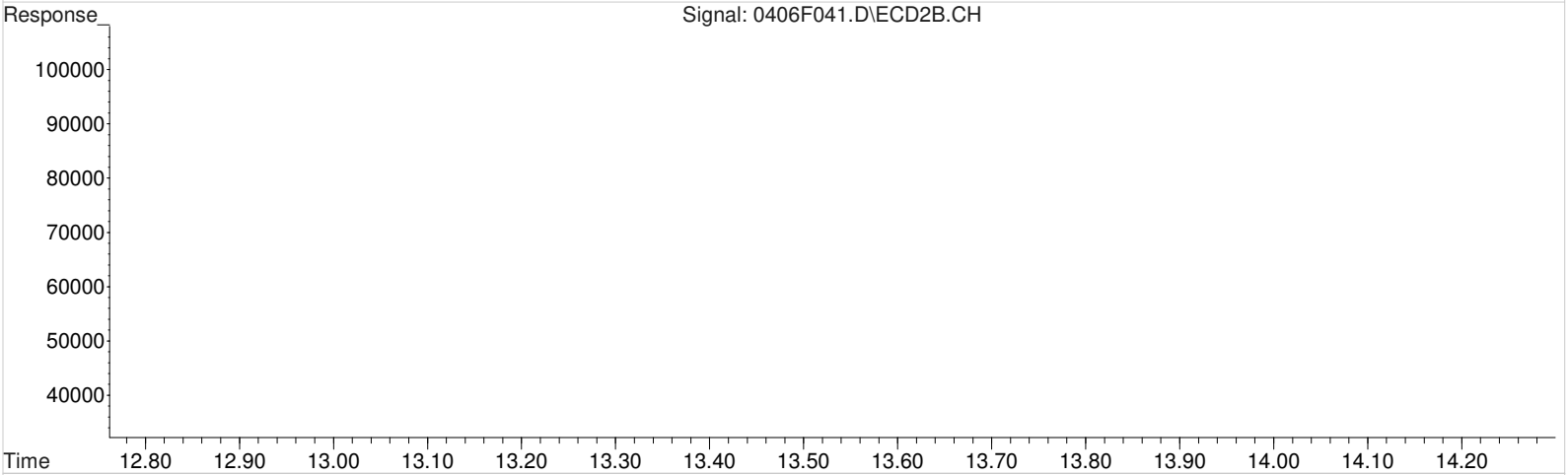
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F041.D Vial: 39
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 6:41 am Operator: LM
Sample : CHLOR 200PPB GCPS8-74C Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:05:21 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 10:58:14 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.464min 177.629 ug/L m

response 334776

Manual Integration:

After

Baseline/Shoulder

04/07/20

(40) Chlordane {4} #2

11.977min 190.311 ug/L

response 1458401

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F042.D Vial: 40
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 7:11 am Operator: LM
Sample : CHLOR ICV 50PPB GCPS8-66J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:33:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:31:42 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
36)	1-Bromo-2...	6.205	5.489	1020812	4847711	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
37)	Chlordane	11.282	9.572	26792	101146	38.500	38.222	
38)	Chlordane...	11.695	11.669	32063	99915	36.373	55.364	#
39)	Chlordane...	12.262	11.819	38366	79437	60.646	66.305	
40)	Chlordane...	13.462	11.979	90881	345939	47.325m	47.676	
41)	Chlordane...	13.539	12.022	75996	235046	47.844	52.905	
42)	Chlordane...	13.619	12.126	58399	299505	50.083	46.559	
	SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

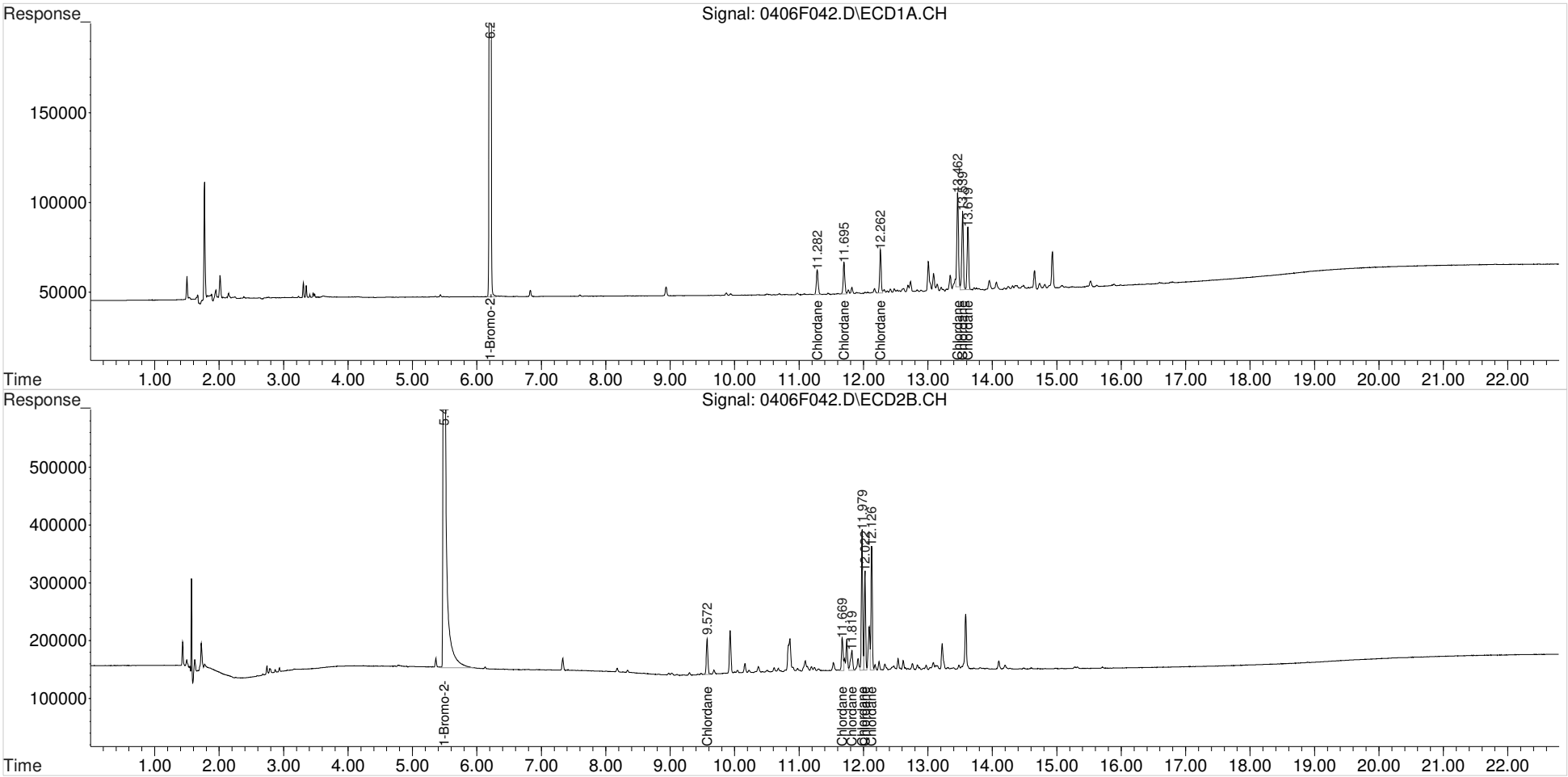
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040620ICAL\0406F042.D Vial: 40
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 7:11 am Operator: LM
Sample : CHLOR ICV 50PPB GCPS8-66J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:33:10 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:31:42 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

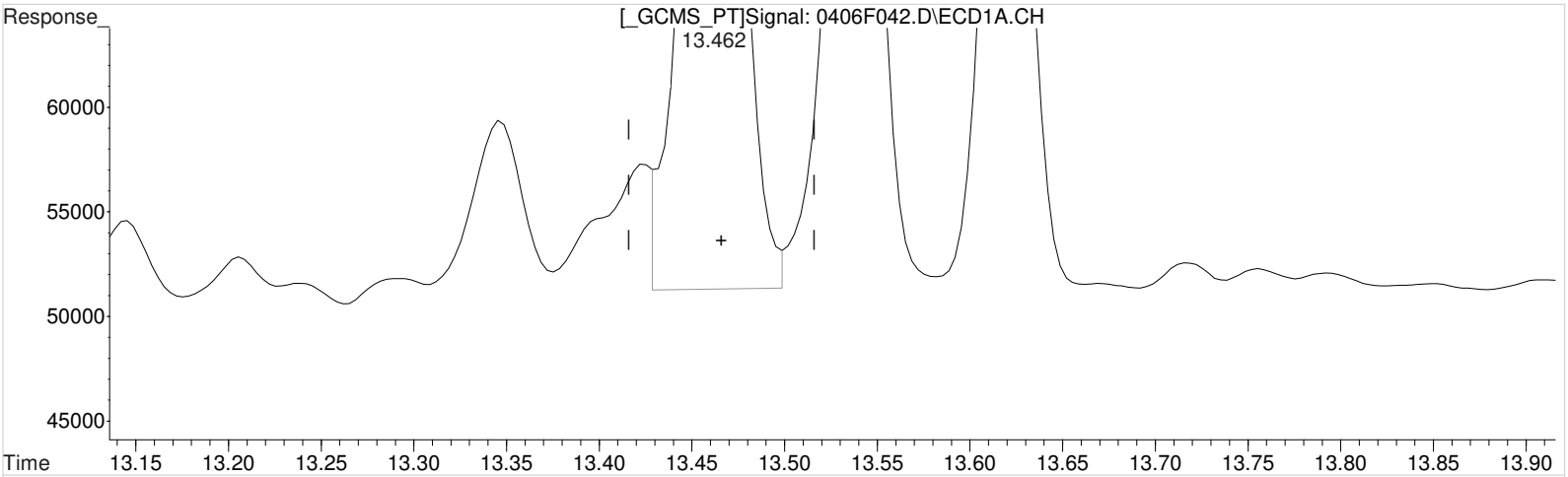


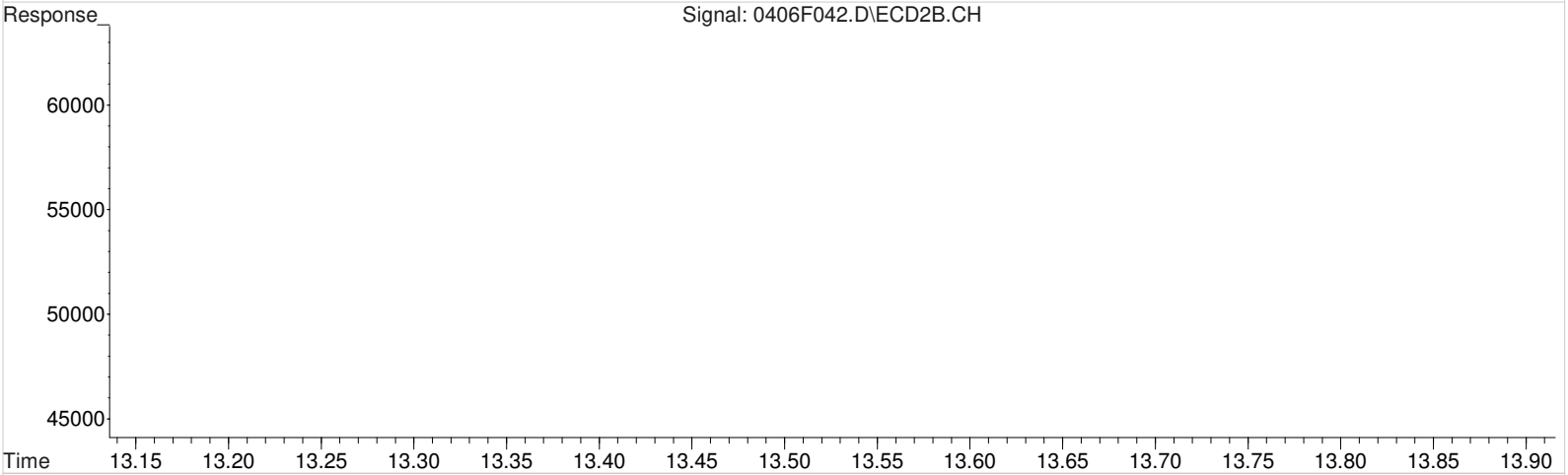
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F042.D Vial: 40
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 7:11 am Operator: LM
Sample : CHLOR ICV 50PPB GCPS8-66J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:31:59 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:31:42 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.462min 51.649 ug/L

response 99184

Manual Integration:

Before

04/07/20

(40) Chlordane {4} #2

11.979min 47.676 ug/L

response 345939

(+) = Expected Retention Time

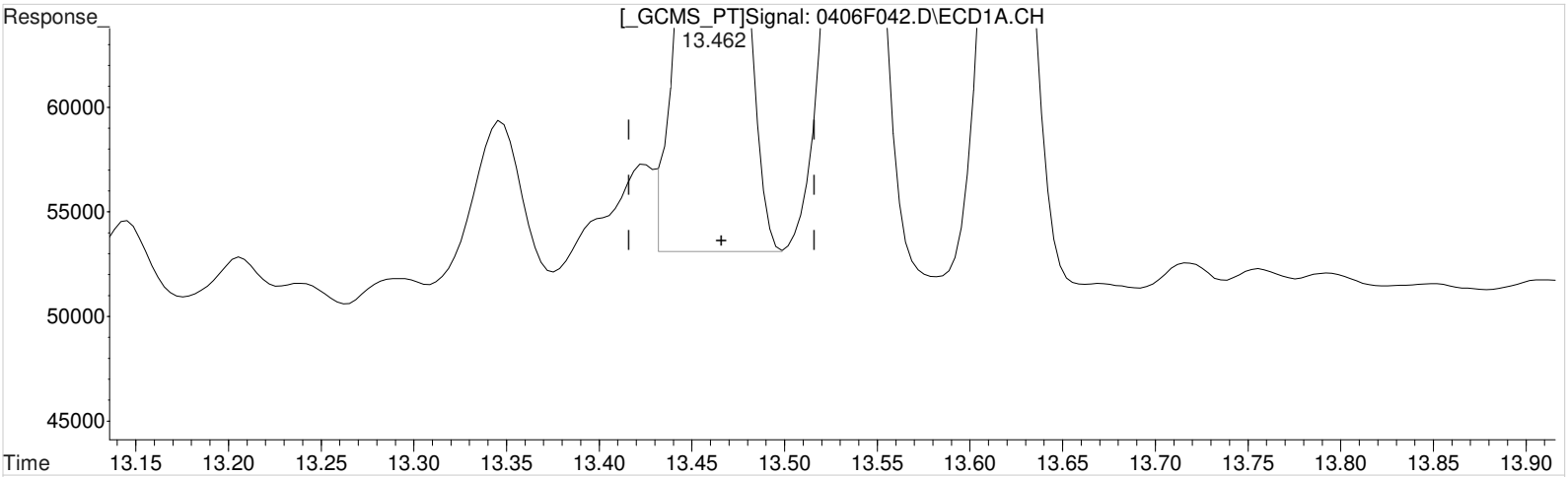
Quantitation Report (Qedit)

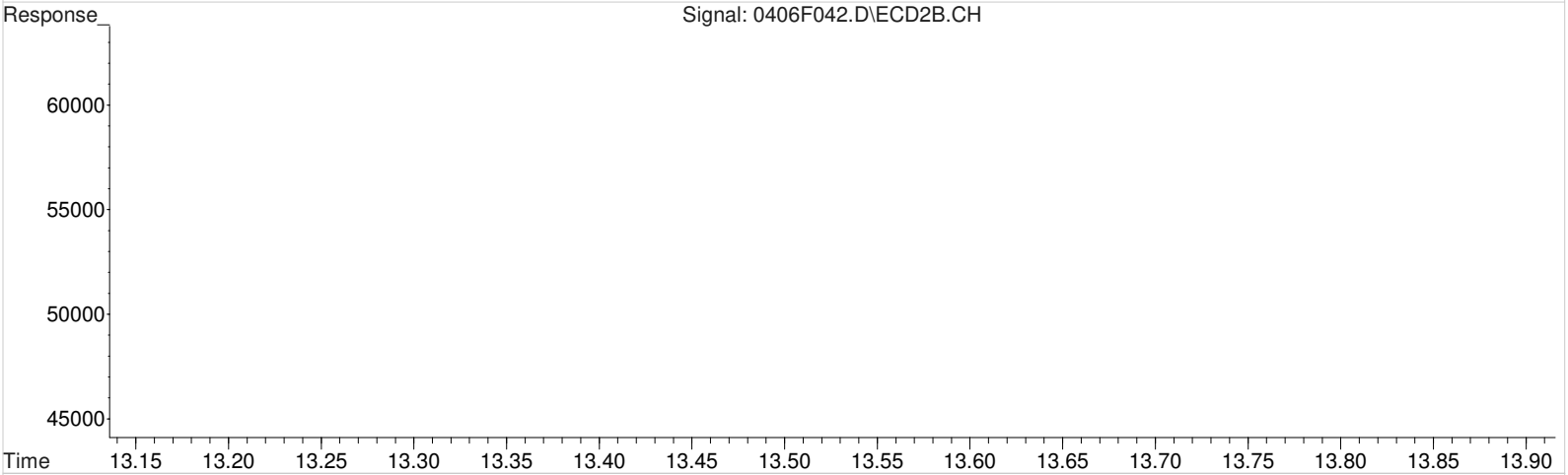
1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040620ICAL\0406F042.D Vial: 40
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 7:11 am Operator: LM
Sample : CHLOR ICV 50PPB GCPS8-66J Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:31:59 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:31:42 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm





QEdit

(40) Chlordane {4}

13.462min 47.325 ug/L m

response 90881

Manual Integration:

After

Baseline/Shoulder

04/07/20

(40) Chlordane {4} #2

11.979min 47.676 ug/L

response 345939

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040720ICAL\0407F003.D Vial: 1
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 10:00 am Operator: LM
Sample : PEM GCPS8-73M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 12:14:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.202	5.490	1012397	4729050	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
16)	4,4'-DDE	13.816	12.490	1632	8570	0.104	0.128	
17)	Endrin	14.379	13.120	77128	333381	5.059	5.042	
19)	4,4'-DDD	14.652	13.383	2814	16158	0.233	0.323	#
20)	Endrin Al...	15.002	13.920	1466	7147	0.109	0.144	#
22)	4,4'-DDT	15.152	13.803	128541	530682	10.126	10.996	
23)	Endrin Ke...	16.166	15.193	2140	12375	0.127	0.176	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

pass <15%

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

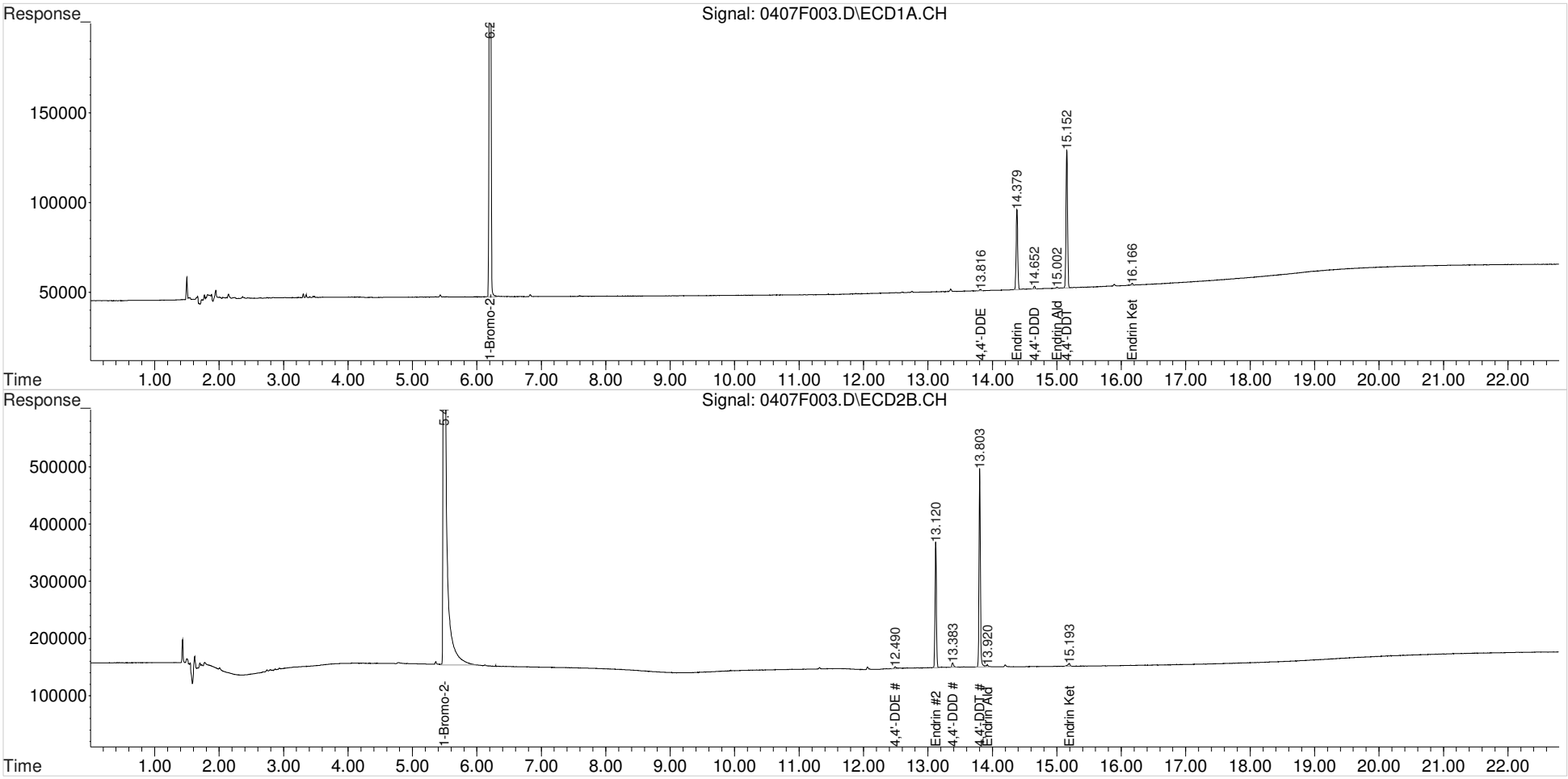
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040720ICAL\0407F003.D Vial: 1
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 10:00 am Operator: LM
Sample : PEM GCPS8-73M Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 12:14:07 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040720ICAL\0407F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 10:30 am Operator: LM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 12:46:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1) i	1-Bromo-2...	6.206	5.490	957735	4461601	100.000	100.000	
29)	1-Bromo-2...	6.206	5.490	957735	4461601	100.000	100.000	
36)	1-Bromo-2...	6.206	5.490	957735	4461601	100.000	100.000	
43)	1-Bromo-2...	6.206	5.490	957735	4461601	100.000	100.000	
	System Monitoring Compounds							
	Target Compounds							
8)	Heptachlor	0.000	9.940	0	732	N.D.	0.010	#
16)	4,4'-DDE	0.000	12.487	0	895	N.D.	0.014	#
44)	Chlorpyrifos	0.000	10.890	0	1453	N.D.	0.052	#
49)	HCE	0.000	3.434	0	3362	N.D.	0.032	#
	SemiQuant Compounds - Not Calibrated on this Instrument							

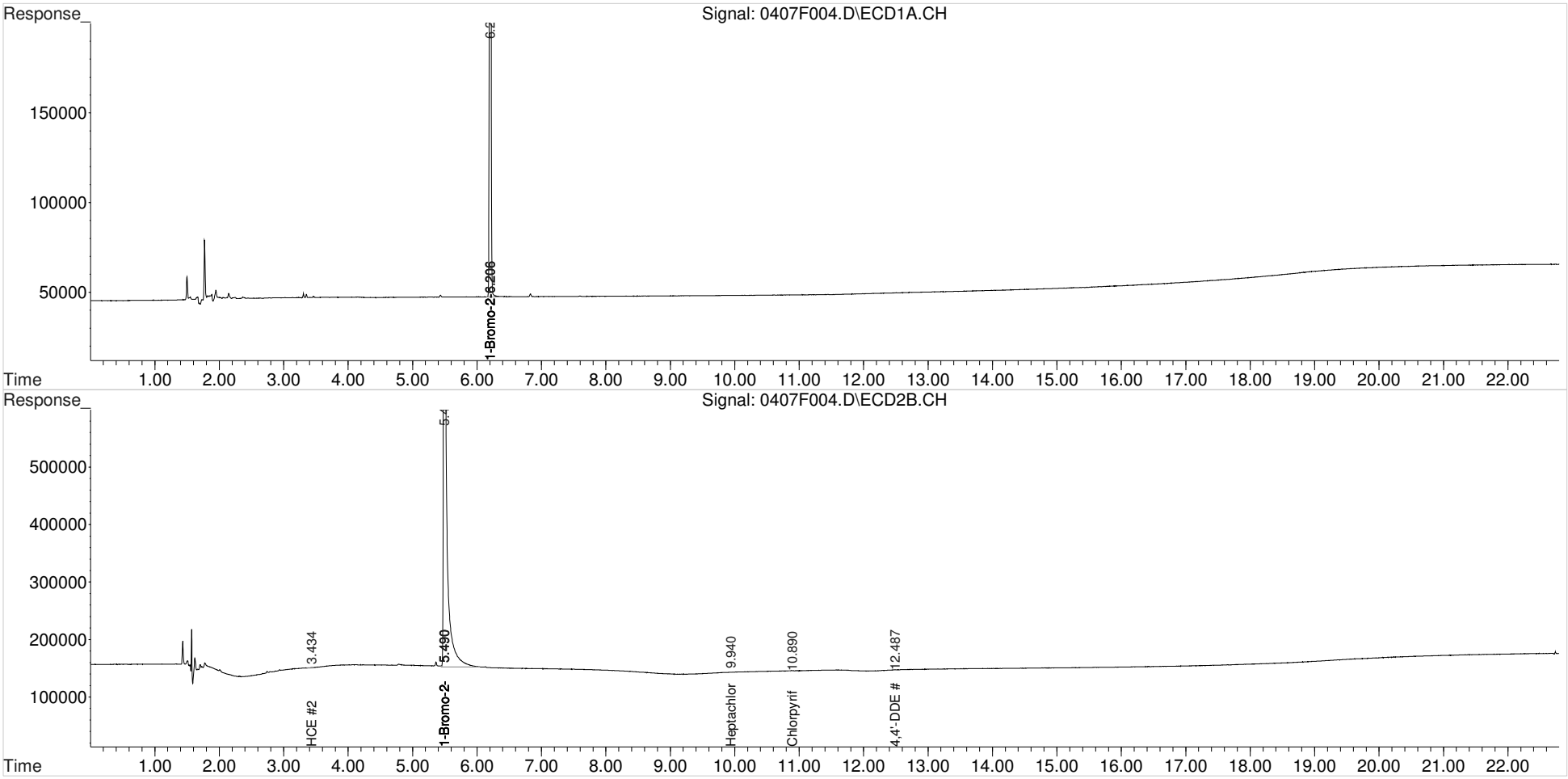
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040720ICAL\0407F004.D Vial: 2
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 10:30 am Operator: LM
Sample : IB Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 12:46:25 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040720ICAL\0407F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 10:59 am Operator: LM
Sample : 24 0.5PPB GCPS8-74B @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:38:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:31:42 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.209	5.493	975206	4506526	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
25)	2,4'-DDE	13.226	12.020	5452	19826	0.590	0.524
26)	2,4'-DDD	13.963	12.793	4605	18170	0.591	0.530
27)	2,4'-DDT	14.463	13.216	5442	18204	0.676	0.549
	SemiQuant Compounds - Not Calibrated on this Instrument						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

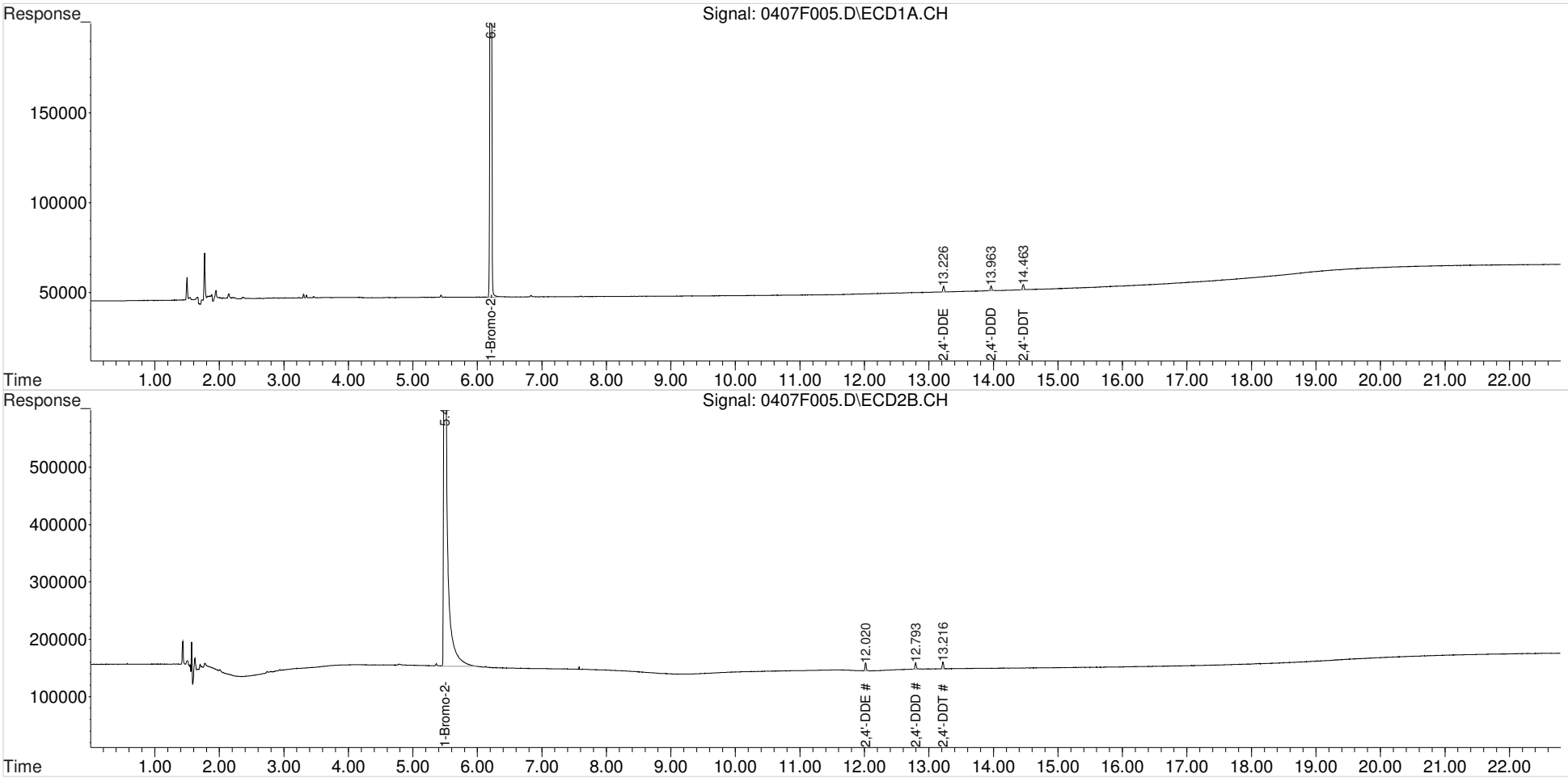
1st LM 04/07/20
2nd UA 04/07/20

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040720ICAL\0407F005.D Vial: 3
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 10:59 am Operator: LM
Sample : 24 0.5PPB GCPS8-74B @4X Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 11:38:02 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:31:42 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Quantitation Report (QT Reviewed)

1st LM 04/07/20
2nd UA 04/07/20

Data File : J:\GC23\data\040720ICAL\0407F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 11:29 am Operator: LM
Sample : 24 ICV 2PPB GCPS8-67G Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 12:00:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) i	1-Bromo-2...	6.206	5.490	994653	4596200	100.000	100.000
	System Monitoring Compounds						
	Target Compounds						
25)	2,4'-DDE	13.230	12.020	23068	91582	2.150	2.158
26)	2,4'-DDD	13.966	12.797	19789	80354	2.101	2.184
27)	2,4'-DDT	14.466	13.217	22831	85021	2.118	2.131
	SemiQuant Compounds - Not Calibrated on this Instrument						

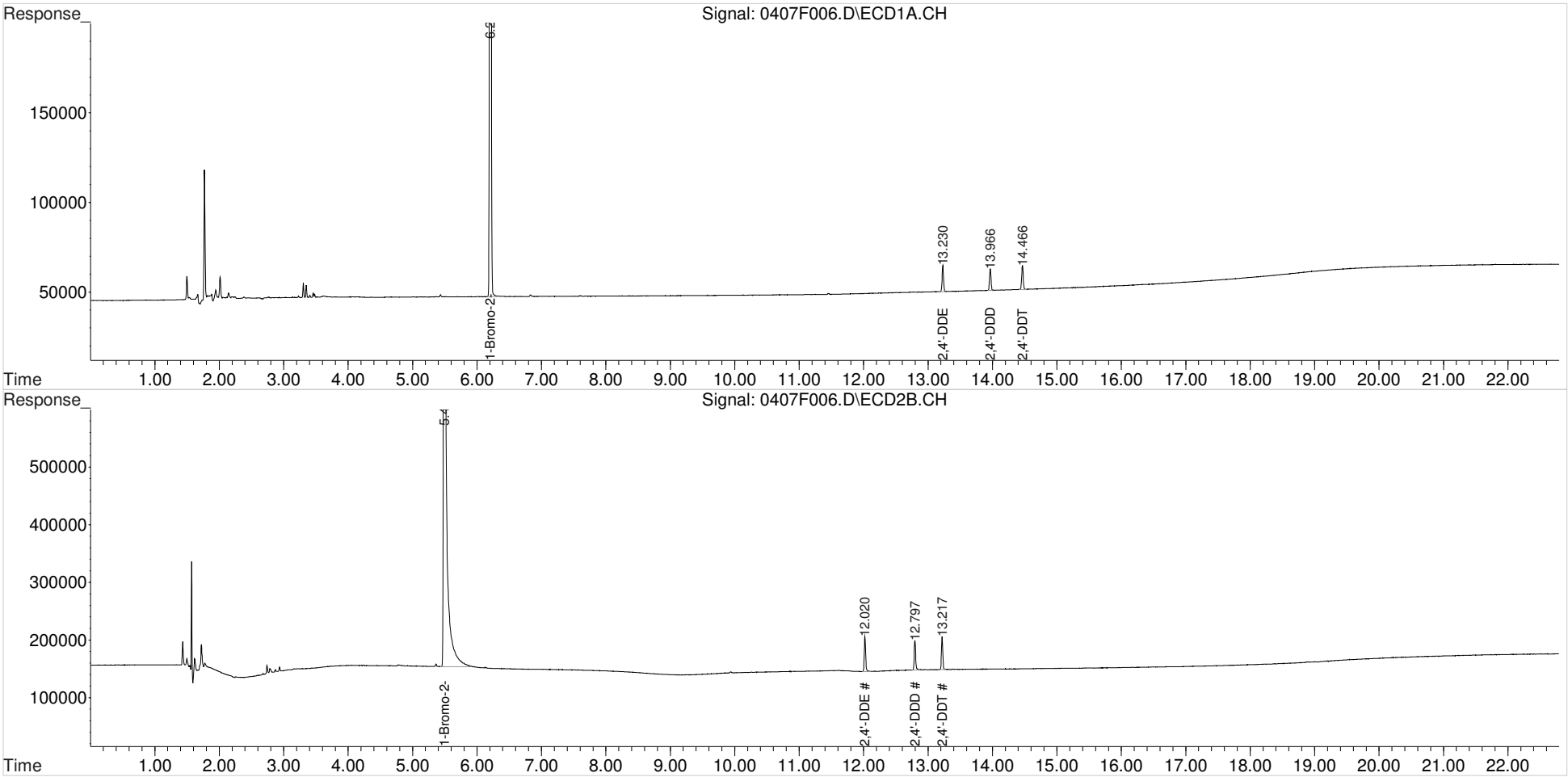
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : J:\GC23\data\040720ICAL\0407F006.D Vial: 4
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 07 Apr 2020 11:29 am Operator: LM
Sample : 24 ICV 2PPB GCPS8-67G Inst : GC23
Misc : Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Apr 07 12:00:56 2020
Quant Results File: GC23-040620-8081.RES

Quant Method : J:\GC23\METHODS\GC23-040620-8081.M
Quant Title : CAL15743 XP-05-2-19
QLast Update : Tue Apr 07 11:59:45 2020
Response via : Initial Calibration
DataAcq Meth:PESTCLI2.M

Volume Inj. :
Signal #1 Phase : DB XLB Signal #2 Phase: DB-35MS
Signal #1 Info : 0.32mm Signal #2 Info : 0.32mm



Sequence Name: C:\GC23\SEQUENCE\041820.S
Comment: OC PESTICIDES VIA 8081B
Operator: LM
Data Path: C:\GC23\DATA\041720A\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Clocksrt - 14:30				
2	IB	100	0418F001	PESTCLI2	HEX
3	IB	100	0418F002	PESTCLI2	HEX
4	IB	100	0418F003	PESTCLI2	HEX
5	IB	99	0418F004	PESTCLI2	HEX
6	IB	99	0418F005	PESTCLI2	HEX
7	IB	99	0418F006	PESTCLI2	HEX
8	PEM	1	0418F007	PESTCLI2	PEM GCPS8-73M
9	CCV	2	0418F008	PESTCLI2	81 2PPB GCPS8-76H
10	CCV	3	0418F009	PESTCLI2	TOX 100PPB GCPS8-76J
11	CCV	4	0418F010	PESTCLI2	CHLOR 20PPB GCPS8-74M
12	IB	5	0418F011	PESTCLI2	IB
13	MB	6	0418F012	PESTCLI2	KQ2004496-07 MB
14	LCS	7	0418F013	PESTCLI2	KQ2004496-03 81 LCS
15	MS	8	0418F014	PESTCLI2	K2002652-001 81 MS
16	DMS	9	0418F015	PESTCLI2	K2002652-001 81 DMS
17	LCS	10	0418F016	PESTCLI2	KQ2004496-06 T/C LCS
18	MS	11	0418F017	PESTCLI2	K2002652-001 T/C MS
19	DMS	12	0418F018	PESTCLI2	K2002652-001 T/C DMS
20	SMPL	13	0418F019	PESTCLI2	K2002652-001
21	SMPL	14	0418F020	PESTCLI2	K2002652-002
22	SMPL	15	0418F021	PESTCLI2	K2002652-003
23	SMPL	16	0418F022	PESTCLI2	K2002652-004
24	SMPL	17	0418F023	PESTCLI2	K2002652-005
25	SMPL	18	0418F024	PESTCLI2	K2002652-006
26	SMPL	19	0418F025	PESTCLI2	K2002652-007
27	SMPL	20	0418F026	PESTCLI2	K2002652-008
28	SMPL	21	0418F027	PESTCLI2	K2002652-009
29	SMPL	22	0418F028	PESTCLI2	K2002652-010
30	PEM	23	0418F029	PESTCLI2	PEM GCPS8-73M
31	CCV	24	0418F030	PESTCLI2	81 2PPB GCPS8-76H
32	CCV	25	0418F031	PESTCLI2	TOX 100PPB GCPS8-76J
33	CCV	26	0418F032	PESTCLI2	CHLOR 20PPB GCPS8-74M
34	IB	27	0418F033	PESTCLI2	IB
35	MB	28	0418F034	PESTCLI2	KQ2004497-05 MB
36	LCS	29	0418F035	PESTCLI2	KQ2004497-01 81 LCS
37	DLCS	30	0418F036	PESTCLI2	KQ2004497-02 81 DLCS
38	LCS	31	0418F037	PESTCLI2	KQ2004497-03 T/C LCS
39	DLCS	32	0418F038	PESTCLI2	KQ2004497-04 T/C DLCS
40	SMPL	33	0418F039	PESTCLI2	K2002652-011
41	SMPL	34	0418F040	PESTCLI2	K2002652-012
42	SMPL	35	0418F041	PESTCLI2	K2002652-013
43	SMPL	36	0418F042	PESTCLI2	K2002652-014

KC 2090190

#677292

#677293

Sequence Name: C:\GC23\Sequence\042220.S
Comment: OC PESTICIDES VIA 8081B
Operator: LM
Data Path: C:\GC23\DATA\042220\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	PEM	1	0422F001	PESTCLI2	PEM GCPS8-73M
2	CCV	2	0422F002	PESTCLI2	81 2PPB GCPS8-76H
3	CCV	3	0422F003	PESTCLI2	2.4DD 2PPB GCPS8-74B
4	CCV	2	0422F004	PESTCLI2	81 2PPB GCPS8-76H
5	CCV	4	0422F005	PESTCLI2	M/P 2/10PPB GCPS8-76D
6	CCV	5	0422F006	PESTCLI2	TOX 100PPB GCPS8-76J
7	CCV	6	0422F007	PESTCLI2	CHLOR 20PPB GCPS8-74M
8	IB	7	0422F008	PESTCLI2	IB
9	MB	100	0422F109	PESTCLI2	KWG2001018-5 MB RR
10	MB	8	0422F009	PESTCLI2	KQ2005263-07 MB
11	MB	100	0422F110	PESTCLI2	KWG2001018-5 MB RR
12	LCS	10	0422F010	PESTCLI2	KQ2005263-01 81/M LCS
13	DLCS	10	0422F011	PESTCLI2	KQ2005263-02 81/M DLCS
14	LCS	9	0422F112	PESTCLI2	KQ2005263-02 81/M LCS RI
15	LCS	11	0422F012	PESTCLI2	KQ2005263-03 2.4DD LCS
16	DLCS	12	0422F013	PESTCLI2	KQ2005263-04 2.4DD DLCS
17	LCS	13	0422F014	PESTCLI2	KQ2005263-05 T/C LCS
18	DLCS	14	0422F015	PESTCLI2	KQ2005263-06 T/C DLCS
19	SMPL	15	0422F016	PESTCLI2	J2001976-001
20	SMPL	16	0422F017	PESTCLI2	J2001976-002
21	SMPL	17	0422F018	PESTCLI2	J2001996-001
22	SMPL	18	0422F019	PESTCLI2	J2001996-002
23	DL	19	0422F020	PESTCLI2	K2002652-002 20X
24	DL	20	0422F021	PESTCLI2	K2002652-003 20X
25	DL	21	0422F022	PESTCLI2	K2002652-008 20X
26	DL	22	0422F023	PESTCLI2	K2002652-009 10X
27	SCRN	23	0422F024	PESTCLI2	-76N @100X TOX MS CHECK
28	PEM	24	0422F025	PESTCLI2	PEM GCPS8-73M
29	CCV	25	0422F026	PESTCLI2	81 2PPB GCPS8-76H
30	CCV	26	0422F027	PESTCLI2	2.4DD 2PPB GCPS8-74B
31	CCV	27	0422F028	PESTCLI2	M/P 2/10PPB GCPS8-76D
32	CCV	28	0422F029	PESTCLI2	TOX 100PPB GCPS8-76J
33	CCV	29	0422F030	PESTCLI2	CHLOR 20PPB GCPS8-74M
34	IB	30	0422F031	PESTCLI2	IB
35	SMPL	31	0422F032	PESTCLI2	K2002767-004 CU
36	MS	32	0422F033	PESTCLI2	K2002767-004 81/M MS CU
37	DMS	33	0422F034	PESTCLI2	K2002767-004 81/M DMS CU
38	MS	34	0422F035	PESTCLI2	K2002767-004 2.4DD MS CU
39	DMS	35	0422F036	PESTCLI2	K2002767-004 2.4DD DMS CU
40	MS	36	0422F037	PESTCLI2	K2002767-004 T/C MS CU
41	DMS	37	0422F038	PESTCLI2	K2002767-004 T/C DMS CU
42	LCS	38	0422F039	PESTCLI2	KQ2004602-07 81/M LCS
43	LCS	39	0422F040	PESTCLI2	KQ2004602-08 2.4DD LCS

Path ↑↑↑

KC 2000190

#677794

#677783

NR - past 12hr window

for K2652-009 DIL file K043

#677799

Dup

Last Modified: Thu Apr 23 10:13:54 2020 Page: 1

Sequence Name: C:\GC23\Sequence\042220.S

Line	Type	Vial	DataFile	Method	Sample Name
44	LCS	40	0422F041	PESTCLI2	KQ2004602-09 T/C LCS
45	MB	41	0422F042	PESTCLI2	KQ2004602-10 MB
46	PEM	42	~~0422F043~~	PESTCLI2	~~PEM GCPS8-73M~~ K2002652-009 10X R1
47	PEM	28	~~0422F144~~	PESTCLI2	PEM GCPS8-73M EE LM 4-23-20
48	CCV	43	0422F044	PESTCLI2	81 2PPB GCPS8-76H
49	CCV	44	0422F045	PESTCLI2	M/P 2/10PPB GCPS8-76D
50	CCV	45	0422F046	PESTCLI2	TOX 100PPB GCPS8-76J
51	IB	46	0422F047	PESTCLI2	IB
52	MB	47	0422F048	PESTCLI2	KWG2001072-5 MB
53	LCS	48	0422F049	PESTCLI2	KWG2001072-1 81/M LCS
54	DLCS	49	0422F050	PESTCLI2	KWG2001072-2 81/M DLCS
55	LCS	50	0422F051	PESTCLI2	KWG2001072-3 T LCS
56	DLCS	51	0422F052	PESTCLI2	KWG2001072-4 T DLCS
57	SMPL	52	0422F053	PESTCLI2	K2002696-001
58	SMPL	53	0422F054	PESTCLI2	K2002696-002
59	SMPL	54	0422F055	PESTCLI2	K2002696-003
60	SMPL	55	0422F056	PESTCLI2	K2002696-004
61	SMPL	56	0422F057	PESTCLI2	K2002696-005
62	SMPL	57	0422F058	PESTCLI2	K2002696-006
63	SMPL	58	0422F059	PESTCLI2	K2002699-001
64	SMPL	59	0422F060	PESTCLI2	K2002699-002
65	SMPL	60	0422F061	PESTCLI2	K2002699-003
66	SMPL	61	0422F062	PESTCLI2	K2002699-004
67	SMPL	62	~~0422F063~~	~~PESTCLI2~~	~~K2002699-005~~

Dil/Not run

Sequence Name: C:\GC23\SEQUENCE\041820.S
Comment: OC PESTICIDES VIA 8081B
Operator: LM
Data Path: C:\GC23\DATA\041720A\
Pre-Seq Cmd:
Post-Seq Cmd:

041820 SM

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Clocksrt - 14:30				
2	IB	100	0418F001	PESTCLI2	HEX
3	IB	100	0418F002	PESTCLI2	HEX
4	IB	100	0418F003	PESTCLI2	HEX
5	IB	99	0418F004	PESTCLI2	HEX
6	IB	99	0418F005	PESTCLI2	HEX
7	IB	99	0418F006	PESTCLI2	HEX
8	PEM	1	0418F007	PESTCLI2	PEM GCPS8-73M
9	CCV	2	0418F008	PESTCLI2	81 2PPB GCPS8-76H
10	CCV	3	0418F009	PESTCLI2	TOX 100PPB GCPS8-76J
11	CCV	4	0418F010	PESTCLI2	CHLOR 20PPB GCPS8-74M
12	IB	5	0418F011	PESTCLI2	IB
13	MB	6	0418F012	PESTCLI2	KQ2004496-07 MB
14	LCS	7	0418F013	PESTCLI2	KQ2004496-03 81 LCS
15	MS	8	0418F014	PESTCLI2	K2002652-001 81 MS
16	DMS	9	0418F015	PESTCLI2	K2002652-001 81 DMS
17	LCS	10	0418F016	PESTCLI2	KQ2004496-06 T/C LCS
18	MS	11	0418F017	PESTCLI2	K2002652-001 T/C MS
19	DMS	12	0418F018	PESTCLI2	K2002652-001 T/C DMS
20	SMPL	13	0418F019	PESTCLI2	K2002652-001
21	SMPL	14	0418F020	PESTCLI2	K2002652-002
22	SMPL	15	0418F021	PESTCLI2	K2002652-003
23	SMPL	16	0418F022	PESTCLI2	K2002652-004
24	SMPL	17	0418F023	PESTCLI2	K2002652-005
25	SMPL	18	0418F024	PESTCLI2	K2002652-006
26	SMPL	19	0418F025	PESTCLI2	K2002652-007
27	SMPL	20	0418F026	PESTCLI2	K2002652-008
28	SMPL	21	0418F027	PESTCLI2	K2002652-009
29	SMPL	22	0418F028	PESTCLI2	K2002652-010
30	PEM	23	0418F029	PESTCLI2	PEM GCPS8-73M
31	CCV	24	0418F030	PESTCLI2	81 2PPB GCPS8-76H
32	CCV	25	0418F031	PESTCLI2	TOX 100PPB GCPS8-76J
33	CCV	26	0418F032	PESTCLI2	CHLOR 20PPB GCPS8-74M
34	IB	27	0418F033	PESTCLI2	IB
35	MB	28	0418F034	PESTCLI2	KQ2004497-05 MB
36	LCS	29	0418F035	PESTCLI2	KQ2004497-01 81 LCS
37	DLCS	30	0418F036	PESTCLI2	KQ2004497-02 81 DLCS
38	LCS	31	0418F037	PESTCLI2	KQ2004497-03 T/C LCS
39	DLCS	32	0418F038	PESTCLI2	KQ2004497-04 T/C DLCS
40	SMPL	33	0418F039	PESTCLI2	K2002652-011
41	SMPL	34	0418F040	PESTCLI2	K2002652-012
42	SMPL	35	0418F041	PESTCLI2	K2002652-013
43	SMPL	36	0418F042	PESTCLI2	K2002652-014

KC 2000190

#677292

2-5/50 dil

5x dil

5/50 dil

#677293

Last Modified: Sat Apr 18 17:03:39 2020 Page: 1

Sequence Name: C:\GC23\SEQUENCE\041820.S

Line	Type	Vial	DataFile	Method	Sample Name
44	SMPL	37	0418F043	PESTCLI2	K2002652-015
45	SMPL	38	0418F044	PESTCLI2	K2002652-016
46	SMPL	39	0418F045	PESTCLI2	K2002652-017
47	SMPL	40	0418F046	PESTCLI2	K2002652-018
48	SMPL	41	0418F047	PESTCLI2	K2002652-019
49	SMPL	42	0418F048	PESTCLI2	K2002652-020
50	SMPL	43	0418F049	PESTCLI2	K2002652-021
51	MB	44	0418F050	PESTCLI2	KQ2004705-04 MB
52	PEM	45	0418F051	PESTCLI2	PEM GCPS8-73M
53	CCV	46	0418F052	PESTCLI2	81 2PPB GCPS8-76H
54	CCV	47	0418F053	PESTCLI2	2.4DD 2PPB GCPS8-74B
55	CCV	48	0418F054	PESTCLI2	M/P 2/10PPB GCPS8-76D
56	CCV	49	0418F055	PESTCLI2	TOX 100PPB GCPS8-76J
57	CCV	50	0418F056	PESTCLI2	CHLOR 20PPB GCPS8-74M
58	IB	51	0418F057	PESTCLI2	IB #677299
59	LCS	52	0418F058	PESTCLI2	KQ2004705-03 81 LCS
60	MS	53	0418F059	PESTCLI2	K2002879-001 81 MS
61	DMS	54	0418F060	PESTCLI2	K2002879-001 81 DMS
62	SMPL	55	0418F061	PESTCLI2	K2002879-001
63	SMPL	56	0418F062	PESTCLI2	K2002767-001
64	SMPL	57	0418F063	PESTCLI2	K2002767-002 #677290
65	SMPL	58	0418F064	PESTCLI2	K2002767-003
66	SMPL	59	0418F065	PESTCLI2	K2002767-004
67	MS	60	0418F066	PESTCLI2	K2002767-004 81/M MS
68	DMS	61	0418F067	PESTCLI2	K2002767-004 81/M DMS
69	MS	62	0418F068	PESTCLI2	K2002767-004 2.4DD MS
70	DMS	63	0418F069	PESTCLI2	K2002767-004 2.4DD DMS
71	MS	64	0418F070	PESTCLI2	K2002767-004 T/C MS
72	DMS	65	0418F071	PESTCLI2	K2002767-004 T/C DMS
73	LCS	66	0418F072	PESTCLI2	KQ2004602-07 81/M LCS
74	LCS	67	0418F073	PESTCLI2	KQ2004602-08 2.4 LCS
75	LCS	68	0418F074	PESTCLI2	KQ2004602-09 T/C LCS
76	MB	69	0418F075	PESTCLI2	KQ2004602-10 MB

Sequence Name: C:\GC23\SEQUENCE\042420B.S
Comment: OC PESTICIDES VIA 8081B
Operator: SM
Data Path: C:\GC23\DATA\042420B\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

"DL: K2000190
LIMS:
RUN: 678037"

Line	Type	Vial	DataFile	Method	Sample Name
1	PEM	1	0424F001	PESTCLI2	PEM GCPS8-73M
2	CCV	2	0424F002	PESTCLI2	81 2PPB GCPS8-76H
3	CCV	3	0424F003	PESTCLI2	M/P 2/10PPB GCPS8-76D
4	CCV	4	0424F004	PESTCLI2	TOX 100PPB GCPS8-76J
5	IB	5	0424F005	PESTCLI2	IB
6	MB	22	0424F006	PESTCLI2	KWG2001117-MB
7	LCS	23	0424F007	PESTCLI2	KWG2001117-LCS1@2X
8	DLCS	24	0424F008	PESTCLI2	KWG2001117-DLCS2@2X
9	LCS	25	0424F009	PESTCLI2	KWG2001117-LCS3
10	DLCS	26	0424F010	PESTCLI2	KWG2001117-DLCS4
11	SMPL	27	0424F012	PESTCLI2	K2002508-008
12	SMPL	28	0424F013	PESTCLI2	K2002509-008
13	SMPL	29	0424F014	PESTCLI2	K2003000-008
14	MB	30	0424F015	PESTCLI2	KWG2001115-MB
15	LCS	31	0424F016	PESTCLI2	KWG2001115-LCS1
16	DLCS	32	0424F017	PESTCLI2	KWG2001115-DLCS2
17	LCS	33	0424F018	PESTCLI2	KWG2001115-LCS3
18	DLCS	34	0424F019	PESTCLI2	KWG2001115-DLCS4
19	SMPL	35	0424F020	PESTCLI2	K2002681-008
20	SMPL	36	0424F021	PESTCLI2	K2002780-008
21	PEM	40	0424F022	PESTCLI2	PEM GCPS8-73M
22	CCV	2	0424F023	PESTCLI2	81 2PPB GCPS8-76H
23	CCV	3	0424F024	PESTCLI2	M/P 2/10PPB GCPS8-76D
24	CCV	4	0424F025	PESTCLI2	TOX 100PPB GCPS8-76J
25	IB	5	0424F026	PESTCLI2	IB
26	MB	6	0424F027	PESTCLI2	KWG2001068-MB
27	LCS	7	0424F028	PESTCLI2	KWG2001068-LCS1
28	DLCS	8	0424F029	PESTCLI2	KWG2001068-DLCS2
29	LCS	9	0424F030	PESTCLI2	KWG2001068-LCS3
30	DLCS	10	0424F031	PESTCLI2	KWG2001068-DLCS4
31	SMPL	16	0424F032	PESTCLI2	K2002652-005@5X
32	SMPL	17	0424F033	PESTCLI2	K2002652-010@5X
33	SMPL	11	0424F034	PESTCLI2	K2002723-008
34	SMPL	12	0424F035	PESTCLI2	K2002724-007
35	SMPL	13	0424F036	PESTCLI2	K2002725-007
36	SMPL	14	0424F037	PESTCLI2	K2002880-008
37	SMPL	15	0424F038	PESTCLI2	K2002909-008

Sequence Name: C:\GC23\Sequence\042220.S
Comment: OC PESTICIDES VIA 8081B
Operator: LM
Data Path: C:\GC23\DATA\042220\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	PEM	1	0422F001	PESTCLI2	PEM GCPS8-73M
2	CCV	2	0422F002	PESTCLI2	81 2PPB GCPS8-76H
3	CCV	3	0422F003	PESTCLI2	2.4DD 2PPB GCPS8-74B
4	CCV	2	0422F004	PESTCLI2	81 2PPB GCPS8-76H
5	CCV	4	0422F005	PESTCLI2	M/P 2/10PPB GCPS8-76D
6	CCV	5	0422F006	PESTCLI2	TOX 100PPB GCPS8-76J
7	CCV	6	0422F007	PESTCLI2	CHLOR 20PPB GCPS8-74M
8	IB	7	0422F008	PESTCLI2	IB
9	MB	100	0422F109	PESTCLI2	KWG2001018-5 MB RR
10	MB	8	0422F009	PESTCLI2	KQ2005263-07 MB
11	MB	100	0422F110	PESTCLI2	KWG2001018-5 MB RR
12	LCS	10	0422F010	PESTCLI2	KQ2005263-01 81/M LCS
13	DLCS	10	0422F011	PESTCLI2	KQ2005263-02 81/M DLCS
14	LCS	9	0422F112	PESTCLI2	KQ2005263-02 81/M LCS RI
15	LCS	11	0422F012	PESTCLI2	KQ2005263-03 2.4DD LCS
16	DLCS	12	0422F013	PESTCLI2	KQ2005263-04 2.4DD DLCS
17	LCS	13	0422F014	PESTCLI2	KQ2005263-05 T/C LCS
18	DLCS	14	0422F015	PESTCLI2	KQ2005263-06 T/C DLCS
19	SMPL	15	0422F016	PESTCLI2	J2001976-001
20	SMPL	16	0422F017	PESTCLI2	J2001976-002
21	SMPL	17	0422F018	PESTCLI2	J2001996-001
22	SMPL	18	0422F019	PESTCLI2	J2001996-002
23	DL	19	0422F020	PESTCLI2	K2002652-002 20X
24	DL	20	0422F021	PESTCLI2	K2002652-003 20X
25	DL	21	0422F022	PESTCLI2	K2002652-008 20X
26	DL	22	0422F023	PESTCLI2	K2002652-009 10X
27	SCRN	23	0422F024	PESTCLI2	-76N @100X TOX MS CHECK
28	PEM	24	0422F025	PESTCLI2	PEM GCPS8-73M
29	CCV	25	0422F026	PESTCLI2	81 2PPB GCPS8-76H
30	CCV	26	0422F027	PESTCLI2	2.4DD 2PPB GCPS8-74B
31	CCV	27	0422F028	PESTCLI2	M/P 2/10PPB GCPS8-76D
32	CCV	28	0422F029	PESTCLI2	TOX 100PPB GCPS8-76J
33	CCV	29	0422F030	PESTCLI2	CHLOR 20PPB GCPS8-74M
34	IB	30	0422F031	PESTCLI2	IB
35	SMPL	31	0422F032	PESTCLI2	K2002767-004 CU
36	MS	32	0422F033	PESTCLI2	K2002767-004 81/M MS CU
37	DMS	33	0422F034	PESTCLI2	K2002767-004 81/M DMS CU
38	MS	34	0422F035	PESTCLI2	K2002767-004 2.4DD MS CU
39	DMS	35	0422F036	PESTCLI2	K2002767-004 2.4DD DMS CU
40	MS	36	0422F037	PESTCLI2	K2002767-004 T/C MS CU
41	DMS	37	0422F038	PESTCLI2	K2002767-004 T/C DMS CU
42	LCS	38	0422F039	PESTCLI2	KQ2004602-07 81/M LCS
43	LCS	39	0422F040	PESTCLI2	KQ2004602-08 2.4DD LCS

Path ↑↑

LC 2000190

#677794

#677783

NR - past 12h window

for N2652-009 DIL file N043

#677799

Last Modified: Thu Apr 23 10:13:54 2020 Page: 1

Sequence Name: C:\GC23\Sequence\042220.S

Line	Type	Vial	DataFile	Method	Sample Name
44	LCS	40	0422F041	PESTCLI2	KQ2004602-09 T/C LCS
45	MB	41	0422F042	PESTCLI2	KQ2004602-10 MB
46	PEM	42	~~0422F043~~	PESTCLI2	~~PEM GCPS8-73M~~ K2002652-009 10x R1
47	PEM	2~~3~~	~~0422F144~~	PESTCLI2	~~PEM GCPS8-73M~~ EE LM 4-23-20
48	CCV	43	0422F044	PESTCLI2	81 2PPB GCPS8-76H
49	CCV	44	0422F045	PESTCLI2	M/P 2/10PPB GCPS8-76D
50	CCV	45	0422F046	PESTCLI2	TOX 100PPB GCPS8-76J
51	IB	46	0422F047	PESTCLI2	IB
52	MB	47	0422F048	PESTCLI2	KWG2001072-5 MB
53	LCS	48	0422F049	PESTCLI2	KWG2001072-1 81/M LCS
54	DLCS	49	0422F050	PESTCLI2	KWG2001072-2 81/M DLCS
55	LCS	50	0422F051	PESTCLI2	KWG2001072-3 T LCS
56	DLCS	51	0422F052	PESTCLI2	KWG2001072-4 T DLCS
57	SMPL	52	0422F053	PESTCLI2	K2002696-001
58	SMPL	53	0422F054	PESTCLI2	K2002696-002
59	SMPL	54	0422F055	PESTCLI2	K2002696-003
60	SMPL	55	0422F056	PESTCLI2	K2002696-004
61	SMPL	56	0422F057	PESTCLI2	K2002696-005
62	SMPL	57	0422F058	PESTCLI2	K2002696-006
63	SMPL	58	0422F059	PESTCLI2	K2002699-001
64	SMPL	59	0422F060	PESTCLI2	K2002699-002
65	SMPL	60	0422F061	PESTCLI2	K2002699-003
66	SMPL	61	0422F062	PESTCLI2	K2002699-004
67	SMPL	62	~~0422F063~~	PESTCLI2	~~K2002699-005~~

Dil/Rerun

DATA VALIDATION REPORT

SMITH-KEM SITE REMEDIAL INVESTIGATION
SPRING 2020 GW MONITORING

Prepared for:

Floyd | Snider
601 Union Street, Suite 600
Seattle, WA 98101

Prepared by:

EcoChem, Inc.
500 Union Street, Suite 1010
Seattle, WA 98101

EcoChem Project: C15223-6

June 23, 2020

Approved for Release:

Christine Ransom
Senior Project Chemist
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report summarizes the results of data validation performed on groundwater and quality control (QC) sample data for the Smith-Kem Site Remedial Investigation Groundwater Monitoring project. A complete list of samples is provided in the Sample Index.

ALS Environmental, Kelso, Washington performed the analyses. The analytical method and EcoChem project chemists are listed in the table below.

ANALYSIS	METHOD	PRIMARY REVIEW	SECONDARY REVIEW
Low Level Pesticides	EPA 8081B Mod	E. Clayton	C. Ransom

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *Smith-Kem Site Remedial Investigation Work Plan* (Floyd|Snider, July 2016); *Smith-Kem Site Remedial Investigation 2019 Work Plan Addendum* (Floyd|Snider, October 2019); and *National Functional Guidelines for Organic Data Review* (USEPA 2017).

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R or DNR, the data should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes, and validation criteria are included as Appendix A. A Qualified Data Summary Table is included in Appendix B. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Smith Kem Spring 2020 GW

SDG	SAMPLE ID	LAB ID	Matrix	Pesticides 8081
K2002652	MW-9-032520	K2002652-001	Water	✓
K2002652	MW-4-032520	K2002652-002	Water	✓
K2002652	MW-104-032520	K2002652-003	Water	✓
K2002652	MW-15-032520	K2002652-004	Water	✓
K2002652	MW-16-032520	K2002652-005	Water	✓
K2002652	MW-17-032520	K2002652-006	Water	✓
K2002652	MW-7-032520	K2002652-007	Water	✓
K2002652	MW-6-032520	K2002652-008	Water	✓
K2002652	MW-1-032520	K2002652-009	Water	✓
K2002652	MW-11-032520	K2002652-010	Water	✓
K2002652	MW-8-032520	K2002652-011	Water	✓
K2002652	MW-5-032520	K2002652-012	Water	✓
K2002652	MW-3-032520	K2002652-013	Water	✓
K2002652	MW-10-032520	K2002652-014	Water	✓
K2002652	MW-2-032620	K2002652-015	Water	✓
K2002652	MW-12-032620	K2002652-016	Water	✓
K2002652	MW-14-032620	K2002652-017	Water	✓
K2002652	MW-18-032620	K2002652-018	Water	✓
K2002652	MW-19-032620	K2002652-019	Water	✓
K2002652	MW-20-032620	K2002652-020	Water	✓
K2002652	MW-13-032520	K2002652-021	Water	✓

DATA VALIDATION REPORT
Smith-Kem Site – Spring 2020 GW Monitoring
Pesticides by Method SW8081B

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. ALS Environmental, Kelso, Washington, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
K2002652	21 Groundwater	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

The extraction batch quality control summaries were missing results for heptachlor. The laboratory was contacted and submitted revised summary forms.

The following results exceeded the calibration range in the original 1X analysis. The summary forms did not have "E" flags. The lab was contacted and submitted revised summary forms.

Sample ID	Lab ID	Analyte	Result	Added Lab Flag
MW-4-032520	K2002652-002	Toxaphene	4000	E
MW-104-032520	K2002652-003	Toxaphene	4000	E
MW-6-032520	K2002652-008	Chlordane	1400	E
MW-6-032520	K2002652-008	Toxaphene	8000	EP

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package. The following errors were noted:

The heptachlor results for the extraction batch quality control samples were missing from the EDD. The laboratory was contacted and submitted a revised excel file.

In the case of the results noted above, the EDD contained the results from the 1X analysis. These analytes should be reported from the 20X dilution. Results were added to the EDD during validation.

Sample ID	Lab ID	Analyte	EDD Result (1x)	New Result (20X)
MW-4-032520	K2002652-002	Toxaphene	4000	4900
MW-104-032520	K2002652-003	Toxaphene	4000	4600
MW-6-032520	K2002652-008	Chlordane	1400	1700
MW-6-032520	K2002652-008	Toxaphene	8000	9600

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

✓	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	2	Compound Identification
1	Laboratory Control Samples (LCS/LCSD)	1	Reporting Limits
✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	2	Reported Results
✓	Surrogate Compounds	1	Calculation Verification
✓	Internal Standards		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

The recovery for toxaphene in laboratory control sample duplicate (LCSD) KQ2004497-04 was greater than the upper control limit. The recovery for the associated laboratory control sample (LCS) was in control; no data were qualified based on the single outlier.

Field Duplicates

Samples MW-4-032520 and MW-104-032520 were submitted as field duplicates. For results >5x the reporting limit (RL), the relative percent difference (RPD) values were less than the control limit of 35%. For results less than 5x the RL, the difference between the sample and duplicate results were less than the RL. Field precision was acceptable.

Compound Identification

Samples were analyzed on a primary column, , and a confirmation column, . The results from the two analytical columns were compared for agreement. An elevated RPD value may indicate the presence of an interference. When the RPD value was greater than 40% but less than 60% the reported value was estimated (J-3). If the RPD value was greater than 60%, the result was qualified as a tentative identification (NJ-3). Confirmation outliers are listed below.

SAMPLE ID	AROCLOR	RPD	QUALIFIER
MW-4-032520	aldrin	78%	NJ-3
	heptachlor	70%	NJ-3
MW-104-032520	aldrin	68%	NJ-3
	beta-BHC	51%	J-3
	heptachlor	59%	J-3
MW-6-032520	beta-BHC	55%	J-3
	heptachlor epoxide	80%	NJ-3
	toxaphene	55%	J-3

SAMPLE ID	AROCLOR	RPD	QUALIFIER
MW-1-032520	alpha-BHC	60%	NJ-3
	beta-BHC	44%	J-3
	heptachlor epoxide	71%	NJ-3
MW-14-032620	chlordane	43%	J-3
	heptachlor epoxide	68%	NJ-3
	toxaphene	48%	J-3

Reporting Limits

Several samples required dilution due to high concentrations of 1 or more target analytes. Reporting limits were elevated accordingly.

Reported Result

For cases where a sample was analyzed at more than one dilution, the laboratory merged results in the EDD in order to only report one analyte per sample. The following results were reported for the 1X analysis in the EDD. These results were flagged as do-not-report (DNR-11) in favor of the results from the 20X dilution.

Sample ID	Lab ID	Analyte	EDD Result (1x)	Lab Flag	DV Qual
MW-4-032520	K2002652-002	Toxaphene	4000	E	DNR-11
MW-104-032520	K2002652-003	Toxaphene	4000	E	DNR-11
MW-6-032520	K2002652-008	Chlordane	1400	E	DNR-11
MW-6-032520	K2002652-008	Toxaphene	8000	EP	DNR-11

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exception noted above, accuracy was acceptable as demonstrated by the LCS/LCSD, matrix spike/matrix spike duplicate (MS/MSD), and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated due to confirmation column precision outliers. Data were flagged as do-not-report (DNR) to indicate which result should not be used from multiple reported analyses. A usable result remains for all analytes in all samples; completeness was not affected.

Data flagged DNR should not be used. All other data, as qualified, are acceptable for use.

ECOCHEM
Data Quality

APPENDIX A

DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES
Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.

DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L)[1] where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L)[1] where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L)[1] for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L)[1] where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L)[1] where appropriate
	12	Reference Material Use bias flags (H,L)[1] where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L)[1] where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L)[1] where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

[1] H = high bias indicated
L = low bias indicated

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG (2) Method (3)	J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C(3)
Holding Time	*Extraction Aqueous:* 7 days from collection *Extraction Solid:* 14 days from collection *Exraction Tissue/Sediment (frozen):* 1 year *Analysis (all matrices):* 40 days from extraction	NFG (2) Method (3)	J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Resolution Check	Beginning of ICAL sequence Within RTW and resolution > 60%	NFG (2)	NJ (pos)/R (ND) results	14	CLP criterion; might not be submitted with SW846 data package
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Target analytes: within RTW	NFG (2) Method (3)	NJ (pos)/R (ND) results for analytes with RT shifts	24	Use PJ based on examination of raw data
Breakdown	DDT Breakdown: ≤ 20% Endrin Breakdown: ≤ 20% Combined Breakdown: ≤ 30% Compounds within RTW	NFG (2) Method (3)	If 4,4'-DDT is detected: J (pos) 4,4'-DDT, 4,4'-DDD and 4,4'-DDE If 4,4'-DDT is ND and either 4,4'-DDD or 4,4'-DDE are detected: R (ND) 4,4'-DDT, NJ (pos) DDD and DDE If Endrin is detected: J (pos) Endrin, Endrin Aldehyde and Endrin Ketone If Endrin is ND and either EA or EK are detected: R (ND) Endrin, NJ (pos) EA and EK	5A	Method 8081B breakdown criterion: ≤ 15%. For combined breakdown outliers, apply qualifiers considering the degree of individual breakdown.

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Initial Calibration	Single Component Compounds: RSD ≤ 20% alpha-BHC and delta-BHC: RSD ≤ 25% toxaphene and surrogates: RSD ≤ 30% **or** correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with coefficient of determination (r^2-value) ≥ 0.99	NFG (2) Method (4)	J (pos) if %RSD greater than control limit **or** r-value < 0.995 **or** r^2-value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L) (6) where appropriate
Initial Calibration Verification (ICV)	No NFG criteria Project specific	Project QAPP	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) (6) where appropriate
Continuing Calibration	%D ± 20% Analyzed prior to each 12 hour shift	Method (3)	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L)(6) where appropriate
Blank Contamination					
Method Blank (MB)	One per matrix per batch (of ≤ 20 samples) No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** #1 - Review MB and IB, qualify as needed #2 - Review FB , qualify as needed **Note: Actions as per NFG 1999** Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG (1)	U (pos) if result is less than appropriate 5X action level.	7	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria No action if native analyte conc. > 5x the amount spiked Use bias flags (H,L) (6) where appropriate
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND
LCS	One per lab batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Qualify all associated samples. Use bias flags (H,L) (6) where appropriate
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG (2)	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% **or** project limits	NFG (2) Method (3)	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (dilution is a factor), use PJ Use bias flags (H,L) (6) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method (3)	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Field Duplicates	**Solids:** RPD < 50% **or** difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% **or** difference < 1X RL (for results < 5X RL)	EcoChem standard practice	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG [2] Method [3]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info
Calibration Range	On-column concentration < high calibration standard	NFG [2] Method [3]	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 for additional info
Sample Clean-up					
GPC/Sulfur/ Florisil	GPC or Florisil cleanup stndards 80% - 120%	NFG [2]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	14	Cleanups are optional under SW846 Use bias flags (H,L) [6] where appropriate

[1] National Functional Guidelines for Organic Data Review, October 1999
[2] National Functional Guidelines for Organic Data Review, June, 2008
[3] Organochlorine Pesticides by Gas Chromatography USEPA Method SW846 8081B, Feb 2007, Rev. 2
[4] SW846, Chapter 4, Organic Analytes
[5] Determinative Chromatographic Separations , Method 8000C , March 2003, Rev.3
[6] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

Copyright 2014 EcoChem, Inc.

ECOCHEM
Data Quality

APPENDIX B

QUALIFIED DATA SUMMARY TABLE

Qualified Data Summary Table
Smith Kem Spring 2020 GW

SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	LAB FLAG	DV QUAL	DV CODE
MW-4-032520	K2002652-002	8081B	Aldrin	5.7	ng/L	P	NJ	3
MW-4-032520	K2002652-002	8081B	Heptachlor	8.2	ng/L	P	NJ	3
MW-4-032520	K2002652-002	8081B	Toxaphene	4000	ng/L	E	DNR	20
MW-104-032520	K2002652-003	8081B	Aldrin	5.9	ng/L	P	NJ	3
MW-104-032520	K2002652-003	8081B	beta-BHC	13	ng/L	P	J	3
MW-104-032520	K2002652-003	8081B	Heptachlor	9.8	ng/L	P	J	3
MW-104-032520	K2002652-003	8081B	Toxaphene	4000	ng/L	E	DNR	20
MW-6-032520	K2002652-008	8081B	beta-BHC	4.1	ng/L	P	J	3
MW-6-032520	K2002652-008	8081B	Chlordane	1400	ng/L	E	DNR	20
MW-6-032520	K2002652-008	8081B	Heptachlor Epoxide	5.6	ng/L	P	NJ	3
MW-6-032520	K2002652-008	8081B	Toxaphene	8000	ng/L	EP	DNR	20
MW-1-032520	K2002652-009	8081B	alpha-BHC	1.5	ng/L	P	NJ	3
MW-1-032520	K2002652-009	8081B	beta-BHC	8.3	ng/L	P	J	3
MW-1-032520	K2002652-009	8081B	Heptachlor Epoxide	2.8	ng/L	P	NJ	3
MW-8-032520	K2002652-011	8081B	Toxaphene	130	ng/L	P	J	3
MW-14-032620	K2002652-018	8081B	Chlordane	40	ng/L	P	J	3
MW-14-032620	K2002652-018	8081B	Heptachlor Epoxide	0.46	ng/L	JP	NJ	3
MW-14-032620	K2002652-018	8081B	Toxaphene	110	ng/L	P	J	3

Attachment 2
Laboratory Reports Containing Case Narrative
Supporting Elimination of TPH-G as a COPC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

April 23, 2020

Erin Murray, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

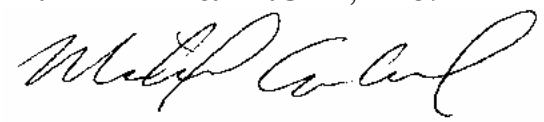
Dear Ms Murray:

Included is the amended report from the testing of material submitted on August 3, 2016 from the FP-Smith Kem, F&BI 608046 project. A description of the the material detected in samples MW-12-1.5-2 and MW-11-7.5-8 was added to the case narrative.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Tom Colligan, Allison Geiselbrecht
FDS0819R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 19, 2016

Erin Murray, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Murray:

Included are the results from the testing of material submitted on August 3, 2016 from the FP-Smith Kem, F&BI 608046 project. There are 142 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Tom Colligan, Allison Geiselbrecht
FDS0819R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 3, 2016 by Friedman & Bruya, Inc. from the Floyd-Snider FP-Smith Kem, F&BI 608046 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
608046 -01	MW-13-0-0.5
608046 -02	MW-13-1-2
608046 -03	MW-13-3.5-4.5
608046 -04	MW-13-5-6
608046 -05	MW-12-0-0.5
608046 -06	MW-12-1.5-2
608046 -07	MW-12-5-6
608046 -08	MW-12-7-8
608046 -09	MW-14-0-0.5
608046 -10	MW-14-2-3
608046 -11	MW-14-4-5
608046 -12	MW-14-0-7
608046 -13	MW-9-0.5-1
608046 -14	MW-9-4-5
608046 -15	MW-9-7-8
608046 -16	MW-D1-7-8
608046 -17	MW-9-10-11
608046 -18	SB-1-0.5-1
608046 -19	SB-1-2-3
608046 -20	SB-1-7-8
608046 -21	SB-1-9-10
608046 -22	MW-10-0-0.5
608046 -23	MW-10-1.5-2.5
608046 -24	MW-10-4-5
608046 -25	MW-10-5-6
608046 -26	MW-11-0-0.5
608046 -27	MW-11-1.5-2
608046 -28	MW-11-7.5-8
608046 -29	MW-11-9-10
608046 -30	SB-2-0.5-1
608046 -31	SB-2-2.5-3.5
608046 -32	SB-2-4-5
608046 -33	SB-2-7-8
608046 -34	Trip Blank

CASE NARRATIVE (continued)

Samples MW-13-1-2, MW-12-1.5-2, MW-14-0-0.5, MW-9-4-5, SB-1-2-3, MW-10-1.5-2.5, MW-11-1.5-2, and SB-2-2.5-3.5 were sent to Amtest for nitrate and nitrite analyses. The report is enclosed.

An 8260C Direct Sparge internal standard recovery for sample MW-12-1.5-2 exceeded control limits due to the presence of sample matrix interferences. The data were qualified accordingly.

Several 200.8 internal standards were outside of control limits due to matrix effects. The samples were diluted and reanalyzed.

The 8270D LCS and LCSD percent recoveries exceeded control limits for several analytes. The analytes were not detected, therefore the data were considered acceptable.

Sample MW-12-7-8 was requested outside of holding time. The data were qualified accordingly.

All other quality control requirements were acceptable.

Review of the NWTPH-Dx chromatogram for sample MW-12-1.5-2 showed the presence of a high boiling product such as a lubrication or waste oil. A low concentration of peaks indicative of a medium boiling product are also present. A pattern of peaks indicating gasoline was not seen in the sample.

Review of the NWTPH-Dx chromatograms for sample MW-11-7.5-8 showed the presence of a medium boiling product such as a heating oil. A pattern of peaks indicating gasoline was not seen in the sample.

Review of the NWTPH-Dx chromatograms for sample SB-1-0.5-1 showed the presence of a high boiling product such as a lubrication oil, as well as a multiple individual peaks eluting from 2 to 3 minutes. A pattern of peaks indicating the presence of diesel fuel was not seen in the samples.

Review of the NWTPH-Dx chromatograms for sample SB-2-0.5-1 showed the presence of a high boiling product such as a lubrication oil. A pattern of peaks indicating the presence of diesel fuel was not seen in the samples.

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/05/16
Date Analyzed: 08/05/16

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
Trip Blank 608046-34	<100	95
Method Blank 06-1546 MB	<100	87

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/03/16 and 08/04/16
Date Analyzed: 08/03/16 and 08/04/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW-13-0-0.5 608046-01	<2	93
MW-13-1-2 608046-02	<2	91
MW-13-3.5-4.5 608046-03	<2	90
MW-12-0-0.5 608046-05	<2	89
MW-12-1.5-2 608046-06	71	115
MW-12-5-6 608046-07	200	131
MW-14-0-0.5 608046-09	<2	92
MW-14-2-3 608046-10	<2	93
MW-14-4-5 608046-11	<2	94
MW-9-0.5-1 608046-13	<2	90

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/03/16 and 08/04/16
Date Analyzed: 08/03/16 and 08/04/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW-9-4-5 608046-14	<2	91
MW-9-7-8 608046-15	<2	87
MW-D1-7-8 608046-16	<2	91
SB-1-0.5-1 608046-18	<2	88
SB-1-2-3 608046-19	<2	92
SB-1-7-8 608046-20	<2	89
MW-10-0-0.5 608046-22	<2	91
MW-10-1.5-2.5 608046-23	<2	88
MW-10-4-5 608046-24	<2	91

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/03/16 and 08/04/16
Date Analyzed: 08/03/16 and 08/04/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW-11-0-0.5 608046-26	<2	88
MW-11-1.5-2 608046-27	<2	93
MW-11-7.5-8 608046-28	230	145
SB-2-0.5-1 608046-30	<2	97
SB-2-2.5-3.5 608046-31	<2	92
SB-2-4-5 608046-32	<2	90
Method Blank 06-1545 MB	<2	94
Method Blank 06-1547 MB	<2	99

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/16/16
Date Analyzed: 08/16/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
MW-12-7-8 ht 608046-08	<0.02	<0.02	<0.02	<0.06	<2	94
MW-11-9-10 608046-29	<0.02	<0.02	<0.02	<0.06	<2	94
Method Blank 06-1611 MB2	<0.02	<0.02	<0.02	<0.06	<2	102

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	MW-12-1.5-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/10/16	Lab ID:	608046-06
Date Analyzed:	08/10/16	Data File:	081011.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	122	50	150
Toluene-d8	66	50	150
4-Bromofluorobenzene	159 J	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	0.0045
Toluene	0.015 J
Ethylbenzene	0.0022 J
m,p-Xylene	0.0089 J
o-Xylene	0.0050 J

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/10/16	Lab ID:	06-1594 mb
Date Analyzed:	08/10/16	Data File:	081010.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-01
Date Analyzed:	08/04/16	Data File:	080414.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	100	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13-1-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-02
Date Analyzed:	08/04/16	Data File:	080415.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13-3.5-4.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-03
Date Analyzed:	08/04/16	Data File:	080416.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-05
Date Analyzed:	08/04/16	Data File:	080417.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-09
Date Analyzed:	08/04/16	Data File:	080427.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	89	113
Toluene-d8	97	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-2-3	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-10
Date Analyzed:	08/04/16	Data File:	080428.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	97	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-11
Date Analyzed:	08/04/16	Data File:	080429.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-9-0.5-1	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-13
Date Analyzed:	08/04/16	Data File:	080430.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	97	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-9-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-14
Date Analyzed:	08/04/16	Data File:	080431.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-9-7-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-15
Date Analyzed:	08/04/16	Data File:	080432.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	89	113
Toluene-d8	96	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-D1-7-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-16
Date Analyzed:	08/04/16	Data File:	080433.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-1-0.5-1	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-18
Date Analyzed:	08/04/16	Data File:	080434.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-1-2-3	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-19
Date Analyzed:	08/04/16	Data File:	080435.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-1-7-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-20
Date Analyzed:	08/04/16	Data File:	080436.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	97	64	137
4-Bromofluorobenzene	97	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-10-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-22
Date Analyzed:	08/04/16	Data File:	080437.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	97	64	137
4-Bromofluorobenzene	97	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-10-1.5-2.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-23
Date Analyzed:	08/04/16	Data File:	080438.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-10-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-24
Date Analyzed:	08/04/16	Data File:	080439.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-26
Date Analyzed:	08/05/16	Data File:	080440.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-1.5-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-27
Date Analyzed:	08/05/16	Data File:	080441.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-7.5-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-28
Date Analyzed:	08/05/16	Data File:	080442.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	89	113
Toluene-d8	96	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-2-0.5-1	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-30
Date Analyzed:	08/05/16	Data File:	080443.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-2-2.5-3.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-31
Date Analyzed:	08/05/16	Data File:	080444.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-2-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-32
Date Analyzed:	08/05/16	Data File:	080445.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	97	64	137
4-Bromofluorobenzene	101	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	06-1534 mb
Date Analyzed:	08/04/16	Data File:	080413.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	89	113
Toluene-d8	97	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	06-1536 mb
Date Analyzed:	08/04/16	Data File:	080426.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	MW-12-5-6	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/10/16	Lab ID:	608046-07
Date Analyzed:	08/10/16	Data File:	081012.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	122	50	150
Toluene-d8	73	50	150
4-Bromofluorobenzene	139 J	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<1
Hexane	<0.005
Methyl t-butyl ether (MTBE)	<0.001
1,2-Dichloroethane (EDC)	<0.001
Benzene	<0.001
Toluene	<0.001 J
1,2-Dibromoethane (EDB)	<0.001 J
Ethylbenzene	<0.001 J
m,p-Xylene	<0.002 J
o-Xylene	0.0014 J

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	MW-12-7-8 ht	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/16/16	Lab ID:	608046-08
Date Analyzed:	08/16/16	Data File:	081610.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<1
Hexane	<0.005
Methyl t-butyl ether (MTBE)	<0.001
1,2-Dichloroethane (EDC)	<0.001
Benzene	<0.001
Toluene	<0.001
1,2-Dibromoethane (EDB)	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	MW-11-9-10	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/16/16	Lab ID:	608046-29
Date Analyzed:	08/16/16	Data File:	081611.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<1
Hexane	<0.005
Methyl t-butyl ether (MTBE)	<0.001
1,2-Dichloroethane (EDC)	<0.001
Benzene	<0.001
Toluene	<0.001
1,2-Dibromoethane (EDB)	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/10/16	Lab ID:	06-1594 mb
Date Analyzed:	08/10/16	Data File:	081010.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<1
Hexane	<0.005
Methyl t-butyl ether (MTBE)	<0.001
1,2-Dichloroethane (EDC)	<0.001
Benzene	<0.001
Toluene	<0.001
1,2-Dibromoethane (EDB)	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/16/16	Lab ID:	06-1636 mb
Date Analyzed:	08/16/16	Data File:	081609.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<1
Hexane	<0.005
Methyl t-butyl ether (MTBE)	<0.001
1,2-Dichloroethane (EDC)	<0.001
Benzene	<0.001
Toluene	<0.001
1,2-Dibromoethane (EDB)	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/04/16 and 08/16/16
Date Analyzed: 08/04/16 and 08/16/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
MW-13-0-0.5 608046-01	<50	<250	98
MW-13-1-2 608046-02	<50	<250	100
MW-13-3.5-4.5 608046-03	<50	<250	100
MW-12-0-0.5 608046-05	71 x	430	101
MW-12-1.5-2 608046-06 1/10	3,500 x	17,000	99
MW-12-5-6 608046-07	1,900 x	11,000	105
MW-12-7-8 ht 608046-08	<50	<250	110
MW-14-0-0.5 608046-09	<50	<250	101
MW-14-2-3 608046-10	<50	<250	99

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/04/16 and 08/16/16
Date Analyzed: 08/04/16 and 08/16/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
MW-14-4-5 608046-11	<50	<250	104
MW-9-0.5-1 608046-13	<50	<250	106
MW-9-4-5 608046-14	<50	<250	101
MW-9-7-8 608046-15	<50	<250	103
MW-D1-7-8 608046-16	<50	<250	106
SB-1-0.5-1 608046-18	160 x	1,100	107
SB-1-2-3 608046-19	<50	<250	101
SB-1-7-8 608046-20	<50	<250	109
MW-10-0-0.5 608046-22	<50	<250	112

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/04/16 and 08/16/16
Date Analyzed: 08/04/16 and 08/16/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
MW-10-1.5-2.5 608046-23	<50	<250	101
MW-10-4-5 608046-24	<50	<250	102
MW-11-0-0.5 608046-26	91	<250	105
MW-11-1.5-2 608046-27	<50	<250	115
MW-11-7.5-8 608046-28	740	<250	104
MW-11-9-10 608046-29	<50	<250	119
SB-2-0.5-1 608046-30	81 x	<250	107
SB-2-2.5-3.5 608046-31	<50	<250	108
SB-2-4-5 608046-32	<50	<250	106

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/04/16 and 08/16/16
Date Analyzed: 08/04/16 and 08/16/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
Method Blank 06-1572 MB	<50	<250	121
Method Blank 06-1571 MB	<50	<250	100
Method Blank 06-1669 MB	<50	<250	127

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-12-1.5-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/08/16	Lab ID:	608046-06 1/50
Date Analyzed:	08/10/16	Data File:	081004.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	120 d	31	160
Benzo(a)anthracene-d12	205 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.34
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	0.27
Anthracene	<0.1
Fluoranthene	0.12
Pyrene	0.48
Benz(a)anthracene	<0.1
Chrysene	0.32
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	0.12
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	0.11
1-Methylnaphthalene	0.45
2-Methylnaphthalene	0.48

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-12-5-6	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/08/16	Lab ID:	608046-07 1/5
Date Analyzed:	08/09/16	Data File:	080914.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99 d	31	163
Benzo(a)anthracene-d12	154 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	0.016
Benz(a)anthracene	0.032
Chrysene	0.12
Benzo(a)pyrene	0.029
Benzo(b)fluoranthene	0.045
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.022
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-12-7-8 ht	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/16/16	Lab ID:	608046-08
Date Analyzed:	08/18/16	Data File:	081807.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	93	31	163
Benzo(a)anthracene-d12	106	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.002
Acenaphthylene	<0.002
Acenaphthene	<0.002
Fluorene	<0.002
Phenanthrene	<0.002
Anthracene	<0.002
Fluoranthene	<0.002
Pyrene	0.0071
Benz(a)anthracene	<0.002
Chrysene	0.0029
Benzo(a)pyrene	<0.002
Benzo(b)fluoranthene	<0.002
Benzo(k)fluoranthene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Dibenz(a,h)anthracene	<0.002
Benzo(g,h,i)perylene	<0.002
1-Methylnaphthalene	<0.002
2-Methylnaphthalene	<0.002

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-11-7.5-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/08/16	Lab ID:	608046-28
Date Analyzed:	08/09/16	Data File:	080910.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	80	31	163
Benzo(a)anthracene-d12	93	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.002
Acenaphthylene	<0.002
Acenaphthene	<0.002
Fluorene	<0.002
Phenanthrene	<0.002
Anthracene	<0.002
Fluoranthene	<0.0028
Pyrene	0.0075
Benz(a)anthracene	<0.002
Chrysene	0.0028
Benzo(a)pyrene	<0.002
Benzo(b)fluoranthene	<0.002
Benzo(k)fluoranthene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Dibenz(a,h)anthracene	<0.002
Benzo(g,h,i)perylene	<0.002
1-Methylnaphthalene	<0.002
2-Methylnaphthalene	0.0045

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-11-9-10	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/16/16	Lab ID:	608046-29
Date Analyzed:	08/18/16	Data File:	081806.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	82	31	163
Benzo(a)anthracene-d12	91	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.002
Acenaphthylene	<0.002
Acenaphthene	<0.002
Fluorene	<0.002
Phenanthrene	<0.002
Anthracene	<0.002
Fluoranthene	<0.002
Pyrene	<0.002
Benz(a)anthracene	<0.002
Chrysene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)fluoranthene	<0.002
Benzo(k)fluoranthene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Dibenz(a,h)anthracene	<0.002
Benzo(g,h,i)perylene	<0.002
1-Methylnaphthalene	<0.002
2-Methylnaphthalene	<0.002

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/16/16	Lab ID:	06-1666 mb3
Date Analyzed:	08/17/16	Data File:	081705.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	77	31	163
Benzo(a)anthracene-d12	89	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.002
Acenaphthylene	<0.002
Acenaphthene	<0.002
Fluorene	<0.002
Phenanthrene	<0.002
Anthracene	<0.002
Fluoranthene	<0.002
Pyrene	<0.002
Benz(a)anthracene	<0.002
Chrysene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)fluoranthene	<0.002
Benzo(k)fluoranthene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Dibenz(a,h)anthracene	<0.002
Benzo(g,h,i)perylene	<0.002
1-Methylnaphthalene	<0.002
2-Methylnaphthalene	<0.002

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/08/16	Lab ID:	06-1617 mb
Date Analyzed:	08/09/16	Data File:	080905.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	67	31	163
Benzo(a)anthracene-d12	87	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.002
Acenaphthylene	<0.002
Acenaphthene	<0.002
Fluorene	<0.002
Phenanthrene	<0.002
Anthracene	<0.002
Fluoranthene	<0.002
Pyrene	<0.002
Benz(a)anthracene	<0.002
Chrysene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)fluoranthene	<0.002
Benzo(k)fluoranthene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Dibenz(a,h)anthracene	<0.002
Benzo(g,h,i)perylene	<0.002
1-Methylnaphthalene	<0.002
2-Methylnaphthalene	<0.002

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	MW-12-1.5-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/08/16	Lab ID:	608046-06 1/250
Date Analyzed:	08/09/16	Data File:	080909.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	45 d	56	115
Phenol-d6	80 d	54	113
Nitrobenzene-d5	158 d	31	164
2-Fluorobiphenyl	88 d	47	133
2,4,6-Tribromophenol	25 d	35	141
Terphenyl-d14	120 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<25	Hexachlorocyclopentadiene	<7.5
Bis(2-chloroethyl) ether	<2.5	2,4,6-Trichlorophenol	<25
2-Chlorophenol	<25	2,4,5-Trichlorophenol	<25
1,3-Dichlorobenzene	<2.5	2-Chloronaphthalene	<2.5
1,4-Dichlorobenzene	<2.5	2-Nitroaniline	<12
1,2-Dichlorobenzene	<2.5	Dimethyl phthalate	<25
Benzyl alcohol	<25	2,6-Dinitrotoluene	<12
Bis(2-chloroisopropyl) ether	<2.5	3-Nitroaniline	<250
2-Methylphenol	<25	2,4-Dinitrophenol	<75
Hexachloroethane	<2.5	Dibenzofuran	<2.5
N-Nitroso-di-n-propylamine	<2.5	2,4-Dinitrotoluene	<12
3-Methylphenol + 4-Methylphenol	<50	4-Nitrophenol	<75
Nitrobenzene	<2.5	Diethyl phthalate	<25
Isophorone	<2.5	4-Chlorophenyl phenyl ether	<2.5
2-Nitrophenol	<25	N-Nitrosodiphenylamine	<2.5
2,4-Dimethylphenol	<25	4-Nitroaniline	<250
Benzoic acid	<120	4,6-Dinitro-2-methylphenol	<75
Bis(2-chloroethoxy)methane	<2.5	4-Bromophenyl phenyl ether	<2.5
2,4-Dichlorophenol	<25	Hexachlorobenzene	<2.5
1,2,4-Trichlorobenzene	<2.5	Pentachlorophenol	<25
Hexachlorobutadiene	<2.5	Carbazole	<25
4-Chloroaniline	<250	Di-n-butyl phthalate	<25
4-Chloro-3-methylphenol	<25	Benzyl butyl phthalate	<25
		Bis(2-ethylhexyl) phthalate	<40
		Di-n-octyl phthalate	<25

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	MW-11-7.5-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/08/16	Lab ID:	608046-28
Date Analyzed:	08/09/16	Data File:	080906.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	94	56	115
Phenol-d6	92	54	113
Nitrobenzene-d5	135	31	164
2-Fluorobiphenyl	83	47	133
2,4,6-Tribromophenol	91	35	141
Terphenyl-d14	90	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	Hexachlorocyclopentadiene	<0.03
Bis(2-chloroethyl) ether	<0.01	2,4,6-Trichlorophenol	<0.1
2-Chlorophenol	<0.1	2,4,5-Trichlorophenol	<0.1
1,3-Dichlorobenzene	<0.01	2-Chloronaphthalene	<0.01
1,4-Dichlorobenzene	<0.01	2-Nitroaniline	<0.05
1,2-Dichlorobenzene	<0.01	Dimethyl phthalate	<0.1
Benzyl alcohol	<0.1	2,6-Dinitrotoluene	<0.05
Bis(2-chloroisopropyl) ether	<0.01	3-Nitroaniline	<1
2-Methylphenol	<0.1	2,4-Dinitrophenol	<0.3
Hexachloroethane	<0.01	Dibenzofuran	<0.01
N-Nitroso-di-n-propylamine	<0.01	2,4-Dinitrotoluene	<0.05
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitrophenol	<0.3
Nitrobenzene	<0.01	Diethyl phthalate	<0.1
Isophorone	<0.01	4-Chlorophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	N-Nitrosodiphenylamine	<0.01
2,4-Dimethylphenol	<0.1	4-Nitroaniline	<1
Benzoic acid	<0.5	4,6-Dinitro-2-methylphenol	<0.3
Bis(2-chloroethoxy)methane	<0.01	4-Bromophenyl phenyl ether	<0.01
2,4-Dichlorophenol	<0.1	Hexachlorobenzene	<0.01
1,2,4-Trichlorobenzene	<0.01	Pentachlorophenol	<0.1
Hexachlorobutadiene	<0.01	Carbazole	<0.1
4-Chloroaniline	<1	Di-n-butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benzyl butyl phthalate	<0.1
		Bis(2-ethylhexyl) phthalate	<0.16
		Di-n-octyl phthalate	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/08/16	Lab ID:	06-1616 mb
Date Analyzed:	08/09/16	Data File:	080905.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	106	56	115
Phenol-d6	107	54	113
Nitrobenzene-d5	121	31	164
2-Fluorobiphenyl	100	47	133
2,4,6-Tribromophenol	95	35	141
Terphenyl-d14	107	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	Hexachlorocyclopentadiene	<0.03
Bis(2-chloroethyl) ether	<0.01	2,4,6-Trichlorophenol	<0.1
2-Chlorophenol	<0.1	2,4,5-Trichlorophenol	<0.1
1,3-Dichlorobenzene	<0.01	2-Chloronaphthalene	<0.01
1,4-Dichlorobenzene	<0.01	2-Nitroaniline	<0.05
1,2-Dichlorobenzene	<0.01	Dimethyl phthalate	<0.1
Benzyl alcohol	<0.1	2,6-Dinitrotoluene	<0.05
Bis(2-chloroisopropyl) ether	<0.01	3-Nitroaniline	<1
2-Methylphenol	<0.1	2,4-Dinitrophenol	<0.3
Hexachloroethane	<0.01	Dibenzofuran	<0.01
N-Nitroso-di-n-propylamine	<0.01	2,4-Dinitrotoluene	<0.05
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitrophenol	<0.3
Nitrobenzene	<0.01	Diethyl phthalate	<0.1
Isophorone	<0.01	4-Chlorophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	N-Nitrosodiphenylamine	<0.01
2,4-Dimethylphenol	<0.1	4-Nitroaniline	<1
Benzoic acid	<0.5	4,6-Dinitro-2-methylphenol	<0.3
Bis(2-chloroethoxy)methane	<0.01	4-Bromophenyl phenyl ether	<0.01
2,4-Dichlorophenol	<0.1	Hexachlorobenzene	<0.01
1,2,4-Trichlorobenzene	<0.01	Pentachlorophenol	<0.1
Hexachlorobutadiene	<0.01	Carbazole	<0.1
4-Chloroaniline	<1	Di-n-butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benzyl butyl phthalate	<0.1
		Bis(2-ethylhexyl) phthalate	<0.16
		Di-n-octyl phthalate	<0.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-13-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-01
Date Analyzed:	08/08/16	Data File:	608046-01.076
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.45
Cadmium	<1
Chromium	23.0 J
Copper	33.5 J
Lead	30.4
Zinc	93.1 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-13-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-01 x2
Date Analyzed:	08/08/16	Data File:	608046-01 x2.102
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.34
Cadmium	<2
Chromium	23.6
Copper	36.0
Lead	29.5
Zinc	95.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-13-1-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-02
Date Analyzed:	08/08/16	Data File:	608046-02.077
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.75
Cadmium	<1
Chromium	60.8 J
Copper	53.5 J
Lead	30.1
Zinc	88.6 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-13-1-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-02 x2
Date Analyzed:	08/08/16	Data File:	608046-02 x2.103
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.30
Cadmium	<2
Chromium	64.5
Copper	61.9
Lead	32.0
Zinc	96.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-13-3.5-4.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-03
Date Analyzed:	08/08/16	Data File:	608046-03.078
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.21
Cadmium	<1
Chromium	12.9 J
Copper	10.7 J
Lead	1.72
Zinc	61.6 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-13-3.5-4.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-03 x2
Date Analyzed:	08/08/16	Data File:	608046-03 x2.104
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.12
Cadmium	<2
Chromium	14.7
Copper	12.4
Lead	<2
Zinc	65.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-12-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-05
Date Analyzed:	08/08/16	Data File:	608046-05.079
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.59 J
Cadmium	<1 J
Chromium	10.0 J
Copper	17.1 J
Lead	87.5 J
Zinc	45.9 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-12-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-05 x2
Date Analyzed:	08/08/16	Data File:	608046-05 x2.105
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.09
Cadmium	<2
Chromium	14.1
Copper	24.0
Lead	110
Zinc	96.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-12-1.5-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-06
Date Analyzed:	08/08/16	Data File:	608046-06.080
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.04
Cadmium	3.21
Chromium	17.7 J
Copper	32.5 J
Lead	938
Zinc	205 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-12-1.5-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-06 x2
Date Analyzed:	08/08/16	Data File:	608046-06 x2.106
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.95
Cadmium	3.27
Chromium	19.7
Copper	36.6
Lead	993
Zinc	219

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-12-5-6	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-07
Date Analyzed:	08/08/16	Data File:	608046-07.081
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.51
Cadmium	<1
Chromium	9.17 J
Copper	11.5 J
Lead	3.58 J
Zinc	37.5 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-12-5-6	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-07 x2
Date Analyzed:	08/08/16	Data File:	608046-07 x2.107
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Cadmium	<2
Chromium	10.7
Copper	13.6
Lead	4.11
Zinc	37.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-14-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-09
Date Analyzed:	08/08/16	Data File:	608046-09.083
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.24 J
Cadmium	<1 J
Chromium	13.4 J
Copper	15.6 J
Lead	22.9 J
Zinc	45.1 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-14-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-09 x2
Date Analyzed:	08/08/16	Data File:	608046-09 x2.108
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.51
Cadmium	<2
Chromium	17.7
Copper	20.4
Lead	29.5
Zinc	44.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-14-2-3	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-10
Date Analyzed:	08/08/16	Data File:	608046-10.084
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.16
Cadmium	<1
Chromium	14.1 J
Copper	14.3 J
Lead	2.47
Zinc	31.4 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-14-2-3	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-10 x2
Date Analyzed:	08/08/16	Data File:	608046-10 x2.109
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Cadmium	<2
Chromium	15.6
Copper	16.0
Lead	2.60
Zinc	30.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-14-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-11
Date Analyzed:	08/08/16	Data File:	608046-11.085
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.88
Cadmium	<1
Chromium	12.5 J
Copper	11.9 J
Lead	1.68
Zinc	27.3 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-14-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-11 x2
Date Analyzed:	08/08/16	Data File:	608046-11 x2.110
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Cadmium	<2
Chromium	14.1
Copper	13.9
Lead	<2
Zinc	28.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-9-0.5-1	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-13
Date Analyzed:	08/08/16	Data File:	608046-13.086
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.43
Cadmium	<1
Chromium	13.9 J
Copper	16.7 J
Lead	15.2
Zinc	56.5 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-9-0.5-1	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-13 x2
Date Analyzed:	08/08/16	Data File:	608046-13 x2.112
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.53
Cadmium	<2
Chromium	15.5
Copper	18.8
Lead	16.0
Zinc	61.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-9-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-14
Date Analyzed:	08/08/16	Data File:	608046-14.087
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.28
Cadmium	<1
Chromium	12.1 J
Copper	23.0 J
Lead	38.0
Zinc	55.0 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-9-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-14 x2
Date Analyzed:	08/08/16	Data File:	608046-14 x2.113
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.03
Cadmium	<2
Chromium	13.5
Copper	25.4
Lead	42.2
Zinc	57.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-9-7-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-15
Date Analyzed:	08/08/16	Data File:	608046-15.088
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.07
Cadmium	<1
Chromium	10.9 J
Copper	10.6 J
Lead	4.44
Zinc	32.7 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-9-7-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-15 x2
Date Analyzed:	08/08/16	Data File:	608046-15 x2.114
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Cadmium	<2
Chromium	11.7
Copper	11.4
Lead	4.85
Zinc	30.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-D1-7-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-16
Date Analyzed:	08/08/16	Data File:	608046-16.089
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.28
Cadmium	<1
Chromium	13.6 J
Copper	10.6 J
Lead	6.23 J
Zinc	33.1 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-D1-7-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-16 x2
Date Analyzed:	08/08/16	Data File:	608046-16 x2.115
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Cadmium	<2
Chromium	14.2
Copper	11.1
Lead	6.57
Zinc	30.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-1-0.5-1	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-18
Date Analyzed:	08/08/16	Data File:	608046-18.090
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.12
Cadmium	<1
Chromium	16.3 J
Copper	23.7 J
Lead	114
Zinc	112 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-1-0.5-1	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-18 x2
Date Analyzed:	08/08/16	Data File:	608046-18 x2.116
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.23
Cadmium	<2
Chromium	16.9
Copper	25.7
Lead	113
Zinc	121

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-1-2-3	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-19
Date Analyzed:	08/08/16	Data File:	608046-19.091
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.89
Cadmium	<1
Chromium	17.4 J
Copper	29.1 J
Lead	75.2
Zinc	85.7 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-1-2-3	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-19 x2
Date Analyzed:	08/08/16	Data File:	608046-19 x2.117
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.81
Cadmium	<2
Chromium	18.1
Copper	31.2
Lead	77.8
Zinc	90.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-1-7-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-20
Date Analyzed:	08/08/16	Data File:	608046-20.068
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.54
Cadmium	<1
Chromium	15.7 J
Copper	16.3 J
Lead	1.84
Zinc	25.2 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-1-7-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-20 x2
Date Analyzed:	08/08/16	Data File:	608046-20 x2.073
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Cadmium	<2
Chromium	17.2
Copper	17.9
Lead	<2
Zinc	26.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-10-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-22
Date Analyzed:	08/08/16	Data File:	608046-22.069
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.77
Cadmium	<1
Chromium	19.2 J
Copper	20.8 J
Lead	22.6
Zinc	45.0 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-10-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-22 x2
Date Analyzed:	08/08/16	Data File:	608046-22 x2.118
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.42
Cadmium	<2
Chromium	19.8
Copper	22.5
Lead	23.2
Zinc	46.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-10-1.5-2.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-23
Date Analyzed:	08/08/16	Data File:	608046-23.093
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.81
Cadmium	<1
Chromium	18.8 J
Copper	14.7 J
Lead	11.4
Zinc	40.7 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-10-1.5-2.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-23 x2
Date Analyzed:	08/08/16	Data File:	608046-23 x2.123
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.92
Cadmium	<2
Chromium	20.1
Copper	16.2
Lead	11.8
Zinc	42.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-10-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-24
Date Analyzed:	08/08/16	Data File:	608046-24.094
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.89
Cadmium	<1
Chromium	16.2 J
Copper	13.2 J
Lead	2.83
Zinc	26.6 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-10-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-24 x2
Date Analyzed:	08/08/16	Data File:	608046-24 x2.124
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.87
Cadmium	<2
Chromium	17.4
Copper	14.5
Lead	2.88
Zinc	27.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-11-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-26
Date Analyzed:	08/08/16	Data File:	608046-26.095
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.50
Cadmium	1.51
Chromium	53.1 J
Copper	28.1 J
Lead	58.7
Zinc	143 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-11-0-0.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-26 x2
Date Analyzed:	08/08/16	Data File:	608046-26 x2.125
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.31
Cadmium	<2
Chromium	53.0
Copper	29.8
Lead	59.4
Zinc	154

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-11-1.5-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-27
Date Analyzed:	08/08/16	Data File:	608046-27.096
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.60
Cadmium	1.15
Chromium	33.3 J
Copper	23.8 J
Lead	38.3
Zinc	115 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-11-1.5-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-27 x2
Date Analyzed:	08/08/16	Data File:	608046-27 x2.126
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.55
Cadmium	<2
Chromium	35.8
Copper	26.9
Lead	40.8
Zinc	127

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-11-7.5-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-28
Date Analyzed:	08/08/16	Data File:	608046-28.097
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.44
Cadmium	<1
Chromium	13.4 J
Copper	11.1 J
Lead	1.55
Zinc	22.0 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-11-7.5-8	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-28 x2
Date Analyzed:	08/08/16	Data File:	608046-28 x2.127
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Cadmium	<2
Chromium	14.5
Copper	12.0
Lead	<2
Zinc	22.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-2-0.5-1	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-30
Date Analyzed:	08/08/16	Data File:	608046-30.098
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.55
Cadmium	<1
Chromium	20.4 J
Copper	20.1 J
Lead	15.5
Zinc	436 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-2-0.5-1	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-30 x2
Date Analyzed:	08/08/16	Data File:	608046-30 x2.128
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.35
Cadmium	<2
Chromium	22.3
Copper	22.6
Lead	16.0
Zinc	474

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-2-2.5-3.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-31
Date Analyzed:	08/08/16	Data File:	608046-31.099
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.87
Cadmium	<1
Chromium	17.3 J
Copper	30.8 J
Lead	11.8
Zinc	158 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-2-2.5-3.5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-31 x2
Date Analyzed:	08/08/16	Data File:	608046-31 x2.129
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.55
Cadmium	<2
Chromium	18.3
Copper	34.0
Lead	12.2
Zinc	174

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-2-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-32
Date Analyzed:	08/08/16	Data File:	608046-32.100
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.11
Cadmium	<1
Chromium	12.5 J
Copper	11.2 J
Lead	2.09
Zinc	43.7 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-2-4-5	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-32 x2
Date Analyzed:	08/08/16	Data File:	608046-32 x2.130
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.12
Cadmium	<2
Chromium	13.3
Copper	12.0
Lead	2.22
Zinc	48.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	I6-509 mb
Date Analyzed:	08/08/16	Data File:	I6-509 mb.047
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<5
Copper	<5
Lead	<1
Zinc	<5

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	I6-510 mb
Date Analyzed:	08/08/16	Data File:	I6-510 mb.062
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<5
Copper	<5
Lead	<1
Zinc	<5

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/04/16
Date Analyzed: 08/04/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
MW-13-0-0.5 608046-01	<0.1
MW-13-1-2 608046-02	0.10
MW-13-3.5-4.5 608046-03	<0.1
MW-12-0-0.5 608046-05	<0.1
MW-12-1.5-2 608046-06	<0.1
MW-12-5-6 608046-07	<0.1
MW-14-0-0.5 608046-09	<0.1
MW-14-2-3 608046-10	<0.1
MW-14-4-5 608046-11	<0.1
MW-9-0.5-1 608046-13	<0.1

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/04/16
Date Analyzed: 08/04/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
MW-9-4-5 608046-14	<0.1
MW-9-7-8 608046-15	<0.1
MW-D1-7-8 608046-16	<0.1
SB-1-0.5-1 608046-18	0.11
SB-1-2-3 608046-19	0.46
SB-1-7-8 608046-20	<0.1
MW-10-0-0.5 608046-22	<0.1
MW-10-1.5-2.5 608046-23	<0.1
MW-10-4-5 608046-24	<0.1
MW-11-0-0.5 608046-26	0.11

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046
Date Extracted: 08/04/16
Date Analyzed: 08/04/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
MW-11-1.5-2 608046-27	<0.1
MW-11-7.5-8 608046-28	<0.1
SB-2-0.5-1 608046-30	<0.1
SB-2-2.5-3.5 608046-31	<0.1
SB-2-4-5 608046-32	<0.1
Method Blank i6-509 MB	<0.1
Method Blank i6-510 MB	<0.1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12-1.5-2	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	608046-06
Date Analyzed:	08/04/16	Data File:	080418.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/04/16	Lab ID:	06-1534 mb
Date Analyzed:	08/04/16	Data File:	080413.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	89	113
Toluene-d8	97	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip Blank	Client:	Floyd-Snider
Date Received:	08/03/16	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/05/16	Lab ID:	608046-34
Date Analyzed:	08/05/16	Data File:	080514.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem, F&BI 608046
Date Extracted:	08/05/16	Lab ID:	06-1582 mb
Date Analyzed:	08/05/16	Data File:	080513.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 608089-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	89	70-119

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 608058-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	95	71-131

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 608046-30 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	95	71-131

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 608259-02 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	0.028	0.028	0
Xylenes	mg/kg (ppm)	0.072	0.071	2
Gasoline	mg/kg (ppm)	9	8	12

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	84	66-121
Toluene	mg/kg (ppm)	0.5	91	72-128
Ethylbenzene	mg/kg (ppm)	0.5	89	69-132
Xylenes	mg/kg (ppm)	1.5	90	69-131
Gasoline	mg/kg (ppm)	20	90	61-153

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE

Laboratory Code: 608046-07 (Duplicate)
J J

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.001	<0.001	nm
Toluene	mg/kg (ppm)	<0.001 J	0.0011 J	nm
Ethylbenzene	mg/kg (ppm)	<0.001 J	<0.001 J	nm
m,p-Xylene	mg/kg (ppm)	<0.002 J	<0.002 J	nm
o-Xylene	mg/kg (ppm)	0.0013 a J	0.0021 a J	47 a

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	0.05	97	85	67-138	13
Toluene	mg/kg (ppm)	0.05	96	89	12-185	8
Ethylbenzene	mg/kg (ppm)	0.05	93	84	70-130	10
m,p-Xylene	mg/kg (ppm)	0.1	95	85	70-130	11
o-Xylene	mg/kg (ppm)	0.05	97	89	70-130	9

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 608046-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	2.5	<0.03	62	63	26-114	2
Toluene	mg/kg (ppm)	2.5	<0.05	69	70	34-112	1
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	70	70	34-115	0
m,p-Xylene	mg/kg (ppm)	5	<0.1	70	71	25-125	1
o-Xylene	mg/kg (ppm)	2.5	<0.05	72	74	27-126	3

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	2.5	91	72-106
Toluene	mg/kg (ppm)	2.5	100	74-111
Ethylbenzene	mg/kg (ppm)	2.5	101	75-112
m,p-Xylene	mg/kg (ppm)	5	101	77-115
o-Xylene	mg/kg (ppm)	2.5	101	76-115

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 608046-28 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	2.5	<0.03	80	81	26-114	1
Toluene	mg/kg (ppm)	2.5	<0.05	88	88	34-112	0
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	88	89	34-115	1
m,p-Xylene	mg/kg (ppm)	5	<0.1	89	89	25-125	0
o-Xylene	mg/kg (ppm)	2.5	<0.05	89	91	27-126	2

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	2.5	92	72-106
Toluene	mg/kg (ppm)	2.5	100	74-111
Ethylbenzene	mg/kg (ppm)	2.5	99	75-112
m,p-Xylene	mg/kg (ppm)	5	100	77-115
o-Xylene	mg/kg (ppm)	2.5	100	76-115

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE

Laboratory Code: 608046-07 (Duplicate)
J J

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
Ethanol	mg/kg (ppm)	<1	<1	nm
Hexane	mg/kg (ppm)	<0.005	<0.005	nm
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	<0.001	<0.001	nm
1,2-Dichloroethane (EDC)	mg/kg (ppm)	<0.001	<0.001	nm
Benzene	mg/kg (ppm)	<0.001	<0.001	nm
Toluene	mg/kg (ppm)	<0.001 J	0.0011 J	nm
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.001 J	<0.001 J	nm
Ethylbenzene	mg/kg (ppm)	<0.001 J	<0.001 J	nm
m,p-Xylene	mg/kg (ppm)	<0.002 J	<0.002 J	nm
o-Xylene	mg/kg (ppm)	0.0013 a J	0.0021 a J	47 a

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	mg/kg (ppm)	2.5	99	81	10-218	20
Hexane	mg/kg (ppm)	0.05	98	87	70-130	12
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	0.05	94	83	49-148	12
1,2-Dichloroethane (EDC)	mg/kg (ppm)	0.05	93	81	69-137	14
Benzene	mg/kg (ppm)	0.05	97	85	67-138	13
Toluene	mg/kg (ppm)	0.05	96	89	12-185	8
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	95	86	70-130	10
Ethylbenzene	mg/kg (ppm)	0.05	93	84	70-130	10
m,p-Xylene	mg/kg (ppm)	0.1	95	85	70-130	11
o-Xylene	mg/kg (ppm)	0.05	97	89	70-130	9

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE

Laboratory Code: 608046-08 (Duplicate) ht

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
Ethanol	mg/kg (ppm)	<1	<1	nm
Hexane	mg/kg (ppm)	<0.005	<0.005	nm
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	<0.001	<0.001	nm
1,2-Dichloroethane (EDC)	mg/kg (ppm)	<0.001	<0.001	nm
Benzene	mg/kg (ppm)	<0.001	<0.001	nm
Toluene	mg/kg (ppm)	<0.001	<0.001	nm
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.001	<0.001	nm
Ethylbenzene	mg/kg (ppm)	<0.001	<0.001	nm
m,p-Xylene	mg/kg (ppm)	<0.002	<0.002	nm
o-Xylene	mg/kg (ppm)	<0.001	<0.001	nm

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	mg/kg (ppm)	2.5	106	102	10-218	4
Hexane	mg/kg (ppm)	0.05	100	98	70-130	2
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	0.05	105	100	49-148	5
1,2-Dichloroethane (EDC)	mg/kg (ppm)	0.05	107	102	69-137	5
Benzene	mg/kg (ppm)	0.05	104	99	67-138	5
Toluene	mg/kg (ppm)	0.05	99	94	12-185	5
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	106	101	70-130	5
Ethylbenzene	mg/kg (ppm)	0.05	102	96	70-130	6
m,p-Xylene	mg/kg (ppm)	0.1	102	96	70-130	6
o-Xylene	mg/kg (ppm)	0.05	98	94	70-130	4

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 608063-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	88	98	63-146	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	89	79-144

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 608046-10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	84	85	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	84	79-144

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 608231-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	95	93	63-146	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	98	79-144

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 608112-16 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	0.0070	83	44-129
2-Methylnaphthalene	mg/kg (ppm)	0.17	0.011	92	45-135
1-Methylnaphthalene	mg/kg (ppm)	0.17	0.010	91	40-141
Acenaphthylene	mg/kg (ppm)	0.17	<0.002	73	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.002	71	51-123
Fluorene	mg/kg (ppm)	0.17	<0.002	77	37-137
Phenanthrene	mg/kg (ppm)	0.17	0.0089	82	34-141
Anthracene	mg/kg (ppm)	0.17	<0.002	78	32-124
Fluoranthene	mg/kg (ppm)	0.17	0.0070	87	16-160
Pyrene	mg/kg (ppm)	0.17	0.0075	89	10-180
Benz(a)anthracene	mg/kg (ppm)	0.17	0.0024	79	23-144
Chrysene	mg/kg (ppm)	0.17	0.0045	85	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.0044	87	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.002	90	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	0.0020	83	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.002	84	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.002	84	31-146
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	0.0019	76	37-133

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	83	84	58-121	1
2-Methylnaphthalene	mg/kg (ppm)	0.17	83	86	58-123	4
1-Methylnaphthalene	mg/kg (ppm)	0.17	83	85	60-124	2
Acenaphthylene	mg/kg (ppm)	0.17	73	75	54-121	3
Acenaphthene	mg/kg (ppm)	0.17	72	74	54-123	3
Fluorene	mg/kg (ppm)	0.17	72	75	56-127	4
Phenanthrene	mg/kg (ppm)	0.17	82	84	55-122	2
Anthracene	mg/kg (ppm)	0.17	72	76	50-120	5
Fluoranthene	mg/kg (ppm)	0.17	80	83	54-129	4
Pyrene	mg/kg (ppm)	0.17	87	85	53-127	2
Benz(a)anthracene	mg/kg (ppm)	0.17	76	77	51-115	1
Chrysene	mg/kg (ppm)	0.17	86	87	55-129	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	88	90	56-123	2
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	91	91	54-131	0
Benzo(a)pyrene	mg/kg (ppm)	0.17	72	76	51-118	5
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	93	94	49-148	1
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	94	95	50-141	1
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	87	89	52-131	2

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 608229-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	<0.01	84	44-129
2-Methylnaphthalene	mg/kg (ppm)	0.17	<0.01	86	45-135
1-Methylnaphthalene	mg/kg (ppm)	0.17	<0.01	86	40-141
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	73	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.01	73	51-123
Fluorene	mg/kg (ppm)	0.17	<0.01	73	37-137
Phenanthrene	mg/kg (ppm)	0.17	<0.01	82	34-141
Anthracene	mg/kg (ppm)	0.17	<0.01	80	32-124
Fluoranthene	mg/kg (ppm)	0.17	<0.01	84	16-160
Pyrene	mg/kg (ppm)	0.17	<0.01	88	10-180
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	77	23-144
Chrysene	mg/kg (ppm)	0.17	<0.01	86	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	86	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	85	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	80	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	88	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	87	31-146
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	86	37-133

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	87	89	58-121	2
2-Methylnaphthalene	mg/kg (ppm)	0.17	90	93	58-123	3
1-Methylnaphthalene	mg/kg (ppm)	0.17	90	93	60-124	3
Acenaphthylene	mg/kg (ppm)	0.17	76	78	54-121	3
Acenaphthene	mg/kg (ppm)	0.17	75	78	54-123	4
Fluorene	mg/kg (ppm)	0.17	75	78	56-127	4
Phenanthrene	mg/kg (ppm)	0.17	85	87	55-122	2
Anthracene	mg/kg (ppm)	0.17	83	86	50-120	4
Fluoranthene	mg/kg (ppm)	0.17	87	89	54-129	2
Pyrene	mg/kg (ppm)	0.17	84	85	53-127	1
Benz(a)anthracene	mg/kg (ppm)	0.17	78	81	51-115	4
Chrysene	mg/kg (ppm)	0.17	92	94	55-129	2
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	88	89	56-123	1
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	87	90	54-131	3
Benzo(a)pyrene	mg/kg (ppm)	0.17	84	86	51-118	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	96	98	49-148	2
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	95	98	50-141	3
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	92	95	52-131	3

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270D

Laboratory Code: 608046-28 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Phenol	mg/kg (ppm)	0.33	<0.1	94	50-150
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	<0.01	93	50-150
2-Chlorophenol	mg/kg (ppm)	0.33	<0.1	105	44-133
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	93	50-150
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	88	50-150
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	92	50-150
Benzyl alcohol	mg/kg (ppm)	0.33	<0.1	107	50-150
Bis(2-chloroisopropyl) ether	mg/kg (ppm)	0.33	<0.01	93	50-150
2-Methylphenol	mg/kg (ppm)	0.33	<0.1	95	42-143
Hexachloroethane	mg/kg (ppm)	0.33	<0.01	96	31-132
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	<0.01	116	50-150
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	<0.2	103	10-250
Nitrobenzene	mg/kg (ppm)	0.33	<0.01	151 vo	50-150
Isophorone	mg/kg (ppm)	0.33	<0.01	183 vo	50-150
2-Nitrophenol	mg/kg (ppm)	0.33	<0.1	78	29-152
2,4-Dimethylphenol	mg/kg (ppm)	0.33	<0.1	131	16-163
Benzoic acid	mg/kg (ppm)	0.5	<0.5	93	10-250
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	<0.01	89	50-150
2,4-Dichlorophenol	mg/kg (ppm)	0.33	<0.1	134	39-145
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	<0.01	117	50-150
Hexachlorobutadiene	mg/kg (ppm)	0.33	<0.01	118	50-150
4-Chloroaniline	mg/kg (ppm)	0.66	<1	76	23-110
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	<0.1	114	50-150
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	<0.03	97	10-151
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	<0.1	130	38-149
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	<0.1	100	50-150
2-Chloronaphthalene	mg/kg (ppm)	0.33	<0.01	90	50-150
2-Nitroaniline	mg/kg (ppm)	0.33	<0.05	91	50-150
Dimethyl phthalate	mg/kg (ppm)	0.33	<0.1	101	50-150
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	<0.05	122	50-150
3-Nitroaniline	mg/kg (ppm)	0.66	<1	79	23-119
2,4-Dinitrophenol	mg/kg (ppm)	0.33	<0.3	100	10-162
Dibenzofuran	mg/kg (ppm)	0.33	<0.01	99	47-149
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	<0.05	91	50-150
4-Nitrophenol	mg/kg (ppm)	0.33	<0.3	116	10-179
Diethyl phthalate	mg/kg (ppm)	0.33	<0.1	105	50-150
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	<0.01	99	50-150
N-Nitrosodiphenylamine	mg/kg (ppm)	0.33	<0.01	119	50-150
4-Nitroaniline	mg/kg (ppm)	0.66	<1	112	32-135
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	<0.3	105	10-170
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	<0.01	104	50-150
Hexachlorobenzene	mg/kg (ppm)	0.33	<0.01	97	50-150
Pentachlorophenol	mg/kg (ppm)	0.33	<0.1	110	12-160
Carbazole	mg/kg (ppm)	0.33	<0.1	117	50-150
Di-n-butyl phthalate	mg/kg (ppm)	0.33	<0.1	117	50-150
Benzyl butyl phthalate	mg/kg (ppm)	0.33	<0.1	115	50-150
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	<0.16	98	10-250
Di-n-octyl phthalate	mg/kg (ppm)	0.33	<0.1	114	54-161

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	mg/kg (ppm)	0.33	105	108	51-119	3
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	98	101	60-112	3
2-Chlorophenol	mg/kg (ppm)	0.33	113	120 vo	59-114	6
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	98	101	62-113	3
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	96	100	61-114	4
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	98	101	61-113	3
Benzyl alcohol	mg/kg (ppm)	0.33	117	121 vo	50-119	3
Bis(2-chloroisopropyl) ether	mg/kg (ppm)	0.33	96	99	59-113	3
2-Methylphenol	mg/kg (ppm)	0.33	102	106	58-115	4
Hexachloroethane	mg/kg (ppm)	0.33	105	111	63-114	6
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	107	110	62-114	3
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	110	115	54-120	4
Nitrobenzene	mg/kg (ppm)	0.33	116 vo	125 vo	59-114	7
Isophorone	mg/kg (ppm)	0.33	103	110	61-113	7
2-Nitrophenol	mg/kg (ppm)	0.33	102	114	59-114	11
2,4-Dimethylphenol	mg/kg (ppm)	0.33	88	90	54-107	2
Benzoic acid	mg/kg (ppm)	0.5	109	118	43-150	8
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	100	106	60-114	6
2,4-Dichlorophenol	mg/kg (ppm)	0.33	113	121 vo	57-118	7
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	99	102	56-112	3
Hexachlorobutadiene	mg/kg (ppm)	0.33	98	102	60-116	4
4-Chloroaniline	mg/kg (ppm)	0.66	43	51	10-126	17
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	107	118 vo	59-115	10
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	107	107	41-107	0
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	116	122 vo	47-119	5
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	108	115	61-121	6
2-Chloronaphthalene	mg/kg (ppm)	0.33	99	100	58-114	1
2-Nitroaniline	mg/kg (ppm)	0.33	106	117	55-119	10
Dimethyl phthalate	mg/kg (ppm)	0.33	113	124 vo	58-116	9
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	104	115	57-119	10
3-Nitroaniline	mg/kg (ppm)	0.66	85	96	10-143	12
2,4-Dinitrophenol	mg/kg (ppm)	0.33	110	117	40-122	6
Dibenzofuran	mg/kg (ppm)	0.33	100	106	56-115	6
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	105	115	53-126	9
4-Nitrophenol	mg/kg (ppm)	0.33	112	119	40-124	6
Diethyl phthalate	mg/kg (ppm)	0.33	113	125 vo	57-116	10
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	100	105	54-119	5
N-Nitrosodiphenylamine	mg/kg (ppm)	0.33	94	100	54-113	6
4-Nitroaniline	mg/kg (ppm)	0.66	93	99	47-109	6
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	105	112	55-147	6
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	101	104	56-116	3
Hexachlorobenzene	mg/kg (ppm)	0.33	98	101	57-115	3
Pentachlorophenol	mg/kg (ppm)	0.33	108	114	45-123	5
Carbazole	mg/kg (ppm)	0.33	91	99	57-116	8
Di-n-butyl phthalate	mg/kg (ppm)	0.33	116	126 vo	56-118	8
Benzyl butyl phthalate	mg/kg (ppm)	0.33	108	117	56-122	8
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	103	111	56-155	7
Di-n-octyl phthalate	mg/kg (ppm)	0.33	111	116	58-120	4

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 608046-20 x2 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<2	97	98	70-130	1
Cadmium	mg/kg (ppm)	10	<2	102	102	70-130	0
Chromium	mg/kg (ppm)	50	16.5	98	98	70-130	0
Copper	mg/kg (ppm)	50	17.2	103	98	70-130	5
Lead	mg/kg (ppm)	50	<2	97	98	70-130	1
Zinc	mg/kg (ppm)	50	25.6	89	88	70-130	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	109	85-115
Cadmium	mg/kg (ppm)	10	105	85-115
Chromium	mg/kg (ppm)	50	106	85-115
Copper	mg/kg (ppm)	50	105	85-115
Lead	mg/kg (ppm)	50	101	85-115
Zinc	mg/kg (ppm)	50	99	85-115

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 608046-22 x2 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	3.22	104	100	70-130	4
Cadmium	mg/kg (ppm)	10	<2	100	99	70-130	1
Chromium	mg/kg (ppm)	50	18.6	91	88	70-130	3
Copper	mg/kg (ppm)	50	21.2	97	91	70-130	6
Lead	mg/kg (ppm)	50	21.8	86	89	70-130	3
Zinc	mg/kg (ppm)	50	44.1	80	84	70-130	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	98	85-115
Cadmium	mg/kg (ppm)	10	97	85-115
Chromium	mg/kg (ppm)	50	108	85-115
Copper	mg/kg (ppm)	50	106	85-115
Lead	mg/kg (ppm)	50	104	85-115
Zinc	mg/kg (ppm)	50	96	85-115

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 608046-20 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.1	113	123	71-125	8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	110	68-125

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 608046-22 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.1	120	131 vo	71-125	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	112	68-125

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 608046-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	9 vo	9 vo	10-56	0
Chloromethane	mg/kg (ppm)	2.5	<0.5	40	38	10-90	5
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	34	33	10-91	3
Bromomethane	mg/kg (ppm)	2.5	<0.5	48	47	10-110	2
Chloroethane	mg/kg (ppm)	2.5	<0.5	48	47	10-101	2
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	34	34	10-95	0
Acetone	mg/kg (ppm)	12.5	<0.5	65	74	11-141	13
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	49	48	11-103	2
Hexane	mg/kg (ppm)	2.5	<0.25	22	23	10-95	4
Methylene chloride	mg/kg (ppm)	2.5	<0.5	65	66	14-128	2
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	69	70	17-134	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	55	56	13-112	2
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	63	65	23-115	3
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	60	60	18-117	0
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	65	65	25-120	0
Chloroform	mg/kg (ppm)	2.5	<0.05	66	68	29-117	3
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	65	71	20-133	9
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	67	68	22-124	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	62	63	27-112	2
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	58	58	26-107	0
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	63	64	22-115	2
Benzene	mg/kg (ppm)	2.5	<0.03	62	63	26-114	2
Trichloroethene	mg/kg (ppm)	2.5	<0.02	57	59	30-112	3
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	67	69	31-119	3
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	74	76	31-131	3
Dibromomethane	mg/kg (ppm)	2.5	<0.05	69	71	27-124	3
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	73	73	16-147	0
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	70	70	28-137	0
Toluene	mg/kg (ppm)	2.5	<0.05	69	70	34-112	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	70	71	30-136	1
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	72	75	32-126	4
2-Hexanone	mg/kg (ppm)	12.5	<0.5	79	79	17-147	0
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	73	73	29-125	0
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	64	63	25-114	2
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	83	84	32-143	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	72	71	32-126	1
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	69	69	37-113	0
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	70	70	34-115	0
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	84	85	35-126	1
m,p-Xylene	mg/kg (ppm)	5	<0.1	70	71	25-125	1
o-Xylene	mg/kg (ppm)	2.5	<0.05	72	74	27-126	3
Styrene	mg/kg (ppm)	2.5	<0.05	74	74	39-121	0
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	72	74	34-123	3
Bromoform	mg/kg (ppm)	2.5	<0.05	86	85	18-155	1
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	72	73	31-120	1
Bromobenzene	mg/kg (ppm)	2.5	<0.05	72	72	40-115	0
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	73	75	24-130	3
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	83	83	27-148	0
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	75	76	33-123	1
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	73	73	39-110	0
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	74	75	39-111	1
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	78	77	36-116	1
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	75	77	35-116	3
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	75	76	33-118	1
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	74	75	32-119	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	72	74	38-111	3
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	70	71	39-109	1
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	74	75	40-111	1
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	86	82	37-122	5
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	72	73	31-121	1
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	79	76	24-128	4
Naphthalene	mg/kg (ppm)	2.5	<0.05	75	75	24-139	0
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	73	74	35-117	1

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	50	10-76
Chloromethane	mg/kg (ppm)	2.5	77	34-98
Vinyl chloride	mg/kg (ppm)	2.5	80	42-107
Bromomethane	mg/kg (ppm)	2.5	79	46-113
Chloroethane	mg/kg (ppm)	2.5	86	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	90	53-112
Acetone	mg/kg (ppm)	12.5	98	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	93	65-110
Hexane	mg/kg (ppm)	2.5	93	55-107
Methylene chloride	mg/kg (ppm)	2.5	99	50-127
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	94	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	92	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	97	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	90	64-151
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	98	73-110
Chloroform	mg/kg (ppm)	2.5	95	76-110
2-Butanone (MEK)	mg/kg (ppm)	12.5	93	60-121
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	97	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	99	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	93	72-112
Carbon tetrachloride	mg/kg (ppm)	2.5	103	67-123
Benzene	mg/kg (ppm)	2.5	91	72-106
Trichloroethene	mg/kg (ppm)	2.5	85	72-107
1,2-Dichloropropane	mg/kg (ppm)	2.5	98	74-115
Bromodichloromethane	mg/kg (ppm)	2.5	106	75-126
Dibromomethane	mg/kg (ppm)	2.5	100	76-116
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	97	80-128
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	101	71-138
Toluene	mg/kg (ppm)	2.5	100	74-111
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	100	77-135
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	99	77-116
2-Hexanone	mg/kg (ppm)	12.5	104	70-129
1,3-Dichloropropane	mg/kg (ppm)	2.5	99	75-115
Tetrachloroethene	mg/kg (ppm)	2.5	98	73-111
Dibromochloromethane	mg/kg (ppm)	2.5	118	64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	101	77-117
Chlorobenzene	mg/kg (ppm)	2.5	98	76-109
Ethylbenzene	mg/kg (ppm)	2.5	101	75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	116	76-125
m,p-Xylene	mg/kg (ppm)	5	101	77-115
o-Xylene	mg/kg (ppm)	2.5	101	76-115
Styrene	mg/kg (ppm)	2.5	104	76-119
Isopropylbenzene	mg/kg (ppm)	2.5	101	76-120
Bromoform	mg/kg (ppm)	2.5	117	50-174
n-Propylbenzene	mg/kg (ppm)	2.5	103	77-115
Bromobenzene	mg/kg (ppm)	2.5	99	76-112
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	104	77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	109	74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	100	74-116
2-Chlorotoluene	mg/kg (ppm)	2.5	101	75-113
4-Chlorotoluene	mg/kg (ppm)	2.5	102	77-115
tert-Butylbenzene	mg/kg (ppm)	2.5	104	77-123
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	106	77-119
sec-Butylbenzene	mg/kg (ppm)	2.5	105	78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	104	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	101	76-112
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	97	74-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	101	75-114
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	113	68-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	98	75-122
Hexachlorobutadiene	mg/kg (ppm)	2.5	111	74-130
Naphthalene	mg/kg (ppm)	2.5	101	73-122
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	99	75-117

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 608088-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Benzene	ug/L (ppb)	50	<0.35	90	76-125
Toluene	ug/L (ppb)	50	<1	90	76-122
Ethylbenzene	ug/L (ppb)	50	<1	89	69-135
m,p-Xylene	ug/L (ppb)	100	<2	92	69-135
o-Xylene	ug/L (ppb)	50	<1	91	60-140
Naphthalene	ug/L (ppb)	50	<1	99	44-164

Date of Report: 08/19/16
Date Received: 08/03/16
Project: FP-Smith Kem, F&BI 608046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	ug/L (ppb)	50	94	91	69-134	3
Toluene	ug/L (ppb)	50	100	98	72-122	2
Ethylbenzene	ug/L (ppb)	50	99	97	77-124	2
m,p-Xylene	ug/L (ppb)	100	99	97	83-125	2
o-Xylene	ug/L (ppb)	50	100	97	81-121	3
Naphthalene	ug/L (ppb)	50	104	102	64-133	2

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

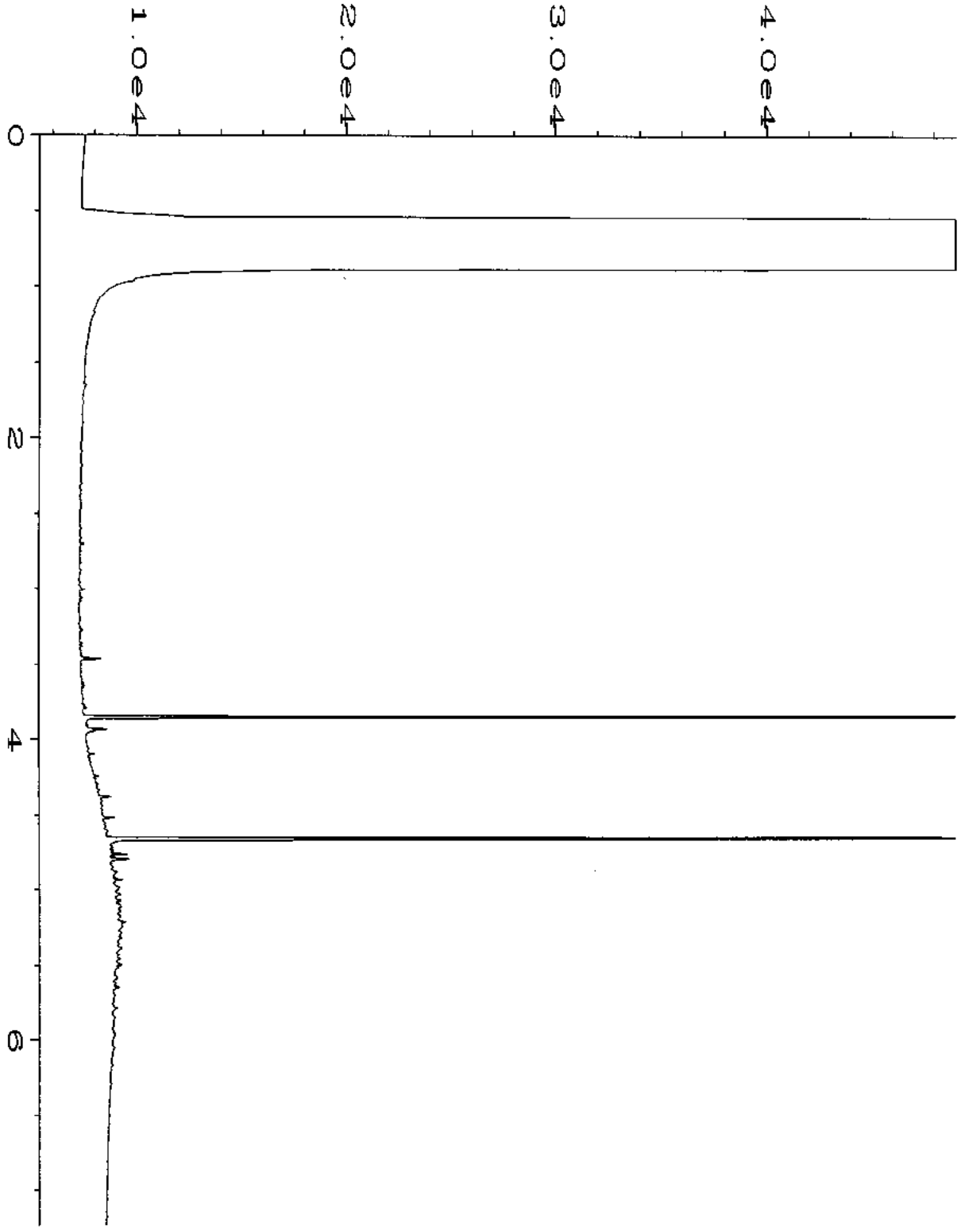
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

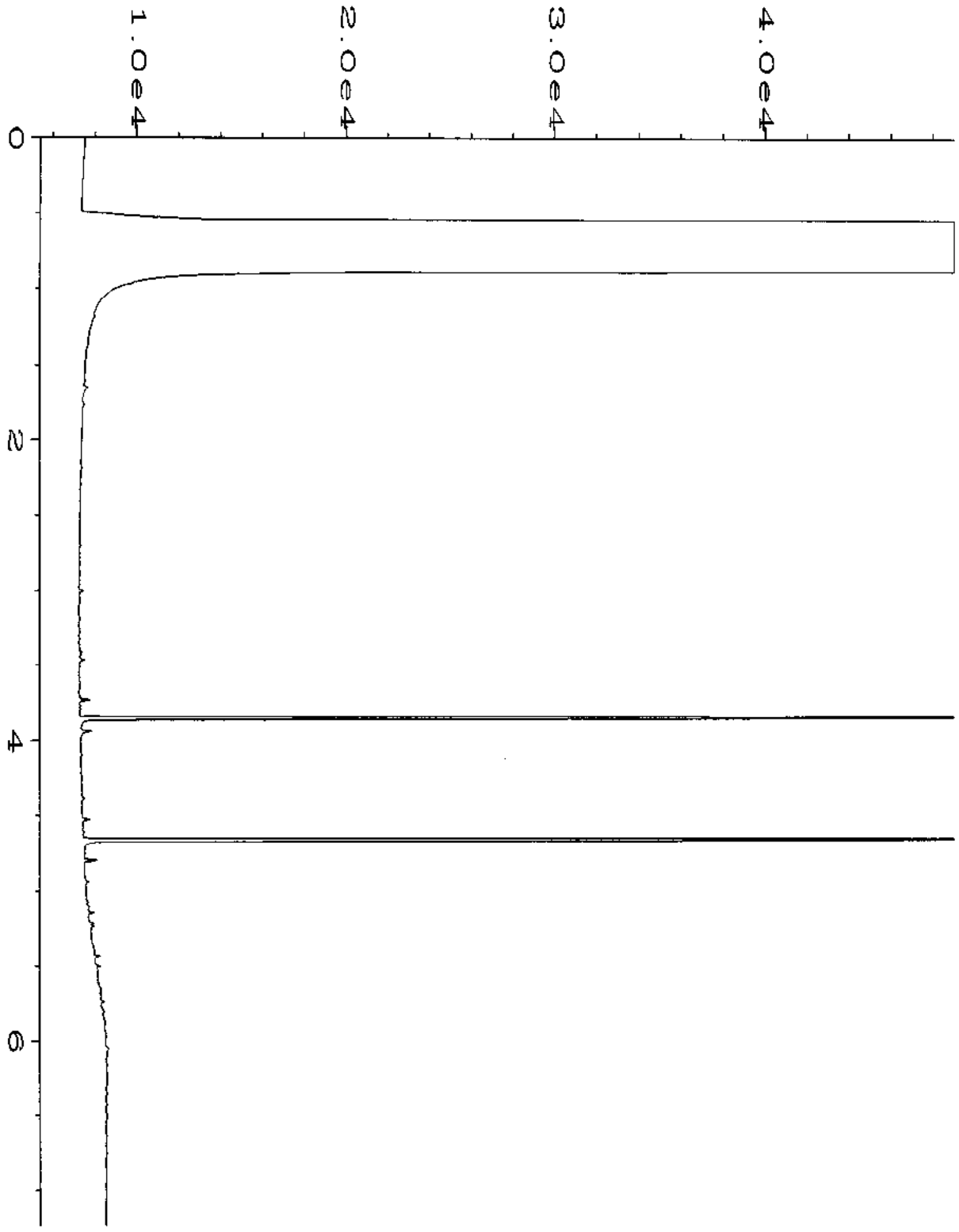
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

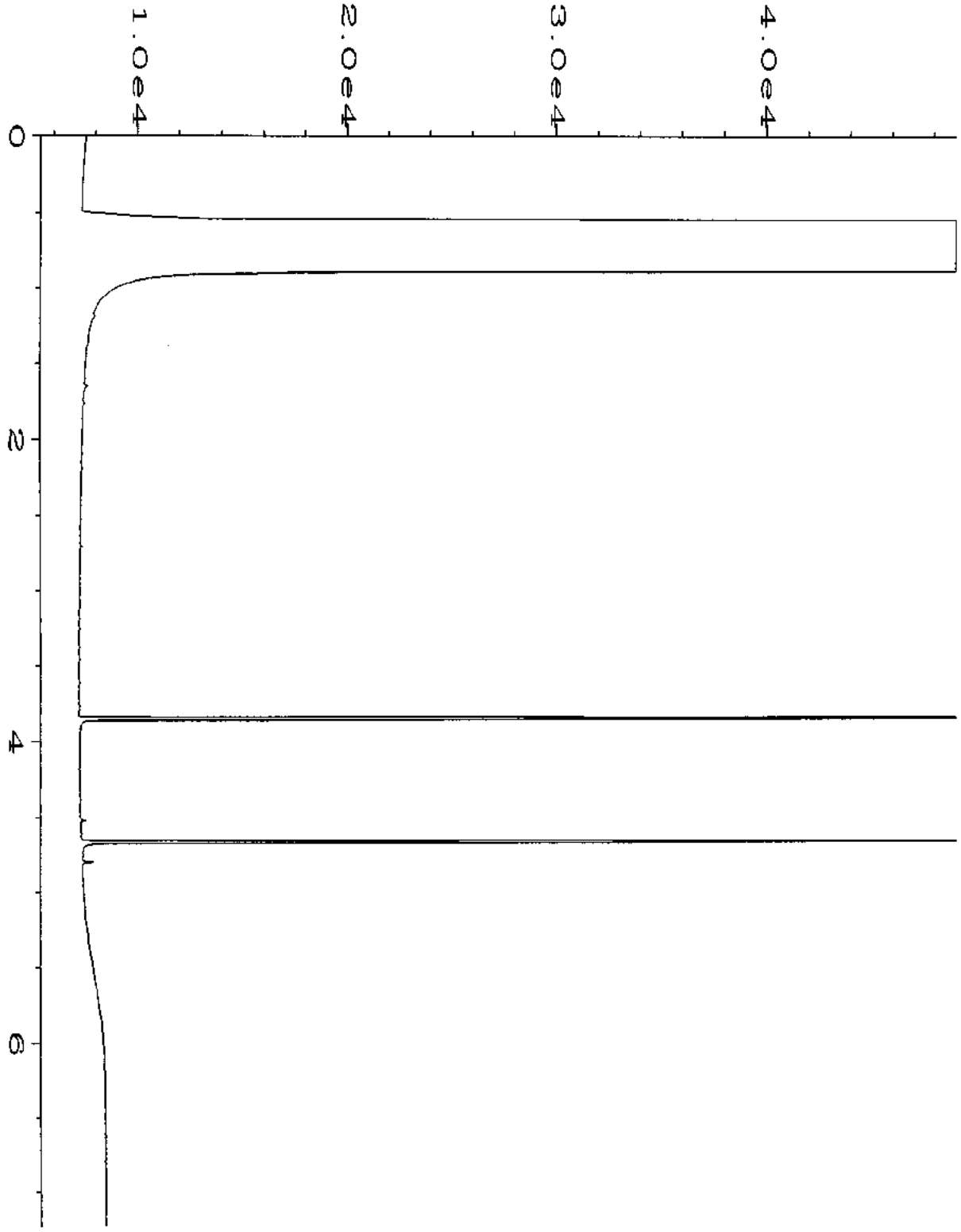


Data File Name : C:\HPCHEM\6\DATA\08-04-16\044F1001.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-01
Run Time Bar Code:
Acquired on : 04 Aug 16 05:09 PM
Report Created on: 05 Aug 16 12:02 PM

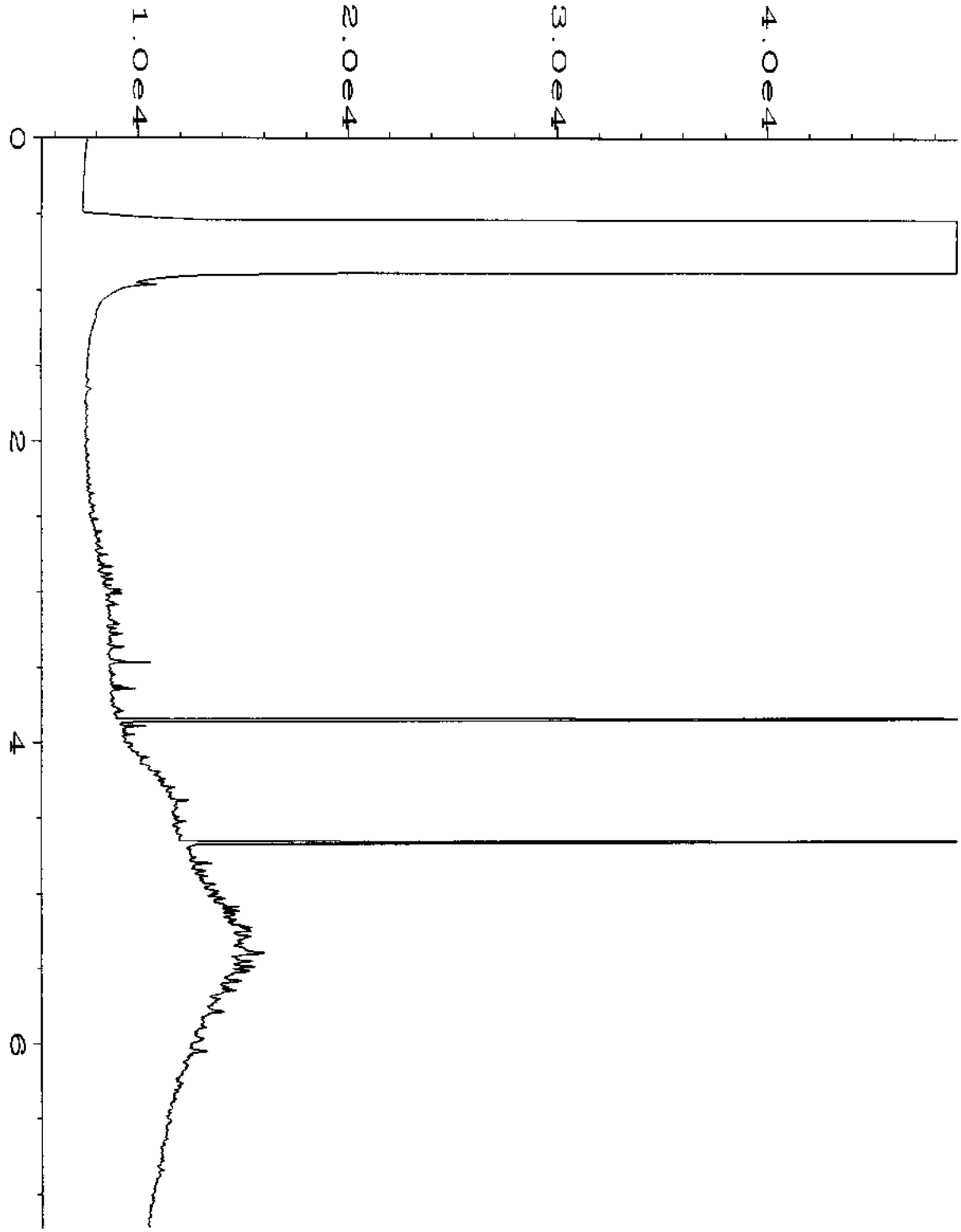
Page Number : 1
Vial Number : 44
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name	: C:\HPCHEM\6\DATA\08-04-16\037F0801.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 37
Sample Name	: 608046-02	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 04 Aug 16 03:28 PM	Instrument Method	: DX.MTH
Report Created on	: 05 Aug 16 12:02 PM	Analysis Method	: DX.MTH

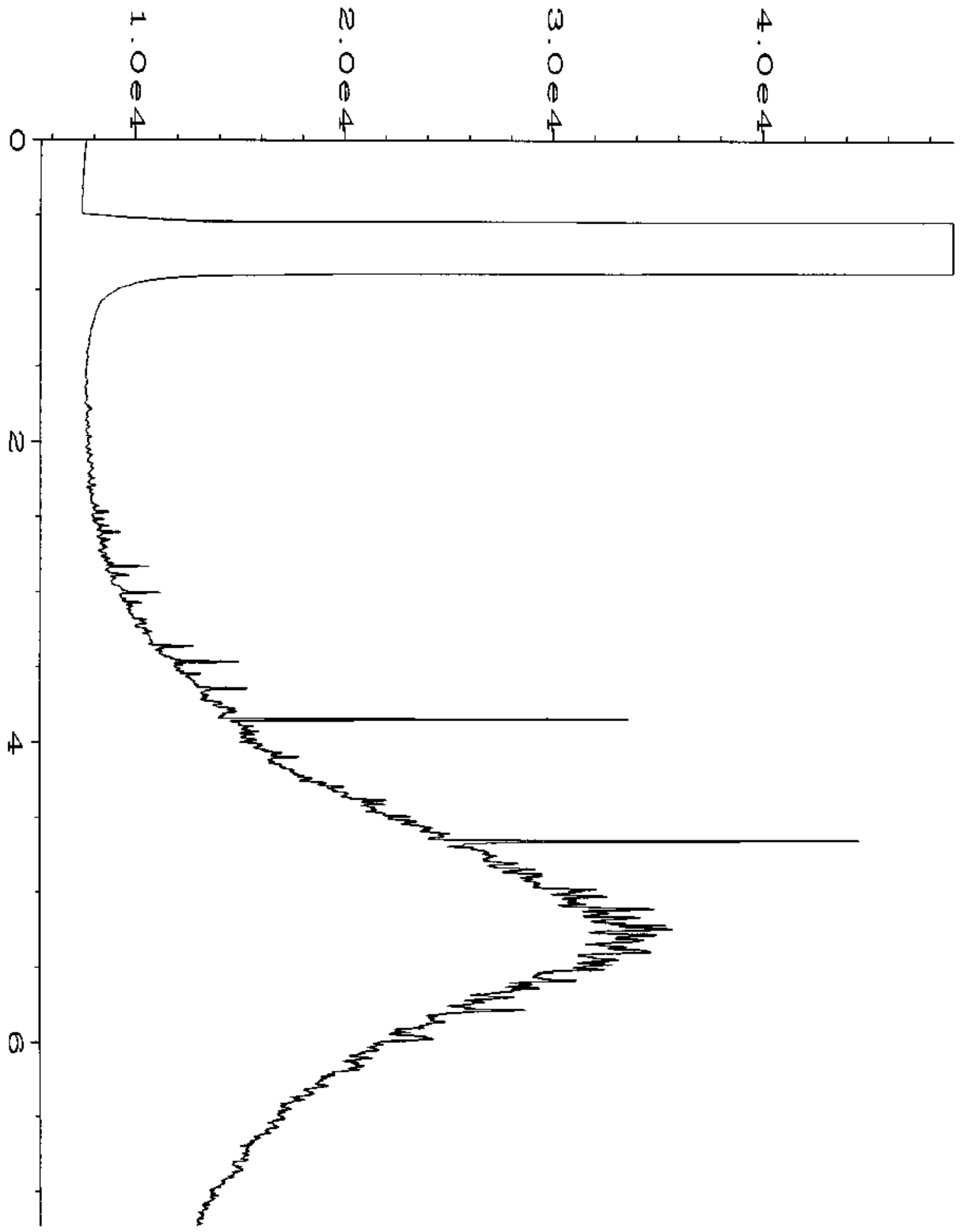


Data File Name	: C:\HPCHEM\6\DATA\08-04-16\038F0801.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 38
Sample Name	: 608046-03	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 04 Aug 16 03:39 PM	Instrument Method	: DX.MTH
Report Created on	: 05 Aug 16 12:02 PM	Analysis Method	: DX.MTH



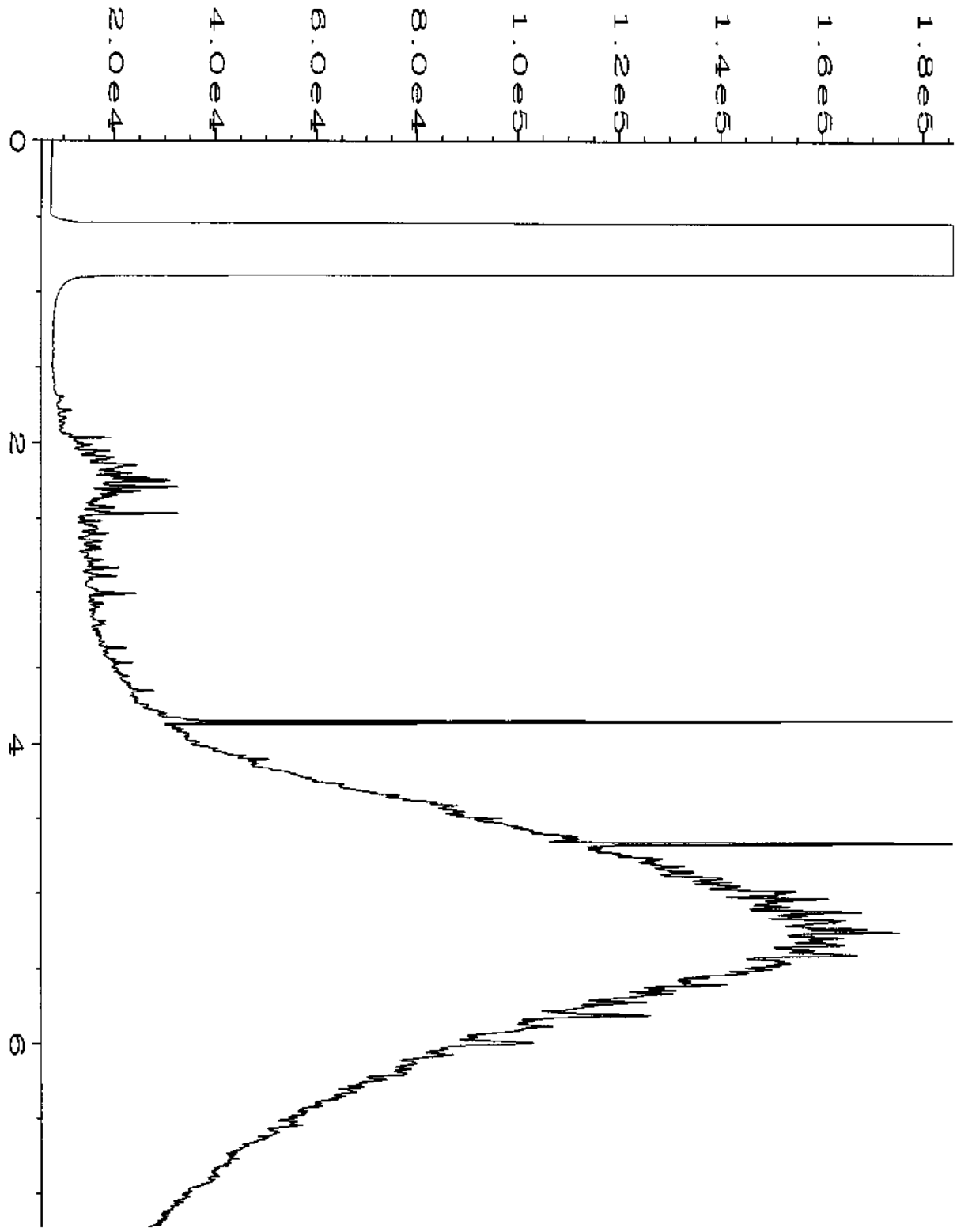
Data File Name : C:\HPCHEM\6\DATA\08-04-16\039F0801.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-05
Run Time Bar Code:
Acquired on : 04 Aug 16 03:51 PM
Report Created on: 05 Aug 16 12:02 PM

Page Number : 1
Vial Number : 39
Injection Number : 1
Sequence Line : 8
Instrument Method: DX.MTH
Analysis Method : DX.MTH



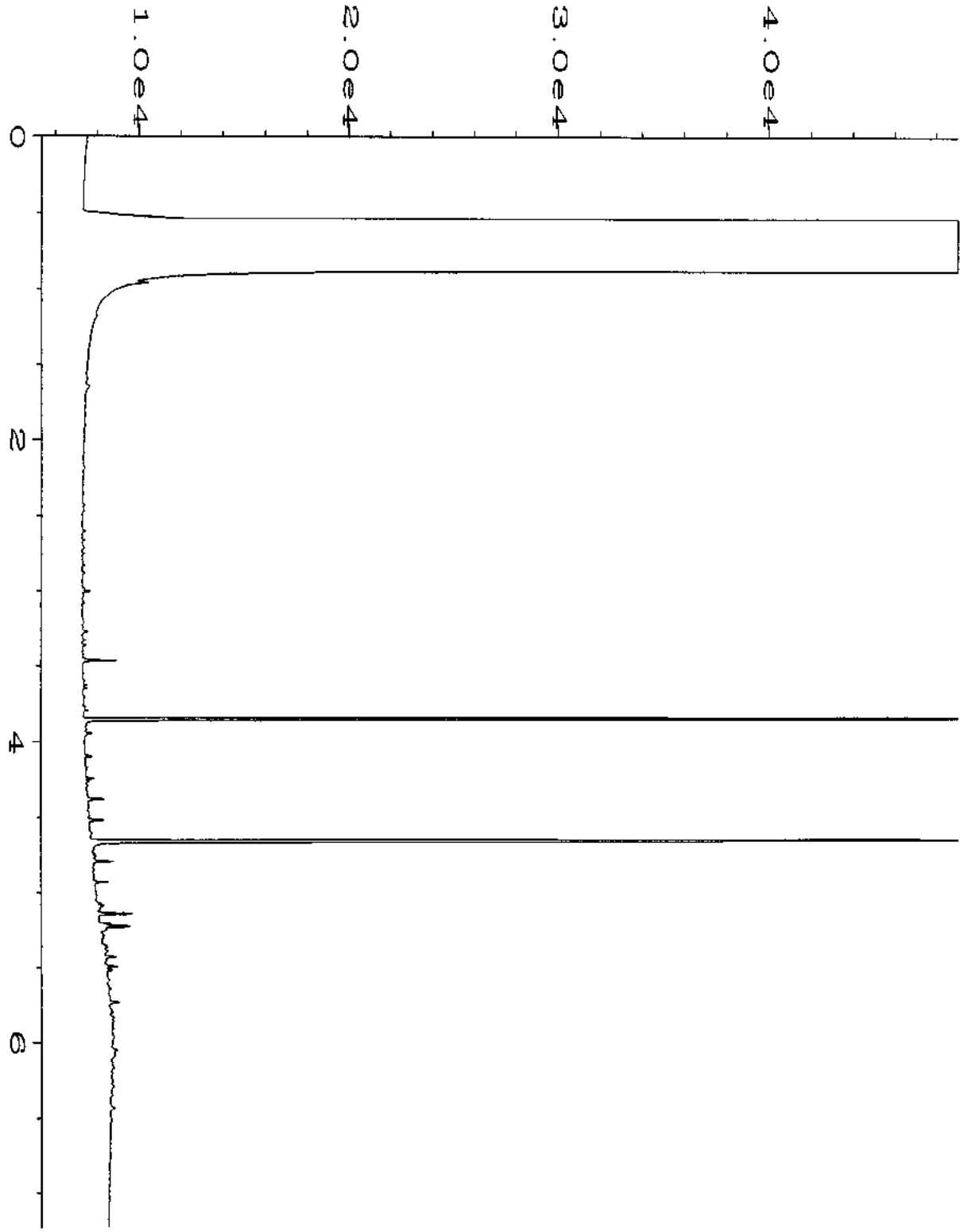
Data File Name : C:\HPCHEM\6\DATA\08-04-16\081F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-06 1/10
Run Time Bar Code:
Acquired on : 04 Aug 16 01:36 PM
Report Created on: 05 Aug 16 12:03 PM

Page Number : 1
Vial Number : 81
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



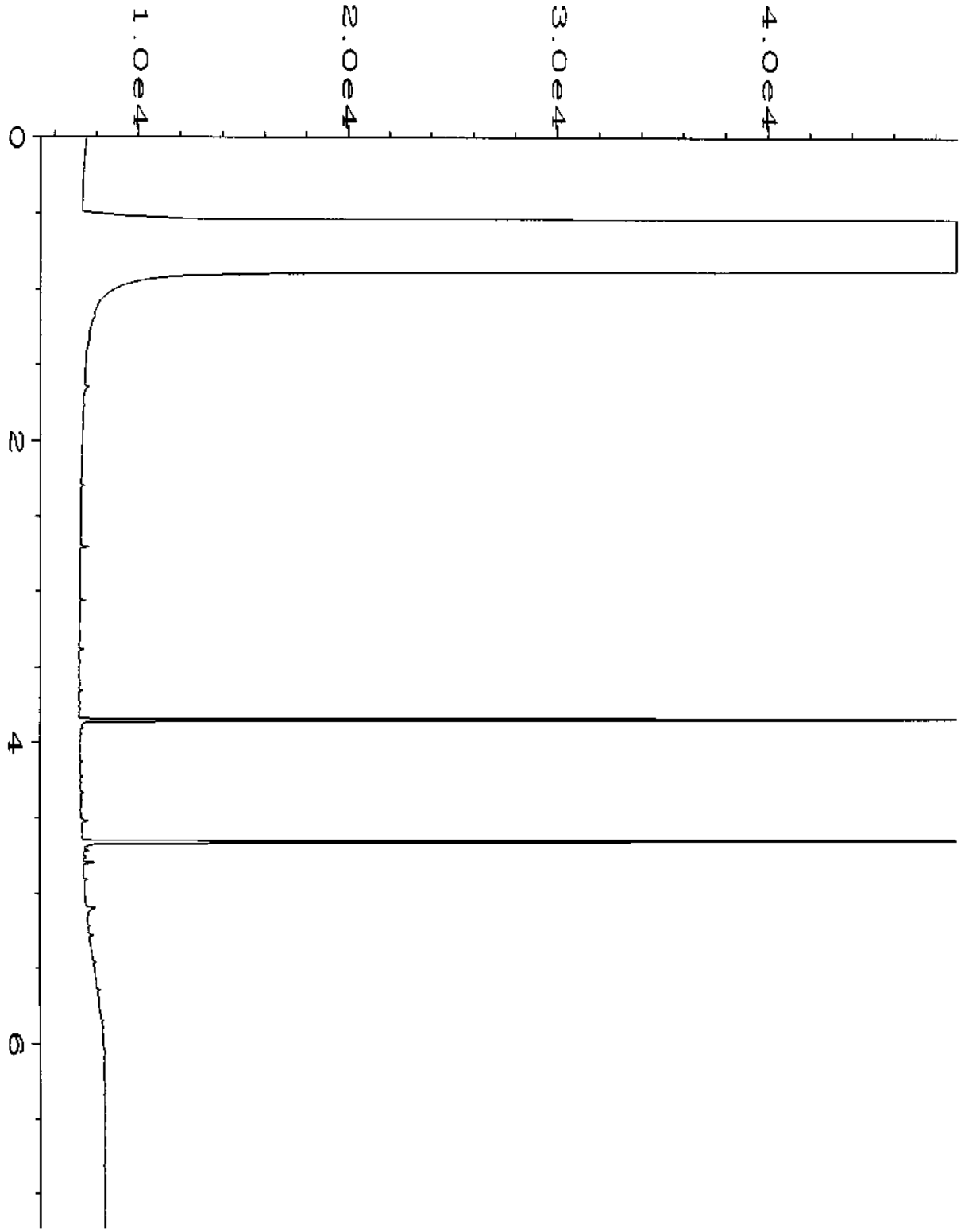
Data File Name : C:\HPCHEM\6\DATA\08-04-16\009F0301.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-07
Run Time Bar Code:
Acquired on : 04 Aug 16 09:43 AM
Report Created on: 05 Aug 16 12:03 PM

Page Number : 1
Vial Number : 9
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DX.MTH



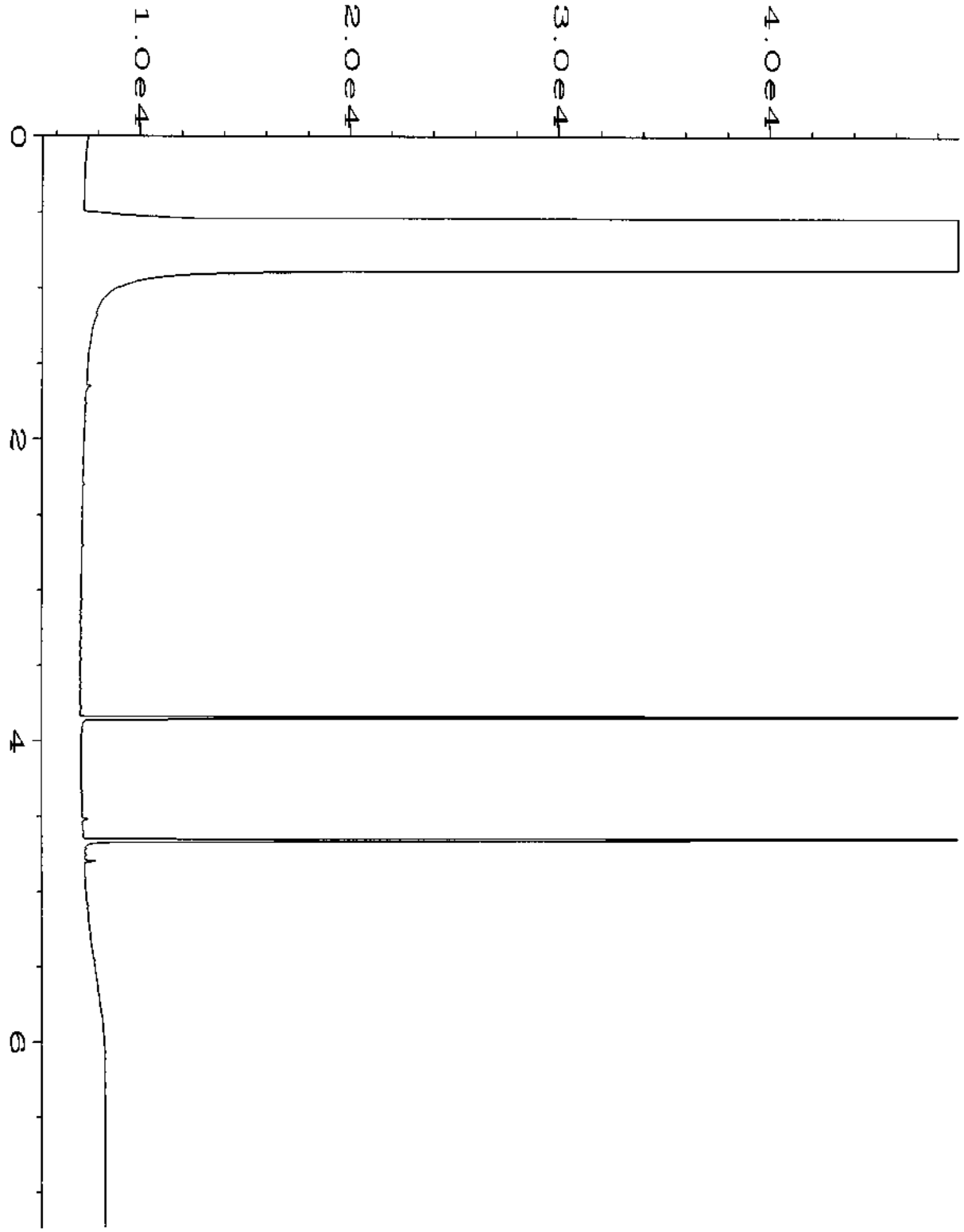
Data File Name : C:\HPCHEM\6\DATA\08-04-16\045F1001.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-09
Run Time Bar Code:
Acquired on : 04 Aug 16 05:21 PM
Report Created on: 05 Aug 16 12:03 PM

Page Number : 1
Vial Number : 45
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DX.MTH



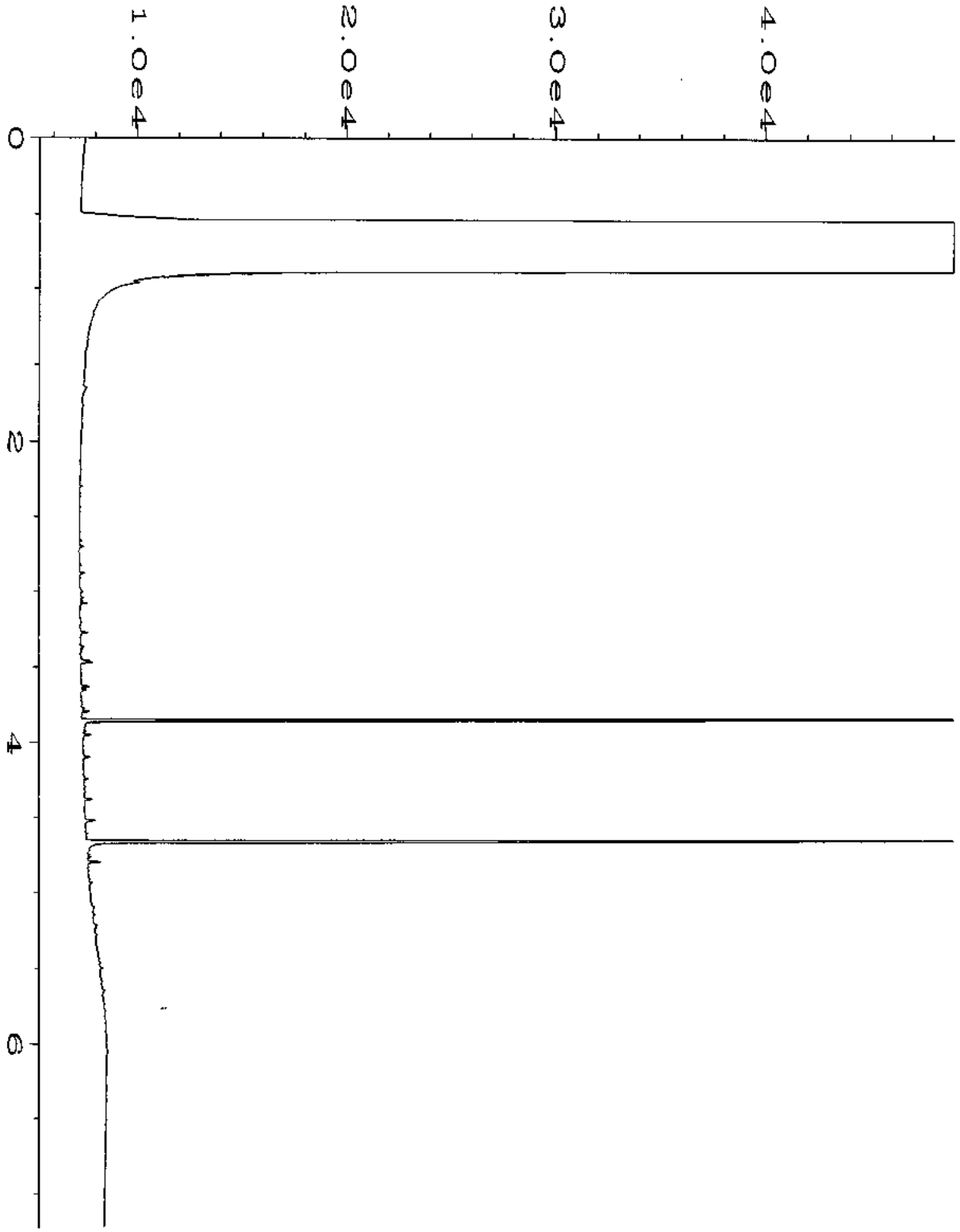
Data File Name : C:\HPCHEM\6\DATA\08-04-16\046F1001.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-10
Run Time Bar Code:
Acquired on : 04 Aug 16 05:32 PM
Report Created on: 05 Aug 16 12:03 PM

Page Number : 1
Vial Number : 46
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DX.MTH



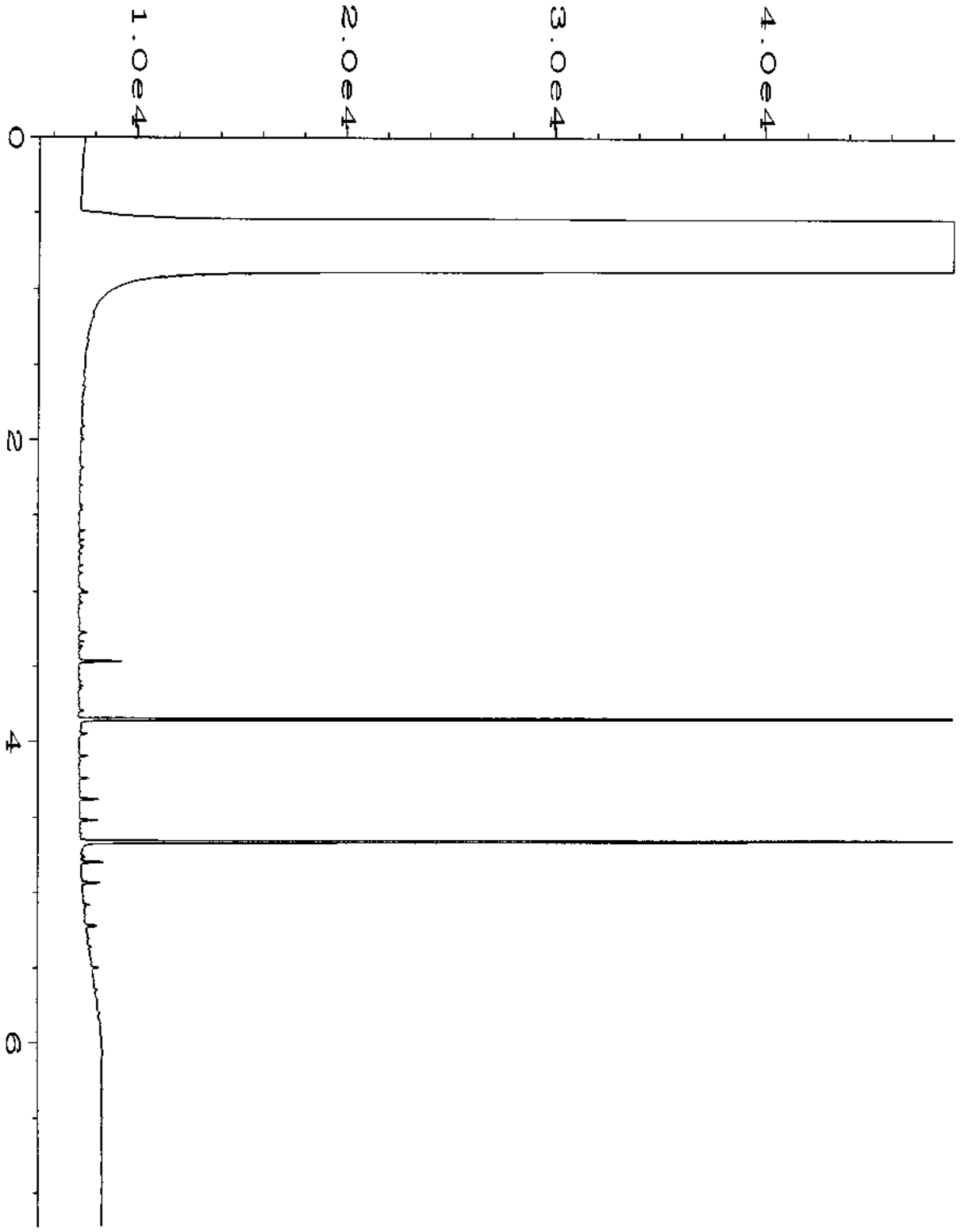
Data File Name : C:\HPCHEM\6\DATA\08-04-16\047F1001.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-11
Run Time Bar Code:
Acquired on : 04 Aug 16 05:43 PM
Report Created on: 05 Aug 16 12:03 PM

Page Number : 1
Vial Number : 47
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DX.MTH

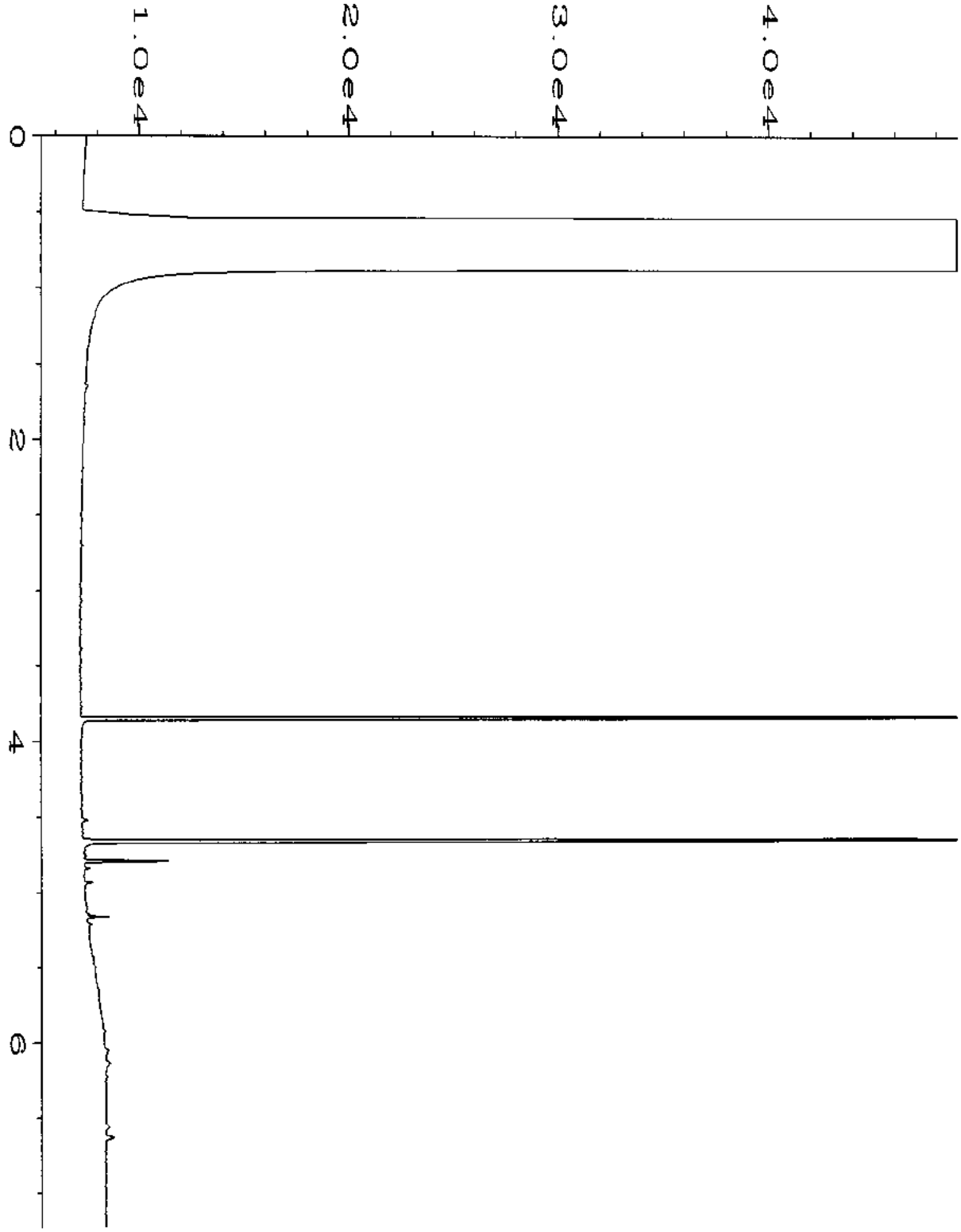


Data File Name : C:\HPCHEM\6\DATA\08-04-16\048F1001.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-13
Run Time Bar Code:
Acquired on : 04 Aug 16 05:55 PM
Report Created on: 05 Aug 16 12:03 PM

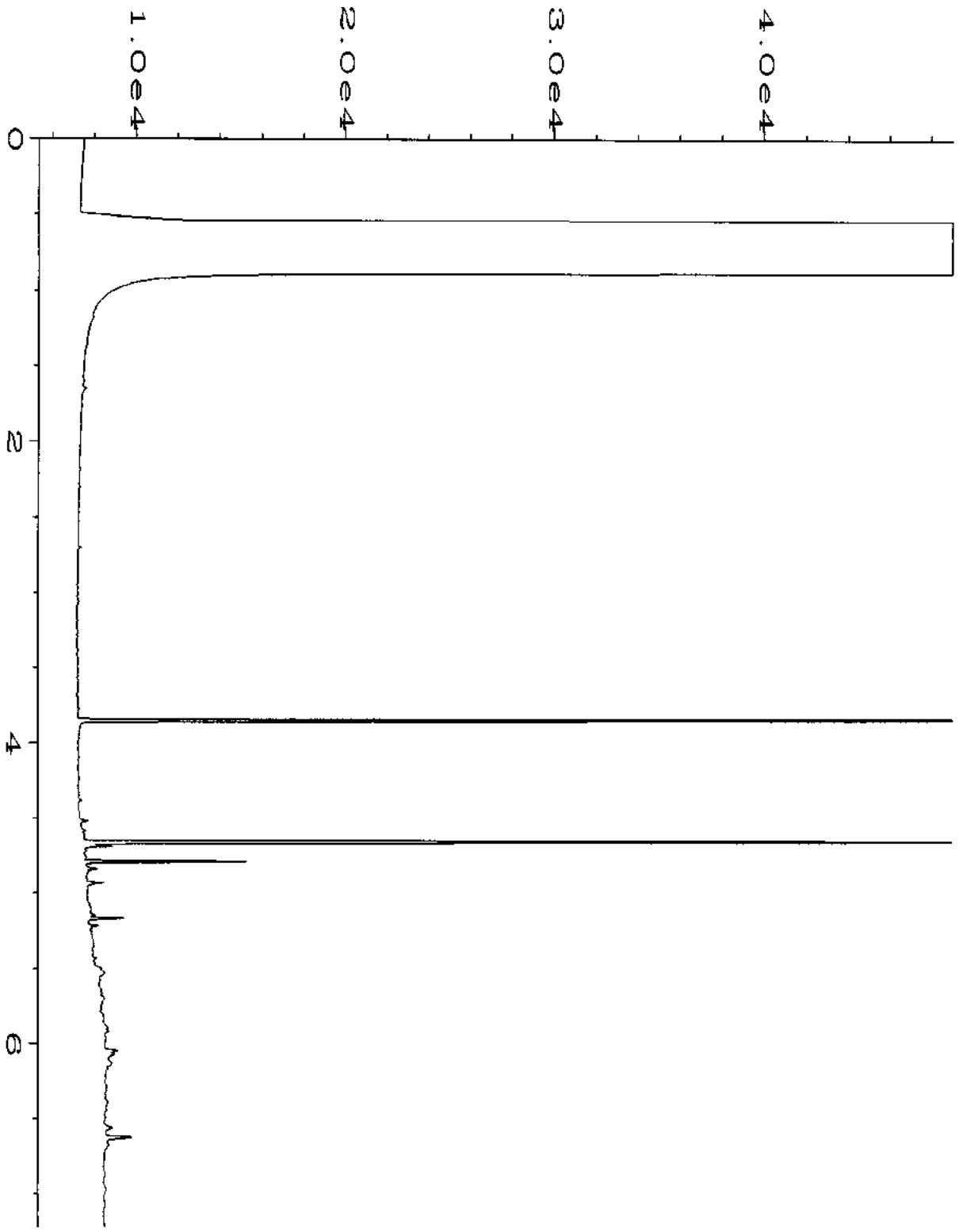
Page Number : 1
Vial Number : 48
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DX.MTH



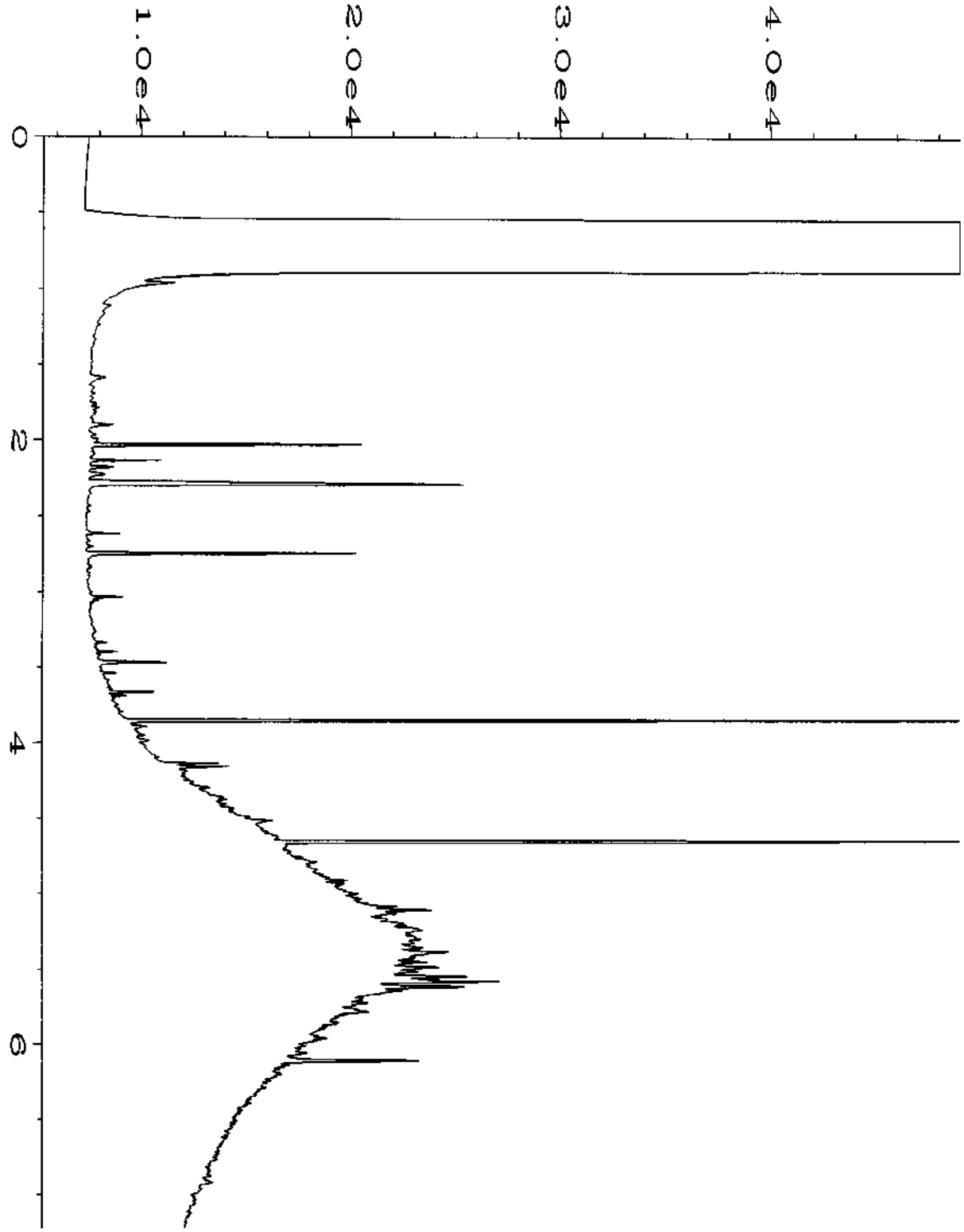
Data File Name	: C:\HPCHEM\6\DATA\08-04-16\049F1001.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 49
Sample Name	: 608046-14	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 04 Aug 16 06:06 PM	Instrument Method	: DX.MTH
Report Created on	: 05 Aug 16 12:03 PM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\6\DATA\08-04-16\050F1001.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 50
Sample Name	: 608046-15	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 04 Aug 16 06:17 PM	Instrument Method	: DX.MTH
Report Created on	: 05 Aug 16 12:04 PM	Analysis Method	: DX.MTH

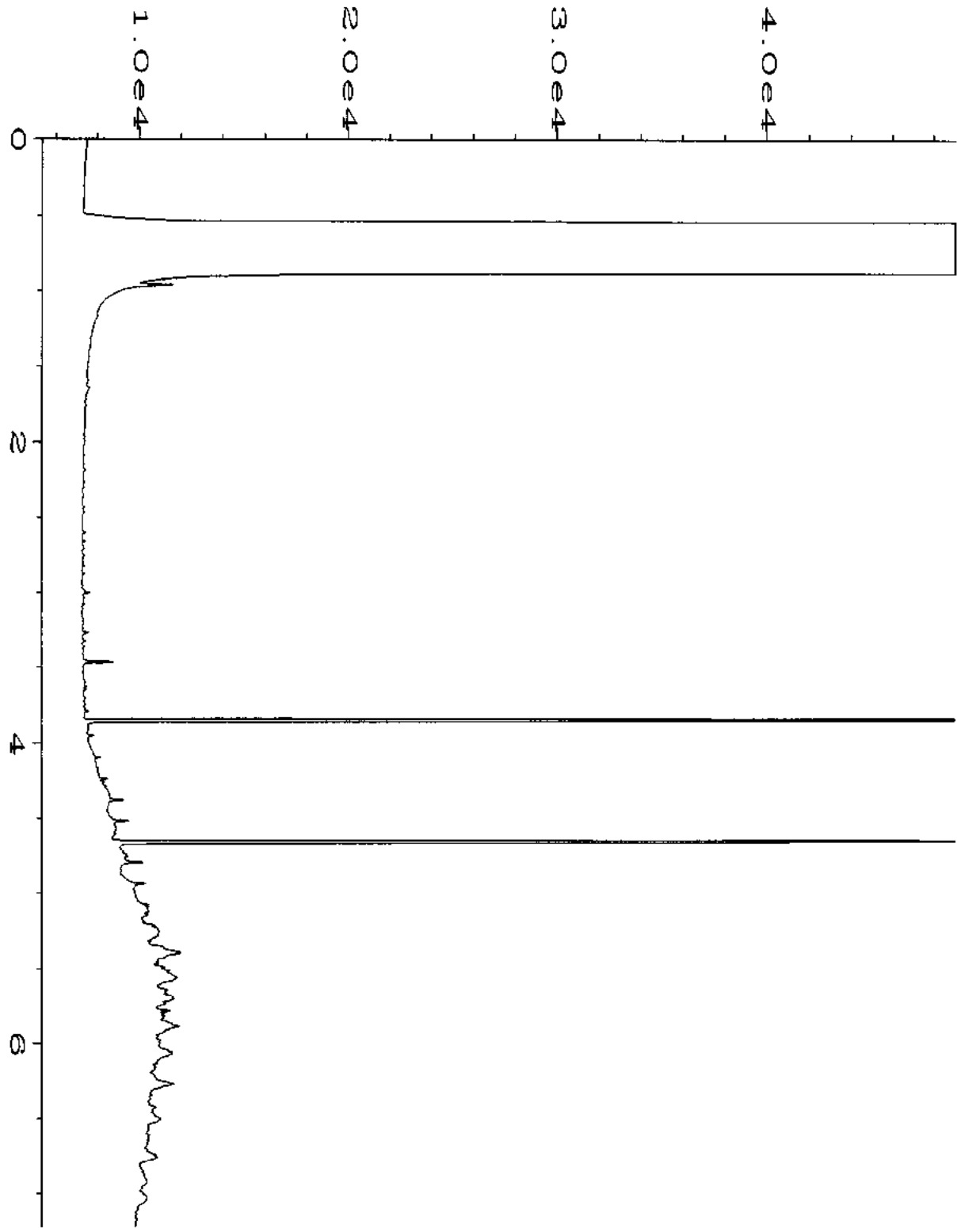


Data File Name	: C:\HPCHEM\6\DATA\08-04-16\051F1201.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 51
Sample Name	: 608046-16	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 12
Acquired on	: 04 Aug 16 06:51 PM	Instrument Method	: DX.MTH
Report Created on	: 05 Aug 16 12:04 PM	Analysis Method	: DX.MTH



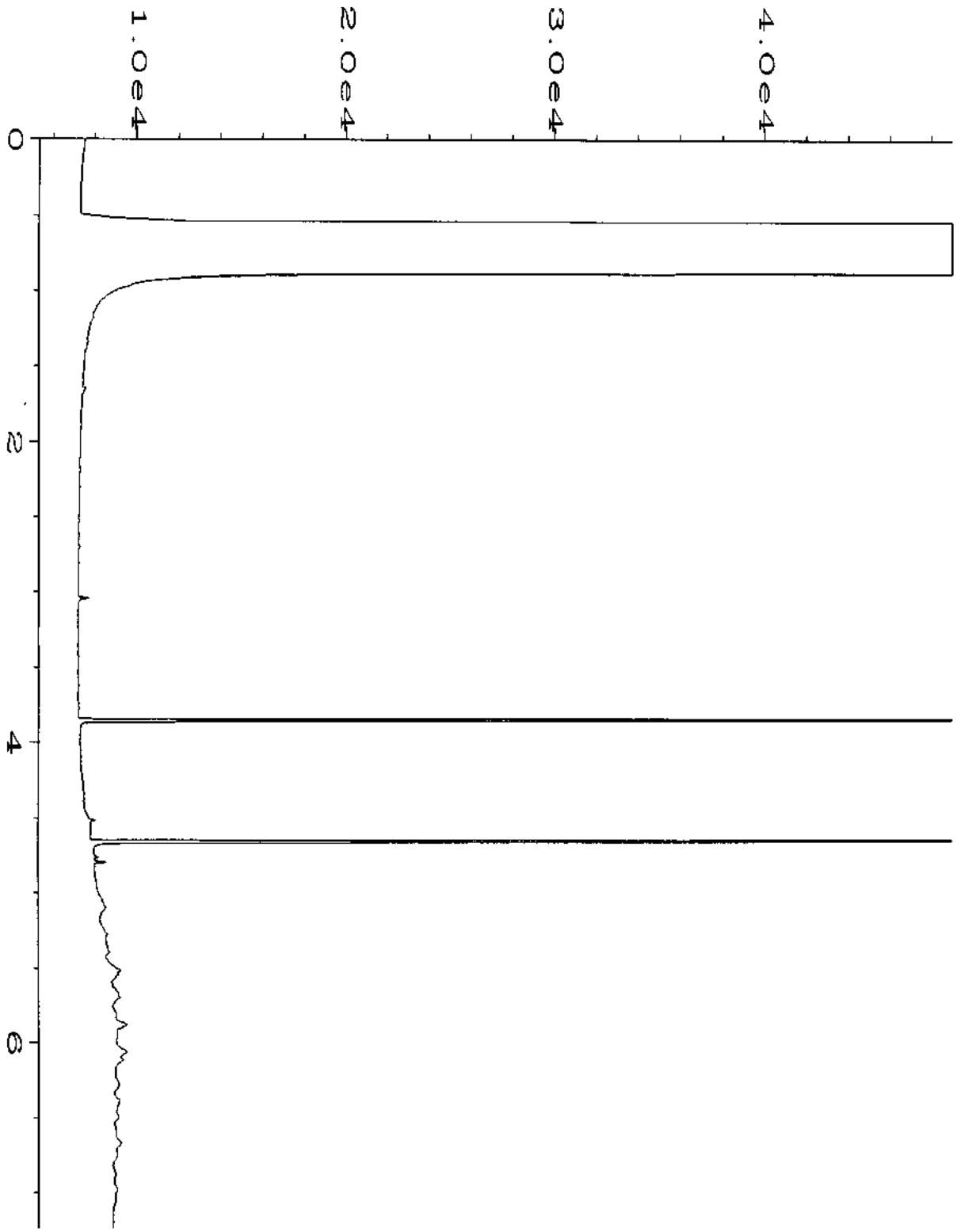
Data File Name : C:\HPCHEM\6\DATA\08-04-16\052F1201.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-18
Run Time Bar Code:
Acquired on : 04 Aug 16 07:02 PM
Report Created on: 05 Aug 16 12:04 PM

Page Number : 1
Vial Number : 52
Injection Number : 1
Sequence Line : 12
Instrument Method: DX.MTH
Analysis Method : DX.MTH



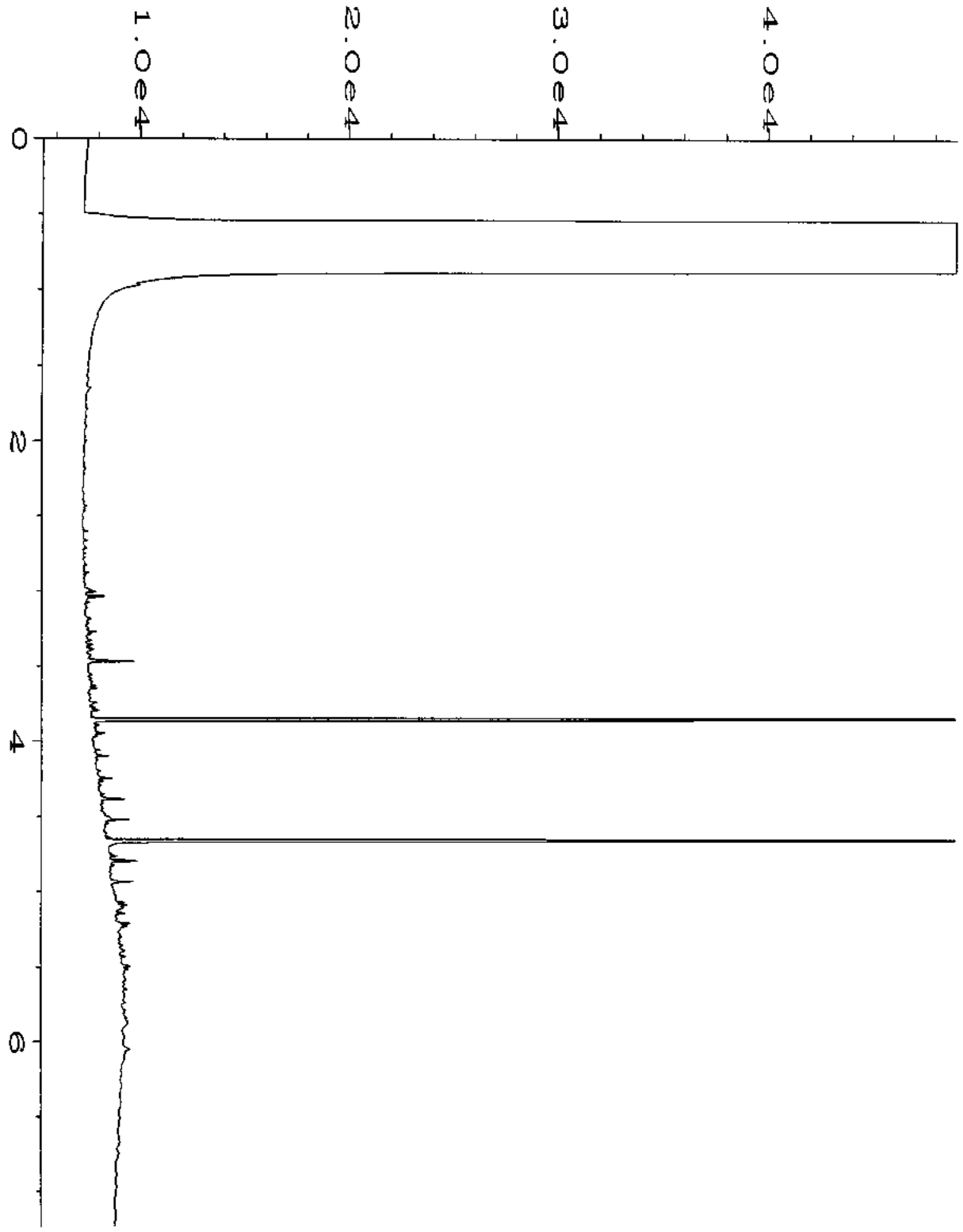
Data File Name : C:\HPCHEM\6\DATA\08-04-16\053F1201.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-19
Run Time Bar Code:
Acquired on : 04 Aug 16 07:14 PM
Report Created on: 05 Aug 16 12:04 PM

Page Number : 1
Vial Number : 53
Injection Number : 1
Sequence Line : 12
Instrument Method: DX.MTH
Analysis Method : DX.MTH

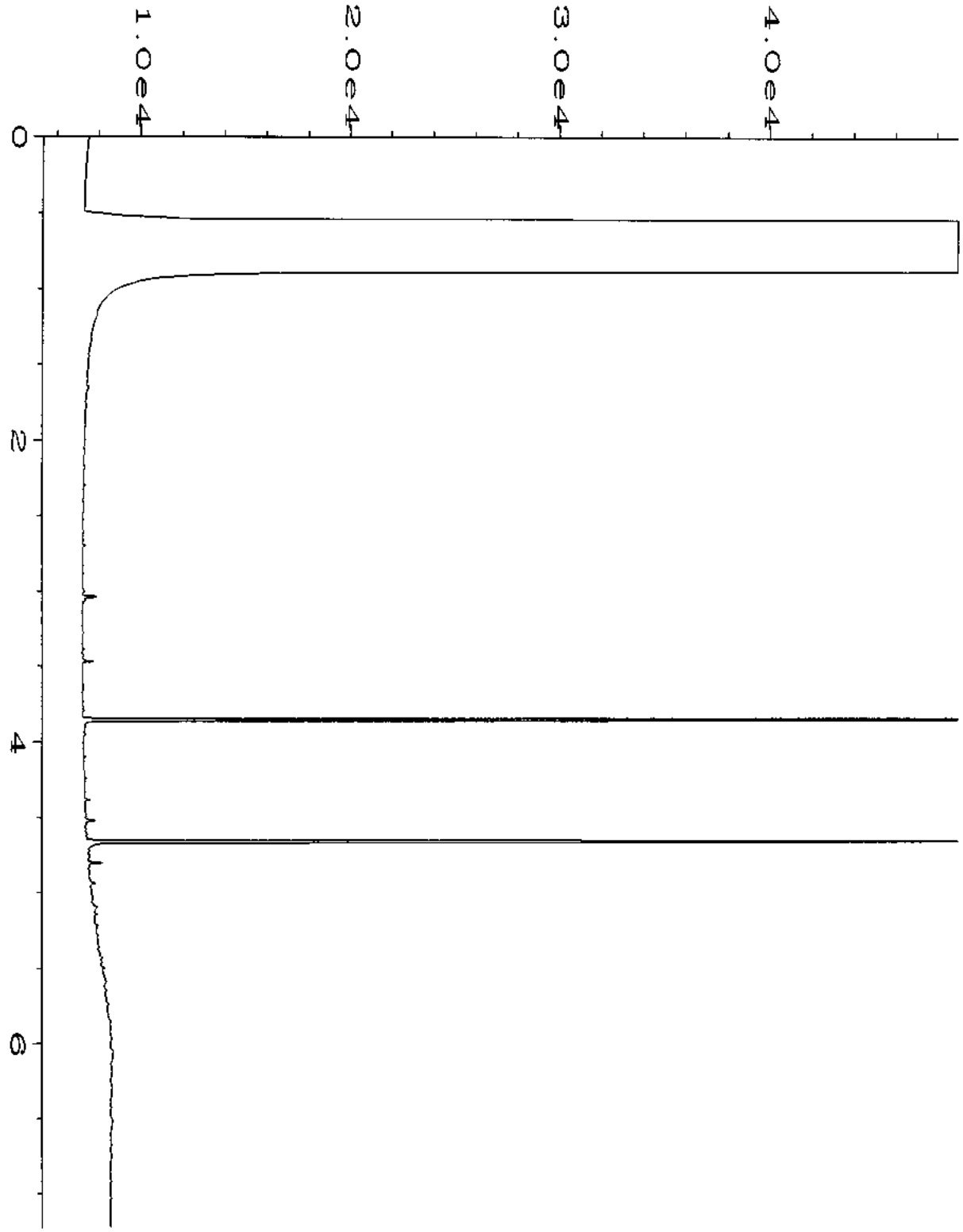


Data File Name : C:\HPCHEM\6\DATA\08-04-16\054F1201.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-20
Run Time Bar Code:
Acquired on : 04 Aug 16 07:25 PM
Report Created on: 05 Aug 16 12:04 PM

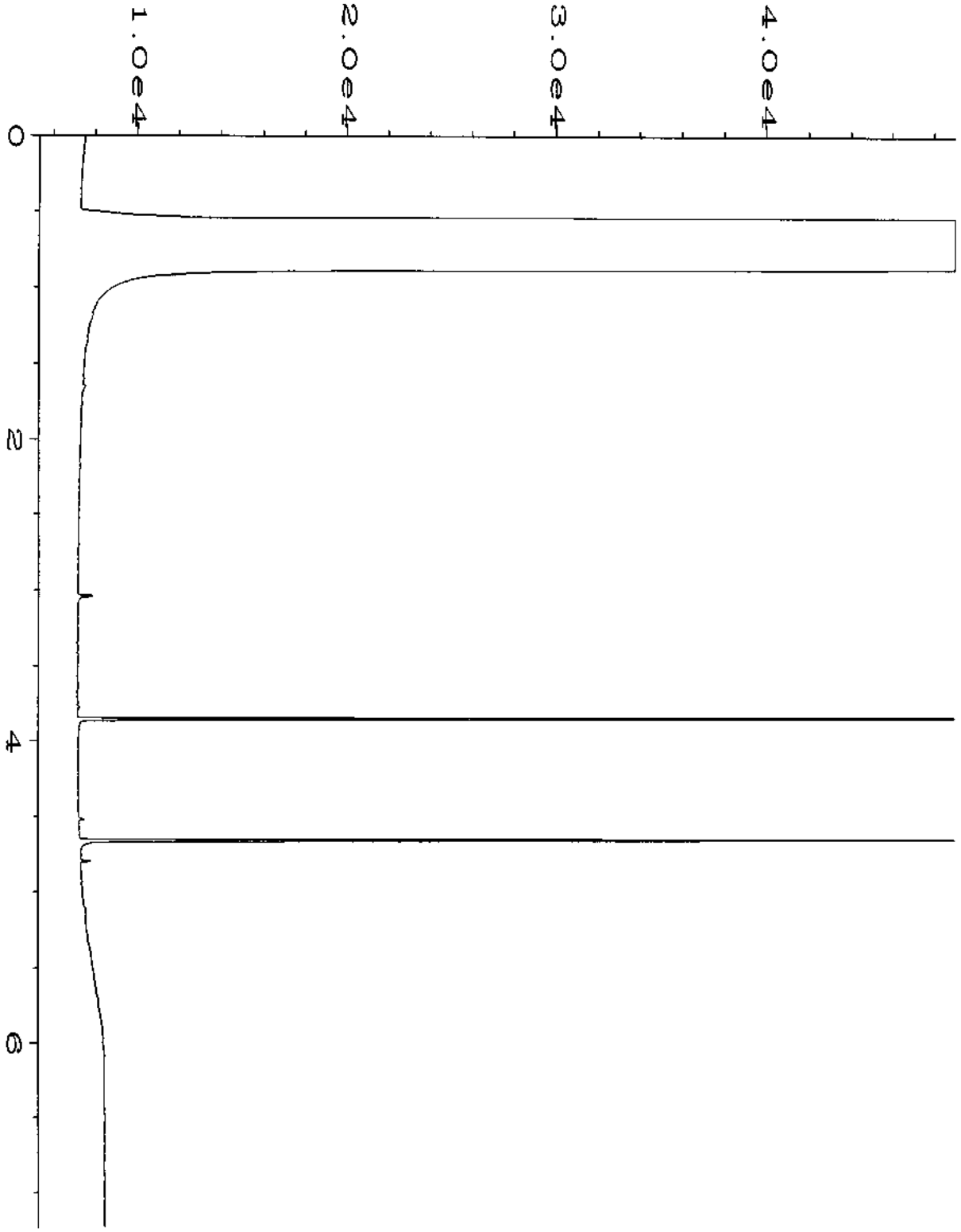
Page Number : 1
Vial Number : 54
Injection Number : 1
Sequence Line : 12
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name	: C:\HPCHEM\6\DATA\08-04-16\055F1201.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 55
Sample Name	: 608046-22	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 12
Acquired on	: 04 Aug 16 07:36 PM	Instrument Method	: DX.MTH
Report Created on	: 05 Aug 16 12:04 PM	Analysis Method	: DX.MTH

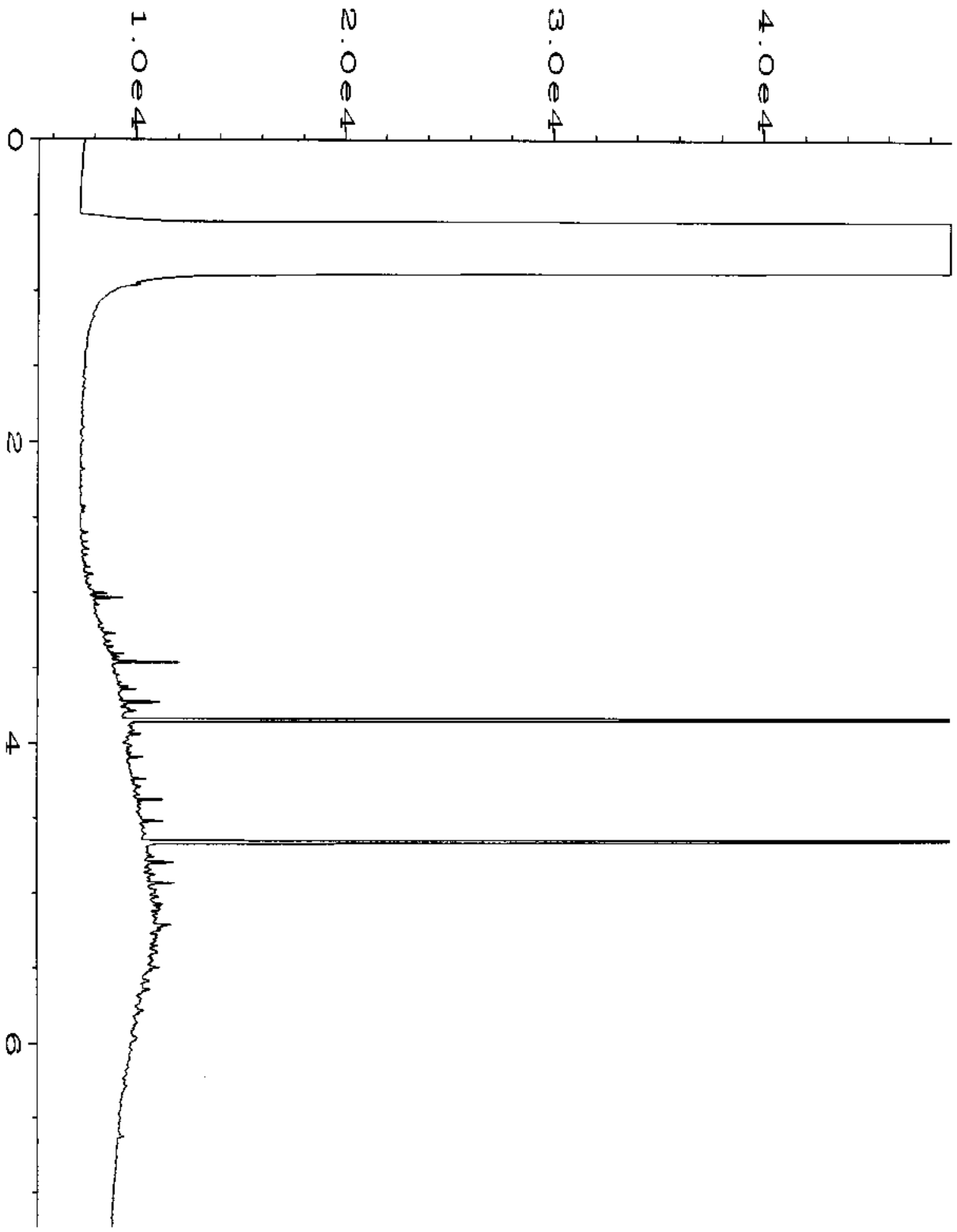


Data File Name	: C:\HPCHEM\6\DATA\08-04-16\056F1201.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 56
Sample Name	: 608046-23	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 12
Acquired on	: 04 Aug 16 07:48 PM	Instrument Method	: DX.MTH
Report Created on	: 05 Aug 16 12:04 PM	Analysis Method	: DX.MTH



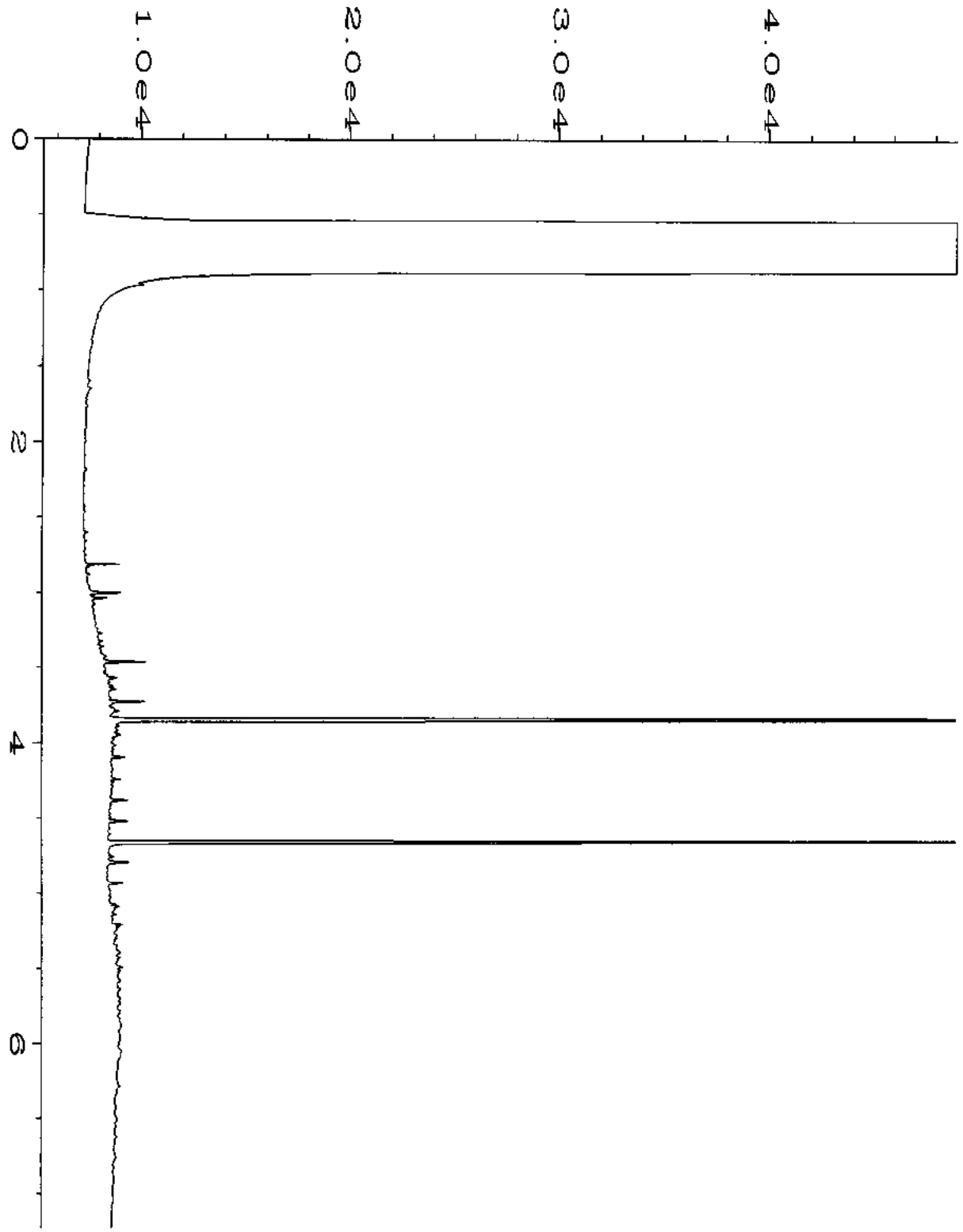
Data File Name : C:\HPCHEM\6\DATA\08-04-16\057F1201.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-24
Run Time Bar Code:
Acquired on : 04 Aug 16 07:59 PM
Report Created on: 05 Aug 16 12:04 PM

Page Number : 1
Vial Number : 57
Injection Number : 1
Sequence Line : 12
Instrument Method: DX.MTH
Analysis Method : DX.MTH

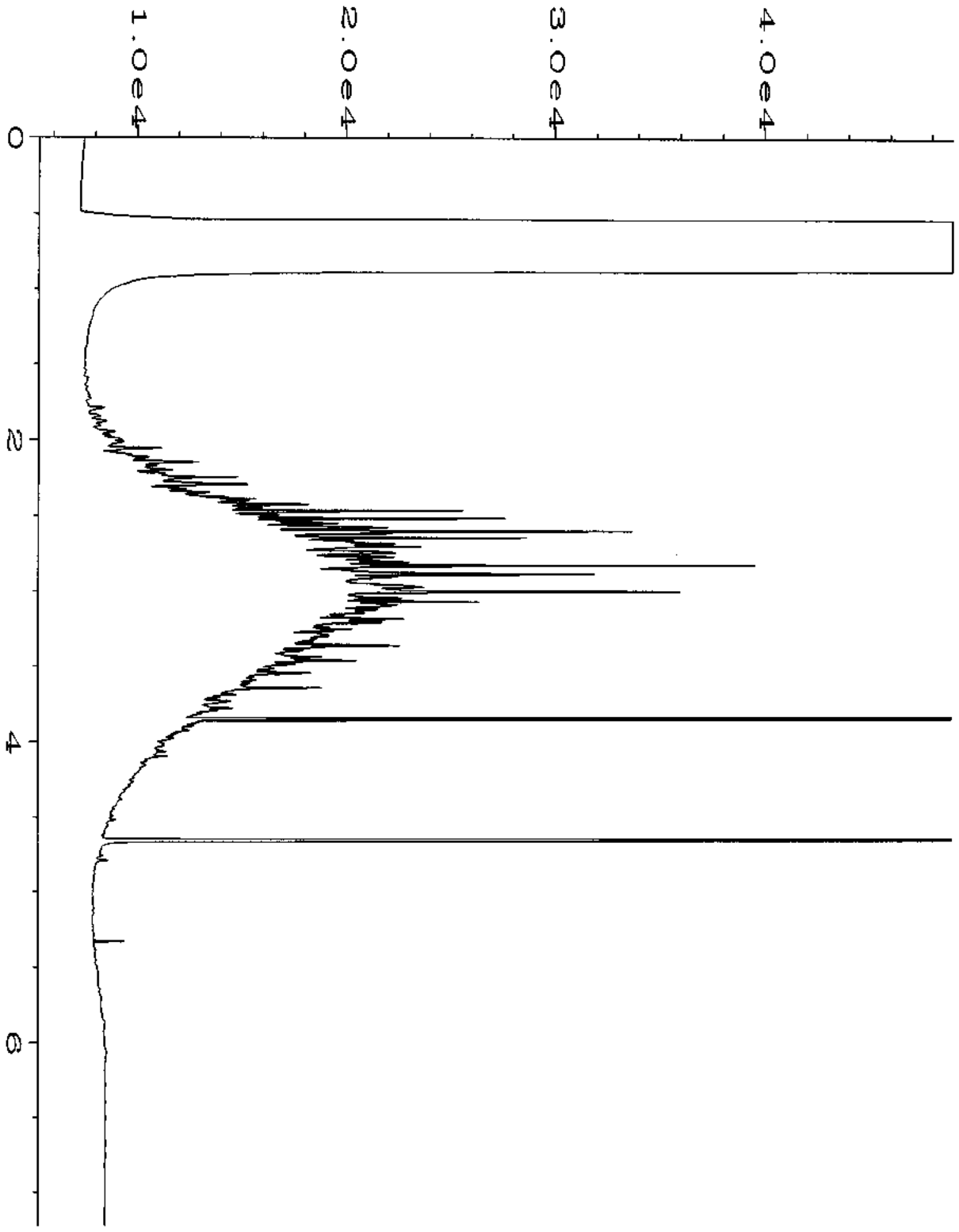


Data File Name : C:\HPCHEM\6\DATA\08-04-16\058F1201.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-26
Run Time Bar Code:
Acquired on : 04 Aug 16 08:10 PM
Report Created on: 05 Aug 16 12:04 PM

Page Number : 1
Vial Number : 58
Injection Number : 1
Sequence Line : 12
Instrument Method: DX.MTH
Analysis Method : DX.MTH

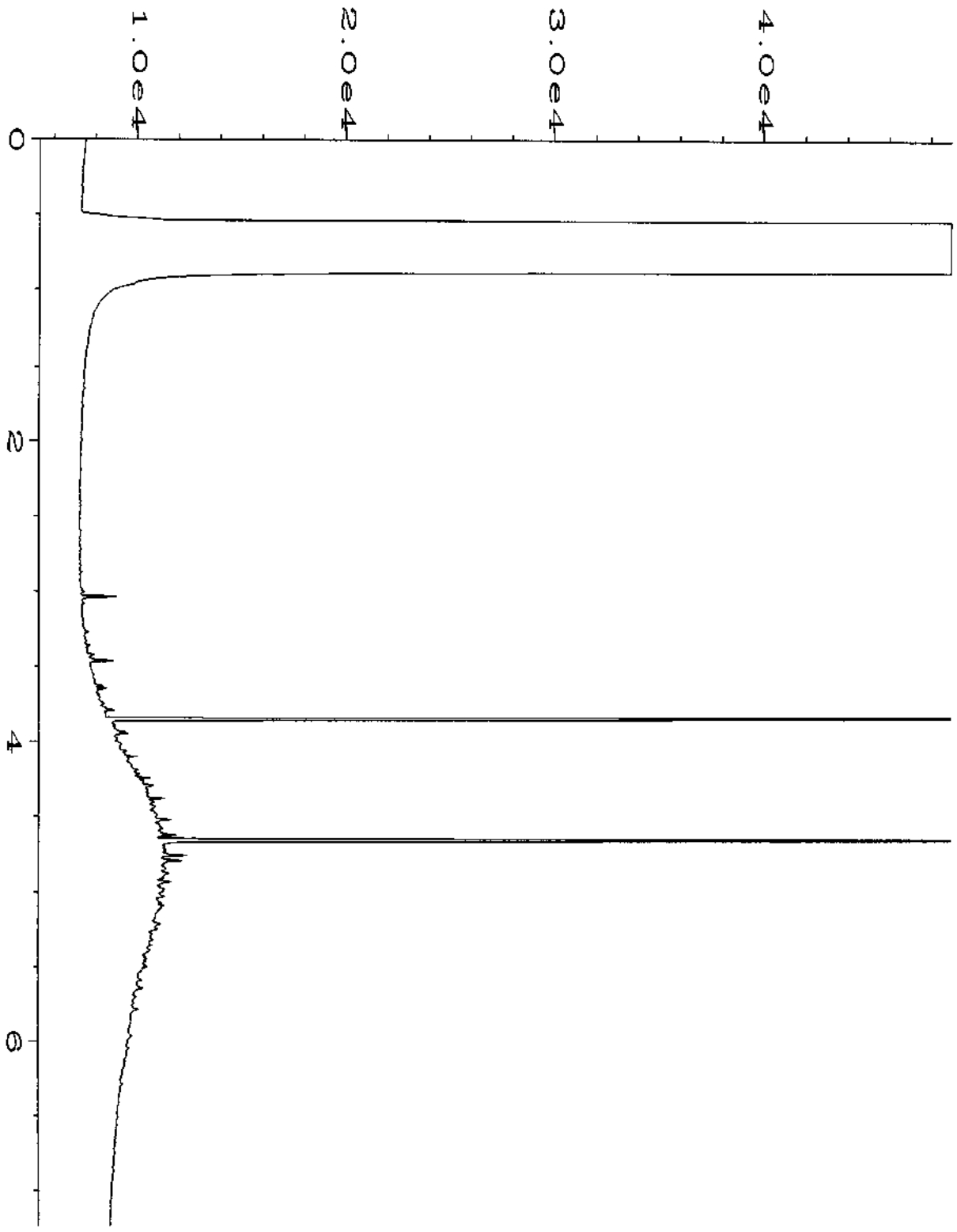


Data File Name	: C:\HPCHEM\6\DATA\08-04-16\059F1201.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 59
Sample Name	: 608046-27	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 12
Acquired on	: 04 Aug 16 08:21 PM	Instrument Method	: DX.MTH
Report Created on	: 05 Aug 16 12:04 PM	Analysis Method	: DX.MTH



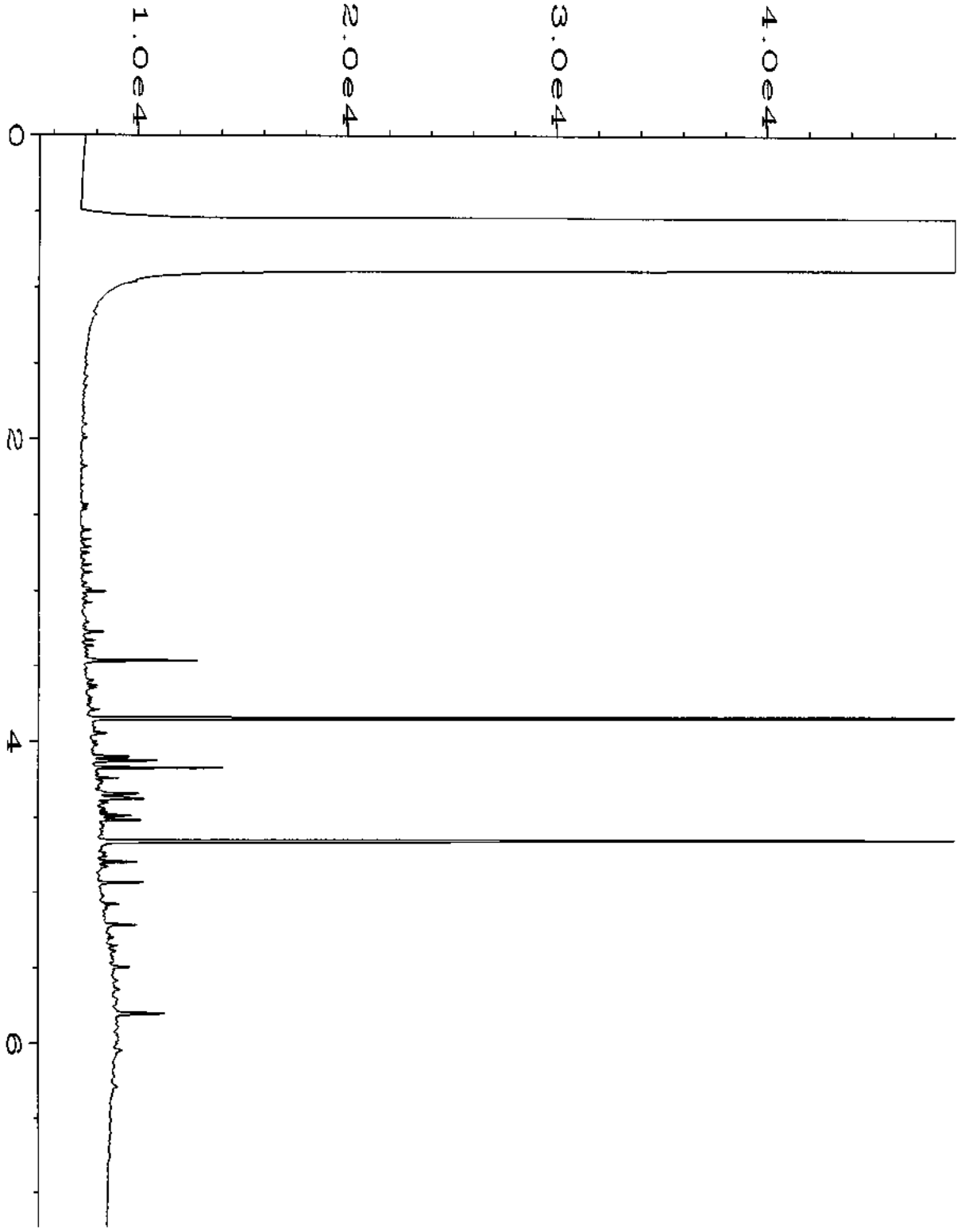
Data File Name : C:\HPCHEM\6\DATA\08-04-16\060F1201.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-28
Run Time Bar Code:
Acquired on : 04 Aug 16 08:33 PM
Report Created on: 05 Aug 16 12:05 PM

Page Number : 1
Vial Number : 60
Injection Number : 1
Sequence Line : 12
Instrument Method: DX.MTH
Analysis Method : DX.MTH



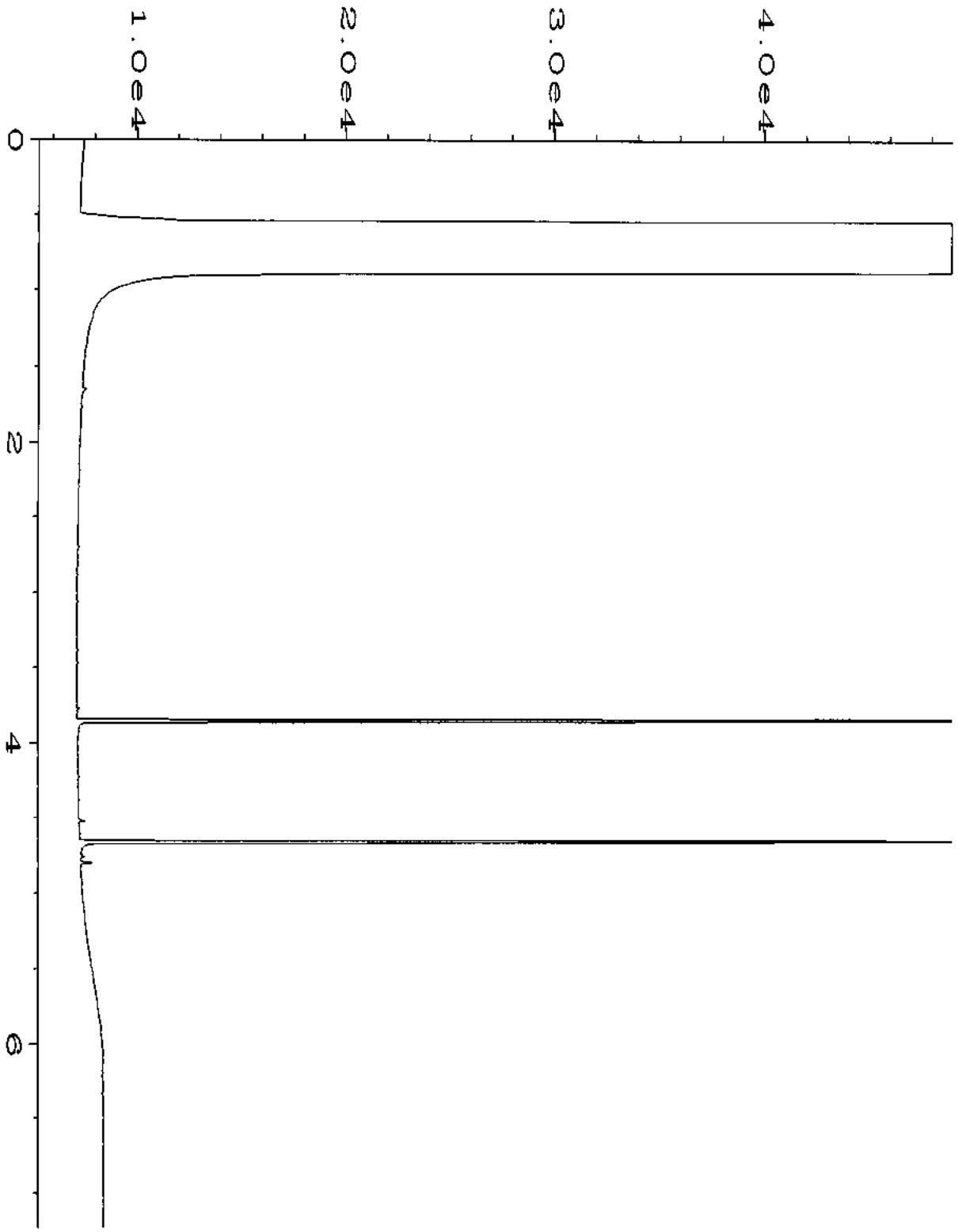
Data File Name : C:\HPCHEM\6\DATA\08-04-16\061F1201.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-30
Run Time Bar Code:
Acquired on : 04 Aug 16 08:44 PM
Report Created on: 05 Aug 16 12:05 PM

Page Number : 1
Vial Number : 61
Injection Number : 1
Sequence Line : 12
Instrument Method: DX.MTH
Analysis Method : DX.MTH



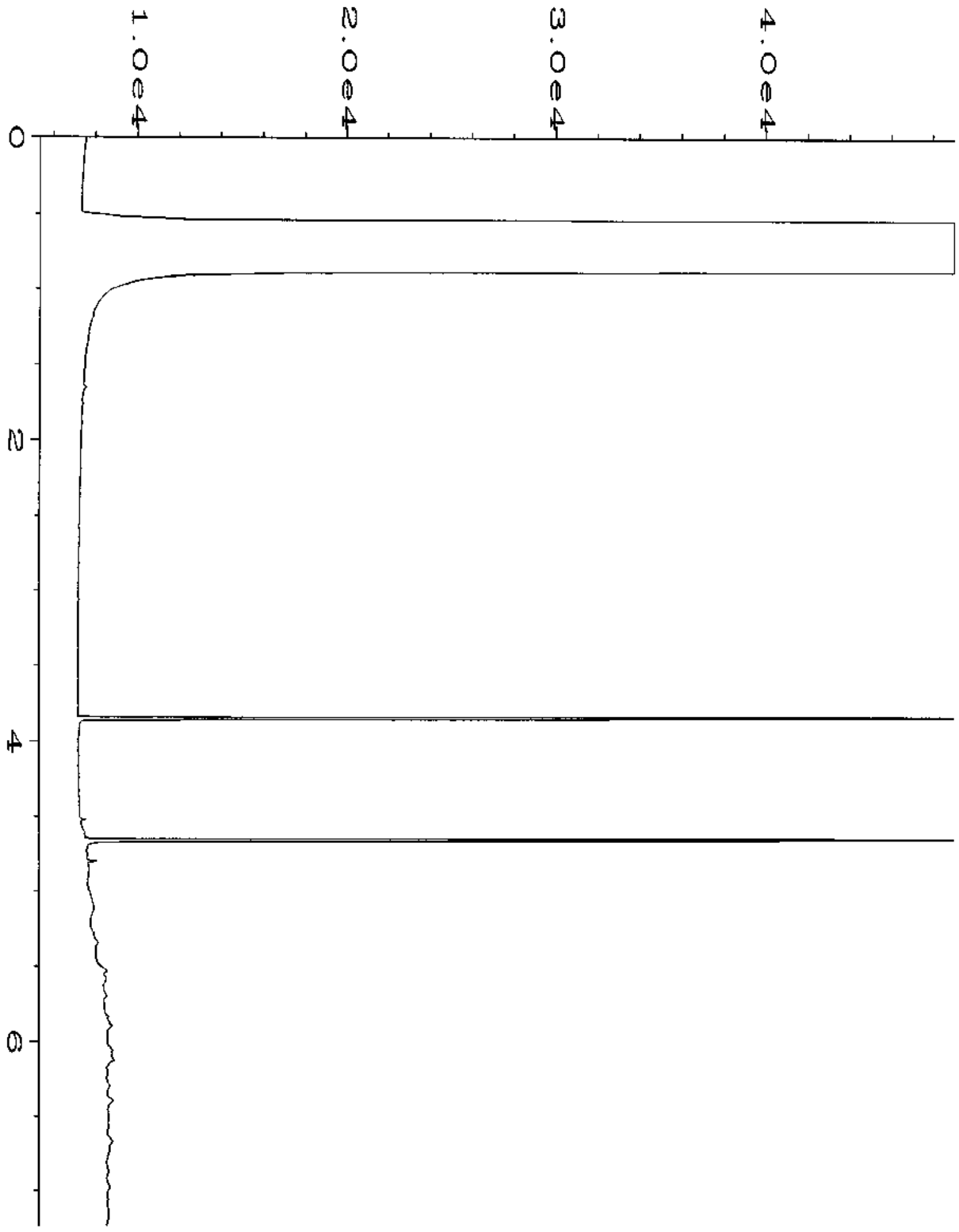
Data File Name : C:\HPCHEM\6\DATA\08-04-16\062F1201.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-31
Run Time Bar Code:
Acquired on : 04 Aug 16 08:55 PM
Report Created on: 05 Aug 16 12:05 PM

Page Number : 1
Vial Number : 62
Injection Number : 1
Sequence Line : 12
Instrument Method: DX.MTH
Analysis Method : DX.MTH



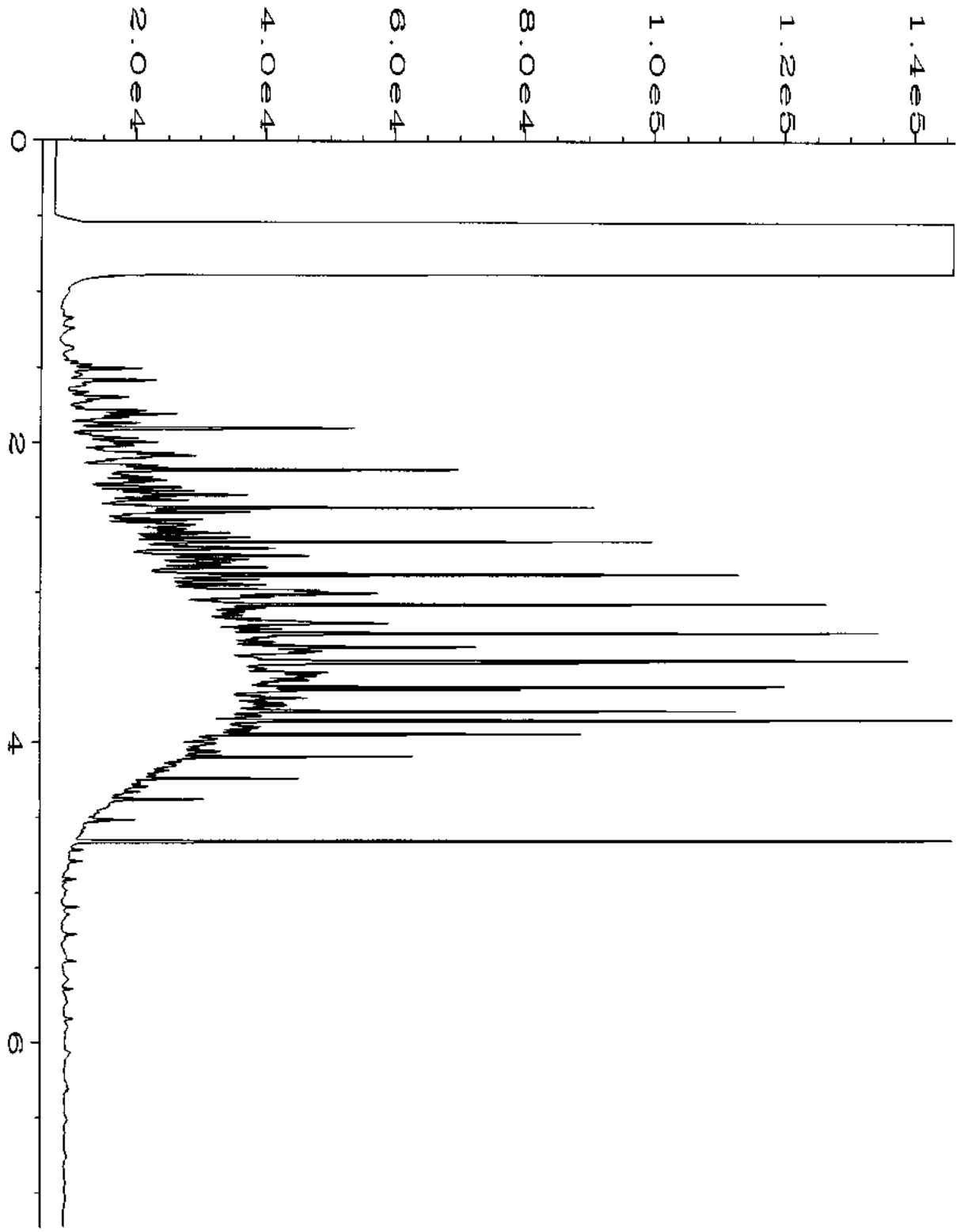
Data File Name : C:\HPCHEM\6\DATA\08-04-16\063F1201.D
Operator : mwdl
Instrument : GC1
Sample Name : 608046-32
Run Time Bar Code:
Acquired on : 04 Aug 16 09:07 PM
Report Created on: 05 Aug 16 12:05 PM

Page Number : 1
Vial Number : 63
Injection Number : 1
Sequence Line : 12
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name : C:\HPCHEM\6\DATA\08-04-16\040F1001.D
Operator : mwdl
Instrument : GC1
Sample Name : 06-1571 mb
Run Time Bar Code:
Acquired on : 04 Aug 16 04:24 PM
Report Created on: 05 Aug 16 12:05 PM

Page Number : 1
Vial Number : 40
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name : C:\HPCHEM\6\DATA\08-04-16\003F0201.D
Operator : mwdl
Instrument : GC1
Sample Name : 500 Dx 48-20B
Run Time Bar Code:
Acquired on : 04 Aug 16 07:04 AM
Report Created on: 05 Aug 16 12:05 PM

Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 2
Instrument Method: DX.MTH
Analysis Method : DX.MTH

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664

Professional Analytical Services

Aug 17 2016
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL

Dear MICHAEL ERDAHL:

Enclosed please find the analytical data for your project.

The following is a cross correlation of client and laboratory identifications for your convenience.

CLIENT ID	MATRIX	AMTEST ID	TEST
MW-13-1-2	Soil	16-A020614	NUT
MW-12-1.5-2	Soil	16-A020615	NUT
MW-14-0-0.5	Soil	16-A020616	NUT
MW-9-4-5	Soil	16-A020617	NUT
SB-1-2-3	Soil	16-A020618	NUT
MW-10-1.5-2.5	Soil	16-A020619	NUT
MW-11-1.5-2	Soil	16-A020620	NUT
SB-2-2.5-3.5	Soil	16-A020621	NUT

Your samples were received on Thursday, August 4, 2016. At the time of receipt, the samples were logged in and properly maintained prior to the subsequent analysis.

The analytical procedures used at AmTest are well documented and are typically derived from the protocols of the EPA, USDA, FDA or the Army Corps of Engineers.

Following the analytical data you will find the Quality Control (QC) results.

Please note that the detection limits that are listed in the body of the report refer to the Practical Quantitation Limits (PQL's), as opposed to the Method Detection Limits (MDL's).

If you should have any questions pertaining to the data package, please feel free to conact me.

Sincerely,

Aaron W. Young
Laboratory Manager

Project #: 608046
PO Number: E-211

BACT = Bacteriological
CONV = Conventionals
MET = Metals
ORG = Organics
NUT=Nutrients
DEM=Demand
MIN=Minerals

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

ANALYSIS REPORT

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project #: 608046
PO Number: E-211
All results reported on an as received basis.

Date Received: 08/04/16
Date Reported: 8/17/16

AMTEST Identification Number **16-A020614**
Client Identification **MW-13-1-2**
Sampling Date **08/01/16, 14:30**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	21.	ug/g		0.5	SM 4500NO3 F	MJ	08/08/16

AMTEST Identification Number **16-A020615**
Client Identification **MW-12-1.5-2**
Sampling Date **08/01/16, 16:22**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	13.	ug/g		0.5	SM 4500NO3 F	MJ	08/08/16

AMTEST Identification Number **16-A020616**
Client Identification **MW-14-0-0.5**
Sampling Date **08/01/16, 17:40**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	21.	ug/g		0.5	SM 4500NO3 F	MJ	08/08/16

AMTEST Identification Number **16-A020617**
Client Identification **MW-9-4-5**
Sampling Date **08/02/16, 09:33**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	4.1	ug/g		0.5	SM 4500NO3 F	MJ	08/08/16

AMTEST Identification Number **16-A020618**
Client Identification **SB-1-2-3**
Sampling Date **08/02/16, 10:45**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	27.	ug/g		0.5	SM 4500NO3 F	MJ	08/08/16

AMTEST Identification Number **16-A020619**
Client Identification **MW-10-1.5-2.5**
Sampling Date **08/02/16, 11:33**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	190	ug/g		0.5	SM 4500NO3 F	MJ	08/08/16

AMTEST Identification Number **16-A020620**
Client Identification **MW-11-1.5-2**
Sampling Date **08/02/16, 15:05**

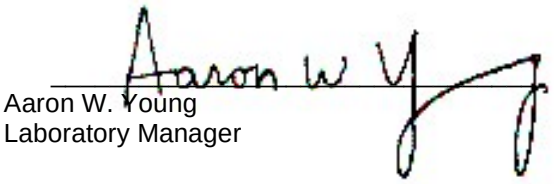
Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	200	ug/g		0.5	SM 4500NO3 F	MJ	08/08/16

AMTEST Identification Number **16-A020621**
Client Identification **SB-2-2.5-3.5**
Sampling Date **08/02/16, 17:09**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	100	ug/g		0.5	SM 4500NO3 F	MJ	08/08/16



Aaron W. Young
Laboratory Manager

Am Test Inc.
13600 NE 126th PL
Suite C
Kirkland, WA, 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

QC Summary for sample numbers: 16-A020614 to 16-A020621

DUPLICATES

SAMPLE #	ANALYTE	UNITS	SAMPLE VALUE	DUP VALUE	RPD
16-A020619	Nitrate + Nitrite	ug/g	190	230	19.
16-A020621	Nitrate + Nitrite	ug/g	100	110	9.5

STANDARD REFERENCE MATERIALS

ANALYTE	UNITS	TRUE VALUE	MEASURED VALUE	RECOVERY
Nitrate + Nitrite	ug/g	5.0	5.4	108. %
Nitrate + Nitrite	ug/g	5.0	5.3	106. %

BLANKS

ANALYTE	UNITS	RESULT
Nitrate + Nitrite	ug/g	< 0.5
Nitrate + Nitrite	ug/g	< 0.5

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER: AmTest

PROJECT NAME/NO.: 160046

PO #: E-211

REMARKS: Please Email Results

Page # 1 of 1

P.6

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins/Furans	EPH	VPH	Nitrate+ Nitrate	Sulfate	Alkalinity	TOC-9060M				Notes
						ANALYSES REQUESTED										
MW-13-1-2	20614	8/1/16	1430	soil	1				x							
MW-12-1.5-2	15	"	1622	"	"				x							
MW-14-0-0.5	16	"	1740	"	"				x							
MW-9-4-5	17	8/2/16	0933	"	"				x							
SB-1-2-3	18	"	1045	"	"				x							
MW-10-1.5-2.5	19	"	1133	"	"				x							
MW-11-1.5-2	20	"	1505	"	"				x							
SB-2-2.5-3.5	21	"	1709	"	"				x							

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman and Bruya	8/4/16	0945
Received by:		Heidi Limmer	AmTest	8/4/16	17:08
Relinquished by:					
Received by:					

fed ex

608046

SAMPLE CHAIN OF CUSTODY

ME 08-03-16

BF4/V83/M

Page # 1 of 4

Report To Erin Murray
Company Floyd|Snider
Address 601 Union St, Ste 600
City, State, ZIP Seattle, WA 98101
Phone 206-292-2078 Email erin.murray@floydsnider.com

SAMPLERS (signature)

PROJECT NAME: FP - Smelter

PO #

REMARKS: Use methods specified in project SAP

INVOICE TO

TURNAROUND TIME
- Standard Turnaround
- RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- Dispose after 30 days
- Archive samples
- Other

Sample ID	Lab ID	Time ~~Date~~ Sampled	Date ~~Time~~ Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by ~~8021B~~ 8260C	VOCs by 8260C	SVOCs by 8270D	~~naphthalene~~ PAHs 8270D SIM	Nitrate/Nitrite	As, Cd, Cr, Cu, Pb, Ni, Zn	Be (8260 DS)	MTBE, EDB, EDC, ethanol, ethanol	HOLD	Notes (X - per KA 8/3/16 MS)
MW-13-0-0.5	02 A-F	1428	8/1/2016	Soil	5		X	X	X					X				✓ per EM
MW-13-1-2	02 A-F	1430			6		X	X	X				X	X				8/16/16
MW-B-3.5-4.5	03 A-E	1440			5		X	X	X					X				
MW-13-5-6	04	1444			5												X	
MW-12-0-0.5	05	1620			5		X	X	X					X				
MW-12-~~5~~ 1.5-2	06 A-F	1622			~~6~~ 5		X	X		X	X		X	X	X			rush A+6+ per KA, MS 8/3
MW-12-~~7~~ 5-6	07 A-F	1630			10		X	X				X		X	X			rush for TPH-G+D
MW-12-7-6	08 A-E	1640			5		✓	✓	✓			✓				✓	X	Analyze
MW-14-0-0.5	09 A-F	1740			6		X	X	X				X	X				
MW-M-2-3	10 A-F	1810	↓	↓	5		X	X	X					X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Kristin Anderson	FS	8/3/16	1020
Received by:	DAKO	F+BT	8-3-16	12:00
Relinquished by:				
Received by:		Samples received at 1 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

608046

SAMPLE CHAIN OF CUSTODY

ME08-03-16

BI4 / VS3 / V1

Page # 2 of 4

Report To Erin Murray

Company see p-1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*)

PROJECT NAME: FP - Smith Kem

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- ☒ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☒ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	As, Cd, Cr, Cu, Pb, Hg, Zn	HOLD	Nitrate/Nitrite		Notes
MW-14-4-5	11 A-E	8/1/16	1815	Soil	5		X	X	X				X				
MW-14-6-7	12	↓	1820		5									X			
MW-9-0.5-1	13	8/2/16	0900		5		X	X	X				X				
MW-9-4-5	14 A-E		0933		6		X	X	X				X		X		
MW-9-7-8	15		0935		5		X	X	X				X				
MW-11-7-8	16		0937		5		X	X	X				X				
MW-9-10-11	17		0953		5									X			
SB-1-0.5-1	18		1025		5		X	X	X				X				
SB-1-2-3	19 A-E		1045		6		X	X	X				X		X		
SB-1-7-8	20	↓	1047	↓	5		X	X	X				X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Kristin Anderson	FS	8/3/16	1020
Received by:	DAVID	F+BT	8-3-16	12:00
Relinquished by:				
Received by:		Samples received at 1 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

608046

SAMPLE CHAIN OF CUSTODY

HE 08-03-16 BE4 / V3 M

Page # 3 of 4

Report To Erin Murray

Company Floyd | Snider

Address

City, State, ZIP Sea. 1

Phone Email

SAMPLERS (*signature*)

PROJECT NAME: PP - Smithkem

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- ☒ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☒ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	HOLD	RCRA Cd, Cr, Pb, Hg, Zn	Nitrate/Nitrite	8260 DS	Notes
SB-1-9-10	21 A-E	8/2/16	1057	Soil	5								X				✓ per EM 8/16/16
MW-10-0-0.5	22 T		1120		5		X	X	X					X			
MW-10-1.5-2.5	23 A-F		1133		6		X	X	X					X	X		
MW-10-4-5	24 A-E		1135		5		X	X	X					X			
MW-10-5-6	25 T		1155		5								X				DV
MW-11-0-0.5	26		1503		5		X	X	X					X			Received only one jar
MW-11-1.5-2	27 A-F		1505		6		X	X	X	X				X	X		
MW-11-7.5-8	28 A-E		1510		5		X	X	X	X	X			X			
MW-11-9-10	29 T		1515		5		✓	✓	✓	✓		✓	X			✓	
SB-2-0.5-1	30	↓	1705	↓	5		X	X	X					X			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Kristin Anderson	FS	8/3/16	1020
Received by:	DO VO	FCBI	8-3-16	12:00
Relinquished by:				
Received by:		Samples received at 1 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

608046

SAMPLE CHAIN OF CUSTODY

ME 08-03-16

BDY / 083/1

Page # 4 of 4

Report To Erin Murray

Company Floyd|Snider

Address

City, State, ZIP See p. 1

Phone Email

SAMPLERS (signature)

PROJECT NAME: FP - Smith/Lem

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- Standard Turnaround
- RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- Dispose after 30 days
- Archive Samples
- Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8260C	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	As, Cd, Cr, Pb, Hg, Zn	HOLD	Nitrate/Nitrite	Notes
SB-2-2.5-3.5	31 A-F	8/2/16	1709	soil	6		X	X	X				X		X	
SB-2-4-5	32 A-E	↓	1722	↓	5		X	X	X				X			
SB-2-7-8	33 T	↓	1730	↓	5									X		
Trip Blanks	34 A-D							X	X							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Kristin Anderson	FS	8/3/16	1020
Received by:	DO VC	F+BE	8-3-16	12:00
Relinquished by:				
Received by:		Samples received at 1 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 19, 2016

Erin Murray, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Murray:

Included are the results from the testing of material submitted on August 5, 2016 from the FP-Smith Kem T 4000, F&BI 608112 project. There are 171 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Tom Colligan, Allison Geiselbrecht
FDS0819R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 5, 2016 by Friedman & Bruya, Inc. from the Floyd-Snider FP-Smith Kem T 4000, F&BI 608112 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
608112 -01	SB-3-0.5-1
608112 -02	SB-3-2.5-3.5
608112 -03	SB-3-5.5-6.5
608112 -04	SB-3-7.0-8.0
608112 -05	SB-3-9.5-10
608112 -06	SB-4-0.5-1
608112 -07	SB-4-3-4
608112 -08	SB-4-7-8
608112 -09	SB-4-9-10
608112 -10	SB-5-0.5-1
608112 -11	SB-5-3-4
608112 -12	SB-5-5-6
608112 -13	SB-5-6.5-7.5
608112 -14	SB-6D-0-0.5
608112 -15	SB-6-0-0.5
608112 -16	SB-6-2-3
608112 -17	SB-6-7-8
608112 -18	SB-6-5-6
608112 -19	SB-7-0.5-1
608112 -20	SB-7-3-4
608112 -21	SB-7-7.5-8.5
608112 -22	SB-7-4-5
608112 -23	SB-8-0.5-1
608112 -24	SB-8-3-4
608112 -25	SB-8-4-5
608112 -26	SB-8-5-6
608112 -27	SB-9-0.5-1
608112 -28	SB-9-3-4
608112 -29	SB-9-4-5
608112 -30	SB-9-6-7
608112 -31	SB-10-0.5-1
608112 -32	SB-10-2-3
608112 -33	SB-10-9-10
608112 -34	SB-11-0.5-1
608112 -35	SB-11D-3-4
608112 -36	SB-11-3-4
608112 -37	SB-11-11.5-12.5
608112 -38	SB-11-15-16

CASE NARRATIVE (continued)

Laboratory ID	Floyd-Snider
608112 -39	SB-11-19-20
608112 -40	SB-12-0.5-1
608112 -41	SB-12-3-4
608112 -42	SB-12-4-5
608112 -43	SB-12-7.5-8.5
608112 -44	SB-13-0.5-1
608112 -45	SB-13-3-4
608112 -46	SB-13-4-5
608112 -47	SB-13-6-7
608112 -48	SB-13-13-14
608112 -49	SB-14-0.5-1
608112 -50	SB-14-4-5
608112 -51	SB-14-5-6
608112 -52	SB-14-7.5-8.5
608112 -53	SB-15-0.5-1
608112 -54	SB-15D-3-4
608112 -55	SB-15-3-4
608112 -56	SB-15-4-5
608112 -57	SB-15-8-9
608112 -58	SB-16-0.5-1
608112 -59	SB-16-3-4
608112 -60	SB-16-5-6
608112 -61	SB-16-9-10
608112 -62	SB-16-14-15
608112 -63	Rinsate-1
608112 -64	Trip Blank 1
608112 -65	Trip Blank 2
608112 -66	Trip Blank 3
608112 -67	Trip Blank 4
608112 -68	Culvert-1

Samples SB-3-0.5-1, SB-3-2.5-3.5, SB-3-5.5-6.5, SB-4-3-4, SB-6-2-3, SB-7-3-4, SB-8-3-4, SB-9-3-4, SB-10-2-3, SB-10-9-10, SB-12-3-4, SB-13-3-4, SB-14-4-5, SB-15D-3-4, SB-15-3-4, SB-16-3-4, and Culvert-1 were sent to Amtest for nitrate and nitrite analyses. The report is enclosed.

The NWTPH-Gx concentration for Trip Blank 1 was raised due to carryover from a previous sample injection. There was insufficient sample for reanalysis, therefore the data were reported.

CASE NARRATIVE (continued)

The 8270D LCS and LCSD percent recoveries exceeded control limits for several analytes. The analytes were not detected, therefore the data were considered acceptable.

All other quality control requirements were acceptable.

Review of the NWTPH-Dx chromatograms for samples SB-5-0.5-1, SB-6D-0-0.5, SB-6-0-0.5, and SB-8-0.5-1 showed the presence of a medium to high boiling material, possibly indicative of organics. Silica gel cleanup would be useful in further characterizing the nature of the material present in the samples. A pattern of peaks indicating the presence of diesel fuel was not seen in the samples.

Review of the NWTPH-Dx chromatograms for samples SB-9-0.5-1, SB12-0.5-1, SB16-0.5-1 and SB-16-3-4 showed a pattern of peaks indicating the presence of a low level of a high boiling product such as a lubrication oil. A pattern of peaks indicating the presence of diesel fuel was not seen in the samples.

Review of the NWTPH-Dx chromatograms for samples SB-10-9-10 and SB13-6-7 showed a pattern of peaks indicating a middle distillate product such as diesel fuel. A pattern of peaks indicating the presence of gasoline was not seen in the samples.

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/05/16
Date Analyzed: 08/05/16

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
Rinsate-1 608112-63	<100	93
Trip Blank 1 608112-64 1/2	<200	95
Trip Blank 2 608112-65	<100	96
Trip Blank 3 608112-66	<100	92
Trip Blank 4 608112-67	<100	94
Method Blank 06-1546 MB	<100	87

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/09/16
Date Analyzed: 08/09/16, 08/10/16, and 08/11/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB-3-0.5-1 608112-01	<2	101
SB-3-2.5-3.5 608112-02	<2	100
SB-3-5.5-6.5 608112-03	<2	102
SB-4-0.5-1 608112-06	<2	98
SB-4-3-4 608112-07	<2	102
SB-4-7-8 608112-08	<2	96
SB-5-0.5-1 608112-10	15	100
SB-5-3-4 608112-11	<2	102
SB-5-5-6 608112-12	<2	97
SB-6D-0-0.5 608112-14	2.7	99
SB-6-0-0.5 608112-15	3.3	100
SB-6-2-3 608112-16	<2	99

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/09/16
Date Analyzed: 08/09/16, 08/10/16, and 08/11/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB-6-5-6 608112-18	<2	99
SB-7-0.5-1 608112-19	<2	98
SB-7-3-4 608112-20	<2	98
SB-7-4-5 608112-22	<2	95
SB-8-0.5-1 608112-23	5.2	102
SB-8-3-4 608112-24	<2	88
SB-8-4-5 608112-25	<2	96
SB-9-0.5-1 608112-27	3.6	98
SB-9-3-4 608112-28	4.4	93
SB-9-4-5 608112-29	<2	97
SB-10-0.5-1 608112-31	4.6	102

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/09/16
Date Analyzed: 08/09/16, 08/10/16, and 08/11/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB-10-2-3 608112-32	<2	88
SB-10-9-10 608112-33 1/10	1,100	ip
SB-11-0.5-1 608112-34	27	128
SB-11D-3-4 608112-35	3.1	105
SB-11-3-4 608112-36	<2	104
SB-11-11.5-12.5 608112-37	19	107
SB-11-15-16 608112-38	<2	100
SB-11-19-20 608112-39	<2	102
SB-12-0.5-1 608112-40	4.5	107
SB-12-3-4 608112-41	<2	101
SB-12-4-5 608112-42	<2	91

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/09/16
Date Analyzed: 08/09/16, 08/10/16, and 08/11/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB-13-0.5-1 608112-44	3.5	94
SB-13-3-4 608112-45	<2	92
SB-13-4-5 608112-46	<2	92
SB-13-6-7 608112-47 1/10	1,200	139
SB-13-13-14 608112-48	<2	91
SB-14-0.5-1 608112-49	6.4	96
SB-14-4-5 608112-50	<2	90
SB-14-5-6 608112-51	2.7	101
SB-15-0.5-1 608112-53	<2	99
SB-15D-3-4 608112-54	<2	98
SB-15-3-4 608112-55	<2	98
SB-15-4-5 608112-56	<2	98

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/09/16
Date Analyzed: 08/09/16, 08/10/16, and 08/11/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB-16-0.5-1 608112-58	<2	98
SB-16-3-4 608112-59	3.1	104
SB-16-5-6 608112-60	<2	102
SB-16-9-10 608112-61	5.4	100
Culvert-1 608112-68	6.4	99
Method Blank 06-1587 MB	<2	93
Method Blank 06-1588 MB	<2	103
Method Blank 06-1589 MB	<2	97

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/08/16 and 08/09/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
SB-3-0.5-1 608112-01	<50	<250	92
SB-3-2.5-3.5 608112-02	<50	<250	98
SB-3-5.5-6.5 608112-03	<50	<250	93
SB-4-0.5-1 608112-06	<50	<250	91
SB-4-3-4 608112-07	<50	<250	91
SB-4-7-8 608112-08	<50	<250	92
SB-5-0.5-1 608112-10	150 x	420	94
SB-5-3-4 608112-11	<50	<250	94
SB-5-5-6 608112-12	<50	<250	90
SB-6D-0-0.5 608112-14	240 x	350	93
SB-6-0-0.5 608112-15	210 x	360	91
SB-6-2-3 608112-16	<50	<250	93

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/08/16 and 08/09/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
SB-6-5-6 608112-18	<50	<250	90
SB-7-0.5-1 608112-19	<50	<250	92
SB-7-3-4 608112-20	<50	<250	92
SB-7-4-5 608112-22	<50	<250	93
SB-8-0.5-1 608112-23	300 x	410	94
SB-8-3-4 608112-24	<50	<250	98
SB-8-4-5 608112-25	<50	<250	93
SB-9-0.5-1 608112-27	150 x	400	97
SB-9-3-4 608112-28	<50	<250	94
SB-9-4-5 608112-29	<50	<250	93
SB-10-0.5-1 608112-31	400	<250	94
SB-10-2-3 608112-32	<50	<250	93

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/08/16 and 08/09/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
SB-10-9-10 608112-33	3,300	<250	95
SB-11-0.5-1 608112-34	120 x	<250	96
SB-11D-3-4 608112-35	<50	<250	92
SB-11-3-4 608112-36	<50	<250	91
SB-11-11.5-12.5 608112-37	<50	<250	92
SB-11-15-16 608112-38	<50	<250	104
SB-11-19-20 608112-39	<50	<250	96
SB-12-0.5-1 608112-40	230 x	1,000	95
SB-12-3-4 608112-41	<50	280	95
SB-13-0.5-1 608112-44	<50	<250	93
SB-13-3-4 608112-45	230	<250	93
SB-13-4-5 608112-46	<50	<250	95

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/08/16 and 08/09/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
SB-13-6-7 608112-47	4,700	<250	95
SB-13-13-14 608112-48	<50	<250	105
SB-14-0.5-1 608112-49	<50	<250	94
SB-14-4-5 608112-50	<50	<250	92
SB-14-5-6 608112-51	<50	<250	95
SB-15-0.5-1 608112-53	<50	<250	92
SB-15D-3-4 608112-54	<50	<250	93
SB-15-3-4 608112-55	<50	<250	92
SB-15-4-5 608112-56	<50	<250	83
SB-16-0.5-1 608112-58	77 x	450	90
SB-16-3-4 608112-59	59 x	340	92
SB-16-5-6 608112-60	<50	<250	90

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/08/16 and 08/09/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
SB-16-9-10 608112-61	63 x	<250	93
Culvert-1 608112-68	280 x	1,700	90
Method Blank 06-1601 MB	<50	<250	97
Method Blank 06-1602 MB	<50	<250	95
Method Blank 06-1603 MB	<50	<250	94

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-3-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-01
Date Analyzed:	08/10/16	Data File:	608112-01.116
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.13
Cadmium	<1
Chromium	13.5
Copper	17.8
Lead	18.4
Zinc	50.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-3-2.5-3.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-02
Date Analyzed:	08/10/16	Data File:	608112-02.117
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.97
Cadmium	<1
Chromium	16.2
Copper	18.1
Lead	33.6
Zinc	52.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-3-5.5-6.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-03
Date Analyzed:	08/10/16	Data File:	608112-03.120
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.83
Cadmium	<1
Chromium	19.3
Copper	14.8
Lead	3.18
Zinc	28.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-4-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-06
Date Analyzed:	08/10/16	Data File:	608112-06.122
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.12
Cadmium	<1
Chromium	9.08
Copper	13.0
Lead	4.18
Zinc	31.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-4-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-07
Date Analyzed:	08/10/16	Data File:	608112-07.123
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.90
Cadmium	<1
Chromium	16.0
Copper	18.9
Lead	20.6
Zinc	83.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-4-7-8	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-08
Date Analyzed:	08/10/16	Data File:	608112-08.124
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.40
Cadmium	<1
Chromium	12.3
Copper	10.6
Lead	4.98
Zinc	30.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-5-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-10
Date Analyzed:	08/10/16	Data File:	608112-10.125
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.37
Cadmium	<1
Chromium	34.9
Copper	41.0
Lead	73.3
Zinc	328

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-5-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-11
Date Analyzed:	08/10/16	Data File:	608112-11.126
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.47
Cadmium	<1
Chromium	15.8
Copper	13.4
Lead	2.53
Zinc	29.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-5-5-6	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-12
Date Analyzed:	08/10/16	Data File:	608112-12.127
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.98
Cadmium	<1
Chromium	22.4
Copper	15.3
Lead	4.72
Zinc	35.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-6D-0-0.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-14
Date Analyzed:	08/10/16	Data File:	608112-14.128
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	10.7
Cadmium	1.82
Chromium	35.8
Copper	48.1
Lead	36.4
Zinc	322

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-6-0-0.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-15
Date Analyzed:	08/10/16	Data File:	608112-15.129
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	7.66
Cadmium	1.84
Chromium	37.0
Copper	39.9
Lead	34.8
Zinc	295

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-6-2-3	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-16
Date Analyzed:	08/10/16	Data File:	608112-16.130
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.39
Cadmium	<1
Chromium	22.7
Copper	16.3
Lead	11.4
Zinc	71.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-6-5-6	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-18
Date Analyzed:	08/10/16	Data File:	608112-18.132
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.98
Cadmium	<1
Chromium	18.8
Copper	16.2
Lead	4.21
Zinc	48.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-7-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-19
Date Analyzed:	08/10/16	Data File:	608112-19.133
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.33
Cadmium	<1
Chromium	20.5
Copper	20.7
Lead	6.60
Zinc	109

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-7-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-20
Date Analyzed:	08/10/16	Data File:	608112-20.134
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.57
Cadmium	<1
Chromium	14.2
Copper	14.6
Lead	3.01
Zinc	111

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-7-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-22
Date Analyzed:	08/10/16	Data File:	608112-22.137
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.32
Cadmium	<1
Chromium	11.8
Copper	10.4
Lead	1.71
Zinc	34.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-8-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-23
Date Analyzed:	08/10/16	Data File:	608112-23.140
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.80
Cadmium	1.09
Chromium	12.6
Copper	74.4
Lead	345
Zinc	218

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-8-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-24
Date Analyzed:	08/11/16	Data File:	608112-24.032
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.91
Cadmium	<1
Chromium	13.6
Copper	14.9
Lead	7.22
Zinc	28.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-8-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-25
Date Analyzed:	08/11/16	Data File:	608112-25.075
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.52
Cadmium	<1
Chromium	15.8
Copper	15.4
Lead	2.70
Zinc	36.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-9-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-27
Date Analyzed:	08/11/16	Data File:	608112-27.076
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.57
Cadmium	<1
Chromium	29.6
Copper	35.9
Lead	49.9
Zinc	185

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-9-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-28
Date Analyzed:	08/11/16	Data File:	608112-28.077
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.84
Cadmium	<1
Chromium	17.2
Copper	32.8
Lead	23.8
Zinc	106

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-9-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-29
Date Analyzed:	08/11/16	Data File:	608112-29.078
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.85
Cadmium	<1
Chromium	16.5
Copper	13.3
Lead	3.74
Zinc	38.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-10-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-31
Date Analyzed:	08/11/16	Data File:	608112-31.079
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.25
Cadmium	1.45
Chromium	35.8
Copper	23.6
Lead	41.4
Zinc	202

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-10-2-3	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-32
Date Analyzed:	08/11/16	Data File:	608112-32.080
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.97
Cadmium	<1
Chromium	16.6
Copper	13.3
Lead	5.47
Zinc	90.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-10-9-10	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-33
Date Analyzed:	08/11/16	Data File:	608112-33.082
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.54
Cadmium	<1
Chromium	25.4
Copper	12.1
Lead	3.98
Zinc	43.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-11-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-34
Date Analyzed:	08/11/16	Data File:	608112-34.083
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.47
Cadmium	1.00
Chromium	26.5
Copper	30.9
Lead	35.2
Zinc	227

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-11D-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-35
Date Analyzed:	08/11/16	Data File:	608112-35.084
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.73
Cadmium	<1
Chromium	27.9
Copper	23.4
Lead	21.4
Zinc	175

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-11-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-36
Date Analyzed:	08/11/16	Data File:	608112-36.085
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.75
Cadmium	1.50
Chromium	25.8
Copper	42.4
Lead	17.9
Zinc	260

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-11-11.5-12.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-37
Date Analyzed:	08/11/16	Data File:	608112-37.087
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.40
Cadmium	<1
Chromium	15.9
Copper	15.9
Lead	1.71
Zinc	27.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-11-15-16	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-38
Date Analyzed:	08/11/16	Data File:	608112-38.088
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.41
Cadmium	<1
Chromium	17.2
Copper	15.2
Lead	1.57
Zinc	24.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-11-19-20	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-39
Date Analyzed:	08/11/16	Data File:	608112-39.089
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.82
Cadmium	<1
Chromium	19.1
Copper	20.0
Lead	5.88
Zinc	36.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-12-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-40
Date Analyzed:	08/11/16	Data File:	608112-40.090
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.93
Cadmium	4.41
Chromium	38.4
Copper	31.2
Lead	75.8
Zinc	276

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-12-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-41
Date Analyzed:	08/11/16	Data File:	608112-41.091
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.74
Cadmium	<1
Chromium	19.9
Copper	16.8
Lead	12.0
Zinc	63.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-13-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-44
Date Analyzed:	08/11/16	Data File:	608112-44.092
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.36
Cadmium	<1
Chromium	17.1
Copper	26.3
Lead	79.8
Zinc	123

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-13-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-45
Date Analyzed:	08/11/16	Data File:	608112-45.093
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.24
Cadmium	<1
Chromium	15.7
Copper	13.3
Lead	5.68
Zinc	41.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-13-6-7	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-47
Date Analyzed:	08/11/16	Data File:	608112-47.097
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.60
Cadmium	<1
Chromium	18.0
Copper	14.2
Lead	2.56
Zinc	227

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-13-13-14	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-48
Date Analyzed:	08/11/16	Data File:	608112-48.098
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.99
Cadmium	<1
Chromium	30.7
Copper	20.9
Lead	3.23
Zinc	235

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-14-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-49
Date Analyzed:	08/11/16	Data File:	608112-49.099
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.66
Cadmium	<1
Chromium	20.0
Copper	27.4
Lead	21.5
Zinc	76.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-14-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-50
Date Analyzed:	08/11/16	Data File:	608112-50.100
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.94
Cadmium	<1
Chromium	13.8
Copper	16.4
Lead	1.74
Zinc	40.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-14-5-6	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-51
Date Analyzed:	08/11/16	Data File:	608112-51.103
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.62
Cadmium	<1
Chromium	20.8
Copper	16.0
Lead	4.94
Zinc	43.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-15-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-53
Date Analyzed:	08/11/16	Data File:	608112-53.107
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.67
Cadmium	<1
Chromium	14.0
Copper	23.9
Lead	20.3
Zinc	117

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-15D-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-54
Date Analyzed:	08/11/16	Data File:	608112-54.108
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.49
Cadmium	<1
Chromium	16.0
Copper	18.2
Lead	11.5
Zinc	66.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-15-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-55
Date Analyzed:	08/11/16	Data File:	608112-55.109
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.25
Cadmium	<1
Chromium	17.7
Copper	17.0
Lead	8.74
Zinc	58.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-15-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-56
Date Analyzed:	08/11/16	Data File:	608112-56.110
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.54
Cadmium	<1
Chromium	17.6
Copper	16.6
Lead	7.85
Zinc	49.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-16-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-58
Date Analyzed:	08/11/16	Data File:	608112-58.111
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.22
Cadmium	<1
Chromium	19.5
Copper	25.1
Lead	47.3
Zinc	103

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-16-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-59
Date Analyzed:	08/11/16	Data File:	608112-59.112
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.33
Cadmium	<1
Chromium	18.7
Copper	29.3
Lead	58.4
Zinc	66.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-16-5-6	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-60
Date Analyzed:	08/11/16	Data File:	608112-60.113
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.74
Cadmium	<1
Chromium	10.9
Copper	11.9
Lead	2.96
Zinc	35.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	SB-16-9-10	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-61
Date Analyzed:	08/11/16	Data File:	608112-61.117
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.53
Cadmium	<1
Chromium	15.5
Copper	14.5
Lead	2.22
Zinc	28.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	Culvert-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-68
Date Analyzed:	08/11/16	Data File:	608112-68.118
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.80
Cadmium	<1
Chromium	47.2
Copper	90.2
Lead	23.0
Zinc	198

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	I6-516 mb
Date Analyzed:	08/10/16	Data File:	I6-516 mb.114
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<5
Copper	<5
Lead	<1
Zinc	<5

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	I6-517 mb
Date Analyzed:	08/11/16	Data File:	I6-517 mb.030
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<5
Copper	<5
Lead	<1
Zinc	<5

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	I6-518 mb
Date Analyzed:	08/11/16	Data File:	I6-518 mb.028
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<5
Copper	<5
Lead	<1
Zinc	<5

Analysis For Total Metals By EPA Method 200.8

Client ID:	Rinsate-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	608112-63
Date Analyzed:	08/11/16	Data File:	608112-63.126
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	13.6
Lead	<1
Zinc	9.32

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	I6-531 mb
Date Analyzed:	08/12/16	Data File:	I6-531 mb.016
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Zinc	<5

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/09/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB-3-0.5-1 608112-01	<0.1
SB-3-2.5-3.5 608112-02	<0.1
SB-3-5.5-6.5 608112-03	<0.1
SB-4-0.5-1 608112-06	<0.1
SB-4-3-4 608112-07	<0.1
SB-4-7-8 608112-08	<0.1
SB-5-0.5-1 608112-10	0.18
SB-5-3-4 608112-11	<0.1
SB-5-5-6 608112-12	<0.1
SB-6D-0-0.5 608112-14	0.33
SB-6-0-0.5 608112-15	0.29

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/09/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB-6-2-3 608112-16	<0.1
SB-6-5-6 608112-18	<0.1
SB-7-0.5-1 608112-19	<0.1
SB-7-3-4 608112-20	<0.1
SB-7-4-5 608112-22	<0.1
SB-8-0.5-1 608112-23	0.71
SB-8-3-4 608112-24	<0.1
SB-8-4-5 608112-25	<0.1
SB-9-0.5-1 608112-27	0.19
SB-9-3-4 608112-28	0.22
SB-9-4-5 608112-29	<0.1

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/09/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB-10-0.5-1 608112-31	<0.1
SB-10-2-3 608112-32	<0.1
SB-10-9-10 608112-33	<0.1
SB-11-0.5-1 608112-34	<0.1
SB-11D-3-4 608112-35	0.13
SB-11-3-4 608112-36	0.14
SB-11-11.5-12.5 608112-37	<0.1
SB-11-15-16 608112-38	<0.1
SB-11-19-20 608112-39	<0.1
SB-12-0.5-1 608112-40	<0.1
SB-12-3-4 608112-41	<0.1

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/09/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB-13-0.5-1 608112-44	<0.1
SB-13-3-4 608112-45	<0.1
SB-13-6-7 608112-47	<0.1
SB-13-13-14 608112-48	<0.1
SB-14-0.5-1 608112-49	<0.1
SB-14-4-5 608112-50	<0.1
SB-14-5-6 608112-51	<0.1
SB-15-0.5-1 608112-53	<0.1
SB-15D-3-4 608112-54	<0.1
SB-15-3-4 608112-55	<0.1
SB-15-4-5 608112-56	<0.1

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/09/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB-16-0.5-1 608112-58	<0.1
SB-16-3-4 608112-59	0.10
SB-16-5-6 608112-60	<0.1
SB-16-9-10 608112-61	<0.1
Culvert-1 608112-68	<0.1
Method Blank i6-516 MB	<0.1
Method Blank i6-517 MB	<0.1
Method Blank i6-518 MB	<0.1

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112
Date Extracted: 08/08/16
Date Analyzed: 08/09/16

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
Rinsate-1 608112-63	<0.1
Method Blank i6-519 MB	<0.1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-3-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-01
Date Analyzed:	08/09/16	Data File:	080933.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-3-2.5-3.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-02
Date Analyzed:	08/09/16	Data File:	080934.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-3-5.5-6.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-03
Date Analyzed:	08/09/16	Data File:	080935.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-4-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-06
Date Analyzed:	08/09/16	Data File:	080936.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-4-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-07
Date Analyzed:	08/10/16	Data File:	080937.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-4-7-8	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-08
Date Analyzed:	08/10/16	Data File:	080938.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	99	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-5-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-10
Date Analyzed:	08/10/16	Data File:	080939.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	99	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-5-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-11
Date Analyzed:	08/10/16	Data File:	080940.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-5-5-6	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-12
Date Analyzed:	08/10/16	Data File:	080941.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-6D-0-0.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-14
Date Analyzed:	08/10/16	Data File:	080942.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-6-0-0.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-15
Date Analyzed:	08/10/16	Data File:	080943.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-6-2-3	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-16
Date Analyzed:	08/10/16	Data File:	080944.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	99	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-6-5-6	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-18
Date Analyzed:	08/10/16	Data File:	080945.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-7-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-19
Date Analyzed:	08/10/16	Data File:	080946.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	104	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-7-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-20
Date Analyzed:	08/10/16	Data File:	080947.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	104	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-7-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-22
Date Analyzed:	08/11/16	Data File:	081120.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-8-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-23
Date Analyzed:	08/11/16	Data File:	081128.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	0.23
Ethylbenzene	0.065
m,p-Xylene	0.24
o-Xylene	0.16

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-8-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-24
Date Analyzed:	08/11/16	Data File:	081129.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-8-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-25
Date Analyzed:	08/11/16	Data File:	081130.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	104	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-9-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-27
Date Analyzed:	08/11/16	Data File:	081131.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	104	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	0.21
Ethylbenzene	0.062
m,p-Xylene	0.23
o-Xylene	0.14

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-9-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-28
Date Analyzed:	08/12/16	Data File:	081132.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	104	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	0.26
Ethylbenzene	0.069
m,p-Xylene	0.26
o-Xylene	0.16

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-9-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-29
Date Analyzed:	08/12/16	Data File:	081133.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-10-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-31
Date Analyzed:	08/12/16	Data File:	081134.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	0.089
Ethylbenzene	<0.05
m,p-Xylene	0.14
o-Xylene	0.084

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-11-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-34
Date Analyzed:	08/12/16	Data File:	081135.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	0.037
Toluene	0.61
Ethylbenzene	0.24
m,p-Xylene	1.1
o-Xylene	0.98

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-11D-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-35
Date Analyzed:	08/12/16	Data File:	081136.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-11-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-36
Date Analyzed:	08/12/16	Data File:	081137.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-11-15-16	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-38
Date Analyzed:	08/12/16	Data File:	081138.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-11-19-20	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-39
Date Analyzed:	08/12/16	Data File:	081139.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-12-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-40
Date Analyzed:	08/12/16	Data File:	081140.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-12-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-41
Date Analyzed:	08/12/16	Data File:	081141.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-12-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-42
Date Analyzed:	08/12/16	Data File:	081142.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-13-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-44
Date Analyzed:	08/12/16	Data File:	081143.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	0.19
Ethylbenzene	<0.05
m,p-Xylene	0.24
o-Xylene	0.13

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-13-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-45
Date Analyzed:	08/12/16	Data File:	081144.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-13-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-46
Date Analyzed:	08/12/16	Data File:	081145.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-13-13-14	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-48
Date Analyzed:	08/12/16	Data File:	081146.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-14-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-49
Date Analyzed:	08/12/16	Data File:	081211.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	0.075
Ethylbenzene	0.077
m,p-Xylene	0.42
o-Xylene	0.18

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-14-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-50
Date Analyzed:	08/11/16	Data File:	081121.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	105	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-14-5-6	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-51
Date Analyzed:	08/12/16	Data File:	081212.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	104	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-15-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-53
Date Analyzed:	08/12/16	Data File:	081213.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-15D-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-54
Date Analyzed:	08/12/16	Data File:	081214.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-15-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-55
Date Analyzed:	08/12/16	Data File:	081215.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	104	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-15-4-5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-56
Date Analyzed:	08/13/16	Data File:	081253.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-16-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-58
Date Analyzed:	08/13/16	Data File:	081254.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	0.14
Ethylbenzene	<0.05
m,p-Xylene	0.17
o-Xylene	0.068

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-16-3-4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-59
Date Analyzed:	08/13/16	Data File:	081255.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-16-5-6	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-60
Date Analyzed:	08/13/16	Data File:	081256.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Culvert-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	608112-68
Date Analyzed:	08/13/16	Data File:	081257.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	0.081
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	0.051

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	06-1592 mb
Date Analyzed:	08/11/16	Data File:	081118.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	06-1590 mb
Date Analyzed:	08/09/16	Data File:	080932.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50	trans-1,3-Dichloropropene	<0.05
Dichlorodifluoromethane	<0.5	1,1,2-Trichloroethane	<0.05
Chloromethane	<0.5	2-Hexanone	<0.5
Vinyl chloride	<0.05	1,3-Dichloropropane	<0.05
Bromomethane	<0.5	Tetrachloroethene	<0.025
Chloroethane	<0.5	Dibromochloromethane	<0.05
Trichlorofluoromethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
2-Propanol	<0.5	Chlorobenzene	<0.05
Acetone	<0.5	Ethylbenzene	<0.05
1,1-Dichloroethene	<0.05	1,1,1,2-Tetrachloroethane	<0.05
Hexane	<0.25	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	<0.05
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	<0.05
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	<0.05
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	<0.03	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.02	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	<0.05		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/09/16	Lab ID:	06-1591 mb
Date Analyzed:	08/11/16	Data File:	081117.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	SB-3-0.5-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	608112-01
Date Analyzed:	08/10/16	Data File:	081022.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	110	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	SB-3-2.5-3.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	608112-02
Date Analyzed:	08/10/16	Data File:	081023.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	118	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	SB-3-5.5-6.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	608112-03
Date Analyzed:	08/10/16	Data File:	081024.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	106	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.001
Toluene	0.0018
Ethylbenzene	0.0016
m,p-Xylene	<0.002
o-Xylene	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	SB-10-2-3	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	608112-32
Date Analyzed:	08/10/16	Data File:	081025.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.005
1,2-Dichloroethane (EDC)	<0.001
1,2-Dibromoethane (EDB)	<0.001
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001
Methyl t-butyl ether (MTBE)	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	SB-10-9-10	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	608112-33
Date Analyzed:	08/10/16	Data File:	081026.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	240 ip	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.001
Toluene	0.0011
Ethylbenzene	0.0026
m,p-Xylene	<0.002
o-Xylene	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	SB-11-11.5-12.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	608112-37
Date Analyzed:	08/10/16	Data File:	081027.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.005
1,2-Dichloroethane (EDC)	<0.001
1,2-Dibromoethane (EDB)	<0.001
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001
Methyl t-butyl ether (MTBE)	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	SB-13-6-7	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	608112-47
Date Analyzed:	08/10/16	Data File:	081028.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	50	150
Toluene-d8	84	50	150
4-Bromofluorobenzene	237 ip	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	0.0016
m,p-Xylene	<0.002
o-Xylene	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	SB-16-9-10	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	608112-61
Date Analyzed:	08/10/16	Data File:	081029.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/10/16	Lab ID:	06-1594 mb
Date Analyzed:	08/10/16	Data File:	081010.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.005
1,2-Dichloroethane (EDC)	<0.001
1,2-Dibromoethane (EDB)	<0.001
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
m,p-Xylene	<0.002
o-Xylene	<0.001
Methyl t-butyl ether (MTBE)	<0.001

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Rinsate-1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/05/16	Lab ID:	608112-63
Date Analyzed:	08/05/16	Data File:	080528.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip Blank 1	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/05/16	Lab ID:	608112-64
Date Analyzed:	08/05/16	Data File:	080524.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip Blank 2	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/05/16	Lab ID:	608112-65
Date Analyzed:	08/05/16	Data File:	080525.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip Blank 3	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/05/16	Lab ID:	608112-66
Date Analyzed:	08/05/16	Data File:	080526.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip Blank 4	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/05/16	Lab ID:	608112-67
Date Analyzed:	08/05/16	Data File:	080527.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/05/16	Lab ID:	06-1582 mb
Date Analyzed:	08/05/16	Data File:	080513.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-6-2-3	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-16
Date Analyzed:	08/09/16	Data File:	080906.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	80	31	163
Benzo(a)anthracene-d12	94	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.0076
Acenaphthylene	<0.002
Acenaphthene	<0.002
Fluorene	<0.002
Phenanthrene	0.0097
Anthracene	<0.002
Fluoranthene	0.0076
Pyrene	0.0081
Benz(a)anthracene	0.0026
Chrysene	0.0049
Benzo(a)pyrene	0.0021
Benzo(b)fluoranthene	0.0048
Benzo(k)fluoranthene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Dibenz(a,h)anthracene	<0.002
Benzo(g,h,i)perylene	0.0021
1-Methylnaphthalene	0.011
2-Methylnaphthalene	0.012

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-10-2-3	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-32
Date Analyzed:	08/09/16	Data File:	080908.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	84	31	163
Benzo(a)anthracene-d12	96	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.0056
2-Methylnaphthalene	0.011
1-Methylnaphthalene	0.0080
Benz(a)anthracene	<0.002
Chrysene	0.0023
Benzo(a)pyrene	<0.002
Benzo(b)fluoranthene	0.0020
Benzo(k)fluoranthene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Dibenz(a,h)anthracene	<0.002

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-11-11.5-12.5	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-37
Date Analyzed:	08/09/16	Data File:	080909.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	80	31	163
Benzo(a)anthracene-d12	96	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.002
2-Methylnaphthalene	<0.002
1-Methylnaphthalene	<0.002
Benz(a)anthracene	<0.002
Chrysene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)fluoranthene	<0.002
Benzo(k)fluoranthene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Dibenz(a,h)anthracene	<0.002

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-13-6-7	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-47 1/10
Date Analyzed:	08/10/16	Data File:	081005.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	92 d	31	160
Benzo(a)anthracene-d12	91 d	25	165

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.02
2-Methylnaphthalene	<0.02
1-Methylnaphthalene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	06-1617 mb
Date Analyzed:	08/09/16	Data File:	080905.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	67	31	163
Benzo(a)anthracene-d12	87	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.002
Acenaphthylene	<0.002
Acenaphthene	<0.002
Fluorene	<0.002
Phenanthrene	<0.002
Anthracene	<0.002
Fluoranthene	<0.002
Pyrene	<0.002
Benz(a)anthracene	<0.002
Chrysene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)fluoranthene	<0.002
Benzo(k)fluoranthene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Dibenz(a,h)anthracene	<0.002
Benzo(g,h,i)perylene	<0.002
1-Methylnaphthalene	<0.002
2-Methylnaphthalene	<0.002

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-6-2-3	Client:	Floyd-Snider
Date Received:	08/05/16	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	608112-16
Date Analyzed:	08/09/16	Data File:	080908.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	95	56	115
Phenol-d6	96	54	113
Nitrobenzene-d5	106	31	164
2-Fluorobiphenyl	85	47	133
2,4,6-Tribromophenol	117	35	141
Terphenyl-d14	97	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	Hexachlorocyclopentadiene	<0.03
Bis(2-chloroethyl) ether	<0.01	2,4,6-Trichlorophenol	<0.1
2-Chlorophenol	<0.1	2,4,5-Trichlorophenol	<0.1
1,3-Dichlorobenzene	<0.01	2-Chloronaphthalene	<0.01
1,4-Dichlorobenzene	<0.01	2-Nitroaniline	<0.05
1,2-Dichlorobenzene	<0.01	Dimethyl phthalate	<0.1
Benzyl alcohol	<0.1	2,6-Dinitrotoluene	<0.05
Bis(2-chloroisopropyl) ether	<0.01	3-Nitroaniline	<1
2-Methylphenol	<0.1	2,4-Dinitrophenol	<0.3
Hexachloroethane	<0.01	Dibenzofuran	<0.01
N-Nitroso-di-n-propylamine	<0.01	2,4-Dinitrotoluene	<0.05
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitrophenol	<0.3
Nitrobenzene	<0.01	Diethyl phthalate	<0.1
Isophorone	<0.01	4-Chlorophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	N-Nitrosodiphenylamine	<0.01
2,4-Dimethylphenol	<0.1	4-Nitroaniline	<1
Benzoic acid	<0.5	4,6-Dinitro-2-methylphenol	<0.3
Bis(2-chloroethoxy)methane	<0.01	4-Bromophenyl phenyl ether	<0.01
2,4-Dichlorophenol	<0.1	Hexachlorobenzene	<0.01
1,2,4-Trichlorobenzene	<0.01	Pentachlorophenol	<0.1
Hexachlorobutadiene	<0.01	Carbazole	<0.1
4-Chloroaniline	<1	Di-n-butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benzyl butyl phthalate	<0.1
		Bis(2-ethylhexyl) phthalate	0.19 fc
		Di-n-octyl phthalate	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith Kem T 4000, F&BI 608112
Date Extracted:	08/08/16	Lab ID:	06-1616 mb
Date Analyzed:	08/09/16	Data File:	080905.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	106	56	115
Phenol-d6	107	54	113
Nitrobenzene-d5	121	31	164
2-Fluorobiphenyl	100	47	133
2,4,6-Tribromophenol	95	35	141
Terphenyl-d14	107	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	Hexachlorocyclopentadiene	<0.03
Bis(2-chloroethyl) ether	<0.01	2,4,6-Trichlorophenol	<0.1
2-Chlorophenol	<0.1	2,4,5-Trichlorophenol	<0.1
1,3-Dichlorobenzene	<0.01	2-Chloronaphthalene	<0.01
1,4-Dichlorobenzene	<0.01	2-Nitroaniline	<0.05
1,2-Dichlorobenzene	<0.01	Dimethyl phthalate	<0.1
Benzyl alcohol	<0.1	2,6-Dinitrotoluene	<0.05
Bis(2-chloroisopropyl) ether	<0.01	3-Nitroaniline	<1
2-Methylphenol	<0.1	2,4-Dinitrophenol	<0.3
Hexachloroethane	<0.01	Dibenzofuran	<0.01
N-Nitroso-di-n-propylamine	<0.01	2,4-Dinitrotoluene	<0.05
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitrophenol	<0.3
Nitrobenzene	<0.01	Diethyl phthalate	<0.1
Isophorone	<0.01	4-Chlorophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	N-Nitrosodiphenylamine	<0.01
2,4-Dimethylphenol	<0.1	4-Nitroaniline	<1
Benzoic acid	<0.5	4,6-Dinitro-2-methylphenol	<0.3
Bis(2-chloroethoxy)methane	<0.01	4-Bromophenyl phenyl ether	<0.01
2,4-Dichlorophenol	<0.1	Hexachlorobenzene	<0.01
1,2,4-Trichlorobenzene	<0.01	Pentachlorophenol	<0.1
Hexachlorobutadiene	<0.01	Carbazole	<0.1
4-Chloroaniline	<1	Di-n-butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benzyl butyl phthalate	<0.1
		Bis(2-ethylhexyl) phthalate	<0.16
		Di-n-octyl phthalate	<0.1

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 608089-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	89	70-119

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 608112-22 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	mg/kg (ppm)	20	<2	85	90	50-150	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	100	71-131

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 608112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	mg/kg (ppm)	20	<2	105	95	50-143	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	110	61-153

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 608112-50 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	mg/kg (ppm)	20	<2	90	90	50-150	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 608112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	127	90	88	63-146	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	88	79-144

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 608112-50 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	91	91	63-146	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	90	79-144

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 608112-22 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	89	93	63-146	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	89	79-144

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 608112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	1.65	81	83	70-130	2
Cadmium	mg/kg (ppm)	10	<1	102	101	70-130	1
Chromium	mg/kg (ppm)	50	13.6	91	88	70-130	3
Copper	mg/kg (ppm)	50	15.2	90	92	70-130	2
Lead	mg/kg (ppm)	50	28.3	82	78	70-130	5
Zinc	mg/kg (ppm)	50	44.3	76	79	70-130	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	86	85-115
Cadmium	mg/kg (ppm)	10	102	85-115
Chromium	mg/kg (ppm)	50	112	85-115
Copper	mg/kg (ppm)	50	115	85-115
Lead	mg/kg (ppm)	50	103	85-115
Zinc	mg/kg (ppm)	50	110	85-115

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 608112-22 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	1.24	82	81	70-130	1
Cadmium	mg/kg (ppm)	10	<1	103	101	70-130	2
Chromium	mg/kg (ppm)	50	11.1	94	93	70-130	1
Copper	mg/kg (ppm)	50	9.74	98	100	70-130	2
Lead	mg/kg (ppm)	50	1.60	97	95	70-130	2
Zinc	mg/kg (ppm)	50	32.9	93	104	70-130	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	105	85-115
Cadmium	mg/kg (ppm)	10	110	85-115
Chromium	mg/kg (ppm)	50	115	85-115
Copper	mg/kg (ppm)	50	112	85-115
Lead	mg/kg (ppm)	50	109	85-115
Zinc	mg/kg (ppm)	50	107	85-115

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 608112-50 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<10	115	114	70-130	1
Cadmium	mg/kg (ppm)	10	<10	105	105	70-130	0
Chromium	mg/kg (ppm)	50	<50	104	103	70-130	1
Copper	mg/kg (ppm)	50	<50	104	107	70-130	3
Lead	mg/kg (ppm)	50	<10	108	109	70-130	1
Zinc	mg/kg (ppm)	50	<50	105	103	70-130	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	101	85-115
Cadmium	mg/kg (ppm)	10	108	85-115
Chromium	mg/kg (ppm)	50	111	85-115
Copper	mg/kg (ppm)	50	109	85-115
Lead	mg/kg (ppm)	50	107	85-115
Zinc	mg/kg (ppm)	50	102	85-115

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 607514-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	106	107	70-130	1
Cadmium	ug/L (ppb)	5	<1	103	104	70-130	1
Chromium	ug/L (ppb)	20	<1	104	104	70-130	0
Copper	ug/L (ppb)	20	608	149 b	82 b	70-130	58 b
Lead	ug/L (ppb)	10	7.60	97	93	70-130	4
Zinc	ug/L (ppb)	50	229	108	105	70-130	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	98	85-115
Cadmium	ug/L (ppb)	5	108	85-115
Chromium	ug/L (ppb)	20	109	85-115
Copper	ug/L (ppb)	20	107	85-115
Lead	ug/L (ppb)	10	111	85-115
Zinc	ug/L (ppb)	50	110	85-115

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 608112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.1	129 vo	131 vo	71-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	114	68-125

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 608112-22 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.1	110	109	71-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	109	68-125

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 608112-50 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.1	111	107	71-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	114	68-125

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 608112-63 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.5	<0.1	101	102	71-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.5	104	79-120

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 608112-50 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	2.5	<0.03	87	87	29-129	0
Toluene	mg/kg (ppm)	2.5	<0.05	85	85	35-130	0
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	87	86	32-137	1
m,p-Xylene	mg/kg (ppm)	5	<0.1	91	89	34-136	2
o-Xylene	mg/kg (ppm)	2.5	<0.05	90	90	33-134	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	2.5	93	68-114
Toluene	mg/kg (ppm)	2.5	90	66-126
Ethylbenzene	mg/kg (ppm)	2.5	92	64-123
m,p-Xylene	mg/kg (ppm)	5	95	78-122
o-Xylene	mg/kg (ppm)	2.5	94	77-124

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 608112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	2.5	<0.03	80	77	29-129	4
Toluene	mg/kg (ppm)	2.5	<0.05	79	77	35-130	3
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	82	79	32-137	4
m,p-Xylene	mg/kg (ppm)	5	<0.1	85	82	34-136	4
o-Xylene	mg/kg (ppm)	2.5	<0.05	85	82	33-134	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	2.5	92	68-114
Toluene	mg/kg (ppm)	2.5	91	66-126
Ethylbenzene	mg/kg (ppm)	2.5	92	64-123
m,p-Xylene	mg/kg (ppm)	5	95	78-122
o-Xylene	mg/kg (ppm)	2.5	95	77-124

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 608112-22 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	2.5	<0.03	83	84	29-129	1
Toluene	mg/kg (ppm)	2.5	<0.05	83	82	35-130	1
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	84	83	32-137	1
m,p-Xylene	mg/kg (ppm)	5	<0.1	87	86	34-136	1
o-Xylene	mg/kg (ppm)	2.5	<0.05	87	86	33-134	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	2.5	94	68-114
Toluene	mg/kg (ppm)	2.5	92	66-126
Ethylbenzene	mg/kg (ppm)	2.5	93	64-123
m,p-Xylene	mg/kg (ppm)	5	96	78-122
o-Xylene	mg/kg (ppm)	2.5	96	77-124

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE

Laboratory Code: 608046-07 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
Hexane	mg/kg (ppm)	<0.005	<0.005	nm
1,2-Dichloroethane (EDC)	mg/kg (ppm)	<0.001	<0.001	nm
Benzene	mg/kg (ppm)	<0.001	<0.001	nm
Toluene	mg/kg (ppm)	<0.001	0.0011	nm
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.001	<0.001	nm
Ethylbenzene	mg/kg (ppm)	<0.001	<0.001	nm
m,p-Xylene	mg/kg (ppm)	<0.002	<0.002	nm
o-Xylene	mg/kg (ppm)	0.0013 a	0.0021 a	47 a
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	<0.001	<0.001	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Hexane	mg/kg (ppm)	0.05	98	87	70-130	12
1,2-Dichloroethane (EDC)	mg/kg (ppm)	0.05	93	81	69-137	14
Benzene	mg/kg (ppm)	0.05	97	85	67-138	13
Toluene	mg/kg (ppm)	0.05	96	89	12-185	8
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	95	86	70-130	10
Ethylbenzene	mg/kg (ppm)	0.05	93	84	70-130	10
m,p-Xylene	mg/kg (ppm)	0.1	95	85	70-130	11
o-Xylene	mg/kg (ppm)	0.05	97	89	70-130	9
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	0.05	94	83	49-148	12

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 608112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	23	23	10-142	0
Chloromethane	mg/kg (ppm)	2.5	<0.5	49	46	10-126	6
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	52	52	10-138	0
Bromomethane	mg/kg (ppm)	2.5	<0.5	68	64	10-163	6
Chloroethane	mg/kg (ppm)	2.5	<0.5	69	66	10-176	4
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	63	62	10-176	2
Acetone	mg/kg (ppm)	12.5	<0.5	81	74	10-163	9
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	72	70	10-160	3
Hexane	mg/kg (ppm)	2.5	<0.25	58	55	10-137	5
Methylene chloride	mg/kg (ppm)	2.5	<0.5	84	80	10-156	5
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	84	80	21-145	5
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	76	74	14-137	3
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	81	77	19-140	5
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	93	88	10-158	6
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	80	77	25-135	4
Chloroform	mg/kg (ppm)	2.5	<0.05	83	80	21-145	4
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	89	85	19-147	5
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	80	77	12-160	4
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	80	76	10-156	5
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	79	76	17-140	4
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	83	79	9-164	5
Benzene	mg/kg (ppm)	2.5	<0.03	80	77	29-129	4
Trichloroethene	mg/kg (ppm)	2.5	<0.02	80	78	21-139	3
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	83	80	30-135	4
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	86	82	23-155	5
Dibromomethane	mg/kg (ppm)	2.5	<0.05	84	81	23-145	4
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	88	84	24-155	5
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	85	82	28-144	4
Toluene	mg/kg (ppm)	2.5	<0.05	79	77	35-130	3
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	85	82	26-149	4
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	83	81	10-205	2
2-Hexanone	mg/kg (ppm)	12.5	<0.5	85	83	15-166	2
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	84	81	31-137	4
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	84	81	20-133	4
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	87	84	28-150	4
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	84	81	28-142	4
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	84	81	32-129	4
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	82	79	32-137	4
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	87	85	31-143	2
m,p-Xylene	mg/kg (ppm)	5	<0.1	85	82	34-136	4
o-Xylene	mg/kg (ppm)	2.5	<0.05	85	82	33-134	4
Styrene	mg/kg (ppm)	2.5	<0.05	85	82	35-137	4
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	84	82	31-142	2
Bromoform	mg/kg (ppm)	2.5	<0.05	83	80	21-156	4
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	83	79	23-146	5
Bromobenzene	mg/kg (ppm)	2.5	<0.05	85	82	34-130	4
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	82	78	18-149	5
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	82	77	28-140	6
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	86	81	25-144	6
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	82	79	31-134	4
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	81	77	31-136	5
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	82	78	30-137	5
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	81	78	10-182	4
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	81	78	23-145	4
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	81	78	21-149	4
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	85	81	30-131	5
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	84	80	29-129	5
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	86	82	31-132	5
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	86	82	11-161	5
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	83	79	22-142	5
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	81	78	10-142	4
Naphthalene	mg/kg (ppm)	2.5	<0.05	82	79	14-157	4
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	83	79	20-144	5

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	44	10-146
Chloromethane	mg/kg (ppm)	2.5	61	27-133
Vinyl chloride	mg/kg (ppm)	2.5	72	22-139
Bromomethane	mg/kg (ppm)	2.5	76	38-114
Chloroethane	mg/kg (ppm)	2.5	83	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	36	10-196
Acetone	mg/kg (ppm)	12.5	96	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	90	47-128
Hexane	mg/kg (ppm)	2.5	88	43-142
Methylene chloride	mg/kg (ppm)	2.5	98	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	95	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	91	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	93	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	106	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	92	72-113
Chloroform	mg/kg (ppm)	2.5	94	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	102	57-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	92	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	93	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	92	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	99	60-139
Benzene	mg/kg (ppm)	2.5	92	68-114
Trichloroethene	mg/kg (ppm)	2.5	90	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	95	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	98	72-130
Dibromomethane	mg/kg (ppm)	2.5	96	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	97	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	97	75-136
Toluene	mg/kg (ppm)	2.5	91	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	96	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	93	75-113
2-Hexanone	mg/kg (ppm)	12.5	93	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	95	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	97	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	99	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	94	74-132
Chlorobenzene	mg/kg (ppm)	2.5	94	76-111
Ethylbenzene	mg/kg (ppm)	2.5	92	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	100	69-135
m,p-Xylene	mg/kg (ppm)	5	95	78-122
o-Xylene	mg/kg (ppm)	2.5	95	77-124
Styrene	mg/kg (ppm)	2.5	94	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	94	76-127
Bromoform	mg/kg (ppm)	2.5	96	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	94	74-124
Bromobenzene	mg/kg (ppm)	2.5	96	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	94	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	94	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	95	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	94	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	91	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	94	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	92	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	92	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	91	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	94	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	95	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	95	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	97	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	92	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	91	50-153
Naphthalene	mg/kg (ppm)	2.5	91	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	93	63-138

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 608088-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Benzene	ug/L (ppb)	50	<0.35	90	76-125
Toluene	ug/L (ppb)	50	<1	90	76-122
Ethylbenzene	ug/L (ppb)	50	<1	89	69-135
m,p-Xylene	ug/L (ppb)	100	<2	92	69-135
o-Xylene	ug/L (ppb)	50	<1	91	60-140

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	ug/L (ppb)	50	94	91	69-134	3
Toluene	ug/L (ppb)	50	100	98	72-122	2
Ethylbenzene	ug/L (ppb)	50	99	97	77-124	2
m,p-Xylene	ug/L (ppb)	100	99	97	83-125	2
o-Xylene	ug/L (ppb)	50	100	97	81-121	3

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 608112-16 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	0.0070	83	44-129
2-Methylnaphthalene	mg/kg (ppm)	0.17	0.011	92	45-135
1-Methylnaphthalene	mg/kg (ppm)	0.17	0.010	91	40-141
Acenaphthylene	mg/kg (ppm)	0.17	<0.002	73	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.002	71	51-123
Fluorene	mg/kg (ppm)	0.17	<0.002	77	37-137
Phenanthrene	mg/kg (ppm)	0.17	0.0089	82	34-141
Anthracene	mg/kg (ppm)	0.17	<0.002	78	32-124
Fluoranthene	mg/kg (ppm)	0.17	0.0070	87	16-160
Pyrene	mg/kg (ppm)	0.17	0.0075	89	10-180
Benz(a)anthracene	mg/kg (ppm)	0.17	0.0024	79	23-144
Chrysene	mg/kg (ppm)	0.17	0.0045	85	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.0044	87	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.002	90	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	0.0020	83	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.002	84	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.002	84	31-146
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	0.0019	76	37-133

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	83	84	58-121	1
2-Methylnaphthalene	mg/kg (ppm)	0.17	83	86	58-123	4
1-Methylnaphthalene	mg/kg (ppm)	0.17	83	85	60-124	2
Acenaphthylene	mg/kg (ppm)	0.17	73	75	54-121	3
Acenaphthene	mg/kg (ppm)	0.17	72	74	54-123	3
Fluorene	mg/kg (ppm)	0.17	72	75	56-127	4
Phenanthrene	mg/kg (ppm)	0.17	82	84	55-122	2
Anthracene	mg/kg (ppm)	0.17	72	76	50-120	5
Fluoranthene	mg/kg (ppm)	0.17	80	83	54-129	4
Pyrene	mg/kg (ppm)	0.17	87	85	53-127	2
Benz(a)anthracene	mg/kg (ppm)	0.17	76	77	51-115	1
Chrysene	mg/kg (ppm)	0.17	86	87	55-129	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	88	90	56-123	2
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	91	91	54-131	0
Benzo(a)pyrene	mg/kg (ppm)	0.17	72	76	51-118	5
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	93	94	49-148	1
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	94	95	50-141	1
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	87	89	52-131	2

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270D

Laboratory Code: 608046-28 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Phenol	mg/kg (ppm)	0.33	<0.1	94	50-150
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	<0.01	93	50-150
2-Chlorophenol	mg/kg (ppm)	0.33	<0.1	105	44-133
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	93	50-150
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	88	50-150
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	<0.01	92	50-150
Benzyl alcohol	mg/kg (ppm)	0.33	<0.1	107	50-150
Bis(2-chloroisopropyl) ether	mg/kg (ppm)	0.33	<0.01	93	50-150
2-Methylphenol	mg/kg (ppm)	0.33	<0.1	95	42-143
Hexachloroethane	mg/kg (ppm)	0.33	<0.01	96	31-132
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	<0.01	116	50-150
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	<0.2	103	10-250
Nitrobenzene	mg/kg (ppm)	0.33	<0.01	151 vo	50-150
Isophorone	mg/kg (ppm)	0.33	<0.01	183 vo	50-150
2-Nitrophenol	mg/kg (ppm)	0.33	<0.1	78	29-152
2,4-Dimethylphenol	mg/kg (ppm)	0.33	<0.1	131	16-163
Benzoic acid	mg/kg (ppm)	0.5	<0.5	93	10-250
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	<0.01	89	50-150
2,4-Dichlorophenol	mg/kg (ppm)	0.33	<0.1	134	39-145
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	<0.01	117	50-150
Hexachlorobutadiene	mg/kg (ppm)	0.33	<0.01	118	50-150
4-Chloroaniline	mg/kg (ppm)	0.66	<1	76	23-110
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	<0.1	114	50-150
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	<0.03	97	10-151
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	<0.1	130	38-149
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	<0.1	100	50-150
2-Chloronaphthalene	mg/kg (ppm)	0.33	<0.01	90	50-150
2-Nitroaniline	mg/kg (ppm)	0.33	<0.05	91	50-150
Dimethyl phthalate	mg/kg (ppm)	0.33	<0.1	101	50-150
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	<0.05	122	50-150
3-Nitroaniline	mg/kg (ppm)	0.66	<1	79	23-119
2,4-Dinitrophenol	mg/kg (ppm)	0.33	<0.3	100	10-162
Dibenzofuran	mg/kg (ppm)	0.33	<0.01	99	47-149
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	<0.05	91	50-150
4-Nitrophenol	mg/kg (ppm)	0.33	<0.3	116	10-179
Diethyl phthalate	mg/kg (ppm)	0.33	<0.1	105	50-150
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	<0.01	99	50-150
N-Nitrosodiphenylamine	mg/kg(ppm)	0.33	<0.01	119	50-150
4-Nitroaniline	mg/kg (ppm)	0.66	<1	112	32-135
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	<0.3	105	10-170
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	<0.01	104	50-150
Hexachlorobenzene	mg/kg (ppm)	0.33	<0.01	97	50-150
Pentachlorophenol	mg/kg (ppm)	0.33	<0.1	110	12-160
Carbazole	mg/kg (ppm)	0.33	<0.1	117	50-150
Di-n-butyl phthalate	mg/kg (ppm)	0.33	<0.1	117	50-150
Benzyl butyl phthalate	mg/kg (ppm)	0.33	<0.1	115	50-150
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	<0.16	98	10-250
Di-n-octyl phthalate	mg/kg (ppm)	0.33	<0.1	114	54-161

Date of Report: 08/19/16
Date Received: 08/05/16
Project: FP-Smith Kem T 4000, F&BI 608112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	mg/kg (ppm)	0.33	105	108	51-119	3
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	98	101	60-112	3
2-Chlorophenol	mg/kg (ppm)	0.33	113	120 vo	59-114	6
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	98	101	62-113	3
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	96	100	61-114	4
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	98	101	61-113	3
Benzyl alcohol	mg/kg (ppm)	0.33	117	121 vo	50-119	3
Bis(2-chloroisopropyl) ether	mg/kg (ppm)	0.33	96	99	59-113	3
2-Methylphenol	mg/kg (ppm)	0.33	102	106	58-115	4
Hexachloroethane	mg/kg (ppm)	0.33	105	111	63-114	6
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	107	110	62-114	3
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	110	115	54-120	4
Nitrobenzene	mg/kg (ppm)	0.33	116 vo	125 vo	59-114	7
Isophorone	mg/kg (ppm)	0.33	103	110	61-113	7
2-Nitrophenol	mg/kg (ppm)	0.33	102	114	59-114	11
2,4-Dimethylphenol	mg/kg (ppm)	0.33	88	90	54-107	2
Benzoic acid	mg/kg (ppm)	0.5	109	118	43-150	8
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	100	106	60-114	6
2,4-Dichlorophenol	mg/kg (ppm)	0.33	113	121 vo	57-118	7
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	99	102	56-112	3
Hexachlorobutadiene	mg/kg (ppm)	0.33	98	102	60-116	4
4-Chloroaniline	mg/kg (ppm)	0.66	43	51	10-126	17
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	107	118 vo	59-115	10
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	107	107	41-107	0
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	116	122 vo	47-119	5
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	108	115	61-121	6
2-Chloronaphthalene	mg/kg (ppm)	0.33	99	100	58-114	1
2-Nitroaniline	mg/kg (ppm)	0.33	106	117	55-119	10
Dimethyl phthalate	mg/kg (ppm)	0.33	113	124 vo	58-116	9
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	104	115	57-119	10
3-Nitroaniline	mg/kg (ppm)	0.66	85	96	10-143	12
2,4-Dinitrophenol	mg/kg (ppm)	0.33	110	117	40-122	6
Dibenzofuran	mg/kg (ppm)	0.33	100	106	56-115	6
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	105	115	53-126	9
4-Nitrophenol	mg/kg (ppm)	0.33	112	119	40-124	6
Diethyl phthalate	mg/kg (ppm)	0.33	113	125 vo	57-116	10
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	100	105	54-119	5
N-Nitrosodiphenylamine	mg/kg (ppm)	0.33	94	100	54-113	6
4-Nitroaniline	mg/kg (ppm)	0.66	93	99	47-109	6
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	105	112	55-147	6
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	101	104	56-116	3
Hexachlorobenzene	mg/kg (ppm)	0.33	98	101	57-115	3
Pentachlorophenol	mg/kg (ppm)	0.33	108	114	45-123	5
Carbazole	mg/kg (ppm)	0.33	91	99	57-116	8
Di-n-butyl phthalate	mg/kg (ppm)	0.33	116	126 vo	56-118	8
Benzyl butyl phthalate	mg/kg (ppm)	0.33	108	117	56-122	8
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	103	111	56-155	7
Di-n-octyl phthalate	mg/kg (ppm)	0.33	111	116	58-120	4

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

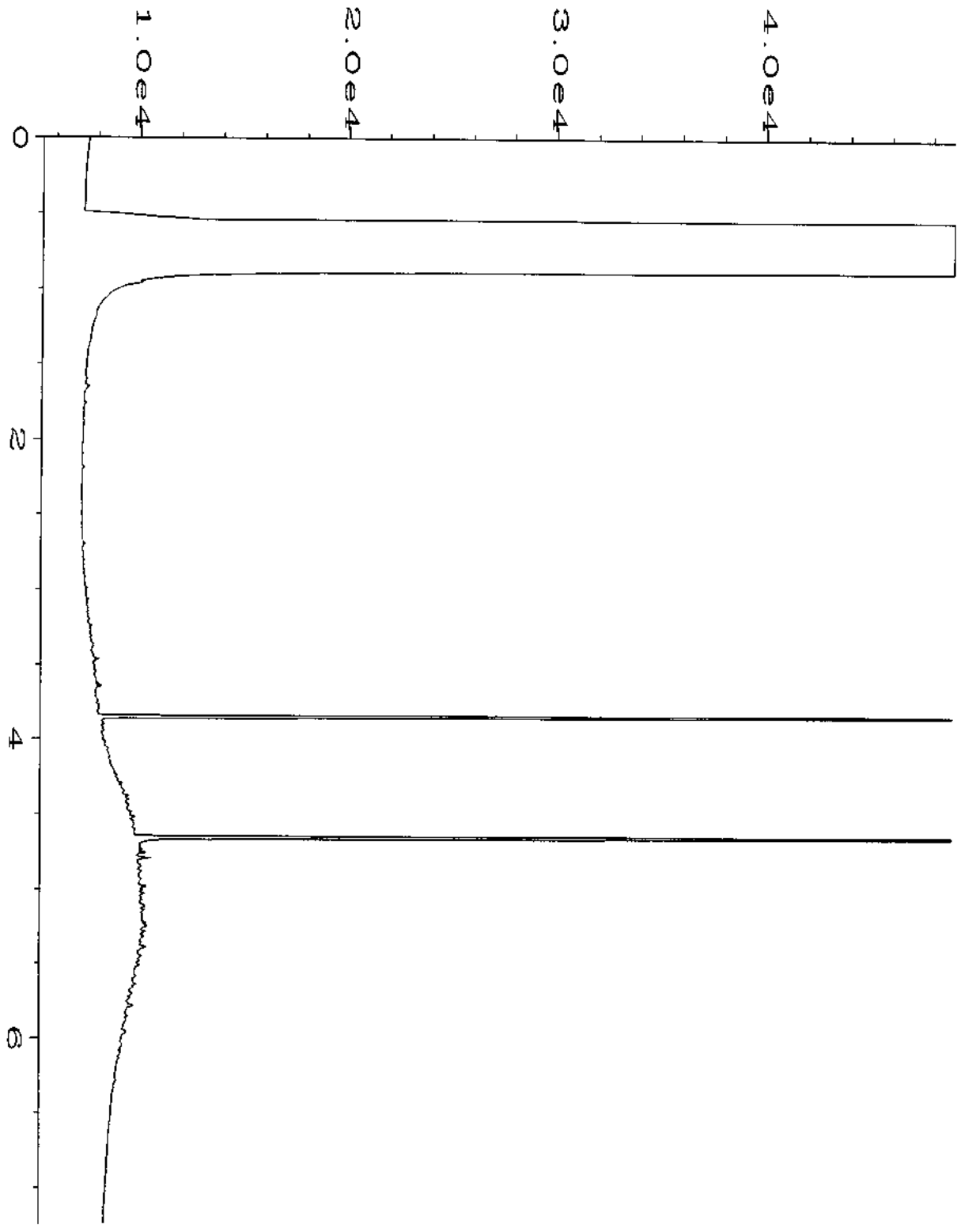
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

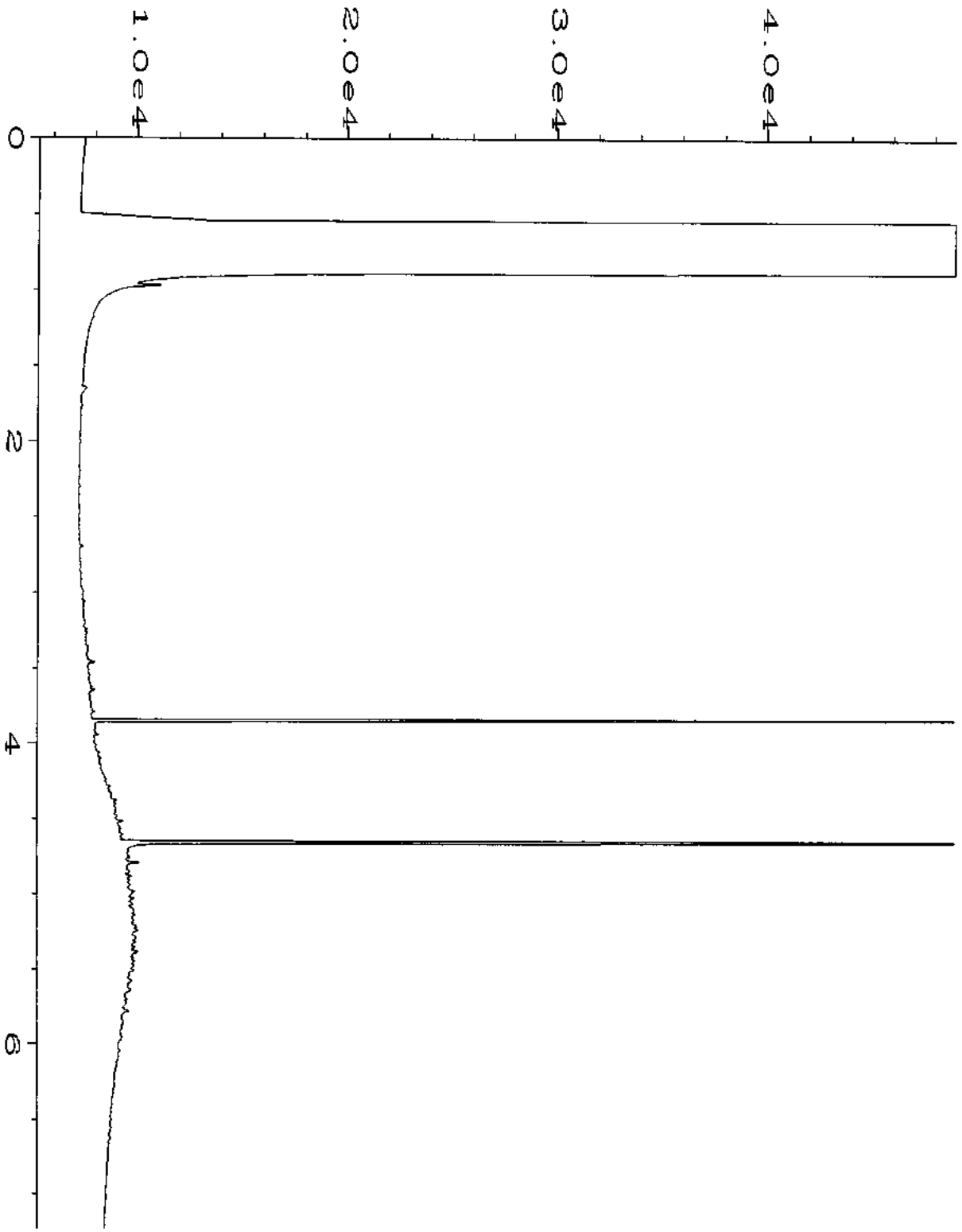
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

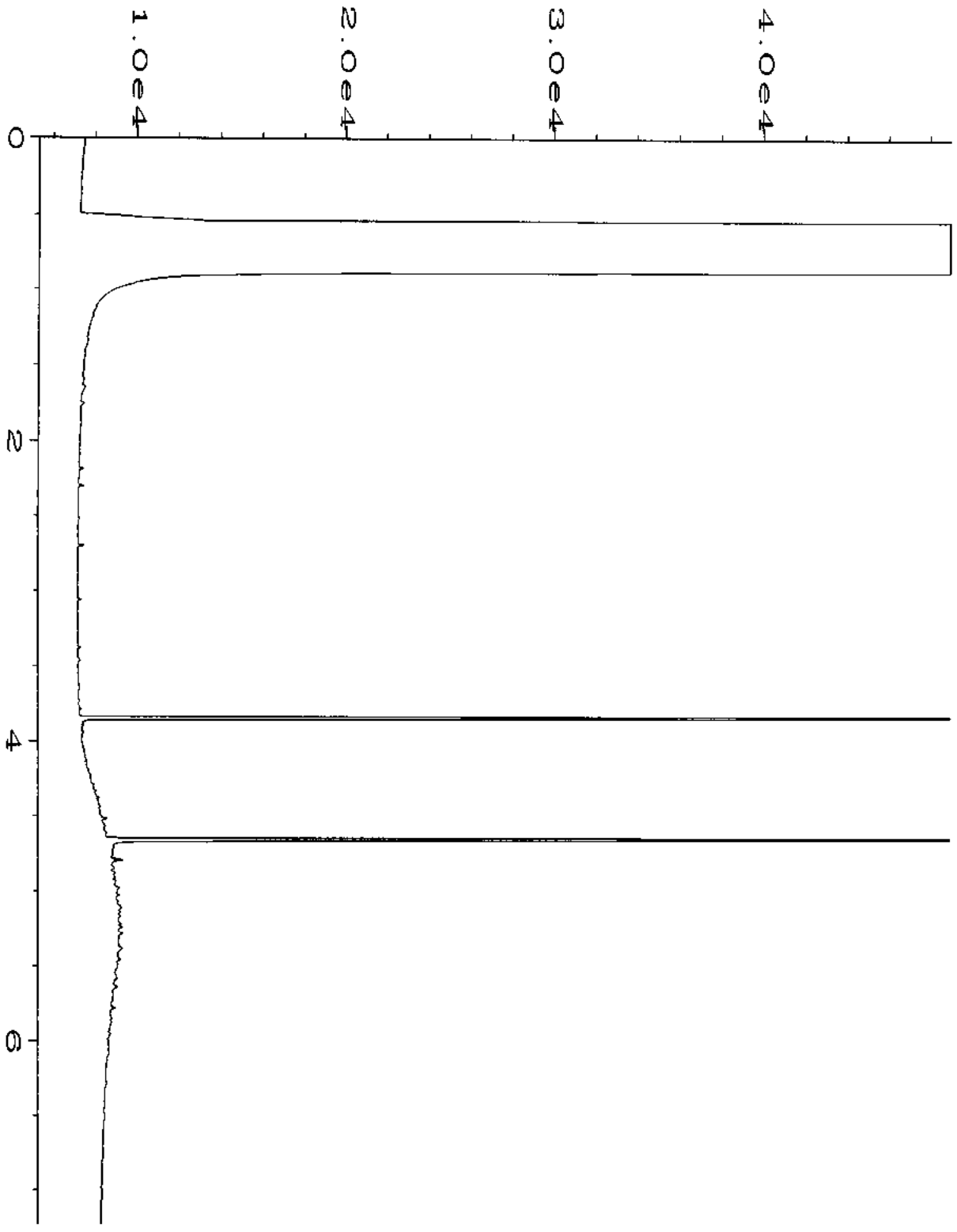


Data File Name	: C:\HPCHEM\6\DATA\08-08-16\066F1101.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 66
Sample Name	: 608112-01	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 11
Acquired on	: 08 Aug 16 09:27 PM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:18 AM	Analysis Method	: COND.MTH

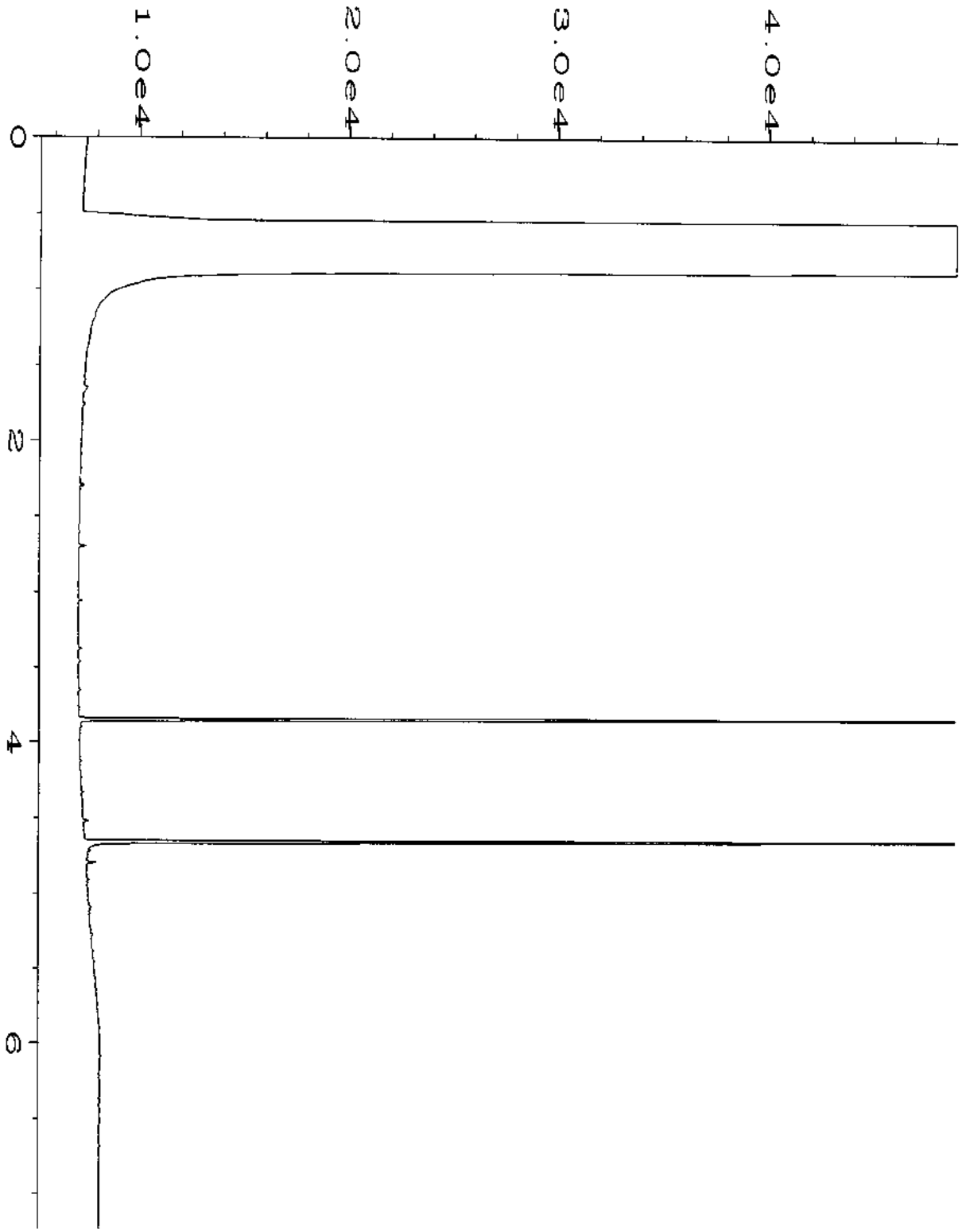


Data File Name : C:\HPCHEM\6\DATA\08-08-16\067F1101.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-02
Run Time Bar Code:
Acquired on : 08 Aug 16 09:38 PM
Report Created on: 09 Aug 16 11:18 AM

Page Number : 1
Vial Number : 67
Injection Number : 1
Sequence Line : 11
Instrument Method: DX.MTH
Analysis Method : COND.MTH

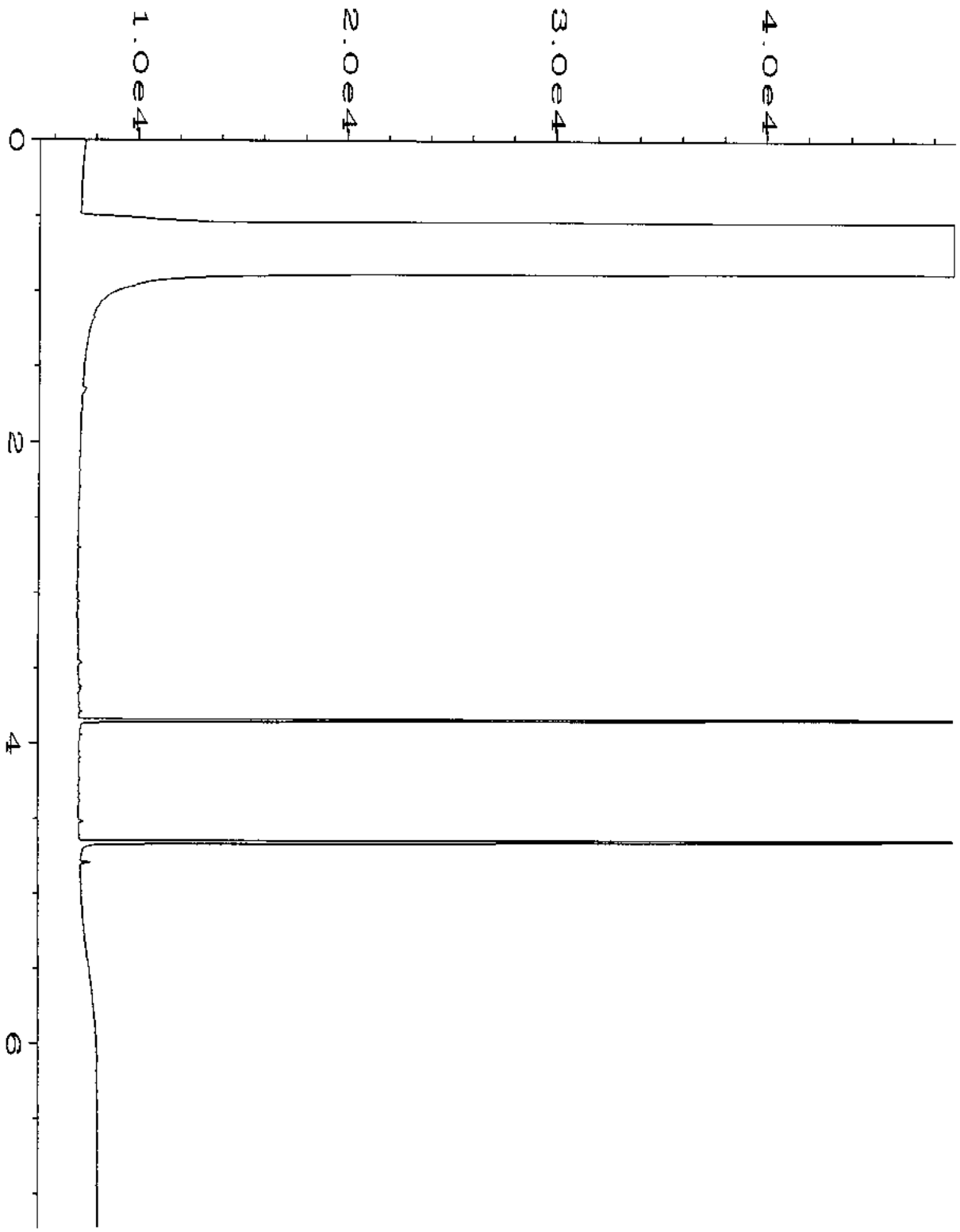


Data File Name	: C:\HPCHEM\6\DATA\08-08-16\068F1101.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 68
Sample Name	: 608112-03	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 11
Acquired on	: 08 Aug 16 09:49 PM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:18 AM	Analysis Method	: COND.MTH



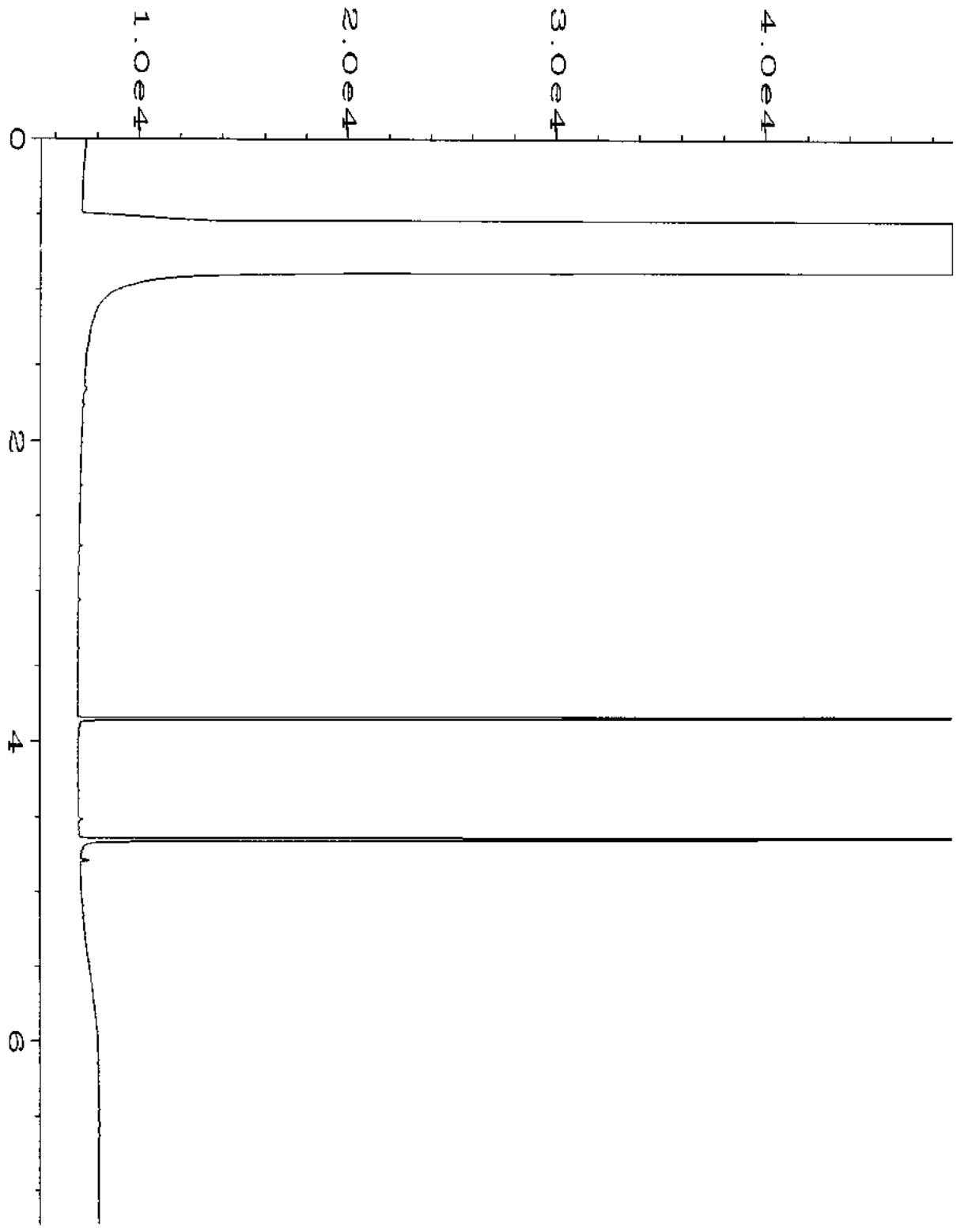
Data File Name : C:\HPCHEM\6\DATA\08-08-16\069F1101.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-06
Run Time Bar Code:
Acquired on : 08 Aug 16 10:01 PM
Report Created on: 09 Aug 16 11:18 AM

Page Number : 1
Vial Number : 69
Injection Number : 1
Sequence Line : 11
Instrument Method: DX.MTH
Analysis Method : COND.MTH



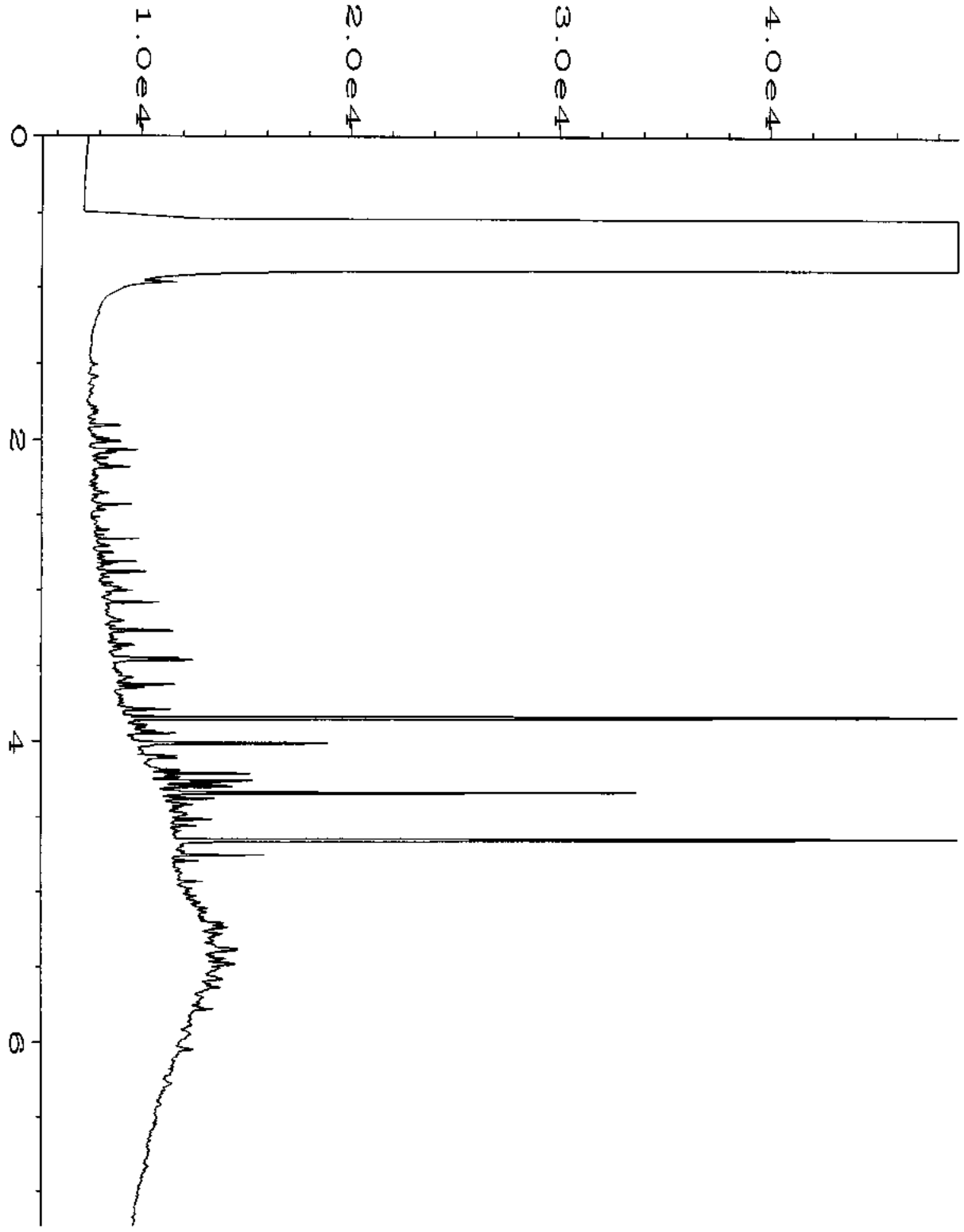
Data File Name : C:\HPCHEM\6\DATA\08-08-16\070F1101.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-07
Run Time Bar Code:
Acquired on : 08 Aug 16 10:12 PM
Report Created on: 09 Aug 16 11:18 AM

Page Number : 1
Vial Number : 70
Injection Number : 1
Sequence Line : 11
Instrument Method: DX.MTH
Analysis Method : COND.MTH

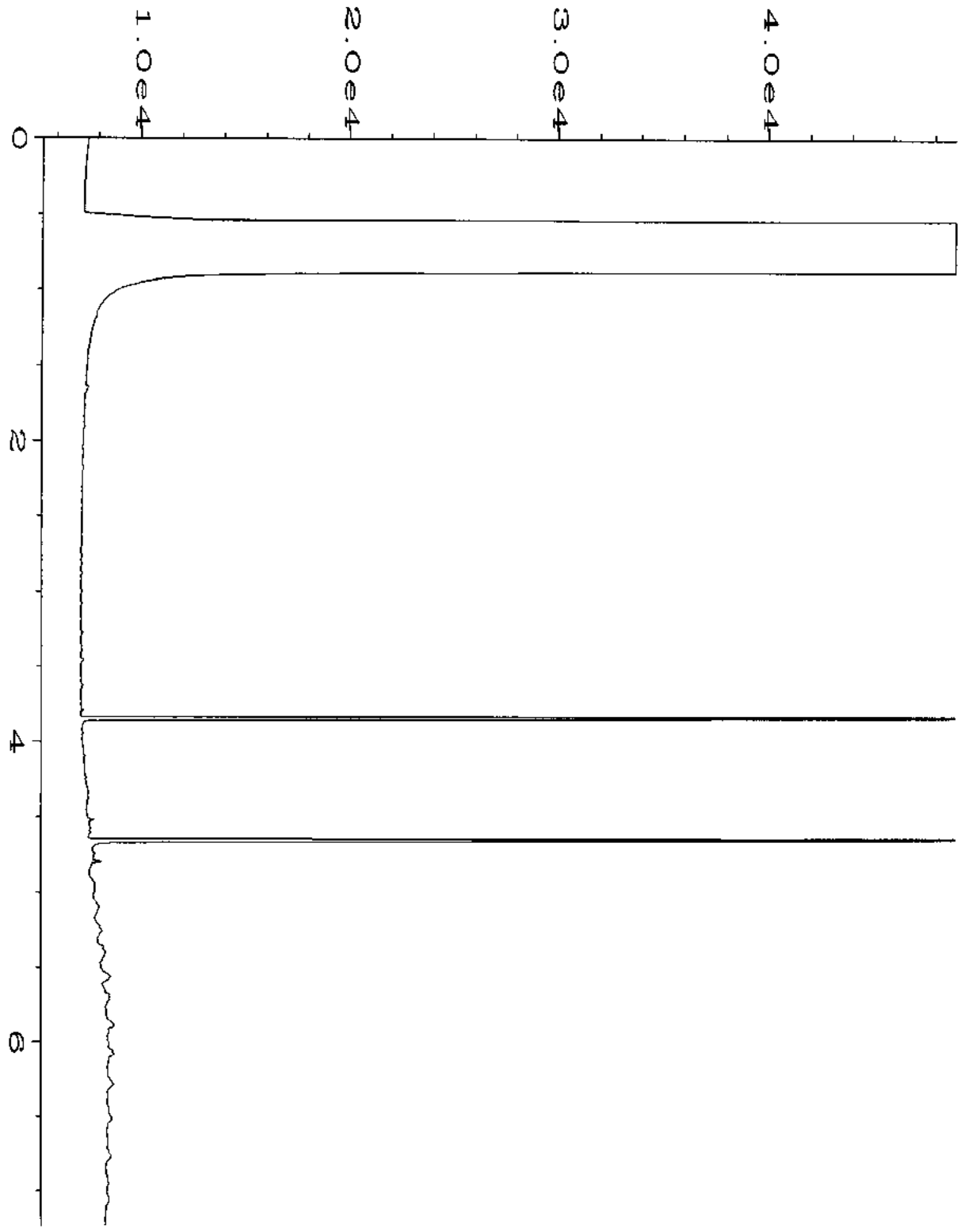


Data File Name : C:\HPCHEM\6\DATA\08-08-16\071F1101.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-08
Run Time Bar Code:
Acquired on : 08 Aug 16 10:23 PM
Report Created on: 09 Aug 16 11:18 AM

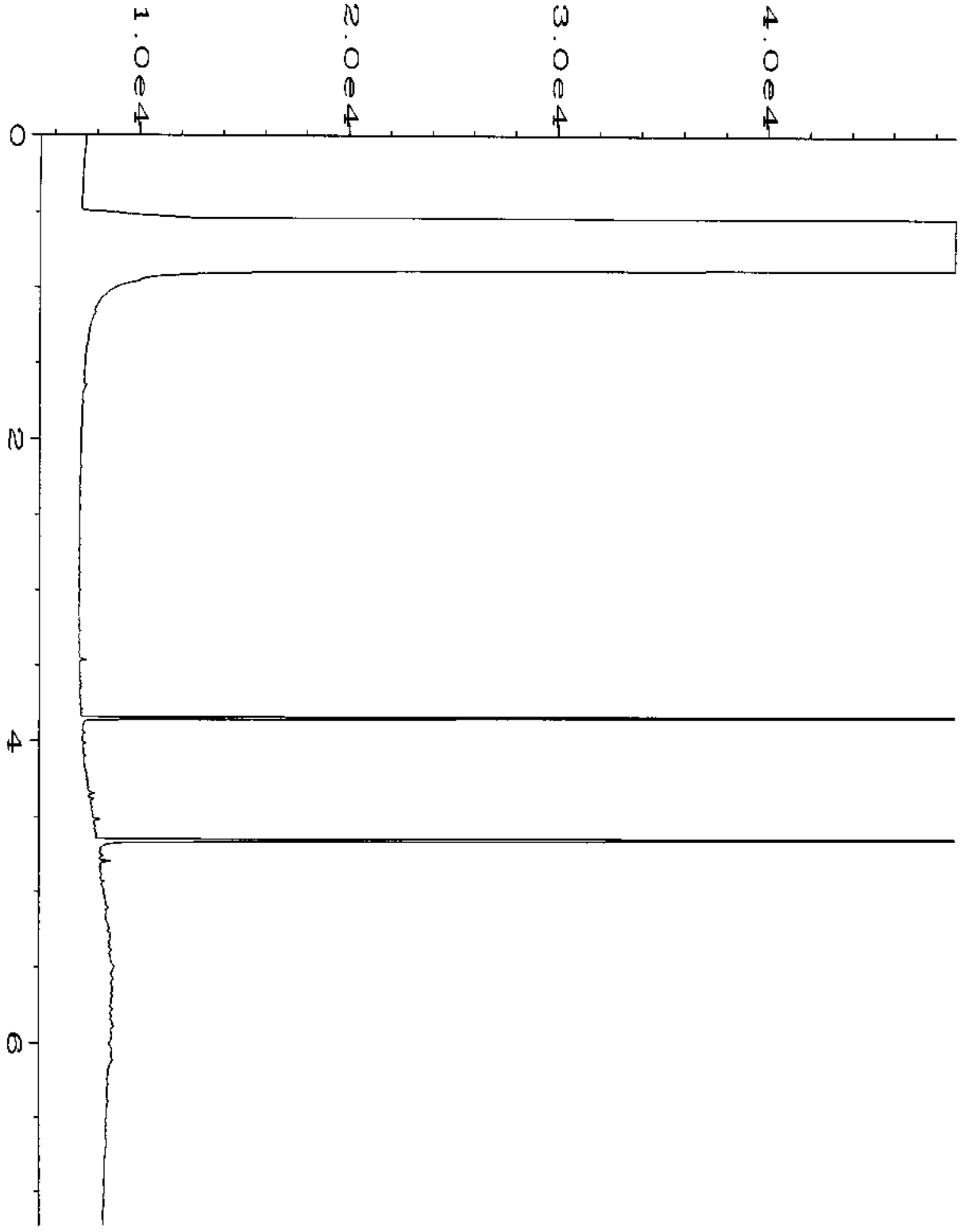
Page Number : 1
Vial Number : 71
Injection Number : 1
Sequence Line : 11
Instrument Method: DX.MTH
Analysis Method : COND.MTH



Data File Name	: C:\HPCHEM\6\DATA\08-08-16\072F1101.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 72
Sample Name	: 608112-10	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 11
Acquired on	: 08 Aug 16 10:34 PM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:18 AM	Analysis Method	: COND.MTH

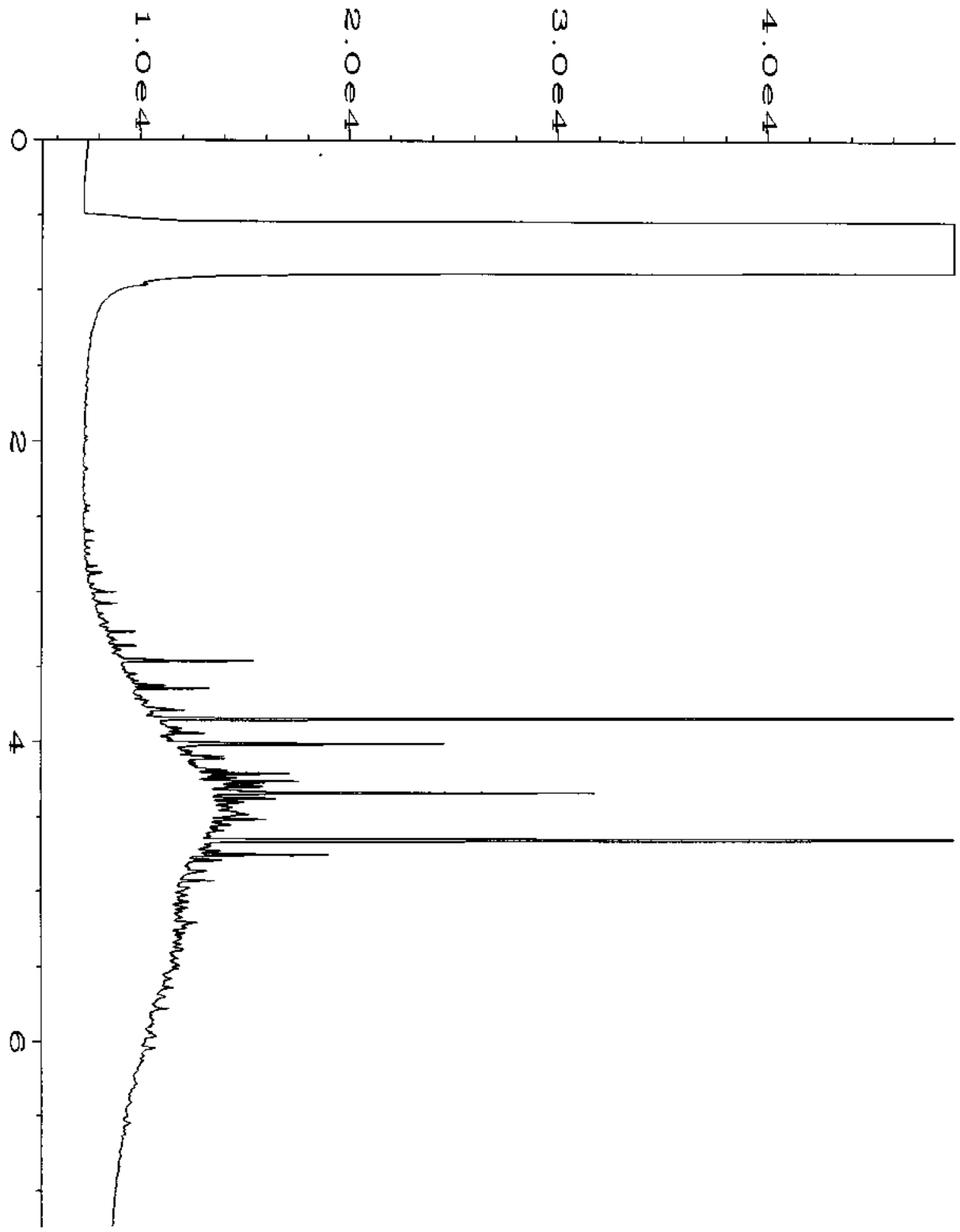


Data File Name	: C:\HPCHEM\6\DATA\08-08-16\073F1101.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 73
Sample Name	: 608112-11	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 11
Acquired on	: 08 Aug 16 10:46 PM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:18 AM	Analysis Method	: COND.MTH



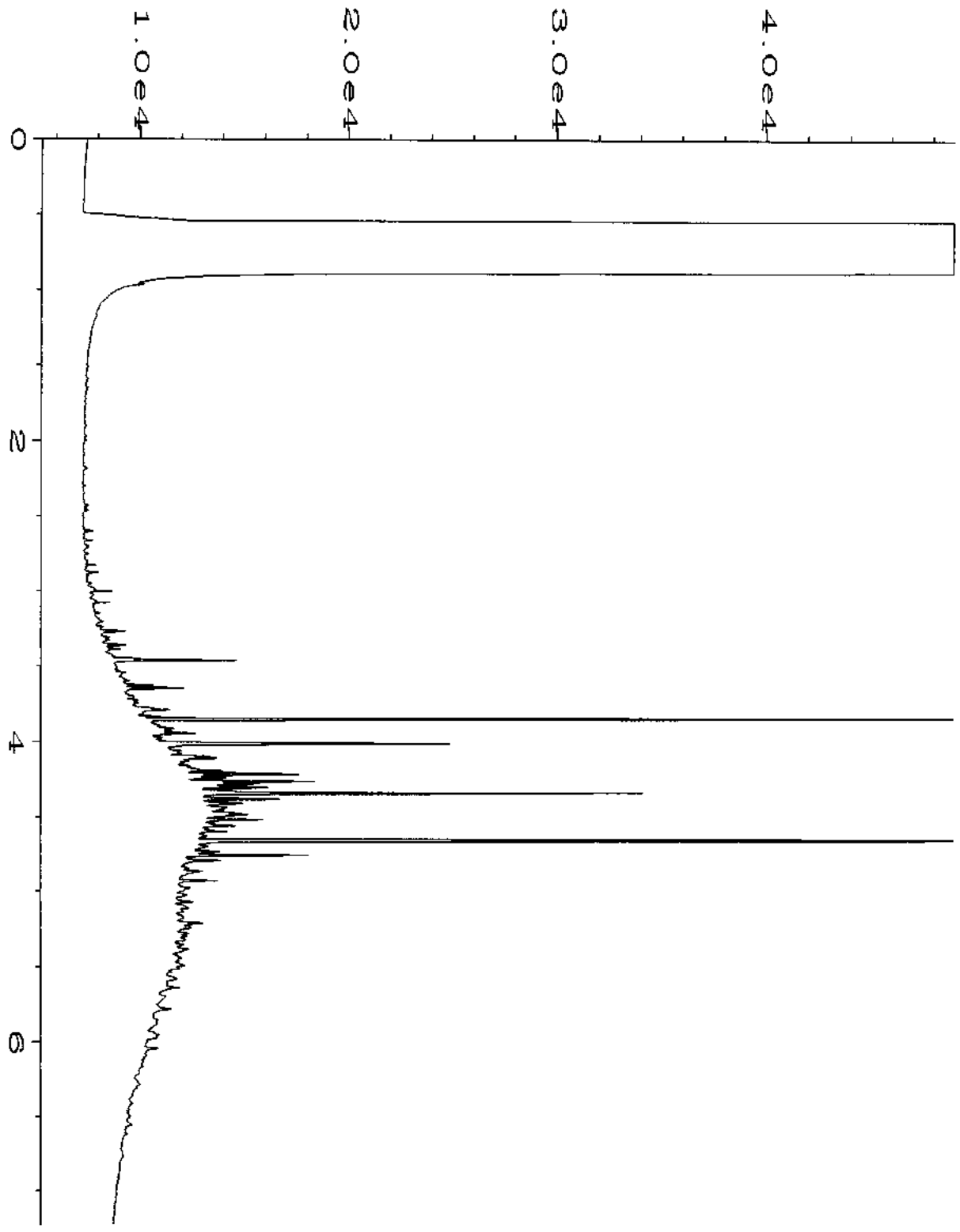
Data File Name : C:\HPCHEM\6\DATA\08-08-16\074F1101.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-12
Run Time Bar Code:
Acquired on : 08 Aug 16 10:57 PM
Report Created on: 09 Aug 16 11:18 AM

Page Number : 1
Vial Number : 74
Injection Number : 1
Sequence Line : 11
Instrument Method: DX.MTH
Analysis Method : COND.MTH



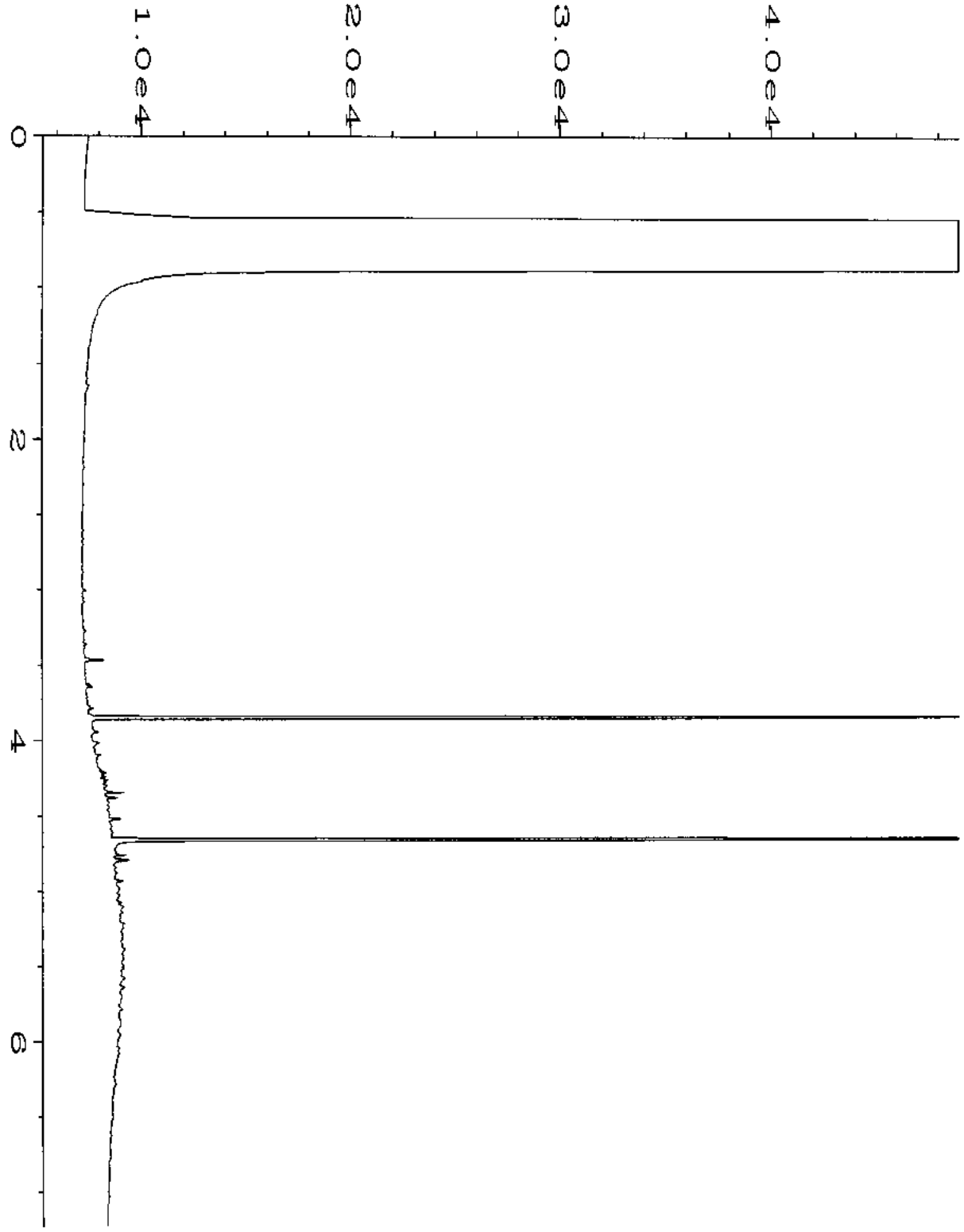
Data File Name : C:\HPCHEM\6\DATA\08-08-16\075F1301.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-14
Run Time Bar Code:
Acquired on : 08 Aug 16 11:31 PM
Report Created on: 09 Aug 16 11:18 AM

Page Number : 1
Vial Number : 75
Injection Number : 1
Sequence Line : 13
Instrument Method: DX.MTH
Analysis Method : COND.MTH

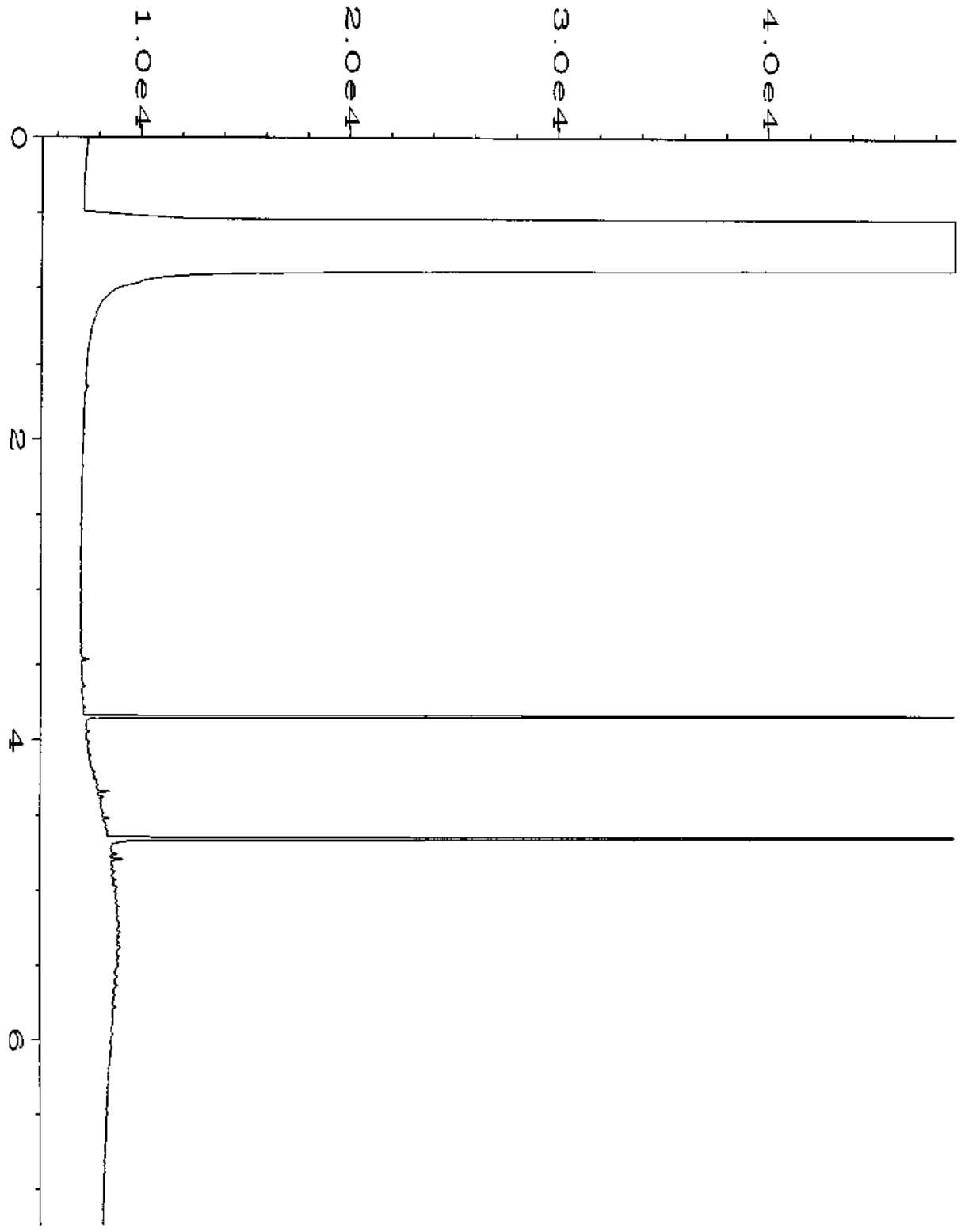


Data File Name : C:\HPCHEM\6\DATA\08-08-16\076F1301.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-15
Run Time Bar Code:
Acquired on : 08 Aug 16 11:42 PM
Report Created on: 09 Aug 16 11:19 AM

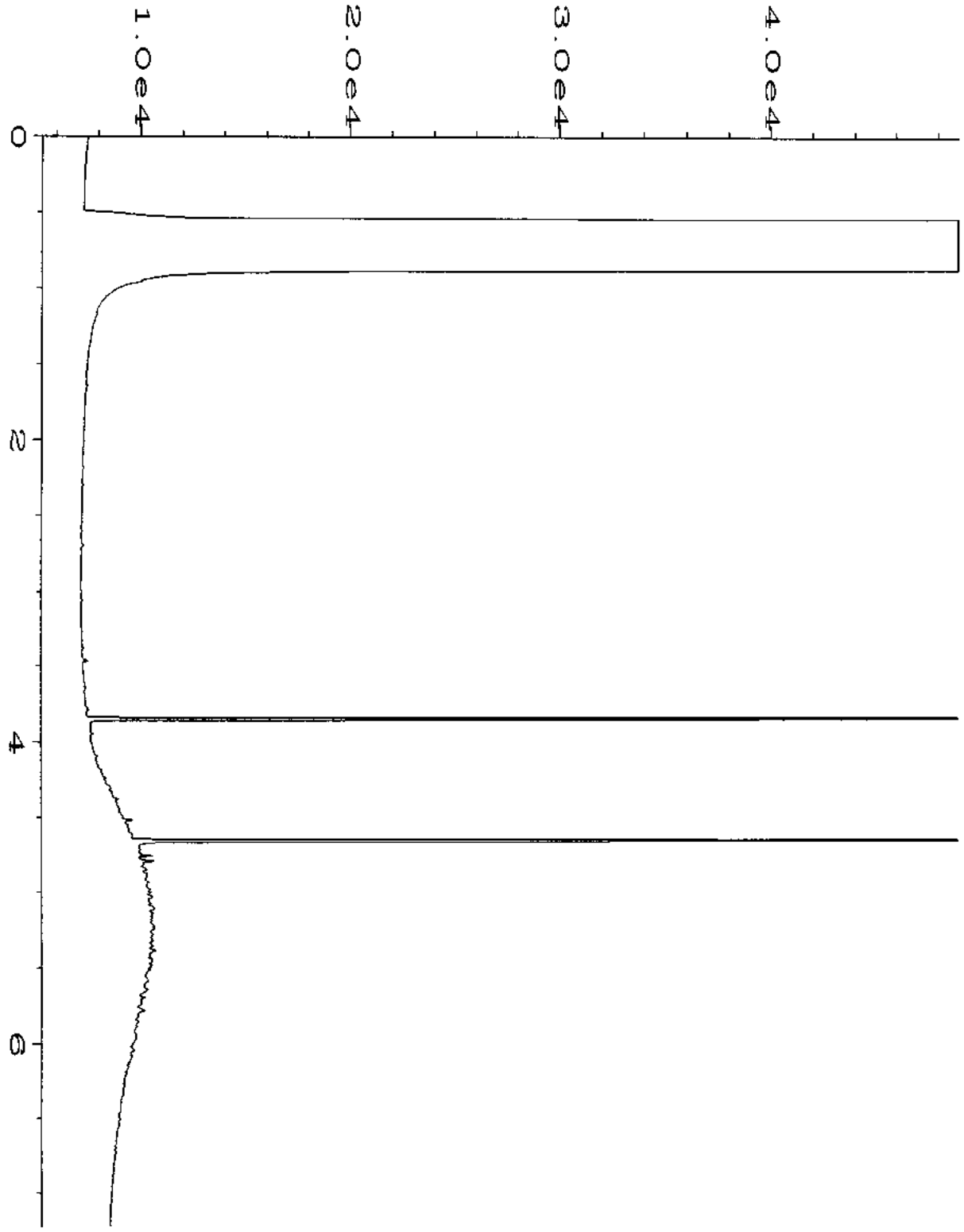
Page Number : 1
Vial Number : 76
Injection Number : 1
Sequence Line : 13
Instrument Method: DX.MTH
Analysis Method : COND.MTH



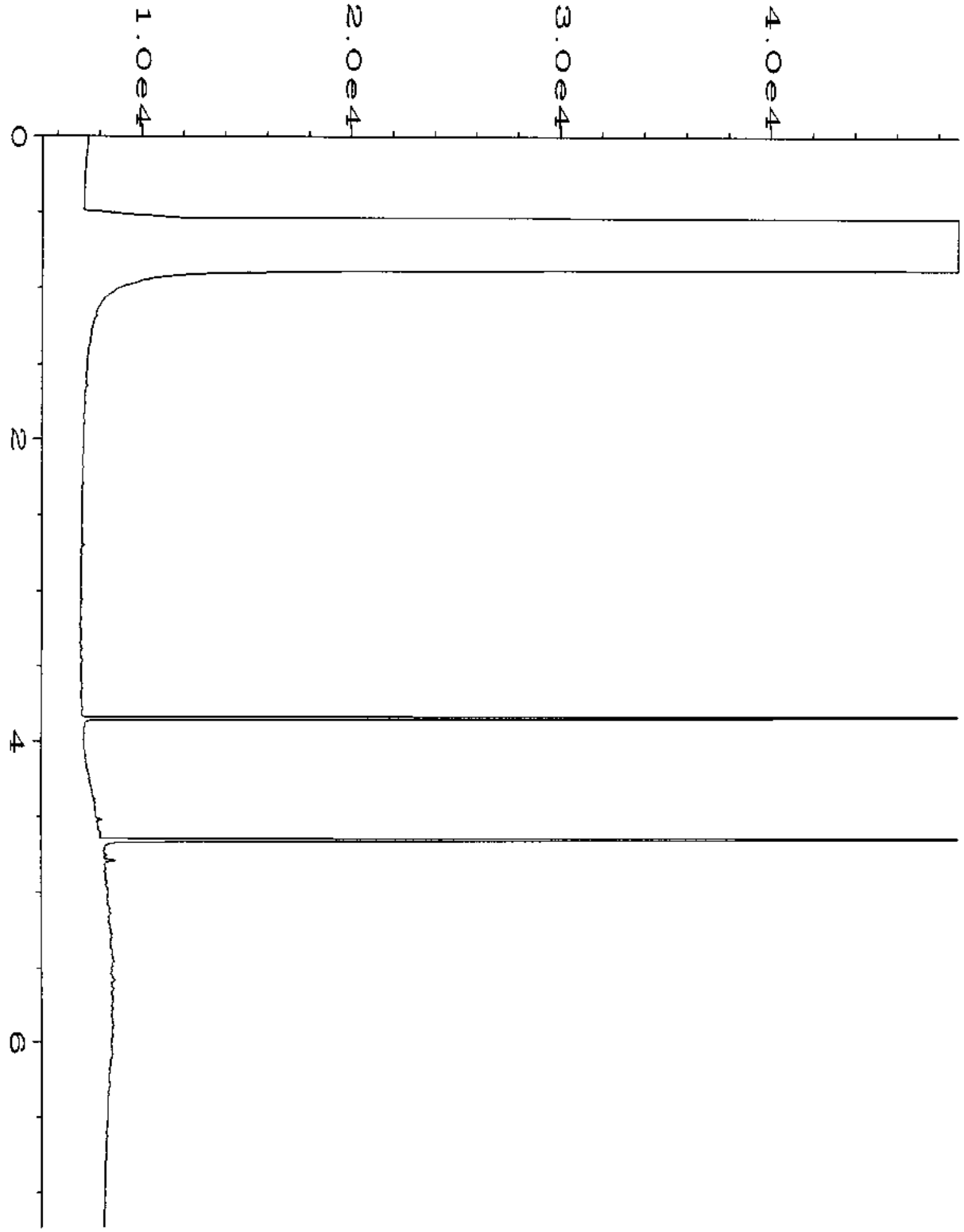
Data File Name	: C:\HPCHEM\6\DATA\08-08-16\077F1301.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 77
Sample Name	: 608112-16	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 13
Acquired on	: 08 Aug 16 11:53 PM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:19 AM	Analysis Method	: COND.MTH



Data File Name	: C:\HPCHEM\6\DATA\08-08-16\078F1301.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 78
Sample Name	: 608112-18	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 13
Acquired on	: 09 Aug 16 00:04 AM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:19 AM	Analysis Method	: COND.MTH

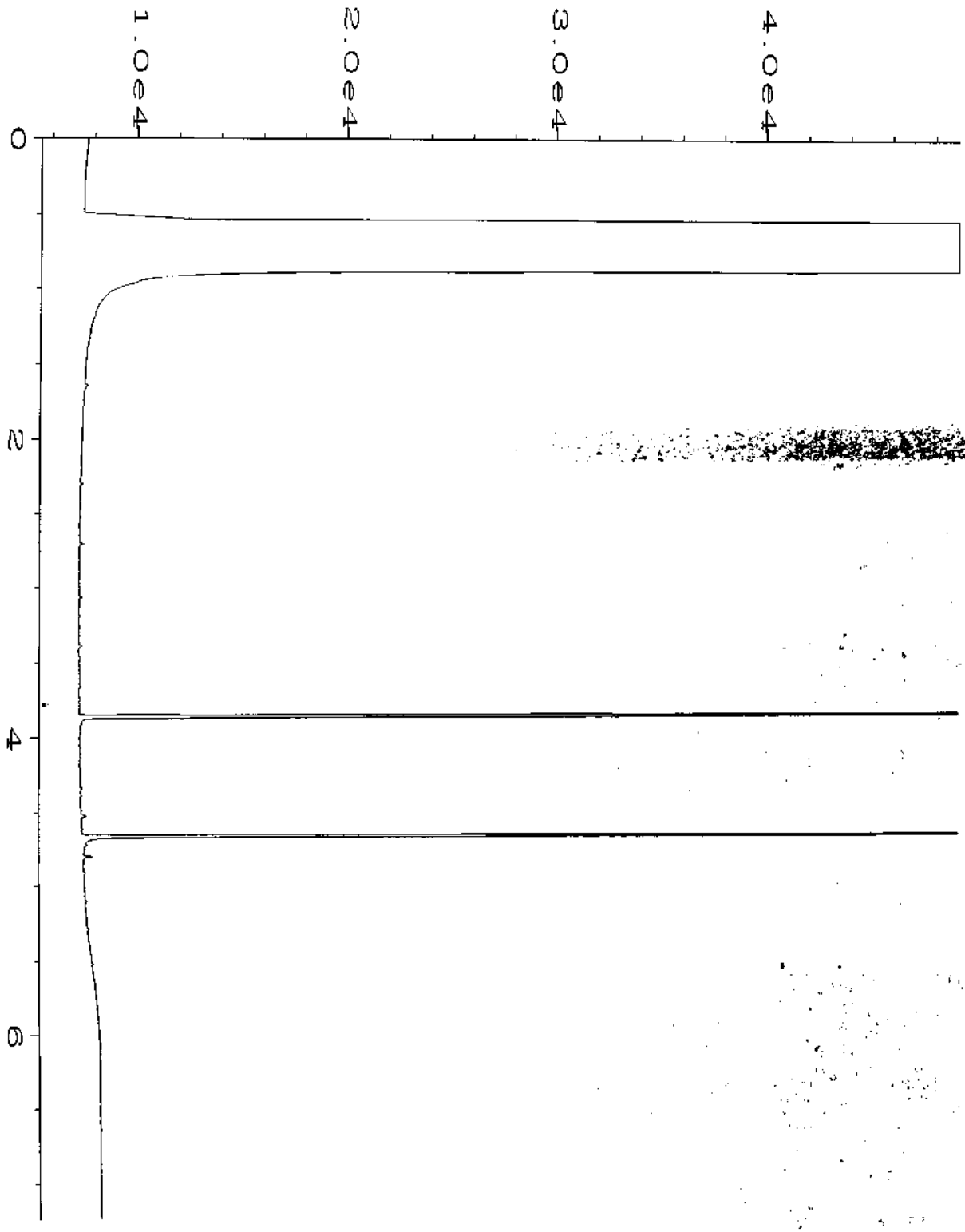


Data File Name	: C:\HPCHEM\6\DATA\08-08-16\079F1301.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 79
Sample Name	: 608112-19	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 13
Acquired on	: 09 Aug 16 00:15 AM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:19 AM	Analysis Method	: COND.MTH



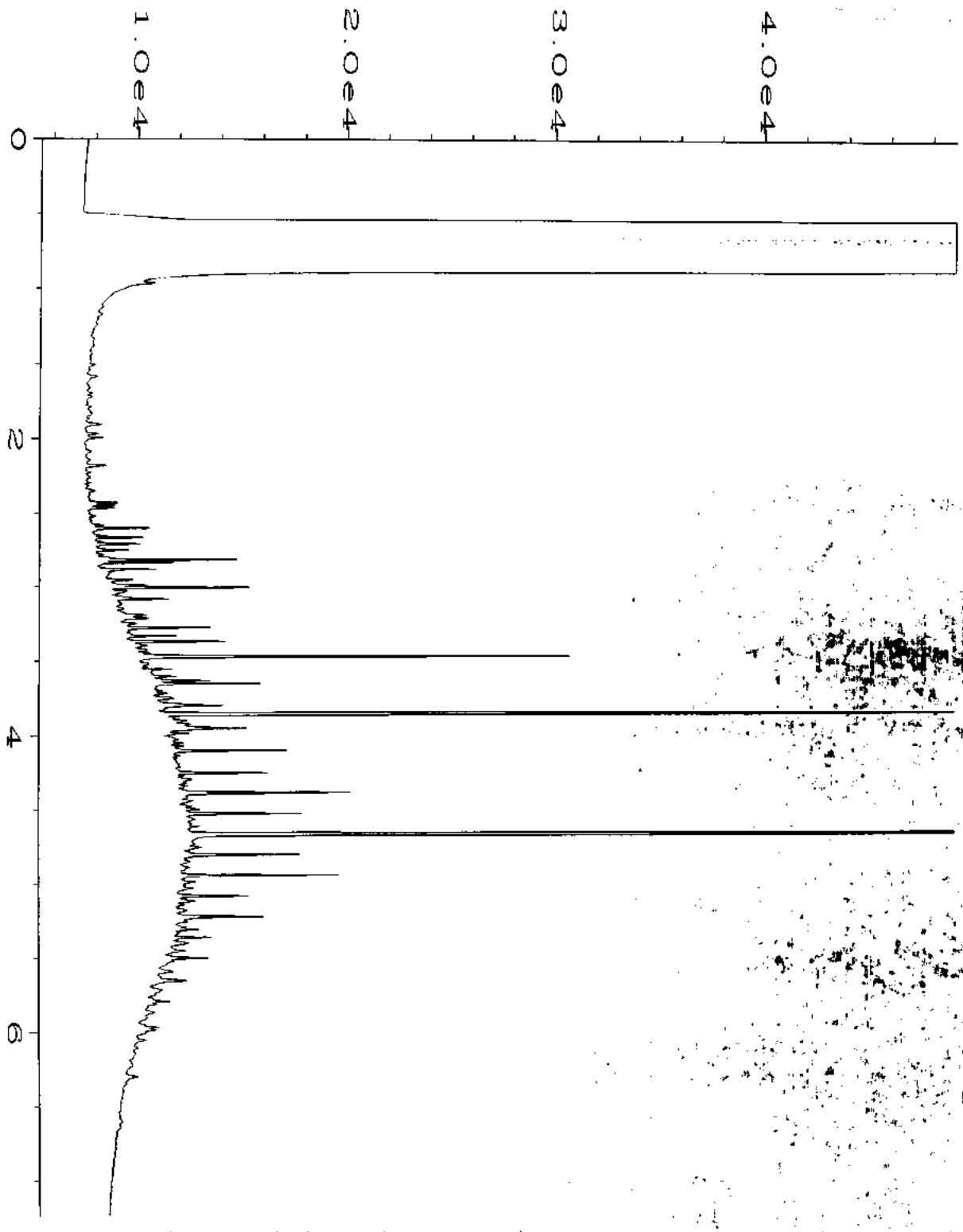
Data File Name : C:\HPCHEM\6\DATA\08-08-16\080F1301.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-20
Run Time Bar Code:
Acquired on : 09 Aug 16 00:27 AM
Report Created on: 09 Aug 16 11:19 AM

Page Number : 1
Vial Number : 80
Injection Number : 1
Sequence Line : 13
Instrument Method: DX.MTH
Analysis Method : COND.MTH



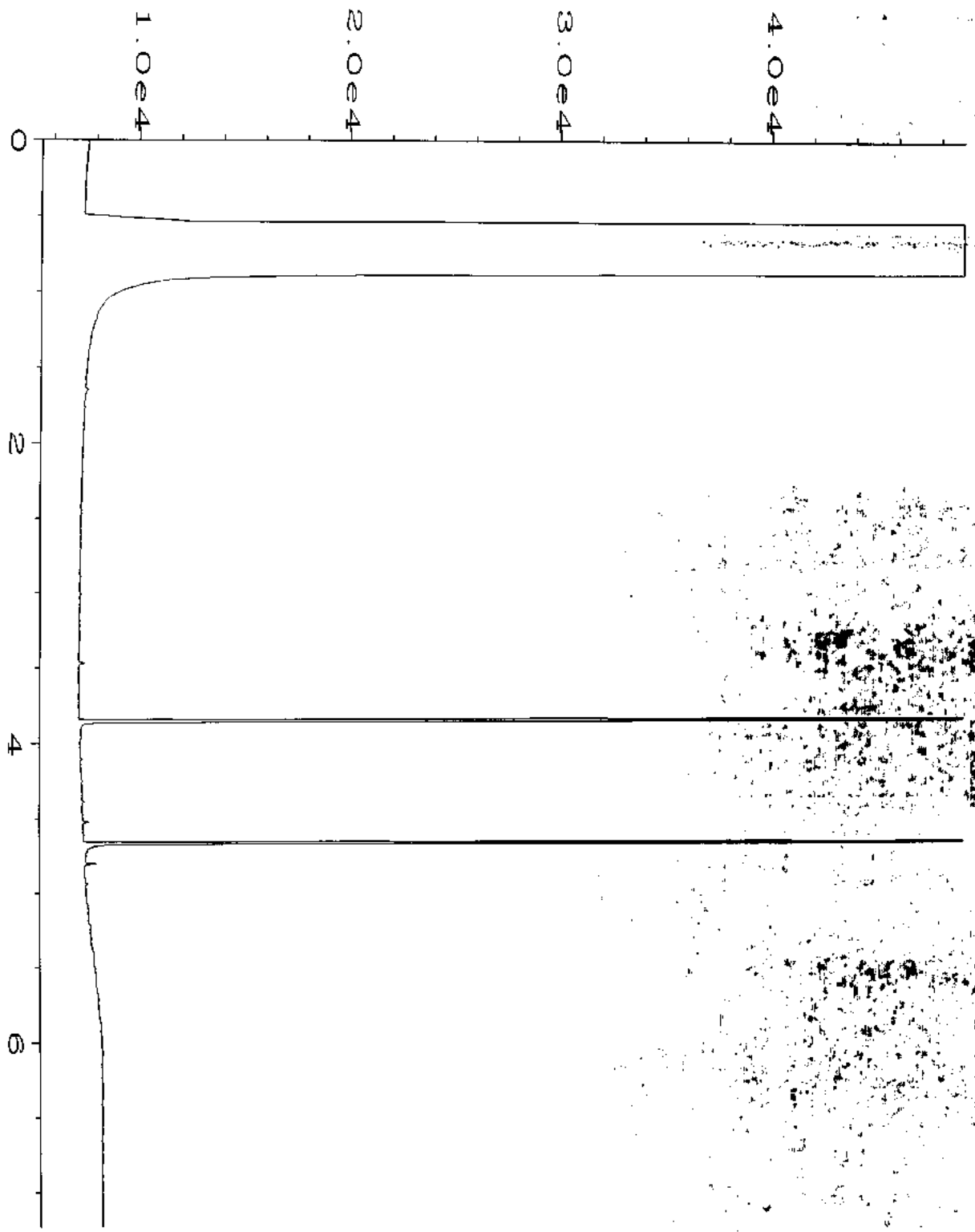
Data File Name : C:\HPCHEM\1\DATA\08-09-16\031F0501.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-22
Run Time Bar Code:
Acquired on : 09 Aug 16 04:08 PM
Report Created on: 10 Aug 16 09:20 AM

Page Number : 1
Vial Number : 31
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DX.MTH



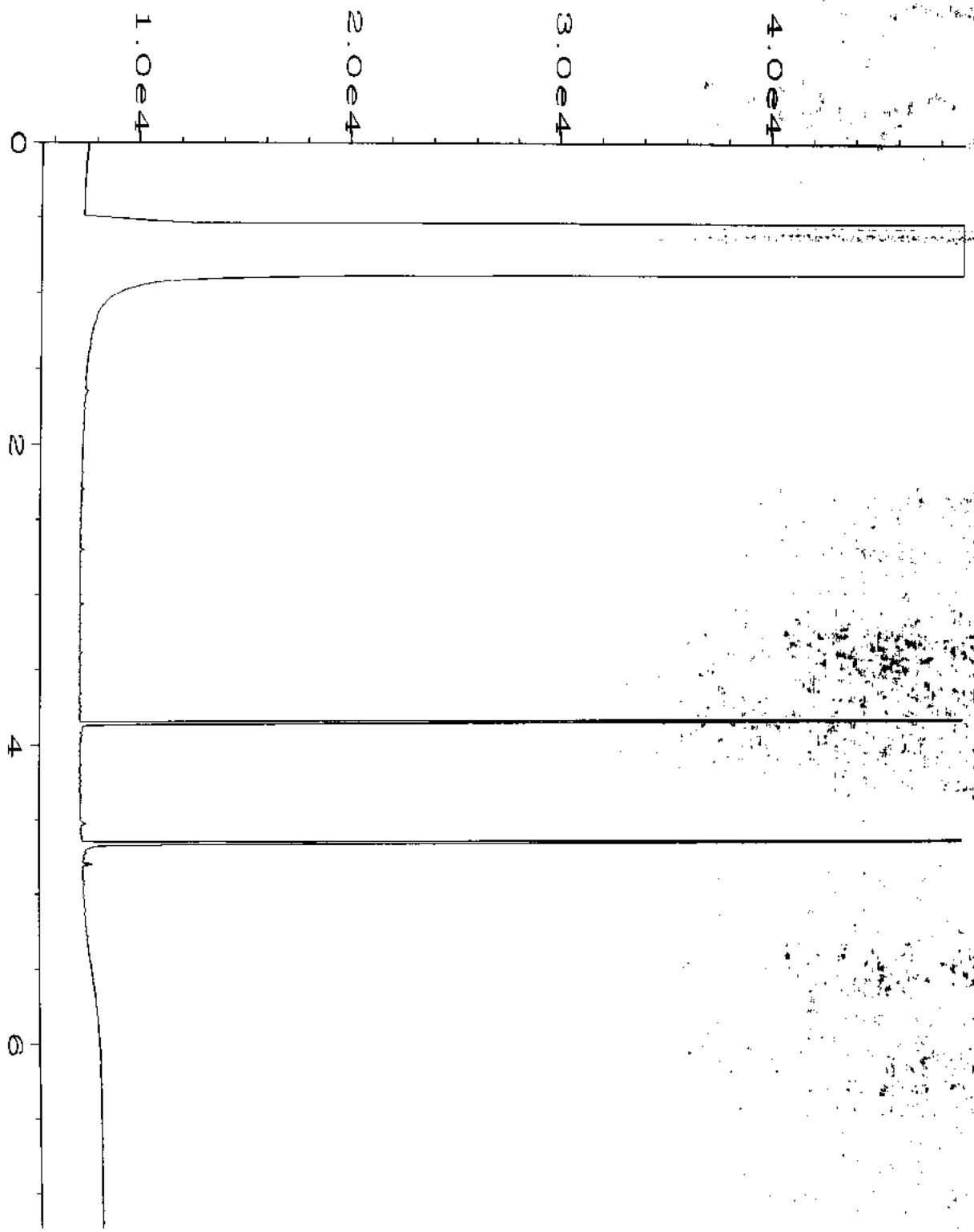
Data File Name : C:\HPCHEM\1\DATA\08-09-16\032F0501.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-23
Run Time Bar Code:
Acquired on : 09 Aug 16 04:19 PM
Report Created on: 10 Aug 16 09:20 AM

Page Number : 1
Vial Number : 32
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DX.MTH



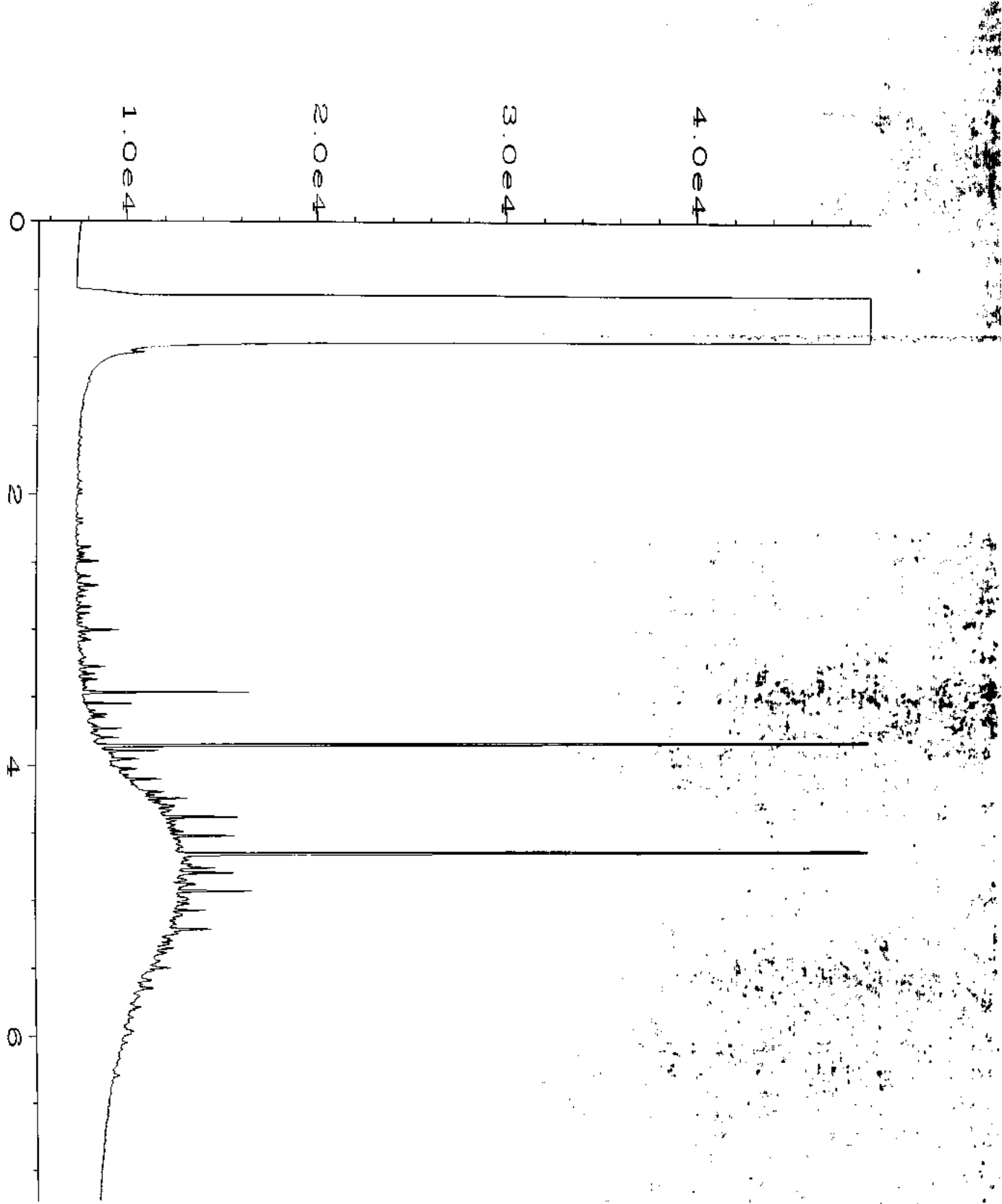
Data File Name : C:\HPCHEM\1\DATA\08-09-16\033F0501.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-24
Run Time Bar Code:
Acquired on : 09 Aug 16 04:31 PM
Report Created on: 10 Aug 16 09:20 AM

Page Number : 1
Vial Number : 33
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DX.MTH



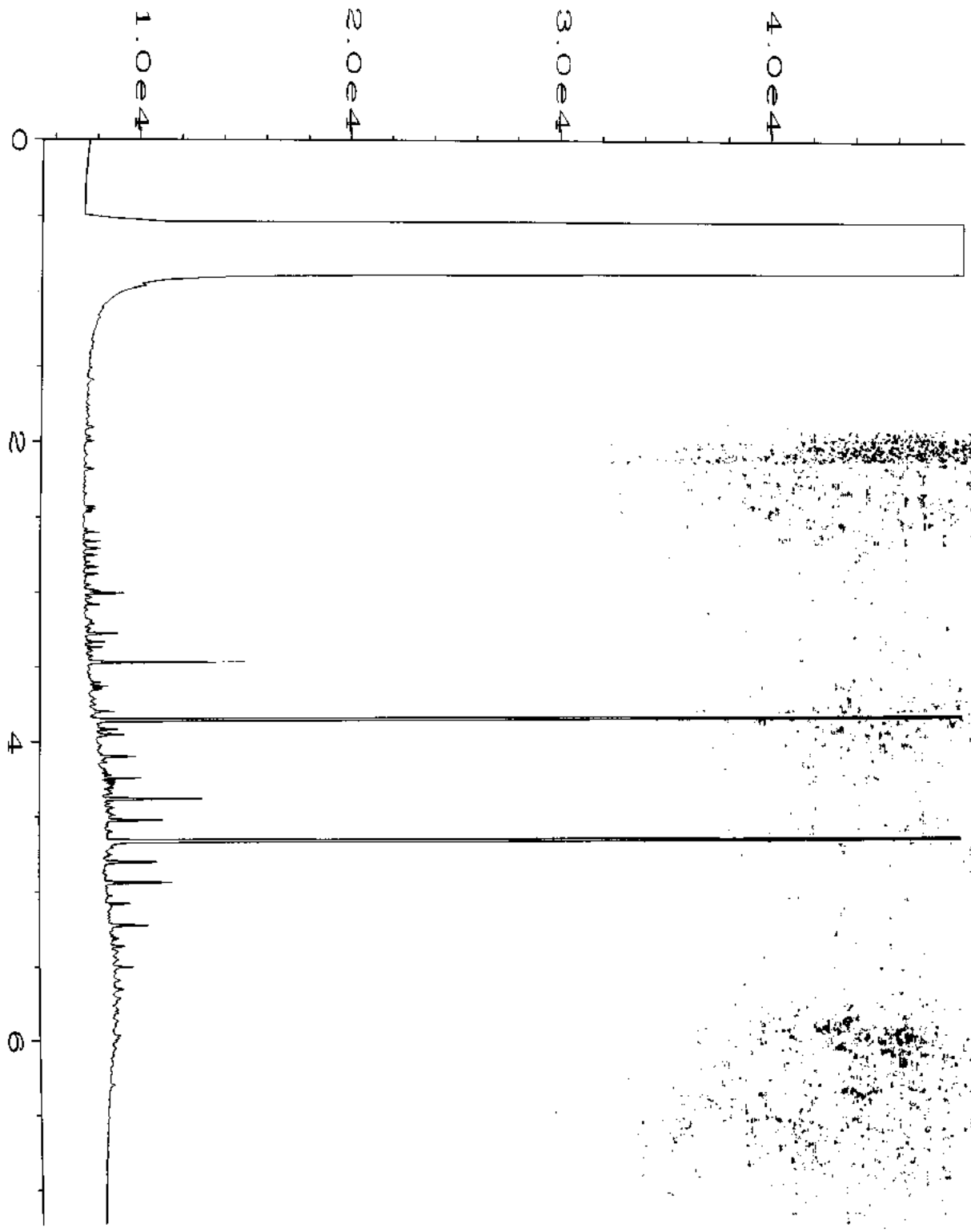
Data File Name : C:\HPCHEM\1\DATA\08-09-16\034F0501.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-25
Run Time Bar Code:
Acquired on : 09 Aug 16 04:42 PM
Report Created on: 10 Aug 16 09:20 AM

Page Number : 1
Vial Number : 34
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DX.MTH



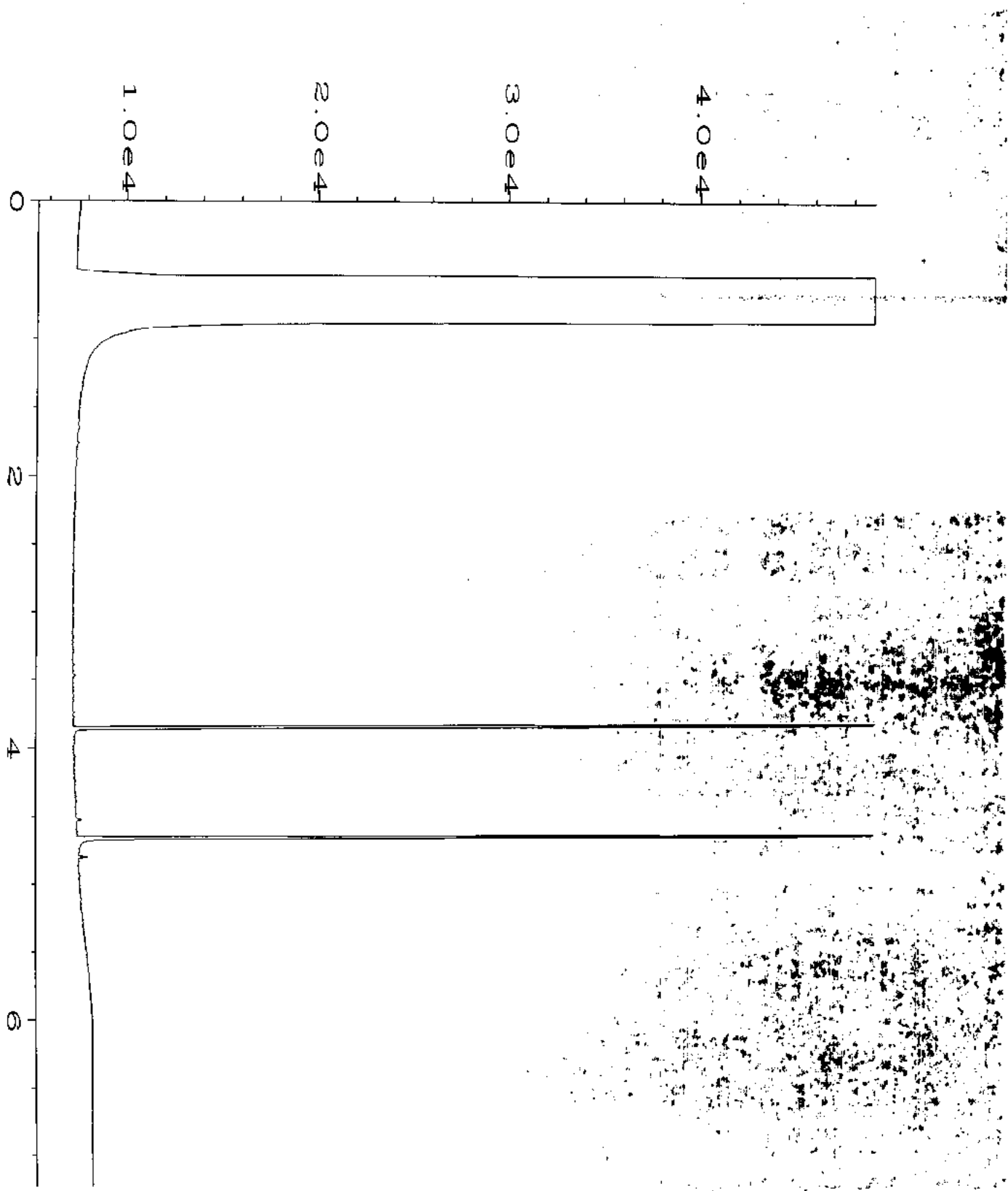
Data File Name : C:\HPCHEM\1\DATA\08-09-16\035F0501.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-27
Run Time Bar Code:
Acquired on : 09 Aug 16 04:53 PM
Report Created on: 10 Aug 16 09:20 AM

Page Number : 1
Vial Number : 35
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DX.MTH



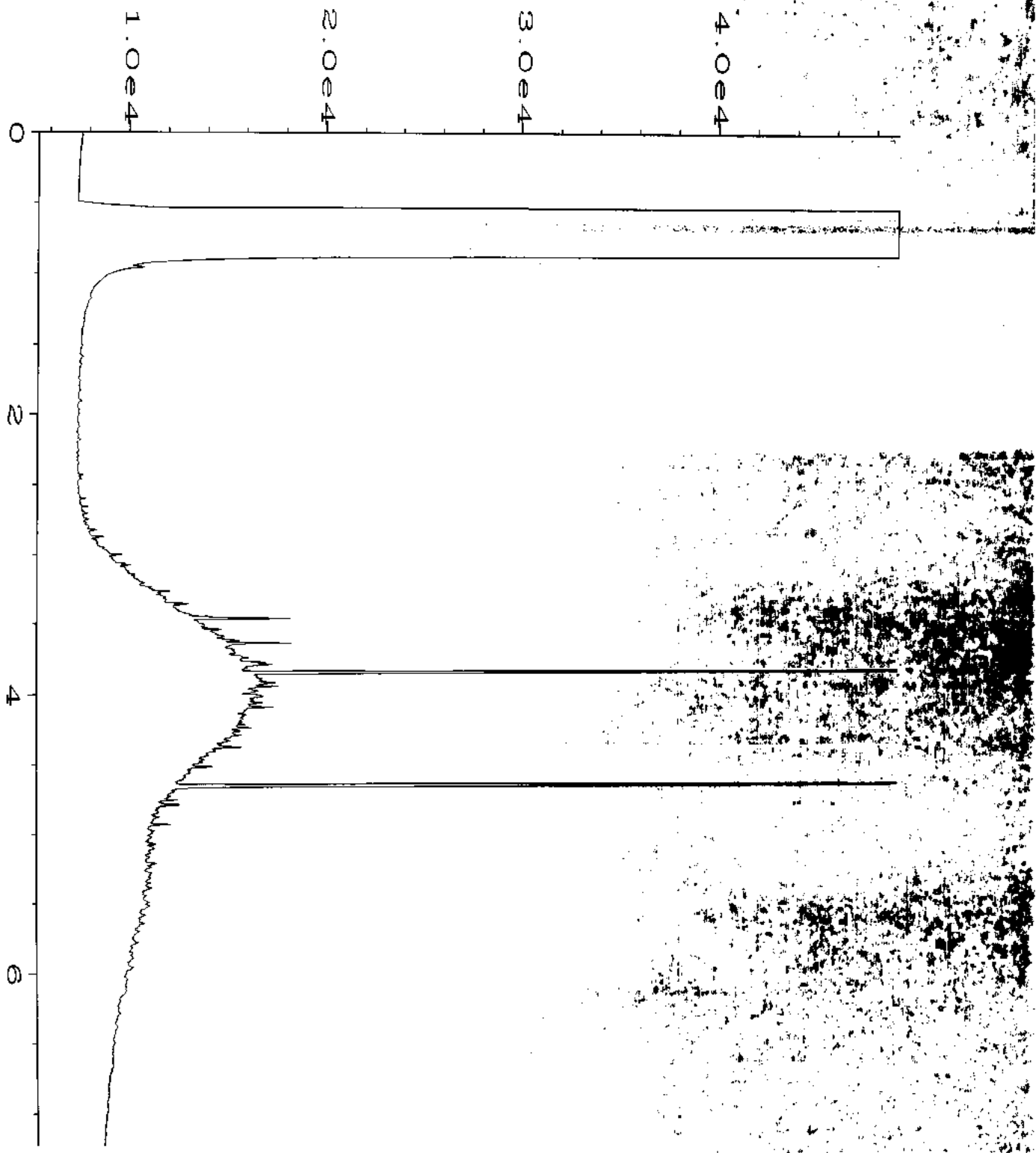
Data File Name : C:\HPCHEM\1\DATA\08-09-16\036F0501.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-28
Run Time Bar Code:
Acquired on : 09 Aug 16 05:04 PM
Report Created on: 10 Aug 16 09:20 AM

Page Number : 1
Vial Number : 36
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DX.MTH



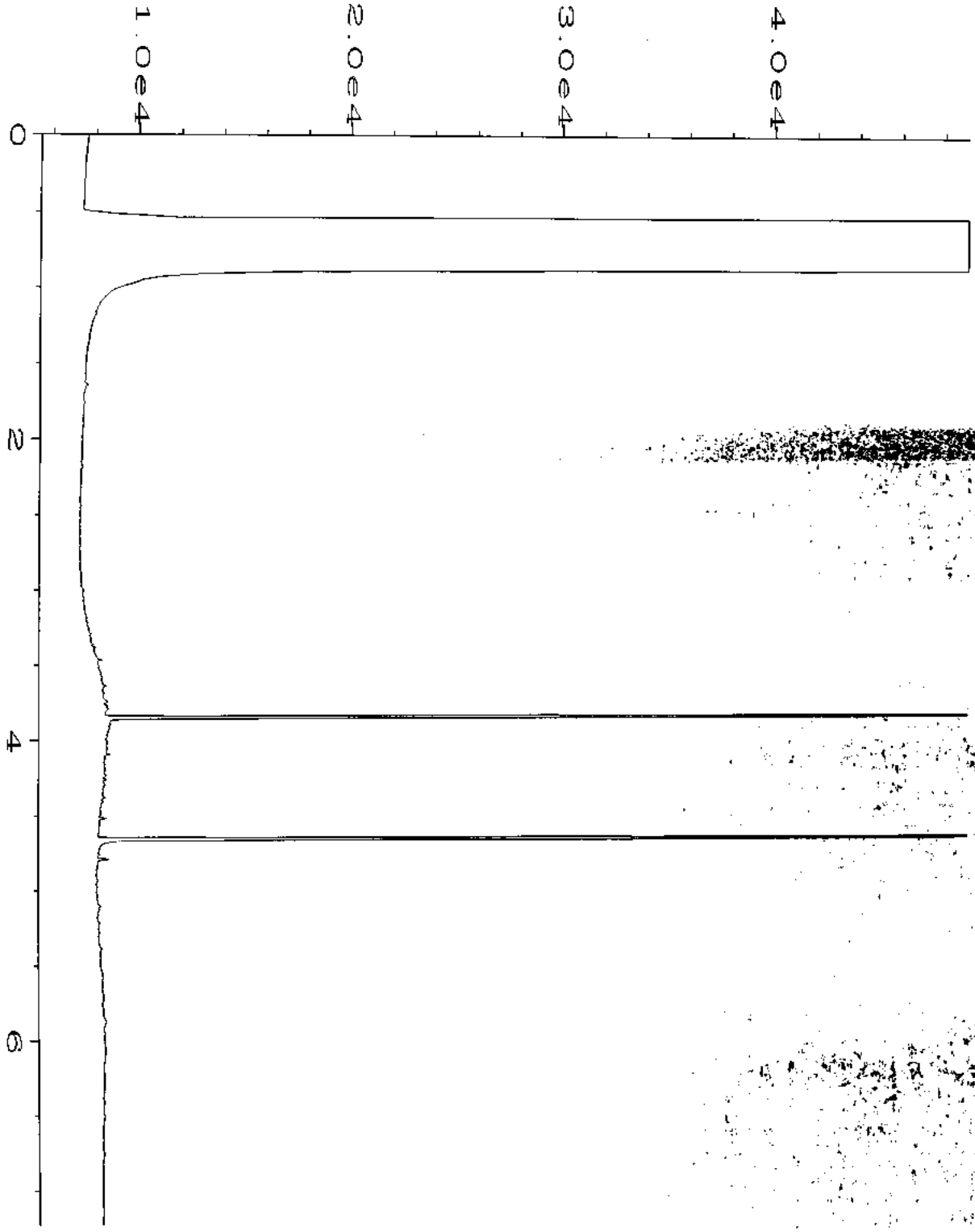
Data File Name : C:\HPCHEM\1\DATA\08-09-16\037F0501.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-29
Run Time Bar Code:
Acquired on : 09 Aug 16 05:16 PM
Report Created on: 10 Aug 16 09:22 AM

Page Number : 1
Vial Number : 37
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DX.MTH



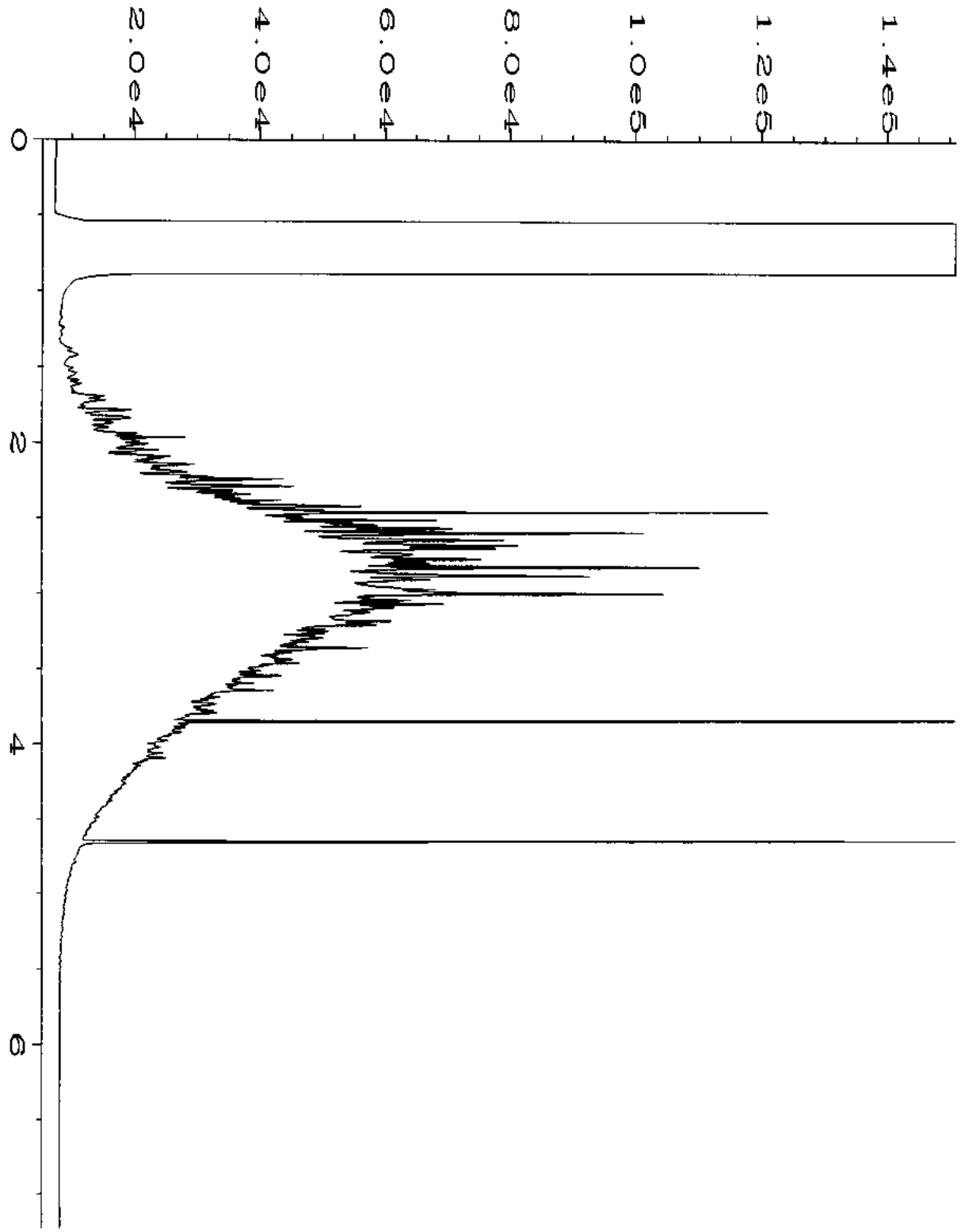
Data File Name : C:\HPCHEM\1\DATA\08-09-16\038F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-31
Run Time Bar Code:
Acquired on : 09 Aug 16 05:49 PM
Report Created on: 10 Aug 16 09:22 AM

Page Number : 1
Vial Number : 38
Injection Number : 1
Sequence Line : 7
Instrument Method : DX.MTH
Analysis Method : DX.MTH



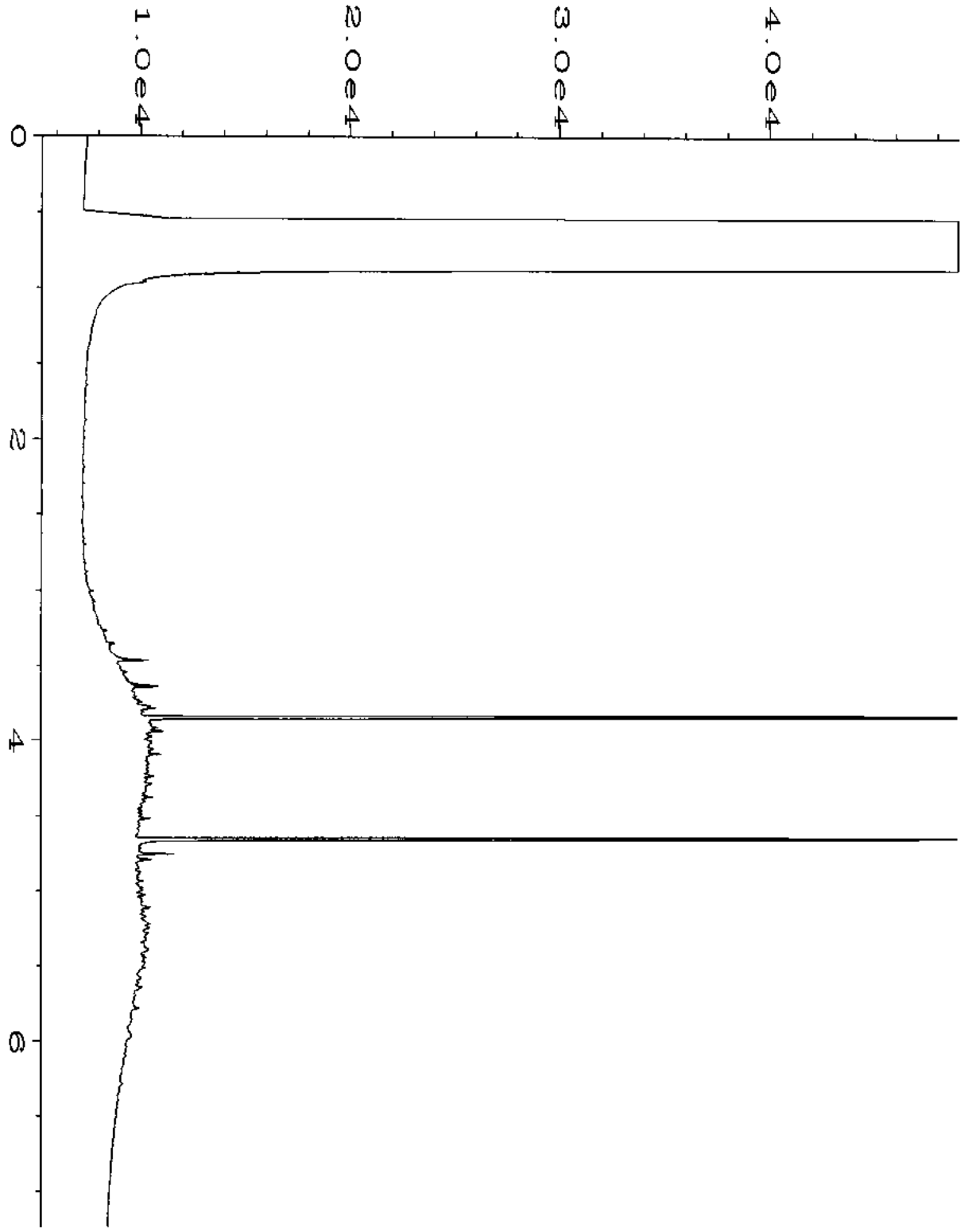
Data File Name : C:\HPCHEM\1\DATA\08-09-16\039F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-32
Run Time Bar Code:
Acquired on : 09 Aug 16 06:00 PM
Report Created on: 10 Aug 16 09:24 AM

Page Number : 1
Vial Number : 39
Injection Number : 1
Sequence Line : 7
Instrument Method : DX.MTH
Analysis Method : DX.MTH

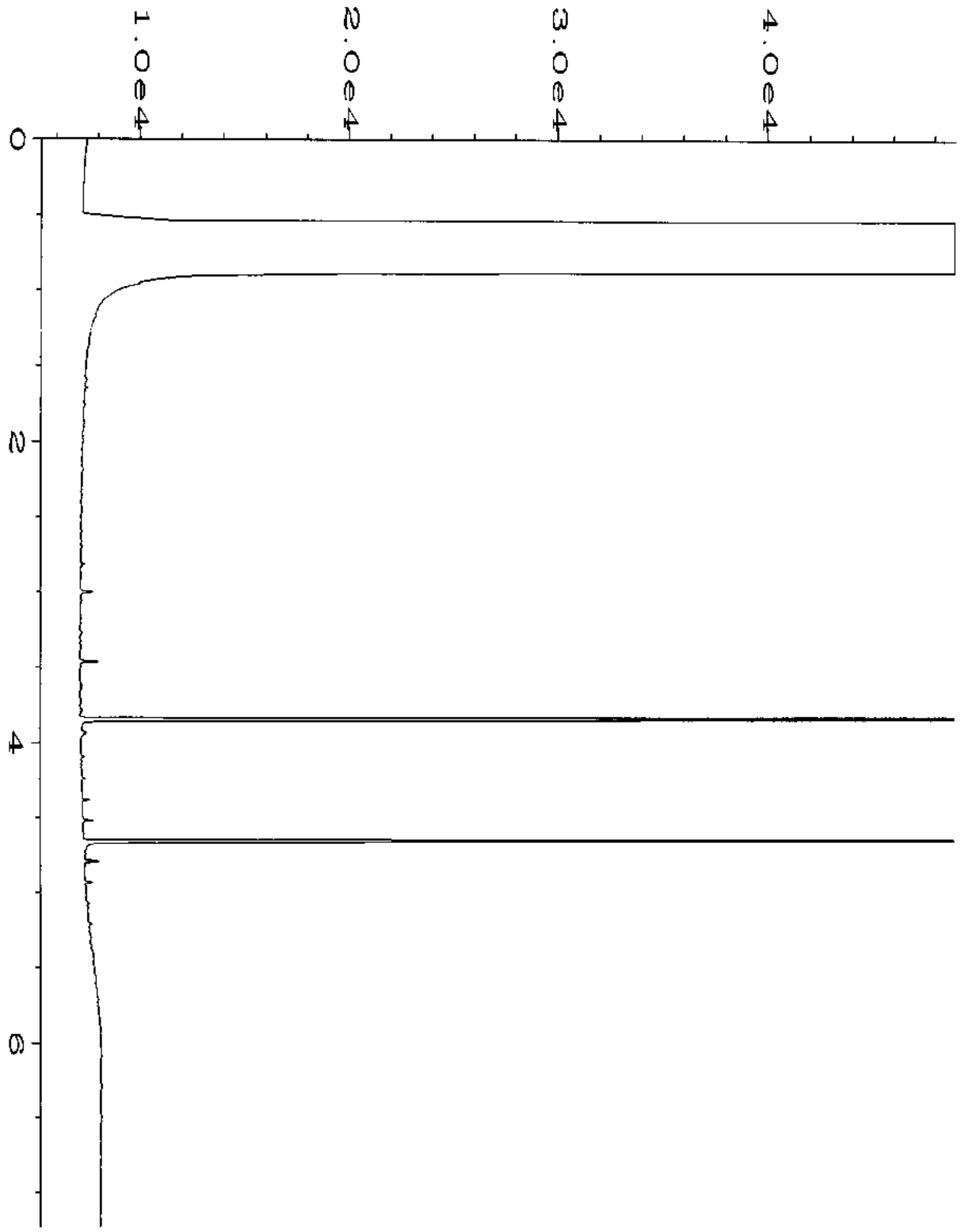


Data File Name : C:\HPCHEM\6\DATA\08-08-16\081F1301.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-33
Run Time Bar Code:
Acquired on : 09 Aug 16 00:38 AM
Report Created on: 09 Aug 16 11:19 AM

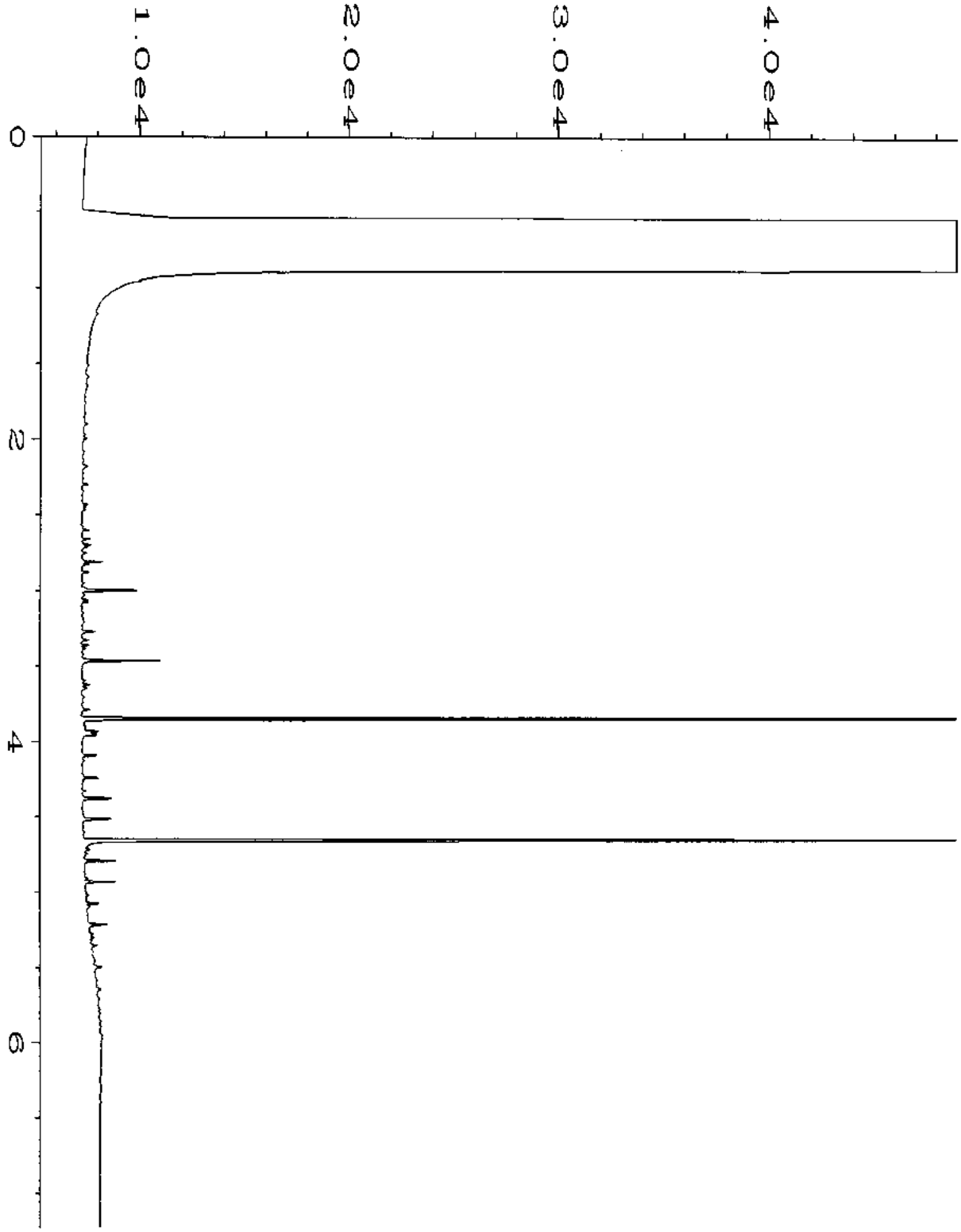
Page Number : 1
Vial Number : 81
Injection Number : 1
Sequence Line : 13
Instrument Method: DX.MTH
Analysis Method : COND.MTH



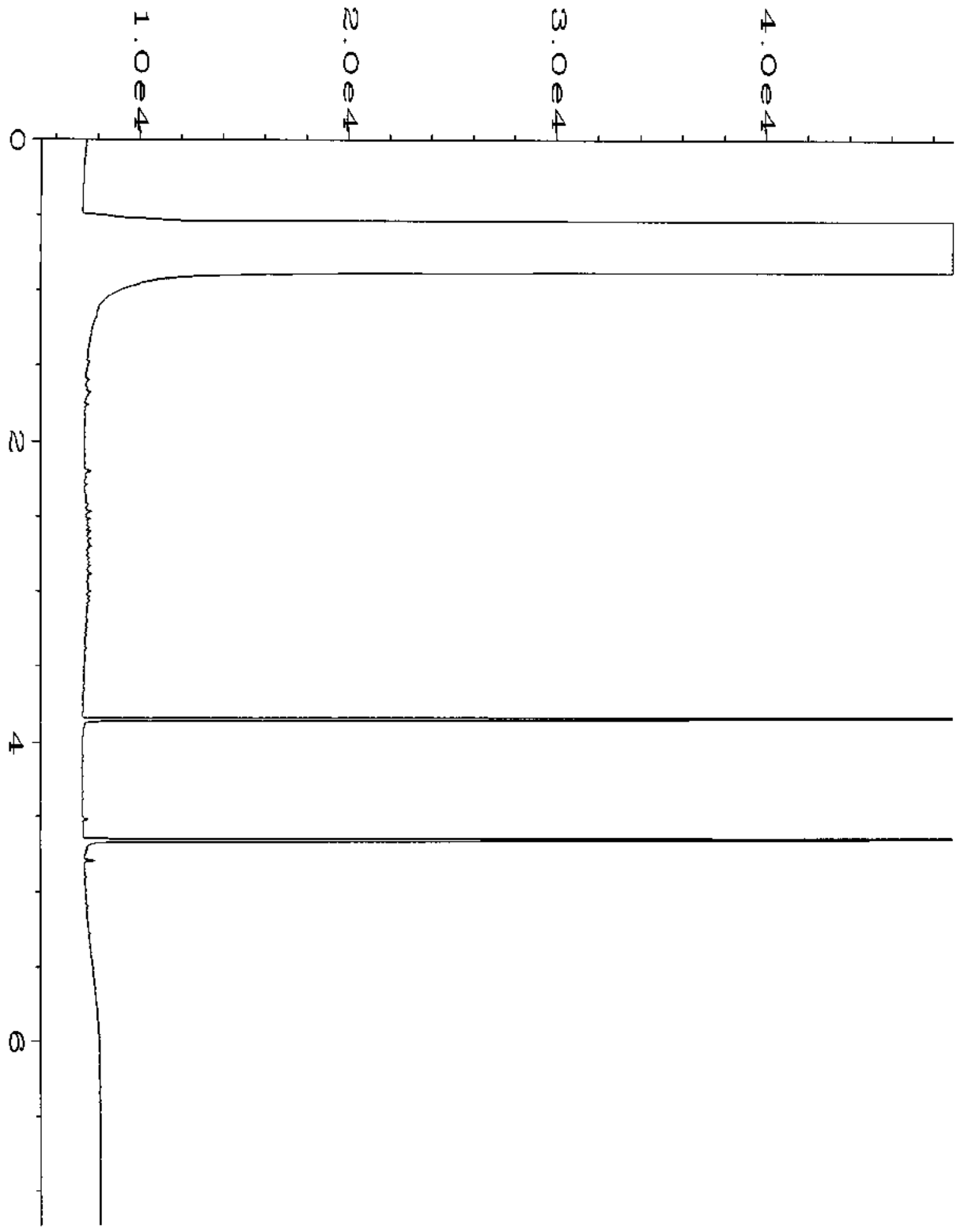
Data File Name	: C:\HPCHEM\6\DATA\08-08-16\082F1301.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 82
Sample Name	: 608112-34	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 13
Acquired on	: 09 Aug 16 00:49 AM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:19 AM	Analysis Method	: COND.MTH



Data File Name	: C:\HPCHEM\6\DATA\08-08-16\083F1301.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 83
Sample Name	: 608112-35	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 13
Acquired on	: 09 Aug 16 01:00 AM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:19 AM	Analysis Method	: COND.MTH

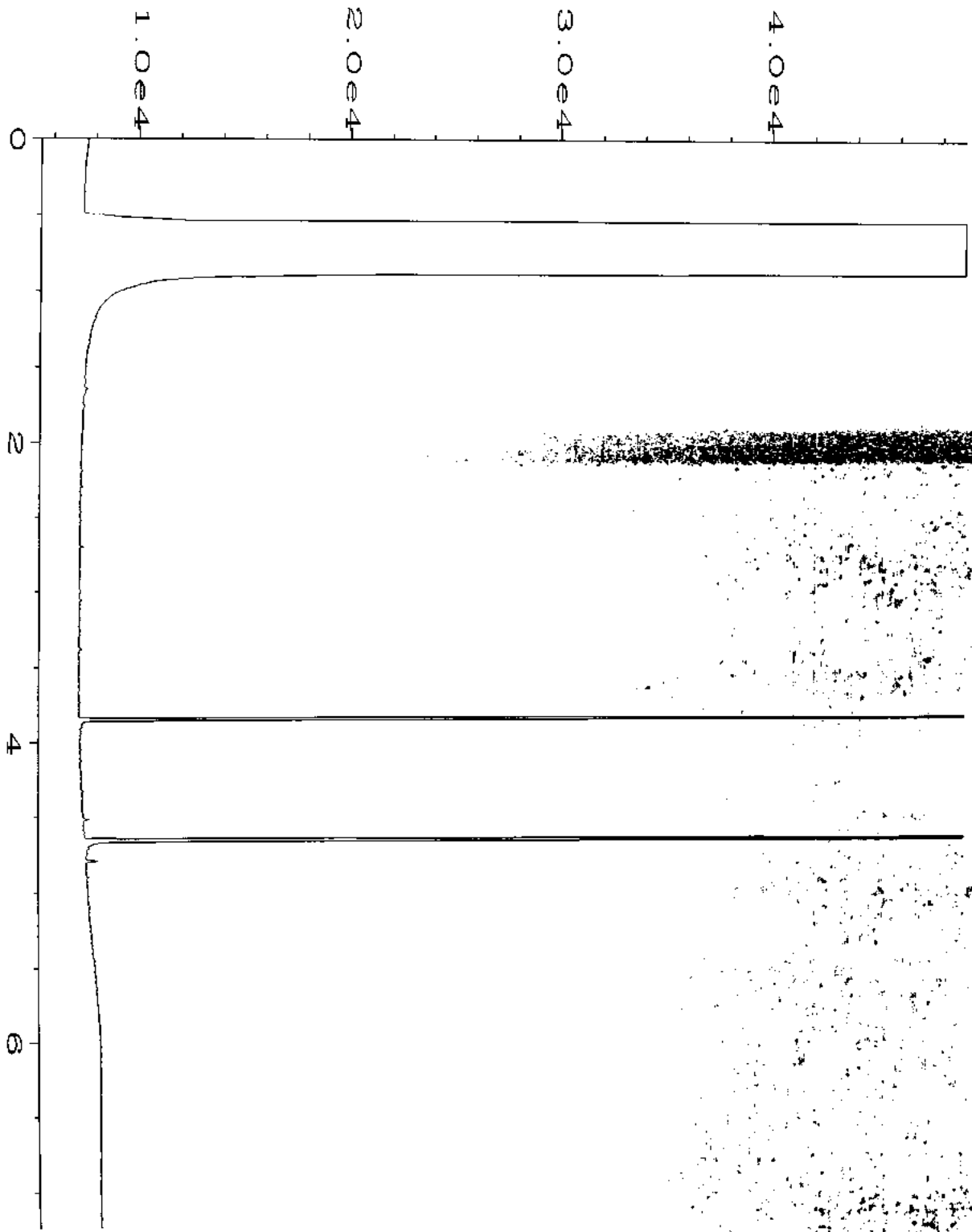


Data File Name	: C:\HPCHEM\6\DATA\08-08-16\084F1301.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 84
Sample Name	: 608112-36	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 13
Acquired on	: 09 Aug 16 01:12 AM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:20 AM	Analysis Method	: COND.MTH



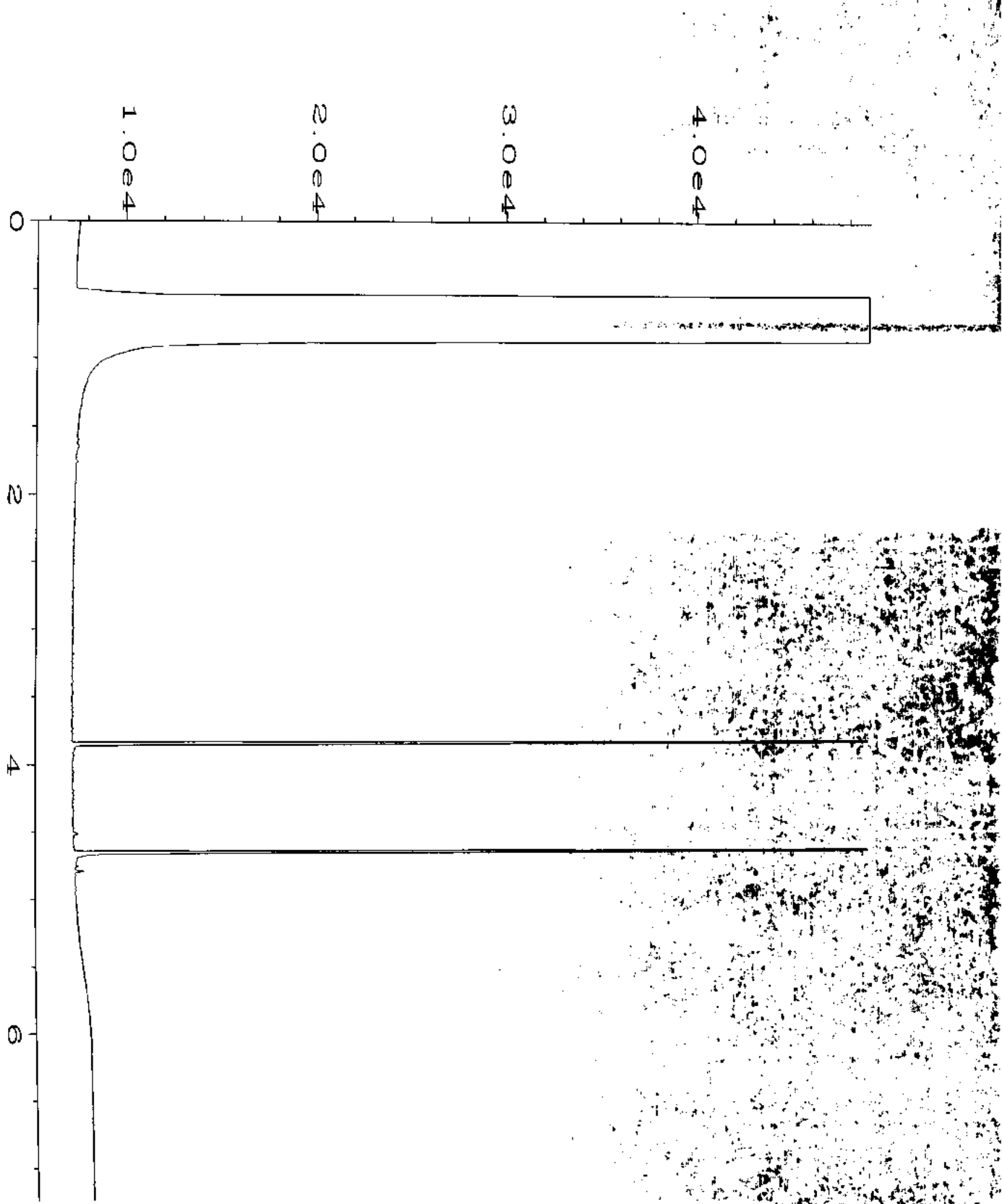
Data File Name : C:\HPCHEM\6\DATA\08-08-16\085F1301.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-37
Run Time Bar Code:
Acquired on : 09 Aug 16 01:23 AM
Report Created on: 09 Aug 16 11:20 AM

Page Number : 1
Vial Number : 85
Injection Number : 1
Sequence Line : 13
Instrument Method: DX.MTH
Analysis Method : COND.MTH



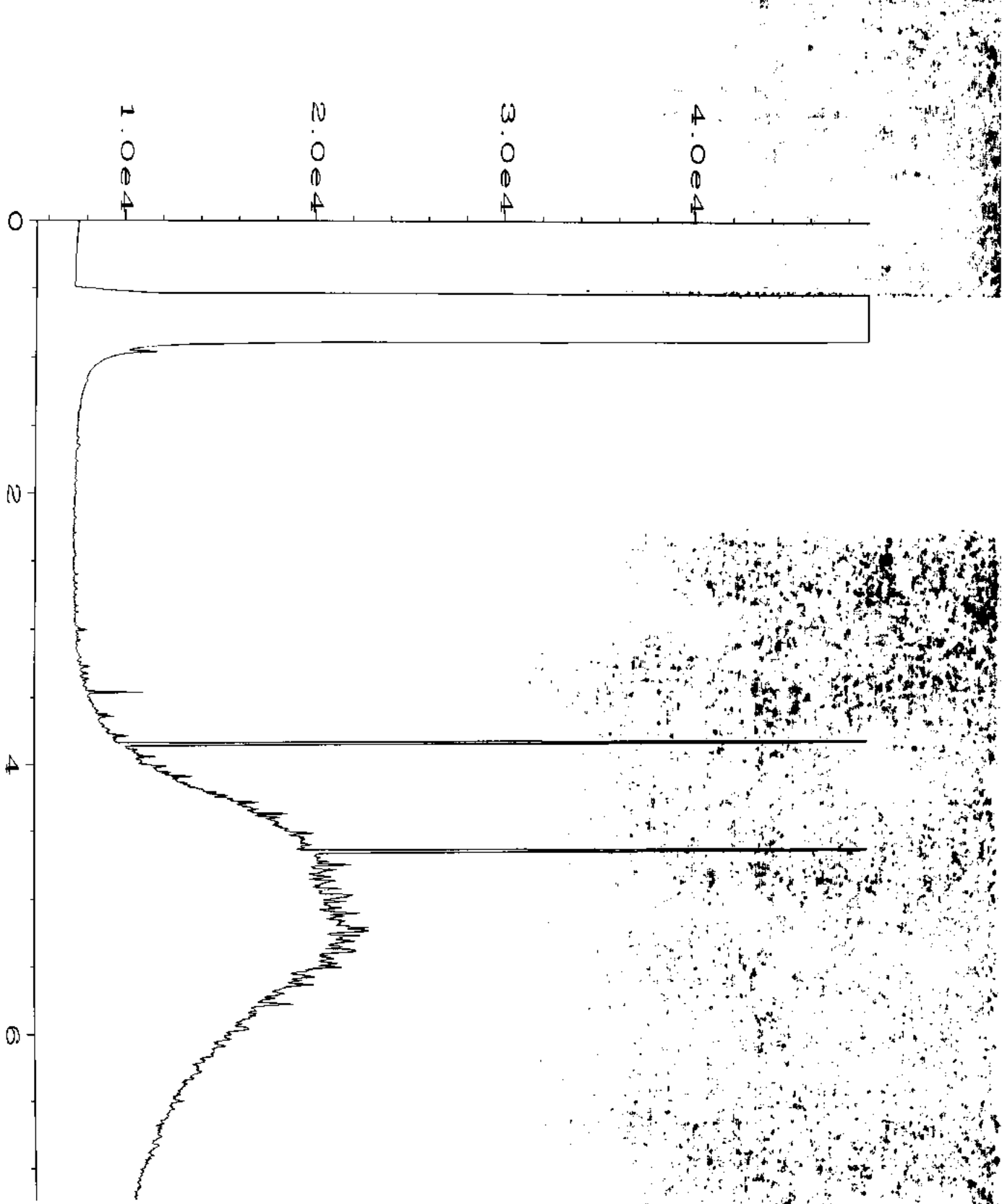
Data File Name : C:\HPCHEM\1\DATA\08-09-16\040F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-38
Run Time Bar Code:
Acquired on : 09 Aug 16 06:11 PM
Report Created on: 10 Aug 16 09:24 AM

Page Number : 1
Vial Number : 40
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH

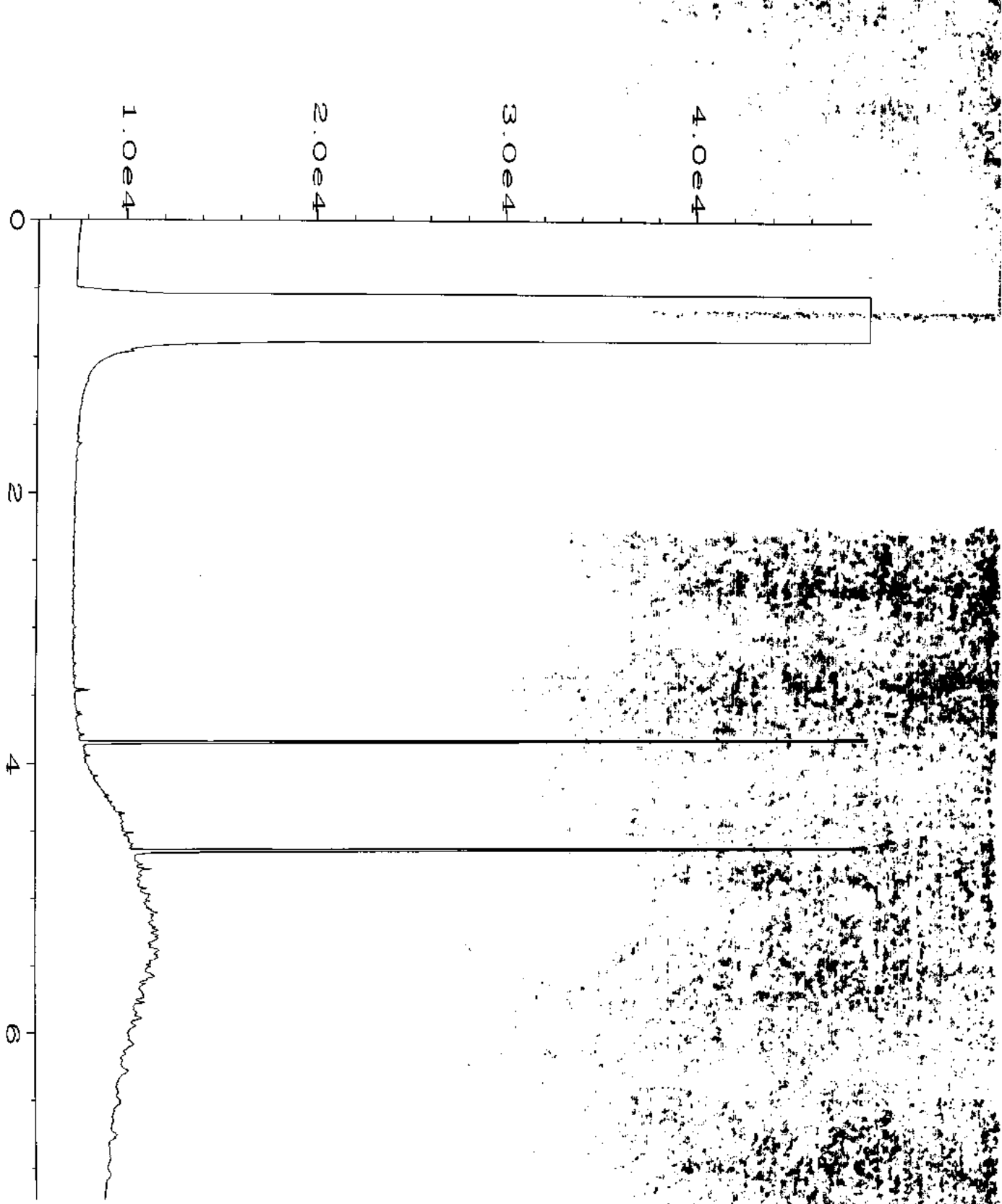


Data File Name : C:\HPCHEM\1\DATA\08-09-16\041F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-39
Run Time Bar Code:
Acquired on : 09 Aug 16 06:23 PM
Report Created on: 10 Aug 16 09:24 AM

Page Number : 1
Vial Number : 41
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH

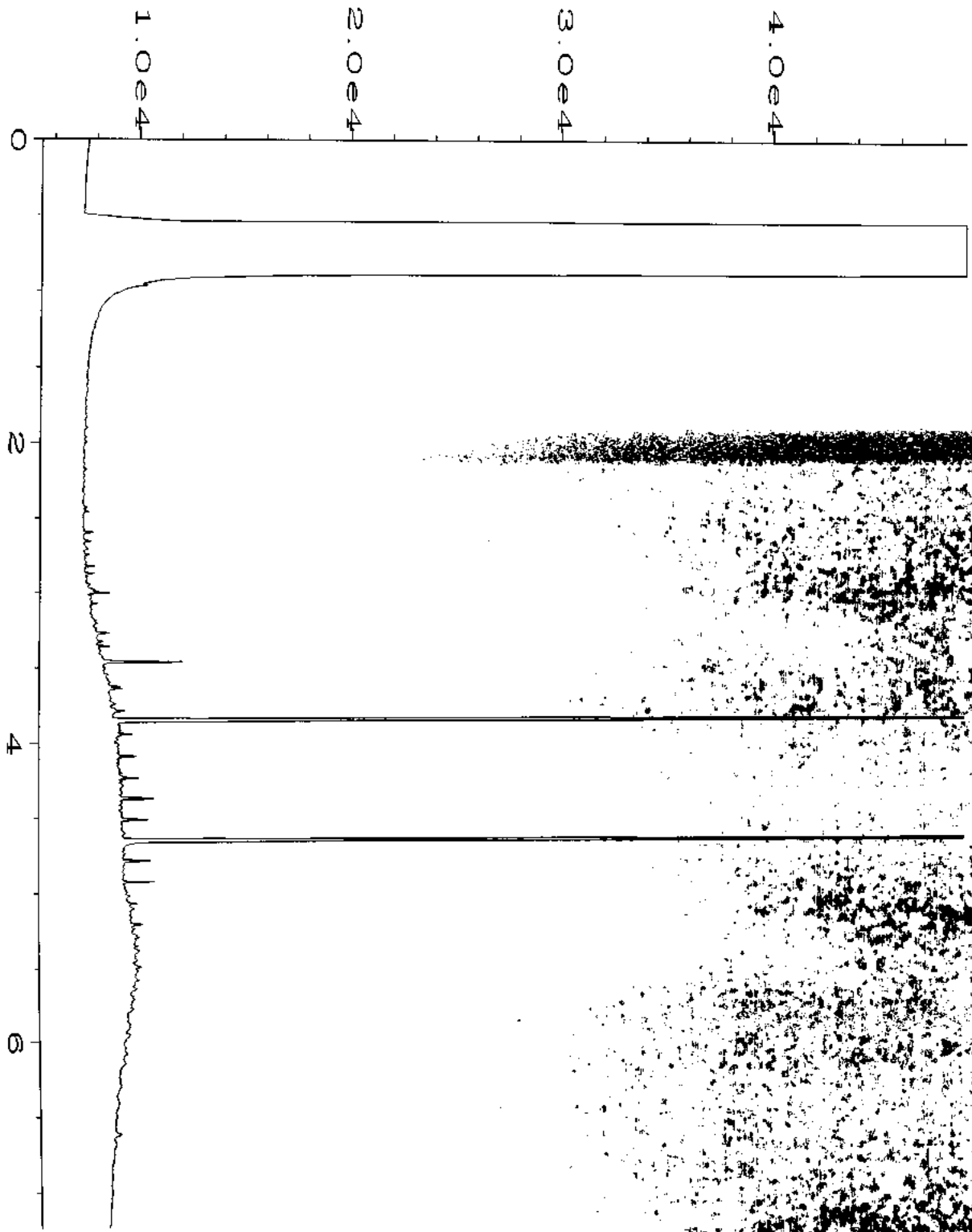


Data File Name	: C:\HPCHEM\1\DATA\08-09-16\042F0701.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 42
Sample Name	: 608112-40	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 09 Aug 16 06:34 PM	Instrument Method	: DX.MTH
Report Created on	: 10 Aug 16 09:24 AM	Analysis Method	: DX.MTH



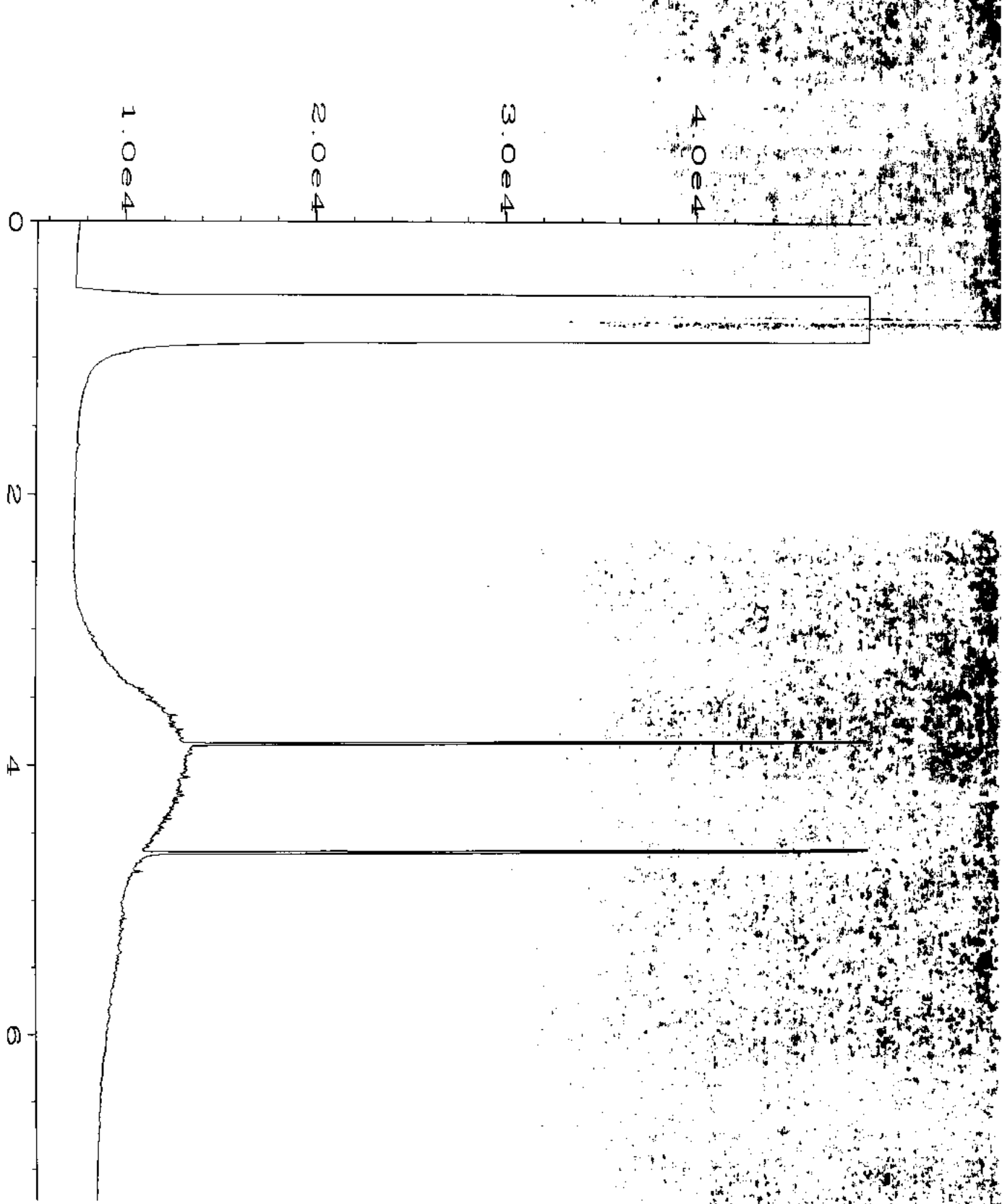
Data File Name : C:\HPCHEM\1\DATA\08-09-16\043F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-41
Run Time Bar Code:
Acquired on : 09 Aug 16 06:45 PM
Report Created on: 10 Aug 16 09:24 AM

Page Number : 1
Vial Number : 43
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



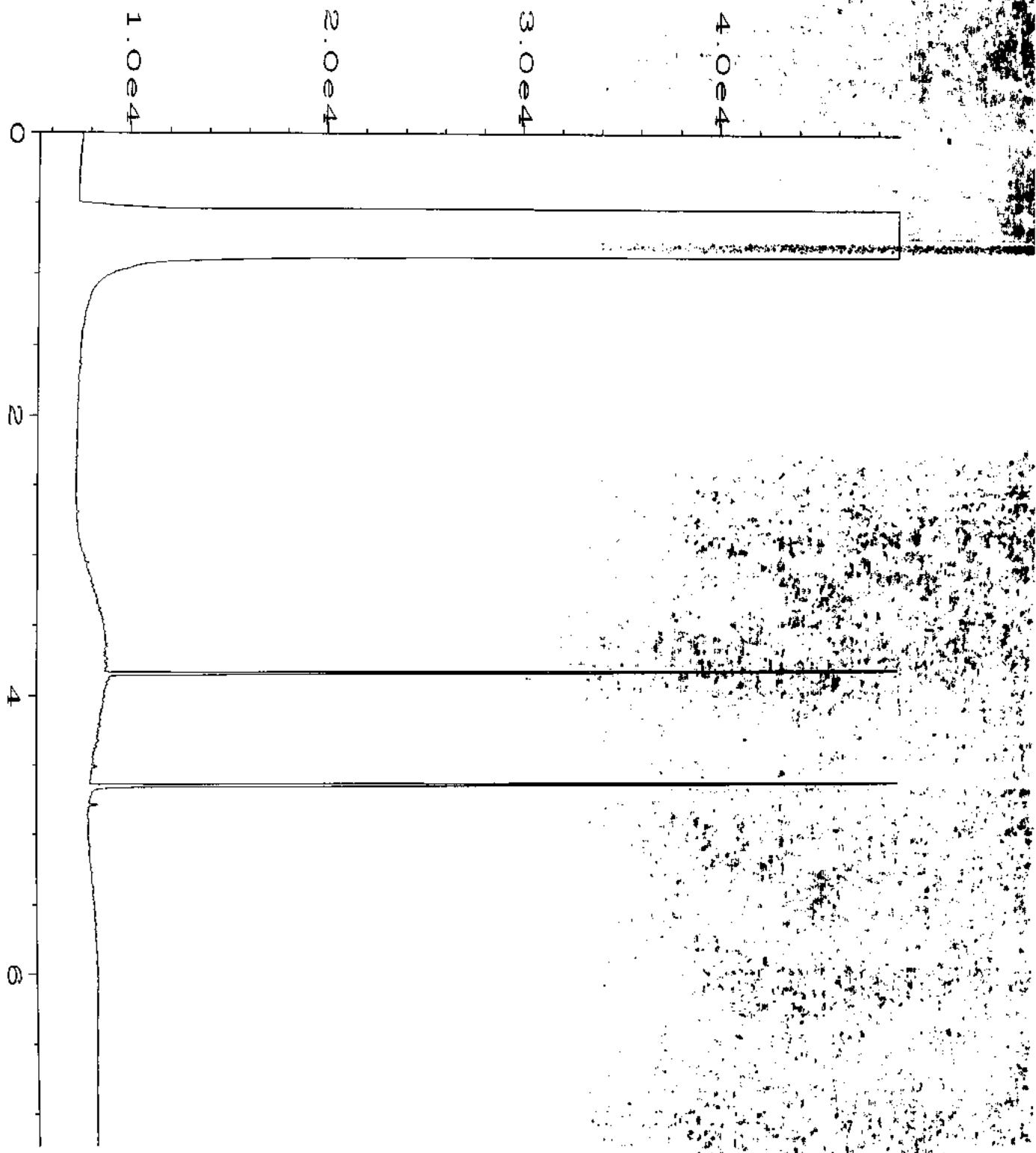
Data File Name : C:\HPCHEM\1\DATA\08-09-16\044F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-44
Run Time Bar Code:
Acquired on : 09 Aug 16 06:56 PM
Report Created on: 10 Aug 16 09:24 AM

Page Number : 1
Vial Number : 44
Injection Number : 1
Sequence Line : 7
Instrument Method : DX.MTH
Analysis Method : DX.MTH



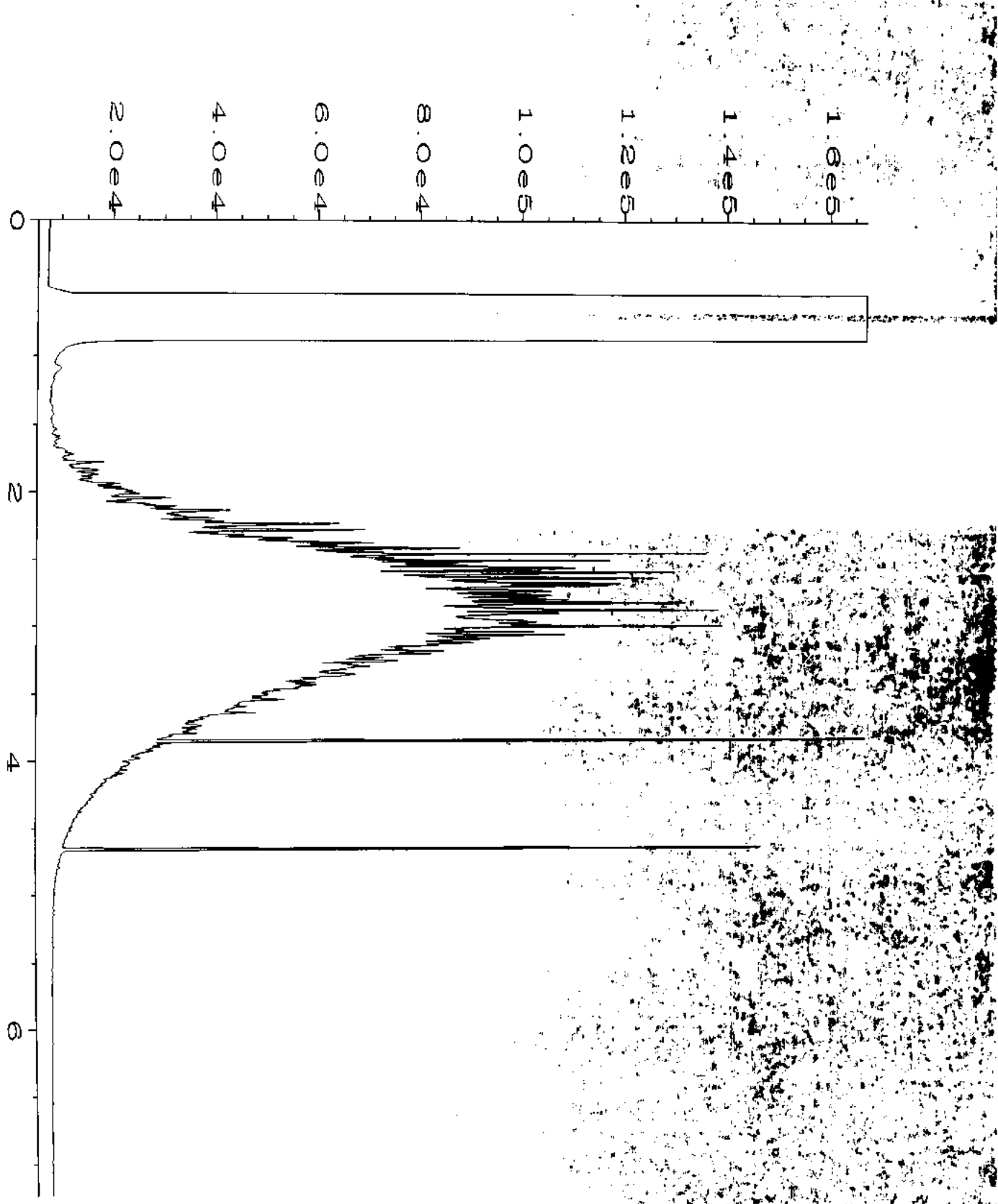
Data File Name : C:\HPCHEM\1\DATA\08-09-16\045F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-45
Run Time Bar Code:
Acquired on : 09 Aug 16 07:07 PM
Report Created on: 10 Aug 16 09:25 AM

Page Number : 1
Vial Number : 45
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



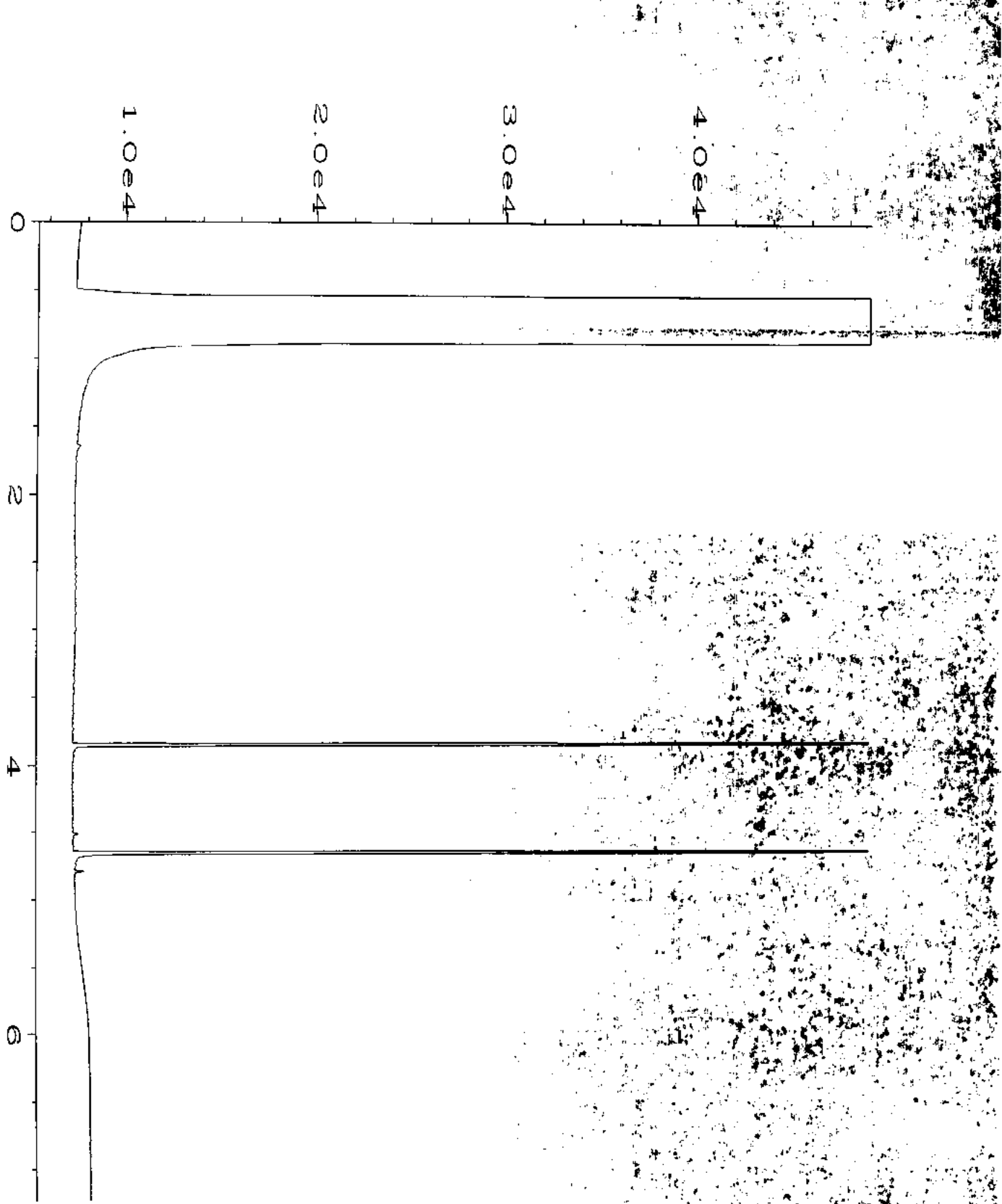
Data File Name : C:\HPCHEM\1\DATA\08-09-16\046F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-46
Run Time Bar Code:
Acquired on : 09 Aug 16 07:19 PM
Report Created on: 10 Aug 16 09:25 AM

Page Number : 1
Vial Number : 46
Injection Number: 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



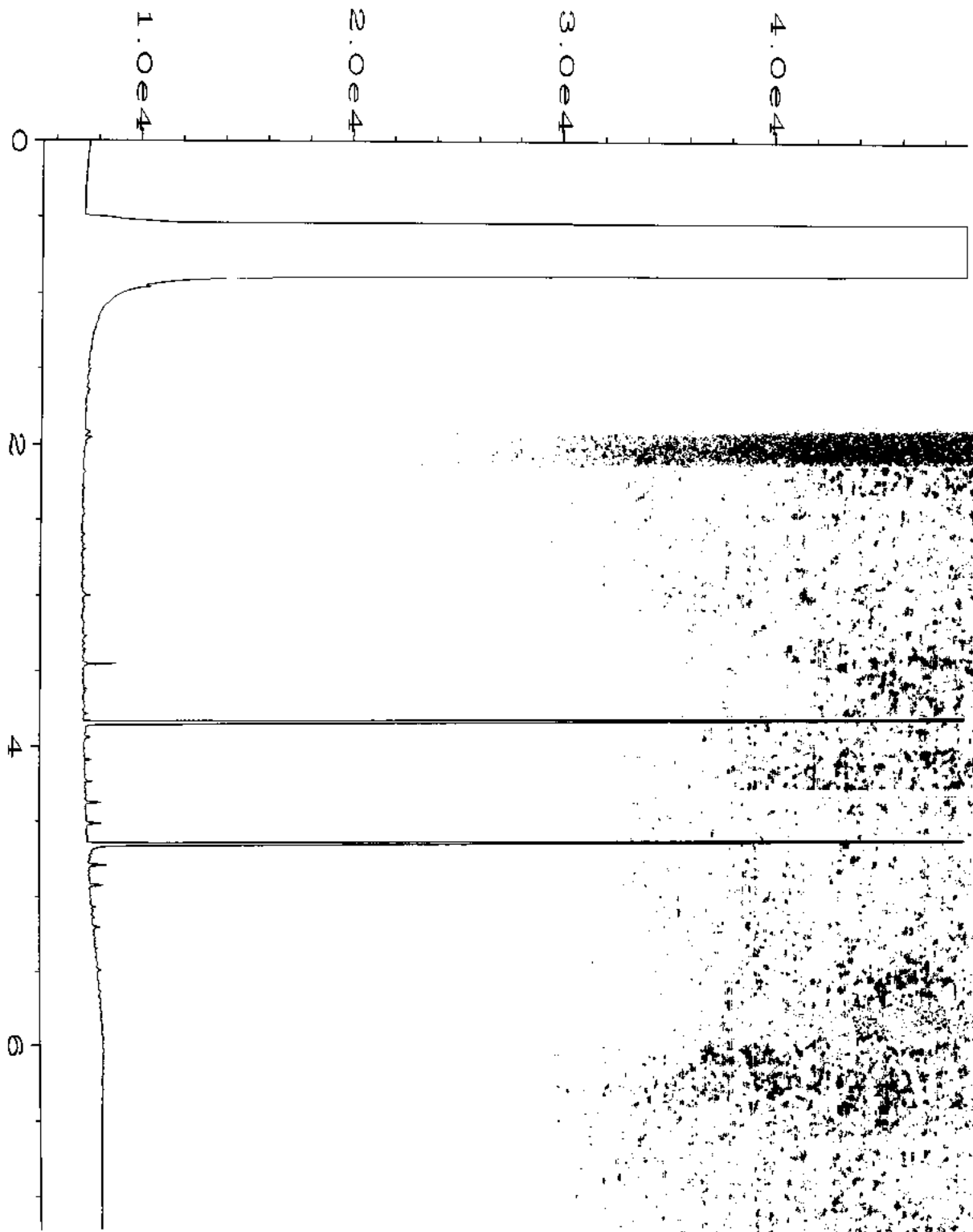
Data File Name : C:\HPCHEM\1\DATA\08-09-16\047F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-47
Run Time Bar Code:
Acquired on : 09 Aug 16 07:30 PM
Report Created on: 10 Aug 16 09:25 AM

Page Number : 47
Vial Number : 47
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



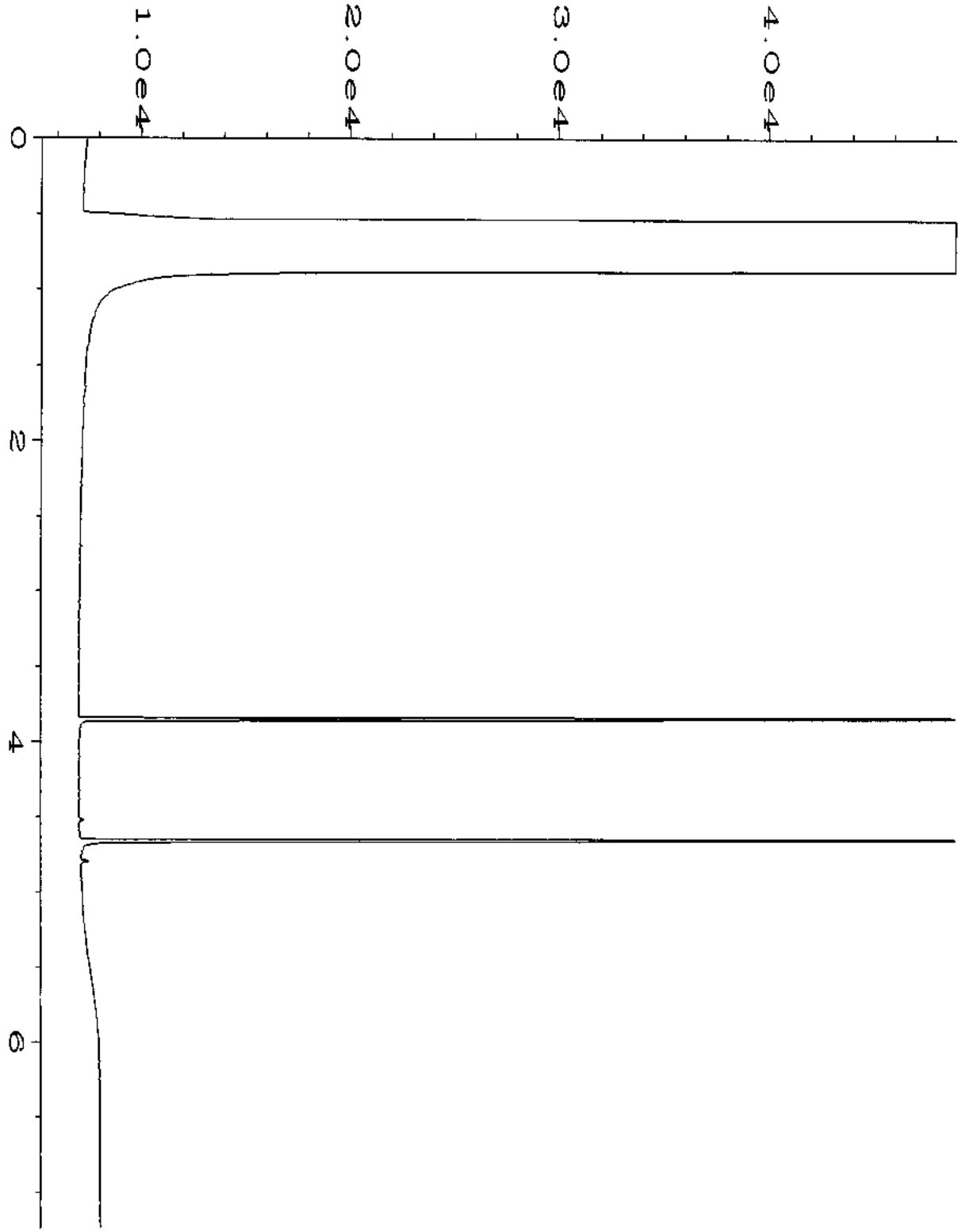
Data File Name : C:\HPCHEM\1\DATA\08-09-16\048F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-48
Run Time Bar Code:
Acquired on : 09 Aug 16 07:41 PM
Report Created on: 10 Aug 16 09:25 AM

Page Number 1
Vial Number 48
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



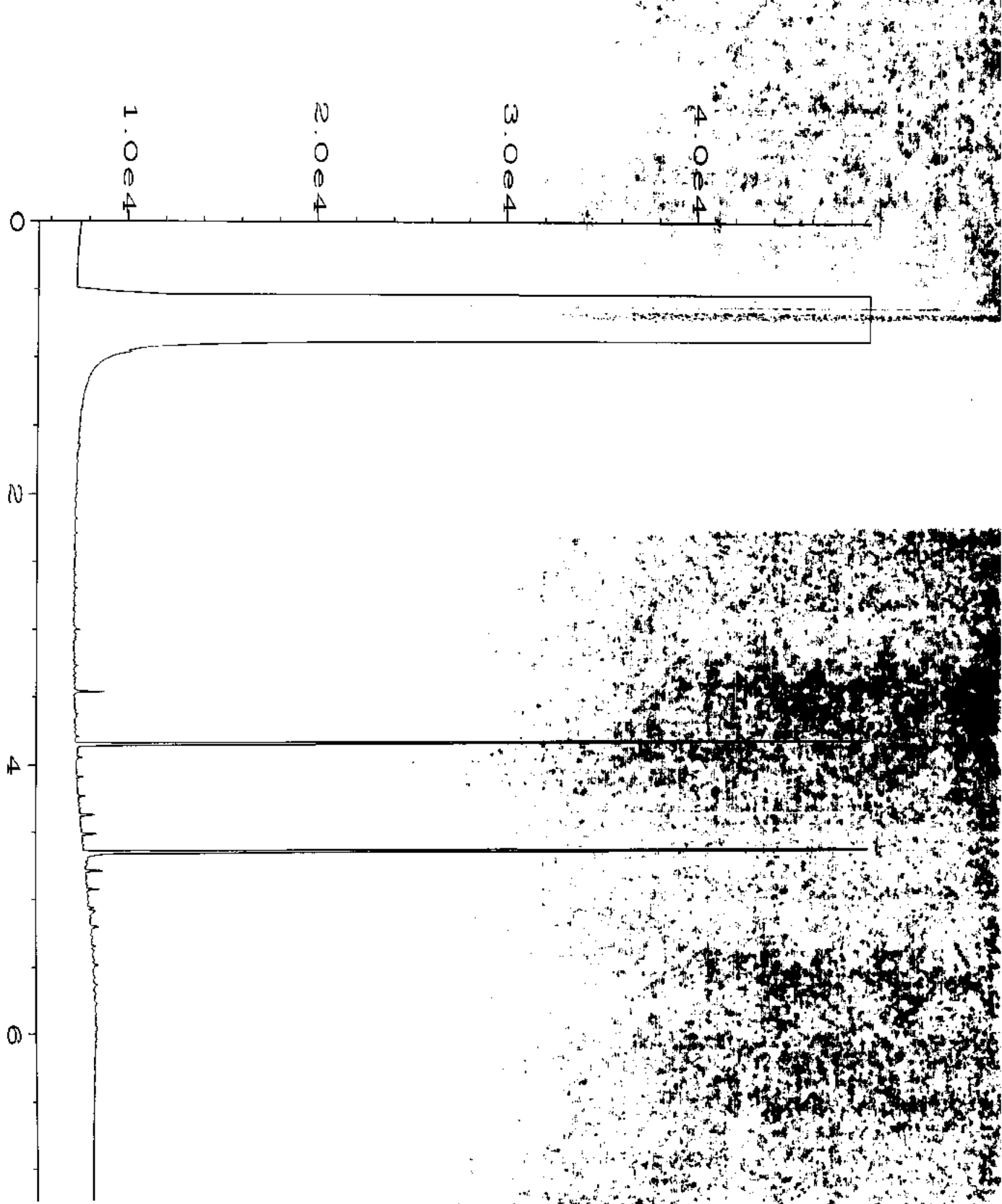
Data File Name : C:\HPCHEM\1\DATA\08-09-16\049F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-49
Run Time Bar Code:
Acquired on : 09 Aug 16 07:52 PM
Report Created on: 10 Aug 16 09:25 AM

Page Number 1
Vial Number 49
Injection Number 1
Sequence Line 7
Instrument Method DX\MTH
Analysis Method DX\MTH



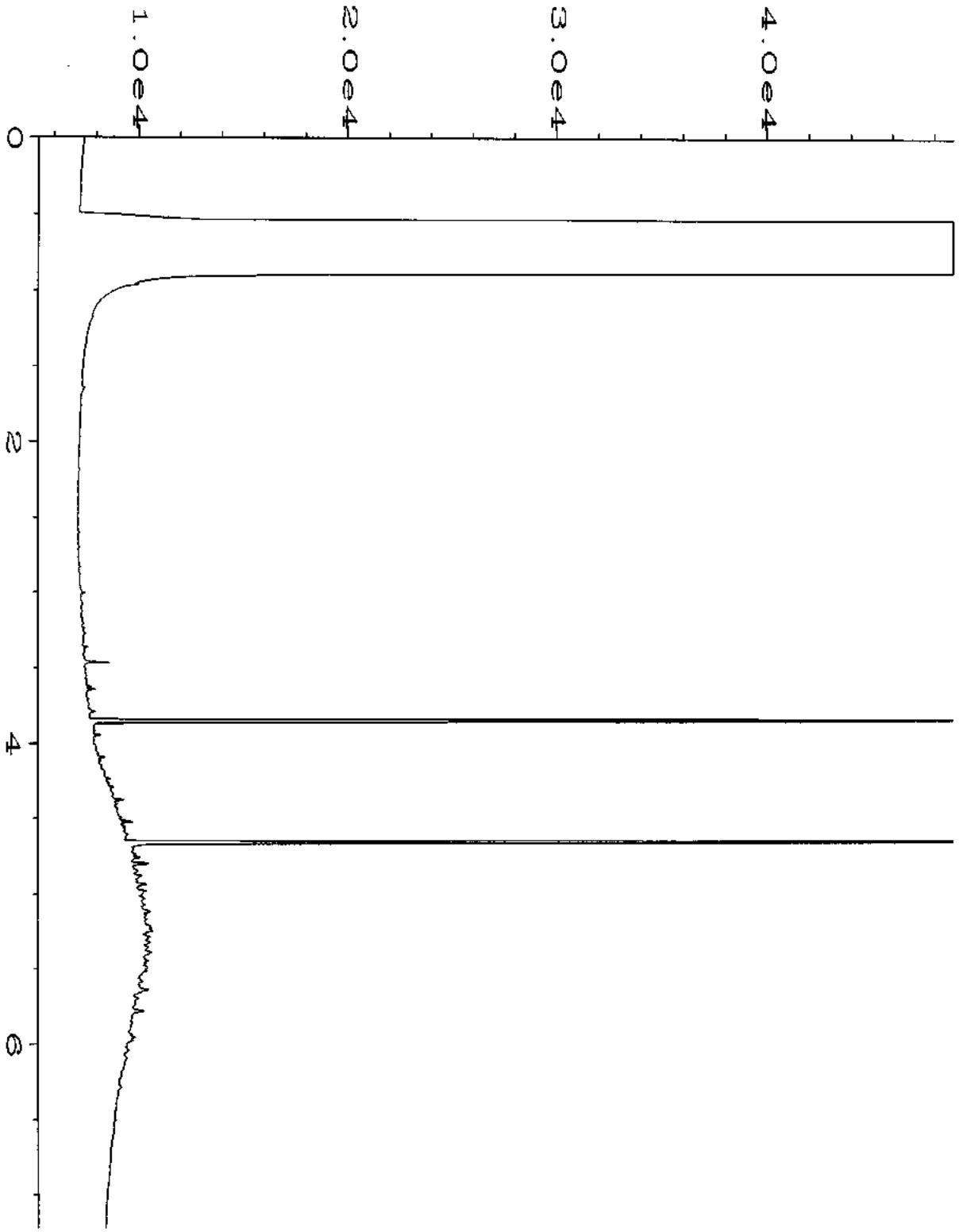
Data File Name : C:\HPCHEM\6\DATA\08-08-16\044F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-50
Run Time Bar Code:
Acquired on : 08 Aug 16 04:35 PM
Report Created on: 09 Aug 16 11:20 AM

Page Number : 1
Vial Number : 44
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : COND.MTH

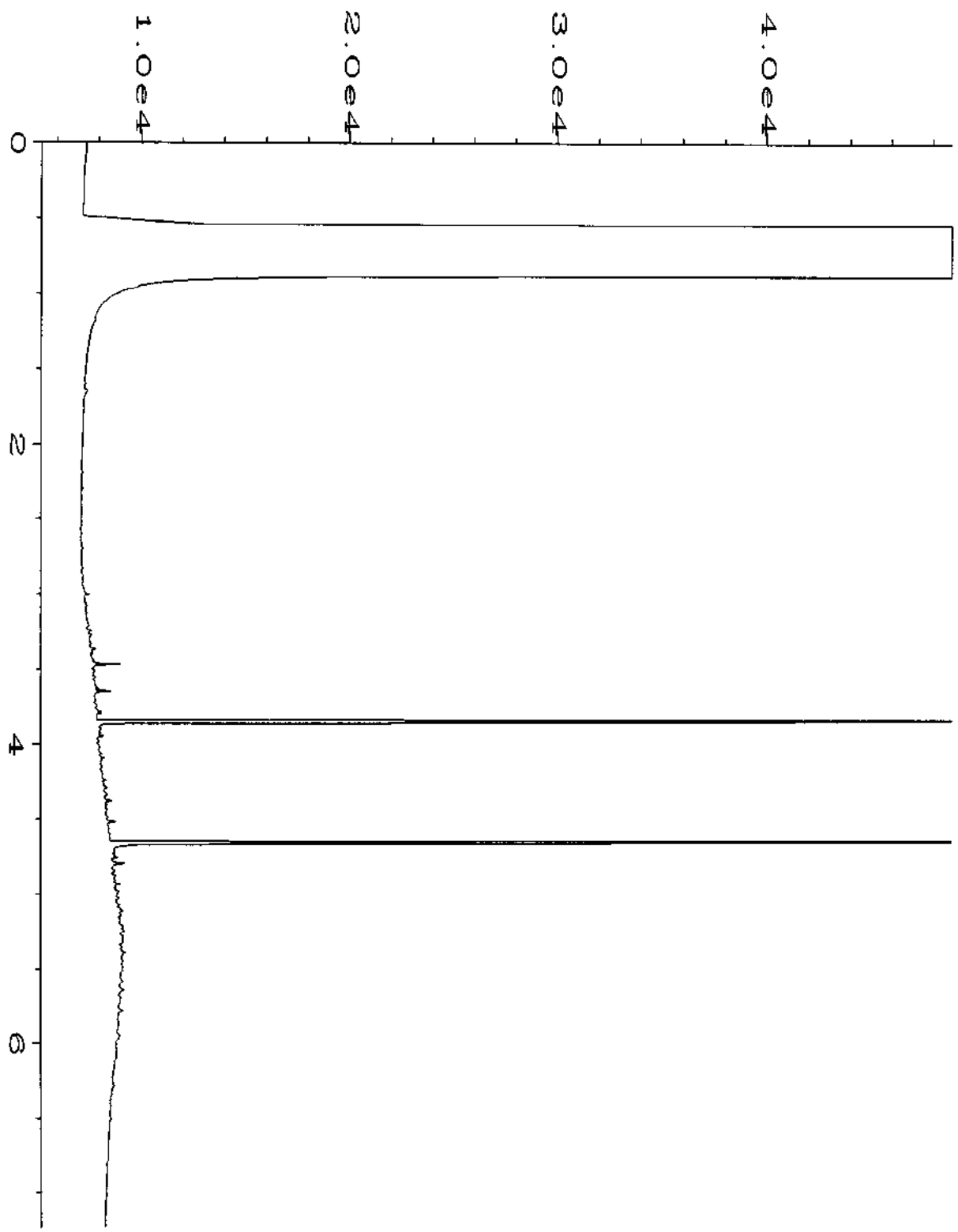


Data File Name : C:\HPCHEM\1\DATA\08-09-16\050F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-51
Run Time Bar Code:
Acquired on : 09 Aug 16 08:04 PM
Report Created on: 10 Aug 16 09:25 AM

Page Number :
Vial Number :
Injection Number :
Sequence Line :
Instrument Method : DX-MTH
Analysis Method : DX-MTH

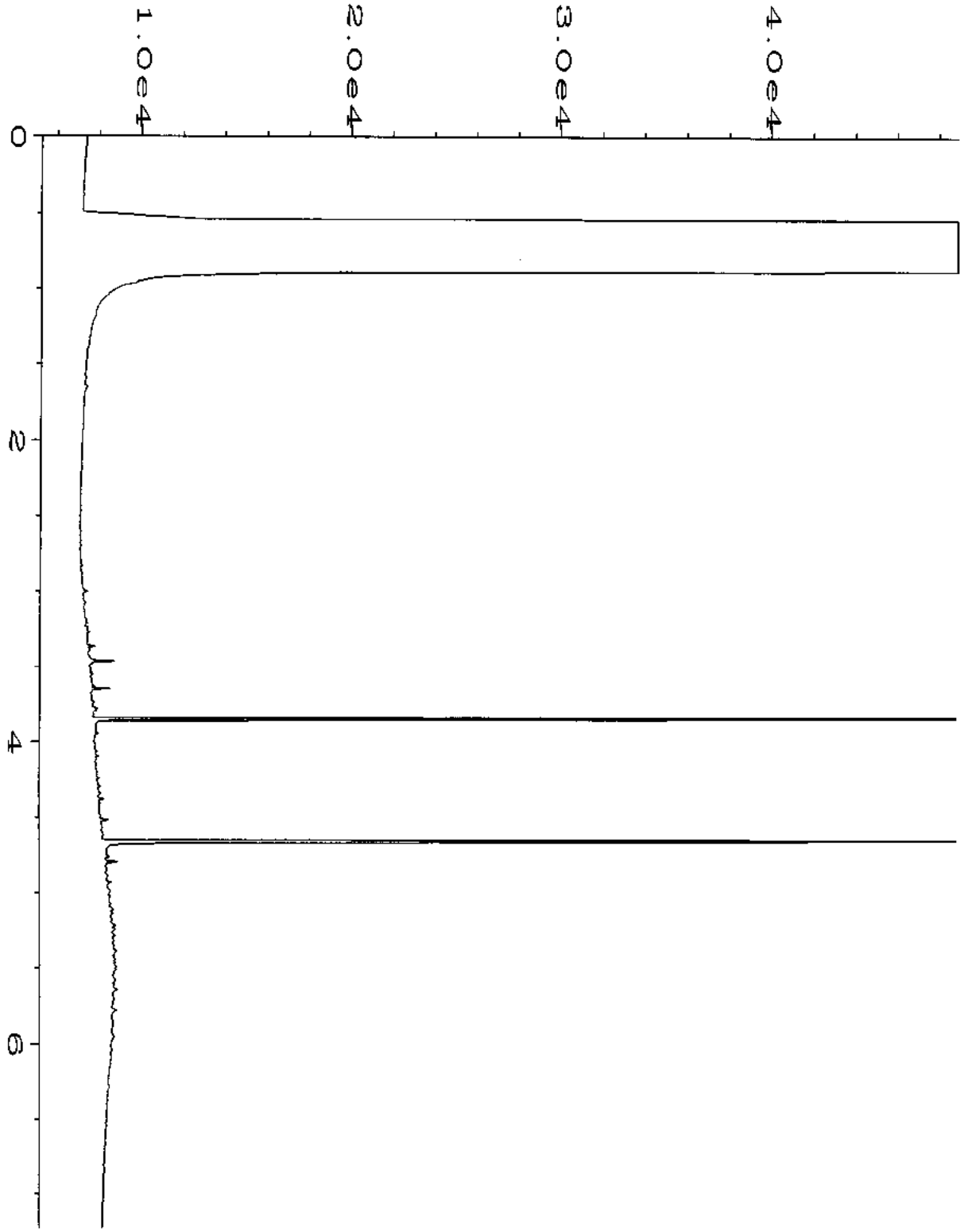


Data File Name	: C:\HPCHEM\6\DATA\08-08-16\045F0701.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 45
Sample Name	: 608112-53	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 08 Aug 16 04:46 PM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:20 AM	Analysis Method	: COND.MTH

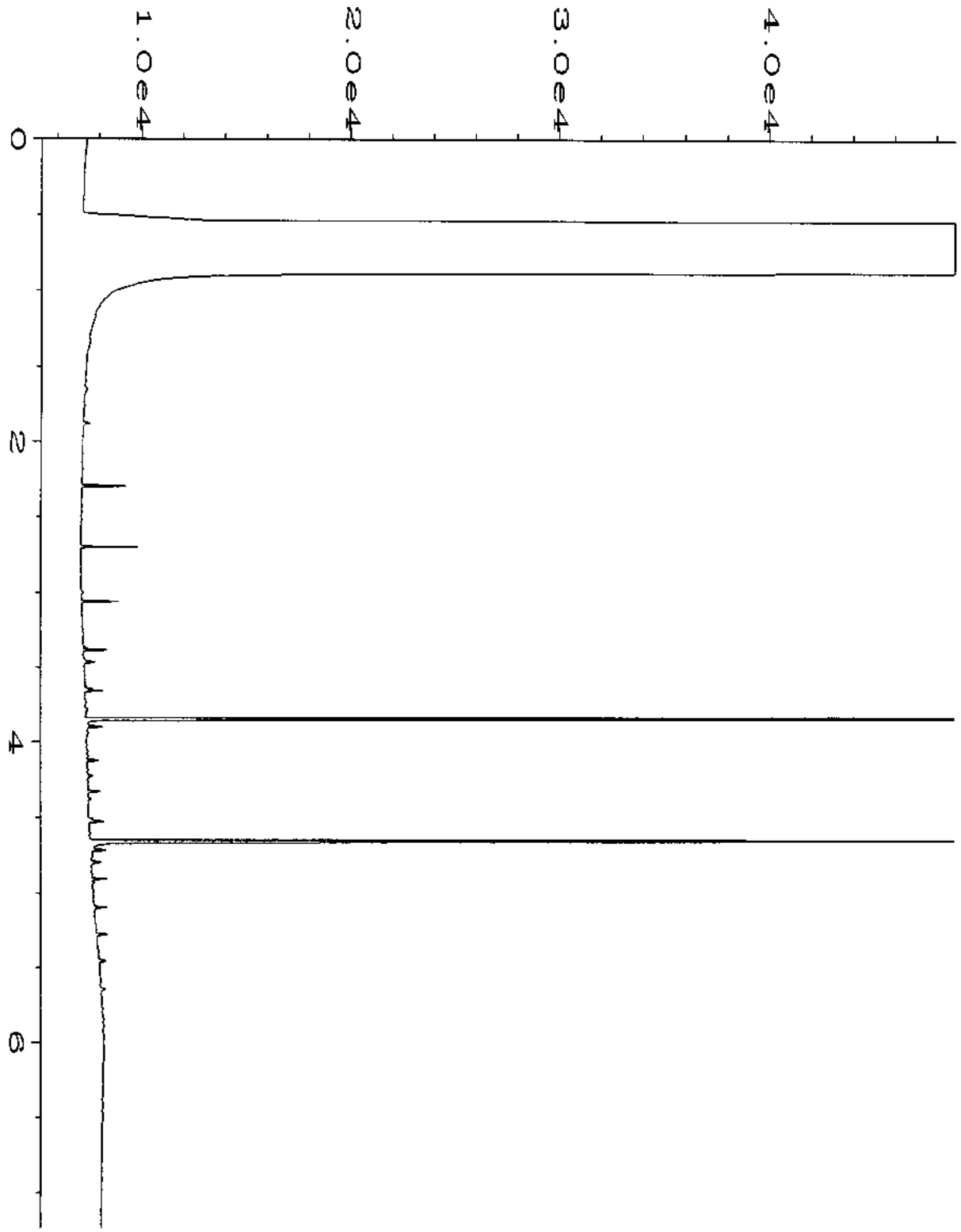


Data File Name : C:\HPCHEM\6\DATA\08-08-16\046F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-54
Run Time Bar Code:
Acquired on : 08 Aug 16 04:57 PM
Report Created on: 09 Aug 16 11:20 AM

Page Number : 1
Vial Number : 46
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : COND.MTH

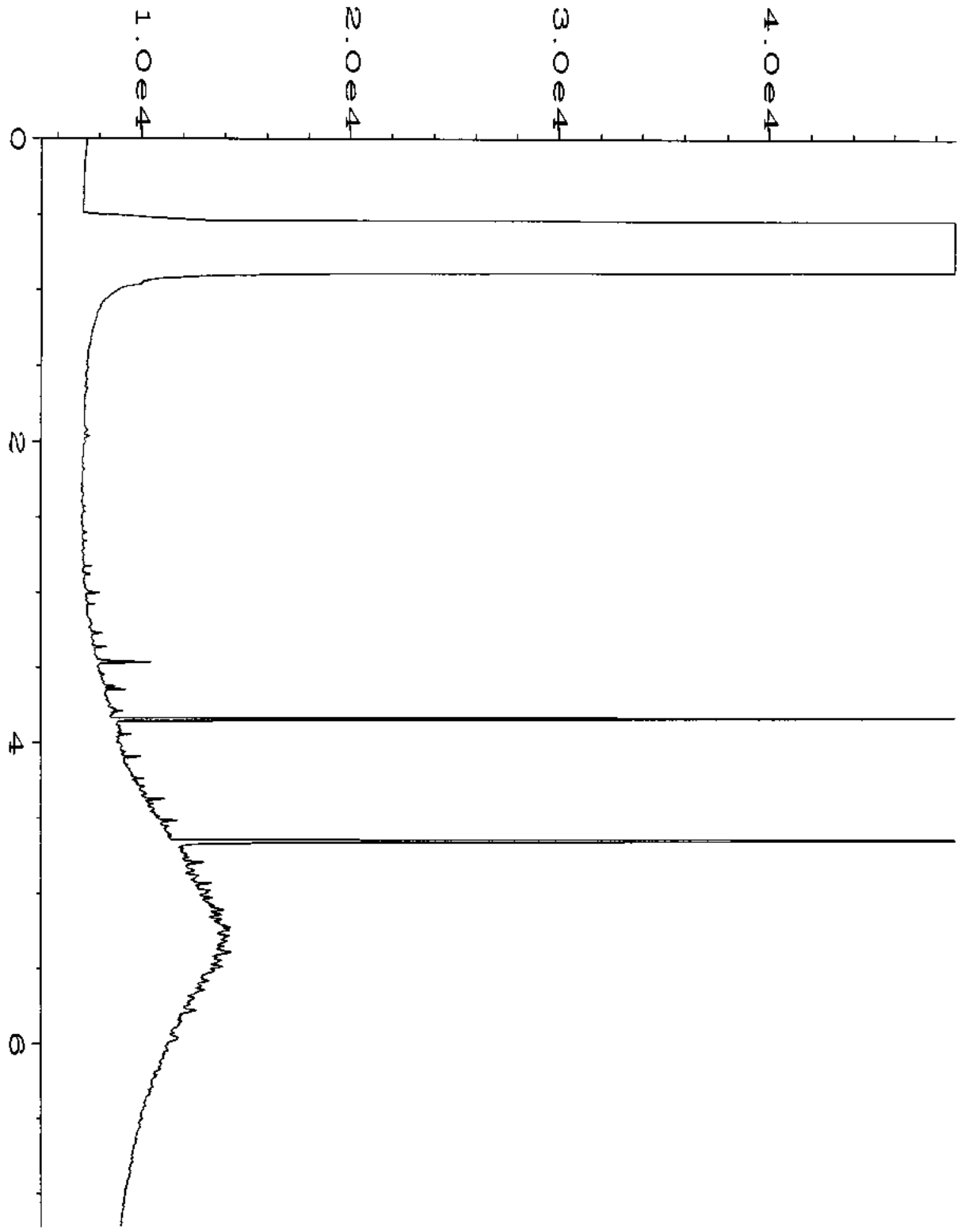


Data File Name	: C:\HPCHEM\6\DATA\08-08-16\047F0701.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 47
Sample Name	: 608112-55	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 08 Aug 16 05:08 PM	Instrument Method	: DX.MTH
Report Created on:	09 Aug 16 11:20 AM	Analysis Method	: COND.MTH



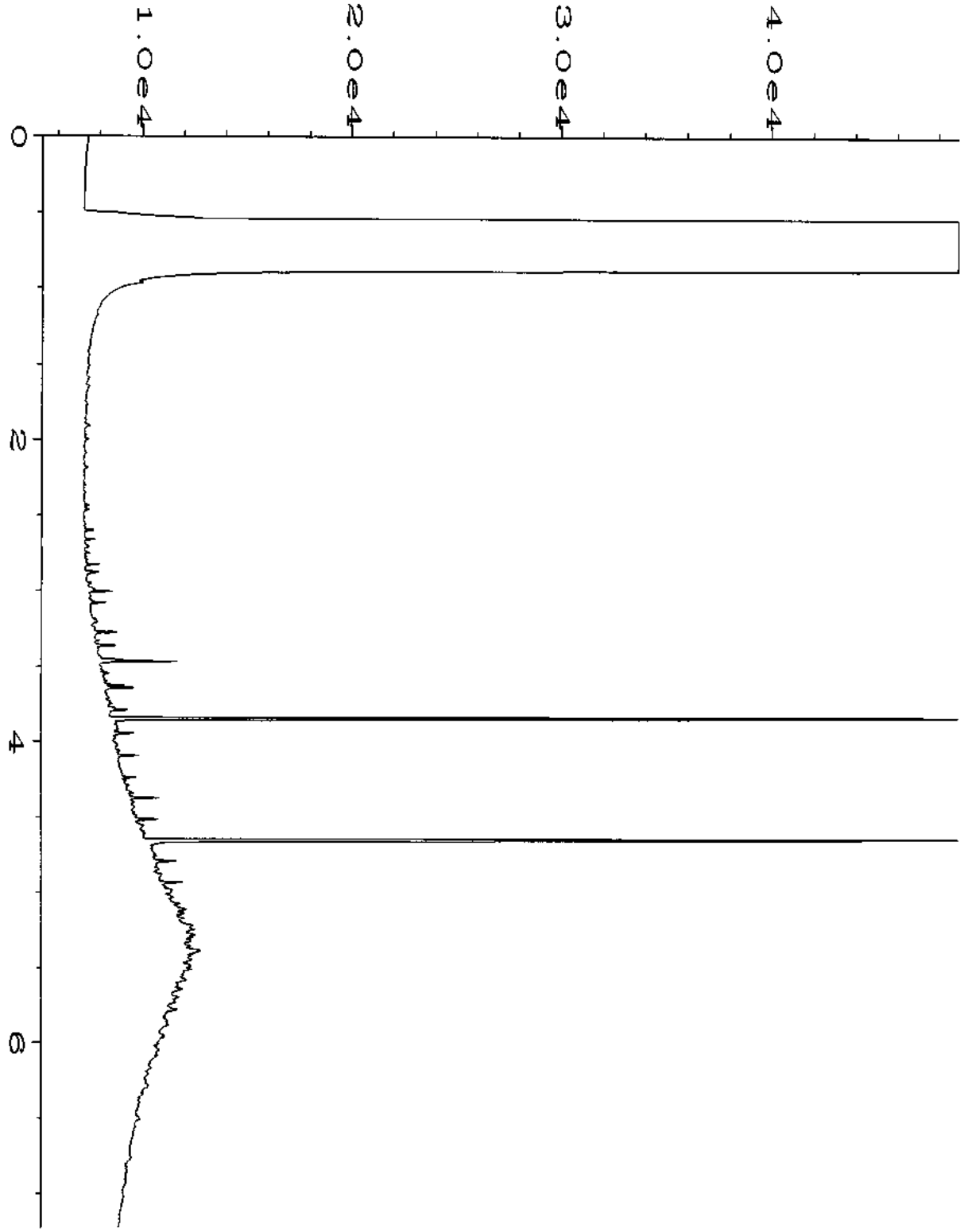
Data File Name : C:\HPCHEM\6\DATA\08-08-16\048F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-56
Run Time Bar Code:
Acquired on : 08 Aug 16 05:20 PM
Report Created on: 09 Aug 16 11:20 AM

Page Number : 1
Vial Number : 48
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : COND.MTH



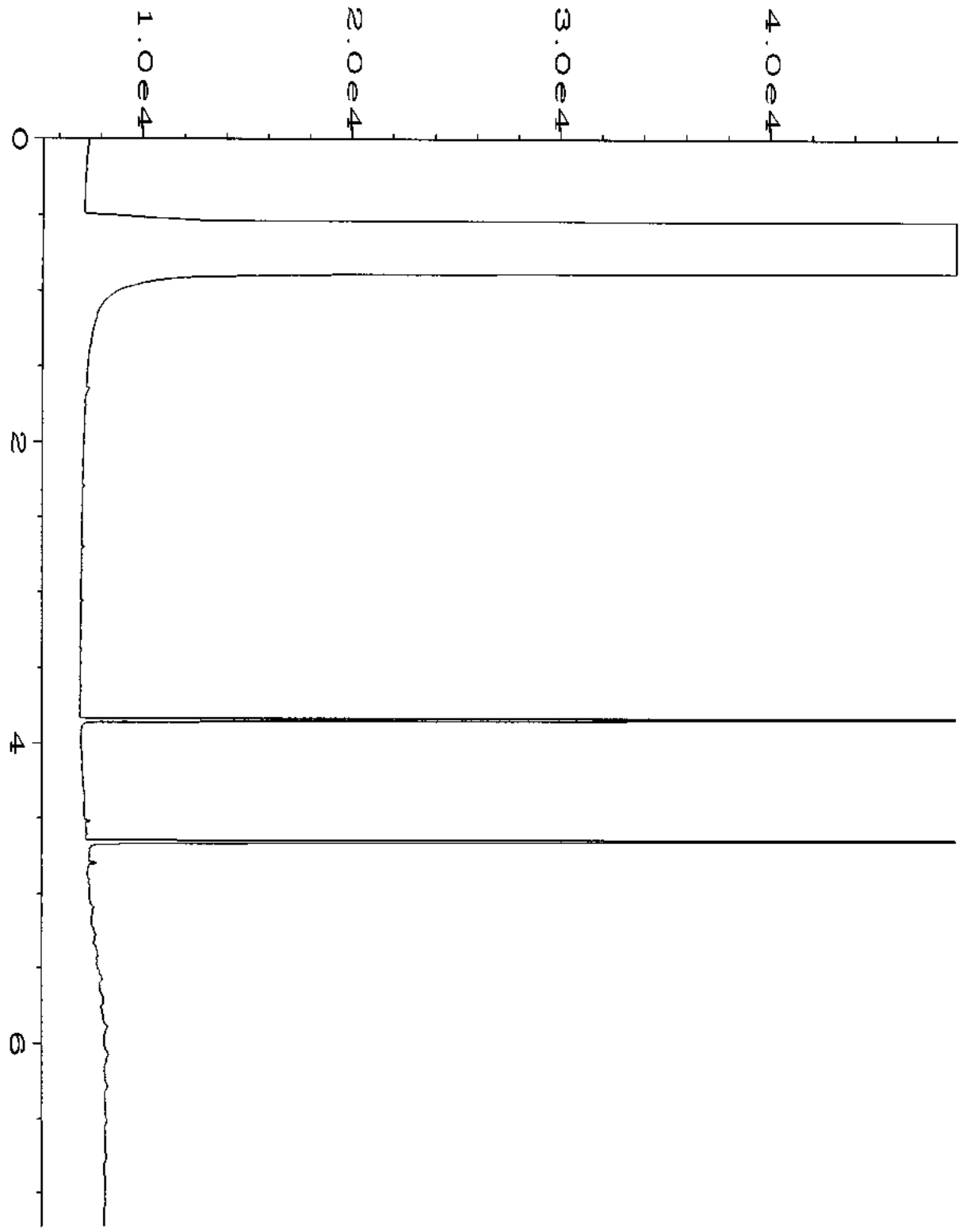
Data File Name : C:\HPCHEM\6\DATA\08-08-16\049F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-58
Run Time Bar Code:
Acquired on : 08 Aug 16 05:31 PM
Report Created on: 09 Aug 16 11:20 AM

Page Number : 1
Vial Number : 49
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : COND.MTH



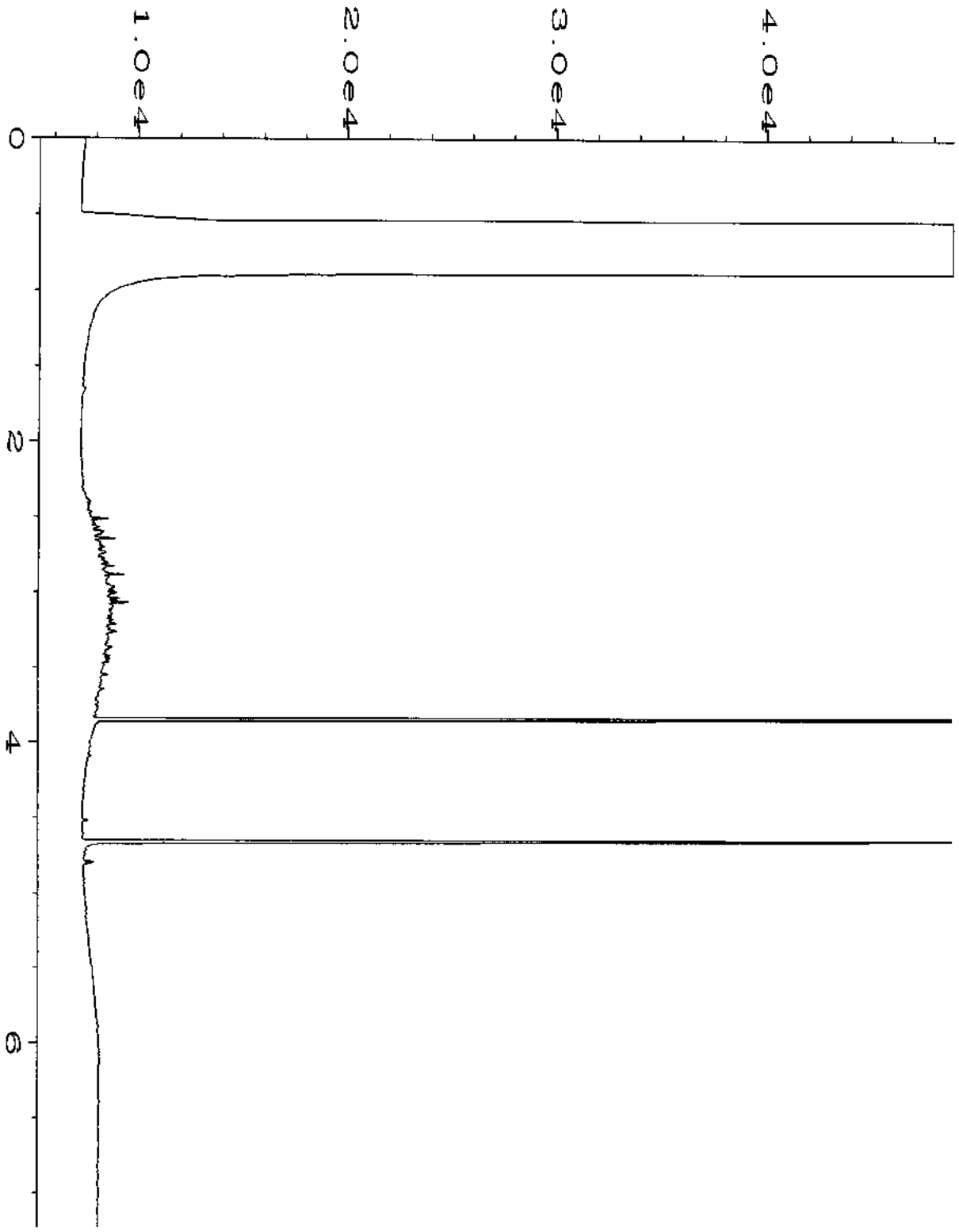
Data File Name : C:\HPCHEM\6\DATA\08-08-16\050F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-59
Run Time Bar Code:
Acquired on : 08 Aug 16 05:42 PM
Report Created on: 09 Aug 16 11:20 AM

Page Number : 1
Vial Number : 50
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : COND.MTH



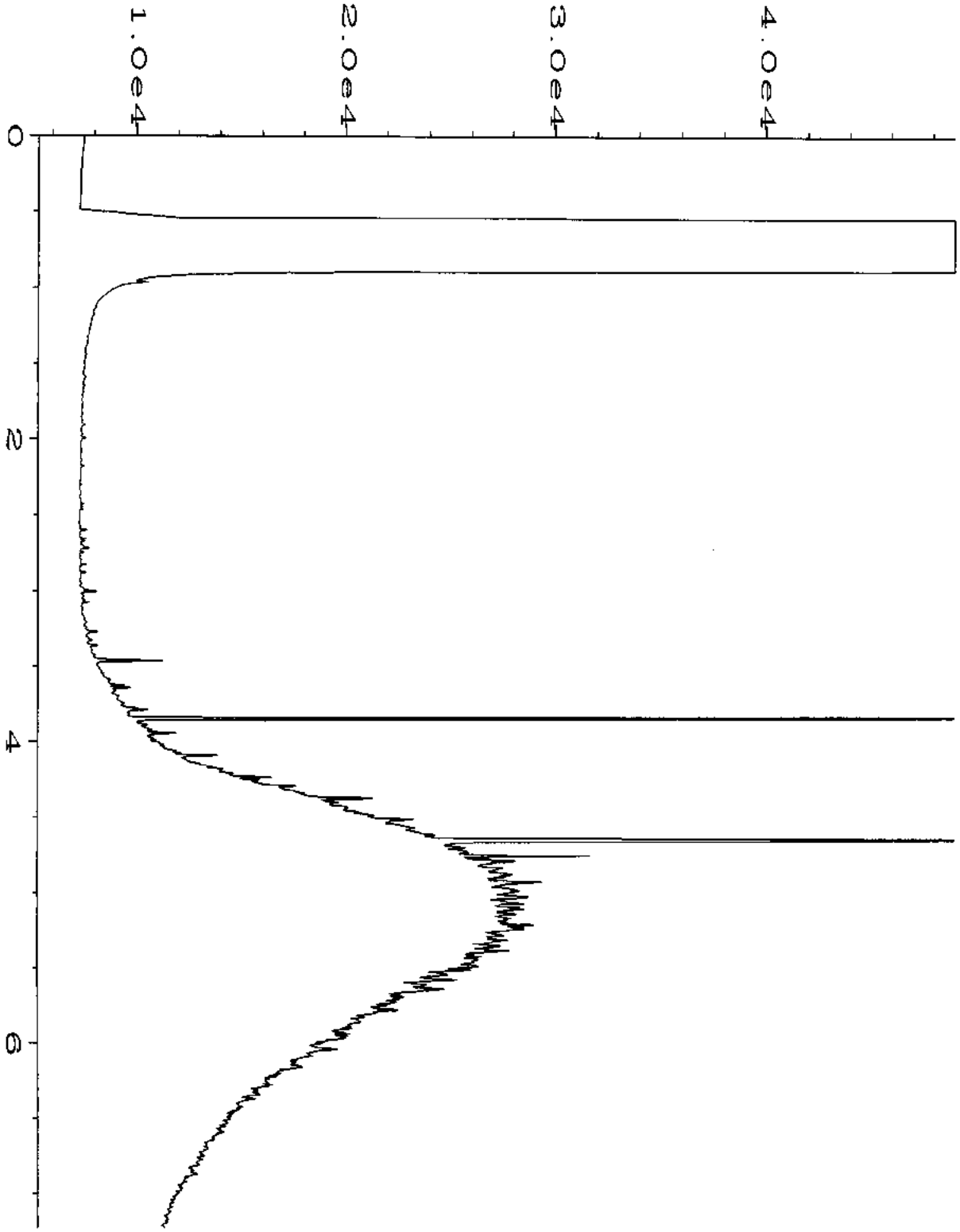
Data File Name : C:\HPCHEM\6\DATA\08-08-16\051F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-60
Run Time Bar Code:
Acquired on : 08 Aug 16 05:53 PM
Report Created on: 09 Aug 16 11:21 AM

Page Number : 1
Vial Number : 51
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : COND.MTH



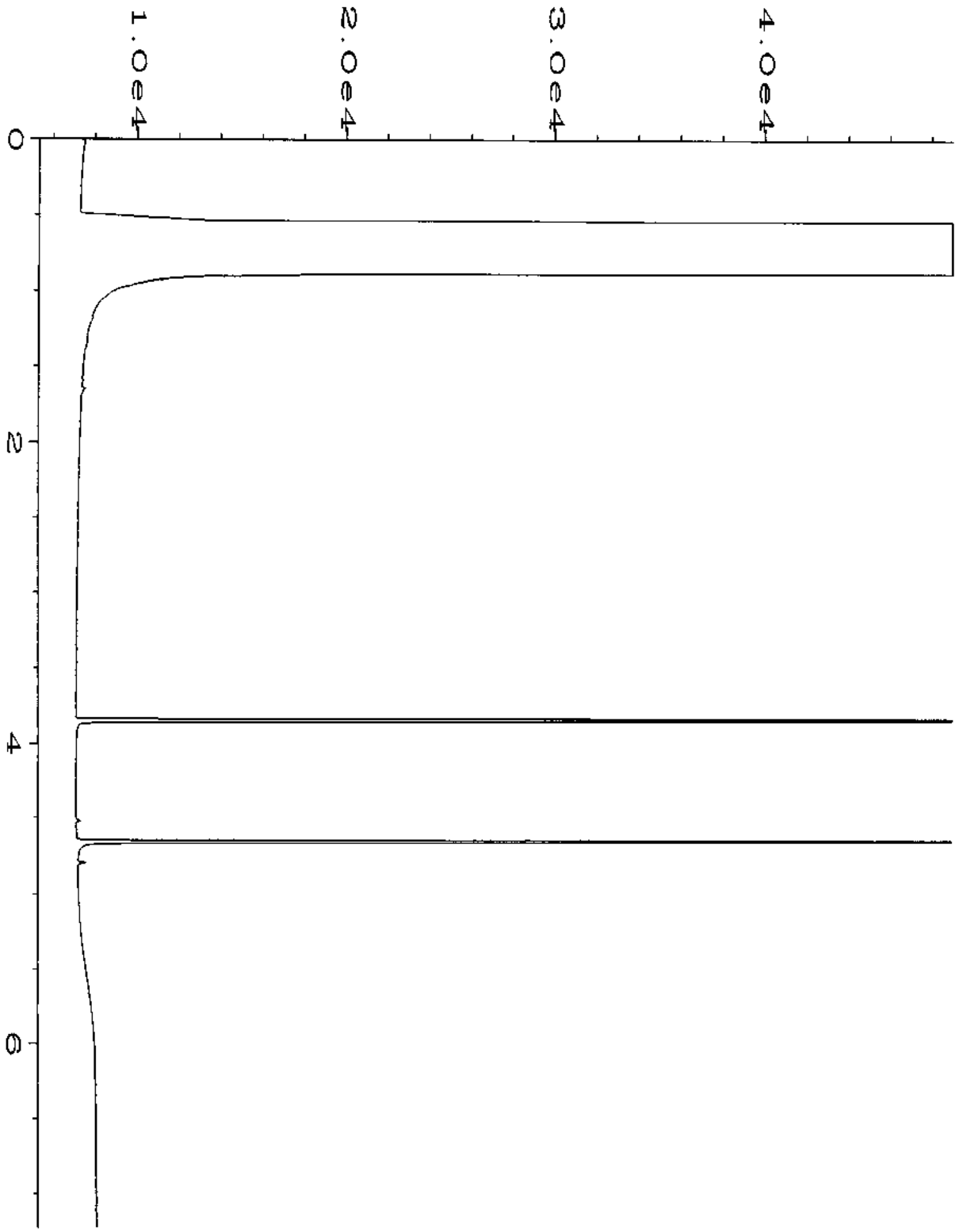
Data File Name : C:\HPCHEM\6\DATA\08-08-16\052F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-61
Run Time Bar Code:
Acquired on : 08 Aug 16 06:04 PM
Report Created on: 09 Aug 16 11:21 AM

Page Number : 1
Vial Number : 52
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : COND.MTH



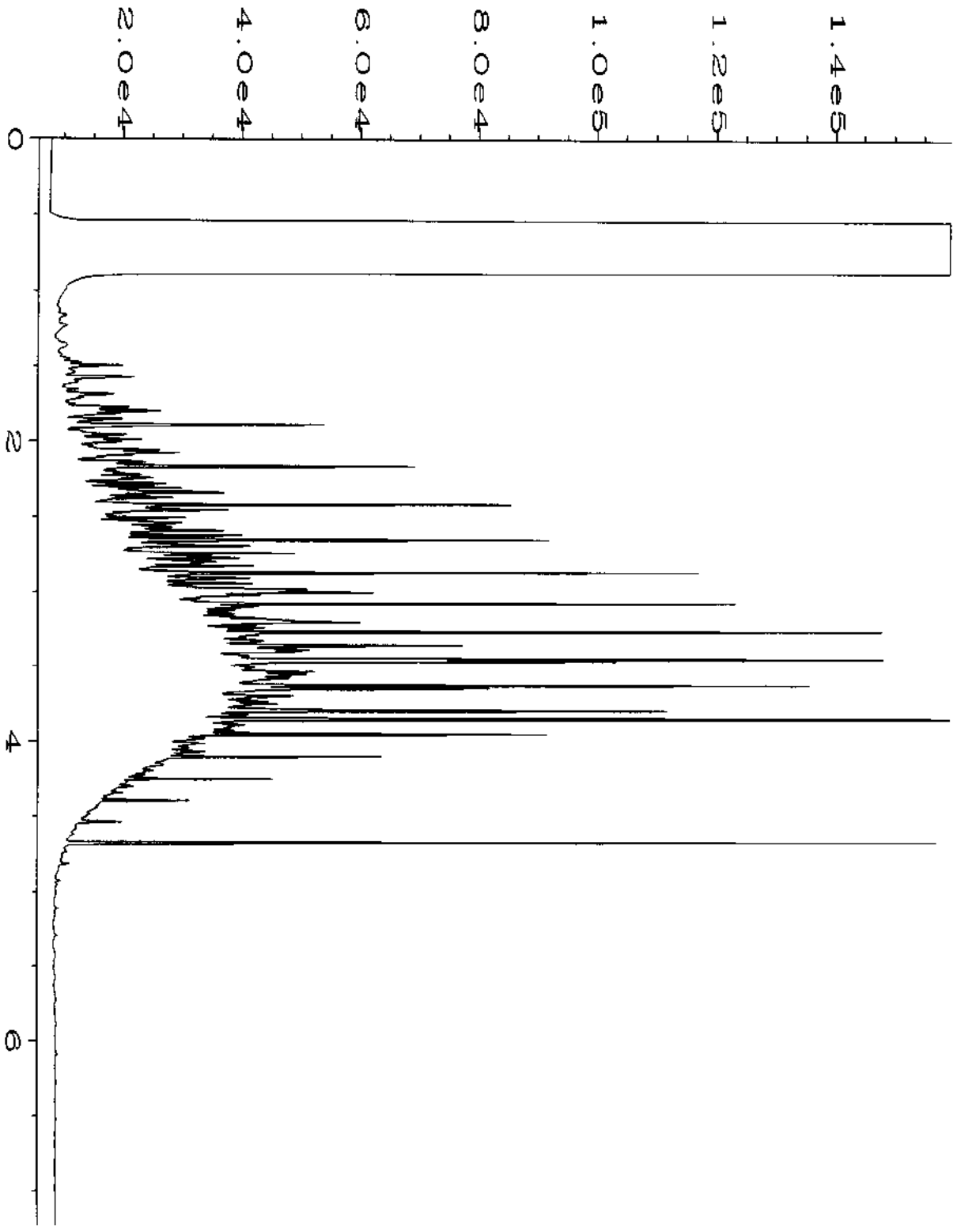
Data File Name : C:\HPCHEM\6\DATA\08-08-16\053F0901.D
Operator : mwdl
Instrument : GC1
Sample Name : 608112-68
Run Time Bar Code:
Acquired on : 08 Aug 16 06:38 PM
Report Created on: 09 Aug 16 11:21 AM

Page Number : 1
Vial Number : 53
Injection Number : 1
Sequence Line : 9
Instrument Method: DX.MTH
Analysis Method : COND.MTH

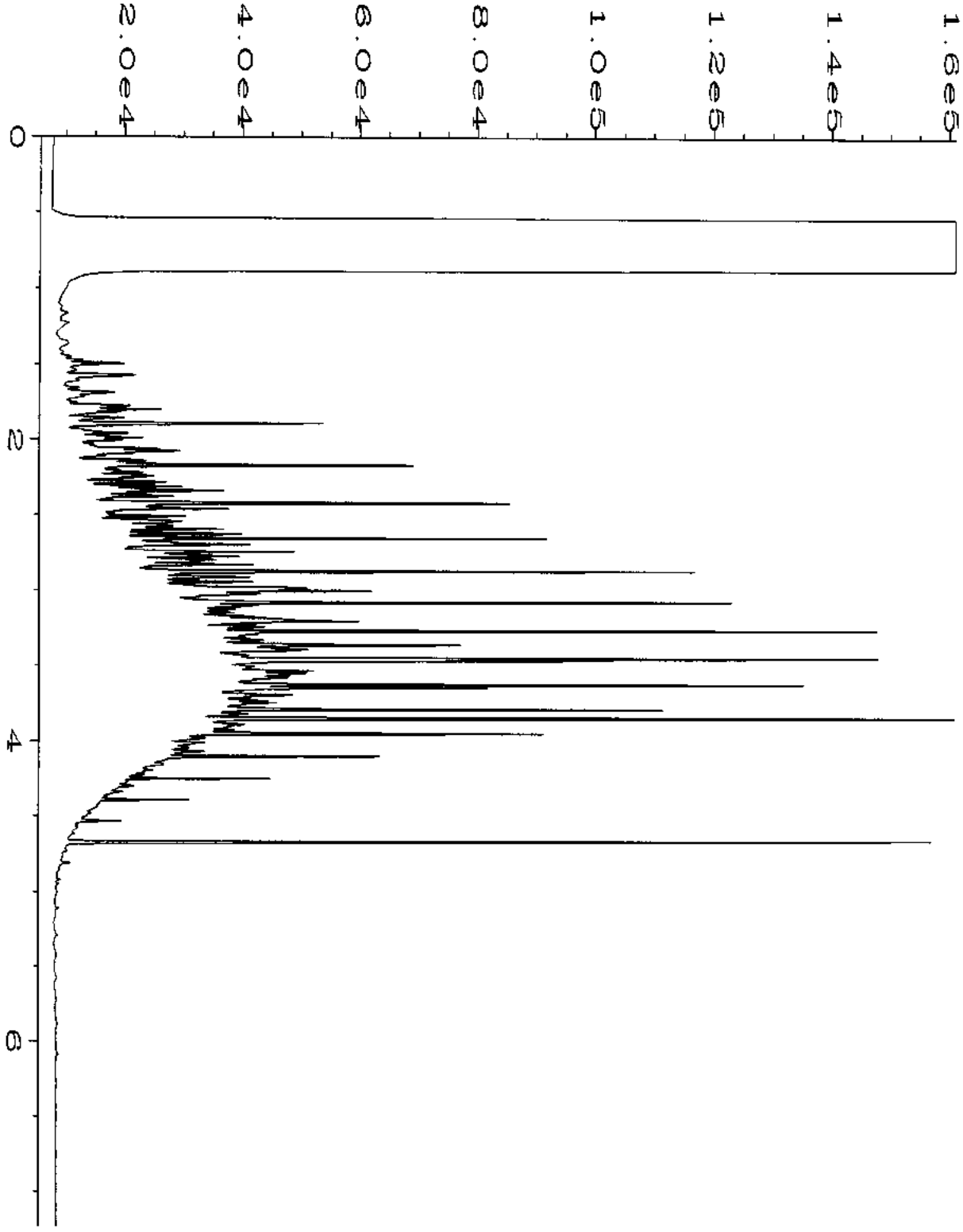


Data File Name : C:\HPCHEM\6\DATA\08-08-16\062F0901.D
Operator : mwdl
Instrument : GC1
Sample Name : 06-1601 mb
Run Time Bar Code:
Acquired on : 08 Aug 16 08:20 PM
Report Created on: 09 Aug 16 11:21 AM

Page Number : 1
Vial Number : 62
Injection Number : 1
Sequence Line : 9
Instrument Method: DX.MTH
Analysis Method : COND.MTH



Data File Name	: C:\HPCHEM\6\DATA\08-08-16\003F0201.D		
Operator	: mwdl	Page Number	: 1
Instrument	: GC1	Vial Number	: 3
Sample Name	: 500 Dx 48-20B	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 08 Aug 16 07:32 AM	Instrument Method	: DX.MTH
Report Created on	: 09 Aug 16 11:21 AM	Analysis Method	: COND.MTH



Data File Name : C:\HPCHEM\6\DATA\08-08-16\003F0201.D
Operator : mwdl
Instrument : GC1
Sample Name : 500 Dx 48-20B
Run Time Bar Code:
Acquired on : 08 Aug 16 07:32 AM
Report Created on: 09 Aug 16 11:18 AM

Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 2
Instrument Method: DX.MTH
Analysis Method : COND.MTH

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664

Professional Analytical Services

Aug 17 2016
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL

Dear MICHAEL ERDAHL:

Enclosed please find the analytical data for your 608112 project.

The following is a cross correlation of client and laboratory identifications for your convenience.

CLIENT ID	MATRIX	AMTEST ID	TEST
SB-3-0.5-1	Soil	16-A021095	NUT
SB-3-2.5-3.5	Soil	16-A021096	NUT
SB-3-5.5-6.5	Soil	16-A021097	NUT
SB-4-3-4	Soil	16-A021098	NUT
SB-6-2-3	Soil	16-A021099	NUT
SB-7-3-4	Soil	16-A021100	NUT
SB-8-3-4	Soil	16-A021101	NUT
SB-9-3-4	Soil	16-A021102	NUT
SB-10-2-3	Soil	16-A021103	NUT
SB-10-9-10	Soil	16-A021104	NUT
SB-12-3-4	Soil	16-A021105	NUT
SB-13-3-4	Soil	16-A021106	NUT
SB-14-4-5	Soil	16-A021107	NUT
SB-15D-3-4	Soil	16-A021108	NUT
SB-15-3-4	Soil	16-A021109	NUT
SB-16-3-4	Soil	16-A021110	NUT
CULVERT-1	Soil	16-A021111	NUT

Your samples were received on Monday, August 8, 2016. At the time of receipt, the samples were logged in and properly maintained prior to the subsequent analysis.

The analytical procedures used at AmTest are well documented and are typically derived from the protocols of the EPA, USDA, FDA or the Army Corps of Engineers.

Following the analytical data you will find the Quality Control (QC) results.

Please note that the detection limits that are listed in the body of the report refer to the Practical Quantitation Limits (PQL's), as opposed to the Method Detection Limits (MDL's).

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664

Professional Analytical Services

Aug 17 2016
Friedman & Bruya, Inc.
continued . . .

If you should have any questions pertaining to the data package, please feel free to conact me.

Sincerely,

Aaron W. Young
Laboratory Manager

Project #: 608112
PO Number: E-211

BACT = Bacteriological	MET = Metals	NUT=Nutrients	MIN=Minerals
CONV = Conventionals	ORG = Organics	DEM=Demand	

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

ANALYSIS REPORT

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project Name: 608112
Project #: 608112
PO Number: E-211
All results reported on an as received basis.

Date Received: 08/08/16
Date Reported: 8/17/16

AMTEST Identification Number **16-A021095**
Client Identification **SB-3-0.5-1**
Sampling Date **08/03/16, 09:33**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	550	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021096**
Client Identification **SB-3-2.5-3.5**
Sampling Date **08/03/16, 10:05**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	460	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021097**
Client Identification **SB-3-5.5-6.5**
Sampling Date **08/03/16, 10:20**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	55.	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021098**
Client Identification **SB-4-3-4**
Sampling Date **08/03/16, 11:20**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	1.7	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021099**
Client Identification **SB-6-2-3**
Sampling Date **08/03/16, 14:10**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	49.	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021100**
Client Identification **SB-7-3-4**
Sampling Date **08/03/16, 15:00**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	6.3	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021101**
Client Identification **SB-8-3-4**
Sampling Date **08/03/16, 15:55**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	140	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021102**
Client Identification **SB-9-3-4**
Sampling Date **08/03/16, 16:50**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	260	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021103**
Client Identification **SB-10-2-3**
Sampling Date **08/04/16, 08:50**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	28.	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021104**
Client Identification **SB-10-9-10**
Sampling Date **08/04/16, 09:00**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	2.6	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021105**
Client Identification **SB-12-3-4**
Sampling Date **08/04/16, 12:00**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	16.	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021106**
Client Identification **SB-13-3-4**
Sampling Date **08/04/16, 14:00**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	25.	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021107**
Client Identification **SB-14-4-5**
Sampling Date **08/04/16, 14:55**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	10.	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021108**
Client Identification **SB-15D-3-4**
Sampling Date **08/04/16, 16:40**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	42.	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021109**
Client Identification **SB-15-3-4**
Sampling Date **08/04/16, 16:35**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	61.	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021110**
Client Identification **SB-16-3-4**
Sampling Date **08/04/16, 17:50**

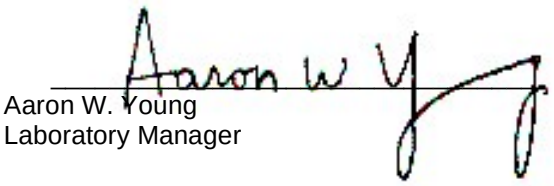
Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	150	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16

AMTEST Identification Number **16-A021111**
Client Identification **CULVERT-1**
Sampling Date **08/05/16, 07:45**

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrate + Nitrite	39.	ug/g		0.5	SM 4500NO3 F	MJ	08/16/16



Aaron W. Young
Laboratory Manager

Am Test Inc.
13600 NE 126th PL
Suite C
Kirkland, WA, 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

QC Summary for sample numbers: 16-A021095 to 16-A021111

DUPLICATES

SAMPLE #	ANALYTE	UNITS	SAMPLE VALUE	DUP VALUE	RPD
16-A021104	Nitrate + Nitrite	ug/g	2.6	2.0	26.
16-A021609	Nitrate + Nitrite	ug/g	2.7	2.6	3.8

STANDARD REFERENCE MATERIALS

ANALYTE	UNITS	TRUE VALUE	MEASURED VALUE	RECOVERY
Nitrate + Nitrite	ug/g	5.0	4.9	98.0 %
Nitrate + Nitrite	ug/g	5.0	4.9	98.0 %

BLANKS

ANALYTE	UNITS	RESULT
Nitrate + Nitrite	ug/g	< 0.5
Nitrate + Nitrite	ug/g	< 0.5

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Amtest

PROJECT NAME/NO. 608112

PO # E-211

REMARKS

Please Email Results EQUIS Format

P.10

TURNAROUND TIME

☑ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins/Furans	EPH	VPH	Nitrite / Nitrate SM4500 NO3	Sulfate	Alkalinity	TOC-9060M				Notes
SB-3-0.5-1	21095	8/3/16	0933	Soil	1				X							
SB-3-2.5-3.5	96		1005						X							MS/MD
SB-3-5.5-6.5	97		1020						X							
SB-4-3-4	98		1120						X							
SB-6-2-3	99		1410						X							
SB-7-3-4	21100		1500						X							
SB-8-3-4	01		1555						X							
SB-9-3-4	02		1650						X							
SB-10-2-3	03	8/4/16	0850						X							
SB-10-9-10	04		0900						X							
SB-12-3-4	05		1200						X							
SB-13-3-4	06		1400						X							
SB-14-4-5	07		1455						X							MS/MD

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman and Bruya	8/8/16	0750
Received by:		Heidi Limmer	Amtest	8/8/16	1220
Relinquished by:					
Received by:					T=4.3°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Page # 2 of 2

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Amtest

PROJECT NAME/NO.	PO #
609112	E-211

REMARKS

Please Email Results

TURNAROUND TIME

- [x] Standard (2 Weeks)
- [ ] RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

- [ ] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Dioxins/Furans	EPH	VPH	Nitrate / SM4500 NO3 Nitrate	Sulfate	Alkalinity	TOC-9060M				Notes
SB-15D-3-4	21108	8/4/16	1640	Soil	1				X							
SB-15-3-4	09	"	1635	"	"				X							
SB-16-3-4	10	"	1750	"	"				X							
Culvert-1	11	8/5/16	0745	"	"				X							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman and Bruya	8/8/16	0750
Received by:				
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

608112

SAMPLE CHAIN OF CUSTODY ME 08/05/16

US2/V1/BTEX-7

Page # ____ of ____

Report To Allison Gaw Geistlbrecht

Company Floyd | Snider

Address 607 Union St Suite 600

City, State, ZIP Seattle, WA 98107

Phone 206-292-2078 Email allison.geistlbrecht@floydsnider.com

SAMPLERS (signature) EM Murray

PROJECT NAME: FP-Smith Kem T. 4000

PO #:

REMARKS:

INVOICE TO:

TURNAROUND TIME
- ☑ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☑ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by ~~8021B~~ 8260C	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Nitrate/Nitrite SM4110 Note	Metals per RMP	Styrene 8260C	BTEX 8260C DS	Notes
SB-3-0.5-1	01 A-F	8/3/16	0933	S	6		X	X	X	X		EM	X	X		X	
SB-3-2.5-3.5	02		1005	S	6		X	X	X	X			X	X	.	X	MS/MSD
SB-3-5.5-6.5	03		1020	S	6		X	X	X	X		EM	X	X		X	
SB-3-7.0-8.0	04		1030	S	6		1										Archive
SB-3-9.5-10	05 A-D		1040	S	4	EM											Archive
SB-4-0.5-1	06 A-E		1105	S	5	X	X	X	X					X			
SB-4-3-4	07 A-F		1120	S	6	EM	X	X	X				X	X			
SB-4-7-8	08 A-E		1125	S	5		X	X	X				EM	X			
SB-4-9-10	09		1140	S	5		EM	EM	EM								Archive
SB-5-0.5-1	10		1220	S	5		X	X	X					X			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Erin Murray	Floyd Snider	8/5/16	1218
~~Received by:~~	Michael Eckl	FSA	8/5/16	1218
Relinquished by:				
Received by:		Samples received at 3 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

608112

SAMPLE CHAIN OF CUSTODY ME 08/05/16

VS2/11/16 2 of 2 BTEX

Report To Same as 1st page

Company Floyd/Snider

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) EM

PROJECT NAME: PP-Smith Kom T. 4000

PO #

REMARKS

INVOICE TO

Page # 2 of 2

TURNAROUND TIME
- ☑ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☑ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by ~~8021B~~ 8260C	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Metals per RCRA	Nitrate/Nitrite SM 4500 NO3 F			Notes
SB-5-3-4	11 A-E	8/3/16	1235	S	5		X	X	X	X			X				
SB-5-5-6	12		1242	S	5		X	X	X				X				
SB-5-6.5-7.5	13		1245	S	5												Archive
SB-6D-0-0.5	14		1340	S	5		X	X	X				X				
SB-6-0-0.5	15		1345	S	5		X	X	X				X				
SB-6-2-3	16 A-F		1410	S	6		X	X	X	X	X	X	X	X			May not have enough sample volume
SB-6-7-8	17 A-E		1415	S	5		X	X	X				X		EM		Archive
SB-6-5-6	18		1430	S	5		X	X	X				X				
SB-7-0.5-1	19		1450	S	5		X	X	X				X				
SB-7-3-4	20 A-F		1500	S	6		X	X	X				X	X			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	EM Murray	Floyd Snider	8/5/16	1218
Received by:	Michael E. Erdahl	F&B	8/5/16	1218
Relinquished by:				
Received by:		Samples received at 3 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

608112

SAMPLE CHAIN OF CUSTODY ME 08/05/16

VS2/4/16 BTU

Page # 3 of 7

Report To Same as 1st page

Company

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) [signature]

PROJECT NAME: FP-Smith Kim T. 4000

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- ☑ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☑ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Metals per RCRA	Nitrates			Notes
						ANALYSES REQUESTED											
SB-7-7.5-8.5	21 A-E	8/3/16	1510	S	5		X	X	X				X				Archive
SB-7-4-5	22	8/3/16	1520	S	5		X	X	X				X				MS/MSD
SB-8-0.5-1	23	8/3/16	1540	S	5		X	X	X				X				
SB-8-3-4	24 A-F	8/3/16	1555	S	6		X	X	X				X	X			
SB-8-4-5	25 A-E	8/3/16	1615	S	5		X	X	X				X				
SB-8-5-6	26	8/3/16	1625	S	5												Archive
SB-9-0.5-1	27	8/3/16	1640	S	5		X	X	X				X				
SB-9-3-4	28 A-F	8/3/16	1650	S	6		X	X	X				X	X			
SB-9-4-5	29 A-E	8/3/16	1700	S	5		X	X	X				X				
SB-9-6-7	30 A-E	8/3/16	1710	S	5												Archive

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Erik Murray	Floyd/Snider	8/5/16	1218
Received by: [signature]	Michael Erdahl	F&B	8/5/16	1218
Relinquished by:				
Received by:		Samples received at 3 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

608112 Same as 1st page

SAMPLE CHAIN OF CUSTODY

ME 08/05/16

B2/V1/BCL

Page # 4 of 7

Report To

Company

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) em

PROJECT NAME: PP-Smith Kam

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- ☑ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☑ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B (8260C)	VOCs by 8260C	SVOCs by 8270D	Naphthalenes PAHs 8270D SIM	Nitrates	Methyl tert butyl ether (MTBE) per DOE	BTEX 8260C	Fuel Additives per DOE 8260B	Notes
SB-10-0.5-1	31 A-E	8/4/16	0825	S	5		X	X	X					X			
SB-10-2-3	32 A-F		0850	S	6		X	X				X	X	X	X		
SB-10-9-10	33 A-J		0900	S	10		X	X					X	X	X	X	strong gas - High PI
SB-11-0.5-1	34 A-E		0925	S	5		X	X	X					X			
SB-11D-3-4	35		0945	S	5		X	X	X					X			
SB-11-3-4	36		0935	S	5		X	X	X					X			
SB-11-11.5-12.5	37 A-J		0955	S	10		X	X				X		X	X	X	strong gas odor High PI
SB-11-15-16	38 A-E		1035	S	5		X	X	X					X			
SB-11-19-20	39		1040	S	5		X	X	X					X			
SB-12-0.5-1	40		1145	S	5		X	X	X					X			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Erin Murray	Floyd/Snider	8/5/16	1218
Received by:	Michael Erdahl	F-B	8/5/16	1218
Relinquished by:				
Received by:		Samples received at 3 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

608112

SAMPLE CHAIN OF CUSTODY ME 08/05/16

VSA/VI/BDY

Page # 5 of 7

Report To same as 1st page

Company

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*)

PROJECT NAME: FP-Smithtown

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- ☑ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☑ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B / 8260C	VOCs by 8260C	SVOCs by 8270D	Naphthalene PAHs 8270D SIM	Nitrate/Nitrite SM4500 NO3E	Metals per RCRA	BTEX 8260 DS	Fuel Additives per RCRA 8260 DS	Notes
SB-12-3-4	41 A-F	8/4/16	1200	S	6		X	X	X				X	X			
SB-12-4-5	42 A-E		1210	S	5		X	X	X								
SB-12-7.5-8.5	43		1220	S	5												Archive
SB-13-0.5-1	44		1330	S	5		X	X	X					X			
SB-13-3-4	45 A-F		1400	S	6		X	X	X				X	X			
SB-13-4-5	46 A-D		1410	S	5 (MS/MSD)		X	X	X								
SB-13-6-7	47 A-J		1415	S	10		X	X				X		X	X	X	High PID
SB-13-13-14	48 A-E		1405	S	5		X	X	X					X			
SB-14-0.5-1	49 A-E		1445	S	5		X	X	X					X			
SB-14-4-5	50 A-F	↓	1455	S	6		X	X	X				X	X			MS/MSD

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Erin Murray	Fluya/Smith	8/5/16	1228
Received by:	Michael E. CKP	FRB	↓	1212
Relinquished by:				
Received by:		Samples received at 3		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

608112

SAMPLE CHAIN OF CUSTODY ME 08/05/16

VS2/V1/1 BIU

Page # 6 of 7

Report To Same as first page

Company Floyd/Snider

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*)

PROJECT NAME: FP - Smith Kem T. 4010

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- ☑ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☑ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by ~~8021B~~ 8260C	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Nitrate/Nitrite ~~SM4500 NO3 F~~	Methane			Notes
							ANALYSES REQUESTED										
SB-14-5-6	51 A-E	8/4/16	1505	S	5		X	X	X					X			
SB-14-7.5-8.5	52		1515		5												Archive
SB-15-0.5-1	53		1630		5		X	X	X					X			
SB-~~15~~ 3-4	54 A-F		1640		6		X	X	X				X	X			
SB-15-3-4	55		1635		6		X	X	X				X	X			
SB-15-4-5	56 A-E		1639		5		X	X	X					X			
SB-~~15~~ 8-9	57		1645		5												Archive
SB-16-0.5-1	58		1720		5		X	X	X					X			
SB-16-3-4	59 A-F		1750		6		X	X	X				X	X			
SB-16-5-6	60 A-E	↓	1800	↓	5		X	X	X					X			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Erik Murray	Floyd/Snider	8/5/16	1215
Received by:	Michael Erdahl	F&B	8/5/16	1218
Relinquished by:				
Received by:		Samples received at 3 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

608112

SAMPLE CHAIN OF CUSTODY

ME 08/05/16

VS2/V1/BD4

Page # 7 of 7

Report To Same as 1st page

Company

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*)

PROJECT NAME: FP-Smithkem T. 4000

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- ☑ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☑ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B/8260B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Nitrate/Nitrite SM4500 NO3E	Metals per 8 RCRA	BTEX 8260B		Notes
SB-16-9-10	61 A-E	8/4/16	1810	S	5		X	X	X					X	X		
SB-16-14-15	62	8/4/16	1815	S	5												Archive
Rinsate-1	63	8/5/16	835	W	5			X	X					X			
Trip Blank 1	64 A-B	8/3/16	1540	W	2			X	X					X			
Trip Blank 2	65	8/3/16	0933	W	2			X	X					X			Cancel metals on trip blanks per EM 8/9/16 MS
Trip Blank 3	66	8/3/16	1640	W	2			X	X					X			
Trip Blank 4	67	8/4/16	1640	W	2			X	X					X			
Culvert-1	68 A-F	8/5/16	0745	S	6		X	X	X				X	X			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Erin Murray	Floyd/Snider	8/5/16	1218
Received by:	Michael Erdahl	F&B	↓	↓
Relinquished by:				
Received by:		Samples received at 3 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix C
Floyd|Snider Memoranda

Attachment C.5
Vapor Intrusion Assessment at the Smith-Kem Site

FLOYD | SNIDER
strategy ▪ science ▪ engineering

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

Memorandum

To: John Mefford, Washington State Department of Ecology

From: Gabe Cisneros and Pamela Osterhout, Floyd|Snider

Date: February 24, 2021

Project No: Smith-Kem

Re: **Vapor Intrusion Assessment at the Smith-Kem Site**
200 S. Railroad Ave., Ellensburg, Washington

This memorandum presents the results of a vapor intrusion (VI) assessment completed for the Smith-Kem Ellensburg, Inc. (Smith-Kem) property (Property) located at 200 S. Railroad Avenue in Ellensburg, Washington. Sampling was completed in accordance with the Washington State Department of Ecology (Ecology)-approved sampling plan (Floyd|Snider 2019). The sampling plan was prepared in response to an Ecology letter sent to Floyd|Snider on November 19, 2018, requesting that the VI assessment occur in the next 4 months (i.e., by mid-March 2019) to further evaluate the potential VI risk in the office building (Ecology 2018a).

BACKGROUND

The Property is a commercial agricultural product distribution facility with three existing buildings on the property, one of which is an office building. The office building is approximately 1,500 square feet and is attached to a storage garage area; however, these buildings are separated by an exterior wall and have independent foundations. The storage garage area has a slab-on-grade concrete foundation, and the office building is raised approximately 3 feet above the ground with an accessible crawl space. The storage garage area is on top of and adjacent to petroleum-impacted soils. Soil samples collected from borings within and south of the storage garage area contain concentrations of diesel-range total petroleum hydrocarbons (TPH) up to 4,700 milligrams per kilogram between 0 and 7 feet below ground surface. There are no other buildings that would require further VI assessment related to TPH based on building use and the lateral inclusion zone of 100 feet from the potential source.

An initial VI assessment was completed during the remedial investigation (RI) and is documented in a memorandum submitted to the Ecology on September 17, 2018 (Floyd|Snider 2018). The initial assessment concluded that there was no immediate VI risk due to elevated concentrations of petroleum in shallow soils; however, the office building located in the middle of the Property may require further VI assessment.

Certified B Corporation

SAMPLING APPROACH

The sampling activities were completed in accordance with U.S. Environmental Protection Agency's (USEPA's) *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air* (USEPA 2015); the Tier II assessment outlined in Ecology's *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (Ecology 2018b), and Ecology's Implementation Memorandum No. 18 (Ecology 2018c). Sampling was performed per the approved sampling plan and Floyd|Snider's standard guideline for VI, which includes performing a building survey and taking note of other potential vapor sources, such as cleaning products, air fresheners, and cigarette smoke. To assess VI risk in the office building, vapor samples were collected over an 8-hour period from the office space indoor air, upwind ambient air from outside the office building, and air from the crawl space beneath the office building.

FIELD ACTIVITIES

Vapor sampling activities occurred on April 16, 2019. Prior to sampling, the weather was considered when scheduling to avoid sampling during a period of extreme atmospheric pressure changes or within 24 hours of a rain event that produces 0.5 inches of precipitation or more. No precipitation occurred during the sampling or the previous day. There were no extreme pressure changes with a recorded range between 27.8 and 28.1 inches Hg (Attachment 1).

Three air samples were collected in 6-liter SUMMA canisters over an 8-hour period during normal working hours to replicate worker exposure conditions during a full workday at the Property. The SUMMA canisters were set up with flow regulators to allow continuous collection of air to be sampled over an 8-hour period. One SUMMA canister was placed outside and upwind near the northwest corner of the office building approximately 3 feet above the ground surface in a location protected from the elements (i.e., wind, precipitation) to measure ambient air conditions. Wind direction was to the southeast during the sampling event. The outdoor ambient air SUMMA canister was set up first to allow ambient air sample collection prior to the collection of the other samples, approximately 35 minutes before sampling indoor air. This provides a more accurate assessment of the building's air exchange rate, which is generally in the range of 0.25 to 1.0 hour for outdoor air to enter indoor air. A second SUMMA canister was placed near the center of the office building at 4 feet above the floor level to collect an indoor air sample representative of the breathing zone. A third SUMMA canister was placed in the crawl space beneath the office building near utility conduits entering the office floor and away from perimeter vents. All efforts were made to eliminate other sources of vapor-producing chemicals, such as air fresheners, within the office space prior to sampling. If such items were present, they were noted in the building survey form, which are included in Attachment 2. Select photographs are included in Attachment 3.

Air samples were sent to Friedman & Bruya, Inc., in Seattle, Washington, and analyzed for the following:

- Air-phase petroleum hydrocarbons (APH) by Method MA-APH
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) and naphthalene by USEPA Method TO-15

Soil vapor results are presented in Table 1. Laboratory analytical reports are included in Attachment 4. Indoor air results are corrected for ambient contributions per Section 3.2 in Ecology's VI guidance (Ecology 2018b).

SUMMARY OF RESULTS AND INDOOR AIR CLEANUP LEVELS

For the purposes of this VI assessment, the indoor air screening criteria were developed using modified Model Toxics Control Act (MTCA) Method B (commercial) values. The office building investigated for this VI assessment is not used for residential purposes but for commercial purposes where the most highly exposed receptors are workers. Using the default MTCA Method B indoor air cleanup levels (CULs) would be overly conservative. For example, in WAC 173-340-750, Equation 750-1 uses an average body weight of 16 kilograms (kg; representing a child), whereas the receptors of concern at this site are adults with an average weight closer to 70 kg. In addition, the amount of time exposed to contaminated air is a fraction of the default values. Therefore, inputs were changed in Equations 750-1 and 750-2 to determine site-specific indoor air criteria for BTEX and naphthalene that better reflect exposure levels to adult workers at the Property.

For air-phase petroleum hydrocarbons, a site-specific MTCA Method B CUL was calculated for indoor air using the calculations provided in Attachment B of Ecology's Implementation Memorandum No. 18 (Ecology 2018c). Site-specific indoor air CULs for BTEX and naphthalene were calculated using equations 750-1 and 750-2 of Ecology's VI guidance and were based on unrestricted land use with respect to estimating the actual risks to human receptors using these buildings. Site-specific MTCA Method B CUL calculations are presented in Attachment 5.

Vapor concentrations are compared to CULs presented in the updated Table 1 of Ecology's guidance for VI assessment (Ecology 2018b), to the updated January 2020 MTCA Method B sub-slab soil gas screening levels listed in Ecology's Cleanup Levels and Risk Calculation master data table, and to the modified site-specific MTCA Method B CULs for commercial workers.

After correcting indoor air results for ambient contributions, laboratory analytical data show that TPH was detected in the indoor air sample at a concentration of 328 micrograms per cubic meter ($\mu g/m^3$), which is less than the site-specific total TPH CUL of 713 $\mu g/m^3$ for indoor air. Benzene was detected in the ambient air sample at a concentration of 0.32 $\mu g/m^3$ and an indoor air concentration of 0.45 $\mu g/m^3$, with a corrected concentration of 0.13 $\mu g/m^3$. The corrected benzene concentration is less than both the site-specific MTCA Method B CUL and residential MTCA Method B CUL. Naphthalene was detected in the indoor air sample at a concentration of

0.27 µg/m^3, which exceeds the modified site-specific Method B CUL of 0.22 µg/m^3 but is still within the range of potential background concentrations of 0.19 to 1.7 µg/m^3 (Ecology 2018c). Toluene, ethylbenzene, and total xylenes were detected at concentrations less than both the site-specific MTCA Method B CULs and residential MTCA Method B CULs.

Vapor results for the crawl space sample show that only toluene was detected at a concentration greater than the reporting limit, but at a concentration that was less than the MTCA Method B CUL for indoor air.

CONCLUSIONS

The results of this sampling effort indicate that indoor air results for total TPH and BTEX concentrations are less than site-specific MTCA Method B CULs. Naphthalene slightly exceeded the site-specific MTCA Method B CUL, but the detected concentration was within background concentrations. Additionally, vapor results from the crawl space sample did not detect naphthalene at concentrations exceeding the reporting limit, which indicates that the naphthalene detection is likely not correlated with diesel-range TPH impacts and are instead due to background conditions in the office environment. Photographs 2 and 3 in Attachment 3 show the indoor air SUMMA canister immediately adjacent to a copy machine. Office devices, such as copiers, can release volatile organic compounds, such as naphthalene, partly generated by toners and inks, as well as particles of paper (Kowalska et al. 2014).

The sampling data obtained in 2019, in conjunction with the conclusion with the previous VI assessments conducted at the Site, indicate that VI does not pose a significant risk to building occupants and does not require active mitigation. The RI Report will be revised to reflect the findings of this supplemental VI assessment.

REFERENCES

Floyd|Snider. 2018. *Initial Vapor Intrusion Assessment.* Memorandum from Gabe Cisneros, LG, and Allison Geiselbrecht, PhD, Floyd|Snider, to John Mefford and Mary Monahan, Washington State Department of Ecology. 17 September.

_____. 2019. *Proposed Sampling Plan for Vapor Intrusion Assessment at the Smith-Kem Site, 200 S. Railroad Ave., Ellensburg, Washington.* Memorandum from Pamela Osterhout, Floyd|Snider, to John Mefford, Washington State Department of Ecology. 12 March. Revised 10 May.

Kowalska, J., M. Szewczynska, and M. Posniak. 2014. "Measurements of Chlorinated Volatile Organic Compounds Emitted from Office Printers and Photocopiers." *Environmental Science and Pollution Research.* 22: 5241–5252. 18 October.

U.S. Environmental Protection Agency (USEPA). 2015. *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air.* OSWER Publication No. 9200.2-154. June.

Washington State Department of Ecology (Ecology). 2018a. *Ecology comments on Floyd Snider memorandum titled: "Initial Vapor Intrusion Assessment."* Letter from John Mefford, Washington State Department of Ecology, to Allison Geiselbrecht, Floyd|Snider. 19 November.

_____. 2018b. *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*. Review Draft. Prepared by the Toxics Cleanup Program. Publication No. 09-09-047. Originally published October 2009; revised April.

_____. 2018c. *Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings; Implementation Memorandum No. 18.* Prepared by the Toxics Cleanup Program. Publication No. 17-09-043. January.

LIST OF ATTACHMENTS

Table 1	Vapor Results Laboratory Reporting Limits and Screening Levels for Constituents of Potential Concern
Attachment 1	Historical Weather Report
Attachment 2	Field Notes and Sampling Forms
Attachment 3	VI Assessment Photograph Log
Attachment 4	Laboratory Report
Attachment 5	Site-Specific MTCA Method B Cleanup Level Calculations for Indoor Air

Table

Table 1
Vapor Results, Laboratory Reporting Limits, and Screening Levels for Constituents of Potential Concern

					Location Description	Northwest Corner of Building -	Center of Office Space - Indoor Air	Indoor Air Corrected	Crawl Space Air
					Sample ID	AA-041619	IA-041619	IA-041619	CS-041619
Analyte	Units	Default Residential MTCA Method B CUL [1]	Commercial MTCA Method B CUL [2]	MTCA Method C CUL [1]	Potential Background Concentrations [3]				
Total Petroleum Hydrocarbons (TPH)									
APH EC5-8 aliphatics	µg/m³	2,700	--	6,000	--	58	70	12	46 U
APH EC9-10 aromatics	µg/m³	180	--	400	--	25 U	25 U	25 U	25 U
APH EC9-12 aliphatics	µg/m³	140	--	300	--	35 U	310	310	35 U
Total TPH	µg/m³	140	713 [2]	--	116–594	59	387	328	1
Volatile Organic Compounds									
Benzene	µg/m³	0.32	0.97 [2]	3.2	0.32–4.7	0.32	0.45	0.13	0.32 U
Toluene	µg/m³	2,300	38,000 [2]	5,000	--	0.95	3.5	2.6	0.65
Ethylbenzene	µg/m³	460	7,600 [2]	1,000	--	0.43 U	0.49	0.49	0.43 U
Xylenes, total	µg/m³	46	770 [2]	100	--	0.87 U	2.41	2.40	1.3 U
Naphthalene	µg/m³	0.074	0.22 [2]	0.74	0.18–1.7	*0.26 U*	**0.27**	**0.27**	*0.26 U*

Notes:

All CULs and results presented in this table are rounded to two significant figures.

-- Not established.

italics The laboratory detection limit exceeds the MTCA Method B CUL.

BOLD The concentration exceeds the applicable MTCA Method B CUL.

RED/BOLD The concentration exceeds the applicable MTCA Method C CUL.

1 MTCA Method C CULs from Ecology's CLARC master data table except where noted; the most conservative value between cancer and noncancer is shown.

2 A site-specific MTCA Method B CUL was calculated using site indoor air sample data in accordance with Ecology's Implementation Memorandum No. 18 (Ecology 2018c) Atttachment B and using standard default exposure factors and input parameters for Equation 750-2 as defined in MTCA under WAC 173-340-750. Calculation was performed using default commercial (i.e., most conservative) parameters and one-half the reporiting limit for nondetect values. Refer to Attachment 5 for calculation and input parameter details.

3 Background concentrations aquired from Ecology's Implementation Memorandum No. 18 (Ecology 2018c).

Abbreviations:

CLARC Cleanup Levels and Risk Calculation

CUL Cleanup level

Ecology Washington State Department of Ecology

µg/m³ Micrograms per cubic meter

MTCA Model Toxics Control Act

VI Vapor Instrusion

Qualifier:

U The analyte was not detected at the given reporting limit.

Attachment 1
Historical Weather Report

47 °N, **120.54** °W

Ellensburg, WA Weather History

37° BOWERS FIELD STATION (/WEATHER/US/WA/ELLENSBURG/KELN?CM_VEN=LOCALWX_PWSDASH) | CHANGE

HISTORY (/HISTORY/DAILY/US/WA/ELLENSBURG/KELN)

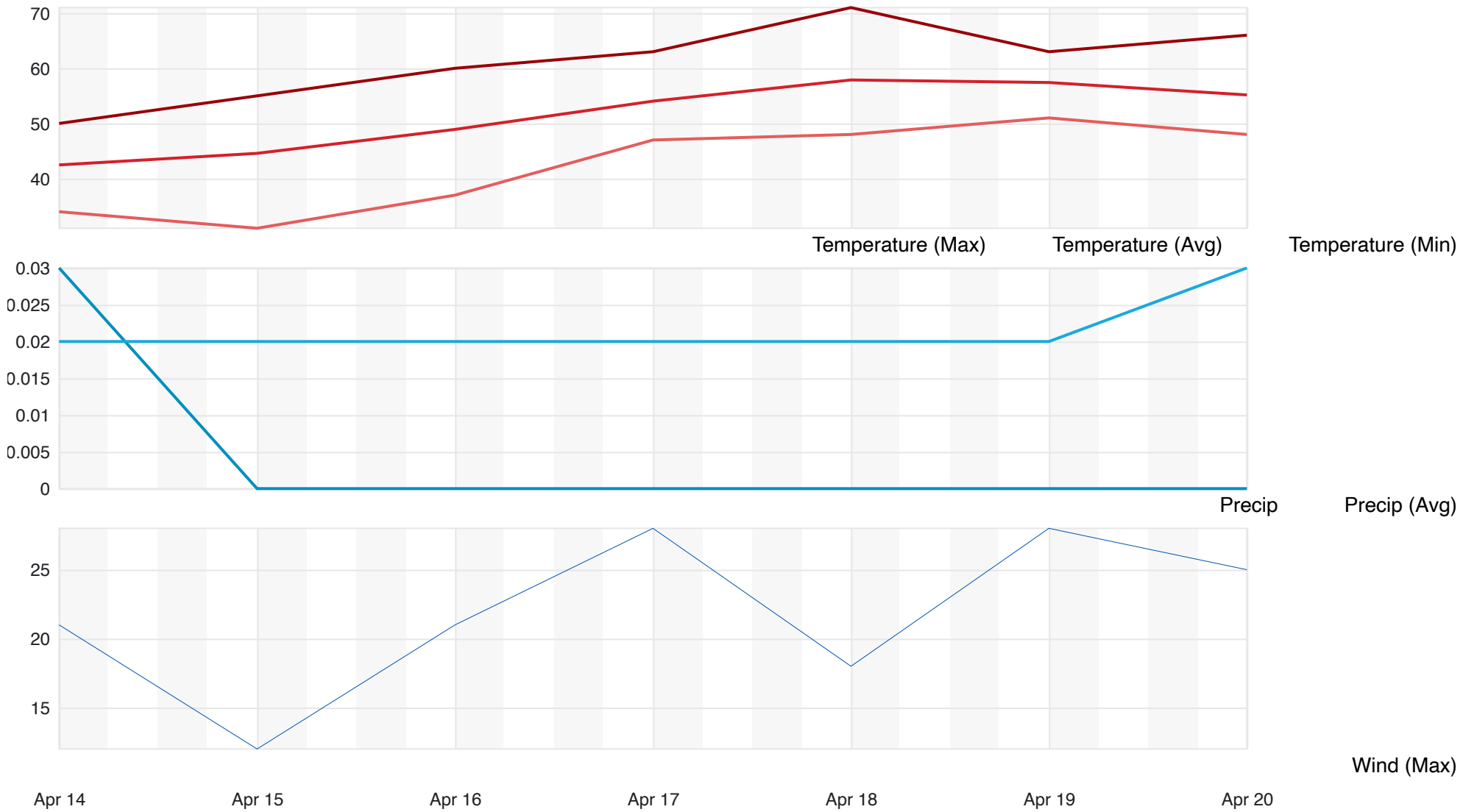
- TODAY (/WEATHER/US/WA/ELLENSBURG/KELN)
- HOURLY (/HOURLY/US/WA/ELLENSBURG/KELN)
- 10-DAY (/FORECAST/US/WA/ELLENSBURG/KELN)
- CALENDAR (/CALENDAR/US/WA/ELLENSBURG/KELN)
- HISTORY (/HISTORY/DAILY/US/WA/ELLENSBURG/KELN)
- WUNDERMAP (/WUNDERMAP?LAT=47&LON=-120.54)

Daily | **Weekly** | Monthly

(/history/daily/us/wa/ellensburg/KELN/date/2019-4-16) **4-16)** 4)

April | 16 | 2019 | View

Apr 14 Apr 15 Apr 16 Apr 17 Apr 18 Apr 19 Apr 20



Summary

Temperature (° F)	Max	Average	Min
Max Temperature	71	61.14	50
Avg Temperature	57.88	51.5	42.48
Min Temperature	51	42.29	31

Temperature (° F)	Max	Average	Min	
Dew Point (° F)	Max	Average	Min	
Dew Point	49	36.15	25	
Precipitation (Inches)	Max	Average	Min	Sum
Precipitation	0.03	0.00	0.00	0.03
Snowdepth	0.00	0.00	0.00	0.00
Wind	Max	Average	Min	
Wind	28	12.06	0	
Gust Wind	37	5.21	0	
Sea Level Pressure	Max	Average	Min	
Sea Level Pressure	28.27	27.98	27.73	

Daily Observations

Time	Temperature (° F)	Dew Point (° F)	Humidity (%)	Wind Speed (mph)	Pressure (Hg)	Precipitation (in)

Time	Temperature (° F)			Dew Point (° F)			Humidity (%)			Wind Speed (mph)			Pressure (Hg)			Precipitation (in)
Apr	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
14	50	42.5	34	32	29.0	25	76	60.1	39	21	12.6	0	27.9	27.9	27.8	0.03
15	55	44.6	31	30	28.2	25	82	55.2	33	12	6.7	0	27.9	27.8	27.7	0.00
16	60	48.9	37	39	33.8	28	73	57.7	36	21	7.6	0	28.1	27.9	27.8	0.00
17	63	54.0	47	39	37.5	35	74	55.0	37	28	18.5	13	28.3	28.2	28.1	0.00
18	71	57.9	48	48	43.3	38	75	59.3	41	18	6.0	0	28.3	28.2	28.0	0.00
19	63	57.4	51	49	44.3	40	80	62.4	48	28	15.7	3	28.0	27.9	27.9	0.00
20	66	55.2	48	40	37.0	35	66	52.2	32	25	17.2	6	28.1	27.9	27.9	0.00

Attachment 2
Field Notes and Sampling Forms

4/16/2019 ~~7/9/2018~~ FP-Smith Kem P.O.

0740 P.O. on site for air sampling.

0752 Setup ambient air sample at NW corner of office (forecast from NOAA shows predominant wind blowing from NW to SE). PID = 0.0. ~3 ft off ground. (28 in Hg)

NOAA weather: 42°F wind is calm, visibility >10 miles, partly cloudy (overnight showers), barometric pressure = ~~29.90 inches~~ 28.06 inches (0.0)

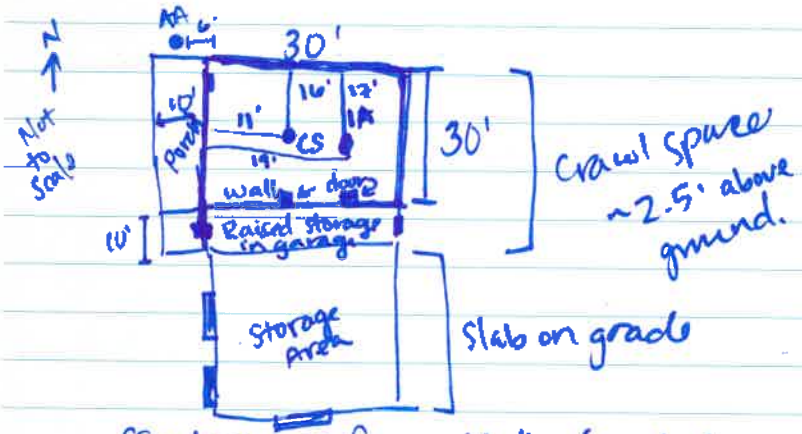
No mechanical work being done today.

0822 Placed indoor air sampler near center of office at ~4 ft above floor near filing system - around corner from front door to minimize gusts from opening door. Office staff removed aerosol cans and Scentsy (melted wax) yesterday. No smokers work on site. PID = 0.0. (29 in Hg)

- Walked around with PID → all 0.0 readings.

0836 Placed crawl space sampler near conduit/plumbing that comes up into the office building under in crawl space - dirt/gravel floor. (dusty) (27 in Hg).

4/16/2019 FP-Smith Kem P.O.



- office has "perfume-like" odor, but no obvious sources of VOCs

0925 Checked regulators - all appear to be working properly

Cloud cover has burned off, sunny 45°F

0930. P.O. off site.

Note: The Summa used for the ~~air~~ crawl space had 27 in Hg at time of sampling, however ~~at~~ it had 28.5 in Seattle yesterday. All Summa's pressures dropped by ~1.5 in Hg due to elevation change between Seattle and Ellensburg, so leakage is not likely.

Rite in the Rain

4/16/2019 FP-Smith Kem P.O.

11:55 Back on site to check on Summa Canisters.
- weather: partly cloudy
temp: 56°F
barometric pressure: 28.11
wind: Calm N
- pressure on AA + IA Samples ~20 in Hg.
Did not check on crawl space sampler because so much dust - don't want to kick up dust and affect sample/equipment.
12:15 off-site.
14:30 on-site
- weather at 1353: overcast, No rain
temp: 59°
baro: 28.10 inches
wind: NNW up to 6 mph
humidity: 39%.
1552 Closed/stopped sampling ambient air (9 in Hg)
1553 weather: overcast, temp: 60°F, baro: 28.10 in
wind: ESE up to 5 mph
1628 Stopped sampling indoor air (7.5 in Hg)
1637 Stopped sampling crawl space (5 in Hg).
1650 Off-site

Rite in the Rain

Number	Area of Potential Concern
1	Culvert Soil Source Area
2	Petroleum in MW-5/FS-10 Soil
3	Office Building Area
4	Aboveground Storage Tank Area
5a	Potential Former Wash Area #1
5b	Potential Former Wash Area #2
6	Machine Shop Area
7	Former Irrigation Ditch and Culverts
8	Historical Burn Area

Legend

- Phase 2B Soil Boring
- Phase 2B Soil Boring with Permanent Monitoring Well
- Phase 2B Permanent Monitoring Well
- Phase 2B Trench and/or Surface Grab Sample
- Monitoring Well
- Soil Boring with Temporary Monitoring Well
- Soil Boring
- Surface Sample
- Area of Potential Concern
- Property Boundary
- Approximate Groundwater Flow Direction
- Approximate Location of Historical Irrigation Ditch
- BNSF Railway

Note:
Aerial imagery obtained from Google Earth, 2015.

BNSF Railway Rail Spur

BNSF Railroad

S. RAILROAD AVE

MW-9, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-1, MW-2, MW-3A, MW-4, MW-5, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14

FS-01, FS-02, FS-03, FS-04, FS-05, FS-06, FS-07, FS-08, FS-09, FS-10, FS-11, FS-12, FS-13, FS-14, FS-15, FS-16, FS-17, FS-18, FS-19, FS-20, FS-21, FS-22, FS-23, FS-24, FS-25, FS-26, FS-27, FS-28, FS-29, FS-30, FS-31, FS-32, FS-33, FS-34, FS-35, FS-39, FS-40, FS-42

Culvert

Trench-1

Trench-2

Surface-1

From NW corner of office
AA = 6' West ~2' North of office
1A = 19' East 17' South
CS = 11' East 16' South
Porch x 9-10' wide
garage begins ~10 ft beyond roof line
Puddle?
0-0.5 ft bgs dug

OFF-SITE SAMPLE LOCATIONS

FS-38, FS-39, FS-37, FS-40, FS-29, FS-12, FS-31, FS-30, MW-14

0 60 120 240
Scale in Feet

N

0 30 60 120
Scale in Feet

FLOYD | SNIDER
strategy • science • engineering

Remedial Investigation
Smith-Kem Site
Ellensburg, Washington

Figure 1
Areas of Potential Concern and Sample Locations

I:\GIS\Projects\FP-SmithKem\MXD\Phase 2\Figure 1 Areas of Potential Concern and Phase 2B Sample Locations.mxd
3/7/2018

DRAFT

SOIL VAPOR SAMPLING SHEET

Site Reference: Smith-Kem

Address: 200 S Railroad Ave, Ellensburg

Date: 4/16/2019

Personnel: P. Osterhout

Soil Vapor Sampling Point ID	~~Vacuum Test~~		~~Purging~~				~~Helium~~		Sampling				PID		
	Time Start Vacuum Testing	Time Stop Vacuum Testing	Time Start Purging	Time Stop Purging	Purging Rate (mL/min)	Total Volume Purged (mL)	Time of Helium Reading	Helium Reading (%)	Time Start Sampling	Time Stop Sampling	Canister Vacuum Before Sampling (in Hg)	Canister Vacuum After Sampling (in Hg)	Time of PID Reading	PID Reading	Notes
AA	NA		NA		~~167~~	~10mL/min	NA		0752	0352	28	9	0821	0.0	
IA					~~167~~				0828	1628	29	7.5	0822	0.0	
CS									0837	1637	27	5	0836	0.0	

Notes:

Minimal on-site work. Heavy traffic on road and customers(?)/workers driving on and off property, however, no mechanical work being done in shop today.

Crawl space incredibly dusty

AA = ambient air, IA = indoor air, CS = crawl space

INDOOR AIR BUILDING SURVEY FORM

Date: 4/16/2019

Site Name: Smith-Kem

Title: P.O. TPH Vapor Intrusion Assessment April 2019

Building Use: Office/admin with attached storage garage.

Occupants: McGregor

Building Address: 200 S. Railroad Ave, Ellensburg, WA

Property Owner: Ad Grp, LLC

Contact's Phone:

Number of Occupants: McGregor office staff ~3-6 people (varies)

Business or Residential: McGregor

Building Characteristics

Building Type: ☐ Residential ☐ Multifamily ☑ Office ☑ Commercial ☐ Industrial ☐ Mall

Describe Building: Wood and corrugated steel siding + roofing pressed board/masonite walls, carpet flooring.

Number of Floors Below ☐ Basement ☐ Slab-On-Grade ☑ Crawl Space 2.5' above ground

Grade:

Bldg Dimensions: Width: 30' Length: 30' Height: 9' w/ attic storage

Basement Floor: Dirt / Concrete / Painted? **Foundation Walls:** Concrete / Cinder Blocks / Stone

~~1,600 sq ft~~ 900 sq ft

VENTILATION SYSTEM

- [x] Central Air Conditioning
- [ ] Mechanical Fans
- [x] Bathroom Vans (varies on/off by use)
- [ ] Conditioning Units
- [ ] Kitchen Range Hood
- [ ] Outside Air Intake

Other: on or off

HEATING SYSTEM Electric / Natural gas – heat exchange in ceiling

- [x] Hot Air Circulation
- [ ] Hot Air Radiation
- [ ] Wood
- [ ] Steam Radiation
- [ ] Heat Pump
- [ ] Hot Water Radiation
- [ ] Kerosene Heater
- [ ] Electric Baseboard

Other: on Space heaters (individual)

Outside Contaminant Sources

Nearby surrounding property sources: Gas Stations / Emission Stacks No, BNSF railway

Soil Contamination: Petroleum Hydrocarbons / Solvents

Heavy Vehicle Traffic: Yes / No

Indoor Contaminant Sources

Identify all potential sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hrs prior to indoor sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		NA
Gas powered equipment	garage/outside office	NA
Kerosene storage cans		NA
Paints / Thinners / Strippers	long-term storage-unused	No → paint for touch up → unused
Cleaning solvents / Dry cleaners	Bathroom – clorox cleaning supplies	No
Oven cleaners		NA
Carpet / upholstery cleaners		NA

Other house cleaning products	Standard - clorox wipes, soap - stored in bathroom.	No
Moth Balls		NA
Potential Sources	**Location(s)**	**Removed (Yes / No / NA)**
Polishes / waxes		NA
Insecticides	Garage adjacent to office	~~Unknown~~ No
Furniture / floor polish		NA
Nail polish / polish remover		NA
Hairspray		NA
Cologne / perfume		NA
Air fresheners	Removed from around office	Yes — scented wax aerosols
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture		NA
New carpeting / New flooring	None	NA
Hobbies – glues, paints	white-out strips, not liquid.	No
Other: ~~Fertilizer~~ Samples	on top of filing cabinets	No
Other: _____	↳ sealed. Will not be opened during air sampling	
Other: _____	All are dry pellets - no solvent/ petroleum based liquids.	

SAMPLING INFORMATION

Sampler(s) P. Osterhout

☑ Indoor Air / Outdoor Air ☐ Sub-slab ☐ Soil Vapor Point ☐ Exterior Soil Gas

☐ Tedlar® Bag ☐ Sorbent ☑ SUMMA® 6-L ☐ Other _____

Analytical Method: TO-15 / TO-17 / Other: _____

WEATHER CONDITIONS

Was there a significant rain event in the last 24 hours? Yes / No - light showers

C 0753 AM

Temperature: 42°F Atmospheric Pressure: 28.06 Pressure: Rising or Falling?

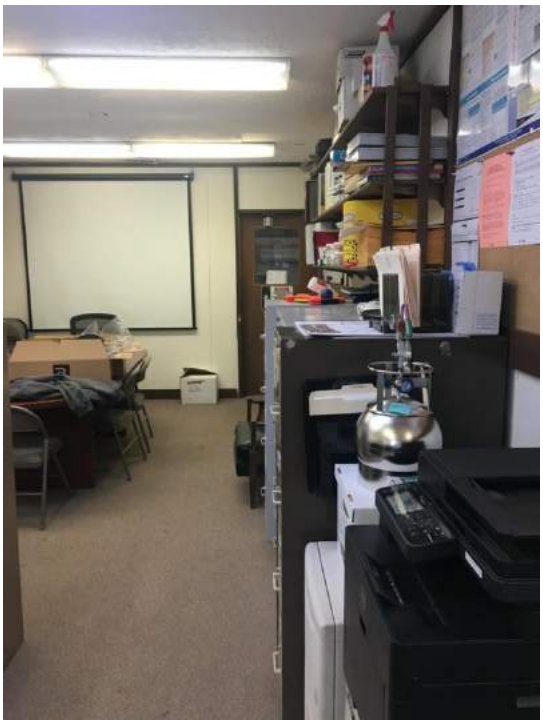
Describe the general weather conditions: partly cloudy

Wind Speed and Direction: N/A / Calm NE

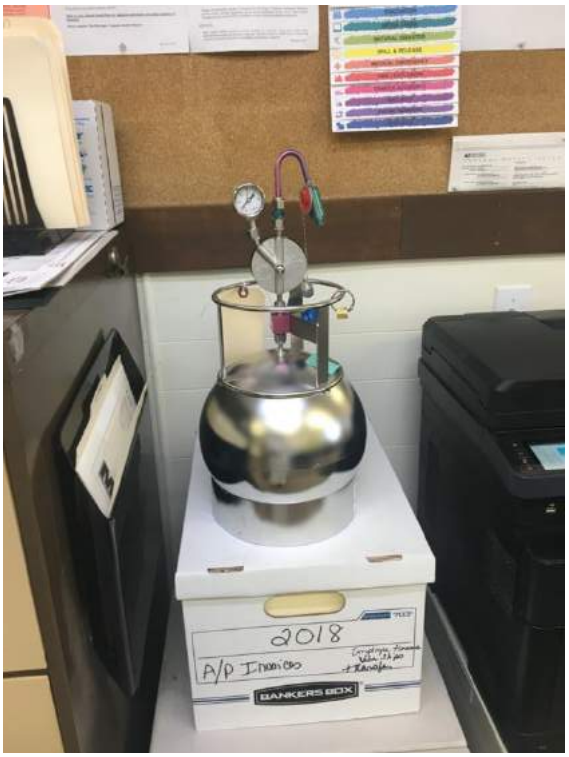
C 0853 45°F ~~45.7~~ ~~29.93~~ 28.09 inches, N/calm wind Clear skies P.O.

Attachment 3
VI Assessment Photograph Log

Photograph 1. Ambient air SUMMA canister outside the northwest corner of the office building. View to the south.



Photograph 2. Indoor air SUMMA canister near the center of the office space and located immediately adjacent to a copy machine and file cabinet.



Photograph 3. Indoor air SUMMA canister; approximately 4 feet above ground and adjacent to copier.

Photograph 4. Crawl space entrance located on the east side of the office space. View to the west.

Photograph 5. Crawl space SUMMA canister located in the center of the crawl space. View to the west.

Photograph 6. Office supplies: WD40 and packing tape.

Photograph 7. Bathroom cleaning supplies located in office restroom.

Photograph 8. Pesticides storage area located to south of office space.

Photograph 9. Fuel aboveground storage tanks (ASTs) located south of the office building in AST containment area. View to the southwest.

Attachment 4
Laboratory Report

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

May 2, 2019

Pamela Osterhout, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Osterhout:

Included are the amended results from the testing of material submitted on April 17, 2019 from the FP-Smith-Kem, F&BI 904300 project. The receipt vacuum units were amended in the case narrative.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Erin Murray
FDS0429R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

April 29, 2019

Pamela Osterhout, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Osterhout:

Included are the results from the testing of material submitted on April 17, 2019 from the FP-Smith-Kem, F&BI 904300 project. There are 12 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Erin Murray
FDS0429R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 17, 2019 by Friedman & Bruya, Inc. from the Floyd-Snider FP-Smith-Kem, F&BI 904300 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider	Receipt Vacuum ("Hg)
904300 -01	AA-041619	- 9.0"
904300 -02	IA-041619	- 7.5"
904300 -03	CS-041619	- 5.0"

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	AA-041619	Client:	Floyd-Snider
Date Received:	04/17/19	Project:	FP-Smith-Kem, F&BI 904300
Date Collected:	04/16/19	Lab ID:	904300-01
Date Analyzed:	04/23/19	Data File:	042218.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	103	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	58
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA-041619	Client:	Floyd-Snider
Date Received:	04/17/19	Project:	FP-Smith-Kem, F&BI 904300
Date Collected:	04/16/19	Lab ID:	904300-02
Date Analyzed:	04/23/19	Data File:	042219.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	110	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	70
APH EC9-12 aliphatics	310
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	CS-041619	Client:	Floyd-Snider
Date Received:	04/17/19	Project:	FP-Smith-Kem, F&BI 904300
Date Collected:	04/16/19	Lab ID:	904300-03
Date Analyzed:	04/23/19	Data File:	042220.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	100	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<46
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith-Kem, F&BI 904300
Date Collected:	Not Applicable	Lab ID:	09-0768 mb
Date Analyzed:	04/22/19	Data File:	042213.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	100	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<46
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	AA-041619	Client:	Floyd-Snider
Date Received:	04/17/19	Project:	FP-Smith-Kem, F&BI 904300
Date Collected:	04/16/19	Lab ID:	904300-01
Date Analyzed:	04/23/19	Data File:	042218.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	0.32	0.10
Toluene	0.95	0.25
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA-041619	Client:	Floyd-Snider
Date Received:	04/17/19	Project:	FP-Smith-Kem, F&BI 904300
Date Collected:	04/16/19	Lab ID:	904300-02
Date Analyzed:	04/23/19	Data File:	042219.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	0.45	0.14
Toluene	3.5	0.92
Ethylbenzene	0.49	0.11
m,p-Xylene	1.7	0.39
o-Xylene	0.71	0.16
Naphthalene	0.27	0.051

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	CS-041619	Client:	Floyd-Snider
Date Received:	04/17/19	Project:	FP-Smith-Kem, F&BI 904300
Date Collected:	04/16/19	Lab ID:	904300-03
Date Analyzed:	04/23/19	Data File:	042220.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	0.65	0.17
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	FP-Smith-Kem, F&BI 904300
Date Collected:	Not Applicable	Lab ID:	09-0768 mb
Date Analyzed:	04/22/19	Data File:	042213.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<0.38	<0.1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

Date of Report: 04/29/19
Date Received: 04/17/19
Project: FP-Smith-Kem, F&BI 904300

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD MA-APH

Laboratory Code: 904284-04 1/5.2 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	2,100	2,100	0
APH EC9-12 aliphatics	ug/m3	510	540	6
APH EC9-10 aromatics	ug/m3	<130	<130	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	45	81	70-130
APH EC9-12 aliphatics	ug/m3	45	106	70-130
APH EC9-10 aromatics	ug/m3	45	100	70-130

Date of Report: 04/29/19
Date Received: 04/17/19
Project: FP-Smith-Kem, F&BI 904300

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ppbv	5	108	70-130
Toluene	ppbv	5	108	70-130
Ethylbenzene	ppbv	5	109	70-130
m,p-Xylene	ppbv	10	108	70-130
o-Xylene	ppbv	5	108	70-130
Naphthalene	ppbv	5	98	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

904300

SAMPLE CHAIN OF CUSTODY

ME 04-17-19

Page # 1 of 1

Report To Pamela Osterhout + Erin Murray
Company Floyd Snider
Address 601 Union St, Suite 600
City, State, ZIP Seattle, WA 98101
Phone 206 292-2078 Email pamela.osterhout@floydsnider.com

SAMPLERS (signature) [signature]

PROJECT NAME: FP-Smith-Kem

PO #:

REPORTING LEVEL
☒ Indoor Air ☐ Deep Soil Gas
☐ Sub Slab/Soil Gas ☐ SVE/Grab

INVOICE TO:

TURNAROUND TIME
☒ Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Archive Samples
☐ Other

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Contr. ID	Date Sampled	Field Initial Press. (Hg)	Field Initial Time	Field Final Press. (Hg)	Field Final Time	TO-15 Full Scan	TO-15 BTEXN	TO-15 cVOCs	APH	Notes
AA-041619	01	18571	05354	4/16/19	28.0	0752	9.0	1552		X		X	
IA-041619	02	21442	08182	↓	29	0828	7.5	1628		X		X	
CS-041619	03	R14316	07850	↓	27	0834	5.0	1637		X		X	
													Samples received at 19 °C

★ include pressure reading of each SUMMA upon receipt in report narrative ★

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Pamela Osterhout	F|S	4/17/19	0731
Received by: [signature]	Nhan Phan	FCBI	4/17/19	0731
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

Attachment 5
Site-Specific MTCA Method B
Cleanup Level Calculations for Indoor Air

Attachment 5
Site-Specific MTCA Method B Cleanup Levels Calculations for Indoor Air

Commercial Default Inputs		
inhalation absorption fraction	ABS_i (unitless)	1
average body weight	ABW (kg)	70
averaging time	AT (yr)	75
attenuation factor	AF (unitless)	0.03
breathing rate	BR (m3/day)	20
compound cleanup level	CUL_i	(calc)
exposure duration	ED (yr)	30
esposure frequency	EF (unitless)	1
component fraction by weight	F_i (unitless)	(calc)
hazard index	HI (unitless)	1
target hazard quotient	HQ (unitless)	1
inhalation reference dose	RfD_i	(mg/ kg*day)
unit conversion factor	UCF (ug/mg)	1000

Equations

$$CUL_i = \frac{RfD_i \times ABW \times UCF \times HQ \times AT}{BR \times ABS_i \times ED \times EF}$$

Reference: Ecology VI Memo No. 18 Attachment B Eq. 750-1

$CUL_{tph} = 1/sum(F_i/CUL_i)$

where F_i/CUL_i is summed for each TPH component compound below

Sub Slab SL = CUL_{tph}/AF Calculated Sub-Slab Soil Vapor SL = 23,751 µg/m3

		IA-041619					AA-041619					**Adjusted IA-041619 (Indoor Air - Ambient Air Concentrations)**				
Analyte	**RfD_i**	result (µg/m^3) [3]	halfND	F_i	CUL_i	F_i/CUL_i	result (µg/m^3) [3]	halfND	F_i	CUL_i	F_i/CUL_i	result (µg/m^3) [3]	halfND	F_i	CUL_i	F_i/CUL_i
APH EC5-8 aliphatics	1.7	70	70	0.17517	14875	1.2E-05	58	58	0.6426	14875	4.3E-05	12	12	0.035258	14875	2.37027E-06
APH EC9-10 aromatics	0.114	25 U	12.5	0.03128	997.5	3.1E-05	25 U	12.5	0.1385	997.5	0.00014	25 U	12.5	0.036727	997.5	3.68189E-05
APH EC9-12 aliphatics	0.085	310	310	0.77574	743.75	0.00104	35 U	17.5	0.1939	743.8	0.00026	310	310	0.910827	743.75	0.001224641
Benzene	0.00855	0.45	0.45	0.00113	74.8125	1.5E-05	0.32	0.32	0.0035	74.81	4.7E-05	0.13	0.13	0.000382	74.8125	5.10556E-06
Toluene	1.4	3.5	3.5	0.00876	12250	7.1E-07	0.95	0.95	0.0105	12250	8.6E-07	2.55	2.55	0.007492	12250	6.11615E-07
Ethylbenzene	0.286	0.49	0.49	0.00123	2502.5	4.9E-07	0.43 U	0.215	0.0024	2503	9.5E-07	0.49	0.49	0.00144	2502.5	5.75302E-07
Xylenes	0.029	2.41	2.41	0.00603	253.75	2.4E-05	1.3 U	0.65	0.0072	253.8	2.8E-05	2.41	2.41	0.007081	253.75	2.79052E-05
Naphthalene	0.00086	0.27	0.27	0.00068	7.525	9E-05	0.26 U	0.13	0.0014	7.525	0.00019	0.27 J	0.27	0.000793	7.525	0.000105422
		412.12	399.62	1			121.26	90.265	1			352.85	340.08	1		
					SUM (F_i/CUL_i)	0.00122				SUM (F_i/CUL_i)	0.00071				SUM (F_i/CUL_i)	0.0014
					CUL_{tph}	822				CUL_{tph}	1405				**CUL_{tph}**	**713**

Notes:

Use of standard default exposure factors and equations 750-1 and 750-2 are equations and input parameters defined in MTCA under WAC 173-340-750.
Sub Slab Screening Level is based on a Vapor Attenuation Factor of 0.03.
Site-Specific CUL for Total TPH derived using Attachment B in Ecology's Implementation Memorandum No. 18 (Ecology 2018).

Abbreviations:

CUL Cleanup level
MTCA Model Toxics Control Act
TPH Total petroleum hydrocarbons
WAC Washington Administrative Code

Qualifier:

U Analyte not detected at the given reporting limit.

Attachment 5

Site-Specific MTCA Method B Cleanup Levels Calculations for Indoor Air

Commercial Default Inputs		
inhalation absorption fraction	ABS_i (unitless)	1
average body weight	ABW (kg)	70
averaging time	AT (yr)	75
attenuation factor	AF (unitless)	0.03
breathing rate	BR (m3/day)	20
compound cleanup level	CUL_i	(calc)
exposure duration	ED (yr)	30
esposure frequency (residential)	EF (unitless)	1
esposure frequency (commercial)	EF (unitless)	0.33
component fraction by weight	F_i (unitless)	(calc)
hazard index	HI (unitless)	1
target hazard quotient	HQ (unitless)	1
inhalation reference dose	RfD_i	(mg/ kg*day)
Risk	RISK	1E-06
unit conversion factor	UCF (ug/mg)	1000

Equations		
CUL_i=	$\frac{RfDi \times ABW \times UCF \times HQ \times AT}{BR \times ABS_i \times ED \times EF}$	Eq. 750-1 used for non-carcinogenic
CUL_i=	$\frac{RISK \times ABW \times AT \times UCF}{CPF \times BR \times ABS_i \times ED \times EF}$	Eq. 750-2 used for carcinogenic risk for commerical
Sub Slab SL = CUL_{tph}/AF		Calculated Soil Vapor SL = 23,751 µg/m3

Commerical Modified Method B CULs for Indoor Air						
Analyte	**RfD_i**	**CPF_i**	**Modified IA CUL**	**Reference**	**Sub-Slab CUL**	**Default Method B CULs**
APH EC5-8 aliphatics	1.7	NA	**45,076**	Eq. 750-1	1502525	2700
APH EC9-10 aromatics	0.114	NA	**3,023**	Eq. 750-1	100758	180
APH EC9-12 aliphatics	0.085	NA	**2,254**	Eq. 750-1	75126	140
Benzene	0.00857	0.027	**0.97**	Eq. 750-2	32.375	0.32
Toluene	1.42857	NA	**37,879**	Eq. 750-1	1262626	2300
Ethylbenzene	0.286	NA	**7,583**	Eq. 750-1	252778	460
Xylenes	0.029	NA	**769**	Eq. 750-1	25631.3	46
Naphthalene	0.00086	0.119	**0.22**	Eq. 750-2	7.42721	0.074

Notes:

Use of standard default exposure factors and Equation 750-2 are equations and input parameters defined in MTCA under WAC 173-340-750: https://apps.leg.wa.gov/wac/default.aspx?cite=173-340-750.

An Exposure Frequency of 0.33 is used to represent a commercial business exposure scenario at 8 hours a day for 7 days a week over a course of a year.

Sub Slab Screening Level is based on a Vapor Attenuation Factor of 0.03.

RfDi and CPFi values from CLARC database.

Default Method Method B CULs from CLARC and are based on residential exposure levels.

Abbreviations:

CLARC Cleanup Levels and Risk Calculation
CUL Cleanup level
MTCA Model Toxics Control Act
NA Not Applicable
WAC Washington Administrative Code

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix C
Floyd|Snider Memoranda

Attachment C.6
Review of Site COPC Data to Identify Data Gaps to be Addressed in the Remedial Investigation Report

FLOYD | SNIDER
strategy ▪ science ▪ engineering

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

Memorandum

To: John Mefford, Washington State Department of Ecology

Copies: Arthur Buchan and Mary Monahan, Washington State Department of Ecology
Jeff Gaarder, GHD
Andrea Wing, Shell Oil Products US

From: Emily Jones, PE, Floyd|Snider

Date: November 6, 2020

Project No: PKG-SmithKem

Re: **Review of Site COPC Data to Identify Data Gaps to be Addressed in the Remedial Investigation Report**

This memorandum describes the process that took place in summer 2020 to identify and address potential data gaps for chemicals of potential concern (COPCs) at the Smith-Kem Site (Site) relative to preliminary cleanup levels (PCULs) and leaching cleanup levels (CULs) for soil and groundwater. PCULs were developed in spring and summer 2020 under direction from the Washington State Department of Ecology (Ecology), as described in the Floyd|Snider memorandum *Development of PCULs and Identification of COPCs for Evaluation in the Remedial Investigation Report* (PCUL and COPC Memo; Floyd|Snider 2020).

The results of this data gap evaluation will facilitate a revised discussion of the nature and extent of contamination at the Site using these revised COPCs and PCULs. This memorandum describes Site data gaps and how they will be addressed in the revised Ecology Draft Remedial Investigation (RI), which will be incorporated into a combined Ecology Draft RI/Feasibility Study (FS).

1.0 DATA GAP EVALUATION

In summer 2020, under direction from Ecology, Floyd|Snider assisted in evaluating data gaps for the Site in a series of meetings with Floyd|Snider, Shell Oil Products US, and Ecology attendees. Groundwater data gaps were evaluated in meetings that took place on May 4 and June 8, 2020. Soil data gaps were evaluated in meetings that took place on June 8 and August 24, 2020. Table 1 summarizes groundwater PCULs, COPCs, and the results of the data gap evaluation for groundwater, including information about the location and depth of contamination near property boundaries and the overall frequency of exceedance information for each COPC relative to its PCUL. Table 2 provides the same information for soil. Soil and groundwater sampling locations included in the data gap evaluation are shown on Figure 1. More information on the data gap evaluation process is provided in the following sections.

Certified B Corporation

1.1.1 Groundwater

Groundwater data gaps were evaluated relative to the PCULs presented in Table 1. The data gap evaluation for 10 organochlorine pesticides included results from the Phase 2 groundwater sampling events as well as an evaluation of groundwater data collected in March 2020. COPC status and nature and extent of contamination for these chemicals were determined using the March 2020 data, supplemented by any detected results from Phase 2 groundwater sampling events collected to support the Remedial Investigation. Phase 2 groundwater data were used to evaluate data gaps for the remaining COPCs in groundwater. The results of the data gap evaluation are summarized for each COPC in Table 1.

In groundwater, contamination is vertically and laterally bounded within the property boundary for all COPCs, except as listed below.

- Dieldrin and toxaphene both have a small halo of contamination that extends off-property in the vicinity of monitoring well MW-4. When coupled with groundwater flow direction, which flows to the southwest, and chemical properties for these COPCs, the decline in concentrations between MW-4 and off-property well MW-16 is sufficient to show that contamination is laterally bounded.
- Nitrate samples collected from temporary well FS-30 indicate that contamination in the southwest corner of the property is greater in the deeper (15 feet below ground surface [bgs]) groundwater sample than in the shallow (7 feet bgs) groundwater sample. These results indicate that nitrate contamination may extend deeper than 15 feet bgs in this area of the property.

Ecology and Floyd|Snider agreed that no additional sampling was required to fill these data gaps and that Floyd|Snider could proceed with updating its discussion of groundwater PCULs, COPCs, and nature and extent of contamination in the RI. In addition, based on Ecology input, the RI will contain specific arsenic and nitrate analysis and discussion, as summarized in Table 1.

1.1.2 Soil

Soil data gaps were evaluated relative to the PCULs presented in Table 2. For chemicals where the previously described groundwater data demonstrate compliance for the leaching pathway, the soil PCUL was adjusted to remove the leaching pathway criterion such that only criteria protective of direct contact exposure were considered. For the remaining chemicals, data gaps were evaluated relative to the leaching pathway and, if widespread exceedances of the leaching pathway were present, relative to direct contact exposure criteria. The results of this evaluation are summarized for each COPC in Table 1.

In soil, contamination is vertically and laterally bounded within the property boundary for all COPCs, except as listed below.

- Dieldrin. Existing samples do not vertically bound the depth of contamination relative to residential criteria (0.063 milligrams per kilogram [mg/kg]). Contamination is

assumed to be present throughout the point of compliance (0 to 15 feet bgs). Dieldrin results exceed residential criteria at one off-property location (Surface-1 in the southeastern sampling extent) with a low magnitude of exceedance (less than 2 times the PCUL). The location between the southwestern property boundary and this sample (FS-34) is clean, indicating that Surface-1 represents localized contamination, possibly related to the culvert daylighting here and/or a low spot that collects runoff.

- Toxaphene. Toxaphene results exceed residential criteria (0.91 mg/kg) at one off-property soil sample location (MW-17, on the BNSF property) with a low magnitude of exceedance (1.25 times the PCUL). This sample result represents the eastern limit of contamination and is sufficient to show contamination is laterally bounded.
- Dioxins/furans. Contamination is assumed to be limited within surface soil but is not laterally bounded in the southeast corner of the property relative to residential criteria (13 nanograms per kilogram). The extent of off-site contamination is a data gap that will be filled prior to selection and design of the final remedy and may be achieved with additional sampling prior to submittal of the Engineering Design Report.

Groundwater data provide an empirical demonstration that soil contamination that exceeds leaching criteria is laterally bounded within the property boundary: Groundwater wells along the western, southwestern, and southern property boundaries are in compliance with groundwater PCULs. A hotspot of contamination exists for many COPCs in both soil and groundwater in the vicinity of MW-4. The FS may evaluate a Remedial Action Level for soil contamination contributing to groundwater exceedances at MW-4.

Ecology and Floyd|Snider agreed that no additional sampling was required to fill these data gaps prior to revision of the RI and that Floyd|Snider could proceed with updating the RI's discussion of soil PCULs, COPCs, and nature and extent of contamination. For select COPCs, Table 2 summarizes specific agreements that will be incorporated into the revised RI/FS.

2.0 REFERENCES

Floyd|Snider. 2020. *Development of PCULs and Identification of COPCs for Evaluation in the Remedial Investigation Report.* Memorandum from Emily Jones, Floyd|Snider, to John Mefford, Washington State Department of Ecology. 30 October.

Washington State Department of Ecology (Ecology). 1992. *Statistical Guidance for Ecology Site Managers.* August.

3.0 LIST OF ATTACHMENTS

Table 1 Data Gap Evaluation Summary for Groundwater COPCs Relative to PCULs

Table 2 Data Gap Evaluation Summary for Soil COPCs Relative to Leaching and Direct Contact PCULs

Figure 1 Soil and Groundwater Sample Locations

Tables

Table 1
Data Gap Evaluation Summary for Groundwater COPCs Relative to PCULs

Chemical	Final PCUL (µg/L)	Maximum Detected Result *(Maximum Detected Well Result)* (µg/L) [(1)]	Percent of Detected Results That Exceed	Groundwater COPC?	Floyd|Snider and Ecology Data Gap Evaluation		Action Items
					Summary	Supporting Information	
Chemicals Identified as COPCs and Pending COPCs							
Metals							
Arsenic	5.0	23 / ***(14)***	1.7%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded within property. The single elevated sample at MW-4 could be a sampling artifact related to redox conditions or variation in background; there was elevated turbidity in the sample that exceeds.	In the RI, Floyd|Snider will evaluate possible causes for elevated arsenic in the sample with elevated results, including discussion of dissolved versus total arsenic results, as appropriate.
Miscellaneous Substances							
Nitrate	10,000	210,000	57%	**Yes**	Data gap with respect to depth of contamination within property boundary; contamination is laterally bounded.	Contamination is greatest at MW-4 and extends off-property near MW-4, at MW-16. Release in this area is shallow/more recent and results collected after January 1, 2016, show improvement relative to historical results. Plume is bounded. A second, older source exists in southwestern portion of property, which is bounded laterally by wells MW-18, MW-19, and MW-20. Depth may not be bounded based on results that increase with depth at temporary well FS-30. However, collection of deeper data is not required for completion of the Remedial Investigation report or Feasibility Study.	The Feasibility Study will evaluate paving as an alternative to address ongoing nitrate/nitrite source control; trends in data collected from wells screened at depths up to 15 feet bgs will be evaluated to determine if groundwater quality is improving or if additional action needs to be taken as part of remedy design.
Nitrite	1,000	6,800	8.2%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded within property.	None.
Organochlorine Pesticides							
HCH-alpha (a-BHC)	0.014	Not Detected in Groundwater	NA	No	No data gaps: Not a COPC.	No exceedances in March 2020 data; max result meets PCUL.	None.
HCH-beta (b-BHC)	0.049	0.087	3.2%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	No exceedances in March 2020 data; max result meets PCUL. Contamination at MW-4 is bounded.	None.
Aldrin	0.0026	0.0059	NA	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Results at MW-4 exceed the PCUL. All other results meet PCUL. Contamination is bounded within property.	None.
Heptachlor epoxide	0.048	Not Detected in Groundwater	NA	No	No data gaps: Not a COPC.	No exceedances in March 2020 data; max result meets PCUL.	None.
Chlordane	2.0	22	2.4%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Detected exceedances at MW-4 in PAL dataset; no exceedances in March 2020 data. Plume is bounded to the southeast by results at MW-12, MW-2, and MW-10.	None.
Dieldrin	0.0055	10	24%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Results exceed at MW-4 with a halo of contamination at MW-16. Contamination extends to the southwest property boundary (MW-14) but is bounded by MW-18, MW-19, and MW-20.	None.

Table 1
Data Gap Evaluation Summary for Groundwater COPCs Relative to PCULs

Chemical	Final PCUL (µg/L)	Maximum Detected Result *(Maximum Detected Well Result)* (µg/L) [(1)]	Percent of Detected Results That Exceed	Groundwater COPC?	Floyd|Snider and Ecology Data Gap Evaluation		Action Items
					Summary	Supporting Information	
Chemicals Identified as COPCs and Pending COPCs (cont.)							
Organochlorine Pesticides (cont.)							
4,4'-DDE / Sum DDE	0.26	0.76	0.81%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded within the central portion of the property.	None.
4,4'-DDT / Sum DDT	0.26	1.5	0.81%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded within the central portion of the property.	None.
Toxaphene	0.80	26	8.1%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is greatest at MW-4 and extends off-property near MW-4, at MW-16. Plume is bounded to the southeast by results at MW-12, MW-2, and MW-10.	None.
Chlorinated Herbicides							
2,4-D	70	260	1.6%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded within property.	None.
Dicamba	480	550	1.6%	**Yes**			
MCPA	8.0	88	3.2%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded within property. Historical samples (pre-2016) had elevated reporting limits at some property boundary wells; data collected between 2016–2018 at these wells is in compliance with PCUL.	None.
Other Chlorinated/Halogenated Pesticides							
Atrazine	3.0	33	13%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded within property.	None.
Chlordane-alpha	2.0	3.3	0.80%	**Yes**			
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	500	24,000 / ***(1,000)***	8.2%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded within property.	None.
Oil-Range TPH	500	24,000 / ***(1,100)***	2.1%	**Yes**			

Notes:

All analytical results are reported to two significant figures.

RED/BOLD Chemical retained as COPC.

PCUL includes state and federal MCLs, MTCA Method B, and MTCA Method A groundwater criteria.

1 The value in plain text includes all groundwater results, including data from test pits and temporary well screens at soil boring locations, which are typically used for field screening purposes. These data should not be considered representative of site conditions. Nearby proximate groundwater well data collected over the course of multiple events demonstrate that these results meet the definition of an outlier, as described in Ecology statistical guidance (Ecology 1992). In areas without a nearby well, groundwater samples collected from collocated soil borings indicate that historical data collected from test pits are not representative of groundwater quality.

Abbreviations:

BHC Benzene hexachloride
COPC Chemical of Potential Concern
DDE Dichlorodiphenyldichloroethylene
DDT Dichlorodiphenyltrichloroethane
Ecology Washington State Department of Ecology
FS Feasibility Study
HCH Hexachlorocyclohexane
MCL Maximum Contaminant Level
µg/L Micrograms per liter
MTCA Model Toxics Control Act
NA Not analyzed; PAL does not perform analysis for this analyte in the indicated media.
PAL Pacific Agricultural Laboratory
PCUL Preliminary cleanup level
PQL Practical quantitation limit
QC Quality control

Table 2
Data Gap Evaluation Summary for Soil COPCs Relative to Leaching and Direct Contact PCULs

	Chemical	Contact PCUL If Groundwater Demonstrates Compliance (mg/kg) [1]	Considers Pathways	Max Detection in Soil (mg/kg)	Percent of Detected Results That Exceed	Is It a Soil COPC?	Floyd|Snider and Ecology Data Gap Evaluation		Action Items
							Summary	Supporting Information	
	Chemicals Identified as COPCs and Pending COPCs								
Groundwater Demonstrates Compliance for Leaching Pathway	**Metals**								
	Lead	220	Direct Contact	990	3.6%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination limited to the upper 2 feet; contamination bounded within property boundary.	None.
	Zinc	270	Direct Contact	470	6.7%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination limited to the upper 2 feet; contamination bounded within property boundary. Samples in two areas exceed near property line (FS-05 and FS-06; and FS-12), with exceedance factors of 1.0 and 1.2 times the PCUL.	None.
	Organochlorine Pesticides								
	Heptachlor	0.22	Direct Contact	0.43	1.3%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Low-level contamination is present in the top 4 feet of soil. Contamination is bounded within the property.	None.
	Total DDx	1.0	TEE Direct Contact	25	9.3%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is present in the top 4 feet of soil and is bounded within the property.	The RI will contain text describing site-specific lines of evidence used to confirm that current levels of Total DDx in soil are protective of terrestrial exposure and do not cause a decrease in habitat quality using a weight of evidence approach.
	4,4'-DDD / Sum DDD [2]	2.4	HH Direct Contact	3.2	0.66%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is present in the top 4 feet of soil and is bounded within the property.	None.
	HCH-alpha (a-BHC)	0.16	Direct Contact	0.017	None	No	No data gaps: Contamination is vertically and laterally bounded.	Groundwater demonstrates compliance (all March 2020 groundwater results meet the PCUL); no exceedances of soil direct contact PCUL.	None.
Other Chemicals	**Organochlorine Pesticides (cont.)**								
	HCH-beta (b-BHC)	0.0067	Direct Contact, Leaching	0.052	6.0%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded laterally within the property boundary and vertically to the top 4 feet of soil. Along the southwestern property boundary, one location (FS-29) has a detected low-level exceedance (1.8 times the PCUL). Along the eastern property boundary near BNSF, a cluster of results in the top 4 feet of soil exceeds the PCUL at locations FS-27, FS-28, and FS-42. Exceedance factors at these locations range between 1 and 7.8. Samples collected on BNSF property and at FS-34, FS-35, and MW-13 meet the soil PCUL. A hotspot exists near MW-4, where contamination is present in soil and groundwater. Elsewhere, groundwater results collocated with soil results (e.g., FS-22 and MW-11) meet the groundwater CUL, providing empirical demonstration that current soil concentrations do not cause groundwater impacts except at the MW-4 hotspot.	The FS may evaluate a RAL for soil contamination contributing to groundwater exceedances at MW-4.
	Aldrin	0.0067	Direct Contact, Leaching	20	8.6%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded laterally within the property boundary and vertically to the top 4 feet of soil. Along the southwestern property boundary, one location (FS-29) has a detected low-level exceedance (1.1 times the PCUL). Contamination along the eastern property boundary near BNSF exceeds the PCUL with exceedance factors between 3.2 and 4.4 at locations FS-27 and FS-28. Samples collected on BNSF property and at FS-34, FS-35, and MW-13 meet the soil PCUL. A hotspot exists near MW-4, where contamination is present in soil and groundwater. Elsewhere, groundwater results collocated with soil results with similar magnitude exceedances (e.g. MW-1, MW-11, and MW-3) meet the groundwater CUL, providing empirical demonstration that current soil concentrations do not cause groundwater impacts except at the MW-4 hotspot.	
	Chlordane	1.0	Direct Contact, Leaching	84	12%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded laterally within the property boundary and vertically to the top 4 feet of soil. Samples along the eastern property boundary near BNSF (FS-27 and FS-28) and along the southwestern property boundary (FS-12 and FS-29) exceeds the PCUL with exceedance factors between 4.6 and 13. Samples collected on BNSF property and at FS-34, FS-35, and MW-13 meet the soil PCUL. A hotspot exists near MW-4. Elsewhere, groundwater results collocated with soil results with similar magnitude exceedances (FS-22, MW-11, and MW-3) or collected from wells downgradient of elevated soil results (e.g., MW-14, MW-18, MW-19) meet the CUL, providing empirical demonstration that current soil concentrations do not cause groundwater impacts except at the MW-4 hotspot. Downgradient groundwater well results outside the western and southwestern property boundary empirically demonstrate groundwater quality and are sufficient to bound soil contamination within the property, despite soil sample results that exceed the PCUL along the western property boundary.	

Table 2
Data Gap Evaluation Summary for Soil COPCs Relative to Leaching and Direct Contact PCULs

	Chemical	Contact PCUL If Groundwater Demonstrates Compliance (mg/kg) [1]	Considers Pathways	Max Detection in Soil (mg/kg)	Percent of Detected Results That Exceed	Is It a Soil COPC?	Floyd|Snider and Ecology Data Gap Evaluation		Action Items
							Summary	Supporting Information	
	Chemicals Identified as COPCs and Pending COPCs								
Other Chemicals (cont.)	**Organochlorine Pesticides**								
	Dieldrin	0.0067	Direct Contact, Leaching	46	46%	**Yes**	Data gap relative to depth of contamination. Contamination is laterally bounded.	Contamination is present across the site. Existing samples may not be sufficient to vertically bound the depth of contamination. Soil results across the site, including near the eastern and western property boundaries, exceed the leaching PCUL with maximum exceedance factors of more than 100. Soil samples in the southeastern corner of the property (FS-34) meet the CUL and are sufficient to bound contamination along the eastern/southern property boundary extent. Groundwater wells along the western property line and downgradient of the property boundary are sufficient to empirically demonstrate that groundwater contamination does not extend off-site, and soil contamination is bounded to within the property. Relative to residential criteria (0.063 mg/kg), contamination is appropriately bounded. The only off-property exceedance (Surface-1 in the southeastern sampling extent) exceeds the soil PCUL by a factor of less than 2. The location between the southwestern property boundary and this sample (FS-34) meets the CUL, indicating that any contamination between here and this location would be low level and this is a localized area of contamination, possibly related to a ground surface depression or the culvert daylighting here.	The FS may evaluate a RAL for soil contamination contributing to on-property groundwater exceedances. The FS will consider alternatives ranging from evaluating capping and institutional controls to widespread excavation down to 15 feet (standard point of compliance for the human health pathway) relative to the residential criteria to eliminate risk from the direct contact pathway. The FS will contain the disproportionate cost/cost-benefit analysis to determine the preferred alternative.
	4,4'-DDE / Sum DDE	0.25	HH Direct Contact, Leaching	5.4	7.9%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is present in the top 4 feet of soil and is bounded within the property. A soil hotspot exists in samples collected near MW-4, where groundwater also exceeds the PCUL. Sampled locations along the western property boundary meet the CUL except for FS-29 and FS-12 near the southwestern property boundary. The maximum results at these locations are less than 1.6 times the PCUL. One sample at location FS-27 along the eastern property boundary near the BNSF loading area has an exceedance factor of 2.2 without a sample further east to bound contamination. All other samples representing the eastern-most sampling extent meet the PCUL. All other groundwater results meet the PCUL, providing empirical demonstration that soil contamination is bounded within the property.	The FS may evaluate a RAL for soil contamination contributing to groundwater exceedances at MW-4.
	4,4'-DDT / Sum DDT	2.9	HH Direct Contact, Leaching	20	1.4%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is present in the top 4 feet of soil and is bounded within the property. Soil and groundwater contamination is present only in the vicinity of MW-4.	None.
	Toxaphene	0.84	Direct Contact, Leaching	120	18%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination is bounded, generally within the property boundary and limited to the top 4 feet of soil. At two locations, the deepest sample does not meet the PCUL; however, contamination depth is inferred to be less than 6-7 feet bgs at these locations: Concentrations in the 4-5 feet bgs interval are an order of magnitude less than more shallow soil results in each sample and are <2.5 times the PCUL. A hotspot exists near MW-4. Soil results at other locations, including near the eastern and western property boundaries, exceed the leaching PCUL with maximum exceedance factors of up to approximately 80. Collocated/proximate downgradient groundwater results along the property boundary (MW-11, MW-13, MW-17, and FS-30) meet the CUL. These groundwater results provide empirical demonstration that soil contamination is bounded within the property for the leaching pathway. Relative to residential criteria (0.91 mg/kg), results exceed at one off-site soil sample location (MW-17) with a low magnitude of exceedance (1.25 times the PCUL). This sample result represents the eastern limit of contamination; no additional samples are needed to delineate the site.	The FS may evaluate a RAL for soil contamination contributing to groundwater exceedances at MW-4. The FS will consider alternatives ranging from evaluate capping and institutional controls to widespread excavation to a clean surface relative to the residential criteria to eliminate risk from the direct contact pathway. The FS will contain the disproportionate cost/cost-benefit analysis to determine the preferred alternative.
	Other Chlorinated/Halogenated Pesticides								
	Atrazine	4.3	Direct Contact [3]	710	0.66%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination limited to the upper 4 feet; contamination bounded within property boundary.	None.
	Chlordane-alpha	1.0	Direct Contact, Leaching	9.9	5.6%	**Yes**			
	Simazine	8.3	Direct Contact [3]	110	0.66%	**Yes**			

Table 2
Data Gap Evaluation Summary for Soil COPCs Relative to Leaching and Direct Contact PCULs

	Chemical	Contact PCUL If Groundwater Demonstrates Compliance (mg/kg) [1]	Considers Pathways	Max Detection in Soil (mg/kg)	Percent of Detected Results That Exceed	Is It a Soil COPC?	Floyd|Snider and Ecology Data Gap Evaluation		Action Items
							Summary	Supporting Information	
	Chemicals Identified as COPCs and Pending COPCs								
Other Chemicals (cont.)	**Total Petroleum Hydrocarbons (TPH)**								
	Total Diesel- and Oil-Range TPH	460	Direct Contact [3]	21,000	25%	**Yes**	No data gaps: Contamination is vertically and laterally bounded.	Contamination present across the site, generally near buildings and fuel pad at depths up to 9 feet bgs. Along eastern/western property boundary, shallow samples exceed at concentrations between 2 and 2.5 times the PCUL at three locations: Culvert, FS-01, and FS-12. Vertical depth is bounded throughout the site, except near BNSF loading area along the eastern property boundary where contamination is present at depths of 10 feet bgs at locations FS-10 and MW-5. This is deeper than the biologically active zone.	The RI will contain text describing rationale supporting the determination that contamination is bounded along property lines based on the following lines of evidence: - There is no reason to suspect TPH contamination is present outside of the western property boundary based on what is known about the nature of current and historical activities; - The road is a permanent physical barrier; site activities did not take place on or west of the road; - No indications of the presence of TPH were observed outside of the western property boundary when performing off-property permanent and temporary well installation.
	Dioxins								
	Dioxins	0.00000300	Direct Contact [3]	0.0000924	78%	**Yes**	Data gap exists relative to TEE criteria adjusted for PQL, and relative to residential criteria (13 ng/kg): Results exceed both criteria along southern property boundary, south of FS-44.	Contamination is present in the southeast corner of the site. The greatest dioxin/furan concentration (0.92 mg/kg) was measured in FS-44. Based on current and historical activities at the property, contamination is expected to be limited to surface soil. The ecological exposure pathway at the site is unlikely to be active based on physical properties of site soil and ground surface that make the site unsuitable for terrestrial life; current levels of dioxins/furans in soil are not contributing to loss in habitat quality. A data gap remains relative to residential criteria.	Relative to the TEE pathway, the RI will contain text describing site-specific lines of evidence used to confirm that current levels of dioxins in soil are protective of terrestrial exposure and do not cause a decrease in habitat quality using a weight of evidence approach. Relative to residential criteria, the extent of off-site contamination is a data gap that must be filled prior to selection and design of the final remedy. This may be achieved with additional sampling prior to submittal of the Engineering Design Report.

Notes:

Criteria and results are rounded to two significant figures, with the exception of dioxin criteria and results. Dioxin citeria and results are rounded to three significant figures.

RED/BOLD Chemical retained as COPC.

Soil PCUL has been adjusted to the PQL.

Soil PCUL includes TEE, HH, and leaching pathway as appropriate for the chemical.

Soil PCUL includes only direct contact criteria; the leaching pathway is not active.

1 If groundwater meets the CUL (i.e., chemical is not a groundwater COPC), the PCUL presented in this table is the most conservative soil direct contact criterion for that chemical. This "direct contact PCUL" was used to determine exceedance information and COPC status.

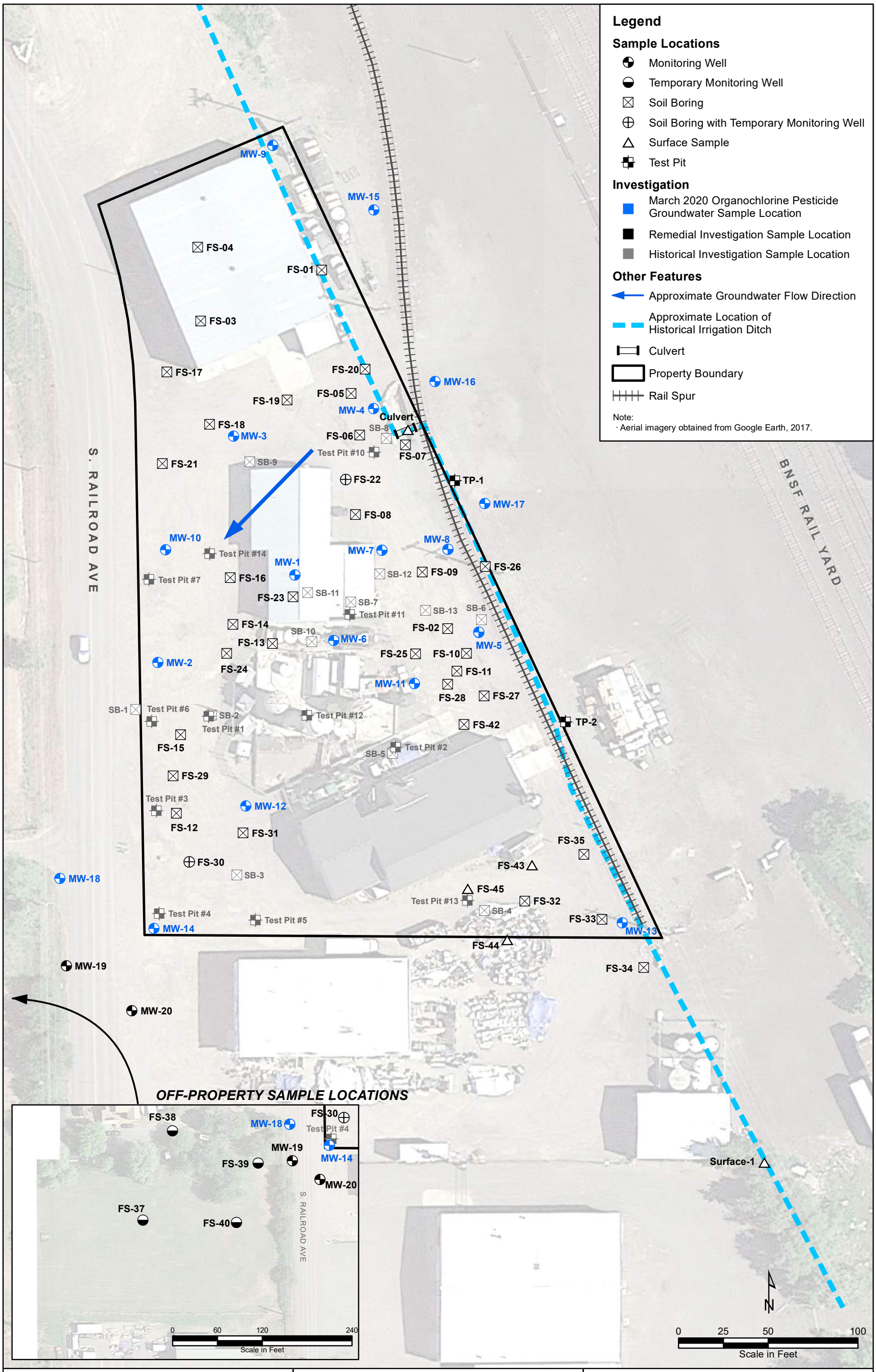
2 Total DDx (calculated as the sum of DDD, DDE, and DDT) is compared to the TEE criteria for total DDx. Individual totals for DDT and its derivatives are compared to HH direct contact criteria and leaching criteria, as appropriate.

3 No three-phase leaching pathway criteria.

Abbreviations:

bgs	Below ground surface	DDE	Dichlorodiphenyldichloroethylene	HCH	Hexachlorocyclohexane	PQL	Practical quantitation limit
BHC	Benzene hexachloride	DDT	Dichlorodiphenyltrichloroethane	HH	Human health	RAL	Remedial Action Level
BNSF	BNSF Railway	DDx	Calculated as sum of DDD, DDE, and DDT	mg/kg	Milligrams per kilogram	RI	Remedial Investigation
COPC	Chemical of potential concern	Ecology	Washington State Department of Ecology	ng/kg	Nanograms per kilogram	TEE	Terrestrial Ecological Evaluation
DDD	Dichlorodiphenyldichloroethane	FS	Feasibility Study	PCUL	Preliminary cleanup level		

Figure



FLOYD | SNIDER
strategy • science • engineering

Data Gaps Evaluation Memorandum
Smith-Kem Site
Ellensburg, Washington

Figure 1
Soil and Groundwater Sample Locations

I:\GIS\Projects\PGK-SmithKem\MXD\Data Gap Eval Memo\Figure 1 Soil and Groundwater Sample Locations.mxd
11/2/2020

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix D
Monitoring Well Logs, Boring Logs, and Groundwater Monitoring Field Forms

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-01	
LOGGED BY: P.Wichgers	**BORING LOCATION:** SE corner of shop		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604718.72	**EASTING:** 1626801.21	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.8	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 7.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/2/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
0.5	SW	Brown, well-graded **SAND** with gravel and some silt; loose, dry to moist, no odor.			SB-1-0.5-1
2	SW/SM	Dark brown to black, well-graded **SILTY SAND** with gravel; moist, few wood fragments, no odor.		6	SB-1-2-3
3	GW	Light gray-brown **GRAVEL** with sand; loose, dry, no odor.		11	
5	SM	Dark brown **SILTY SAND** with gravel, moist, no odor.		1	
6	SW	Light gray-brown, well-graded **SAND** with gravel; loose, no odor.			SB-1-7-8
7.5 ▼		At 7.5 feet bgs, becomes moist.		8	
9	SW/SM	Brown to dark brown, well-graded **SAND** with silt and gravel; organics present, moist, no odor.			SB-1-9-10
10		Bottom of boring = 10 ft bgs.		3	

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Field ID SB-1

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-02	
LOGGED BY: P.Wichgers	**BORING LOCATION:** NE of AST area		
DRILLED BY: Holocene- Mitch McCarley	**NORTHING:** 604519.01	**EASTING:** 1626871.52	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1506.9	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 7.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/2/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
0.5		Gray-brown silty **SAND** with gravel, dry.			SB-2-0.5-1
1					
1.5					
2		At 2 ft bgs, becomes dark brown with organic fragments, dry to damp.			
2.5				16	
3					SB-2-2.5-3.5
3.5					
4	SW/SM	At 4 ft bgs, beauty bark present with fresh, store-bought odor.		15	
4.5		Brown, well-graded **SAND** with silt and gravel; loose, damp.			SB-2-4-5
5					
5.5					
6				16	
6.5					
7					
7.5 ▼		At 7.5 ft bgs, becomes moist.		16	SB-2-7-8
8		From 7.5 to 10 ft bgs, coarsening down from coarse **SAND** to **GRAVEL**.			
8.5	SW				
9					
9.5		At 9.5 ft bgs, moist to wet.			
10	GW	Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Field ID SB-2. Rejected first 0-10 feet of recovery due to blockage in drilling barrel.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-03	
LOGGED BY: P.Wichgers	**BORING LOCATION:** S/SW inside shop		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604690.33	**EASTING:** 1626733.8	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1508.1	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/3/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0		Concrete ground surface.			
0.5	SW/SM	Dark brown, well-graded **SILTY SAND** with gravel; mild odor (beauty bark?); moist due to driller's water.			SB-3-0.5-1
1				43	
1.5					
2				28	
2.5		At 2.5 ft bgs, becomes dry and loose.		84	
3					SB-3-2.5-3.5
3.5		At 3.5 ft bgs, medium brown, loose **SILTY SAND** with abundant gravel; mild beauty bark odor, dry to damp.			
4					
4.5				36	
5				2	
5.5 ▼		At 5.5 ft bgs, moist to wet.			
6					SB-3-5.5-6.5
6.5	SW	Brown, coarse **SAND** with gravel and silt, no odor.			
7					
7.5					SB-3-7-8
8					
8.5		Well-graded **SAND and GRAVEL** with silt; no odor, loose.			
9					
9.5				20	
10		Bottom of boring = 10 ft bgs.			SB-3-9.5-10

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
Field ID SB-3. First drive stopped at 2.5 ft because of rock blocking drill barrel.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-04	
LOGGED BY: P.Wichgers	**BORING LOCATION:** Middle of shop		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604731.4	**EASTING:** 1626732.13	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.9	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 8.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/3/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0		Concrete ground surface.			
0.5	SW/SM	Brown, well-graded loose **SAND** with gravel and silt, mild ammonia odor.			SB-4-0-0.5
1		From 1 to 2.5 ft bgs, grades to **SILT** with few sand and gravel; compact, no odor.			
1.5				10	
2					
2.5					
3					
3.5					
4				2	SB-4-3-4
4.5	ML				
5					
5.5					
6		At 6 ft bgs, silt becomes soft.		6	
6.5					
7		At 7 ft bgs, broken glass present in silt.		6	
7.5					SB-4-7-8
8					
8.5 ▼		At 8.5 feet, becomes wet and grades to a dark brown, well-graded **SAND** with gravel and silt.			
9	SW				
9.5					SB-4-9-10
10		Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
Field ID SB-4. Sample depths start below 6" concrete ground surface. First drive only recovered 5-10 ft. Second drive sampled 0-5 ft a few inches away from original boring location.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-05	
LOGGED BY: P.Wichgers	**BORING LOCATION:** NW of MW-4		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604649.97	**EASTING:** 1626817.66	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.1	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 6	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/3/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	OL	Dark brown, organic-rich **SILTY SOIL** with some wood fragments and gravel; musty/oily odor like fertilizer, damp, no sheen.			
0.5					SB-5-0.5-1
1				8	
1.5					
2					
2.5	SW/SM	Light gray-brown, well-graded silty **SAND** with gravel; loose, no odor, dry to damp.		7	
3					SB-5-3-4
3.5					
4				12	
4.5					
5					
5.5					SB-5-5-6
6 ▼		At 6 ft bgs, moist.		18	
6.5		At 6.5 ft bgs, sand coarsens and becomes more compact.			SB-5-6.5-7.5
7					
7.5					
8				11	
8.5					
9					
9.5					
10		Bottom of boring = 10 ft bgs.		15	

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Field ID SB-5. No nitrate analyses; analyzed surface sample for glyphosate.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-06	
LOGGED BY: P.Wichgers	**BORING LOCATION:** West of culvert		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604626.94	**EASTING:** 1626822.52	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1506.8	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 6	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/3/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW/SM	Dark brown, organic-rich silty **SAND** with some gravel; pockets of orange-brown silty sand; mild musky odor, damp.			SB-6-0-0.5 Duplicate: SB-6D-0-0.5
0.5					
1				15	
1.5					
2	SW	Light to medium gray-brown, well-graded **SAND** with silt and gravel; loose, damp to dry, mild musky odor.			
2.5				19	SB-6-2-3
3					
3.5					
4				20	
4.5					
5					
5.5		From 5.5 ft bgs to bottom of core, soil is compact.			SB-6-5-6
6		At 6 ft bgs, moist to wet.		23	
6.5					
7		At 7 ft bgs, sand becomes coarser and brown/copper colored.			
7.5					SB-6-7-8
8				20	
8.5					
9					
9.5					
10		Bottom of boring = 10 ft bgs.		17	

ABBREVIATIONS:
ft bgs = feet below ground surface USCS = Unified Soil Classification System
ppm = parts per million ▼ = denotes groundwater table

NOTES:
Field ID SB-6

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-07	
LOGGED BY: P.Wichgers	**BORING LOCATION:** Depression next to culvert		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604621.29	**EASTING:** 1626847.92	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1505.6	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/3/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW	Dark brown, well-graded **SAND** with silt and gravel, some organic fragments; organic odor, moist.			
0.5					SB-7-0.5-1
1				28	
1.5					
2					
2.5					
3	GW	At 3 ft bgs, well-graded **GRAVEL** with less organics than above.			
3.5		At 3.5 ft bgs, musky odor.		23	SB-7-3-4
4					
4.5					SB-7-4-5
5		At 5 ft bgs, no recovery, but water present on drill barrel.			
5.5					
6					
6.5					
7					
7.5	GW	**GRAVEL** same as above.			
8				25	SB-7-7.5-8.5
8.5		At 8.5 ft bgs, medium brown.			
9					
9.5					
10		Bottom of boring = 10 ft bgs.		19	

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Field ID SB-7. Driller noted DTW at time of drilling was ~3'.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-08	
LOGGED BY: P.Wichgers	**BORING LOCATION:** E of office		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604582.56	**EASTING:** 1626820.17	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1506.9	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/3/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
0.5	SP	4" black-stained silt and **SAND** (volcanic?); mild organic odor. Then 2" copper-brown silty **SAND** with gravel.			SB-8-0.5-1
1		Gray-brown, well-graded **GRAVEL** with sand and silt; damp, musky odor present to bottom of core.		24	
1.5					
2					
2.5					
3					
3.5					SB-8-3-4
4	GW			24	
4.5					SB-8-4-5
5		At 5 ft bgs, moist to wet.			
5.5					SB-8-5-6
6		At 6 ft bgs, black pockets (staining?).			
6.5					
7	SW	Brown, well-graded **SAND** with abundant gravel and silt; moist.		29	
7.5					
8					
8.5					
9	GW	Brown, well-graded **GRAVEL** with sand and silt; moist; musky odor begins to dissipate.			
9.5					
10		Bottom of boring = 10 ft bgs.		24	

ABBREVIATIONS:
ft bgs = feet below ground surface USCS = Unified Soil Classification System
ppm = parts per million ▼ = denotes groundwater table

NOTES:
Field ID SB-8

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-09	
LOGGED BY: P.Wichgers	**BORING LOCATION:** SW of MW-8		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604550.48	**EASTING:** 1626857.25	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1506.9	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/3/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
0.5		Dark brown to black **SANDY SOIL** with small gravels and coal; loose, dry, no odor.			SB-9-0.5-1
1					
1.5					
2	SW	From 2 to 4 ft bgs, copper-colored staining. Soil becomes more compact and damp at 2.5 ft.		16	
2.5		At 2.5 ft bgs, soil becomes more compact and damp.			
3					
3.5				20	SB-9-3-4
4		Gray, well-graded silty **SAND** with gravel and cobbles; dry; mild musky odor.			
4.5					SB-9-4-5
5 ▼	SW/SM	At 5 ft bgs, moist.			
5.5					
6		Gray-brown, well-graded **GRAVEL** with abundant sand and some silt; moist to wet; mild musky odor.		16	
6.5					SB-9-6-7
7					
7.5					
8	GW				
8.5					
9					
9.5					
10		Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
Field ID SB-9

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-10	
LOGGED BY: P.Wichgers	**BORING LOCATION:** E of AST area		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604505.11	**EASTING:** 1626882	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.2	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** Not discernible	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/4/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
0.5	SP	Dark-brown **SAND** with some silt and small gravel; dry, loose, no odor.			SB-10-0.5-1
1				28	
1.5	GW	Brown, well-graded **GRAVEL** with sand and silt; damp, loose, musky odor.			
2				38	
2.5	SW/SM	Well-graded silty **SAND** with small to medium gravels.			SB-10-2-3
3					
3.5	Coal	At 3.5 ft bgs, 1-foot layer of coal with some sand and gravel; loose, no odor.			
4				17	
4.5	ML	Brown **SILT** with some large gravels and sand; moist, musky odor.			
5	SW/SM	Light brown, well-graded silty **SAND** with gravel; dry, loose, mild musky odor (sluff?).			
5.5					
6		No recovery			
6.5					
7					
7.5	SW/SM	Dark brown, well-graded silty **SAND** with small to medium gravels; moist, mild hydrocarbon odor.			
8				201	
8.5		At 8.5 ft bgs, hydrocarbon odor strong.			
9	SW	Dark gray-brown, well-graded coarse **SAND** with abundant gravels and cobbles; moist, strong hydrocarbon odor, minor sheen on core.			SB-10-9-10
9.5					
10		Bottom of boring = 10 ft bgs.		1351	

ABBREVIATIONS:
ft bgs = feet below ground surface USCS = Unified Soil Classification System
ppm = parts per million ▼ = denotes groundwater table

NOTES:
Field ID SB-10. DTW not discernible.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-11	
LOGGED BY: P.Wichgers	**BORING LOCATION:** Stepout from FS-10		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604495.13	**EASTING:** 1626876.57	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.4	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 20	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 6"	**DRILL DATE:** 8/4/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
1	SW	Brown, well-graded **SAND** with silt and small to large gravels; dry, no odor.			SB-11-0.5-1
2	SP	Black **SAND** with few small to medium gravels and coal; musky odor, compact, some copper staining.		33	
3	ML	Brown **SILT** with sand and small gravels; moist, organic odor, compact.			SB-11-3-4 Duplicate: SB-11D-3-4
4					
5	GW	Brown, well-graded **GRAVEL** with silt and sand; dry.			
		No recovery			
6					
7					
8					
9	GW	At 9 ft bgs, large gravel and cobbles present; strong hydrocarbon odor; no sheen.			
10	SW/SM	Brown and gray, well-graded silty, coarse **SAND** with gravel; loose, saturated; moderate hydrocarbon odor.		1528	
11					
12				52	SB-11-11.5-12.5
13	GW	Brown, well-graded **GRAVEL** with silt and coarse sand; wet. Fining downward to poorly-graded coarse **SAND** at 14.5 ft bgs; loose, no odor.			
14				45	
15	SP	Brown, poorly-graded coarse **SAND** with cobbles; loose, wet, no odor.			SB-11-15-16
16		Fines to poorly-graded, medium **SAND**. At 16 ft bgs, coarsens, no odor.			
17	GW	Gray, well-graded **GRAVEL** with silt, sand and cobbles; moist, no odor.		21	
18					
19	SW/SM	Brown, well-graded silty **SAND** with abundant gravel and cobbles; moist, no odor.			
20		Bottom of boring = 20 ft bgs.		27	SB-11-19-20

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Field ID SB-11. Stepout from FS-10 because of high PID hit. 6" casing drilled to 20' bgs to prevent hole collapse during drilling. Ambient PID = 5 ppm, Clean Ziploc bag PID = 11 ppm.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-12	
LOGGED BY: P.Wichgers	**BORING LOCATION:** SW of AST area		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604416.03	**EASTING:** 1626720.33	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.1	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 4.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/4/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW/SM	Dark brown, well-graded silty **SAND** with small gravels; loose, dry, no odor.			
0.5					SB-12-0.5-1
1		Dark brown, well-graded **SAND** with silt, gravel and cobbles; damp; mild musky odor.			
1.5					
2		At 2 ft bgs, dry.		29	
2.5					
3	SW				
3.5		At 3.5 ft bgs, odor is musky and sweet.		35	SB-12-3-4
4					
4.5 ▼		At 4.5 ft bgs, moist			SB-12-4-5
5				27	
5.5					
6	SP	From 5.75 to 6.5 ft bgs, grades to brown, poorly-graded **SAND** with some silt; saturated, loose.			
6.5					
7					
7.5	GW	Brown, well-graded **GRAVEL** with sand and silt; loose, saturated, musky odor.			
8					SB-12-7.5-8.5
8.5					
9				19	
9.5					
10		Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Field ID SB-12

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-13	
LOGGED BY: P.Wichgers	**BORING LOCATION:** Concrete pad between office and AST area		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604510.69	**EASTING:** 1626773.74	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.5	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 15	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/4/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0		Concrete ground surface.			
1	GW/GM	Black, well-graded silty **GRAVEL** with sand; moist, compact; moderate sweet/ammonia-like odor.		21	SB-13-0.5-1
2	SW	Brown, well-graded **SAND** with gravel and cobbles; moist, loose; mild odor same as above.		28	
3	GW/GM	Black, well-graded silty **GRAVEL** with sand; moist, compact; moderate sweet/ammonia-like odor.		41	SB-13-3-4
4	SW	Brown, well-graded **SAND** with silt, gravel and cobbles; damp.			SB-13-4-5
5 ▼		From 5 to 6 ft bgs, odor transitions from ammonia-like to hydrocarbon odor.		36	
6					SB-13-6-7
7	GW	At 6.5 ft bgs, grades to well-graded **GRAVEL** with coarse sand. At 7 ft bgs, dark staining/shiny core; strong hydrocarbon odor; no sheen.		758	
8					
9		At 9 ft bgs, staining lessens but odor still strong.			
10		From 10 to 12.5 ft bgs, black staining and shininess to sample; strong hydrocarbon odor.		389	
11					
12				539	
13		At 13 ft bgs, hydrocarbon odor dissipates.		16	SB-13-13-14
14	SW	Well-graded **SAND** with gravel and silt; no odor.			
15		Bottom of boring = 15 ft bgs.		18	

ABBREVIATIONS:
ft bgs = feet below ground surface USCS = Unified Soil Classification System
ppm = parts per million ▼ = denotes groundwater table

NOTES:
Field ID SB-13. DTW not discernible from core sample; driller estimated water ATD to be 5' bgs.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-14	
LOGGED BY: P.Wichgers	**BORING LOCATION:** SW corner of office		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604521.45	**EASTING:** 1626751.74	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.3	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 6	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/4/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	ML	Black **SILT** with sand and cobbles; damp, no odor.			
0.5					SB-14-0.5-1
1	SW/SM	Light brown, well-graded silty **SAND** with small gravels; dry, loose; no odor.			
1.5	ML	Gray **SILT**; loose, dry, no odor.			
2	SW/SM	Light brown, well-graded silty **SAND** with gravel and cobbles.			
2.5					
3		6" layer gray with mild musky odor.			
3.5				41	
4					
4.5					SB-14-4-5
5					
5.5					SB-14-5-6
6 ▼	GW	From 6 to 7 ft bgs, grades to well-graded **GRAVEL** with coarse sand and silt; wet; musky odor.		29	
6.5					
7					
7.5					
8					SB-14-7.5-8.5
8.5					
9		At 9 ft bgs, decreasing fines; loose, no odor.			
9.5					
10		Bottom of boring = 10 ft bgs.		20	

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Field ID SB-14

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-15	
LOGGED BY: P.Wichgers	**BORING LOCATION:** W of AST area		
DRILLED BY: Holocene- Mitch McCarley	**NORTHING:** 604459.67	**EASTING:** 1626722.65	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1506.9	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 6	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 4"	**DRILL DATE:** 8/4/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW	Gray, well-graded **SAND** with silt and fine gravel; dry, loose; musky odor.			
0.5					SB-15-0.5-1
1					
1.5		Black, consolidated well-graded silty **SAND** with gravels; musky odor.			
2				31	
2.5					
3		From 3 to 5 ft bgs, cobbles present.			
3.5	SW/SM				SB-15-3-4
4				40	
4.5					SB-15-4-5
5		Dark brown, well-graded silty **SAND** with gravel and cobbles; damp; mild musky odor.		35	
5.5					
6 ▼		From 6 to 7 ft bgs, grades to well-graded **GRAVEL** with coarse sand and cobbles; loose, moist; musky odor.			
6.5					
7		At 7 ft bgs, saturated; musky odor begins to disspiate.			
7.5					
8	GW				SB-15-8-9
8.5					
9					
9.5					
10		Bottom of boring = 10 ft bgs.		19	

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
Field ID SB-15. Sample disturbed because rock obstructed drilling. Extra sluff 0-5'.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-16	
LOGGED BY: P.Wichgers	**BORING LOCATION:** W of office		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604547.39	**EASTING:** 1626750.35	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.8	**COORDINATE SYSTEM:** WA State Plane South; NAVD88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 15	**DEPTH TO WATER (ft bgs):** 6	
SAMPLING METHOD/SAMPLER LENGTH: Bagged	**BORING DIAMETER:** 6"	**DRILL DATE:** 8/4/2016	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW/SM	Dark brown, well-graded silty **SAND** with small gravels and cobbles; damp; musky-sweet odor.			
1					SB-16-0.5-1
2					
3				20	SB-16-3-4
4	SW	Brown, well-graded **SAND** with silt, gravel and cobbles; damp.			
5				20	SB-16-5-6
6 ▼		At 6 ft bgs, moist			
7	GW	From 6 to 7 ft bgs, grades to well-graded **GRAVEL** with sand and silt.		29	
8					
9	SW	From 9 to 9.5 ft bgs, grades to well-graded **SAND** with abundant gravel and silt.			SB-16-9-10
10				76	
11		At 11 ft bgs, musky odor and slight hydrocarbon odor.		23	
12	GW	From 12 to 13 ft bgs, grades to brown, well-graded **GRAVEL** with sand and silt; moist; loose; musky-sweet odor.			
13					
14					SB-16-14-15
15		Bottom of boring = 15 ft bgs.		17	

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
Field ID SB-16. PID recalibrated.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-17	
LOGGED BY: P.Osterhout	**BORING LOCATION:** SW Corner of Shop		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604661.9	**EASTING:** 1626715	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.5	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 8	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/7/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Recent **GRAVEL** fill ground surface.			
0.5		Black, loose **SAND** with small gravels; no odor.			FS-17-0.5-1
1		Dark brown **SILT** with sand and small to large rounded gravels; musky odor; damp.		1.3	
1.5					
2	ML			2.6	
2.5					
3					FS-17-2.5-3.5
3.5		Light brown, loose, well-graded **SAND** and **GRAVEL** with abundant fines; some cobbles, mild musky odor; dry.		4.1	
4					
4.5				3.9	FS-17-4-5
5	GM-SM	Damp at 5 ft bgs.			
5.5				4.8	
6					
6.5		Cobbles present and color becomes gray at 6.5 ft bgs.		3.6	
7		Coppery-brown, well-graded, rounded **GRAVEL**, no odor; damp.		3.1	FS-17-6.5-7.5
7.5					
8		Driller noted depth to water at 8 ft bgs.		4.2	
8.5	GW	At 8.5 ft bgs, becomes gray and more cohesive.			
9					FS-17-8.5-9.5
9.5				2.6	
10		Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
5-10' sample very hot. Any moisture likely boiled off sample.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-18	
LOGGED BY: P.Osterhout	**BORING LOCATION:** West of MW-3		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604632.8	**EASTING:** 1626738.7	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.5	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/7/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0		Recent **GRAVEL** fill ground surface.			
0.5	GW	Dark brown, organic-rich **GRAVEL** with sand, few brick fragments; loose; mild musky odor.			FS-18-0.5-1
1				9.6	
1.5	GW-GM	At 1 ft bgs, becomes more compacted, increased fines, with musky odor.			
2					
2.5	ML	Dark brown **SILT** with gravels and sand; moist. Brick fragments and glass shards present [FILL].		3.4	FS-18-2-3 Duplicate: FS-2X-2-3
3					
3.5		Brown, well-graded **GRAVEL** with silt and sand; loose.			
4					
4.5				3.4	FS-18-4-5
5	GW-GM	Wet at 5 ft bgs.			
5.5					
6				4.7	
6.5		Becomes gap graded, dark brown, coarse **GRAVEL** with coppery-brown silt; little to no sand; no sheen; mild musky odor; wet.			FS-18-6-7
7	GM				
7.5	GW	Light brown, sandy **GRAVEL**; mild musky odor; wet.			
8		Driller noted bottom 2 feet very soft, did not recover.			
8.5				2.0	
9	?				
9.5					
10		Bottom of boring = 10 ft bgs.		2.0	

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-19	
LOGGED BY: G.Cisneros	**BORING LOCATION:** NW of MW-4		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604646.3	**EASTING:** 1626781.9	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.5	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5.75	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/6/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	Fill	Gravelly, sandy roadbase. (Fill)			
0.5	SW	Brown, silty, fine to coarse **SAND** with 15% silt, 10% gravel; no odor.			FS-19-0.5-1
1				1.3	
1.5	GM	Dark brown, silty, sandy **GRAVEL** with 20% silt, 15% sand; no odor, moist.			
2					
2.5				1.3	
3		Brown, sandy, fine to large **GRAVEL** with 30% coarse sand; no odor, moist.			FS-19-1-5
3.5					FS-19-2.5-3.5
4				1.2	
4.5					
5					FS-19-4.5-5.5
5.5				0.2	
6	GW	Wet at 5.75 ft bgs.			FS-19-5-7.5
6.5					FS-19-6-7
7					
7.5		Saturated at 7.5 ft bgs.		0.3	
8					
8.5					
9					
9.5				0.2	FS-19-9-10
10		Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-20	
LOGGED BY: G.Cisneros	**BORING LOCATION:** NE of MW-4		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604663.5	**EASTING:** 1626825.5	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1508.2	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 15	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 6"	**DRILL DATE:** 6/6/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	Fill	Gravelly, sandy roadbase. (Fill)			
1	SW	Brown, medium dense, gravelly, fine to coarse **SAND** with 40% fine to medium gravel and trace silt; no odor, moist.		0.2	FS-20-0.5-1
2	SW			0.3	
3	SM	Dark brown to black, silty, fine to medium **SAND** with 30% organic silt, trace fine gravel; no odor; moist.			FS-20-3-4 Duplicate: FS-X1-3-4
4	SM				
5 ▼	SW	Light brown, gravelly, fine to coarse **SAND** with 30% fine to large gravel and trace silt; no odor; moist Wet at 5 ft bgs.		0.3	FS-20-4-5
6	GW	Brown, sandy, fine to large **GRAVEL** with 35%-40% medium to coarse sand; no odor; wet.			FS-20-5.5-6.5
7	GW			0.2	
8	GW			0.2	
9	GW				
10	GW			0.3	FS-20-9-10
11	GW			0.2	
12	GW				
13	GW			0.2	
14	GW			0.2	
15	GW	Bottom of boring = 15 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-21	
LOGGED BY: P.Osterhout	**BORING LOCATION:** N of MW-10/W of MW-3		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604610.9	**EASTING:** 1626712.4	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.3	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/7/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	Fill	Gravelly, sandy roadbase. (Fill)			
0.5	GW	Dark brown to black, well-graded, dense, organic-rich **GRAVEL** with sand; dry.			FS-21-0.5-1
1				2.3	
1.5	ML	Black **SILT** with sand and gravel; no bedding or structure; damp. (Fill?)			
2					
2.5				2.4	FS-21-2-3
3	SM	Dark brown, very fine, silty **SAND** with few gravels; mild musky odor.			
3.5					
4					
4.5	GM	Well-graded, dense **GRAVEL** with sand and silt; moist.		4.7	FS-21-4.5-5
5 ▼	ML	Brown **SILT** with gravels.			
5.5				3.7	
6	GW	Brown, well-graded **Gravel** with sand and silt; ammonia-like odor; moist to wet.			
6.5					FS-21-6-7
7				2.8	
7.5					
8		Red-brown, rounded **GRAVEL** with abundant fines; no odor; wet.		4.4	
8.5				3.4	
9	GM	Brown, sandy, fine to large **GRAVEL** with silt; no odor.			
9.5				2.7	
10		Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface USCS = Unified Soil Classification System
ppm = parts per million ▼ = denotes groundwater table

NOTES:

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-22	
LOGGED BY: G.Cisneros	**BORING LOCATION:** NE Corner of Office		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604601	**EASTING:** 1626815	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1506.8	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 20	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 6"	**DRILL DATE:** 6/6/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	Fill	Gravelly, sandy roadbase. (Fill)			
1	SM	Brown to dark brown, silty gravelly, fine to medium **SAND** with 20% silt and 20% gravel; no odor.		0.4	FS-22-0.5-1
2				0.4	
3	ML	Dark brown to black, stiff **SILT** with 15% small to medium gravel and trace cobbles; no odor, moist.		0.4	FS-22-3-4
4	SW	Brown, gravelly, fine to coarse **SAND** with 30% fine to large gravel and 10% cobbles; moist to wet.		0.4	FS-22-4-5
5		Wet at 5 ft bgs.			FS-22-GW-4-6
6		Brown to olive-brown, sandy, fine to medium **GRAVEL** with 30% fine to coarse sand and 10% cobbles; no odor; wet.		0.6	Duplicate: FS-22-GW-0-2
7		Saturated.		1.1	FS-22-7-8
8					
9	GW			1.1	
10				1.3	FS-22-9-10
11				1.4	FS-22-GW-9-11
12					
13				2.0	
14				1.8	
15	SM	Olive, silty, gravelly, fine to coarse **SAND** with 30% silt and 20% fine to large gravel; no odor; wet.		1.7	
16					
17		Silt increases with depth.			
18	ML	Gray, sandy **SILT** with some fine gravel.			
19					
20		Bottom of boring = 20 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
PID background reading 0.4 ppm. Temp Wells placed ~1-ft apart.
Constructed w/ 2"-diam. PVC, 2-foot screens, Colorado silica sand pack.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-23	
LOGGED BY: G.Cisneros	**BORING LOCATION:** Inside Office Building Near MW-1		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604536.6	**EASTING:** 1626785.2	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1508.2	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 6.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/6/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	As	6-inch **CONCRETE**.			
0.5	Fill	Crushed rock fill.			FS-23-0.5-1
1	OL	Black to brown, organic **SILT** with some woody debris and moderate plasticity; organic odor.		23.1	
2				31.0	
4	GM	Brown, silty, small **GRAVEL**; no odor.		75.3	
4.5	ML	Brown to dark gray, firm **SILT** with moderate plasticity; slight hydrocarbon odor; slight sheen.			FS-23-4-5
5				45.1	
5.5	SW	Brown, medium dense, gravelly, fine to coarse **SAND** with 30% fine to large gravel and trace silt; no odor, no sheen.			FS-23-5-6
6				7.2	
6.5 ▼		Moderate hydrocarbon odor and sheen; wet.			FS-23-6-7
7	ML	Gray, soft **SILT** with high plasticity; slight hydrocarbon odor and sheen; saturated.		335.0	
7.5				101.0	
8	SW	Well-graded **SAND**, slight sheen; saturated.		4.1	
8.5					FS-23-8-9
9	GW	Brown, sandy, fine to large **GRAVEL** and cobbles with 40% medium to coarse sand; no odor; no sheen.			
9.5				2.5	
10		Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
Driller noted burning eyes during drilling.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-24	
LOGGED BY: P.Osterhout	**BORING LOCATION:** NW Corner of AST Area		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604505.1	**EASTING:** 1626748.3	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.2	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/8/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
0.5	SM	Dark brown, well-graded **SAND** with abundant fines and gravels; loose, dry, no apparent odor.			FS-24-0.5-1
1					
1.5				0.7	
2		Light brown-gray, silty **GRAVEL** with sand.			
2.5				2.5	FS-24-2-3
3					
3.5		Becomes brown and damp with mild musky odor.			
4				1.3	
4.5	GM	Fines increase; loose.			FS-24-4-5
5		Driller noted DTW at 5 ft bgs; drilling hot- vaporized any moisture on soil.			
5.5				3.4	
6					
6.5					FS-24-6-7
7		Soil becomes black/dark gray; no odor, loose.		3.4	
7.5	SW	Layer of cobbles, then gray, well-graded **SAND** with gravel and few fines; saturated, no odor.			
8				1.4	
8.5					
9	GW	Grades to well-graded **GRAVEL** with sand; saturated.			
9.5					
10		Bottom of boring = 10 ft bgs.		1.6	

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Very windy/rainy during sampling. Driller noted DTW at 5' bgs in boring.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-25	
LOGGED BY: P.Osterhout	**BORING LOCATION:** NE Corner of AST Area		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604504.9	**EASTING:** 1626853.7	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1506.9	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 4.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/8/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
0.5	Coal	Black, vitreous **COAL** with sand, gravel and silt.			FS-25-0.5-1
1				0.8	
1.5	GM	Gray, silty **GRAVEL** with sand; dry, loose, no odor.			FS-25-1.5-2
2					
2.5				1.5	FS-25-1-3
3					
3.5					
4				0.8	FS-25-3-5
4.5		Becomes moist.		0.4	
5		Wet.		1.0	FS-25-4.5-5.5
5.5					
6		Becomes cohesive, silty with less sand; odor like bug spray.		7.2	
6.5	GW-GM	Well-graded, sub-angular **GRAVEL** with coarse sand and silt; mild musky odor.		47.0	FS-25-6-7
7				0.1	
7.5					
8	GW-SW	Sandy **GRAVEL** to gravelly, coarse **SAND**; wet, no odor.			
8.5				0.2	FS-25-8-9
9					
9.5					
10		Bottom of boring = 10 ft bgs.		1.2	

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-27	
LOGGED BY: G.Cisneros	**BORING LOCATION:** NE Corner of Fertilizer Building		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604481.6	**EASTING:** 1626891.8	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.6	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 15	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 6"	**DRILL DATE:** 6/6/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.		0.3	
1		Dark brown, gravelly, medium to coarse **SAND** with 40% small to large gravel and trace silt. No odor.			FS-27-0.5-1
2	SP			0.4	
3				0.4	FS-27-3-4
4					FS-27-4-5
5 ▼	ML	Dark to light brown, stiff **SILT** with low plasticity; no odor. Wet		1.3	
6	GW	Light brown, medium dense, medium to coarse, sandy **GRAVEL**; no odor.		15.4	
7				78.6	
8		Slight sheen and petroleum odor.		72.0	FS-27-7.5-8
9		No sheen or odor.		3.8	
10					FS-27-9.5-10
11				32.2	
12				1.1	
13				1.2	
14					
15		Bottom of boring = 15 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-28	
LOGGED BY: G.Cisneros	**BORING LOCATION:** East of AST Area		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604488.1	**EASTING:** 1626871.4	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.4	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 15	**DEPTH TO WATER (ft bgs):** 5.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 6"	**DRILL DATE:** 6/6/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
1	SP-SM	Dark brown, fine to medium **SAND** with 10% silt and gravel; no odor.		1.1	FS-28-0.5-1
2					
3	SP	Brown, medium dense, gravelly, coarse **SAND** with small gravels; no odor.		1.3	FS-28-3-4
4				3.2	
5					FS-28-5-5.5
6		Wet; reddish color. Brown, medium dense, sandy, fine to large **GRAVEL**; no odor.		0.6	
7				0.5	FS-28-7-8
8					
9				0.3	
10	GW				
11				1.1	
12					
13				0.3	FS-28-12-13
14					
15		Bottom of boring = 15 ft bgs.		0.3	

ABBREVIATIONS:
ft bgs = feet below ground surface USCS = Unified Soil Classification System
ppm = parts per million ▼ = denotes groundwater table

NOTES:
Moved NW of FS-27 .

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-29	
LOGGED BY: P.Osterhout	**BORING LOCATION:** West of AST Area		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604437	**EASTING:** 1626718.4	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 4.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/8/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
0.5		Black, sandy **GRAVEL** to gravelly **SAND**; dry, loose, musky/ammonia-like odor.			FS-29-0.5-1
1				5.9	
1.5	GW-SW				FS-29-1-2
2		Becomes light gray, dry, increased fines, round to subangular cobbles.		2.2	
2.5					
3					
3.5	GM-SM				
4					FS-29-4-4.5
4.5 ▼		Dark gray, musky odor, moist to wet.		0.8	FS-29-4.5-5
5		Well-graded **GRAVEL** with coarse sand and cobbles; mild ammonia-like odor. Driller noted material is soft from 5 to 10 ft bgs causing poor recovery.			
5.5					
6					
6.5				1.1	
7					
7.5	GW			1.2	FS-29-6-9
8					
8.5					
9					
9.5					
10		Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-30	
LOGGED BY: P.Osterhout	**BORING LOCATION:** Between MW-12 & MW-14		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604388	**EASTING:** 1626727	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1506.8	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 15	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 6"	**DRILL DATE:** 6/8/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Light brown, sandy **GRAVEL** ground surface.			
		Dark brown, sandy **GRAVEL** with silt and cobbles; dry, musky odor.		7.8	FS-30-0.5-1
1					
	GW-GM				
2				11.8	FS-30-2-3
3	SW-SM	Light gray, increased fines.		6.9	FS-30-3-4
4	SW	Becomes moist, more sand, less fines. Odor dissipates.		4.6	
5 ▼		Brown, coarse, sandy **GRAVEL**, cobbles, trace fines, wet.		2.6	
6	GW			1.2	FS-30-GW-5-7 FS-30-6-7
7				1.0	
8		Increased fines.			
9					
10					
11	GW-GM				
12					
13		Fewer cobbles			
14		Gravels coarsen, cobbles abundant.			FS-30-GW-13-15
15		Bottom of boring = 15 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Temp Wells placed ~1-ft apart. Constructed w/ 2"-diam. PVC, 2-foot screens, Colorado silica sand pack.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-31	
LOGGED BY: P.Osterhout	**BORING LOCATION:** South of MW-12		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604405.3	**EASTING:** 1626757.5	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 15	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 6"	**DRILL DATE:** 6/8/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
1	GW-GM	Brown, well-graded **GRAVEL** with abundant fines, cobbles, and sand; dry; musky odor.		2.0	FS-31-0.5-1
2	ML	Black **SILT** with sand and gravel; organics present, some mottling; damp, musky odor.		1.1	FS-31-2-3
3	GW-GM	Gray to brown, well-graded **GRAVEL** with fines; loose, dry, musky odor.		1.7	Duplicate: FS-X3-2-3
4				3.2	FS-31-3-5
5	GM	Increased fines. Driller noted DTW at 5 ft bgs; drilling hot- vaporized any moisture on soil.		10.5 3.8	FS-31-4-5
6					
7					
8	GW	Well-graded, coarse **GRAVEL**; stained, strong oil odor; sheen-dropplets and slight rainbow.		109.0	FS-31-8-9
9		Odor dissipates.			FS-31-9-10
10	SP-GP	Poorly-graded, coarse **SAND** to fine **GRAVEL**, wet, mild HC odor.			FS-31-9-12
11		Grades to well-graded **GRAVEL** with sand; no odor.			
12					
13	GW			0.2	
14					
15		Bottom of boring = 15 ft bgs.		0.3	

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Driller noted water at 5' bgs. DTW not apparent on core sample.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-32	
LOGGED BY: P.Osterhout	**BORING LOCATION:** West of MW-13		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604367.1	**EASTING:** 1626914.4	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1506.6	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 4.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/9/2017	

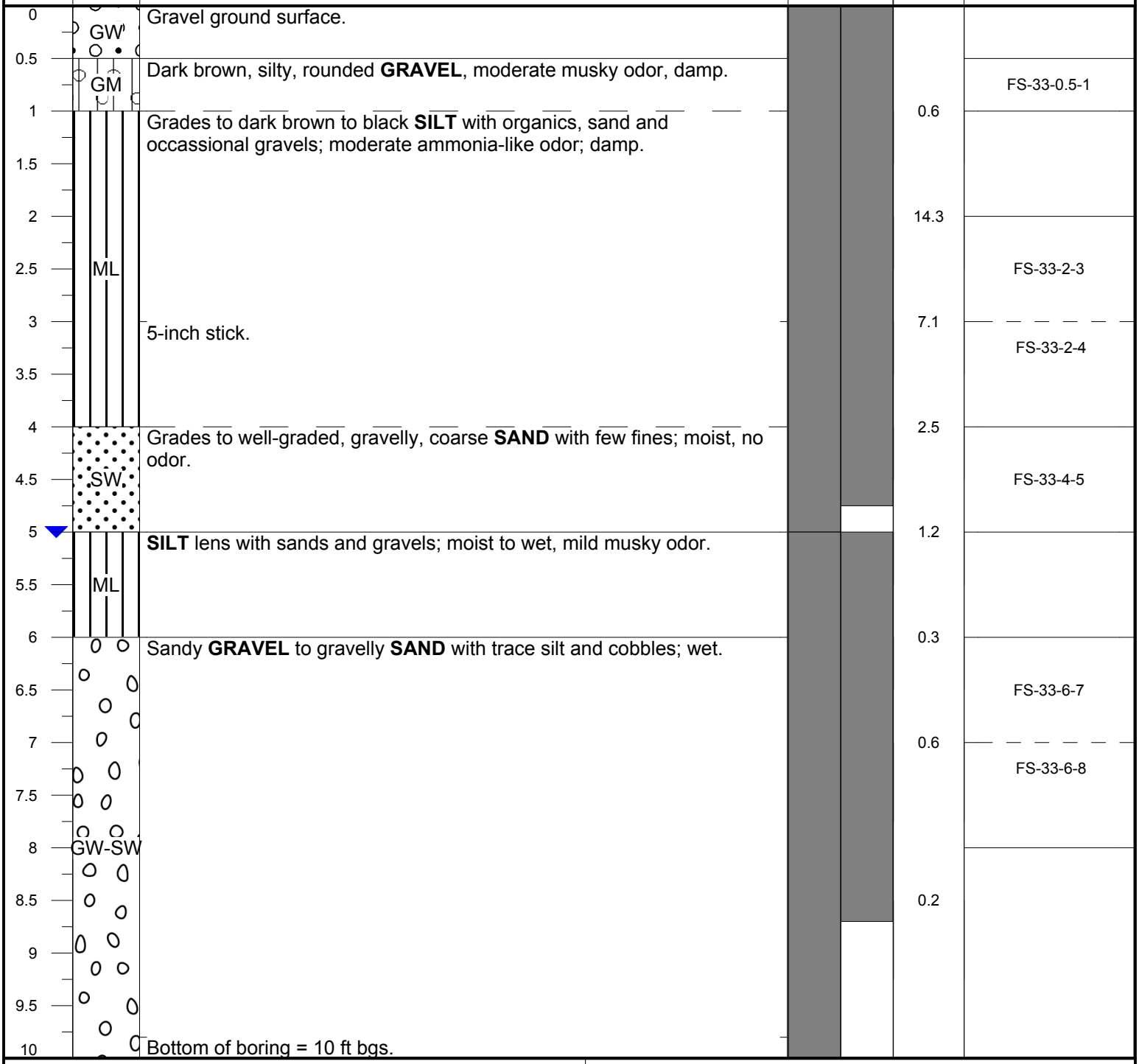
Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
0.5	SW-SM	Brown, silty **SAND** with gravels; loose, dry, mild musky odor.			FS-32-0.5-1
1				1.8	
1.5					
2				1.6	FS-32-2-3
2.5	ML	Black to dark brown, **SILT** with sand and gravel; cohesive, damp, mild musky odor.			Duplicate: FS-X5-2-3
3				1.2	
3.5					
4	SW-SM			1.5	
4.5		Wet.			FS-32-4-5
5	GM	Brown, silty **GRAVEL** with coarse sand; mild musky odor; saturated.			
5.5					
6	GW-SW	Sandy **GRAVEL** to gravelly **SAND** with trace silt; few cobbles throughout; wet, mild musky odor.			FS-32-6-7
6.5					
7					
7.5					
8					
8.5	SW	Fewer gravels, coarse **SAND**; wet, no odor.			
9					
9.5	GM	Silty **GRAVEL** with sand; saturated.		1.1	
10		Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Poor recovery 0-5'. Stepped out 10" east to re-drill 0-5' interval. No indication of TPH.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-33	
LOGGED BY: P.Osterhout	**BORING LOCATION:** Near MW-13		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604356.9	**EASTING:** 1626957.4	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1506.6	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/9/2017	



ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Background PID = 0.7 ppm.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-35	
LOGGED BY: P.Osterhout	**BORING LOCATION:** North of MW-13		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604393	**EASTING:** 1626947.5	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1507.1	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 4	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 4"	**DRILL DATE:** 6/9/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Recent **GRAVE** ground surface.			
0.5		Dark brown, silty **SAND** with subrounded gravels and black coal fragments; damp.			FS-35-0.5-1
1				0.8	Duplicate: FS-X4-0.5-1
1.5	SM	At 1.5 ft, large gravels and cobbles present. Soil becomes lighter, loose, dry with mild musky odor.			
2				1.1	
2.5				0.4	FS-35-2-3
3		Then becomes coarse **SANDS** and **GRAVELS**; loose; poor recovery.			
3.5					
4 ▼	GW				
4.5					
5		Brown **SILT** with sand and gravel; no odor; saturated.			
5.5	ML				
6		Brown, sandy, well-graded **GRAVEL** with silt; no odor; wet.			
6.5	GW				FS-35-6-7
7		More coarse sand from 7 to 8 ft bgs.		1.5	
7.5	GW-SW				
8		Brown, sandy, well-graded **GRAVEL** with silt; no odor; wet.			
8.5					
9	GW				
9.5				1.1	
10		Bottom of boring = 10 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
PID background reading 0.2 ppm.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-37	
LOGGED BY: G.Cisneros	**BORING LOCATION:** Carter Property		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604252	**EASTING:** 1626458.8	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1505	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 15	**DEPTH TO WATER (ft bgs):** 4.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 6"	**DRILL DATE:** 6/7/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	TS	Grass and topsoil ground surface.			
1	ML	Dark brown, soft **SILT** with woody debris and organic material; medium plasticity; 10% fine sand.			
2					
3		Olive-brown **SILT** with high plasticity; no odor; no sheen; moist.			
4	SP-SM	Reddish-brown to olive, fine to medium **SAND** with 10% silt; no odor; no sheen; wet.			
5					
6		Saturated. Less silt with depth.			
7	GW	Brown, sandy, fine to large **GRAVEL** with 30% coarse sand; no odor; no sheen; saturated.			
8					
9					
10					
11					FS-37-GW-9-14
12					
13	SW	Brown, gravelly, fine to coarse **SAND**; no odor; no sheen; wet.			
14	ML	Olive-brown **SILT** with low plasticity; no odor; no sheen; moist.			
15		Bottom of boring = 15 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
Temp well constructed w/ 2"-diam. PVC, 5-ft screen, Colorado silica sand pack.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-38	
LOGGED BY: G.Cisneros	**BORING LOCATION:** Carter Property		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604371.1	**EASTING:** 1626498.4	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1505.6	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 7	**DEPTH TO WATER (ft bgs):** 4.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 6"	**DRILL DATE:** 6/7/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	TS	Grass and topsoil ground surface with gravel.			
2	SW	Soil grades into dark brown, medium to coarse, well-graded **SAND** with subrounded gravels; organics present; no odor; moist.			
4.4 ▼	GM-SM	At 4.5 ft bgs, becomes brown, silty **SAND** and **GRAVEL**; no odor; wet.			FS-38-GW-4.5-7
6		Rounded cobbles present.			
6.8		Bottom of boring = 7 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
Temp well constructed w/ 2"-diam. PVC, 2.5-ft screen, Colorado silica sand pack.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-39	
LOGGED BY: G.Cisneros	**BORING LOCATION:** Carter Property		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604327.8	**EASTING:** 1626613	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1505.8	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 7	**DEPTH TO WATER (ft bgs):** 4.5	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 6"	**DRILL DATE:** 6/7/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	TS	Grass and topsoil ground surface.			
0.4					
0.8	SM	Brown, silty, gravelly, fine **SAND** with 30% silt, 10% gravel; no odor, no sheen.			
1.2					
1.6	GW	Brown, sandy, fine to large **GRAVEL** with 30% coarse sand; no odor; no sheen; moist.			
2					
2.4					
2.8					
3.2					
3.6					
4					
4.4 ▼		Becomes wet at 4.5 ft bgs.			
4.8					
5.2					
5.6	SM	Olive-brown, silty, gravelly, fine to coarse **SAND** with 20% silt and 15% gravel; no odor; no sheen; wet.			FS-39-GW-4.5-7
6					
6.4					
6.8		Bottom of boring = 7 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Temp well constructed w/ 2"-diam. PVC, 2.5-ft screen, Colorado silica sand pack.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: Smith-Kem	**LOCATION:** 200 S Railroad Ave Ellensburg, WA	**BORING ID:** FS-40	
LOGGED BY: G.Cisneros	**BORING LOCATION:** Carter Property		
DRILLED BY: Holocene- Jeff Jones	**NORTHING:** 604248.1	**EASTING:** 1626584	
DRILLING EQUIPMENT: Geoprobe Limited Access Rig	**SURFACE ELEVATION:** 1505.6	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 7	**DEPTH TO WATER (ft bgs):** 4.25	
SAMPLING METHOD/SAMPLER LENGTH: Bagged- Continuous 5'	**BORING DIAMETER:** 6"	**DRILL DATE:** 6/7/2017	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	TS	Grass and topsoil ground surface.			
1.6	ML	Olive, stiff, sandy **SILT** with fine sand & low plasticity; no odor; no sheen; moist.			
3.2	GW-SW	Brown, gravelly, fine to coarse **SAND** and sandy, fine to large **GRAVEL**; no odor; wet.			
4.4		Saturated below 4.25 ft bgs.			
5.2					FS-40-GW-4.5-7
6.8		Bottom of boring = 7 ft bgs.			

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Temp well constructed w/ 2"-diam. PVC, 2.5-ft screen, Colorado silica sand pack.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: FP- Smith Kem	**LOCATION:** 200 S Railroad Avenue, Ellensburg, WA	**BORING ID:** **FS-26**	
LOGGED BY: P. Osterhout	**BORING LOCATION:** On BNSF, East of MW-5		
DRILLED BY: Holocene-Zach	**NORTHING:** 604554.56	**EASTING:** 1626892.51	
DRILLING EQUIPMENT: Holocene-Zach	**TOC ELEVATION:** 1507.9	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 15	**DEPTH TO WATER (ft bgs):** 6	
SAMPLING METHOD/SAMPLER LENGTH: 5 ft. Continuous- bagged	**BORING DIAMETER:** 4 in.	**DRILL DATE:** 6/21/2018	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	Sample ID
0	GM	**GRAVEL**/volcanic fill ground surface		
1	SW	Black/red **SAND** with gravel. Dry/loose with coal and vesicular basalt.		FS-26-0.5-1
2				
3	ML	Black to dark brown **SILT** with some gravel; damp with no odor.		FS-26-2.5-3.5 Duplicate:FS-XX-2.5-3.5
4	GM	Brown, silty, well-graded **GRAVEL**; damp to moist with no odor.		
5	SM	Black, silty **SAND** with gravel and an organic odor.		FS-26-5-6
6 ▼		At 6 ft, sand becomes wet, poorly-graded medium **SAND** with silt.		
7	GW-GM	Brown, well-graded **GRAVEL** with abundant sand and 5-10% silt.		
8				FS-26-8-9
9				
10	SW-SM	Brown, well-graded **SAND** with abundant coarse grained gravel; wet with no odor.		
11				
12		At 12 ft, cobble with blue-gray staining surrounded by silt.		
13	SW-GW	After the cobble, transitions to very coarse **SAND** with abundant gravel and 5-10% silt.		
14				
15		At 15 ft, bottom of boring.		
16				

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
No PID measurements collected.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: FP- Smith Kem	**LOCATION:** 200 S Railroad Avenue, Ellensburg, WA	**BORING ID:** **FS-34**	
LOGGED BY: P. Osterhout	**BORING LOCATION:** South of MW-13		
DRILLED BY: Holocene-Zach	**NORTHING:** 604330.13	**EASTING:** 1626980.79	
DRILLING EQUIPMENT: Holocene-Zach	**TOC ELEVATION:** 1506.1	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 15	**DEPTH TO WATER (ft bgs):** 3	
SAMPLING METHOD/SAMPLER LENGTH: 5 ft. Continuous- bagged	**BORING DIAMETER:** 4 in.	**DRILL DATE:** 6/21/2018	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	Sample ID
0	GM	**GRAVEL** ground surface.		
1	SW-SM	Brown, gravelly, well-graded **SAND** with 5-10% silt. No odor.		FS-34-0.5-1
2				
3	SM	At 3 ft., becomes silty **SAND** as the silt content increases to 15-20%; moist to wet.		FS-34-2-3 FS-34-3-4
4	SW-GW	Well-graded **SAND** to well-graded **GRAVEL**. No odor.		
5	ML	Dark brown **SILT** with abundant sand and gravel; moist with a mild organic odor.		
6				FS-34-6-7
7				Duplicate:FS-XY-6-7
8				
9		At 8.5 ft., transitions to light gray and becomes more dry/loose. (Dryness potentially due to Sonic heat)		
10	GW	Sandy **GRAVEL** with cobbles. 60% gravel, 40% sand, and variable silt.		
11				
12				
13				
14				
15		At 15 ft, bottom of boring.		
16				

ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
No PID measurements collected.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: FP- Smith Kem	**LOCATION:** 200 S Railroad Avenue, Ellensburg, WA	**BORING ID:** FS-42	
LOGGED BY: P. Osterhout	**BORING LOCATION:** In front of dry storage building		
DRILLED BY: Holocene-Zach	**NORTHING:** 604465.54	**EASTING:** 1626880.66	
DRILLING EQUIPMENT: Holocene-Zach	**TOC ELEVATION:** 1507.7	**COORDINATE SYSTEM:** WA State Plane South; NAVD 88 feet	
DRILLING METHOD: Sonic	**TOTAL DEPTH (ft bgs):** 5	**DEPTH TO WATER (ft bgs):** Not encountered	
SAMPLING METHOD/SAMPLER LENGTH: 5 ft. Continuous- bagged	**BORING DIAMETER:** 4 in.	**DRILL DATE:** 6/20/2018	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	Sample ID
0	GW	**GRAVEL** ground surface		
0.4	SM	Dark brown, silty, well-graded **SAND** with gray gravel and a few cobbles; damp with a mild organic odor.		
2		At 2 ft., mild musky odor.		FS-42-2.0-3.0
3.2	SM-OL	Black, well-graded, silty **SAND** with gravel, and cobbles. Moderate organic odor.		FS-42-3.0-4.0
4	GM	Gray, loose, silty **GRAVEL**; dry with no discernable odor. (Dryness potentially due to heat from sonic drilling)		FS-42-4.0-5.0
5.2		At 5 ft, bottom of boring.		

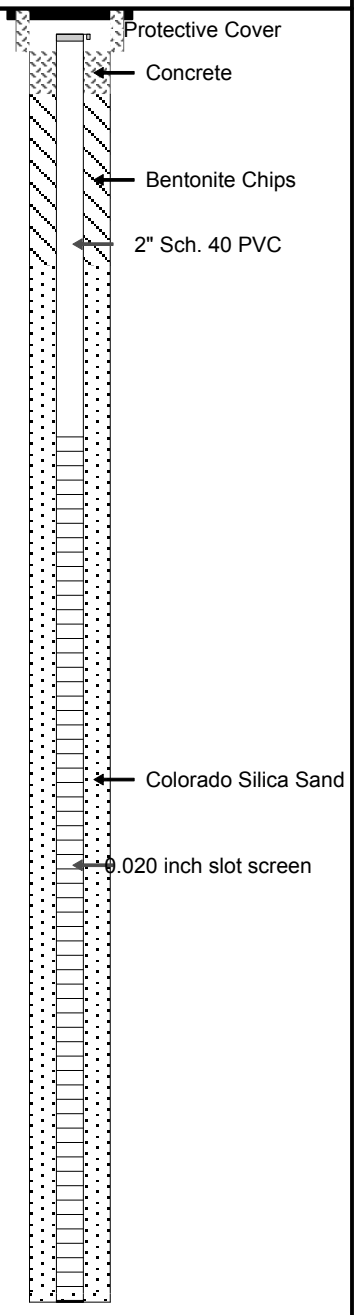
ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
No PID measurements collected.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: **Smith-Kem**	LOCATION: **200 S Railroad Ave Ellensburg, WA**	WELL ID: **MW-9**	
LOGGED BY: **P.Wichgers**	COORDINATE SYSTEM: **WA State Plane South; NAD83 feet**	BORING LOCATION: **NE property corner**	
DRILLED BY: **Holocene- Jeff Jones**	ECOLOGY WELL ID: **BJW-312**	NORTHING: **604788.16**	EASTING: **1626773.92**
DRILLING EQUIPMENT: **Geoprobe Limited Access Rig**	SCREENED INTERVAL (ft bgs): **5 - 15**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1508.35**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **9**
SAMPLING METHOD: **Bagged- 5 ft**		BORING DIAMETER: **6"**	DRILL DATE: **8/2/2016**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			
1	SW	Brown, well-graded **SAND** with abundant gravel; damp, loose, no odor.			MW-9-0.5-1
2				6.1	
3	SW/SM	Gray-brown, well-graded **SAND** with silt and gravel; damp, no odor.			
		At 3.5 ft, becomes brown.			
4	Volcanics	Black/brown fine-grained with pumice; no odor.		7.3	MW-9-4-5
5	SM	Dark brown, well-graded silty **SAND** with gravel; organics present.			
6				3.4	
7					MW-9-7-8
8				2.3	Duplicate: MW-D1-7-8
9 ▼	SM/SP	Gray, poorly-graded silty **SAND**; moist, coarsening down.			
		At 9 ft bgs, wet.			MW-9-9-10
10	GW	Gray, sandy **GRAVEL**; wet, no odor.		3.7	
11	SM	Gray-brown **SAND** with silt and gravel; wet to saturated; pockets of clean medium-coarse sand; no odor.			
12					
13	GW/GM	Gray silty **GRAVEL** with sand; moist.			
14					
15		Bottom of boring = 15 ft bgs.			
16					



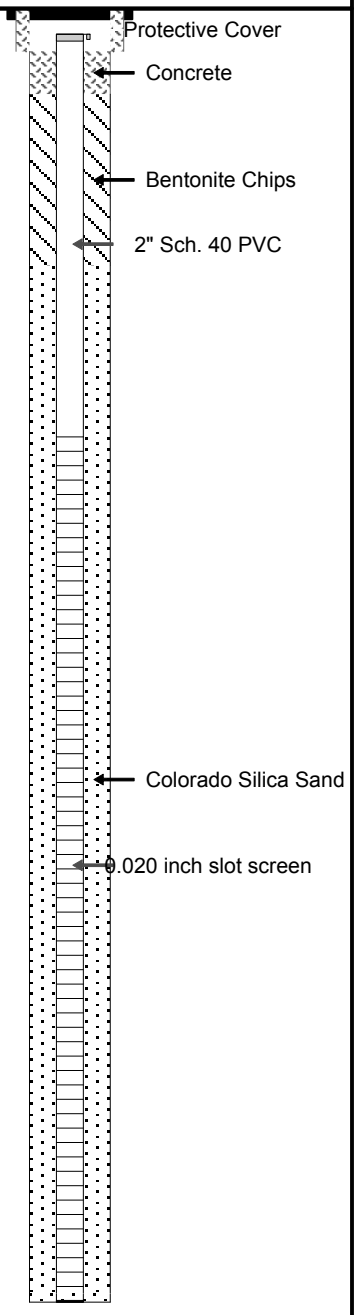
ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:

FLOYD | SNIDER
strategy • science • engineering

PROJECT: **Smith-Kem**	LOCATION: **200 S Railroad Ave Ellensburg, WA**	WELL ID: **MW-10**	
LOGGED BY: **P.Wichgers**	COORDINATE SYSTEM: **WA State Plane South; NAD83 feet**	BORING LOCATION: **W of office**	
DRILLED BY: **Holocene- Jeff Jones**	ECOLOGY WELL ID: **BJW-313**	NORTHING: **604562.85**	EASTING: **1626714.21**
DRILLING EQUIPMENT: **Geoprobe Limited Access Rig**	SCREENED INTERVAL (ft bgs): **5 - 15**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1506.66**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **5**
SAMPLING METHOD: **Bagged- 5 ft**		BORING DIAMETER: **6"**	DRILL DATE: **8/2/2016**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.			MW-10-0-0.5
1	SW	Brown to black, well-graded **SAND** with gravel; loose, damp; no odor.			
2		At 2 ft bgs, pumice present.		7.3	MW-10-1.5-2.5
3	SW/SM	Brown silty **SAND** with gravel; moist.			
4	SW	Gray-brown, well-graded **SAND** with gravel; loose, dry; no odor.		11.4	MW-10-4-5
5		At 5 ft bgs, becomes moist with more fines.			MW-10-5-6
6				1.8	
7					
8				9.1	
9	GW/GM	Brown, **GRAVEL** with silt and cobbles; moist to wet; loose, no odor.			
10	SW/SM	Brown, well-graded silty **SAND** with gravel; loose, wet; no odor.			
11					
12					
13					
14					
15	SM	Gray-brown **SILTY SAND** with gravel; moist; no odor.			
		Bottom of boring = 15 ft bgs.			
16					



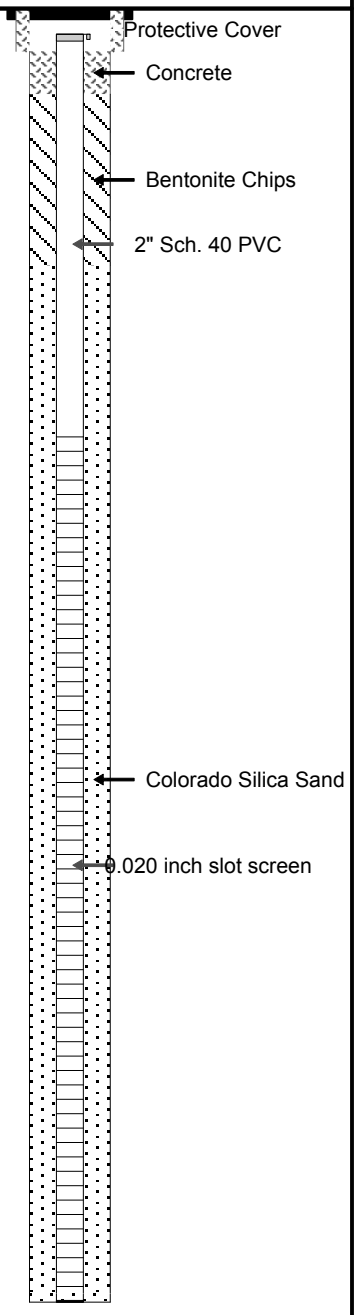
ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:

FLOYD | SNIDER
strategy • science • engineering

PROJECT: **Smith-Kem**	LOCATION: **200 S Railroad Ave Ellensburg, WA**	WELL ID: **MW-11**	
LOGGED BY: **P.Wichgers**	COORDINATE SYSTEM: **WA State Plane South; NAD83 feet**	BORING LOCATION: **NE corner of AST area**	
DRILLED BY: **Holocene- Jeff Jones**	ECOLOGY WELL ID: **BJW-314**	NORTHING: **604488.46**	EASTING: **1626853.02**
DRILLING EQUIPMENT: **Geoprobe Limited Access Rig**	SCREENED INTERVAL (ft bgs): **5 - 15**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1507.14**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **7.5**
SAMPLING METHOD: **Bagged- 5 ft**		BORING DIAMETER: **6"**	DRILL DATE: **8/2/2016**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Gravel ground surface.		12.4	MW-11-0-0.5
1	SM	Dark brown **SILTY SAND** with abundant rounded gravel; organic fragments; moist, loose; mild odor (not gas or diesel).		8.3	
2		At 2 ft bgs, becomes more consolidated.			MW-11-1.5-2
3	SW	Grey-brown, well-graded **SAND** with gravel; dry, loose; no odor.			
4		At 4 ft bgs, fines increase.		12.5	
5					
6				19.2	
7		At 7 ft bgs, gravel content increases. Odor is mild to moderate unknown (solvent?).		28.3	
8		At 7.5 ft bgs, moist to wet.		136	MW-11-7.5-8
9	SW/SM				MW-11-9-10
10		Brown, well-graded **SILTY SAND** with gravel; saturated; odor dissipates by ~11 ft bgs.		1.4	
11					
12		From 12 to 13 ft bgs, ~5 inch diameter cobbles present.			
13					
14	SW	Well-graded **SAND** with gravel; minimal fines.			
15		Bottom of boring = 15 ft bgs.			
16					



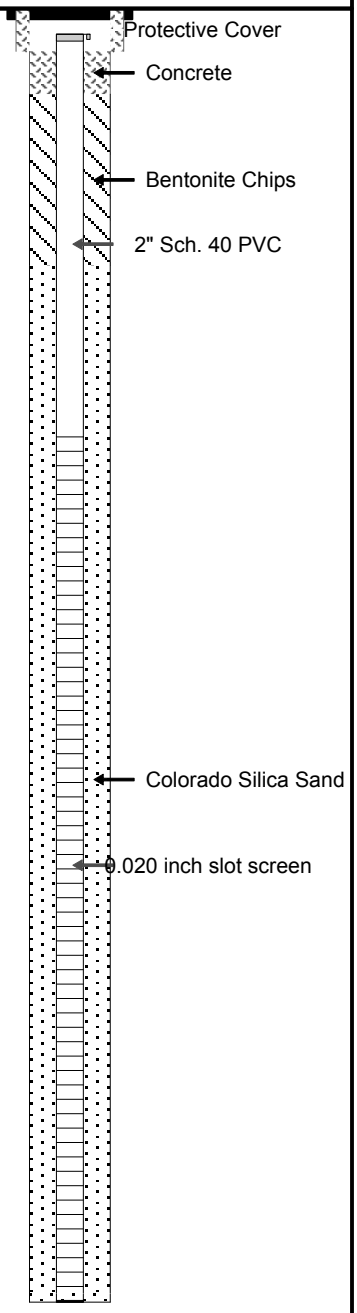
ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:

FLOYD | SNIDER
strategy • science • engineering

PROJECT: **Smith-Kem**	LOCATION: **200 S Railroad Ave Ellensburg, WA**	WELL ID: **MW-12**	
LOGGED BY: **K.Anderson**	COORDINATE SYSTEM: **WA State Plane South; NAD83 feet**	BORING LOCATION: **Adjacent to scale pad**	
DRILLED BY: **Holocene- Jeff Jones**	ECOLOGY WELL ID: **BJW-310**	NORTHING: **604420.19**	EASTING: **1626759.02**
DRILLING EQUIPMENT: **Geoprobe Limited Access Rig**	SCREENED INTERVAL (ft bgs): **5 - 15**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1506.47**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **6**
SAMPLING METHOD: **Bagged- 5 ft**		BORING DIAMETER: **6"**	DRILL DATE: **8/1/2016**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	PID (ppm)	Sample ID
0	SW/SM	Brown, well-graded **SAND** with silt and gravel, moist (fill).			MW-12-0-0.5
1		At 1 ft bgs, becomes dry.			
2	OL/OH	Black-brown **ORGANIC SOIL** with sand and silt; few sticks; solevent-like odor.			MW-12-1.5-2
2	SW/SM	Brown, well-graded **SAND** with silt and well-graded gravel; dry; cobbles up to 3.5" diameter; odor present to 5 ft bgs; moist at bottom of sampler.		48.8	
3					
4				21.6	
4		At 4.5 ft bgs, moist to wet (dry at 5 ft- slough?)			
5					MW-12-5-6
6		Well-graded **GRAVEL** with sand and silt; moist; gray staining; sheen test shows v. small brown droplets.		222	
7					MW-12-7-8
8		At 7.5 ft bgs, staining no longer present + odor is faint.		18.2	
9					
10	GW	At 10 ft bgs, becomes loose and wet.		13	
11					
12					
13		Beginning at 13 ft bgs, large cobbles present.		4.8	
14					
15		Bottom of boring = 15 ft bgs.			
16					



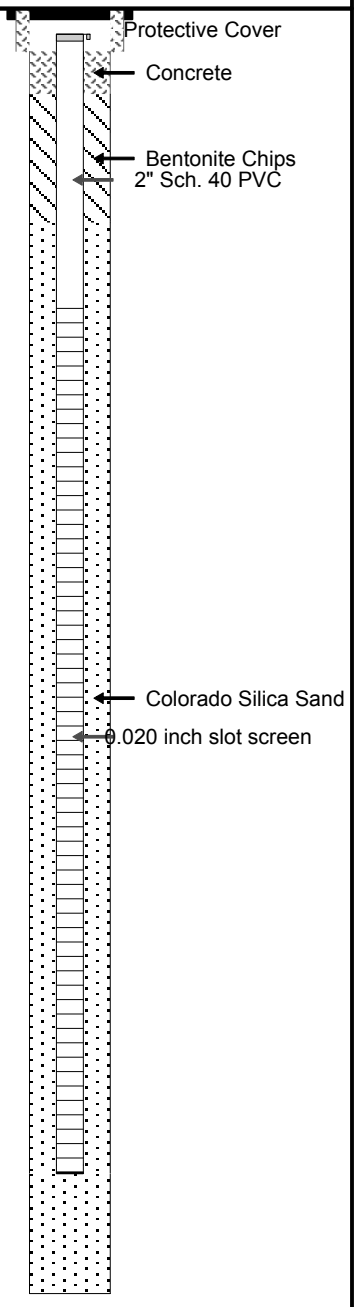
ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Top 4" ground surface removed with cookie cutter. Assume 5 to 6 ft in sampler is slough. 5-6 ft sample collected below assumed slough.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: **Smith-Kem**	LOCATION: **200 S Railroad Ave Ellensburg, WA**	WELL ID: **MW-13**	
LOGGED BY: **K.Anderson**	COORDINATE SYSTEM: **WA State Plane South; NAD83 feet**	BORING LOCATION: **SE property corner**	
DRILLED BY: **Holocene- Jeff Jones**	ECOLOGY WELL ID: **BJW-309**	NORTHING: **604355.02**	EASTING: **1626968.82**
DRILLING EQUIPMENT: **Geoprobe Limited Access Rig**	SCREENED INTERVAL (ft bgs): **3.5 - 13.5**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1506.42**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **5**
SAMPLING METHOD: **Bagged- 5 ft**		BORING DIAMETER: **6"**	DRILL DATE: **8/1/2016**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	PID (ppm)	Sample ID
0	SW	Brown, well-graded **SAND** with abundant well-graded gravel; dry; no odor.			MW-13-0-0.5
1	OL/OH	Black-brown **ORGANIC SOIL** with sand and silt; few fine wood fragments; moist.			MW-13-1-2
2	SM	Brown, well-graded **SILTY SAND**; moist, no odor.		3.2	
3					
4	SW/SM	Brown, well-graded **SAND** with abundant well-graded gravel and silt; moist, no odor.		6.6	MW-13-3.5-4.5
5 ▼	SM	Brown, loose **SILTY SAND** with gravel; wet.			MW-13-5-6
6				6.6	
7	GW	Well-graded **GRAVEL** with well-graded sand and 5-10% silt, wet.			
8				6.4	
9					
10	CGP	Poorly-graded, well rounded fine **GRAVEL**.			
11		Gravel coarsens with depth.			
12		Beginning at 12 ft bgs, trace silt present.			
13					
14					
15		Bottom of boring = 15 ft bgs.			
16					



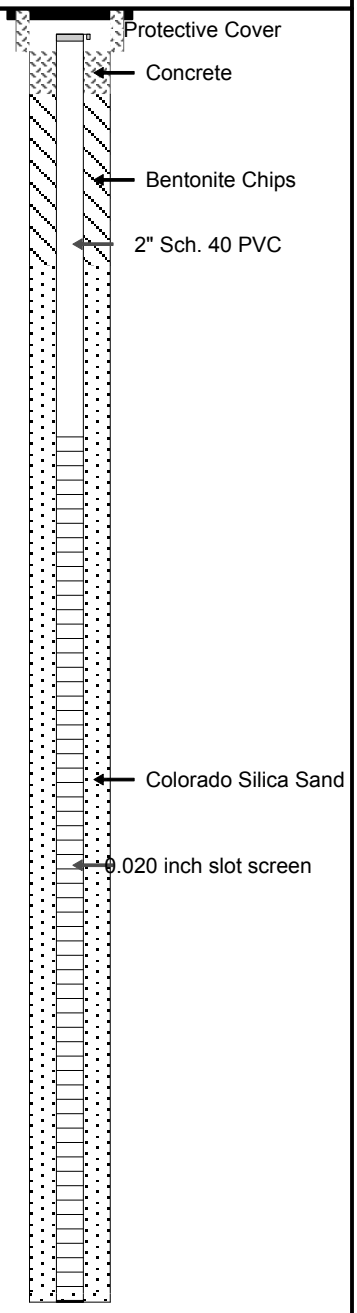
ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Top 4" ground surface (recent gravel) removed with cookie cutter.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: **Smith-Kem**	LOCATION: **200 S Railroad Ave Ellensburg, WA**	WELL ID: **MW-14**	
LOGGED BY: **K.Anderson**	COORDINATE SYSTEM: **WA State Plane South; NAD83 feet**	BORING LOCATION: **SW property corner**	
DRILLED BY: **Holocene- Jeff Jones**	ECOLOGY WELL ID: **BJW-311**	NORTHING: **604352.03**	EASTING: **1626707.81**
DRILLING EQUIPMENT: **Geoprobe Limited Access Rig**	SCREENED INTERVAL (ft bgs): **5 - 15**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1506.55**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **5.5**
SAMPLING METHOD: **Bagged- 5 ft**		BORING DIAMETER: **6"**	DRILL DATE: **8/1/2016**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	PID (ppm)	Sample ID
0	OL/OH	Black-brown **ORGANIC SOIL** with sand, silt and gravel; moist, no odor.			MW-14-0-0.5
1				9.5	
2	SW/SM	Brown, well-graded **SAND** with silt and gravel; dry. Large cobbles present.			MW-14-2-3
3	SP	Brown, poorly-graded fine **SAND**; moist, no odor.			
4	GW	Brown, well-graded **GRAVEL** with sand, silt and large cobbles; moist to wet; no odor.		10	MW-14-4-5
5					
6		At 5.5 ft bgs, becomes wet and silty; no odor. Primarily fine gravel, but some cobbles present.			MW-14-6-7
7					
8				10.1	
9					
10	GW/GM	At 10 ft bgs, increased silt content.			
11					
12					
13					
14					
15		Bottom of boring = 15 ft bgs.			
16					



ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

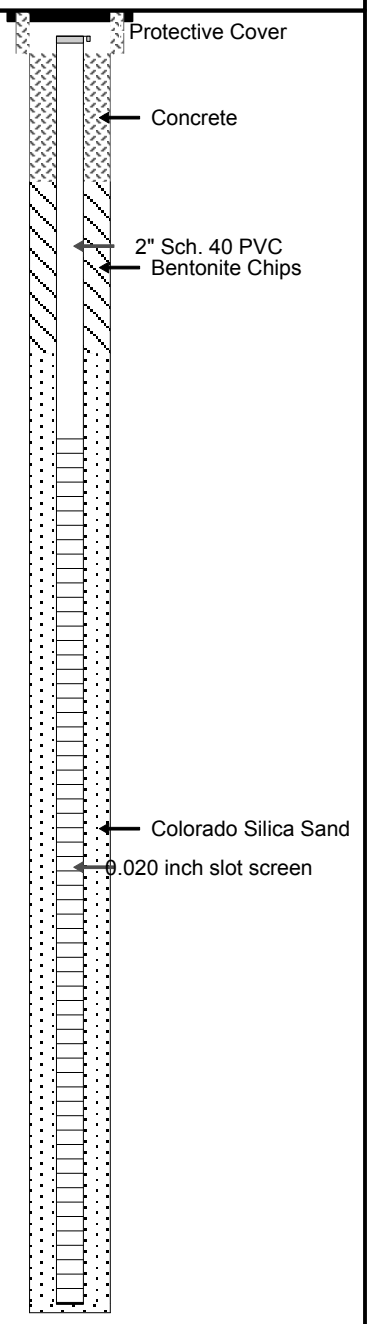
NOTES:
Top 4" ground surface (recent gravel) removed with cookie cutter.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: **FP- Smith Kem**	LOCATION: **200 S Railroad Avenue, Ellensburg, WA**	WELL ID: **MW-15**
LOGGED BY: **P. Osterhout**	COORDINATE SYSTEM: **WA State Plane South; NAVD 88 feet**	BORING LOCATION: **West side of rail spur on BNSF**
DRILLED BY: **Holocene-Zach**	ECOLOGY WELL ID: **BKZ-666**	NORTHING: **604751.98**	EASTING: **1626830.31**
DRILLING EQUIPMENT: **Sonic-LAR**	SCREENED INTERVAL (ft bgs): **5 - 15**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1508.28**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **5**
SAMPLING METHOD: **5 ft. Continuous- bagged**		BORING DIAMETER: **6 in.**	DRILL DATE: **6/20/2018**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	Sample ID
0	GM	**GRAVEL** ground surface.		
1	SW	Black to dark brown, loose, well-graded, gravelly **SAND** fill with chunks of coal, vesicular rocks and white/tan particles (construction debris).		MW-15-0.5-1
2				
3	ML	Dark brown, sandy, consolidated, gravelly **SILT**; moist with no odor.		MW-15-3-4
4				
5 ▼	SM	Grades to medium brown, silty **SAND** with increasing gravel and decreasing silt; moist to wet with no odor.		MW-15-5-5.5
6	GW-GM	Medium brown, sandy **GRAVEL** with silt; moist to wet.		MW-15-6-7
7				
8	GW	Gray, gap-graded, loose, sandy **GRAVEL** with silt; moist to wet with no odor.		
9				
10	GM	Gray-brown, silty **GRAVEL**; wet with no odor.		
11	GW-GM	At 10.75 ft., becomes silty **GRAVEL** to well-graded **GRAVEL** as small gravel and sand content increase.		
12				
13				
14	GM	Gray-brown, well-graded, sandy, small **GRAVEL** with silt; wet.		
	GW-GM	At 14 ft., **GRAVEL** becomes brown and silt content increases.		
15		Bottom of boring = 15 ft.		
16				

Well Construction



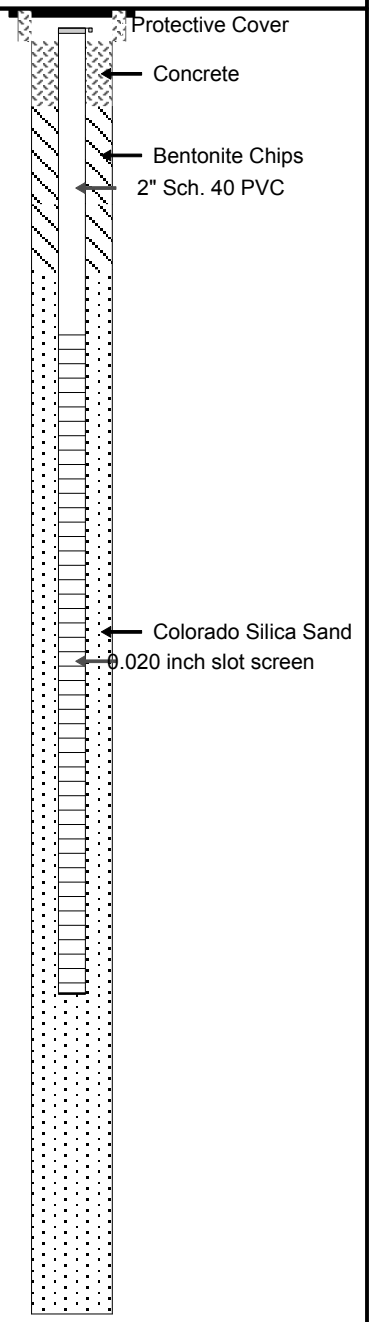
ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
No PID measurements were collected, but no field indications of petroleum were observed.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: **FP- Smith Kem**	LOCATION: **200 S Railroad Avenue, Ellensburg, WA**	WELL ID: **MW-16**
LOGGED BY: **G. Cisneros**	COORDINATE SYSTEM: **WA State Plane South; NAVD 88 feet**	BORING LOCATION: **Cross gradient to MW-4 on BNSF**
DRILLED BY: **Holocene-Zach**	ECOLOGY WELL ID: **BKZ-667**	NORTHING: **604656.71**	EASTING: **1626864.5**
DRILLING EQUIPMENT: **Sonic-LAR**	SCREENED INTERVAL (ft bgs): **5 - 15**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1508.84**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **20**	DEPTH TO WATER (ft bgs): **5.5**
SAMPLING METHOD: **5 ft. Continuous- bagged**		BORING DIAMETER: **6 in.**	DRILL DATE: **6/20/2018**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	Sample ID
0	Fill	Gravelly roadbase **FILL**.		
1		Red-brown to black, fine to medium **SAND** with 40% coal and 15% gravel. No odor. No sheen.		MW-16-0.5-1
2	ML	Dark gray, gravelly **SILT** with low plasticity. No odor. No sheen.		
3	SW	Light brown, gravelly, fine to coarse grained **SAND** with 10% silt. No odor. No sheen.		MW-16-3.0-4.0
4				
5	SM-GM	Gray, silty, gravelly **SAND** to silty, sandy **GRAVEL**; moist with no odor. No sheen.		
6				MW-16-5.5-6.0
7				
8				
9	SM	Gray, gravelly, silty **SAND** with 15% silt and 30% gravel; moist with no odor. No sheen.		MW-16-9.0-10.0
10				
11				
12	SM-GM	Brown-dark gray, silty, gravelly **SAND** to silty, sandy **GRAVEL**; moist to wet with no odor. No sheen.		
13				
14				
15				
16	ML	Gray, hard, low plasticity **SILT** with 10% fine gravel; moist with no odor. No sheen.		
17				
18	GW	Brown, sandy, well-graded **GRAVEL**; saturated with no odor. No sheen.		
19				
20		Bottom of boring = 20 ft.		
21				



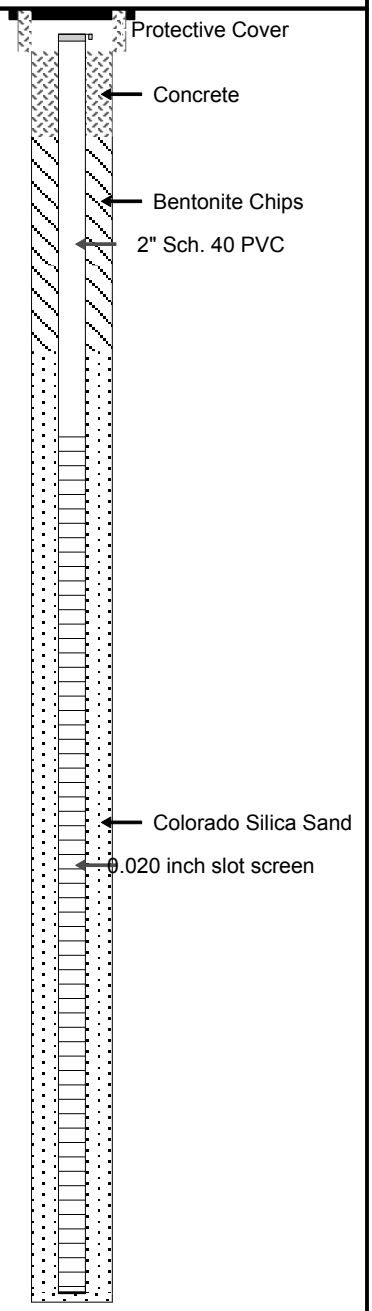
ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
No PID measurements were collected, but no field indications of petroleum were observed.

FLOYD | SNIDER
strategy • science • engineering

PROJECT: **FP- Smith Kem**	LOCATION: **200 S Railroad Avenue, Ellensburg, WA**	WELL ID: **MW-17**	
LOGGED BY: **G. Cisneros**	COORDINATE SYSTEM: **WA State Plane South; NAVD 88 feet**	BORING LOCATION: **Cross gradient to MW-8 on BNSF**	
DRILLED BY: **Holocene-Zach**	ECOLOGY WELL ID: **BKZ-668**	NORTHING: **604588.5**	EASTING: **1626892.04**
DRILLING EQUIPMENT: **Sonic-LAR**	SCREENED INTERVAL (ft bgs): **5 - 15**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1508.04**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **5.25**
SAMPLING METHOD: **5 ft. Continuous- bagged**		BORING DIAMETER: **6 in.**	DRILL DATE: **6/20/2018**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	Sample ID
0	GM	Gravelly, roadbased, sandy, angular **GRAVEL** fill.		
1	ML	Dark brown, soft, low plasticity **SILT** with some organic material; moist with no odor. No sheen.		MW-17-0.5-1.0
4	SW	Light brown, medium-dense, gravelly, fine to coarse **SAND** with 30% gravel and 10% silt; moist with no odor. No sheen.		MW-17-3.5-4.0
5				MW-17-5.0-5.5
6	SM-GM	Dark brown, silty, gravelly **SAND** to silty, sandy **GRAVEL**; wet with a slight musky odor. No sheen.		
8				MW-17-8.0-9.0
9		Gray, silty, fine to coarse **GRAVEL**. No odor.		
11	GW	Brown, sandy, fine to coarse **GRAVEL** with 10% cobbles and 20% sand; wet to saturated with no odor. No sheen.		
15		Bottom of boring = 15 ft.		
16				



ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
No PID measurements were collected, but no field indications of petroleum were observed.

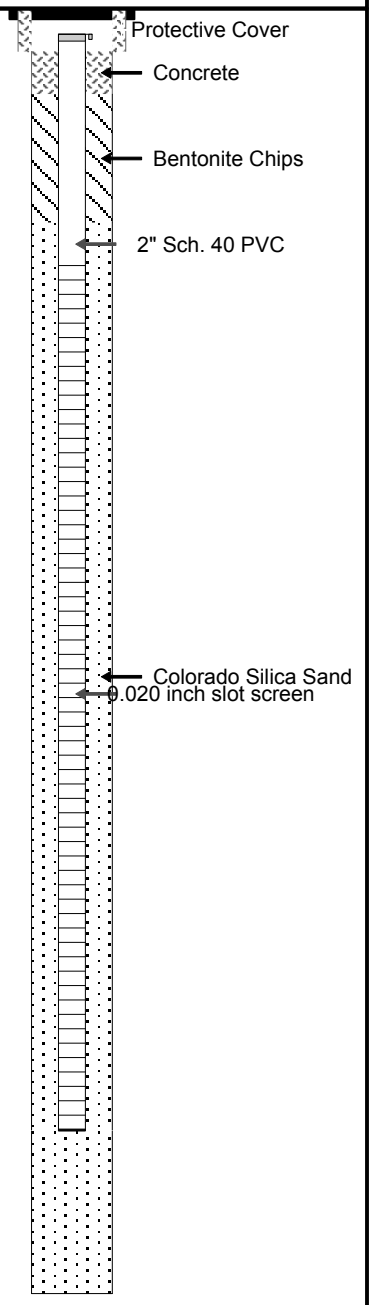
FLOYD | SNIDER
strategy • science • engineering

PROJECT: **FP- Smith Kem**	LOCATION: **200 S Railroad Avenue, Ellensburg, WA**	WELL ID: **MW-18**	
LOGGED BY: **P. Osterhout**	COORDINATE SYSTEM: **WA State Plane South; NAVD88 feet**	BORING LOCATION: **In ROW, cross gradient of Smith Kem**	
DRILLED BY: **Holocene-Zach**	ECOLOGY WELL ID: **BKZ-671**	NORTHING: **604379.83**	EASTING: **1626655.32**
DRILLING EQUIPMENT: **Sonic-LAR**	SCREENED INTERVAL (ft bgs): **3 - 13**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1506.77**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **5**
SAMPLING METHOD: **5 ft. Continuous- bagged**		BORING DIAMETER: **6 in.**	DRILL DATE: **6/21/2018**

Depth (feet)	USCS Symbol	Description
0	GM	Silty **GRAVEL** ground surface.
1	GM	Dark brown, silty, **GRAVEL** with organic matter; damp. Organic odor.
2	ML	Dark brown **SILT** with sand, organic matter, and abundant gravel; damp to moist with an organic odor.
3	ML	
4	SW-SM	Gray-brown, loose, silty, well-graded **SAND** with gravel and cobbles; dry.
5 ▼	SW-SM	
6	SM-GM	Gray-brown, silty **SAND** to silty **GRAVEL** and some cobbles. 40% gravel, 40% sand, and 20% silt; moist to wet with no odor.
7	SM-GM	
8	SM-GM	
9	SM-GM	
10	SM-GM	
11	GW-GM	Grades to well-graded **GRAVEL** with silt and some cobbles; moist to wet with no odor.
12	GW-GM	
13	GW-GM	At 13.5 ft, 1.5 in. silty blue-black lens with gravels. No odor. No sheen.
14	GW-GM	
15		Bottom of boring = 15 ft.
16		

Drive/ Recovery

Well Construction



ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
No PID measurements were collected, but no field indication of petroleum were observed.

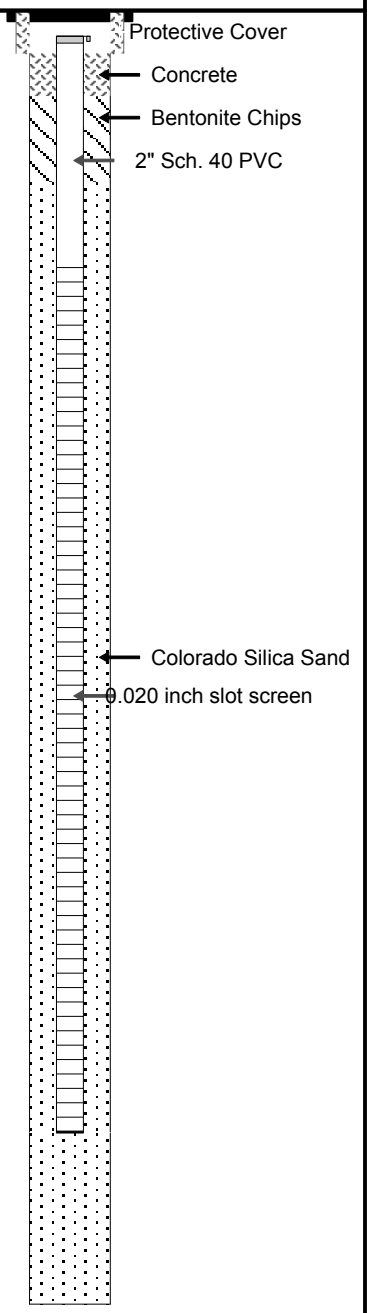
FLOYD | SNIDER
strategy • science • engineering

PROJECT: **FP- Smith Kem**	LOCATION: **200 S Railroad Avenue, Ellensburg, WA**	WELL ID: **MW-19**	
LOGGED BY: **G. Cisneros**	COORDINATE SYSTEM: **WA State Plane South; NAVD88 feet**	BORING LOCATION: **In ROW, SW of Smith Kem**	
DRILLED BY: **Holocene-Zach**	ECOLOGY WELL ID: **BKZ-670**	NORTHING: **604331.11**	EASTING: **1626658.87**
DRILLING EQUIPMENT: **Sonic-LAR**	SCREENED INTERVAL (ft bgs): **3 - 13**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1506.43**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **4.5**
SAMPLING METHOD: **5 ft. Continuous- bagged**		BORING DIAMETER: **6 in.**	DRILL DATE: **6/21/2018**

Depth (feet)	USCS Symbol	Description
0	GM	Roadbase angular **GRAVEL** fill.
1	SM	Dark brown, silty, gravelly, fine to medium **SAND** with 30% silt, 30% subrounded gravel, and <5% cobbles; moist with no odor.
2		
3	GM	Dark brown, silty, fine to large **GRAVEL** with 10% sand and 5% cobbles; moist with no odor.
4		Brown, sandy, fine to large, subrounded **GRAVEL** with coarse sand; wet with no odor.
5		
6		
7	GW	At 6.5 ft, 1-inch interbedded **SILT** lense.
8		Gravel gets more sandy with depth.
9		
10		
11	SP	Brown, fine **SAND** lense.
12	GW	Brown, sandy, fine to large **GRAVEL** with 15% coarse sand, and 5% cobbles; saturated with no odor.
13		
14	GM	Light brown, silty, sandy **GRAVEL** with 15% silt, and <5% cobbles; saturated with no odor.
15		Bottom of boring = 15 ft.
16		

Drive/ Recovery

Well Construction



ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
No PID measurements were collected, but no field indication of petroleum were observed.

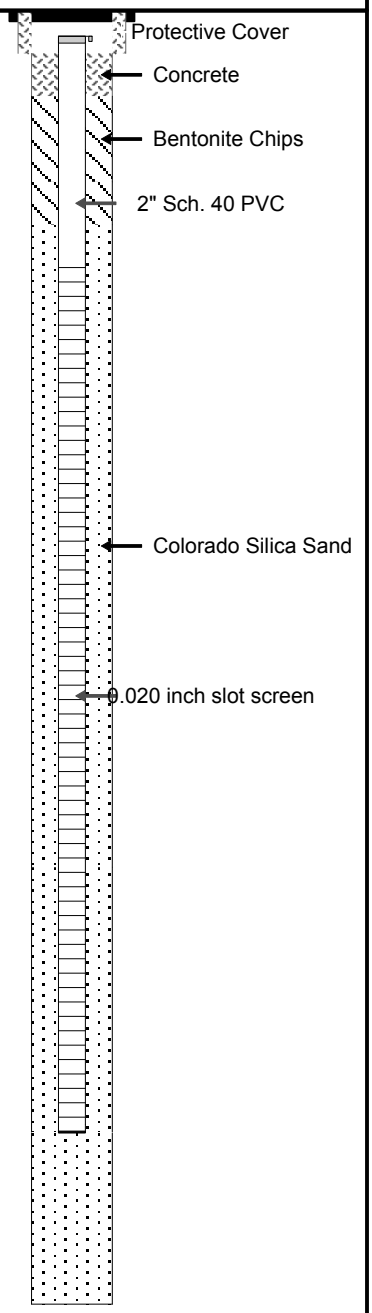
FLOYD | SNIDER
strategy • science • engineering

PROJECT: **FP- Smith Kem**	LOCATION: **200 S Railroad Avenue, Ellensburg, WA**	WELL ID: **MW-20**	
LOGGED BY: **P. Osterhout**	COORDINATE SYSTEM: **WA State Plane South; NAVD88 feet**	BORING LOCATION: **South of MW-14**	
DRILLED BY: **Holocene-Zach**	ECOLOGY WELL ID: **BKZ-669**	NORTHING: **604306.01**	EASTING: **1626695.47**
DRILLING EQUIPMENT: **Sonic-LAR**	SCREENED INTERVAL (ft bgs): **3 - 13**	GROUND SURFACE ELEV.: **--**	TOC ELEVATION: **1506.8**
DRILLING METHOD: **Sonic**		TOTAL DEPTH (ft bgs): **15**	DEPTH TO WATER (ft bgs): **5.5**
SAMPLING METHOD: **5 ft. Continuous- bagged**		BORING DIAMETER: **6 in.**	DRILL DATE: **6/21/2018**

Depth (feet)	USCS Symbol	Description
0	GM	Roadbase **GRAVEL** ground surface.
1	SM-GM	Brown, silty **SAND** to silty **GRAVEL** with some cobbles; moist with a slight sweet organic odor.
2		
3		
4	ML	At 4 ft, sand becomes moist **SILT** with abundant gravel and some cobbles. No odor.
5	SW	Well-graded **SAND** with gravel.
6	SM	Silty **SAND**; moist to wet with no odor.
7	SW	Well-graded **SAND** with gravel and 5-10% silt; moist to wet with no odor.
8		
9		
10	SW-GW	At 10 ft., becomes well-graded **SAND** to well-graded **GRAVEL** as gravel content increases.
11		
12		
13	GM	Light brown, well-graded, silty **GRAVEL** with sand; saturated with no odor.
14	GW	Light brown, well-graded **GRAVEL** with silt and sand; wet to saturated.
15		Bottom of boring = 15 ft.
16		

Drive/ Recovery

Well Construction



ABBREVIATIONS:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
ppm = parts per million
▼ = denotes groundwater table

NOTES:
No PID measurements were collected, but no field indication of petroleum were observed.

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Chevron Smith Kern Date of Collection: 8/10/16

Project Number: FP-Smith Kern Field Personnel: C. Meoli

Purge Data

Well ID: MW-1 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good / Locked

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 5.02 Well Casing Type/Diameter/Screened Interval:

After 5 minutes of purging (from top of casing): 5.02

Begin purge (time): 1700

End purge (time): 1730

Gallons purged: 4 1/2 5

Purge water disposal method: 55 gal drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO (mg/L)	Conductivity (ms/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1705	5.02		4.95	1.60	0.510	80.6	21.73	193	
1710	"	2L	4.86	0.60	0.508	44.2	20.67	181	
1715	"		4.78	0.55	0.503	44.1	20.45	176	
1720	"		4.72	0.53	0.499	61.4	20.23	173	
1725	"	3L	4.70	0.52	0.493	62.9	20.47	171	
1730			4.70	0.48	0.490	46.4	20.83	165	
~~1735~~									

Sampling Data

Sample No: MW-01-081016 Location and Depth:

Date Collected (mo/dy/yr): 8/10/16 Time Collected: 1735 ☐ AM ☒ PM Weather: Sunny 95°

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☐ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic pump

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Slightly tinged yellow; murky but no petroleum hydrocarbon odor.

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
2-1L Ambers			
1-500 ML Amber			
3-VOAs			
3-Polys 250 ml			

Signature: Date: 8/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: PP-Smith-Kern Date of Collection: 8/11/16

Project Number: _____ Field Personnel: Eric Murray

Purge Data

Well ID: MW-2 Secure: ☑ Yes ☐ No Well Condition/Damage Description: OK

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.38 0803 Well Casing Type/Diameter/Screened Interval: PVC/2"/3-13'

After 5 minutes of purging (from top of casing): 0808 4.39

Begin purge (time): 0805

End purge (time): 0834

Gallons purged: ~1

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
810		2.5	7.38	5.11	0.687	15.8	20.2	-25.9	
815	4.39		6.99	2.13	0.664	17.3	19.0	-29.4	
820	4.39	1/2	6.91	1.07	0.652	18.1	18.4	-24.9	
825	4.39	3/4	6.89	0.90	0.653	37.8	18.4	-24.2	
830			6.88	0.79	0.654	9.7	18.4	-23.0	

Sampling Data

Sample No: MW-2-081116 Location and Depth: MW-2/37.3'

Date Collected (mo/dy/yr): 08/11/16 Time Collected: 0835 ☑ AM ☐ PM Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Alexis

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear; no odor no sheen

Sample Analyses

TPH-D (HCl) ☑ Chlor / Fluor (unpres) ☐ Pesticides ☑ Herbicides ☑

TPH-G (HCl) ☑ BTEX (HCl) ☐ COD / TOC (H2SO4) ☐ Total Metals (HNO3) ☑ Orthophos (FILTER) ☐ TKN/Phos (N2SO4) ☐ Diss. Metals (HNO3) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	2		
500 mL amber	1		
250 mL poly	3		
40 mL VOA	3		

Signature: _____ Date: 8/11/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 8/11/16

Project Number: AP-Smith Kem Field Personnel: L.Meeks

Purge Data

Well ID: MW-3 Secure: ☑ Yes ☐ No Well Condition/Damage Description: OK- water in monument.

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.65 Well Casing Type/Diameter/Screened Interval:

After 5 minutes of purging (from top of casing): "

Begin purge (time): 9:10

End purge (time):

Gallons purged:

Purge water disposal method:

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO	Conductivity	Turbidity	Temp	ORP	Comments
915	4.65		5.93	1.43	0.698	37.8	20.95	174	
920	"		5.60	0.70	0.703	34.1	21.24	159	
925			5.53	0.56	0.652	27.3	21.60	130	
930			5.51	0.55	0.642	35.1	21.69	127	
935			5.48	0.52	0.641	38.6	21.70	124	
940			5.49	0.54	0.640	33.0	21.72	122	

Sampling Data

Sample No: MW-03-08116 Location and Depth:

Date Collected (mo/dy/yr): 8/11/16 Time Collected: 945 ☑ AM ☐ PM Weather:

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type:

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): clear no odor, no sheen

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:

Signature: Date: 8/11/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith Farm Date of Collection: 8/10/16

Project Number: Field Personnel: Erin Murray

Purge Data

Well ID: MW-4 Secure: ☑ Yes ☐ No Well Condition/Damage Description:

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.55 10.58 Well Casing Type/Diameter/Screened Interval: PVC / 2" / 3-13'

After 5 minutes of purging (from top of casing): 4.38

Begin purge (time): 1100

End purge (time): 1146

Gallons purged: 2.25

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (G)	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1100			6.25	3.23	2.01	99	21.8	88.1	
1105	4.39	0.75	6.41	1.13	2.07	114	22	72.4	
1110	4.38	1	6.43	1.07	1.99	121	22.1	74.3	
1115		1.25	6.44	0.96	1.94	127	21.3	77	
1120		1.5	6.47	0.71	1.870	137	20.9	77.8	
1125	4.37		6.48	0.71	1.861	142	20.8		Turbidity
1130	4.39	2	6.49	0.65	1.824	150	20.8		increasing

Sampling Data

Sample No: MW-04-081016 Location and Depth: MW-4; 8

Date Collected (mo/dy/yr): 081016 Time Collected: 1135 ☑ AM ☐ PM Weather:

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☐ Unfiltered Other: Both

Sample Collected with: ☐ Bailer ☑ Pump Other: Type:

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): slight orange color - getting darker over time

Sample Analyses

Pesticides / Herbicides

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑		
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☑	Full Suite	

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1-Liter Amber	2		
1-500 mL amber	1		
40mL VOA	3		
250 mL poly	3		

Signature: Date: 8/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number: FP-Smith-Kem
Date of Collection: 8/10/16
Field Personnel: L. Meoli

Purge Data

Well ID: MW-5
Secure: ☑ Yes ☐ No
Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.09
Well Casing Type/Diameter/Screened Interval:
After 5 minutes of purging (from top of casing): 4.09
Begin purge (time): 14:30
End purge (time):
Gallons purged:
Purge water disposal method:

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1435	4.09		5.70	1.51	0.581	8.2	26.95	152	
1440	"		5.18	0.70	0.575	1.5	23.20	168	
1445	"		5.05	0.65	0.575	0.6	22.49	170	
1450	"	1 gal	4.92	0.60	0.564	1.0	21.40	166	
1455	"		4.92	0.59	0.563	0.8	21.40	163	
1500	"	1.5 gal	4.91	0.57	0.560	0.5	21.39	161	

Sampling Data

Sample No:
Location and Depth:
Date Collected (mo/dy/yr):
Time Collected: 1505 ☐ AM ☑ PM Weather: Sunny 90°
Type: ☐ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: Cole-Palmer Peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): clear; no odor no sheen

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
2-1L amber			
1-500 mL Amber			
3-250 mL Poly			
3-VOAs			

Signature: Jim Meoli
Date: 8/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP - Smithfield Date of Collection: 8/10/16

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-6 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.73 1440 Well Casing Type/Diameter/Screened Interval: PVC/2"/3-13'

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 1441

End purge (time): _____

Gallons purged: _____

Purge water disposal method: _____

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (G)	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1445			5.17	3.24	2.376	12.3	21	103.8	
1450	4.74	0.25	4.56	1.66	2.346	10	20.5	109.6	
1455			4.41	0.91	2.344	9	20.9	118.7	
1500	4.74	0.75	4.40	0.78	2.341	17.1	21.2	130.7	
1505			4.37	0.70	2.340	17	21.1	151.5	
1510			4.35	0.68	2.381	16.9	21.6	163.7	
1515	4.74	1.5	4.35	0.65	2.391	16.4	21.8	181.0	

Sampling Data

Sample No: MW-06-081016 Location and Depth: MW-6; 3-13'

Date Collected (mo/dy/yr): 08/10/16 Time Collected: 1515 ☐ AM ☐ PM Weather: sunny 85°F

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Alexis

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI PRO DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear; no sheen & no odor - slight yellow tint

Sample Analyses

pesticides ☑ herbicides ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☐	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1-Liter amber	2		
500 mL amber	1		
250 mL poly	3		1 preserved with nitric acid, 1 H_2SO_4, 1 unpre.
40mL VOA	3		

Signature: _____ **Date:** 8/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-SmithKem Date of Collection: 8/10/16

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-7 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.3 1220 Well Casing Type/Diameter/Screened Interval: PVC/2"/3-13'

After 5 minutes of purging (from top of casing): 4.41

Begin purge (time): 1221

End purge (time): _____

Gallons purged: _____

Purge water disposal method: _____

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (G)	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1223		0.25	7.11	20.4	0.760	54.3	18.3	16.5	
1228	4.38	0.5	7.09	1.10	0.751	40	18.4	12.6	
1233		0.8	7.09	0.91	0.749	69	18.2	11.1	
1238	4.4	1	7.16	0.72	0.748	64	18.2	5.1	
1244		1.25	7.09	0.65	0.752	29	18.4	2.3	

Sampling Data

Sample No: MW-07-0810/6 MW-07D-0810/6 Location and Depth: MW-07; 3-13'

Date Collected (mo/dy/yr): 08/10/16 Time Collected: 1245 ☐ AM ☑ PM Weather: sunny

Type: ☑ Ground Water ☐ Surface Water Other: Dup 1250 Sample: ☐ Filtered ☐ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: _____

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear; no odor - slight yellow tint

Sample Analyses

TPH-D	(HCl) ☑	Pesticides ☑ / Chlor / Fluor	(unpres) ☐	Herbicides ☑ / COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1-Liter amber	2	MW-07D-0810/6	
500 mL amber	1		
250 mL poly			
40 mL VOA	3		

Signature: _____ Date: 8/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kern Date of Collection: 8/10/16

Project Number: FP-Smith Kern Field Personnel: L. Meoli

Purge Data

Well ID: MW-08 Secure: ☒ Yes ☐ No Well Condition/Damage Description: OK-locked

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.84 Well Casing Type/Diameter/Screened Interval:

After 5 minutes of purging (from top of casing): 3.82

Begin purge (time): 1210

End purge (time): 1235

Gallons purged: 3L's

Purge water disposal method:

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
12:15	3.82		4.64	2.20	0.572	21.1	23.46	174	
12:20	"	1L	4.51	0.74	0.592	11.7	22.71	160	
12:25	"	2L	4.49	0.58	0.598	7.0	22.15	144	
12:30	"	2.5L	4.51	0.56	0.604	3.1	22.16	132	
12:35	"	3L	4.52	0.55	0.600	3.4	21.99	123	

Sampling Data

Sample No: MW-08-081016 Location and Depth:

Date Collected (mo/dy/yr): 8/10/16 Time Collected: 1240 ☐ AM ☒ PM Weather: Sunny 85°

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): ~~Clear~~; no odor no sheen Tinged slightly yellow

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
6 #- 500 mL			
3 - 250 mL Amber			
6 #- 1L Amber	X2		MS/MSD
10 #- VOAs			

Signature: Jim Meoli Date: 8/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith Kern Date of Collection: 8/10/16

Project Number: _____ Field Personnel: L. Meoli

Purge Data

Well ID: MW-9 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Excellent - new well.

MW-09-081016

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.55 Well Casing Type/Diameter/Screened Interval: _____

After 5 minutes of purging (from top of casing): 3.55

Begin purge (time): 10:40

End purge (time): 11:15

Gallons purged: 6.5 Liters

Purge water disposal method: 55-gal drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1045	3.55	2L	4.38	0.75	0.544	29.1	15.24	52	
1050	4.52	2.5L	4.30	0.66	0.542	18.2	15.30	53	
1055	" "	3L	4.23	0.61	0.539	26.0	15.33	32	
1100	" "	4L	4.22	0.60	0.527	19.0	15.39	27	
1105	" "	5L	4.19	0.59	0.507	15.0	15.38	21	
1110	" "	5.5L	4.21	0.53	0.512	18.5	15.50	14	
1115	" "	6L	4.22	0.53	0.510	10.5	15.55	12	

Sampling Data

9.9 @ time of sampling

Sample No: MW-9 Location and Depth: _____

Date Collected (mo/dy/yr): 8/10/16 Time Collected: _____ ☒ AM ☐ PM Weather: Sunny 85°

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: Cole-Palmer Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear, no odor, no sheen

Sample Analyses

See work plan

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
4 - 500 mL			
3 - VOAs			
2 - 1L Amber			
1 - 250 mL Amber			

Signature: _____ Date: 8/10

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smithfield Date of Collection: 8/11/16

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-10 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good - new

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.11 0909 Well Casing Type/Diameter/Screened Interval: PVC / 2" / 5-15'

After 5 minutes of purging (from top of casing): 4.11

Begin purge (time): 0910

End purge (time): _____

Gallons purged: _____

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP	Comments
0912			7.48	4.38	0.728	8.4	20.4	-117.5	
0917	4.11	0.25	7.10	1.38	0.699	8.3	18.8	-149.2	
0922		0.50	7.02	0.99	0.693	10.2	18.6	-153.4	
0927			6.97	0.83	0.689	12.4	18.4	-146.0	
0932	4.11	1	6.95	0.74	0.694	20.2	18.7	-144.9	

Sampling Data

Sample No: MW-10-081116 Location and Depth: MW-10; 5-15'

Date Collected (mo/dy/yr): 8/11/16 Time Collected: 0935 ☑ AM ☐ PM Weather: sunny 70°F

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Alexis

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear; no odor or sheen

Sample Analyses

Pesticide ☑ Herbicide ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1-liter Amber	2	NA	
500 ml amber	1		
250 ml poly	3		
40 ml VOA	3		

Signature: _____ Date: 8/11/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem Date of Collection: 8/10/16

Project Number: FP-Smith Kem Field Personnel: L. Meoli

Purge Data

Well ID: MW-11 Secure: ☑ Yes ☐ No Well Condition/Damage Description: New well

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.61 Well Casing Type/Diameter/Screened Interval:

After 5 minutes of purging (from top of casing): 4.61

Begin purge (time): 1545

End purge (time):

Gallons purged:

Purge water disposal method: 55-gal drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity ms/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1550	4.61		5.02	0.88	0.591	19.3	28.42	188	
1555	4.61		4.92	0.92	0.574	20.0	27.06	187	
1600	"	2L	4.84	0.80	0.585	18.9	26.17	176	
1605	"		4.98	0.96	0.587	15.0	25.89	163	
1610	"	2.5L	5.00	0.95	0.590	4.9	25.90	159	
1615	"		4.99	0.90	0.588	5.3	25.88	164	
1620	"	3L	4.78	0.93	0.587	7.4	25.72	160	

Sampling Data

Sample No: MW-11-081016 Location and Depth:

Date Collected (mo/dy/yr): 8/10/16 Time Collected: ☐ AM ☑ PM Weather: Sunny 95°

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing: disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): clear; no odor, no sheen

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
3-250 ml poly			
2-1L Amber			
1-500L Amber			
3-VOAs			

Signature: _____ Date: 8/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number: FP - Smith Kem
Date of Collection: 8/10/16
Field Personnel: L. Mears

Purge Data

Well ID: MW-12
Secure: ☒ Yes ☐ No
Well Condition/Damage Description: New

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.02
Well Casing Type/Diameter/Screened Interval:
After 5 minutes of purging (from top of casing): "
Begin purge (time): 8:00
End purge (time):
Gallons purged:
Purge water disposal method: 55-gal drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO (mg/L)	Conductivity (ms/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
8:05	4.02		5.46	2.97	0.830	59.2	17.58	217	
8:10	↓		5.36	1.12	0.811	18.3	17.32	199	
8:15	↓	2L	5.33	1.00	0.807	9.9	17.29	192	
8:20	↓		5.29	0.89	0.802	6.7	17.21	184	
8:25	↓	3L	5.31	0.87	0.799	4.1	17.17	172	
8:30	↓	4L	5.31	0.84	0.796	5.5	17.17	159	

Sampling Data

Sample No: MW-12-08116
Location and Depth:
Date Collected (mo/dy/yr): 8/11/16
Time Collected: 835 ☐ AM ☐ PM
Weather: Sunny 80°
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☐ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated ~~all~~ tubing; disposable and/or dedicated silicon ~~and poly~~ tubing Other:
Sample Description (Color, Turbidity, Odor, Other): Clear no odor, no sheen

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
3-VOAs			
2-1L Amber			
3-250 mL poly			
1-500 mL amber			

Signature:
Date: 8/11/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith Farm Date of Collection: 8/10/14

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-13 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good - new

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.87 1604 Well Casing Type/Diameter/Screened Interval: PVC/2"/5-15'

After 5 minutes of purging (from top of casing): 3.89

Begin purge (time): 1605

End purge (time): 1640

Gallons purged: ~ 1.5

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (G)	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1610	3.87	0.25	6.05	3.78	0.205	20.7	19.1	-49.1	
1615	3.89		6.42	1.33	0.161	14.2	15.9	-84.2	
1620		0.75	6.55	0.98	0.161	10.3	16.1	-105.5	
1625	~~4.00~~	1	6.61	0.82	0.160	9.1	15.8	-115.5	
1630		1.25	6.66	0.77	0.160	7.8	15.9	-124.6	

Sampling Data

Sample No: MW-13-081014 Location and Depth: MW-13

Date Collected (mo/dy/yr): 8/10/14 Time Collected: 1635 ☐ AM ☑ PM Weather: Sunny 85°F

Type: ☐ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Atexis

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear; no odor or sheen

Sample Analyses

Pesticides ☑ Herbicides ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	2		
500 mL amber	1		
250 mL poly	3		
40 mL VOA	3		

Signature: _____ Date: 8/10/14

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith Farm Date of Collection: 8/10/16

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-14 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good - new

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.21 1506 Well Casing Type/Diameter/Screened Interval: PVC/2"/5-15'

After 5 minutes of purging (from top of casing): 4.21

Begin purge (time): 1502

End purge (time): _____

Gallons purged: _____

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO	Conductivity	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1505	4.22		6.73	3.14		13.5	16.1		
1516			6.73	2.71		12.1	18.7	-	
1515	4.23		6.72	1.18	1.117	11.8	19.6	-11.4	
1526			6.74	0.92	1.040	10.9	19.2	-17.9	
1525	4.24		6.75	0.80	1.082	11.6	19.3	-24.1	
17			6.76	0.73	0.978	10.0	18.8	-27.4	

Sampling Data

Sample No: MW-14-081016 Location and Depth: MW-14; 5-15'

Date Collected (mo/dy/yr): 8/10/16 Time Collected: 1730 ☐ AM ☑ PM Weather: Sunny 80°F

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Alexis

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI PRO DSJ

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear; no odor or sheen

Sample Analyses

pesticides ☑ Herbicides ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter amber	2		
500 mL amber	1		
250 mL poly	3		
40 mL VOA	3		

Signature: _____ **Date:** 8/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number: BIC-833
Date of Collection: 11/10/2016
Field Personnel: D.O. + E.M.

Purge Data

Well ID: MW-1
Secure: ☒ Yes ☐ No
Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.39'
Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'
After 5 minutes of purging (from top of casing):
Begin purge (time): 0813
End purge (time): 0857
Gallons purged: 2
Purge water disposal method: drum for disposal

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0815	4.40'	½ L	7.17	4.56	1.61	39.6	8.49	180	
0820	4.41'	1.5 L	6.63	0.46	1.47	48.8	11.19	189	
0825	4.41'	2.5 L	6.53	0.00	1.47	29.8	11.66	187	
0830	4.41'	3.5 L	6.33	0.00	1.53	22.2	11.75	187	
0835	4.41'	4.5 L	6.16	0.00	1.57	15.1	11.75	191	

Sampling Data

Sample No: MW-1-111016
Location and Depth: MW-1, 8'
Date Collected (mo/dy/yr): 11/10/16
Time Collected: 0838 ☒ AM ☐ PM
Weather: foggy ~40°F
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☒ Filtered ☒ Unfiltered Other: see below
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): slightly turbid, no odor

Sample Analyses

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	~~COD / TOC~~ ammonia	(H2SO4) ☒	Orthophos	(FILTER) ☐	nitrate / nitrite ✓	Diss. Metals	pest/herb (HNO3) ☑	✓
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐		VOCs	(HCl) ☐	

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
1L Amber glass	2	N/A
500 mL Amber glass	1	
250 mL poly	1	
250 mL poly w/ H_2SO_4	1	
250 mL poly w/ HNO_3	2	
40 mL glass VOA w/ HCl	3	

Comments: field filtered one 250 mL poly w/ HNO_3. Water became cloudy in tubing after adding filter (0.45 µm)

Signature:
Date: 11/10/2016

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Date of Collection: 11/10/2016
Project Number:
Field Personnel: P.O. + E.M.

Purge Data

Well ID: MW-2 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.75'
Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'

After 5 minutes of purging (from top of casing): 3.78'

Begin purge (time): 10:56

End purge (time):

Gallons purged: 2

Purge water disposal method: drum for disposal

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
11:00	3.78'	1 L	6.74	0.84	0.818	7.2	11.32	214	
1105	3.78'	2 L	7.01	0.00	0.785	7.0	12.39	196	
1110	3.78'	3 L	7.016	0.00	0.765	3.8	13.37	186	
1115	3.78'	4 L	7.08	0.00	0.754	0.3	13.99	179	
1120	3.78'	5 L	7.09	0.00	6.742	0.1	14.52	174	

Sampling Data

Sample No: MW-2-111016 Location and Depth: MW-2, 8'

Date Collected (mo/dy/yr): 11/10/2016 Time Collected: 1122 ☒ AM ☐ PM Weather: Sunny / 50°F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

TPH-D	(HCl) ☒	~~Chlor / Fluor~~ nitrate/fite	(unpres) ☒	~~COD / TOC~~ ammonia	(H2SO4) ☒	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L glass amber	2	N/A	
500 mL glass amber	1		
250 mL poly	1		
250 mL poly w/ H_2SO_4	1		
250 mL poly w/ HNO_3	1		
40mL glass VOA w/ HCl	3		

Signature: Date: 11/10/2016

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number:
Date of Collection: 11/09/16
Field Personnel: P.O. + E.M.

Purge Data

Well ID: MW-3 Secure: ☒ Yes ☐ No
Well Condition/Damage Description: fine, partially filled w/ water. Bailed before removing well cap
Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 3.96'
Well Casing Type/Diameter/Screened Interval: 2" PVC / 3'-13'
After 5 minutes of purging (from top of casing): 4.04'
Begin purge (time): 1435
End purge (time): 1515
Gallons purged: 2
Purge water disposal method: drum for disposal

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
(2")	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1440	4.04'	1 L	7.34	1.21	0.903	7.8	16.91	120	
1445	4.07'	2 L	7.20	0.00	0.898	4.5	16.78	88	
1450	4.08'	3 L	7.19	0.00	0.891	4.1	16.78	73	
1455	4.07'	4 L	7.20	0.00	0.904	4.0	16.79	59	
1500	4.08'	5 L	7.21	0.00	0.893	4.3	16.77	52	

Sampling Data

Sample No: MW-3-110916
Location and Depth: MW-3, 8'
Date Collected (mo/dy/yr): 11/9/16
Time Collected: 1502 ☐ AM ☒ PM
Weather: Sunny / 60°F
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

pest/herb ammonia nitrate/nitrite

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L glass amber	2	N/A	Flex tubing missing
500 mL glass amber	1		
250 mL poly	1		
250 mL poly w/ HNO_3	1		
250 mL poly w/ H_2SO_4	1		
40 mL VOA w/ HCl	3		

Signature:
Date: 11/9/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith - Kern Date of Collection: 11/9/16

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-4 Secure: ☑ Yes ☐ No Well Condition/Damage Description: OK

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 2.49' 1424 Well Casing Type/Diameter/Screened Interval: PVC/2"/3-13'

After 5 minutes of purging (from top of casing): 2.53

Begin purge (time): 1426

End purge (time): 1515

Gallons purged: ~2

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity	Turbidity NTU	Temp °C	ORP mV	Comments
1424			6.24	1.64	1.72	49.9	15.32	183	
1433	2.53		6.15	1.35	1.72	48.6	15.18	184	
1438			5.90	0.94	1.72	43.7	14.97	189	
1443			5.75	0.87	1.72	46.1	14.81	193	
1448	2.54		5.66	0.76	1.71	48.1	14.64	200	
1453			5.61	0.72	1.71	48.2	14.59	203	

Sampling Data

Sample No: MW-4-110916 Location and Depth: MW-4/3-13'

Date Collected (mo/dy/yr): 11/9/16 Time Collected: 1455 ☐ AM ☐ PM Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Alexis

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Brownish; no discernible odor

Sample Analyses

pest/herb ☑ nitrate/nitrite ☑ ammonia ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1-Liter amber	2	NA	
500 mL amber	1		
250 mL poly	3 4	Field filtered	
40 mL VOA	3		

Signature: _____ Date: 11/9/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem Date of Collection: 11/09/16

Project Number: _____ Field Personnel: P.O. + E.M.

Purge Data

Well ID: MW-5 Secure: ☐ Yes ☐ No Well Condition/Damage Description: good, filled w/ water

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.05' Well Casing Type/Diameter/Screened Interval: 2" PVC, 3-13' bgs

After 5 minutes of purging (from top of casing): 3.10'

Begin purge (time): 12:25

End purge (time): 1321

Gallons purged: 2

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1230	3.10'	1 L	7.20	0.35	1.27	0.0	15.45	129	
1235	3.10'	2 L	7.18	0.00	1.26	0.0	15.58	125	
1240	3.11'	3 L	7.19	0.00	1.25	0.0	15.70	119	
1245	3.11'	4 L	7.20	0.00	1.25	0.0	15.87	116	
1250	3.10'	5 L	7.20	0.00	1.24	0.0	16.05	114	

Sampling Data

Sample No: MW-5-110916 Location and Depth: MW-5

Date Collected (mo/dy/yr): 11/9/16 Time Collected: 1252 ☐ AM ☒ PM Weather: Sunny 60° F

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

perf / herb x ammonia x nitrate / nitrite

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☒	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L Amber glass	2	MW-50-110916 @ 1253	
500 mL amber glass	1		
250 mL poly	1		
250 mL poly w/ HNO_3	1		
250 mL poly w/ H_2SO_4	1		
40 mL VOA w/ HCl	3		

Signature: _____ Date: 11/9/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number: _____
Date of Collection: 11/10/2016
Field Personnel: P.O. + E.M.

Purge Data

Well ID: MW-6 Secure: ☒ Yes ☐ No
Well Condition/Damage Description: fine, partially submerged in water w/ rainbow sheen. Bailed water (highly turbid and soapy, see comment below)
Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal): _____
Depth of water (from top of well casing): 3.91'
Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'
After 5 minutes of purging (from top of casing): 3.93'
Begin purge (time): 0924
End purge (time): 1005
Gallons purged: 2
Purge water disposal method: collect/drum for disposal

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
(2")	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0930	3.93'	1 L	4.40	0.56	2.76	9.3	11.92	277	
0935	3.93'	2 L	4.38	0.00	2.69	8.1	12.45	302	
0940	3.93'	3 L	4.36	0.00	2.70	4.5	12.57	314	
0945	3.93'	4 L	4.36	0.00	2.68	1.2	12.74	323	

Sampling Data

Sample No: MW-6-111016
Location and Depth: MW-6, 8'
Date Collected (mo/dy/yr): 11/10/2016
Time Collected: 0949 ☒ AM ☐ PM
Weather: partly cloudy ~ 45°F
Type: ☒ Ground Water ☐ Surface Water Other: _____
Sample: ☐ Filtered ☒ Unfiltered Other: _____
Sample Collected with: ☐ Bailer ☒ Pump Other: _____
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: _____
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____
Sample Description (Color, Turbidity, Odor, Other): clear, mild organic odor - hard to place

Sample Analyses

TPH-D	(HCl) ☒	~~Chlor / Fluor~~ nitrate-ite	(unpres) ☒	~~COD / TOC~~ Ammonia	(H2SO4) ☒	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

pest / herb

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
1 L amber glass	2	N/A
500 mL amber glass	1	
250 mL poly	1	
250 mL poly w/ H_2SO_4	1	
250 mL poly w/ HNO_3	1	
40 mL glass VOA w/ HCl	3	

Comments: Clark (McGregor) mentioned trucks get "foam" agent for spraying crops to mark swaths - possibly source of soapy water in well box.

Signature: _____ Date: 11/10/2016

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem — Date of Collection: 11/9/16

Project Number: — Field Personnel: Eric Murray

Purge Data

Well ID: MW-7 — Secure: ☑ Yes ☐ No — Well Condition/Damage Description: OK

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No — One Casing Volume (gal):

Depth of water (from top of well casing): 3.36' 1119 — Well Casing Type/Diameter/Screened Interval: PVC/2"/3-13'

After 5 minutes of purging (from top of casing): 3.41

Begin purge (time): 1127

End purge (time): 1210

Gallons purged: ~1.5

Purge water disposal method: Drums (55 G)

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. G Purged	pH	DO %	mS/cm Conductivity	NTU Turbidity	°C Temp	mV ORP	Comments
1130	3.41	1/8	8.20	7.9	1.03	16.0	14.96	115	
1135			7.89	6.9	1.03	14.6	14.99	111	
1140		1/4	7.54	6.4	1.03	11.3	15.02	103	
1145	3.41		7.42	6.4	1.03	9.1	15.13	98	
1150		1/2-3/4	7.33	6.2	1.03	9.5	15.14	94	
1155		~1	7.34	6.2	1.03	9.5	16.13	93	

Sampling Data

Sample No: MW-7-110916 — Location and Depth: MW-7; 3-13'

Date Collected (mo/dy/yr): 11/9/16 — Time Collected: 1200 ☐ AM ☑ PM — Weather: cloudy

Type: ☑ Ground Water ☐ Surface Water Other: — Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: — Type: Alexis Peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or ~~dedicated~~ silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

			pest/herb ☑		nitrate/nitrite ☑		Ammonia ☑				
TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐		
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐		

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1-L Amber	2	NA	
500 mL Amber	1		
250 mL poly	3		H_2SO_4 (1) nitric acid (2)
40 mL VOA	3		preserved

Signature: — Date:

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kern
Project Number: _____
Date of Collection: 11/09/2016
Field Personnel: D.O. + E.M.

Purge Data

Well ID: MW-8 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good, filled with water

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal): _____
Depth of water (from top of well casing): 2.83'
Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13' bgs
After 5 minutes of purging (from top of casing): 2.84'
Begin purge (time): 1127
End purge (time): 1202
Gallons purged: 8L
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP MV	Comments
1130	2.84'	1L	6.83	0.00	1.14	14.4	15.11	141	
1135	2.84'	2.5L	7.19	0.00	1.11	5.1	15.21	113	
1140	2.85'	4L	7.22	0.00	1.11	2.0	15.26	103	
1145	2.85'	5.5L	7.24	0.00	1.10	1.7	15.30	98	

Sampling Data

Sample No: MW-8-110916
Location and Depth: MW-8 / 8' bgs
Date Collected (mo/dy/yr): 11/09/16
Time Collected: 1150 ☐ AM ☐ PM
Weather: overcast
Type: ☒ Ground Water ☐ Surface Water Other: _____
Sample: ☐ Filtered ☒ Unfiltered Other: _____
Sample Collected with: ☐ Bailer ☒ Pump Other: _____
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: _____
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____
Sample Description (Color, Turbidity, Odor, Other): V. Slight yellow coloration, no odor

Sample Analyses

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	~~COD / TOC~~ Ammonia	(H2SO4) ☒	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L Amber glass	2	N/A	
500mL amber glass	1		
250 mL poly	1		
250 mL poly w/ HNO_3	1		
250 mL poly w/ H_2SO_4	1		
40 mL VOA w/ HCl	3		

Signature: _____ Date: 11/9/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kline Date of Collection: 11/9/16

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-9 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good/new

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.8 1544 Well Casing Type/Diameter/Screened Interval: PVC/2"/5-15'

After 5 minutes of purging (from top of casing): 3.8

Begin purge (time): 1545

End purge (time): 1635

Gallons purged: ~1.5

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO 886	Conductivity 0730	Turbidity NTM	Temp °C	ORP mV	Comments
1552	3.8	1/8	7.00	1.03	0.761	62.1	13.65	104	
1555	3.8	1/4	7.00	0.97	0.745	60.1	13.79	97	
1600		1/2	7.01	0.87	0.730	52.9	13.88	75	
1605	3.8	3/4	7.04	0.79	0.727	45.9	13.92	81	
1610		1	7.06	0.73	0.727	48.4	13.95	88	
1615			7.04	0.71	0.727	48.1	13.96	87	

Sampling Data

Sample No: MW-9-110916 Location and Depth: MW-9 / NA 5-15'

Date Collected (mo/dy/yr): 11/9/16 Time Collected: 1620 ☐ AM ☐ PM Weather: clear 55° F

Type: ☐ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Alexis Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear; no odor

Sample Analyses

pest/herb ☑ nitrite/nitrate ☑ ammonia ☑

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter amber	2	NA	
500 ml poly	1		
250 ml poly	3		
40 mL VOA	3		

Signature: _____ Date: 11/9/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number:
Date of Collection: 11/09/2016
Field Personnel: P.O. + E.M.

Purge Data

Well ID: MW-10 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good, no pad lock

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 3.49'
Well Casing Type/Diameter/Screened Interval: 2" PVC / 5-15'
After 5 minutes of purging (from top of casing): 3.50'
Begin purge (time): 1547
End purge (time): 1638
Gallons purged: 2
Purge water disposal method: drum for disposal

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1550	3.50'	½ L	7.59	1.90	0.842	0.2	16.03	93	
1555	3.51'	1 L	7.16	0.00	0.859	19.1	15.84	48	
1600	3.51'	2 L	7.12	0.00	0.842	1.8	15.81	28	
1605	3.51'	3 L	6.98	0.00	0.832	0.0	15.82	46	
1610	3.52'	4 L	6.95	0.00	0.827	0.0	15.81	58	
1615	3.52'	5 L	6.94	0.00	0.825	0.0	15.74	66	

Sampling Data

Sample No: MW-10-110916
Location and Depth: MW-10, 10'
Date Collected (mo/dy/yr): 11/09/16
Time Collected: 1619 ☐ AM ☒ PM Weather: Clear / 60°F
Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☐ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	~~COD / TOC~~ Ammonia	(H2SO4) ☒	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

part/hers ✗

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L glass amber	2	N/A	
500 mL glass amber	1		
250 mL poly	1		
250 mL poly w/ HNO_3	1		
250 mL poly w/ H_2SO_4	1		
40 mL VOA w/ HCl	3		

Signature: Pamela Osterhout Date: 11/9/2016

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kay Date of Collection: 11/9/16

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-11 Secure: ☑ Yes ☐ No Well Condition/Damage Description: new

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.72 1226 Well Casing Type/Diameter/Screened Interval: PVC/2"/5-15'

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 1227

End purge (time): 1315

Gallons purged: 1.5

Purge water disposal method: 1 Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1230	3.72	48	7.22	118.7	1.15	10.4	15.08	135	
1235	3.72		7.02	151	1.14	3.9	15.09	151	
1240		1/4	6.92	146.3	1.13	5.4	15.02	155	
1245	3.72		6.82	13.48	1.14	7.5	14.97	158	
1250			6.79	13.09	1.14	6.8	14.92	160	
1255			6.77		1.14	6.2	14.91	161	

Sampling Data

Sample No: MW-11-110916 Location and Depth: MW-7; 10'

Date Collected (mo/dy/yr): 11/9/16 Time Collected: 1255 ☐ AM ☑ PM Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Ateyis Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear; no odor

Sample Analyses

Prist/hvocs ☑ ammonia ☑ nitrate/nitrite ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1-Liter Amber	2	NA	
500 mL amber	1		
250 mL poly	3		
40 mL VOA	3		

Signature: _____ Date: _____

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem Date of Collection: 11/10/16

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-12 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good good-new

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.33' 0812 Well Casing Type/Diameter/Screened Interval: PVC/2"/5-15'

After 5 minutes of purging (from top of casing): 3.33

Begin purge (time): 0815

End purge (time): 1000

Gallons purged: 5

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. G Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0820			7.10	1.99	1.34	45.9	12.63	-29	
0825	3.33	1/2	7.04	1.29	1.33	42.7	13.28	-32	
0830		3/4	7.06	0.98	1.33	41.9	13.69	-30	
0835	3.33	1	7.06	0.89	1.34	38.4	13.86	-26	
0840	3.33	1 1/4	7.06	0.75	1.40	30.5	14.08	-15	
0845		1 1/2	7.06	0.69	1.40	28.2	14.09	-13	

Sampling Data

Sample No: MW-12-111016 Location and Depth: MW-12; 5-15'

Date Collected (mo/dy/yr): 11/10/16 Time Collected: 0845 ☑ AM ☐ PM Weather: _____

Type: ☐ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Hose's Peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear; no odor

Sample Analyses

pest/herb ☑ ammonia ☑ nitrate/nitrite ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1-Liter Amber	6	MS/MSD	
40 ml VOA	9		
250 mL poly	12		3 field filtered / dissolved metals
500 mL amber	3		

Signature: _____ Date: 11/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: PP-Smith Farm Date of Collection: 11/10/16

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-13 Secure: ☑ Yes ☐ No Well Condition/Damage Description: New, good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 27 1151 Well Casing Type/Diameter/Screened Interval: PVC/2"/3.5-13.5'

After 5 minutes of purging (from top of casing): 2.7

Begin purge (time): 1153

End purge (time): 1235

Gallons purged: ~2

Purge water disposal method: Drum

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1155	2.8	¼	7.26	1.07	0.232	360	13.41	-42	
1200	2.8	½	7.06	0.79	0.228	220	13.40	-42	
1205	2.8	¾	6.94	0.68	0.277	81.1	13.46	-43	
1210			6.91	0.65	0.226	71.4	13.51	-42	Becoming less turbid
1215	2.7	1	6.93	0.61	6.227	60.4	13.62	-50	
~~1220~~			6.93	0.60	0.227	54.1	13.63	-51	

Sampling Data

Sample No: MW-13-111016 Location and Depth: MW-13; 3.5-13.5'

Date Collected (mo/dy/yr): 11/10/16 Time Collected: 1225 ☐ AM ☑ PM Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Atexis peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Slight orange color and mod turbid

Sample Analyses

pest/herb ☑ ammonia ☑ nitrate/nitrite ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1-liter amber	2	NA	
40 ml VOA	3		
250 poly	4		1 field filtered
500 ml Amber	1		

Signature: _____ Date: 11/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP- Smith Kern Date of Collection: 11/10/16

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-14 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good/new

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.58' 1035 Well Casing Type/Diameter/Screened Interval: PVC/2"/5-15'

After 5 minutes of purging (from top of casing): 3.59'

Begin purge (time): 1038

End purge (time): 1120

Gallons purged: ~2

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1045		¼	7.55	1.69	0.828	27.1	14.31	107	
1050	3.59	~~3.5~~	7.25	1.07	0.822	30.1	14.69	106	
1055		½	7.10	0.84	0.808	25.7	14.85	110	
1100	3.59	¾	7.06	0.76	0.809	20.0	14.91	112	
1105			7.03	0.73	0.815	14.0	14.96	113	
1110	3.59	1	7.02	0.71	0.813	9.3	14.98	113	

Sampling Data

Sample No: MW-14-111016 Location and Depth: MW-14/5-15'

Date Collected (mo/dy/yr): 11/10/16 Time Collected: 1110 ☑ AM ☐ PM Weather: clear 50°

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Alexis Peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear; no odor

Sample Analyses

pesticide/herbicides ☑ ammonia ☑ nitrate/nitrite ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1-Liter amber	2	NA-	
40 ml VOA	3		
500 ml amber	1		
250 ml poly	3		

Signature: _____ Date: 11/10/16

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Pp- Smith Ken Date of Collection: 2/27/17

Project Number: _____ Field Personnel: Erin Murry

Purge Data

Well ID: MW-1 Secure: ☑ Yes ☐ No Well Condition/Damage Description: OK

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.49 @ 15:54 Well Casing Type/Diameter/Screened Interval: PVC/2"/3-13'

After 5 minutes of purging (from top of casing): 4.57

Begin purge (time): 1552

End purge (time): 1630

Gallons purged: ~2

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO	Conductivity (mS/cm)	Turbidity	Temp (°C)	ORP (mV)	Comments
1552			5.02	0.0	1.93	9.2	6.29	158	DO Probe
1555	4.57		5.03		1.88		6.31	161	not working
1600			5.01		1.85	7.8	6.34	171	
1605	4.51		4.88		1.84	6.9	6.4	188	
1610		~2	4.59		1.86	3.3	6.3	223	
1615			4.60	0.0	1.86	2.7	6.3	231	

Sampling Data

Sample No: MW-01-022717 Location and Depth: MW-01; 8'

Date Collected (mo/dy/yr): 2/27/17 Time Collected: 1615 ☐ AM ☐ PM Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☐ Pump Other: _____ Type: Alexa Peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): slightly orange; no odor

Sample Analyses

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐		
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐		

ammonia ☑ nitrate/nitrite ☑

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 liter amber	4		
250 mL poly	6	MW-01X-022717	
40 mL VOA	8		
250 mL amber	2		

Signature: _____ **Date:** 2/27/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Date of Collection: 2/28/2017
Project Number:
Field Personnel: D.O. + E.M.

Purge Data

Well ID: MW-2 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good, some ice in well box, but easily chipped away

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): ~2 gal

Depth of water (from top of well casing): 3.85' @ 0853 Well Casing Type/Diameter/Screened Interval: 2" PVC, 3 to 13' bgs

After 5 minutes of purging (from top of casing): 3.86'

Begin purge (time): 0854

End purge (time):

Gallons purged: 2

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity µS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0900	3.87'	1L	6.93	2.34	570	-1.1	10.0	-63.9	
0905	3.87'	2L	6.96	1.58	570	-1.5	10.4	-121	
0910	3.87'	3.5L	6.96	1.31	571	-2.5	10.3	-146.6	
0915	3.87'	4.25L	6.95	1.17	572	-2.5	10.5	-159.8	
0920	3.87'	6L	6.95	1.08	571	-2.8	10.5	-168.7	
0925	3.87'	7.5L	6.95	1.01	571	-2.8	10.4	-175	

Sampling Data

Sample No: MW-02-022817 Location and Depth: MW-2

Date Collected (mo/dy/yr): 02/28/2017 Time Collected: 0927 ☒ AM ☐ PM Weather: partly cloudy, 20°F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: alexis peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

+ pesticides, herbicides, nitrate, nitrite, Ammonia

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
500 mL glass amber	1	None	YSI calibrated 2/23. Attempted to calibrate on 2/28 but calibration fluid frozen. All parameters appear accurate except low NTU's.
1 L glass amber	2		
250 mL poly w/ H_2SO_4	1		
250 mL poly w/ HNO_3	1		
250 mL poly	1		
40 mL VOA w/ HCl	4		

Signature: Date: 2/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem

Date of Collection: 2/27/2017

Project Number:

Field Personnel: Pamela O. + Erin M.

Purge Data

Well ID: MW-3

Secure: ☐ Yes ☐ No

Well Condition/Damage Description: filled w/ water and ice. Had to chip out ice from around well cap.

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No

One Casing Volume (gal):

Depth of water (from top of well casing): ~~4.10~~ 4.01 @ 12:50

Well Casing Type/Diameter/Screened Interval: 2" PVC, 3-13' bgs

After 5 minutes of purging (from top of casing): 4.09'

Begin purge (time): 12:52

End purge (time):

Gallons purged: 3

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity µS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1255	4.09'	½ L	7.20	4.52	725	37.0	7.6	-96.1	
1300	4.10	1.5 L	7.09	2.11	724	216.0	8.5	-116.6	turbid chunks
1305	4.11	2.5 L	7.04	1.60	730	44.6	8.8	-127.7	
1310	4.12	3.5 L	—	—	—	—	—	—	organic matter filling flow thru cell.
1315	4.12	4.5 L	7.04	1.53	731	40.1	8.7	-106.9	
1320	4.13	5.5 L	7.06	1.20	729	24.7	8.8	-129.2	
1325	4.13	6.5 L	7.06	1.13	732	36.0	8.6	-134.1	
1330		7.5 L	7.07	1.28	732	38.3	8.7	-137.9	

Sampling Data

Sample No: MW-03-022717

Location and Depth: MW-03

Date Collected (mo/dy/yr): 02/27/17

Time Collected: 1333 ☐ AM ☒ PM

Weather: overcast ~35° F

Type: ☒ Ground Water ☐ Surface Water Other:

Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other:

Type: Cole peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor (purge water brown w/ coagulant collecting in YSI flow thru cell.)

Sample Analyses

pesticides/herbicides, ammonia, nitrate/nitrite

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☒
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	~~VOCs~~	~~(HCl) ☒~~ P.O.

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
500 mL glass amber	1	none	
1 L glass amber	2		
250 mL poly	1		
250 mL poly w/ HNO_3	2	→	1 filtered
250 mL poly w/ H_2SO_4	1		↳ NTU's due to organic matter in flow thru cell. Samples were clear, but filtered 1 metals sample anyway
P.O. ~~250 mL poly~~	~~1~~		
40mL VOA w/ HCl	4		

Signature: Pamela Ostrikat

Date: 2/27/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Date of Collection: 2-27-2017
Project Number:
Field Personnel: D.O. + E.M. + G.C.

Purge Data

Well ID: MW-4 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good, partially filled w/ water, no ice inside

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 2.77' @ 1424 Well Casing Type/Diameter/Screened Interval: 2" PVC, 3-13' bgs

After 5 minutes of purging (from top of casing): 2.82'

Begin purge (time): 1425

End purge (time):

Gallons purged: 3

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1430	2.82	1L	6.04	4.39	588	200	6.5	68.0	
1435	2.83	2L	5.94	4.01	587	182.5	6.1	55.8	
1440	2.84	3L	5.90	3.94	593	178.3	5.8	51.1	
1445	2.85	4L	5.87	4.00	594	174.6	5.7	50.9	
1450	2.87	5L	5.85	4.16	592	169.6	5.2	52.7	
1455	2.88	6L	5.84	4.27	592	164.0	5.1	53.7	
1500	2.89	7L	5.85	4.27	594	163.9	5.1	53.4	

Sampling Data

Sample No: MW-04-022717 Location and Depth: MW-4

Date Collected (mo/dy/yr): 02-27-2017 Time Collected: 15:03 ☐ AM ☒ PM Weather: overcast ~35°F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Cole peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Brown, musky odor

Sample Analyses

+ pesticide, herbicide, nitrate, nitrite, Ammonia

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☒		
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐		

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
500 mL glass amber	1	None	
1 L glass amber	2		
250 mL poly w/ HNO_3	2		one is Field filtered for dissolved metals
250 mL poly w/ H_2SO_4	1		
250 mL poly w/ —	1		
40 mL VOA w/ HCl	4		

Signature: Date: 2/27/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith Kern Date of Collection: 2/28/17

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-05 Secure: ☑ Yes ☐ No Well Condition/Damage Description: O/C

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.41 (1108) Well Casing Type/Diameter/Screened Interval: PVC/2"/3-13'

After 5 minutes of purging (from top of casing): 3.44

Begin purge (time): 1110

End purge (time): 1150

Gallons purged: ~2.5

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1110	3.44	1/16	7.09	1.00	1.07	0.0	9.72	68	DO Probe
1115	3.44	1/8	6.94	6.00	1.06	0.0	10.32	64	Not Working
1120	3.45	1/2	6.92	0.08	1.05	0.0	10.60	60	
1125	3.45	3/4	6.91	0.0	1.05	0.0	10.87	53	
1130	3.45	1	6.90	0.00	1.04	0.0	10.94	49	
1135	3.45	1 1/2	6.90	0.0	1.04	0.0	10.93	44	

Sampling Data

Sample No: MW-05-022817 Location and Depth: MW-05; 8'

Date Collected (mo/dy/yr): 2/28/17 Time Collected: 1135 ☑ AM ☐ PM Weather: Partly cloudy 25°F

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Cole Parmer Peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear - slightly yellow

Sample Analyses

			pest/herb ☑	nitrate/nitrite ☑	ammonia ☑						
TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐		
TPH-G	(HCl) ☐	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐		

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 liter amber	2		
500 ml Amber	1	NA	
250 ml poly	3		
40 ml VOA	4		

Signature: _____ **Date:** 2/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem Date of Collection: 2/27/17

Project Number: _____ Field Personnel: P.O. + E.M. + G.C.

Purge Data

Well ID: MW-6 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good, partially filled w/ water / slush

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.06 Well Casing Type/Diameter/Screened Interval: 2" PVC, 3-13

After 5 minutes of purging (from top of casing): 4.09'

Begin purge (time): 1533

End purge (time): _____

Gallons purged: _____

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity µS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1538	4.09'	½ L	4.57	3.82	1434	-0.9	5.0	121.3	
1543	4.09'	1 L	4.53	2.35	1401	-2.9	4.8	125.1	
1548	4.09'	1.5 L	4.51	1.95	1422	-2.3	4.9	129.8	
1553	4.08'	2 L	4.51	1.72	1433	-2.5	4.9	132.9	
1558	4.08'	2.5 L	4.51	1.58	1440	-2.8	5.0	135.2	
1605	4.08'	3 L	4.51	1.51	1460	-3.2	5.0	137.4	
1610	4.07'	3.5 L	4.51	1.48	1466	-3.5	5.0	137.9	

Sampling Data

Sample No: MW-06-022717 Location and Depth: MW-6

Date Collected (mo/dy/yr): 02/27/17 Time Collected: 1612 ☐ AM ☒ PM Weather: snowing

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: cole peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear, mild musky odor

Sample Analyses

+ pesticides, herbicides, nitrate, nitrite, ammonia

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐		
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐		

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
500 mL glass amber	1	None	
1 L glass amber	2		
250 mL poly	1		
250 mL poly w/ HNO_3	1		
250 mL poly w/ H_2SO_4	1		
40 mL VOA w/ HCl	4		

Signature: _____ Date: 2/27/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem Date of Collection: 2/28/17

Project Number: Field Personnel: P. Osterhout + E. Murray

Purge Data

Well ID: MW-7 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good, covered in ice

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.57' @ 10:10 Well Casing Type/Diameter/Screened Interval: 2" PVC, 3-13' bgs

After 5 minutes of purging (from top of casing): 3.60'

Begin purge (time): 1011

End purge (time):

Gallons purged: 2.5

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1015	3.60'	1 L	7.54	4.17	783	89.5	7.8	-124	
1020	3.63'	2 L	7.31	2.06	783	30.8	7.6	-73.4	
1025	3.63'	3 L	7.27	1.52	784	15.8	7.5	-121.4	
1030	3.64'	4 L	7.26	1.32	784	9.9	7.4	-143.7	
1035	3.64'	5 L	7.25	1.19	790	14.4	7.3	-162.0	
1040	3.64'	6 L	7.23	1.13	801	216.8	7.2	-166.2	
1045	3.64'	7 L	7.19	1.09	831	30.2	7.2	-165.5	
1050	"	8 L	7.14	1.07	879	47.7	7.1	-161.0	
Sampling Data 1055		9	7.06	1.05	963	59.3	7.1	-151.0	

Sample No: MW-07-022817 Location and Depth: MW-7

Date Collected (mo/dy/yr): 2/28/17 Time Collected: 1100 ☒ AM ☐ PM Weather: partly sunny, 25°F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other: (one sample jar filtered)

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: alexis peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI PRO DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing; Other:

Sample Description (Color, Turbidity, Odor, Other): slightly brown, no odor

Sample Analyses

+ pesticides, herbicides, nitrate, nitrite, ammonia

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☒
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
500 mL glass amber	3	MS/MSD	
1 L glass amber	6		
250 mL w/ H_2SO_4 (poly)	3		
250 mL w/ HNO_3 (poly)	4		→ 1 Field Filtered for dissolved metals
250 mL w/ — (poly)	3		
40 mL VOA w/ HCl	12		

Signature: Paula Osterhout Date: 2/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith Kem Date of Collection: 2/28/17

Project Number: _____ Field Personnel: Erik Murray

Purge Data

Well ID: MW-08 Secure: ☑ Yes ☐ No Well Condition/Damage Description: OK

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.14 (1006) Well Casing Type/Diameter/Screened Interval: PVC/2"/3-13'

After 5 minutes of purging (from top of casing): 3.15

Begin purge (time): 1008

End purge (time): 1045

Gallons purged: ~2

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1010	3.15	1/4	6.88	0.65	1.43	2.3	7.57	94	DO probe
1015		1/4	6.86	0.00	1.47	0.7	8.29	86	
1020	3.15	1/2	6.87	0.0	1.47	0.0	8.57	78	Not Working
1025		3/4	6.88	0.0	1.48	6.0	8.72	67	
1030	3.15	1	6.88	0.0	1.47	0.0	8.99	57	

Sampling Data

Sample No: MW-08-022817 Location and Depth: MW-08; 8'

Date Collected (mo/dy/yr): 2/28/17 Time Collected: 1035 ☑ AM ☐ PM Weather: Sunny 20°F

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Cole Palmer Peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Slight yellow color, no turbidity, no odor

Sample Analyses

pest/herb ☑ nitrate/nitrite ☑ ammonia ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 liter amber	2	NA	
500 mL amber	1		
250 ml poly	3		
40 mL VOA	4		

Signature: _____ Date: 2/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Date of Collection: 2/28/17
Project Number:
Field Personnel: P. Osterhout + E. Murray

Purge Data

Well ID: MW-09
Secure: ☒ Yes ☐ No
Well Condition/Damage Description: good, no pad lock.
Transducer
Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal): ~2 gal
Depth of water (from top of well casing): 3.88'
Well Casing Type/Diameter/Screened Interval: 2" PVC, 5-15' bgs
After 5 minutes of purging (from top of casing):
Begin purge (time): 1345
End purge (time):
Gallons purged: 2
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity uS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1350	3.90'	1L	7.38	2.52	622	-0.4	9.8	-76.2	
1355	3.91'	2L	7.26	1.64	625	0.2	10.0	-124.0	
1400	3.92'	3L	7.20	1.28	625	-2.2	10.0	-160.3	
1405	3.93'	4L	7.17	1.11	625	-1.9	10.2	-172.6	
1410	3.93'	5L	7.16	1.04	625	-2.4	10.1	-180.9	
1415	3.93'	6L	7.15	0.97	624	-2.0	10.1	-184.9	

Sampling Data

Sample No: MW-09-022817
Location and Depth: MW-13
Date Collected (mo/dy/yr): 2/28/17
Time Collected: 1416 ☐ AM ☒ PM
Weather: partly cloudy
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: alexis peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

+ pesticides, herbicides, nitrite, nitrate, ammonia

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
500mL glass amber	1	None	
1L glass amber	2		
250 mL poly w/ H_2SO_4	1		
250 mL poly w/ HNO_3	1		
250 mL poly	1		
40 mL VOA w/ HCl	4		

Signature: Date: 2/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 2/27/17

Project Number: Field Personnel: Erin Murray

Purge Data

Well ID: MW-10 Secure: ☑ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): ~~12.10~~ 12.57 3.55 Well Casing Type/Diameter/Screened Interval: PVC / 2" / 5-15'

After 5 minutes of purging (from top of casing): 3.54

Begin purge (time): 1258

End purge (time): 1337

Gallons purged: ~2.5

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (G)	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity	Temp (°C)	ORP (mV)	Comments
1300	3.55	1/8	6.15	3.55	0.751	0.0	8.78	32	
1305		1/4	6.06	1.02	0.758	0.6	9.65	39	DO Probe
1310	3.55		6.05	0.41	0.764	0.0	9.72	41	
1315			6.09	0.02	0.768	0.0	9.90	40	Not Working
1320			6.10	0.00	0.771	0.0	9.98	41	
1325	3.55		6.11	0.00	0.772	0.0	9.99	42	

Sampling Data

Sample No: MW-10-022717 Location and Depth: MW-10 ; 10'

Date Collected (mo/dy/yr): 2/27/17 Time Collected: 1325 ☐ AM ☑ PM Weather: cloudy 40° F

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: Hoza Peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

pest / herb ☑ nitrate/nitrite ☑ ammonia ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 liter Amber	2		
500 ml Amber	1	NA	
250 mL poly	3		
40 mL VOA	4 pr.		

Signature: Date: 2/27/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Date of Collection: 2/28/17
Project Number:
Field Personnel: P. Osterhout + E. Murray

Purge Data

Well ID: MW-11
Secure: ☒ Yes ☐ No
Well Condition/Damage Description: Good, no pad lock.
Transducer + Baro
Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal): ~2 gal
Depth of water (from top of well casing): 4.00'
Well Casing Type/Diameter/Screened Interval: 2" PVC, 5-15' bgs
After 5 minutes of purging (from top of casing): 4.00'
Begin purge (time): 1242
End purge (time):
Gallons purged: 2
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1245	4.00'	½ L	7.42	4.47	1097	-0.7	5.1	-316.6	
1250	4.00'	1.5 L	7.10	2.87	1094	2.5	5.1	-67.5	
1255	4.00'	2.5 L	7.03	2.26	1120	-1.8	5.1	-83.2	
1300	4.00'	3.5 L	7.00	1.96	1123	-1.7	5.2	-90.4	
1305	4.00'	4.5 L	6.99	1.80	1124	-1.4	5.2	-92.7	
1310	4.00'	5.5 L	6.98	1.69	1122	-2.0	5.2	-94.7	
1315	4.00'	6.5 L	6.97	1.61	1123	-1.9	5.2	-96.0	

Sampling Data

Sample No: MW-11-022817
Location and Depth: MW-11
Date Collected (mo/dy/yr): 2/28/17
Time Collected: 1318 ☐ AM ☒ PM
Weather: partly cloudy, 30°F
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: alexis peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI PRO DSS
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing; Other:
Sample Description (Color, Turbidity, Odor, Other): Clear, mild musky odor

Sample Analyses

+ pesticides, herbicides, nitrate, nitrite, ammonia

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
500 mL glass amber	1	None	
1 L glass amber	2		
250 mL poly w/ H_2SO_4	1		
250 mL poly w/ HNO_3	1		
250 mL poly	1		
40 mL VOA w/ HCl	4		

Signature: [signature]
Date: 2/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith Ker Date of Collection: 2/28/17

Project Number: _____ Field Personnel: Erin Murray

Purge Data

Well ID: MW-12 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.54 0858 Well Casing Type/Diameter/Screened Interval: PVC/2"/5-15'

After 5 minutes of purging (from top of casing): 3.54

Begin purge (time): 0900

End purge (time): 0930

Gallons purged: ~2

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
0905	3.54	1/2	6.63	1.21	1.57	2.1	2.69	131	DO probe
0910			6.66	0.98	1.54	1.3	2.71	127	
0915		1/2	6.67	0.71	1.50	2.6	3.09	119	NOT WORKING
0920	3.54		6.76	0.00	1.45	0.0	4.26	103	
0925	3.54		6.77	0.00	1.45	0.0	4.27	99	

Sampling Data

Sample No: MW-12-022817 Location and Depth: MW-12; 10'

Date Collected (mo/dy/yr): 2/28/17 Time Collected: 0925 ☑ AM ☐ PM Weather: Sunny 20°F

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Alexa Peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear; no odor

Sample Analyses

☑ nitrate/nitrite ☑ pest/herb ☑ ammon.

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 liter amber	2		
500 mL amber	1	NA	
250 mL poly	3		
40 mL VOA	4		

Signature: _____ Date: 2/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smithfield Date of Collection: 2/28/17

Project Number: Field Personnel: Erin Murray

Purge Data

Well ID: MW-13 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.23 (1248) Well Casing Type/Diameter/Screened Interval: PVC / 2" / 3.5-13.5'

After 5 minutes of purging (from top of casing): 3.24

Begin purge (time): 1249

End purge (time): 1325

Gallons purged: ~2.5

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1250		1/4	7.50	0.00	0.291	327	7.24	70	DO
1255	3.25	1/2	7.41	0.00	0.297	313	7.21	63	
1300		1/4	7.21	0.00	0.291	241	7.19	46	not
1305		1/2	6.59	0.00	0.287	115	7.08	28	working
1310	3.25	3/4	6.59	0.00	0.258	177	7.12	13	
1315	3.25	1	6.66	0.0	0.257	130	7.08	11	

Sampling Data

Sample No: MW-13-022817 Location and Depth: MW-3; 8.5'

Date Collected (mo/dy/yr): 2/28/17 Time Collected: 1315 ☐ AM ☑ PM Weather: partly cloudy; 20°F

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☑ Filtered ☐ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: Cole Parmer Peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): very orange & turbid; no odor. Turbidity clears when started to sample

Sample Analyses

peroxide/herbicide ☑ nitrate/nitrite ☑ ammonia ☑

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑		
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐		

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 liter amber	2		
500 mL amber	1	NA	
250 mL poly	3		Field filtered for dissolved metals
40 mL VOA	4		

Signature: Date: 2/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kom Date of Collection: 2/27/17

Project Number: Field Personnel: Erin Murray

Purge Data

Well ID: MW-14 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.71 1438 Well Casing Type/Diameter/Screened Interval: PVC/2"/ 5-15'

After 5 minutes of purging (from top of casing): 3.72

Begin purge (time): 1439

End purge (time): 1518

Gallons purged: ~2

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (G)	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1440		1/4	6.29	0.00	0.678	0.4	7.70	112	DO Probe
1445	3.72	1/4	6.28	0.0	0.677	0.0	7.75	110	
1450	3.72	1/2	6.28	0.0	0.676	0.0	7.84	105	NOT WORKING
1455		3/4	6.29	0.0	0.672	0.4	7.87	101	
1500	3.72	1.25	6.31	0.0	0.665	0.3	7.88	96	
1505	3.72	1.5	6.30	0.0	0.666	0.1	7.92	87	

Sampling Data

Sample No: MW-14-022717 Location and Depth: MW-14; 10'

Date Collected (mo/dy/yr): 2/27/17 Time Collected: 1585 ☐ AM ☑ PM Weather: 40° F; cloudy

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: Alexa Peri

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated ~~silicon and poly~~ tubing Other:

Sample Description (Color, Turbidity, Odor, Other): clear; no odor

Sample Analyses

☑ pest/herb ☑ ammonia ☑ nitrate/nitrite

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 liter Amber	2		
500 mL amber	1	N/A	
250 mL poly	3		
40 mL VOA	4		

Signature: Date: 2/27/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Ken
Project Number:
Date of Collection: 5/17/17
Field Personnel: G.C

Purge Data

Well ID: MW-01 Secure: ☐ Yes ☐ No Well Condition/Damage Description: Good
Missing one bolt

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.02 Well Casing Type/Diameter/Screened Interval:

After 5 minutes of purging (from top of casing): 4.02

Begin purge (time): 1138

End purge (time): 1206

Volume purged: 1.5 gals

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (gals)	pH	DO (mg/L)	Conductivity (Spec. µs/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1148	4.02	0.3	6.88	0.21	1100	50.2	10.4	173.5	
1151	4.02	0.5	6.88	0.16	1100	55.1	10.3	172	
1154	4.02	0.7	6.88	0.13	1099	32.9	10.3	171	
1157	4.02	0.9	6.88	0.12	1096	25.6	10.3	169	
1200	4.02	1.1	6.88	0.09	1095	30.1	10.4	165	
1203	4.02	1.3	6.88	0.09	1095	33.9	10.4	164	
1206	4.02	1.5	6.89	0.08	1094	34.1	10.4	163.7	

Sampling Data

Sample No: MW-01-051717 Location and Depth:

Date Collected (mo/dy/yr): 5/17/17 Time Collected: 1207 Weather:

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☐ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Yellowish color

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Ambers	2		
40mL VOAs	3		
500ml Amber	1		
250ml Poly	2	HNO_3	
250ml Poly	1	Sulfuric Acid H_2SO_4	
250 ml Poly	1	—	

Signature: Date:

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem Date of Collection: 5/18/17

Project Number: Field Personnel: D. Osterhaut

Purge Data

Well ID: MW-2 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.44' @ 0904 Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'

After 5 minutes of purging (from top of casing): 3.45'

Begin purge (time): 0905

End purge (time): 0950

Gallons purged: 2 gal

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged L	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0910	3.45'	1	6.87	0.50	0.541	0.1	12.42	-32	
0915	3.46'	2.25	6.80	0.08	0.532	0.0	12.33	-23	
0920	3.46'	3.5	6.77	0.00	0.527	0.0	12.25	-1	
0925	3.46'	4.75	6.76	0.00	0.525	0.0	12.21	14	
0930	3.46'	6	6.74	0.00	0.520	0.0	12.38	28	

Sampling Data

Sample No: MW-02-051817 Location and Depth: MW-02, ~ 10'

Date Collected (mo/dy/yr): 5/18/17 Time Collected: 0935 ☑ AM ☐ PM Weather: Sunny

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

+ pesticides, herbicides, nitrate, nitrite, ammonia

TPH-D (HCl) ☑ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐

TPH-G (HCl) ☑ BTEX (HCl) ☑ Total Metals (HNO3) ☑ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L glass amber	2	None	Extra volume for lab QC
500mL glass amber	2		
250mL poly	1		
250mL poly w/ H_2SO_4	1		
250mL poly w/ HNO_3	1		
40mL VOA w/ HCl	6		

Signature: D. Osterhaut Date: 5/18/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number:
Date of Collection: 5/17/17
Field Personnel: P.Osterhout + G.Casnenbs

Purge Data

Well ID: MW-3 Secure: ☒ Yes ☐ No Well Condition/Damage Description: fine, filled w/ water

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No
One Casing Volume (gal): 1.6 gal
Depth of water (from top of well casing): 3.53' @ 11:12
Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'
After 5 minutes of purging (from top of casing): 3.63'
Begin purge (time): 1113
End purge (time):
Gallons purged: 2.5gal
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water ft	Vol. Purged L	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1118	3.63'	1	6.86	0.95	0.873	35.8	13.08	86	
1123	3.64'	2	6.83	0.17	0.867	5.2	12.80	74	
1128	3.64	3	6.83	0.00	0.854	6.0	12.54	57	
1133	3.64'	4.5	6.82	0.85	0.859	0.6	12.45	45	
1138	3.64'	6	6.81	0.77	0.859	0.5	12.40	34	
1143	3.64'	7.5	6.81	0.59	0.857	0.3	12.42	28	

Sampling Data

Sample No: MW-03-051717 Location and Depth: MW-3, ~10' bgs
Date Collected (mo/dy/yr): 5/17/17 Time Collected: 1145 ☒ AM ☐ PM Weather: Sunny / windy
Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

☒ pest/herb ☒ nitrate, nitrite ☒ ammonia

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L glass amber	2	None	
500 mL glass amber	1		
250 mL poly	1		
250 mL poly w/ H_2SO_4	1		
250 mL poly w/ HNO_3	1		
40 mL VOA w/ HCl	3		

Signature: Date: 5/17/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number:
Date of Collection: 5/17/17
Field Personnel: P.O. + G.C.

Purge Data

Well ID: MW-4 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good, some water in well box

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): 1.85 gal

Depth of water (from top of well casing): 2.15' @ 1255 Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'

After 5 minutes of purging (from top of casing):

Begin purge (time): 1257

End purge (time):

Gallons purged: 2 gal

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (Ft)	Vol. Purged (L)	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1302	2.22'	1	6.15	0.50	1.44	5.7	15.71	90	
1307	2.25	2	5.95	0.00	1.56	6.2	14.14	96	
1312	2.26	3	5.90	0.00	1.59	6.1	13.98	100	
1317	2.26	4.25	5.89	0.00	1.60	5.7	13.97	102	
1322	2.26'	5.5	5.93	0.00	1.61	5.7	13.70	101	
1327	2.26'	6.75	5.93	0.0	1.62	5.3	13.69	102	

Sampling Data

Sample No: MW-04-051717 Location and Depth: MW-4, ~10'

Date Collected (mo/dy/yr): 5/17/17 Time Collected: 1330 ☐ AM ☑ PM Weather: sunny / windy

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): orange-brown discoloration, mild to moderate "musk" smell

Sample Analyses

+ pest/herbs., nitrite, nitrate, ammonia

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L glass amber	6	None	MS/MSD
500 mL glass amber	3		
250 mL poly	3		
250 mL poly w/ H_2SO_4	3		
250 mL poly w/ HNO_3	3		
40 mL VOA w/ HCl	9		

Signature: Pamela Ostulet Date: 5/17/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smithtown Date of Collection: 5/17/17

Project Number: _____ Field Personnel: G. Cisneros

Purge Data

Well ID: MW-05 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 2.72 Well Casing Type/Diameter/Screened Interval: 2"

After 5 minutes of purging (from top of casing): 2.73

Begin purge (time): 1605

End purge (time): _____

Gallons purged: _____

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Gal Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1620	2.73	0.5	6.91	0.12	1560	4.5	13.4	119	
1623	2.74	0.6	6.90	0.10	1556	6.2	13.4	120.7	
1626	2.74	0.8	6.90	0.08	1569	6.1	13.3	121.8	
1629	2.74	1.0	6.90	0.08	1565	13.8	13.3	122.1	
1632	2.74	1.1	6.90	0.09	1562	14.1	13.8	122.0	
1635	2.74	2.73	6.90	0.09	1566	14.3	13.7	122.0	

Sampling Data

Sample No: MW-05-051717 Location and Depth: MW-05

Date Collected (mo/dy/yr): 5/17/17 Time Collected: 1640 ☐ AM ☐ PM Weather: Sunny

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

TPH-D (HCl) ☐ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☒

TPH-G (HCl) ☐ BTEX (HCl) ☒ Total Metals (HNO3) ☒ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	2		
500ml Amber	1		10 Jars
40ml Vials	3		
250ml Poly	2	Nitric Acid	Total Metals
250ml Poly	1	Saltuic "	&
250ml Poly	1	none	Dissolved Metals

Signature: _____ Date: 5/17/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Ln Date of Collection: 5/17/17

Project Number: Field Personnel: G. Cisneros

Purge Data

Well ID: MW-06 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good Filled w/water

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.53 Well Casing Type/Diameter/Screened Interval:

After 5 minutes of purging (from top of casing): 3.55

Begin purge (time): 1051

End purge (time): 1118

Gallons purged: 1.2 gallons

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (gal)	pH	DO (mg/L)	Conductivity (spc mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments ~~TDS~~
1100	3.55	.4	4.25	0.25	3174	4.6	12.7	241	Clear
1103	3.54	.5	4.24	0.20	3170	3.8	12.9	252.9	
1106	3.53	.6	4.23	0.15	3170	4.6	12.9	262.2	
1109	3.54	0.75	4.23	0.14	3156	5.0	12.7	270.8	
1112	3.54	0.85	4.24	0.12	3158	4.1	12.8	284	
1115	3.54	1.0	4.23	0.12	3154	4.2	12.8	288	
1118	3.54	1.2	4.23	0.11	3155	4.3	12.8	290	

Sampling Data

Sample No: MW-06-051717 Location and Depth:

Date Collected (mo/dy/yr): 5/17 Time Collected: 1121 ☐ AM ☐ PM Weather:

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
1L Ambers	2	
500ml Amber	1	
40ml VOAs	3	
250ml Poly	1	HNO3 pres
250ml Poly	1	H_2SO_4
250ml Poly	1	—

Comments: Total 9 bottles

NO Dissolved

Signature: Date: 5/17/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smithers Date of Collection: 5/17/17

Project Number: _____ Field Personnel: G. Cisneros

Purge Data

Well ID: MW-07 Secure: ☐ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.01 Well Casing Type/Diameter/Screened Interval: 2"

After 5 minutes of purging (from top of casing): 3.01

Begin purge (time): 1410

End purge (time): 1440

Gallons purged: 1.2 gals

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1420	3.02	0.3	7.05	0.13	1192	27.8	12.6	104.8	
1423	3.02	0.4	7.03	0.10	1198	27.8	12.5	103.8	
1426	3.03	0.6	7.04	0.08	1183	30.6	12.6	101.9	
1429	3.04	0.7	7.03	0.07	1186	34.2	12.6	101.7	
1432	3.04	0.9	7.03	0.06	1195	45.2	12.6	100.0	
1435	3.04	1.1	7.03	0.05	1185	51.4	12.6	99.4	
1438	3.05	1.2	7.03	0.05	1184	53.2	12.6	99.2	

Sampling Data

Sample No: MW-07-051717 Location and Depth: MW-07

Date Collected (mo/dy/yr): 5/17/17 Time Collected: 1443 ☐ AM ☐ PM Weather: Sunny

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	2		
500ml Amber	1		
40ml vials	3		
250ml Poly	2	HNO3	
250ml Poly	1	Sulfuric Acid	
250 ml Poly	1	N/A	

Signature: _____ Date: 5/17/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Farm Date of Collection: 5/17/17

Project Number: _____ Field Personnel: G. Cisneros

Purge Data

Well ID: MW-08 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 2.45 Well Casing Type/Diameter/Screened Interval: 2"

After 5 minutes of purging (from top of casing): 2.45

Begin purge (time): 1505

End purge (time): 1545

Gallons purged: 1.5 gals

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity µs/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1525	2.44	.5	6.95	0.50	1567	5.1	12.5	129.4	
1528	2.45	0.75	6.94	0.43	1565	4.8	12.5	129.1	
1531	2.45	0.90	6.94	0.38	1563	3.7	12.5	128.4	
1534	2.45	1.1	6.94	0.35	1562	4.3	12.6	127.9	
1537	2.45	1.3	6.95	0.35	1562	4.2	12.5	127.4	
1540	2.45	1.4	6.95	0.27	1561	4.3	12.6	127.1	

Sampling Data

Sample No: MW-08-051717 Location and Depth: MW-08

Date Collected (mo/dy/yr): 5/17/17 Time Collected: 1550 ☐ AM ☐ PM Weather: Sunny 60°

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
1 Liter Amber	2	
500ml Amber	1	
40ml Vials	3	
250ml Poly	1	Nitric Acid
250ml Poly	1	Sulfuric Acid
250ml Poly	1	

Comments: 9 bottles

ONly Total Metals

NO dissolve

Signature: _____ Date: 5/17/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number: _____
Date of Collection: 5/17/17
Field Personnel: G. Cisneros

Purge Data

Well ID: MW-09 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal): _____
Depth of water (from top of well casing): 2.95
Well Casing Type/Diameter/Screened Interval: 2"
After 5 minutes of purging (from top of casing): 2.96
Begin purge (time): 1308
End purge (time): _____
Gallons purged: _____
Purge water disposal method: _____

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1320	2.96	0.3	6.95	0.18	816	11.8	12.0	35.8	
1323	2.95	0.4	6.93	0.17	819	25.1	12.2	42.5	
1326	2.96	0.5	6.92	0.13	817	10.1	12.2	49.5	
1329	2.96	0.6	6.92	0.11	817	9.9	12.1	53.3	
1332	2.96	0.7	6.92	0.09	814	10.2	12.1	55.0	
1335	2.96	0.8	6.92	0.09	816	10.3	12.0	57.0	

Sampling Data

Sample No: MW-09-051717 Location and Depth: MW-09
Date Collected (mo/dy/yr): 5/17/17 Time Collected: 1345 ☐ AM ☐ PM Weather: Sunny 65°
Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Other: _____
Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____
Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Litre Amber	2		10 Jars
500ml Amber	1		
40 ml Vials	3		
250ml Poly	2	HNO3	Dissolved & Total
250ml Poly	1	Sulfuric Acid	
25ml Poly	1	—	

Signature: _____ **Date:** _____

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: SMITH KEM Date of Collection: 5/18/17

Project Number: _____ Field Personnel: G. Cisneros

Purge Data

Well ID: MW-10 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.16 Well Casing Type/Diameter/Screened Interval: 2" PVC / 5-15'

After 5 minutes of purging (from top of casing): 3.16

Begin purge (time): 0946

End purge (time): _____

Gallons purged: _____

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0956	3.18	0.5	6.90	0.23	749	2.3	12.6	38.4	
0959	3.17	0.6	6.90	0.18	751	2.3	12.5	40.9	
1002	3.17	0.7	6.90	0.16	755	2.4	12.5	43.1	
1005	3.18	0.8	6.90	0.13	760	10.3	12.5	44.8	
1008	3.18	1.0	6.90	0.13	755	10.5	12.7	46.1	
1016	3.18	1.1	6.90	0.47	750	10.4	12.8	52.7	
1019	3.18	1.2	6.90	0.24	748	10.4	12.7	53.8	
1022	3.18	1.3	6.89	0.22	748	10.5	12.7	54.2	

Sampling Data

Sample No: MW-10-051817 Location and Depth: MW-10

Date Collected (mo/dy/yr): 5/18/17 Time Collected: 1020 ☒ AM ☐ PM Weather: Sunny 65°

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: diss metals field filtered

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑		
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐		

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	2		
500 mL Amber	1		
40 mL vials	3		
250ml Poly	2	Nitric Acid	→ one field filtered for dissolved metals
250ml "	1	Sulfuric "	
250ml "	1	N/A	

Signature: _____ Date: 5/18/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Date of Collection: 5/17/17
Project Number:
Field Personnel: P.O. + G.C.

Purge Data

Well ID: MW-11 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): 2 gal

Depth of water (from top of well casing): 3.33' @ 1505 Well Casing Type/Diameter/Screened Interval: 2" PVC / 5-15'

After 5 minutes of purging (from top of casing): 3.35'

Begin purge (time): 1508

End purge (time):

Gallons purged: 2

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged L	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1513	3.35'	1	6.47	0.13	0.838	29.8	16.22	128	
1518	3.37'	2	6.21	0.00	0.839	24.6	14.07	128	
1523	3.39'	3	6.18	0.00	0.837	23.5	13.45	127	
1528	3.38'	4	6.15	0.00	0.840	56.1	13.06	127	
1533	3.36'	5	6.18	0.00	0.842	29.9	13.23	126	
1538	3.36'	6	6.18	0.03	0.842	16.2	13.37	126	
1543	3.36'	7	6.16	0.00	0.840	5.3	13.54	121	

Sampling Data

Sample No: MW-11-051717 Location and Depth: MW-11, ~10'

Date Collected (mo/dy/yr): 5-17-17 Time Collected: 1545 ☐ AM ☑ PM Weather: Sunny / windy

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other: Diss. Metals filtered

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Purge water foggy, Sample clear w/ turbid chunks, mild odor like potting soil.

Sample Analyses

+ pest., herb, nitrate, nitrite, ammonia

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑		
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐		

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L glass amber	4	MW-11X-051717 @ 1543	
500 mL glass amber	2		
250 mL poly	2		
250 mL poly w/ H_2SO_4	2		
250 mL poly w/ HNO_3	2		
40 mL VOA w/ HCl	6		
250mL poly w/ HNO_3	2	→ Field FILTERED	

Signature: Date: 5/17/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Fem Date of Collection: ~~5/17/17~~ 5/18/17

Project Number: _____ Field Personnel: G. Cisneros

Purge Data

Well ID: MW-12 Secure: ☑ Yes ☐ No Well Condition/Damage Description: Good

Transducer Well

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.06 Well Casing Type/Diameter/Screened Interval: 2"

After 5 minutes of purging (from top of casing): 3.06

Begin purge (time): 0735

End purge (time): 0808

Gallons purged: 1.6

Purge water disposal method: Onsite

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTC	Temp °C	ORP mV	Comments
0750	3.07	0.5	7.01	2.41	1259	36.2	10.9	19.0	
0753	3.08	0.75	6.96	2.17	1259	49.5	11.0	25.4	
0756	3.09	~~1.0~~	6.96	2.05	1259	94.3	11.1	31.3	
0759	3.09	1.25	6.96	2.09	1258	106.9	11.1	32.5	
0802	3.08	1.40	6.96	2.10	1259	99.4	11.3	34.6	
0805	3.09	1.50	6.96	1.91	1259	103.1	11.4	36.8	
0808	3.08	1.6	6.96	1.87	1260	104.6	11.4	37.2	

Sampling Data

Sample No: MW-12-051817 Location and Depth: _____

Date Collected (mo/dy/yr): 5/18/17 Time Collected: 0809 ☑ AM ☐ PM Weather: Sunny

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ~~☐ Filtered~~ ☑ ~~Unfiltered~~ Other: _____

Sample Collected with: ☐ Bailer ☑ ~~Pump~~ Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or ~~dedicated~~ silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☑	Diss. Metals	(HNO3) ☐		
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐		

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
1 Liter Ambers	2	
500 ml Amber	1	
40 ml vials	3	
250ml Poly	2	Nitric
250ml "	1	Sulfuric
75ml "	1	N/A

Comments: Dissolved & Total

Signature: _____ Date: 5/18/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Ken Date of Collection: 5/18/17

Project Number: _____ Field Personnel: G. Cisneros

Purge Data

Well ID: MW-13 Secure: ☒ Yes ☐ No Well Condition/Damage Description: _____

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 2.50 Well Casing Type/Diameter/Screened Interval: _____

After 5 minutes of purging (from top of casing): 2.50

Begin purge (time): 0844

End purge (time): 0910

Gallons purged: 0.8 gal

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0858	2.51	.5 gal	7.06	0.24	184.9	5.5	10.4	-75.3	
~~0901~~	2.52	0.6	7.04	0.15	184.8	7.9	10.4	-85.3	
0904	2.52	0.7	7.03	0.13	184.8	5.6	10.3	-87.8	
0907	2.52	0.75	7.02	0.12	184.4	5.3	10.4	-89.3	
0910	2.51	0.88	7.02	0.10	184.9	5.3	10.3	-89.9	

Sampling Data

Sample No: MW-13-051817 Location and Depth: MW-13

Date Collected (mo/dy/yr): 5/18/17 Time Collected: 0915 ☐ AM ☐ PM Weather: _____

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	~~(H2SO4)~~ ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	~~(HNO3)~~ ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:
1 Liter Amber	2
500ml Amber	1
40ml Vials	3
250ml Poly	1
250ml "	1
250ml "	1

Duplicate Sample Numbers: _____

Comments: 9 bottles

Only Total Metals

Signature: _____ **Date:** 5/18/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number:
Date of Collection: 5/18/17
Field Personnel: P. Osterhout + G. Cisneros

Purge Data

Well ID: MW-14 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good, partially covered w/ gravel

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): 2 gal

Depth of water (from top of well casing): 3.37' @ 0740 Well Casing Type/Diameter/Screened Interval: 2" PVC / 5-15'

After 5 minutes of purging (from top of casing): 3.38'

Begin purge (time): 0741

End purge (time):

Gallons purged: 2 gal

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water ft	Vol. Purged L	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0746	3.38	1	6.84	0.71	0.822	0.7	9.67	168	
0751	3.38	2	6.64	0.23	0.833	0.3	9.89	174	
0756	3.38	3	6.61	0.00	0.834	0.2	10.03	174	
0801	3.38	4.25	6.62	0.00	0.838	0.1	10.13	174	
0806	" "	5.5	6.63	0.00	0.831	0.1	10.23	172	
0811	" "	6.75	6.64	0.00	0.827	0.1	10.32	170	

Sampling Data

Sample No: MW-14-051817 Location and Depth: MW-14, ~10'

Date Collected (mo/dy/yr): 5/18/17 Time Collected: 0815 ☑ AM ☐ PM Weather: Sunny ~50°F

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing. Other:

Sample Description (Color, Turbidity, Odor, Other): clear, no apparent odor

Sample Analyses

+ pesticides, herbicides, ammonia, nitrate, nitrite

TPH-D (HCl) ☑ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐

TPH-G (HCl) ☑ BTEX (HCl) ☑ Total Metals (HNO3) ☑ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L glass amber	2	None	3.8 L = 1 gal
500 mL glass amber	1		
250 mL poly	1		
250 mL poly w/ H_2SO_4	1		
250 mL poly w/ HNO_3	1		
40 mL VOA w/ HCl	3		

Signature: Paula Osterhout Date: 5/18/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number:
Date of Collection: 8/29/17
Field Personnel: Pam, Kara

Purge Data

Well ID: MW-01 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal): 1.3
Depth of water (from top of well casing): 5.25' ; 10:23
Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'
After 5 minutes of purging (from top of casing): 5.33'
Begin purge (time): 10:27
End purge (time):
Gallons purged:
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1032	5.33'	1L	6.82	0.00	1.54	22.7	17.43	144	
1037	5.34	2L	6.72	0.00	1.55	35.1	16.77	143	
1042	5.34	3.5L	6.69	0.00	1.56	26.4	16.82	135	
1047	5.34	5L	6.67	0.00	1.56	18.7	16.87	132	
1052	5.34	6.5L	6.69	0.00	1.54	10.6	16.85	129	

Sampling Data

Sample No: MW-01-082917 Location and Depth: MW-01 / ~9'
Date Collected (mo/dy/yr): 8-29-17 Time Collected: 1100 ☒ AM ☐ PM Weather: clear
Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other: Diss. Metals Field Filtered
Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other):

Sample Analyses

☒ ammonia, nitrate, nitrite, P/H

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☒
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2	None	Total depth = 13.24
500 mL amber	1		
250 mL poly	1		
500 + 250 mL poly w/ HNO_3	2		
250 mL poly w/ H_2SO_4	1		
40 mL VOA w/ HCl	3		

Signature: Date: 8/29/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem — Date of Collection: 8/30/17

Project Number: _____ — Field Personnel: Pam + Kara

Purge Data

Well ID: MW-02 — Secure: ☒ Yes ☐ No — Well Condition/Damage Description: fine. A lot of dust in well box

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No — One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.52' — Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 4.52

Begin purge (time): 0826

End purge (time): 0915

Gallons purged: 1.5 gal

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0835	4.53'	2 L	7.37	0.10	0.6662	0.6	18.34	194	
0840	4.53'	3 L	7.18	0.00	0.665	1.3	18.33	193	
0845	4.53'	4 L	7.14	0.00	0.6667	0.2	18.37	189	
0850	4.51'	5 L	7.13	0.00	0.6668	0.0	18.41	186	

Sampling Data

Sample No: MW-02-083017 — Location and Depth: MW-02

Date Collected (mo/dy/yr): 8-30-17 — Time Collected: 0852 ☒ AM ☐ PM — Weather: partly cloudy/hazy/windy

Type: ☒ Ground Water ☐ Surface Water Other: _____ — Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ — Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

☒ ammonia, nitrite/nitrate, P/H.

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2	None	
500mL Amber	1		
500 mL poly w/ HNO_3	1		
250 mL poly w/ H_2SO_4	1		
250 mL poly	1		
40 mL VOA w/ HCl	3		

Signature: _____ Date: 8/30/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Farm
Project Number:
Date of Collection: 8-29-17
Field Personnel: Pam + Kara

Purge Data

Well ID: MW-03 Secure: ☒ Yes ☐ No
Well Condition/Damage Description: Well lid cracked and one bolt missing
Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.76'
Well Casing Type/Diameter/Screened Interval: 2" PVC / 3.5-13.5'
After 5 minutes of purging (from top of casing): 4.84'
Begin purge (time): 1750
End purge (time):
Gallons purged: 1.5
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1805	4.84'	2 L	6.24	0.00	1.18	6.3	24.62	130	
1810	4.84'	3.5 L	6.02	0.00	1.19	5.0	23.29	129	
1815	4.85'	4.75 L	6.03	0.00	1.18	6.3	22.90	130	
1820	4.85'	6 L	6.01	0.00	1.15	6.6	22.64	132	

Sampling Data

Sample No: MW-03-082917
Location and Depth: MW-03 / ~ 9' bgs
Date Collected (mo/dy/yr): 8-29-17 Time Collected: 1825 ☐ AM ☒ PM Weather: Sunny / 85° F
Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): Clear, slight turbidity, no apparent odor

Sample Analyses

Ammonia, nitrate, nitrite, pest., herb.

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L Amber	2	None	Total depth = 13.11'
500 mL Amber	1		
500 mL poly w/ HNO_3	1		
250 mL poly w/ H_2SO_4	1		
250 mL poly	1		
40 mL VOA w/ HCl	3		

Signature: Pamela Osterhout Date: 8-29-17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 8-29-17

Project Number: Field Personnel: Pam + Kara

Purge Data

Well ID: MW-04 Secure: ☑ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.79' @1558 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 4.20'

Begin purge (time): 1600

End purge (time): 1730

Gallons purged: 2.25 gal

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1610	4.22'	2 L	6.31	0.00	1.04	8.3	22.04	8	
1615	4.22'	3.25L	6.22	0.00	1.01	8.1	21.36	-18	
1620	4.21'	4.5L	6.16	0.00	0.987	9.3	21.00	-25	
1625	4.20'	6L	6.13	0.00	0.962	9.1	20.69	-27	
1630	4.21'	7.5L	6.12	0.00	0.950	9.0	20.61	-30	

Sampling Data

Sample No: MW-04-082917 Location and Depth:

Date Collected (mo/dy/yr): 8-29-17 Time Collected: 1630 ☐ AM ☒ PM Weather: Sunny

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☒ Filtered ☒ Unfiltered Other: DOC + Diss Metals Field filtered

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Brown-dark yellow, slightly effervescent, mild musky odor

Sample Analyses

☒ Ammonia, nitrate, nitrite, pest., herb., DOC, cations/anions, redox

TPH-D (HCl) ☒ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐

TPH-G (HCl) ☑ BTEX (HCl) ☑ Total Metals (HNO3) ☑ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
1L Amber	6	MS/MSD
500mL Amber	3	
500 mL Amber w/ H_2SO_4	1	– field filtered
500 mL poly	2	
500 mL poly w/ HNO_3	2	– one field filtered
250 mL poly	2	
250 mL poly w/ H_2SO_4	1	
40 mL VOA w/ HCl	9	

Comments:
DOC = field filtered
Dissolved Metals = field filtered

Signature: [signature] Date: 8-29-17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kerr Date of Collection: 8/29/17

Project Number: _____ Field Personnel: Pam, Kara

Purge Data

Well ID: MW-05 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Condition is good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.25 @ 13:17 Well Casing Type/Diameter/Screened Interval: 2" PVC; 3-13 ft

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 13:20

End purge (time): ~14:30

Gallons purged: 1 1/2

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (gl)	pH	DO mg/L	mS/cm Conductivity	NTU Turbidity	°C Temp	mV ORP	Comments
1326	4.27	1/4 g	7.14	0.23	1.06	0.0	19.47	124	
13:32	4.26	1/2 g	7.41	0.0	1.05	0.0	18.88	107	
13:37	4.27	3/4 g	7.46	0.0	1.04	0.0	18.59	97	
13:42	4.26	3/4-1 g	7.46	0.0	1.04	0.0	18.6	90	
13:47	4.26	1 ga	7.49	0.0	1.03	0.0	18.57	85	

Sampling Data

Sample No: MW-05-082917 Location and Depth: MW-05

Date Collected (mo/dy/yr): 8/29/17 Time Collected: 13:50 ☐ AM ☒ PM Weather: Sunny

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☒ Horiba U-22 ☐ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear, no apparent odor

Sample Analyses

Ammonia, Nitrate/Nitrite, Pest, Herb

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L amber	2	None	Total = 13.2
500 mL amber	1		
HNO3 500 mL poly	1		
H2SO4 250 mL poly	1		
250 mL poly	1		
HCL 40 mL VOA	3		

Signature: Ken Horton Date: 8/29/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kerr
Project Number:
Date of Collection: 8/29/17
Field Personnel: Dam, Kara

Purge Data

Well ID: MW-06 Secure: ☒ Yes ☐ No Well Condition/Damage Description: water in well box

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.85' @ 1148
Well Casing Type/Diameter/Screened Interval: 2" PVC; 3-13' ft
After 5 minutes of purging (from top of casing):
Begin purge (time): 11:54
End purge (time): 12:35
Gallons purged: 2 gallons
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	mg/L DO	mS/cm Conductivity	NTU Turbidity	°C Temp	mV ORP	Comments
12:01	4.91	1.5L	4.86	0.0	2.14	0.4	18.18	221	reduced pump speed
12:06	4.90	2.75L	4.73	0.0	2.14	0.0	18.64	227	-
12:11	4.90	4.0L	4.73	0.0	2.12	0.0	18.84	229	-
12:16	4.90	5.0L	4.72	0.0	2.12	0.1	19.03	231	-
12:21	4.95	6.0L	4.7	0.0	2.13	0.2	19.10	233	-

Sampling Data

Sample No: MW-06-082917 Location and Depth: MW-06; ~11 ft
Date Collected (mo/dy/yr): 8/29/17 Time Collected: 12:25 ☐ AM ☒ PM Weather: Sunny
Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☒ Horiba U-22 ☐ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): clear, no apparent odor

Sample Analyses

Ammonia, nitrate/nitrite, pest., herb

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L amber	2	None	Total = 13.20'
500 mL amber	1		
500 mL poly	1		
250 mL poly	1		
250 mL poly	1		
40 mL vial	3		

F/T
pH
HNO3
H2SO4
#3
HCl

Signature: Kara Dam Date: 8/29/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 8/29/17

Project Number: Field Personnel: Kara, Pam

Purge Data

Well ID: MW-07 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Condition is good

A little water in well box

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.36 @ 15:00 Well Casing Type/Diameter/Screened Interval: 2" PVC, 3-13 ft

After 5 minutes of purging (from top of casing):

Begin purge (time): ~~13:08~~ 15:08

End purge (time): 16:14

Gallons purged: 2 3/4 g

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	mg/L DO	mS/cm Conductivity	NTU Turbidity	°C Temp	mV ORP	Comments
15:13									
~~15:13~~	4.52	1 3/4 L	7.70	0.97	0.757	1.0	19.47	106	
15:23	4.55	2 1/2 L	7.69	0.57	0.757	0.6	19.17	103	
15:28	4.56	3 3/4 L	7.65	0.33	0.753	1.3	19.01	98	Slowed pump down
15:33	4.53	4 1/2 L	7.64	0.23	0.750	1.5	19.05	95	pump rate ~~15~~ seems
15:38	4.53	5 1/2 L	7.63	0.0	0.752	1.1	18.87	93	varied by surges
15:43	4.54	6 1/4 L	7.62	0.0	0.753	1.2	18.89	92	
15:48	4.54	7 1/4 L	7.60	0.0	0.752	1.4	18.74	91	

Sampling Data

Sample No: MW-07-082917 Location and Depth: MW-07

Date Collected (mo/dy/yr): 8/29/17 Time Collected: 15:50 ☐ AM ☒ PM Weather: Sunny

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☒ Horiba U-22 ☐ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

Ammonia, Nitrite/Nitrate, Pest, Herb

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L amber	2	None	Total = 13.8
K-H ~~500 mL amber~~ 8	1		
HNO_3 500 mL poly	1		
250 mL poly	1		
H_2SO_4 250 mL poly	1		
HCl 40 mL VOA	3		

Signature: Date: 8/29/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Date of Collection: 8/29/17
Project Number:
Field Personnel: Kara, Pam

Purge Data

Well ID: MW-8 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Mud in well box

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.05 @ 16:45 Well Casing Type/Diameter/Screened Interval: 2" PVC, 3-13 ft

After 5 minutes of purging (from top of casing):

Begin purge (time): 16:53

End purge (time):

Gallons purged:

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	mg/L DO	MS/cm Conductivity	NTU Turbidity	°C Temp	mV ORP	Comments
17:04									
~~17:07~~	4.0	~~1.2~~ 1.3L	7.72	0.28	0843	1.0	25.80	127	
17:09	4.05	2.8	7.62	0.0	0.973	0.8	19.28	125	
17:14	4.0	3.6	7.56	0.0	0.977	0.4	19.25	124	
17:19	4.05	4.6	7.53	0.0	0.977	0.4	19.03	123	
17:25	4.0	5.5	7.51	0.0	0.972	0.5	19.3	122	

Sampling Data

Sample No: MW-8-082917 Location and Depth: MW-8

Date Collected (mo/dy/yr): 8/29/17 Time Collected: 17:27 ☐ AM ☒ PM Weather: Sunny

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ~~☒ Horiba U-22~~ ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Slightly ~~turbid/cl~~ discolored during purge, then clear

Sample Analyses

Ammonia, nitrate/nitrite, pest, herb

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L amber	2	None	Total = 13.2
500 mL amber	1		
HNO3 - 500 mL poly	1		
250 mL poly	1		
H2SO4 - 250 mL poly	1		
HCl 40 mL VOA	3		

Signature: _____ **Date:** _____

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number:
Date of Collection: 8/30/17
Field Personnel: Pam + Kara

Purge Data

Well ID: MW-09 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.67' @ 0703 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing):

Begin purge (time): 0704

End purge (time): 0800

Gallons purged: 1.5

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0709	4.70'	1L	8.07	0.95	0.735	2.4	15.48	159	
0714	4.70'	2L	7.62	0.20	0.735	1.0	15.31	162	
0719	4.70'	3L	7.47	0.03	0.736	0.9	15.18	164	
0724	4.70'	4L	7.39	0.00	0.737	0.7	15.12	166	
0729	4.70'	5L	7.36	0.00	0.739	0.6	15.08	167	

Sampling Data

Sample No: MW-09-083017 Location and Depth: MW-09

Date Collected (mo/dy/yr): 8/30/17 Time Collected: 0730 ☒ AM ☐ PM Weather: partly cloudy | 70°F | windy

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☒ Filtered ☒ Unfiltered Other: DOC Field Filtered

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

☒ Ammonia, nitrate, nitrite, pest./herb., DOC, cations/anions, redox

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
1L Amber	2	None
500 mL Amber	1	
500 mL poly	2	
500 mL poly w/ HNO_3	1	
250 mL poly w/ H_2SO_4	1	
250 mL poly	1	
250 mL poly w/ HNO_3	1 + Field Filtered	

Comments:
Containers continued:
500 mL Amber w/ H_2SO_4 1:1 - Field Filtered
40 mL VOA w/ HCl : 3

Signature: Pamela Ostrht Date: 8-30-17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem Date of Collection: 8/30/17

Project Number: Field Personnel: Kara, Pam

Purge Data

Well ID: MW-10 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Capped

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.26 @ 8:30 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing):

Begin purge (time): ~~8:35~~ 8:34

End purge (time): 9:38

Gallons purged: 7 2 3/4

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	mg/L DO	mS/cm Conductivity	NTU Turbidity	°C Temp	mV ORP	Comments
8:43	4.27	1.8L	6.52	0.0	0.750	4.5	19.14	215	
8:48	4.27	2.8L	6.43	0.0	0.745	5.1	19.17	211	
8:54	4.27	4.1L	6.39	0.0	0.744	7.7	19.18	204	
8:59	4.27	5.6L	6.37	0.0	0.741	10.0	19.18	199	
9:06	4.27	6.3L	6.37	0.0	0.742	11.1	19.38	194	
9:11	4.28	7.7L	6.37	0.0	0.741	10.7	19.40	191	

Sampling Data

Sample No: MW-10-083017 Location and Depth: MW-10

Date Collected (mo/dy/yr): 8/30/17 Time Collected: 9:15 ☒ AM ☐ PM Weather: Sunny, smokey, some wind

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☐ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Slightly discolored, no observable odor

Sample Analyses

☑ Ammonia, nitrate/nitrite, pest, herb

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L amber	2	None	Total = 15.16
500 mL amber	1		
250 mL poly w/ HNO_3	1		
250 mL poly	1		
500 mL poly HNO_3	1		
40 mL VOA w/ HCl	3		

Signature: Kara Hatter Date: 8/30/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 8-29-17

Project Number: Field Personnel: Pam / Kara

Purge Data

Well ID: MW-11 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.80' @ 1237 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing):

Begin purge (time): 1305

End purge (time): 1408

Gallons purged: 1.75

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1310	4.78'	1L	5.79	1.99	1.34	7.8	21.45	183	
1315	4.79'	2.25L	5.90	0.00	1.35	1.8	21.39	188	
1320	4.79'	3.5L	5.92	0.00	1.35	0.4	21.78	191	
1325	4.79	4.75L	5.92	0.00	1.34	0.2	21.91	192	

Sampling Data

Sample No: MW-11-082917 Location and Depth: MW-11

Date Collected (mo/dy/yr): 8-29-17 Time Collected: 1330 ☐ AM ☒ PM Weather: Sunny / 85° F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor, V. Slightly effervescent.

Sample Analyses

☒ ammonia, nitrate/nitrite, P/H

TPH-D (HCl) ☑ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐

TPH-G (HCl) ☑ BTEX (HCl) ☑ Total Metals (HNO3) ☑ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	4	MW-X-082917 @ 1300	
500 mL amber	2		
500 mL poly w/ HNO_3	2		
250 mL poly w/ H_2SO_4	2		
250 mL poly	2		
40 mL VOA w/ HCl	6		

Signature: Date: 8/29/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number:
Date of Collection: 8-30-17
Field Personnel: Pam + Kara

Purge Data

Well ID: MW-12 Secure: ☒ Yes ☐ No
Well Condition/Damage Description: good - smells musky when opened
Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.24'
Well Casing Type/Diameter/Screened Interval: 2" PVC
After 5 minutes of purging (from top of casing):
Begin purge (time): 0936
End purge (time): 1028
Gallons purged: 1.5 gal
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0941	4.23'	1L	7.42	0.09	1.11	0.2	19.26	206	
0946	4.23'	2L	7.39	0.00	1.11	0.1	18.77	199	
0951	4.23'	3.25L	7.34	0.00	1.14	0.1	18.32	194	
0956	4.23'	4.5L	7.25	0.00	1.27	0.2	18.01	182	
1001	4.23'	6L	7.24	0.00	1.26	0.5	17.94	179	

Sampling Data

Sample No: MW-12-083017
Location and Depth: MW-12
Date Collected (mo/dy/yr): 8/30/17
Time Collected: 1000 ☒ AM ☐ PM
Weather: ~~cloudy~~ / 75°F / Haze / wind
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☒ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): clear, mild musky odor, slightly effervescent

Sample Analyses

☒ Ammonia, Nitrate, nitrite, P/H, Redox, Cations/Anions

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2	None	
500 mL Amber	1		
500 mL poly	3	1 w/ HNO_3	
250 mL poly w/ H_2SO_4	1		
250 mL poly	1		
250 mL poly w/ HNO_3	1	Field Filtered	
40 mL VOA w/ HCl	3		

Signature:
Date: 8/30/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 8/30/17

Project Number: _____ Field Personnel: Pamela O.

Purge Data

Well ID: MW-13 Secure: ☒ Yes ☐ No Well Condition/Damage Description: fine, except well cap has black (slightly oily) substance on it.

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.12' Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 4.13'

Begin purge (time): 1055

End purge (time): _____

Gallons purged: _____

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1100	4.13'	1 L	8.60	0.21	0.192	6.1	16.74	-68	
1105	4.14'	2L	7.90	0.00	0.192	2.5	14.96	-65	
1110	4.14'	3L	7.70	0.00	0.194	0.9	14.87	-67	
1115	4.14'	4 L	7.64	0.00	0.196	1.0	14.68	-69	

Sampling Data

Sample No: MW-13-083017 Location and Depth: MW-13 / ~10' bgs

Date Collected (mo/dy/yr): 8/30/17 Time Collected: 1120 ☒ AM ☐ PM Weather: Haze / 80°F

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing. Other: _____

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

☒ Ammonia, nitrate, nitrite, P/H.

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2	None	
500 mL Amber	1		
500 mL poly w/HNO3	1		
250 mL poly w/ H2SO4	1		
250 mL poly	1		
40 mL VOA w/ HCl	3		

Signature: _____ Date: 8/30/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith - KEM
Project Number:
Date of Collection: 8/30/17
Field Personnel: Kara / Pam

Purge Data

Well ID: ~~MW-12~~ MW-14 Secure: ☐ Yes ☐ No
Well Condition/Damage Description: well cap is loose (not a tight fit)

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.4 @ 10:18
Well Casing Type/Diameter/Screened Interval: 2" PVC
After 5 minutes of purging (from top of casing):
Begin purge (time): 10:20
End purge (time): 11:10
Gallons purged: 3.6 L
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	mg/L DO	ms/cm Conductivity	NTU Turbidity	°C Temp	mV ORP	Comments
10:28	4.37	2L	6.29	0.0	0.953	2.7	19.8	189	
10:33	4.4	2.9L	6.23	0.0	0.951	0.0	19.71	189	
10:38	4.4	4.1L	6.22	0.0	0.933	0.0	19.59	189	
10:43	4.4	5.5L	6.22	0.0	0.900	0.0	19.47	188	
10:48	4.4	6.6L	6.21	0.0	0.880	0.0	19.43	187	

Sampling Data

Sample No: MW-14-083017
Location and Depth: MW-14
Date Collected (mo/dy/yr): 8/30/17
Time Collected: 10:50 ☒ AM ☐ PM
Weather: sunny, smokey, some wind
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☒ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing. Other:
Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

☐ Ammonia, nitrate/nitrite, pest, herb, cation/anion redox, redox filtered

KH OK

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
~~TPH-G~~	~~(HCl) ☒~~	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Lamber	2	None	Total = 14.85
500 mL poly	1		
H_2SO_4 ~~HNO_3~~ 250 mL poly	1		
250 mL poly	1		
HNO_3 500 mL poly	1		
HCl 40 mL VOA	3		
500 mL poly	2		
H_2NO_3 ~~Fluo~~ 250 mL poly	1		

Signature: Kara Hutchison Date: 8/30/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 11-28-2017

Project Number: _____ Field Personnel: P. Osterhout

Purge Data

Well ID: MW-01 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.38' Well Casing Type/Diameter/Screened Interval: 2" PVC /

After 5 minutes of purging (from top of casing): 4.39'

Begin purge (time): 0935

End purge (time): _____

Gallons purged: _____

Purge water disposal method: drum on site

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0950	4.40'	3.5L	4.58	0.14	1.07	27.7	11.21	329	
0955	4.40'	4.5L	4.66	6.08	1.01	17.8	11.20	321	
1000	4.40'	5.5L	4.75	0.09	0.979	10.3	11.17	317	
1005	4.40'	6.5L	4.81	0.09	0.959	6.4	11.20	312	

Sampling Data

Sample No: MW-01-112817 Location and Depth: _____

Date Collected (mo/dy/yr): 11-28-17 Time Collected: 1010 ☒ AM ☐ PM Weather: Overcast ~40°F

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): No floc, v slight yellow coloring, v slight to no odor

Sample Analyses

☒ Nitrate ☒ Nitrite ☒ P+H

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L Amber	2	None	Purged for ~10 minutes at faster pumping rate to clear sediment build up.
500 mL Amber	1		
500 mL poly			pH calibrated low (3.8 for 4.0)

Signature: Paul Osterhout Date: 11/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: SMITH ICEM Date of Collection: 11/28/17

Project Number: _____ Field Personnel: G.C. / PW

Purge Data

Well ID: MW-3 Secure: ☐ Yes ☐ No Well Condition/Damage Description: Slightly Damaged

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.96 Well Casing Type/Diameter/Screened Interval: _____

After 5 minutes of purging (from top of casing): 3.97

Begin purge (time): 0945

End purge (time): 1018

Gallons purged: 4.6 Liters

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (Liters)	pH	DO (%)	Conductivity (ms/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
0959	3.97	2L	6.77	4.1	786	7.4	14.0	57.9	
1002	3.97	2.4	6.79	3.6	772	6.9	14.3	58.5	
1005	3.97	2.8	6.80	2.9	772	7.4	14.5	59.7	
1008	3.97	3.2	6.80	2.8	775	7.1	14.4	60.1	
1011	3.97	3.7	6.80	2.7	772	8.6	14.4	60.0	
1014	3.97	4.2	6.81	2.5	769	9.2	14.4	59.9	
1017	3.97	4.6	6.81	2.4	772	9.5	14.5	60.0	

Sampling Data

Sample No: MW-03 112817 Location and Depth: MW-03

Date Collected (mo/dy/yr): 11/28/17 Time Collected: 1019 ☐ AM ☐ PM Weather: Cloudy ~40°F

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposeable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear No odor

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	2		
500ml Amber	1		
500ml Poly	1		

Signature: _____ Date: _____

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 11/28

Project Number: _____ Field Personnel: GC / PH

Purge Data

Well ID: MW-4 Secure: ☐ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 2.65 Well Casing Type/Diameter/Screened Interval: _____

After 5 minutes of purging (from top of casing): 2.68

Begin purge (time): 1130

End purge (time): 1159

Gallons purged: 4.6

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO %	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1144	2.70	1.8	5.59	3.0	1082	29.8	12.1	181.6	
1147	2.71	2.4	5.59	2.8	1082	29.1	12.0	182.6	
1150	2.72	3.0	5.57	2.6	1082	28.4	11.9	184.4	
1153	2.72	3.8	5.57	2.4	1078	27.9	11.9	185.7	
1156	2.72	4.2	5.59	2.3	1078	28.3	11.7	187.1	
1157	2.72	4.6	5.59	2.3	1079	28.9	11.7	187.6	

Sampling Data

Sample No: MW-04-112817 Location and Depth: MW-4

Date Collected (mo/dy/yr): 11/28/17 Time Collected: 1159 Weather: Cloudy Snowy

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Yellowish

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2		
500d Poly	1		
500ml Amber	1		→ One field filtered
250ml Poly	2		

Signature: _____ Date: 11/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number: Qtrly Sampling
Date of Collection: 11-28-17
Field Personnel: P. Osterhout

Purge Data

Well ID: MW-05 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 3.20'
Well Casing Type/Diameter/Screened Interval: 2" PVC
After 5 minutes of purging (from top of casing): 3.21'
Begin purge (time): 1140
End purge (time):
Gallons purged: 1.25 gals
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1145	3.21'	1L	6.27	0.47	1.05	7.4	10.49	290	
1150	3.22'	2L	6.48	0.00	1.06	7.5	11.04	280	
1155	3.22'	3L	6.58	0.00	1.09	6.4	11.19	273	
1200	3.23'	4L	6.63	0.00	1.12	4.7	11.26	265	
1205	3.22'	5L	6.66	0.00	1.14	2.7	11.35	258	

Sampling Data

Sample No: MW-05-112817
Location and Depth:
Date Collected (mo/dy/yr): 11-28-17 Time Collected: 1210 ☐ AM ☒ PM Weather: overcast/showers, 40°F
Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

☒ nitrate, nitrite, P, H

TPH-D (HCl) ☒ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐
TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2	None	pH calibrated low
500 mL Amber	1		
500 mL poly	1		

Signature: Paula Osterhout Date: 11-28-17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number: Qtrly Sampling
Date of Collection: 11-28-17
Field Personnel: POsterhout

Purge Data

Well ID: MW-06
Secure: ☒ Yes ☐ No
Well Condition/Damage Description: Filled w/ blue foaming dye

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 3.95
Well Casing Type/Diameter/Screened Interval: 2" PVC
After 5 minutes of purging (from top of casing): 3.96'
Begin purge (time): 1032
End purge (time): 1135
Gallons purged: 2 gal
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity ms/cm	Turbidity NTU	Temp °C	ORP MV	Comments
1037	3.96'	1L	4.11	0.38	0.950	5.6	10.74	368	
1042	3.97'	2L	3.86	0.12	0.945	6.6	11.07	386	
1049	3.98'	3L	3.81	0.10	0.947	1.2	10.99	397	
1054	3.98'	4L	3.83	0.59	0.949	1.3	10.86	402	
1059	3.98	5L	3.83	0.50	0.953	0.0	10.95	405	

Sampling Data

Sample No: MW-06-112817
Location and Depth:
Date Collected (mo/dy/yr): 11-28-17
Time Collected: 1100 ☒ AM ☐ PM
Weather: Mixed snow/rain, 40°F
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): mild musky odor, clear

Sample Analyses

☒ Nitrate, nitrite, P, H.

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	4	MW-X-112817 @ 1200	Strong odor in area of MW-06 from blue dye, etc.
500 mL Amber	2		
500 mL poly	2		pH calibrated low (3.8 for 4.0 solution)

Signature:
Date: 11-28-17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Ker Date of Collection: KB 11/28/17

Project Number: Field Personnel:

Purge Data

Well ID: MW-07 Secure: ☐ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.43 Well Casing Type/Diameter/Screened Interval:

After 5 minutes of purging (from top of casing): 3.43

Begin purge (time): 10:39

End purge (time): 1109

Gallons purged: Liter 6.2

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Liter Purged	pH	DO	Conductivity	Turbidity	Temp	ORP	Comments
1051	3.48	6 ~~5~~ 2.5	6.93	3.3	763	6.1	13.1	90.4	
1054	3.48	~~7.0~~ 3.0	6.95	2.8	763	6.3	12.9	91.5	
1057	3.49	~~8.0~~ 4.0	6.95	2.4	764	8.3	12.9	93.1	
1100	3.49	4.5	6.95	2.3	764	9.8	12.8	94.5	
1103	3.49	5.1	6.95	2.1	765	12.6	12.8	95.4	
1106	3.49	5.8	6.95	2.0	766	14.3	12.7	96.0	
1109	3.49	6.2	6.55	1.9	768	15.7	12.7	96.6	

Sampling Data

Sample No: MW-07-112817 Location and Depth:

Date Collected (mo/dy/yr): 11/28/17 Time Collected: 1109 ☐ AM ☐ PM Weather: Rainy 40°

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear No Odor

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2		
500ml Amber	1		
500ml Poly	1		

Signature: Date: 11/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 11-28-17

Project Number: Qtrly GW Sampling Field Personnel: D. Osterhout

Purge Data

Well ID: MW-08 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 2.98' Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 2.98

Begin purge (time): 1234

End purge (time):

Gallons purged: 1

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1239	2.98'	1L	6.78	0.10	1.12	3.8	12.41	282	
1243	2.97'	2L	6.86	0.00	1.14	4.1	13.00	264	
1249	2.97'	3L	6.89	0.00	1.16	3.9	13.21	255	
1253	2.98'	4L	6.93	0.00	1.17	1.8	13.23	246	

Sampling Data

Sample No: MW-08-112817 Location and Depth:

Date Collected (mo/dy/yr): 11-28-17 Time Collected: 1300 ☐ AM ☒ PM Weather: Rain/snow, 40°F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

TV nitrate, nitrite, P, H.

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	6	None	MS/MSD
500mL Amber	3		
500 mL poly	1		

Signature: [signature] Date: 11/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Ice Date of Collection: 11/28/17

Project Number: _____ Field Personnel: GC / PW

Purge Data

Well ID: MW-11 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.81 Well Casing Type/Diameter/Screened Interval: _____

After 5 minutes of purging (from top of casing): 3.81'

Begin purge (time): 1226

End purge (time): _____

Gallons purged: _____

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (L)	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp °C	ORP (mV)	Comments (SPC mS/cm, sp. Cond)
1241	3.81'	4.0	6.41	0.38	832	30.1	11.4	179.7	1121
1306	3.81	5.2	6.43	0.27	837	7.0	11.6	178.5	1125
1310	3.81	6.0	6.43	0.26	833	4.4	11.4	177.2	1126
1313	3.81	6.5	6.43	0.26	836	4.2	11.5	176.8	1126

Sampling Data

Sample No: MW-11-112817 Location and Depth: MW-11

Date Collected (mo/dy/yr): 11/28/17 Time Collected: 1315 Weather: Cloudy Rainy

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: _____

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear No odor

Sample Analyses

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L Amber	2		
500ml Amber	1		
500ml Poly	1		

Signature: _____ Date: 11/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith / Kerr Date of Collection: 11/28/17

Project Number: _____ Field Personnel: G. Cisneros

Purge Data

Well ID: MW-12 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.36 Well Casing Type/Diameter/Screened Interval: _____

After 5 minutes of purging (from top of casing): 3.35

Begin purge (time): 1339

End purge (time): 2

Gallons purged: _____

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (L)	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity	Temp	ORP	Spc Cond (mS/cm) Comments
1348	3.35	1L	6.81	0.55	762	3.6	12.3	127.3	1005
1351	3.36	1.3	6.81	0.45	760	4.1	12.3	129.1	1004
1354	3.36	1.8	6.81	0.38	765	3.9	12.5	131.1	1005
1357	3.36	2.1	6.81	0.34	764	4.3	12.4	132.6	1006
1400	3.36	2.5	6.81	0.29	767	5.1	12.5	134.0	1007
1403	3.36	2.9	6.80	0.28	767	5.8	12.5	135.0	1007
1406	3.36	3.2	6.81	0.27	765	6.2	12.4	135.6	1008

Sampling Data

Sample No: MW-12-112817 Location and Depth: MW-12

Date Collected (mo/dy/yr): 11/28/17 Time Collected: 1409 Weather: Cloudy 40°

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear No Odor

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2		
500mL Amber	1		
500ml Poly	1		

Signature: _____ Date: 11/28/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Farm
Project Number: Qtrly GW
Date of Collection: 11-28-17
Field Personnel: P. Osterhout

Purge Data

Well ID: MW-14
Secure: ☒ Yes ☐ No
Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 3.161
Well Casing Type/Diameter/Screened Interval: 2" PVC
After 5 minutes of purging (from top of casing):
Begin purge (time): 1354
End purge (time):
Gallons purged: 1 gal
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1359	3.62'	1L	7.45	0.82	0.638	3.5	9.70	216	
1404	3.62'	2L	6.83	0.54	0.589	5.6	12.06	225	
1409	3.62'	3L	6.72	0.52	0.587	4.4	12.35	222	
1414	3.62'	4L	6.69	0.50	0.585	3.5	12.37	220	

Sampling Data

Sample No: MW-14-112817
Location and Depth:
Date Collected (mo/dy/yr): 11-28-17
Time Collected: 1415 ☐ AM ☒ PM
Weather: overcast / 40°F
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☐ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other):

Sample Analyses

☒ nitrate, nitrite, P, H

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2	None	
500 mL Amber	1		
500 mL poly	1		

Signature: P. Osterhout
Date: 11-28-17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number:
Date of Collection: 3/5/2018
Field Personnel: P.O. + G.C.

Purge Data

Well ID: MW-01 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good, missing one bolt

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.74'

Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 4.78'

Begin purge (time): 1342

End purge (time): 1453

Gallons purged: 1.25 gal

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity	Temp °C	ORP mV	Comments
1352	4.78'	2L	5.58	2.12	1.21	12.1	8.11	289	
1357	4.78'	3L	5.66	0.55	1.18	6.5	8.18	283	
1902	4.78'	4L	5.66	0.03	1.17	3.3	8.10	283	
1407	4.78'	5L	5.66	0.00	1.17	2.9	7.99	283	

Sampling Data

Sample No: MW-01-030518 Location and Depth: in office / ~10' bgs

Date Collected (mo/dy/yr): 3/5/2018 Time Collected: 1410 ☐ AM ☒ PM Weather: partly sunny

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other):

Sample Analyses

☒ P/H/nitrate/nitrite

TPH-D (HCl) ☒ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐

TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L Amber	6	MS/MSD	Purge water initially turbid
500 mL Amber	3		
250 mL poly	1		

Signature: Date: 3/5/2018

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number:
Date of Collection: 3/5/2018
Field Personnel: P.O. + G.C.

Purge Data

Well ID: MW-2 Secure: ☒ Yes ☐ No Well Condition/Damage Description: missing 3rd bolt, full of water

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.05'

Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'

After 5 minutes of purging (from top of casing): 4.016'

Begin purge (time): 1600

End purge (time): 1641

Gallons purged: 1

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity	Temp °C	ORP mV	Comments
1605	4.016'	1L	7.41	2.58	0.637	1.2	9.47	112	
1610	4.016'	2L	7.37	0.86	0.610	0.0	9.81	113	
1615	4.016'	3L	7.37	0.34	0.603	0.0	9.95	112	
1620	4.016'	4L	7.38	0.15	0.604	0.0	9.97	111	

Sampling Data

Sample No: MW-02-030518 Location and Depth: west property line / ~10' bgs

Date Collected (mo/dy/yr): 3/5/2018 Time Collected: 1622 ☐ AM ☒ PM Weather: partly cloudy, cold

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

☒ P, H; nitrate, nitrite

TPH-D (HCl) ☒ Chlor / Fluor. (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐

TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2	None	
500 mL Amber	1		
250 mL poly	1		

Signature: [signature] Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Ken Date of Collection: 3/5/18

Project Number: Field Personnel:

Purge Data

Well ID: MW-3 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.32 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 4.34

Begin purge (time): 1431

End purge (time): 1459

Volume purged: 3.0 Liters

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (Liters)	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1446	4.33	1.0	6.87	0.60	753	14.1	9.3	97.1	—
1448	4.35	1.5	6.87	0.45	753	13.0	9.3	80.8	—
1451	4.35	2.0	6.87	0.42	753	11.0	9.4	76.8	—
1454	4.35	2.2	6.86	0.36	754	9.4	9.5	70.9	—
1457	4.35	2.5	6.86	0.32	755	7.0	9.6	67.0	
1459	4.35	3.0	6.86	0.32	754	8.1	9.6	66.3	

Sampling Data

Sample No: MW-03-030518 Location and Depth: MW-03

Date Collected (mo/dy/yr): 3/5/18 Time Collected: 1459 Weather: Sunny

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear - No odor

Sample Analyses

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐	Pesticides
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐	

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	2		
500 ml Amber	1		
250 ml Poly	1		

Signature: Date:

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number:
Date of Collection: 3/5/18
Field Personnel: P.O. + G.C.

Purge Data

Well ID: MW-4 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good - full of water

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.14'
Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 3.21'

Begin purge (time): 1503

End purge (time): 1552

Gallons purged: 1.25 gal

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity	Temp °C	ORP mV	Comments
1508	3.21'	1L	5.98	2.27 ↓	1.29	3.6	9.62	159	
1513	3.23'	2L	6.54	0.54	1.43	4.5	8.64	149	
1518	3.24'	3L	6.61	0.08	1.50	3.5	8.41	138	
1523	3.25'	4L	6.63	0.00	1.52	3.5	8.14	141	
1528	3.27'	5L	6.64	0.00	1.52	3.4	8.03	143	

Sampling Data

Sample No: MW-04-030518 Location and Depth: "Source", ~ 10' bgs

Date Collected (mo/dy/yr): 3/5/2018 Time Collected: 1530 ☐ AM ☒ PM Weather: partly sunny / 45° F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Yellow brown, no apparent odor

Sample Analyses

☑ P, H, nitrate, nitrite

TPH-D (HCl) ☒ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals As (HNO3) ☒

TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals As (HNO3) ☒ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:
1L Amber	2
500 mL Amber	1
250 mL poly w/HNO3	1
500 mL poly	1
250 mL poly	1

Duplicate Sample Numbers: None

Comments: Lab to filter diss. metals sample.

Signature: Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Ken Date of Collection: 3/5/18

Project Number: Field Personnel: G. Cisneros

Purge Data

Well ID: MW-5 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.75 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 3.72

Begin purge (time): 1236

End purge (time): 1300

Volume purged: 2.9 Liters

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1245	3.71	1.0	6.97	0.30	976	2.7	11.2	111.4	
1248	3.74	1.4	6.96	0.24	973	2.8	11.4	112.6	
1251	3.74	1.8	6.96	0.24	972	3.0	11.3	111.8	
1254	3.74	2.1	6.96	0.22	971	3.1	11.2	111.6	
1257	3.74	2.5	6.95	0.20	972	3.3	11.2	111.8	
1300	3.74	2.9	6.95	0.20	973	3.4	11.2	111.6	

Sampling Data

Sample No: MW-05-030518 Location and Depth: MW-05

Date Collected (mo/dy/yr): 3/5/18 Time Collected: 1301 Weather: Cloudy

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: YSI

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear No odor

Sample Analyses

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Ambers	2		
500ml Amber	1		
250ml Poly	1		

Signature: Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number:
Date of Collection: 3/5/2018
Field Personnel: P.O. + G.C.

Purge Data

Well ID: MW-6 Secure: ☑ Yes ☐ No
Well Condition/Damage Description: Fine – full of water. While bailing, pulled up black sediment from well box.
Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.34'
Well Casing Type/Diameter/Screened Interval: 2" PVC
After 5 minutes of purging (from top of casing): 4.36'
Begin purge (time): 1159
End purge (time): 1247
Gallons purged: 1.5 gal
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity	Temp °C	ORP mV	Comments
1204	4.36'	1L	5.80	1.85	2.15	5.9	7.85	230	
1209	4.36'	2L	4.96	0.28	2.18	1.6	7.49	288	
1214	4.37'	3L	4.85	0.00	2.19	0.1	7.31	328	
1219	4.37'	4L	4.81	0.00	2.21	0.0	7.23	350	
1224	4.37'	5L	4.75	0.00	2.19	0.0	6.99	363	
1229	4.38'	6L	4.73	0.00	2.18	0.0	6.93	370	

Sampling Data

Sample No: MW-06-030518
Location and Depth:
Date Collected (mo/dy/yr): 3/5/18
Time Collected: 1230 ☐ AM ☒ PM
Weather: Overcast, 40°F
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): Clear, no apparent odor (ambient air has odor around this well)

Sample Analyses

☒ P | H | nitrate | nitrite

TPH-D (HCl) ☒ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐
TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2	None	
500mL Amber	1		
250 mL poly	1		

Signature: Paula Ostrowski Date: 3/5/2018

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smithkem Date of Collection: 3/5/18

Project Number: _____ Field Personnel: G-Crsnelos

Purge Data

Well ID: MW-07 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.84 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 3.94

Begin purge (time): 10:32

End purge (time): 1057

Volume purged: 4.0 Litres

Purge water disposal method: Drum

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Volume of Schedule 40 PVC Pipe

Time	Depth to Water	Vol. Litres Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1042	3.97	1.5	7.05	0.32	754 108.3	8.6	9.2	108.4	
1045	3.98	2.0	7.00	0.25	106.8781	10.6	9.4	106.6	
1048	4.00	2.5	6.98	0.22	755	12.7	9.5	103.7	
1051	4.01	3.0	6.97	0.20	754	14.4	9.4	101.9	
1054	4.02	3.5	6.96	0.20	759	17.0	9.4	100.0	
1057	4.02	4.0	6.96	0.20	761	18.4	9.5	98.4	

Sampling Data

Sample No: MW-07-030518 Location and Depth: MW-07

Date Collected (mo/dy/yr): 3/5/18 Time Collected: 1057 Weather: Sunny 38°F

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear No odor

Sample Analyses

Pest / Herb

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2		
250ml Poly	1		
500ml Amber	1		

Signature: _____ Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 3/5/17

Project Number: Field Personnel: G. Cisneros

Purge Data

Well ID: MW-08 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.49 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 3.49

Begin purge (time): 1115

End purge (time): 1139

Volume purged: 3.5 Liters

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (Liters)	pH	DO (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1123	3.49	1	7.00	0.29	1046	2.9	10.6	148.5	
1126	3.49	1.5	6.99	0.24	1045	3.3	10.6	143.4	
1129	3.48	2.0	6.98	0.21	1042	3.0	10.7	138.0	
1132	3.48	2.5	6.97	0.19	1037	3.2	10.7	132.2	
1135	3.48	3.0	6.97	0.18	1035	3.4	10.7	128.4	
1138	3.48	3.5	6.97	0.18	1034	3.3	10.6	127.0	

Sampling Data

Sample No: MW-08-030518 Location and Depth: MW-08

Date Collected (mo/dy/yr): 3/5/18 Time Collected: 1139 Weather: Sunny 42°F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear - No odor

Sample Analyses

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Pesticides Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	2		
500ml Amber	1		
250ml Poly	1		

Signature: Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Ker Date of Collection: 3/5/18

Project Number: Field Personnel: G. Cisneros

Purge Data

Well ID: MW-9 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.23 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 4.25

Begin purge (time): 0935

End purge (time): ~~4.2~~

Volume purged: 4.5 Liters (Liters)

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. L Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0955	4.25	1.8L	6.58	0.36	0.509	4.0	10.0	146.9	
0958	4.25	2.0	6.59	0.31	0.508	3.4	10.1	140.2	
1001	4.25	2.8	6.60	0.27	0.507	2.8	10.1	132.5	
1004	4.25	3.2	6.62	0.25	0.507	2.8	10.1	114.1	
1007	4.25	3.8	6.60	0.24	0.506	2.7	10.0	115.4	
1010	4.25	4.1	6.60	0.24	0.507	2.8	10.1	115.4	

Sampling Data

Sample No: MW-09-030518 Location and Depth: MW-9

Date Collected (mo/dy/yr): 3/5/18 Time Collected: 1013 Weather: Sunny 38° F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear No odor.

Sample Analyses

Pesticides

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L. Amber	2	—	
500ml Amber	1	—	
750ml Poly	1	—	

Signature: Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 3/5/18

Project Number: _____ Field Personnel: G. Cisneros

Purge Data

Well ID: MW-10 Secure: ☑ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.76 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 3.79

Begin purge (time): 1520

End purge (time): _____

Volume purged: Litres

Purge water disposal method: _____

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (Litres)	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1530	3.79	1.0	6.87	0.25	655	2.8	11.2	130.4	—
1533	3.79	1.5	6.85	0.22	652	2.7	11.3	131.7	—
1536	3.79	2.0	6.84	0.20	653	2.6	11.3	132.6	—
1539	3.79	2.5	6.83	0.18	653	2.7	11.3	133.1	—
1542	3.79	3.0	6.83	0.17	651	2.8	11.3	133.1	—
1545	3.79	3.5	6.82	0.16	653	2.7	11.2	133.2	—

Sampling Data

Sample No: MW-10-030518 Location and Depth: _____

Date Collected (mo/dy/yr): 3/5/18 Time Collected: ~~1547~~ 1547 Weather: Cloudy 42°

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear No Odor

Sample Analyses

~~TPH-D~~	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	2		
500ml Amber	1		
250ml Poly	1		

Signature: _____ Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Ken Date of Collection: 3/5/18

Project Number: _____ Field Personnel: G. Cisneros

Purge Data

Well ID: MW-11 Secured: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.26 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 4.27

Begin purge (time): 1155

End purge (time): 1220

Volume purged: 4.0 Liters

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (Liters)	pH	DO (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1205	4.27	1.8	6.64	1.24	1269	8.6	8.4	194.5	
1208	4.27	2.2	6.62	1.19	1269	7.0	8.4	191.5	
1211	4.27	3.0	6.62	1.17	1270	5.7	8.3	189.4	
1214	4.27	3.3	6.62	1.15	1272	5.4	8.2	187.3	
1217	4.27	3.9	6.61	1.12	1273	5.7	8.2	186	

Sampling Data

Sample No: MW-11-030518 Location and Depth: MW-11

Date Collected (mo/dy/yr): 3/5/18 Time Collected: 1221 Weather: Cloudy 40°

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear No Odor

Sample Analyses

Pesticides/Herbicides

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	2		3/5/18
250ml Poly	1		@ 1221
500ml Amber	1		

Signature: _____ Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number:
Date of Collection: 3/5/2018
Field Personnel: P.O. + G.C.

Purge Data

Well ID: MW-12 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 3.74'
Well Casing Type/Diameter/Screened Interval: 2" PVC
After 5 minutes of purging (from top of casing): 3.75'
Begin purge (time): 1104
End purge (time): 1143
Gallons purged: 1
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1109	3.75'	1L	7.29	1.80	1.46	0.0	8.95	130	
1114	3.75'	2L	7.42	0.85	1.23	0.0	9.02	110	
1119	3.76'	3L	7.45	0.43	1.23	0.0	9.17	102	
1124	3.76'	4L	7.46	0.12	1.24	0.0	9.22	96	

Sampling Data

Sample No: MW-12-030518
Location and Depth: SW of AST area, ~10' bgs
Date Collected (mo/dy/yr): 3/5/18
Time Collected: 1126 ☒ AM ☐ PM Weather: Partly Sunny
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): Clear, no apparent odor

Sample Analyses

☒ P/H/nitrate/nitrite

TPH-D (HCl) ☒ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐
TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2	None	
500mL Amber	1		
250 mL poly	1		

Signature: [signature] Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Ice Date of Collection: 3/5/18

Project Number: Field Personnel: G. Cisneros

Purge Data

Well ID: MW-13 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.48 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): 3.48

Begin purge (time): 1322

End purge (time): 1355

Volume purged:

Purge water disposal method:

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Lit Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1342	3.48	2.2	6.80	0.19	255.5	5.8	9.9	73.0	
1345	3.48	2.6	6.79	0.18	255.2	5.0	9.8	73.9	
1348	3.48	3.2	6.79	0.17	255.1	15.13?	10.0	71.7	
1351	3.48	3.6	6.78	0.16	255.2	13.1	10.1	71.5	
1354	3.48	4.1	6.79	0.15	255.0	12.0	10.2	72.3	

Sampling Data

Sample No: MW-13-030518 Location and Depth: MW-13

Date Collected (mo/dy/yr): 3/5/18 Time Collected: 1357 Weather: Cloudy

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-50 Other: YSI

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear No odor

Sample Analyses

~~TPH-D~~	~~(HCl)~~ ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐	Pesticides	
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐		

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Lith Ambers	2		
500ml Amber	1		1357
250ml Poly	1		

Signature: Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith Kem
Project Number:
Date of Collection: 3/5/18
Field Personnel: P.O. + G.C.

Purge Data

Well ID: MW-14 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good - covered by gravel

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.95'

Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'

After 5 minutes of purging (from top of casing): 3.95'

Begin purge (time): 0950

End purge (time): 1051

Gallons purged: 1.5 gal

Purge water disposal method: drum on site

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0955	3.95'	1L	6.82	1.71	0.581	0.0	9.55	163	
1000	3.95'	2L	7.17	0.23	0.546	0.0	9.60	136	
1005	3.95'	3L	7.26	0.78	0.536	0.0	9.61	123	
1010	3.95'	5L	7.35	0.00	0.531	0.0	9.59	109	
~~1015~~	—	—	—	—	—	—	—	—	
1020	3.95'	6L	7.37	0.00	0.530	0.0	9.58	102	

Sampling Data

Sample No: MW-14-030518 Location and Depth: SW corner / ~9' bgs

Date Collected (mo/dy/yr): 3/5/18 Time Collected: 1022 ☒ AM ☐ PM Weather: partly sunny / 40°F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): clear, no apparent odor.

Sample Analyses

TPH-D (HCl) ☒ ☑ P/H/nitrate/nitrite Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐

TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
1L Amber	4	MW-X-030518
500mL Amber	2	@ 1100
250mL poly	2	

Comments:

Signature: Paula Ostulet Date: 3/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 6/21/18

Project Number: _____ Field Personnel: AJ

Purge Data

Well ID: MW-1 Secure: ☑ Yes ☐ No Well Condition/Damage Description: Good

Ecology tag BIC 833

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 4.80' Well Casing Type/Diameter/Screened Interval: _____

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 07:00

End purge (time): 0714

Gallons purged: 13 L

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged L	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0714	4.83'	2	6.46	9.95	0.978	0.0	14.16	115	
0717	4.83'	2.5	5.42	9.47	0.981	0.0	13.75	157	
0720	4.84'	3	5.12	9.14	0.978	0.0	13.58	172	
0723	4.83'	3.8	4.96	8.97	0.973	0.0	13.37	180	
0726	4.83'	4.2	4.91	8.81	0.971	0.0	13.34	183	
0729	4.84'	4.8	4.91	8.74	0.970	0.0	13.29	184	

Sampling Data

Sample No: MW-1-062118 Location and Depth: 9'

Date Collected (mo/dy/yr): 6/21/18 Time Collected: 0734 ☑ AM ☐ PM Weather: Cool and Sunny

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Yellow tint. Earthy odor – slight pesticide scent?

Sample Analyses

P, H, Nitrate, Nitrate

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
3 x ½ L amber		None	Total Depth: 13.41'
6 x 1 L amber			MSMSD well samples (ambers)
1 x 250 mL poly			

Signature: _____ Date: 6/21/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

4

Project Name: Smith Kem Date of Collection: 6/21/18

Project Number: Field Personnel: G. Cisneros

Purge Data

Well ID: MW-03 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

15'

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): 1.7 gals

Depth of water (from top of well casing): 4.48 Well Casing Type/Diameter/Screened Interval: 2"

After 5 minutes of purging (from top of casing): 4.42

Begin purge (time): 1116

End purge (time): 1155

Liters Gallons purged: 4.9

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (Liters)	pH	DO (mg/L)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments
1137	4.41	2	3.71	0.87	0.878	0.0	16.98	229	
1143	4.41	2.8	10.02	0.62	0.878	0.0	16.81	-73	
1146	4.41	3.2	7.83	0.31	0.861	0.0	16.73	-91	
1149	4.41	3.9	7.09	0.20	0.850	0.0	16.65	-55	
1152	4.41	4.3	6.68	0.14	0.841	0.0	16.71	-34	
1155	4.41	4.9	6.50	0.11	0.838	0.0	16.69	-27	

Sampling Data

Sample No: MW-03-062118 Location and Depth:

Date Collected (mo/dy/yr): 6/21/18 Time Collected: 1155 ☒ AM ☐ PM Weather: Sunny windy

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear, No Odor

Sample Analyses H/P/N

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
2 1 Liter Amber	2	None	
500 ml Amber	1		
25ml poly	1		

Signature: Date: 6/21/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Date of Collection: 6/20/18
Project Number:
Field Personnel: AJ

Purge Data

Well ID: MW-4 Secure: ☑ Yes ☐ No Well Condition/Damage Description: Good, some storm water

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.21'

Well Casing Type/Diameter/Screened Interval:

After 5 minutes of purging (from top of casing): 3.31' @ 10:35

Begin purge (time): 10:33

End purge (time): 10:48

Gallons purged: 6.8 L

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. L Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
10:48	3.46'	2.5	4.84	1.08	1.87	0.0	19.31	166	
10:51	3.49'	2.8	5.11	0.24	1.86	0.0	18.60	147	
10:54	3.51'	3.5	5.36	0.19	1.85	0.0	17.96	132	
10:57	3.52'	4	5.46	0.17	1.83	0.0	17.55	124	
11:00	3.55'	4.5	5.5	0.08	1.81	0.0	17.36	120	

Sampling Data

Sample No: MW-4-062018 Location and Depth: 10'

Date Collected (mo/dy/yr): 6/20/2018 Time Collected: 11:03 ☑ AM ☐ PM Weather: Sunny & 75

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Yellow-brown

Sample Analyses Pesticides & Herbicides, Nitrate & Nitrite

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☑
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 x ½ L amber		N/A	Total depth: 13.20'
2 x 1 L amber			1 x 250 mL poly w/ HNO_3 is filtered.
1 x 250 mL poly			↳ noted on label & bottle
2 x 250 mL poly w/ HNO_3			

Signature: Adria Jorge Date: 6/20/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith - Kern Date of Collection: 6/21/18

Project Number: _____ Field Personnel: G. Cisneros

Purge Data

Well ID: MW-05 Secure: ☐ Yes ☐ No Well Condition/Damage Description: Good

Total = 13.20

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): 1.59 gals

Depth of water (from top of well casing): 3.82 Well Casing Type/Diameter/Screened Interval: 2" 3-13

After 5 minutes of purging (from top of casing): 3.82

Begin purge (time): 1010

End purge (time): _____

Gallons purged: _____

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. L Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1029	3.82	3.5	7.04	1.98	0.884	0.0	19.92	71	
1032	3.82	4.0	5.90	0.42	0.870	0.0	19.78	123	
1035	3.82	4.6	5.70	0.19	0.864	0.0	19.70	127	
1038	3.82	5.0	5.72	0.10	0.862	0.0	19.66	123	
1041 ~~1044~~	3.83	5.5	5.77	0.08	0.860	0.0	19.63	119	

Sampling Data

Sample No: MW-05-062118 Location and Depth: MW-05

Date Collected (mo/dy/yr): 6/21/18 Time Collected: 1042 ☑ AM ☐ PM Weather: Sunny 75° Windy

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Clear / No oder

Sample Analyses

Ni / P/H

~~TPH-D~~	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
2 1 Liter Amber	2	None	
500ml Amber	1		
25ml Poly	1		

Signature: _____ Date: 6/21/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP - Smith Kem
Date of Collection: 6/20/18
Project Number: Qtrly GW Monitoring
Field Personnel: P.D. + A.J.

Purge Data

Well ID: MW-6
Secure: ☒ Yes ☐ No
Well Condition/Damage Description: good, except full of soapy water

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.45'
Well Casing Type/Diameter/Screened Interval: 2" PVC | 3-13'
After 5 minutes of purging (from top of casing): 4.45'
Begin purge (time): 13:40
End purge (time): 14:58
Gallons purged: 2
Purge water disposal method: drum.

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
14:10	4.45'	5L	7.86	0.59	1.63	0.0	19.46	34	
14:15	4.45'	6.5L	3.63	0.11	1.70	0.0	18.98	224	
14:20	" "	7L	3.46	0.10	1.69	0.0	19.07	234	
14:25	" "	8L	3.36	0.08	1.70	0.0	19.23	243	

Sampling Data

Sample No: MW-6-062018
Location and Depth:
Date Collected (mo/dy/yr): 6/20/18
Time Collected: 14:30 ☐ AM ☒ PM
Weather: warm / 90°F
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): clear, odor from soap too strong to smell sample

Sample Analyses

Pest, Herb, nitrate, nitrite

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L Amber	2	MW-X-062018	Well box full of black soapy water.
½ L Amber	1 } x2	@ 14:15	Well cap and seal stained black -
250 mL poly	1 }		black residue wipes away.

Signature: [signature] **Date:** 6/20/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number:
Date of Collection: 6/20/18
Field Personnel: AJ

Purge Data

Well ID: MW-7 Secure: ☑ Yes ☐ No Well Condition/Damage Description: Good, storm water in casing

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☑ No One Casing Volume (gal):

Depth of water (from top of well casing): 3.95' Well Casing Type/Diameter/Screened Interval:

After 5 minutes of purging (from top of casing): 4.10'

Begin purge (time): 12:05

End purge (time): 1215

Gallons purged: 5.5 L

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. L Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1215	~~3.9~~ 4.7	1	4.63	2.48	0.699	0.0	21.02	125	
1218	4.8	1.8	6.48	0.46	0.698	0.0	19.65	56	
1221	4.9	2	6.38	0.31	0.699	0.0	19.06	68	
1224	4.9	2.2	6.35	0.21	0.700	0.0	18.59	67	
1227	4.9	2.8	6.33	0.14	0.702	0.0	18.10	56	

Sampling Data

Sample No: MW-7-062018 Location and Depth: 18'

Date Collected (mo/dy/yr): 6/20/18 Time Collected: 12:31 ☐ AM ☐ PM Weather: Sunny & 85°

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): No color, No apparent odor

Sample Analyses Pesticides, Herbicides, Nitrates & Nitrites

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 x 1/2 L amber		N/A	Total depth: 13.18'
2 x 1 L amber			
1 x 250 mL poly			

Signature: Cedric Grove Date: 6/20/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem Date of Collection: 6/20/18

Project Number: _____ Field Personnel: AJ

Purge Data

Well ID: MW-8 Secure: ☐ Yes ☐ No Well Condition/Damage Description: Storm Water

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from top of well casing): 3.52' Well Casing Type/Diameter/Screened Interval: _____

After 5 minutes of purging (from top of casing): 3.55'

Begin purge (time): 1334

End purge (time): 1349

Gallons purged: 6.0 L

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged L	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1348	3.54'	1.5	6.13	0.81	1.01	0.0	23.30	97	
1351	3.54'	1.8	6.18	0.37	1.03	0.0	21.02	93	
1354	3.53'	2	6.17	0.15	1.03	0.0	20.35	91	
1357	3.54'	2.25	6.17	0.15	1.04	0.0	19.80	89	
1400	3.51'	2.75	6.15	0.13	1.05	0.0	19.38	87	

Sampling Data

Sample No: MW-8-062018 Location and Depth: 8'

Date Collected (mo/dy/yr): 6/20/18 Time Collected: 1403 ☐ AM ☐ PM Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Other: Sunny & 80°

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): Slightly yellow - colorless.

Sample Analyses Pesticides, herbicides, nitrates & Nitrites

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1x 1/2 L amber		N/A	Total depth 13.17'
2x 1 L amber			
1x 250 ml poly			

Signature: Adia Jump Date: 6/20/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem Date of Collection: 6/21/18

Project Number: Field Personnel: AJ

Purge Data

Well ID: MW-11 Secure: ☑ Yes ☐ No Well Condition/Damage Description: Minimal surface water in casing

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☑ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.34' Well Casing Type/Diameter/Screened Interval:

After 5 minutes of purging (from top of casing):

Begin purge (time): 9:57

End purge (time):

Gallons purged: 9.5 L

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged L	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1013	4.41'	3.25	5.95	0.41	1.42	0.0	17.55	121	
1016	4.41'	4	5.75	0.43	1.42	0.0	17.64	126	
1019	4.41'	4.75	5.64	0.21	1.42	0.0	17.72	127	
1022	4.41'	5.5	5.59	0.11	1.42	0.0	17.80	126	

Sampling Data

Sample No: MW-11-062118 Location and Depth: 10'

Date Collected (mo/dy/yr): 6/21/18 Time Collected: 1027 ☒ AM ☐ PM Weather: 75 and Sunny

Type: ☑ Ground Water ☐ Surface Water Other: ~~1027~~ ag Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Colorless, no odor.

Sample Analyses P, H, Nitrate, Nitrite

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
2 x 1L amber		N/A	Total Depth: 15.14'
1 x ½ amber			Ecology tag: BJW 314
1 x 250 mL poly			

Signature: Date: 6/21/20

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kern Date of Collection: 6/21/18

Project Number: Field Personnel: AJ

Purge Data

Well ID: MW-12 Secure: ☑ Yes ☐ No Well Condition/Damage Description: Good

Depth Sounder decontaminated Prior to Placement in Well: ~~☐ Yes ☐ No~~ AG One Casing Volume (gal): 1.9 gals

Depth of water (from top of well casing): 3.85' Well Casing Type/Diameter/Screened Interval: 5-15

After 5 minutes of purging (from top of casing): ~~3.86~~ AG 3.86

Begin purge (time): 0755

End purge (time): 0834

~~Gallons~~ Liters purged: 8 Liter

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0820	3.86	5.8L	5.06	0.54	1.27	0.0	15.34	196	
0823	3.86	6.5L	5.50	0.34	1.27	0.0	15.27	174	
0826	3.86	7.0	5.72	0.17	1.26	0.0	15.44	162	
0829	3.86	7.5	5.82	0.12	1.26	0.0	15.52	155	
0832	3.86	8.0	5.88	0.05	1.26	0.0	15.50	149	

Sampling Data

Sample No: MW-12-062118 Location and Depth: MW-12

Date Collected (mo/dy/yr): 6/21/18 Time Collected: 0835 ☒ AM ☐ PM Weather: Sunny, windy, 75°

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear, No odor; slight yellow tint

Sample Analyses P/H, nitrate, nitrite

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
2 x 1 L amber		None	Total depth: 15.08'
1 x ½ L amber			
1 x 250 mL poly			

Signature: **Date:**

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith Kem
Project Number: Qtrly GW Monitoring
Date of Collection: 6/21/18
Field Personnel: P.O.

Purge Data

Well ID: MW-14 Secure: ☒ Yes ☐ No Well Condition/Damage Description:

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.04'
Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13
After 5 minutes of purging (from top of casing): 4.05'
Begin purge (time): 9:09
End purge (time):
Gallons purged:
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
9:14	4.05'	1L	3.83	1.09	0.401	0.0	17.59	249	
9:19	4.05'	2L	5.17	0.41	0.405	0.0	14.17	163	
9:24	4.05	3L	5.73	0.17	0.389	0.0	13.94	132	
9:29	4.05	3.5L	5.92	0.07	0.387	0.0	13.70	118	
0932	4.05	4.0L	5.95	0.05	0.387	0.0	13.64	115	
0935	4.05	4.5L	5.96	0.04	0.387	0.0	13.56	114	

Sampling Data

Sample No: MW-14-062118
Location and Depth:
Date Collected (mo/dy/yr): 6/21/2018 Time Collected: 09:30 ☒ AM ☐ PM Weather:
Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other):

Sample Analyses P, H, nitrate, nitrite

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	2	None	Miscounted ½ L Ambers for diesel, SO collected 6 VOAs and wrapped in foil instead
250 mL poly	1		
40 mL VOA	6		

Signature: [signature] Date: 6/21/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kun Date of Collection: 7/5/18

Project Number: Field Personnel: G. Cisneros

Purge Data

Well ID: MW-15 Secure: ☒ Yes ☐ No Well Condition/Damage Description: New

BKZ-666

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): 1.76 gals

Depth of water (from top of well casing): 4.65 Well Casing Type/Diameter/Screened Interval: 2" PVC

After 5 minutes of purging (from top of casing): ~~0943~~ ~~0948~~ 4.65

Begin purge (time): 0943

End purge (time): 1015

Liters ~~Gallons~~ purged: 4.5 Liters

Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (Liters)	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments mg/L
0957	4.65	1.8	6.61	0.0	0.626	0.2	18.30	91	TDS 0.400
1000	4.65	2.0	6.64	0.00	0.628	0.2	18.23	85	0.402
1008	4.65	3.3	6.62	0.00	0.623	0.3	18.19	65	0.558
10011	4.65	3.8	6.61	0.00	0.619	0.2	18.27	61	0.395
1014	4.65	4.2	6.62	0.00	0.620	0.3	18.41	61	0.397

Sampling Data

Sample No: MW-15-070518 Location and Depth: MW-15

Date Collected (mo/dy/yr): 7/5/18 Time Collected: 1017 ☐ AM ☐ PM Weather: Sunny 85°

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ~~☒~~ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ~~☒~~ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear; No odor

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
250 ml Poly	4		Ecology Well ID
40 ml Vials	3		# BKZ-666
500 ml Amber	1		
1 Liter Amber	2		

Signature: Date: 7/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith, Kem
Project Number:
Date of Collection: 7/5/2018
Field Personnel: P.O.

Purge Data

Well ID: MW-16 BKZ-6067
Secure: ☒ Yes ☐ No
Well Condition/Damage Description: good/new

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal): 1.5 gal

Depth of water (from top of well casing): ~~7.48~~ 6.00'
Well Casing Type/Diameter/Screened Interval: 2" PVC / 5-15'

After 5 minutes of purging (from top of casing): 6.00+ NM

Begin purge (time): 9:48 AM

End purge (time): 11:00 AM

Gallons purged: 1.5 gal

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0953	~~6.80'~~ wrong MW	1L	6.97	1.16	0.643	10.0	16.8	74.3	
0958	6.02'	2L	7.01	0.87	0.590	18.7	16.6	66.7	Bubbles in
1003	6.03'	3L	7.04	0.69	0.573	13.7	16.5	56.1	flow thru
1008	6.03'	4L	7.05	0.58	0.560	16.7	16.3	49.1	cell
1013	6.03'	5L	7.06	0.57	0.558	19.7	16.5	42.9	

Sampling Data

Sample No: MW-16-070518
Location and Depth:

Date Collected (mo/dy/yr): 7-5-2018
Time Collected: 1015 ☒ AM ☐ PM
Weather: Hot / 90°F, sunny

Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☒ Filtered ☐ Unfiltered Other: diss. metals filtered.

Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

P/H, nitrate, nitrite, ammonia

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☒
TPH-G	(HCl) ☒	BTEX	(HCl) ☐	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	4	MW-X-070518 @ 1030	Turbidity likely due to bubbles. Purge water appears v. clear.
½ L Amber	2		
250 mL poly	2		
250 mL poly w/ HNO_3	4	x2 field filtered for diss. metals	
250 mL poly w/ H_2SO_4	2		
40 mL VOA w/ HCl	6		

Signature:
Date: 7/5/2018

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Ken Date of Collection: 7/5/18

Project Number: Field Personnel: G. Crowley

Purge Data

Well ID: MW-17 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good

Ecology well ID = BKZ-668

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): 1.7 gals

Depth of water (from top of well casing): 5.25 Well Casing Type/Diameter/Screened Interval: 2"

After 5 minutes of purging (from top of casing): 5.28

Begin purge (time): 1047

End purge (time): 1116

Liters ~~Gallons~~ purged: 4.7

Purge water disposal method: Drums

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (Liters)	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments DO mg/L
1101	5.29	2.0	6.27	0.36	0.648	4.1	21.90	-96	0.413 TDG
1104	5.29	2.5	7.21	0.13	0.647	4.2	21.80	-141	.416
1107	5.29	3.0	7.04	0.06	0.645	4.7	21.76	-139	.413
1110	5.29	3.5	6.97	0.00	0.648	4.1	21.36	-137	.414
1113	5.28	4.0	6.94	0.00	0.646	3.6	21.44	-136	.414
1116	5.28	4.5	6.92	0.00	0.643	3.3	21.48	-135	0.411

Sampling Data

Sample No: MW-17-070518 Location and Depth: MW-17 BNSF

Date Collected (mo/dy/yr): Time Collected: 1117 ☐ AM ☐ PM Weather: Sunny ~88°F

Type: ☐ Ground Water ☐ Surface Water Other: Sample: ☒ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Clear No Odor

Sample Analyses

Nitrate/Nitrite Ammonia

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☒	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
250ml Polys	4		Preserve w/ Nitric Acid & Sulfuric Acid
40ml Vial	3		HNO_3 H_2SO_4
500ml Amber	1		
1 Liter Amber	2		BKZ-668

Signature: **Date:** 7/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Key
Project Number:
Date of Collection: 7/5/18
Field Personnel: G. Cisneros

Purge Data

Well ID: MW-18
Secure: ☑ Yes ☐ No
Well Condition/Damage Description: Good
Ecology Well ID BKZ-671
Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No
One Casing Volume (gal): 1.3 gals
Depth of water (from top of well casing): 5.40
Well Casing Type/Diameter/Screened Interval: 2" 3-13'
After 5 minutes of purging (from top of casing): 5.40
Begin purge (time): 1150
End purge (time): 1216
Gallons purged: 4.0 Liters
Purge water disposal method: Drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged (Liters)	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °F	ORP mV	Comments g/L TDS
1201	5.40	1.8	6.82	0.16	0.344	0.0	19.21	55	0.224
1204	5.40	2.0	6.74	0.04	0.348	0.0	18.78	56	0.226
1207	5.40	2.5	6.67	0.00	0.350	0.0	18.52	55	0.228
1210	5.40	3.0	6.63	0.00	0.353	0.0	18.48	55	0.229
1213	5.40	3.5	6.59	0.00	0.353	0.0	18.32	54	0.229
1216	5.40	4.0	6.59	0.00	0.353	0.0	18.36	53	0.229

Sampling Data

Sample No: MW-18-07
Location and Depth: MW-18
Date Collected (mo/dy/yr): 7/5/18
Time Collected: 1217 ☐ AM ☐ PM
Weather: Sunny 80°
Type: ☑ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☑ Pump Other:
Type: Peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): Clear; No odor

Sample Analyses

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 Liter Amber	1		
250ml Poly	1		No preservative
			BKZ-671

Signature:
Date: 7/5/18

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP - Smith Kem Date of Collection: 7/5/2018

Project Number: _____ Field Personnel: P.O.

Purge Data

Well ID: MW-19 BKZ 670 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good, new

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): 1.4 gal

Depth of water (from top of well casing): 4.08 Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 12:06

End purge (time): 12:36

Gallons purged: 1 gal

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
12:11	4.09'	1L	7.11	1.42	0.248	6.1	14.7	40.8	
12:16	4.09'	2L	6.99	0.68	0.244	5.1	14.2	30.2	
12:21	4.09'	3L	6.94	0.52	0.244	4.5	14.3	28.6	
12:26	4.09'	4L	6.91	0.45	0.244	4.4	14.3	24.0	

Sampling Data

Sample No: MW-19-070518 Location and Depth: _____

Date Collected (mo/dy/yr): 7/5/18 Time Collected: 1230 ☐ AM ☒ PM Weather: 90°F / sunny

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: _____

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

☒ Atrazine + nitrite, nitrate

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER)☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L Amber	1	None	
250 mL poly	1		

Signature: _____ Date: 7/5/2018

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: FP-Smith Kem
Project Number:
Date of Collection: 7-5-2018
Field Personnel: P.O.

Purge Data

Well ID: MW-20 BKZ 1069
Secure: ☒ Yes ☐ No
Well Condition/Damage Description: good, new
Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No
One Casing Volume (gal): 1.4 gal
Depth of water (from top of well casing): 4.56'
Well Casing Type/Diameter/Screened Interval: 2" PVC / 3-13'
After 5 minutes of purging (from top of casing): 4.57'
Begin purge (time): 11:24
End purge (time): 12:00
Gallons purged: 1.25
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
11:29	4.57'	1L	7.10	1.70	0.264	9.5	16.9	41.1	
11:34	4.59'	2L	6.91	0.67	0.257	8.5	16.4	28.4	
11:39	4.59'	3L	6.90	0.47	0.254	10.5	15.9	16.1	
11:44	4.59'	4L	6.90	0.41	0.258	11.2	16.4	9.7	
11:49	4.59'	5L	6.91	0.38	0.254	7.7	15.8	5.1	

Sampling Data

Sample No: MW-20-070518
Location and Depth: South of MW-14
Date Collected (mo/dy/yr): 7-5-2018
Time Collected: 11:50 ☐ AM ☒ PM
Weather: 90°F / sunny
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI Pro DSS
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

☑ Atrazine + nitrite/nitrate

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L Amber	1	None	Slight turbidity increase likely due to bubbles in flow thru cell. Purge water clear
250 mL poly	1		

Signature:
Date: 7/5/2018

ATER OR SURFACE WATER SAMPLE COLLECTION FORM

Name: Smith Kem
Number: Phase 2a

Date of Collection: 6/6/17
Field Personnel: P. Osternout

ata

: FS-22 (A) emp well

Secure: ☐ Yes ☐ No N/A Well Condition/Damage Description: ~~2" PVC~~ Temporary

pth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No

One Casing Volume (gal):

Depth of water (from top of well casing): ~4' @ 1400

Well Casing Type/Diameter/Screened Interval: 2" PVC / 4-6'

After 5 minutes of purging (from top of casing): 4.00'

Begin purge (time): 1419

End purge (time): 1515

Gallons purged: 3 gallons

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1424	4.03'	2 L	–	–	–	–	–	–	
1428	–	3L	7.41	1.30	1.61	713	26	-28	
1434	–	5L	7.63	1.05	1.57	175	23.30	-78	
1441	4.11	7L	7.59	0.46	1.54	96.4	22.05	-94	
1448		25 gal	7.57	0.20	1.53	79.3	21.25	-100	

Sampling Data

Sample No: FS-22-GW-4-6
Location and Depth: 6'

Date Collected (mo/dy/yr): 6/6/17
Time Collected: 1450 ☐ AM ☑ PM Weather: Sunny 80°.

Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☒ Unfiltered Other: Diss. metals filtered

Sample Collected with: ☐ Bailer ☑ Pump Other:
Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Brownish/turbid, no obvious odor

Sample Analyses

TPH-D (HCl) ☑ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☑

TPH-G (HCl) ☑ BTEX (HCl) ☑ Total Metals (HNO3) ☑ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☐

Pest, herb, nitrate, nitrite, ammonia

Additional Information

Types of Sample Containers:	Quantity:
500 mL glass amber	2
250 mL poly	2
250 mL poly w/ H_2SO_4	2
250 mL poly w/ HNO_3	4
40 mL VOA w/ HCl	16
1L glass amber	4

Duplicate Sample Numbers: FS-22-GW-0-2 @ 1435

Comments: Temp well drilled 0-7' bgs, cave in to 6', set screen 4-6', filled casing w/ silica sand. Left drill casing in hole @ 4.5' bgs. Pulled screen/riser and backfilled w/ bentonite slurry

Signature: [signature] **Date:** 6/6/17

16.35-2.1

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number: Phase 2a
Date of Collection: 6/6/17
Field Personnel: P. Osterhout

Purge Data

Well ID: FS-22 (B)
~~Secure:~~ ☐ Yes ☐ No
Well Condition/Damage Description: Temporary

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No
Depth of water (from top of well casing): ~~9.00~~ 8.7'
After 5 minutes of purging (from top of casing): _____
Begin purge (time): 1600
End purge (time): 1715
Gallons purged: 3 gal
Purge water disposal method: drum

One Casing Volume (gal): _____
Well Casing Type/Diameter/Screened Interval: 2" PVC / 9-11'

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1610	~~4.1~~	1 gal	—	—	—	—	—	—	water rising
1612	4.25								
1620	4.1'	1.8 gal	—	—	—	1000+	—	—	
1625	—	2 gal	7.90	0.00	0.970	High	17.15	-132	NTU's reading zero, but clearly not
1630	4.4'	2.5 gal	7.84	0.00	0.984	High	16.34	-149	
1640									

Sampling Data

Sample No: FS-22-GW-9-11
Location and Depth: 11' bgs
Date Collected (mo/dy/yr): 6/6/17
Time Collected: 1640 ☐ AM ☑ PM
Weather: Sunny / 80°F
Type: ☑ Ground Water ☐ Surface Water Other: _____
Sample: ☐ Filtered ☑ Unfiltered Other: diss. metals field filtered
Sample Collected with: ☐ Bailer ☑ Pump Other: _____
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other: _____
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing disposable and/or dedicated silicon and poly tubing Other: _____
Sample Description (Color, Turbidity, Odor, Other): High turbidity (fines), no apparent odor

Sample Analyses

B pest, herb, nitrate/-ite, ammonia

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
1L glass amber	6	None
500 mL glass amber	3	
250 mL poly	2	
250 mL poly w/ H_2SO_4	2	
250 mL poly w/ HNO_3	2	→ 1 poly Field Filtered
40 mL VOA w/ HCl	9	

Comments:
Extra volume for MS/MSD
Temp well: drilled w/ sonic to 11'
Set 2' screen from 9 to 11' bgs
Filled drill casing w/ silica sand to 7'
then ~~abandoned~~ sampled.
Left drill casing in hole from 0-9' bgs
Pulled casing and filled hole w/ Bentonite.

Signature: Paula Osterhout
Date: 6/6/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number: Phase 2a
Date of Collection: 10/6/17
Field Personnel: P. Ostermout

Purge Data

Well ID: FS-22 (C)
~~Secure: ☐ Yes ☐ No~~
Well Condition/Damage Description: Temporary

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 16.23' - 1.8' (stickup)
Well Casing Type/Diameter/Screened Interval: 2" PVC / 14-16'
After 5 minutes of purging (from top of casing): 17.00' - 1.8'
Begin purge (time): 1826 @ 1857 resume w/ higher casing
End purge (time):
Gallons purged:
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1831	17.00'	1L							slowed pump
1835	out of	water	—	—	—	—	—	—	stopped pump
1848	16.90'	—	—	—	—	—	—	—	start pump v. slow
1852	17.10'	1L	—	—	—	—	—	—	—
1857	16.20'	—	—	—	—	—	—	—	
1902	17.48'								
1905	Well dry again – Redrilling deeper to 20' bgs : Still no water								

Sampling Data

Sample No: ~~FS-22-GW-14-16~~ NO SAMPLE
Location and Depth:
Date Collected (mo/dy/yr): ~~10/10/17~~
Time Collected: ☐ AM ☑ PM
Weather: sunny / 70°F
Type: ☑ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☐ Unfiltered Other:
Sample Collected with: ☐ Bailer ☑ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other):

Sample Analyses

☑ pest, herb, ammonia, nitrate/nitrite

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
~~1L glass amber~~	2	None
~~500 mL glass amber~~	1	
~~250 mL poly~~	1	
~~250 mL poly w/ H_2SO_4~~	1	
~~250 mL poly w/ HNO_3~~	2	
~~40 mL VOA w/ HCl~~	3	

Comments: Temp well drilled to 16' bgs, set screen to 14-16' bgs. Drill casing set to 13.75' bgs (Well ran dry & set in silty gravel layer). Pulled drill casing up ~1' (also pulled well up ~0.5'). Well became more productive. Purge water v. muddy

Signature:
Date: 10/6/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem
Project Number: Phase 2a
Date of Collection: 6/8/17
Field Personnel: P. Osterhout

Purge Data

Well ID: FS-30 (A) ~~Secure: ☐ Yes ☐ No~~ Well Condition/Damage Description: Temporary

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): 4.55' @ 0917 -0.3 Well Casing Type/Diameter/Screened Interval: 2" PVC 5-7'

After 5 minutes of purging (from top of casing): 4.80

Begin purge (time): 0922

End purge (time): 1020

Gallons purged: 4

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
0935	4.85'	5L	6.84	0.70	0.754	540	21.52	-313	
0945	—	2.5gal	6.54	0.36	0.747	43	20.48	-346	

Sampling Data

Sample No: FS-30-GW-5-7 Location and Depth: 16' bgs

Date Collected (mo/dy/yr): 6/8/17 Time Collected: 0955 ☒ AM ☐ PM Weather: overcast ~75°

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other: Diss. metals field filtered

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): turbid, no apparent odor

Sample Analyses

☑ pesticides/herbicides ☑ ammonia ☑ nitrate/nitrite

TPH-D	(HCl) ☑	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☑
TPH-G	(HCl) ☑	BTEX	(HCl) ☑	Total Metals	(HNO3) ☑	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L glass amber	2	None	Well screen set 5'-7' bgs
500mL glass amber	1		Sand pack added to ~4' ft
250 mL poly	1		
250 mL poly w/ H_2SO_4	1		
250 mL poly w/ HNO_3	2	→ 30mL bottle field filtered	
40 mL VOA w/ HCl	3		

Signature: Date: 6/8/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Kem Date of Collection: 6/8/17

Project Number: Phase 2a Field Personnel: P. Osterhout

Purge Data

Well ID: FS-30(C) Secure: ☐ Yes ☐ No Well Condition/Damage Description: Temporary

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): ~~7.77'~~ (-33") Well Casing Type/Diameter/Screened Interval: 2 inch PVC / 13'-15'

After 5 minutes of purging (from top of casing): 7.69 - 33"

Begin purge (time): 1120

End purge (time): 1220

Gallons purged: 5

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1200	7.42'	4 gal	6.68	0.00	1.13	800+	14.92	-389	
1205	7.42'	4.5 gal	6.57	0.0	1.14	800+	14.43	-406	

Sampling Data

Sample No: FS-30-GW-13-15 Location and Depth: 14'

Date Collected (mo/dy/yr): 6/8/17 Time Collected: 1212 ☐ AM ☒ PM Weather: Showers / 70° F

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other: dissolved metals field filtered

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing: disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Very turbid, no apparent odor

Sample Analyses

☒ pest/herb ☒ ammonia ☒ NO_3/NO_2

TPH-D	(HCl) ☒	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☒
TPH-G	(HCl) ☒	BTEX	(HCl) ☒	Total Metals	(HNO3) ☒	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L glass amber	2	None	Screen set 13'-15' bgs
500 mL glass amber	1		Drill casing set 0-12.5' bgs
250 mL poly	1		
250 mL poly w/ H_2SO_4	1		
250 mL poly w/ HNO_3	2 → one field filtered		(No sample was collected at FS-30 (B))
40 mL VOA w/ HCl	3		

Signature: [signature] Date: 6/8/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith-Ken Date of Collection: 6/7/17

Project Number: Phase 2a Field Personnel: G. Cisneros / P. O

Purge Data

Well ID: FS-37 Secure: ☐ Yes ☐ No Well Condition/Damage Description: Temp Well

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): [redacted] / 8.94 Well Casing Type/Diameter/Screened Interval: ~~4.5-7'~~ 2" PVC / ~~2.5~~ 9-14

After 5 minutes of purging (from top of casing): 6.06 gs.

Begin purge (time): ~~1055~~ 1158 (1325) 1.25' 9.5

End purge (time):

Gallons purged: ~35 (bailed + whale pump)

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1120	—	1.5 gal	—	—	—	—	—	—	
1205	11.10	—	—	11.72					
1209	well Dry - 11.96' @ 1210, [redacted] @ 1215								
1519	3.56'-1.1'	~30gal	7.69	0.00	0.447	~800	14.49	-171	
1520	—		7.61	0.00	0.444	800+	13.78	-171	

Sampling Data

Sample No: FS-37-GW-[redacted]-9-14 Location and Depth: 13' bgs

Date Collected (mo/dy/yr): 6/7/17 Time Collected: 1520 ☐ AM ☒ PM Weather: Sunny / hot

Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: Peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing / disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other): Highly turbid despite bailer + whale pump

Sample Analyses

☒ Atrazine ☒ Nitrate

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
1L glass amber	1	None
250 mL poly	1	

Comments:

Stopped purge @ 1120 (well dry) to drill deeper (10'), then again to 14'

1345: water rising ~0.05 inch

1350: water still rising slowly (increased pump) purged 2 gallons so far

Hach test w/ filtered H_2O = ~3 mg/L Nitrate

Signature: [signature] Date: 6/7/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number: Phase 2a
Date of Collection: 6/7/17
Field Personnel: P. Osterhout

Purge Data

Well ID: FS-38 ~~Secure: ☐ Yes ☐ No~~ Well Condition/Damage Description: Temporary

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 3.47 -.5 (riser)
Well Casing Type/Diameter/Screened Interval: 2" PVC / 4.5-7'
After 5 minutes of purging (from top of casing): 3.60 - 0.5
Begin purge (time): 0831
End purge (time): 0938
Gallons purged: 4.5 gallons
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP MV	Comments
0836	3.60-0.5	1L	—	—	—	Muddy	—	—	
0840	3.61-0.5	2L	—	—	—	Muddy	—	—	Speed pump
0850	3.61-0.5	4L	—	—	—	High	—	—	
0905	3.61-0.5	2 gal	7.00	1.45	0.574	*	16.38	-124	
0910	3.61-0.5	2.5 gal	7.36	0.17	0.517	1687	15.76	-181	
0915	" "	3 gal	7.34	0.05	0.505	800+	15.39	-194	
0930	" "	4 gal	7.20	0.00	0.496	400↓	15.03	-197	

Sampling Data

Sample No: FS-38-GW-4.5-7
Location and Depth: 6' bgs
Date Collected (mo/dy/yr): 6/7/2017
Time Collected: 0935 ☒ AM ☐ PM
Weather: sunny / 75°F
Type: ☒ Ground Water ☐ Surface Water Other:
Sample: ☐ Filtered ☑ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other:
Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing disposable and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): turbid, no apparent odor

Sample Analyses

☒ Atrazine ☒ Nitrate/nitrite

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1 L glass amber	1	None	Purge water initially muddy
250 mL poly	1		* Horiba reading 0.0 NTU, but water is not clear.
			Hach Field Kit for nitrate: too turbid, filtered sample for comparison. Results = 2 mg/L

Signature: Pamela Osterhout Date: 6/7/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smithtown Date of Collection: 6/7/17

Project Number: Phase 2a Field Personnel: P. Osterhout

Purge Data

Well ID: FS-39 Secure: ☐ Yes ☐ No Well Condition/Damage Description: Temporary

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from top of well casing): ~~3.66~~ Well Casing Type/Diameter/Screened Interval: 2" PVC 4.5'-7'

After 5 minutes of purging (from top of casing): @ 3.66

Begin purge (time): 0930

End purge (time):

Gallons purged:

Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP mV	Comments
1000	3.65'	2.5 gal	7.67	0.87	0.528	124	14.88	-172	
1005	" "	3	7.55	0.15	0.526	84.1	14.61	-191	
1015	"	3.5	7.51	0.08	0.526	52.3	14.28	-201	

Sampling Data

Sample No: FS-39-GW-4.5-7' Location and Depth: ~6.5ft bgs

Date Collected (mo/dy/yr): 6/7/17 Time Collected: 1020 ☑ AM ☐ PM Weather: Sunny ~80°F

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☑ Unfiltered Other:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☑ Horiba U-50 Other:

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing, disposable and/or dedicated silicon and poly tubing Other:

Sample Description (Color, Turbidity, Odor, Other):

Sample Analyses

☑ Atrazine ☑ nitrate

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L glass Amber	1	None	Top of casing ~0.25 inches above gs.
250mL poly	1		Hach Field kit for nitrate: No detection

Signature: [signature] Date: 6/7/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: Smith Kem
Project Number: Phase 2a
Date of Collection: 6/7/17
Field Personnel: P. Osterhout

Purge Data

Well ID: FS-40 Secure: ☐ Yes ☐ No Well Condition/Damage Description: Temporary

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No
One Casing Volume (gal):
Depth of water (from top of well casing): 4.25
Well Casing Type/Diameter/Screened Interval: 2" PVC / 4.5-7'
After 5 minutes of purging (from top of casing): 4.33 @ 1037
Begin purge (time): 1004
End purge (time): 1110
Gallons purged:
Purge water disposal method: drum

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO mg/L	Conductivity mS/cm	Turbidity NTU	Temp °C	ORP MV	Comments
1049	4.160'	1.5 gal	—	—	—	—	—	—	
1054	—	2	7.86	0.27	0.436	30.1	16.91	-241	
1102	—	2.5	7.86	0.00	0.438	12.2	16.06	-252	

Sampling Data

Sample No: FS-40-GW-4.5-7
Location and Depth: 6.5' bgs
Date Collected (mo/dy/yr): 6/7/17
Time Collected: 1105 ☒ AM ☐ PM Weather: sunny / hot
Type: ☒ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☒ Unfiltered Other:
Sample Collected with: ☐ Bailer ☒ Pump Other: Type: peristaltic
Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other:
Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing (disposable) and/or dedicated silicon and poly tubing Other:
Sample Description (Color, Turbidity, Odor, Other): slightly turbid, no apparent odor

Sample Analyses

☒ Atrazine ☒ nitrate

TPH-D	(HCl) ☐	Chlor / Fluor	(unpres) ☐	COD / TOC	(H2SO4) ☐	Orthophos	(FILTER) ☐	Diss. Metals	(HNO3) ☐
TPH-G	(HCl) ☐	BTEX	(HCl) ☐	Total Metals	(HNO3) ☐	TKN/Phos	(N2SO4) ☐	VOCs	(HCl) ☐

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
1L glass amber	1	None	
250 mL poly	1		Hach Field Kit: x 3 mg/L nitrate-nitrogen

Signature: Paul Osterhout Date: 6/7/17

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix E
Remedial Investigation Data

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	Culvert	FS-01	FS-01	FS-01	FS-02
	Sample ID	**Culvert-1**	**FS-01-0.5-1**	**FS-01-2-3**	**FS-01-7-8**	**FS-02-0.5-1**
	Depth	0-0.25 ft	0.5-1 ft	2-3 ft	7-8 ft	0.5-1 ft
	Date	08/05/2016	08/02/2016	08/02/2016	08/02/2016	08/02/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene	mg/kg	0.081	0.05 U	0.05 U	0.05 U	0.05 U
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Xylenes	mg/kg	0.051	0.1 U	0.1 U	0.1 U	0.1 U
Metals						
Arsenic	mg/kg	4.8	5.2	2.9	1.5	5.6
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U
Chromium (Total)	mg/kg	47	17	18	17	22
Copper	mg/kg	90	26	31	18	23
Lead	mg/kg	23	110	78	1.8	16
Mercury	mg/kg	0.1 U	0.11	0.46	0.1 U	0.1 U
Zinc	mg/kg	200	120	90	27	470
Miscellaneous Substances						
Nitrate/Nitrite	µg/g	39		27		
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
HCH-beta (b-BHC)	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
HCH-delta (d-BHC)	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
G-BHC (Lindane)	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Aldrin	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Heptachlor	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Heptachlor Epoxide	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Chlordane	mg/kg	1.6 UJ	1.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ
Dieldrin	mg/kg	0.72 J	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Endrin	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Endosulfan I	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Endosulfan II	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
4,4'-DDD / Sum DDD	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
4,4'-DDE / Sum DDE	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
4,4'-DDT / Sum DDT	mg/kg	0.79 J	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Hexachlorobenzene	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Methoxychlor	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Toxaphene	mg/kg	17 UJ	17 UJ	17 UJ	6.8 UJ	17 UJ
Chlorinated Herbicides						
2,4-D	mg/kg	2.5	0.11 J	0.01 UJ	0.01 UJ	1.4 J
2,4-DB	mg/kg	0.14	0.01 UJ	0.01 UJ	0.01 UJ	0.022 J
2,4,5-TP (Silvex)	mg/kg	0.047	0.014 J	0.01 UJ	0.01 UJ	0.01 UJ
2,4,5-T	mg/kg	0.01 U	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Dicamba	mg/kg	0.45	0.036 J	0.01 UJ	0.01 UJ	0.36 J
Dinoseb	mg/kg	0.01 U	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
MCPA	mg/kg	0.76 J	0.031 J	0.01 UJ	0.01 UJ	0.48 J
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Pentachlorophenol	mg/kg	0.02 U	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Other Chlorinated/Halogenated Pesticides						

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	Culvert	FS-01	FS-01	FS-01	FS-02
	Sample ID	**Culvert-1**	**FS-01-0.5-1**	**FS-01-2-3**	**FS-01-7-8**	**FS-02-0.5-1**
	Depth	0-0.25 ft	0.5-1 ft	2-3 ft	7-8 ft	0.5-1 ft
	Date	08/05/2016	08/02/2016	08/02/2016	08/02/2016	08/02/2016
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.85 UJ	0.85 UJ	0.85 UJ	0.34 UJ	0.85 UJ
Alachlor	mg/kg	0.85 UJ	0.85 UJ	0.85 UJ	0.34 UJ	0.85 UJ
Atrazine	mg/kg	0.11 J	0.025 J	0.0067 UJ	0.0067 UJ	0.07 J
Captafol	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Captan	mg/kg	0.85 UJ	0.85 UJ	0.85 UJ	0.34 UJ	0.85 UJ
Chlordane-alpha	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Chlorbenzilate	mg/kg	0.85 UJ	0.85 UJ	0.85 UJ	0.34 UJ	0.85 UJ
Chlorthalonil	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Cyanazine (Bladex)	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ
Cyhalothrin/karate	mg/kg	1.6 UJ	1.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ
Cypermethrin	mg/kg	1.6 UJ	1.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ
DCPA (Dacthal)	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Flutolanil	mg/kg	3.4 UJ	3.4 UJ	3.4 UJ	1.3 UJ	3.4 UJ
Folpet	mg/kg	0.85 UJ	0.85 UJ	0.85 UJ	0.34 UJ	0.85 UJ
Iprodione	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Metoachlor	mg/kg	0.85 UJ	0.85 UJ	0.85 UJ	0.34 UJ	0.85 UJ
Metribuzin	mg/kg	0.13 J	0.014 J	0.013 UJ	0.013 UJ	0.18 J
Norflurazon	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Oxadiazon	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Oxamyl	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Permethrin	mg/kg	1.6 UJ	1.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ
Pronamide	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Propachlor	mg/kg	0.85 UJ	0.85 UJ	0.85 UJ	0.34 UJ	0.85 UJ
Propanil	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Propiconazole	mg/kg	0.85 UJ	0.85 UJ	0.85 UJ	0.34 UJ	0.85 UJ
Simazine	mg/kg	0.02 J	0.048 J	0.0067 UJ	0.0067 UJ	0.0067 UJ
Terbacil	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Trifluralin	mg/kg	0.34 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Chlorpyrifos-methyl	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Diazinon	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Dichlorvos	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Dicrotophos	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Dimethoate	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Disulfoton	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
EPN	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Ethion (Ronnel)	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Fonofos (Merphos)	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Malathion	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Parathion	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Parathion-methyl	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Phorate	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Terbufos	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	Culvert	FS-01	FS-01	FS-01	FS-02
	Sample ID	**Culvert-1**	**FS-01-0.5-1**	**FS-01-2-3**	**FS-01-7-8**	**FS-02-0.5-1**
	Depth	0-0.25 ft	0.5-1 ft	2-3 ft	7-8 ft	0.5-1 ft
	Date	08/05/2016	08/02/2016	08/02/2016	08/02/2016	08/02/2016
Triazine Herbicides (Organonitrogen Pesticides)						
Ametryn	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Hexazinone	mg/kg	0.029 J	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.57 J
Prometon	mg/kg	0.015 J	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Prometryn	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Propazine	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Phenylurea Herbicides						
Diuron	mg/kg	1.8	0.024 J	0.0067 UJ	0.0067 UJ	0.37 J
Linuron	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Carbamate Pesticides						
Aldicarb	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Aldicarb sulfone	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Carbaryl	mg/kg	0.061	0.01 J	0.0067 UJ	0.0067 UJ	0.0067 UJ
Carbofuran	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Methomyl	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Thiobencarb	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Organophosphorus and Organosulfur Pesticides						
Demeton	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Fenamiphos	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Merphos	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Methidathion	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Phosmet	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Pirimiphos-methyl	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Propargite	mg/kg	0.013 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ
Tetrachlorvinphos	mg/kg	0.034 UJ	0.34 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Organonitrogen Pesticides						
Amitraz	mg/kg	0.013 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ
Diphenylamine	mg/kg	0.0092 J	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Fluometuron	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Metalaxyl	mg/kg	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Pendimethalin	mg/kg	0.67 J	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Tebuthiuron	mg/kg	0.018 J	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH	mg/kg	6.4	2 U	2 U	2 U	2 U
Diesel-Range TPH	mg/kg	280 JM	160 JM	50 U	50 U	81 JM
Oil-Range TPH	mg/kg	1700	1100	250 U	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-02	FS-02	FS-03	FS-03	FS-03
	Sample ID	**FS-02-2.5-3.5**	**FS-02-4-5**	**FS-03-0.5-1**	**FS-03-2.5-3.5**	**FS-03-5.5-6.5**
	Depth	2.5-3.5 ft	4-5 ft	0.5-1 ft	2.5-3.5 ft	5.5-6.5 ft
	Date	08/02/2016	08/02/2016	08/03/2016	08/03/2016	08/03/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.001 U	0.001 U	0.001 U
Toluene	mg/kg	0.05 U	0.05 U	0.001 U	0.001 U	0.0018
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.001 U	0.001 U	0.0016
Xylenes	mg/kg	0.1 U	0.1 U	0.002 U	0.002 U	0.002 U
Methyl tert-Butyl Ether (MTBE)	mg/kg			0.05 U	0.05 U	0.05 U
Naphthalene	mg/kg			0.05 U	0.05 U	0.05 U
1,2-Dichloroethane (EDC)	mg/kg			0.05 U	0.05 U	0.05 U
n-Hexane	mg/kg			0.25 U	0.25 U	0.25 U
1,2-Dibromoethane (EDB)	mg/kg			0.05 U	0.05 U	0.05 U
Metals						
Arsenic	mg/kg	3.9	3.1	2.1	2	2.8
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U
Chromium (Total)	mg/kg	18	13	14	16	19
Copper	mg/kg	34	12	18	18	15
Lead	mg/kg	12	2.2	18	34	3.2
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Zinc	mg/kg	170	48	51	53	28
Miscellaneous Substances						
Nitrate/Nitrite	µg/g	100		550	460	55
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
HCH-beta (b-BHC)	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
HCH-delta (d-BHC)	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
G-BHC (Lindane)	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Aldrin	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Heptachlor	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Heptachlor Epoxide	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Chlordane	mg/kg	6.6 J	0.64 UJ	0.66 UJ	0.66 UJ	0.33 UJ
Dieldrin	mg/kg	2.7 J	0.13 UJ	0.35 J	0.13 UJ	0.067 UJ
Endrin	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Endosulfan I	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Endosulfan II	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
4,4'-DDD / Sum DDD	mg/kg	0.14 J	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
4,4'-DDE / Sum DDE	mg/kg	0.24 J	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
4,4'-DDT / Sum DDT	mg/kg	0.34 J	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Hexachlorobenzene	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Methoxychlor	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Toxaphene	mg/kg	12 J	6.6 UJ	6.8 UJ	6.8 UJ	3.4 UJ
Chlorinated Herbicides						
2,4-D	mg/kg	1.4 J	0.012 J	1.2	0.52	0.069
2,4-DB	mg/kg	0.064 J	0.01 UJ	0.01 U	0.01 U	0.01 U
2,4,5-TP (Silvex)	mg/kg	0.11 J	0.01 UJ	0.027	0.01 U	0.01 U
2,4,5-T	mg/kg	0.01 UJ	0.01 UJ	0.01 U	0.01 U	0.01 U
Dicamba	mg/kg	10 J	0.075 J	0.85	1	0.039

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-02	FS-02	FS-03	FS-03	FS-03
	Sample ID	**FS-02-2.5-3.5**	**FS-02-4-5**	**FS-03-0.5-1**	**FS-03-2.5-3.5**	**FS-03-5.5-6.5**
	Depth	2.5-3.5 ft	4-5 ft	0.5-1 ft	2.5-3.5 ft	5.5-6.5 ft
	Date	08/02/2016	08/02/2016	08/03/2016	08/03/2016	08/03/2016
Chlorinated Herbicides						
Dinoseb	mg/kg	0.01 UJ	0.01 UJ	0.01 U	0.01 U	0.01 U
MCPA	mg/kg	0.75 J	0.01 UJ	0.084	0.039	0.01 U
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 UJ	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.85 UJ	0.33 UJ	0.34 UJ	0.34 UJ	0.17 UJ
Alachlor	mg/kg	0.85 UJ	0.33 UJ	0.34 UJ	0.34 UJ	0.17 UJ
Atrazine	mg/kg	0.012 J	0.0067 UJ	0.009 J	0.0067 U	0.0067 U
Captafol	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Captan	mg/kg	0.85 UJ	0.33 UJ	0.34 UJ	0.34 UJ	0.17 UJ
Chlordane-alpha	mg/kg	0.67 J	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Chlorbenzilate	mg/kg	0.85 UJ	0.33 UJ	0.34 UJ	0.34 UJ	0.17 UJ
Chlorthalonil	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Cyanazine (Bladex)	mg/kg	0.013 UJ	0.013 UJ	0.013 U	0.013 U	0.013 U
Cyhalothrin/karate	mg/kg	1.6 UJ	0.64 UJ	0.66 UJ	0.66 UJ	0.33 UJ
Cypermethrin	mg/kg	1.6 UJ	0.64 UJ	0.66 UJ	0.66 UJ	0.33 UJ
DCPA (Dacthal)	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Flutolanil	mg/kg	3.4 UJ	1.3 UJ	1.3 UJ	1.3 UJ	0.67 UJ
Folpet	mg/kg	0.85 UJ	0.33 UJ	0.34 UJ	0.34 UJ	0.17 UJ
Iprodione	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Metoachlor	mg/kg	0.85 UJ	0.33 UJ	0.34 UJ	0.34 UJ	0.17 UJ
Metribuzin	mg/kg	0.043 J	0.013 UJ	0.013 U	0.013 U	0.013 U
Norflurazon	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Oxadiazon	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Oxamyl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Permethrin	mg/kg	1.6 UJ	0.64 UJ	0.66 UJ	0.66 UJ	0.33 UJ
Pronamide	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Propachlor	mg/kg	0.85 UJ	0.33 UJ	0.34 UJ	0.34 UJ	0.17 UJ
Propanil	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Propiconazole	mg/kg	0.85 UJ	0.33 UJ	0.34 UJ	0.34 UJ	0.17 UJ
Simazine	mg/kg	0.02 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Terbacil	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Trifluralin	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Chlorpyrifos-methyl	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Diazinon	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Dichlorvos	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Dicrotophos	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Dimethoate	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Disulfoton	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
EPN	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Ethion (Ronnel)	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Fonofos (Merphos)	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-02	FS-02	FS-03	FS-03	FS-03
	Sample ID	**FS-02-2.5-3.5**	**FS-02-4-5**	**FS-03-0.5-1**	**FS-03-2.5-3.5**	**FS-03-5.5-6.5**
	Depth	2.5-3.5 ft	4-5 ft	0.5-1 ft	2.5-3.5 ft	5.5-6.5 ft
	Date	08/02/2016	08/02/2016	08/03/2016	08/03/2016	08/03/2016
Organophosphate Pesticides (Organophosphorus Compounds)						
Malathion	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Parathion	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Parathion-methyl	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Phorate	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Terbufos	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Triazine Herbicides (Organonitrogen Pesticides)						
Ametryn	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Hexazinone	mg/kg	0.42 J	0.0067 UJ	0.018	0.012	0.0067 U
Prometon	mg/kg	0.054 J	0.0067 UJ	0.012	0.0067 U	0.0067 U
Prometryn	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Propazine	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Phenylurea Herbicides						
Diuron	mg/kg	0.032 J	0.0067 UJ	0.03	0.0094	0.0067 U
Linuron	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Carbamate Pesticides						
Aldicarb	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Aldicarb sulfone	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Carbaryl	mg/kg	0.13 J	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Carbofuran	mg/kg	0.0069 J	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Methomyl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Thiobencarb	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Organophosphorus and Organosulfur Pesticides						
Demeton	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Fenamiphos	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Merphos	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Methidathion	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Phosmet	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Pirimiphos-methyl	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Propargite	mg/kg	0.013 UJ	0.013 UJ	0.013 U	0.013 U	0.013 U
Tetrachlorvinphos	mg/kg	0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.034 UJ
Organonitrogen Pesticides						
Amitraz	mg/kg	0.013 UJ	0.013 UJ	0.013 U	0.013 U	0.013 U
Diphenylamine	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Fluometuron	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Metalaxyl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Pendimethalin	mg/kg	0.34 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.067 UJ
Tebuthiuron	mg/kg	0.013 UJ	0.013 UJ	0.013 U	0.013 U	0.013 U
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH	mg/kg	2 U	2 U	2 U	2 U	2 U
Diesel-Range TPH	mg/kg	50 U	50 U	50 U	50 U	50 U
Oil-Range TPH	mg/kg	250 U	250 U	250 U	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-04	FS-04	FS-04	FS-05	FS-05
	Sample ID	**FS-04-0.5-1**	**FS-04-3-4**	**FS-04-7-8**	**FS-05-0.5-1**	**FS-05-3-4**
	Depth	0.5-1 ft	3-4 ft	7-8 ft	0.5-1 ft	3-4 ft
	Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/03/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Xylenes	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl tert-Butyl Ether (MTBE)	mg/kg					0.05 U
Naphthalene	mg/kg					0.05 U
1,2-Dichloroethane (EDC)	mg/kg					0.05 U
n-Hexane	mg/kg					0.25 U
1,2-Dibromoethane (EDB)	mg/kg					0.05 U
Metals						
Arsenic	mg/kg	1.1	1.9	2.4	3.4	2.5
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U
Chromium (Total)	mg/kg	9.1	16	12	35	16
Copper	mg/kg	13	19	11	41	13
Lead	mg/kg	4.2	21	5	73	2.5
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.18	0.1 U
Zinc	mg/kg	31	84	31	330	30
Miscellaneous Substances						
Nitrate/Nitrite	µg/g		1.7			
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
HCH-beta (b-BHC)	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
HCH-delta (d-BHC)	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
G-BHC (Lindane)	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Aldrin	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	8.3 J	0.066 UJ
Heptachlor	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.43 J	0.066 UJ
Heptachlor Epoxide	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Chlordane	mg/kg	0.32 UJ	0.33 UJ	0.33 UJ	38 J	0.32 UJ
Dieldrin	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	31 J	0.066 UJ
Endrin	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Endosulfan I	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Endosulfan II	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.3 J	0.066 UJ
4,4'-DDD / Sum DDD	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.2 J	0.066 UJ
4,4'-DDE / Sum DDE	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	3.2 J	0.066 UJ
4,4'-DDT / Sum DDT	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	4.2 J	0.066 UJ
Hexachlorobenzene	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Methoxychlor	mg/kg	0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Toxaphene	mg/kg	3.3 UJ	3.4 UJ	3.4 UJ	18 J	3.3 UJ
Chlorinated Herbicides						
2,4-D	mg/kg	0.9	0.01 U	0.01 U	1.3	0.01 U
2,4-DB	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-TP (Silvex)	mg/kg	0.012	0.01 U	0.01 U	2.9	0.01 U
2,4,5-T	mg/kg	0.01 U	0.01 U	0.01 U	0.087	0.01 U
Dicamba	mg/kg	0.24	0.03	0.1 J	0.6	0.011

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-04	FS-04	FS-04	FS-05	FS-05
		Sample ID	**FS-04-0.5-1**	**FS-04-3-4**	**FS-04-7-8**	**FS-05-0.5-1**	**FS-05-3-4**
		Depth	0.5-1 ft	3-4 ft	7-8 ft	0.5-1 ft	3-4 ft
		Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/03/2016
Chlorinated Herbicides							
Dinoseb	mg/kg		0.01 U	0.01 U	0.01 U	0.52	0.01 U
MCPA	mg/kg		0.27	0.01 U	0.01 U	0.21	0.01 U
MCPP (Mecoprop)	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	mg/kg		0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ	0.17 UJ
Alachlor	mg/kg		0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ	0.17 UJ
Atrazine	mg/kg		0.0067 U	0.011	0.0067 U	0.24 J	0.0067 U
Captafol	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Captan	mg/kg		0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ	0.17 UJ
Chlordane-alpha	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	5.6 J	0.066 UJ
Chlorbenzilate	mg/kg		0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ	0.17 UJ
Chlorthalonil	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Cyanazine (Bladex)	mg/kg		0.013 U	0.013 U	0.013 U	0.29 J	0.013 U
Cyhalothrin/karate	mg/kg		0.32 UJ	0.33 UJ	0.33 UJ	0.64 UJ	0.32 UJ
Cypermethrin	mg/kg		0.32 UJ	0.33 UJ	0.33 UJ	0.64 UJ	0.32 UJ
DCPA (Dacthal)	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Flutolanil	mg/kg		0.66 UJ	0.67 UJ	0.67 UJ	1.3 UJ	0.66 UJ
Folpet	mg/kg		0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ	0.17 UJ
Iprodione	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Metoachlor	mg/kg		0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ	0.17 UJ
Metribuzin	mg/kg		0.013 U	0.013 U	0.013 U	0.022 J	0.013 U
Norflurazon	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Oxadiazon	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Oxamyl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Permethrin	mg/kg		0.32 UJ	0.33 UJ	0.33 UJ	0.64 UJ	0.32 UJ
Pronamide	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Propachlor	mg/kg		0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ	0.17 UJ
Propanil	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Propiconazole	mg/kg		0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ	0.17 UJ
Simazine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.14 J	0.0067 U
Terbacil	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Trifluralin	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Organophosphate Pesticides (Organophosphorus Compounds)							
Glyphosate	mg/kg					20	0.43
Chlorpyrifos	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Chlorpyrifos-methyl	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Diazinon	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Dichlorvos	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Dicrotophos	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Dimethoate	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Disulfoton	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
EPN	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Ethion (Ronnel)	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-04	FS-04	FS-04	FS-05	FS-05
		Sample ID	**FS-04-0.5-1**	**FS-04-3-4**	**FS-04-7-8**	**FS-05-0.5-1**	**FS-05-3-4**
		Depth	0.5-1 ft	3-4 ft	7-8 ft	0.5-1 ft	3-4 ft
		Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/03/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Fonofos (Merphos)	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Malathion	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Parathion	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Parathion-methyl	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Phorate	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Terbufos	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Hexazinone	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.048 J	0.0067 U
Prometon	mg/kg		0.0067 U	0.021	0.0067 U	0.37 J	0.0067 U
Prometryn	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Propazine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Phenylurea Herbicides							
Diuron	mg/kg		0.0098	0.0067 U	0.0067 U	0.13	0.0067 U
Linuron	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0097	0.0067 U
Carbamate Pesticides							
Aldicarb	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldicarb sulfone	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbaryl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.04	0.0067 U
Carbofuran	mg/kg		0.0067 U	0.0091	0.0067 U	0.0067 U	0.0067 U
Methomyl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Thiobencarb	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Organophosphorus and Organosulfur Pesticides							
Demeton	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Fenamiphos	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Merphos	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Methidathion	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Phosmet	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Pirimiphos-methyl	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Propargite	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Tetrachlorvinphos	mg/kg		0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Organonitrogen Pesticides							
Amitraz	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Diphenylamine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Fluometuron	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Metalaxyl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Pendimethalin	mg/kg		0.066 UJ	0.067 UJ	0.067 UJ	0.13 UJ	0.066 UJ
Tebuthiuron	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	mg/kg		2 U	2 U	2 U	15	2 U
Diesel-Range TPH	mg/kg		50 U	50 U	50 U	150 JM	50 U
Oil-Range TPH	mg/kg		250 U	250 U	250 U	420	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-05	FS-06	FS-06	FS-06	FS-06
	Sample ID	**FS-05-5-6**	**FS-06-0-0.5**	**FS-06D-0-0.5**	**FS-06-2-3**	**FS-06-5-6**
	Depth	5-6 ft	0-0.5 ft	0.5-1 ft	2-3 ft	5-6 ft
	Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/03/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Xylenes	mg/kg	0.1 U	1 U	0.1 U	0.1 U	0.1 U
Methyl tert-Butyl Ether (MTBE)	mg/kg				0.05 U	
Naphthalene	mg/kg				0.05 U	
1,2-Dichloroethane (EDC)	mg/kg				0.05 U	
n-Hexane	mg/kg				0.25 U	
1,2-Dibromoethane (EDB)	mg/kg				0.05 U	
Metals						
Arsenic	mg/kg	2	7.7	11	3.4	2
Cadmium	mg/kg	1 U	1.8	1.8	1 U	1 U
Chromium (Total)	mg/kg	22	37	36	23	19
Copper	mg/kg	15	40	48	16	16
Lead	mg/kg	4.7	35	36	11	4.2
Mercury	mg/kg	0.1 U	0.29	0.33	0.1 U	0.1 U
Zinc	mg/kg	36	300	320	72	48
Carcinogenic Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene	mg/kg				0.0026	
Benzo(a)pyrene	mg/kg				0.0021	
Benzo(b)fluoranthene	mg/kg				0.0048	
Benzo(k)fluoranthene	mg/kg				0.002 U	
Chrysene	mg/kg				0.0049	
Dibenz(a,h)anthracene	mg/kg				0.002 U	
Indeno(1,2,3-cd)pyrene	mg/kg				0.002 U	
cPAH TEQ	mg/kg				0.0032	
Miscellaneous Substances						
Nitrate/Nitrite	µg/g				49	
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
HCH-beta (b-BHC)	mg/kg	0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
HCH-delta (d-BHC)	mg/kg	0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
G-BHC (Lindane)	mg/kg	0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Aldrin	mg/kg	0.14 J	20 J	17 J	0.24 J	0.34 UJ
Heptachlor	mg/kg	0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Heptachlor Epoxide	mg/kg	0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Chlordane	mg/kg	0.61 J	84 J	67 J	3.1 J	2.6 J
Dieldrin	mg/kg	0.44 J	46 J	42 J	1.3 J	1.6 J
Endrin	mg/kg	0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Endosulfan I	mg/kg	0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Endosulfan II	mg/kg	0.067 UJ	1.5 J	0.97 J	0.13 UJ	0.34 UJ
4,4'-DDD / Sum DDD	mg/kg	0.067 UJ	1.6 J	1.2 J	0.13 UJ	0.34 UJ
4,4'-DDE / Sum DDE	mg/kg	0.067 UJ	5.4 J	4.3 J	0.21 J	0.34 UJ
4,4'-DDT / Sum DDT	mg/kg	0.14 J	5.7 J	4.9 J	0.35 J	0.34 UJ

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-05	FS-06	FS-06	FS-06	FS-06
		Sample ID	**FS-05-5-6**	**FS-06-0-0.5**	**FS-06D-0-0.5**	**FS-06-2-3**	**FS-06-5-6**
		Depth	5-6 ft	0-0.5 ft	0.5-1 ft	2-3 ft	5-6 ft
		Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/03/2016
Organochlorine Pesticides							
Hexachlorobenzene	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Methoxychlor	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Toxaphene	mg/kg		3.4 UJ	120 J	100 J	6.6 UJ	17 UJ
Chlorinated Herbicides							
2,4-D	mg/kg		0.11	0.94	0.84	0.078	0.17
2,4-DB	mg/kg		0.01 U	0.082	0.074	0.01 U	0.01 U
2,4,5-TP (Silvex)	mg/kg		0.054	1.9	1.8	0.094	0.17
2,4,5-T	mg/kg		0.01 U	0.076	0.066	0.01 U	0.01 U
Dicamba	mg/kg		0.044	0.63	0.59	0.11	0.11
Dinoseb	mg/kg		0.01 U	0.28	0.2	0.011	0.016
MCPA	mg/kg		0.018	0.27	0.24	0.021	0.035
MCPP (Mecoprop)	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	mg/kg		0.17 UJ	0.85 UJ	0.85 UJ	0.33 UJ	0.85 UJ
Alachlor	mg/kg		0.17 UJ	0.85 UJ	0.85 UJ	0.33 UJ	0.85 UJ
Atrazine	mg/kg		0.0073	0.13 J	0.12 J	0.0084	0.017
Captafol	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Captan	mg/kg		0.17 UJ	0.85 UJ	0.85 UJ	0.33 UJ	0.85 UJ
Chlordane-alpha	mg/kg		0.11 J	9.9 J	8 J	0.42 J	0.46 J
Chlorbenzilate	mg/kg		0.17 UJ	0.85 UJ	0.85 UJ	0.33 UJ	0.85 UJ
Chlorthalonil	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Cyanazine (Bladex)	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Cyhalothrin/karate	mg/kg		0.33 UJ	1.6 UJ	1.6 UJ	0.65 UJ	1.6 UJ
Cypermethrin	mg/kg		0.33 UJ	1.6 UJ	1.6 UJ	0.65 UJ	1.6 UJ
DCPA (Dacthal)	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Flutolanil	mg/kg		0.67 UJ	3.4 UJ	3.4 UJ	1.3 UJ	3.4 UJ
Folpet	mg/kg		0.17 UJ	0.85 UJ	0.85 UJ	0.33 UJ	0.85 UJ
Hexachlorocylcopentadiene	mg/kg					0.03 U	
Iprodione	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Metoachlor	mg/kg		0.17 UJ	0.85 UJ	0.85 UJ	0.33 UJ	0.85 UJ
Metribuzin	mg/kg		0.013 U	0.11 J	0.098 J	0.03	0.039
Norflurazon	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Oxadiazon	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Oxamyl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Permethrin	mg/kg		0.33 UJ	1.6 UJ	1.6 UJ	0.65 UJ	1.6 UJ
Pronamide	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Propachlor	mg/kg		0.17 UJ	0.85 UJ	0.85 UJ	0.33 UJ	0.85 UJ
Propanil	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Propiconazole	mg/kg		0.17 UJ	0.85 UJ	0.85 UJ	0.33 UJ	0.85 UJ
Simazine	mg/kg		0.0067 U	0.03 J	0.023 J	0.0067 U	0.0067 U
Terbacil	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Trifluralin	mg/kg		0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Organophosphate Pesticides (Organophosphorus Compounds)							

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-05	FS-06	FS-06	FS-06	FS-06
		Sample ID	**FS-05-5-6**	**FS-06-0-0.5**	**FS-06D-0-0.5**	**FS-06-2-3**	**FS-06-5-6**
		Depth	5-6 ft	0-0.5 ft	0.5-1 ft	2-3 ft	5-6 ft
		Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/03/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Glyphosate	mg/kg		4.5				
Chlorpyrifos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Chlorpyrifos-methyl	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Diazinon	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Dichlorvos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Dicrotophos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Dimethoate	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Disulfoton	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
EPN	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Ethion (Ronnel)	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Fonofos (Merphos)	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Malathion	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Parathion	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Parathion-methyl	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Phorate	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Terbufos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	mg/kg		0.0067 U	0.0079 J	0.007 J	0.0067 U	0.0067 U
Hexazinone	mg/kg		0.0093	0.083 J	0.07 J	0.023	0.018
Prometon	mg/kg		0.0067 U	0.38 J	0.3 J	0.03	0.016
Prometryn	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Propazine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Phenylurea Herbicides							
Diuron	mg/kg		0.023	0.14	0.13	0.084	0.062
Linuron	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbamate Pesticides							
Aldicarb	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldicarb sulfone	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbaryl	mg/kg		0.0067 U	0.094	0.079	0.011	0.0072
Carbofuran	mg/kg		0.0067 U	0.0088	0.0073	0.0067 U	0.0067 U
Methomyl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Thiobencarb	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Organophosphorus and Organosulfur Pesticides							
Demeton	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Fenamiphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Merphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Methidathion	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Phosmet	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Pirimiphos-methyl	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Propargite	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Tetrachlorvinphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Organonitrogen Pesticides							
Amitraz	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Diphenylamine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-05	FS-06	FS-06	FS-06	FS-06
	Sample ID	**FS-05-5-6**	**FS-06-0-0.5**	**FS-06D-0-0.5**	**FS-06-2-3**	**FS-06-5-6**
	Depth	5-6 ft	0-0.5 ft	0.5-1 ft	2-3 ft	5-6 ft
	Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/03/2016
Organonitrogen Pesticides						
Fluometuron	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Metalaxyl	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Pendimethalin	mg/kg	0.067 UJ	0.34 UJ	0.34 UJ	0.13 UJ	0.34 UJ
Tebuthiuron	mg/kg	0.013 U	0.013 J	0.013 U	0.013 U	0.013 U
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH	mg/kg	2 U	3.3	2.7	2 U	2 U
Diesel-Range TPH	mg/kg	50 U	210 JM	240 JM	50 U	50 U
Oil-Range TPH	mg/kg	250 U	360	350	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-07	FS-07	FS-07	FS-08	FS-08
	Sample ID	**FS-07-0.5-1**	**FS-07-3-4**	**FS-07-4-5**	**FS-08-0.5-1**	**FS-08-3-4**
	Depth	0.5-1 ft	3-4 ft	4-5 ft	0.5-1 ft	3-4 ft
	Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/03/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene	mg/kg	0.05 U	0.05 U	0.05 U	0.23	0.05 U
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.05 U	0.065	0.05 U
Xylenes	mg/kg	0.1 U	0.1 U	0.1 U	0.4	0.1 U
Metals						
Arsenic	mg/kg	2.3	1.6	1.3	5.8	2.9
Cadmium	mg/kg	1 U	1 U	1 U	1.1	1 U
Chromium (Total)	mg/kg	21	14	12	13	14
Copper	mg/kg	21	15	10	74	15
Lead	mg/kg	6.6	3	1.7	350	7.2
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.71	0.1 U
Zinc	mg/kg	110	110	35	220	29
Miscellaneous Substances						
Nitrate/Nitrite	µg/g		6.3			140
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
HCH-beta (b-BHC)	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
HCH-delta (d-BHC)	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
G-BHC (Lindane)	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Aldrin	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Heptachlor	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Heptachlor Epoxide	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Dieldrin	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Chlordane	mg/kg	1.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ	0.64 UJ
Endrin	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Endosulfan I	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Endosulfan II	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
4,4'-DDD / Sum DDD	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
4,4'-DDE / Sum DDE	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
4,4'-DDT / Sum DDT	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.77 J	0.13 UJ
Hexachlorobenzene	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Methoxychlor	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Toxaphene	mg/kg	17 UJ	17 UJ	6.8 UJ	17 UJ	6.6 UJ
Chlorinated Herbicides						
2,4-D	mg/kg	0.66	0.26	0.027	0.38	0.01 U
2,4-DB	mg/kg	0.053	0.013	0.01 U	0.01 U	0.01 U
2,4,5-TP (Silvex)	mg/kg	0.011	0.01 U	0.01 U	0.041	0.01 U
2,4,5-T	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dicamba	mg/kg	0.1	0.045	0.045	1.6	0.043
Dinoseb	mg/kg	0.01 U	0.01 U	0.01 U	0.076	0.01 U
MCPA	mg/kg	0.34	0.11	0.01 U	0.28	0.01 U
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-07	FS-07	FS-07	FS-08	FS-08
	Sample ID	**FS-07-0.5-1**	**FS-07-3-4**	**FS-07-4-5**	**FS-08-0.5-1**	**FS-08-3-4**
	Depth	0.5-1 ft	3-4 ft	4-5 ft	0.5-1 ft	3-4 ft
	Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/03/2016
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.83 UJ	0.83 UJ	0.34 UJ	0.85 UJ	0.33 UJ
Alachlor	mg/kg	0.83 UJ	0.83 UJ	0.34 UJ	0.85 UJ	0.33 UJ
Atrazine	mg/kg	0.036 J	0.032 J	0.02	0.054 J	0.0067 U
Captafol	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Captan	mg/kg	0.83 UJ	0.83 UJ	0.34 UJ	0.85 UJ	0.33 UJ
Chlordane-alpha	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Chlorbenzilate	mg/kg	0.83 UJ	0.83 UJ	0.34 UJ	0.85 UJ	0.33 UJ
Chlorthalonil	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Cyanazine (Bladex)	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Cyhalothrin/karate	mg/kg	1.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ	0.64 UJ
Cypermethrin	mg/kg	1.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ	0.64 UJ
DCPA (Dacthal)	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Flutolanil	mg/kg	3.3 UJ	3.3 UJ	1.3 UJ	3.4 UJ	1.3 UJ
Folpet	mg/kg	0.83 UJ	0.83 UJ	0.34 UJ	0.85 UJ	0.33 UJ
Iprodione	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Metoachlor	mg/kg	0.83 UJ	0.83 UJ	0.34 UJ	0.85 UJ	0.33 UJ
Metribuzin	mg/kg	0.056 J	0.029 J	0.013 U	0.021 J	0.013 U
Norflurazon	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Oxadiazon	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Oxamyl	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Permethrin	mg/kg	1.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ	0.64 UJ
Pronamide	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Propachlor	mg/kg	0.83 UJ	0.83 UJ	0.34 UJ	0.85 UJ	0.33 UJ
Propanil	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Propiconazole	mg/kg	0.83 UJ	0.83 UJ	0.34 UJ	0.85 UJ	0.33 UJ
Simazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Terbacil	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Trifluralin	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Chlorpyrifos-methyl	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Diazinon	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Dichlorvos	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Dicrotophos	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Dimethoate	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Disulfoton	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
EPN	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Ethion (Ronnel)	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Fonofos (Merphos)	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Malathion	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Parathion	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Parathion-methyl	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Phorate	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Terbufos	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-07	FS-07	FS-07	FS-08	FS-08
	Sample ID	**FS-07-0.5-1**	**FS-07-3-4**	**FS-07-4-5**	**FS-08-0.5-1**	**FS-08-3-4**
	Depth	0.5-1 ft	3-4 ft	4-5 ft	0.5-1 ft	3-4 ft
	Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/03/2016
Triazine Herbicides (Organonitrogen Pesticides)						
Ametryn	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Hexazinone	mg/kg	0.0091 J	0.0067 U	0.0067 U	0.26 J	0.0067 U
Prometon	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.11 J	0.0067 U
Prometryn	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Propazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Phenylurea Herbicides						
Diuron	mg/kg	0.39	0.14	0.021	0.28	0.0067 U
Linuron	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbamate Pesticides						
Aldicarb	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldicarb sulfone	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbaryl	mg/kg	0.03	0.0078	0.0067 U	0.061	0.0067 U
Carbofuran	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.01	0.0067 U
Methomyl	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Thiobencarb	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Organophosphorus and Organosulfur Pesticides						
Demeton	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Fenamiphos	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Merphos	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Methidathion	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Phosmet	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Pirimiphos-methyl	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Propargite	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Tetrachlorvinphos	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ	0.034 UJ	0.033 UJ
Organonitrogen Pesticides						
Amitraz	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Diphenylamine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Fluometuron	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Metalaxyl	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Pendimethalin	mg/kg	0.33 UJ	0.33 UJ	0.13 UJ	0.34 UJ	0.13 UJ
Tebuthiuron	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH	mg/kg	2 U	2 U	2 U	5.2	2 U
Diesel-Range TPH	mg/kg	50 U	50 U	50 U	300 JM	50 U
Oil-Range TPH	mg/kg	250 U	250 U	250 U	410	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-08	FS-09	FS-09	FS-09	FS-10
	Sample ID	**FS-08-4-5**	**FS-09-0.5-1**	**FS-09-3-4**	**FS-09-4-5**	**FS-10-0.5-1**
	Depth	4-5 ft	0.5-1 ft	3-4 ft	4-5 ft	0.5-1 ft
	Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/04/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene	mg/kg	0.05 U	0.21	0.26	0.05 U	0.089
Ethylbenzene	mg/kg	0.05 U	0.062	0.069	0.05 U	0.05 U
Xylenes	mg/kg	0.1 U	0.37	0.42	0.1 U	0.22
Metals						
Arsenic	mg/kg	2.5	3.6	3.8	2.9	3.3
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1.5
Chromium (Total)	mg/kg	16	30	17	17	36
Copper	mg/kg	15	36	33	13	24
Lead	mg/kg	2.7	50	24	3.7	41
Mercury	mg/kg	0.1 U	0.19	0.22	0.1 U	0.1 U
Zinc	mg/kg	36	190	110	39	200
Miscellaneous Substances						
Nitrate/Nitrite	µg/g			260		
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
HCH-beta (b-BHC)	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
HCH-delta (d-BHC)	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
G-BHC (Lindane)	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Aldrin	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Heptachlor	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Heptachlor Epoxide	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Chlordane	mg/kg	0.66 UJ	7.6 J	14 J	0.66 UJ	1.6 UJ
Dieldrin	mg/kg	0.13 UJ	1.7 J	1.8 J	0.13 UJ	0.35 J
Endrin	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Endosulfan I	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Endosulfan II	mg/kg	0.13 UJ	1.3 UJ	0.61 J	0.13 UJ	0.33 UJ
4,4'-DDD / Sum DDD	mg/kg	0.13 UJ	0.67 UJ	0.46 J	0.13 UJ	0.33 UJ
4,4'-DDE / Sum DDE	mg/kg	0.13 UJ	1.1 J	0.96 J	0.13 UJ	0.33 UJ
4,4'-DDT / Sum DDT	mg/kg	0.13 UJ	1.2 J	2.9 J	0.13 UJ	0.33 UJ
Hexachlorobenzene	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Methoxychlor	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Toxaphene	mg/kg	6.8 UJ	68 UJ	68 J	6.8 UJ	17 UJ
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 U	1.2	0.26	0.056	0.16
2,4-DB	mg/kg	0.01 U	0.72	0.025	0.01 U	0.021
2,4,5-TP (Silvex)	mg/kg	0.01 U	0.27	0.14	0.01 U	0.093
2,4,5-T	mg/kg	0.01 U	0.022 J	0.015	0.01 U	0.01 U
Dicamba	mg/kg	0.016	9.9	0.35	0.087	0.94
Dinoseb	mg/kg	0.01 U	0.014	0.01 U	0.01 U	0.01 U
MCPA	mg/kg	0.01 U	0.53	0.055	0.01 U	0.34
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-08	FS-09	FS-09	FS-09	FS-10
	Sample ID	**FS-08-4-5**	**FS-09-0.5-1**	**FS-09-3-4**	**FS-09-4-5**	**FS-10-0.5-1**
	Depth	4-5 ft	0.5-1 ft	3-4 ft	4-5 ft	0.5-1 ft
	Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/04/2016
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.34 UJ	3.4 UJ	0.83 UJ	0.34 UJ	0.83 UJ
Alachlor	mg/kg	0.34 UJ	3.4 UJ	0.83 UJ	0.34 UJ	0.83 UJ
Atrazine	mg/kg	0.0067 U	0.046 J	0.088 J	0.0078	0.034 J
Captafol	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Captan	mg/kg	0.34 UJ	3.4 UJ	0.83 UJ	0.34 UJ	0.83 UJ
Chlordane-alpha	mg/kg	0.13 UJ	1.3 UJ	1.4 J	0.13 UJ	0.33 UJ
Chlorbenzilate	mg/kg	0.34 UJ	3.4 UJ	0.83 UJ	0.34 UJ	0.83 UJ
Chlorthalonil	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Cyanazine (Bladex)	mg/kg	0.013 U	0.083 J	0.013 U	0.013 U	0.013 U
Cyhalothrin/karate	mg/kg	0.66 UJ	6.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ
Cypermethrin	mg/kg	0.66 UJ	6.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ
DCPA (Dacthal)	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Flutolanil	mg/kg	1.3 UJ	13 UJ	3.3 UJ	1.3 UJ	3.3 UJ
Folpet	mg/kg	0.34 UJ	3.4 UJ	0.83 UJ	0.34 UJ	0.83 UJ
Iprodione	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Metoachlor	mg/kg	0.34 UJ	3.4 UJ	0.83 UJ	0.34 UJ	0.83 UJ
Metribuzin	mg/kg	0.013 U	0.024 J	0.018 J	0.013 U	0.072 J
Norflurazon	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Oxadiazon	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Oxamyl	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Permethrin	mg/kg	0.66 UJ	6.6 UJ	1.6 UJ	0.66 UJ	1.6 UJ
Pronamide	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Propachlor	mg/kg	0.34 UJ	3.4 UJ	0.83 UJ	0.34 UJ	0.83 UJ
Propanil	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Propiconazole	mg/kg	0.34 UJ	3.4 UJ	0.83 UJ	0.34 UJ	0.83 UJ
Simazine	mg/kg	0.0067 U	0.072 J	0.014 J	0.0067 U	0.022 J
Terbacil	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Trifluralin	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Chlorpyrifos-methyl	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Diazinon	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Dichlorvos	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Dicrotophos	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Dimethoate	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Disulfoton	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
EPN	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Ethion (Ronnel)	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Fonofos (Merphos)	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Malathion	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Parathion	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Parathion-methyl	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Phorate	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Terbufos	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-08	FS-09	FS-09	FS-09	FS-10
	Sample ID	**FS-08-4-5**	**FS-09-0.5-1**	**FS-09-3-4**	**FS-09-4-5**	**FS-10-0.5-1**
	Depth	4-5 ft	0.5-1 ft	3-4 ft	4-5 ft	0.5-1 ft
	Date	08/03/2016	08/03/2016	08/03/2016	08/03/2016	08/04/2016
Triazine Herbicides (Organonitrogen Pesticides)						
Ametryn	mg/kg	0.0067 U	0.011 J	0.0067 U	0.0067 U	0.0067 U
Hexazinone	mg/kg	0.0067 U	0.15 J	0.051 J	0.0098	0.11 J
Prometon	mg/kg	0.0067 U	0.069 J	0.33 J	0.0067 U	0.03 J
Prometryn	mg/kg	0.0067 U	0.014 J	0.0067 U	0.0067 U	0.013 J
Propazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Phenylurea Herbicides						
Diuron	mg/kg	0.0067 U	0.94	0.038	0.017	0.43
Linuron	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbamate Pesticides						
Aldicarb	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldicarb sulfone	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbaryl	mg/kg	0.0067 U	0.11	0.15	0.0067 U	0.16
Carbofuran	mg/kg	0.0067 U	0.0082	0.0072	0.0067 U	0.0088
Methomyl	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Thiobencarb	mg/kg	0.0067 U	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U
Organophosphorus and Organosulfur Pesticides						
Demeton	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Fenamiphos	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Merphos	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Methidathion	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Phosmet	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Pirimiphos-methyl	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Propargite	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Tetrachlorvinphos	mg/kg	0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Organonitrogen Pesticides						
Amitraz	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Diphenylamine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Fluometuron	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Metalaxyl	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Pendimethalin	mg/kg	0.13 UJ	1.3 UJ	0.33 UJ	0.13 UJ	0.33 UJ
Tebuthiuron	mg/kg	0.013 U	0.015 J	0.013 U	0.013 U	0.013 U
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH	mg/kg	2 U	3.6	4.4	2 U	4.6
Diesel-Range TPH	mg/kg	50 U	150 JM	50 U	50 U	400
Oil-Range TPH	mg/kg	250 U	400	250 U	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-10	FS-10	FS-11	FS-11	FS-11
	Sample ID	**FS-10-2-3**	**FS-10-9-10**	**FS-11-0.5-1**	**FS-11-11.5-12.5**	**FS-11-15-16**
	Depth	2-3 ft	9-10 ft	0.5-1 ft	11.5-12.5 ft	15-16 ft
	Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.001 U	0.001 U	0.037	0.001 U	0.03 U
Toluene	mg/kg	0.001 U	0.0011	0.61	0.001 U	0.05 U
Ethylbenzene	mg/kg	0.001 U	0.0026	0.24	0.001 U	0.05 U
Xylenes	mg/kg	0.002 U	0.002 U	2.1	0.002 U	0.1 U
Methyl tert-Butyl Ether (MTBE)	mg/kg	0.001 U			0.001 U	
Naphthalene	mg/kg	0.0056			0.002 U	
1,2-Dichloroethane (EDC)	mg/kg	0.001 U			0.001 U	
n-Hexane	mg/kg	0.005 U			0.005 U	
1,2-Dibromoethane (EDB)	mg/kg	0.001 U			0.001 U	
Metals						
Arsenic	mg/kg	3	2.5	3.5	2.4	2.4
Cadmium	mg/kg	1 U	1 U	1	1 U	1 U
Chromium (Total)	mg/kg	17	25	27	16	17
Copper	mg/kg	13	12	31	16	15
Lead	mg/kg	5.5	4	35	1.7	1.6
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Zinc	mg/kg	91	43	230	27	24
Carcinogenic Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene	mg/kg	0.002 U			0.002 U	
Benzo(a)pyrene	mg/kg	0.002 U			0.002 U	
Benzo(b)fluoranthene	mg/kg	0.002			0.002 U	
Benzo(k)fluoranthene	mg/kg	0.002 U			0.002 U	
Chrysene	mg/kg	0.0023			0.002 U	
Dibenz(a,h)anthracene	mg/kg	0.002 U			0.002 U	
Indeno(1,2,3-cd)pyrene	mg/kg	0.002 U			0.002 U	
cPAH TEQ	mg/kg	0.0016			0.0015 U	
Miscellaneous Substances						
Nitrate/Nitrite	µg/g	28	2.6			
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
HCH-beta (b-BHC)	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
HCH-delta (d-BHC)	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
G-BHC (Lindane)	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Aldrin	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Heptachlor	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Heptachlor Epoxide	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Chlordane	mg/kg	0.66 UJ	1.6 UJ	6.6 UJ		
Dieldrin	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Endrin	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Endosulfan I	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Endosulfan II	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
4,4'-DDD / Sum DDD	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
4,4'-DDE / Sum DDE	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
4,4'-DDT / Sum DDT	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-10	FS-10	FS-11	FS-11	FS-11
	Sample ID	**FS-10-2-3**	**FS-10-9-10**	**FS-11-0.5-1**	**FS-11-11.5-12.5**	**FS-11-15-16**
	Depth	2-3 ft	9-10 ft	0.5-1 ft	11.5-12.5 ft	15-16 ft
	Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Organochlorine Pesticides						
Hexachlorobenzene	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Methoxychlor	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Toxaphene	mg/kg	6.8 UJ	17 UJ	68 UJ		
Chlorinated Herbicides						
2,4-D	mg/kg	0.083	0.094	3.1		
2,4-DB	mg/kg	0.01 U	0.01 U	0.018		
2,4,5-TP (Silvex)	mg/kg	0.01 U	0.019	0.024		
2,4,5-T	mg/kg	0.01 U	0.01 U	0.01 U		
Dicamba	mg/kg	0.038	0.11	0.37		
Dinoseb	mg/kg	0.01 U	0.01 U	0.013		
MCPA	mg/kg	0.033	0.053	0.18		
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U	0.01 U		
Pentachlorophenol	mg/kg	0.02 U	0.02 U	0.02 U		
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.34 UJ	0.85 UJ	3.4 UJ		
Alachlor	mg/kg	0.34 UJ	0.85 UJ	3.4 UJ		
Atrazine	mg/kg	0.0067 U	0.0067 U	0.024 J		
Captafol	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Captan	mg/kg	0.34 UJ	0.85 UJ	3.4 UJ		
Chlordane-alpha	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Chlorbenzilate	mg/kg	0.34 UJ	0.85 UJ	3.4 UJ		
Chlorthalonil	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Cyanazine (Bladex)	mg/kg	0.013 U	0.013 U	0.013 U		
Cyhalothrin/karate	mg/kg	0.66 UJ	1.6 UJ	6.6 UJ		
Cypermethrin	mg/kg	0.66 UJ	1.6 UJ	6.6 UJ		
DCPA (Dacthal)	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Flutolanil	mg/kg	1.3 UJ	3.4 UJ	13 UJ		
Folpet	mg/kg	0.34 UJ	0.85 UJ	3.4 UJ		
Iprodione	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Metoachlor	mg/kg	0.34 UJ	0.85 UJ	3.4 UJ		
Metribuzin	mg/kg	0.013	0.013 U	0.12 J		
Norflurazon	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Oxadiazon	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Oxamyl	mg/kg	0.0067 U	0.0067 U	0.0067 U		
Permethrin	mg/kg	0.66 UJ	1.6 UJ	6.6 UJ		
Pronamide	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Propachlor	mg/kg	0.34 UJ	0.85 UJ	3.4 UJ		
Propanil	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Propiconazole	mg/kg	0.34 UJ	0.85 UJ	3.4 UJ		
Simazine	mg/kg	0.0067 U	0.0067 U	0.0067 U		
Terbacil	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Trifluralin	mg/kg	0.13 UJ	0.34 UJ	1.3 UJ		
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-10	FS-10	FS-11	FS-11	FS-11
		Sample ID	**FS-10-2-3**	**FS-10-9-10**	**FS-11-0.5-1**	**FS-11-11.5-12.5**	**FS-11-15-16**
		Depth	2-3 ft	9-10 ft	0.5-1 ft	11.5-12.5 ft	15-16 ft
		Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos-methyl	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Diazinon	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Dichlorvos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Dicrotophos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Dimethoate	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Disulfoton	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
EPN	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Ethion (Ronnel)	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Fonofos (Merphos)	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Malathion	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Parathion	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Parathion-methyl	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Phorate	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Terbufos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	mg/kg		0.0067 U	0.0067 U	0.0067 U		
Hexazinone	mg/kg		0.0067 U	0.0067 U	0.047 J		
Prometon	mg/kg		0.0067 U	0.034 J	0.016 J		
Prometryn	mg/kg		0.0067 U	0.0067 U	0.0067 U		
Propazine	mg/kg		0.0067 U	0.0067 U	0.027 U		
Phenylurea Herbicides							
Diuron	mg/kg		0.028	0.034	0.36		
Linuron	mg/kg		0.0067 U	0.0067 U	0.0067 U		
Carbamate Pesticides							
Aldicarb	mg/kg		0.0067 U	0.0067 U	0.0067 U		
Aldicarb sulfone	mg/kg		0.0067 U	0.0067 U	0.0067 U		
Carbaryl	mg/kg		0.0067 U	0.0085	0.024		
Carbofuran	mg/kg		0.0067 U	0.0067 U	0.0067 U		
Methomyl	mg/kg		0.0067 U	0.0067 U	0.0067 U		
Thiobencarb	mg/kg		0.0067 U	0.0067 U	0.0067 U		
Organophosphorus and Organosulfur Pesticides							
Demeton	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Fenamiphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Merphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Methidathion	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Phosmet	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Pirimiphos-methyl	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Propargite	mg/kg		0.013 U	0.013 U	0.013 U		
Tetrachlorvinphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Organonitrogen Pesticides							
Amitraz	mg/kg		0.013 U	0.013 U	0.013 U		
Diphenylamine	mg/kg		0.0067 U	0.0067 U	0.0067 U		
Fluometuron	mg/kg		0.0067 U	0.0067 U	0.0067 U		
Metalaxyl	mg/kg		0.0067 U	0.0067 U	0.0067 U		

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-10	FS-10	FS-11	FS-11	FS-11
		Sample ID	**FS-10-2-3**	**FS-10-9-10**	**FS-11-0.5-1**	**FS-11-11.5-12.5**	**FS-11-15-16**
		Depth	2-3 ft	9-10 ft	0.5-1 ft	11.5-12.5 ft	15-16 ft
		Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Organonitrogen Pesticides							
Pendimethalin	mg/kg		0.13 UJ	0.34 UJ	1.3 UJ		
Tebuthiuron	mg/kg		0.013 U	0.013 U	0.013 U		
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	mg/kg		2 U	1100 J	27	19	2 U
Diesel-Range TPH	mg/kg		50 U	3300	120 JM	50 U	50 U
Oil-Range TPH	mg/kg		250 U	250 U	250 U	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-11	FS-11	FS-11	FS-12	FS-12
	Sample ID	**FS-11-19-20**	**FS-11-3-4**	**FS-11D-3-4**	**FS-12-0.5-1**	**FS-12-3-4**
	Depth	19-20 ft	3-4 ft	3-4 ft	0.5-1 ft	3-4 ft
	Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Xylenes	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Metals						
Arsenic	mg/kg	3.8	2.8	2.7	1.9	1.7
Cadmium	mg/kg	1 U	1.5	1 U	4.4	1 U
Chromium (Total)	mg/kg	19	26	28	38	20
Copper	mg/kg	20	42	23	31	17
Lead	mg/kg	5.9	18	21	76	12
Mercury	mg/kg	0.1 U	0.14	0.13	0.1 U	0.1 U
Zinc	mg/kg	36	260	180	280	63
Miscellaneous Substances						
Nitrate/Nitrite	µg/g					16
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
HCH-beta (b-BHC)	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
HCH-delta (d-BHC)	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
G-BHC (Lindane)	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Aldrin	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Heptachlor	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Heptachlor Epoxide	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Chlordane	mg/kg		1.6 UJ	1.6 UJ	4.7 J	4.6 J
Dieldrin	mg/kg		0.34 UJ	0.34 UJ	1.5 J	1.2 J
Endrin	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Endosulfan I	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Endosulfan II	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
4,4'-DDD / Sum DDD	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.25 J
4,4'-DDE / Sum DDE	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.39 J
4,4'-DDT / Sum DDT	mg/kg		0.34 UJ	0.34 UJ	0.41 J	0.48 J
Hexachlorobenzene	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Methoxychlor	mg/kg		0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Toxaphene	mg/kg		17 UJ	17 UJ	15 J	14 J
Chlorinated Herbicides						
2,4-D	mg/kg		1.7	0.47	0.16	0.042
2,4-DB	mg/kg		0.15	0.041	0.11	0.015
2,4,5-TP (Silvex)	mg/kg		0.29	0.075	0.26	0.045
2,4,5-T	mg/kg		0.06	0.01	0.011	0.01 U
Dicamba	mg/kg		3.7	0.53	0.16	0.029
Dinoseb	mg/kg		0.026	0.01 U	0.01 U	0.01 U
MCPA	mg/kg		0.21	0.045	0.053	0.013
MCPP (Mecoprop)	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg		0.02 U	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-11	FS-11	FS-11	FS-12	FS-12
		Sample ID	**FS-11-19-20**	**FS-11-3-4**	**FS-11D-3-4**	**FS-12-0.5-1**	**FS-12-3-4**
		Depth	19-20 ft	3-4 ft	3-4 ft	0.5-1 ft	3-4 ft
		Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Other Chlorinated/Halogenated Pesticides							
Acetochlor	mg/kg			0.85 UJ	0.85 UJ	0.83 UJ	0.34 UJ
Alachlor	mg/kg			0.85 UJ	0.85 UJ	0.83 UJ	0.34 UJ
Atrazine	mg/kg			0.018 J	0.0067 U	0.024 J	0.024 J
Captafol	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Captan	mg/kg			0.85 UJ	0.85 UJ	0.83 UJ	0.34 UJ
Chlordane-alpha	mg/kg			0.34 UJ	0.34 UJ	1.1 J	0.74 J
Chlorbenzilate	mg/kg			0.85 UJ	0.85 UJ	0.83 UJ	0.34 UJ
Chlorthalonil	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Cyanazine (Bladex)	mg/kg			0.013 U	0.013 U	0.013 U	0.013 U
Cyhalothrin/karate	mg/kg			1.6 UJ	1.6 UJ	1.6 UJ	0.66 UJ
Cypermethrin	mg/kg			1.6 UJ	1.6 UJ	1.6 UJ	0.66 UJ
DCPA (Dacthal)	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Flutolanil	mg/kg			3.4 UJ	3.4 UJ	3.3 UJ	1.3 UJ
Folpet	mg/kg			0.85 UJ	0.85 UJ	0.83 UJ	0.34 UJ
Iprodione	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Metoachlor	mg/kg			0.85 UJ	0.85 UJ	0.83 UJ	0.34 UJ
Metribuzin	mg/kg			0.02 J	0.013 U	0.013 U	0.013 U
Norflurazon	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Oxadiazon	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Oxamyl	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Permethrin	mg/kg			1.6 UJ	1.6 UJ	1.6 UJ	0.66 UJ
Pronamide	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Propachlor	mg/kg			0.85 UJ	0.85 UJ	0.83 UJ	0.34 UJ
Propanil	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Propiconazole	mg/kg			0.85 UJ	0.85 UJ	0.83 UJ	0.34 UJ
Simazine	mg/kg			0.0067 U	0.0067 U	0.015 J	0.016 J
Terbacil	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Trifluralin	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Chlorpyrifos-methyl	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Diazinon	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Dichlorvos	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Dicrotophos	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Dimethoate	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Disulfoton	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
EPN	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Ethion (Ronnel)	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Fonofos (Merphos)	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Malathion	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Parathion	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Parathion-methyl	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Phorate	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Terbufos	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-11	FS-11	FS-11	FS-12	FS-12
		Sample ID	**FS-11-19-20**	**FS-11-3-4**	**FS-11D-3-4**	**FS-12-0.5-1**	**FS-12-3-4**
		Depth	19-20 ft	3-4 ft	3-4 ft	0.5-1 ft	3-4 ft
		Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	mg/kg			0.046 J	0.0067 UJ	0.0067 U	0.0067 U
Hexazinone	mg/kg			0.021 J	0.0067 UJ	0.057 J	0.065 J
Prometon	mg/kg			0.22 J	0.14 J	0.056 J	0.066 J
Prometryn	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Propazine	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Phenylurea Herbicides							
Diuron	mg/kg			0.088	0.059	0.22	0.24
Linuron	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbamate Pesticides							
Aldicarb	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldicarb sulfone	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbaryl	mg/kg			0.0067 U	0.0067 U	0.21	0.24
Carbofuran	mg/kg			0.017	0.0067 U	0.0067 U	0.0067 U
Methomyl	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Thiobencarb	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Organophosphorus and Organosulfur Pesticides							
Demeton	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Fenamiphos	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Merphos	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Methidathion	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Phosmet	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Pirimiphos-methyl	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Propargite	mg/kg			0.013 U	0.013 U	0.013 U	0.013 U
Tetrachlorvinphos	mg/kg			0.034 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Organonitrogen Pesticides							
Amitraz	mg/kg			0.013 U	0.013 U	0.013 U	0.013 U
Diphenylamine	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Fluometuron	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Metalaxyl	mg/kg			0.0067 U	0.0067 U	0.0067 U	0.0067 U
Pendimethalin	mg/kg			0.34 UJ	0.34 UJ	0.33 UJ	0.13 UJ
Tebuthiuron	mg/kg			0.013 U	0.013 U	0.013 U	0.013 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	mg/kg		2 U	2 U	3.1	4.5	2 U
Diesel-Range TPH	mg/kg		50 U	50 U	50 U	230 JM	50 U
Oil-Range TPH	mg/kg		250 U	250 U	250 U	1000	280

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-12	FS-13	FS-13	FS-13	FS-13
	Sample ID	**FS-12-4-5**	**FS-13-0.5-1**	**FS-13-3-4**	**FS-13-4-5**	**FS-13-6-7**
	Depth	4-5 ft	0.5-1 ft	3-4 ft	4-5 ft	6-7 ft
	Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.03 U	0.001 U
Toluene	mg/kg	0.05 U	0.19	0.05 U	0.05 U	0.001 U
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.0016
Xylenes	mg/kg	0.1 U	0.37	0.1 U	0.1 U	0.002 U
Naphthalene	mg/kg					0.02 U
Metals						
Arsenic	mg/kg		3.4	3.2		2.6
Cadmium	mg/kg		1 U	1 U		1 U
Chromium (Total)	mg/kg		17	16		18
Copper	mg/kg		26	13		14
Lead	mg/kg		80	5.7		2.6
Mercury	mg/kg		0.1 U	0.1 U		0.1 U
Zinc	mg/kg		120	41		230
Carcinogenic Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene	mg/kg					0.02 U
Benzo(a)pyrene	mg/kg					0.02 U
Benzo(b)fluoranthene	mg/kg					0.02 U
Benzo(k)fluoranthene	mg/kg					0.02 U
Chrysene	mg/kg					0.02 U
Dibenz(a,h)anthracene	mg/kg					0.02 U
Indeno(1,2,3-cd)pyrene	mg/kg					0.02 U
cPAH TEQ	mg/kg					0.015 U
Miscellaneous Substances						
Nitrate/Nitrite	µg/g			25		
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
HCH-beta (b-BHC)	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
HCH-delta (d-BHC)	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
G-BHC (Lindane)	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Aldrin	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Heptachlor	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Heptachlor Epoxide	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Chlordane	mg/kg	0.32 UJ	0.82 J	0.33 UJ		0.66 UJ
Dieldrin	mg/kg	0.065 UJ	0.23 J	0.067 UJ		0.13 UJ
Endrin	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Endosulfan I	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Endosulfan II	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
4,4'-DDD / Sum DDD	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
4,4'-DDE / Sum DDE	mg/kg	0.065 UJ	0.18 J	0.067 UJ		0.13 UJ
4,4'-DDT / Sum DDT	mg/kg	0.065 UJ	0.54 J	0.067 UJ		0.13 UJ
Hexachlorobenzene	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Methoxychlor	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Toxaphene	mg/kg	3.3 UJ	6.6 UJ	3.4 UJ		6.8 UJ
Chlorinated Herbicides						

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-12	FS-13	FS-13	FS-13	FS-13
	Sample ID	**FS-12-4-5**	**FS-13-0.5-1**	**FS-13-3-4**	**FS-13-4-5**	**FS-13-6-7**
	Depth	4-5 ft	0.5-1 ft	3-4 ft	4-5 ft	6-7 ft
	Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 U	0.067	0.01 U		0.01 U
2,4-DB	mg/kg	0.01 U	0.01 U	0.01 U		0.01 U
2,4,5-TP (Silvex)	mg/kg	0.01 U	0.073	0.01 U		0.01 U
2,4,5-T	mg/kg	0.01 U	0.016	0.01 U		0.01 U
Dicamba	mg/kg	0.01 U	0.062	0.013		0.07
Dinoseb	mg/kg	0.01 U	0.02 J	0.01 U		0.01 U
MCPA	mg/kg	0.01 U	0.036	0.01 U		0.01 U
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U	0.01 U		0.01 U
Pentachlorophenol	mg/kg	0.02 U	0.02 U	0.02 U		0.02 U
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.17 UJ	0.33 UJ	0.17 UJ		0.34 UJ
Alachlor	mg/kg	0.17 UJ	0.33 UJ	0.17 UJ		0.34 UJ
Atrazine	mg/kg	0.0067 U	0.053 J	0.0067 U		0.0067 U
Captafol	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Captan	mg/kg	0.17 UJ	0.33 UJ	0.17 UJ		0.34 UJ
Chlordane-alpha	mg/kg	0.065 UJ	0.21 J	0.067 UJ		0.13 UJ
Chlorbenzilate	mg/kg	0.17 UJ	0.33 UJ	0.17 UJ		0.34 UJ
Chlorthalonil	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Cyanazine (Bladex)	mg/kg	0.013 U	0.013 U	0.013 U		0.013 U
Cyhalothrin/karate	mg/kg	0.32 UJ	0.64 UJ	0.33 UJ		0.66 UJ
Cypermethrin	mg/kg	0.32 UJ	0.64 UJ	0.33 UJ		0.66 UJ
DCPA (Dacthal)	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Flutolanil	mg/kg	0.65 UJ	1.3 UJ	0.67 UJ		1.3 UJ
Folpet	mg/kg	0.17 UJ	0.33 UJ	0.17 UJ		0.34 UJ
Iprodione	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Metoachlor	mg/kg	0.17 UJ	0.33 UJ	0.17 UJ		0.34 UJ
Metribuzin	mg/kg	0.013 U	0.013 U	0.013 U		0.013 U
Norflurazon	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Oxadiazon	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Oxamyl	mg/kg	0.0067 U	0.0067 U	0.0067 U		0.0067 U
Permethrin	mg/kg	0.32 UJ	0.64 UJ	0.33 UJ		0.66 UJ
Pronamide	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Propachlor	mg/kg	0.17 UJ	0.33 UJ	0.17 UJ		0.34 UJ
Propanil	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Propiconazole	mg/kg	0.17 UJ	0.33 UJ	0.17 UJ		0.34 UJ
Simazine	mg/kg	0.0067 U	0.022 J	0.0067 U		0.0067 U
Terbacil	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Trifluralin	mg/kg	0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Chlorpyrifos-methyl	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Diazinon	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Dichlorvos	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Dicrotophos	mg/kg	0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-12	FS-13	FS-13	FS-13	FS-13
		Sample ID	**FS-12-4-5**	**FS-13-0.5-1**	**FS-13-3-4**	**FS-13-4-5**	**FS-13-6-7**
		Depth	4-5 ft	0.5-1 ft	3-4 ft	4-5 ft	6-7 ft
		Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Dimethoate	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Disulfoton	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
EPN	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Ethion (Ronnel)	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Fonofos (Merphos)	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Malathion	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Parathion	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Parathion-methyl	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Phorate	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Terbufos	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Hexazinone	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Prometon	mg/kg		0.0067 U	0.015 J	0.0067 U		0.0067 U
Prometryn	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Propazine	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Phenylurea Herbicides							
Diuron	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Linuron	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Carbamate Pesticides							
Aldicarb	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Aldicarb sulfone	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Carbaryl	mg/kg		0.0067 U	0.019	0.0067 U		0.0067 U
Carbofuran	mg/kg		0.0067 U	0.023	0.0067 U		0.0067 U
Methomyl	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Thiobencarb	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Organophosphorus and Organosulfur Pesticides							
Demeton	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Fenamiphos	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Merphos	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Methidathion	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Phosmet	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Pirimiphos-methyl	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Propargite	mg/kg		0.013 U	0.013 U	0.013 U		0.013 U
Tetrachlorvinphos	mg/kg		0.033 UJ	0.033 UJ	0.034 UJ		0.034 UJ
Organonitrogen Pesticides							
Amitraz	mg/kg		0.013 U	0.013 U	0.013 U		0.013 U
Diphenylamine	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Fluometuron	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Metalaxyl	mg/kg		0.0067 U	0.0067 U	0.0067 U		0.0067 U
Pendimethalin	mg/kg		0.065 UJ	0.13 UJ	0.067 UJ		0.13 UJ
Tebuthiuron	mg/kg		0.013 U	0.013 U	0.013 U		0.013 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	mg/kg		2 U	3.5	2 U	2 U	1200

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-12	FS-13	FS-13	FS-13	FS-13
		Sample ID	**FS-12-4-5**	**FS-13-0.5-1**	**FS-13-3-4**	**FS-13-4-5**	**FS-13-6-7**
		Depth	4-5 ft	0.5-1 ft	3-4 ft	4-5 ft	6-7 ft
		Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	mg/kg			50 U	230	50 U	4700
Oil-Range TPH	mg/kg			250 U	250 U	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-13	FS-14	FS-14	FS-14	FS-15
	Sample ID	**FS-13-13-14**	**FS-14-0.5-1**	**FS-14-4-5**	**FS-14-5-6**	**FS-15-0.5-1**
	Depth	13-14 ft	0.5-1 ft	4-5 ft	5-6 ft	0.5-1 ft
	Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene	mg/kg	0.05 U	0.075	0.05 U	0.05 U	0.05 U
Ethylbenzene	mg/kg	0.05 U	0.077	0.05 U	0.05 U	0.05 U
Xylenes	mg/kg	0.1 U	0.6	0.1 U	0.1 U	0.1 U
Metals						
Arsenic	mg/kg	6	3.7	2.9	2.6	2.7
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U
Chromium (Total)	mg/kg	31	20	14	21	14
Copper	mg/kg	21	27	16	16	24
Lead	mg/kg	3.2	22	1.7	4.9	20
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Zinc	mg/kg	240	76	41	43	120
Miscellaneous Substances						
Nitrate/Nitrite	µg/g			10		
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
HCH-beta (b-BHC)	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
HCH-delta (d-BHC)	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
G-BHC (Lindane)	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Aldrin	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Heptachlor	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Heptachlor Epoxide	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Chlordane	mg/kg		0.66 UJ	0.64 UJ	0.33 UJ	0.66 UJ
Dieldrin	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.16 J
Endrin	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Endosulfan I	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Endosulfan II	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
4,4'-DDD / Sum DDD	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
4,4'-DDE / Sum DDE	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
4,4'-DDT / Sum DDT	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Hexachlorobenzene	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Methoxychlor	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Toxaphene	mg/kg		6.8 UJ	6.6 UJ	3.4 UJ	6.8 UJ
Chlorinated Herbicides						
2,4-D	mg/kg		0.35	0.13	0.13	0.064
2,4-DB	mg/kg		0.01 U	0.01 U	0.01 U	0.021
2,4,5-TP (Silvex)	mg/kg		0.022	0.01 U	0.01 U	0.016
2,4,5-T	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U
Dicamba	mg/kg		0.29	0.07	0.068	0.19
Dinoseb	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U
MCPA	mg/kg		0.047	0.015	0.015	0.068
MCPP (Mecoprop)	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg		0.02 U	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-13	FS-14	FS-14	FS-14	FS-15
	Sample ID	**FS-13-13-14**	**FS-14-0.5-1**	**FS-14-4-5**	**FS-14-5-6**	**FS-15-0.5-1**
	Depth	13-14 ft	0.5-1 ft	4-5 ft	5-6 ft	0.5-1 ft
	Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg		0.34 UJ	0.33 UJ	0.17 UJ	0.34 UJ
Alachlor	mg/kg		0.34 UJ	0.33 UJ	0.17 UJ	0.34 UJ
Atrazine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Captafol	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Captan	mg/kg		0.34 UJ	0.33 UJ	0.17 UJ	0.34 UJ
Chlordane-alpha	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Chlorbenzilate	mg/kg		0.34 UJ	0.33 UJ	0.17 UJ	0.34 UJ
Chlorthalonil	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Cyanazine (Bladex)	mg/kg		0.013 U	0.013 U	0.013 UJ	0.013 UJ
Cyhalothrin/karate	mg/kg		0.66 UJ	0.64 UJ	0.33 UJ	0.66 UJ
Cypermethrin	mg/kg		0.66 UJ	0.64 UJ	0.33 UJ	0.66 UJ
DCPA (Dacthal)	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Flutolanil	mg/kg		1.3 UJ	1.3 UJ	0.67 UJ	1.3 UJ
Folpet	mg/kg		0.34 UJ	0.33 UJ	0.17 UJ	0.34 UJ
Iprodione	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Metoachlor	mg/kg		0.34 UJ	0.33 UJ	0.17 UJ	0.34 UJ
Metribuzin	mg/kg		0.026	0.013 U	0.013	0.013 U
Norflurazon	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Oxadiazon	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Oxamyl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Permethrin	mg/kg		0.66 UJ	0.64 UJ	0.33 UJ	0.66 UJ
Pronamide	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Propachlor	mg/kg		0.34 UJ	0.33 UJ	0.17 UJ	0.34 UJ
Propanil	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Propiconazole	mg/kg		0.34 UJ	0.33 UJ	0.17 UJ	0.34 UJ
Simazine	mg/kg		0.0067 U	0.0067 U	0.014	0.0067 U
Terbacil	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Trifluralin	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Chlorpyrifos-methyl	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Diazinon	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Dichlorvos	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Dicrotophos	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Dimethoate	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Disulfoton	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
EPN	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Ethion (Ronnel)	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Fonofos (Merphos)	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Malathion	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Parathion	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Parathion-methyl	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Phorate	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Terbufos	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-13	FS-14	FS-14	FS-14	FS-15
	Sample ID	**FS-13-13-14**	**FS-14-0.5-1**	**FS-14-4-5**	**FS-14-5-6**	**FS-15-0.5-1**
	Depth	13-14 ft	0.5-1 ft	4-5 ft	5-6 ft	0.5-1 ft
	Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Triazine Herbicides (Organonitrogen Pesticides)						
Ametryn	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Hexazinone	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Prometon	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.012 J
Prometryn	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Propazine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Phenylurea Herbicides						
Diuron	mg/kg		0.055	0.0067 U	0.029	0.28
Linuron	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbamate Pesticides						
Aldicarb	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldicarb sulfone	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbaryl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbofuran	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Methomyl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Thiobencarb	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Organophosphorus and Organosulfur Pesticides						
Demeton	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Fenamiphos	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Merphos	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Methidathion	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Phosmet	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Pirimiphos-methyl	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Propargite	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U
Tetrachlorvinphos	mg/kg		0.034 UJ	0.033 UJ	0.034 UJ	0.034 UJ
Organonitrogen Pesticides						
Amitraz	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U
Diphenylamine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Fluometuron	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Metalaxyl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Pendimethalin	mg/kg		0.13 UJ	0.13 UJ	0.067 UJ	0.13 UJ
Tebuthiuron	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH	mg/kg	2 U	6.4	2 U	2.7	2 U
Diesel-Range TPH	mg/kg	50 U	50 U	50 U	50 U	50 U
Oil-Range TPH	mg/kg	250 U	250 U	250 U	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-15	FS-15	FS-15	FS-16	FS-16
	Sample ID	**FS-15-3-4**	**FS-15D-3-4**	**FS-15-4-5**	**FS-16-0.5-1**	**FS-16-3-4**
	Depth	3-4 ft	3-4 ft	4-5 ft	0.5-1 ft	3-4 ft
	Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene	mg/kg	0.05 U	0.05 U	0.05 U	0.14	0.05 U
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Xylenes	mg/kg	0.1 U	0.1 U	0.1 U	0.24	0.1 U
Metals						
Arsenic	mg/kg	2.3	2.5	2.5	4.2	4.3
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U
Chromium (Total)	mg/kg	18	16	18	20	19
Copper	mg/kg	17	18	17	25	29
Lead	mg/kg	8.7	12	7.9	47	58
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1
Zinc	mg/kg	59	66	49	100	67
Miscellaneous Substances						
Nitrate/Nitrite	µg/g	61	42			150
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
HCH-beta (b-BHC)	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
HCH-delta (d-BHC)	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
G-BHC (Lindane)	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Aldrin	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Heptachlor	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Heptachlor Epoxide	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Chlordane	mg/kg	0.33 UJ	0.33 UJ	0.33 UJ	0.99 J	0.97 J
Dieldrin	mg/kg	0.31 J	0.067 UJ	0.067 UJ	0.44 J	0.55 J
Endrin	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Endosulfan I	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Endosulfan II	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
4,4'-DDD / Sum DDD	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
4,4'-DDE / Sum DDE	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.1 J	0.13 UJ
4,4'-DDT / Sum DDT	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.68 J	1.1 J
Hexachlorobenzene	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Methoxychlor	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Toxaphene	mg/kg	3.4 UJ	3.4 UJ	3.4 UJ	3.3 UJ	6.7 UJ
Chlorinated Herbicides						
2,4-D	mg/kg	0.064	0.02	0.019	0.33	0.055
2,4-DB	mg/kg	0.017	0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-TP (Silvex)	mg/kg	0.02	0.01 U	0.01 U	0.046	0.065
2,4,5-T	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dicamba	mg/kg	0.2	0.05	0.039	0.87	0.12
Dinoseb	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
MCPA	mg/kg	0.061 J	0.017 J	0.022 J	0.067 J	0.01 U
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-15	FS-15	FS-15	FS-16	FS-16
	Sample ID	**FS-15-3-4**	**FS-15D-3-4**	**FS-15-4-5**	**FS-16-0.5-1**	**FS-16-3-4**
	Depth	3-4 ft	3-4 ft	4-5 ft	0.5-1 ft	3-4 ft
	Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ
Alachlor	mg/kg	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ
Atrazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.014 J	0.017 J
Captafol	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Captan	mg/kg	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ
Chlordane-alpha	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.18 J	0.16 J
Chlorbenzilate	mg/kg	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ
Chlorthalonil	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Cyanazine (Bladex)	mg/kg	0.013 UJ	0.013 U	0.013 UJ	0.013 UJ	0.013 UJ
Cyhalothrin/karate	mg/kg	0.33 UJ	0.33 UJ	0.33 UJ	0.32 UJ	0.65 UJ
Cypermethrin	mg/kg	0.33 UJ	0.33 UJ	0.33 UJ	0.32 UJ	0.65 UJ
DCPA (Dacthal)	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Flutolanil	mg/kg	0.67 UJ	0.67 UJ	0.67 UJ	0.65 UJ	1.3 UJ
Folpet	mg/kg	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ
Iprodione	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Metoachlor	mg/kg	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ
Metribuzin	mg/kg	0.013 U	0.013 U	0.013 U	0.02 J	0.013 U
Norflurazon	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Oxadiazon	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Oxamyl	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Permethrin	mg/kg	0.33 UJ	0.33 UJ	0.33 UJ	0.32 UJ	0.65 UJ
Pronamide	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Propachlor	mg/kg	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ
Propanil	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Propiconazole	mg/kg	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.33 UJ
Simazine	mg/kg	0.0093	0.0067 U	0.0067 U	0.01 J	0.014 J
Terbacil	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Trifluralin	mg/kg	0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Chlorpyrifos-methyl	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Diazinon	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Dichlorvos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Dicrotophos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Dimethoate	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Disulfoton	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
EPN	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Ethion (Ronnel)	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Fonofos (Merphos)	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Malathion	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Parathion	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Parathion-methyl	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Phorate	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Terbufos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	FS-15	FS-15	FS-15	FS-16	FS-16
		Sample ID	**FS-15-3-4**	**FS-15D-3-4**	**FS-15-4-5**	**FS-16-0.5-1**	**FS-16-3-4**
		Depth	3-4 ft	3-4 ft	4-5 ft	0.5-1 ft	3-4 ft
		Date	08/04/2016	08/04/2016	08/04/2016	08/04/2016	08/04/2016
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Hexazinone	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Prometon	mg/kg		0.0085	0.0067 U	0.0067 U	0.021 J	0.0087 J
Prometryn	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Propazine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Phenylurea Herbicides							
Diuron	mg/kg		0.12	0.049	0.028	0.019	0.0067 U
Linuron	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbamate Pesticides							
Aldicarb	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldicarb sulfone	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Carbaryl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.058	0.04
Carbofuran	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.011	0.0067 U
Methomyl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Thiobencarb	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Organophosphorus and Organosulfur Pesticides							
Demeton	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Fenamiphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Merphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Methidathion	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Phosmet	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Pirimiphos-methyl	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Propargite	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Tetrachlorvinphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ	0.033 UJ	0.033 UJ
Organonitrogen Pesticides							
Amitraz	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Diphenylamine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Fluometuron	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Metalaxyl	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Pendimethalin	mg/kg		0.067 UJ	0.067 UJ	0.067 UJ	0.065 UJ	0.13 UJ
Tebuthiuron	mg/kg		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	mg/kg		2 U	2 U	2 U	2 U	3.1
Diesel-Range TPH	mg/kg		50 U	50 U	50 U	77 JM	59 JM
Oil-Range TPH	mg/kg		250 U	250 U	250 U	450	340

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-16	FS-16	MW-10	MW-10	MW-10
	Sample ID	**FS-16-5-6**	**FS-16-9-10**	**MW-10-0-0.5**	**MW-10-1.5-2.5**	**MW-10-4-5**
	Depth	5-6 ft	9-10 ft	0-0.5 ft	1.5-2.5 ft	4-5 ft
	Date	08/04/2016	08/04/2016	08/02/2016	08/02/2016	08/02/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.001 U	0.03 U	0.03 U	0.03 U
Toluene	mg/kg	0.05 U	0.001 U	0.05 U	0.05 U	0.05 U
Ethylbenzene	mg/kg	0.05 U	0.001 U	0.05 U	0.05 U	0.05 U
Xylenes	mg/kg	0.1 U	0.002 U	0.1 U	0.1 U	0.1 U
Metals						
Arsenic	mg/kg	2.7	3.5	3.8	2.9	3.9
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U
Chromium (Total)	mg/kg	11	16	20	20	17
Copper	mg/kg	12	15	23	16	15
Lead	mg/kg	3	2.2	23	12	2.9
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Zinc	mg/kg	35	29	47	43	27
Miscellaneous Substances						
Nitrate/Nitrite	µg/g				190	
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
HCH-beta (b-BHC)	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
HCH-delta (d-BHC)	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
G-BHC (Lindane)	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Aldrin	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Heptachlor	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Heptachlor Epoxide	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Chlordane	mg/kg	6.6 UJ		0.66 UJ	0.66 UJ	0.66 UJ
Dieldrin	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Endrin	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Endosulfan I	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Endosulfan II	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
4,4'-DDD / Sum DDD	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
4,4'-DDE / Sum DDE	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
4,4'-DDT / Sum DDT	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Hexachlorobenzene	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Methoxychlor	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Toxaphene	mg/kg	68 UJ		6.8 UJ	6.8 UJ	6.8 UJ
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 U		0.05 J	0.01 UJ	0.01 UJ
2,4-DB	mg/kg	0.01 U		0.01 UJ	0.01 UJ	0.01 UJ
2,4,5-TP (Silvex)	mg/kg	0.01 U		0.01 UJ	0.01 UJ	0.01 UJ
2,4,5-T	mg/kg	0.01 U		0.01 UJ	0.01 UJ	0.01 UJ
Dicamba	mg/kg	0.01 U		3.4 J	0.013 J	0.01 UJ
Dinoseb	mg/kg	0.01 U		0.01 UJ	0.01 UJ	0.01 UJ
MCPA	mg/kg	0.01 U		0.03 J	0.01 UJ	0.01 UJ
MCPP (Mecoprop)	mg/kg	0.01 U		0.01 UJ	0.01 UJ	0.01 UJ
Pentachlorophenol	mg/kg	0.02 U		0.02 UJ	0.02 UJ	0.02 UJ
Other Chlorinated/Halogenated Pesticides						

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-16	FS-16	MW-10	MW-10	MW-10
	Sample ID	**FS-16-5-6**	**FS-16-9-10**	**MW-10-0-0.5**	**MW-10-1.5-2.5**	**MW-10-4-5**
	Depth	5-6 ft	9-10 ft	0-0.5 ft	1.5-2.5 ft	4-5 ft
	Date	08/04/2016	08/04/2016	08/02/2016	08/02/2016	08/02/2016
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	3.4 UJ		0.34 UJ	0.34 UJ	0.34 UJ
Alachlor	mg/kg	3.4 UJ		0.34 UJ	0.34 UJ	0.34 UJ
Atrazine	mg/kg	0.12 J		0.0067 UJ	0.0067 UJ	0.0067 UJ
Captafol	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Captan	mg/kg	3.4 UJ		0.34 UJ	0.34 UJ	0.34 UJ
Chlordane-alpha	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Chlorbenzilate	mg/kg	3.4 UJ		0.34 UJ	0.34 UJ	0.34 UJ
Chlorthalonil	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Cyanazine (Bladex)	mg/kg	0.013 UJ		0.013 UJ	0.013 UJ	0.013 UJ
Cyhalothrin/karate	mg/kg	6.6 UJ		0.66 UJ	0.66 UJ	0.66 UJ
Cypermethrin	mg/kg	6.6 UJ		0.66 UJ	0.66 UJ	0.66 UJ
DCPA (Dacthal)	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Flutolanil	mg/kg	13 UJ		1.3 UJ	1.3 UJ	1.3 UJ
Folpet	mg/kg	3.4 UJ		0.34 UJ	0.34 UJ	0.34 UJ
Iprodione	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Metoachlor	mg/kg	3.4 UJ		0.34 UJ	0.34 UJ	0.34 UJ
Metribuzin	mg/kg	0.15 J		0.013 UJ	0.013 UJ	0.013 UJ
Norflurazon	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Oxadiazon	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Oxamyl	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Permethrin	mg/kg	6.6 UJ		0.66 UJ	0.66 UJ	0.66 UJ
Pronamide	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Propachlor	mg/kg	3.4 UJ		0.34 UJ	0.34 UJ	0.34 UJ
Propanil	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Propiconazole	mg/kg	3.4 UJ		0.34 UJ	0.34 UJ	0.34 UJ
Simazine	mg/kg	0.025 J		0.0067 UJ	0.0067 UJ	0.0067 UJ
Terbacil	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Trifluralin	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.041 J		0.034 UJ	0.034 UJ	0.034 UJ
Chlorpyrifos-methyl	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Diazinon	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Dichlorvos	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Dicrotophos	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Dimethoate	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Disulfoton	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
EPN	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Ethion (Ronnel)	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Fonofos (Merphos)	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Malathion	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Parathion	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Parathion-methyl	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Phorate	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Terbufos	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	FS-16	FS-16	MW-10	MW-10	MW-10
	Sample ID	**FS-16-5-6**	**FS-16-9-10**	**MW-10-0-0.5**	**MW-10-1.5-2.5**	**MW-10-4-5**
	Depth	5-6 ft	9-10 ft	0-0.5 ft	1.5-2.5 ft	4-5 ft
	Date	08/04/2016	08/04/2016	08/02/2016	08/02/2016	08/02/2016
Triazine Herbicides (Organonitrogen Pesticides)						
Ametryn	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Hexazinone	mg/kg	0.028 J		0.0067 UJ	0.0067 UJ	0.0067 UJ
Prometon	mg/kg	0.014 J		0.0067 UJ	0.0067 UJ	0.0067 UJ
Prometryn	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Propazine	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Phenylurea Herbicides						
Diuron	mg/kg	1.8		0.017 J	0.0067 UJ	0.0067 UJ
Linuron	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Carbamate Pesticides						
Aldicarb	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Aldicarb sulfone	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Carbaryl	mg/kg	0.058		0.0067 UJ	0.0067 UJ	0.0067 UJ
Carbofuran	mg/kg	0.0067 U		0.07 J	0.0067 UJ	0.0067 UJ
Methomyl	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Thiobencarb	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Organophosphorus and Organosulfur Pesticides						
Demeton	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Fenamiphos	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Merphos	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Methidathion	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Phosmet	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Pirimiphos-methyl	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Propargite	mg/kg	0.013 U		0.013 UJ	0.013 UJ	0.013 UJ
Tetrachlorvinphos	mg/kg	0.034 UJ		0.034 UJ	0.034 UJ	0.034 UJ
Organonitrogen Pesticides						
Amitraz	mg/kg	0.013 U		0.013 UJ	0.013 UJ	0.013 UJ
Diphenylamine	mg/kg	0.0086 J		0.0067 UJ	0.0067 UJ	0.0067 UJ
Fluometuron	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Metalaxyl	mg/kg	0.0067 U		0.0067 UJ	0.0067 UJ	0.0067 UJ
Pendimethalin	mg/kg	1.3 UJ		0.13 UJ	0.13 UJ	0.13 UJ
Tebuthiuron	mg/kg	0.017 J		0.013 UJ	0.013 UJ	0.013 UJ
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH	mg/kg	2 U	5.4	2 U	2 U	2 U
Diesel-Range TPH	mg/kg	50 U	63 JM	50 U	50 U	50 U
Oil-Range TPH	mg/kg	250 U	250 U	250 U	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-11	MW-11	MW-11	MW-11	MW-12
	Sample ID	**MW-11-0-0.5**	**MW-11-1.5-2**	**MW-11-7.5-8**	**MW-11-9-10**	**MW-12-0-0.5**
	Depth	0-0.5 ft	1.5-2 ft	7.5-8 ft	9-10 ft	0-0.5 ft
	Date	08/02/2016	08/02/2016	08/02/2016	08/02/2016	08/01/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.001 U	0.03 U
Toluene	mg/kg	0.05 U	0.05 U	0.05 U	0.001 U	0.05 U
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.05 U	0.001 U	0.05 U
Xylenes	mg/kg	0.1 U	0.1 U	0.1 U	0.002 U	0.1 U
Methyl tert-Butyl Ether (MTBE)	mg/kg				0.001 U	
Ethanol	mg/kg				1 U	
Naphthalene	mg/kg			0.002 U	0.002 U	
1,2-Dichloroethane (EDC)	mg/kg				0.001 U	
n-Hexane	mg/kg				0.005 U	
1,2-Dibromoethane (EDB)	mg/kg				0.001 U	
Metals						
Arsenic	mg/kg	3.5	2.6	1.4		2.1
Cadmium	mg/kg	1.5	1.2	1 U		2 U
Chromium (Total)	mg/kg	53	36	15		14
Copper	mg/kg	30	27	12		24
Lead	mg/kg	59	41	1.6		110
Mercury	mg/kg	0.11	0.1 U	0.1 U		0.1 U
Zinc	mg/kg	150	130	23		97
Carcinogenic Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene	mg/kg			0.002 U	0.002 U	
Benzo(a)pyrene	mg/kg			0.002 U	0.002 U	
Benzo(b)fluoranthene	mg/kg			0.002 U	0.002 U	
Benzo(k)fluoranthene	mg/kg			0.002 U	0.002 U	
Chrysene	mg/kg			0.0028	0.002 U	
Dibenz(a,h)anthracene	mg/kg			0.002 U	0.002 U	
Indeno(1,2,3-cd)pyrene	mg/kg			0.002 U	0.002 U	
cPAH TEQ	mg/kg			0.0015	0.0015 U	
Miscellaneous Substances						
Nitrate/Nitrite	µg/g		200			
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
HCH-beta (b-BHC)	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
HCH-delta (d-BHC)	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
G-BHC (Lindane)	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Aldrin	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Heptachlor	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Heptachlor Epoxide	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Chlordane	mg/kg	1.6 UJ	0.66 UJ	1.6 UJ		1.6 UJ
Dieldrin	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Endrin	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Endosulfan I	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Endosulfan II	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
4,4'-DDD / Sum DDD	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
4,4'-DDE / Sum DDE	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-11	MW-11	MW-11	MW-11	MW-12
	Sample ID	**MW-11-0-0.5**	**MW-11-1.5-2**	**MW-11-7.5-8**	**MW-11-9-10**	**MW-12-0-0.5**
	Depth	0-0.5 ft	1.5-2 ft	7.5-8 ft	9-10 ft	0-0.5 ft
	Date	08/02/2016	08/02/2016	08/02/2016	08/02/2016	08/01/2016
Organochlorine Pesticides						
4,4'-DDT / Sum DDT	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Hexachlorobenzene	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Methoxychlor	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Toxaphene	mg/kg	17 UJ	6.8 UJ	17 UJ		17 UJ
Chlorinated Herbicides						
2,4-D	mg/kg	0.49 J	0.28 J	0.01 UJ		0.038 J
2,4-DB	mg/kg	0.075 J	0.23 J	0.01 UJ		0.01 UJ
2,4,5-TP (Silvex)	mg/kg	0.034 J	0.022 J	0.01 UJ		0.067 J
2,4,5-T	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ		0.019 J
Dicamba	mg/kg	0.24 J	0.19 J	0.01 UJ		0.64 J
Dinoseb	mg/kg	0.4 J	0.052 J	0.01 UJ		0.01 UJ
MCPA	mg/kg	0.081 J	0.014 J	0.01 UJ		0.017 J
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ		0.01 UJ
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.1 U		0.02 UJ
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.85 UJ	0.34 UJ	0.85 UJ		0.85 UJ
Alachlor	mg/kg	0.85 UJ	0.34 UJ	0.85 UJ		0.85 UJ
Atrazine	mg/kg	0.04 J	0.014 J	0.0067 UJ		0.0067 UJ
Captafol	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Captan	mg/kg	0.85 UJ	0.34 UJ	0.85 UJ		0.85 UJ
Chlordane-alpha	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Chlorbenzilate	mg/kg	0.85 UJ	0.34 UJ	0.85 UJ		0.85 UJ
Chlorthalonil	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Cyanazine (Bladex)	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ		0.013 UJ
Cyhalothrin/karate	mg/kg	1.6 UJ	0.66 UJ	1.6 UJ		1.6 UJ
Cypermethrin	mg/kg	1.6 UJ	0.66 UJ	1.6 UJ		1.6 UJ
DCPA (Dacthal)	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Flutolanil	mg/kg	3.4 UJ	1.3 UJ	3.4 UJ		3.4 UJ
Folpet	mg/kg	0.85 UJ	0.34 UJ	0.85 UJ		0.85 UJ
Hexachlorocylcopentadiene	mg/kg			0.03 U		
Iprodione	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Metoachlor	mg/kg	0.85 UJ	0.34 UJ	0.85 UJ		0.85 UJ
Metribuzin	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ		0.013 UJ
Norflurazon	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Oxadiazon	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Oxamyl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ
Permethrin	mg/kg	1.6 UJ	0.66 UJ	1.6 UJ		1.6 UJ
Pronamide	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Propachlor	mg/kg	0.85 UJ	0.34 UJ	0.85 UJ		0.85 UJ
Propanil	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Propiconazole	mg/kg	0.85 UJ	0.34 UJ	0.85 UJ		0.85 UJ
Simazine	mg/kg	0.36 J	4.1 J	0.0067 UJ		0.0067 UJ
Terbacil	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
Trifluralin	mg/kg	0.49 J	0.25 J	0.34 UJ		0.34 UJ

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-11	MW-11	MW-11	MW-11	MW-12
	Sample ID	**MW-11-0-0.5**	**MW-11-1.5-2**	**MW-11-7.5-8**	**MW-11-9-10**	**MW-12-0-0.5**
	Depth	0-0.5 ft	1.5-2 ft	7.5-8 ft	9-10 ft	0-0.5 ft
	Date	08/02/2016	08/02/2016	08/02/2016	08/02/2016	08/01/2016
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Chlorpyrifos-methyl	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Diazinon	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Dichlorvos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Dicrotophos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Dimethoate	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Disulfoton	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
EPN	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Ethion (Ronnel)	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Fonofos (Merphos)	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Malathion	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Parathion	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Parathion-methyl	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Phorate	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Terbufos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Triazine Herbicides (Organonitrogen Pesticides)						
Ametryn	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ
Hexazinone	mg/kg	0.0067 UJ	0.01 J	0.0067 UJ		0.0067 UJ
Prometon	mg/kg	0.013 J	0.033 J	0.0067 UJ		0.0067 UJ
Prometryn	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ
Propazine	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ
Phenylurea Herbicides						
Diuron	mg/kg	0.2 J	0.037 J	0.0067 UJ		0.0067 UJ
Linuron	mg/kg	0.012 J	0.0067 UJ	0.0067 UJ		0.0067 UJ
Carbamate Pesticides						
Aldicarb	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ
Aldicarb sulfone	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ
Carbaryl	mg/kg	0.049 J	0.0091 J	0.0067 UJ		0.0067 UJ
Carbofuran	mg/kg	0.012 J	0.0084 J	0.0067 UJ		0.0067 UJ
Methomyl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ
Thiobencarb	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ
Organophosphorus and Organosulfur Pesticides						
Demeton	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Fenamiphos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Merphos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Methidathion	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Phosmet	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Pirimiphos-methyl	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Propargite	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ		0.013 UJ
Tetrachlorvinphos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		0.034 UJ
Organonitrogen Pesticides						
Amitraz	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ		0.013 UJ
Diphenylamine	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ
Fluometuron	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	MW-11	MW-11	MW-11	MW-11	MW-12
		Sample ID	**MW-11-0-0.5**	**MW-11-1.5-2**	**MW-11-7.5-8**	**MW-11-9-10**	**MW-12-0-0.5**
		Depth	0-0.5 ft	1.5-2 ft	7.5-8 ft	9-10 ft	0-0.5 ft
		Date	08/02/2016	08/02/2016	08/02/2016	08/02/2016	08/01/2016
Organonitrogen Pesticides							
	Metalaxyl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		0.0067 UJ
	Pendimethalin	mg/kg	0.34 UJ	0.13 UJ	0.34 UJ		0.34 UJ
	Tebuthiuron	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ		0.013 UJ
Total Petroleum Hydrocarbons (TPH)							
	Gasoline-Range TPH	mg/kg	2 U	2 U	230		2 U
	Diesel-Range TPH	mg/kg	91 JM	50 U	740	50 U	71 JM
	Oil-Range TPH	mg/kg	250 U	250 U	250 U	250 U	430

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-12	MW-12	MW-12	MW-13	MW-13
	Sample ID	**MW-12-1.5-2**	**MW-12-5-6**	**MW-12-7-8**	**MW-13-0-0.5**	**MW-13-1-2**
	Depth	1.5-2 ft	5-6 ft	7-8 ft	0-0.5 ft	1-2 ft
	Date	08/01/2016	08/01/2016	08/01/2016	08/01/2016	08/01/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.0045	0.001 U	0.001 UJ	0.03 U	0.03 U
Toluene	mg/kg	0.015 J	0.001 UJ	0.001 UJ	0.05 U	0.05 U
Ethylbenzene	mg/kg	0.0022 J	0.001 UJ	0.001 UJ	0.05 U	0.05 U
Xylenes	mg/kg	0.014 J	0.0014 J	0.002 UJ	0.1 U	0.1 U
Methyl tert-Butyl Ether (MTBE)	mg/kg	0.05 U	0.001 U	0.001 UJ		
Ethanol	mg/kg		1 U	1 UJ		
Naphthalene	mg/kg	0.34	0.01 U	0.002 UJ		
1,2-Dichloroethane (EDC)	mg/kg	0.05 U	0.001 U	0.001 UJ		
n-Hexane	mg/kg	0.25 U	0.005 U	0.005 UJ		
1,2-Dibromoethane (EDB)	mg/kg	0.05 U	0.001 UJ	0.001 UJ		
Metals						
Arsenic	mg/kg	3	1.5		3.5	3.3
Cadmium	mg/kg	3.3	1 U		1 U	1 U
Chromium (Total)	mg/kg	20	11		24	65
Copper	mg/kg	37	14		36	62
Lead	mg/kg	990	4.1		30	32
Mercury	mg/kg	0.1 U	0.1 U		0.1 U	0.1
Zinc	mg/kg	220	37		96	97
Carcinogenic Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene	mg/kg	0.1 U	0.032	0.002 UJ		
Benzo(a)pyrene	mg/kg	0.1 U	0.029	0.002 UJ		
Benzo(b)fluoranthene	mg/kg	0.12	0.045	0.002 UJ		
Benzo(k)fluoranthene	mg/kg	0.1 U	0.01 U	0.002 UJ		
Chrysene	mg/kg	0.32	0.12	0.0029 J		
Dibenz(a,h)anthracene	mg/kg	0.1 U	0.01 U	0.002 UJ		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1 U	0.022	0.002 UJ		
cPAH TEQ	mg/kg	0.085	0.041	0.0015 J		
Miscellaneous Substances						
Nitrate/Nitrite	µg/g	13				21
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
HCH-beta (b-BHC)	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
HCH-delta (d-BHC)	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
G-BHC (Lindane)	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Aldrin	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Heptachlor	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Heptachlor Epoxide	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Chlordane	mg/kg	1.6 UJ	1.6 UJ		0.66 UJ	0.5 J
Dieldrin	mg/kg	0.34 UJ	0.34 UJ		0.16 J	0.28 J
Endrin	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Endosulfan I	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Endosulfan II	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
4,4'-DDD / Sum DDD	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.14 J
4,4'-DDE / Sum DDE	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.075 J

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-12	MW-12	MW-12	MW-13	MW-13
	Sample ID	**MW-12-1.5-2**	**MW-12-5-6**	**MW-12-7-8**	**MW-13-0-0.5**	**MW-13-1-2**
	Depth	1.5-2 ft	5-6 ft	7-8 ft	0-0.5 ft	1-2 ft
	Date	08/01/2016	08/01/2016	08/01/2016	08/01/2016	08/01/2016
Organochlorine Pesticides						
4,4'-DDT / Sum DDT	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.51 J
Hexachlorobenzene	mg/kg	2.5 U	0.34 UJ		0.13 UJ	0.13 UJ
Methoxychlor	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Toxaphene	mg/kg	17 UJ	17 UJ		6.8 UJ	6.8 UJ
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 UJ	0.01 UJ		0.12 J	0.024 J
2,4-DB	mg/kg	0.01 UJ	0.01 UJ		0.031 J	0.027 J
2,4,5-TP (Silvex)	mg/kg	0.01 UJ	0.01 UJ		0.025 J	0.013 J
2,4,5-T	mg/kg	0.019 J	0.01 UJ		0.01 UJ	0.01 UJ
Dicamba	mg/kg	0.033 J	0.01 UJ		0.09 J	0.1 J
Dinoseb	mg/kg	0.01 UJ	0.01 UJ		0.01 UJ	0.01 UJ
MCPA	mg/kg	0.01 UJ	0.01 UJ		0.02 J	0.015 J
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 UJ		0.01 UJ	0.01 UJ
Pentachlorophenol	mg/kg	25 U	0.02 UJ		0.02 UJ	0.02 UJ
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.85 UJ	0.85 UJ		0.34 UJ	0.34 UJ
Alachlor	mg/kg	0.85 UJ	0.85 UJ		0.34 UJ	0.34 UJ
Atrazine	mg/kg	0.0067 UJ	0.0067 UJ		0.013 J	0.03 J
Captafol	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Captan	mg/kg	0.85 UJ	0.85 UJ		0.34 UJ	0.34 UJ
Chlordane-alpha	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.067 UJ
Chlorbenzilate	mg/kg	0.85 UJ	0.85 UJ		0.34 UJ	0.34 UJ
Chlorthalonil	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Cyanazine (Bladex)	mg/kg	0.013 UJ	0.013 UJ		0.013 UJ	0.013 UJ
Cyhalothrin/karate	mg/kg	1.6 UJ	1.6 UJ		0.66 UJ	0.66 UJ
Cypermethrin	mg/kg	1.6 UJ	1.6 UJ		0.66 UJ	0.66 UJ
DCPA (Dacthal)	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Flutolanil	mg/kg	3.4 UJ	3.4 UJ		1.3 UJ	1.3 UJ
Folpet	mg/kg	0.85 UJ	0.85 UJ		0.34 UJ	0.34 UJ
Hexachlorocylcopentadiene	mg/kg	7.5 U				
Iprodione	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Metoachlor	mg/kg	0.85 UJ	0.85 UJ		0.34 UJ	0.34 UJ
Metribuzin	mg/kg	0.013 UJ	0.013 UJ		0.013 UJ	0.013 UJ
Norflurazon	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Oxadiazon	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Oxamyl	mg/kg	0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Permethrin	mg/kg	1.6 UJ	1.6 UJ		0.66 UJ	0.66 UJ
Pronamide	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Propachlor	mg/kg	0.85 UJ	0.85 UJ		0.34 UJ	0.34 UJ
Propanil	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Propiconazole	mg/kg	0.85 UJ	0.85 UJ		0.34 UJ	0.34 UJ
Simazine	mg/kg	0.0067 UJ	0.0067 UJ		0.031 J	0.033 J
Terbacil	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Trifluralin	mg/kg	0.34 UJ	0.34 UJ		0.18 J	0.31 J

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	MW-12	MW-12	MW-12	MW-13	MW-13
		Sample ID	**MW-12-1.5-2**	**MW-12-5-6**	**MW-12-7-8**	**MW-13-0-0.5**	**MW-13-1-2**
		Depth	1.5-2 ft	5-6 ft	7-8 ft	0-0.5 ft	1-2 ft
		Date	08/01/2016	08/01/2016	08/01/2016	08/01/2016	08/01/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Chlorpyrifos-methyl	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Diazinon	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Dichlorvos	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Dicrotophos	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Dimethoate	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Disulfoton	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
EPN	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Ethion (Ronnel)	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Fonofos (Merphos)	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Malathion	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Parathion	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Parathion-methyl	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Phorate	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Terbufos	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.022 J
Hexazinone	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Prometon	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Prometryn	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Propazine	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Phenylurea Herbicides							
Diuron	mg/kg		0.0067 UJ	0.0067 UJ		0.59 J	0.25 J
Linuron	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.036 J
Carbamate Pesticides							
Aldicarb	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Aldicarb sulfone	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Carbaryl	mg/kg		0.0067 UJ	0.0067 UJ		0.013 J	0.0068 J
Carbofuran	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Methomyl	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Thiobencarb	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Organophosphorus and Organosulfur Pesticides							
Demeton	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Fenamiphos	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Merphos	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Methidathion	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Phosmet	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Pirimiphos-methyl	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Propargite	mg/kg		0.013 UJ	0.013 UJ		0.013 UJ	0.013 UJ
Tetrachlorvinphos	mg/kg		0.34 UJ	0.034 UJ		0.034 UJ	0.034 UJ
Organonitrogen Pesticides							
Amitraz	mg/kg		0.013 UJ	0.013 UJ		0.013 UJ	0.013 UJ
Diphenylamine	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Fluometuron	mg/kg		0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-12	MW-12	MW-12	MW-13	MW-13
	Sample ID	**MW-12-1.5-2**	**MW-12-5-6**	**MW-12-7-8**	**MW-13-0-0.5**	**MW-13-1-2**
	Depth	1.5-2 ft	5-6 ft	7-8 ft	0-0.5 ft	1-2 ft
	Date	08/01/2016	08/01/2016	08/01/2016	08/01/2016	08/01/2016
Organonitrogen Pesticides						
Metalaxyl	mg/kg	0.0067 UJ	0.0067 UJ		0.0067 UJ	0.0067 UJ
Pendimethalin	mg/kg	0.34 UJ	0.34 UJ		0.13 UJ	0.13 UJ
Tebuthiuron	mg/kg	0.013 UJ	0.013 UJ		0.63 J	0.079 J
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH	mg/kg	71	200		2 U	2 U
Diesel-Range TPH	mg/kg	3500 JM	1900 JM	50 UJ	50 U	50 U
Oil-Range TPH	mg/kg	17000	11000	250 UJ	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-13	MW-14	MW-14	MW-14	MW-9
	Sample ID	**MW-13-3.5-4.5**	**MW-14-0-0.5**	**MW-14-2-3**	**MW-14-4-5**	**MW-9-0.5-1**
	Depth	3.5-4.5 ft	0-0.5 ft	2-3 ft	4-5 ft	0.5-1 ft
	Date	08/01/2016	08/01/2016	08/01/2016	08/01/2016	08/02/2016
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Xylenes	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Metals						
Arsenic	mg/kg	2.2	2.5	2.2	1.9	2.5
Cadmium	mg/kg	1 U	2 U	1 U	1 U	1 U
Chromium (Total)	mg/kg		18	16	14	16
Copper	mg/kg	12	20	16	14	19
Lead	mg/kg	1.7	30	2.6	1.7	16
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Zinc	mg/kg	65	45	30	28	61
Miscellaneous Substances						
Nitrate/Nitrite	µg/g		21			
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
HCH-beta (b-BHC)	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
HCH-delta (d-BHC)	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
G-BHC (Lindane)	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Aldrin	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Heptachlor	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Heptachlor Epoxide	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Chlordane	mg/kg	0.64 UJ	0.66 UJ	0.64 UJ	0.66 UJ	0.64 UJ
Dieldrin	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Endrin	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Endosulfan I	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Endosulfan II	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
4,4'-DDD / Sum DDD	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
4,4'-DDE / Sum DDE	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
4,4'-DDT / Sum DDT	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Hexachlorobenzene	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Methoxychlor	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Toxaphene	mg/kg	6.6 UJ	6.8 UJ	6.6 UJ	6.8 UJ	6.6 UJ
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.11 J
2,4-DB	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
2,4,5-TP (Silvex)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
2,4,5-T	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Dicamba	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Dinoseb	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
MCPA	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.017 J
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Other Chlorinated/Halogenated Pesticides						

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-13	MW-14	MW-14	MW-14	MW-9
	Sample ID	**MW-13-3.5-4.5**	**MW-14-0-0.5**	**MW-14-2-3**	**MW-14-4-5**	**MW-9-0.5-1**
	Depth	3.5-4.5 ft	0-0.5 ft	2-3 ft	4-5 ft	0.5-1 ft
	Date	08/01/2016	08/01/2016	08/01/2016	08/01/2016	08/02/2016
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.33 UJ	0.34 UJ	0.33 UJ	0.34 UJ	0.33 UJ
Alachlor	mg/kg	0.33 UJ	0.34 UJ	0.33 UJ	0.34 UJ	0.33 UJ
Atrazine	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Captafol	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Captan	mg/kg	0.33 UJ	0.34 UJ	0.33 UJ	0.34 UJ	0.33 UJ
Chlordane-alpha	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Chlorbenzilate	mg/kg	0.33 UJ	0.34 UJ	0.33 UJ	0.34 UJ	0.33 UJ
Chlorthalonil	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Cyanazine (Bladex)	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ
Cyhalothrin/karate	mg/kg	0.64 UJ	0.66 UJ	0.64 UJ	0.66 UJ	0.64 UJ
Cypermethrin	mg/kg	0.64 UJ	0.66 UJ	0.64 UJ	0.66 UJ	0.64 UJ
DCPA (Dacthal)	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Flutolanil	mg/kg	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ
Folpet	mg/kg	0.33 UJ	0.34 UJ	0.33 UJ	0.34 UJ	0.33 UJ
Iprodione	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Metoachlor	mg/kg	0.33 UJ	0.34 UJ	0.33 UJ	0.34 UJ	0.33 UJ
Metribuzin	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ
Norflurazon	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Oxadiazon	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Oxamyl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Permethrin	mg/kg	0.64 UJ	0.66 UJ	0.64 UJ	0.66 UJ	0.64 UJ
Pronamide	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Propachlor	mg/kg	0.33 UJ	0.34 UJ	0.33 UJ	0.34 UJ	0.33 UJ
Propanil	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Propiconazole	mg/kg	0.33 UJ	0.34 UJ	0.33 UJ	0.34 UJ	0.33 UJ
Simazine	mg/kg	0.0067 UJ	0.013 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Terbacil	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Trifluralin	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Chlorpyrifos-methyl	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Diazinon	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Dichlorvos	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Dicrotophos	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Dimethoate	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Disulfoton	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
EPN	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Ethion (Ronnel)	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Fonofos (Merphos)	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Malathion	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Parathion	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Parathion-methyl	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Phorate	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Terbufos	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-13	MW-14	MW-14	MW-14	MW-9
	Sample ID	**MW-13-3.5-4.5**	**MW-14-0-0.5**	**MW-14-2-3**	**MW-14-4-5**	**MW-9-0.5-1**
	Depth	3.5-4.5 ft	0-0.5 ft	2-3 ft	4-5 ft	0.5-1 ft
	Date	08/01/2016	08/01/2016	08/01/2016	08/01/2016	08/02/2016
Triazine Herbicides (Organonitrogen Pesticides)						
Ametryn	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Hexazinone	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Prometon	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Prometryn	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Propazine	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Phenylurea Herbicides						
Diuron	mg/kg	0.0067 UJ	0.021 J	0.0067 UJ	0.0067 UJ	0.036 J
Linuron	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Carbamate Pesticides						
Aldicarb	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Aldicarb sulfone	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Carbaryl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Carbofuran	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Methomyl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Thiobencarb	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Organophosphorus and Organosulfur Pesticides						
Demeton	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Fenamiphos	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Merphos	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Methidathion	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Phosmet	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Pirimiphos-methyl	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Propargite	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ
Tetrachlorvinphos	mg/kg	0.033 UJ	0.034 UJ	0.033 UJ	0.034 UJ	0.033 UJ
Organonitrogen Pesticides						
Amitraz	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ
Diphenylamine	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Fluometuron	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Metalaxyl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ
Pendimethalin	mg/kg	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Tebuthiuron	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH	mg/kg	2 U	2 U	2 U	2 U	2 U
Diesel-Range TPH	mg/kg	50 U	50 U	50 U	50 U	50 U
Oil-Range TPH	mg/kg	250 U	250 U	250 U	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-9	MW-9	MW-9		
	Sample ID	**MW-9-4-5**	**MW-9-7-8**	**MW-D1-7-8**		
	Depth	4-5 ft	7-8 ft	7-8 ft		
	Date	08/02/2016	08/02/2016	08/02/2016		
Volatile Organic Compounds						
Benzene	mg/kg	0.03 U	0.03 U	0.03 U		
Toluene	mg/kg	0.05 U	0.05 U	0.05 U		
Ethylbenzene	mg/kg	0.05 U	0.05 U	0.05 U		
Xylenes	mg/kg	0.1 U	0.1 U	0.1 U		
Metals						
Arsenic	mg/kg	2.3	1.1	1.3		
Cadmium	mg/kg	1 U	1 U	1 U		
Chromium (Total)	mg/kg	14	12	14		
Copper	mg/kg	25	11	11		
Lead	mg/kg	42	4.9	6.6		
Mercury	mg/kg	0.1 U	0.1 U	0.1 U		
Zinc	mg/kg	57	31	31		
Miscellaneous Substances						
Nitrate/Nitrite	µg/g	4.1				
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
HCH-beta (b-BHC)	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
HCH-delta (d-BHC)	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
G-BHC (Lindane)	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Aldrin	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Heptachlor	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Heptachlor Epoxide	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Chlordane	mg/kg	0.66 UJ	1.6 UJ	1.6 UJ		
Dieldrin	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Endrin	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Endosulfan I	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Endosulfan II	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
4,4'-DDD / Sum DDD	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
4,4'-DDE / Sum DDE	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
4,4'-DDT / Sum DDT	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Hexachlorobenzene	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Methoxychlor	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Toxaphene	mg/kg	6.8 UJ	17 UJ	17 UJ		
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ		
2,4-DB	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ		
2,4,5-TP (Silvex)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ		
2,4,5-T	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ		
Dicamba	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ		
Dinoseb	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ		
MCPA	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ		
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ		
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.02 UJ		
Other Chlorinated/Halogenated Pesticides						

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 1 Sampling				
	Location	MW-9	MW-9	MW-9		
	Sample ID	**MW-9-4-5**	**MW-9-7-8**	**MW-D1-7-8**		
	Depth	4-5 ft	7-8 ft	7-8 ft		
	Date	08/02/2016	08/02/2016	08/02/2016		
Other Chlorinated/Halogenated Pesticides						
Acetochlor	mg/kg	0.34 UJ	0.85 UJ	0.85 UJ		
Alachlor	mg/kg	0.34 UJ	0.85 UJ	0.85 UJ		
Atrazine	mg/kg	0.014 J	0.0067 UJ	0.0067 UJ		
Captafol	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Captan	mg/kg	0.34 UJ	0.85 UJ	0.85 UJ		
Chlordane-alpha	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Chlorbenzilate	mg/kg	0.34 UJ	0.85 UJ	0.85 UJ		
Chlorthalonil	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Cyanazine (Bladex)	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ		
Cyhalothrin/karate	mg/kg	0.66 UJ	1.6 UJ	1.6 UJ		
Cypermethrin	mg/kg	0.66 UJ	1.6 UJ	1.6 UJ		
DCPA (Dacthal)	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Flutolanil	mg/kg	1.3 UJ	3.4 UJ	3.4 UJ		
Folpet	mg/kg	0.34 UJ	0.85 UJ	0.85 UJ		
Iprodione	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Metoachlor	mg/kg	0.34 UJ	0.85 UJ	0.85 UJ		
Metribuzin	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ		
Norflurazon	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Oxadiazon	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Oxamyl	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ		
Permethrin	mg/kg	0.66 UJ	1.6 UJ	1.6 UJ		
Pronamide	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Propachlor	mg/kg	0.34 UJ	0.85 UJ	0.85 UJ		
Propanil	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Propiconazole	mg/kg	0.34 UJ	0.85 UJ	0.85 UJ		
Simazine	mg/kg	0.0081 J	0.0067 UJ	0.0067 UJ		
Terbacil	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Trifluralin	mg/kg	0.13 UJ	0.34 UJ	0.34 UJ		
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Chlorpyrifos-methyl	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Diazinon	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Dichlorvos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Dicrotophos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Dimethoate	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Disulfoton	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
EPN	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Ethion (Ronnel)	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Fonofos (Merphos)	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Malathion	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Parathion	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Parathion-methyl	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Phorate	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		
Terbufos	mg/kg	0.034 UJ	0.034 UJ	0.034 UJ		

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 1 Sampling				
		Location	MW-9	MW-9	MW-9		
		Sample ID	**MW-9-4-5**	**MW-9-7-8**	**MW-D1-7-8**		
		Depth	4-5 ft	7-8 ft	7-8 ft		
		Date	08/02/2016	08/02/2016	08/02/2016		
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Hexazinone	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Prometon	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Prometryn	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Propazine	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Phenylurea Herbicides							
Diuron	mg/kg		0.018 J	0.0067 UJ	0.0067 UJ		
Linuron	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Carbamate Pesticides							
Aldicarb	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Aldicarb sulfone	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Carbaryl	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Carbofuran	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Methomyl	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Thiobencarb	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Organophosphorus and Organosulfur Pesticides							
Demeton	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Fenamiphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Merphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Methidathion	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Phosmet	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Pirimiphos-methyl	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Propargite	mg/kg		0.013 UJ	0.013 UJ	0.013 UJ		
Tetrachlorvinphos	mg/kg		0.034 UJ	0.034 UJ	0.034 UJ		
Organonitrogen Pesticides							
Amitraz	mg/kg		0.013 UJ	0.013 UJ	0.013 UJ		
Diphenylamine	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Fluometuron	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Metalaxyl	mg/kg		0.0067 UJ	0.0067 UJ	0.0067 UJ		
Pendimethalin	mg/kg		0.13 UJ	0.34 UJ	0.34 UJ		
Tebuthiuron	mg/kg		0.013 UJ	0.013 UJ	0.013 UJ		
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	mg/kg		2 U	2 U	2 U		
Diesel-Range TPH	mg/kg		50 U	50 U	50 U		
Oil-Range TPH	mg/kg		250 U	250 U	250 U		

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-17	FS-17	FS-17	FS-18	FS-18
	Sample ID	**FS-17-0.5-1**	**FS-17-2.5-3.5**	**FS-17-4-5**	**FS-18-0.5-1**	**FS-18-2-3**
	Depth	0.5-1 ft	2.5-3.5 ft	4-5 ft	0.5-1 ft	2-3 ft
	Date	06/07/2017	06/07/2017	06/07/2017	06/07/2017	06/07/2017
Miscellaneous Substances						
Nitrate	mg/kg		15			670
Nitrite	mg/kg		1.2 U			6.2 U
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Dieldrin	mg/kg	0.12	0.0067 U	0.0067 U	0.044	0.0067 U
Chlordane	mg/kg	0.22	0.033 U	0.033 U	0.042	0.033 U
Endrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDE / Sum DDE	mg/kg	0.06	0.0067 U	0.0067 U	0.062	0.0067 U
4,4'-DDT / Sum DDT	mg/kg	0.11	0.0067 U	0.0067 U	0.098	0.0067 U
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Methoxychlor	mg/kg	0.0067 UJ	0.0067 U	0.0067 U	0.0067 UJ	0.0067 UJ
Toxaphene	mg/kg	1.3	0.33 U	0.33 U	0.39	0.33 U
Chlorinated Herbicides						
2,4-D	mg/kg	0.032 J	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
2,4-DB	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
2,4,5-TP (Silvex)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
2,4,5-T	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
Dicamba	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.025	0.01 UJ
Dinoseb	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
MCPA	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.02 UJ	0.02 U	0.02 UJ
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.025	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Simazine	mg/kg	0.03	0.0067 U	0.0067 U	0.0067 U	0.0067 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-18	FS-18	FS-18	FS-19	FS-19
	Sample ID	**FS-2X-2-3**	**FS-18-4-5**	**FS-18-6-7**	**FS-19-0.5-1**	**FS-19-1-5**
	Depth	2-3 ft	4-5 ft	6-7 ft	0.5-1 ft	1-5 ft
	Date	06/07/2017	06/07/2017	06/07/2017	06/06/2017	06/06/2017
Conventionals						
Bulk Density	g/cc					2.3
pH	pH					6.2
Total Organic Carbon	%					3.7 J
Miscellaneous Substances						
Nitrate	mg/kg	690				
Nitrite	mg/kg	6.4 U				
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.012	
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.012	
Aldrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.013	
Heptachlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.028	
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Chlordane	mg/kg	0.032 U	0.033 U	0.033 U	2.6	
Dieldrin	mg/kg	0.0067 U	0.017	0.0067 U	1.6	
Endrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.042	
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.087	
4,4'-DDE / Sum DDE	mg/kg	0.0067 U	0.017	0.0067 U	0.64	
4,4'-DDT / Sum DDT	mg/kg	0.0067 U	0.031	0.0067 U	1.3	
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Methoxychlor	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 U	
Toxaphene	mg/kg	0.32 U	0.33 U	0.33 U	22	
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 UJ	0.01 U	0.01 UJ	1.9	
2,4-DB	mg/kg	0.01 UJ	0.01 U	0.01 UJ	0.034 J	
2,4,5-TP (Silvex)	mg/kg	0.01 UJ	0.01 U	0.01 UJ	0.089	
2,4,5-T	mg/kg	0.01 UJ	0.01 U	0.01 UJ	0.012	
Dicamba	mg/kg	0.01 UJ	0.01 U	0.01 UJ	0.86	
Dinoseb	mg/kg	0.01 UJ	0.01 U	0.01 UJ	0.08	
MCPA	mg/kg	0.01 UJ	0.01 U	0.01 UJ	0.35	
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 U	0.01 UJ	0.01 U	
Pentachlorophenol	mg/kg	0.02 UJ	0.02 U	0.02 UJ	0.02 U	
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.029	
Simazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-19	FS-19	FS-19	FS-19	FS-20
	Sample ID	**FS-19-2.5-3.5**	**FS-19-4.5-5.5**	**FS-19-5-7.5**	**FS-19-6-7**	**FS-20-0.5-1**
	Depth	2.5-3.5 ft	4.5-5.5 ft	5-7.5 ft	6-7 ft	0.5-1 ft
	Date	06/06/2017	06/06/2017	06/06/2017	06/06/2017	06/06/2017
Conventionals						
Bulk Density	g/cc			2.5		
pH	pH			8		
Total Organic Carbon	%			0.075 U		
Miscellaneous Substances						
Nitrate	mg/kg	44				
Nitrite	mg/kg	10 U				
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U		0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg	0.0084	0.0067 U		0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U		0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg	0.0072	0.0067 U		0.0067 U	0.0067 U
Aldrin	mg/kg	0.0098	0.0067 U		0.0067 U	0.0067 U
Heptachlor	mg/kg	0.032	0.0067 U		0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U		0.0067 U	0.0067 U
Chlordane	mg/kg	2.1	0.033 U		0.033 U	0.2
Dieldrin	mg/kg	1.4	0.024		0.0067 U	0.095
Endrin	mg/kg	0.046	0.0067 U		0.0067 U	0.0067 U
Endosulfan I	mg/kg	0.0067 U	0.0067 U		0.0067 U	0.0067 U
Endosulfan II	mg/kg	0.0067 U	0.0067 U		0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg	0.088	0.0067 U		0.0067 U	0.0067 U
4,4'-DDE / Sum DDE	mg/kg	0.39	0.038		0.0067 U	0.022
4,4'-DDT / Sum DDT	mg/kg	1.3	0.01		0.0067 U	0.035
Hexachlorobenzene	mg/kg	0.0099	0.0067 U		0.0067 U	0.0067 U
Methoxychlor	mg/kg	0.0067 U	0.0067 U		0.0067 U	0.0067 U
Toxaphene	mg/kg	13	0.33 U		0.33 U	0.52
Chlorinated Herbicides						
2,4-D	mg/kg	1.1	0.026		0.01 UJ	0.082
2,4-DB	mg/kg	0.015	0.01 U		0.01 UJ	0.01 U
2,4,5-TP (Silvex)	mg/kg	0.16	0.018		0.01 UJ	0.01 U
2,4,5-T	mg/kg	0.012	0.01 U		0.01 UJ	0.01 U
Dicamba	mg/kg	1.3	0.031		0.01 UJ	0.069
Dinoseb	mg/kg	0.63	0.034		0.01 UJ	0.01 U
MCPA	mg/kg	0.2	0.01 U		0.01 UJ	0.01 U
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U		0.01 UJ	0.01 U
Pentachlorophenol	mg/kg	0.02 U	0.02 U		0.02 UJ	0.02 U
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.012	0.0067 U		0.0067 U	0.0067 U
Simazine	mg/kg	0.0067 U	0.0067 U		0.0067 U	0.0067 U
Dioxins						
2,3,7,8-TCDD (Dioxin)	ng/kg	10.1				
1,2,3,7,8-PeCDD	ng/kg	2.6				
1,2,3,4,7,8-HxCDD	ng/kg	1.37				
1,2,3,6,7,8-HxCDD	ng/kg	3.64 U				
1,2,3,7,8,9-HxCDD	ng/kg	1.97				

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-19	FS-19	FS-19	FS-19	FS-20
	Sample ID	**FS-19-2.5-3.5**	**FS-19-4.5-5.5**	**FS-19-5-7.5**	**FS-19-6-7**	**FS-20-0.5-1**
	Depth	2.5-3.5 ft	4.5-5.5 ft	5-7.5 ft	6-7 ft	0.5-1 ft
	Date	06/06/2017	06/06/2017	06/06/2017	06/06/2017	06/06/2017
Dioxins						
1,2,3,4,6,7,8-HpCDD	ng/kg	101				
OCDD	ng/kg	1100				
2,3,7,8-TCDF	ng/kg	2.09 U				
1,2,3,7,8-PeCDF	ng/kg	1.14				
2,3,4,7,8-PeCDF	ng/kg	3.27 U				
1,2,3,4,7,8-HxCDF	ng/kg	2.52				
1,2,3,6,7,8-HxCDF	ng/kg	6.29				
1,2,3,7,8,9-HxCDF	ng/kg	1.52				
2,3,4,6,7,8-HxCDF	ng/kg	14.4				
1,2,3,4,6,7,8-HpCDF	ng/kg	57.6				
1,2,3,4,7,8,9-HpCDF	ng/kg	3.06				
OCDF	ng/kg	157				
Dioxins	ng/kg	18.3				

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-20	FS-20	FS-20	FS-20	FS-21
	Sample ID	**FS-20-3-4**	**FS-X1-3-4**	**FS-20-4-5**	**FS-20-5.5-6.5**	**FS-21-0.5-1**
	Depth	3-4 ft	3-4 ft	4-5 ft	5.5-6.5 ft	0.5-1 ft
	Date	06/06/2017	06/06/2017	06/06/2017	06/06/2017	06/07/2017
Miscellaneous Substances						
Nitrate	mg/kg	120	110			
Nitrite	mg/kg	6.1 U	6.2 U			
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Chlordane	mg/kg	0.033 U	0.033 U	0.033 U	0.04	0.033 U
Dieldrin	mg/kg	0.0075	0.011	0.0067 U	0.0067 U	0.011
Endrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg	0.0077 J	0.0095	0.0067 U	0.0067 U	0.0067 U
4,4'-DDE / Sum DDE	mg/kg	0.099 J	0.13	0.0067 U	0.0067 U	0.013
4,4'-DDT / Sum DDT	mg/kg	0.15	0.19	0.0067 U	0.0067 U	0.021
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Methoxychlor	mg/kg	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 UJ	0.0067 U
Toxaphene	mg/kg	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.099	0.01 UJ
2,4-DB	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
2,4,5-TP (Silvex)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
2,4,5-T	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
Dicamba	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.17	0.028 J
Dinoseb	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
MCPA	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.018	0.01 UJ
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.02 UJ	0.02 U	0.02 UJ
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.013	0.015	0.0077	0.0067 U	0.0067 U
Simazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-21	FS-21	FS-22	FS-22	FS-22
	Sample ID	**FS-21-2-3**	**FS-21-4.5-5**	**FS-22-0.5-1**	**FS-22-3-4**	**FS-22-4-5**
	Depth	2-3 ft	4.5-5 ft	0.5-1 ft	3-4 ft	4-5 ft
	Date	06/07/2017	06/07/2017	06/06/2017	06/06/2017	06/06/2017
Miscellaneous Substances						
Nitrate	mg/kg	160			16	
Nitrite	mg/kg	6.5 U			1 U	
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U	0.011	0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U	0.16	0.0067 U	0.0067 U
Aldrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor	mg/kg	0.0067 U	0.0067 U	0.0087	0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Chlordane	mg/kg	0.033 U	0.033 U	2.6	0.033 U	0.061
Dieldrin	mg/kg	0.0067 U	0.0067 U	0.35	0.0067	0.031
Endrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.0067 U	0.022	0.0067 U	0.0067 U
4,4'-DDE / Sum DDE	mg/kg	0.0067 U	0.0067 U	0.13	0.0067 U	0.0067 U
4,4'-DDT / Sum DDT	mg/kg	0.0067 U	0.0067 U	0.36	0.0067 U	0.012
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Methoxychlor	mg/kg	0.0067 U	0.0067 U	0.0067 UJ	0.0067 UJ	0.0067 UJ
Toxaphene	mg/kg	0.33 U	0.33 U	13	0.33 U	2
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 U	0.01 UJ	0.44	0.01 U	0.019
2,4-DB	mg/kg	0.01 UJ	0.01 UJ	0.01 U	0.01 U	0.01 U
2,4,5-TP (Silvex)	mg/kg	0.01 UJ	0.01 UJ	0.36	0.011	0.01 U
2,4,5-T	mg/kg	0.01 U	0.01 UJ	0.019	0.01 U	0.01 U
Dicamba	mg/kg	0.01 UJ	0.01 UJ	0.38	0.01	0.031
Dinoseb	mg/kg	0.01 U	0.01 UJ	0.01 U	0.01 U	0.01 U
MCPA	mg/kg	0.01 U	0.01 UJ	0.3	0.01 U	0.01 U
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 UJ	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0089	0.013
Simazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.018	0.012

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-22	FS-22	FS-23	FS-23	FS-23
	Sample ID	**FS-22-4.5-5**	**FS-22-7-8**	**FS-23-0.5-1**	**FS-23-4-5**	**FS-23-5-6**
	Depth	4.5-5 ft	7-8 ft	0.5-1 ft	4-5 ft	5-6 ft
	Date	06/06/2017	06/06/2017	06/06/2017	06/06/2017	06/06/2017
Miscellaneous Substances						
Nitrate	mg/kg				12	
Nitrite	mg/kg				1.2 U	
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.017	0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.01	0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U	0.083	0.0067 U	0.0067 U
Aldrin	mg/kg	0.0067 U	0.0067 U	0.023	0.0067 U	0.0067 U
Heptachlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Dieldrin	mg/kg	0.0095	0.0078	0.067	0.0067 U	0.99
Chlordane	mg/kg	0.056	0.033 U	0.33 U	0.033 U	0.032 U
Endrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.024
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.0067 U	0.054	0.0067 U	0.0067 U
4,4'-DDE / Sum DDE	mg/kg	0.0067 U	0.0067 U	0.021	0.0067 U	0.0067 U
4,4'-DDT / Sum DDT	mg/kg	0.0067 U	0.0067 U	0.17	0.0067 U	0.0067 U
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Methoxychlor	mg/kg	0.0067 U	0.0067 UJ	0.0092	0.0067 U	0.0067 U
Toxaphene	mg/kg	0.36	0.33 U	17	0.45	0.32 U
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 U	0.01 U	0.25	0.017	0.01 U
2,4-DB	mg/kg	0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-TP (Silvex)	mg/kg	0.01 UJ	0.01 U	0.29	0.01	0.01 U
2,4,5-T	mg/kg	0.01 U	0.01 U	0.034	0.01 U	0.01 U
Dicamba	mg/kg	0.01 UJ	0.016	0.058	0.01 U	0.022
Dinoseb	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
MCPA	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.021
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.014	0.0067 U	0.012	0.0067 U	0.0067 U
Simazine	mg/kg	0.012	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Total Petroleum Hydrocarbons (TPH)						
Diesel-Range TPH	mg/kg			4300	2100	460
Oil-Range TPH	mg/kg			550	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-23	FS-23	FS-24	FS-24	FS-24
	Sample ID	**FS-23-6-7**	**FS-23-8-9**	**FS-24-0.5-1**	**FS-24-2-3**	**FS-24-4-5**
	Depth	6-7 ft	8-9 ft	0.5-1 ft	2-3 ft	4-5 ft
	Date	06/06/2017	06/06/2017	06/08/2017	06/08/2017	06/08/2017
Miscellaneous Substances						
Nitrate	mg/kg				12	
Nitrite	mg/kg				2 U	
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg			0.0067 U	0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg			0.0067 U	0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg			0.0067 U	0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg			0.0067 U	0.0067 U	0.0067 U
Aldrin	mg/kg			0.0067 U	0.0067 U	0.0067 U
Heptachlor	mg/kg			0.0067 U	0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg			0.0067 U	0.0067 U	0.0067 U
Chlordane	mg/kg			0.033 U	0.046	0.033 U
Dieldrin	mg/kg			0.0092	0.014	0.0067 U
Endrin	mg/kg			0.0067 U	0.0067 U	0.0067 U
Endosulfan I	mg/kg			0.0067 U	0.0067 U	0.0067 U
Endosulfan II	mg/kg			0.0067 U	0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg			0.0067 U	0.0067 U	0.0067 U
4,4'-DDE / Sum DDE	mg/kg			0.0067 U	0.0067 U	0.0067 U
4,4'-DDT / Sum DDT	mg/kg			0.0083	0.014	0.0067 U
Hexachlorobenzene	mg/kg			0.0067 U	0.0067 U	0.0067 U
Methoxychlor	mg/kg			0.0067 U	0.0067 U	0.0067 U
Toxaphene	mg/kg			0.33 U	0.37	0.33 U
Chlorinated Herbicides						
2,4-D	mg/kg			0.091 J	0.25	0.01 U
2,4-DB	mg/kg			0.01 UJ	0.01 U	0.01 U
2,4,5-TP (Silvex)	mg/kg			0.01 UJ	0.01 U	0.01 U
2,4,5-T	mg/kg			0.01 UJ	0.01 U	0.01 U
Dicamba	mg/kg			0.53 J	1.2	0.01 U
Dinoseb	mg/kg			0.01 UJ	0.01 UJ	0.01 UJ
MCPA	mg/kg			0.01 UJ	0.015	0.01 U
MCPP (Mecoprop)	mg/kg			0.01 UJ	0.01 U	0.01 U
Pentachlorophenol	mg/kg			0.02 UJ	0.02 UJ	0.02 UJ
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg			0.0067 U	0.0067 U	0.0067 U
Simazine	mg/kg			0.0067 U	0.0067 U	0.0067 U
Total Petroleum Hydrocarbons (TPH)						
Diesel-Range TPH	mg/kg	4600	50 U			
Oil-Range TPH	mg/kg	250 U	250 U			

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 2a Sampling				
		Location	FS-25	FS-25	FS-25	FS-25	FS-25
		Sample ID	**FS-25-0.5-1**	**FS-25-1-3**	**FS-25-1.5-2**	**FS-25-3-5**	**FS-25-4.5-5.5**
		Depth	0.5-1 ft	1-3 ft	1.5-2 ft	3-5 ft	4.5-5.5 ft
		Date	06/08/2017	06/08/2017	06/08/2017	06/08/2017	06/08/2017
Conventionals							
Bulk Density	g/cc			2.3		2.5	
pH	pH			6		6.6	
Total Organic Carbon	%			3.7		0.056 JQ	
Miscellaneous Substances							
Nitrate	mg/kg				210		
Nitrite	mg/kg				4.9 JQ		
Organochlorine Pesticides							
HCH-alpha (a-BHC)	mg/kg	0.0067 U		0.0067 U		0.0067 U	
HCH-beta (b-BHC)	mg/kg	0.0067 U		0.0067 U		0.0067 U	
HCH-delta (d-BHC)	mg/kg	0.0067 U		0.0067 U		0.0067 U	
G-BHC (Lindane)	mg/kg	0.01		0.0067 U		0.0067 U	
Aldrin	mg/kg	0.0087		0.0067 U		0.0067 U	
Heptachlor	mg/kg	0.0067 U		0.0067 U		0.0067 U	
Heptachlor Epoxide	mg/kg	0.0067 U		0.0067 U		0.0067 U	
Dieldrin	mg/kg	0.22		0.0067 U		0.0067 U	
Chlordane	mg/kg	0.43		0.033 U		0.067	
Endrin	mg/kg	0.012		0.0067 U		0.0067 U	
Endosulfan I	mg/kg	0.0067 U		0.0067 U		0.0067 U	
Endosulfan II	mg/kg	0.0067 U		0.0067 U		0.0067 U	
4,4'-DDD / Sum DDD	mg/kg	0.016		0.0067 U		0.0067 U	
4,4'-DDE / Sum DDE	mg/kg	0.1		0.0067 U		0.0067 U	
4,4'-DDT / Sum DDT	mg/kg	0.24		0.0067 U		0.0067 U	
Hexachlorobenzene	mg/kg	0.0067 U		0.0067 U		0.0067 U	
Methoxychlor	mg/kg	0.0067 U		0.0067 U		0.0067 U	
Toxaphene	mg/kg	2.5		0.33 U		0.33 U	
Chlorinated Herbicides							
2,4-D	mg/kg	1.1		0.01 UJ		0.01 UJ	
2,4-DB	mg/kg	0.17		0.01 UJ		0.01 UJ	
2,4,5-TP (Silvex)	mg/kg	0.045		0.01 UJ		0.01 UJ	
2,4,5-T	mg/kg	0.01 U		0.01 UJ		0.01 UJ	
Dicamba	mg/kg	0.69		0.023		0.01 UJ	
Dinoseb	mg/kg	3.7 J		0.016 J		0.01 UJ	
MCPA	mg/kg	0.28		0.01 UJ		0.01 UJ	
MCPP (Mecoprop)	mg/kg	0.01 U		0.01 UJ		0.01 UJ	
Pentachlorophenol	mg/kg	0.02 UJ		0.02 UJ		0.02 UJ	
Other Chlorinated/Halogenated Pesticides							
Atrazine	mg/kg	0.13		0.0093		0.0067 U	
Simazine	mg/kg	0.13		0.054		0.0067 U	

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-25	FS-27	FS-27	FS-27	FS-27
	Sample ID	**FS-25-6-7**	**FS-27-0.5-1**	**FS-27-3-4**	**FS-27-4-5**	**FS-27-7.5-8**
	Depth	6-7 ft	0.5-1 ft	3-4 ft	4-5 ft	7.5-8 ft
	Date	06/08/2017	06/06/2017	06/06/2017	06/06/2017	06/06/2017
Miscellaneous Substances						
Nitrate	mg/kg			330		
Nitrite	mg/kg			23 U		
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.015	0.0067 U	
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.008	0.052	0.0067 U	
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
G-BHC (Lindane)	mg/kg	0.0067 U	0.078	0.42	0.018	
Aldrin	mg/kg	0.0067 U	0.0093	0.029	0.0067 U	
Heptachlor	mg/kg	0.0067 U	0.012	0.035	0.0067 U	
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Dieldrin	mg/kg	0.008	1.1	6.2	0.2	
Chlordane	mg/kg	0.033 U	2.1	13	0.2	
Endrin	mg/kg	0.0067 U	0.046	0.31	0.0067 U	
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.013	0.066	0.0067 U	
4,4'-DDE / Sum DDE	mg/kg	0.0067 U	0.11	0.57	0.011	
4,4'-DDT / Sum DDT	mg/kg	0.0067 U	0.19	0.86	0.022	
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Methoxychlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Toxaphene	mg/kg	0.33 U	11	70	1.4	
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 UJ	0.25 J	0.11	0.01 U	
2,4-DB	mg/kg	0.01 UJ	0.013 J	0.022 J	0.01 U	
2,4,5-TP (Silvex)	mg/kg	0.01 UJ	0.03	0.13	0.01 U	
2,4,5-T	mg/kg	0.01 UJ	0.01 U	0.01 U	0.01 U	
Dicamba	mg/kg	0.01 UJ	0.35	0.82	0.19	
Dinoseb	mg/kg	0.01 UJ	0.013	0.062	0.01 U	
MCPA	mg/kg	0.01 UJ	0.19 J	0.04	0.01 U	
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 U	0.01 U	0.01 U	
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.02 U	0.02 U	
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.0067 U	0.0082	0.012	0.0067 U	
Simazine	mg/kg	0.0067 U	0.0068	0.012	0.0067 U	
Total Petroleum Hydrocarbons (TPH)						
Diesel-Range TPH	mg/kg		150 JM	110 JM	50 U	1000
Oil-Range TPH	mg/kg		350	250 U	250 U	250 U

Table E.1
Chemistry Data for Soil Samples

		Event	RI Phase 2a Sampling				
		Location	FS-27	FS-28	FS-28	FS-28	FS-28
		Sample ID	**FS-27-9.5-10**	**FS-28-0.5-1**	**FS-28-3-4**	**FS-28-5-5.5**	**FS-28-7-8**
		Depth	9.5-10 ft	0.5-1 ft	3-4 ft	5-5.5 ft	7-8 ft
		Date	06/06/2017	06/06/2017	06/06/2017	06/06/2017	06/06/2017
Miscellaneous Substances							
Nitrate	mg/kg				110		
Nitrite	mg/kg				56 U		
Organochlorine Pesticides							
HCH-alpha (a-BHC)	mg/kg			0.0067 U	0.0067 U	0.0067 U	
HCH-beta (b-BHC)	mg/kg			0.0067 U	0.0068	0.0067 U	
HCH-delta (d-BHC)	mg/kg			0.0067 U	0.0067 U	0.0067 U	
G-BHC (Lindane)	mg/kg			0.0067 U	0.13	0.0067 U	
Aldrin	mg/kg			0.022	0.0067 U	0.0067 U	
Heptachlor	mg/kg			0.0067 U	0.25	0.0067 U	
Heptachlor Epoxide	mg/kg			0.0067 U	0.0067 U	0.0067 U	
Chlordane	mg/kg			0.37	11	0.033 U	
Dieldrin	mg/kg			0.23	0.21	0.0067 U	
Endrin	mg/kg			0.02	0.031	0.0067 U	
Endosulfan I	mg/kg			0.0067 U	0.0067 U	0.0067 U	
Endosulfan II	mg/kg			0.0067 U	0.0067 U	0.0067 U	
4,4'-DDD / Sum DDD	mg/kg			0.0067 U	0.049	0.0067 U	
4,4'-DDE / Sum DDE	mg/kg			0.047	1.9	0.014	
4,4'-DDT / Sum DDT	mg/kg			0.053	0.019	0.0067 U	
Hexachlorobenzene	mg/kg			0.0067 U	0.0067 U	0.0067 U	
Methoxychlor	mg/kg			0.0067 U	0.0067 U	0.0067 U	
Toxaphene	mg/kg			1.1	52	0.33 U	
Chlorinated Herbicides							
2,4-D	mg/kg			0.76	0.84	0.025	
2,4-DB	mg/kg			0.027 J	0.43	0.01 U	
2,4,5-TP (Silvex)	mg/kg			0.038	0.72	0.01 U	
2,4,5-T	mg/kg			0.01 U	0.024	0.01 U	
Dicamba	mg/kg			0.49	0.56	0.014	
Dinoseb	mg/kg			0.065	0.063	0.01 U	
MCPA	mg/kg			0.045	0.048	0.01 U	
MCPP (Mecoprop)	mg/kg			0.01 U	0.01 U	0.01 U	
Pentachlorophenol	mg/kg			0.02 U	0.02 U	0.02 U	
Other Chlorinated/Halogenated Pesticides							
Atrazine	mg/kg			1.6	710	0.46	
Simazine	mg/kg			0.29	110	0.11	
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	mg/kg		50 U	410 JM	480 JM	69 JM	50 U
Oil-Range TPH	mg/kg		250 U	460	320	460	250 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-29	FS-29	FS-29	FS-30	FS-30
	Sample ID	**FS-29-0.5-1**	**FS-29-1-2**	**FS-29-4-4.5**	**FS-30-0.5-1**	**FS-30-2-3**
	Depth	0.5-1 ft	1-2 ft	4-4.5 ft	0.5-1 ft	2-3 ft
	Date	06/08/2017	06/08/2017	06/08/2017	06/08/2017	06/08/2017
Miscellaneous Substances						
Nitrate	mg/kg		130			290
Nitrite	mg/kg		22 U			5.6 JQ
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg	0.012	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg	0.028	0.0067 U	0.0067 U	0.049	0.0067 U
Aldrin	mg/kg	0.007	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor	mg/kg	0.023	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Dieldrin	mg/kg	1.2	0.031	0.0067 U	0.4	0.0067 U
Chlordane	mg/kg	6.3	0.057	0.033 U	0.089	0.033 U
Endrin	mg/kg	0.38	0.0067 U	0.0067 U	0.043	0.0067 U
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg	0.05	0.0067 U	0.0067 U	0.036	0.0067 U
4,4'-DDE / Sum DDE	mg/kg	0.27	0.027	0.0067 U	0.077	0.0067 U
4,4'-DDT / Sum DDT	mg/kg	0.2	0.022	0.0067 U	0.1	0.0067 U
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Methoxychlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Toxaphene	mg/kg	53	0.67	0.33 U	0.57	0.33 U
Chlorinated Herbicides						
2,4-D	mg/kg	0.046 J	0.015 J	0.01 UJ	0.3	0.015 J
2,4-DB	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.033 J	0.01 UJ
2,4,5-TP (Silvex)	mg/kg	0.17 J	0.032 J	0.01 UJ	0.051 J	0.01 UJ
2,4,5-T	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
Dicamba	mg/kg	0.3 J	0.29 J	0.013 J	0.18 J	0.18 J
Dinoseb	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ
MCPA	mg/kg	0.035 J	0.021 J	0.01 UJ	0.04	0.01 UJ
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.048	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Simazine	mg/kg	0.013	0.0067 U	0.0067 U	0.0067 U	0.0067 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-30	FS-31	FS-31	FS-31	FS-31
	Sample ID	**FS-30-3-4**	**FS-31-0.5-1**	**FS-31-2-3**	**FS-X3-2-3**	**FS-31-3-5**
	Depth	3-4 ft	0.5-1 ft	2-3 ft	2-3 ft	3-5 ft
	Date	06/08/2017	06/08/2017	06/08/2017	06/08/2017	06/08/2017
Conventionals						
Bulk Density	g/cc					1.5
pH	pH					7.2
Total Organic Carbon	%					0.62
Miscellaneous Substances						
Nitrate	mg/kg			420	400	
Nitrite	mg/kg			11 U	11 U	
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
G-BHC (Lindane)	mg/kg	0.0067 U	0.011	0.0067 U	0.0067 U	
Aldrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Heptachlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Dieldrin	mg/kg	0.009	0.21	0.0067 U	0.0067 U	
Chlordane	mg/kg	0.033 U	0.39	0.033 U	0.033 U	
Endrin	mg/kg	0.0067 U	0.016	0.0067 U	0.0067 U	
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.0082	0.0067 U	0.0067 U	
4,4'-DDE / Sum DDE	mg/kg	0.0067 U	0.035	0.0067 U	0.0067 U	
4,4'-DDT / Sum DDT	mg/kg	0.0067 U	0.066	0.0067 U	0.0067 U	
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Methoxychlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Toxaphene	mg/kg	0.33 U	1.8	0.33 U	0.33 U	
Chlorinated Herbicides						
2,4-D	mg/kg	0.052	0.1 J	0.01 UJ	0.01 UJ	
2,4-DB	mg/kg	0.01 UJ	0.041 J	0.01 UJ	0.01 UJ	
2,4,5-TP (Silvex)	mg/kg	0.01 UJ	0.025 J	0.01 UJ	0.01 UJ	
2,4,5-T	mg/kg	0.01 U	0.01 UJ	0.01 UJ	0.01 UJ	
Dicamba	mg/kg	0.055 J	0.15 J	0.01 UJ	0.01 UJ	
Dinoseb	mg/kg	0.01 U	0.01 UJ	0.01 UJ	0.01 UJ	
MCPA	mg/kg	0.01 U	0.017 J	0.01 UJ	0.01 UJ	
MCPP (Mecoprop)	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	
Simazine	mg/kg	0.0067 U	0.012	0.0067 U	0.0067 U	
Total Petroleum Hydrocarbons (TPH)						
Diesel-Range TPH	mg/kg					97 JM
Oil-Range TPH	mg/kg					980

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-31	FS-31	FS-31	FS-31	FS-32
	Sample ID	**FS-31-4-5**	**FS-31-8-9**	**FS-31-9-10**	**FS-31-9-12**	**FS-32-0.5-1**
	Depth	4-5 ft	8-9 ft	9-10 ft	9-12 ft	0.5-1 ft
	Date	06/08/2017	06/08/2017	06/08/2017	06/08/2017	06/09/2017
Conventionals						
Bulk Density	g/cc				2.4	
pH	pH				8	
Total Organic Carbon	%				0.027 JQ	
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U				0.0079
HCH-beta (b-BHC)	mg/kg	0.0067 U				0.012
HCH-delta (d-BHC)	mg/kg	0.0067 U				0.0067 U
G-BHC (Lindane)	mg/kg	0.0067 U				0.043
Aldrin	mg/kg	0.0067 U				0.0067 U
Heptachlor	mg/kg	0.0067 U				0.022
Heptachlor Epoxide	mg/kg	0.0067 U				0.0067 U
Chlordane	mg/kg	0.033 U				1.4
Dieldrin	mg/kg	0.0099				1.6
Endrin	mg/kg	0.0067 U				0.026
Endosulfan I	mg/kg	0.0067 U				0.0067 U
Endosulfan II	mg/kg	0.0067 U				0.0067 U
4,4'-DDD / Sum DDD	mg/kg	0.0067 U				0.043
4,4'-DDE / Sum DDE	mg/kg	0.0067 U				0.15
4,4'-DDT / Sum DDT	mg/kg	0.013				0.51
Hexachlorobenzene	mg/kg	0.0067 U				0.0067 U
Methoxychlor	mg/kg	0.0067 U				0.0067 U
Toxaphene	mg/kg	0.33 U				11
Chlorinated Herbicides						
2,4-D	mg/kg	0.026 J				0.038 J
2,4-DB	mg/kg	0.01 UJ				0.014 J
2,4,5-TP (Silvex)	mg/kg	0.01 UJ				0.056
2,4,5-T	mg/kg	0.01 UJ				0.01 U
Dicamba	mg/kg	0.038 J				0.038
Dinoseb	mg/kg	0.01 UJ				0.01 U
MCPA	mg/kg	0.01 UJ				0.01 U
MCPP (Mecoprop)	mg/kg	0.01 UJ				0.01 U
Pentachlorophenol	mg/kg	0.02 UJ				0.02 U
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.0067 U				0.027
Simazine	mg/kg	0.0067 U				0.019
Total Petroleum Hydrocarbons (TPH)						
Diesel-Range TPH	mg/kg		730 JM	50 UJ		
Oil-Range TPH	mg/kg		6300	250 UJ		
Dioxins						
2,3,7,8-TCDD (Dioxin)	ng/kg					14
1,2,3,7,8-PeCDD	ng/kg					2.54
1,2,3,4,7,8-HxCDD	ng/kg					0.926 J
1,2,3,6,7,8-HxCDD	ng/kg					3.21
1,2,3,7,8,9-HxCDD	ng/kg					1.91 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-31	FS-31	FS-31	FS-31	FS-32
	Sample ID	**FS-31-4-5**	**FS-31-8-9**	**FS-31-9-10**	**FS-31-9-12**	**FS-32-0.5-1**
	Depth	4-5 ft	8-9 ft	9-10 ft	9-12 ft	0.5-1 ft
	Date	06/08/2017	06/08/2017	06/08/2017	06/08/2017	06/09/2017
Dioxins						
1,2,3,4,6,7,8-HpCDD	ng/kg					44.1
OCDD	ng/kg					646
2,3,7,8-TCDF	ng/kg					2.08 U
1,2,3,7,8-PeCDF	ng/kg					0.958 U
2,3,4,7,8-PeCDF	ng/kg					5.46
1,2,3,4,7,8-HxCDF	ng/kg					3.8
1,2,3,6,7,8-HxCDF	ng/kg					7.09
1,2,3,7,8,9-HxCDF	ng/kg					2.87
2,3,4,6,7,8-HxCDF	ng/kg					20.4
1,2,3,4,6,7,8-HpCDF	ng/kg					19.7
1,2,3,4,7,8,9-HpCDF	ng/kg					1.74
OCDF	ng/kg					54.8
Dioxins	ng/kg					23.1 J

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-32	FS-32	FS-32	FS-33	FS-33
	Sample ID	**FS-32-2-3**	**FS-X5-2-3**	**FS-32-4-5**	**FS-33-0.5-1**	**FS-33-2-3**
	Depth	2-3 ft	2-3 ft	4-5 ft	0.5-1 ft	2-3 ft
	Date	06/09/2017	06/09/2017	06/09/2017	06/09/2017	06/09/2017
Miscellaneous Substances						
Nitrate	mg/kg	120	100			8.3 JQ
Nitrite	mg/kg	2.3 U	2.3 U			26 U
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.018	0.0067 U
Aldrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Chlordane	mg/kg	0.033 U	0.032 U	0.097	0.44	0.15
Dieldrin	mg/kg	0.022	0.018	0.098	0.31	0.023
Endrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.028	3.2
4,4'-DDE / Sum DDE	mg/kg	0.0078	0.0085	0.0099	0.1	1.3
4,4'-DDT / Sum DDT	mg/kg	0.029	0.059	0.026	0.41	20
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Methoxychlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Toxaphene	mg/kg	0.33 U	0.32 U	0.63	2.5	1.3 U
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 U	0.01 U	0.01 U	0.19 J	0.01 U
2,4-DB	mg/kg	0.01 U	0.01 U	0.01 U	0.13 J	0.01 U
2,4,5-TP (Silvex)	mg/kg	0.01 U	0.01 U	0.01 U	0.057	0.01 U
2,4,5-T	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dicamba	mg/kg	0.015	0.021	0.013	0.13	0.021
Dinoseb	mg/kg	0.01 U	0.01 U	0.01 U	0.014	0.01 U
MCPA	mg/kg	0.01 U	0.01 U	0.01 U	0.083 J	0.01 U
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.0067 U	0.0067 U	0.0078	0.12	0.0067 U
Simazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.23	0.0081
Dioxins						
2,3,7,8-TCDD (Dioxin)	ng/kg				4.94	0.163 U
1,2,3,7,8-PeCDD	ng/kg				15.3	0.231 J
1,2,3,4,7,8-HxCDD	ng/kg				6.85	0.177 J
1,2,3,6,7,8-HxCDD	ng/kg				13.2	0.48 J
1,2,3,7,8,9-HxCDD	ng/kg				9.55	0.36 U
1,2,3,4,6,7,8-HpCDD	ng/kg				86.1	7.1
OCDD	ng/kg				345	58.3
2,3,7,8-TCDF	ng/kg				14.7	0.281 J
1,2,3,7,8-PeCDF	ng/kg				21.7	0.21 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-32	FS-32	FS-32	FS-33	FS-33
	Sample ID	**FS-32-2-3**	**FS-X5-2-3**	**FS-32-4-5**	**FS-33-0.5-1**	**FS-33-2-3**
	Depth	2-3 ft	2-3 ft	4-5 ft	0.5-1 ft	2-3 ft
	Date	06/09/2017	06/09/2017	06/09/2017	06/09/2017	06/09/2017
Dioxins						
2,3,4,7,8-PeCDF	ng/kg				30.9	0.607 J
1,2,3,4,7,8-HxCDF	ng/kg				51.9	0.452 J
1,2,3,6,7,8-HxCDF	ng/kg				42	0.778 J
1,2,3,7,8,9-HxCDF	ng/kg				12.3	0.306 J
2,3,4,6,7,8-HxCDF	ng/kg				48.9	1.61
1,2,3,4,6,7,8-HpCDF	ng/kg				213	3.47
1,2,3,4,7,8,9-HpCDF	ng/kg				19	0.251 U
OCDF	ng/kg				130	12.2
Dioxins	ng/kg				53.4	1.05 J

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-33	FS-33	FS-33	FS-35	FS-35
	Sample ID	**FS-33-2-4**	**FS-33-4-5**	**FS-33-6-8**	**FS-35-0.5-1**	**FS-X4-0.5-1**
	Depth	2-4 ft	4-5 ft	6-8 ft	0.5-1 ft	0.5-1 ft
	Date	06/09/2017	06/09/2017	06/09/2017	06/09/2017	06/09/2017
Conventionals						
Bulk Density	g/cc	2.4		2.5		
pH	pH	6.3		6.6		
Total Organic Carbon	%	1.7		0.35		
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg		0.0067 U		0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg		0.0067 U		0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg		0.0067 U		0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg		0.0067 U		0.024	0.015
Aldrin	mg/kg		0.0067 U		0.0067 U	0.0067 U
Heptachlor	mg/kg		0.0067 U		0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg		0.0067 U		0.0067 U	0.0067 U
Chlordane	mg/kg		0.033 U		0.38	0.28
Dieldrin	mg/kg		0.0067 U		0.18	0.12
Endrin	mg/kg		0.0067 U		0.0067 U	0.0067 U
Endosulfan I	mg/kg		0.0067 U		0.0067 U	0.0067 U
Endosulfan II	mg/kg		0.0067 U		0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg		0.0067 U		0.0088	0.0067 U
4,4'-DDE / Sum DDE	mg/kg		0.0067 U		0.052	0.034
4,4'-DDT / Sum DDT	mg/kg		0.029		0.094	0.069
Hexachlorobenzene	mg/kg		0.0067 U		0.0067 U	0.0067 U
Methoxychlor	mg/kg		0.0067 U		0.0067 U	0.0067 U
Toxaphene	mg/kg		0.33 U		2.1	2
Chlorinated Herbicides						
2,4-D	mg/kg		0.01 U		0.023 J	0.016 J
2,4-DB	mg/kg		0.01 U		0.014 J	0.01 J
2,4,5-TP (Silvex)	mg/kg		0.01 U		0.025	0.018
2,4,5-T	mg/kg		0.01 U		0.01 U	0.01 U
Dicamba	mg/kg		0.01 U		0.097	0.068
Dinoseb	mg/kg		0.01 U		0.01 U	0.01 U
MCPA	mg/kg		0.01 U		0.01 U	0.01 U
MCPP (Mecoprop)	mg/kg		0.01 U		0.01 U	0.01 U
Pentachlorophenol	mg/kg		0.02 U		0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg		0.0067 U		0.0079	0.0067 U
Simazine	mg/kg		0.0067 U		0.0071	0.0067 U
Dioxins						
2,3,7,8-TCDD (Dioxin)	ng/kg				0.877 J	
1,2,3,7,8-PeCDD	ng/kg				0.839 U	
1,2,3,4,7,8-HxCDD	ng/kg				0.338 U	
1,2,3,6,7,8-HxCDD	ng/kg				1.03	
1,2,3,7,8,9-HxCDD	ng/kg				0.669 U	
1,2,3,4,6,7,8-HpCDD	ng/kg				11.6	
OCDD	ng/kg				127	
2,3,7,8-TCDF	ng/kg				0.882 J	

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-33	FS-33	FS-33	FS-35	FS-35
	Sample ID	**FS-33-2-4**	**FS-33-4-5**	**FS-33-6-8**	**FS-35-0.5-1**	**FS-X4-0.5-1**
	Depth	2-4 ft	4-5 ft	6-8 ft	0.5-1 ft	0.5-1 ft
	Date	06/09/2017	06/09/2017	06/09/2017	06/09/2017	06/09/2017
Dioxins						
1,2,3,7,8-PeCDF	ng/kg				0.603 J	
2,3,4,7,8-PeCDF	ng/kg				2.34 U	
1,2,3,4,7,8-HxCDF	ng/kg				1.41 J	
1,2,3,6,7,8-HxCDF	ng/kg				2.83 J	
1,2,3,7,8,9-HxCDF	ng/kg				1.03 U	
2,3,4,6,7,8-HxCDF	ng/kg				7.62	
1,2,3,4,6,7,8-HpCDF	ng/kg				6.67	
1,2,3,4,7,8,9-HpCDF	ng/kg				0.576 J	
OCDF	ng/kg				20.9	
Dioxins	ng/kg				3.38 J	

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2a Sampling				
	Location	FS-35	Surface-1			
	Sample ID	**FS-35-2-3**	**Surface-1-0.5-1**			
	Depth	2-3 ft	0.5-1 ft			
	Date	06/09/2017	06/09/2017			
Metals						
Arsenic	mg/kg		2.1			
Cadmium	mg/kg		1 U			
Chromium (Total)	mg/kg		18			
Copper	mg/kg		33			
Lead	mg/kg		34			
Mercury	mg/kg		1 U			
Zinc	mg/kg		200			
Miscellaneous Substances						
Nitrate	mg/kg	3.8	3.7			
Nitrite	mg/kg	1.1 U	0.68 JQ			
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U			
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U			
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U			
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U			
Aldrin	mg/kg	0.0067 U	0.0067 U			
Heptachlor	mg/kg	0.0067 U	0.0067 U			
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U			
Chlordane	mg/kg	0.032 U	0.17			
Dieldrin	mg/kg	0.0067 U	0.094			
Endrin	mg/kg	0.0067 U	0.0067 U			
Endosulfan I	mg/kg	0.0067 U	0.0067 U			
Endosulfan II	mg/kg	0.0067 U	0.0067 U			
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.17			
4,4'-DDE / Sum DDE	mg/kg	0.0067 U	0.066			
4,4'-DDT / Sum DDT	mg/kg	0.0067 U	0.098			
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U			
Methoxychlor	mg/kg	0.0067 U	0.0067 U			
Toxaphene	mg/kg	0.32 U	0.86			
Chlorinated Herbicides						
2,4-D	mg/kg	0.01 U	0.14 J			
2,4-DB	mg/kg	0.01 U	0.01 U			
2,4,5-TP (Silvex)	mg/kg	0.01 U	0.01			
2,4,5-T	mg/kg	0.01 U	0.01 U			
Dicamba	mg/kg	0.01 U	0.027			
Dinoseb	mg/kg	0.01 U	0.01 U			
MCPA	mg/kg	0.01 U	0.03 J			
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U			
Pentachlorophenol	mg/kg	0.02 U	0.02 U			
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.0067 U	0.14			
Simazine	mg/kg	0.0067 U	0.009			
Total Petroleum Hydrocarbons (TPH)						
Diesel-Range TPH	mg/kg		50 U			

Table E.1
Chemistry Data for Soil Samples

Event		RI Phase 2a Sampling				
Location		FS-35	Surface-1			
Sample ID		**FS-35-2-3**	**Surface-1-0.5-1**			
Depth		2-3 ft	0.5-1 ft			
Date		06/09/2017	06/09/2017			
Total Petroleum Hydrocarbons (TPH)						
Oil-Range TPH	mg/kg		250 U			

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2 Sampling				
	Location	FS-26	FS-26	FS-26	FS-26	FS-34
	Sample ID	**FS-26-0.5-1**	**FS-26-2.5-3.5**	**FS-XX-2.5-3.5**	**FS-26-5-6**	**FS-34-0.5-1**
	Depth	0.05-1 ft	2.5-3.5 ft	2.5-3.5 ft	5-6 ft	0.5-1 ft
	Date	06/20/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018
Miscellaneous Substances						
Nitrate	mg/kg		25	28		
Nitrite	mg/kg		1.2 U	1.3 U		
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.013	0.0067 U
Aldrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Chlordane	mg/kg	0.032 U	0.033 U	0.033 U	0.04	0.033 U
Dieldrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.048	0.0067 U
Endrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0073	0.0067 U
4,4'-DDE / Sum DDE	mg/kg	0.0096	0.0067 U	0.0067 U	0.11	0.0067 U
4,4'-DDT / Sum DDT	mg/kg	0.012	0.0067 U	0.0067 U	0.24	0.0067 U
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Methoxychlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Toxaphene	mg/kg	0.32 U	0.33 U	0.33 U	0.45	0.33 U
Chlorinated Herbicides						
2,4-D	mg/kg	0.25 U	0.25 U	0.25 U	0.84	0.25 U
2,4-DB	mg/kg	0.01 U	0.01 U	0.01 U	0.017 J	0.01 U
2,4,5-TP (Silvex)	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-T	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dicamba	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.063 J	0.01 UJ
Dinoseb	mg/kg	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
MCPA	mg/kg	0.01 U	0.01 U	0.01 U	0.19	0.01 U
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.011	0.0067 U	0.0067 U	0.031	0.0067 U
Chlordane-alpha	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.013	0.0067 U
Simazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Dioxins						
2,3,7,8-TCDD (Dioxin)	ng/kg					0.045 U
1,2,3,7,8-PeCDD	ng/kg					0.086 U
1,2,3,4,7,8-HxCDD	ng/kg					0.039 U
1,2,3,6,7,8-HxCDD	ng/kg					0.044 U
1,2,3,7,8,9-HxCDD	ng/kg					0.059 U
1,2,3,4,6,7,8-HpCDD	ng/kg					0.837 U
OCDD	ng/kg					9.47 U
2,3,7,8-TCDF	ng/kg					0.055 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2 Sampling				
	Location	FS-26	FS-26	FS-26	FS-26	FS-34
	Sample ID	**FS-26-0.5-1**	**FS-26-2.5-3.5**	**FS-XX-2.5-3.5**	**FS-26-5-6**	**FS-34-0.5-1**
	Depth	0.05-1 ft	2.5-3.5 ft	2.5-3.5 ft	5-6 ft	0.5-1 ft
	Date	06/20/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018
Dioxins						
1,2,3,7,8-PeCDF	ng/kg					0.133 U
2,3,4,7,8-PeCDF	ng/kg					0.104 J
1,2,3,4,7,8-HxCDF	ng/kg					0.063 J
1,2,3,6,7,8-HxCDF	ng/kg					0.078 U
1,2,3,7,8,9-HxCDF	ng/kg					0.088 J
2,3,4,6,7,8-HxCDF	ng/kg					0.104 U
1,2,3,4,6,7,8-HpCDF	ng/kg					0.381 U
1,2,3,4,7,8,9-HpCDF	ng/kg					0.043 U
OCDF	ng/kg					1.06 J
Dioxins	ng/kg					0.141 J

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2 Sampling				
	Location	FS-34	FS-34	FS-42	FS-43	FS-44
	Sample ID	**FS-34-2-3**	**FS-34-3-4**	**FS-42-3.0-4.0**	**FS-43-1-2**	**FS-44-0.5-1**
	Depth	2-3 ft	3-4 ft	3-4 ft	1-2 ft	0.5-1 ft
	Date	06/21/2018	06/21/2018	06/20/2018	06/21/2018	06/21/2018
Miscellaneous Substances						
Nitrate	mg/kg	1.1				
Nitrite	mg/kg	1 U				
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U		
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U	0.017		
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U		
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U	0.0067 U		
Aldrin	mg/kg	0.0067 U	0.0067 U	0.0067 U		
Heptachlor	mg/kg	0.0067 U	0.0067 U	0.0067 U		
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U		
Chlordane	mg/kg	0.033 U	0.033 U			
Dieldrin	mg/kg	0.0067 U	0.0067 U	0.11		
Endrin	mg/kg	0.0067 U	0.0067 U	0.02		
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U		
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U		
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.0067 U	0.0067 U		
4,4'-DDE / Sum DDE	mg/kg	0.0067 U	0.0067 U	0.023		
4,4'-DDT / Sum DDT	mg/kg	0.0067 U	0.0067 U	0.022		
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U		
Methoxychlor	mg/kg	0.0067 U	0.0067 U	0.0067 U		
Toxaphene	mg/kg	0.33 U	0.33 U			
Chlorinated Herbicides						
2,4-D	mg/kg	0.25 U	0.25 U			
2,4-DB	mg/kg	0.01 U	0.01 U			
2,4,5-TP (Silvex)	mg/kg	0.01 U	0.01 U			
2,4,5-T	mg/kg	0.01 U	0.01 U			
Dicamba	mg/kg	0.01 UJ	0.01 UJ			
Dinoseb	mg/kg	0.01 UJ	0.01 UJ			
MCPA	mg/kg	0.01 U	0.01 U			
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 UJ			
Pentachlorophenol	mg/kg	0.02 UJ	0.02 UJ			
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.0067 U	0.0067 U	0.17		
Chlordane-alpha	mg/kg	0.0067 U	0.0067 U	0.048		
Simazine	mg/kg	0.0067 U	0.0067 U	0.2		
Dioxins						
2,3,7,8-TCDD (Dioxin)	ng/kg				9.46	73.4
1,2,3,7,8-PeCDD	ng/kg				7.62	7.82
1,2,3,4,7,8-HxCDD	ng/kg				1.78	2.4
1,2,3,6,7,8-HxCDD	ng/kg				8.18	5.87
1,2,3,7,8,9-HxCDD	ng/kg				4.17	3.52
1,2,3,4,6,7,8-HpCDD	ng/kg				65.6	119
OCDD	ng/kg				1160	1200
2,3,7,8-TCDF	ng/kg				3.46 U	4.31

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2 Sampling				
	Location	FS-34	FS-34	FS-42	FS-43	FS-44
	Sample ID	**FS-34-2-3**	**FS-34-3-4**	**FS-42-3.0-4.0**	**FS-43-1-2**	**FS-44-0.5-1**
	Depth	2-3 ft	3-4 ft	3-4 ft	1-2 ft	0.5-1 ft
	Date	06/21/2018	06/21/2018	06/20/2018	06/21/2018	06/21/2018
Dioxins						
1,2,3,7,8-PeCDF	ng/kg				1.21 U	2.02
2,3,4,7,8-PeCDF	ng/kg				15.4 U	11.6
1,2,3,4,7,8-HxCDF	ng/kg				10.8	5.39
1,2,3,6,7,8-HxCDF	ng/kg				15.8	13.4
1,2,3,7,8,9-HxCDF	ng/kg				7.42	3.91
2,3,4,6,7,8-HxCDF	ng/kg				47.8	16.4
1,2,3,4,6,7,8-HpCDF	ng/kg				38.7	50.2
1,2,3,4,7,8,9-HpCDF	ng/kg				4.32	2.93
OCDF	ng/kg				86.7	129
Dioxins	ng/kg				30.6	92.4

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2 Sampling				
	Location	FS-45	MW-15	MW-15	MW-15	MW-16
	Sample ID	**FS-45-0.5-1**	**MW-15-0.5-1**	**MW-15-3-4**	**MW-15-5-5.5**	**MW-16-0.5-1**
	Depth	0.5-1 ft	0.5-1 ft	3-4 ft	5-5.5 ft	0.5-1 ft
	Date	06/21/2018	06/20/2018	06/20/2018	06/20/2018	06/20/2018
Miscellaneous Substances						
Nitrate	mg/kg			15		
Nitrite	mg/kg			1.2 U		
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldrin	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Chlordane	mg/kg		0.033 U	0.033 U	0.033 U	0.033
Dieldrin	mg/kg		0.0078	0.0067 U	0.0067 U	0.049
Endrin	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan I	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan II	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDE / Sum DDE	mg/kg		0.01	0.0067 U	0.0067 U	0.062
4,4'-DDT / Sum DDT	mg/kg		0.012	0.0067 U	0.0067 U	0.039
Hexachlorobenzene	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Methoxychlor	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Toxaphene	mg/kg		0.33 U	0.33 U	0.33 U	0.33 U
Chlorinated Herbicides						
2,4-D	mg/kg		0.01 U	0.034	0.57	0.01 U
2,4-DB	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-TP (Silvex)	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-T	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U
Dicamba	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U
Dinoseb	mg/kg		0.01 U	0.01 UJ	0.01 U	0.01 U
MCPA	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U
MCPP (Mecoprop)	mg/kg		0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg		0.02 U	0.02 UJ	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.026
Chlordane-alpha	mg/kg		0.015	0.0067 U	0.0067 U	0.016
Simazine	mg/kg		0.0067 U	0.0067 U	0.0067 U	0.0067 U
Dioxins						
2,3,7,8-TCDD (Dioxin)	ng/kg	0.753 U				
1,2,3,7,8-PeCDD	ng/kg	1.69				
1,2,3,4,7,8-HxCDD	ng/kg	0.55				
1,2,3,6,7,8-HxCDD	ng/kg	2.16				
1,2,3,7,8,9-HxCDD	ng/kg	1.19				
1,2,3,4,6,7,8-HpCDD	ng/kg	16.7				
OCDD	ng/kg	165				
2,3,7,8-TCDF	ng/kg	1.49				

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2 Sampling				
	Location	FS-45	MW-15	MW-15	MW-15	MW-16
	Sample ID	**FS-45-0.5-1**	**MW-15-0.5-1**	**MW-15-3-4**	**MW-15-5-5.5**	**MW-16-0.5-1**
	Depth	0.5-1 ft	0.5-1 ft	3-4 ft	5-5.5 ft	0.5-1 ft
	Date	06/21/2018	06/20/2018	06/20/2018	06/20/2018	06/20/2018
Dioxins						
1,2,3,7,8-PeCDF	ng/kg	0.928				
2,3,4,7,8-PeCDF	ng/kg	6.02				
1,2,3,4,7,8-HxCDF	ng/kg	3.54				
1,2,3,6,7,8-HxCDF	ng/kg	8.3				
1,2,3,7,8,9-HxCDF	ng/kg	2.43				
2,3,4,6,7,8-HxCDF	ng/kg	20.5				
1,2,3,4,6,7,8-HpCDF	ng/kg	12.3				
1,2,3,4,7,8,9-HpCDF	ng/kg	1.29				
OCDF	ng/kg	23.8				
Dioxins	ng/kg	8.28				

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2 Sampling				
	Location	MW-16	MW-16	MW-17	MW-17	MW-17
	Sample ID	**MW-16-3-4**	**MW-16-5.5-6**	**MW-17-0.5-1**	**MW-17-3.5-4**	**MW-17-5-5.5**
	Depth	3-4 ft	5.5-6 ft	0.5-1 ft	3.5-4 ft	5-5.5 ft
	Date	06/20/2018	06/20/2018	06/20/2018	06/20/2018	06/20/2018
Miscellaneous Substances						
Nitrate	mg/kg	8.8			180	
Nitrite	mg/kg	1 U			1.2 U	
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Aldrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Chlordane	mg/kg	0.033 U	0.033 U	0.033 U	0.19	0.032 U
Dieldrin	mg/kg	0.0067 U	0.0067 U	0.013	0.065	0.011
Endrin	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan I	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Endosulfan II	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.0067 U	0.012	0.052	0.015
4,4'-DDE / Sum DDE	mg/kg	0.0067 U	0.0067 U	0.041	0.22	0.045
4,4'-DDT / Sum DDT	mg/kg	0.0067 U	0.0067 U	0.096	0.3	0.11
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Methoxychlor	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
Toxaphene	mg/kg	0.33 U	0.33 U	0.33 U	1.1	0.32 U
Chlorinated Herbicides						
2,4-D	mg/kg	0.39	0.012	1.8	0.042	1.4
2,4-DB	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-TP (Silvex)	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-T	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dicamba	mg/kg	0.01 U	0.01 U	0.15	0.012	0.12
Dinoseb	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
MCPA	mg/kg	0.01 U	0.01 U	0.13	0.035	0.11
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	mg/kg	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.0067 U	0.0091	0.0067 U	0.0085	0.0067 U
Chlordane-alpha	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.046	0.0067 U
Simazine	mg/kg	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U

Table E.1
Chemistry Data for Soil Samples

	Event	RI Phase 2 Sampling				
	Location	TP-1	TP-2			
	Sample ID	**TP-1-3.5-062018**	**TP2-4.5-5.0-062018**			
	Depth	3.5-3.5 ft	4.5-5 ft			
	Date	06/20/2018	06/20/2018			
Organochlorine Pesticides						
HCH-alpha (a-BHC)	mg/kg	0.0067 U	0.0067 U			
HCH-beta (b-BHC)	mg/kg	0.0067 U	0.0067 U			
HCH-delta (d-BHC)	mg/kg	0.0067 U	0.0067 U			
G-BHC (Lindane)	mg/kg	0.0067 U	0.0067 U			
Aldrin	mg/kg	0.0067 U	0.0067 U			
Heptachlor	mg/kg	0.0067 U	0.0067 U			
Heptachlor Epoxide	mg/kg	0.0067 U	0.0067 U			
Chlordane	mg/kg	0.032 U	0.033 U			
Dieldrin	mg/kg	0.0067 U	0.0067 U			
Endrin	mg/kg	0.0067 U	0.0067 U			
Endosulfan I	mg/kg	0.0067 U	0.0067 U			
Endosulfan II	mg/kg	0.0067 U	0.0067 U			
4,4'-DDD / Sum DDD	mg/kg	0.0067 U	0.0067 U			
4,4'-DDE / Sum DDE	mg/kg	0.01	0.0067 U			
4,4'-DDT / Sum DDT	mg/kg	0.016	0.0067 U			
Hexachlorobenzene	mg/kg	0.0067 U	0.0067 U			
Methoxychlor	mg/kg	0.0067 U	0.0067 U			
Toxaphene	mg/kg	0.32 U	0.33 U			
Chlorinated Herbicides						
2,4-D	mg/kg	0.67	0.01 U			
2,4-DB	mg/kg	0.01 U	0.01 U			
2,4,5-TP (Silvex)	mg/kg	0.01 U	0.01 U			
2,4,5-T	mg/kg	0.01 U	0.01 U			
Dicamba	mg/kg	0.015	0.01 U			
Dinoseb	mg/kg	0.01 U	0.01 U			
MCPA	mg/kg	0.039	0.01 U			
MCPP (Mecoprop)	mg/kg	0.01 U	0.01 U			
Pentachlorophenol	mg/kg	0.02 U	0.02 U			
Other Chlorinated/Halogenated Pesticides						
Atrazine	mg/kg	0.0067 U	0.0067 U			
Chlordane-alpha	mg/kg	0.0067 U	0.0067 U			
Simazine	mg/kg	0.0067 U	0.0067 U			

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

Event		Quarterly Groundwater Monitoring - August 2016				
Location		MW-1	MW-2	MW-3	MW-4	MW-5
Sample ID		**MW-01-081016**	**MW-2-081116**	**MW-3-081116**	**MW-04-081016**	**MW-05-081016**
Screen Interval		3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
Date		08/10/2016	08/11/2016	08/11/2016	08/10/2016	08/10/2016
Volatile Organic Compounds						
Benzene	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L	1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L	2 U	2 U	2 U	2 U	2 U
Methyl tert-Butyl Ether (MTBE)	µg/L				1 U	
Naphthalene	µg/L				1 U	
1,2-Dichloroethane (EDC)	µg/L				0.35 U	
n-Hexane	µg/L				1 U	
1,2-Dibromoethane (EDB)	µg/L				1 U	
Dissolved Metals						
Arsenic	µg/L	1.3		1 U	11	
Cadmium	µg/L	1 U		1 U	1.5	
Chromium (Total)	µg/L	1 U		1 U	3.6	
Copper	µg/L	30		9.9	100	
Lead	µg/L	1 U		1 U	1 U	
Mercury	µg/L	1 U		1 U	1 U	
Zinc	µg/L	440		5 U	180	
Total Metals						
Arsenic	µg/L	1.7	1 U	3.3	14	1 U
Cadmium	µg/L	1 U	1 U	1 U	2.5	1 U
Chromium (Total)	µg/L	1.6	1 U	1 U	17	1 U
Copper	µg/L	35	6.8	17	130	15
Lead	µg/L	1 U	1 U	1 U	4.7	1 U
Mercury	µg/L	1 U	1 U	1 U	1 U	1 U
Zinc	µg/L	490	5.9	6.6	330	5 U
Miscellaneous Substances						
Ammonia-Nitrogen	mg/L	55	0.005 U	0.02 J	13	0.28
Nitrate/Nitrite	µg/L	120000	3400	32000	51000	9900
Nitrate	µg/L	110000	3400	32000	51000	9900
Nitrite	µg/L	6800	81	12	26	5 U
Organochlorine Pesticides						
HCH-alpha (a-BHC)	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
HCH-beta (b-BHC)	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
HCH-delta (d-BHC)	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
G-BHC (Lindane)	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
Aldrin	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
Heptachlor	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
Heptachlor Epoxide	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
Chlordane	µg/L	1.5	0.6 U	0.6 U	22	0.6 U
Dieldrin	µg/L	0.61 J	0.06 U	0.06 U	10 J	0.06 U
Endrin	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
Endosulfan I	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
Endosulfan II	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
4,4'-DDD / Sum DDD	µg/L	0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
4,4'-DDE / Sum DDE	µg/L	0.06 U	0.06 U	0.06 U	0.76 J	0.06 U
4,4'-DDT / Sum DDT	µg/L	0.06 U	0.06 U	0.06 U	1.5 J	0.06 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2016				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-01-081016**	**MW-2-081116**	**MW-3-081116**	**MW-04-081016**	**MW-05-081016**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	08/10/2016	08/11/2016	08/11/2016	08/10/2016	08/10/2016
Organochlorine Pesticides							
Hexachlorobenzene	µg/L		0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
Methoxychlor	µg/L		0.06 U	0.06 U	0.06 U	0.6 U	0.06 U
Toxaphene	µg/L		6 U	6 U	6 U	26	6 U
Chlorinated Herbicides							
2,4-D	µg/L		0.26	0.08 U	0.08 U	0.49	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.74	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		4	0.08 U	0.11	31	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		0.08 U	0.08 U	0.08 U	0.22	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Alachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Atrazine	µg/L		3.2	0.06 U	0.15	9.2	0.17
Captafol	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Captan	µg/L		0.3 U	0.3 U	0.3 U	3 U	0.3 U
Chlordane-alpha	µg/L		0.2 J	0.06 U	0.06 U	3.3 J	0.06 U
Chlorbenzilate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Chlorthalonil	µg/L		0.12 U	0.12 U	0.12 U	1.2 U	0.12 U
Cyanazine (Bladex)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L		0.3 U	0.3 U	0.3 U	3 U	0.3 U
Cypermethrin	µg/L		0.3 U	0.3 U	0.3 U	3 U	0.3 U
DCPA (Dacthal)	µg/L		0.12 U	0.12 U	0.12 U	1.2 U	0.12 U
Flutolanil	µg/L		1.2 UJ	1.2 UJ	1.2 UJ	12 U	1.2 UJ
Folpet	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Iprodione	µg/L		0.12 U	0.12 U	0.12 U	1.2 U	0.12 U
Metoachlor	µg/L		0.3 U	0.3 U	0.3 U	3 U	0.3 U
Metribuzin	µg/L		3.3	0.12 U	0.12	20	0.12 U
Norflurazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Oxadiazon	µg/L		0.22 J	0.12 U	0.12 U	1.2 U	0.12 U
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L		0.3 U	0.3 U	0.3 U	3 U	0.3 U
Pronamide	µg/L		0.12 U	0.12 U	0.12 U	1.2 U	0.12 U
Propachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Propanil	µg/L		0.12 U	0.12 U	0.12 U	1.2 U	0.12 U
Propiconazole	µg/L		0.3 U	0.3 U	0.3 U	3 U	0.3 U
Simazine	µg/L		0.34	0.06 U	0.06 U	1.1	0.06 U
Terbacil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Trifluralin	µg/L		0.12 U	0.12 U	0.12 U	1.2 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 U	0.12 U	0.12 U	1.2 U	0.12 U
Chlorpyrifos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2016				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-01-081016**	**MW-2-081116**	**MW-3-081116**	**MW-04-081016**	**MW-05-081016**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	08/10/2016	08/11/2016	08/11/2016	08/10/2016	08/10/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Dichlorvos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dimethoate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Disulfoton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Ethion (Ronnel)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		0.49	0.06 U	0.06 U	2.9	0.06 U
Prometon	µg/L		0.22	0.06 U	0.06 U	0.064	0.06 U
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.12	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		1.3	0.06 U	0.06 U	12	0.06 U
Linuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.06 U	0.41	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phosmet	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pirimiphos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.063	0.06 U	0.06 U	0.64	0.06 U
Pendimethalin	µg/L		0.46 J	0.12 U	0.12 U	1.2 U	0.12 U
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2016				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-01-081016**	**MW-2-081116**	**MW-3-081116**	**MW-04-081016**	**MW-05-081016**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	08/10/2016	08/11/2016	08/11/2016	08/10/2016	08/10/2016
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	µg/L		96 JM	50 U	81 JM	150 JM	50 U
Oil-Range TPH	µg/L		250 U	250 U	300 U	910	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2016				
		Location	MW-6	MW-7	MW-7	MW-8	MW-9
		Sample ID	**MW-06-081016**	**MW-07-081016**	**MW-07D-081016**	**MW-08-081016**	**MW-09-081016**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	5-15 ft
		Date	08/10/2016	08/10/2016	08/10/2016	08/10/2016	08/10/2016
Volatile Organic Compounds							
Benzene	µg/L		0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L		1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L		1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L		2 U	2 U	2 U	2 U	2 U
Dissolved Metals							
Arsenic	µg/L		1 U	1 U	1 U		
Cadmium	µg/L		2.2	1 U	1 U		
Chromium (Total)	µg/L		1.3	1 U	1 U		
Copper	µg/L		23	8.4	10		
Lead	µg/L		1 U	1 U	1 U		
Mercury	µg/L		1 U	1 U	1 U		
Zinc	µg/L		1600	5.3	5 U		
Total Metals							
Arsenic	µg/L		1 U	1 U	1 U	1.7	1 U
Cadmium	µg/L		2.3	1 U	1 U	1 U	1 U
Chromium (Total)	µg/L		1.4	1 U	1 U	1 U	1 U
Copper	µg/L		29	11	13	17	9.2
Lead	µg/L		1 U	1 U	1 U	1 U	1 U
Mercury	µg/L		1 U	1 U	1 U	1 U	1 U
Zinc	µg/L		1600	5.1	5.1	5 U	5 U
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L		34	6.8	6.5	16 J	0.005 U
Nitrate/Nitrite	µg/L		34000	11000	2800	34000	6200
Nitrate	µg/L		34000	11000	2800	34000	6200
Nitrite	µg/L		5 U	5 U	5 U	5 U	51
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-beta (b-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-delta (d-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
G-BHC (Lindane)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor Epoxide	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chlordane	µg/L		1.6	0.6 U	0.6 U	0.6 U	0.6 U
Dieldrin	µg/L		0.69 J	0.06 U	0.06 U	0.06 U	0.06 U
Endrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan I	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan II	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDD / Sum DDD	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDE / Sum DDE	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDT / Sum DDT	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexachlorobenzene	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methoxychlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
2,4-D	µg/L		3.8	0.08 U	0.08 U	0.08 U	0.08 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

	Event	Quarterly Groundwater Monitoring - August 2016				
	Location	MW-6	MW-7	MW-7	MW-8	MW-9
	Sample ID	**MW-06-081016**	**MW-07-081016**	**MW-07D-081016**	**MW-08-081016**	**MW-09-081016**
	Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	5-15 ft
	Date	08/10/2016	08/10/2016	08/10/2016	08/10/2016	08/10/2016
Chlorinated Herbicides						
2,4-DB	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L	43	0.22	0.22	0.15	0.08 U
Dinoseb	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L	0.96	0.08 U	0.08 U	0.08 U	0.55
MCPP (Mecoprop)	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides						
Acetochlor	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Alachlor	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Atrazine	µg/L	3.4	0.32	0.39	1.8 J	0.06 U
Captafol	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Captan	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlordane-alpha	µg/L	0.3 J	0.06 U	0.06 U	0.06 U	0.06 U
Chlorbenzilate	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlorthalonil	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Cypermethrin	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Flutolanil	µg/L	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ
Folpet	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Iprodione	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Metoachlor	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Metribuzin	µg/L	2.7	0.18	0.18	1.5	0.12 U
Norflurazon	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxadiazon	µg/L	0.34 J	0.12 U	0.12 U	0.12 U	0.12 U
Oxamyl	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pronamide	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propachlor	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propanil	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propiconazole	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Simazine	µg/L	0.59	0.06 U	0.06 U	0.18	0.06 U
Terbacil	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Trifluralin	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dimethoate	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Disulfoton	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2016				
		Location	MW-6	MW-7	MW-7	MW-8	MW-9
		Sample ID	**MW-06-081016**	**MW-07-081016**	**MW-07D-081016**	**MW-08-081016**	**MW-09-081016**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	5-15 ft
		Date	08/10/2016	08/10/2016	08/10/2016	08/10/2016	08/10/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Ethion (Ronnel)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		0.7	0.06 U	0.06 U	0.19	0.06 U
Prometon	µg/L		0.081	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		0.89	0.13	0.14	0.42 J	0.06 U
Linuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phosmet	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pirimiphos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Pendimethalin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		50 U	50 U	50 U	60 U	50 U
Oil-Range TPH	µg/L		250 U	250 U	250 U	300 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

Event		Quarterly Groundwater Monitoring - August 2016				
Location		MW-10	MW-11	MW-12	MW-13	MW-14
Sample ID		**MW-10-081116**	**MW-11-081016**	**MW-12-081116**	**MW-13-081016**	**MW-14-081016**
Screen Interval		5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
Date		08/11/2016	08/10/2016	08/11/2016	08/10/2016	08/10/2016
Volatile Organic Compounds						
Benzene	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L	1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L	2 U	2 U	2 U	2 U	2 U
Dissolved Metals						
Arsenic	µg/L	1 U				
Cadmium	µg/L	1 U				
Chromium (Total)	µg/L	1 U				
Copper	µg/L	7.9				
Lead	µg/L	1 U				
Mercury	µg/L	1 U				
Zinc	µg/L	5 U				
Total Metals						
Arsenic	µg/L	1 U	1.1	1.7	3.9	1 U
Cadmium	µg/L	1 U	1 U	1 U	1 U	1 U
Chromium (Total)	µg/L	1 U	1 U	1 U	1 U	1 U
Copper	µg/L	7.8	10	11	5 U	8.7
Lead	µg/L	1 U	1 U	1 U	1 U	1 U
Mercury	µg/L	1 U	1 U	1 U	1 U	1 U
Zinc	µg/L	5 U	8.7	21	5 U	39
Miscellaneous Substances						
Ammonia-Nitrogen	mg/L	0.13	5	25	0.15	6.8
Nitrate/Nitrite	µg/L	2600	54000	55000	46	37000
Nitrate	µg/L	2600	54000	55000	46	37000
Nitrite	µg/L	30	44	28	5 U	30
Organochlorine Pesticides						
HCH-alpha (a-BHC)	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-beta (b-BHC)	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-delta (d-BHC)	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
G-BHC (Lindane)	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldrin	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor Epoxide	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chlordane	µg/L	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Dieldrin	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endrin	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan I	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan II	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDD / Sum DDD	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDE / Sum DDE	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDT / Sum DDT	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexachlorobenzene	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methoxychlor	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Toxaphene	µg/L	6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides						
2,4-D	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2016				
		Location	MW-10	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-10-081116**	**MW-11-081016**	**MW-12-081116**	**MW-13-081016**	**MW-14-081016**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	08/11/2016	08/10/2016	08/11/2016	08/10/2016	08/10/2016
Chlorinated Herbicides							
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		0.08 U	0.16	0.095	0.08 U	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Alachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Atrazine	µg/L		0.06 U	1.5	2.8	0.06 U	1.4
Captafol	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Captan	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlordane-alpha	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chlorbenzilate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlorthalonil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Cypermethrin	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Flutolanil	µg/L		1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ
Folpet	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Iprodione	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Metoachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Metribuzin	µg/L		0.12 U	0.47	0.62	0.12 U	0.45
Norflurazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxadiazon	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pronamide	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propanil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propiconazole	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Simazine	µg/L		0.06 U	1.3	0.33	0.06 U	0.13
Terbacil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Trifluralin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dimethoate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Disulfoton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2016				
		Location	MW-10	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-10-081116**	**MW-11-081016**	**MW-12-081116**	**MW-13-081016**	**MW-14-081016**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	08/11/2016	08/10/2016	08/11/2016	08/10/2016	08/10/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Ethion (Ronnel)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		0.06 U	0.17	0.13	0.06 U	0.097
Prometon	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		0.06 U	0.06 U	0.15	0.06 U	0.068
Linuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phosmet	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pirimiphos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Pendimethalin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		60 U	270 JM	91 JM	60 U	50 U
Oil-Range TPH	µg/L		300 U	250 U	250 U	300 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2016				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-1-111016**	**MW-2-111016**	**MW-3-110916**	**MW-4-110916**	**MW-5-110916**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	11/10/2016	11/10/2016	11/09/2016	11/09/2016	11/09/2016
Volatile Organic Compounds							
Benzene	µg/L		0.35 U		0.35 U	0.35 U	0.35 U
Toluene	µg/L		1 U		1 U	1 U	1 U
Ethylbenzene	µg/L		1 U		1 U	1 U	1 U
Xylenes	µg/L		2 U		2 U	2 U	2 U
Dissolved Metals							
Arsenic	µg/L		1 U			4	
Cadmium	µg/L		1 U			4.2	
Chromium (Total)	µg/L		1 U			2	
Copper	µg/L		20			44	
Lead	µg/L		1 U			1 U	
Mercury	µg/L		1 U			1 U	
Zinc	µg/L		490			1300	
Total Metals							
Arsenic	µg/L		1	1 U	1 U	3.7	1 U
Cadmium	µg/L		1 U	1 U	1 U	3.9	1 U
Chromium (Total)	µg/L		1.5	1 U	1 U	3.6	1 U
Copper	µg/L		20	7.3	10	47	25
Lead	µg/L		1 U	1 U	1 U	1 U	1 U
Mercury	µg/L		1 U	1 U	1 U	1 U	1 U
Zinc	µg/L		400	5 U	5 U	1300	5 U
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L		30	0.029	0.078	75	0.36
Nitrate/Nitrite	µg/L		95000	4000	10 U	49000	6100
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
HCH-beta (b-BHC)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
HCH-delta (d-BHC)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
G-BHC (Lindane)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Aldrin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Heptachlor	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Heptachlor Epoxide	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Chlordane	µg/L		0.72 J	0.6 UJ	0.6 UJ	6 UJ	0.6 UJ
Dieldrin	µg/L		0.21 J	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Endrin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Endosulfan I	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Endosulfan II	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
4,4'-DDD / Sum DDD	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
4,4'-DDE / Sum DDE	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
4,4'-DDT / Sum DDT	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Hexachlorobenzene	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Methoxychlor	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Toxaphene	µg/L		6 UJ	6 UJ	6 UJ	60 UJ	6 UJ
Chlorinated Herbicides							
2,4-D	µg/L		8.9	0.08 U	0.08 U	210	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.096	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.43	0.08 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2016				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-1-111016**	**MW-2-111016**	**MW-3-110916**	**MW-4-110916**	**MW-5-110916**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	11/10/2016	11/10/2016	11/09/2016	11/09/2016	11/09/2016
Chlorinated Herbicides							
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		4.3	0.08 U	0.08 U	110	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		2.8	0.08 U	0.19	88	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Alachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Atrazine	µg/L		2.9	0.06 U	0.06 U	33	0.1
Captafol	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Captan	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Chlordane-alpha	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Chlorbenzilate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Chlorthalonil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Cyanazine (Bladex)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Cypermethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
DCPA (Dacthal)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Flutolanil	µg/L		1.2 UJ	1.2 UJ	1.2 UJ	12 UJ	1.2 UJ
Folpet	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Iprodione	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Metoachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Metribuzin	µg/L		2	0.06 U	0.06 U	10	0.06 U
Norflurazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Oxadiazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Pronamide	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Propachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Propanil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Propiconazole	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	3 UJ	0.3 UJ
Simazine	µg/L		0.1	0.06 U	0.06 U	0.11	0.06 U
Terbacil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Trifluralin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Chlorpyrifos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethion (Ronnel)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2016				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-1-111016**	**MW-2-111016**	**MW-3-110916**	**MW-4-110916**	**MW-5-110916**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	11/10/2016	11/10/2016	11/09/2016	11/09/2016	11/09/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Malathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		0.34	0.06 U	0.06 U	3.8	0.06 U
Prometon	µg/L		0.15	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.3	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		1.9	0.06 U	0.06 U	9.1	0.06 U
Linuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.11	0.06 U	0.06 U	1.2	0.06 U
Carbofuran	µg/L		0.15	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.06 U	1.2	0.06 U
Pendimethalin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	1.2 UJ	0.12 UJ
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U		100 U	100 U	100 U
Diesel-Range TPH	µg/L		53 JM		50 U	740 JM	50 U
Oil-Range TPH	µg/L		250 U		250 U	320 JM	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2016				
		Location	MW-5	MW-6	MW-7	MW-8	MW-9
		Sample ID	**MW-5D-110916**	**MW-6-111016**	**MW-7-110916**	**MW-8-110916**	**MW-9-110916**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	5-15 ft
		Date	11/09/2016	11/10/2016	11/09/2016	11/09/2016	11/09/2016
Volatile Organic Compounds							
Benzene	µg/L		0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L		1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L		1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L		2 U	2 U	2 U	2 U	2 U
Dissolved Metals							
Arsenic	µg/L						1 U
Cadmium	µg/L						1 U
Chromium (Total)	µg/L						1 U
Copper	µg/L						10
Lead	µg/L						1 U
Mercury	µg/L						1 U
Zinc	µg/L						5 U
Total Metals							
Arsenic	µg/L		1 U	1 U	1.5	1.7	1 U
Cadmium	µg/L		1 U	2.1	1 U	1 U	1 U
Chromium (Total)	µg/L		1 U	1.2	1.3	1 U	2.1
Copper	µg/L		12	23	14	12	11
Lead	µg/L		1 U	1 U	1 U	1 U	1 U
Mercury	µg/L		1 U	1 U	1 U	1 U	1 U
Zinc	µg/L		5 U	1100	17	190	5 U
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L		0.44	15	6.4	12	0.034
Nitrate/Nitrite	µg/L		7000	210000	11000	24000	4200
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
HCH-beta (b-BHC)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
HCH-delta (d-BHC)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
G-BHC (Lindane)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Aldrin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Heptachlor	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Heptachlor Epoxide	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlordane	µg/L		0.6 UJ	1.7 J	0.6 UJ	0.6 UJ	0.6 UJ
Dieldrin	µg/L		0.12 UJ	0.49 J	0.12 UJ	0.12 UJ	0.12 UJ
Endrin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endosulfan I	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endosulfan II	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDD / Sum DDD	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDE / Sum DDE	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDT / Sum DDT	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Hexachlorobenzene	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Methoxychlor	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Toxaphene	µg/L		6 UJ	11 J	6 UJ	6 UJ	6 UJ
Chlorinated Herbicides							
2,4-D	µg/L		0.08 U	0.54	0.12	0.08 U	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2016				
		Location	MW-5	MW-6	MW-7	MW-8	MW-9
		Sample ID	**MW-5D-110916**	**MW-6-111016**	**MW-7-110916**	**MW-8-110916**	**MW-9-110916**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	5-15 ft
		Date	11/09/2016	11/10/2016	11/09/2016	11/09/2016	11/09/2016
Chlorinated Herbicides							
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		0.08 U	48	0.55	0.14	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		0.08 U	1.1	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Alachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Atrazine	µg/L		0.099	3.5	0.82	0.28	0.06 U
Captafol	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Captan	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlordane-alpha	µg/L		0.12 UJ	0.18 J	0.12 UJ	0.12 UJ	0.12 UJ
Chlorbenzilate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlorthalonil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Cyanazine (Bladex)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Cypermethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
DCPA (Dacthal)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Flutolanil	µg/L		1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ
Folpet	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Iprodione	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Metoachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Metribuzin	µg/L		0.06 U	2.7	0.5	0.33	0.06 U
Norflurazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxadiazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pronamide	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Propachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propanil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Propiconazole	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Simazine	µg/L		0.06 U	0.21	0.06 U	0.06 U	0.06 U
Terbacil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Trifluralin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlorpyrifos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethion (Ronnel)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2016				
		Location	MW-5	MW-6	MW-7	MW-8	MW-9
		Sample ID	**MW-5D-110916**	**MW-6-111016**	**MW-7-110916**	**MW-8-110916**	**MW-9-110916**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	5-15 ft
		Date	11/09/2016	11/10/2016	11/09/2016	11/09/2016	11/09/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Malathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		0.06 U	0.41	0.066	0.06 U	0.06 U
Prometon	µg/L		0.06 U	0.06	0.06 U	0.06 U	0.06 U
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		0.06 U	1.3	0.19	0.13	0.06 U
Linuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Pendimethalin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		50 U	200 JM	50 U	50 U	60 U
Oil-Range TPH	µg/L		250 U	250 U	250 U	250 U	300 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2016				
		Location	MW-10	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-10-110916**	**MW-11-110916**	**MW-12-111016**	**MW-13-111016**	**MW-14-111016**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	11/09/2016	11/09/2016	11/10/2016	11/10/2016	11/10/2016
Volatile Organic Compounds							
Benzene	µg/L		0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L		1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L		1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L		2 U	2 U	2 U	2 U	2 U
Dissolved Metals							
Arsenic	µg/L				2.4	3.3	
Cadmium	µg/L				1 U	1 U	
Chromium (Total)	µg/L				1 U	1 U	
Copper	µg/L				13	5 U	
Lead	µg/L				1 U	1 U	
Mercury	µg/L				1 U	1 U	
Zinc	µg/L				70	5 U	
Total Metals							
Arsenic	µg/L		1 U	1 U	2.2	3.2	1.1
Cadmium	µg/L		1 U	1 U	1 U	1 U	1 U
Chromium (Total)	µg/L		1 U	1 U	1 U	1 U	1 U
Copper	µg/L		8.8	7.4	10	5 U	6.8
Lead	µg/L		1 U	1 U	1 U	1 U	1 U
Mercury	µg/L		1 U	1 U	1 U	1 U	1 U
Zinc	µg/L		5 U	47	71	5 U	32
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L		0.36	1.8	22	0.38	3.1
Nitrate/Nitrite	µg/L		2600	41000	42000	1100	16000
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
HCH-beta (b-BHC)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
HCH-delta (d-BHC)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
G-BHC (Lindane)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Aldrin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Heptachlor	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Heptachlor Epoxide	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlordane	µg/L		0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ
Dieldrin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endrin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endosulfan I	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endosulfan II	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDD / Sum DDD	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDE / Sum DDE	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDT / Sum DDT	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Hexachlorobenzene	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Methoxychlor	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Toxaphene	µg/L		6 UJ	6 UJ	6 UJ	6 UJ	6 UJ
Chlorinated Herbicides							
2,4-D	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.081
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2016				
		Location	MW-10	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-10-110916**	**MW-11-110916**	**MW-12-111016**	**MW-13-111016**	**MW-14-111016**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	11/09/2016	11/09/2016	11/10/2016	11/10/2016	11/10/2016
Chlorinated Herbicides							
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		0.08 U	0.56	0.2	0.13	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Alachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Atrazine	µg/L		0.06 U	0.37	4.7	0.071	0.67
Captafol	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Captan	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlordane-alpha	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlorbenzilate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlorthalonil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Cyanazine (Bladex)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Cypermethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
DCPA (Dacthal)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Flutolanil	µg/L		1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ
Folpet	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Iprodione	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Metoachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Metribuzin	µg/L		0.06 U	0.087	0.43	0.06 U	0.25
Norflurazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxadiazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pronamide	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Propachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propanil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Propiconazole	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Simazine	µg/L		0.06 U	0.15	0.73	0.06 U	0.067
Terbacil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Trifluralin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlorpyrifos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethion (Ronnel)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2016				
		Location	MW-10	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-10-110916**	**MW-11-110916**	**MW-12-111016**	**MW-13-111016**	**MW-14-111016**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	11/09/2016	11/09/2016	11/10/2016	11/10/2016	11/10/2016
Organophosphate Pesticides (Organophosphorus Compounds)							
Malathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		0.06 U	0.06 U	0.13	0.06 U	0.06 U
Prometon	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		0.06 U	0.06 U	0.18	0.15	0.06 U
Linuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Pendimethalin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Tebuthiuron	µg/L		0.12	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		50 U	100 JM	60 U	70 U	50 U
Oil-Range TPH	µg/L		250 U	250 U	300 U	350 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - February 2017				
		Location	MW-1	MW-1	MW-2	MW-3	MW-4
		Sample ID	**MW-01-022717**	**MW-01X-022717**	**MW-02-022817**	**MW-03-022717**	**MW-04-022717**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	02/27/2017	02/27/2017	02/28/2017	02/27/2017	02/27/2017
Volatile Organic Compounds							
Benzene	µg/L		0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L		1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L		1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L		2 U	2 U	2 U	2 U	2 U
Dissolved Metals							
Arsenic	µg/L					1 U	3.7
Cadmium	µg/L					1 U	1.1
Chromium (Total)	µg/L					1 U	2.5
Copper	µg/L					10	49
Lead	µg/L					10	1 U
Mercury	µg/L					1 U	1 U
Zinc	µg/L					5 U	270
Total Metals							
Arsenic	µg/L		1 U	1 U	1 U	1 U	4.7
Cadmium	µg/L		1.2	1.3	1 U	1 U	1.5
Chromium (Total)	µg/L		1.1	1.1	1 U	1 U	11
Copper	µg/L		16	17	5.1	11	62
Lead	µg/L		1 U	1 U	1 U	1 U	3.4
Mercury	µg/L		1 U	1 U	1 U	1 U	1 U
Zinc	µg/L		590	620	5 U	5 U	340
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L		50	51	0.005 U	0.097	35
Nitrate	µg/L		100000	100000	2500	80	13000
Nitrite	µg/L		640	640	64	5 U	260
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
HCH-beta (b-BHC)	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
HCH-delta (d-BHC)	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
G-BHC (Lindane)	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Aldrin	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Heptachlor	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Heptachlor Epoxide	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Chlordane	µg/L		0.6 U	0.6 UJ	0.6 U	0.6 U	2.3 J
Dieldrin	µg/L		0.3	0.31 J	0.12 U	0.12 U	1.2 J
Endrin	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Endosulfan I	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Endosulfan II	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
4,4'-DDD / Sum DDD	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
4,4'-DDE / Sum DDE	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
4,4'-DDT / Sum DDT	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Hexachlorobenzene	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Methoxychlor	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Toxaphene	µg/L		6 U	6 UJ	6 U	6 U	9.3 J
Chlorinated Herbicides							
2,4-D	µg/L		3.7	7	0.08 U	0.29	14
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - February 2017				
		Location	MW-1	MW-1	MW-2	MW-3	MW-4
		Sample ID	**MW-01-022717**	**MW-01X-022717**	**MW-02-022817**	**MW-03-022717**	**MW-04-022717**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	02/27/2017	02/27/2017	02/28/2017	02/27/2017	02/27/2017
Chlorinated Herbicides							
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.18
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		15	22	0.08 U	0.095	11
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		1.1	1.8	0.08 U	0.13	7.3
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Alachlor	µg/L		0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Atrazine	µg/L		3.2	2.3	0.06 U	0.076	11 J
Captafol	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Captan	µg/L		0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Chlordane-alpha	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.21 J
Chlorbenzilate	µg/L		0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Chlorthalonil	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Cyanazine (Bladex)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Cyhalothrin/karate	µg/L		0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Cypermethrin	µg/L		0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 UJ
DCPA (Dacthal)	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Flutolanil	µg/L		1.2 U	1.2 UJ	1.2 U	1.2 U	1.2 UJ
Folpet	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Iprodione	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Metoachlor	µg/L		0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Metribuzin	µg/L		1.5	1.6	0.06 U	0.06 U	3.1 J
Norflurazon	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Oxadiazon	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L		0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Pronamide	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Propachlor	µg/L		0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Propanil	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Propiconazole	µg/L		0.3 U	0.3 UJ	0.3 U	0.3 U	0.3 UJ
Simazine	µg/L		0.15	0.13	0.06 U	0.06 U	0.091 J
Terbacil	µg/L		0.28	0.4 J	0.12 U	0.12 U	0.28 J
Trifluralin	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 UJ
Chlorpyrifos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethion (Ronnel)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - February 2017				
		Location	MW-1	MW-1	MW-2	MW-3	MW-4
		Sample ID	**MW-01-022717**	**MW-01X-022717**	**MW-02-022817**	**MW-03-022717**	**MW-04-022717**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	02/27/2017	02/27/2017	02/28/2017	02/27/2017	02/27/2017
Organophosphate Pesticides (Organophosphorus Compounds)							
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 UJ
Hexazinone	µg/L		0.59	0.61	0.06 U	0.06 U	1.9 J
Prometon	µg/L		0.17	0.15	0.06 U	0.06 U	0.06 UJ
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 UJ
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.089 J
Phenylurea Herbicides							
Diuron	µg/L		1.1	0.89	0.06 U	0.06 U	5.5
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.38
Carbofuran	µg/L		0.13	0.15	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 UJ
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.45 J
Pendimethalin	µg/L		0.12 U	0.12 UJ	0.12 U	0.12 U	0.17 J
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		130	120	50 U	50 U	360
Oil-Range TPH	µg/L		300 U	250 U	250 U	250 U	680

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - February 2017				
		Location	MW-5	MW-6	MW-7	MW-8	MW-9
		Sample ID	**MW-05-022817**	**MW-06-022717**	**MW-07-022817**	**MW-08-022817**	**MW-09-022817**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	5-15 ft
		Date	02/28/2017	02/27/2017	02/28/2017	02/28/2017	02/28/2017
Volatile Organic Compounds							
Benzene	µg/L		0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L		1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L		1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L		2 U	2 U	2 U	2 U	2 U
Dissolved Metals							
Arsenic	µg/L				1.8		
Cadmium	µg/L				1 U		
Chromium (Total)	µg/L				1		
Copper	µg/L				15		
Lead	µg/L				1.3		
Mercury	µg/L				1 U		
Zinc	µg/L				240		
Total Metals							
Arsenic	µg/L		1 U	1 U	2	1.4	1 U
Cadmium	µg/L		1 U	1.3	1 U	1 U	1 U
Chromium (Total)	µg/L		1 U	1 U	4.2	1 U	1 U
Copper	µg/L		9.2	16	25	13	7.8
Lead	µg/L		1 U	1 U	1.4	1 U	1 U
Mercury	µg/L		1 U	1 U	1 U	1 U	1 U
Zinc	µg/L		5 U	740	250	5 U	5 U
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L		0.16	12	30	19	0.007
Nitrate	µg/L		530	110000	62000	63000	2000
Nitrite	µg/L		5 U	1000	1500	5 U	42
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
HCH-beta (b-BHC)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
HCH-delta (d-BHC)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
G-BHC (Lindane)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Aldrin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Heptachlor	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Heptachlor Epoxide	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlordane	µg/L		0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Dieldrin	µg/L		0.12 U	0.33	0.12 U	0.12 U	0.12 U
Endrin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Endosulfan I	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Endosulfan II	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4,4'-DDD / Sum DDD	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4,4'-DDE / Sum DDE	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4,4'-DDT / Sum DDT	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Hexachlorobenzene	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Methoxychlor	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
2,4-D	µg/L		0.08 U	0.37	15	1	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

	Event	Quarterly Groundwater Monitoring - February 2017				
	Location	MW-5	MW-6	MW-7	MW-8	MW-9
	Sample ID	**MW-05-022817**	**MW-06-022717**	**MW-07-022817**	**MW-08-022817**	**MW-09-022817**
	Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	5-15 ft
	Date	02/28/2017	02/27/2017	02/28/2017	02/28/2017	02/28/2017
Chlorinated Herbicides						
2,4,5-TP (Silvex)	µg/L	0.08 U	0.08 U	0.17	0.08 U	0.08 U
2,4,5-T	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L	0.08 U	29	16	4.7	0.08 U
Dinoseb	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L	0.08 U	0.25	3.9 J	0.72	0.08 U
MCPP (Mecoprop)	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides						
Acetochlor	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Alachlor	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Atrazine	µg/L	0.068	3	5.9	2	0.06 U
Captafol	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Captan	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlordane-alpha	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorbenzilate	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorthalonil	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Cypermethrin	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Flutolanil	µg/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Folpet	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Iprodione	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Metoachlor	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Metribuzin	µg/L	0.06 U	1.5	2.4	3.1	0.06 U
Norflurazon	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxadiazon	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxamyl	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pronamide	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propachlor	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propanil	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propiconazole	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Simazine	µg/L	0.06 U	0.2	0.06 U	0.14	0.06 U
Terbacil	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Trifluralin	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethion (Ronnel)	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - February 2017				
		Location	MW-5	MW-6	MW-7	MW-8	MW-9
		Sample ID	**MW-05-022817**	**MW-06-022717**	**MW-07-022817**	**MW-08-022817**	**MW-09-022817**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	5-15 ft
		Date	02/28/2017	02/27/2017	02/28/2017	02/28/2017	02/28/2017
Organophosphate Pesticides (Organophosphorus Compounds)							
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		0.06 U	0.28	0.5	0.61	0.06 U
Prometon	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		0.06 U	0.71	2 J	0.69	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.19 J	0.06 U	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.36	0.081	0.06 U
Pendimethalin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		50 U	160	100	50 U	50 U
Oil-Range TPH	µg/L		250 U	250 U	250 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - February 2017				
		Location	MW-10	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-10-022717**	**MW-11-022817**	**MW-12-022817**	**MW-13-022817**	**MW-14-022717**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	02/27/2017	02/28/2017	02/28/2017	02/28/2017	02/27/2017
Volatile Organic Compounds							
Benzene	µg/L		0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L		1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L		1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L		2 U	2 U	2 U	2 U	2 U
Dissolved Metals							
Arsenic	µg/L					2.2	
Cadmium	µg/L					1 U	
Chromium (Total)	µg/L					1 U	
Copper	µg/L					5 U	
Lead	µg/L					1 U	
Mercury	µg/L					1 U	
Zinc	µg/L					7.7	
Total Metals							
Arsenic	µg/L		1 U	1 U	1.5	3.6	1.1
Cadmium	µg/L		1 U	1 U	1 U	1 U	1 U
Chromium (Total)	µg/L		1 U	1 U	1 U	1.2	1 U
Copper	µg/L		7.7	7.1	8.8	5 U	5.6
Lead	µg/L		1 U	1 U	1 U	1	1 U
Mercury	µg/L		1 U	1 U	1 U	1 U	1 U
Zinc	µg/L		5 U	28	54	16	18
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L		0.005 U	1.3	22	0.13	4.7
Nitrate	µg/L		2400	39000	28000	3500	3800
Nitrite	µg/L		51	5 U	5 U	5 U	5 U
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
HCH-beta (b-BHC)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
HCH-delta (d-BHC)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
G-BHC (Lindane)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Aldrin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Heptachlor	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Heptachlor Epoxide	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlordane	µg/L		0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Dieldrin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Endrin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Endosulfan I	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Endosulfan II	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4,4'-DDD / Sum DDD	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4,4'-DDE / Sum DDE	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4,4'-DDT / Sum DDT	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Hexachlorobenzene	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Methoxychlor	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
2,4-D	µg/L		0.08 U	0.08 U	0.18	16	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - February 2017				
		Location	MW-10	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-10-022717**	**MW-11-022817**	**MW-12-022817**	**MW-13-022817**	**MW-14-022717**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	02/27/2017	02/28/2017	02/28/2017	02/28/2017	02/27/2017
Chlorinated Herbicides							
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		0.08 U	3.5	0.45	0.53	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		0.08 U	0.08 U	0.08 U	0.1	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Alachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Atrazine	µg/L		0.06 U	0.44	1	0.06	0.2
Captafol	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Captan	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlordane-alpha	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorbenzilate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorthalonil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Cypermethrin	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Flutolanil	µg/L		1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Folpet	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Iprodione	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Metoachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Metribuzin	µg/L		0.06 U	0.22	0.29	0.06 U	0.079
Norflurazon	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxadiazon	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pronamide	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propanil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propiconazole	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Simazine	µg/L		0.06 U	0.06 U	0.12	0.06 U	0.06 U
Terbacil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Trifluralin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethion (Ronnel)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - February 2017				
		Location	MW-10	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-10-022717**	**MW-11-022817**	**MW-12-022817**	**MW-13-022817**	**MW-14-022717**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	02/27/2017	02/28/2017	02/28/2017	02/28/2017	02/27/2017
Organophosphate Pesticides (Organophosphorus Compounds)							
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		0.06 U	0.15	0.093	0.06 U	0.06 U
Prometon	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		0.06 U	0.06 U	0.088	0.061	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Pendimethalin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		50 U	110	50 U	50 U	50 U
Oil-Range TPH	µg/L		250 U	250 U	250 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

Event		Quarterly Groundwater Monitoring - May 2017				
Location		MW-1	MW-2	MW-3	MW-4	MW-5
Sample ID		**MW-01-051717**	**MW-02-051817**	**MW-03-051717**	**MW-04-051717**	**MW-05-051717**
Screen Interval		3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
Date		05/17/2017	05/18/2017	05/17/2017	05/17/2017	05/17/2017
Volatile Organic Compounds						
Benzene	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L	1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L	2 U	2 U	2 U	2 U	2 U
Dissolved Metals						
Arsenic	µg/L	1 U				1 U
Cadmium	µg/L	1 U				1 U
Chromium (Total)	µg/L	1 U				1 U
Copper	µg/L	14				12
Lead	µg/L	1 U				1 U
Mercury	µg/L	1 U				1 U
Zinc	µg/L	38				5 U
Total Metals						
Arsenic	µg/L	1 U	1 U	1 U	3.4	1 U
Cadmium	µg/L	1 U	1 U	1 U	2.4	1 U
Chromium (Total)	µg/L	1 U	1 U	1 U	4.9	1 U
Copper	µg/L	13	5 U	8.5	41	11
Lead	µg/L	5.8	1 U	1 U	1 U	1 U
Mercury	µg/L	1 U	1 U	1 U	1 U	1 U
Zinc	µg/L	31	5 U	5 U	480	5 U
Miscellaneous Substances						
Ammonia-Nitrogen	mg/L	3.1	0.1 U	0.21	86	0.25
Nitrate	µg/L	23000	1900	1000 U	19000	34000
Nitrite	µg/L	2000 UJ	210 JQ	1000 UJ	980 JQ	5000 UJ
Organochlorine Pesticides						
HCH-alpha (a-BHC)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
HCH-beta (b-BHC)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
HCH-delta (d-BHC)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
G-BHC (Lindane)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Aldrin	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Heptachlor	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Heptachlor Epoxide	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlordane	µg/L	0.6 UJ	0.6 UJ	0.6 UJ	1.4 J	0.6 UJ
Dieldrin	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	1 J	0.12 UJ
Endrin	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endosulfan I	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endosulfan II	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDD / Sum DDD	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDE / Sum DDE	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDT / Sum DDT	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Hexachlorobenzene	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Methoxychlor	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Toxaphene	µg/L	6 UJ	6 UJ	6 UJ	6 UJ	6 UJ
Chlorinated Herbicides						
2,4-D	µg/L	0.26 J	0.08 UJ	0.08 UJ	38 J	0.08 UJ
2,4-DB	µg/L	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - May 2017				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-01-051717**	**MW-02-051817**	**MW-03-051717**	**MW-04-051717**	**MW-05-051717**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	05/17/2017	05/18/2017	05/17/2017	05/17/2017	05/17/2017
Chlorinated Herbicides							
2,4,5-TP (Silvex)	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.21 J	0.08 UJ
2,4,5-T	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
Dicamba	µg/L		2.7 J	0.08 UJ	0.08 UJ	53 J	0.08 UJ
Dinoseb	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
MCPA	µg/L		0.24 J	0.08 UJ	0.15 J	28 J	0.08 UJ
MCPP (Mecoprop)	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
Pentachlorophenol	µg/L		0.16 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.16 UJ
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Alachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Atrazine	µg/L		0.69 J	0.06 UJ	0.06 UJ	11 J	0.06 UJ
Captafol	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Captan	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlordane-alpha	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlorbenzilate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlorthalonil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Cyanazine (Bladex)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Cyhalothrin/karate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Cypermethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
DCPA (Dacthal)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Flutolanil	µg/L		1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ
Folpet	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Iprodione	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Metoachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Metribuzin	µg/L		0.27 J	0.06 UJ	0.06 UJ	3.8 J	0.06 UJ
Norflurazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxadiazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxamyl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Permethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pronamide	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Propachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propanil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Propiconazole	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Simazine	µg/L		0.072 J	0.06 UJ	0.06 UJ	0.12 J	0.06 UJ
Terbacil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.19 J	0.12 UJ
Trifluralin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlorpyrifos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Diazinon	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dichlorvos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dicrotophos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dimethoate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Disulfoton	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
EPN	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Ethion (Ronnel)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - May 2017				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-01-051717**	**MW-02-051817**	**MW-03-051717**	**MW-04-051717**	**MW-05-051717**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	05/17/2017	05/18/2017	05/17/2017	05/17/2017	05/17/2017
Organophosphate Pesticides (Organophosphorus Compounds)							
Fonofos (Merphos)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Malathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phorate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Terbufos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Hexazinone	µg/L		0.083 J	0.06 UJ	0.06 UJ	0.8 J	0.06 UJ
Prometon	µg/L		0.061 J	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Prometryn	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Propazine	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.092 J	0.06 UJ
Phenylurea Herbicides							
Diuron	µg/L		0.11 J	0.06 UJ	0.06 UJ	6 J	0.06 UJ
Carbamate Pesticides							
Aldicarb	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Aldicarb sulfone	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Carbaryl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.55 J	0.06 UJ
Carbofuran	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Methomyl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Thiobencarb	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Fenamiphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Merphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Methidathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phosmet	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pirimiphos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propargite	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Tetrachlorvinphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Diphenylamine	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Fluometuron	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Metalaxyl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.29 J	0.06 UJ
Pendimethalin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.52 J	0.12 UJ
Tebuthiuron	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		50 U	50 U	50 U	420	50 U
Oil-Range TPH	µg/L		250 U	250 U	250 U	340	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

Event		Quarterly Groundwater Monitoring - May 2017				
Location		MW-6	MW-7	MW-8	MW-9	MW-10
Sample ID		**MW-06-051717**	**MW-07-051717**	**MW-08-051717**	**MW-09-051717**	**MW-10-051817**
Screen Interval		3-13 ft	3-13 ft	3-13 ft	5-15 ft	5-15 ft
Date		05/17/2017	05/17/2017	05/17/2017	05/17/2017	05/18/2017
Volatile Organic Compounds						
Benzene	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L	1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L	2 U	2 U	2 U	2 U	2 U
Dissolved Metals						
Arsenic	µg/L		1 U		1 U	1 U
Cadmium	µg/L		1 U		1 U	1 U
Chromium (Total)	µg/L		1 U		1 U	1 U
Copper	µg/L		14		10	6.3
Lead	µg/L		1 U		1 U	1 U
Mercury	µg/L		1 U		1 U	1 U
Zinc	µg/L		6.4		7.4	5 U
Total Metals						
Arsenic	µg/L	1 U	1 U	1 U	1 U	1 U
Cadmium	µg/L	2.1	1 U	1 U	1 U	1 U
Chromium (Total)	µg/L	1.5	1 U	1 U	1.6	1 U
Copper	µg/L	21	14	12	10	5.9
Lead	µg/L	1 U	1 U	1 U	1 U	1 U
Mercury	µg/L	1 U	1 U	1 U	1 U	1 U
Zinc	µg/L	1700	7.3	5 U	5 U	5 U
Miscellaneous Substances						
Ammonia-Nitrogen	mg/L	37	7.3	6.5	0.1 U	0.1 U
Nitrate	µg/L	220000	27000	76000	7800	3500
Nitrite	µg/L	2000 JQ	1000 UJ	2000 UJ	400 JQ	2000 UJ
Organochlorine Pesticides						
HCH-alpha (a-BHC)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
HCH-beta (b-BHC)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
HCH-delta (d-BHC)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
G-BHC (Lindane)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Aldrin	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Heptachlor	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Heptachlor Epoxide	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlordane	µg/L	0.87 J	0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ
Dieldrin	µg/L	0.32 J	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endrin	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endosulfan I	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endosulfan II	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDD / Sum DDD	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDE / Sum DDE	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDT / Sum DDT	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Hexachlorobenzene	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Methoxychlor	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Toxaphene	µg/L	6 UJ	6 UJ	6 UJ	6 UJ	6 UJ
Chlorinated Herbicides						
2,4-D	µg/L	14 J	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
2,4-DB	µg/L	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - May 2017				
		Location	MW-6	MW-7	MW-8	MW-9	MW-10
		Sample ID	**MW-06-051717**	**MW-07-051717**	**MW-08-051717**	**MW-09-051717**	**MW-10-051817**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	5-15 ft	5-15 ft
		Date	05/17/2017	05/17/2017	05/17/2017	05/17/2017	05/18/2017
Chlorinated Herbicides							
2,4,5-TP (Silvex)	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
2,4,5-T	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
Dicamba	µg/L		210 J	0.095 J	0.22 J	0.08 UJ	0.08 UJ
Dinoseb	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
MCPA	µg/L		3 J	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
MCPP (Mecoprop)	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
Pentachlorophenol	µg/L		0.16 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.16 UJ
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Alachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Atrazine	µg/L		7.9 J	0.27 J	0.099 J	0.06 UJ	0.06 UJ
Captafol	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Captan	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlordane-alpha	µg/L		0.13 J	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlorbenzilate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlorthalonil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Cyanazine (Bladex)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Cyhalothrin/karate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Cypermethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
DCPA (Dacthal)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Flutolanil	µg/L		1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ
Folpet	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Iprodione	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Metoachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Metribuzin	µg/L		3.2 J	0.094 J	0.1 J	0.06 UJ	0.06 UJ
Norflurazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxadiazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxamyl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Permethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pronamide	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Propachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propanil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Propiconazole	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Simazine	µg/L		0.61 J	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Terbacil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Trifluralin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlorpyrifos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Diazinon	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dichlorvos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dicrotophos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dimethoate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Disulfoton	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
EPN	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Ethion (Ronnel)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - May 2017				
		Location	MW-6	MW-7	MW-8	MW-9	MW-10
		Sample ID	**MW-06-051717**	**MW-07-051717**	**MW-08-051717**	**MW-09-051717**	**MW-10-051817**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	5-15 ft	5-15 ft
		Date	05/17/2017	05/17/2017	05/17/2017	05/17/2017	05/18/2017
Organophosphate Pesticides (Organophosphorus Compounds)							
Fonofos (Merphos)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Malathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phorate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Terbufos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Hexazinone	µg/L		0.54 J	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Prometon	µg/L		0.087 J	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Prometryn	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Propazine	µg/L		0.094 J	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Phenylurea Herbicides							
Diuron	µg/L		2.9 J	0.086 J	0.06 UJ	0.06 UJ	0.06 UJ
Carbamate Pesticides							
Aldicarb	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Aldicarb sulfone	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Carbaryl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Carbofuran	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Methomyl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Thiobencarb	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Fenamiphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Merphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Methidathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phosmet	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pirimiphos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propargite	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Tetrachlorvinphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Diphenylamine	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Fluometuron	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Metalaxyl	µg/L		0.066 J	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Pendimethalin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Tebuthiuron	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		350	50 U	50 U	50 U	50 U
Oil-Range TPH	µg/L		250 U	250 U	250 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

Event		Quarterly Groundwater Monitoring - May 2017				
Location		MW-11	MW-11	MW-12	MW-13	MW-14
Sample ID		**MW-11-051717**	**MW-11X-051717**	**MW-12-051817**	**MW-13-051817**	**MW-14-051817**
Screen Interval		5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
Date		05/17/2017	05/17/2017	05/18/2017	05/18/2017	05/18/2017
Volatile Organic Compounds						
Benzene	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	µg/L	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L	1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L	2 U	2 U	2 U	2 U	2 U
Dissolved Metals						
Arsenic	µg/L	1 U	1 U	1.4		
Cadmium	µg/L	1 U	1 U	1 U		
Chromium (Total)	µg/L	1 U	1 U	1 U		
Copper	µg/L	5 U	5.2	8.1		
Lead	µg/L	1 U	1 U	1 U		
Mercury	µg/L	1 U	1 U	1 U		
Zinc	µg/L	32	33	33		
Total Metals						
Arsenic	µg/L	1 U	1 U	1.4	2.6	1.1
Cadmium	µg/L	1 U	1 U	1 U	1 U	1 U
Chromium (Total)	µg/L	1 U	1 U	1 U	1 U	1 U
Copper	µg/L	5.2	5.6	8	5 U	5.6
Lead	µg/L	1 U	1 U	1 U	1 U	1 U
Mercury	µg/L	1 U	1 U	1 U	1 U	1 U
Zinc	µg/L	36	36	33	5 U	14
Miscellaneous Substances						
Ammonia-Nitrogen	mg/L	4.3	4	23	0.16	8.3
Nitrate	µg/L	51000	51000	52000	200 U	23000
Nitrite	µg/L	1000 UJ	1000 UJ	2000 UJ	200 UJ	2000 UJ
Organochlorine Pesticides						
HCH-alpha (a-BHC)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
HCH-beta (b-BHC)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
HCH-delta (d-BHC)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
G-BHC (Lindane)	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Aldrin	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Heptachlor	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Heptachlor Epoxide	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlordane	µg/L	0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ
Dieldrin	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endrin	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endosulfan I	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Endosulfan II	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDD / Sum DDD	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDE / Sum DDE	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
4,4'-DDT / Sum DDT	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Hexachlorobenzene	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Methoxychlor	µg/L	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Toxaphene	µg/L	6 UJ	6 UJ	6 UJ	6 UJ	6 UJ
Chlorinated Herbicides						
2,4-D	µg/L	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
2,4-DB	µg/L	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - May 2017				
		Location	MW-11	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-11-051717**	**MW-11X-051717**	**MW-12-051817**	**MW-13-051817**	**MW-14-051817**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	05/17/2017	05/17/2017	05/18/2017	05/18/2017	05/18/2017
Chlorinated Herbicides							
2,4,5-TP (Silvex)	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
2,4,5-T	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
Dicamba	µg/L		0.78 J	0.77 J	1.6 J	0.08 UJ	0.65 J
Dinoseb	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
MCPA	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
MCPP (Mecoprop)	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
Pentachlorophenol	µg/L		0.16 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.16 UJ
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Alachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Atrazine	µg/L		0.32 J	0.3 J	1.5 J	0.06 UJ	0.57 J
Captafol	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Captan	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlordane-alpha	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlorbenzilate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Chlorthalonil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Cyanazine (Bladex)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Cyhalothrin/karate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Cypermethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
DCPA (Dacthal)	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Flutolanil	µg/L		1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ
Folpet	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Iprodione	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Metoachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Metribuzin	µg/L		0.06 UJ	0.06 UJ	0.07 J	0.06 UJ	0.068 J
Norflurazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxadiazon	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Oxamyl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Permethrin	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pronamide	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Propachlor	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propanil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Propiconazole	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Simazine	µg/L		0.16 J	0.14 J	0.66 J	0.06 UJ	0.15 J
Terbacil	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Trifluralin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Chlorpyrifos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Diazinon	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dichlorvos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dicrotophos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dimethoate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Disulfoton	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
EPN	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Ethion (Ronnel)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - May 2017				
		Location	MW-11	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-11-051717**	**MW-11X-051717**	**MW-12-051817**	**MW-13-051817**	**MW-14-051817**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	05/17/2017	05/17/2017	05/18/2017	05/18/2017	05/18/2017
Organophosphate Pesticides (Organophosphorus Compounds)							
Fonofos (Merphos)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Malathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phorate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Terbufos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Hexazinone	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Prometon	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Prometryn	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Propazine	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Phenylurea Herbicides							
Diuron	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Carbamate Pesticides							
Aldicarb	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Aldicarb sulfone	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Carbaryl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Carbofuran	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Methomyl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Thiobencarb	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Fenamiphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Merphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Methidathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phosmet	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pirimiphos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propargite	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Tetrachlorvinphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Diphenylamine	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Fluometuron	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Metalaxyl	µg/L		0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Pendimethalin	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Tebuthiuron	µg/L		0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		79	77	60 U	50 U	50 U
Oil-Range TPH	µg/L		250 U	250 U	300 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-01-082917**	**MW-02-083017**	**MW-03-082917**	**MW-04-082917**	**MW-05-082917**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	08/29/2017	08/30/2017	08/29/2017	08/29/2017	08/29/2017
Conventionals							
Alkalinity (as CaCO3)	mg/L					220	
Dissolved Organic Carbon	mg/L					34	
Total Dissolved Solids	mg/L					490	
Volatile Organic Compounds							
Benzene	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	
Toluene	µg/L	1 U	1 U	1 U	1 U	1 U	
Ethylbenzene	µg/L	1 U	1 U	1 U	1 U	1 U	
Dissolved Metals							
Arsenic	µg/L	1.6			2		
Cadmium	µg/L	1 U			1 U		
Chromium (Total)	µg/L	1 U			1 U		
Copper	µg/L	21			13		
Iron	µg/L				250		
Lead	µg/L	1 U			1 U		
Manganese	µg/L				310		
Mercury	µg/L	1 U			1 U		
Zinc	µg/L	130			28		
Total Metals							
Arsenic	µg/L	2	1 U	1.6	2.6	1 U	
Cadmium	µg/L	1 U	1 U	1 U	1 U	1 U	
Chromium (Total)	µg/L	2.2	1 U	1 U	5.2	1 U	
Copper	µg/L	24	7.8	11	29	13	
Iron	µg/L				2700		
Lead	µg/L	1 U	1 U	1 U	1.4	1 U	
Manganese	µg/L				350		
Mercury	µg/L	1 U	1 U	1 U	1 U	1 U	
Zinc	µg/L	160	5.1	5 U	77	5 U	
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L	37	0.1 U	0.1 U	26	0.26	
Nitrate	µg/L	81000	2800	33000	1500	3900	
Nitrite	µg/L	4200	240	200 U	1000 U	200 U	
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
HCH-beta (b-BHC)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
HCH-delta (d-BHC)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
G-BHC (Lindane)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Aldrin	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Heptachlor	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Heptachlor Epoxide	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Chlordane	µg/L	1.6	0.6 U	0.6 U	2.5	0.6 U	
Dieldrin	µg/L	0.69	0.12 U	0.12 U	0.79 J	0.12 U	
Endrin	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Endosulfan I	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Endosulfan II	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
4,4'-DDD / Sum DDD	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
4,4'-DDE / Sum DDE	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-01-082917**	**MW-02-083017**	**MW-03-082917**	**MW-04-082917**	**MW-05-082917**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	08/29/2017	08/30/2017	08/29/2017	08/29/2017	08/29/2017
Organochlorine Pesticides							
4,4'-DDT / Sum DDT	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Hexachlorobenzene	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Methoxychlor	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
2,4-D	µg/L		0.08 U	0.08 U	0.08 U	0.52 J	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.14 J	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		3.2	0.08 U	0.21	7.1	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Alachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Atrazine	µg/L		1.9	0.06 U	0.16	1.9 J	0.15
Captafol	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Captan	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlordane-alpha	µg/L		0.17	0.12 U	0.12 U	0.15	0.12 U
Chlorbenzilate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorthalonil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Cypermethrin	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Desethyl Atrazine	µg/L					0.06 U	
Flutolanil	µg/L		1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Folpet	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Iprodione	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Metoachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Metribuzin	µg/L		1.5	0.06 U	0.089	3.4	0.06 U
Norflurazon	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxadiazon	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pronamide	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propanil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propiconazole	µg/L		0.3 U	0.3 U	0.3 U	0.96	0.3 U
Simazine	µg/L		0.22	0.06 U	0.06 U	0.23	0.06 U
Trifluralin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-01-082917**	**MW-02-083017**	**MW-03-082917**	**MW-04-082917**	**MW-05-082917**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	08/29/2017	08/30/2017	08/29/2017	08/29/2017	08/29/2017
Organophosphate Pesticides (Organophosphorus Compounds)							
Diazinon	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethion (Ronnel)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		0.25	0.06 U	0.06 U	0.63	0.06 U
Prometon	µg/L		0.24	0.06 U	0.061	0.06 U	0.06 U
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		0.69	0.06 U	0.06 U	2.4	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.06 U	0.13	0.06 U
Pendimethalin	µg/L		0.12 U	0.12 U	0.12 U	0.48	0.12 U
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 U	0.12	0.12 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-01-082917**	**MW-02-083017**	**MW-03-082917**	**MW-04-082917**	**MW-05-082917**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	08/29/2017	08/30/2017	08/29/2017	08/29/2017	08/29/2017
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	µg/L		89 CN	55 U	50 U	140 CN	60 U
Oil-Range TPH	µg/L		280 U	280 U	250 U	300 U	300 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-6	MW-7	MW-8	MW-9	MW-10
		Sample ID	**MW-06-082917**	**MW-07-082917**	**MW-08-082917**	**MW-09-083017**	**MW-10-083017**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	5-15 ft	5-15 ft
		Date	08/29/2017	08/29/2017	08/29/2017	08/30/2017	08/30/2017
Conventionals							
Alkalinity (as CaCO3)	mg/L					220	
Dissolved Organic Carbon	mg/L					25	
Total Dissolved Solids	mg/L					440	
Volatile Organic Compounds							
Benzene	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	
Toluene	µg/L	1 U	1 U	1 U	1 U	1 U	
Ethylbenzene	µg/L	1 U	1 U	1 U	1 U	1 U	
Dissolved Metals							
Arsenic	µg/L				1 U		
Cadmium	µg/L				1 U		
Chromium (Total)	µg/L				1 U		
Copper	µg/L				9.2		
Iron	µg/L				95		
Lead	µg/L				1 U		
Manganese	µg/L				250		
Mercury	µg/L				1 U		
Zinc	µg/L				5 U		
Total Metals							
Arsenic	µg/L	1 U	1 U	1.7	1 U	1 U	
Cadmium	µg/L	1.6	1 U	1 U	1 U	1 U	
Chromium (Total)	µg/L	1.2	1 U	1 U	1 U	1.2	
Copper	µg/L	19	14	17	12	10	
Iron	µg/L				200		
Lead	µg/L	1 U	1 U	1 U	1 U	1 U	
Manganese	µg/L				280		
Mercury	µg/L	1 U	1 U	1 U	1 U	1 U	
Zinc	µg/L	980	5 U	5 U	5 U	5 U	
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L	37	5.1	11	0.1 U	0.1 U	
Nitrate	µg/L	160000	1300	17000	5600	1700	
Nitrite	µg/L	5000 U	200 U	200 U	480 JQ	170 JQ	
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
HCH-beta (b-BHC)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
HCH-delta (d-BHC)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
G-BHC (Lindane)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Aldrin	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Heptachlor	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Heptachlor Epoxide	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Chlordane	µg/L	1.5	0.6 U	0.6 U	0.6 U	0.6 U	
Dieldrin	µg/L	0.52	0.12 U	0.12 U	0.12 U	0.12 U	
Endrin	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Endosulfan I	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Endosulfan II	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
4,4'-DDD / Sum DDD	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
4,4'-DDE / Sum DDE	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-6	MW-7	MW-8	MW-9	MW-10
		Sample ID	**MW-06-082917**	**MW-07-082917**	**MW-08-082917**	**MW-09-083017**	**MW-10-083017**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	5-15 ft	5-15 ft
		Date	08/29/2017	08/29/2017	08/29/2017	08/30/2017	08/30/2017
Organochlorine Pesticides							
4,4'-DDT / Sum DDT	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Hexachlorobenzene	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Methoxychlor	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
2,4-D	µg/L		37 J	0.08 U	0.08 U	0.08 UJ	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U
Dicamba	µg/L		530	0.08 U	0.38	0.08 UJ	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U
MCPA	µg/L		5.5 J	0.08 U	0.08 U	0.08 UJ	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 UJ	0.16 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Alachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Atrazine	µg/L		2.3 J	0.11	0.53	0.06 U	0.06 U
Captafol	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Captan	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlordane-alpha	µg/L		0.13	0.12 U	0.12 U	0.12 U	0.12 U
Chlorbenzilate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorthalonil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Cypermethrin	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Desethyl Atrazine	µg/L		0.06 U				
Flutolanil	µg/L		1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Folpet	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Iprodione	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Metoachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Metribuzin	µg/L		16 J	0.06 U	0.34	0.06 U	0.06 U
Norflurazon	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxadiazon	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pronamide	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propanil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propiconazole	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Simazine	µg/L		0.27 J	0.06 U	0.077	0.06 U	0.06 U
Trifluralin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-6	MW-7	MW-8	MW-9	MW-10
		Sample ID	**MW-06-082917**	**MW-07-082917**	**MW-08-082917**	**MW-09-083017**	**MW-10-083017**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	5-15 ft	5-15 ft
		Date	08/29/2017	08/29/2017	08/29/2017	08/30/2017	08/30/2017
Organophosphate Pesticides (Organophosphorus Compounds)							
Diazinon	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethion (Ronnel)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		1.6 J	0.06 U	0.06 U	0.06 U	0.06 U
Prometon	µg/L		0.11 J	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	µg/L		0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		0.76	0.06 U	0.26	0.06 U	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.42	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U
Pendimethalin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tebuthiuron	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	0.13
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-6	MW-7	MW-8	MW-9	MW-10
		Sample ID	**MW-06-082917**	**MW-07-082917**	**MW-08-082917**	**MW-09-083017**	**MW-10-083017**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	5-15 ft	5-15 ft
		Date	08/29/2017	08/29/2017	08/29/2017	08/30/2017	08/30/2017
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	µg/L		810 CN	55 U	60 U	55 U	60 U
Oil-Range TPH	µg/L		280 U	280 U	300 U	280 U	300 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-11	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-11-082917**	**MW-X-082917**	**MW-12-083017**	**MW-13-083017**	**MW-14-083017**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	08/29/2017	08/29/2017	08/30/2017	08/30/2017	08/30/2017
Conventionals							
Alkalinity (as CaCO3)	mg/L				230		200
Dissolved Organic Carbon	mg/L				16		15
Total Dissolved Solids	mg/L				740		470
Volatile Organic Compounds							
Benzene	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	
Toluene	µg/L	1 U	1 U	1 U	1 U	1 U	
Ethylbenzene	µg/L	1 U	1 U	1 U	1 U	1 U	
Dissolved Metals							
Iron	µg/L			280		220	
Manganese	µg/L			200		18	
Total Metals							
Arsenic	µg/L	1 U	1 U	1.5	3.6	1.1	
Cadmium	µg/L	1 U	1 U	1 U	1 U	1 U	
Chromium (Total)	µg/L	1 U	1 U	1 U	1 U	1 U	
Copper	µg/L	10	8.6	16	5 U	7.7	
Iron	µg/L			310		240	
Lead	µg/L	1 U	1 U	1 U	1 U	1 U	
Manganese	µg/L			200		18	
Mercury	µg/L	1 U	1 U	1 U	1 U	1 U	
Zinc	µg/L	20	18	170	5 U	64	
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L	3.1	3.2	21	0.25	12	
Nitrate	µg/L	54000	53000	35000	120	16000	
Nitrite	µg/L	500 U	500 U	500 U	100 U	200 U	
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
HCH-beta (b-BHC)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
HCH-delta (d-BHC)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
G-BHC (Lindane)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Aldrin	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Heptachlor	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Heptachlor Epoxide	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Chlordane	µg/L	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	
Dieldrin	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Endrin	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Endosulfan I	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Endosulfan II	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
4,4'-DDD / Sum DDD	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
4,4'-DDE / Sum DDE	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
4,4'-DDT / Sum DDT	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Hexachlorobenzene	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Methoxychlor	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Toxaphene	µg/L	6 U	6 U	6 U	6 U	6 U	
Chlorinated Herbicides							
2,4-D	µg/L	0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U	
2,4-DB	µg/L	0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U	

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-11	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-11-082917**	**MW-X-082917**	**MW-12-083017**	**MW-13-083017**	**MW-14-083017**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	08/29/2017	08/29/2017	08/30/2017	08/30/2017	08/30/2017
Chlorinated Herbicides							
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U
Dicamba	µg/L		0.08 U	0.11	0.093 J	0.08 U	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U
MCPA	µg/L		0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 UJ	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Alachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Atrazine	µg/L		0.43	0.42	1.1	0.06 U	0.53
Captafol	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Captan	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlordane-alpha	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorbenzilate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorthalonil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyanazine (Bladex)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Cyhalothrin/karate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Cypermethrin	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
DCPA (Dacthal)	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Desethyl Atrazine	µg/L				0.06 U		0.06 U
Flutolanil	µg/L		1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Folpet	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Iprodione	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Metoachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Metribuzin	µg/L		0.19	0.17	1.1	0.06 U	0.39
Norflurazon	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxadiazon	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pronamide	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propachlor	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propanil	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Propiconazole	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Simazine	µg/L		0.071	0.068	0.14	0.06 U	0.087
Trifluralin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chlorpyrifos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diazinon	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorvos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dicrotophos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethoate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Disulfoton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
EPN	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethion (Ronnel)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - August 2017				
		Location	MW-11	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-11-082917**	**MW-X-082917**	**MW-12-083017**	**MW-13-083017**	**MW-14-083017**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	08/29/2017	08/29/2017	08/30/2017	08/30/2017	08/30/2017
Organophosphate Pesticides (Organophosphorus Compounds)							
Fonofos (Merphos)	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Malathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Parathion-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phorate	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Terbufos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexazinone	µg/L		0.16	0.16	0.21	0.06 U	0.079
Prometon	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Prometryn	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Propazine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Phenylurea Herbicides							
Diuron	µg/L		0.06 U	0.06 U	0.2	0.06 U	0.07
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fenamiphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Merphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methidathion	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Phosmet	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Pirimiphos-methyl	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Propargite	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tetrachlorvinphos	µg/L		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Pendimethalin	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L		100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		140 CN	110 CN	50 U	50 U	60 U
Oil-Range TPH	µg/L		280 U	280 U	250 U	250 U	300 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2017				
		Location	MW-1	MW-3	MW-4	MW-5	MW-6
		Sample ID	**MW-01-112817**	**MW-03-112817**	**MW-04-112817**	**MW-05-112817**	**MW-06-112817**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	11/28/2017	11/28/2017	11/28/2017	11/28/2017	11/28/2017
Dissolved Metals							
Arsenic	µg/L				3.2		
Total Metals							
Arsenic	µg/L				3.4		
Miscellaneous Substances							
Nitrate	µg/L		160000	1000 U	55000	1000	180000
Nitrite	µg/L		1600 JQ	1000 U	2000 U	1000 U	1500 JQ
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
HCH-beta (b-BHC)	µg/L		0.06 UJ	0.06 U	0.066 J	0.06 U	0.06 U
HCH-delta (d-BHC)	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
G-BHC (Lindane)	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
Aldrin	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
Heptachlor	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
Heptachlor Epoxide	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
Chlordane	µg/L		0.82	0.6 U	0.93	0.6 U	1.3
Dieldrin	µg/L		0.38 J	0.06 U	0.53 J	0.06 U	0.47
Endrin	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
Endosulfan I	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
Endosulfan II	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
4,4'-DDD / Sum DDD	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
4,4'-DDE / Sum DDE	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
4,4'-DDT / Sum DDT	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
Hexachlorobenzene	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
Methoxychlor	µg/L		0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	10
Chlorinated Herbicides							
2,4-D	µg/L		3.3	0.08 U	23	0.08 UJ	0.72
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.27 J	0.08 UJ	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U
Dicamba	µg/L		19	0.08 U	41	0.08 UJ	480
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U
MCPA	µg/L		2.1 J	0.08 U	24 J	0.08 UJ	0.67 J
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 UJ	0.16 U
Other Chlorinated/Halogenated Pesticides							
Atrazine	µg/L		1.4 J	0.06 U	26 J	0.06 U	2.1
Chlordane-alpha	µg/L		0.085 J	0.06 U	0.084 J	0.06 U	0.15
Simazine	µg/L		0.091 J	0.06 U	0.11 J	0.06 U	0.22
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	µg/L		84 CN	50 U	380 CN	50 U	730 CN
Oil-Range TPH	µg/L		250 U	250 U	250 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2017				
		Location	MW-6	MW-7	MW-8	MW-11	MW-12
		Sample ID	**MW-X-112817**	**MW-07-112817**	**MW-08-112817**	**MW-11-112817**	**MW-12-112817**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	5-15 ft	5-15 ft
		Date	11/28/2017	11/28/2017	11/28/2017	11/28/2017	11/28/2017
Miscellaneous Substances							
Nitrate	µg/L		180000	17000	40000	46000	22000
Nitrite	µg/L		10000 U	810 JQ	1000 U	2000 U	2000 U
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-beta (b-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-delta (d-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
G-BHC (Lindane)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor Epoxide	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chlordane	µg/L		1.2	0.6 U	0.6 U	0.6 U	0.6 U
Dieldrin	µg/L		0.49	0.06 U	0.06 U	0.06 U	0.06 U
Endrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan I	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan II	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDD / Sum DDD	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDE / Sum DDE	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDT / Sum DDT	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexachlorobenzene	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methoxychlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Toxaphene	µg/L		8.8	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
2,4-D	µg/L		1	2.7	0.29	0.08 U	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		550	5.7	2 J	0.48	0.17
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		0.87 J	2.5 J	0.27 J	0.08 U	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Atrazine	µg/L		2.3	3.9	0.51 J	0.22	0.63
Chlordane-alpha	µg/L		0.16	0.06 U	0.06 U	0.06 U	0.06 U
Simazine	µg/L		0.24	0.06 U	0.067 J	0.064	0.16
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	µg/L		720 CN	50 U	50 U	340 CN	50 U
Oil-Range TPH	µg/L		250 U	250 U	250 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - November 2017				
		Location	MW-14				
		Sample ID	**MW-14-112817**				
		Screen Interval	5-15 ft				
		Date	11/28/2017				
Miscellaneous Substances							
	Nitrate	µg/L	3800				
	Nitrite	µg/L	500 U				
Organochlorine Pesticides							
	HCH-alpha (a-BHC)	µg/L	0.06 U				
	HCH-beta (b-BHC)	µg/L	0.06 U				
	HCH-delta (d-BHC)	µg/L	0.06 U				
	G-BHC (Lindane)	µg/L	0.06 U				
	Aldrin	µg/L	0.06 U				
	Heptachlor	µg/L	0.06 U				
	Heptachlor Epoxide	µg/L	0.06 U				
	Chlordane	µg/L	0.6 U				
	Dieldrin	µg/L	0.06 U				
	Endrin	µg/L	0.06 U				
	Endosulfan I	µg/L	0.06 U				
	Endosulfan II	µg/L	0.06 U				
	4,4'-DDD / Sum DDD	µg/L	0.06 U				
	4,4'-DDE / Sum DDE	µg/L	0.06 U				
	4,4'-DDT / Sum DDT	µg/L	0.06 U				
	Hexachlorobenzene	µg/L	0.06 U				
	Methoxychlor	µg/L	0.06 U				
	Toxaphene	µg/L	6 U				
Chlorinated Herbicides							
	2,4-D	µg/L	0.08 U				
	2,4-DB	µg/L	0.08 U				
	2,4,5-TP (Silvex)	µg/L	0.08 U				
	2,4,5-T	µg/L	0.08 U				
	Dicamba	µg/L	0.08 U				
	Dinoseb	µg/L	0.08 U				
	MCPA	µg/L	0.08 U				
	MCPP (Mecoprop)	µg/L	0.08 U				
	Pentachlorophenol	µg/L	0.16 U				
Other Chlorinated/Halogenated Pesticides							
	Atrazine	µg/L	0.12				
	Chlordane-alpha	µg/L	0.06 U				
	Simazine	µg/L	0.06 U				
Total Petroleum Hydrocarbons (TPH)							
	Diesel-Range TPH	µg/L	50 U				
	Oil-Range TPH	µg/L	250 U				

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - March 2018				
		Location	MW-1	MW-2	MW-3	MW-4	MW-5
		Sample ID	**MW-01-030518**	**MW-02-030518**	**MW-03-030518**	**MW-04-030518**	**MW-05-030518**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	03/05/2018	03/05/2018	03/05/2018	03/05/2018	03/05/2018
Dissolved Metals							
	Arsenic	µg/L				4.2	
Total Metals							
	Arsenic	µg/L				4.3	
Miscellaneous Substances							
	Nitrate	µg/L	51000	1700	900	39000	1000 U
	Nitrite	µg/L	860 JQ	330 JQ	500 U	1200 JQ	1000 U
Organochlorine Pesticides							
	HCH-alpha (a-BHC)	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	HCH-beta (b-BHC)	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	HCH-delta (d-BHC)	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	G-BHC (Lindane)	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	Aldrin	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	Heptachlor	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	Heptachlor Epoxide	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	Chlordane	µg/L	0.6 U	0.6 U	0.6 U	1.5	0.6 U
	Dieldrin	µg/L	0.36	0.06 U	0.06 U	1	0.06 U
	Endrin	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	Endosulfan I	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	Endosulfan II	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	4,4'-DDD / Sum DDD	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	4,4'-DDE / Sum DDE	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	4,4'-DDT / Sum DDT	µg/L	0.06 U	0.06 U	0.06 U	0.089 J	0.06 U
	Hexachlorobenzene	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	Methoxychlor	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
	Toxaphene	µg/L	6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
	2,4-D	µg/L	0.44	0.08 U	0.08 U	0.15	0.08 U
	2,4-DB	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
	2,4,5-TP (Silvex)	µg/L	0.08 U	0.08 U	0.08 U	0.38	0.08 U
	2,4,5-T	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
	Dicamba	µg/L	3.4 J	0.08 U	0.08 U	17	0.08 U
	Dinoseb	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
	MCPA	µg/L	0.45	0.08 U	0.08 U	0.09 J	0.08 U
	MCPP (Mecoprop)	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Other Chlorinated/Halogenated Pesticides							
	Atrazine	µg/L	1.8 J	0.06 U	0.06 U	15	0.06
	Chlordane-alpha	µg/L	0.077	0.06 U	0.06 U	0.19	0.06 U
	Simazine	µg/L	0.073	0.06 U	0.06 U	0.15	0.06 U
Total Petroleum Hydrocarbons (TPH)							
	Diesel-Range TPH	µg/L	70 U	50 U	50 U	310	50 U
	Oil-Range TPH	µg/L	350 U	250 U	250 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - March 2018				
		Location	MW-6	MW-7	MW-8	MW-9	MW-10
		Sample ID	**MW-06-030518**	**MW-07-030518**	**MW-08-030518**	**MW-09-030518**	**MW-10-030518**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	5-15 ft	5-15 ft
		Date	03/05/2018	03/05/2018	03/05/2018	03/05/2018	03/05/2018
Miscellaneous Substances							
Nitrate	µg/L		150000	2700	23000	3300	1900
Nitrite	µg/L		1400 JQ	1200	1000 U	170 JQ	320 JQ
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-beta (b-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-delta (d-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
G-BHC (Lindane)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor Epoxide	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chlordane	µg/L		0.82	0.6 U	0.6 U	0.6 U	0.6 U
Dieldrin	µg/L		0.53	0.06 U	0.06 U	0.06 U	0.06 U
Endrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan I	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan II	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDD / Sum DDD	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDE / Sum DDE	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDT / Sum DDT	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexachlorobenzene	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methoxychlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
2,4-D	µg/L		2.5	0.33	0.08 U	0.08 U	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		130	0.98	0.15	0.08 U	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		8.1	0.25	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Other Chlorinated/Halogenated Pesticides							
Atrazine	µg/L		2.5	0.69	0.59	0.06 U	0.06 U
Chlordane-alpha	µg/L		0.14	0.06 U	0.06 U	0.06 U	0.06 U
Simazine	µg/L		0.095	0.06 U	0.06 U	0.06 U	0.06 U
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	µg/L		430	50 U	50 U	50 U	50 U
Oil-Range TPH	µg/L		250 U	250 U	250 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - March 2018				
		Location	MW-11	MW-12	MW-13	MW-14	MW-14
		Sample ID	**MW-11-030518**	**MW-12-030518**	**MW-13-030518**	**MW-14-030518**	**MW-X-030518**
		Screen Interval	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft	5-15 ft
		Date	03/05/2018	03/05/2018	03/05/2018	03/05/2018	03/05/2018
Miscellaneous Substances							
Nitrate	µg/L		37000	39000	100 U	2700	2800
Nitrite	µg/L		1000 U	1000 U	100 U	200 U	200 U
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-beta (b-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-delta (d-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
G-BHC (Lindane)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor Epoxide	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chlordane	µg/L		0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Dieldrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan I	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan II	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDD / Sum DDD	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDE / Sum DDE	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDT / Sum DDT	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexachlorobenzene	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methoxychlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
2,4-D	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		1.7	0.95	0.08 U	0.08 U	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Other Chlorinated/Halogenated Pesticides							
Atrazine	µg/L		0.36	1.8	0.06 U	0.1	0.11
Chlordane-alpha	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Simazine	µg/L		0.06 U	0.078	0.06 U	0.06 U	0.06 U
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	µg/L		89	50 U	50 U	50 U	50 U
Oil-Range TPH	µg/L		250 U	250 U	250 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - June 2018				
		Location	MW-1	MW-3	MW-4	MW-5	MW-6
		Sample ID	**MW-01-062118**	**MW-03-062118**	**MW-04-062018**	**MW-05-062118**	**MW-06-062018**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	06/21/2018	06/21/2018	06/20/2018	06/21/2018	06/20/2018
Dissolved Metals							
Arsenic	µg/L				4.5		
Total Metals							
Arsenic	µg/L				4.7		
Miscellaneous Substances							
Nitrate	µg/L		53000	11000	76000	2200 J	110000
Nitrite	µg/L		1000 U	5000 U	940 JQ	1000 UJ	920 JQ
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-beta (b-BHC)	µg/L		0.06 U	0.06 U	0.067	0.06 U	0.087
HCH-delta (d-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
G-BHC (Lindane)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor Epoxide	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chlordane	µg/L		0.96	0.6 U	0.6 U	0.6 U	1.1
Dieldrin	µg/L		0.45	0.06 U	0.56	0.06 U	0.83
Endrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan I	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan II	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDD / Sum DDD	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDE / Sum DDE	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDT / Sum DDT	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexachlorobenzene	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methoxychlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	6.9
Chlorinated Herbicides							
2,4-D	µg/L		0.12	0.08 U	0.21	0.08 U	1.5
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.23	0.08 U	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		3.1	0.08 U	11	0.08 U	92
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		0.08 U	0.08 U	0.14 J	0.08 U	1.5
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Atrazine	µg/L		0.91	0.06 U	3.8	0.06 U	1.9
Chlordane-alpha	µg/L		0.13	0.06 U	0.11	0.06 U	0.25
Simazine	µg/L		0.1	0.06 U	0.67	0.06 U	0.14
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	µg/L		68 CN	50 U	310 CN	50 U	600 CN
Oil-Range TPH	µg/L		250 U	250 U	290 CN	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - June 2018				
		Location	MW-6	MW-7	MW-8	MW-11	MW-12
		Sample ID	**MW-X-062018**	**MW-07-062018**	**MW-08-062018**	**MW-11-062118**	**MW-12-062118**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	5-15 ft	5-15 ft
		Date	06/20/2018	06/20/2018	06/20/2018	06/21/2018	06/21/2018
Miscellaneous Substances							
Nitrate	µg/L		110000	1200	34000	66000	37000
Nitrite	µg/L		930 JQ	500 U	1000 U	5000 U	2000 U
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-beta (b-BHC)	µg/L		0.085	0.06 U	0.06 U	0.06 U	0.06 U
HCH-delta (d-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
G-BHC (Lindane)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor Epoxide	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chlordane	µg/L		1.1	0.6 U	0.6 U	0.6 U	0.6 U
Dieldrin	µg/L		0.67	0.06 U	0.06 U	0.06 U	0.06 U
Endrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan I	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan II	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDD / Sum DDD	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDE / Sum DDE	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDT / Sum DDT	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexachlorobenzene	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methoxychlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
2,4-D	µg/L		1.4	0.08 U	0.08 U	0.08 U	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		91	0.12	0.47	0.95	0.22
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		1.4	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Atrazine	µg/L		1.7	0.12	0.48	0.48	1
Chlordane-alpha	µg/L		0.21	0.06 U	0.06 U	0.06 U	0.06 U
Simazine	µg/L		0.13	0.06 U	0.06 U	0.06 U	0.098
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	µg/L		430 CN	50 U	50 U	70 CN	60 CN
Oil-Range TPH	µg/L		250 U	250 U	250 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - June 2018				
		Location	MW-14	MW-15	MW-16	MW-16	MW-17
		Sample ID	**MW-14-062118**	**MW-15-070518**	**MW-16-070518**	**MW-X-070518**	**MW-17-070518**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	5-15 ft	5-15 ft
		Date	06/21/2018	07/05/2018	07/05/2018	07/05/2018	07/05/2018
Dissolved Metals							
Arsenic	µg/L			1 U	1.2	1 U	1 U
Total Metals							
Arsenic	µg/L			1 U	1.1	1	1 U
Miscellaneous Substances							
Ammonia-Nitrogen	mg/L			0.1 U	5.4	5.9	0.12
Nitrate	µg/L		390 J	1700	9000 J	12000 J	100 JQ
Nitrite	µg/L		100 UJ	100 U	370	440	200 U
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-beta (b-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HCH-delta (d-BHC)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
G-BHC (Lindane)	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Heptachlor Epoxide	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chlordane	µg/L		0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Dieldrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endrin	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan I	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Endosulfan II	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDD / Sum DDD	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDE / Sum DDE	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
4,4'-DDT / Sum DDT	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Hexachlorobenzene	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methoxychlor	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Toxaphene	µg/L		6 U	6 U	6 U	6 U	6 U
Chlorinated Herbicides							
2,4-D	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
2,4,5-T	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dicamba	µg/L		0.08 U	0.08 U	0.2	0.16	0.08 U
Dinoseb	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Pentachlorophenol	µg/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Other Chlorinated/Halogenated Pesticides							
Atrazine	µg/L		0.06 U	0.06 U	0.19	0.16	0.06 U
Chlordane-alpha	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Simazine	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Total Petroleum Hydrocarbons (TPH)							
Gasoline-Range TPH	µg/L			100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L		60 U	50 U	50 U	50 U	50 U
Oil-Range TPH	µg/L		300 U	250 U	250 U	250 U	250 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	Quarterly Groundwater Monitoring - June 2018				
		Location	MW-18	MW-19	MW-20		
		Sample ID	**MW-18-070518**	**MW-19-070518**	**MW-20-070518**		
		Screen Interval	3-13 ft	3-13 ft	3-13 ft		
		Date	07/05/2018	07/05/2018	07/05/2018		
Miscellaneous Substances							
Nitrate	µg/L		750	540	390		
Nitrite	µg/L		110	100 U	100 U		
Other Chlorinated/Halogenated Pesticides							
Atrazine	µg/L		0.06 U	0.06 U	0.06 U		

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	SmithKem 2020 Groundwater Sampling for Low Level Pesticides				
		Location	MW-1	MW-2	MW-3	MW-4	MW-4
		Sample ID	**MW-1-032520**	**MW-2-032620**	**MW-3-032520**	**MW-4-032520**	**MW-104-032520**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	3-13 ft
		Date	3/25/2020	3/26/2020	3/25/2020	3/25/2020	3/25/2020
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.0015 JN	0.001 U	0.001 U	0.0029	0.003
HCH-beta (b-BHC)	µg/L		0.0083 J	0.001 U	0.001 U	0.014	0.013 J
G-BHC (Lindane)	µg/L		0.0045	0.002 U	0.002 U	0.12	0.12
Aldrin	µg/L		0.002 U	0.002 U	0.002 U	0.0057 JN	0.0059 JN
Heptachlor	µg/L		0.0019 U	0.002 U	0.002 U	0.0082 JN	0.0098 J
Heptachlor Epoxide	µg/L		0.0028 JN	0.001 U	0.001 U	0.0037	0.0044
Chlordane	µg/L		0.63	0.02 U	0.073	0.76	0.77
Dieldrin	µg/L		0.28	0.001 U	0.03	0.73	0.7
Hexachlorobenzene	µg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Toxaphene	µg/L		2.4	0.1 U	0.33	4.9	4.6

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	SmithKem 2020 Groundwater Sampling for Low Level Pesticides				
		Location	MW-5	MW-6	MW-7	MW-8	MW-9
		Sample ID	**MW-5-032520**	**MW-6-032520**	**MW-7-032520**	**MW-8-032520**	**MW-9-032520**
		Screen Interval	3-13 ft	3-13 ft	3-13 ft	3-13 ft	5-15 ft
		Date	3/25/2020	3/25/2020	3/25/2020	3/25/2020	3/25/2020
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.001 U	0.0044	0.001 U	0.001 U	0.001 U
HCH-beta (b-BHC)	µg/L		0.001 U	0.0041 J	0.001 U	0.001 U	0.001 U
G-BHC (Lindane)	µg/L		0.002 U	0.036	0.002 U	0.002 U	0.002 U
Aldrin	µg/L		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Heptachlor	µg/L		0.002 U	0.0031 U	0.002 U	0.002 U	0.002 U
Heptachlor Epoxide	µg/L		0.001 U	0.0056 JN	0.001 U	0.0004 JQ	0.001 U
Chlordane	µg/L		0.0067 JQ	1.7	0.027	0.054	0.02 U
Dieldrin	µg/L		0.0012	0.55	0.0064	0.011	0.001 U
Hexachlorobenzene	µg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Toxaphene	µg/L		0.1 U	9.6	0.11	0.13 J	0.1 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	SmithKem 2020 Groundwater Sampling for Low Level Pesticides				
		Location	MW-10	MW-11	MW-12	MW-13	MW-14
		Sample ID	**MW-10-032520**	**MW-11-032520**	**MW-12-032620**	**MW-13-032520**	**MW-14-032620**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3.5-13.5 ft	5-15 ft
		Date	3/25/2020	3/25/2020	3/26/2020	3/25/2020	3/26/2020
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
HCH-beta (b-BHC)	µg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
G-BHC (Lindane)	µg/L		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Aldrin	µg/L		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Heptachlor	µg/L		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Heptachlor Epoxide	µg/L		0.001 U	0.0012	0.00069 JQ	0.001 U	0.00046 JN
Chlordane	µg/L		0.02 U	0.33	0.13	0.02 U	0.04 J
Dieldrin	µg/L		0.001 U	0.066	0.031	0.00051 JQ	0.011
Hexachlorobenzene	µg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Toxaphene	µg/L		0.1 U	0.3	0.36	0.1 U	0.11 J

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	SmithKem 2020 Groundwater Sampling for Low Level Pesticides				
		Location	MW-15	MW-16	MW-17	MW-18	MW-19
		Sample ID	**MW-15-032520**	**MW-16-032520**	**MW-17-032520**	**MW-18-032620**	**MW-19-032620**
		Screen Interval	5-15 ft	5-15 ft	5-15 ft	3-13 ft	3-13 ft
		Date	3/25/2020	3/25/2020	3/25/2020	3/26/2020	3/26/2020
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
HCH-beta (b-BHC)	µg/L		0.001 U	0.0047	0.001 U	0.001 U	0.001 U
G-BHC (Lindane)	µg/L		0.002 U	0.0034	0.002 U	0.002 U	0.002 U
Aldrin	µg/L		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Heptachlor	µg/L		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Heptachlor Epoxide	µg/L		0.001 U	0.0019	0.001 U	0.001 U	0.001 U
Chlordane	µg/L		0.02 U	0.21	0.02 U	0.02 U	0.02 U
Dieldrin	µg/L		0.001 U	0.076	0.001 U	0.001 U	0.001 U
Hexachlorobenzene	µg/L		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Toxaphene	µg/L		0.1 U	1.2	0.1 U	0.1 U	0.1 U

Table E.2

Chemistry Data for Groundwater Monitoring Well Samples

		Event	SmithKem 2020 Groundwater Sampling for Low Level Pesticides				
		Location	MW-20				
		Sample ID	**MW-20-032620**				
		Screen Interval	3-13 ft				
		Date	3/26/2020				
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.001 U				
HCH-beta (b-BHC)	µg/L		0.001 U				
G-BHC (Lindane)	µg/L		0.002 U				
Aldrin	µg/L		0.002 U				
Heptachlor	µg/L		0.002 U				
Heptachlor Epoxide	µg/L		0.001 U				
Chlordane	µg/L		0.02 U				
Dieldrin	µg/L		0.001 U				
Hexachlorobenzene	µg/L		0.001 U				
Toxaphene	µg/L		0.1 U				

Table E.3
Chemistry Data for Temporary Groundwater Well Samples

	Event	RI Phase 2a Groundwater Sampling				
	Location	FS-22	FS-22	FS-22	FS-30	FS-30
	Sample ID	**FS-22-GW-4-6**	**FS-22-GW-0-2 (Field Duplicate)**	**FS-22-GW-9-11**	**FS-30-GW-5-7**	**FS-30-GW-13-15**
	Depth	4-6 ft	4-6 ft	9-11 ft	5-7 ft	13-15 ft
	Date	06/06/2017	06/06/2017	06/06/2017	06/08/2017	06/08/2017
Volatile Organic Compounds						
Benzene	µg/L	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L	1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L	3 U	3 U	3 U	3 U	3 U
Dissolved Metals						
Arsenic	µg/L	2.7	2.9	1 U	1 U	1.1
Cadmium	µg/L	1 U	1 U	1 U	1 U	1 U
Chromium (Total)	µg/L	1.5	1.5	1 U	1 U	1 U
Copper	µg/L	14	14	9.1	5.6	12
Lead	µg/L	1 U	1 U	1 U	1 U	1 U
Mercury	µg/L	1 U	1 U	1 U	1 U	1 U
Zinc	µg/L	9.5	37	5 U	5 U	210
Total Metals						
Arsenic	µg/L	5.4	5.7	16	1.9	23
Cadmium	µg/L	1 U	1 U	1 U	1 U	1.4 J
Chromium (Total)	µg/L	11	12	91	12	290
Copper	µg/L	23	23	53	13	170
Lead	µg/L	2	1.9	9.1	2	31
Mercury	µg/L	1 U	1 U	1 U	1 U	1 U
Zinc	µg/L	33	33	94	27	1000
Miscellaneous Substances						
Ammonia-Nitrogen	mg/L	73	75	7.2	9.2	17
Nitrate	µg/L	69000	68000	25000	31000 J	51000 J
Nitrite	µg/L	2000 U	1000 U	450 JQ	490 JQ	1000 JQ
Organochlorine Pesticides						
HCH-alpha (a-BHC)	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
HCH-beta (b-BHC)	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
HCH-delta (d-BHC)	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
G-BHC (Lindane)	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Aldrin	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Heptachlor	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Heptachlor Epoxide	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Chlordane	µg/L	3 U	3 U	0.6 U	0.6 U	0.6 UJ
Dieldrin	µg/L	0.74	0.79	0.17	0.12 U	0.12 UJ
Endrin	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Endosulfan I	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Endosulfan II	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
4,4'-DDD / Sum DDD	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
4,4'-DDE / Sum DDE	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
4,4'-DDT / Sum DDT	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Hexachlorobenzene	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Methoxychlor	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Toxaphene	µg/L	30 U	30 U	6 U	6 U	6 UJ
Chlorinated Herbicides						

Table E.3
Chemistry Data for Temporary Groundwater Well Samples

	Event	RI Phase 2a Groundwater Sampling				
	Location	FS-22	FS-22	FS-22	FS-30	FS-30
	Sample ID	**FS-22-GW-4-6**	**FS-22-GW-0-2 (Field Duplicate)**	**FS-22-GW-9-11**	**FS-30-GW-5-7**	**FS-30-GW-13-15**
	Depth	4-6 ft	4-6 ft	9-11 ft	5-7 ft	13-15 ft
	Date	06/06/2017	06/06/2017	06/06/2017	06/08/2017	06/08/2017
Chlorinated Herbicides						
2,4-D	µg/L	0.14 J	0.15 J	0.08 UJ	0.15 J	0.13 J
2,4-DB	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 UJ
2,4,5-TP (Silvex)	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 UJ
2,4,5-T	µg/L	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
Dicamba	µg/L	2.6	1.6	0.24	2.2	1.9 J
Dinoseb	µg/L	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
MCPA	µg/L	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
MCPP (Mecoprop)	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 UJ
Pentachlorophenol	µg/L	0.16 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.16 UJ
Other Chlorinated/Halogenated Pesticides						
Acetochlor	µg/L	1.5 U	1.5 U	0.3 U	0.3 U	0.3 UJ
Alachlor	µg/L	1.5 U	1.5 U	0.3 U	0.3 U	0.3 UJ
Atrazine	µg/L	1.4	1.6	0.44 J	16	1.8 J
Captafol	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Captan	µg/L	1.5 U	1.5 U	0.3 U	0.3 U	0.3 UJ
Chlordane-alpha	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Chlorbenzilate	µg/L	1.5 U	1.5 U	0.3 U	0.3 U	0.3 UJ
Chlorthalonil	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Cyanazine (Bladex)	µg/L	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 UJ
Cyhalothrin/karate	µg/L	1.5 U	1.5 U	0.3 U	0.3 U	0.3 UJ
Cypermethrin	µg/L	1.5 U	1.5 U	0.3 U	0.3 U	0.3 UJ
DCPA (Dacthal)	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Flutolanil	µg/L	6 U	6 U	1.2 U	1.2 U	1.2 UJ
Folpet	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Iprodione	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Metoachlor	µg/L	1.5 U	1.5 U	0.3 U	0.3 U	0.3 UJ
Metribuzin	µg/L	1.5	1.6	0.18 J	0.06 U	0.38 J
Norflurazon	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Oxadiazon	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Oxamyl	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Permethrin	µg/L	1.5 U	1.5 U	0.3 U	0.3 U	0.3 UJ
Pronamide	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Propachlor	µg/L	1.5 U	1.5 U	0.3 U	0.3 U	0.3 UJ
Propanil	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Propiconazole	µg/L	1.5 U	1.5 U	0.3 U	0.3 U	0.3 UJ
Simazine	µg/L	0.16	0.18	0.066 J	2.8	0.29 J
Terbacil	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Trifluralin	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Organophosphate Pesticides (Organophosphorus Compounds)						
Chlorpyrifos	µg/L	0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Chlorpyrifos-methyl	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Diazinon	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dichlorvos	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Dicrotophos	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ

Table E.3

Chemistry Data for Temporary Groundwater Well Samples

		Event	RI Phase 2a Groundwater Sampling				
		Location	FS-22	FS-22	FS-22	FS-30	FS-30
		Sample ID	**FS-22-GW-4-6**	**FS-22-GW-0-2 (Field Duplicate)**	**FS-22-GW-9-11**	**FS-30-GW-5-7**	**FS-30-GW-13-15**
		Depth	4-6 ft	4-6 ft	9-11 ft	5-7 ft	13-15 ft
		Date	06/06/2017	06/06/2017	06/06/2017	06/08/2017	06/08/2017
Organophosphate Pesticides (Organophosphorus Compounds)							
Dimethoate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Disulfoton	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
EPN	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Ethion (Ronnel)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Fonofos (Merphos)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Malathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Parathion-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phorate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Terbufos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 UJ
Hexazinone	µg/L		0.3	0.33	0.06 UJ	0.06 U	0.23 J
Prometon	µg/L		0.078	0.091	0.06 UJ	0.06 U	0.06 UJ
Prometryn	µg/L		0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 UJ
Propazine	µg/L		0.06 U	0.06 U	0.06 UJ	0.28	0.06 UJ
Phenylurea Herbicides							
Diuron	µg/L		0.98	1	0.46	0.087	0.1
Linuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbaryl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbofuran	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Methomyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Thiobencarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Organophosphorus and Organosulfur Pesticides							
Demeton	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Fenamiphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Merphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Methidathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Phosmet	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Pirimiphos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Propargite	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Tetrachlorvinphos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Organonitrogen Pesticides							
Amitraz	µg/L		0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 UJ
Diphenylamine	µg/L		0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 UJ
Fluometuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Metalaxyl	µg/L		0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 UJ
Oryzalin	µg/L					0.06 U	
Pendimethalin	µg/L		0.6 U	0.6 U	0.12 U	0.12 U	0.12 UJ
Tebuthiuron	µg/L		0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 UJ
Total Petroleum Hydrocarbons (TPH)							

Table E.3

Chemistry Data for Temporary Groundwater Well Samples

	Event	RI Phase 2a Groundwater Sampling				
	Location	FS-22	FS-22	FS-22	FS-30	FS-30
	Sample ID	**FS-22-GW-4-6**	**FS-22-GW-0-2 (Field Duplicate)**	**FS-22-GW-9-11**	**FS-30-GW-5-7**	**FS-30-GW-13-15**
	Depth	4-6 ft	4-6 ft	9-11 ft	5-7 ft	13-15 ft
	Date	06/06/2017	06/06/2017	06/06/2017	06/08/2017	06/08/2017
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH	µg/L	100 U	100 U	100 U	100 U	100 U
Diesel-Range TPH	µg/L	400	260	74	89	59
Oil-Range TPH	µg/L	250 U	250 U	250 U	250 U	250 U

Table E.3
Chemistry Data for Temporary Groundwater Well Samples

		Event	RI Phase 2a Groundwater Sampling				
		Location	FS-37	FS-38	FS-39	FS-40	
		Sample ID	**FS-37-GW-9-14**	**FS-38-GW-4.5-7**	**FS-39-GW-4.5-7**	**FS-40-GW-4.5-7**	
		Depth	9-14 ft	4.5-7 ft	4.5-7 ft	4.5-7 ft	
		Date	06/07/2017	06/07/2017	06/07/2017	06/07/2017	
Miscellaneous Substances							
Nitrate	µg/L		1200	710	240 JQ	1100	
Nitrite	µg/L		1000 U	220 JQ	500 U	220 JQ	
Organochlorine Pesticides							
HCH-alpha (a-BHC)	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
HCH-beta (b-BHC)	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
HCH-delta (d-BHC)	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
G-BHC (Lindane)	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Aldrin	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Heptachlor	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Heptachlor Epoxide	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Chlordane	µg/L		0.6 UJ	0.6 U	0.6 U	0.6 U	
Dieldrin	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Endrin	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Endosulfan I	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Endosulfan II	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
4,4'-DDD / Sum DDD	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
4,4'-DDE / Sum DDE	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
4,4'-DDT / Sum DDT	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Hexachlorobenzene	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Methoxychlor	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Toxaphene	µg/L		6 UJ	6 U	6 U	6 U	
Chlorinated Herbicides							
2,4-D	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	
2,4-DB	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	
2,4,5-TP (Silvex)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	
2,4,5-T	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	
Dicamba	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	
Dinoseb	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	
MCPA	µg/L		0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	
MCPP (Mecoprop)	µg/L		0.08 U	0.08 U	0.08 U	0.08 U	
Pentachlorophenol	µg/L		0.16 UJ	0.16 UJ	0.16 UJ	0.16 UJ	
Other Chlorinated/Halogenated Pesticides							
Acetochlor	µg/L		0.3 UJ	0.3 U	0.3 U	0.3 U	
Alachlor	µg/L		0.3 UJ	0.3 U	0.3 U	0.3 U	
Atrazine	µg/L		0.06 UJ	0.06 UJ	0.06 U	0.06 U	
Captafol	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Captan	µg/L		0.3 UJ	0.3 U	0.3 U	0.3 U	
Chlordane-alpha	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Chlorbenzilate	µg/L		0.3 UJ	0.3 U	0.3 U	0.3 U	
Chlorthalonil	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Cyanazine (Bladex)	µg/L		0.12 UJ	0.12 UJ	0.12 U	0.12 U	
Cyhalothrin/karate	µg/L		0.3 UJ	0.3 U	0.3 U	0.3 U	
Cypermethrin	µg/L		0.3 UJ	0.3 U	0.3 U	0.3 U	
DCPA (Dacthal)	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	

Table E.3
Chemistry Data for Temporary Groundwater Well Samples

		Event	RI Phase 2a Groundwater Sampling				
		Location	FS-37	FS-38	FS-39	FS-40	
		Sample ID	**FS-37-GW-9-14**	**FS-38-GW-4.5-7**	**FS-39-GW-4.5-7**	**FS-40-GW-4.5-7**	
		Depth	9-14 ft	4.5-7 ft	4.5-7 ft	4.5-7 ft	
		Date	06/07/2017	06/07/2017	06/07/2017	06/07/2017	
Other Chlorinated/Halogenated Pesticides							
Flutolanil	µg/L		1.2 UJ	1.2 U	1.2 U	1.2 U	
Folpet	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Iprodione	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Metoachlor	µg/L		0.3 UJ	0.3 U	0.3 U	0.3 U	
Metribuzin	µg/L		0.06 UJ	0.06 UJ	0.06 U	0.06 U	
Norflurazon	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Oxadiazon	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Oxamyl	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	
Permethrin	µg/L		0.3 UJ	0.3 U	0.3 U	0.3 U	
Pronamide	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Propachlor	µg/L		0.3 UJ	0.3 U	0.3 U	0.3 U	
Propanil	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Propiconazole	µg/L		0.3 UJ	0.3 U	0.3 U	0.3 U	
Simazine	µg/L		0.06 UJ	0.06 UJ	0.06 U	0.06 U	
Terbacil	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Trifluralin	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Organophosphate Pesticides (Organophosphorus Compounds)							
Chlorpyrifos	µg/L		0.12 UJ	0.12 U	0.12 U	0.12 U	
Chlorpyrifos-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Diazinon	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Dichlorvos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Dicrotophos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Dimethoate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Disulfoton	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
EPN	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Ethion (Ronnel)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Fonofos (Merphos)	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Malathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Parathion	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Parathion-methyl	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Phorate	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Terbufos	µg/L		0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Triazine Herbicides (Organonitrogen Pesticides)							
Ametryn	µg/L		0.06 UJ	0.06 UJ	0.06 U	0.06 U	
Hexazinone	µg/L		0.06 UJ	0.06 UJ	0.06 U	0.06 U	
Prometon	µg/L		0.07 J	0.061 J	0.06 U	0.1	
Prometryn	µg/L		0.06 UJ	0.06 UJ	0.06 U	0.06 U	
Propazine	µg/L		0.06 UJ	0.06 UJ	0.06 U	0.06 U	
Phenylurea Herbicides							
Diuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	
Linuron	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	
Carbamate Pesticides							
Aldicarb	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	
Aldicarb sulfone	µg/L		0.06 U	0.06 U	0.06 U	0.06 U	

Table E.3
Chemistry Data for Temporary Groundwater Well Samples

	Event	RI Phase 2a Groundwater Sampling				
	Location	FS-37	FS-38	FS-39	FS-40	
	Sample ID	**FS-37-GW-9-14**	**FS-38-GW-4.5-7**	**FS-39-GW-4.5-7**	**FS-40-GW-4.5-7**	
	Depth	9-14 ft	4.5-7 ft	4.5-7 ft	4.5-7 ft	
	Date	06/07/2017	06/07/2017	06/07/2017	06/07/2017	
Carbamate Pesticides						
Carbaryl	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	
Carbofuran	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	
Methomyl	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	
Thiobencarb	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	
Organophosphorus and Organosulfur Pesticides						
Demeton	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Fenamiphos	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Merphos	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Methidathion	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Phosmet	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Pirimiphos-methyl	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Propargite	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	
Tetrachlorvinphos	µg/L	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	
Organonitrogen Pesticides						
Amitraz	µg/L	0.12 UJ	0.12 UJ	0.12 U	0.12 U	
Diphenylamine	µg/L	0.06 UJ	0.06 UJ	0.06 U	0.06 U	
Fluometuron	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	
Metalaxyl	µg/L	0.06 UJ	0.06 UJ	0.06 U	0.06 U	
Pendimethalin	µg/L	0.12 UJ	0.12 U	0.12 U	0.12 U	
Tebuthiuron	µg/L	0.12 UJ	0.12 UJ	0.12 U	0.12 U	

Table E.4

Chemistry Data for Air Monitoring Samples

Event		SmithKem 2019 Air Sampling for Vapor Intrusion Assessment				
Location		AA-041619	CS-041619	IA-041619		
Sample ID		**AA-041619**	**CS-041619**	**IA-041619**		
Screen Interval						
Date		4/16/2019	4/16/2019	4/16/2019		
Volatile Organic Compounds						
Benzene	µg/m³	0.32	0.32 U	0.45		
Toluene	µg/m³	0.95	0.65	3.5		
Ethylbenzene	µg/m³	0.43 U	0.43 U	0.49		
Xylenes	µg/m³	0.87 U	1 U	0		
Naphthalene	µg/m³	0.26 U	0.26 U	0.27		
Air-Phase Petroleum Hydrocarbons						
APH aliphatic C5-8	µg/m³	58	46 U	70		
APH aliphatic C9-12	µg/m³	35 U	35 U	310		
APH aromatic C9-10	µg/m³	25 U	25 U	25 U		

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix F
Data Validation Reports

Table F.1
Analytical Schedules

Analytical Schedule for Remedial Investigation Phase 1 (2016)

				Methods										
				Diesel	Gasoline	BTEX	VOCs	SVOCS	Napthalene & PAH	Select Metals	BTEX	VOCs	Nitrate/Nitrite
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Dx	NWTPH-Gx	8260C	8260C	8270D	8270D-SIM	200.8/1631E	8260 DS	8260 DS	Amtest
FB608046	MW-13-0-0.5	608046-01	Soil	X	X	X				X			
FB608046	MW-13-1-2	608046-02	Soil	X	X	X				X			X
FB608046	MW-13-3.5-4.5	608046-03	Soil	X	X	X				X			
FB608046	MW-13-5-6	608046-04	Soil	HOLD									
FB608046	MW-12-0-0.5	608046-05	Soil	X	X	X				X			
FB608046	MW-12-1.5-2	608046-06	Soil	X	X		X	X		X	X		X
FB608046	MW-12-5-6	608046-07	Soil	X	X				X	X	X	X	
FB608046	MW-12-7-8	608046-08	Soil	X	X	X			X			X	
FB608046	MW-14-0-0.5	608046-09	Soil	X	X	X				X			X
FB608046	MW-14-2-3	608046-10	Soil	X	X	X				X			
FB608046	MW-14-4-5	608046-11	Soil	X	X	X				X			
FB608046	MW-14-0-7	608046-12	Soil	HOLD									
FB608046	MW-9-0.5-1	608046-13	Soil	X	X	X				X			
FB608046	MW-9-4-5	608046-14	Soil	X	X	X				X			X
FB608046	MW-9-7-8	608046-15	Soil	X	X	X				X			
FB608046	MW-D1-7-8	608046-16	Soil	X	X	X				X			
FB608046	MW-9-10-11	608046-17	Soil	HOLD									
FB608046	SB-1-0.5-1	608046-18	Soil	X	X	X				X			
FB608046	SB-1-2-3	608046-19	Soil	X	X	X				X			X
FB608046	SB-1-7-8	608046-20	Soil	X	X	X				X			
FB608046	SB-1-8-10	608046-21	Soil	HOLD									
FB608046	MW-10-0-0.5	608046-22	Soil	X	X	X				X			
FB608046	MW-10-1.5-2.5	608046-23	Soil	X	X	X				X			X
FB608046	MW-10-4-5	608046-24	Soil	X	X	X				X			
FB608046	MW-10-5-6	608046-25	Soil	HOLD									
FB608046	MW-11-0-0.5	608046-26	Soil	X	X	X				X			
FB608046	MW-11-1.5-2	608046-27	Soil	X	X	X	X			X			X
FB608046	MW-11-7.5-8	608046-28	Soil	X	X	X	X	X		X			
FB608046	MW-11-9-10	608046-29	Soil	X	X	X	X		X			X	
FB608046	SB-2-0.5-1	608046-30	Soil	X	X	X				X			
FB608046	SB-2-2.5-3.5	608046-31	Soil	X	X	X				X			X
FB608046	SB-2-4-5	608046-32	Soil	X	X	X				X			
FB608046	SB-2-7-8	608046-33	Soil	HOLD									
FB608046	Trip Blank	608046-34	QCW		X	X							
FB608112	SB-3-0.5-1	608112-01	Soil	X	X		X			X	X		X
FB608112	SB-3-2.5-3.5	608112-02	Soil	X	X		X			X	X		X
FB608112	SB-3-5.5-6.5	608112-03	Soil	X	X		X			X	X		X
FB608112	SB-3-7.0-8.0	608112-04	Soil	HOLD									
FB608112	SB-3-9.5-10	608112-05	Soil	HOLD									
FB608112	SB-4-0.5-1	608112-06	Soil	X	X	X				X			
FB608112	SB-4-3-4	608112-07	Soil	X	X	X				X			X
FB608112	SB-4-7-8	608112-08	Soil	X	X	X				X			
FB608112	SB-4-9-10	608112-09	Soil	HOLD									
FB608112	SB-5-0.5-1	608112-10	Soil	X	X	X				X			
FB608112	SB-5-3-4	608112-11	Soil	X	X	X	X			X			
FB608112	SB-5-5-6	608112-12	Soil	X	X	X				X			
FB608112	SB-5-6.5-7.5	608112-13	Soil	HOLD									
FB608112	SB-6D-0-0.5	608112-14	Soil	X	X	X				X			
FB608112	SB-6-0-0.5	608112-15	Soil	X	X	X				X			
FB608112	SB-6-2-3	608112-16	Soil	X	X	X	X	X	X	X			X
FB608112	SB-6-7-8	608112-17	Soil	HOLD									
FB608112	SB-6-5-6	608112-18	Soil	X	X	X				X			
FB608112	SB-7-0.5-1	608112-19	Soil	X	X	X				X			
FB608112	SB-7-3-4	608112-20	Soil	X	X	X				X			X
FB608112	SB-7-7.5-8.5	608112-21	Soil	HOLD									

Table F.1
Analytical Schedules

Analytical Schedule for Remedial Investigation Phase 1 (2016) (cont.)

				Methods									
				Diesel	Gasoline	BTEX	VOCs	SVOCS	Napthalene & PAH	Select Metals	BTEX	VOCs	Nitrate/Nitrite
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Dx	NWTPH-Gx	8260C	8260C	8270D	8270D-SIM	200.8/1631E	8260 DS	8260 DS	Amtest
FB608112	SB-7-4-5	608112-22	Soil	X	X	X				X			
FB608112	SB-8-0.5-1	608112-23	Soil	X	X	X				X			
FB608112	SB-8-3-4	608112-24	Soil	X	X	X				X			X
FB608112	SB-8-4-5	608112-25	Soil	X	X	X				X			
FB608112	SB-8-5-6	608112-26	Soil	HOLD									
FB608112	SB-9-0.5-1	608112-27	Soil	X	X	X				X			
FB608112	SB-9-3-4	608112-28	Soil	X	X	X				X			X
FB608112	SB-9-4-5	608112-29	Soil	X	X	X				X			
FB608112	SB-9-6-7	608112-30	Soil	HOLD									
FB608112	SB-10-0.5-1	608112-31	Soil	X	X	X				X			
FB608112	SB-10-2-3	608112-32	Soil	X	X				X	X	X		X
FB608112	SB-10-9-10	608112-33	Soil	X	X					X	X	X	X
FB608112	SB-11-0.5-1	608112-34	Soil	X	X	X				X			
FB608112	SB-11D-3-4	608112-35	Soil	X	X	X				X			
FB608112	SB-11-3-4	608112-36	Soil	X	X	X				X			
FB608112	SB-11-11.5-12.5	608112-37	Soil	X	X				X	X	X	X	
FB608112	SB-11-15-16	608112-38	Soil	X	X	X				X			
FB608112	SB-11-19-20	608112-39	Soil	X	X	X				X			
FB608112	SB-12-0.5-1	608112-40	Soil	X	X	X				X			
FB608112	SB-12-3-4	608112-41	Soil	X	X	X				X			X
FB608112	SB-12-4-5	608112-42	Soil		X	X							
FB608112	SB-12-7.5-8.5	608112-43	Soil	HOLD									
FB608112	SB-13-0.5-1	608112-44	Soil	X	X	X				X			
FB608112	SB-13-3-4	608112-45	Soil	X	X	X				X			X
FB608112	SB-13-4-5	608112-46	Soil	X	X	X							
FB608112	SB-13-6-7	608112-47	Soil	X	X				X	X	X	X	
FB608112	SB-13-13-14	608112-48	Soil	X	X	X				X			
FB608112	SB-14-0.5-1	608112-49	Soil	X	X	X				X			
FB608112	SB-14-4-5	608112-50	Soil	X	X	X				X			X
FB608112	SB-14-5-6	608112-51	Soil	X	X	X				X			
FB608112	SB-14-7.5-8.5	608112-52	Soil	HOLD									
FB608112	SB-15-0.5-1	608112-53	Soil	X	X	X				X			
FB608112	SB-15D-3-4	608112-54	Soil	X	X	X				X			X
FB608112	SB-15-3-4	608112-55	Soil	X	X	X				X			X
FB608112	SB-15-4-5	608112-56	Soil	X	X	X				X			
FB608112	SB-15-8-9	608112-57	Soil	HOLD									
FB608112	SB-16-0.5-1	608112-58	Soil	X	X	X				X			
FB608112	SB-16-3-4	608112-59	Soil	X	X	X				X			X
FB608112	SB-16-5-6	608112-60	Soil	X	X	X				X			
FB608112	SB-16-9-10	608112-61	Soil	X	X					X	X		
FB608112	SB-16-14-16	608112-62	Soil	HOLD									
FB608112	Rinsate-1	608112-63	QCW		X	X				X			
FB608112	Trip Blank 1	608112-64	QCW		X	X							
FB608112	Trip Blank 2	608112-65	QCW		X	X							
FB608112	Trip Blank 3	608112-66	QCW		X	X							
FB608112	Trip Blank 4	608112-67	QCW		X	X							
FB608112	Cultert-1	608112-68	Soil	X	X	X				X			X

Issue:		Resolution:
X	BTEX was run by 8021B	Okay
X	This request appears redundant, as BTEX is already in the extended VOC list	Okay
X	This sample only has Napthalene plus cPAHs - not the full PAH list reported for the other samples	Okay
X	No full list results for VOCs for these samples	Lab did run extended for MW-11-1.5-2 & MW-11-7.5-8 and will send results. MW-11-9-10 was marked by lab by accident, not to be analyzed for full list.

Table F.1
Analytical Schedules

Analytical Schedule for August 2016 Quarterly Groundwater Sampling Event

				Methods								
				Diesel	Gasoline	BTEX	VOCs	Total Metals	Dissolved Metals	Nitrate/Nitrite	Ammonia	EDB
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Dx	NWTPH-Gx	8260C	8260C	200.8	200.8	300.0	350.1	8011M
FB608126	MW-09-081016	608126-01	GW	X	X	X		X		X	X	
FB608126	MW-04-081016	608126-02	GW	X	X	X	X	X	X	X	X	X
FB608126	MW-07-081016	608126-03	GW	X	X	X		X	X	X	X	
FB608126	MW-07D-081016	608126-04	GW	X	X	X		X	X	X	X	
FB608126	MW-08-081016	608126-05	GW	X	X	X		X		X	X	
FB608126	MW-06-081016	608126-06	GW	X	X	X		X	X	X	X	
FB608126	MW-05-081016	608126-07	GW	X	X	X		X		X	X	
FB608126	MW-13-081016	608126-08	GW	X	X	X		X		X	X	
FB608126	MW-11-081016	608126-09	GW	X	X	X		X		X	X	
FB608126	MW-14-081016	608126-10	GW	X	X	X		X		X	X	
FB608126	MW-2-081116	608126-11	GW	X	X	X		X		X	X	
FB608126	MW-12-081116	608126-12	GW	X	X	X		X		X	X	
FB608126	MW-10-081116	608126-13	GW	X	X	X		X	X	X	X	
FB608126	MW-3-081116	608126-14	GW	X	X	X		X	X	X	X	
FB608126	Trip Blank-1	608126-15	QCW		X	X						
FB608126	Trip Blank-2	608126-16	QCW		X	X						
FB608126	Trip Blank-4	608126-17	QCW		X	X						
FB608126	MW-01-081016	608126-18	GW	X	X	X		X	X	X	X	

Table F.1
Analytical Schedules

Analytical Schedule for November 2016 Quarterly Groundwater Sampling Event

				Methods						
				Diesel/Oil	Gasoline	BTEX	Metals, Total	Metals, Dissolved	Nitriate/Nitrite	Ammonia
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Dx	NWTPH-Gx	8260C	200.8	200.8	353.2	350.1
FB611197	MW-7-110916	61197-01	GW	X	X	X	X		X	X
FB611197	MW-8-110916	61197-02	GW	X	X	X	X		X	X
FB611197	MW-11-110916	61197-03	GW	X	X	X	X		X	X
FB611197	MW-5-110916	61197-04	GW	X	X	X	X		X	X
FB611197	MW-5D-110916	61197-05	GW	X	X	X	X		X	X
FB611197	MW-4-110916	61197-06	GW	X	X	X	X	X	X	X
FB611197	MW-3-110916	61197-07	GW	X	X	X	X		X	X
FB611197	MW-9-110916	61197-08	GW	X	X	X	X	X	X	X
FB611197	MW-10-110916	61197-09	GW	X	X	X	X		X	X
FB611197	MW-12-111016	61197-10	GW	X	X	X	X	X	X	X
FB611197	MW-6-111016	61197-11	GW	X	X	X	X		X	X
FB611197	MW-14-111016	61197-12	GW	X	X	X	X		X	X
FB611197	MW-2-111016	61197-13	GW				X		X	X
FB611197	MW-13-111016	61197-14	GW	X	X	X	X	X	X	X
FB611197	Trip Blank-1	61197-15	QCW		X	X				
FB611197	Trip Blank-2	61197-16	QCW		X	X				
FB611197	Trip Blank-3	61197-17	QCW		X	X				
FB611197	MW-1-111016	61197-18	GW	X	X	X	X	X	X	X
FB611197	SK-IDW-Slurry	61197-19	Water/Sed							

Table F.1
Analytical Schedules

Analytical Schedule for February 2017 Quarterly Groundwater Sampling

				Methods						
				Gasoline	Diesel	Nitrate/Nitrite	Ammonia	BTEX	Total Metals	Diss Metals
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Gx	NWTPH-Dx	EPA 300.0	350.1	8260	200.8	200.8
FB702438/E-514	MW-10-022717	702438-01/17-A002719	GW	X	X	X	X	X	X	
FB702438/E-514	MW-03-022717	702438-02/17-A002720	GW	X	X	X	X	X	X	X
FB702438/E-514	MW-14-022717	702438-03/17-A002721	GW	X	X	X	X	X	X	
FB702438/E-514	MW-04-022717	702438-04/17-A002722	GW	X	X	X	X	X	X	X
FB702438/E-514	MW-01-022717	702438-05/17-A002723	GW	X	X	X	X	X	X	
FB702438/E-514	MW-06-022717	702438-06/17-A002724	GW	X	X	X	X	X	X	
FB702438/E-514	MW-01X-022717	702438-07/17-A002725	GW	X	X	X	X	X	X	
FB702438/E-514	MW-02-022817	702438-08/17-A002726	GW	X	X	X	X	X	X	
FB702438/E-514	MW-12-022817	702438-09/17-A002727	GW	X	X	X	X	X	X	
FB702438/E-514	MW-08-022817	702438-10/17-A002728	GW	X	X	X	X	X	X	
FB702438/E-514	MW-07-022817	702438-11/17-A002729	GW	X	X	X	X	X	X	X
FB702438/E-514	MW-05-022817	702438-12/17-A002730	GW	X	X	X	X	X	X	
FB702438/E-514	MW-11-022817	702438-13/17-A002731	GW	X	X	X	X	X	X	
FB702438/E-514	MW-13-022817	702438-14/17-A002732	GW	X	X	X	X	X	X	X
FB702438/E-514	MW-09-022817	702438-15/17-A002733	GW	X	X	X	X	X	X	

Table F.1
Analytical Schedules

Analytical Schedule for May 2017 Quarterly Groundwater Sampling

				Methods						
				Diesel	Gasoline	BTEX	Total Metals	Dissolved Metals	Ammonia	Nitrate/Nitrite
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Dx	NWTPH-Gx	8260C	200.8	200.8	SM4500NH3E	EPA 300.0
FB705341/FA1705240	MW-06-051717	705341-01/1705240-001	GW	X	X	X	X		X	X
FB705341/FA1705240	MW-03-051717	705341-02/1705240-002	GW	X	X	X	X		X	X
FB705341/FA1705240	MW-01-05717	705341-03/1705240-003	GW	X	X	X	X	X	X	X
FB705341/FA1705240	MW-04-051717	705341-04/1705240-004	GW	X	X	X	X		X	X
FB705341/FA1705240	MW-09-051717	705341-05/1705240-005	GW	X	X	X	X	X	X	X
FB705341/FA1705240	MW-07-051717	705341-06/1705240-006	GW	X	X	X	X	X	X	X
FB705341/FA1705240	MW-11X-051717	705341-07/1750240-007	GW	X	X	X	X	X	X	X
FB705341/FA1705240	MW-11-051717	705341-08/1750240-008	GW	X	X	X	X	X	X	X
FB705341/FA1705240	MW-08-051717	705341-09/1705240-009	GW	X	X	X	X		X	X
FB705341/FA1705240	MW-05-051717	705341-10/1705240-010	GW	X	X	X	X	X	X	X
FB705341/FA1705240	MW-14-051817	705341-11/1705240-011	GW	X	X	X	X		X	X
FB705341/FA1705240	MW-12-051817	705341-12/1705240-012	GW	X	X	X	X	X	X	X
FB705341/FA1705240	MW-02-051817	705341-13/1705240-013	GW	X	X	X	X		X	X
FB705341/FA1705240	MW-10-051817	705341-14/1705240-014	GW	X	X	X	X	X	X	X
FB705341/FA1705240	MW-13-051817	705341-15/1705240-015	GW	X	X	X	X		X	X

Table F.1
Analytical Schedules

Analytical Schedule for Remedial Investigation Phase 2A (2017)

				Methods						
				Diesel	Nitrate/Nitrite	Conventionals	Gasoline	BTEX	Metals	Ammonia
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Dx			NWTPH-Gx	8021B		
FB706128	FS-27-0.5-1	706128-01	Soil	X						
FB706128/FA1706091	FS-27-3-4	706128-02/1706091-001	Soil	X	X					
FB706128	FS-27-4-5	706128-03	Soil	X						
FB706128	FS-27-7.5-8.0	706128-04	Soil	X						
FB706128	FS-27-9.5-10.0	706128-05	Soil	X						
FB706128	FS-28-0.5-1	706128-06	Soil	X						
FB706128/FA1706091	FS-28-3-4	706128-07/1706091-002	Soil	X	X					
FB706128	FS-28-5-5.5	706128-08	Soil	X						
FB706128	FS-28-7.0-8.0	706128-09	Soil	X						
FB706128	FS-28-12-13	706128-10	Soil	Archived						
FB706128	FS-23-0.5-1.0	706128-11	Soil	X						
FB706128/FA1706091	FS-23-4-5	706128-12/1706091-003	Soil	X	X					
FB706128	FS-23-5-6	706128-13	Soil	X						
FB706128	FS-23-6-7	706128-14	Soil	X						
FB706128	FS-23-8-9	706128-15	Soil	Archived						
FB706128/FA1706091	FS-19-1-5	706128-16/1706091-004	Soil			X				
FB706128/FA1706091	FS-19-2.5-3.5	706128-17/1706091-015	Soil	X						
FB706128/FA1706091	FS-19-5-7.5	706128-18/1706091-005	Soil			X				
FB706128/FA1706091	FS-20-3-4	706128-19/1706091-006	Soil	X	X					
FB706128/FA1706091	FS-X1-3-4	706128-20/1706091-007	Soil	X	X					
FB706128/FA1706091	FS-22-3-4	706128-21/1706091-008	Soil		X					
FB706128/FA1706091	FS-22-GW-0-2	706128-22/1706091-009	GW	X	X		X	X	X	X
FB706128/FA1706091	FS-22-GW-4-6	706128-23/1706091-010	GW	X	X		X	X	X	X
FB706128/FA1706091	FS-22-GW-9-11	706128-24/1706091-011	GW	X	X		X	X	X	X
FB706128/FA1706091	FS-38-GW-4.5-7	706128-25/1706091-012	GW		X					
FB706128/FA1706091	FS-39-GW-4.5-7	706128-26/1706091-013	GW		X					
FB706128/FA1706091	FS-40-GW-4.5-7	706128-27/1706091-014	GW		X					
FB706128	SK-10W-1	706128-28	GW(?)	Archived						
FB706174/FA1706122	FS-37-GW-9-14	706174-01/1706122-001	GW		X					
FB706174/FA1706122	FS-18-2-3	706174-02/1706122-002	Soil		X					
FB706174/FA1706122	FS-2X-2-3	706174-03/1706122-003	Soil		X					
FB706174/FA1706122	FS-17-2.5-3.5	706174-04/1706122-004	Soil		X					
FB706174/FA1706122	FS-21-2-3	706174-05/1706122-005	Soil		X					
FB706174/FA1706122	FS-30-2-3	706174-06/1706122-006	Soil		X					
FB706174/FA1706122	FS-31-2-3	706174-07/1706122-007	Soil		X					
FB706174/FA1706122	FS-X3-2-3	706174-08/1706122-008	Soil		X					
FB706174/FA1706122	FS-31-3-5	706174-09/1706122-009	Soil	X		X				
FB706174/FA1706122	FS-29-1-2	706174-10/1706122-010	Soil		X					
FB706174	FS-31-9-10	706174-11	Soil	Archived						
FB706174/FA1706122	FS-31-9-12	706174-12/1706122-011	Soil			X				

Table F.1
Analytical Schedules

Analytical Schedule for Remedial Investigation Phase 2A (2017) (cont.)

				Methods						
				Diesel	Nitrate/Nitrite	Conventionals	Gasoline	BTEX	Metals	Ammonia
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Dx			NWTPH-Gx	8021B		
FB706174/FA1706122	FS-24-2-3	706174-13/1706122-012	Soil		X					
FB706174/FA1706122	FS-25-1.5-2	706174-14/1706122-013	Soil		X					
FB706174/FA1706122	FS-25-1-3	706174-15/1706122-014	Soil			X				
FB706174/FA1706122	FS-25-3-5	706174-16/1706122-015	Soil			X				
FB706174/FA1706122	FS-33-2-3	706174-17/1706122-016	Soil		X					
FB706174/FA1706122	FS-33-2-4	706174-18/1706122-017	Soil			X				
FB706174/FA1706122	FS-33-6-8	706174-19/1706122-018	Soil			X				
FB706174/FA1706122	FS-35-2-3	706174-20/1706122-019	Soil		X					
FB706174/FA1706122	FS-32-2-3	706174-21/1706122-020	Soil		X					
FB706174/FA1706122	FS-X5-2-3	706174-22/1706122-021	Soil		X					
FB706174/FA1706122	Surface-1-0.5-1	706174-23/1706122-022	Soil	X	X				X	
FB706174/FA1706122	FS-30-GW-5-7	706174-24/1706122-023	GW	X	X		X	X	X	X
FB706174/FA1706122	FS-30-GW-13-15	706174-25/1706122-024	GW	X	X		X	X	X	X
FB706174	Trip Blank	706174-26	QCW							
FB706174	FS-31-8-9	706174-27	Soil	X						

Table F.1
Analytical Schedules

Analytical Schedule for August 2018 Quarterly Groundwater Sampling

				Methods															
				Gasoline	Diesel & MO	Dissolved Metals	Total Metals	VOCs	Dissolved Gasses	Ferrous Iron	TDS	Alkalinity	Nitrate/ Nitrite	Sulfate	Sulfite	DOC	Ammonia	Select Total Metals	Anions
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Gx	NWTPH-Dx	EPA 200.8	EPA 200.8	EPA 8260C	RSK 175	SM3500-FeB	SM2540C	SM2320B	EPA 300.0	EPA 300.0		SM5310C	SM4500 NH3E	EPA 200.8	
FB708541	MW-01-082917	708541-01	GW	X	X	X	X	X											
FB708541	MW-06-082917	708541-02	GW	X	X		X	X											
FB708541	MW-X-082917	708541-03	GW	X	X		X	X											
FB708541	MW-11-082917	708541-04	GW	X	X		X	X											
FB708541	MW-05-082917	708541-05	GW	X	X		X	X											
FB708541	MW-07-082917	708541-06	GW	X	X		X	X											
FB708541	MW-04-082917	708541-07	GW	X	X	X	X	X	X										
FB708541	MW-08-082917	708541-08	GW	X	X		X	X											
FB708541	MW-03-082917	708541-09	GW	X	X		X	X											
FB708541	MW-09-082917	708541-10	GW	X	X	X	X	X	X										
FB708541	MW-02-083017	708541-11	GW	X	X		X	X											
FB708541	MW-10-083017	708541-12	GW	X	X		X	X											
FB708541	MW-12-083017	708541-13	GW	X	X	X	X	X	X										
FB708541	MW-14-083017	708541-14	GW	X	X	X	X	X	X										
FB708541	MW-13-083017	708541-15	GW	X	X		X	X											
FB708541	Trip Blank	708541-16	QCW	X	X			X											
FA1708387	MW-01-082917	1708387-001	GW										X				X		
FA1708387	MW-06-082917	1708387-002	GW										X				X		
FA1708387	MW-X-082917	1708387-003	GW										X				X		
FA1708387	MW-11-082917	1708387-004	GW										X				X		
FA1708387	MW-05-082917	1708387-005	GW										X				X		
FA1708387	MW-07-082917	1708387-006	GW										X				X		
FA1708387	MW-04-082917	1708387-007	GW							X	X	X	X	X	X	X	X	X	X
FA1708387	MW-08-082917	1708387-008	GW										X				X		
FA1708387	MW-03-082917	1708387-009	GW										X				X		
FA1708387	MW-09-082917	1708387-010	GW							X	X	X	X	X	X	X	X	X	X
FA1708387	MW-02-083017	1708387-011	GW										X				X		
FA1708387	MW-10-083017	1708387-012	GW										X				X		
FA1708387	MW-12-083017	1708387-013	GW							X	X	X	X	X	X	X	X	X	
FA1708387	MW-14-083017	1708387-014	GW							X	X	X	X	X	X	X	X	X	X
FA1708387	MW-13-083017	1708387-015	GW										X				X		
FA1708387	Trip Blank	1708387-016	QCW																

Table F.1
Analytical Schedules

Analytical Schedule for November 2017 Quarterly Groundwater Sampling

				Methods			
				Diesel & MO	Dissolved Metals	Total Metals	Nitrate/ Nitrite
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Dx	EPA 200.8	EPA 200.8	EPA 300.0
FB711488	MW-01-112817	711448-01	GW	X			
FB711488	MW-03-112817	711448-02	GW	X			
FB711488	MW-06-112817	711448-03	GW	X			
FB711488	MW-07-112817	711448-04	GW	X			
FB711488	MW-04-112817	711448-05	GW	X	X	X	
FB711488	MW-X-112817	711448-06	GW	X			
FB711488	MW-05-112817	711448-07	GW	X			
FB711488	MW-08-112817	711448-08	GW	X			
FB711488	MW-11-112817	711448-09	GW	X			
FB711488	MW-12-112817	711448-10	GW	X			
FB711488	MW-14-112817	711448-11	GW	X			
FA1711431	MW-01-112817	1711431-001	GW				X
FA1711431	MW-03-112817	1711431-002	GW				X
FA1711431	MW-06-112817	1711431-003	GW				X
FA1711431	MW-07-112817	1711431-004	GW				X
FA1711431	MW-04-112817	1711431-005	GW				X
FA1711431	MW-X-112817	1711431-006	GW				X
FA1711431	MW-05-112817	1711431-007	GW				X
FA1711431	MW-08-112817	1711431-008	GW				X
FA1711431	MW-11-112817	1711431-009	GW				X
FA1711431	MW-12-112817	1711431-010	GW				X
FA1711431	MW-14-112817	1711431-011	GW				X

Table F.1
Analytical Schedules

Analytical Schedule for March 2018 Quarterly Groundwater Sampling

				Methods		
				TPH	Arsenic	Nitrate/Nitrite
SDG	Sample ID	Internal Lab ID	Matrix	NWTPH-Dx	EPA 200.8	EPA 300.0
FB803079	MW-09-030518	803079 -01	GW	X		
FB803079	MW-14-030518	803079 -02	GW	X		
FB803079	MW-X-030518	803079 -03	GW	X		
FB803079	MW-07-030518	803079 -04	GW	X		
FB803079	MW-12-030518	803079 -05	GW	X		
FB803079	MW-08-030518	803079 -06	GW	X		
FB803079	MW-11-030518	803079 -07	GW	X		
FB803079	MW-06-030518	803079 -08	GW	X		
FB803079	MW-05-030518	803079 -09	GW	X		
FB803079	MW-13-030518	803079 -10	GW	X		
FB803079	MW-01-030518	803079 -11	GW	X		
FB803079	MW-03-030518	803079 -12	GW	X		
FB803079	MW-04-030518	803079 -13	GW	X	X	
FB803079	MW-10-030518	803079 -14	GW	X		
FB803079	MW-02-030518	803079 -15	GW	X		
FA1803047	MW-09-030518	1803047-001	GW			X
FA1803047	MW-14-030518	1803047-002	GW			X
FA1803047	MW-X-030518	1803047-003	GW			X
FA1803047	MW-07-030518	1803047-004	GW			X
FA1803047	MW-12-030518	1803047-005	GW			X
FA1803047	MW-08-030518	1803047-006	GW			X
FA1803047	MW-11-030518	1803047-007	GW			X
FA1803047	MW-06-030518	1803047-008	GW			X
FA1803047	MW-05-030518	1803047-009	GW			X
FA1803047	MW-13-030518	1803047-010	GW			X
FA1803047	MW-01-030518	1803047-011	GW			X
FA1803047	MW-03-030518	1803047-012	GW			X
FA1803047	MW-04-030518	1803047-013	GW			X
FA1803047	MW-10-030518	1803047-014	GW			X
FA1803047	MW-02-030518	1803047-015	GW			X

Table F.1
Analytical Schedules

Analytical Schedule for Phase 2B (2018) and June/July 2018 Quarterly Groundwater Sampling

				Methods				
				Nitrite	Diesel & MO	Arsenic	Gasoline	Ammonia
SDG	Sample ID	Internal Lab ID	Matrix	EPA 300.0	NWTPH-Dx	EPA 200.8	NWTPH-Gx	SM4500NH3G
FA1806252	MW-4-062018	1806252-001	GW	X				
FA1806252	MW-7-062018	1806252-002	GW	X				
FA1806252	MW-8-062018	1806252-003	GW	X				
FA1806252	MW-X-062018	1806252-004	GW	X				
FA1806252	MW-6-062018	1806252-005	GW	X				
FA1806275	MW-1-062018	1806275-001	GW	X				
FA1806275	MW-12-062018	1806275-002	GW	X				
FA1806275	MW-14-062018	1806275-003	GW	X				
FA1806275	MW-11-062018	1806275-004	GW	X				
FA1806275	MW-05-062018	1806275-005	GW	X				
FA1806275	MW-03-062018	1806275-006	GW	X				
FA1806288	MW-15-3-4	1806288-001	Soil	X				
FA1806288	MW-16-3-4	1806288-002	Soil	X				
FA1806288	MW-17-3.5-4	1806288-003	Soil	X				
FA1806288	FS-26-2.5-3.5	1806288-004	Soil	X				
FA1806288	FS-34-2-3	1806288-005	Soil	X				
FA1806288	FS-XX-2.5-3.5	1806288-006	Soil	X				
FA1807064	MW-15-070518	1807064-001	GW	X				X
FA1807064	MW-16-070518	1807064-002	GW	X				X
FA1807064	MW-17-070518	1807064-003	GW	X				X
FA1807064	MW-18-070518	1807064-004	GW	X				
FA1807064	MW-19-070518	1807064-005	GW	X				
FA1807064	MW-20-070518	1807064-006	GW	X				
FA1807064	MW-X-070518	1807064-007	GW	X				
FB806440	TP-1-1.5-062018	806440-01	Soil	HOLD				
FB806440	TP-1-2.5-062018	806440-02	Soil	HOLD				
FB806440	TP-1-3.5-062018	806440-03	Soil	HOLD				
FB806440	TP-2-2.5-3.0'-062018	806440-04	Soil	HOLD				
FB806440	TP-2-3.5-4.0-062018	806440-05	Soil	HOLD				
FB806440	TP-2-4.5-5.0-062018	806440-06	Soil	HOLD				
FB806440	MW-4-062018	806440-10	GW		X	X		
FB806440	MW-6-062018	806440-11	GW		X			
FB806440	MW-7-062018	806440-12	GW		X			
FB806440	MW-8-062018	806440-13	GW		X			
FB806440	MW-X-062018	806440-14	GW		X			
FB806440	MW-1-062018	806440-15	GW		X			
FB806440	MW-12-062018	806440-16	GW		X			
FB806440	MW-14-062018	806440-17	GW		X			
FB806440	MW-11-062018	806440-18	GW		X			
FB806440	MW-05-062018	806440-19	GW		X			
FB806440	MW-03-062018	806440-20	GW		X			
FB807069	MW-15-070518	807069-01	GW		X	X	X	
FB807069	MW-16-070518	807069-02	GW		X	X	X	
FB807069	MW-17-070518	807069-03	GW		X	X	X	
FB807069	MW-X-070518	807069-07	GW		X	X	X	

Table F.2
Professional Judgment Discussion for Validations Performed by Floyd|Snider

1. Describe QC exceedances that resulted in qualification. These should be discussed in the report. Include test method, analytes, QC Identifier, QC results and control limits, associated sample Ids (if not clear from previous page) and any other information to be included in the report.
2. Describe QC exceedances that did not result in qualification and whether to discuss them in the report. Include test method, analytes, QC Identifier, QC results and control limits, other QC results impacting professional judgement decision, associated sample results, if pertinent, and any other information that contributed to qualification decisions.
3. Also include overall comments such as cross-method comparisons or overall assessment.

Discussion
Phase 1 (2016)
FB608046 - 8021B/NWTPH-Gx - Holding Time - The laboratory advised that analysis of sample MW-12-7-8 was requested outside of holding time and has been flagged as such for this analysis. All results were non-detect. It is with professional judgment that they be flagged "J" as estimated due to analysis outside of holding time, with a final qualifier of "UJ". See Qualifier list for details.
FB608046 - 8260C Direct Sparge - Holding Time - The laboratory advised that analysis of sample MW-12-7-8 was requested outside of holding time and has been flagged as such for this analysis. All results were non-detect. It is with professional judgment that they be flagged "J" as estimated due to analysis outside of holding time, with a final qualifier of "UJ". See Qualifier list for details.
FB608046 - 8260C Direct Sparge - Internal Standards - The laboratory flagged multiple analytes in samples MW-12-1.5-2, MW-12-5-6, "J" to indicate internal standard recoveries exceeded control limits due to the presence of sample matrix interferences. This qualifier will be retained, please see Qualifier list for the specific analytes for each sample that are qualified.
FB608046 - 8260C Direct Sparge - Surrogates - The 4-bromofluorobenzene surrogate recovery for sample MW-12-1.5-2 was 159% "J" and outside the laboratory control limits of 50-150%. Results are already flagged "J" due to internal standard issues, it is with professional judgment that no additional qualifiers are needed based on this surrogate recovery information.
FB608046 & FB608112 - 8260C Direct Sparge - Sample/Sample Duplicate RPD - The Sample/Sample Duplicate run on MW-12-5-6 for o-Xylene was 47% and outside the laboratory control limits of ±20%. The results were flagged "a J" by the laboratory to indicate that the analyte was detected at a level less than x5 the reporting limit and the RPD results may not provide reliable information on the variability of the analysis, and the internal standard associated with the analyte is out of control limits. The o-Xylene result for sample MW-12-5-6 is already flagged "J" as estimated due to the internal standards issue, and both the LCS/LCSD and MS/MSD RPDs were inside control limits providing sufficient variability information for the analysis. It is with professional judgment that no results need additional qualification based on this RPD information.
FB608046 - NWTPH-Dx - Holding Time - The laboratory advised that analysis of sample MW-12-7-8 was requested outside of holding time and has been flagged as such for this analysis. All results were non-detect. It is with professional judgment that they be flagged "J" as estimated due to analysis outside of holding time with a final qualifier of "UJ". See Qualifier list for details.
FB608046 - NWTPH-Dx - Chromatograms - The laboratory reviewed the chromatograms for samples with detected concentrations in the Diesel and Oil Ranges. The laboratory noted that for samples MW-12-0-0.5, MW-12-1.5-2, and MW-12-5-6 the chromatograms showed the presence of a high boiling product such as a lubrication or waste oil and peaks indicative of a low level low to medium product are also present. They flagged the diesel results "x" to indicate they did not have an adequate match to the fuel standards used for quantification. Review of the chromatograms concurs with the laboratory observations. The detected Oil Range results will be flagged "MG" for good match with no final qualifier for report tables and DB entry, the Diesel range results will be flagged "MP" for poor match with a final qualifier of "JM" for report tables and DB entry. See Qualifier list for details.
FB608046 - NWTPH-Dx - Chroms (cont') - The laboratory noted that for sample SB-1-0.5-1 the chromatograms showed the presence of a high boiling product such as lubrication oil, as well as multiple individual peaks eluting from 2 to 3 minutes. A pattern of peaks indicating the presence of a diesel fuel was not seen in the sample and the detected Diesel Range concentration was flagged "x" by the laboratory. Review of the chromatograms concurs with the laboratory observations. The detected Oil Range results will be flagged "MG" for good match with no final qualifier for report tables and DB entry, the Diesel range results will be flagged "MP" for poor match with a final qualifier of "JM" for report tables and DB entry. See Qualifier list for details.
FB608046 - NWTPH-Dx - Chroms (cont') - The laboratory noted that for sample SB-2-0.5-1 that a pattern of peaks indicating the presence of a diesel fuel was not seen in the sample and the detected Diesel Range concentration was flagged "x" by the laboratory. Review of the chromatograms concurs with the laboratory observations. The Diesel range results will be flagged "MP" for poor match with a final qualifier of "JM" for report tables and DB entry. See Qualifier list for details.
FB608046 - NWTPH-Dx - Chroms (con't) - Two samples, MW-11-0-0.5 and MW-11-7.5-8, had detected concentrations in the diesel range that were not mentioned by the laboratory in their chromatogram review. The detected concentration in MW-11-0-0.5 did not provide an adequate match to the fuel standard used for quantification and will be flagged "MP" for poor match with a final qualifier of "JM" for report tables and DB entry. The detected concentration in MW-11-7.5-8 did provide and adequate match to the standard and will be flagged "MG" for good match with no final qualifier for report tables and DB entry. See Qualifier list for details.
FB608046 - 8270D SIM - Holding Time - The laboratory advised that analysis of sample MW-12-7-8 was requested outside of holding time and has been flagged as such for this analysis. Pyrene and Chrysene results were detected, all remaining analytes were non-detect. It is with professional judgment that all results be flagged "J" as estimated due to analysis outside of holding time, non detect results will have a final qualifier of "UJ". See Qualifier list for details.
FB608046 - 8270D SIM - Surrogates - The recovery of the Benzo(a)anthracene-d12 surrogate in sample MW-12-1.5-2 was 205% and outside the laboratory control limits of 25-165% high. The laboratory noted that the recovery was from a x50 dilution and may not be meaningful. It is with professional judgment that no results be qualified on this surrogate recovery information.
FB608046 - 8270D - Surrogates - The recovery of the 2-Fluorophenol and 2,4,6-Tribromophenol surrogates in sample MW-12-1.5-2 were 45% & 25 % and outside the laboratory control limits of 46-115% & 35-141% low. The laboratory noted that the recovery was from a x250 dilution and may not be meaningful. It is with professional judgment that no results be qualified on this surrogate recovery information.

Table F.2
Professional Judgment Discussion for Validations Performed by Floyd|Snider

Discussion
Phase 1 (2016) (cont.)
FB608046 & FB608112 - 8270D - LCS & LCSD Recoveries - The laboratory noted that for several analytes the LCS and/or LCSD recoveries were outside of laboratory control limits high. As all results for analytes with high recoveries in the field samples were non detect the data was considered acceptable by the laboratory. Per USEPA Guidelines, if the LCS recoveries are outside control limits high, only detected results are qualified, therefore it is with professional judgment that no results be qualified based on the LCS/LCSD recovery information.
FB608046 - 200.8 - Internal Standards - The laboratory noted that several of the internal standards were outside of control limits due to matrix effects, the impacted samples were diluted and reanalyzed. The concentrations flagged "J" due to internal standards will be marked "DNR" in favor of the non-qualified concentrations. For analytes that did not have internal standard issues the more conservative concentration between the original and dilution will be kept with the other result being marked "DNR". If both results are non-detect the lowest reporting limit will be retained as the reported result, with the other being marked "DNR". See qualifier list for details.
FB608046 - 1631E - MSD Recovery - The MSD recovery for sample MW-10-0-0.5 for Mercury was 131% and outside the laboratory control limits of 71-125% high. The MS/MSD performed on sample SB-1-7-8 was within laboratory control limits. Due to the non-homogenous nature of the soil matrix it is with professional judgment that only the result from sample MW-10-0-0.5 would be qualified based on this MS/MSD information. The sample result from MW-10-0-0.5 for Mercury was a non-detect, per USEPA guidelines only detected results are qualified for recoveries above the control limits, therefore it is with professional judgment that no data be qualified based on the MSD recovery information.
FB608046 - 8260C - MS/MSD Recoveries - The MS & MSD recoveries of Dichlorodifluoromethane in sample MW-13-1-2 were both 9% and outside laboratory control limits 10-56% low. This field sample was not analyzed by 8260C for the full list of analyte, only the BTEX analytes were reported. Due to the non-homogenous nature of soil samples, it is with professional judgment that no other results be qualified based on this MS/MSD information.
FB608112 - NWTPH-Gx - Surrogates - The laboratory noted that the surrogate recovery for sample SB-10-9-10 at x10 dilution was outside of control limits (recovery was 164%; control limits 50-150%) and compounds in the sample matrix interfered with the quantitation of the surrogate analyte. Per FS TPH Guidelines if the surrogate is outside control limits high detected concentrations are qualified "J" as estimated. See qualifier list for details.
FB608112 - NWTPH-Gx - Analyte Response - The laboratory noted that the reporting limit for Trip Blank 1 was raised due to carryover from a previous sample injection. There was insufficient sample for reanalysis, therefore the raised reporting limit data was reported.
FB608112 - NWTPH-Dx - Chromatograms - The laboratory reviewed the chromatograms for samples with detected concentrations in the Diesel and Oil Ranges. The laboratory noted that for samples SB-5-0.5-1, SB-6D-0-0.5, SB-6-0-0.5, and SB-8-0.5-1 the chromatograms showed the presence of a medium to high boiling material, possibly indicative of organics. Silica gel cleanup would be useful in further characterizing the nature of the material present in the samples. A pattern of peaks indicating the presence of diesel fuel was not seen in the samples. They flagged the diesel results "x" to indicate they did not have an adequate match to the fuel standards used for quantification. Review of the chromatograms concurs with the laboratory observations. The detected Oil Range results will be flagged "MG" for good match with no final qualifier for report tables and DB entry, the Diesel range results will be flagged "MP" for poor match with a final qualifier of "JM" for report tables and DB entry. See Qualifier list for details.
FB608112 - NWTPH-Dx - Chroms (con't) - The laboratory noted that for samples SB-9-0.5-1, SB-12-0.5-1, SB-16-0.5-1, and SB-16-3-4 the chromatograms showed a pattern of peaks indicating the presence of a low level of a high boiling point product such as a lubrication oil. A pattern of peaks indicating the presence of diesel fuel was not seen in the samples. They flagged the diesel results "x" to indicate they did not have an adequate match to the fuel standards used for quantification. Review of the chromatograms concurs with the laboratory observations. The detected Oil Range results will be flagged "MG" for good match with no final qualifier for report tables and DB entry, the Diesel range results will be flagged "MP" for poor match with a final qualifier of "JM" for report tables and DB entry. See Qualifier list for details.
FB608112 - NWTPH-Dx - Chroms (con't) - The laboratory noted that for samples SB-10-9-10 and SB-13-6-7 the chromatograms showed a pattern of peaks indicating a middle distillate product such as diesel fuel. A pattern of peaks indicating the presence of gasoline was not seen in the samples. Review of the chromatograms concurs with the laboratory observations. The detected Diesel range results will be flagged "MG" for good match with no final qualifier for report tables and DB entry, the Oil Range results for both samples were non-detects. See Qualifier list for details.
FB608112 - NWTPH-Dx - Chroms (con't) - Six samples were not specifically mentioned by the laboratory in their chromatogram review abstract. Samples SB-10-0.5-1 and SB-13-3-4 had detected results for Diesel range with no qualifications by the laboratory. Review of the chromatograms concurs with the laboratory observations. The detected Diesel range results will be flagged "MG" for good match with no final qualifier for report tables and DB entry, the Oil Range results for both samples were non-detects. See Qualifier list for details. Samples SB-11-0.5-1 and SB-16-9-10 had detected results for Diesel range that were qualified "x" by the laboratory. Review of the chromatograms concurs with the laboratory observations. The detected Diesel range results will be flagged "MP" for poor match with a final qualifier of "JM" for report tables and DB entry, the Oil Range results for both samples were non-detects. See Qualifier list for details. Sample SB-12-3-4 was non detect for Diesel and detect for Oil Range with no qualification by the laboratory. Review of the chromatograms concur with the laboratory observations. The detected diesel range results will be flagged "MG" for good match with no final qualifier for report tables or DB entry. See Qualifier list for details. Sample Culvert-1 had detected results for diesel range that were qualified "x" by the laboratory, and detected results for motor oil range with no qualification. Review of the chromatograms concur with the laboratory observations. The detected diesel range results will be flagged "MP" for poor match with a final qualifier of "JM" for report tables and DB entry, the motor oil results will be flagged "MG" for good match with no final qualifiers for report table or DB entry. See Qualifier list for details.
FB608112 - EPA 200.8 (water) - MS/MSD - The MS recovery for Copper was 149% and outside laboratory control limits 70-130% high. The MSD recovery was within control limits. The RPD was 58% and outside the laboratory control limits of ±20%. The MS/MSD recoveries and the RPD were flagged "b" by the lab to indicate the analyte was spiked at a level that was less than five times that present in the sample and the recoveries may not be meaningful. The MS/MSD was performed on a batch sample belonging to another client that had an original concentration of 608 ug/L and was spiked at 20 ug/L. As this was a sample belonging to another client and USEPA guidelines state that spike recovery limits do not apply when the sample concentration is ≥4x the spike added, it is with professional judgment that no results be qualified based on this MS/MSD & RPD information.

Table F.2
Professional Judgment Discussion for Validations Performed by Floyd|Snider

Discussion
Phase 1 (2016) (cont.)
FB608112 - 1631E (soil) - MS/MSD - The MS and MSD recoveries for Mercury for sample SB-3-2.5-3.5 were 129% and 131% and both outside laboratory control limits of 71-125% high indicating a potential high bias. The Mercury concentration in the field sample was non-detect. Additional MS/MSDs were performed on samples SB-7-4-5 and SB-14-4-5, all the results were within laboratory control limits. Due to the non-homogenous nature of the soil matrix it is with professional judgement that no sample results be qualified based on the MS/MSD recoveries.
FB608112 - 8260C Direct Sparge - Surrogates - The 4-Bromofluorobenzene surrogates for samples SB-10-9-10 (240%) and SB-13-6-7 (237%) were outside laboratory control limits 50-150% high. Only the BTEX compounds were reported for these samples, which are not target analytes of the 4-Bromofluorobenzene surrogate. It is with professional judgment that no results for this sample be qualified based on this surrogate recovery information.
FB608112 - 8270D - Analyte response - The laboratory flagged the detected concentration of Bis(2-ethylhexyl) phthalate "fc" to indicate it was a common laboratory and field contaminant. This information will be passed on to the technical staff, however it is not something that will results in a final qualifier for data tables and database entry - it is noted here for completeness.
August 2016 Quarterly Groundwater Sampling
FB608216 - 8260C - LCS/LCSD & RPD - The LCSD recovery for 1,1,2-Trichloroethane was 140% and outside of laboratory control limits 75-124% high. The LCS was within control limits leading to an LCS/LCSD of 30% which was outside laboratory control limits of ±20%. As all field sample results for this analyte were non-detect, it is with professional judgement that no results be qualified based on this LCSD and RPD information.
FB608216 - EPA 350.1 - MS Recoveries - The laboratory noted that some of the ammonia matrix spike results were above the acceptable limits and that all other QA/QC was within limits, therefore they are attributed to matrix interference. No actual limits were listed in the report, it is assumed that the 152% recovery for sample MW-08-081016 is the result being referred to. For now qualifying Ammonia results from MW-08-081016 "J" as estimated - will possibly revise upon receipt of EDD. As all other results are with 75-150% (which is a typical recovery range) it is with professional judgment that no other sample results be qualified based on this presumed MS recovery outside of range.
FB608216 - EPA 350.1 - Sample/Sample Duplicate RPD - The sample/sample duplicate RPD for Ammonia Nitrogen in sample MW-3-081116 was 33% and outside the control limits of ±20%. It is with professional judgment that the Ammonia result for this sample be qualified "J" as estimated based on this RPD. See Qualifier List for Details.
November 2016 Quarterly Groundwater Sampling
FB611197 - NWTPH-Dx - Chromatograms - The laboratory flagged the detected Diesel Range Results from samples MW-11-110916, MW-4-110916, MW-6-111016, and MW-1-111016, and the detected Oil Range Result from sample MW-4-111016 "x" to indicate they were not indicative of the standards used for quantitation. The laboratory review of the chromatograms showed a pattern of peaks indicative of polar organic compounds, and noted that silica gel cleanup would be useful in further characterizing the nature of the contamination present. All other results result for all other samples were non-detect.
February 2017 Quarterly Groundwater Sampling
FB702438 - 200.8 (Total) - MS/MSD - The laboratory noted that the MS/MSD recoveries for Zinc from sample 702438-11 (MW-07-022817) were outside laboratory control limits low and that the sample was spiked at a level that was less than five times that present in the sample and therefore the recoveries may not be meaningful. The original concentration of zinc in the sample was 249 ug/L with a spike of 50 ug/L. Per USEPA guidelines if the sample is spiked at <4x that of the original concentration the results shall be reported as unflagged regardless of the % recovery. Therefore it is with profession judgment that no Zinc results be qualified based on this MS/MSD recovery information.
FB702438 - NWTPH-Dx - Chromatograms - The laboratory flagged all detected diesel results as not matching the standard used for quantitation. A review of the chromatograms confirmed the laboratory's observation. Because a free product sample was used as the standard consistent with the method, the match to the standard is poor and the sample has been flagged during DV as a poor match (MPAD1). However, since the lab followed the method correctly and the poor match is due to the known physical process of dissolution into water, the result is deemed acceptable and not qualified (the final qualifier field is blank).
Phase 2A (2017)
FB706128 - 8021B - MS/MSD RPD - The MS/MSD RPD for Toluene was 33% and outside laboratory control limits. Per USEPA guidelines data is not qualified based on MS/MSD information alone. As the batch sample/sample duplicate was within laboratory control limits, demonstrating adequate precision for the method, and all field samples were non-detect for Toluene, it is with professional judgment that no results be qualified based on this MS/MSD RPD information.
FB706128 - 200.8 (total) - Internal standards - The laboratory noted that the internal standard failed the acceptance criteria for sample FS-22-GW-9-11 due to matrix interferences. The sample was diluted and reanalyzed, the most appropriate result per analyte will be retained with the other result being flagged DNR (see FS rules for selections between dilutions).
FB706128 - NWTPH-Dx (soil) - The laboratory flagged the detected results for samples FS-27-0.5-1, FS-27-3-4, FS-28-0.5-1, FS-28-3-4, and FS-28-5-5.5 "x" to indicate the sample chromatographic pattern does not resemble the fuel standard used for quantitation. A chromatogram review concurred with the laboratory observations and the "x" flag shall be retained as "JM" to indicate the poor chromatographic match. All remaining detected diesel and motor oil results showed adequate resemblance to the provided standard and shall be reported with no final qualifiers.
FB706128 - NWTPH-Dx (water) - The laboratory flagged all detected diesel samples "x" to indicate they sample chromatographic pattern does not resemble the fuel standard used for quantitation. As these are aqueous samples with a known physical process of dissolution into water will provide a poor match when compared to free product standards, it is with professional judgement that no results be qualified based on the laboratory notation.
FA1706091 - SM4500NH3G - MS Recovery - The laboratory noted that a batch MS sample from another client had a MS recovery outside control limits low that indicated a possible matrix effect and that the method was in control as indicated by the LCS. A MS/MSD was also run on a field sample for this SDG that came back within control limits. As the recovery outside of control limits was from a sample from another client it is with professional judgment that no results be qualified based on this information as the accuracy for the method has been confirmed through LCS and additional MS/MSD recoveries within control limits.

Table F.2
Professional Judgment Discussion for Validations Performed by Floyd|Snider

Discussion
Phase 2A (2017) (cont.)
FA1706091 - EPA 300.0 (soil) - MS/MSD - The laboratory noted that the original Nitrate (as N) concentration was too high in sample FS-27-3-4 for accurate MS/MSD spike recoveries. The original concentration was 327.9 mg/kg with a spike value of 17.2 mg/kg. Per USEPA guidelines if the original concentration is greater than 4x that of the spike value the results shall be reported unflagged even if recoveries are outside of control limits. It is with professional judgment that no results be qualified based on this MS/MSD recovery information.
FA1706091 - EPA 9060 - Sample/Sample Duplicate RPD - The laboratory noted that the sample/sample duplicate RPD for FS-19-1-5 was due to suspected sample inhomogeneity, and that the method is in control as indicated by the LCS. A batch/batch duplicate was also provided and was within laboratory control limits. It is with professional judgment that only the TOC result for sample FS-19-1-5 be flagged "J" based on this RPD information.
FA1706091 - EPA 9060 - MS/MSD Recoveries - The laboratory noted that the MS/MSD recoveries for FS-19-1-5 were outside laboratory control limits low and indicated a possible matrix effect. Per USEPA guidelines data is not qualified based on MS/MSD recoveries alone. As the LCS recovery and a batch MS recovery were within laboratory control limits providing adequate proof of accuracy for the method, it is with professional judgment that no additional results be qualified based on this MS/MSD recovery information, as sample FS-19-1-5 has already been qualified "J" for TOC based on sample/sample duplicate RPD results.
FB706174 - NWTPH-Dx - MS/MSD RPD - The laboratory noted that the sample was spiked at a level that was less than five times that present in the sample and that the recoveries may not be meaningful. The individual MS & MSD recoveries were within laboratory control limits. The RPD was 34% and outside laboratory control limits. Per USEPA guidelines data is not qualified based on MS/MSD information alone, as all other QA/QC objectives for this analysis were met it is with professional judgment that no results be qualified based on this RPD information.
FB706174 - 200.8 (Total) - Internal standards - The laboratory noted that the internal standard failed the acceptance criteria for sample FS-30-GW-13-15 due to matrix interferences. The sample was diluted and reanalyzed, the most appropriate result per analyte will be retained with the other result being flagged DNR (see FS rules for selections between dilutions).
August 2017 Quarterly Groundwater Sampling
FB708541 - EPA 200.8 (Dissolved) - The laboratory noted that the MS & MSD recoveries for manganese may not be meaningful as they were spiked at a level that was less than five times that present in the sample. The spike amount was 20 ug/L with an original concentration of 305 ug/L. Per USEPA guidelines if the original sample concentration is ≥ 4x the spike added, the data shall be reported unflagged even if the % recovered does not meet criteria. Therefore it is with professional judgement that no dissolved manganese results be qualified based on this MS/MSD recovery information.
FB708541 - EPA 200.8 (Total) - The laboratory noted that the MS & MSD recoveries for iron and manganese may not be meaningful as they were spiked at a level that was less than five times that present in the sample. The spike amount for iron was 100 ug/L with an original concentration of 2,730 ug/L, and the spike amount for manganese was 20 ug/L with an original concentration of 348 ug/L. Per USEPA guidelines if the original sample concentration is ≥ 4x the spike added, the data shall be reported unflagged even if the % recovered does not meet criteria. Therefore it is with professional judgement that no dissolved manganese results be qualified based on this MS/MSD recovery information.
FA1708387 - EPA 200.8 (Total) - The laboratory noted that the MS & MSD recoveries for Sodium were outside laboratory control limits high and may indicate a possible matrix effect. The spike amount was 5,000 ug/L with an original concentration of 144,000 ug/L. Per USEPA guidelines if the original sample concentration is ≥ 4x the spike added, the data shall be reported unflagged even if the % recovered does not meet criteria. Therefore it is with professional judgement that no dissolved manganese results be qualified based on this MS/MSD recovery information.
November 2017 Quarterly Groundwater Sampling
FB711448 - NWTPH-Dx - Chroms - Laboratory flagged all detected diesel range results "x" to indicate the chromatographic pattern does not resemble the fuel standard used for quantitation. Review of chromatograms concurs with lab note. Note will be retained as a chromatogram note for the results, no additional qualifiers will be added for data base entry and data table reporting.
FA1711431 - EPA 300.0 - Analyte Response - Laboratory noted that multiple samples were diluted due to high levels of non-target analytes.
March 2018 Quarterly Groundwater Sampling
FA1803047 - EPA 300.0 - Dilutions - The laboratory noted that several samples were diluted due to matrix and qualified "D". This qualifier is not retained as a final qualifier for data table reporting or database entry.
FA1803047 - EPA 300.0 - Analyte Response - The laboratory reported detected values between the method detection limit and reporting limit and qualified the results "J", this flag will be retained as the final qualifier "JQ" for data table reporting and database entry.
Phase 2B (2018) and June/July 2018 Quarterly Groundwater Sampling
FB806440 - NWTPH-Dx - Surrogate Recovery - The laboratory noted that the surrogate recovery for sample MW-7-062018 fell outside control limits due to compounds in the sample matrix interfering with the quantitation of the analyte. The DRO & ORO results were non detect, it is with professional judgment that no results be qualified based on this surrogate recovery information.
FB806440 - NWTPH-Dx - Chromatograms - Laboratory flagged all detected diesel range results "x" to indicate that the sample chromatographic pattern does not resemble the fuel standard used for quantitation. Review of chromatograms concurs. The flag will be retained as chromatogram note in the DB.
FB807069 - NWTPH-Dx - Chromatograms - All results were ND, chromatogram review not necessary.
FA1806252 & FA1807064 - EPA 300.0 - Analyte Response - Laboratory flagged concentrations reported between the RL & MDL "J", this flag will be retained as the final qualifier "JQ" for data table reporting and database entry.
FA1807064 - EPA 300.0 - Holding Times/Dilutions - The laboratory qualified the Nitrate (as N) results "H" for two samples (MW-16-070518 and MW-X-070518) that were re-analyzed for Nitrate (as N) outside of holding times due to the original analysis exceeding the linear working range of the detector. The original results have been flagged "DNR" and the "H" flag will be retained as the final qualifier "J" to indicate the concentration should be considered an estimate.

Table F.2
Professional Judgment Discussion for Validations Performed by Floyd|Snider

Discussion
Phase 2B (2018) and June/July 2018 Quarterly Groundwater Sampling (cont.)
FA1807064 - EPA 300.0 - Calibrations - The laboratory noted that the re-analysis of Nitrate (as N) in sample MW-X-070518 had a continuing calibration that did not meet established acceptance criteria and flagged the result "Q". This flag is being retained (along with the laboratory "H" qualifier also on this result) as the final qualifier "J" to indicate the concentration should be considered an estimate.
FA1806275 - EPA 300.0 - Holding Times/Dilutions - Sample MW-14-062118 was originally run at 50x dilution due to high levels of non-target analytes. It was then re-analyzed at a lower dilution (x2) and again at no dilution outside of holding time. The results from the two reanalysis were flagged "H" based on the hold times. The original 50x dilution and the 2x dilution will be flagged "DNR" in favor of the non-diluted analysis. The "H" flags will be retained as the final qualifier "J" to indicate the concentrations should be considered an estimate. Sample MW-05-062118 was originally run at a 50x dilution due to high levels of non-target analytes. It was then re-analyzed at a lower dilution (10x) outside of holding time. The results from the reanalysis were flagged "H" based on the hold times. The original 50x dilution will be flagged "DNR" in favor of the lower dilution analysis. The "H" flags will be retained as the final qualifier "J" to indicate the concentration should be considered an estimate.
March 2020 Groundwater Sampling
No internal data validation performed for this event. Refer to the EcoChem Data Validation Report included in Appendix F.

DATA VALIDATION REPORT

SMITH KEM SITE REMEDIAL INVESTIGATION

Prepared for:

Floyd | Snider
601 Union Street, Suite 600
Seattle, WA 98101

Prepared by:

EcoChem, Inc.
500 Union Street, Suite 1010
Seattle, WA 98101

EcoChem Project: C15223-1

July 5, 2017

Approved for Release:

Christine Ransom

Digitally signed by Christine Ransom
DN: cn=Christine Ransom, o=EcoChem, ou, email=cransom@ecochem.net, c=US
Date: 2017.07.05 10:42:19 -07'00'

Christine Ransom
Senior Project Chemist
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report summarizes the results of data validation performed on soil and groundwater sample data and quality control (QC) sample data for the Smith Kem Site Remedial Investigation project. The data received summary level validation (EPA Stage 2B) and one set of soil samples received a full validation (EPA stage 4). The rinsate blank was validated at a compliance review level (EPA Stage 2A). A complete list of samples is provided in the Sample Index.

Pacific Agricultural Laboratory, Sherwood, Oregon performed the analyses. The analytical method and EcoChem project chemists are listed in the table below.

ANALYSIS	METHOD	PRIMARY REVIEW	SECONDARY REVIEW
Herbicides	EPA 8151A	A. Bodkin	C. Ransom
Pesticides	EPA 8081B Mod		
Pesticides	EPA 8141B Mod		
Herbicides and Pesticides	EPA 8270D Mod		
Pesticides	EPA 8321B Mod		
Glyphosate	Monsanto LC-FLD		

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *Smith-Kem Site Remedial Investigation Work Plan* (Floyd | Snider, July 2016); and *National Functional Guidelines for Organic Data Review* (USEPA 2008). The laboratory methods are modified for residue scan analysis.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R or DNR, the data should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes, and validation criteria are included as Appendix A. A Qualified Data Summary Table is included in Appendix B. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	8151	8081 Mod	8141 Mod	8270 Mod	8321 Mod	Glyphosate by LC-FLD
P161509	MW-13-0-0.5	P161509-01	✓	✓	✓	✓	✓	
P161509	MW-13-1-2	P161509-02	✓	✓	✓	✓	✓	
P161509	MW-13-3.5-4.5	P161509-03	✓	✓	✓	✓	✓	
P161509	MW-12-0-0.5	P161509-04	✓	✓	✓	✓	✓	
P161509	MW-12-1.5-2	P161509-05	✓	✓	✓	✓	✓	
P161509	MW-12-5-6	P161509-06	✓	✓	✓	✓	✓	
P161509	MW-14-0-0.5	P161509-07	✓	✓	✓	✓	✓	
P161509	MW-14-2-3	P161509-08	✓	✓	✓	✓	✓	
P161509	MW-14-4-5	P161509-09	✓	✓	✓	✓	✓	
P161509	MW-9-0.5-1	P161509-10	✓	✓	✓	✓	✓	
P161509	MW-9-4-5	P161509-11	✓	✓	✓	✓	✓	
P161509	MW-9-7-8	P161509-12	✓	✓	✓	✓	✓	
P161509	MW-D1-7-8	P161509-13	✓	✓	✓	✓	✓	
P161509	SB-1-0.5-1	P161509-14	✓	✓	✓	✓	✓	
P161509	SB-1-2-3	P161509-15	✓	✓	✓	✓	✓	
P161509	SB-1-7-8	P161509-16	✓	✓	✓	✓	✓	
P161509	MW-10-0-0.5	P161509-17	✓	✓	✓	✓	✓	
P161509	MW-10-1.5-2.5	P161509-18	✓	✓	✓	✓	✓	
P161509	MW-10-4-5	P161509-19	✓	✓	✓	✓	✓	
P161509	MW-11-0-0.5	P161509-20	✓	✓	✓	✓	✓	
P161509	MW-11-1.5-2	P161509-21	✓	✓	✓	✓	✓	
P161509	MW-11-7.5-8	P161509-22	✓	✓	✓	✓	✓	
P161509	SB-2-0.5-1	P161509-23	✓	✓	✓	✓	✓	
P161509	SB-2-2.5-3.5	P161509-24	✓	✓	✓	✓	✓	
P161509	SB-2-4-5	P161509-25	✓	✓	✓	✓	✓	
P161666	MW-09-081016	P161666-01	✓	✓	✓	✓	✓	
P161666	MW-04-081016	P161666-02	✓	✓	✓	✓	✓	
P161666	MW-07-081016	P161666-03	✓	✓	✓	✓	✓	
P161666	MW-07D-081016	P161666-04	✓	✓	✓	✓	✓	
P161666	MW-08-081016	P161666-05	✓	✓	✓	✓	✓	
P161666	MW-06-081016	P161666-06	✓	✓	✓	✓	✓	
P161666	MW-05-081016	P161666-07	✓	✓	✓	✓	✓	
P161666	MW-13-081016	P161666-08	✓	✓	✓	✓	✓	
P161666	MW-11-081016	P161666-09	✓	✓	✓	✓	✓	
P161666	MW-14-081016	P161666-10	✓	✓	✓	✓	✓	
P161666	MW-2-081116	P161666-11	✓	✓	✓	✓	✓	
P161666	MW-12-081116	P161666-12	✓	✓	✓	✓	✓	
P161666	MW-10-081116	P161666-13	✓	✓	✓	✓	✓	
P161666	MW-3-081116	P161666-14	✓	✓	✓	✓	✓	
P161666	MW-01-081116	P161666-15	✓	✓	✓	✓	✓	
P161579	Rinsate-2	P161579-01	✓	✓	✓	✓	✓	
P161579	SB-3-0.5-1	P161579-02	✓	✓	✓	✓	✓	
P161579	SB-3-2.5-3.5	P161579-03	✓	✓	✓	✓	✓	
P161579	SB-3-5.5-6.5	P161579-04	✓	✓	✓	✓	✓	

Sample Index
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	8151	8081 Mod	8141 Mod	8270 Mod	8321 Mod	Glyphosate by LC-FLD
P161579	SB-4-0.5-1	P161579-05	✓	✓	✓	✓	✓	
P161579	SB-4-3-4	P161579-06	✓	✓	✓	✓	✓	
P161579	SB-4-7-8	P161579-07	✓	✓	✓	✓	✓	
P161579	SB-5-0.5-1	P161579-08	✓	✓	✓	✓	✓	✓
P161579	SB-5-3-4	P161579-09	✓	✓	✓	✓	✓	✓
P161579	SB-5-5-6	P161579-10	✓	✓	✓	✓	✓	✓
P161579	SB-6D-0-0.5	P161579-11	✓	✓	✓	✓	✓	
P161579	SB-6-0-0.5	P161579-12	✓	✓	✓	✓	✓	
P161579	SB-6-2-3	P161579-13	✓	✓	✓	✓	✓	
P161579	SB-6-5-6	P161579-14	✓	✓	✓	✓	✓	
P161579	SB-7-0.5-1	P161579-15	✓	✓	✓	✓	✓	
P161579	SB-7-3-4	P161579-16	✓	✓	✓	✓	✓	
P161579	SB-7-4-5	P161579-17	✓	✓	✓	✓	✓	
P161579	SB-8-0.5-1	P161579-18	✓	✓	✓	✓	✓	
P161579	SB-8-3-4	P161579-19	✓	✓	✓	✓	✓	
P161579	SB-8-4-5	P161579-20	✓	✓	✓	✓	✓	
P161579	SB-9-0.5-1	P161579-21	✓	✓	✓	✓	✓	
P161579	SB-9-3-4	P161579-22	✓	✓	✓	✓	✓	
P161579	SB-9-4-5	P161579-23	✓	✓	✓	✓	✓	
P161579	SB-10-0.5-1	P161579-24	✓	✓	✓	✓	✓	
P161579	SB-10-2-3	P161579-25	✓	✓	✓	✓	✓	
P161579	SB-10-9-10	P161579-26	✓	✓	✓	✓	✓	
P161579	SB-11-0.5-1	P161579-27	✓	✓	✓	✓	✓	
P161579	SB-11-3-4	P161579-28	✓	✓	✓	✓	✓	
P161579	SB-11D-3-4	P161579-29	✓	✓	✓	✓	✓	
P161579	SB-12-0.5-1	P161579-30	✓	✓	✓	✓	✓	
P161579	SB-12-3-4	P161579-31	✓	✓	✓	✓	✓	
P161579	SB-12-4-5	P161579-32	✓	✓	✓	✓	✓	
P161579	SB-13-0.5-1	P161579-33	✓	✓	✓	✓	✓	
P161579	SB-13-3-4	P161579-34	✓	✓	✓	✓	✓	
P161579	SB-13-6-7	P161579-35	✓	✓	✓	✓	✓	
P161579	SB-14-0.5-1	P161579-36	✓	✓	✓	✓	✓	
P161579	SB-14-4-5	P161579-37	✓	✓	✓	✓	✓	
P161579	SB-14-5-6	P161579-38	✓	✓	✓	✓	✓	
P161579	SB-15-0.5-1	P161579-39	✓	✓	✓	✓	✓	
P161579	SB-15D-3-4	P161579-40	✓	✓	✓	✓	✓	
P161579	SB-15-3-4	P161579-41	✓	✓	✓	✓	✓	
P161579	SB-15-4-5	P161579-42	✓	✓	✓	✓	✓	
P161579	SB-16-0.5-1	P161579-43	✓	✓	✓	✓	✓	
P161579	SB-16-3-4	P161579-44	✓	✓	✓	✓	✓	
P161579	SB-16-5-6	P161579-45	✓	✓	✓	✓	✓	
P161579	Culvert-1	P161579-46	✓	✓	✓	✓	✓	
P162574	MW-7-110916	P162574-01	✓	✓	✓	✓	✓	
P162574	MW-8-110916	P162574-02	✓	✓	✓	✓	✓	

Sample Index
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	8151	8081 Mod	8141 Mod	8270 Mod	8321 Mod	Glyphosate by LC-FLD
P162574	MW-11-110916	P162574-03	✓	✓	✓	✓	✓	
P162574	MW-5-110916	P162574-04	✓	✓	✓	✓	✓	
P162574	MW-5D-110916	P162574-05	✓	✓	✓	✓	✓	
P162574	MW-4-110916	P162574-06	✓	✓	✓	✓	✓	
P162574	MW-3-110916	P162574-07	✓	✓	✓	✓	✓	
P162574	MW-9-110916	P162574-08	✓	✓	✓	✓	✓	
P162574	MW-10-110916	P162574-09	✓	✓	✓	✓	✓	
P162574	MW-12-111016	P162574-10	✓	✓	✓	✓	✓	
P162574	MW-6-111016	P162574-11	✓	✓	✓	✓	✓	
P162574	MW-14-111016	P162574-12	✓	✓	✓	✓	✓	
P162574	MW-2-111016	P162574-13	✓	✓	✓	✓	✓	
P162574	MW-13-111016	P162574-14	✓	✓	✓	✓	✓	
P162574	MW-1-111016	P162574-15	✓	✓	✓	✓	✓	

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Pesticides by Method SW8081B Mod

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
P161666	15 Groundwater	EPA Stage 2B
P162574	15 Groundwater	EPA Stage 2B

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	✓	Surrogate Compounds
2	Initial Calibration (ICAL)	1	Field Duplicates
2	Continuing Calibration (CCAL)	1	Target Analyte List
✓	Laboratory Blanks	1	Reporting Limits
1	Field Blanks	2	Compound Identification
1	Laboratory Control Samples (LCS/LCSD)	2	Reported Results
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P161666: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 14°C. Data was judged to be not affected. No action was taken.

SDG P162574: The temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 6°C (range of 7.7°C to 9.9°C). Data was judged to be not affected. No action was taken.

All samples were analyzed past the 40 day holding time. All results were estimated (J/UJ-1).

Initial Calibration

SDG P161666: The coefficient of determination (r^2) for several compounds were less than the control limit of 0.990. Positive results in the associated samples were estimated (J-5A).

SDG P162574: The coefficient of determination (r^2) for chlorpyrifos, endosulfan I, oxadiazon, and propiconizole were less than the control limit of 0.990. There were no positive results for these compounds in the associated samples. No action was required.

Continuing Calibration

SDG P161666: The Halogen4 CCAL standard was not analyzed. There were no positive results for the missing CCAL compounds. Reporting limits for the analytes below in all samples were estimated (UJ-5B).

Propachlor	Terbacil	Acetachlor	Folpet
Chlorobenzilate	Norflurazon	Captafol	

The percent difference (%D) value for flutalonil was outside the control limit, indicating a potential low bias. There were no positive results for flutalonil in the associated samples. Reporting limits were estimated (UJ-5BL).

For the CCALs bracketing Sample MW-04-081016, the %D values for several compounds were outside the control limit, indicating a potential high bias. Positive results for alpha-chlordane, p,p'-DDE, p,p'-DDT and dieldrin were estimated (J-5BH).

SDG P162574: The %D values for endosulfan I were outside the control limits in two CCALs, indicating a potential high bias. There were no positive results for these compounds in the associated samples. No action was required.

Field Blanks

No field blanks were collected.

Laboratory Control Samples

Only dieldrin, oxadiazon, and chlorpyrifos were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only dieldrin, oxadiazon, and chlorpyrifos were spiked. All recoveries were acceptable.

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than the RL.

SDG P161666: One set of field duplicates (MW-07-081016 & MW-07D-081016) was collected. Field precision was acceptable.

SDG P162574: One set of field duplicates (MW-5-110916 & MW-5D-110916) was collected. Field precision was acceptable.

Target Analyte List

There were no results reported for hexachlorocyclopentadiene.

Reporting Limits

Several reporting limits are greater than QAPP required reporting limits.

Compound Identification

SDG P161666: For Sample MW-04-081016, the results for DDT and DDE were estimated (J-14) based on the following modifications to the method.

- Breakdown for DDT (into DDE and DDD) was not checked during analysis. Positive results for these compounds were estimated (J-14).
- These compounds were not confirmed on a second GC column. Rather, the laboratory used the presence of the metabolites as a confirmation. The positive results were estimated (J-14).

Positive results for compounds other than DDT and DDE were also not confirmed on a second column. Positive results for single-peak compounds were estimated (J-14). Multi-peak compounds were confirmed using pattern recognition. No qualifiers were assigned.

Reported Results

SDG P161666: For Sample MW-04-081016, the laboratory incorrectly calculated the concentration of toxaphene (used 10X dilution factor instead of 1X). The laboratory resubmitted the results for this sample. The EDD was corrected.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed a modified version of this analytical method. Accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values. Precision was also acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Data were estimated because of exceeded holding times and initial calibration outliers. Data were also estimated based on lack of a breakdown standard and second column confirmation.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Pesticides by Method SW8081B Mod

This report documents the review of analytical data from the analysis of soil samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P161509	12 Soil 13 Soil	EPA Stage 4 EPA Stage 2B
P161579	45 Soil 1 Rinsate Blank	EPA Stage 2B EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	1	Surrogate Compounds
2	Initial Calibration (ICAL)	1	Field Duplicates
2	Continuing Calibration (CCAL)	✓	Target Analyte List
✓	Laboratory Blanks	1	Reporting Limits
1	Field Blanks	✓	Compound Identification
✓	Laboratory Control Samples (LCS)	2	Reported Results
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	1	Calculation Verification

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P161509: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 21°C. All results were estimated (J/UJ-1).

All samples were analyzed past the 40 day holding time. All results were estimated (J/UJ-1).

SDG P161579: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 10°C. Data was judged to be not significantly affected. No action was taken.

All samples were analyzed past the 40 day holding time. All results were estimated (J/UJ-1).

Initial Calibration

SDG P161509: The correlation coefficients (r) for several compounds were less than the control limit of 0.995. There were no positive results associated with the outliers. No action was required.

SDG P161579: The correlation coefficients (r) for several compounds were less than the control limit of 0.995. Positive results for dieldrin and pendimethalin in the associated samples were estimated (J-5A).

Continuing Calibration

SDG P161509: The percent difference (%D) values for several compounds were outside the control limit of 20%. In cases where the outlier indicated a potential high bias, associated positive results were estimated (J-5BH). In the cases where the outlier indicated a potential low bias, the associated positive results and reporting limits were estimated (J/UJ-5BL).

The following compounds were not included in the CCAL standard associated with Sample MW-10-1.5-2.5. There were no positive results for these compounds in the sample. Reporting limits were estimated (UJ-5B).

Propachlor	Terbacil	Acetachlor
Alachlor	Folpet	Chlorobenzilate
Norflurazon	Captafol	

SDG P161579: The %D values for several compounds were outside the control limit of 20%. In cases where the outlier indicated a potential high bias, associated positive results were estimated (J-5BH). In the cases where the outlier indicated a potential low bias, the associated positive results and reporting limits were estimated (J/UJ-5BL).

Field Blanks

SDG P161579: One rinsate blank, Rinsate 2, was submitted with this SDG. There were no positive results in the rinsate blank.

Laboratory Control Samples

Only dieldrin and oxadiazon were spiked.

Matrix Spike/Matrix Spike Duplicates

SDG P161509: Only dieldrin was spiked.

Two sets of matrix spike/matrix spike duplicates (MS/MSD) were performed using samples MW-13-1-2 and MW-D1-7-8. Recovery values were not reported because of matrix interferences. No action was taken.

SDG P161509: Only dieldrin and oxadiazon were spiked.

Three sets of MS/MSD analyses were performed:

- QC sample SB-4-7-8: The relative percent difference (RPD) values for dieldrin and oxadiazon were greater than the control limit. These analytes were not detected in the parent sample. No action was required. The percent recovery (%R) value for oxadiazon in the MS was less than the lower control limit. The MSD %R value was acceptable. No action was required.

- QC sample SB-11D-3-4: The laboratory was unable to calculate recovery values for oxadiazon because of matrix interferences. The %R values for dieldrin were acceptable. No action was taken.

- QC sample SB-15D-3-4: The %R values for oxadiazon were greater than the upper control. This compound was not detected in the parent sample. No action was required.

Surrogate Compounds

SDG P161509: For Sample MW-12-1.5-2, the surrogate percent recovery (%R) value was greater than the upper control limit indicating a potential high bias. There were no positive results in the sample. No action was required.

SDG P161579: For Sample SB-16-5-6, the surrogate %R value was greater than the upper control limit. There were no positive results in the sample. No action was required.

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

SDG P161509: One set of field duplicates, MW-9-7-8 & MW-D1-1-7-8, was collected. Field precision was acceptable.

SDG P161579: Three sets of field duplicates were collected: SB-6-0-0.5 & SB-6D-0-0.5, SB-11-3-4 & SB-11D-3-4, and SB-15-3-4 & SB-15D-3-4.

For samples SB-15-3-4 & SB-15D-3-4, the difference between the sample and the replicate was greater than 2X the reporting limit for dieldrin.

Reporting Limits

SDG P161509: All samples were analyzed at 10x to 50x dilutions. All reporting limits are greater than QAPP required reporting limits.

SDG P161579: All samples were analyzed at 10x to 1000x dilutions. All reporting limits are greater than QAPP required reporting limits.

Reported Results

SDG P161509, P161579: The results for DDT, DDE, and DDD were estimated (J/UJ-14) based on the following modifications to the method.

- Breakdown for DDT (into DDE and DDD) was not checked during analysis. Positive results for these compounds were estimated (J-14).
- A sulfuric acid-cleaned aliquot was analyzed for DDT, DDE, and DDD. There was no accompanying acid-cleaned blank spike to demonstrate that these compounds were not affected by the clean-up process. Results for these compounds were estimated (J/UJ-14).
- These compounds were not confirmed on a second GC column. Rather, the laboratory used the presence of the metabolites as a confirmation. Estimate positive results (J-14).

Calculation Verification

SDG P161509: Results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed a modified version of the analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the MS/MSD and field duplicate RPD values.

Results were estimated because of a cooler temperature that was greater than 20°C, exceeded holding times, the lack of a breakdown standard or second column confirmation, and sulfuric acid cleanup.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Pesticides by Method SW8141B Mod: GC-FPD

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
P161666	15 Groundwater	EPA Stage 2B
P162574	15 Groundwater	EPA Stage 2B

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	✓	Surrogate Compounds
✓	Initial Calibration (ICAL)	1	Field Duplicates
2	Continuing Calibration (CCAL)	1	Target Analyte List
✓	Laboratory Blanks	✓	Reporting Limits
1	Field Blanks	✓	Compound Identification
1	Laboratory Control Samples (LCS/LCSD)	✓	Reported Results
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P161666: The cooler temperature was greater than the control limit of 6°C, at 14°C. Data was judged to be not significantly affected. No action was taken.

SDG P162574: The cooler temperatures were greater than the control limit of 6°C (range 7.7°C to 9.9°C). Data was judged to be not significantly affected. No action was taken.

Continuing Calibration

SDG P161666: The percent difference (%D) values for several compounds were outside the control limit of 20%, indicating a potential high bias. There were no positive results associated with the outliers. No action was required.

The following compounds were not included in the CCAL standard. There were no positive results for these compounds in the samples. Reporting limits were estimated (UJ-5B).

Dicrotophos	Malathion	Ethion
Dimethoate	Parathion-ethyl	Phosmet
Terbufos	Methidathion	EPN
Pirimiphos-methyl	Fenamiphos	

SDG P162574: The %D values for several compounds were outside the control limit of 20%, indicating a potential high bias. There were no positive results associated with the outliers. No action was required.

Field Blanks

No field blanks were collected.

Laboratory Control Samples

Only parathion methyl and diazinon were spiked.

SDG P161666: The LCSD percent recovery (%R) value for diazinon was greater than the upper control limit, at 136%. The LCS %R value was within the control limits. There were no positive results for diazinon in the associated samples. No action was taken.

Matrix Spike/Matrix Spike Duplicates

Only parathion methyl and diazinon were spiked.

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than the RL.

SDG P161666: One set of field duplicates (MW-07-081016 & MW-07D-081016) was collected. Field precision was acceptable.

SDG P162574: One set of field duplicates (MW-5-110916 & MW-5D-110916) was collected. Field precision was acceptable.

Target Analyte List

The samples were not analyzed for fenchlorphos, naled, or glyphosate.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values. Precision was also acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Reporting limits were estimated because of CCAL outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Pesticides by Method SW8141B Mod: GC-FPD

This report documents the review of analytical data from the analysis of soil samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P161509	12 Soil 13 Soil	EPA Stage 4 EPA Stage 2B
P161579	45 Soil 1 Rinsate Blank	EPA Stage 2B EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

SDG P161579: For several samples, the fonofos analysis date was incorrect in the EDD and on the summary forms. The EDD was corrected to match the raw data in the PDF.

For Sample SB-15D-3-4, the analysis date, dilution factor and reporting limit were incorrect in the EDD and on the summary form. The EDD was corrected to match the raw data in the PDF.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	2	Surrogate Compounds
1	Initial Calibration (ICAL)	1	Field Duplicates
2	Continuing Calibration (CCAL)	1	Target Analyte List
✓	Laboratory Blanks	1	Reporting Limits
1	Field Blanks	✓	Compound Identification
1	Laboratory Control Samples (LCS)	2	Reported Results
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	1	Calibration Verification (full only)

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG 161509: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 21°C. All results were estimated (J/UJ-1).

SDG 161579: The temperatures of the coolers upon receipt at the laboratory was greater than the upper control limit of 6°C, at an average of 10°C. Data was judged to be not significantly affected. No action was taken.

All samples were analyzed past the 40-day holding time. Results were estimated (J/UJ-1).

Initial Calibration

SDG 161579: For the ICAL analyzed on 11/23/2016, the correlation of determination (r^2) value for chlorpyrifos was greater than the control limit of 0.990. There were no positive results for this compound in the associated samples. No action was required.

Continuing Calibration

SDG 161509: The percent difference (%D) values for several compounds were outside the control limit of 20%, indicating a potential high bias. There were no positive results associated with the outliers. No action was required.

The following compounds were not included in the CCAL standard. There were no positive results for these compounds in the samples. Reporting limits were estimated (UJ-5B).

Dicrotophos	Malathion	Ethion
Dimethoate	Parathion-ethyl	Phosmet
Terbufos	Methidathion	EPN
Pirimiphos-methyl	Fenamiphos	

SDG 161579: The %D values for several compounds were outside the control limit of 20%. There were no positive results associated with the outliers. No action was required.

Field Blanks

SDG 161579: One rinsate blank, Rinsate-2, was submitted with this SDG. There were no positive results in the rinsate blank.

Laboratory Control Samples

Only chlorpyrifos, parathion methyl, and diazinon were spiked.

Matrix Spike/Matrix Spike Duplicates

Only chlorpyrifos, parathion methyl, and diazinon were spiked.

SDG P161579: Three sets of matrix spike/matrix spike duplicates (MS/MSD) were analyzed using samples SB-4-7-8, SB-9-0.5-1, and SB-11D-3-4. For SB-9-0.5-1 MS, the diazinon percent recovery

(%R) value could not be calculated because of matrix interference. All other %R values were acceptable.

Surrogates

SDG P161509: For Samples MW-12-1.5-2 and SB-1-0.5-1, the percent recovery (%R) values for the surrogate were greater than the upper control limit of 135%, indicating a potential high bias. There were no positive results in these samples. No action was required.

SDG P161579: For Sample Culvert-1, the %R value for the surrogate was greater than the upper control limit of 135%, indicating a potential high bias. There were no positive results in this sample. No action was required.

For Samples SB-3-2.5-3.5, SB-4-0.5-1, SB-8-4-5, and SB-15D-3-4, the %R values for the surrogate were less than the lower control limit of 65%, indicating a potential low bias. There were no positive results in these samples. Reporting limits were estimated (UJ-13L).

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL.

SDG P161509: One set of field duplicates (MW-9-7-8 and MW-D1-1-7-8) was collected. Field precision was acceptable.

SDG P161579: Three sets of field duplicates (SB-11-3-4 & SB-11D-3-4, SB-15-3-4 & SB-15D-3-4, and SB-6-0-0.5 & SB-6D-0-0.5) were collected. Field precision was acceptable.

Target Analyte List

SDG P161509: The samples were not analyzed for glyphosate, fenchlorphos, or naled.

SDG P161579: The samples were not analyzed for fenchlorphos or naled. Glyphosate was analyzed by another method.

Reporting Limits

The QAPP required reporting limits were not met for several samples.

Reported Results

SDG P161579: For Sample SB-16-5-6, the positive result for chlorpyrifos was not confirmed on a second column. The result was estimated (J-14).

Calculation Verification

SDG P161509: Results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the LCS, MS/MSD, and surrogate %R values. Precision was also acceptable as demonstrated by the MS/MSD and field duplicate RPD values.

Results were estimated because of a cooler temperature that exceeded 20°C, exceeded holding times, surrogate %R outliers, and CCAL %D outliers. One result was estimated because it was not confirmed on a second column.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Herbicides by Method SW8151A: GC-MS/MS

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P161666	15 Groundwater	EPA Stage 2B
P162574	15 Groundwater	EPA Stage 2B

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	✓	Surrogate Compounds
✓	Initial Calibration (ICAL)	1	Field Duplicates
✓	Continuing Calibration (CCAL)	1	Target Analyte List
✓	Laboratory Blanks	1	Reporting Limits
1	Field Blanks	✓	Compound Identification
1	Laboratory Control Samples (LCS)	✓	Reported Results
✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)		

✓ ***Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.***
1 ***Quality control results are discussed below, but no data were qualified.***
2 ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Receipt, Preservation, and Holding Times

SDG P161666: The cooler temperature was greater than the control limit of 6°C, at 14°C. Data was judged to be not significantly affected. No action was taken.

SDG P162574: The cooler temperatures were greater than the control limit of 6°C (range 7.7°C to 9.9°C). Data was judged to be not significantly affected. No action was taken.

Field Blanks

No field blanks were collected.

Laboratory Control Sample/Laboratory Control Sample Duplicates (LCS/LCSD)

SDG P162574: The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) relative percent difference (RPD) value for dinoseb was greater than the Work Plan specified control limit of 20%, at 22%. Dinoseb was not detected in the associated samples. No action was required.

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than the RL.

SDG P161666: One set of field duplicates, MW-07-081016 & MW-07D-081016, were collected. Field precision was acceptable.

SDG P162574: One set of field duplicates, MW-5-110916 & MW-5D-110916, were collected. Field precision was acceptable.

Target Analyte List

The samples were not analyzed for dalapon.

Reporting Limits

The target reporting limit for pentachlorophenol was 0.08 µg/L. The laboratory reported a value of 0.16 µg/L.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the LCS/LCSD, matrix spike/matrix spike duplicate (MS/MSD), and surrogate %R values. With the exception noted above, precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

No data were qualified for any reason. All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Herbicides by Method SW8151A: GC-MS/MS

This report documents the review of analytical data from the analysis of soil samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P161509	12 Soil 13 Soil	EPA Stage 4 EPA Stage 2B
P161579	45 Soil 1 Rinsate Blank	EPA Stage 2B EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	✓	Surrogate Compounds
1	Initial Calibration (ICAL)	1	Field Duplicates
✓	Continuing Calibration (CCAL)	✓	Target Analyte List
✓	Laboratory Blanks	✓	Reporting Limits
1	Field Blanks	✓	Compound Identification
2	Laboratory Control Samples (LCS)	✓	Reported Results
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	1	Calculation Verification

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P161509: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 21°C. All results were estimated (J/UJ-1).

SDG P161579: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 10°C. Data was judged to be not significantly affected. No action was taken.

Continuing Calibration

SDG P161509: The percent difference (%D) values for several compounds were outside the control limit of 20%, indicating a potential high bias. There were no positive results associated with the outliers. No action was required.

SDG P161579: The %D values for dinoseb were greater than the control limit of 20% in several CCALs. The positive result for dinoseb in Sample SB-13-0.5-1 was estimated (J-5BH).

Field Blanks

SDG P161579: One rinsate blank, Rinsate 2, was submitted with this SDG. There were no positive results in the rinsate blank.

Laboratory Control Samples

SDG P161509: For the LCS associated with batch 6081002, the percent recovery (%R) value for 2,4,5-T was greater than the upper control limit. Positive results for 2,4,5-T in Samples MW-12-0-0.5 and MW-12-1.5-2 were estimated (J-10H).

For the LCS associated with batch 6081106, the %R value for 2,4,5-T was greater than the upper control limit. There were no positive results for 2,4,5-T in the associated samples. No action was required.

SDG P161579: For the LCS extracted on 8/18/16, the %R values for 2,4,5-T and MCPA were greater than the upper control limit. Positive results for MCPA in the associated samples were estimated (J-10H). There were no positive results for 2,4,5-T. No action was required for this analyte.

Matrix Spike/Matrix Spike Duplicates

SDG P161509: For batch 6081002, matrix spike/matrix spike duplicate (MS/MSD) analyses were performed using Sample MW-13-1-2. The %R values for pentachlorophenol were less than the lower control limit for the MS and the SD. The result for pentachlorophenol in the parent sample was estimated (UJ-8L).

For batch 6081106, MS/MSD analyses were performed using Sample MW-D1-7-8. The %R values for 2,4,5-T were greater than the upper control limit. This analyte was not detected in the parent sample. No action was required.

SDG P161509:

Three sets of MS/MSD analyses were performed:

- Sample SB-4-7-8: The relative percent difference (RPD) value for dicamba was greater than the control limit. The positive result in the parent sample was estimated (J-9). The percent

recovery (%R) value for 2,4,5-T in the MS was greater than the upper control limit. The MSD %R value was acceptable. No action was required. The %R value for pentachlorophenol in the MSD was less than the lower control limit. The MS %R value was acceptable. No action was required.

- Sample SB-9-0.5-1: The RPD value for 2,4,5-T was greater than the control limit. The positive result in the parent sample was estimated (J-9).

- Sample SB-15D-3-4: The %R values for 2,4,5-T were greater than the upper control limit. This compound was not detected in the parent sample. No action was required.

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

SDG P161509: One set of field duplicates (MW-9-7-8 and MW-D1-1-7-8) was collected. Field precision was acceptable.

SDG P161579: Three sets of field duplicates were submitted: SB-6-0-0.5 & SB-6D-0-0.5, SB-11-3-4 & SB-11D-3-4, and SB-15-3-4 & SB-15D-3-4.

For SB-11-3-4 & SB-11D-3-4, the difference between the sample and the replicate was greater than 2X the reporting limit for 2,4-D, MCPA, 2,4-DB, and 2,4,5-T. The RPD was greater than the control limit for 2,4,5-TP and dicamba.

For SB-15-3-4 & SB-15D-3-4, the difference between the sample and the replicate was greater than 2X the reporting limit for 2,4-D, MCPA, and dicamba.

Calculation Verification

SDG P161509: Results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the MS/MSD and field duplicate RPD values.

Results were estimated because of a cooler temperature that was greater than 20°C, CCAL %D outliers, LCS recovery outliers, and MS/MSD precision and accuracy outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Herbicides/Pesticides by Method SW8270D Mod: GC-MS/MS
Residue Screening

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
P161666	15 Groundwater	EPA Stage 2B
P162574	15 Groundwater	EPA Stage 2B

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	✓	Surrogate Compounds
✓	Initial Calibration (ICAL)	1	Field Duplicates
✓	Continuing Calibration (CCAL)	✓	Target Analyte List
✓	Laboratory Blanks	✓	Reporting Limits
1	Field Blanks	✓	Compound Identification
✓	Laboratory Control Samples (LCS)	✓	Reported Results
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P161666: The cooler temperature was greater than the control limit of 6°C, at 14°C. Data was judged to be not significantly affected. No action was taken.

SDG P162574: The cooler temperatures were greater than the control limit of 6°C (range 7.7°C to 9.9°C). Data was judged to be not significantly affected. No action was taken.

Field Blanks

No field blanks were collected.

Laboratory Control Sample/Laboratory Control Sample Duplicates

Because this is a screening method, the lab did not spike for the full suite of analytes. Only atrazine, ethofumesate, and napropamide were spiked. All recoveries were acceptable

Matrix Spike/Matrix Spike Duplicates

SDG P161666: Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed using Sample MW-08-081016. The relative percent difference (RPD) value for atrazine was greater than control limit of 20%, at 26%. The positive result for atrazine in the parent sample was estimated (J-9).

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than the RL.

SDG P161666: One set of field duplicates (MW-07-081016 & MW-07D-081016) was collected. Field precision was acceptable.

SDG P162574: One set of field duplicates (MW-5-110916 & MW-5D-110916) was collected. Field precision was acceptable.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed their modified 8270 residue screening method. Accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values. With the exception noted previously, precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

One result was estimated because of an MS/MD RPD outlier.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Herbicides/Pesticides by Method SW8270D Mod: GC-MS/MS
Residue Screening

This report documents the review of analytical data from the analysis of soil samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P161509	12 Soil 13 Soil	EPA Stage 4 EPA Stage 2B
P161579	45 Soil 1 Rinsate Blank	EPA Stage 2B EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	2	Surrogate Compounds
2	Initial Calibration (ICAL)	2	Field Duplicates
2	Continuing Calibration (CCAL)	✓	Target Analyte List
✓	Laboratory Blanks	1	Reporting Limits
1	Field Blanks	✓	Compound Identification
1	Laboratory Control Samples (LCS)	2	Reported Results
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	1	Calibration Verification

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P161509: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 21°C. All results were estimated (J/UJ-1).

SDG P161579: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 10°C. Data was judged to be not significantly affected. No action was taken.

Initial Calibration

SDG P161579: For the ICAL analyzed on 08/20/16, the coefficient of determination (r^2) was less than the control limit of 0.990 for atrazine. The positive results for atrazine in the associated samples were estimated (J-5A).

Continuing Calibration

SDG P161509: Three of the four continuing calibration standards had one or more percent difference (%D) outliers that indicated a potential high bias. There were no positive results in the associated samples; no action was taken. CCAL %D outliers for metribuzin represented a decrease in instrument response. Metribuzin results in the associated samples were estimated (UJ-5BL) to indicate a potential low bias.

SDG P161579: There were several percent difference (%D) values outside the ±25% control limits. For %D values less than -25%, positive results and reporting limits in the associated samples were estimated (J/UJ-5BL) to indicate a potential low bias. For %D values greater than +25%, positive results were estimated (J-5BH) to indicate a potential high bias.

Field Blanks

SDG 161579: One rinsate blank, Rinsate-2, was submitted with this SDG. There were no positive results in the rinsate blank.

Laboratory Control Samples

Only atrazine, ethofumesate, and napropamide were spiked.

Matrix Spike/Matrix Spike Duplicates

Only atrazine, ethofumesate, and napropamide were spiked.

SDG P161579: Three sets of matrix spike/matrix spike duplicates (MS/MSD) were analyzed using samples SB-4-7-8, SB-9-0.5-1, and SB-11D-3-4.

For QC sample SB-9-0.5-1, the atrazine percent recovery (%R) and relative percent difference (RPD) values were greater than the control limits. The positive result in the parent sample was estimated (J-8H,9). The %R values for ethofumesate and napropamide were greater than the control limit. There were no positive results in the parent sample for these compounds. No action was required.

For QC sample SB-11D-3-4, the atrazine %R value was greater than the upper control limit for the MSD, but acceptable for the MS. No action was required.

Surrogate Compounds

SDG P161509: The surrogate %R values for Samples MW-14-0-0.5, MW-14-2-3, MW-9-0.5-1, MW-9-4-5, and MW-9-7-8 were greater than the upper control limit of 120%, indicating a potential high bias. Positive results for atrazine and simazine in Sample MW-9-4-5 were estimated (J-13H). There were no other positive results in these samples.

SDG P161579: The surrogate %R values for the following samples were greater than the upper control limit of 120%, indicating a potential high bias. Positive results were estimated (J-13H). No action was taken for non-detected results.

SB-5-0.5-1	SB-8-0.5-1	SB-11-3-4	SB-16-0.5-1
SB-6D-0-0.5	SB-9-0.5-1	SB-12-0.5-1	SB-16-3-4
SB-6-0-0.5	SB-9-3-4	SB-12-3-4	SB-16-5-6
SB-7-0.5-1	SB-10-0.5-1	SB-13-0.5-1	Culvert-1
SB-7-3-4	SB-11-0.5-1	SB-15-0.5-1	

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

SDG P161509: One set of field duplicates, MW-9-7-8 and MW-D1-1-7-8, was collected. Field precision was acceptable.

SDG P161579: Three sets of field duplicates were collected: SB-11-3-4 & SB-11D-3-4, SB-15-3-4 & SB-15D-3-4, and SB-6-0-0.5 & SB-6D-0-0.5. For field duplicate set SB-11-3-4 & SB-11D-3-4, the difference values for ametryn and hexazinone were greater than the control limit.

Reporting Limits

The target reporting limit for metribuzin was 0.0067 mg/Kg. The laboratory reported a value of 0.013 mg/Kg.

Reported Results

SDG P161579: The laboratory E-flagged several results to indicate the reported result was estimated. These results were estimated (J-14).

Calculation Verification

SDG P161509: Results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed their modified 8270 residue screening method. With the exceptions noted previously, accuracy was acceptable as demonstrated by the LCS, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the MS/MSD and field duplicate RPD values.

Results were estimated based on a cooler temp that was greater than 20°C, surrogate recovery outliers, CCAL %D outliers, and to reflect lab flags.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Pesticides by Method SW8321B Mod: LC-MS/MS

This report documents the review of analytical data from the analyseis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P161666	15 Groundwater	EPA Stage 2B
P162574	15 Groundwater	EPA Stage 2B

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	✓	Surrogate Compounds
✓	Initial Calibration (ICAL)	1	Field Duplicates
1	Continuing Calibration (CCAL)	✓	Target Analyte List
✓	Laboratory Blanks	1	Reporting Limits
1	Field Blanks	✓	Compound Identification
1	Laboratory Control Samples (LCS/LCSD)	✓	Reported Results
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)		

✓ ***Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.***
1 ***Quality control results are discussed below, but no data were qualified.***
2 ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Receipt, Preservation, and Holding Times

SDG P161666: The cooler temperature was greater than the control limit of 6°C at 14°C. Data was judged to be not significantly affected. No action was taken.

SDG P162574: The cooler temperatures were greater than the control limit of 6°C (range 7.7°C to 9.9°C). Data was judged to be not significantly affected. No action was taken.

Continuing Calibration

SDG P161666: The percent difference (%D) values for several compounds were greater than the control limit of 20% and indicated and increase in instrument response. There were no positive results associated with the outliers. No action was required.

Field Blanks

No field blanks were collected.

Laboratory Control Samples

Only diuron, fluometuron, and thiobencarb were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

SDG P161666: Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on Sample MW-08-081016. The relative percent difference (RPD) value for diuron was greater than the control limit of 20%, at 26%. The positive result for diuron in the parent sample was estimated (J-9).

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than the RL.

SDG P161666: One set of field duplicates (MW-07-081016 & MW-07D-081016) was collected. Field precision was acceptable.

SDG P162574: One set of field duplicates (MW-5-110916 & MW-5D-110916) was collected. Field precision was acceptable.

Reporting Limits

The reporting limit for propargite was greater than the QAPP required reporting limit.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values. With the exception noted above, precision was also acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

One result was estimated because of an MS/MSD precision outlier.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Pesticides by Method SW8321B Mod: LC-MS/MS

This report documents the review of analytical data from the analysis of soil samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P161509	12 Soil 13 Soil	EPA Stage 4 EPA Stage 2B
P161579	45 Soil 1 Rinsate Blank	EPA Stage 2B EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	2	Surrogate Compounds
1	Initial Calibration (ICAL)	1	Field Duplicates
1	Continuing Calibration (CCAL)	✓	Target Analyte List
✓	Laboratory Blanks	✓	Reporting Limits
1	Field Blanks	✓	Compound Identification
1	Laboratory Control Samples (LCS)	✓	Reported Results
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	1	Calibration Verification

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG 161509: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 21°C. All results were estimated (J/UJ-1).

SDG 161579: The temperatures of the coolers upon receipt at the laboratory was greater than the upper control limit of 6°C, at an average of 10°C. Data was judged to be not significantly affected. No action was taken.

Continuing Calibration

SDG P161579: There were several percent difference (%D) values greater than the upper control limit, indicating a potential high bias. There were no positive results associated with the outliers. No action was required.

Field Blanks

SDG 161579: One rinsate blank, Rinsate-2, was submitted with this SDG. There were no positive results in the rinsate blank.

Laboratory Control Samples

Only diuron, fluometuron, and thiobencarb were spiked.

SDG P161579: For the LCS extracted 08/17/16, the percent recovery (%R) value for thiobencarb was greater than the upper control limit, indicating a potential high bias. There were no positive results for thiobencarb in the associated samples. No action was required.

Matrix Spike/Matrix Spike Duplicates

Only diuron, fluometuron, and thiobencarb were spiked.

SDG P161579: Three sets of matrix spike/matrix spike duplicates (MS/MSD) were analyzed using Samples SB-4-7-8, SB-9-0.5-1, and SB-11D-3-4.

For QC sample SB-9-0.5-1, the %R values for thiobencarb were less than the lower control limit, indicating a potential low bias. This compound was not present in the parent sample. The reporting limit was estimated (UJ-8L).

Surrogate Compounds

SDG P161509: For Sample MW-12-1.5-2, the surrogate percent recovery (%R) value was less than the lower control limit. There were no positive results in this sample. Reporting limits were estimated (UJ-13L) to indicate a potential low bias.

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

SDG P161509: One set of field duplicates, MW-9-7-8 and MW-D1-1-7-8, was collected. Field precision was acceptable.

SDG P161579: Three sets of field duplicates were collected: SB-11-3-4 & SB-11D-3-4, SB-15-3-4 & SB-15D-3-4, and SB-6-0-0.5 & SB-6D-0-0.5.

For field duplicate set SB-11-3-4 & SB-11D-3-4, the difference value for carbofuran was greater than the control limit.

For field duplicate set SB-15-3-4 & SB-15D-3-4, the RPD value for diuron was greater than the control limit.

Calculation Verification

SDG P161509: Results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted previously, accuracy was acceptable as demonstrated by the LCS, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the MS/MSD and field duplicate RPD values.

Results were estimated because of surrogate and MS/MSD recovery outliers and based on a cooler temperature that was greater than 20°C.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation
Glyphosate/AMPA by Method Monsanto: LC-FLD

This report documents the review of analytical data from the analysis of soil samples and the associated laboratory quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P161579	3 Soil	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Surrogate Compounds
✓	Initial Calibration (ICAL)	1	Field Duplicates
✓	Continuing Calibration (CCAL)	✓	Target Analyte List
✓	Laboratory Blanks	✓	Reporting Limits
1	Field Blanks	✓	Compound Identification
✓	Laboratory Control Samples (LCS)	✓	Reported Results
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	1	Calculation Verification

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C at 10°C. Data was judged to be unaffected. No action was taken.

Field Blanks

No field blanks were collected.

Matrix Spikes (MS)

Two batch QC matrix spike (MS) samples were analyzed with this SDG. The percent recovery (%R) values were within control limits. There were no precision analyses performed. Precision could not be evaluated.

Surrogate Compounds

Surrogates were not added to these samples.

Field Duplicates

Field duplicates were not collected.

Calculation Verification

Results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the laboratory control sample and MS recoveries. Precision could not be evaluated.

All data, as reported, are acceptable for use.

ECOCHEM
Data Quality

APPENDIX A

DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES
Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.

DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L)[1] where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L)[1] where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L)[1] for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L)[1] where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L)[1] where appropriate
	12	Reference Material Use bias flags (H,L)[1] where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L)[1] where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L)[1] where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

[1] H = high bias indicated
L = low bias indicated

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG (2) Method (3)	J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C(3)
Holding Time	*Extraction Aqueous:* 7 days from collection *Extraction Solid:* 14 days from collection *Exraction Tissue/Sediment (frozen):* 1 year *Analysis (all matrices):* 40 days from extraction	NFG (2) Method (3)	J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Resolution Check	Beginning of ICAL sequence Within RTW and resolution > 60%	NFG (2)	NJ (pos)/R (ND) results	14	CLP criterion; might not be submitted with SW846 data package
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Target analytes: within RTW	NFG (2) Method (3)	NJ (pos)/R (ND) results for analytes with RT shifts	24	Use PJ based on examination of raw data
Breakdown	DDT Breakdown: ≤ 20% Endrin Breakdown: ≤ 20% Combined Breakdown: ≤ 30% Compounds within RTW	NFG (2) Method (3)	If 4,4'-DDT is detected: J (pos) 4,4'-DDT, 4,4'-DDD and 4,4'-DDE If 4,4'-DDT is ND and either 4,4'-DDD or 4,4'-DDE are detected: R (ND) 4,4'-DDT, NJ (pos) DDD and DDE If Endrin is detected: J (pos) Endrin, Endrin Aldehyde and Endrin Ketone If Endrin is ND and either EA or EK are detected: R (ND) Endrin, NJ (pos) EA and EK	5A	Method 8081B breakdown criterion: ≤ 15%. For combined breakdown outliers, apply qualifiers considering the degree of individual breakdown.

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Initial Calibration	Single Component Compounds: RSD ≤ 20% alpha-BHC and delta-BHC: RSD ≤ 25% toxaphene and surrogates: RSD ≤ 30% **or** correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with coefficient of determination (r^2-value) ≥ 0.99	NFG (2) Method (4)	J (pos) if %RSD greater than control limit **or** r-value < 0.995 **or** r^2-value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L) (6) where appropriate
Initial Calibration Verification (ICV)	No NFG criteria Project specific	Project QAPP	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) (6) where appropriate
Continuing Calibration	%D ± 20% Analyzed prior to each 12 hour shift	Method (3)	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L)(6) where appropriate
Blank Contamination					
Method Blank (MB)	One per matrix per batch (of ≤ 20 samples) No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** #1 - Review MB and IB, qualify as needed #2 - Review FB , qualify as needed **Note: Actions as per NFG 1999** Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG (1)	U (pos) if result is less than appropriate 5X action level.	7	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria No action if native analyte conc. > 5x the amount spiked Use bias flags (H,L) (6) where appropriate
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND
LCS	One per lab batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Qualify all associated samples. Use bias flags (H,L) (6) where appropriate
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG (2)	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% **or** project limits	NFG (2) Method (3)	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (dilution is a factor), use PJ Use bias flags (H,L) (6) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method (3)	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Field Duplicates	**Solids:** RPD < 50% **or** difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% **or** difference < 1X RL (for results < 5X RL)	EcoChem standard practice	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG [2] Method [3]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info
Calibration Range	On-column concentration < high calibration standard	NFG [2] Method [3]	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 for additional info
Sample Clean-up					
GPC/Sulfur/ Florisil	GPC or Florisil cleanup stndards 80% - 120%	NFG [2]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	14	Cleanups are optional under SW846 Use bias flags (H,L) [6] where appropriate

[1] National Functional Guidelines for Organic Data Review, October 1999
[2] National Functional Guidelines for Organic Data Review, June, 2008
[3] Organochlorine Pesticides by Gas Chromatography USEPA Method SW846 8081B, Feb 2007, Rev. 2
[4] SW846, Chapter 4, Organic Analytes
[5] Determinative Chromatographic Separations , Method 8000C , March 2003, Rev.3
[6] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

Copyright 2014 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C sediment/tissues may require storage at -20°C	NFG [(1)] Method [(3)]	**If required by project:** J (pos)/UJ (ND) if greater than 6° C	1	Use **PJ** for temp outliers; see **TM20** Current SW846 criterion is ≤ 6° C [(3)]
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Analysis (all matrices)**: 40 days from extraction Holding time may be extended to 1 year for frozen sediments/tissues	NFG [(1)] Method [(3)]	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	DFTPP Beginning of each 12 hour period Use method or project acceptance criteria	NFG [(1)] Method [(3)]	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG [(1)] Method [(3)]	Use **PJ** to qualify J (pos)/UJ (ND)	5A	**TM-06** EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance **PJ** - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration **Stability**	Minimum 5 standards %RSD ≤ 20.0% except: %RSD ≤ 40.0% poor responders * **or** co-efficient of determination (r^2) > 0.99	NFG [(1)] Method [(3)]	J (pos) if %RSD > limit **or** r^2 value <0.99	5A	
Initial Calibration Verification Check	Prepared from second source; analyze after each ICAL Percent recovery limits = 70-130%	Method [(3)]	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L)[4]	QAPP may have overriding accuracy limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Continuing Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG (1) Method (3)	Use **PJ** to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration **Stability**	Prior to sample analysis and every 12 hours %D ≤ 25% except: %D ≤ 40.0% poor responders *	NFG (1) Method (3)	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L)[4]	
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > MDL	NFG (2) Method (3)	U(pos) if result is < 5X or 10X action level	7	10X action level applies to phthalates only. 5X for all other target analytes **Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed** **Note: Actions as per 1999 NFG**
	No TICs present		R (pos) TICs using 10X rule	7	
Field Blank (FB)	No detected compounds > MDL	NFG (2) Method (3)	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of ≤ 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method (3)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L)[4]	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits. Qualify all associated samples.
LCS/LCSD (RPD)	If LCSD analyzed RPD < lab limits	Method (3)	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L)[4]	QAPP may have overriding accuracy limits. Some manufacturers have different RM control limits
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG [(1)] Method [(3)]	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L)[4]	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG [(1)] Method [(2)]	J (pos) in parent sample if RPD > CL	9	Qualify parent sample only
Surrogates	Minimum of 3 acid & 3 base/neutral (B/N) compounds added to all samples Within method control limits	NFG [(1)] Method [(3)]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	13 (H,L)[4]	Qualify all compounds in associated fraction. Do not qualify if only 1 acid and/or 1 B/N surrogate is out, unless <10%. If 1 surrogate outlier < 10% then J (pos)/R (ND)
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG [(1)] Method [(3)]	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use **PJ**	19	Qualify compounds quantified using particular internal standard
Field Duplicates	**Solids:** RPD < 50% OR difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification and Quantitation and Calculation					
Retention times and relative ion intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG [(1)] Method [(3)]	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG [(1)] Method [(3)]	NJ the TIC unless: R (pos) common laboratory contaminants	4	
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04** EcoChem Policy for Rejection/Selection Process for Multiple Results

[1] National Functional Guidelines for Organic Data Review, June, 2008
[2] National Functional Guidelines for Organic Data Review, October, 1999
[3] Method SW846 8270D Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007.
[4] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

(pos): Positive Result(s)
(ND): Non-detects

* "Poor responder" compounds: acetophenone, atrazine, benzaldehyde, 1,1'-biphenyl, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, caprolactam, carbazole, 4-chloroaniline, diethylphthalate, di-n-butylphthalate, 3-3'-dichlorobenzidine, dimethylphthalate, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, di-n-octylphthalate, hexachlorobutadiene, hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, 4-nitrophenol, N-nitrosodiphenylamine, 2,2'-oxybis-(1-chloropropane), 1,2,4,5-tetrachlorobenzene use a 0.010 RRF criterion.

Copyright 2015 EcoChem, Inc.

ECOCHEM
Data Quality

APPENDIX B

QUALIFIED DATA SUMMARY TABLE

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-13-0-0.5	P161509-01	EPA 8151A (GC-MS/MS)	2,4-D	0.12	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	EPA 8151A (GC-MS/MS)	MCPA	0.020	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	EPA 8151A (GC-MS/MS)	2,4-DB	0.031	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.025	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	EPA 8151A (GC-MS/MS)	Dicamba	0.090	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Dieldrin	0.16	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	Trifluralin	0.18	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Simazine	0.031	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.013	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	0.63	mg/kg	J	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Carbaryl	0.013	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Diuron	0.59	mg/kg	J	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-13-0-0.5	P161509-01	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	EPA 8151A (GC-MS/MS)	2,4-D	0.024	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	EPA 8151A (GC-MS/MS)	MCPA	0.015	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1,8L
P161509	MW-13-1-2	P161509-02	EPA 8151A (GC-MS/MS)	2,4-DB	0.027	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.013	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	EPA 8151A (GC-MS/MS)	Dicamba	0.10	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Chlordane	0.50	mg/kg	J	1,5BL
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	p,p'-DDD	0.14	mg/kg	J	1,14
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	p,p'-DDE	0.075	mg/kg	J	1,14
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	p,p'-DDT	0.51	mg/kg	J	1,14
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Dieldrin	0.28	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	Trifluralin	0.31	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Ametryn	0.022	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Simazine	0.033	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.030	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	0.079	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Carbaryl	0.0068	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Diuron	0.25	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Linuron	0.036	mg/kg	J	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-13-1-2	P161509-02	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-13-3.5-4.5	P161509-03	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	EPA 8151A (GC-MS/MS)	2,4-D	0.038	mg/kg	J	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-12-0-0.5	P161509-04	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	EPA 8151A (GC-MS/MS)	MCPA	0.017	mg/kg	J	1
P161509	MW-12-0-0.5	P161509-04	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	EPA 8151A (GC-MS/MS)	2,4,5-T	0.019	mg/kg	J	1,10H
P161509	MW-12-0-0.5	P161509-04	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.067	mg/kg	J	1
P161509	MW-12-0-0.5	P161509-04	EPA 8151A (GC-MS/MS)	Dicamba	0.64	mg/kg	J	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-12-0-0.5	P161509-04	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	EPA 8151A (GC-MS/MS)	Pentachlorophenol	0.12	mg/kg	J	1
P161509	MW-12-1.5-2	P161509-05	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	EPA 8151A (GC-MS/MS)	2,4,5-T	0.019	mg/kg	J	1,10H
P161509	MW-12-1.5-2	P161509-05	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	EPA 8151A (GC-MS/MS)	Dicamba	0.033	mg/kg	J	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1,13L
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1,13L
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1,13L
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1,13L
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1,13L
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1,13L
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1,13L
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1,13L
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1,13L
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1,13L
P161509	MW-12-1.5-2	P161509-05	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1,13L
P161509	MW-12-5-6	P161509-06	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-12-5-6	P161509-06	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-14-0-0.5	P161509-07	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Diuron	0.021	mg/kg	J	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-14-0-0.5	P161509-07	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-14-2-3	P161509-08	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-14-4-5	P161509-09	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	EPA 8151A (GC-MS/MS)	2,4-D	0.11	mg/kg	J	1
P161509	MW-9-0.5-1	P161509-10	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	EPA 8151A (GC-MS/MS)	MCPA	0.017	mg/kg	J	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-9-0.5-1	P161509-10	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Diuron	0.036	mg/kg	J	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-9-0.5-1	P161509-10	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Simazine	0.0081	mg/kg	J	1,13H
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.014	mg/kg	J	1,13H
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Diuron	0.018	mg/kg	J	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-9-4-5	P161509-11	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-9-7-8	P161509-12	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-D1-7-8	P161509-13	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-D1-7-8	P161509-13	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	EPA 8151A (GC-MS/MS)	2,4-D	0.11	mg/kg	J	1
P161509	SB-1-0.5-1	P161509-14	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	EPA 8151A (GC-MS/MS)	MCPA	0.031	mg/kg	J	1
P161509	SB-1-0.5-1	P161509-14	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.014	mg/kg	J	1
P161509	SB-1-0.5-1	P161509-14	EPA 8151A (GC-MS/MS)	Dicamba	0.036	mg/kg	J	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.014	mg/kg	J	1,5BL
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Simazine	0.048	mg/kg	J	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.025	mg/kg	J	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Carbaryl	0.010	mg/kg	J	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Diuron	0.024	mg/kg	J	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	SB-1-0.5-1	P161509-14	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	SB-1-2-3	P161509-15	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-1-7-8	P161509-16	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	SB-1-7-8	P161509-16	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	EPA 8151A (GC-MS/MS)	2,4-D	0.050	mg/kg	J	1
P161509	MW-10-0-0.5	P161509-17	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	EPA 8151A (GC-MS/MS)	MCPA	0.030	mg/kg	J	1
P161509	MW-10-0-0.5	P161509-17	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	EPA 8151A (GC-MS/MS)	Dicamba	3.4	mg/kg	J	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Carbofuran	0.070	mg/kg	J	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Diuron	0.017	mg/kg	J	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-10-0-0.5	P161509-17	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	EPA 8151A (GC-MS/MS)	Dicamba	0.013	mg/kg	J	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1,5BL
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1,5BL
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1,5BL
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1,5BL
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1,5BL
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-10-1.5-2.5	P161509-18	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-10-4-5	P161509-19	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-10-4-5	P161509-19	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	EPA 8151A (GC-MS/MS)	2,4-D	0.49	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	EPA 8151A (GC-MS/MS)	Dinoseb	0.40	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	EPA 8151A (GC-MS/MS)	MCPA	0.081	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	EPA 8151A (GC-MS/MS)	2,4-DB	0.075	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.034	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	EPA 8151A (GC-MS/MS)	Dicamba	0.24	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	Trifluralin	0.49	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Prometon	0.013	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Simazine	0.36	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.040	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Carbaryl	0.049	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Carbofuran	0.012	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Diuron	0.20	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Linuron	0.012	mg/kg	J	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-11-0-0.5	P161509-20	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	EPA 8151A (GC-MS/MS)	2,4-D	0.28	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	EPA 8151A (GC-MS/MS)	Dinoseb	0.052	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	EPA 8151A (GC-MS/MS)	MCPA	0.014	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	EPA 8151A (GC-MS/MS)	2,4-DB	0.23	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.022	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	EPA 8151A (GC-MS/MS)	Dicamba	0.19	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	Trifluralin	0.25	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.010	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Prometon	0.033	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Simazine	4.1	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.014	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Carbaryl	0.0091	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Carbofuran	0.0084	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Diuron	0.037	mg/kg	J	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-11-1.5-2	P161509-21	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-11-7.5-8	P161509-22	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	MW-11-7.5-8	P161509-22	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	EPA 8151A (GC-MS/MS)	2,4-D	1.4	mg/kg	J	1
P161509	SB-2-0.5-1	P161509-23	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	EPA 8151A (GC-MS/MS)	MCPA	0.48	mg/kg	J	1
P161509	SB-2-0.5-1	P161509-23	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	EPA 8151A (GC-MS/MS)	2,4-DB	0.022	mg/kg	J	1
P161509	SB-2-0.5-1	P161509-23	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	EPA 8151A (GC-MS/MS)	Dicamba	0.36	mg/kg	J	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.57	mg/kg	J	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.18	mg/kg	J	1,5BL
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.070	mg/kg	J	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Diuron	0.37	mg/kg	J	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	SB-2-0.5-1	P161509-23	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	EPA 8151A (GC-MS/MS)	2,4-D	1.4	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	EPA 8151A (GC-MS/MS)	MCPA	0.75	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	EPA 8151A (GC-MS/MS)	2,4-DB	0.064	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.11	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	EPA 8151A (GC-MS/MS)	Dicamba	10	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.67	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Toxaphene	12	mg/kg	J	1,5BH
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Chlordane	6.6	mg/kg	J	1,5BL
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	p,p'-DDD	0.14	mg/kg	J	1,5BH,14
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	p,p'-DDE	0.24	mg/kg	J	1,14

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	p,p'-DDT	0.34	mg/kg	J	1,5BL,14
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Dieldrin	2.7	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.42	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.043	mg/kg	J	1,5BL
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Prometon	0.054	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.012	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Carbaryl	0.13	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Carbofuran	0.0069	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Diuron	0.032	mg/kg	J	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	SB-2-2.5-3.5	P161509-24	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	EPA 8151A (GC-MS/MS)	2,4-D	0.012	mg/kg	J	1
P161509	SB-2-4-5	P161509-25	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-2-4-5	P161509-25	EPA 8151A (GC-MS/MS)	Dicamba	0.075	mg/kg	J	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1,5BL
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1,5BL
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1,5BL
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1,5BL
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1,5BL
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-2-4-5	P161509-25	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,5B
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	mg/kg	UJ	1,5BL
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Linuron	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	mg/kg	UJ	1
P161509	SB-2-4-5	P161509-25	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	1
P161666	MW-09-081016	P161666-01	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-09-081016	P161666-01	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-09-081016	P161666-01	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	a-Chlordane	3.3	ug/L	J	5A, 5BH,14
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	p,p'-DDE	0.76	ug/L	J	5BH, 14
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	p,p'-DDT	1.5	ug/L	J	5A, 5BH,14
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	Dieldrin	10	ug/L	J	5BH,14
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-04-081016	P161666-02	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-07-081016	P161666-03	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-07-081016	P161666-03	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-07D-081016	P161666-04	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-07D-081016	P161666-04	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-08-081016	P161666-05	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-08-081016	P161666-05	Modified EPA 8270D (GC-MS/MS)	Atrazine	1.8	ug/L	J	9
P161666	MW-08-081016	P161666-05	Modified EPA 8321B (LC-MS/MS)	Diuron	0.42	ug/L	J	9
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.30	ug/L	J	5A,14
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Dieldrin	0.69	ug/L	J	14
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Oxadiazon	0.34	ug/L	J	5A,14
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-06-081016	P161666-06	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-05-081016	P161666-07	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-05-081016	P161666-07	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-13-081016	P161666-08	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-13-081016	P161666-08	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-11-081016	P161666-09	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-11-081016	P161666-09	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-14-081016	P161666-10	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-14-081016	P161666-10	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161666	MW-2-081116	P161666-11	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-2-081116	P161666-11	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-2-081116	P161666-11	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-12-081116	P161666-12	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-12-081116	P161666-12	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161666	MW-10-081116	P161666-13	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-10-081116	P161666-13	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-10-081116	P161666-13	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL
P161666	MW-3-081116	P161666-14	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-3-081116	P161666-14	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.20	ug/L	J	5A,14
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Dieldrin	0.61	ug/L	J	14
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	5BL

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Oxadiazon	0.22	ug/L	J	5A,14
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Pendimethalin	0.46	ug/L	J	14
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	5B
P161666	MW-01-081116	P161666-15	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	5B
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Dieldrin	0.35	mg/kg	J	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-3-0.5-1	P161579-02	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.0090	mg/kg	J	14
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1,13L
P161579	SB-3-2.5-3.5	P161579-03	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1,13L
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-3-5.5-6.5	P161579-04	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1,13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1,13L
P161579	SB-4-0.5-1	P161579-05	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1,13L
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-4-3-4	P161579-06	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	EPA 8151A (GC-MS/MS)	Dicamba	0.10	mg/kg	J	9

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-4-7-8	P161579-07	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	a-Chlordane	5.6	mg/kg	J	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Toxaphene	18	mg/kg	J	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Chlordane	38	mg/kg	J	1,5BH
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	p,p'-DDD	0.20	mg/kg	J	1,14
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	p,p'-DDE	3.2	mg/kg	J	1,14
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	p,p'-DDT	4.2	mg/kg	J	1,14
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Dieldrin	31	mg/kg	J	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Aldrin	8.3	mg/kg	J	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Endosulfan II	0.30	mg/kg	J	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Heptachlor	0.43	mg/kg	J	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.048	mg/kg	J	13H
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.022	mg/kg	J	13H
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8270D (GC-MS/MS)	Prometon	0.37	mg/kg	J	13H
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8270D (GC-MS/MS)	Simazine	0.14	mg/kg	J	13H
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.24	mg/kg	J	13H
P161579	SB-5-0.5-1	P161579-08	Modified EPA 8270D (GC-MS/MS)	Cyanazine	0.29	mg/kg	J	13H
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-5-3-4	P161579-09	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.11	mg/kg	J	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Chlordane	0.61	mg/kg	J	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1,14
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1,14
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	p,p'-DDT	0.14	mg/kg	J	1,14

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Dieldrin	0.44	mg/kg	J	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Aldrin	0.14	mg/kg	J	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-5-5-6	P161579-10	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	a-Chlordane	8.0	mg/kg	J	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Toxaphene	100	mg/kg	J	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Chlordane	67	mg/kg	J	1,5BH
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	p,p'-DDD	1.2	mg/kg	J	1,14
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	p,p'-DDE	4.3	mg/kg	J	1,14
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	p,p'-DDT	4.9	mg/kg	J	1,14
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Dieldrin	42	mg/kg	J	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Aldrin	17	mg/kg	J	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Endosulfan II	0.97	mg/kg	J	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8270D (GC-MS/MS)	Ametryn	0.0070	mg/kg	J	13H,14
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.070	mg/kg	J	13H
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.098	mg/kg	J	13H
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8270D (GC-MS/MS)	Prometon	0.30	mg/kg	J	13H
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8270D (GC-MS/MS)	Simazine	0.023	mg/kg	J	13H
P161579	SB-6D-0-0.5	P161579-11	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.12	mg/kg	J	13H
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	a-Chlordane	9.9	mg/kg	J	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Toxaphene	120	mg/kg	J	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Chlordane	84	mg/kg	J	1,5BH
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	p,p'-DDD	1.6	mg/kg	J	1,14
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	p,p'-DDE	5.4	mg/kg	J	1,14
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	p,p'-DDT	5.7	mg/kg	J	1,14
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Dieldrin	46	mg/kg	J	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Aldrin	20	mg/kg	J	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Endosulfan II	1.5	mg/kg	J	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8270D (GC-MS/MS)	Ametryn	0.0079	mg/kg	J	13H
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.083	mg/kg	J	13H
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.11	mg/kg	J	13H
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8270D (GC-MS/MS)	Prometon	0.38	mg/kg	J	13H
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8270D (GC-MS/MS)	Simazine	0.030	mg/kg	J	13H
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.13	mg/kg	J	13H
P161579	SB-6-0-0.5	P161579-12	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	0.013	mg/kg	J	13H
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.42	mg/kg	J	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Chlordane	3.1	mg/kg	J	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1,14
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	p,p'-DDE	0.21	mg/kg	J	1,14
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	p,p'-DDT	0.35	mg/kg	J	1,14
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Dieldrin	1.3	mg/kg	J	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Aldrin	0.24	mg/kg	J	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-6-2-3	P161579-13	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.46	mg/kg	J	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Chlordane	2.6	mg/kg	J	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Dieldrin	1.6	mg/kg	J	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-6-5-6	P161579-14	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-6-5-6	P161579-14	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.0091	mg/kg	J	13H
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.056	mg/kg	J	13H
P161579	SB-7-0.5-1	P161579-15	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.036	mg/kg	J	13H
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-7-3-4	P161579-16	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.029	mg/kg	J	13H
P161579	SB-7-3-4	P161579-16	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.032	mg/kg	J	13H
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-7-4-5	P161579-17	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1,14
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1,14
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	p,p'-DDT	0.77	mg/kg	J	1,14
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.26	mg/kg	J	13H
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.021	mg/kg	J	13H
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8270D (GC-MS/MS)	Prometon	0.11	mg/kg	J	13H
P161579	SB-8-0.5-1	P161579-18	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.054	mg/kg	J	13H
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-8-3-4	P161579-19	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1,13L
P161579	SB-8-4-5	P161579-20	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1,13L
P161579	SB-9-0.5-1	P161579-21	EPA 8151A (GC-MS/MS)	2,4,5-T	0.022	mg/kg	J	9
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Chlordane	7.6	mg/kg	J	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1,14
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	p,p'-DDE	1.1	mg/kg	J	1,14
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	p,p'-DDT	1.2	mg/kg	J	1,14
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Dieldrin	1.7	mg/kg	J	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8270D (GC-MS/MS)	Ametryn	0.011	mg/kg	J	13H,14
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.15	mg/kg	J	13H
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.024	mg/kg	J	13H
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8270D (GC-MS/MS)	Prometon	0.069	mg/kg	J	13H
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8270D (GC-MS/MS)	Prometryn	0.014	mg/kg	J	13H
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8270D (GC-MS/MS)	Simazine	0.072	mg/kg	J	13H
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.046	mg/kg	J	8H,9,13H
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	0.015	mg/kg	J	13H
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8270D (GC-MS/MS)	Cyanazine	0.083	mg/kg	J	5BH,13H
P161579	SB-9-0.5-1	P161579-21	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	mg/kg	UJ	8L
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	a-Chlordane	1.4	mg/kg	J	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Toxaphene	68	mg/kg	J	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Chlordane	14	mg/kg	J	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	p,p'-DDD	0.46	mg/kg	J	1,14
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	p,p'-DDE	0.96	mg/kg	J	1,14
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	p,p'-DDT	2.9	mg/kg	J	1,14
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Dieldrin	1.8	mg/kg	J	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Endosulfan II	0.61	mg/kg	J	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	1.1	mg/kg	J	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-9-3-4	P161579-22	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.051	mg/kg	J	13H
P161579	SB-9-3-4	P161579-22	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.018	mg/kg	J	13H
P161579	SB-9-3-4	P161579-22	Modified EPA 8270D (GC-MS/MS)	Prometon	0.33	mg/kg	J	13H
P161579	SB-9-3-4	P161579-22	Modified EPA 8270D (GC-MS/MS)	Simazine	0.014	mg/kg	J	13H
P161579	SB-9-3-4	P161579-22	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.088	mg/kg	J	13H
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-9-4-5	P161579-23	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Dieldrin	0.35	mg/kg	J	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.11	mg/kg	J	13H
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.072	mg/kg	J	13H
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8270D (GC-MS/MS)	Prometon	0.030	mg/kg	J	13H
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8270D (GC-MS/MS)	Prometryn	0.013	mg/kg	J	13H,14
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8270D (GC-MS/MS)	Simazine	0.022	mg/kg	J	13H,14
P161579	SB-10-0.5-1	P161579-24	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.034	mg/kg	J	5A,13H
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-10-2-3	P161579-25	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-10-9-10	P161579-26	Modified EPA 8270D (GC-MS/MS)	Prometon	0.034	mg/kg	J	14
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1,5BL
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1,5BL
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.047	mg/kg	J	13H
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.12	mg/kg	J	13H
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8270D (GC-MS/MS)	Prometon	0.016	mg/kg	J	13H,14

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-11-0.5-1	P161579-27	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.024	mg/kg	J	5A,13H
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-11-3-4	P161579-28	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-11-3-4	P161579-28	Modified EPA 8270D (GC-MS/MS)	Ametryn	0.046	mg/kg	J	13H
P161579	SB-11-3-4	P161579-28	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.021	mg/kg	J	13H
P161579	SB-11-3-4	P161579-28	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.020	mg/kg	J	13H
P161579	SB-11-3-4	P161579-28	Modified EPA 8270D (GC-MS/MS)	Prometon	0.22	mg/kg	J	13H
P161579	SB-11-3-4	P161579-28	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.018	mg/kg	J	5A,13H
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-11D-3-4	P161579-29	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	mg/kg	UJ	
P161579	SB-11D-3-4	P161579-29	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	mg/kg	UJ	
P161579	SB-11D-3-4	P161579-29	Modified EPA 8270D (GC-MS/MS)	Prometon	0.14	mg/kg	J	5BH
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	a-Chlordane	1.1	mg/kg	J	1,5BH
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Toxaphene	15	mg/kg	J	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Chlordane	4.7	mg/kg	J	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1,14
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1,14
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	p,p'-DDT	0.41	mg/kg	J	1,14
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Dieldrin	1.5	mg/kg	J	1,5A,5B
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.057	mg/kg	J	13H
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8270D (GC-MS/MS)	Prometon	0.056	mg/kg	J	5BH,13H
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8270D (GC-MS/MS)	Simazine	0.015	mg/kg	J	5BH,13H
P161579	SB-12-0.5-1	P161579-30	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.024	mg/kg	J	13H
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.74	mg/kg	J	1,5BH
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Toxaphene	14	mg/kg	J	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Chlordane	4.6	mg/kg	J	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	p,p'-DDD	0.25	mg/kg	J	1,14
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	p,p'-DDE	0.39	mg/kg	J	1,14
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	p,p'-DDT	0.48	mg/kg	J	1,14
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Dieldrin	1.2	mg/kg	J	1,5A,5B
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	0.29	mg/kg	J	1,5BH
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-12-3-4	P161579-31	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.065	mg/kg	J	13H
P161579	SB-12-3-4	P161579-31	Modified EPA 8270D (GC-MS/MS)	Prometon	0.066	mg/kg	J	5BH,13H
P161579	SB-12-3-4	P161579-31	Modified EPA 8270D (GC-MS/MS)	Simazine	0.016	mg/kg	J	5BH,13H
P161579	SB-12-3-4	P161579-31	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.024	mg/kg	J	13H
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-12-4-5	P161579-32	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	EPA 8151A (GC-MS/MS)	Dinoseb	0.020	mg/kg	J	5BH
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.21	mg/kg	J	1,5BH

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Chlordane	0.82	mg/kg	J	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1,14
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	p,p'-DDE	0.18	mg/kg	J	1,14
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	p,p'-DDT	0.54	mg/kg	J	1,14
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Dieldrin	0.23	mg/kg	J	1,5A,5B
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8270D (GC-MS/MS)	Prometon	0.015	mg/kg	J	13H
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8270D (GC-MS/MS)	Simazine	0.022	mg/kg	J	5BH,13H
P161579	SB-13-0.5-1	P161579-33	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.053	mg/kg	J	5BH,13H
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-13-3-4	P161579-34	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-13-6-7	P161579-35	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-14-0.5-1	P161579-36	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-14-4-5	P161579-37	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-14-5-6	P161579-38	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	5BL
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Dieldrin	0.16	mg/kg	J	1,5A,5B
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8270D (GC-MS/MS)	Prometon	0.012	mg/kg	J	13H
P161579	SB-15-0.5-1	P161579-39	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	5BL
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1,13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	EPA 8151A (GC-MS/MS)	MCPA	0.017	mg/kg	J	10H
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1,13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1,13L
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-15D-3-4	P161579-40	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Dieldrin	0.31	mg/kg	J	1,5A,5B
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-15-3-4	P161579-41	EPA 8151A (GC-MS/MS)	MCPA	0.061	mg/kg	J	10H
P161579	SB-15-3-4	P161579-41	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	5BL
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	5BL
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	EPA 8151A (GC-MS/MS)	MCPA	0.022	mg/kg	J	10H
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-15-4-5	P161579-42	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	EPA 8151A (GC-MS/MS)	MCPA	0.067	mg/kg	J	10H
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.18	mg/kg	J	1,5BH
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Chlordane	0.99	mg/kg	J	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1,14
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	p,p'-DDE	0.10	mg/kg	J	1,14
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	p,p'-DDT	0.68	mg/kg	J	1,14
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Dieldrin	0.44	mg/kg	J	1,5A,5B
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.020	mg/kg	J	13H
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8270D (GC-MS/MS)	Prometon	0.021	mg/kg	J	13H
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8270D (GC-MS/MS)	Simazine	0.010	mg/kg	J	13H,14
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.014	mg/kg	J	13H
P161579	SB-16-0.5-1	P161579-43	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	5BL

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.16	mg/kg	J	1,5BH
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Chlordane	0.97	mg/kg	J	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1,14
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1,14
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	p,p'-DDT	1.1	mg/kg	J	1,14
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Dieldrin	0.55	mg/kg	J	1,5A,5B
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-16-3-4	P161579-44	Modified EPA 8270D (GC-MS/MS)	Prometon	0.0087	mg/kg	J	13H
P161579	SB-16-3-4	P161579-44	Modified EPA 8270D (GC-MS/MS)	Simazine	0.014	mg/kg	J	13H,14
P161579	SB-16-3-4	P161579-44	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.017	mg/kg	J	13H
P161579	SB-16-3-4	P161579-44	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	5BL
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	0.041	mg/kg	J	1,14
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	SB-16-5-6	P161579-45	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.028	mg/kg	J	13H
P161579	SB-16-5-6	P161579-45	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.15	mg/kg	J	13H
P161579	SB-16-5-6	P161579-45	Modified EPA 8270D (GC-MS/MS)	Prometon	0.014	mg/kg	J	13H
P161579	SB-16-5-6	P161579-45	Modified EPA 8270D (GC-MS/MS)	Simazine	0.025	mg/kg	J	13H
P161579	SB-16-5-6	P161579-45	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.12	mg/kg	J	13H
P161579	SB-16-5-6	P161579-45	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	0.017	mg/kg	J	13H
P161579	SB-16-5-6	P161579-45	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	5BL
P161579	SB-16-5-6	P161579-45	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	0.0086	mg/kg	J	13H
P161579	Culvert-1	P161579-46	EPA 8151A (GC-MS/MS)	MCPA	0.76	mg/kg	J	10H
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Captafol	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Captan	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Chlordane	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	mg/kg	UJ	1,14
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Alachlor	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	mg/kg	UJ	1,14
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	p,p'-DDT	0.79	mg/kg	J	1,14
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Dacthal	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Dieldrin	0.72	mg/kg	J	1,5A,5B
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Aldrin	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Endrin	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Folpet	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Iprodione	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	mg/kg	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Pendimethalin	0.67	mg/kg	J	1,5A,5BH
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Permethrin	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Pronamide	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Propachlor	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Propanil	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	a-BHC	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Terbacil	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	b-BHC	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	d-BHC	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8081B (GC-ECD)	g-BHC	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Fonofos	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	EPN	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Ethion	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Malathion	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Merphos	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Methidathion	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Parathion	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Phorate	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Phosmet	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Terbufos	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Chlorpyrifos	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Demeton	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8141B (GC-FPD)	Diazinon	ND	mg/kg	UJ	1
P161579	Culvert-1	P161579-46	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.029	mg/kg	J	13H
P161579	Culvert-1	P161579-46	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.13	mg/kg	J	13H
P161579	Culvert-1	P161579-46	Modified EPA 8270D (GC-MS/MS)	Prometon	0.015	mg/kg	J	13H
P161579	Culvert-1	P161579-46	Modified EPA 8270D (GC-MS/MS)	Simazine	0.020	mg/kg	J	13H
P161579	Culvert-1	P161579-46	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.11	mg/kg	J	13H
P161579	Culvert-1	P161579-46	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	0.018	mg/kg	J	13H
P161579	Culvert-1	P161579-46	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	mg/kg	UJ	5BL

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P161579	Culvert-1	P161579-46	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	0.0092	mg/kg	J	13H
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-7-110916	P162574-01	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-8-110916	P162574-02	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-11-110916	P162574-03	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-5-110916	P162574-04	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-5D-110916	P162574-05	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-4-110916	P162574-06	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-3-110916	P162574-07	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-9-110916	P162574-08	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-10-110916	P162574-09	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-12-111016	P162574-10	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.18	ug/L	J	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Chlordane	1.7	ug/L	J	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Dieldrin	0.49	ug/L	J	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Toxaphene	11	ug/L	J	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-6-111016	P162574-11	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-14-111016	P162574-12	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-2-111016	P162574-13	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-13-111016	P162574-14	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Chlordane	0.72	ug/L	J	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Dieldrin	0.21	ug/L	J	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P162574	MW-1-111016	P162574-15	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1

DATA VALIDATION REPORT

SMITH-KEM SITE REMEDIAL INVESTIGATION
AUGUST 2017 GW MONITORING

Prepared for:

Floyd | Snider
601 Union Street, Suite 600
Seattle, WA 98101

Prepared by:

EcoChem, Inc.
500 Union Street, Suite 1010
Seattle, WA 98101

EcoChem Project: C15223-3

November 29, 2017

Approved for Release:

Christine Ransom
Senior Project Chemist
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report summarizes the results of data validation performed on groundwater and quality control (QC) sample data for the Smith-Kem Site Remedial Investigation August 2017 GW Monitoring. A complete list of samples is provided in the Sample Index.

Pacific Agricultural Laboratory, Sherwood, Oregon performed the analyses. The analytical method and EcoChem project chemists are listed in the table below.

ANALYSIS	METHOD	PRIMARY REVIEW	SECONDARY REVIEW
Herbicides	EPA 8151A	E. Clayton	C. Ransom
Pesticides	EPA 8081B Mod		
Pesticides	EPA 8141B Mod		
Herbicides and Pesticides	EPA 8270D Mod		
Pesticides	EPA 8321B Mod		

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *Smith-Kem Site Remedial Investigation Work Plan* (Floyd | Snider, July 2016); and *National Functional Guidelines for Organic Data Review* (USEPA 2008). The laboratory methods are modified for residue scan analysis.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R or DNR, the data should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes, and validation criteria are included as Appendix A. A Qualified Data Summary Table is included in Appendix B. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index

Smith - Kem Site Remedial Investigation - August 2017 GW Monitoring

SDG	SAMPLE ID	LAB ID	Matrix	8151 GC-MS/MS Herb	8081 GC OC Pest	8141 GC OP Pest	8270 GC-MS/MS Pest/Herb	8321 LC-MS/MS Pest/Herb
P171953	MW-01-082917	P171953-01	Groundwater	✓	✓	✓	✓	✓
P171953	MW-06-082917	P171953-02	Groundwater	✓	✓	✓	✓	✓
P171953	MW-X-082917	P171953-03	Groundwater	✓	✓	✓	✓	✓
P171953	MW-11-082917	P171953-04	Groundwater	✓	✓	✓	✓	✓
P171953	MW-05-082917	P171953-05	Groundwater	✓	✓	✓	✓	✓
P171953	MW-07-082917	P171953-06	Groundwater	✓	✓	✓	✓	✓
P171953	MW-04-082917	P171953-07	Groundwater	✓	✓	✓	✓	✓
P171953	MW-08-082917	P171953-08	Groundwater	✓	✓	✓	✓	✓
P171953	MW-03-082917	P171953-09	Groundwater	✓	✓	✓	✓	✓
P171953	MW-09-083017	P171953-10	Groundwater	✓	✓	✓	✓	✓
P171953	MW-02-083017	P171953-11	Groundwater	✓	✓	✓	✓	✓
P171953	MW-10-083017	P171953-12	Groundwater	✓	✓	✓	✓	✓
P171953	MW-12-083017	P171953-13	Groundwater	✓	✓	✓	✓	✓
P171953	MW-14-083017	P171953-14	Groundwater	✓	✓	✓	✓	✓
P171953	MW-13-083017	P171953-15	Groundwater	✓	✓	✓	✓	✓

DATA VALIDATION REPORT
Smith-Kem Site – August 2017 GW Monitoring
Pesticides by Method SW8081B Mod

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P171953	15 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	1	Target Analyte List
1	Field Blanks	1	Reporting Limits
1	Laboratory Control Samples (LCS/LCSD)	✓	Compound Identification
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
1	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 4°C, ranging from 8.4 to 19°. It was determined that data were not affected; no action was taken.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

Only dieldrin, oxadiazon, and chlorpyrifos were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only dieldrin, oxadiazon, and chlorpyrifos were spiked.

The matrix spike/matrix spike duplicate (MS/MSD) samples were performed on Sample MW-04-082917. The MS percent recovery (%R) for oxadiazon was greater than the upper control limit, but was in control in the associated MSD sample; no qualification was required for a single outlier. The relative percent difference (RPD) value was also greater than the control limit. This analyte was not detected in the parent sample; no action was necessary. The %R values for dieldrin were less than the lower control limit; The result for this compound was estimated (J-8L) in the parent sample.

Surrogate Compounds

The surrogate compound, DCBP, was added to all samples. With the following exception, the surrogate recoveries were within the control limits of 70%-130% recovery:

The surrogate %R value in Sample MW-02-083017 was greater than the upper control limit. There were no target analytes detected in this sample; no data were qualified.

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and duplicate must be less than the RL.

Samples MW-11-082917 and MW-X-082917 were identified as field duplicates. All acceptance criteria were met.

Target Analyte List

There were no results reported for hexachlorocyclopentadiene.

Reporting Limits

Several reporting limits were greater than QAPP required reporting limits due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed a modified version of this analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD), MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

One result was estimated due MS/MSD %R outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site – August 2017 GW Monitoring
Pesticides by Method SW8321B Mod: LC-MS/MS

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
P171953	15 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	1	Reporting Limits
1	Laboratory Control Samples (LCS/LCSD)	✓	Compound Identification
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
✓	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 4°C, ranging from 8.4 to 19°. It was determined that data were not affected; no action was taken.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

Only diuron, fluometuron, and thiobencarb were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only diuron, fluometuron, and thiobencarb were spiked. All recoveries were acceptable.

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and duplicate must be less than the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

Samples MW-11-082917 and MW-X-082917 were identified as field duplicates. All acceptance criteria were met.

Reporting Limits

Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD), matrix spike/matrix spike duplicate (MS/MSD), and surrogate %R values. Precision was also acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site – August 2017 GW Monitoring
Pesticides by Method SW8141B Mod: GC-FPD

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P171953	15 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	1	Target Analyte List
1	Field Blanks	✓	Reporting Limits
1	Laboratory Control Samples (LCS/LCSD)	✓	Compound Identification
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
✓	Surrogate Compounds		

✓ ***Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.***
1 ***Quality control results are discussed below, but no data were qualified.***
2 ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Receipt, Preservation, and Holding Times

Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 4°C, ranging from 8.4 to 19°. It was determined that data were not affected; no action was taken.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

Only parathion methyl and diazinon were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only parathion methyl and diazinon were spiked. All recoveries were acceptable.

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and duplicate must be less than the RL.

Samples MW-11-082917 and MW-X-082917 were identified as field duplicates. All acceptance criteria were met.

Target Analyte List

The samples were not analyzed for fenchlorphos, naled, or glyphosate.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD), matrix spike/matrix spike duplicate (MS/MSD), and surrogate %R values. Precision was also acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site – August 2017 GW Monitoring
Herbicides/Pesticides by Method SW8270D Mod: GC-MS/MS

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
P171953	15 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	1	Reporting Limits
1	Laboratory Control Samples (LCS)	✓	Compound Identification
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
2	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 4°C, ranging from 8.4 to 19°. It was determined that data were not affected; no action was taken.

Field Blanks

No field blanks were submitted.

Laboratory Control Sample/Laboratory Control Sample Duplicates

Because this is a screening method, the lab did not spike for the full suite of analytes. Only atrazine, ethofumesate, and napropamide were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only atrazine, ethofumesate, and napropamide were spiked.

The matrix spike/matrix spike duplicate (MS/MSD) analyses were performed using Sample MW-04-82917. The MSD percent recovery (%R) value for napropamide was greater than the upper control limit, but was in control in the associated MS sample. No qualification was required for the single outlier. The MS/MSD %R values for atrazine were less than the lower control limit; the atrazine result in the parent sample was estimated (J-8L).

Surrogate Compounds

The surrogate compound DCBP was added to all samples. With the following exception, the surrogate recoveries were within the control limits of 70%-130% recovery:

The surrogate %R value in Sample MW-06-082917 was less than the lower control limit; all results for this sample were estimated (J/UJ-13L).

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and replicate must be less than the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

Samples MW-11-082917 and MW-X-082917 were identified as field duplicates. All acceptance criteria were met.

Reporting Limits

Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the modified 8270 residue screening method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values. Precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated due MS/MSD and surrogate %R outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site – August 2017 GW Monitoring
Herbicides by Method SW8151A: GC-MS/MS

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P171953	7 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	1	Target Analyte List
1	Field Blanks	1	Reporting Limits
2	Laboratory Control Samples (LCS/LCSD)	✓	Compound Identification
2	Matrix Spike/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
2	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 4°C, ranging from 8.4 to 19°. It was determined that data were not affected; no action was taken.

.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicates (LCS/LCSD) were analyzed at the required frequency of one per batch of 20 or fewer samples. When the %R values indicated a potential low bias, associated results were estimated (J/UJ-10L). Only associated positive results were estimated (J-10H) if the %R values indicated a potential high bias. No action was taken if only one of the LCS or LCSD recoveries were outside of the control limits. Precision was evaluated using the LCS/LCSD relative percent difference (RPD) values. Only positive results were qualified based on RPD outliers. Qualifiers for %R or were issued to all samples in the extraction batch.

For the LCS/LCSD associated with batch 7090502, the RPD values for dinoseb, MCPA, MCPP, pentachlorophenol, 2,4,5-TP, 2,4-D, and 2,4-DB were greater than the control limit of 20%. Associated detected results were estimated (J-9). The LCS percent recovery (%R) values for 2,4,5-T, 2,4,5-TP, 2,4-D, 2,4-DB, MCPA, and pentachlorophenol were greater than the upper control limit, but were in control in the associated LCSD; no qualification was required for the single outliers. The %R values for dinoseb were greater than the upper control limit of 130%. This analyte was not detected in the associated samples; no qualification was required.

Matrix Spike Sample/Matrix Spike Sample Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed at the appropriate frequency. When the MS/MSD %R values indicated a potential low bias, associated results were estimated (J/UJ-8L). Only the associated positive results were estimated (J-8H) if the %R values indicated a potential high bias. No action is taken unless both the MS and MSD %R values are outside the control limits. Precision is evaluated using the RPD values calculated between the MS and MSD results. Associated positive results were estimated (J-9) if the RPD value was greater than the control limit. Qualifiers were only issued to the parent sample.

The MS/MSD analyses were performed using Sample MW-04-082917. The MSD %R value for 2,4,5-T was greater than the upper control limit, but was in control in the associated MS; no qualification was required for the single outlier. The %R values for 2,4-D and dinoseb were greater than the upper control limit. Dinoseb was not detected in the parent sample. The positive result for 2,4-D was estimated (J-8H).

Surrogate Compounds

The surrogate compound, DCPAA, was added to all samples. With the following exception, the surrogate recoveries were within the control limits of 70%-130%.

The DCPAA surrogate %R values for Samples MW-09-083017 and MW-12-083017 were less than the lower control limit. All results for these samples were estimated (J/UJ-13L).

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and replicate must be less than the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

Samples MW-11-082917 and MW-X-082917 were identified as field duplicates. All acceptance criteria were met.

Target Analyte List

The samples were not analyzed for dalapon.

Reporting Limits

The target reporting limit for pentachlorophenol was 0.08 µg/L. The laboratory reported a value of 0.16 µg/L.

Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated based on LCS/LCSD RPD, surrogate %R, and MS/MSD %R outliers.

All data, as qualified, are acceptable for use.

ECOCHEM
Data Quality

APPENDIX A

DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES
Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.

DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L)[1] where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L)[1] where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L)[1] for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L)[1] where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L)[1] where appropriate
	12	Reference Material Use bias flags (H,L)[1] where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L)[1] where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L)[1] where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

[1] H = high bias indicated
L = low bias indicated

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG (2) Method (3)	J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C(3)
Holding Time	*Extraction Aqueous:* 7 days from collection *Extraction Solid:* 14 days from collection *Exraction Tissue/Sediment (frozen):* 1 year *Analysis (all matrices):* 40 days from extraction	NFG (2) Method (3)	J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Resolution Check	Beginning of ICAL sequence Within RTW and resolution > 60%	NFG (2)	NJ (pos)/R (ND) results	14	CLP criterion; might not be submitted with SW846 data package
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Target analytes: within RTW	NFG (2) Method (3)	NJ (pos)/R (ND) results for analytes with RT shifts	24	Use PJ based on examination of raw data
Breakdown	DDT Breakdown: ≤ 20% Endrin Breakdown: ≤ 20% Combined Breakdown: ≤ 30% Compounds within RTW	NFG (2) Method (3)	If 4,4'-DDT is detected: J (pos) 4,4'-DDT, 4,4'-DDD and 4,4'-DDE If 4,4'-DDT is ND and either 4,4'-DDD or 4,4'-DDE are detected: R (ND) 4,4'-DDT, NJ (pos) DDD and DDE If Endrin is detected: J (pos) Endrin, Endrin Aldehyde and Endrin Ketone If Endrin is ND and either EA or EK are detected: R (ND) Endrin, NJ (pos) EA and EK	5A	Method 8081B breakdown criterion: ≤ 15%. For combined breakdown outliers, apply qualifiers considering the degree of individual breakdown.

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Initial Calibration	Single Component Compounds: RSD ≤ 20% alpha-BHC and delta-BHC: RSD ≤ 25% toxaphene and surrogates: RSD ≤ 30% **or** correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with coefficient of determination (r^2-value) ≥ 0.99	NFG (2) Method (4)	J (pos) if %RSD greater than control limit **or** r-value < 0.995 **or** r^2-value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L) (6) where appropriate
Initial Calibration Verification (ICV)	No NFG criteria Project specific	Project QAPP	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) (6) where appropriate
Continuing Calibration	%D ± 20% Analyzed prior to each 12 hour shift	Method (3)	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L)(6) where appropriate
Blank Contamination					
Method Blank (MB)	One per matrix per batch (of ≤ 20 samples) No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** #1 - Review MB and IB, qualify as needed #2 - Review FB , qualify as needed **Note: Actions as per NFG 1999** Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG (1)	U (pos) if result is less than appropriate 5X action level.	7	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria No action if native analyte conc. > 5x the amount spiked Use bias flags (H,L) (6) where appropriate
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND
LCS	One per lab batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Qualify all associated samples. Use bias flags (H,L) (6) where appropriate
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG (2)	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% **or** project limits	NFG (2) Method (3)	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (dilution is a factor), use PJ Use bias flags (H,L) (6) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method (3)	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Field Duplicates	**Solids:** RPD < 50% **or** difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% **or** difference < 1X RL (for results < 5X RL)	EcoChem standard practice	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG [2] Method [3]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info
Calibration Range	On-column concentration < high calibration standard	NFG [2] Method [3]	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 for additional info
Sample Clean-up					
GPC/Sulfur/ Florisil	GPC or Florisil cleanup stndards 80% - 120%	NFG [2]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	14	Cleanups are optional under SW846 Use bias flags (H,L) [6] where appropriate

[1] National Functional Guidelines for Organic Data Review, October 1999
[2] National Functional Guidelines for Organic Data Review, June, 2008
[3] Organochlorine Pesticides by Gas Chromatography USEPA Method SW846 8081B, Feb 2007, Rev. 2
[4] SW846, Chapter 4, Organic Analytes
[5] Determinative Chromatographic Separations , Method 8000C , March 2003, Rev.3
[6] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

Copyright 2014 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C sediment/tissues may require storage at -20°C	NFG [(1)] Method [(3)]	**If required by project:** J (pos)/UJ (ND) if greater than 6° C	1	Use **PJ** for temp outliers; see **TM20** Current SW846 criterion is ≤ 6° C [(3)]
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Analysis (all matrices)**: 40 days from extraction Holding time may be extended to 1 year for frozen sediments/tissues	NFG [(1)] Method [(3)]	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	DFTPP Beginning of each 12 hour period Use method or project acceptance criteria	NFG [(1)] Method [(3)]	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG [(1)] Method [(3)]	Use **PJ** to qualify J (pos)/UJ (ND)	5A	**TM-06** EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance **PJ** - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration **Stability**	Minimum 5 standards %RSD ≤ 20.0% except: %RSD ≤ 40.0% poor responders * **or** co-efficient of determination (r^2) > 0.99	NFG [(1)] Method [(3)]	J (pos) if %RSD > limit **or** r^2 value <0.99	5A	
Initial Calibration Verification Check	Prepared from second source; analyze after each ICAL Percent recovery limits = 70-130%	Method [(3)]	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L)[4]	QAPP may have overriding accuracy limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Continuing Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG (1) Method (3)	Use **PJ** to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration **Stability**	Prior to sample analysis and every 12 hours %D ≤ 25% except: %D ≤ 40.0% poor responders *	NFG (1) Method (3)	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L)[4]	
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > MDL	NFG (2) Method (3)	U(pos) if result is < 5X or 10X action level	7	10X action level applies to phthalates only. 5X for all other target analytes **Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed** **Note: Actions as per 1999 NFG**
	No TICs present		R (pos) TICs using 10X rule	7	
Field Blank (FB)	No detected compounds > MDL	NFG (2) Method (3)	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of ≤ 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method (3)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L)[4]	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits. Qualify all associated samples.
LCS/LCSD (RPD)	If LCSD analyzed RPD < lab limits	Method (3)	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L)[4]	QAPP may have overriding accuracy limits. Some manufacturers have different RM control limits
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG [(1)] Method [(3)]	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L)[4]	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG [(1)] Method [(2)]	J (pos) in parent sample if RPD > CL	9	Qualify parent sample only
Surrogates	Minimum of 3 acid & 3 base/neutral (B/N) compounds added to all samples Within method control limits	NFG [(1)] Method [(3)]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	13 (H,L)[4]	Qualify all compounds in associated fraction. Do not qualify if only 1 acid and/or 1 B/N surrogate is out, unless <10%. If 1 surrogate outlier < 10% then J (pos)/R (ND)
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG [(1)] Method [(3)]	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use **PJ**	19	Qualify compounds quantified using particular internal standard
Field Duplicates	**Solids:** RPD < 50% OR difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification and Quantitation and Calculation					
Retention times and relative ion intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG [(1)] Method [(3)]	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG [(1)] Method [(3)]	NJ the TIC unless: R (pos) common laboratory contaminants	4	
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04** EcoChem Policy for Rejection/Selection Process for Multiple Results

[1] National Functional Guidelines for Organic Data Review, June, 2008
[2] National Functional Guidelines for Organic Data Review, October, 1999
[3] Method SW846 8270D Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007.
[4] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

(pos): Positive Result(s)
(ND): Non-detects

* "Poor responder" compounds: acetophenone, atrazine, benzaldehyde, 1,1'-biphenyl, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, caprolactam, carbazole, 4-chloroaniline, diethylphthalate, di-n-butylphthalate, 3-3'-dichlorobenzidine, dimethylphthalate, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, di-n-octylphthalate, hexachlorobutadiene, hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, 4-nitrophenol, N-nitrosodiphenylamine, 2,2'-oxybis-(1-chloropropane), 1,2,4,5-tetrachlorobenzene use a 0.010 RRF criterion.

Copyright 2015 EcoChem, Inc.

Chlorinated Herbicides by GC, SW-846 Method 8151A

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C Protected from light	NFG [1] Method [2]	J(pos)/UJ(ND) if > 6 deg. C (EcoChem PJ)	1	Use Professional Judgment (PJ) to qualify for temperature outlier.
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Analysis (all matrices)**: 40 days from extraction	NFG [1] Method [2]	J(pos)/UJ(ND) if HT exceeded J(pos)/R(ND) if gross exceedance(> 2X HT)	1	Use PJ to qualify for holding time outlier. Gross exceedance = > 2X HT, as per 1999 NFG
Instrument Performance					
Retention Times	Target compounds: Within RTW established by the laboratory.	NFG [1] Method [2]	NJ(pos)/R(ND) results for analytes with RT shifts	5B	Analyte RRT should be within ± 0.06 RRT units of the standard RRT (opening CCAL or midpoint ICAL standard). For full DV, use **PJ** based on examination of raw data.
Initial Calibration	5 standard minimum. Calibration may be internal or external. RSD ≤20%	NFG [1] Method [2]	J (pos) if > UCL J (pos)/UJ (ND) if < LCL OR r-value ≥ 0.99	5A	**TM-01** for additional information EcoChem Policy for the Evaluation of GC & HPLC Initial and Continuing Calibration using Method-Specific Control Limits. Calibration from methyl ester compounds (that have not undergone hydrolysis and esterfication) will need MW correction.
Continuing Calibration (Prior to each 12 hour shift or bracketing for external standard calibration)	%D ± 20%	NFG [1] Method [2]	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5A (H,L)[3]	**TM-01** for additional information EcoChem Policy for the Evaluation of GC & HPLC Initial and Continuing Calibration using Method-Specific Control Limits
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	NFG [1] Method [2]	U(pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed** No common lab contaminants for Herbacide analyses
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG [1] Method [2]	U(pos) if result is less than appropriate 5X action level.	6	

Copyright 2014 EcoChem, Inc.

Chlorinated Herbicides by GC, SW-846 Method 8151A

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	Qualify parent only unless other QC indicates systematic problems J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL)J (pos)/R (ND) if both %R < 10%	8 (H,L)[3]	A sample duplicate may be run in place of the MSD. No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD or duplicate (RPD)	One set per matrix per batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	Qualify parent only unless other QC indicates systematic problems. J(pos) if RPD > control limit	9	No action if parent is ND.
LCS	One per lab batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	Qualify all associated samples J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias **PJ if only one %R outlier**	10 (H,L)[3]	No action if only one spike %R is outside criteria, when LCSD is analyzed. Qualify all associated samples.
LCS/LCSD (RPD)	One set per lab batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	J(pos) assoc. compound in all samples	9	
Surrogates	2,4-Dichlorophenylacetic acid (DCAA) added to every sample Method acceptance criteria or project limits	NFG (1) Method (2)	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCLJ (pos)/R (ND) if either %R < 10%	13 (H,L)[3]	If %R < 10% (sample dilution is a factor), use PJ
Internal Standards (if used)	Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method (2)	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use PJ	19	Suggested internal standards: 4,4'-dibromooctafluorobiphenyl (DBOB) or 1,4-dichlorobenzene.
Field Duplicates	**Solids**: RPD <50% OR difference < 2X RL (for results < 5X RL) **Aqueous**: RPD <35% OR difference < 1X RL (for results < 5X RL)		J(pos)/UJ(ND) Qualify only field duplicate samples	9	

Copyright 2014 EcoChem, Inc.

Chlorinated Herbicides by GC, SW-846 Method 8151A

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D<25% Within Retention Time Windows on both columns. Alternitively GC/MS may be used for confirmation.	NFG [1] Method [2]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60%R (pos) if RTW criterion not met	3 25 (false pos)	See TM-08 for additional info.
Calibration Range	Results exceed the upper calibration range	EcoChem standard policy	J (pos) if conc > high standard and sample was not diluted	20	
Calculation Check	Check 10% of field & QC sample results	EcoChem standard policy	Contact laboratory for resolution and/or corrective action	na	Full data validation only.
Electronic Data Deliverable (EDD)					
Verification of EDD to hardcopy data	EcoChem verify @ 10% unless problems noted; then increase level up to 100% for next several packages.	EcoChem standard policy	Depending on scope of problem, correct at EcoChem (minor issues) to resubmittal by laboratory (major issues).	na	EcoChem Project Manager and/or Database Administrator will work with lab to provide long-term corrective action.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04 Rev. 1** EcoChem Policy for for additional info.

[1] National Functional Guidelines for Organic Data Review, June, 2008, based on Pesticide Review (pos): Positive Result(s)
[2] Organochlorine Herbicides by GC using Methlyation or Pentafluorobenzylation Derivatization USEPA Method SW846 8151A, Dec. 1 (ND): Non-detects
[3] "H" = high bias indicate; "L" = low bias indicated

Copyright 2014 EcoChem, Inc.

ECOCHEM
Data Quality

APPENDIX B

QUALIFIED DATA SUMMARY TABLE

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - August 2017 GW Monitoring

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P171953	MW-06-082917	P171953-02	Modified EPA 8151A (GC-MS/MS)	MCPA	5.5	ug/L	J	9
P171953	MW-06-082917	P171953-02	Modified EPA 8151A (GC-MS/MS)	2,4-D	37	ug/L	J	9
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Hexazinone	1.6	ug/L	J	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Metribuzin	16	ug/L	J	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Prometon	0.11	ug/L	J	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Simazine	0.27	ug/L	J	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Atrazine	2.3	ug/L	J	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	13L
P171953	MW-06-082917	P171953-02	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	13L
P171953	MW-04-082917	P171953-07	Modified EPA 8081B (GC-ECD)	Dieldrin	0.79	ug/L	J	8L
P171953	MW-04-082917	P171953-07	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	0.14	ug/L	J	9
P171953	MW-04-082917	P171953-07	Modified EPA 8151A (GC-MS/MS)	2,4-D	0.52	ug/L	J	8H,9
P171953	MW-04-082917	P171953-07	Modified EPA 8270D (GC-MS/MS)	Atrazine	1.9	ug/L	J	8L
P171953	MW-09-083017	P171953-10	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	13L
P171953	MW-09-083017	P171953-10	Modified EPA 8151A (GC-MS/MS)	DCPAA	2.76	ug/L	J	13L
P171953	MW-09-083017	P171953-10	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	13L
P171953	MW-09-083017	P171953-10	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	13L
P171953	MW-09-083017	P171953-10	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	13L
P171953	MW-09-083017	P171953-10	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	13L
P171953	MW-09-083017	P171953-10	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	13L
P171953	MW-09-083017	P171953-10	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	13L
P171953	MW-09-083017	P171953-10	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	13L
P171953	MW-09-083017	P171953-10	Modified EPA 8151A (GC-MS/MS)	Dicamba	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - August 2017 GW Monitoring

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P171953	MW-12-083017	P171953-13	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	13L
P171953	MW-12-083017	P171953-13	Modified EPA 8151A (GC-MS/MS)	DCPAA	2.56	ug/L	J	13L
P171953	MW-12-083017	P171953-13	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	13L
P171953	MW-12-083017	P171953-13	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	13L
P171953	MW-12-083017	P171953-13	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	13L
P171953	MW-12-083017	P171953-13	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	13L
P171953	MW-12-083017	P171953-13	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	13L
P171953	MW-12-083017	P171953-13	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	13L
P171953	MW-12-083017	P171953-13	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	13L
P171953	MW-12-083017	P171953-13	Modified EPA 8151A (GC-MS/MS)	Dicamba	0.093	ug/L	J	13L

DATA VALIDATION REPORT

SMITH KEM SITE REMEDIAL INVESTIGATION – PHASE 2

Prepared for:

Floyd | Snider
601 Union Street, Suite 600
Seattle, WA 98101

Prepared by:

EcoChem, Inc.
500 Union Street, Suite 1010
Seattle, WA 98101

EcoChem Project: C15223-2

October 12, 2017

Approved for Release:

Christine Ransom
Senior Project Chemist
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report summarizes the results of data validation performed on soil and groundwater sample data and quality control (QC) sample data for the Smith Kem Site Remedial Investigation Phase 2 sampligt. A complete list of samples is provided in the Sample Index.

Pacific Agricultural Laboratory, Sherwood, Oregon performed the analyses. The analytical method and EcoChem project chemists are listed in the table below.

ANALYSIS	METHOD	PRIMARY REVIEW	SECONDARY REVIEW
Herbicides	EPA 8151A	E. Clayton	C. Frans/C. Ransom
Pesticides	EPA 8081B Mod		
Pesticides	EPA 8141B Mod		
Herbicides and Pesticides	EPA 8270D Mod		
Pesticides	EPA 8321B Mod		

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *Smith-Kem Site Remedial Investigation Work Plan* (Floyd | Snider, July 2016); and *National Functional Guidelines for Organic Data Review* (USEPA 2008). The laboratory methods are modified for residue scan analysis.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R or DNR, the data should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes, and validation criteria are included as Appendix A. A Qualified Data Summary Table is included in Appendix B. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index

Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	Matrix	8151 GC-MS/MS Herb	8081 GC OC Pest	8141 GC OP Pest	8270 GC-MS/MS Pest/Herb	8270 GC-MS SIM Pest/Herb	8321 LC-MS/MS Pest/Herb
P170216	MW-10-022717	P170216-01	Groundwater	✓	✓	✓	✓		✓
P170216	MW-03-022717	P170216-02	Groundwater	✓	✓	✓	✓		✓
P170216	MW-14-022717	P170216-03	Groundwater	✓	✓	✓	✓		✓
P170216	MW-04-022717	P170216-04	Groundwater	✓	✓	✓	✓		✓
P170216	MW-01-022717	P170216-05	Groundwater	✓	✓	✓	✓		✓
P170216	MW-06-022717	P170216-06	Groundwater	✓	✓	✓	✓		✓
P170216	MW-01X-022717	P170216-07	Groundwater	✓	✓	✓	✓		✓
P170216	MW-02-022817	P170216-08	Groundwater	✓	✓	✓	✓		✓
P170216	MW-12-022817	P170216-09	Groundwater	✓	✓	✓	✓		✓
P170216	MW-08-022817	P170216-10	Groundwater	✓	✓	✓	✓		✓
P170216	MW-07-022817	P170216-11	Groundwater	✓	✓	✓	✓		✓
P170216	MW-05-022817	P170216-12	Groundwater	✓	✓	✓	✓		✓
P170216	MW-11-022817	P170216-13	Groundwater	✓	✓	✓	✓		✓
P170216	MW-13-022817	P170216-14	Groundwater	✓	✓	✓	✓		✓
P170216	MW-09-022817	P170216-15	Groundwater	✓	✓	✓	✓		✓
P170600	MW-06-051717	P170600-01	Groundwater	✓	✓	✓	✓		✓
P170600	MW-03-051717	P170600-02	Groundwater	✓	✓	✓	✓		✓
P170600	MW-01-051717	P170600-03	Groundwater	✓	✓	✓	✓		✓
P170600	MW-04-051717	P170600-04	Groundwater	✓	✓	✓	✓		✓
P170600	MW-09-051717	P170600-05	Groundwater	✓	✓	✓	✓		✓
P170600	MW-07-051717	P170600-06	Groundwater	✓	✓	✓	✓		✓
P170600	MW-11X-051717	P170600-07	Groundwater	✓	✓	✓	✓		✓
P170600	MW-11-051717	P170600-08	Groundwater	✓	✓	✓	✓		✓
P170600	MW-08-051717	P170600-09	Groundwater	✓	✓	✓	✓		✓
P170600	MW-05-051717	P170600-10	Groundwater	✓	✓	✓	✓		✓
P170600	MW-14-051817	P170600-11	Groundwater	✓	✓	✓	✓		✓
P170600	MW-12-051817	P170600-12	Groundwater	✓	✓	✓	✓		✓
P170600	MW-02-051817	P170600-13	Groundwater	✓	✓	✓	✓		✓
P170600	MW-10-051817	P170600-14	Groundwater	✓	✓	✓	✓		✓

Sample Index
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	Matrix	8151 GC-MS/MS Herb	8081 GC OC Pest	8141 GC OP Pest	8270 GC-MS/MS Pest/Herb	8270 GC-MS SIM Pest/Herb	8321 LC-MS/MS Pest/Herb
P170600	MW-13-051817	P170600-15	Groundwater	✓	✓	✓	✓		✓
P170743	FS-27-0.5-1	P170743-01	Soil	✓	✓			✓	
P170743	FS-27-3-4	P170743-02	Soil	✓	✓			✓	
P170743	FS-27-4-5	P170743-03	Soil	✓	✓			✓	
P170743	FS-28-0.5-1	P170743-05	Soil	✓	✓			✓	
P170743	FS-28-3-4	P170743-06	Soil	✓	✓			✓	
P170743	FS-28-5-5.5	P170743-07	Soil	✓	✓			✓	
P170743	FS-23-0.5-1	P170743-09	Soil	✓	✓			✓	
P170743	FS-23-4-5	P170743-10	Soil	✓	✓			✓	
P170743	FS-23-5-6	P170743-11	Soil	✓	✓			✓	
P170743	FS-19-0.5-1	P170743-13	Soil	✓	✓			✓	
P170743	FS-19-2.5-3.5	P170743-14	Soil	✓	✓			✓	
P170743	FS-19-4.5-5.5	P170743-15	Soil	✓	✓			✓	
P170743	FS-19-6-7	P170743-16	Soil	✓	✓			✓	
P170743	FS-20-0.5-1	P170743-18	Soil	✓	✓			✓	
P170743	FS-X1-3-4	P170743-19	Soil	✓	✓			✓	
P170743	FS-20-3-4	P170743-20	Soil	✓	✓			✓	
P170743	FS-20-4-5	P170743-21	Soil	✓	✓			✓	
P170743	FS-22-0.5-1	P170743-22	Soil	✓	✓			✓	
P170743	FS-22-3-4	P170743-23	Soil	✓	✓			✓	
P170743	FS-22-4-5	P170743-24	Soil	✓	✓			✓	
P170743	FS-22-7-8	P170743-25	Soil	✓	✓			✓	
P170743	FS-22-GW-0-2	P170743-27	Groundwater	✓	✓	✓	✓		✓
P170743	FS-22-GW-4-6	P170743-28	Groundwater	✓	✓	✓	✓		✓
P170743	FS-22-GW-9-11	P170743-29	Groundwater	✓	✓	✓	✓		✓
P170743	FS-38-GW-4.5-7	P170743-30	Groundwater	✓	✓	✓	✓		✓
P170743	FS-39-GW-4.5-7	P170743-31	Groundwater	✓	✓	✓	✓		✓
P170743	FS-40-GW-4.5-7	P170743-32	Groundwater	✓	✓	✓	✓		✓
P170743	FS-37-GW-9-14	P170743-33	Groundwater	✓	✓	✓	✓		✓

Sample Index
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	Matrix	8151 GC-MS/MS Herb	8081 GC OC Pest	8141 GC OP Pest	8270 GC-MS/MS Pest/Herb	8270 GC-MS SIM Pest/Herb	8321 LC-MS/MS Pest/Herb
P170743	Rinsate-1	P170743-34	Field Blank	✓	✓	✓	✓		✓
P170743	FS-30-GW-13-15	P170743-35	Groundwater	✓	✓	✓	✓		✓
P170743	FS-20-5.5-6.5	P170743-36	Soil	✓	✓			✓	
P170743	FS-18-0.5-1	P170743-38	Soil	✓	✓			✓	
P170743	FS-18-2-3	P170743-39	Soil	✓	✓			✓	
P170743	FS-18-4-5	P170743-40	Soil	✓	✓			✓	
P170743	FS-2X-2-3	P170743-41	Soil	✓	✓			✓	
P170743	FS-18-6-7	P170743-42	Soil	✓	✓			✓	
P170743	FS-17-0.5-1	P170743-43	Soil	✓	✓			✓	
P170743	FS-17-2.5-3.5	P170743-44	Soil	✓	✓			✓	
P170743	FS-17-4-5	P170743-45	Soil	✓	✓			✓	
P170743	FS-21-0.5-1	P170743-48	Soil	✓	✓			✓	
P170743	FS-21-2-3	P170743-49	Soil	✓	✓			✓	
P170743	FS-21-4.5-5	P170743-50	Soil	✓	✓			✓	
P170743	FS-30-0.5-1	P170743-52	Soil	✓	✓			✓	
P170743	FS-30-3-4	P170743-54	Soil	✓	✓			✓	
P170743	FS-30-2-3	P170743-55	Soil	✓	✓			✓	
P170743	FS-22-4.5-5.0	P170743-56	Soil	✓	✓			✓	
P170743	FS-30-GW-5-7	P170743-57	Groundwater	✓	✓	✓	✓		✓
P170771	FS-31-4-5	P170771-01	Soil	✓	✓			✓	
P170771	FS-31-0.5-1	P170771-02	Soil	✓	✓			✓	
P170771	FS-31-2-3	P170771-03	Soil	✓	✓			✓	
P170771	FS-X3-2-3	P170771-04	Soil	✓	✓			✓	
P170771	FS-29-0.5-1	P170771-06	Soil	✓	✓			✓	
P170771	FS-29-4-4.5	P170771-08	Soil	✓	✓			✓	
P170771	FS-29-1-2	P170771-10	Soil	✓	✓			✓	
P170771	FS-24-0.5-1	P170771-11	Soil	✓	✓			✓	
P170771	FS-24-2-3	P170771-12	Soil	✓	✓			✓	
P170771	FS-24-4-5	P170771-13	Soil	✓	✓			✓	

Sample Index
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	Matrix	8151 GC-MS/MS Herb	8081 GC OC Pest	8141 GC OP Pest	8270 GC-MS/MS Pest/Herb	8270 GC-MS SIM Pest/Herb	8321 LC-MS/MS Pest/Herb
P170771	FS-25-0.5-1	P170771-15	Soil	✓	✓			✓	
P170771	FS-25-1.5-2	P170771-16	Soil	✓	✓			✓	
P170771	FS-25-4.5-5.5	P170771-17	Soil	✓	✓			✓	
P170771	FS-25-6-7	P170771-18	Soil	✓	✓			✓	
P170771	FS-33-0.5-1	P170771-20	Soil	✓	✓			✓	
P170771	FS-33-2-3	P170771-21	Soil	✓	✓			✓	
P170771	FS-33-4-5	P170771-22	Soil	✓	✓			✓	
P170771	FS-35-0.5-1	P170771-24	Soil	✓	✓			✓	
P170771	FS-X4-0.5-1	P170771-25	Soil	✓	✓			✓	
P170771	FS-35-2-3	P170771-26	Soil	✓	✓			✓	
P170771	FS-32-0.5-1	P170771-29	Soil	✓	✓			✓	
P170771	FS-32-2-3	P170771-30	Soil	✓	✓			✓	
P170771	FS-32-4-5	P170771-31	Soil	✓	✓			✓	
P170771	FS-X5-2-3	P170771-32	Soil	✓	✓			✓	
P170771	Surface-1-0.5-1	P170771-33	Soil	✓	✓			✓	

DATA VALIDATION REPORT
Smith-Kem Site - Remedial Investigation Phase 2
Pesticides by Method SW8081B Mod

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P170216	15 Groundwater	EPA Stage 2A
P170600	15 Groundwater	EPA Stage 2A
P170743	9 Groundwater, 1 Rinsate Blank	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

SDGs P170216, P170600: The laboratory report was missing the chain-of-custody, sample receipt, and case narrative. The laboratory was contacted and the laboratory submitted the missing documentation.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	1	Target Analyte List
1	Field Blanks	1	Reporting Limits
1	Laboratory Control Samples (LCS/LCSD)	✓	Compound Identification
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
2	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P170600: The temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 6°C, at 21.7 and 23.2°C. All results were estimated (J/UJ-1).

SDG P170743: Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 4°C, ranging from 6.8 to 15°C. It was determined that data were not affected; no action was taken.

Field Blanks

SDG P170743: One field blank, Rinsate-1, was submitted. No target analytes were detected.

Laboratory Control Samples

Only dieldrin, oxadiazon, and chlorpyrifos were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only dieldrin, oxadiazon, and chlorpyrifos were spiked.

SDG P170600: The matrix spike/matrix spike duplicate (MS/MSD) samples were performed on Sample MW-04-051717. The MSD percent recovery (%R) values for chlorpyrifos and oxadiazon were greater than the upper control limit, but was in control in the associated MS sample; no qualification was required for a single outlier. The %R values for dieldrin were less than the lower control limit; results for this compound were estimated (J-8L). The relative percent difference (RPD) values were greater than the control limit for chlorpyrifos and oxadiazon. These analytes were not detected in the parent sample; no data were qualified.

SDG P170743: The MS/MSD samples were performed on Sample FS-22-GW-9-11. The MSD %R value for oxadiazon was greater than the upper control limit, but was in control in the associated MS sample. No qualification was required for a single outlier.

Surrogate Compounds

The surrogate compound, DCBP, was added to all samples. With the following exceptions, the surrogate recoveries were within the control limits of 70%-130% recovery:

SDG	Sample ID	Surrogate %R	Potential Bias	Action
P170216	MW-04-022717	51	Low	J/UJ-13L
	MW-01X-022717	65	Low	J/UJ-13L
P170743	FS-37-GW-9-14	38	Low	UJ-13L
	FS-30-GW-13-15	46	Low	UJ-13L

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and duplicate must be less than the RL.

SDG P170216: Samples MW-01-022717 & MW-01X-022717 were identified as field duplicates. All acceptance criteria were met.

SDG P170600: Samples MW-11-051717 & MW-11X-051717 were identified as field duplicates. All acceptance criteria were met.

SDG P170743: Samples FS-22-GW-0-2 and FS-22-GW-4-6 were identified as field duplicates. All acceptance criteria were met.

Target Analyte List

There were no results reported for hexachlorocyclopentadiene.

Reporting Limits

Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed a modified version of this analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values. Precision was also acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated due sample receipt temperature outliers, surrogate% outliers, and MS/MSD %R outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site - Remedial Investigation Phase 2
Pesticides by Method SW8321B Mod: LC-MS/MS

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P170216	15 Groundwater	EPA Stage 2A
P170600	15 Groundwater	EPA Stage 2A
P170743	9 Groundwater & 1 Rinsate Blank	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

SDGs P170216, P170600: The laboratory report was missing the chain-of-custody, sample receipt, and case narrative. The laboratory was contacted and the laboratory submitted the missing documentation.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	1	Reporting Limits
1	Laboratory Control Samples (LCS/LCSD)	✓	Compound Identification
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
2	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P170600: The temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 6°C, at 21.7 and 23.2°C. All results were estimated (J/UJ-1).

SDG P170743: Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 4°C, ranging from 6.8 to 15°C. It was determined that data were not affected; no action was taken.

Field Blanks

SDG P170743: One field blank, Rinsate-1, was submitted. No target analytes were detected.

Laboratory Control Samples

Only diuron, fluometuron, and thiobencarb were spiked. All recoveries were acceptable.

SDG P170600: The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) relative percent difference (RPD) value for thiobencarb was greater than the control limit. This analyte was not detected in the associated samples; no data were qualified.

Matrix Spike/Matrix Spike Duplicates

Only diuron, fluometuron, and thiobencarb were spiked.

SDG P170600: The matrix spike/matrix spike duplicate (MS/MSD) samples were performed using Sample MW-04-051717. The MS percent recovery (%R) values for fluometuron and thiobencarb were less than the lower control limit, but were in control in the associated MSD sample. No qualification was required for the single outliesr. The RPD values were greater than the control limit for fluometuron and thiobencarb. These analytes were not detected in the parent sample; no data were qualified.

Surrogate Compounds

SDG P170216: The surrogate recovery for Sample MW-07-022817 was greater than the upper control limit of 130%, indicating a potential high bias. The detected results in this sample were estimated (J-13H).

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and duplicate must be less than the RL.

SDG P170216: Samples MW-01-022717 and MW-01X-022717 were identified as field duplicates. All acceptance criteria were met.

SDG P170600: Samples MW-11-051717 & MW-11X-051717 were identified as field duplicates. All acceptance criteria were met.

SDG P170743: Samples FS-22-GW-0-2 and FS-22-GW-4-6 were identified as field duplicates. All acceptance criteria were met.

Reporting Limits

Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Data were estimated due sample receipt temperature outliers and surrogate %R outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site - Remedial Investigation Phase 2
Pesticides by Method SW8141B Mod: GC-FPD

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P170216	15 Groundwater	EPA Stage 2A
P170600	15 Groundwater	EPA Stage 2A
P170743	10 Groundwater & 1 Rinsate Blank	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

SDGs P170216, P170600: The laboratory report was missing the chain-of-custody, sample receipt, and case narrative. The laboratory was contacted and the laboratory submitted the missing documentation.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	1	Target Analyte List
1	Field Blanks	✓	Reporting Limits
1	Laboratory Control Samples (LCS/LCSD)	✓	Compound Identification
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
2	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P170600: The temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 6°C, at 21.7 and 23.2°C. All results were estimated (J/UJ-1).

SDG P170743: Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 4°C, ranging from 6.8 to 15°C. After further evaluation, it was determined that data were not affected; no action was taken.

Field Blanks

SDG P170743: One field blank, Rinsate-1, was submitted. No target analytes were detected.

Laboratory Control Samples

Only parathion methyl and diazinon were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only parathion methyl and diazinon were spiked.

SDG P170600: The matrix spike/matrix spike duplicate (MS/MSD) samples were performed on Sample MW-04-051717. The MS percent recovery (%R) values for parathion methyl and diazinon were less than the lower control limit, but were in control in the associated MSD sample. No qualification was required for the single outliers. The relative percent difference (RPD) values were greater than the control limit for parathion methyl and diazinon. These analytes were not detected in the parent sample; no data were qualified.

Surrogate Compounds

The surrogate compound, DCPAA, was added to all samples. With the following exceptions, the surrogate recoveries were within the control limits of 70%-130% recovery:

SDG	Sample ID	Surrogate %R	Bias	Qualifier
P170743	FS-22-GW-0-2	56	Low	J/UJ-13L
	FS-22-GW-4-6	56	Low	J/UJ-13L
	FS-22-GW-9-11	61	Low	J/UJ-13L
	FS-38-GW-4.5-7	58	Low	J/UJ-13L
	FS-39-GW-4.5-7	53	Low	J/UJ-13L
	FS-40-GW-4.5-7	57	Low	J/UJ-13L
	FS-37-GW-9-14	57	Low	J/UJ-13L
	Rinsate-1	59	Low	J/UJ-13L
	FS-30-GW-13-15	63	Low	J/UJ-13L
	FS-30-GW-5-7	60	Low	J/UJ-13L

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than the RL.

SDG P170216: Samples MW-01-022717 & MW-01X-022717 were identified as field duplicates. All acceptance criteria were met.

SDG P170600: Samples MW-11-051717 & MW-11X-051717 were identified as field duplicates. All acceptance criteria were met.

SDG P170743: Samples FS-22-GW-0-2 and FS-22-GW-4-6 were identified as field duplicates. All acceptance criteria were met.

Target Analyte List

The samples were not analyzed for fenchlorphos, naled, or glyphosate.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values. Precision was also acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Data were estimated due sample receipt temperature outliers and surrogate %R outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site Remedial Investigation Phase 2
Pesticides by Method SW8081B Mod

This report documents the review of analytical data from the analysis of soil samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P170743	37 Soil	EPA Stage 2A
P170771	25 Soil	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	1	Reporting Limits
✓	Laboratory Control Samples (LCS)	✓	Compound Identification
✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
1	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P170743: The temperature of one of the coolers upon receipt at the laboratory was greater than the upper control limit of 6°C, at 15°C. It was determined that data were not affected; no action was taken.

SDG P170771: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 6.9°C. It was determined that data were not affected; no action was taken.

Field Blanks

SDG P170743: One field blank, Rinsate-1, was submitted. No target analytes were detected.

Surrogate Compounds

The surrogate compound, decachlorobiphenyl (DCBP), was added to all samples. With the following exception, the surrogate recoveries were within the control limits of 70%-130% recovery:

SDG P170743: For Sample FS-17-2.5-3.5, the surrogate %R value was greater than the upper control limit indicating a potential high bias. No positive results were detected; no qualification was required.

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

SDG P170743: Two sets of field duplicates were submitted: FS-X1-3-4 & FS-20-3-4 and FS2X-2-3 & FS18-2-3. All field precision criteria were met.

SDG P170771: Three sets of field duplicates were submitted: FS-X3-2-3 & FS-31-2-3, FS-X4-0.5-1 & FS-35-0.5-1, and FS-X5-2-3 & FS-32-2-3. For samples FS-X5-2-3 & FS-32-2-3, the RPD value for p,p'-DDE exceeded the control limit.

Reporting Limits

The reporting limits were elevated due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed a modified version of the analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the MS/MSD and field duplicate RPD values.

Results were estimated because of LCS and MS/MSD recovery outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site - Remedial Investigation Phase 2
Herbicides/Pesticides by Method SW8270D Mod: GC-MS/MS

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
P170216	15 Groundwater	EPA Stage 2A
P170600	15 Groundwater	EPA Stage 2A
P170743	9 Groundwater, 1 Rinsate Blank	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

SDGs P170216, P170600: The laboratory report was missing the chain-of-custody, sample receipt, and case narrative. The laboratory was contacted and the laboratory submitted the missing documentation.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	1	Reporting Limits
1	Laboratory Control Samples (LCS)	✓	Compound Identification
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
2	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P170600: The temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 6°C, at 21.7 and 23.2°C. All results were estimated (J/UJ-1).

SDG P170743: Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 4°C, ranging from 6.8 to 15°C. It was determined that data were not affected; no action was taken.

Field Blanks

SDG P170743: One field blank, Rinsate-1, was submitted. No target analytes were detected.

Laboratory Control Sample/Laboratory Control Sample Duplicates

Because this is a screening method, the lab did not spike for the full suite of analytes. Only atrazine, ethofumesate, and napropamide were spiked. All recoveries were acceptable

Matrix Spike/Matrix Spike Duplicates

Only atrazine, ethofumesate, and napropamide were spiked.

SDG P170600: The matrix spike/matrix spike duplicate (MS/MSD) analyses were performed using Sample MW-04-051717. The MS percent recovery (%R) values for napropamide and ethofumesate were less than the lower control limit, but were in control in the associated MSD sample. No qualification was required for the single outliers. The relative percent difference (RPD) values were greater than the control limit for napromide and ethofumesate. These analytes were not detected in the parent sample; no data were qualified.

SDG P170743: The MS/MSD analyses were performed using Sample FS-22-GW-9-11. The MSD %R value for napropamide was greater than the upper control limit, but was in control in the associated MS sample. No qualification was required for a single outlier.

Surrogate Compounds

The surrogate compound DCBP was added to all samples. With the following exceptions, the surrogate recoveries were within the control limits of 70%-130% recovery:

SDG	Sample ID	Surrogate %R	Bias	Qualifiers
P170216	MW-04-022717	58	Low	J/UJ-13L
P170600	MW-04-051717	48	Low	J/UJ-13L
	MW-13-051817	41	Low	J/UJ-13L
P170743	FS-22-GW-9-11	66	Low	J/UJ-13L
	FS-38-GW-4.5-7	65	Low	J/UJ-13L
	FS-37-GW-9-14	34	Low	J/UJ-13L
	FS-30-GW-13-15	45	Low	UJ-13L

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and replicate must be less than the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

SDG P170216: Samples MW-01-022717 & MW-01X-022717 were identified as field duplicates. The difference for atrazine exceeded the control limit.

SDG P170600: Samples MW-11-051717 & MW-11X-051717 were identified as field duplicates. All acceptance criteria were met.

SDG P170743: Samples FS-22-GW-0-2 and FS-22-GW-4-6 were identified as field duplicates. All acceptance criteria were met.

Reporting Limits

Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the modified 8270 residue screening method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values. Precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated due sample receipt temperature outliers and surrogate %R outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site - Remedial Investigation Phase 2
Herbicides/Pesticides by Method SW8270D Mod: GC-MS/MS

This report documents the review of analytical data from the analysis of soil samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P170743	37 Soil	EPA Stage 2A
P170771	25 Soil	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	1	Reporting Limits
2	Laboratory Control Samples (LCS)	✓	Compound Identification
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
1	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P170743: The temperature of one of the coolers upon receipt at the laboratory was greater than the upper control limit of 4°C, at 15°C. Based on the stability pesticide compounds, it is EcoChem's professional judgement that the reported results were not affected; no qualification was required.

SDG P170771: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 4°C, ranging from 6.8 to 6.9°C. Based on the stability pesticide compounds, it is EcoChem's professional judgement that the reported results were not affected; no qualification was required.

Field Blanks

SDG P170743: One field blank, Rinsate-1, was submitted. No target analytes were detected.

Laboratory Control Samples

Laboratory control samples (LCS) were analyzed at the required frequency of one per batch of 20 or fewer samples. When the LCS %R value indicated a potential low bias, associated results were estimated (J/UJ-10L). Only associated positive results were estimated (J-10H) where the %R values indicated a potential high bias. Qualifiers were issued to all samples in the extraction batch.

SDG P170743: For the LCS associated with batch 7061410, the methoxychlor %R value was less than the lower control limit. The methoxychlor results in the associated samples were estimated (UJ-10L).

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed at the appropriate frequency. When the MS/MSD %R values indicated a potential low bias, results in the parent sample were estimated (J/UJ-8L). Only positive results were estimated (J-8H) if the %R values indicate a potential high bias. No action is taken unless both the MS and MSD %R values are outside the control limits. Precision is evaluated using the RPD values calculated between the MS and MSD results. Positive results are estimated (J-9) if the RPD value is greater than the control limit. Qualifiers are only assigned to the parent sample.

SDG P170743: Three sets of matrix spike/matrix spike duplicates (MS/MSD) were analyzed using samples FS-28-5-5.5, FS-20-3-4, and FS-17-2.5-3.5.

For QC sample FS-20-3-4, the %R values for p-p'-DDD and p-p'-DDE were greater than the upper control limits. The positive results in the parent sample were estimated (J-8H).

For QC sample FS-17-2.5-3.5, the %R values for p-p'-DDD and endosulfan sulfate were greater than the upper control limits. These analytes were not detected in the parent sample; no qualification was required.

Surrogate Compounds

The surrogate compound, decachlorobiphenyl (DCBP), was added to all samples. With the following exception, the surrogate recoveries were within the control limits of 70%-130%:

SDG P170743: The surrogate %R value for Sample FS-17-2.5-3.5 was greater than the upper control limit, indicating a potential high bias. No target analytes were detected in this sample; no qualification was required.

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

SDG P170743: Two sets of field duplicates were submitted: FS-X1-3-4 & FS-20-3-4 and FS2X-2-3 & FS18-2-3. All field precision criteria were met.

SDG P170771: Three sets of field duplicates were submitted: FS-X3-2-3 & FS-31-2-3, FS-X4-0.5-1 & FS-35-0.5-1, and FS-X5-2-3 & FS-32-2-3. For samples FS-X5-2-3 & FS-32-2-3, the RPD value for p,p'-DDE exceeded the control limit.

Reporting Limits

The reporting limits for several compounds were elevated due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified method. With the exceptions noted previously, accuracy was acceptable as demonstrated by the LCS, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the MS/MSD and field duplicate RPD values.

Results were estimated based on LCS and MS/MSD recovery outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site - Remedial Investigation Phase 2
Herbicides by Method SW8151A: GC-MS/MS

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P170216	10 Groundwater	EPA Stage 2A
P170600	15 Groundwater	EPA Stage 2A
P170743	10 Groundwater & 1 Rinsate Blank	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

SDGs P170216, P170600: The laboratory reports were missing the chain-of-custody, sample receipt, and case narrative. The laboratory was contacted and the laboratory submitted the missing documentation.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

2	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	1	Target Analyte List
1	Field Blanks	1	Reporting Limits
2	Laboratory Control Samples (LCS/LCSD)	✓	Compound Identification
2	Matrix Spike/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
2	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P170600: The temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 6°C, at 21.7 and 23.2°C. All results were estimated (J/UJ-1).

SDG P170743: Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 4°C, ranging from 6.8 to 15°C. It was determined that data were not affected; no action was taken.

Field Blanks

SDG P170743: One field blank, Rinsate-1, was submitted. No target analytes were detected.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicates (LCS/LCSD) were analyzed at the required frequency of one per batch of 20 or fewer samples. When the %R values indicated a potential low bias, associated results were estimated (J/UJ-10L). Only associated positive results were estimated (J-10H) if the %R values indicated a potential high bias. No action was taken if only one of the LCs or LCSD recoveries were outside of the control limits. Precision was evaluated using the LCS/LCSD relative percent difference (RPD) values. Only positive results were qualified based on RPD outliers. Qualifiers for %R or were issued to all samples in the extraction batch.

SDG P170743: For the LCS/LCSD associated with batch 7061210, the RPD values for 2,4,5-T and MCPA were greater than the control limit of 20%. These analytes were not detected in the associated samples; no action was required. The LCSD percent recovery (%R) values for 2,4,5-TP and MCPP were less than the lower control limit, but were in control in the associated LCS; no qualification was required for the single outliers. The %R values for 2,4,5-T, 2,4-D, Dinoseb, MCPA, and pentachlorophenol were less than the lower control limit of 70%; the associated sample results were estimated (J/UJ-10L).

Matrix Spike Sample/Matrix Spike Sample Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed at the appropriate frequency. When the MS/MSD %R values indicated a potential low bias, associated results were estimated (J/UJ-8L). Only the associated positive results were estimated (J-8H) if the %R values indicated a potential high bias. No action is taken unless both the MS and MSD %R values are outside the control limits. Precision is evaluated using the RPD values calculated between the MS and MSD results. Associated positive results were estimated (J-9) if the RPD value was greater than the control limit. Qualifiers were only issued to the parent sample.

SDG P170216: The MS/MSD analyses were performed using Sample MW-07-022817. The MSD %R values for 2,4,5-TP, MCPP, and pentachlorophenol were less than the lower control limit, but were in control in the associated MS sample. No qualification was required for the single outliers. The RPD values for 2,4,5-T, dinoseb, MCPP, pentachlorophenol, and 2,4-DB were greater than the control limit. These analytes were not detected in the parent sample; no qualification was required.

SDG P170743: The MS/MSD samples were performed using Sample FS-22-GW-9-11. The MS %R values for 2,4-D, 2,4-DB, Dicamba, MCPA, and MCPP were less than the lower control limit, but were in control in the associated MSD sample. No qualification was required for a single outlier. The %R values for Dinoseb and pentachlorophenol were less than the lower control limit; associated sample results were estimated (J/UJ-8L).

Surrogate Compounds

The surrogate compound, DCPAA, was added to all samples. With the following exception, the surrogate recoveries were within the control limits of 70%-130%.

SDG P170743: The DCPAA surrogate %R value for Sample FS-30-GW-13-15 was less than the lower control limit. All results for this sample were estimated (J/UJ-13L).

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and replicate must be less than the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

SDG P170216: Samples MW-01-022717 and MW-01X-022717 were identified as field duplicates. The difference value for 2,4-D was greater than the reporting limit.

SDG P170600: Samples MW-11-051717 and MW-11X-051717 were identified as field duplicates. All acceptance criteria were met.

SDG P170743: Samples FS-22-GW-0-2 and FS-GW-22-4-6 were identified as field duplicates. The RPD value for dicamba was greater than the control limit.

Target Analyte List

The samples were not analyzed for dalapon.

Reporting Limits

The target reporting limit for pentachlorophenol was 0.08 µg/L. The laboratory reported a value of 0.16 µg/L.

Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated based on sample receipt temperature outliers and LCS/LCSD, surrogate, and MS/MSD recovery outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site - Remedial Investigation Phase 2
Herbicides by Method SW8151A: GC-MS/MS

This report documents the review of analytical data from the analysis of soil samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
P170743	37 Soil	EPA Stage 2A
P170771	25 Soil	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	1	Reporting Limits
2	Laboratory Control Samples (LCS)	2	Compound Identification
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results
2	Surrogate Compounds		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P170743: The temperature of one of the coolers upon receipt at the laboratory was greater than the upper control limit of 6°C, at 15°C. It was determined that data were not affected; no action was taken.

SDG P170771: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 6.9°C. It was determined that data were not affected; no action was taken.

Field Blanks

SDG P170743: One field blank, Rinsate-1, was submitted. No target analytes were detected in this blank.

Laboratory Control Samples

Laboratory control samples (LCS) were analyzed at the required frequency of one per batch of 20 or fewer samples. For percent recovery (%R) values less than the lower control limit, associated results were estimated (J/UJ-10L) to indicate a potential low bias. For %R values greater than the upper control limit, associated positive results were estimated (J-10H) to indicate a potential high bias. Qualifiers were issued to all samples in the extraction batch.

SDG P170743: For the LCS associated with batch 7061901, the %R value for 2,4,5-T was greater than the upper control limit. This analyte was not detected in the associated samples; no qualification was required. The %R values for 2,4,5-TP, 2,4-DB, dicamba, MCPP, and pentachlorophenol were less than the lower control limit. All associated sample results were estimated (J/UJ-10L).

SDG P170771: For the LCS associated with batch 7062006, the %R values for dinoseb and pentachlorophenol were less than the lower control limit. All associated sample results were estimated (J/UJ-10L).

For the LCS associated with batch 7062103, the %R values for 2,4,5-T, 2,4-D, 2,4-DB, and MCPA were greater than the upper control limit. All associated positive results were estimated (J-10H).

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed at the appropriate frequency. When the MS/MSD %R values indicated a potential low bias, results in the parent sample were estimated (J/UJ-8L). Only positive results were estimated (J-8H) if the %R values indicate a potential high bias. No action is taken unless both the MS and MSD %R values are outside the control limits. Precision is evaluated using the RPD values calculated between the MS and MSD results. Positive results are estimated (J-9) if the RPD value is greater than the control limit. Qualifiers are only assigned to the parent sample.

SDG P170743: For batch 7061409, MS/MSD analyses were performed using Sample FS-27-0.5-1. The %R values for pentachlorophenol, 2,4-D, and MCPA were less than the lower control limit; associated sample results were estimated (J/UJ-8L).

For batch 7061503, MS/MSD analyses were performed using Sample FS-20-3-4. The %R values for 2,4,5-TP, 2,4-DB, pentachlorophenol, and dinoseb were less than the lower control limit; associated sample results were estimated (UJ-8L). The RPD value for dinoseb was greater than the control limit, however, no positive result was detected in the parent sample; no qualification was required.

For batch 7061901, MS/MSD analyses were performed using Sample FS-17-2.5-3.5. The %R values for 2,4,5-T were greater than the upper control limit. This analyte was not detected in the parent sample; no qualification was required. The %R values for pentachlorophenol were less than the lower control limit; associated sample results were estimated (UJ-8L).

SDG P170771: For batch 7062006, MS/MSD analyses were performed using Sample FS-25-6-7. The %R values for 2,4,5-T and 2,4-D were greater than the upper control limit. These analytes were not detected in the parent samples. No action was required.

The RPD value for dicamba was greater than the control limit, but it was not detected in the parent sample; no qualification was required.

For batch 7062103, MS/MSD analyses were performed using Sample FS-32-2-3. The %R values for pentachlorophenol were less than the lower control limit. The pentachlorophenol result in the parent sample and was estimated (UJ-8L).

Surrogate Compounds

The surrogate compound, DCPAA, was added to all samples. The recoveries for the following samples were less than the lower control limit of 70%. All results for these samples were qualified.

SDG	Sample ID	Surrogate %R	Potential Bias	Action
P170743	FS-19-6-7	68	Low	UJ-13L
	FS-X1-3-4	60	Low	UJ-13L
	FS-20-3-4	58	Low	UJ-13L
	FS-20-4-5	53	Low	UJ-13L
	FS-18-2-3	65	Low	UJ-13L
	FS-2X-2-3	43	Low	UJ-13L
	FS-18-6-7	45	Low	UJ-13L
	FS-17-0.5-1	57	Low	J/UJ-13L
	FS-17-2.5-3.5	60	Low	UJ-13L
	FS-17-4-5	41	Low	UJ-13L
	FS-21-0.5-1	53	Low	J/UJ-13L
	FS-21-4.5-5	52	Low	UJ-13L
	FS-30-2-3	67	Low	J/UJ-13L
P170771	FS-31-4-5	61	Low	J/UJ-13L
	FS-31-0.5-1	60	Low	J/UJ-13L
	FS-31-2-3	66	Low	J/UJ-13L
	FS-X3-2-3	55	Low	J/UJ-13L
	FS-29-0.5-1	56	Low	J/UJ-13L
	FS-29-4-4.5	60	Low	J/UJ-13L
	FS-29-1-2	65	Low	J/UJ-13L
	FS-24-0.5-1	65	Low	J/UJ-13L
	FS-25-1.5-2	57	Low	J/UJ-13L
	FS-25-4.5-5.5	52	Low	J/UJ-13L
	FS-25-6-7	38	Low	J/UJ-13L

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and duplicate must be less than 2x the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

SDG P170743: Two sets of field duplicates were submitted: FS-X1-3-4 & FS-20-3-4 and FS2X-2-3 & FS18-2-3. All field precision criteria were met.

SDG P170771: Three sets of field duplicates were submitted: FS-X3-2-3 & FS-31-2-3, FS-X4-0.5-1 & FS-35-0.5-1, and FS-X5-2-3 & FS-32-2-3. All field precision criteria were met.

Reporting Limits

The reporting limits for several compounds were elevated due to required dilutions.

Compound Identification

SDG P170743: The laboratory tentatively identified 2,4-DB in several samples due to matrix interferences. The detected 2,4-DB results in these samples were estimated (J-23).

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the MS/MSD and field duplicate RPD values.

Results were estimated because of LCS, MS/MSD, and surrogate recovery outliers as well as matrix interferences.

All data, as qualified, are acceptable for use.

ECOCHEM
Data Quality

APPENDIX A

DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES
Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.

DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L)[1] where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L)[1] where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L)[1] for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L)[1] where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L)[1] where appropriate
	12	Reference Material Use bias flags (H,L)[1] where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L)[1] where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L)[1] where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

[1] H = high bias indicated
L = low bias indicated

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG (2) Method (3)	J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C(3)
Holding Time	*Extraction Aqueous:* 7 days from collection *Extraction Solid:* 14 days from collection *Exraction Tissue/Sediment (frozen):* 1 year *Analysis (all matrices):* 40 days from extraction	NFG (2) Method (3)	J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Resolution Check	Beginning of ICAL sequence Within RTW and resolution > 60%	NFG (2)	NJ (pos)/R (ND) results	14	CLP criterion; might not be submitted with SW846 data package
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Target analytes: within RTW	NFG (2) Method (3)	NJ (pos)/R (ND) results for analytes with RT shifts	24	Use PJ based on examination of raw data
Breakdown	DDT Breakdown: ≤ 20% Endrin Breakdown: ≤ 20% Combined Breakdown: ≤ 30% Compounds within RTW	NFG (2) Method (3)	If 4,4'-DDT is detected: J (pos) 4,4'-DDT, 4,4'-DDD and 4,4'-DDE If 4,4'-DDT is ND and either 4,4'-DDD or 4,4'-DDE are detected: R (ND) 4,4'-DDT, NJ (pos) DDD and DDE If Endrin is detected: J (pos) Endrin, Endrin Aldehyde and Endrin Ketone If Endrin is ND and either EA or EK are detected: R (ND) Endrin, NJ (pos) EA and EK	5A	Method 8081B breakdown criterion: ≤ 15%. For combined breakdown outliers, apply qualifiers considering the degree of individual breakdown.

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Initial Calibration	Single Component Compounds: RSD ≤ 20% alpha-BHC and delta-BHC: RSD ≤ 25% toxaphene and surrogates: RSD ≤ 30% **or** correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with coefficient of determination (r^2-value) ≥ 0.99	NFG (2) Method (4)	J (pos) if %RSD greater than control limit **or** r-value < 0.995 **or** r^2-value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L) (6) where appropriate
Initial Calibration Verification (ICV)	No NFG criteria Project specific	Project QAPP	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) (6) where appropriate
Continuing Calibration	%D ± 20% Analyzed prior to each 12 hour shift	Method (3)	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L)(6) where appropriate
Blank Contamination					
Method Blank (MB)	One per matrix per batch (of ≤ 20 samples) No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** #1 - Review MB and IB, qualify as needed #2 - Review FB , qualify as needed **Note: Actions as per NFG 1999** Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG (1)	U (pos) if result is less than appropriate 5X action level.	7	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria No action if native analyte conc. > 5x the amount spiked Use bias flags (H,L) (6) where appropriate
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND
LCS	One per lab batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Qualify all associated samples. Use bias flags (H,L) (6) where appropriate
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG (2)	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% **or** project limits	NFG (2) Method (3)	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (dilution is a factor), use PJ Use bias flags (H,L) (6) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method (3)	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Field Duplicates	**Solids:** RPD < 50% **or** difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% **or** difference < 1X RL (for results < 5X RL)	EcoChem standard practice	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG [2] Method [3]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info
Calibration Range	On-column concentration < high calibration standard	NFG [2] Method [3]	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 for additional info
Sample Clean-up					
GPC/Sulfur/ Florisil	GPC or Florisil cleanup stndards 80% - 120%	NFG [2]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	14	Cleanups are optional under SW846 Use bias flags (H,L) [6] where appropriate

[1] National Functional Guidelines for Organic Data Review, October 1999
[2] National Functional Guidelines for Organic Data Review, June, 2008
[3] Organochlorine Pesticides by Gas Chromatography USEPA Method SW846 8081B, Feb 2007, Rev. 2
[4] SW846, Chapter 4, Organic Analytes
[5] Determinative Chromatographic Separations , Method 8000C , March 2003, Rev.3
[6] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

Copyright 2014 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C sediment/tissues may require storage at -20°C	NFG [(1)] Method [(3)]	**If required by project:** J (pos)/UJ (ND) if greater than 6° C	1	Use **PJ** for temp outliers; see **TM20** Current SW846 criterion is ≤ 6° C [(3)]
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Analysis (all matrices)**: 40 days from extraction Holding time may be extended to 1 year for frozen sediments/tissues	NFG [(1)] Method [(3)]	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	DFTPP Beginning of each 12 hour period Use method or project acceptance criteria	NFG [(1)] Method [(3)]	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG [(1)] Method [(3)]	Use **PJ** to qualify J (pos)/UJ (ND)	5A	**TM-06** EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance **PJ** - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration **Stability**	Minimum 5 standards %RSD ≤ 20.0% except: %RSD ≤ 40.0% poor responders * **or** co-efficient of determination (r^2) > 0.99	NFG [(1)] Method [(3)]	J (pos) if %RSD > limit **or** r^2 value <0.99	5A	
Initial Calibration Verification Check	Prepared from second source; analyze after each ICAL Percent recovery limits = 70-130%	Method [(3)]	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L)[4]	QAPP may have overriding accuracy limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Continuing Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG (1) Method (3)	Use **PJ** to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration **Stability**	Prior to sample analysis and every 12 hours %D ≤ 25% except: %D ≤ 40.0% poor responders *	NFG (1) Method (3)	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L)[4]	
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > MDL	NFG (2) Method (3)	U(pos) if result is < 5X or 10X action level	7	10X action level applies to phthalates only. 5X for all other target analytes **Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed** **Note: Actions as per 1999 NFG**
	No TICs present		R (pos) TICs using 10X rule	7	
Field Blank (FB)	No detected compounds > MDL	NFG (2) Method (3)	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of ≤ 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method (3)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L)[4]	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits. Qualify all associated samples.
LCS/LCSD (RPD)	If LCSD analyzed RPD < lab limits	Method (3)	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L)[4]	QAPP may have overriding accuracy limits. Some manufacturers have different RM control limits
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG [(1)] Method [(3)]	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L)[4]	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG [(1)] Method [(2)]	J (pos) in parent sample if RPD > CL	9	Qualify parent sample only
Surrogates	Minimum of 3 acid & 3 base/neutral (B/N) compounds added to all samples Within method control limits	NFG [(1)] Method [(3)]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	13 (H,L)[4]	Qualify all compounds in associated fraction. Do not qualify if only 1 acid and/or 1 B/N surrogate is out, unless <10%. If 1 surrogate outlier < 10% then J (pos)/R (ND)
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG [(1)] Method [(3)]	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use **PJ**	19	Qualify compounds quantified using particular internal standard
Field Duplicates	**Solids:** RPD < 50% OR difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification and Quantitation and Calculation					
Retention times and relative ion intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG [(1)] Method [(3)]	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG [(1)] Method [(3)]	NJ the TIC unless: R (pos) common laboratory contaminants	4	
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04** EcoChem Policy for Rejection/Selection Process for Multiple Results

[1] National Functional Guidelines for Organic Data Review, June, 2008
[2] National Functional Guidelines for Organic Data Review, October, 1999
[3] Method SW846 8270D Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007.
[4] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

(pos): Positive Result(s)
(ND): Non-detects

* "Poor responder" compounds: acetophenone, atrazine, benzaldehyde, 1,1'-biphenyl, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, caprolactam, carbazole, 4-chloroaniline, diethylphthalate, di-n-butylphthalate, 3-3'-dichlorobenzidine, dimethylphthalate, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, di-n-octylphthalate, hexachlorobutadiene, hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, 4-nitrophenol, N-nitrosodiphenylamine, 2,2'-oxybis-(1-chloropropane), 1,2,4,5-tetrachlorobenzene use a 0.010 RRF criterion.

Copyright 2015 EcoChem, Inc.

ECOCHEM
Data Quality

APPENDIX B

QUALIFIED DATA SUMMARY TABLE

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.21	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Atrazine	11	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Chlordane	2.3	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Dieldrin	1.2	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Hexazinone	1.9	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	0.45	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Metribuzin	3.1	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Pendimethalin	0.17	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Propazine	0.089	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Simazine	0.091	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Terbacil	0.28	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Toxaphene	9.3	ug/L	J	13L
P170216	MW-04-022717	P170216-04	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Dieldrin	0.31	ug/L	J	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Terbacil	0.40	ug/L	J	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	13L
P170216	MW-01X-022717	P170216-07	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	13L
P170216	MW-07-022817	P170216-11	Modified EPA 8321B (LC-MS/MS)	Carbaryl	0.19	ug/L	J	13H
P170216	MW-07-022817	P170216-11	Modified EPA 8321B (LC-MS/MS)	Diuron	2.0	ug/L	J	13H
P170216	MW-07-022817	P170216-11	Modified EPA 8151A (GC-MS/MS)	MCPA	3.9	ug/L	J	8L
P170600	MW-06-051717	P170600-01	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8151A (GC-MS/MS)	2,4-D	14	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	a-Chlordane	0.13	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Atrazine	7.9	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-06-051717	P170600-01	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Chlordane	0.87	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8151A (GC-MS/MS)	Dicamba	210	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Dieldrin	0.32	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8321B (LC-MS/MS)	Diuron	2.9	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.54	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8151A (GC-MS/MS)	MCPA	3.0	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	0.066	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Metribuzin	3.2	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Prometon	0.087	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Propazine	0.094	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Simazine	0.61	ug/L	J	1
P170600	MW-06-051717	P170600-01	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-06-051717	P170600-01	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8151A (GC-MS/MS)	Dicamba	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8151A (GC-MS/MS)	MCPA	0.15	ug/L	J	1
P170600	MW-03-051717	P170600-02	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-03-051717	P170600-02	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8151A (GC-MS/MS)	2,4-D	0.26	ug/L	J	1
P170600	MW-01-051717	P170600-03	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.69	ug/L	J	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8151A (GC-MS/MS)	Dicamba	2.7	ug/L	J	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8321B (LC-MS/MS)	Diuron	0.11	ug/L	J	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.083	ug/L	J	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8151A (GC-MS/MS)	MCPA	0.24	ug/L	J	1
P170600	MW-01-051717	P170600-03	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.27	ug/L	J	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Prometon	0.061	ug/L	J	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Simazine	0.072	ug/L	J	1
P170600	MW-01-051717	P170600-03	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-01-051717	P170600-03	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-04-051717	P170600-04	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	0.21	ug/L	J	1
P170600	MW-04-051717	P170600-04	Modified EPA 8151A (GC-MS/MS)	2,4-D	38	ug/L	J	1
P170600	MW-04-051717	P170600-04	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Atrazine	11	ug/L	J	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8321B (LC-MS/MS)	Carbaryl	0.55	ug/L	J	1
P170600	MW-04-051717	P170600-04	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Chlordane	1.4	ug/L	J	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-04-051717	P170600-04	Modified EPA 8151A (GC-MS/MS)	Dicamba	53	ug/L	J	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Dieldrin	1.0	ug/L	J	1,8L
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8321B (LC-MS/MS)	Diuron	6.0	ug/L	J	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.80	ug/L	J	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8151A (GC-MS/MS)	MCPA	28	ug/L	J	1
P170600	MW-04-051717	P170600-04	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	0.29	ug/L	J	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Metribuzin	3.8	ug/L	J	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Pendimethalin	0.52	ug/L	J	1
P170600	MW-04-051717	P170600-04	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Propazine	0.092	ug/L	J	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Simazine	0.12	ug/L	J	1,13L
P170600	MW-04-051717	P170600-04	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1,13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Terbacil	0.19	ug/L	J	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-04-051717	P170600-04	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8151A (GC-MS/MS)	Dicamba	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-09-051717	P170600-05	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.27	ug/L	J	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8151A (GC-MS/MS)	Dicamba	0.095	ug/L	J	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8321B (LC-MS/MS)	Diuron	0.086	ug/L	J	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.094	ug/L	J	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-07-051717	P170600-06	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.30	ug/L	J	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8151A (GC-MS/MS)	Dicamba	0.77	ug/L	J	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Simazine	0.14	ug/L	J	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-11X-051717	P170600-07	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.32	ug/L	J	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8151A (GC-MS/MS)	Dicamba	0.78	ug/L	J	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Simazine	0.16	ug/L	J	1
P170600	MW-11-051717	P170600-08	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-11-051717	P170600-08	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-08-051717	P170600-09	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.099	ug/L	J	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8151A (GC-MS/MS)	Dicamba	0.22	ug/L	J	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.10	ug/L	J	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-08-051717	P170600-09	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8151A (GC-MS/MS)	Dicamba	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-05-051717	P170600-10	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-05-051717	P170600-10	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.57	ug/L	J	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8151A (GC-MS/MS)	Dicamba	0.65	ug/L	J	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.068	ug/L	J	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Simazine	0.15	ug/L	J	1
P170600	MW-14-051817	P170600-11	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-14-051817	P170600-11	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Atrazine	1.5	ug/L	J	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8151A (GC-MS/MS)	Dicamba	1.6	ug/L	J	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.070	ug/L	J	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Simazine	0.66	ug/L	J	1
P170600	MW-12-051817	P170600-12	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-12-051817	P170600-12	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-02-051817	P170600-13	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8151A (GC-MS/MS)	Dicamba	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-02-051817	P170600-13	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-02-051817	P170600-13	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-10-051817	P170600-14	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8151A (GC-MS/MS)	Dicamba	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-10-051817	P170600-14	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-10-051817	P170600-14	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-10-051817	P170600-14	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8321B (LC-MS/MS)	Aldicarb	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8321B (LC-MS/MS)	Aldicarb Sulfone	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8321B (LC-MS/MS)	Carbaryl	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8321B (LC-MS/MS)	Carbofuran	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8151A (GC-MS/MS)	Dicamba	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8321B (LC-MS/MS)	Diuron	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8321B (LC-MS/MS)	Fluometuron	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8321B (LC-MS/MS)	Methomyl	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8321B (LC-MS/MS)	Oxamyl	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8321B (LC-MS/MS)	Propargite	ND	ug/L	UJ	1

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	1,13L
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8321B (LC-MS/MS)	Thiobencarb	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	1
P170600	MW-13-051817	P170600-15	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	1
P170743	FS-27-0.5-1	P170743-01	EPA 8151A (GC-MS/MS)	2,4-D	0.25	mg/kg	J	8L
P170743	FS-27-0.5-1	P170743-01	EPA 8151A (GC-MS/MS)	2,4-DB	0.013	mg/kg	J	23
P170743	FS-27-0.5-1	P170743-01	EPA 8151A (GC-MS/MS)	MCPA	0.19	mg/kg	J	8L
P170743	FS-27-0.5-1	P170743-01	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	8L
P170743	FS-27-3-4	P170743-02	EPA 8151A (GC-MS/MS)	2,4-DB	0.022	mg/kg	J	23
P170743	FS-28-0.5-1	P170743-05	EPA 8151A (GC-MS/MS)	2,4-DB	0.027	mg/kg	J	23
P170743	FS-19-0.5-1	P170743-13	EPA 8151A (GC-MS/MS)	2,4-DB	0.034	mg/kg	J	23
P170743	FS-19-6-7	P170743-16	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-19-6-7	P170743-16	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170743	FS-19-6-7	P170743-16	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-19-6-7	P170743-16	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170743	FS-19-6-7	P170743-16	EPA 8151A (GC-MS/MS)	DCPAA	0.225	mg/kg	J	13L
P170743	FS-19-6-7	P170743-16	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	13L
P170743	FS-19-6-7	P170743-16	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-19-6-7	P170743-16	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-19-6-7	P170743-16	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170743	FS-19-6-7	P170743-16	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	13L
P170743	FS-X1-3-4	P170743-19	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-X1-3-4	P170743-19	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170743	FS-X1-3-4	P170743-19	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-X1-3-4	P170743-19	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-X1-3-4	P170743-19	EPA 8151A (GC-MS/MS)	DCPAA	0.201	mg/kg	J	13L
P170743	FS-X1-3-4	P170743-19	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	13L
P170743	FS-X1-3-4	P170743-19	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-X1-3-4	P170743-19	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-X1-3-4	P170743-19	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170743	FS-X1-3-4	P170743-19	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-X1-3-4	P170743-19	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	13L
P170743	FS-20-3-4	P170743-20	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-20-3-4	P170743-20	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	8L,13L
P170743	FS-20-3-4	P170743-20	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-20-3-4	P170743-20	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	8L,13L
P170743	FS-20-3-4	P170743-20	EPA 8151A (GC-MS/MS)	DCPAA	0.193	mg/kg	J	13L
P170743	FS-20-3-4	P170743-20	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	13L
P170743	FS-20-3-4	P170743-20	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	8L,13L
P170743	FS-20-3-4	P170743-20	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-20-3-4	P170743-20	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170743	FS-20-3-4	P170743-20	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-20-3-4	P170743-20	Modified EPA 8270D (GC-MS SIM)	p,p'-DDD	0.0077	mg/kg	J	8H
P170743	FS-20-3-4	P170743-20	Modified EPA 8270D (GC-MS SIM)	p,p'-DDE	0.099	mg/kg	J	8H
P170743	FS-20-3-4	P170743-20	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	8L,13L
P170743	FS-20-4-5	P170743-21	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-20-4-5	P170743-21	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170743	FS-20-4-5	P170743-21	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-20-4-5	P170743-21	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170743	FS-20-4-5	P170743-21	EPA 8151A (GC-MS/MS)	DCPAA	0.172	mg/kg	J	13L
P170743	FS-20-4-5	P170743-21	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	13L
P170743	FS-20-4-5	P170743-21	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-20-4-5	P170743-21	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-20-4-5	P170743-21	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170743	FS-20-4-5	P170743-21	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-20-4-5	P170743-21	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-22-0.5-1	P170743-22	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-22-3-4	P170743-23	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-22-4-5	P170743-24	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-22-7-8	P170743-25	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	10L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8151A (GC-MS/MS)	2,4-D	0.15	ug/L	J	10L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	10L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	10L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	10L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	13L
P170743	FS-22-GW-0-2	P170743-27	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	10L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8151A (GC-MS/MS)	2,4-D	0.14	ug/L	J	10L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	10L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	10L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	10L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	13L
P170743	FS-22-GW-4-6	P170743-28	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	10L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	10L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.44	ug/L	J	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	8L,10L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	10L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.18	ug/L	J	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	8L,10L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Simazine	0.066	ug/L	J	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	13L
P170743	FS-22-GW-9-11	P170743-29	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	10L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	10L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	10L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	10L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	10L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Prometon	0.061	ug/L	J	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	13L
P170743	FS-38-GW-4.5-7	P170743-30	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	10L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	10L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	10L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	10L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	10L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	13L
P170743	FS-39-GW-4.5-7	P170743-31	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	10L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	10L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	10L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	10L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	10L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	13L
P170743	FS-40-GW-4.5-7	P170743-32	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	10L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	10L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Atrazine	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	10L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Hexazinone	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	10L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Metribuzin	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	10L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Prometon	0.070	ug/L	J	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Simazine	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	13L
P170743	FS-37-GW-9-14	P170743-33	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	10L
P170743	Rinsate-1	P170743-34	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	10L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	10L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	10L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	10L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	13L
P170743	Rinsate-1	P170743-34	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	10L,13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8151A (GC-MS/MS)	2,4-D	0.13	ug/L	J	10L,13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	a-BHC	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Acetochlor	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	a-Chlordane	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Alachlor	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Aldrin	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Ametryn	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Amitraz	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Atrazine	1.8	ug/L	J	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	b-BHC	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Captafol	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Captan	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Chlordane	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Chlorobenzilate	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Chlorothalonil	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Chlorpyrifos	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Cyanazine	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Cyhalothrin	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Cypermethrin	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Dacthal	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	d-BHC	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8151A (GC-MS/MS)	Dicamba	1.9	ug/L	J	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Dieldrin	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	10L,13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Diphenylamine	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Endosulfan I	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Endosulfan II	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Endosulfan sulfate	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Endrin	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Ethofumesate	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Flutolanil	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Folpet	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	g-BHC	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Heptachlor	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Heptachlor epoxide	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Hexachlorobenzene	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Hexazinone	0.23	ug/L	J	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Iprodione	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	10L,13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Metalaxyl	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Methoxychlor	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Metolachlor	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Metribuzin	0.38	ug/L	J	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Napropamide	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Norflurazon	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Oxadiazon	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	p,p'-DDD	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	p,p'-DDE	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	p,p'-DDT	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Pendimethalin	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	10L,13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Permethrin	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Prometon	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Prometryn	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Pronamide	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Propachlor	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Propanil	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Propazine	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Propiconazole	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Simazine	0.29	ug/L	J	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8270D (GC-MS/MS)	Tebuthiuron	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Terbacil	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Toxaphene	ND	ug/L	UJ	13L
P170743	FS-30-GW-13-15	P170743-35	Modified EPA 8081B (GC-ECD)	Trifluralin	ND	ug/L	UJ	13L
P170743	FS-20-5.5-6.5	P170743-36	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-18-0.5-1	P170743-38	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-18-2-3	P170743-39	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-18-2-3	P170743-39	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170743	FS-18-2-3	P170743-39	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-18-2-3	P170743-39	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170743	FS-18-2-3	P170743-39	EPA 8151A (GC-MS/MS)	DCPAA	0.212	mg/kg	J	13L
P170743	FS-18-2-3	P170743-39	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	13L
P170743	FS-18-2-3	P170743-39	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-18-2-3	P170743-39	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-18-2-3	P170743-39	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170743	FS-18-2-3	P170743-39	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-18-2-3	P170743-39	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-18-4-5	P170743-40	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-2X-2-3	P170743-41	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-2X-2-3	P170743-41	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L,13L
P170743	FS-2X-2-3	P170743-41	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-2X-2-3	P170743-41	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L,13L
P170743	FS-2X-2-3	P170743-41	EPA 8151A (GC-MS/MS)	DCPAA	0.143	mg/kg	J	13L
P170743	FS-2X-2-3	P170743-41	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L,13L
P170743	FS-2X-2-3	P170743-41	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-2X-2-3	P170743-41	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-2X-2-3	P170743-41	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L,13L
P170743	FS-2X-2-3	P170743-41	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-2X-2-3	P170743-41	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170743	FS-18-6-7	P170743-42	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-18-6-7	P170743-42	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L,13L
P170743	FS-18-6-7	P170743-42	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-18-6-7	P170743-42	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L,13L
P170743	FS-18-6-7	P170743-42	EPA 8151A (GC-MS/MS)	DCPAA	0.150	mg/kg	J	13L
P170743	FS-18-6-7	P170743-42	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L,13L
P170743	FS-18-6-7	P170743-42	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-18-6-7	P170743-42	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-18-6-7	P170743-42	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L,13L
P170743	FS-18-6-7	P170743-42	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-18-6-7	P170743-42	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170743	FS-17-0.5-1	P170743-43	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-17-0.5-1	P170743-43	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L,13L
P170743	FS-17-0.5-1	P170743-43	EPA 8151A (GC-MS/MS)	2,4-D	0.032	mg/kg	J	13L
P170743	FS-17-0.5-1	P170743-43	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L,13L
P170743	FS-17-0.5-1	P170743-43	EPA 8151A (GC-MS/MS)	DCPAA	0.188	mg/kg	J	13L
P170743	FS-17-0.5-1	P170743-43	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L,13L
P170743	FS-17-0.5-1	P170743-43	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-17-0.5-1	P170743-43	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-17-0.5-1	P170743-43	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L,13L
P170743	FS-17-0.5-1	P170743-43	Modified EPA 8270D (GC-MS SIM)	Methoxychlor	ND	mg/kg	UJ	10L
P170743	FS-17-0.5-1	P170743-43	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170743	FS-17-2.5-3.5	P170743-44	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-17-2.5-3.5	P170743-44	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L,13L
P170743	FS-17-2.5-3.5	P170743-44	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-17-2.5-3.5	P170743-44	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L,13L
P170743	FS-17-2.5-3.5	P170743-44	EPA 8151A (GC-MS/MS)	DCPAA	0.200	mg/kg	J	13L
P170743	FS-17-2.5-3.5	P170743-44	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L,13L
P170743	FS-17-2.5-3.5	P170743-44	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-17-2.5-3.5	P170743-44	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-17-2.5-3.5	P170743-44	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L,13L
P170743	FS-17-2.5-3.5	P170743-44	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	8L,10L,13L
P170743	FS-17-4-5	P170743-45	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-17-4-5	P170743-45	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L,13L
P170743	FS-17-4-5	P170743-45	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-17-4-5	P170743-45	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L,13L
P170743	FS-17-4-5	P170743-45	EPA 8151A (GC-MS/MS)	DCPAA	0.136	mg/kg	J	13L
P170743	FS-17-4-5	P170743-45	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L,13L
P170743	FS-17-4-5	P170743-45	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-17-4-5	P170743-45	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-17-4-5	P170743-45	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L,13L
P170743	FS-17-4-5	P170743-45	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170743	FS-21-0.5-1	P170743-48	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-21-0.5-1	P170743-48	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L,13L
P170743	FS-21-0.5-1	P170743-48	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-21-0.5-1	P170743-48	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L,13L
P170743	FS-21-0.5-1	P170743-48	EPA 8151A (GC-MS/MS)	DCPAA	0.177	mg/kg	J	13L
P170743	FS-21-0.5-1	P170743-48	EPA 8151A (GC-MS/MS)	Dicamba	0.028	mg/kg	J	10L,13L
P170743	FS-21-0.5-1	P170743-48	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-21-0.5-1	P170743-48	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-21-0.5-1	P170743-48	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L,13L
P170743	FS-21-0.5-1	P170743-48	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170743	FS-21-2-3	P170743-49	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L
P170743	FS-21-2-3	P170743-49	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L
P170743	FS-21-2-3	P170743-49	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P170743	FS-21-2-3	P170743-49	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L
P170743	FS-21-2-3	P170743-49	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P170743	FS-21-4.5-5	P170743-50	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-21-4.5-5	P170743-50	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L,13L
P170743	FS-21-4.5-5	P170743-50	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170743	FS-21-4.5-5	P170743-50	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L,13L
P170743	FS-21-4.5-5	P170743-50	EPA 8151A (GC-MS/MS)	DCPAA	0.171	mg/kg	J	13L
P170743	FS-21-4.5-5	P170743-50	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L,13L
P170743	FS-21-4.5-5	P170743-50	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-21-4.5-5	P170743-50	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-21-4.5-5	P170743-50	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L,13L
P170743	FS-21-4.5-5	P170743-50	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170743	FS-30-0.5-1	P170743-52	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.051	mg/kg	J	10L
P170743	FS-30-0.5-1	P170743-52	EPA 8151A (GC-MS/MS)	2,4-DB	0.033	mg/kg	J	10L
P170743	FS-30-0.5-1	P170743-52	EPA 8151A (GC-MS/MS)	Dicamba	0.18	mg/kg	J	10L
P170743	FS-30-0.5-1	P170743-52	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L
P170743	FS-30-0.5-1	P170743-52	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P170743	FS-30-3-4	P170743-54	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L
P170743	FS-30-3-4	P170743-54	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L
P170743	FS-30-3-4	P170743-54	EPA 8151A (GC-MS/MS)	Dicamba	0.055	mg/kg	J	10L
P170743	FS-30-3-4	P170743-54	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L
P170743	FS-30-3-4	P170743-54	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P170743	FS-30-2-3	P170743-55	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170743	FS-30-2-3	P170743-55	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L,13L
P170743	FS-30-2-3	P170743-55	EPA 8151A (GC-MS/MS)	2,4-D	0.015	mg/kg	J	13L
P170743	FS-30-2-3	P170743-55	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L,13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-30-2-3	P170743-55	EPA 8151A (GC-MS/MS)	DCPAA	0.221	mg/kg	J	13L
P170743	FS-30-2-3	P170743-55	EPA 8151A (GC-MS/MS)	Dicamba	0.18	mg/kg	J	10L,13L
P170743	FS-30-2-3	P170743-55	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	13L
P170743	FS-30-2-3	P170743-55	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170743	FS-30-2-3	P170743-55	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L,13L
P170743	FS-30-2-3	P170743-55	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170743	FS-22-4.5-5.0	P170743-56	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	10L
P170743	FS-22-4.5-5.0	P170743-56	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	10L
P170743	FS-22-4.5-5.0	P170743-56	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P170743	FS-22-4.5-5.0	P170743-56	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	10L
P170743	FS-22-4.5-5.0	P170743-56	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	10L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8151A (GC-MS/MS)	2,4-D	0.15	ug/L	J	10L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Chlorpyrifos-methyl	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Demeton	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Diazinon	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Dichlorvos	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Dicrotophos	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Dimethoate	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	10L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Disulfoton	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	EPN	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Ethion	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Fenamiphos	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Fonofos	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Malathion	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	10L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Merphos	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Methidathion	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Parathion	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Parathion methyl	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	ug/L	UJ	10L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Phorate	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Phosmet	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Pirimiphos-methyl	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Terbufos	ND	ug/L	UJ	13L
P170743	FS-30-GW-5-7	P170743-57	Modified EPA 8141B (GC-FPD)	Tetrachlorvinphos	ND	ug/L	UJ	13L
P170771	FS-31-4-5	P170771-01	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170771	FS-31-4-5	P170771-01	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170771	FS-31-4-5	P170771-01	EPA 8151A (GC-MS/MS)	2,4-D	0.026	mg/kg	J	13L
P170771	FS-31-4-5	P170771-01	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170771	FS-31-4-5	P170771-01	EPA 8151A (GC-MS/MS)	Dicamba	0.038	mg/kg	J	13L
P170771	FS-31-4-5	P170771-01	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L,13L
P170771	FS-31-4-5	P170771-01	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170771	FS-31-4-5	P170771-01	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-31-4-5	P170771-01	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-31-0.5-1	P170771-02	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170771	FS-31-0.5-1	P170771-02	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.025	mg/kg	J	13L
P170771	FS-31-0.5-1	P170771-02	EPA 8151A (GC-MS/MS)	2,4-D	0.10	mg/kg	J	13L
P170771	FS-31-0.5-1	P170771-02	EPA 8151A (GC-MS/MS)	2,4-DB	0.041	mg/kg	J	13L
P170771	FS-31-0.5-1	P170771-02	EPA 8151A (GC-MS/MS)	Dicamba	0.15	mg/kg	J	13L
P170771	FS-31-0.5-1	P170771-02	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L,13L
P170771	FS-31-0.5-1	P170771-02	EPA 8151A (GC-MS/MS)	MCPA	0.017	mg/kg	J	13L
P170771	FS-31-0.5-1	P170771-02	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-31-0.5-1	P170771-02	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-31-2-3	P170771-03	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170771	FS-31-2-3	P170771-03	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170771	FS-31-2-3	P170771-03	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170771	FS-31-2-3	P170771-03	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170771	FS-31-2-3	P170771-03	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	13L
P170771	FS-31-2-3	P170771-03	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L,13L
P170771	FS-31-2-3	P170771-03	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170771	FS-31-2-3	P170771-03	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-31-2-3	P170771-03	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-X3-2-3	P170771-04	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170771	FS-X3-2-3	P170771-04	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170771	FS-X3-2-3	P170771-04	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170771	FS-X3-2-3	P170771-04	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170771	FS-X3-2-3	P170771-04	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	13L
P170771	FS-X3-2-3	P170771-04	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L,13L
P170771	FS-X3-2-3	P170771-04	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170771	FS-X3-2-3	P170771-04	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-X3-2-3	P170771-04	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-29-0.5-1	P170771-06	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170771	FS-29-0.5-1	P170771-06	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.17	mg/kg	J	13L
P170771	FS-29-0.5-1	P170771-06	EPA 8151A (GC-MS/MS)	2,4-D	0.046	mg/kg	J	13L
P170771	FS-29-0.5-1	P170771-06	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170771	FS-29-0.5-1	P170771-06	EPA 8151A (GC-MS/MS)	Dicamba	0.30	mg/kg	J	13L
P170771	FS-29-0.5-1	P170771-06	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L,13L
P170771	FS-29-0.5-1	P170771-06	EPA 8151A (GC-MS/MS)	MCPA	0.035	mg/kg	J	13L
P170771	FS-29-0.5-1	P170771-06	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-29-0.5-1	P170771-06	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-29-4-4.5	P170771-08	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170771	FS-29-4-4.5	P170771-08	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170771	FS-29-4-4.5	P170771-08	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170771	FS-29-4-4.5	P170771-08	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170771	FS-29-4-4.5	P170771-08	EPA 8151A (GC-MS/MS)	Dicamba	0.013	mg/kg	J	13L
P170771	FS-29-4-4.5	P170771-08	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L,13L
P170771	FS-29-4-4.5	P170771-08	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170771	FS-29-4-4.5	P170771-08	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-29-4-4.5	P170771-08	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-29-1-2	P170771-10	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170771	FS-29-1-2	P170771-10	EPA 8151A (GC-MS/MS)	2,4,5-TP	0.032	mg/kg	J	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170771	FS-29-1-2	P170771-10	EPA 8151A (GC-MS/MS)	2,4-D	0.015	mg/kg	J	13L
P170771	FS-29-1-2	P170771-10	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170771	FS-29-1-2	P170771-10	EPA 8151A (GC-MS/MS)	Dicamba	0.29	mg/kg	J	13L
P170771	FS-29-1-2	P170771-10	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L,13L
P170771	FS-29-1-2	P170771-10	EPA 8151A (GC-MS/MS)	MCPA	0.021	mg/kg	J	13L
P170771	FS-29-1-2	P170771-10	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-29-1-2	P170771-10	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-24-0.5-1	P170771-11	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170771	FS-24-0.5-1	P170771-11	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170771	FS-24-0.5-1	P170771-11	EPA 8151A (GC-MS/MS)	2,4-D	0.091	mg/kg	J	13L
P170771	FS-24-0.5-1	P170771-11	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170771	FS-24-0.5-1	P170771-11	EPA 8151A (GC-MS/MS)	Dicamba	0.53	mg/kg	J	13L
P170771	FS-24-0.5-1	P170771-11	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L,13L
P170771	FS-24-0.5-1	P170771-11	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170771	FS-24-0.5-1	P170771-11	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-24-0.5-1	P170771-11	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-24-2-3	P170771-12	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P170771	FS-24-2-3	P170771-12	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P170771	FS-24-4-5	P170771-13	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P170771	FS-24-4-5	P170771-13	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P170771	FS-25-0.5-1	P170771-15	EPA 8151A (GC-MS/MS)	Dinoseb	3.7	mg/kg	J	10L
P170771	FS-25-0.5-1	P170771-15	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P170771	FS-25-1.5-2	P170771-16	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170771	FS-25-1.5-2	P170771-16	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170771	FS-25-1.5-2	P170771-16	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170771	FS-25-1.5-2	P170771-16	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170771	FS-25-1.5-2	P170771-16	EPA 8151A (GC-MS/MS)	Dinoseb	0.016	mg/kg	J	10L,13L
P170771	FS-25-1.5-2	P170771-16	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170771	FS-25-1.5-2	P170771-16	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-25-1.5-2	P170771-16	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-25-4.5-5.5	P170771-17	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L

Qualified Data Summary Table
Smith - Kem Site Remedial Investigation - Phase 2 Sampling

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P170771	FS-25-4.5-5.5	P170771-17	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170771	FS-25-4.5-5.5	P170771-17	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170771	FS-25-4.5-5.5	P170771-17	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170771	FS-25-4.5-5.5	P170771-17	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	13L
P170771	FS-25-4.5-5.5	P170771-17	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L,13L
P170771	FS-25-4.5-5.5	P170771-17	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170771	FS-25-4.5-5.5	P170771-17	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-25-4.5-5.5	P170771-17	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-25-6-7	P170771-18	EPA 8151A (GC-MS/MS)	2,4,5-T	ND	mg/kg	UJ	13L
P170771	FS-25-6-7	P170771-18	EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	mg/kg	UJ	13L
P170771	FS-25-6-7	P170771-18	EPA 8151A (GC-MS/MS)	2,4-D	ND	mg/kg	UJ	13L
P170771	FS-25-6-7	P170771-18	EPA 8151A (GC-MS/MS)	2,4-DB	ND	mg/kg	UJ	13L
P170771	FS-25-6-7	P170771-18	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	13L
P170771	FS-25-6-7	P170771-18	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L,13L
P170771	FS-25-6-7	P170771-18	EPA 8151A (GC-MS/MS)	MCPA	ND	mg/kg	UJ	13L
P170771	FS-25-6-7	P170771-18	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	13L
P170771	FS-25-6-7	P170771-18	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L,13L
P170771	FS-33-0.5-1	P170771-20	EPA 8151A (GC-MS/MS)	2,4-D	0.19	mg/kg	J	10H
P170771	FS-33-0.5-1	P170771-20	EPA 8151A (GC-MS/MS)	2,4-DB	0.13	mg/kg	J	10H
P170771	FS-33-0.5-1	P170771-20	EPA 8151A (GC-MS/MS)	MCPA	0.083	mg/kg	J	10H
P170771	FS-35-0.5-1	P170771-24	EPA 8151A (GC-MS/MS)	2,4-D	0.023	mg/kg	J	10H
P170771	FS-35-0.5-1	P170771-24	EPA 8151A (GC-MS/MS)	2,4-DB	0.014	mg/kg	J	10H
P170771	FS-X4-0.5-1	P170771-25	EPA 8151A (GC-MS/MS)	2,4-D	0.016	mg/kg	J	10H
P170771	FS-X4-0.5-1	P170771-25	EPA 8151A (GC-MS/MS)	2,4-DB	0.010	mg/kg	J	10H
P170771	FS-32-0.5-1	P170771-29	EPA 8151A (GC-MS/MS)	2,4-D	0.038	mg/kg	J	10H
P170771	FS-32-0.5-1	P170771-29	EPA 8151A (GC-MS/MS)	2,4-DB	0.014	mg/kg	J	10H
P170771	FS-32-2-3	P170771-30	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	8L
P170771	Surface-1-0.5-1	P170771-33	EPA 8151A (GC-MS/MS)	2,4-D	0.14	mg/kg	J	10H
P170771	Surface-1-0.5-1	P170771-33	EPA 8151A (GC-MS/MS)	MCPA	0.030	mg/kg	J	10H

DATA VALIDATION REPORT

SMITH-KEM SITE REMEDIAL INVESTIGATION
MARCH 2018 GW MONITORING

Prepared for:

Floyd | Snider
601 Union Street, Suite 600
Seattle, WA 98101

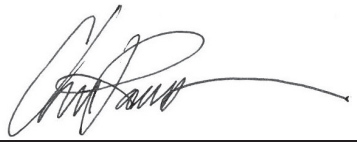
Prepared by:

EcoChem, Inc.
500 Union Street, Suite 1010
Seattle, WA 98101

EcoChem Project: C15223-4

April 10, 2018

Approved for Release:



Christine Ransom
Senior Project Chemist
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report summarizes the results of data validation performed on groundwater and quality control (QC) sample data for the Smith-Kem Site Remedial Investigation Phase 4. A complete list of samples is provided in the Sample Index.

Pacific Agricultural Laboratory, Sherwood, Oregon performed the analyses. The analytical method and EcoChem project chemists are listed in the table below.

ANALYSIS	METHOD	PRIMARY REVIEW	SECONDARY REVIEW
Herbicides	EPA 8151A	E. Clayton	C. Ransom
Pesticides	EPA 8081B Mod		
Herbicides and Pesticides	EPA 8270D Mod		

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *Smith-Kem Site Remedial Investigation Work Plan* (Floyd | Snider, July 2016); and *National Functional Guidelines for Organic Data Review* (USEPA 2008). The laboratory methods are modified for residue scan analysis.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R or DNR, the data should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes, and validation criteria are included as Appendix A. A Qualified Data Summary Table is included in Appendix B. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Smith - Kem Site March 2018 GW Monitoring

SDG	SAMPLE ID	LAB ID	Matrix	EPA 8081B Pest	8270D Pest	8151A Herbs
P180299	MW-09-030518	P180299-01	Water	✓	✓	✓
P180299	MW-14-030518	P180299-02	Water	✓	✓	✓
P180299	MW-X-030518	P180299-03	Water	✓	✓	✓
P180299	MW-07-030518	P180299-04	Water	✓	✓	✓
P180299	MW-12-030518	P180299-05	Water	✓	✓	✓
P180299	MW-08-030518	P180299-06	Water	✓	✓	✓
P180299	MW-11-030518	P180299-07	Water	✓	✓	✓
P180299	MW-06-030518	P180299-08	Water	✓	✓	✓
P180299	MW-05-030518	P180299-09	Water	✓	✓	✓
P180299	MW-13-030518	P180299-10	Water	✓	✓	✓
P180299	MW-01-030518	P180299-11	Water	✓	✓	✓
P180299	MW-03-030518	P180299-12	Water	✓	✓	✓
P180299	MW-04-030518	P180299-13	Water	✓	✓	✓
P180299	MW-10-030518	P180299-14	Water	✓	✓	✓
P180299	MW-02-030518	P180299-15	Water	✓	✓	✓

DATA VALIDATION REPORT
Smith-Kem Site – March 2018 GW Monitoring
Pesticides by Method SW8081B Mod

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P180299	15 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	✓	Surrogate Compounds
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
1	Laboratory Control Samples (LCS/LCSD)	✓	Reporting Limits
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 6°C, the highest at 6.7°C. The data were not affected; no action was taken.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

Only dieldrin, oxadiazon, and chlorpyrifos were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only dieldrin, oxadiazon, and chlorpyrifos were spiked. All recoveries were acceptable.

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and duplicate must be less than the RL.

Samples MW-14-030518 and MW-X-030518 were identified as field duplicates. All acceptance criteria were met.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed a modified version of this analytical method. Accuracy was acceptable as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD), matrix spike/matrix spike duplicate (MS/MSD), and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

No results were qualified for any reason. All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site – March 2018 GW Monitoring
Herbicides/Pesticides by Method SW8270D Mod: GC-MS/MS

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P180299	15 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	✓	Surrogate Compounds
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
1	Laboratory Control Samples (LCS/LCSD)	1	Reporting Limits
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	2	Reported Results

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 6°C, the highest at 6.7°C. The data were not affected; no action was taken.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

Because this is a screening method, the lab did not spike for the full suite of analytes. Only atrazine, ethofumesate, and napropamide were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only atrazine, ethofumesate, and napropamide were spiked.

The matrix spike/matrix spike duplicate (MS/MSD) samples were performed on Sample MW-01-030518. The relative percent difference (RPD) value for atrazine was greater than the control limit. The result for this compound was estimated (J-9) in the parent sample.

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and duplicate must be less than the RL.

Samples MW-14-030518 and MW-X-030518 were identified as field duplicates. All acceptance criteria were met.

Reporting Limits

Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

Reported Results

The p,p'-DDT result for Sample MW-04-030518 was flagged by the laboratory as having been tentatively identified due to matrix interference. The p,p'-DDT result was estimated (J-23).

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the modified 8270 residue screening method. With the exception noted above, accuracy was acceptable as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD), MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated due a MS/MSD RPD outlier and matrix interference.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem Site – March 2018 GW Monitoring
Herbicides by Method SW8151A: GC-MS/MS

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P180299	15 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	✓	Surrogate Compounds
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Laboratory Control Samples (LCS/LCSD)	1	Reporting Limits
2	Matrix Spike/Matrix Spike Duplicates (MS/MSD)	2	Reported Results

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

Some of the temperatures of the coolers upon receipt at the laboratory were greater than the upper control limit of 6°C, the highest at 6.7°C. The data were not affected; no action was taken.

Field Blanks

No field blanks were submitted.

Matrix Spike Sample/Matrix Spike Sample Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed at the appropriate frequency. When the MS/MSD %R values indicated a potential low bias, associated results were estimated

(J/UJ-8L). Only the associated positive results were estimated (J-8H) if the %R values indicated a potential high bias. No action is taken unless both the MS and MSD %R values are outside the control limits. Precision is evaluated using the RPD values calculated between the MS and MSD results. Associated positive results were estimated (J-9) if the RPD value was greater than the control limit. Qualifiers were only issued to the parent sample.

The MS/MSD analyses were performed using Sample MW-01-030518. The %R values for dicamba were less than the lower control limit. The positive result for dicamba in the parent sample was estimated (J-8L).

Field Duplicates

The RPD control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and replicate must be less than the RL. No data were qualified based solely on field duplicate RPD values; however, data users should take field precision into account when interpreting sample data.

Samples MW-10-030518 and MW-X-030518 were identified as field duplicates. All acceptance criteria were met.

Reporting Limits

Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

Reported Results

The MCPA result for Sample MW-04-030518 was flagged by the laboratory as having been tentatively identified due to matrix interference. The MCPA result was estimated (J-23).

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD), MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated based on MS/MSD %R outliers and matrix interference.

All data, as qualified, are acceptable for use.

ECOCHEM
Data Quality

APPENDIX A

DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES
Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.

DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L)[1] where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L)[1] where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L)[1] for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L)[1] where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L)[1] where appropriate
	12	Reference Material Use bias flags (H,L)[1] where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L)[1] where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L)[1] where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

[1] H = high bias indicated
L = low bias indicated

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG (2) Method (3)	J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C(3)
Holding Time	*Extraction Aqueous:* 7 days from collection *Extraction Solid:* 14 days from collection *Exraction Tissue/Sediment (frozen):* 1 year *Analysis (all matrices):* 40 days from extraction	NFG (2) Method (3)	J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Resolution Check	Beginning of ICAL sequence Within RTW and resolution > 60%	NFG (2)	NJ (pos)/R (ND) results	14	CLP criterion; might not be submitted with SW846 data package
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Target analytes: within RTW	NFG (2) Method (3)	NJ (pos)/R (ND) results for analytes with RT shifts	24	Use PJ based on examination of raw data
Breakdown	DDT Breakdown: ≤ 20% Endrin Breakdown: ≤ 20% Combined Breakdown: ≤ 30% Compounds within RTW	NFG (2) Method (3)	If 4,4'-DDT is detected: J (pos) 4,4'-DDT, 4,4'-DDD and 4,4'-DDE If 4,4'-DDT is ND and either 4,4'-DDD or 4,4'-DDE are detected: R (ND) 4,4'-DDT, NJ (pos) DDD and DDE If Endrin is detected: J (pos) Endrin, Endrin Aldehyde and Endrin Ketone If Endrin is ND and either EA or EK are detected: R (ND) Endrin, NJ (pos) EA and EK	5A	Method 8081B breakdown criterion: ≤ 15%. For combined breakdown outliers, apply qualifiers considering the degree of individual breakdown.

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Initial Calibration	Single Component Compounds: RSD ≤ 20% alpha-BHC and delta-BHC: RSD ≤ 25% toxaphene and surrogates: RSD ≤ 30% **or** correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with coefficient of determination (r^2-value) ≥ 0.99	NFG (2) Method (4)	J (pos) if %RSD greater than control limit **or** r-value < 0.995 **or** r^2-value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L) (6) where appropriate
Initial Calibration Verification (ICV)	No NFG criteria Project specific	Project QAPP	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) (6) where appropriate
Continuing Calibration	%D ± 20% Analyzed prior to each 12 hour shift	Method (3)	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L)(6) where appropriate
Blank Contamination					
Method Blank (MB)	One per matrix per batch (of ≤ 20 samples) No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** #1 - Review MB and IB, qualify as needed #2 - Review FB , qualify as needed **Note: Actions as per NFG 1999** Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG (1)	U (pos) if result is less than appropriate 5X action level.	7	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria No action if native analyte conc. > 5x the amount spiked Use bias flags (H,L) (6) where appropriate
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND
LCS	One per lab batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Qualify all associated samples. Use bias flags (H,L) (6) where appropriate
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG (2)	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% **or** project limits	NFG (2) Method (3)	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (dilution is a factor), use PJ Use bias flags (H,L) (6) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method (3)	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Field Duplicates	**Solids:** RPD < 50% **or** difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% **or** difference < 1X RL (for results < 5X RL)	EcoChem standard practice	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG [2] Method [3]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info
Calibration Range	On-column concentration < high calibration standard	NFG [2] Method [3]	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 for additional info
Sample Clean-up					
GPC/Sulfur/ Florisil	GPC or Florisil cleanup stndards 80% - 120%	NFG [2]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	14	Cleanups are optional under SW846 Use bias flags (H,L) [6] where appropriate

[1] National Functional Guidelines for Organic Data Review, October 1999
[2] National Functional Guidelines for Organic Data Review, June, 2008
[3] Organochlorine Pesticides by Gas Chromatography USEPA Method SW846 8081B, Feb 2007, Rev. 2
[4] SW846, Chapter 4, Organic Analytes
[5] Determinative Chromatographic Separations , Method 8000C , March 2003, Rev.3
[6] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

Copyright 2014 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C sediment/tissues may require storage at -20°C	NFG [(1)] Method [(3)]	**If required by project:** J (pos)/UJ (ND) if greater than 6° C	1	Use **PJ** for temp outliers; see **TM20** Current SW846 criterion is ≤ 6° C [(3)]
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Analysis (all matrices)**: 40 days from extraction Holding time may be extended to 1 year for frozen sediments/tissues	NFG [(1)] Method [(3)]	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	DFTPP Beginning of each 12 hour period Use method or project acceptance criteria	NFG [(1)] Method [(3)]	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG [(1)] Method [(3)]	Use **PJ** to qualify J (pos)/UJ (ND)	5A	**TM-06** EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance **PJ** - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration **Stability**	Minimum 5 standards %RSD ≤ 20.0% except: %RSD ≤ 40.0% poor responders * **or** co-efficient of determination (r^2) > 0.99	NFG [(1)] Method [(3)]	J (pos) if %RSD > limit **or** r^2 value <0.99	5A	
Initial Calibration Verification Check	Prepared from second source; analyze after each ICAL Percent recovery limits = 70-130%	Method [(3)]	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L)[4]	QAPP may have overriding accuracy limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Continuing Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG (1) Method (3)	Use **PJ** to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration **Stability**	Prior to sample analysis and every 12 hours %D ≤ 25% except: %D ≤ 40.0% poor responders *	NFG (1) Method (3)	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L)[4]	
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > MDL	NFG (2) Method (3)	U(pos) if result is < 5X or 10X action level	7	10X action level applies to phthalates only. 5X for all other target analytes **Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed** **Note: Actions as per 1999 NFG**
	No TICs present		R (pos) TICs using 10X rule	7	
Field Blank (FB)	No detected compounds > MDL	NFG (2) Method (3)	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of ≤ 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method (3)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L)[4]	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits. Qualify all associated samples.
LCS/LCSD (RPD)	If LCSD analyzed RPD < lab limits	Method (3)	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L)[4]	QAPP may have overriding accuracy limits. Some manufacturers have different RM control limits
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG [(1)] Method [(3)]	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L)[4]	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG [(1)] Method [(2)]	J (pos) in parent sample if RPD > CL	9	Qualify parent sample only
Surrogates	Minimum of 3 acid & 3 base/neutral (B/N) compounds added to all samples Within method control limits	NFG [(1)] Method [(3)]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	13 (H,L)[4]	Qualify all compounds in associated fraction. Do not qualify if only 1 acid and/or 1 B/N surrogate is out, unless <10%. If 1 surrogate outlier < 10% then J (pos)/R (ND)
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG [(1)] Method [(3)]	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use **PJ**	19	Qualify compounds quantified using particular internal standard
Field Duplicates	**Solids:** RPD < 50% OR difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification and Quantitation and Calculation					
Retention times and relative ion intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG [(1)] Method [(3)]	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG [(1)] Method [(3)]	NJ the TIC unless: R (pos) common laboratory contaminants	4	
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04** EcoChem Policy for Rejection/Selection Process for Multiple Results

[1] National Functional Guidelines for Organic Data Review, June, 2008
[2] National Functional Guidelines for Organic Data Review, October, 1999
[3] Method SW846 8270D Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007.
[4] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

(pos): Positive Result(s)
(ND): Non-detects

* "Poor responder" compounds: acetophenone, atrazine, benzaldehyde, 1,1'-biphenyl, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, caprolactam, carbazole, 4-chloroaniline, diethylphthalate, di-n-butylphthalate, 3-3'-dichlorobenzidine, dimethylphthalate, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, di-n-octylphthalate, hexachlorobutadiene, hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, 4-nitrophenol, N-nitrosodiphenylamine, 2,2'-oxybis-(1-chloropropane), 1,2,4,5-tetrachlorobenzene use a 0.010 RRF criterion.

Copyright 2015 EcoChem, Inc.

Chlorinated Herbicides by GC, SW-846 Method 8151A

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C Protected from light	NFG [1] Method [2]	J(pos)/UJ(ND) if > 6 deg. C (EcoChem PJ)	1	Use Professional Judgment (PJ) to qualify for temperature outlier.
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Analysis (all matrices)**: 40 days from extraction	NFG [1] Method [2]	J(pos)/UJ(ND) if HT exceeded J(pos)/R(ND) if gross exceedance(> 2X HT)	1	Use PJ to qualify for holding time outlier. Gross exceedance = > 2X HT, as per 1999 NFG
Instrument Performance					
Retention Times	Target compounds: Within RTW established by the laboratory.	NFG [1] Method [2]	NJ(pos)/R(ND) results for analytes with RT shifts	5B	Analyte RRT should be within ± 0.06 RRT units of the standard RRT (opening CCAL or midpoint ICAL standard). For full DV, use **PJ** based on examination of raw data.
Initial Calibration	5 standard minimum. Calibration may be internal or external. RSD ≤20%	NFG [1] Method [2]	J (pos) if > UCL J (pos)/UJ (ND) if < LCL OR r-value ≥ 0.99	5A	**TM-01** for additional information EcoChem Policy for the Evaluation of GC & HPLC Initial and Continuing Calibration using Method-Specific Control Limits. Calibration from methyl ester compounds (that have not undergone hydrolysis and esterfication) will need MW correction.
Continuing Calibration (Prior to each 12 hour shift or bracketing for external standard calibration)	%D ± 20%	NFG [1] Method [2]	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5A (H,L)[3]	**TM-01** for additional information EcoChem Policy for the Evaluation of GC & HPLC Initial and Continuing Calibration using Method-Specific Control Limits
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	NFG [1] Method [2]	U(pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed** No common lab contaminants for Herbacide analyses
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG [1] Method [2]	U(pos) if result is less than appropriate 5X action level.	6	

Copyright 2014 EcoChem, Inc.

Chlorinated Herbicides by GC, SW-846 Method 8151A

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	Qualify parent only unless other QC indicates systematic problems J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL)J (pos)/R (ND) if both %R < 10%	8 (H,L)[3]	A sample duplicate may be run in place of the MSD. No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD or duplicate (RPD)	One set per matrix per batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	Qualify parent only unless other QC indicates systematic problems. J(pos) if RPD > control limit	9	No action if parent is ND.
LCS	One per lab batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	Qualify all associated samples J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias **PJ if only one %R outlier**	10 (H,L)[3]	No action if only one spike %R is outside criteria, when LCSD is analyzed. Qualify all associated samples.
LCS/LCSD (RPD)	One set per lab batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	J(pos) assoc. compound in all samples	9	
Surrogates	2,4-Dichlorophenylacetic acid (DCAA) added to every sample Method acceptance criteria or project limits	NFG (1) Method (2)	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCLJ (pos)/R (ND) if either %R < 10%	13 (H,L)[3]	If %R < 10% (sample dilution is a factor), use PJ
Internal Standards (if used)	Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method (2)	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use PJ	19	Suggested internal standards: 4,4'-dibromooctafluorobiphenyl (DBOB) or 1,4-dichlorobenzene.
Field Duplicates	**Solids**: RPD <50% OR difference < 2X RL (for results < 5X RL) **Aqueous**: RPD <35% OR difference < 1X RL (for results < 5X RL)		J(pos)/UJ(ND) Qualify only field duplicate samples	9	

Copyright 2014 EcoChem, Inc.

Chlorinated Herbicides by GC, SW-846 Method 8151A

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D<25% Within Retention Time Windows on both columns. Alternitively GC/MS may be used for confirmation.	NFG [1] Method [2]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60%R (pos) if RTW criterion not met	3 25 (false pos)	See TM-08 for additional info.
Calibration Range	Results exceed the upper calibration range	EcoChem standard policy	J (pos) if conc > high standard and sample was not diluted	20	
Calculation Check	Check 10% of field & QC sample results	EcoChem standard policy	Contact laboratory for resolution and/or corrective action	na	Full data validation only.
Electronic Data Deliverable (EDD)					
Verification of EDD to hardcopy data	EcoChem verify @ 10% unless problems noted; then increase level up to 100% for next several packages.	EcoChem standard policy	Depending on scope of problem, correct at EcoChem (minor issues) to resubmittal by laboratory (major issues).	na	EcoChem Project Manager and/or Database Administrator will work with lab to provide long-term corrective action.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04 Rev. 1** EcoChem Policy for for additional info.

[1] National Functional Guidelines for Organic Data Review, June, 2008, based on Pesticide Review (pos): Positive Result(s)
[2] Organochlorine Herbicides by GC using Methlyation or Pentafluorobenzylation Derivatization USEPA Method SW846 8151A, Dec. 1 (ND): Non-detects
[3] "H" = high bias indicate; "L" = low bias indicated

Copyright 2014 EcoChem, Inc.

ECOCHEM
Data Quality

APPENDIX B

QUALIFIED DATA SUMMARY TABLE

Qualified Data Summary Table
Smith - Kem Site March 2018 GW Monitoring

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P180299	MW-01-030518	P180299-11	Modified EPA 8151A (GC-MS/MS)	Dicamba	3.4	ug/L	J	8L
P180299	MW-01-030518	P180299-11	Modified EPA 8270D (GC-MS/MS)	Atrazine	1.8	ug/L	J	9
P180299	MW-04-030518	P180299-13	Modified EPA 8151A (GC-MS/MS)	MCPA	0.090	ug/L	J	23
P180299	MW-04-030518	P180299-13	Modified EPA 8270D (GC-MS/MS)	p,p'-DDT	0.089	ug/L	J	23

DATA VALIDATION REPORT

SMITH-KEM SITE REMEDIAL INVESTIGATION
JUNE 2018 GW MONITORING AND SOIL SAMPLING

Prepared for:

Floyd | Snider
601 Union Street, Suite 600
Seattle, WA 98101

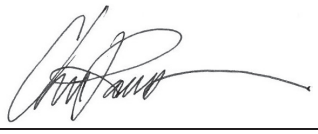
Prepared by:

EcoChem, Inc.
500 Union Street, Suite 1010
Seattle, WA 98101

EcoChem Project: C15223-5

September 3, 2018

Approved for Release:



Christine Ransom
Senior Project Chemist
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report summarizes the results of data validation performed on groundwater, soil, and quality control (QC) sample data for the Smith-Kem Site Remedial Investigation Phase 4. A complete list of samples is provided in the Sample Index.

Pacific Agricultural Laboratory, Sherwood, Oregon and Analytical Resources in Tukwila, Washington performed the analyses. The analytical method and EcoChem project chemists are listed in the table below.

ANALYSIS	METHOD	PRIMARY REVIEW	SECONDARY REVIEW
Dioxin/Furans	EPA 1613	E. Clayton	C. Ransom
Pesticides	EPA 8081B Mod		
Herbicides and Pesticides	EPA 8270D Mod		
Herbicides	EPA 8151 Mod		

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *Smith-Kem Site Remedial Investigation Work Plan* (Floyd | Snider, July 2016); and *National Functional Guidelines for Organic Data Review* (USEPA 2008). The laboratory methods are modified for residue scan analysis.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R or DNR, the data should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes, and validation criteria are included as Appendix A. A Qualified Data Summary Table is included in Appendix B. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Smith - Kem

SDG	SAMPLE ID	LAB ID	Matrix	1613 Dioxin/Furans	8081 Pest	8270 Pest and Herbs	8151 Herbs
18D0139	FS-32-0.5-1	18D0139-01	Soil	✓			
18D0139	FS-35-0.5-1	18D0139-02	Soil	✓			
18D0297	FS-33-2-3	18D0297-01	Soil	✓			
18F0343	FS-34-0.5-1	18F0343-01	Soil	✓			
18F0343	FS-43-1-2	18F0343-02	Soil	✓			
18F0343	FS-44-0.5-1	18F0343-03	Soil	✓			
P181220	MW-15-0.5-1	P181220-12	Soil		✓	✓	✓
P181220	MW-15-3-4	P181220-13	Soil		✓	✓	✓
P181220	MW-15-5-5.5	P181220-14	Soil		✓	✓	✓
P181220	MW-16-0.5-1	P181220-16	Soil		✓	✓	✓
P181220	MW-16-3-4	P181220-17	Soil		✓	✓	✓
P181220	MW-16-5.5-6	P181220-18	Soil		✓	✓	✓
P181220	MW-17-0.5-1	P181220-19	Soil		✓	✓	✓
P181220	MW-17-3.5-4	P181220-20	Soil		✓	✓	✓
P181220	MW-17-5-5.5	P181220-21	Soil		✓	✓	✓
P181220	TP1-3.5-062018	P181220-25	Soil		✓	✓	✓
P181220	TP2-4.5-5.0-062018	P181220-28	Soil		✓	✓	✓
P181220	MW-4-062018	P181220-01	Water		✓	✓	✓
P181220	MW-6-062018	P181220-02	Water		✓	✓	✓
P181220	MW-7-062018	P181220-03	Water		✓	✓	✓
P181220	MW-8-062018	P181220-04	Water		✓	✓	✓
P181220	MW-X-062018	P181220-05	Water		✓	✓	✓
P181220	MW-1-062118	P181220-06	Water		✓	✓	✓
P181220	MW-12-062118	P181220-07	Water		✓	✓	✓
P181220	MW-14-062118	P181220-08	Water		✓	✓	✓
P181220	MW-11-062118	P181220-09	Water		✓	✓	✓
P181220	MW-05-062118	P181220-10	Water		✓	✓	✓
P181220	MW-03-062118	P181220-11	Water		✓	✓	✓
P181296	FS-26-0.5-1	P181296-01	Soil		✓	✓	✓
P181296	FS-26-2.5-3.5	P181296-02	Soil		✓	✓	✓
P181296	FS-26-5-6	P181296-03	Soil		✓	✓	✓
P181296	FS-34-0.5-1	P181296-04	Soil		✓	✓	✓
P181296	FS-34-2-3	P181296-05	Soil		✓	✓	✓
P181296	FS-34-3-4	P181296-06	Soil		✓	✓	✓
P181296	FS-XX-2.5-3.5	P181296-07	Soil		✓	✓	✓
P181503	MW-15-070518	P181503-01	Water		✓	✓	✓
P181503	MW-16-070518	P181503-02	Water		✓	✓	✓
P181503	MW-17-070518	P181503-03	Water		✓	✓	✓
P181503	MW-X-070518	P181503-07	Water		✓	✓	✓
18G0195	FS-45-0.5-1	18G0195-01	Soil	✓			
P172891	MW-01-112817	P172891-01	Water		✓	✓	✓
P172891	MW-03-112817	P172891-02	Water		✓	✓	✓

Sample Index
Smith - Kem

SDG	SAMPLE ID	LAB ID	Matrix	1613 Dioxin/Furans	8081 Pest	8270 Pest and Herbs	8151 Herbs
P172891	MW-06-112817	P172891-03	Water		✓	✓	✓
P172891	MW-07-112817	P172891-04	Water		✓	✓	✓
P172891	MW-04-112817	P172891-05	Water		✓	✓	✓
P172891	MW-X-112817	P172891-06	Water		✓	✓	✓
P172891	MW-05-112817	P172891-07	Water		✓	✓	✓
P172891	MW-08-112817	P172891-08	Water		✓	✓	✓
P172891	MW-11-112817	P172891-09	Water		✓	✓	✓
P172891	MW-12-112817	P172891-10	Water		✓	✓	✓
P172891	MW-14-112817	P172891-11	Water		✓	✓	✓
17F0202	FS-19-2.5-3.5	17F0202-01	Soil	✓			
17F0202	FS-33-0.5-1	17F0202-02	Soil	✓			

DATA VALIDATION REPORT
Smith Kem – June 2018 GW Monitoring and Soil Sampling
Dioxin/Furan Compounds by Method 1613

This report documents the review of analytical data from the analysis of soil samples and the associated laboratory and field quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc., Tukwila, Washington. Refer to the SAMPLE INDEX for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
18D0139	2 Soil	EPA Stage 4
18D0297	1 Soil	EPA Stage 4
18F0343	3 Soil	EPA Stage 4
18G0195	1 Soil	EPA Stage 4
17F0202	2 Soil	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

Sample results and related quality control data were received as an electronic data deliverable (EDD) and laboratory report. The EDD was verified against the laboratory report (10%). No errors were noted.

TECHNICAL DATA VALIDATION

The quality control (QC) requirements reviewed are summarized in the following table:

✓	Sample Receipt, Preservation, and Holding Times	✓	Laboratory Duplicates
✓	System Performance and Resolution Checks	✓	Ongoing Precision and Recovery (OPR)
✓	Initial Calibration (ICAL)	1	Field Duplicates
✓	Calibration Verification	✓	Target Analyte List
2	Blanks (Laboratory and Field)	✓	Reported Results
✓	Labeled Compounds	2	Compound Identification
1	Matrix Spike/Matrix Spike Duplicates (MS/MSD)	1	Calculation Verification

✓ ***Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.***

1 ***Quality control results are discussed below, but no data were qualified.***

2 ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Blanks

In order to assess the impact of blank contamination on the reported sample results, action levels were established at five times the blank concentrations. If the concentrations in the associated field samples were less than the action levels, the results were qualified as not detected (U-7) at the reported concentrations.

The laboratory assigned an "EMPC" flag to an analyte result when a peak was detected but did not meet identification criteria. These values cannot be considered as positive identifications but are "estimated maximum possible concentrations". When a result in the method blank had an "EMPC" flag, the result was treated as not-detected at an elevated detection limit; therefore, no action level was established for these analytes. Blank qualifiers are not assigned to homolog groups.

Results for the following analytes were qualified as not-detected in one or more samples:

SDG	ANALYTE
18F0343	1,2,3,4,6,7,8-HpCDF (1 result), 1,2,3,4,6,7,8-HpCDD (1 result), OCDD (1 result)

No field blanks were submitted.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate analyses were not performed; they are not required by the method. Accuracy was evaluated using the labeled compound and ongoing precision and recovery (OPR) standard results. Precision was evaluated using the laboratory duplicate analyses. All acceptance criteria were met.

Field Duplicates

No field duplicates were submitted.

Compound Identification

The method requires the confirmation of 2,3,7,8-TCDF using an alternate GC column as the DB5 column that is typically used cannot fully separate 2,3,7,8-TCDF from closely eluting non-target TCDF isomers. The laboratory did not perform a second column confirmation; however, the laboratory uses an RTX-Dioxin2 column. This column provides adequate resolution of the TCDF isomers as indicated by the acceptable peak to valley ratios. Since the 2,3,7,8-TCDF resolution was acceptable, no action was necessary.

The laboratory assigned an "EMPC" flag to one or more analytes to indicate that the ion ratio criterion for positive identification was not met. Since the ion abundance ratio is the primary identification criterion for high resolution mass spectroscopy, an outlier indicates that the reported result may be a false positive. These "EMPC" flagged results were qualified as not detected (U-25) at the reported concentration. The laboratory also assigned "EMPC" flags to total homolog groups. In these cases, the result for the group was estimated (J-25).

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the labeled compound and OPR recoveries and precision was acceptable as demonstrated by the OPR and laboratory duplicate RPD values.

Detection limits were elevated based on ion ratio outliers and method blank contamination.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem – June 2018 GW Monitoring and Soil Sampling
Herbicides/Pesticides by Method SW8270D Mod: GC-MS/MS

This report documents the review of analytical data from the analysis of groundwater and soil samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P181220	11 Groundwater & 12 Soil	EPA Stage 2A
P181296	7 Soil	EPA Stage 2A
P172891	11 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

All SDG: The original chains-of-custody and sample login forms were missing from the lab report. The laboratory was contacted and submitted all missing documentation.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	2	Surrogate Compounds
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
1	Laboratory Control Samples (LCS/LCSD)	1	Reporting Limits
2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P181296: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 12°C. The data were not affected; no action was taken.

SDG P172891: One of the cooler temperatures upon receipt at the laboratory was greater than the upper control limit of 6°C, at 8.4°C. The data were not affected; no action was taken.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

Because this is a screening method, the lab did not spike for the full suite of analytes. Only atrazine, ethofumesate, and napropamide were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only atrazine, ethofumesate, and napropamide were spiked. With the following exception, the recoveries were acceptable.

SDG P181296: The matrix spike/matrix spike duplicate (MS/MSD) was performed using Sample FS-26-5-6. The MSD percent recovery (%R) for p-p'-DDT was greater than the upper control limit but was in control in the associated MS sample. No data were qualified for the single outlier.

SDG P172891: Sixteen compounds recovered less than the lower control limit in the MS samples, but were in control in the associated MSD sample; no data were qualified for a single outlier. The RPD values for all compounds were greater than the control limit, however, only atrazine and simazine were detected in the parent sample and were estimated (J-9).

Surrogate Compounds

The surrogate compound DCHB was added to all samples. With the following exceptions, the surrogate recoveries were within the laboratory control limits.

SDG P172891: The surrogate recoveries for samples MW-04-112817 and MW-01-112817 were less than the lower control limit; the results in these samples were estimated (J/UJ-13L).

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and duplicate must be less than the RL (waters) or 2x the RL (soils).

SDG P181220: Samples MW-6-062018 and MW-X-062018 were identified as field duplicates. All acceptance criteria were met.

SDG P181296: Samples FS-26-2.5-3.5 and FS-XX-2.5-3.5 were identified as field duplicates. All acceptance criteria were met.

SDG P172891: Samples MW-06-112817 and MW-X-112817 were identified as field duplicates. All acceptance criteria were met.

Reporting Limits

SDG P181220: Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the modified 8270 residue screening method. With the exceptions noted above, accuracy was acceptable as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD), MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated due to surrogate recovery outliers and MS/MSD precision outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem – June 2018 GW Monitoring and Soil Sampling
Pesticides by Method SW8081B Mod

This report documents the review of analytical data from the analysis of groundwater and soil samples and the associated laboratory and field quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P181220	11 Groundwater & 11 Soil	EPA Stage 2A
P181296	7 Soil	EPA Stage 2A
P172891	11 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

original chains-of-custody and sample login forms were missing from the lab report. The laboratory was contacted and submitted all missing documentation.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	✓	Surrogate Compounds
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
1	Laboratory Control Samples (LCS/LCSD)	✓	Reporting Limits
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 ***Quality control results are discussed below, but no data were qualified.***
2 ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Receipt, Preservation, and Holding Times

SDG P181296: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 12°C. The data were not affected; no action was taken.

SDG P172891: One of the cooler temperatures upon receipt at the laboratory was greater than the upper control limit of 6°C, at 8.4°C. The data were not affected; no action was taken.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

Only dieldrin, oxadiazon, and chlorpyrifos were spiked. All recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicates

Only dieldrin, oxadiazon, and chlorpyrifos were spiked. All recoveries were acceptable.

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and duplicate must be less than the RL (waters) or 2x the RL (soils).

SDG P181220: Samples MW-6-062018 and MW-X-062018 were identified as field duplicates. All acceptance criteria were met.

SDG P181296: Samples FS-26-2.5-3.5 and FS-XX-2.5-3.5 were identified as field duplicates. All acceptance criteria were met.

SDG P172891: Samples MW-06-112817 and MW-X-112817 were identified as field duplicates. All acceptance criteria were met.

Reporting Limits

The toxaphene reporting limits are greater than QAPP required reporting limits.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed a modified version of this analytical method. Accuracy was acceptable as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD), matrix spike/matrix spike duplicate (MS/MSD), and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

No results were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
Smith-Kem – June 2018 GW Monitoring and Soil Sampling
Herbicides by Method SW8151A: GC-MS/MS

This report documents the review of analytical data from the analysis of groundwater and soil samples and the associated laboratory quality control (QC) samples. Pacific Agricultural Laboratory, Sherwood, Oregon, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
P181220	11 Groundwater & 11 Soil	EPA Stage 2A
P181296	7 Soil	EPA Stage 2A
P172891	11 Groundwater	EPA Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

: The original chains-of-custody and sample login forms were missing from the lab report. The laboratory was contacted and submitted all missing documentation.

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package.

SDG P172891: The lab report and EDD were missing pentachlorophenol results for all field samples. The laboratory was contacted and provided a revised laboratory report and EDD.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	2	Surrogate Compounds
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
2	Laboratory Control Samples (LCS/LCSD)	1	Reporting Limits
2	Matrix Spike/Matrix Spike Duplicates (MS/MSD)	2	Reported Results

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

SDG P181296: The temperature of the cooler upon receipt at the laboratory was greater than the upper control limit of 6°C, at 12°C. The data were not affected; no action was taken.

SDG P172891: One of the cooler temperatures upon receipt at the laboratory was greater than the upper control limit of 6°C, at 8.4°C. The data were not affected; no action was taken.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicates (LCS/LCSD) were analyzed at the required frequency of one per batch of 20 or fewer samples. With the following exceptions, all spike recoveries were within the laboratory control limits.

SDG P181296: The LEC/LCSD percent recovery values (%R) for dicamba, dinoseb, and pentachlorophenol were less than the lower control limit; all associated sample results were estimated (J/UJ-10L) to indicate a potential low bias.

SDG P172891: The LC/LCSD relative percent difference (RPD) values for 2,4,5-T, MCPA, and 2,4,5-TP were greater than the control limit; all detected sample results were estimated (J-9).

Matrix Spike Sample/Matrix Spike Sample Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed at the appropriate frequency. When the MS/MSD %R values indicated a potential low bias, associated results were estimated (J/UJ-8L). Only the associated positive results were estimated (J-8H) if the %R values indicated a potential high bias. No action was taken unless both the MS and MSD %R values were outside the control limits. Precision was evaluated using the MS/MSD RPD values. Associated positive results were estimated (J-9) if the RPD value was greater than the control limit. Qualifiers were only issued to the parent sample.

SDG P181220: The MS/MSD for the soil analyses were performed using Sample MW-15-3-4. The MS recovery for 2,4-D was less than the lower control limit but was in control in the associated MSD sample; no data were qualified for a single outlier. The %R values for dinoseb and pentachlorophenol were less than the lower control limit. The results in the parent sample were estimated (UJ-8L).

SDG P181296: For the MS/MSD analyzed using Sample FS-26-5-6, the MS recovery for MCPA was greater than the upper control limit but was in control in the associated MSD sample; no data were qualified for a single outlier. The %R values for dinoseb, 2,4-DB, and pentachlorophenol were less than the lower control limit. The results in the parent sample were estimated (J/UJ-8L). The RPD value for dinoseb was greater than the control limit; the result in the parent sample was estimated (J-9).

For the MS/MSD analyzed using Sample FS-34-3-4, the MSD recoveries for MCPA and 2,4-D were less than the lower control limit but were in control in the associated MSD sample; no data were qualified for the single outliers. The %R values for dinoseb, MCPP, dicamba, and pentachlorophenol were less than the lower control limit. The results in the parent sample were estimated (UJ-8L).

SDG P172891: The MS/MSD analyses were performed using Sample MW-08-112817. The %R values for dicamba were less than the lower control limit; the result in the parent sample was estimated (J-8L). The RPD values for MCPA and MCPP were greater than the control limit; detected values in the parent sample were estimated (J-9).

Surrogate Compounds

The surrogate compound DCPAA was added to all samples. With the following exceptions, the surrogate recoveries were within the laboratory control limits.

SDG P181220: The surrogate recovery for sample MW-17-5-5.5 was greater than the upper control limit; the detected results were estimated (J-13H) to indicate a potential high bias.

SDG P172891: The surrogate recovery for sample MW-05-112817 was less than the lower control limit. There were no target analytes detected in this sample; results were estimated (UJ-13L).

Field Duplicates

The relative percent difference (RPD) control limit is 75% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and duplicate must be less than the RL (waters) or 2x the RL (soils).

SDG P181220: Samples MW-6-062018 and MW-X-062018 were identified as field duplicates. All acceptance criteria were met.

SDG P181296: Samples FS-26-2.5-3.5 and FS-XX-2.5-3.5 were identified as field duplicates. All acceptance criteria were met.

SDG P172891: Samples MW-06-112817 and MW-X-112817 were identified as field duplicates. All acceptance criteria were met.

Reporting Limits

Several reporting limits are greater than QAPP required reporting limits due to required dilutions.

Reported Results

SDG P181220: The MCPA result for Sample MW-4-062018 was flagged by the laboratory as having been tentatively identified due to matrix interference. The MCPA result was estimated (J-23).

SDG P181296: The 2,4-DB result for Sample FS-26-5-6 was flagged by the laboratory as having been tentatively identified due to matrix interference. The MCPA result was estimated (J-23).

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated based on: LCS/LCSD, MS/MSD, and surrogate %R outliers; MS/MSD and LCS/LCSD RPD outliers; and matrix interferences.

All data, as qualified, are acceptable for use.

ECOCHEM
Data Quality

APPENDIX A

DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES
Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.

DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L)[1] where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L)[1] where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L)[1] for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L)[1] where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L)[1] where appropriate
	12	Reference Material Use bias flags (H,L)[1] where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L)[1] where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L)[1] where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

[1] H = high bias indicated
L = low bias indicated

Dioxin/Furan Analysis by HRMS
(Based on Dioxin NFG 2011 and Methods EPA 1613B and SW-846 8290)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	Waters/Solids ≤ 6°C & in the dark Tissues <-10°C & in the dark **Preservation Aqueous:** If Cl_2 is present Thiosulfate must be added and if pH > 9 it must be adjusted to 7 - 9	NFG [1] Method[2]	J(pos)/R(ND) if thiosulfate not added if Cl_2 present; J(pos)/UJ(ND) if pH not adjusted J(pos)/UJ(ND) if temp > 20°C	1	**EcoChem PJ, see TM-05**
Holding Time	**If properly stored, 1 year or:** **Extraction (all matrices):** 30 days from collection **Analysis (all matrices)**: 45 days from extraction	NFG [1] Method[2]	If not properly stored or HT exceedance: J(pos)/UJ(ND)	1	**EcoChem PJ, see TM-05** Gross exceedance = > 1 year 2011 NFG **Note:** Under CWA, SDWA, and RCRA the HT for H2O is 7 days.
Instrument Performance					
Mass Resolution (Tuning)	PFK (Perfluorokerosene) ≥10,000 resolving power at m/z 304.9824. Exact mass of m/z 380.9760 w/in 5 ppm of theoretical value (380.97410 to 380.97790) . Analyzed prior to ICAL and at the start and end of each 12 hr. shift.	NFG [1] Method [2]	R(pos/ND) all analytes in all samples associated with the tune	24	Notify PM
Windows Defining Mix	Peaks for first and last eluters must be within established retention time windows for each selector group (chlorination level)	NFG [1] Method [2]	If peaks are not completely within windows (clipped): If natives are ok, J(pos)/UJ(ND) homologs (Totals) If natives are affected, R all results for that selector group	24	Notify PM
Column Performance Mix	Both mixes must be analyzed before ICAL and CCAL Valley < 25% (valley = (x/y)*100%) where x = ht. of TCDD (or TCDF) & y = baseline to bottom of valley For all isomers eluting near the 2378-TCDD (TCDF) peak (TCDD only for 8290)	NFG [1] Method [2]	J(pos) if valley > 25%	24	**EcoChem PJ, see TM-05, Rev. 2**; Note: TCDF is evaluated only if second column confirmation is performed
Initial Calibration **Sensitivity**	S/N ratio > 10 for all native and labeled compounds in CS1 std.	NFG [1] Method [2]	If <10, elevate Det. Limit or R(ND)	5A	
Initial Calibration **Selectivity**	Ion Abundance ratios within QC limits (Table 8 of method 8290) (Table 9 of method 1613B)	NFG [1] Method [2]	If 2 or more ion ratios are out for one compound in ICAL, J(pos)	5A	**EcoChem PJ, see TM-05, Rev. 2**

Copyright 2014 EcoChem, Inc.

Dioxin/Furan Analysis by HRMS
(Based on Dioxin NFG 2011 and Methods EPA 1613B and SW-846 8290)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Initial Calibration (Minimum 5 stds.) **Stability**	%RSD < 20% for native compounds %RSD <30% for labeled compounds (%RSD < 35% for labeled compounds under 1613b)	NFG [1] Method [2]	J(pos) natives if %RSD > 20%	5A	
	Absolute RT of $^{13}C_{12}$-1234-TCDD >25 min on DB5 & >15 min on DB-225	NFG [1] Method [2]	Narrate, no action		**EcoChem PJ, see TM-05, Rev. 2**
Continuing Calibration (Prior to each 12 hr. shift) **Sensitivity**	S/N ratio for CS3 standard > 10	NFG [1] Method [2]	If <10, elevate Det. Limit or R(ND)	5B	
Continuing Calibration (Prior to each 12 hr. shift) **Selectivity**	Ion Abundance ratios within QC limits (Table 8 of method 8290) (Table 9 of method 1613B)	NFG [1] Method [2]	For congener with ion ratio outlier, J(pos) natives in all samples associated with CCAL. No action for labeled congener ion ratio outliers.	25	**EcoChem PJ, see TM-05**
Continuing Calibration (Prior to each 12 hr. shift) **Stability**	%D+/-20% for native compounds %D +/-30% for labeled compounds **(Must meet limits in Table 6, Method 1613B)** If %D in the closing CCAL are within 25%/35%, the mean RF from the two CCAL may be used to calculate samples **(Section 8.3.2.4 of 8290)**.	NFG [1] Method [2]	**Labeled compounds:** Narrate, no action. **Native compounds:** 1613: J(pos)/UJ(ND)if %D is outside Table 6 limits J(pos)/R(ND) if %D is +/-75% of Table 6 limits 8290: J(pos)/UJ(ND) if %D = 20% - 75% J(pos)/R(ND) if %D > 75%	5B (H,L)[3]	
	Absolute RT of $^{13}C_{12}$-1234-TCDD and $^{13}C_{12}$-123789-HxCDD should be ± 15 seconds of ICAL RRT for all other compounds must meet criteria listed in Table 2 Method 1316.	NFG [1] Method [2]	Narrate, no action	5B	**EcoChem PJ, see TM-05**
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	NFG [1] Method [2]	U(pos) if result is < 5X action level.	7	**Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed**
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL		U(pos) if result is < 5X action level.	6	

Copyright 2014 EcoChem, Inc.

Dioxin/Furan Analysis by HRMS
(Based on Dioxin NFG 2011 and Methods EPA 1613B and SW-846 8290)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	**MS/MSD not typically required for HRMS analyses.** If lab analyzes MS/MSD then one set per matrix per batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos) if both %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias **PJ if only one %R outlier**	8 (H,L)[3]	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only unless other QC indicates systematic problems.
MS/MSD (RPD)	**MS/MSD not typically required for HRMS analyses.** If lab analyzes MS/MSD then one set per matrix per batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos) in parent sample if RPD > CL	9	Qualify parent sample only.
LCS (or OPR)	One per lab batch (of ≤ 20 samples) Use most current laboratory control limits **or** Limits from Table 6 of 1613B	NFG (1) Method (2)	J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if %R < LCL - low bias J(pos)/R(ND) if %R < 10% - very low bias	10 (H,L)[3]	No action if only one spike %R is outside criteria, when LCSD is analyzed. Qualify all associated samples.
LCS/LCSD (RPD)	**LCSD not typically required for HRMS analyses.** One set per matrix and batch of 20 samples RPD < 35%	Method (2) Ecochem standard policy	J(pos) assoc. compound in all samples if RPD > CL	9	Qualify all associated samples.
Lab Duplicate (RPD)	**Lab Dup not typically required for HRMS analyses.** One per lab batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos)/UJ(ND) if RPD > CL	9	
Labeled Compounds (Internal Standards)	Added to all samples %R = 40% - 135% in all samples 8290 %R must meet limits in Table 7 Method 1613B	NFG (1) Method (2)	J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if %R < LCL - low bias J(pos)/R(ND) if %R < 10% - very low bias	13 (H,L)[3]	
Field Duplicates	Solids: RPD <50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Narrate and qualify if required by project	9	**Use professional judgment**

Copyright 2014 EcoChem, Inc.

Dioxin/Furan Analysis by HRMS
(Based on Dioxin NFG 2011 and Methods EPA 1613B and SW-846 8290)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound ID and Calculation					
Quantitation/ Identification	All ions for each isomer must maximize within ± 2 seconds. S/N ratio >2.5 Ion ratios must meet criteria listed in Table 8 Method 8290, or Table 9 of 1613B; RRTs w/in limits in Table 2 of 1613B	NFG [1] Method [2]	Narrate in report; qualify if necessary NJ(pos) for retention time outliers. U(pos) for ion ratio outliers.	25	**EcoChem PJ, see TM-05**
EMPC (estimated maximum possible concentration)	If quantitation identification criteria are not met, laboratory should report an EMPC value.	NFG [1] Method [2]	If laboratory correctly reported an EMPC value, qualify the native compound U(pos) to indicate that the value is a detection limit and qualify total homolog groups J (pos)	25	**Use professional judgment See TM-18**
Interferences	Interferences from chlorodiphenyl ether compounds	NFG [1] Method [2]	J(pos)/UJ(ND) if present	23	**See TM-16**
	Lock masses must not deviate ± 20% from values in Table 8 of 1613B	Method [2]	J(pos)/UJ(ND) if present	24	**See TM-17**
Second Column Confirmation	All 2,3,7,8-TCDF hits must be confirmed on a DB-225 (or equiv) column. All QC criteria must also be met for the confirmation analysis.	NFG [1] Method [2]	Report the DB-225 value. If not performed use PJ.	3	DNR-11 DB5 result if both results from both columns are reported. **EcoChem PJ, see TM-05**
Calculation Check	Check 10% of field & QC sample results	EcoChem standard policy	Contact laboratory for resolution and/or corrective action	na	Full data validation only.
Electronic Data Deliverable (EDD)					
Verification of EDD to hardcopy data	EcoChem verify @ 10% unless problems noted; then increase level up to 100% for next several packages.		Depending on scope of problem, correct at EcoChem (minor issues) to resubmittal by laboratory (major issues).	na	EcoChem Project Manager and/or Database Administrator will work with lab to provide long-term corrective action.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	

(pos) - positive (detected) results; (ND) - not detected results

[1] National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) & Chlorinated Dibenzofurans (CDFs) Data Review, September 2011

[2] Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by High-Resolution Gas Chromatography/High-Resolution Mass Spectrometry (HRGC/HRMS), USEPA SW-846, Method 8290

[2] EPA Method 1613, Rev.B, Tetra-through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGS/HRMS, October 1994

[3] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG (2) Method (3)	J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C(3)
Holding Time	*Extraction Aqueous:* 7 days from collection *Extraction Solid:* 14 days from collection *Exraction Tissue/Sediment (frozen):* 1 year *Analysis (all matrices):* 40 days from extraction	NFG (2) Method (3)	J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Resolution Check	Beginning of ICAL sequence Within RTW and resolution > 60%	NFG (2)	NJ (pos)/R (ND) results	14	CLP criterion; might not be submitted with SW846 data package
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Target analytes: within RTW	NFG (2) Method (3)	NJ (pos)/R (ND) results for analytes with RT shifts	24	Use PJ based on examination of raw data
Breakdown	DDT Breakdown: ≤ 20% Endrin Breakdown: ≤ 20% Combined Breakdown: ≤ 30% Compounds within RTW	NFG (2) Method (3)	If 4,4'-DDT is detected: J (pos) 4,4'-DDT, 4,4'-DDD and 4,4'-DDE If 4,4'-DDT is ND and either 4,4'-DDD or 4,4'-DDE are detected: R (ND) 4,4'-DDT, NJ (pos) DDD and DDE If Endrin is detected: J (pos) Endrin, Endrin Aldehyde and Endrin Ketone If Endrin is ND and either EA or EK are detected: R (ND) Endrin, NJ (pos) EA and EK	5A	Method 8081B breakdown criterion: ≤ 15%. For combined breakdown outliers, apply qualifiers considering the degree of individual breakdown.

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Initial Calibration	Single Component Compounds: RSD ≤ 20% alpha-BHC and delta-BHC: RSD ≤ 25% toxaphene and surrogates: RSD ≤ 30% **or** correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with coefficient of determination (r^2-value) ≥ 0.99	NFG (2) Method (4)	J (pos) if %RSD greater than control limit **or** r-value < 0.995 **or** r^2-value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L) (6) where appropriate
Initial Calibration Verification (ICV)	No NFG criteria Project specific	Project QAPP	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) (6) where appropriate
Continuing Calibration	%D ± 20% Analyzed prior to each 12 hour shift	Method (3)	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L)(6) where appropriate
Blank Contamination					
Method Blank (MB)	One per matrix per batch (of ≤ 20 samples) No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** #1 - Review MB and IB, qualify as needed #2 - Review FB , qualify as needed **Note: Actions as per NFG 1999** Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG (1)	U (pos) if result is less than appropriate 5X action level.	7	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria No action if native analyte conc. > 5x the amount spiked Use bias flags (H,L) (6) where appropriate
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND
LCS	One per lab batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Qualify all associated samples. Use bias flags (H,L) (6) where appropriate
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG (2)	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% **or** project limits	NFG (2) Method (3)	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (dilution is a factor), use PJ Use bias flags (H,L) (6) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method (3)	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Field Duplicates	**Solids:** RPD < 50% **or** difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% **or** difference < 1X RL (for results < 5X RL)	EcoChem standard practice	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG [2] Method [3]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info
Calibration Range	On-column concentration < high calibration standard	NFG [2] Method [3]	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 for additional info
Sample Clean-up					
GPC/Sulfur/ Florisil	GPC or Florisil cleanup stndards 80% - 120%	NFG [2]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	14	Cleanups are optional under SW846 Use bias flags (H,L) [6] where appropriate

[1] National Functional Guidelines for Organic Data Review, October 1999
[2] National Functional Guidelines for Organic Data Review, June, 2008
[3] Organochlorine Pesticides by Gas Chromatography USEPA Method SW846 8081B, Feb 2007, Rev. 2
[4] SW846, Chapter 4, Organic Analytes
[5] Determinative Chromatographic Separations , Method 8000C , March 2003, Rev.3
[6] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

Copyright 2014 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C sediment/tissues may require storage at -20°C	NFG (1) Method (3)	**If required by project:** J (pos)/UJ (ND) if greater than 6° C	1	Use **PJ** for temp outliers; see **TM20** Current SW846 criterion is ≤ 6° C (3)
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Analysis (all matrices)**: 40 days from extraction Holding time may be extended to 1 year for frozen sediments/tissues	NFG (1) Method (3)	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	DFTPP Beginning of each 12 hour period Use method or project acceptance criteria	NFG (1) Method (3)	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG (1) Method (3)	Use **PJ** to qualify J (pos)/UJ (ND)	5A	**TM-06** EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance **PJ** - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration **Stability**	Minimum 5 standards %RSD ≤ 20.0% except: %RSD ≤ 40.0% poor responders * **or** co-efficient of determination (r^2) > 0.99	NFG (1) Method (3)	J (pos) if %RSD > limit **or** r^2 value <0.99	5A	
Initial Calibration Verification Check	Prepared from second source; analyze after each ICAL Percent recovery limits = 70-130%	Method (3)	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L)[4]	QAPP may have overriding accuracy limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Continuing Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG [1] Method [3]	Use **PJ** to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration **Stability**	Prior to sample analysis and every 12 hours %D ≤ 25% except: %D ≤ 40.0% poor responders *	NFG [1] Method [3]	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L)[4]	
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > MDL	NFG [2] Method [3]	U(pos) if result is < 5X or 10X action level	7	10X action level applies to phthalates only. 5X for all other target analytes **Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed** **Note: Actions as per 1999 NFG**
	No TICs present		R (pos) TICs using 10X rule	7	
Field Blank (FB)	No detected compounds > MDL	NFG [2] Method [3]	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of ≤ 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method [3]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L)[4]	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits. Qualify all associated samples.
LCS/LCSD (RPD)	If LCSD analyzed RPD < lab limits	Method [3]	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L)[4]	QAPP may have overriding accuracy limits. Some manufacturers have different RM control limits
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG (1) Method (3)	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L)[4]	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG (1) Method (2)	J (pos) in parent sample if RPD > CL	9	Qualify parent sample only
Surrogates	Minimum of 3 acid & 3 base/neutral (B/N) compounds added to all samples Within method control limits	NFG (1) Method (3)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	13 (H,L)[4]	Qualify all compounds in associated fraction. Do not qualify if only 1 acid and/or 1 B/N surrogate is out, unless <10%. If 1 surrogate outlier < 10% then J (pos)/R (ND)
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG (1) Method (3)	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use **PJ**	19	Qualify compounds quantified using particular internal standard
Field Duplicates	**Solids:** RPD < 50% OR difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification and Quantitation and Calculation					
Retention times and relative ion intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG [(1)] Method [(3)]	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG [(1)] Method [(3)]	NJ the TIC unless: R (pos) common laboratory contaminants	4	
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04** EcoChem Policy for Rejection/Selection Process for Multiple Results

[1] National Functional Guidelines for Organic Data Review, June, 2008
[2] National Functional Guidelines for Organic Data Review, October, 1999
[3] Method SW846 8270D Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007.
[4] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

(pos): Positive Result(s)
(ND): Non-detects

* "Poor responder" compounds: acetophenone, atrazine, benzaldehyde, 1,1'-biphenyl, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, caprolactam, carbazole, 4-chloroaniline, diethylphthalate, di-n-butylphthalate, 3-3'-dichlorobenzidine, dimethylphthalate, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, di-n-octylphthalate, hexachlorobutadiene, hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, 4-nitrophenol, N-nitrosodiphenylamine, 2,2'-oxybis-(1-chloropropane), 1,2,4,5-tetrachlorobenzene use a 0.010 RRF criterion.

Copyright 2015 EcoChem, Inc.

Chlorinated Herbicides by GC, SW-846 Method 8151A

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C Protected from light	NFG [1] Method [2]	J(pos)/UJ(ND) if > 6 deg. C (EcoChem PJ)	1	Use Professional Judgment (PJ) to qualify for temperature outlier.
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Analysis (all matrices)**: 40 days from extraction	NFG [1] Method [2]	J(pos)/UJ(ND) if HT exceeded J(pos)/R(ND) if gross exceedance(> 2X HT)	1	Use PJ to qualify for holding time outlier. Gross exceedance = > 2X HT, as per 1999 NFG
Instrument Performance					
Retention Times	Target compounds: Within RTW established by the laboratory.	NFG [1] Method [2]	NJ(pos)/R(ND) results for analytes with RT shifts	5B	Analyte RRT should be within ± 0.06 RRT units of the standard RRT (opening CCAL or midpoint ICAL standard). For full DV, use **PJ** based on examination of raw data.
Initial Calibration	5 standard minimum. Calibration may be internal or external. RSD ≤20%	NFG [1] Method [2]	J (pos) if > UCL J (pos)/UJ (ND) if < LCL OR r-value ≥ 0.99	5A	**TM-01** for additional information EcoChem Policy for the Evaluation of GC & HPLC Initial and Continuing Calibration using Method-Specific Control Limits. Calibration from methyl ester compounds (that have not undergone hydrolysis and esterfication) will need MW correction.
Continuing Calibration (Prior to each 12 hour shift or bracketing for external standard calibration)	%D ± 20%	NFG [1] Method [2]	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5A (H,L)[3]	**TM-01** for additional information EcoChem Policy for the Evaluation of GC & HPLC Initial and Continuing Calibration using Method-Specific Control Limits
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	NFG [1] Method [2]	U(pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed** No common lab contaminants for Herbacide analyses
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG [1] Method [2]	U(pos) if result is less than appropriate 5X action level.	6	

Copyright 2014 EcoChem, Inc.

Chlorinated Herbicides by GC, SW-846 Method 8151A

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	Qualify parent only unless other QC indicates systematic problems J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL)J (pos)/R (ND) if both %R < 10%	8 (H,L)[3]	A sample duplicate may be run in place of the MSD. No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD or duplicate (RPD)	One set per matrix per batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	Qualify parent only unless other QC indicates systematic problems. J(pos) if RPD > control limit	9	No action if parent is ND.
LCS	One per lab batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	Qualify all associated samples J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias **PJ if only one %R outlier**	10 (H,L)[3]	No action if only one spike %R is outside criteria, when LCSD is analyzed. Qualify all associated samples.
LCS/LCSD (RPD)	One set per lab batch (of ≤ 20 samples) Method acceptance criteria or project limits	NFG (1) Method (2)	J(pos) assoc. compound in all samples	9	
Surrogates	2,4-Dichlorophenylacetic acid (DCAA) added to every sample Method acceptance criteria or project limits	NFG (1) Method (2)	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCLJ (pos)/R (ND) if either %R < 10%	13 (H,L)[3]	If %R < 10% (sample dilution is a factor), use PJ
Internal Standards (if used)	Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method (2)	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use PJ	19	Suggested internal standards: 4,4'-dibromooctafluorobiphenyl (DBOB) or 1,4-dichlorobenzene.
Field Duplicates	**Solids**: RPD <50% OR difference < 2X RL (for results < 5X RL) **Aqueous**: RPD <35% OR difference < 1X RL (for results < 5X RL)		J(pos)/UJ(ND) Qualify only field duplicate samples	9	

Copyright 2014 EcoChem, Inc.

Chlorinated Herbicides by GC, SW-846 Method 8151A

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D<25% Within Retention Time Windows on both columns. Alternitively GC/MS may be used for confirmation.	NFG [1] Method [2]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60%R (pos) if RTW criterion not met	3 25 (false pos)	See TM-08 for additional info.
Calibration Range	Results exceed the upper calibration range	EcoChem standard policy	J (pos) if conc > high standard and sample was not diluted	20	
Calculation Check	Check 10% of field & QC sample results	EcoChem standard policy	Contact laboratory for resolution and/or corrective action	na	Full data validation only.
Electronic Data Deliverable (EDD)					
Verification of EDD to hardcopy data	EcoChem verify @ 10% unless problems noted; then increase level up to 100% for next several packages.	EcoChem standard policy	Depending on scope of problem, correct at EcoChem (minor issues) to resubmittal by laboratory (major issues).	na	EcoChem Project Manager and/or Database Administrator will work with lab to provide long-term corrective action.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04 Rev. 1** EcoChem Policy for for additional info.

[1] National Functional Guidelines for Organic Data Review, June, 2008, based on Pesticide Review (pos): Positive Result(s)
[2] Organochlorine Herbicides by GC using Methlyation or Pentafluorobenzylation Derivatization USEPA Method SW846 8151A, Dec. 1 (ND): Non-detects
[3] "H" = high bias indicate; "L" = low bias indicated

Copyright 2014 EcoChem, Inc.

ECOCHEM
Data Quality

APPENDIX B

QUALIFIED DATA SUMMARY TABLE

Qualified Data Summary Table
Smith - Kem Site

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
17F0202	FS-19-2.5-3.5	17F0202-01	EPA 1613	1,2,3,6,7,8-HxCDD	3.64	ng/kg dry	U	25
17F0202	FS-19-2.5-3.5	17F0202-01	EPA 1613	2,3,4,7,8-PeCDF	3.27	ng/kg dry	U	25
17F0202	FS-19-2.5-3.5	17F0202-01	EPA 1613	2,3,7,8-TCDF	2.09	ng/kg dry	U	25
18D0139	FS-32-0.5-1	18D0139-01	EPA 1613B	1,2,3,7,8,9-HxCDD	1.91	ng/kg dry	U	25
18D0139	FS-32-0.5-1	18D0139-01	EPA 1613B	1,2,3,7,8-PeCDF	0.958	ng/kg dry	U	25
18D0139	FS-32-0.5-1	18D0139-01	EPA 1613B	2,3,7,8-TCDF	2.08	ng/kg dry	U	25
18D0139	FS-35-0.5-1	18D0139-02	EPA 1613B	1,2,3,4,7,8-HxCDD	0.338	ng/kg dry	U	25
18D0139	FS-35-0.5-1	18D0139-02	EPA 1613B	1,2,3,4,7,8-HxCDF	1.41	ng/kg dry	J	5BH
18D0139	FS-35-0.5-1	18D0139-02	EPA 1613B	1,2,3,6,7,8-HxCDF	2.83	ng/kg dry	J	5BH
18D0139	FS-35-0.5-1	18D0139-02	EPA 1613B	1,2,3,7,8,9-HxCDD	0.669	ng/kg dry	U	25
18D0139	FS-35-0.5-1	18D0139-02	EPA 1613B	1,2,3,7,8,9-HxCDF	1.03	ng/kg dry	U	25
18D0139	FS-35-0.5-1	18D0139-02	EPA 1613B	1,2,3,7,8-PeCDD	0.839	ng/kg dry	U	25
18D0139	FS-35-0.5-1	18D0139-02	EPA 1613B	2,3,4,7,8-PeCDF	2.34	ng/kg dry	U	25
18D0297	FS-33-2-3	18D0297-01	EPA 1613	1,2,3,4,7,8,9-HpCDF	0.251	ng/kg dry	U	25
18D0297	FS-33-2-3	18D0297-01	EPA 1613	1,2,3,7,8,9-HxCDD	0.36	ng/kg dry	U	25
18D0297	FS-33-2-3	18D0297-01	EPA 1613	1,2,3,7,8-PeCDF	0.21	ng/kg dry	U	25
18D0297	FS-33-2-3	18D0297-01	EPA 1613	2,3,7,8-TCDD	0.163	ng/kg dry	U	25
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	1,2,3,4,6,7,8-HpCDD	0.837	ng/kg dry	U	7
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	1,2,3,4,6,7,8-HpCDF	0.381	ng/kg dry	U	7
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	1,2,3,4,7,8,9-HpCDF	0.043	ng/kg dry	U	25
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	1,2,3,6,7,8-HxCDD	0.044	ng/kg dry	U	25
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	1,2,3,6,7,8-HxCDF	0.078	ng/kg dry	U	25
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	1,2,3,7,8,9-HxCDD	0.059	ng/kg dry	U	25
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	1,2,3,7,8-PeCDD	0.086	ng/kg dry	U	25
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	1,2,3,7,8-PeCDF	0.133	ng/kg dry	U	25
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	2,3,4,6,7,8-HxCDF	0.104	ng/kg dry	U	25
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	2,3,7,8-TCDF	0.055	ng/kg dry	U	25
18F0343	FS-34-0.5-1	18F0343-01	EPA 1613	OCDD	9.47	ng/kg dry	U	7
18F0343	FS-43-1-2	18F0343-02	EPA 1613	2,3,4,7,8-PeCDF	15.4	ng/kg dry	U	25
18G0195	FS-45-0.5-1	18G0195-01	EPA 1613B	2,3,7,8-TCDD	0.753	ng/kg dry	U	25
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	a-BHC	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	a-Chlordane	0.085	ug/L	J	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Aldrin	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Atrazine	1.4	ug/L	J	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	b-BHC	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	d-BHC	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Dieldrin	0.38	ug/L	J	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Endosulfan I	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Endosulfan II	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Endosulfan sulfate	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Endrin	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Endrin aldehyde	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Endrin ketone	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	g-BHC	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Heptachlor	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Heptachlor epoxide	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Hexachlorobenzene	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8151A (GC-MS/MS)	MCPA	2.1	ug/L	J	9
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Methoxychlor	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	p,p'-DDD	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	p,p'-DDE	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	p,p'-DDT	ND	ug/L	UJ	13L
P172891	MW-01-112817	P172891-01	Modified EPA 8270D (GC-MS/MS)	Simazine	0.091	ug/L	J	13L
P172891	MW-06-112817	P172891-03	Modified EPA 8151A (GC-MS/MS)	MCPA	0.67	ug/L	J	9
P172891	MW-07-112817	P172891-04	Modified EPA 8151A (GC-MS/MS)	MCPA	2.5	ug/L	J	9
P172891	MW-04-112817	P172891-05	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	0.27	ug/L	J	9
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	a-BHC	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	a-Chlordane	0.084	ug/L	J	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Aldrin	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Atrazine	26	ug/L	J	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	b-BHC	0.066	ug/L	J	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	d-BHC	ND	ug/L	UJ	13L

Qualified Data Summary Table
Smith - Kem Site

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Dieldrin	0.53	ug/L	J	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Endosulfan I	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Endosulfan II	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Endosulfan sulfate	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Endrin	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Endrin aldehyde	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Endrin ketone	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	g-BHC	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Heptachlor	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Heptachlor epoxide	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Hexachlorobenzene	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8151A (GC-MS/MS)	MCPA	24	ug/L	J	9
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Methoxychlor	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	p,p'-DDD	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	p,p'-DDE	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	p,p'-DDT	ND	ug/L	UJ	13L
P172891	MW-04-112817	P172891-05	Modified EPA 8270D (GC-MS/MS)	Simazine	0.11	ug/L	J	13L
P172891	MW-X-112817	P172891-06	Modified EPA 8151A (GC-MS/MS)	MCPA	0.87	ug/L	J	9
P172891	MW-05-112817	P172891-07	Modified EPA 8151A (GC-MS/MS)	2,4,5-T	ND	ug/L	UJ	13L
P172891	MW-05-112817	P172891-07	Modified EPA 8151A (GC-MS/MS)	2,4,5-TP	ND	ug/L	UJ	13L
P172891	MW-05-112817	P172891-07	Modified EPA 8151A (GC-MS/MS)	2,4-D	ND	ug/L	UJ	13L
P172891	MW-05-112817	P172891-07	Modified EPA 8151A (GC-MS/MS)	2,4-DB	ND	ug/L	UJ	13L
P172891	MW-05-112817	P172891-07	Modified EPA 8151A (GC-MS/MS)	Dicamba	ND	ug/L	UJ	13L
P172891	MW-05-112817	P172891-07	Modified EPA 8151A (GC-MS/MS)	Dinoseb	ND	ug/L	UJ	13L
P172891	MW-05-112817	P172891-07	Modified EPA 8151A (GC-MS/MS)	MCPA	ND	ug/L	UJ	13L
P172891	MW-05-112817	P172891-07	Modified EPA 8151A (GC-MS/MS)	MCPP	ND	ug/L	UJ	13L
P172891	MW-08-112817	P172891-08	Modified EPA 8270D (GC-MS/MS)	Atrazine	0.51	ug/L	J	9
P172891	MW-08-112817	P172891-08	Modified EPA 8151A (GC-MS/MS)	Dicamba	2.0	ug/L	J	8L
P172891	MW-08-112817	P172891-08	Modified EPA 8151A (GC-MS/MS)	MCPA	0.27	ug/L	J	9
P172891	MW-08-112817	P172891-08	Modified EPA 8270D (GC-MS/MS)	Simazine	0.067	ug/L	J	9
P181220	MW-4-062018	P181220-01	Modified EPA 8151A (GC-MS/MS)	MCPA	0.14	ug/L	J	23

Qualified Data Summary Table
Smith - Kem Site

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P181220	MW-4-062018	P181220-01	Modified EPA 8151A (GC-MS/MS)	MCPA	0.14	ug/L	J	23
P181296	FS-26-0.5-1	P181296-01	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P181296	FS-26-0.5-1	P181296-01	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P181296	FS-26-0.5-1	P181296-01	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P181296	FS-26-0.5-1	P181296-01	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P181296	FS-26-0.5-1	P181296-01	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P181296	FS-26-0.5-1	P181296-01	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P181296	FS-26-2.5-3.5	P181296-02	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P181296	FS-26-2.5-3.5	P181296-02	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P181296	FS-26-2.5-3.5	P181296-02	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P181296	FS-26-2.5-3.5	P181296-02	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P181296	FS-26-2.5-3.5	P181296-02	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P181296	FS-26-2.5-3.5	P181296-02	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P181296	FS-26-5-6	P181296-03	EPA 8151A (GC-MS/MS)	2,4-DB	0.017	mg/kg	J	23
P181296	FS-26-5-6	P181296-03	EPA 8151A (GC-MS/MS)	2,4-DB	0.017	mg/kg	J	23
P181296	FS-26-5-6	P181296-03	EPA 8151A (GC-MS/MS)	Dicamba	0.063	mg/kg	J	10L
P181296	FS-26-5-6	P181296-03	EPA 8151A (GC-MS/MS)	Dicamba	0.063	mg/kg	J	10L
P181296	FS-26-5-6	P181296-03	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	8L,9,10L
P181296	FS-26-5-6	P181296-03	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	8L,9,10L
P181296	FS-26-5-6	P181296-03	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	8L,10L
P181296	FS-26-5-6	P181296-03	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	8L,10L
P181296	FS-34-0.5-1	P181296-04	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P181296	FS-34-0.5-1	P181296-04	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P181296	FS-34-0.5-1	P181296-04	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P181296	FS-34-0.5-1	P181296-04	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P181296	FS-34-0.5-1	P181296-04	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P181296	FS-34-0.5-1	P181296-04	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P181296	FS-34-2-3	P181296-05	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P181296	FS-34-2-3	P181296-05	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P181296	FS-34-2-3	P181296-05	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P181296	FS-34-2-3	P181296-05	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L

Qualified Data Summary Table
Smith - Kem Site

SDG	SAMPLE ID	LAB ID	METHOD	ANALYTE	RESULT	UNITS	DV QUAL	DV CODE
P181296	FS-34-2-3	P181296-05	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P181296	FS-34-2-3	P181296-05	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P181296	FS-34-3-4	P181296-06	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	8L,10L
P181296	FS-34-3-4	P181296-06	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	8L,10L
P181296	FS-34-3-4	P181296-06	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	8L,10L
P181296	FS-34-3-4	P181296-06	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	8L,10L
P181296	FS-34-3-4	P181296-06	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	8L
P181296	FS-34-3-4	P181296-06	EPA 8151A (GC-MS/MS)	MCPP	ND	mg/kg	UJ	8L
P181296	FS-34-3-4	P181296-06	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	8L,10L
P181296	FS-34-3-4	P181296-06	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	8L,10L
P181296	FS-XX-2.5-3.5	P181296-07	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P181296	FS-XX-2.5-3.5	P181296-07	EPA 8151A (GC-MS/MS)	Dicamba	ND	mg/kg	UJ	10L
P181296	FS-XX-2.5-3.5	P181296-07	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P181296	FS-XX-2.5-3.5	P181296-07	EPA 8151A (GC-MS/MS)	Dinoseb	ND	mg/kg	UJ	10L
P181296	FS-XX-2.5-3.5	P181296-07	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L
P181296	FS-XX-2.5-3.5	P181296-07	EPA 8151A (GC-MS/MS)	Pentachlorophenol	ND	mg/kg	UJ	10L

DATA VALIDATION REPORT

SMITH-KEM SITE REMEDIAL INVESTIGATION
SPRING 2020 GW MONITORING

Prepared for:

Floyd | Snider
601 Union Street, Suite 600
Seattle, WA 98101

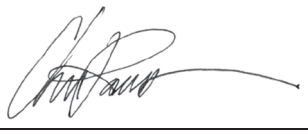
Prepared by:

EcoChem, Inc.
500 Union Street, Suite 1010
Seattle, WA 98101

EcoChem Project: C15223-6

June 23, 2020

Approved for Release:



Christine Ransom
Senior Project Chemist
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report summarizes the results of data validation performed on groundwater and quality control (QC) sample data for the Smith-Kem Site Remedial Investigation Groundwater Monitoring project. A complete list of samples is provided in the Sample Index.

ALS Environmental, Kelso, Washington performed the analyses. The analytical method and EcoChem project chemists are listed in the table below.

ANALYSIS	METHOD	PRIMARY REVIEW	SECONDARY REVIEW
Low Level Pesticides	EPA 8081B Mod	E. Clayton	C. Ransom

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *Smith-Kem Site Remedial Investigation Work Plan* (Floyd|Snider, July 2016); *Smith-Kem Site Remedial Investigation 2019 Work Plan Addendum* (Floyd|Snider, October 2019); and *National Functional Guidelines for Organic Data Review* (USEPA 2017).

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R or DNR, the data should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes, and validation criteria are included as Appendix A. A Qualified Data Summary Table is included in Appendix B. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Smith Kem Spring 2020 GW

SDG	SAMPLE ID	LAB ID	Matrix	Pesticides 8081
K2002652	MW-9-032520	K2002652-001	Water	✓
K2002652	MW-4-032520	K2002652-002	Water	✓
K2002652	MW-104-032520	K2002652-003	Water	✓
K2002652	MW-15-032520	K2002652-004	Water	✓
K2002652	MW-16-032520	K2002652-005	Water	✓
K2002652	MW-17-032520	K2002652-006	Water	✓
K2002652	MW-7-032520	K2002652-007	Water	✓
K2002652	MW-6-032520	K2002652-008	Water	✓
K2002652	MW-1-032520	K2002652-009	Water	✓
K2002652	MW-11-032520	K2002652-010	Water	✓
K2002652	MW-8-032520	K2002652-011	Water	✓
K2002652	MW-5-032520	K2002652-012	Water	✓
K2002652	MW-3-032520	K2002652-013	Water	✓
K2002652	MW-10-032520	K2002652-014	Water	✓
K2002652	MW-2-032620	K2002652-015	Water	✓
K2002652	MW-12-032620	K2002652-016	Water	✓
K2002652	MW-14-032620	K2002652-017	Water	✓
K2002652	MW-18-032620	K2002652-018	Water	✓
K2002652	MW-19-032620	K2002652-019	Water	✓
K2002652	MW-20-032620	K2002652-020	Water	✓
K2002652	MW-13-032520	K2002652-021	Water	✓

DATA VALIDATION REPORT
Smith-Kem Site – Spring 2020 GW Monitoring
Pesticides by Method SW8081B

This report documents the review of analytical data from the analysis of groundwater samples and the associated laboratory and field quality control (QC) samples. ALS Environmental, Kelso, Washington, analyzed the samples. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
K2002652	21 Groundwater	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

The extraction batch quality control summaries were missing results for heptachlor. The laboratory was contacted and submitted revised summary forms.

The following results exceeded the calibration range in the original 1X analysis. The summary forms did not have "E" flags. The lab was contacted and submitted revised summary forms.

Sample ID	Lab ID	Analyte	Result	Added Lab Flag
MW-4-032520	K2002652-002	Toxaphene	4000	E
MW-104-032520	K2002652-003	Toxaphene	4000	E
MW-6-032520	K2002652-008	Chlordane	1400	E
MW-6-032520	K2002652-008	Toxaphene	8000	EP

EDD TO HARDCOPY VERIFICATION

Ten percent (10%) of the results in the laboratory EDD were verified by comparison to the laboratory data package. The following errors were noted:

The heptachlor results for the extraction batch quality control samples were missing from the EDD. The laboratory was contacted and submitted a revised excel file.

In the case of the results noted above, the EDD contained the results from the 1X analysis. These analytes should be reported from the 20X dilution. Results were added to the EDD during validation.

Sample ID	Lab ID	Analyte	EDD Result (1x)	New Result (20X)
MW-4-032520	K2002652-002	Toxaphene	4000	4900
MW-104-032520	K2002652-003	Toxaphene	4000	4600
MW-6-032520	K2002652-008	Chlordane	1400	1700
MW-6-032520	K2002652-008	Toxaphene	8000	9600

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

✓	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	2	Compound Identification
1	Laboratory Control Samples (LCS/LCSD)	1	Reporting Limits
✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	2	Reported Results
✓	Surrogate Compounds	1	Calculation Verification
✓	Internal Standards		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

The recovery for toxaphene in laboratory control sample duplicate (LCSD) KQ2004497-04 was greater than the upper control limit. The recovery for the associated laboratory control sample (LCS) was in control; no data were qualified based on the single outlier.

Field Duplicates

Samples MW-4-032520 and MW-104-032520 were submitted as field duplicates. For results >5x the reporting limit (RL), the relative percent difference (RPD) values were less than the control limit of 35%. For results less than 5x the RL, the difference between the sample and duplicate results were less than the RL. Field precision was acceptable.

Compound Identification

Samples were analyzed on a primary column, , and a confirmation column, . The results from the two analytical columns were compared for agreement. An elevated RPD value may indicate the presence of an interference. When the RPD value was greater than 40% but less than 60% the reported value was estimated (J-3). If the RPD value was greater than 60%, the result was qualified as a tentative identification (NJ-3). Confirmation outliers are listed below.

SAMPLE ID	AROCLOR	RPD	QUALIFIER
MW-4-032520	aldrin	78%	NJ-3
	heptachlor	70%	NJ-3
MW-104-032520	aldrin	68%	NJ-3
	beta-BHC	51%	J-3
	heptachlor	59%	J-3
MW-6-032520	beta-BHC	55%	J-3
	heptachlor epoxide	80%	NJ-3
	toxaphene	55%	J-3

SAMPLE ID	AROCLOR	RPD	QUALIFIER
MW-1-032520	alpha-BHC	60%	NJ-3
	beta-BHC	44%	J-3
	heptachlor epoxide	71%	NJ-3
MW-14-032620	chlordane	43%	J-3
	heptachlor epoxide	68%	NJ-3
	toxaphene	48%	J-3

Reporting Limits

Several samples required dilution due to high concentrations of 1 or more target analytes. Reporting limits were elevated accordingly.

Reported Result

For cases where a sample was analyzed at more than one dilution, the laboratory merged results in the EDD in order to only report one analyte per sample. The following results were reported for the 1X analysis in the EDD. These results were flagged as do-not-report (DNR-11) in favor of the results from the 20X dilution.

Sample ID	Lab ID	Analyte	EDD Result (1x)	Lab Flag	DV Qual
MW-4-032520	K2002652-002	Toxaphene	4000	E	DNR-11
MW-104-032520	K2002652-003	Toxaphene	4000	E	DNR-11
MW-6-032520	K2002652-008	Chlordane	1400	E	DNR-11
MW-6-032520	K2002652-008	Toxaphene	8000	EP	DNR-11

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exception noted above, accuracy was acceptable as demonstrated by the LCS/LCSD, matrix spike/matrix spike duplicate (MS/MSD), and surrogate %R values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

Results were estimated due to confirmation column precision outliers. Data were flagged as do-not-report (DNR) to indicate which result should not be used from multiple reported analyses. A usable result remains for all analytes in all samples; completeness was not affected.

Data flagged DNR should not be used. All other data, as qualified, are acceptable for use.

ECOCHEM
Data Quality

APPENDIX A

DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES
Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.

DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L)[1] where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L)[1] where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L)[1] for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L)[1] where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L)[1] where appropriate
	12	Reference Material Use bias flags (H,L)[1] where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L)[1] where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L)[1] where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

[1] H = high bias indicated
L = low bias indicated

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG (2) Method (3)	J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C(3)
Holding Time	*Extraction Aqueous:* 7 days from collection *Extraction Solid:* 14 days from collection *Exraction Tissue/Sediment (frozen):* 1 year *Analysis (all matrices):* 40 days from extraction	NFG (2) Method (3)	J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Resolution Check	Beginning of ICAL sequence Within RTW and resolution > 60%	NFG (2)	NJ (pos)/R (ND) results	14	CLP criterion; might not be submitted with SW846 data package
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Target analytes: within RTW	NFG (2) Method (3)	NJ (pos)/R (ND) results for analytes with RT shifts	24	Use PJ based on examination of raw data
Breakdown	DDT Breakdown: ≤ 20% Endrin Breakdown: ≤ 20% Combined Breakdown: ≤ 30% Compounds within RTW	NFG (2) Method (3)	If 4,4'-DDT is detected: J (pos) 4,4'-DDT, 4,4'-DDD and 4,4'-DDE If 4,4'-DDT is ND and either 4,4'-DDD or 4,4'-DDE are detected: R (ND) 4,4'-DDT, NJ (pos) DDD and DDE If Endrin is detected: J (pos) Endrin, Endrin Aldehyde and Endrin Ketone If Endrin is ND and either EA or EK are detected: R (ND) Endrin, NJ (pos) EA and EK	5A	Method 8081B breakdown criterion: ≤ 15%. For combined breakdown outliers, apply qualifiers considering the degree of individual breakdown.

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Initial Calibration	Single Component Compounds: RSD ≤ 20% alpha-BHC and delta-BHC: RSD ≤ 25% toxaphene and surrogates: RSD ≤ 30% **or** correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with coefficient of determination (r^2-value) ≥ 0.99	NFG (2) Method (4)	J (pos) if %RSD greater than control limit **or** r-value < 0.995 **or** r^2-value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L) (6) where appropriate
Initial Calibration Verification (ICV)	No NFG criteria Project specific	Project QAPP	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) (6) where appropriate
Continuing Calibration	%D ± 20% Analyzed prior to each 12 hour shift	Method (3)	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L)(6) where appropriate
Blank Contamination					
Method Blank (MB)	One per matrix per batch (of ≤ 20 samples) No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** #1 - Review MB and IB, qualify as needed #2 - Review FB , qualify as needed **Note: Actions as per NFG 1999** Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG (1) Method (3)	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG (1)	U (pos) if result is less than appropriate 5X action level.	7	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria No action if native analyte conc. > 5x the amount spiked Use bias flags (H,L) (6) where appropriate
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2) Method (3)	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND
LCS	One per lab batch (of ≤ 20 samples) Method or project acceptance limits	NFG (2)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Qualify all associated samples. Use bias flags (H,L) (6) where appropriate
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG (2)	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% **or** project limits	NFG (2) Method (3)	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (dilution is a factor), use PJ Use bias flags (H,L) (6) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method (3)	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	

Copyright 2014 EcoChem, Inc.

Pesticides by GC
(Based on Organic NFG 1999 & 2008 and SW-846 Method 8081B)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Field Duplicates	**Solids:** RPD < 50% **or** difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% **or** difference < 1X RL (for results < 5X RL)	EcoChem standard practice	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG [2] Method [3]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info
Calibration Range	On-column concentration < high calibration standard	NFG [2] Method [3]	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 for additional info
Sample Clean-up					
GPC/Sulfur/ Florisil	GPC or Florisil cleanup stndards 80% - 120%	NFG [2]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	14	Cleanups are optional under SW846 Use bias flags (H,L) [6] where appropriate

[1] National Functional Guidelines for Organic Data Review, October 1999
[2] National Functional Guidelines for Organic Data Review, June, 2008
[3] Organochlorine Pesticides by Gas Chromatography USEPA Method SW846 8081B, Feb 2007, Rev. 2
[4] SW846, Chapter 4, Organic Analytes
[5] Determinative Chromatographic Separations , Method 8000C , March 2003, Rev.3
[6] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

Copyright 2014 EcoChem, Inc.

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix G
Chemical Parameters and Backup Calculations

Table G.1
Dioxin TEQ Calculations

				Sample Location		FS-19		FS-32		FS-33				FS-34		FS-35		FS-43		FS-44		FS-45	
				Sample Depth (feet bgs)		2.5 to 3.5		0.5 to 1		0.5 to 1		2 to 3		0.5 to 1		0.5 to 1		1 to 2		0.5 to 1		0.5 to 1	
				Sample ID		FS-19-2.5-3.5		FS-32-0.5-1		FS-33-0.5-1		FS-33-2-3		FS-34-0.5-1		FS-35-0.5-1		FS-43-1-2		FS-44-0.5-1		FS-45-0.5-1	
Chemical	CAS No.	Unit	TEF Value [1]	Analyte Result	TTEC [2]	Analyte Result	TTEC	Analyte Result	TTEC	Analyte Result	TTEC	Analyte Result	TTEC	Analyte Result	TTEC	Analyte Result	TTEC	Analyte Result	TTEC	Analyte Result	TTEC	Analyte Result	TTEC
1,2,3,4,6,7,8-HpCDD	35822-46-9	ng/kg	0.01	101	1.01	44.1	0.441	86.1	0.861	7.1	0.071	0.837 U	0.004185	11.6	0.116	65.6	0.656	119	1.19	16.7	0.167
1,2,3,4,6,7,8-HpCDF	67562-39-4	ng/kg	0.01	57.6	0.576	19.7	0.197	213	2.13	3.47	0.0347	0.381 U	0.001905	6.67	0.0667	38.7	0.387	50.2	0.502	12.3	0.123
1,2,3,4,7,8,9-HpCDF	55673-89-7	ng/kg	0.01	3.06	0.0306	1.74	0.0174	19	0.19	0.251 U	0.001255	0.043 U	0.000215	0.576 J	0.00576	4.32	0.0432	2.93	0.0293	1.29	0.0129
1,2,3,4,7,8-HxCDD	39227-28-6	ng/kg	0.1	1.37	0.137	0.926 J	0.0926	6.85	0.685	0.177 J	0.0177	0.039 U	0.00195	0.338 U	0.0169	1.78	0.178	2.4	0.24	0.55	0.055
1,2,3,4,7,8-HxCDF	70648-26-9	ng/kg	0.1	2.52	0.252	3.8	0.38	51.9	5.19	0.452 J	0.0452	0.063 J	0.0063	1.41 J	0.141	10.8	1.08	5.39	0.539	3.54	0.354
1,2,3,6,7,8-HxCDD	57653-85-7	ng/kg	0.1	3.64 U	0.182	3.21	0.321	13.2	1.32	0.48 J	0.048	0.044 U	0.0022	1.03	0.103	8.18	0.818	5.87	0.587	2.16	0.216
1,2,3,6,7,8-HxCDF	57117-44-9	ng/kg	0.1	6.29	0.629	7.09	0.709	42	4.2	0.778 J	0.0778	0.078 U	0.0039	2.83 J	0.283	15.8	1.58	13.4	1.34	8.3	0.83
1,2,3,7,8,9-HxCDD	19408-74-3	ng/kg	0.1	1.97	0.197	1.91 U	0.0955	9.55	0.955	0.36 U	0.018	0.059 U	0.00295	0.669 U	0.03345	4.17	0.417	3.52	0.352	1.19	0.119
1,2,3,7,8,9-HxCDF	72918-21-9	ng/kg	0.1	1.52	0.152	2.87	0.287	12.3	1.23	0.306 J	0.0306	0.088 J	0.0088	1.03 U	0.0515	7.42	0.742	3.91	0.391	2.43	0.243
1,2,3,7,8-PeCDD	40321-76-4	ng/kg	1	2.6	2.6	2.54	2.54	15.3	15.3	0.231 J	0.231	0.086 U	0.043	0.839 U	0.4195	7.62	7.62	7.82	7.82	1.69	1.69
1,2,3,7,8-PeCDF	57117-41-6	ng/kg	0.03	1.14	0.0342	0.958 U	0.01437	21.7	0.651	0.21 U	0.00315	0.133 U	0.001995	0.603 J	0.01809	1.21 U	0.01815	2.02	0.0606	0.928	0.02784
2,3,4,6,7,8-HxCDF	60851-34-5	ng/kg	0.1	14.4	1.44	20.4	2.04	48.9	4.89	1.61	0.161	0.104 U	0.0052	7.62	0.762	47.8	4.78	16.4	1.64	20.5	2.05
2,3,4,7,8-PeCDF	57117-31-4	ng/kg	0.3	3.27 U	0.4905	5.46	1.638	30.9	9.27	0.607 J	0.1821	0.104 J	0.0312	2.34 U	0.351	15.4 U	2.31	11.6	3.48	6.02	1.806
2,3,7,8-TCDD (Dioxin)	1746-01-6	ng/kg	1	10.1	10.1	14	14	4.94	4.94	0.163 U	0.0815	0.045 U	0.0225	0.877 J	0.877	9.46	9.46	73.4	73.4	0.753 U	0.3765
2,3,7,8-TCDF	51207-31-9	ng/kg	0.1	2.09 U	0.1045	2.08 U	0.104	14.7	1.47	0.281 J	0.0281	0.055 U	0.00275	0.882 J	0.0882	3.46 U	0.173	4.31	0.431	1.49	0.149
Total OCDD	--	ng/kg	0.0003	1100	0.33	646	0.1938	345	0.1035	58.3	0.01749	9.47 U	0.001421	127	0.0381	1160	0.348	1200	0.36	165	0.0495
Total OCDF	--	ng/kg	0.0003	157	0.0471	54.8	0.01644	130	0.039	12.2	0.00366	1.06 J	0.000318	20.9	0.00627	86.7	0.02601	129	0.0387	23.8	0.00714
Total Dioxin/Furan TEQ [1]	--	ng/kg	--		18.3		23.1		53.4		1.05		0.141		3.38		30.6		92.4		8.28

Notes:

1 Calculation of Total Dioxin/Furan TEQ concentration is performed using the 2005 World Health Organization TEFs as presented in Table 708-1 of WAC 173-340-900.

2 Calculation is performed using detected concentrations plus one-half the detection limit for analytes that were not detected.

Abbreviations:

bgs Below ground surface
CAS Chemical Abstracts Service
ng/kg nanogram per kilogram
TEF Toxic equivalent factor
TEQ Toxic equivalent
TTEC Total Toxicity Equivalence Concentration

Qualifiers:

U Analyte was not detected at the given reporting limit.
J Result given is considered an estimate.

Table G.2
Toxicity and Partitioning Data for Chemicals of Potential Concern

Chemical	CAS No.	Eq. 747-1 Input	Chemical Partitioning Data					Chemical Toxicity Data	
		Groundwater Preliminary CUL (µg/L)	Distribution Factor for metals (Kd) (L/kg) [3]	Soil Organic Carbon-Water Partitioning Coefficient (Koc) (L/kg) [3]	Henry's Law Constant 13 degrees C (unitless) [3]	Final K_d for Three Phase Model SL Calculations (L/kg) [4]	Final K_d for Three Phase Model Preliminary CUL Calculations (L/kg) [4]	RfDo—Oral Reference Dose (mg/kg-day)	CPFo—Oral Cancer Potency Factor (kg-day/mg)
Conventionals									
Bulk density	--	Not Analyzed in GW							
pH	pH	Not Analyzed in GW							
Total organic carbon	--	Not Analyzed in GW							
Metals									
Arsenic	7440-38-2	5.0	2.90E+01			2.90E+01	2.90E+01	3.00E-04	1.50E+00
Cadmium	7440-43-9	5.0	6.70E+00			6.70E+00	6.70E+00	5.00E-04	
Chromium (total) [6]	7440-47-3	50							
Copper	7440-50-8	640	2.20E+01			2.20E+01	2.20E+01	4.00E-02	
Lead	7439-92-1	15	1.00E+04			1.00E+04	1.00E+04		
Mercury	7439-97-6	Not Detected in GW	5.20E+01		1.65E-01	5.20E+01	5.20E+01		
Zinc	7440-66-6	4800	6.20E+01			6.20E+01	6.20E+01	3.00E-01	
Volatile Organic Compounds									
1,2-Dibromoethane	106-93-4	Not Detected in GW		6.60E+01	1.54E-02	6.60E-02	7.26E-01	9.00E-03	2.00E+00
1,2-Dichloroethane	107-06-2	Not Detected in GW		3.80E+01	2.28E-02	3.80E-02	4.18E-01	6.00E-03	9.10E-02
Acetone	67-64-1	Not Detected in GW		5.75E-01	9.68E-04	5.75E-04	6.33E-03	9.00E-01	
Benzene	71-43-2	5.0		6.17E+01	1.33E-01	6.17E-02	6.79E-01	4.00E-03	5.50E-02
Carbon disulfide	75-15-0	Not Analyzed in GW		4.57E+01	8.03E-01	4.57E-02	5.03E-01	1.00E-01	
Dibromomethane	74-95-3	Not Detected in GW			1.96E-02			1.00E-02	
Ethanol	64-17-5	Not Detected in GW							
Ethylbenzene	100-41-4	Not Detected in GW		2.04E+02	1.62E-01	2.04E-01	2.24E+00	1.00E-01	
Methyl tert-butyl ether	1634-04-4	Not Detected in GW		1.09E+01	1.59E-02	1.09E-02	1.20E-01		1.80E-03
Naphthalene	91-20-3	Not Detected in GW		1.19E+03	8.24E-03	1.19E+00	1.31E+01	2.00E-02	
n-Hexane	110-54-3	Not Detected in GW		3.41E+03	4.11E+01	3.41E+00	3.75E+01	6.00E-02	
n-Propylbenzene	103-65-1	Not Detected in GW			2.03E-01			1.00E-01	
sec-Butylbenzene	135-98-8	Not Detected in GW			2.65E-01			1.00E-01	
tert-Butyl alcohol	75-65-0	No GW Preliminary CUL							
Toluene	108-88-3	640		1.40E+02	1.48E-01	1.40E-01	1.54E+00	8.00E-02	
Xylene (meta & para)	108-38-3/106-42-3	Not Detected in GW		1.96E+02	1.51E-01	1.96E-01	2.16E+00	2.00E-01	
Xylene (ortho)	95-47-6	Not Detected in GW		2.41E+02	1.06E-01	2.41E-01	2.65E+00	2.00E-01	
Xylenes [7]	1330-20-7	1,600		2.33E+02	1.38E-01	2.33E-01	2.56E+00	2.00E-01	
Polycyclic Aromatic Hydrocarbon Semivolatile Organic Compounds (PAH SVOCs)									
1-Methylnaphthalene	90-12-0	Not Analyzed in GW			6.32E-03			7.00E-02	2.90E-02
2-Methylnaphthalene	91-57-6	Not Analyzed in GW			6.99E-03			4.00E-03	
Acenaphthylene	208-96-8	Not Analyzed in GW							
Anthracene	120-12-7	Not Analyzed in GW		2.35E+04	7.56E-04	2.35E+01	2.58E+02	3.00E-01	
Benzo(g,h,i)perylene	191-24-2	Not Analyzed in GW							
Bis(2-ethylhexyl)phthalate	117-81-7	Not Analyzed in GW		1.11E+05	6.56E-07	1.11E+02	1.22E+03	2.00E-02	1.40E-02
Fluoranthene	206-44-0	Not Analyzed in GW		4.91E+04	1.66E-04	4.91E+01	5.40E+02	4.00E-02	
Phenanthrene	85-01-8	Not Analyzed in GW							
Pyrene	129-00-0	Not Analyzed in GW		6.80E+04	1.08E-04	6.80E+01	7.48E+02	3.00E-02	

Table G.2
Toxicity and Partitioning Data for Chemicals of Potential Concern

Chemical	CAS No.	Eq. 747-1 Input	Chemical Partitioning Data					Chemical Toxicity Data	
		Groundwater Preliminary CUL (µg/L)	Distribution Factor for metals (Kd) (L/kg) [3]	Soil Organic Carbon-Water Partitioning Coefficient (Koc) (L/kg) [3]	Henry's Law Constant 13 degrees C (unitless) [3]	Final K_d for Three Phase Model SL Calculations (L/kg) [4]	Final K_d for Three Phase Model Preliminary CUL Calculations (L/kg) [4]	RfDo—Oral Reference Dose (mg/kg-day)	CPFo—Oral Cancer Potency Factor (kg-day/mg)
Carcinogenic Polycyclic Aromatic Hydrocarbons									
Benzo(a)anthracene	56-55-3	Not Analyzed in GW		3.58E+05	2.79E-05	3.58E+02	3.93E+03		
Benzo(a)pyrene	50-32-8	Not Analyzed in GW		9.69E+05	6.39E-06	9.69E+02	1.07E+04	3.00E-04	1.00E+00
Benzo(b)fluoranthene	205-99-2	Not Analyzed in GW		1.23E+06	7.73E-04	1.23E+03	1.35E+04		
Benzo(k)fluoranthene	207-08-9	Not Analyzed in GW		1.23E+06	5.13E-06	1.23E+03	1.35E+04		
Chrysene	218-01-9	Not Analyzed in GW		3.98E+05	7.13E-04	3.98E+02	4.38E+03		
Dibenz(a,h)anthracene	53-70-3	Not Analyzed in GW		1.79E+06	6.03E-07	1.79E+03	1.97E+04		
Indeno(1,2,3-c,d)pyrene	193-39-5	Not Analyzed in GW		3.47E+06	8.40E-06	3.47E+03	3.82E+04		
cPAH TEQ (MTCA TEQ-1/2ND)	BaPEq (U=1/2)	Not Analyzed in GW		9.69E+05	6.39E-06	9.69E+02	1.07E+04	3.00E-04	1.00E+00
cPAHs (MTCA TEQ-ZeroND)	BaPEq (U=0)	Not Analyzed in GW		9.69E+05	6.39E-06	9.69E+02	1.07E+04	3.00E-04	1.00E+00
Miscellaneous Substances									
Nitrate/Nitrite	14797-55-8	No GW Preliminary CUL						1.60E+00	
Nitrate	14797-55-8	10,000						1.60E+00	
Nitrite	14797-65-0	1,000						1.00E-01	
Organochlorine Pesticides									
HCH-alpha (a-BHC)	319-84-6	0.014		1.76E+03	1.02E-04	1.76E+00	1.94E+01	8.00E-03	6.30E+00
HCH-beta (b-BHC)	319-85-7	0.049		2.14E+03	4.81E-06	2.14E+00	2.35E+01		1.80E+00
HCH-delta (d-BHC)	319-86-8	No GW Preliminary CUL							
G-BHC (Lindane)	58-89-9	0.20		1.35E+03	1.34E-04	1.35E+00	1.49E+01	3.00E-04	1.10E+00
Aldrin	309-00-2	0.0026		4.87E+04	1.60E-03	4.87E+01	5.36E+02	3.00E-05	1.70E+01
Heptachlor	76-44-8	0.19		9.53E+03	1.27E-02	9.53E+00	1.05E+02	5.00E-04	4.50E+00
Heptachlor Epoxide	1024-57-3	0.048		8.32E+04	8.01E-05	8.32E+01	9.15E+02	1.30E-05	9.10E+00
Chlordane	12789-03-6	2.0		5.13E+04	5.15E-04	5.13E+01	5.64E+02	5.00E-04	3.50E-01
Dieldrin	60-57-1	0.0055		2.55E+04	1.13E-04	2.55E+01	2.81E+02	5.00E-05	1.60E+01
Endrin	72-20-8	2.0		1.08E+04	6.63E-05	1.08E+01	1.19E+02	3.00E-04	
Endosulfan I [8]	959-98-8	96		2.04E+03	1.14E-04	2.04E+00	2.24E+01	6.00E-03	
Endosulfan II [8]	33213-65-9	96		2.04E+03	1.14E-04	2.04E+00	2.24E+01	6.00E-03	
4,4'-DDD / Sum DDD	72-54-8	0.36		4.58E+04	2.89E-05	4.58E+01	5.04E+02	3.00E-05	2.40E-01
4,4'-DDE / Sum DDE	72-55-9	0.26		8.64E+04	1.87E-04	8.64E+01	9.50E+02	3.00E-04	3.40E-01
4,4'-DDT / Sum DDT	50-29-3	0.26		6.78E+05	3.83E-05	6.78E+02	7.46E+03	5.00E-04	3.40E-01
Hexachlorobenzene	118-74-1	0.55		8.00E+04	1.36E-02	8.00E+01	8.80E+02	8.00E-04	1.60E+00
Methoxychlor	72-43-5	40		8.00E+04	1.18E-04	8.00E+01	8.80E+02	5.00E-03	
Toxaphene	8001-35-2	0.80		9.58E+04	5.16E-05	9.58E+01	1.05E+03	9.00E-05	1.10E+00
Chlorinated Herbicides									
2,4-D	94-75-7	70						1.00E-02	
2,4-DB	94-82-6	130						3.00E-02	
2,4,5-TP (Silvex)	93-72-1	50						8.00E-03	
2,4,5-T	93-76-5	160						1.00E-02	
Dicamba	1918-00-9	480						3.00E-02	
Dinoseb	88-85-7	7.0						1.00E-03	
MCPA	94-74-6	8.0						5.00E-04	
MCPP (Mecoprop)	93-65-2	16						1.00E-03	
Pentachlorophenol	87-86-5	1.0		5.92E+02	2.10E-07	5.92E-01	6.51E+00	5.00E-03	4.00E-01

Table G.2
Toxicity and Partitioning Data for Chemicals of Potential Concern

Chemical	CAS No.	Eq. 747-1 Input	Chemical Partitioning Data					Chemical Toxicity Data	
		Groundwater Preliminary CUL (µg/L)	Distribution Factor for metals (Kd) (L/kg) [3]	Soil Organic Carbon-Water Partitioning Coefficient (Koc) (L/kg) [3]	Henry's Law Constant 13 degrees C (unitless) [3]	Final K_d for Three Phase Model SL Calculations (L/kg) [4]	Final K_d for Three Phase Model Preliminary CUL Calculations (L/kg) [4]	RfDo—Oral Reference Dose (mg/kg-day)	CPFo—Oral Cancer Potency Factor (kg-day/mg)
Other Chlorinated/Halogenated Pesticides									
Acetochlor	34256-82-1	Not Detected in GW						2.00E-02	
Alachlor	15972-60-8	Not Detected in GW						1.00E-02	5.60E-02
Atrazine	1912-24-9	3.0						3.50E-02	2.30E-01
Captafol	2425-06-1	Not Detected in GW						2.00E-03	1.50E-01
Captan	133-06-2	Not Detected in GW						1.30E-01	2.30E-03
Chlordane-alpha [9]	5103-71-9	2.0		5.13E+04	5.15E-04	5.13E+01	5.64E+02	5.00E-04	3.50E-01
Chlorbenzilate	510-15-6	Not Detected in GW						2.00E-02	1.10E-01
Chlorthalonil	1897-45-6	Not Detected in GW						1.50E-02	1.70E-02
Cyanazine (Bladex)	21725-46-2	Not Detected in GW						2.00E-03	8.40E-01
Cyhalothrin/karate	68085-85-8	Not Detected in GW						1.00E-03	
Cypermethrin	52315-07-8	Not Detected in GW						2.30E-02	
DCPA (Dacthal)	1861-32-1	Not Detected in GW						1.00E-02	
Flutolanil	66332-96-5	Not Detected in GW						5.00E-01	
Folpet	133-07-3	Not Detected in GW						9.00E-02	
Hexachlorocylcopentadiene	77-47-4	Not Analyzed in GW		2.00E+05	4.18E-01	2.00E+02	2.20E+03	6.00E-03	
Iprodione	36734-19-7	Not Detected in GW						4.00E-02	
Metoachlor	51218-45-2	Not Detected in GW						1.50E-01	
Metribuzin	21087-64-9	400						2.50E-02	
Norflurazon	27314-13-2	Not Detected in GW						1.50E-02	
Oxadiazon	19666-30-9	80						5.00E-03	
Oxamyl	23135-22-0	Not Detected in GW						2.50E-02	
Permethrin	52645-53-1	Not Detected in GW						5.00E-02	
Pronamide	23950-58-5	Not Detected in GW						7.50E-02	
Propachlor	1918-16-7	Not Detected in GW						1.30E-02	
Propanil	709-98-8	Not Detected in GW						5.00E-03	
Propiconazole	60207-90-1	210						1.00E-01	
Simazine	122-34-9	4.0						5.00E-03	1.20E-01
Terbacil	5902-51-2	210						1.30E-02	
Trifluralin	1582-09-8	Not Detected in GW						7.50E-03	7.70E-03
Organophosphate Pesticides (Organophosphorus Compounds)									
Glyphosate	1071-83-6	Not Analyzed in GW						1.00E-01	0.00E+00
Chlorpyrifos	2921-88-2	Not Detected in GW						1.00E-03	0.00E+00
Chlorpyrifos-methyl	5598-13-0	Not Detected in GW						1.00E-02	0.00E+00
Diazinon	333-41-5	Not Detected in GW						7.00E-04	0.00E+00
Dichlorvos	62-73-7	Not Detected in GW						5.00E-04	2.90E-01
Dicrotophos	141-66-2	Not Detected in GW						3.00E-05	0.00E+00
Dimethoate	60-51-5	Not Detected in GW						2.20E-03	0.00E+00
Disulfoton	298-04-4	Not Detected in GW						4.00E-05	0.00E+00
EPN	2104-64-5	Not Detected in GW						1.00E-05	0.00E+00
Ethion (Ronnel)	563-12-2	Not Detected in GW						5.00E-04	0.00E+00
Fonofos (Merphos)	944-22-9	Not Detected in GW						2.00E-03	0.00E+00
Malathion	121-75-5	Not Detected in GW						2.00E-02	0.00E+00
Parathion	56-38-2	Not Detected in GW						6.00E-03	0.00E+00
Parathion-methyl	298-00-0	Not Detected in GW						2.50E-04	0.00E+00
Phorate	298-02-2	Not Detected in GW						2.00E-04	0.00E+00
Terbufos	13071-79-9	Not Detected in GW						2.50E-05	0.00E+00

Table G.2
Toxicity and Partitioning Data for Chemicals of Potential Concern

Chemical	CAS No.	Eq. 747-1 Input	Chemical Partitioning Data					Chemical Toxicity Data	
		Groundwater Preliminary CUL (µg/L)	Distribution Factor for metals (Kd) (L/kg) [3]	Soil Organic Carbon-Water Partitioning Coefficient (Koc) (L/kg) [3]	Henry's Law Constant 13 degrees C (unitless) [3]	Final K_d for Three Phase Model SL Calculations (L/kg) [4]	Final K_d for Three Phase Model Preliminary CUL Calculations (L/kg) [4]	RfDo—Oral Reference Dose (mg/kg-day)	CPFo—Oral Cancer Potency Factor (kg-day/mg)
Triazine Herbicides (Organonitrogen Pesticides)									
Ametryn	834-12-8	Not Detected in GW						9.00E-03	0.00E+00
Hexazinone	51235-04-2	530						3.30E-02	0.00E+00
Prometon	1610-18-0	240						1.50E-02	0.00E+00
Prometryn	7287-19-6	Not Detected in GW						4.00E-02	0.00E+00
Propazine	139-40-2	320						2.00E-02	0.00E+00
Phenylurea Herbicides									
Diuron	330-54-1	32						2.00E-03	0.00E+00
Linuron	330-55-2	Not Detected in GW						7.70E-03	0.00E+00
Carbamate Pesticides									
Aldicarb	116-06-3	Not Detected in GW						1.00E-03	0.00E+00
Aldicarb sulfone	1646-88-4	Not Detected in GW						1.00E-03	0.00E+00
Carbaryl	63-25-2	1600						1.00E-01	0.00E+00
Carbofuran	1563-66-2	40						5.00E-03	0.00E+00
Methomyl	16752-77-5	Not Detected in GW						2.50E-02	0.00E+00
Thiobencarb	28249-77-6	Not Detected in GW						1.00E-02	0.00E+00
Organophosphorus and Organosulfur Pesticides									
Demeton	8065-48-3	Not Detected in GW						4.00E-05	0.00E+00
Fenamiphos	22224-92-6	Not Detected in GW						2.50E-04	0.00E+00
Merphos	150-50-5	Not Detected in GW						3.00E-05	0.00E+00
Methidathion	950-37-8	Not Detected in GW						1.50E-03	0.00E+00
Phosmet	732-11-6	Not Detected in GW						2.00E-02	0.00E+00
Pirimiphos-methyl	29232-93-7	Not Detected in GW						7.00E-05	0.00E+00
Propargite	2312-35-8	Not Detected in GW						4.00E-02	1.90E-01
Tetrachlorvinphos	961-11-5	Not Detected in GW						3.00E-02	2.40E-02
Organonitrogen Pesticides									
Amitraz	33089-61-1	Not Detected in GW						2.50E-03	0.00E+00
Diphenylamine	122-39-4	Not Detected in GW						1.00E-01	0.00E+00
Fluometuron	2164-17-2	Not Detected in GW						1.30E-02	0.00E+00
Metalaxyl	57837-19-1	960						6.00E-02	0.00E+00
Pendimethalin	40487-42-1	640						3.00E-01	0.00E+00
Tebuthiuron	34014-18-1	1,100						7.00E-02	0.00E+00
Other Pesiticide/Herbicides									
AMPA	1066-51-9	Not Analyzed in GW							
Endosulfan sulfate	1031-07-8	Not Detected in GW						6.00E-03	0.00E+00
Endrin aldehyde	7421-93-4	Not Detected in GW						0.00E+00	0.00E+00
Endrin ketone	53494-70-5	Not Detected in GW							

Table G.2
Toxicity and Partitioning Data for Chemicals of Potential Concern

Chemical	CAS No.	Eq. 747-1 Input	Chemical Partitioning Data					Chemical Toxicity Data	
		Groundwater Preliminary CUL (µg/L)	Distribution Factor for metals (Kd) (L/kg) [3]	Soil Organic Carbon-Water Partitioning Coefficient (Koc) (L/kg) [3]	Henry's Law Constant 13 degrees C (unitless) [3]	Final K_d for Three Phase Model SL Calculations (L/kg) [4]	Final K_d for Three Phase Model Preliminary CUL Calculations (L/kg) [4]	RfDo—Oral Reference Dose (mg/kg-day)	CPFo—Oral Cancer Potency Factor (kg-day/mg)
Total Petroleum Hydrocarbons (TPH)									
C5-C6 Aliphatics	--	Not Analyzed in GW							
C6-C8 Aliphatics	--	Not Analyzed in GW							
C8-C10 Aliphatics	--	Not Analyzed in GW							
C8-C10 Aromatics	--	Not Analyzed in GW							
C10-C12 Aliphatics	--	Not Analyzed in GW							
C10-C12 Aromatics	--	Not Analyzed in GW							
C12-C13 Aromatics	--	Not Analyzed in GW							
C12-C16 Aliphatics	--	Not Analyzed in GW							
C16-C21 Aliphatics	--	Not Analyzed in GW							
C16-C21 Aromatics	--	Not Analyzed in GW							
C21-C34 Aliphatics	--	Not Analyzed in GW							
C21-C34 Aromatics	--	Not Analyzed in GW							
Gasoline-range TPH	GRO	800							
Diesel	--	500							
Diesel-range TPH	DRO	500							
Oil-range TPH	ORO	500							
Individual Dioxin/Furan Compounds and TEQ ND Zero									
1,2,3,4,6,7,8-HpCDD	35822-46-9	Not Analyzed in GW							
1,2,3,4,6,7,8-HpCDF	67562-39-4	Not Analyzed in GW							
1,2,3,4,7,8,9-HpCDF	55673-89-7	Not Analyzed in GW							
1,2,3,4,7,8-HxCDD	39227-28-6	Not Analyzed in GW							
1,2,3,4,7,8-HxCDF	70648-26-9	Not Analyzed in GW							
1,2,3,6,7,8-HxCDD	57653-85-7	Not Analyzed in GW							
1,2,3,6,7,8-HxCDF	57117-44-9	Not Analyzed in GW							
1,2,3,7,8,9-HxCDD	19408-74-3	Not Analyzed in GW							
1,2,3,7,8,9-HxCDF	72918-21-9	Not Analyzed in GW							
1,2,3,7,8-PeCDD	40321-76-4	Not Analyzed in GW							
1,2,3,7,8-PeCDF	57117-41-6	Not Analyzed in GW							
2,3,4,6,7,8-HxCDF	60851-34-5	Not Analyzed in GW							
2,3,4,7,8-PeCDF	57117-31-4	Not Analyzed in GW							
2,3,7,8-TCDD (Dioxin)	1746-01-6	Not Analyzed in GW						7.00E-10	1.30E+05
2,3,7,8-TCDF	51207-31-9	Not Analyzed in GW							
OCDD	3268-87-9	Not Analyzed in GW							
OCDF	39001-02-0	Not Analyzed in GW							
Total HpCDD	37871-00-4	Not Analyzed in GW							
Total HpCDF	38998-75-3	Not Analyzed in GW							
Total HxCDD	34465-46-8	Not Analyzed in GW						0.00E+00	6.20E+03
Total HxCDF	55684-94-1	Not Analyzed in GW							
Total PeCDD	36088-22-9	Not Analyzed in GW							
Total PeCDF	30402-15-4	Not Analyzed in GW							
Total TCDD	41903-57-5	Not Analyzed in GW							
Total TCDF	55722-27-5	Not Analyzed in GW							

Table G.2
Toxicity and Partitioning Data for Chemicals of Potential Concern

Chemical	CAS No.	Eq. 747-1 Input	Chemical Partitioning Data					Chemical Toxicity Data	
		Groundwater Preliminary CUL (µg/L)	Distribution Factor for metals (Kd) (L/kg) [3]	Soil Organic Carbon-Water Partitioning Coefficient (Koc) (L/kg) [3]	Henry's Law Constant 13 degrees C (unitless) [3]	Final K_d for Three Phase Model SL Calculations (L/kg) [4]	Final K_d for Three Phase Model Preliminary CUL Calculations (L/kg) [4]	RfDo—Oral Reference Dose (mg/kg-day)	CPFo—Oral Cancer Potency Factor (kg-day/mg)
Dioxins/Furans									
Dioxins	DF_TEQ (U=1/2)	Not Analyzed in GW							
Dioxins/furans (MTCA TEQ-ZeroND)	DF_TEQ (U=0)	Not Analyzed in GW							

Notes:

1 Groundwater preliminary CULs were developed for any chemical that was either (a) detected in groundwater, or (b) retained as a potential COPC in the Ecology-approved Groundwater Elimination Memo. Soil-to-protect groundwater criteria are only calculated for chemicals with groundwater preliminary CULs.

2 This table includes only those chemicals that were analyzed for in soil. Chemicals that were not analyzed in soil are not considered potential soil COPCs at the site.

3 Chemical parameters, including the Kd, Koc, and Hcc were sourced from Ecology's CLARC workbook, last updated in August 2020.

4 For organics, the final K_d is the Koc value from CLARC multipled by the site-specific f_{oc} value of 0.011 developed on the focFormula tab. For metals, the final K_d is the same as the CLARC table value.

5 Criteria protective of preliminary CULs for groundwater were calculated using the variable three-phase equilibrium partitioning model according to WAC 173-340-747(5)(b)(i) using Equation 747-1. Default MTCA input parameters for saturated soil were used, with the exception of f_{oc}.

6 Criteria developed for Total Chromium and for Chromium(III) were considered when determining the relevant criteria for chromium. There is no reason to suspect the presence of Chromium(VI) on-site.

7 Xylenes are typically analyzed and reported by laboratories as m,p-Xylene and o-Xylene; these values are summed and reported as Total Xylenes. Criteria and partitioning data developed for Total Xylenes was selected for use in this

8 Criteria and partitioning data were not developed for Endosulfan I or Endosulfan II in CLARC. Criteria and partitioning data developed for Endosulfan (CAS 115-29-7) were used as a surrogate.

9 Criteria and partitioning data were not developed for chlordane-alpha in CLARC; criteria and partitioning data developed for Chlordane (CAS 12789-03-6) were used as a surrogate.

Abbreviations:

C	Celsius
CLARC	Cleanup Levels and Risk Calculation
COPC	Chemical of Potential Concern
cPAH	Carcinogenic polycyclic aromatic hydrocarbon
CUL	Cleanup level
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichlorethylene
DDT	Dichlorodiphenyltrichloroethane
f_{oc}	Fraction of organic carbon
GW	Groundwater
H_{cc}	Henry's Law Constant
HpCDD	Heptachlorodibenzo-p-dioxin
HpCDF	Heptachlorodibenzofuran
HxCDD	Hexachlorodibenzo-p-dioxin
HxCDF	Hexachlorodibenzofuran
K_d	Distribution coefficient
K_{oc}	Soil Organic Carbon-Water Partitioning Coefficient
kg-day/mg	Kilograms per day per milligram
L/kg	Liters per kilogram
MCPA	2-Methyl-4-chlorophenoxyacetic acid
MCPP	Methylchlorophenoxypropionic acid
µg/L	Micrograms per liter
mg/kg-day	Milligrams per kilogram per day
MTCA	Model Toxics Control Act
OCDD	Octachlorodibenzodioxin
OCDF	Octachlorodibenzofuran
PeCDD	Pentachlorodibenzo-p-dioxin
PeCDF	Pentachlorodibenzofuran
TCDD	Tetrachlorodibenzo-p-dioxin
TCDF	Tetrachlorodibenzofuran
TEQ	Toxic equivalent

Attachment G.1
Depth-Weighted Receptor Adjustment

To evaluate whether contaminant concentrations in soil are protective of ecological receptors, contaminant distribution at a site can be assessed using established practices to determine a depth-weighted average concentration relevant to ecological receptors. This evaluation relies on generally low number of exceedances of Terrestrial Ecological Evaluation (TEE) criteria and contamination that decreases with depth for most chemicals exceeding the TEE criteria. Refer to Section 6.2.1.1 of the Remedial Investigation/Feasibility Study for additional discussion of depth-weighted receptor adjustments for the Smith-Kem Ellensburg, Inc., property. The depth intervals recommended at each sampling location, along with their adjustment factors, are as follows:

Sample Depth (inches bgs)	Sample Depth (feet bgs)	Depth-Weighted Adjustment Factor
0 to 6 (including duff layer)	0 to 0.5	0.3
6 to 12	0.5 to 1	0.55
12 to 24	1 to 2	0.1
24 to 36	2 to 3	0.05

Abbreviation:
bgs Below ground surface

The depth-weighted average concentration is then calculated for each depth using Equation 1.

Equation 1
Depth-Weighted Receptor Adjustment

$$C_{ea} = (C_{c\,(1)} \times P_{r\,(1)}) + (C_{c\,(2)} \times P_{r\,(2)}) + (C_{c\,(i)} \times P_{r\,(i)})$$

Where:

C_{ea} = Exposure adjusted contaminant concentration

$C_{c\,(1)}$ = Soil contaminant concentration at sample depth 1 (i.e., 0 to 6 inches bgs)

$C_{c\,(1)}$ = Soil contaminant concentration at sample depth 1

$P_{r\,(1)}$ = Proportion of receptor found at sample depth 1 (i.e., 0 to 6 inches bgs)

$P_{r\,(i)}$ = Proportion of receptor found at sample depth (i)

P_r refers to the depth-weighted adjustment factor at depth 1, depth 2, and so forth.

The exposure-adjusted contaminant concentration can be calculated for any chemical from a sample location using the formula provided above. This calculation can also be performed across an area by calculating the average concentration within each sample depth interval and

multiplying the average concentrations by the appropriate P_r factor. An example of this calculation is provided using site-wide alpha-chlordane data. Concentrations of alpha-chlordane from individual samples collected from 0 to 36 inches bgs ranged from nondetect at a reporting limit of 0.0067 milligrams per kilogram (mg/kg) to a detected concentration of 9.9 mg/kg. Refer to Table E.1 in Appendix E for soil sample analytical data.

1. Depth 1 (0 to 6 inches bgs)
    A. The average soil contaminant concentration at depth 1 is 1.6 mg/kg.
    B. The depth-weighted receptor adjustment is 0.3.
    C. The adjusted alpha-chlordane concentration at depth 1 is 0.48 mg/kg.
2. Depth 2 (6 to 12 inches bgs)
    A. The average soil contaminant concentration at depth 2 is 0.91 mg/kg.
    B. The depth-weighted receptor adjustment is 0.55.
    C. The adjusted alpha-chlordane concentration at depth 2 is 0.50 mg/kg.
3. Depth 3 (12 to 24 inches bgs)
    A. The average soil contaminant concentration at depth 3 is 0.18 mg/kg.
    B. The depth-weighted receptor adjustment is 0.1.
    C. The adjusted alpha-chlordane concentration at depth 3 is 0.02 mg/kg.
4. Depth 4 (24 to 36 inches bgs)
    A. The average soil contaminant concentration at sample depth 4 is 0.19 mg/kg.
    B. The depth-weighted receptor adjustment is 0.05.
    C. The adjusted alpha-chlordane concentration at depth 1 is 0.01 mg/kg.
5. Add the four adjusted sample depth concentrations for a depth-weighted receptor exposure adjustment total.

The resulting depth-weighted exposure adjustment concentration for alpha-chlordane at the Site is 1.0 mg/kg, which meets the TEE criterion of 1.0 mg/kg.

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix H
Evaluation of Nondetect Results and Analytical Sensitivity

Table of Contents

1.0 Introduction H-1

1.1 DATA QUALITY OBJECTIVES H-1

1.2 DOCUMENT ORGANIZATION H-1

2.0 Definitions and Project Context H-3

2.1 DESCRIPTION OF SITE PRACTICES AFFECTING DATA ANALYSIS H-3

2.2 DEFINITION AND USE OF LABORATORY DETECTION LIMITS H-3

2.3 ADJUSTMENT OF THE CUL TO THE PQL H-4

2.4 SITE CHARACTERIZATION APPROACH H-5

2.4.1 Selection of the Analytical Laboratory for RI Sample Analysis H-5

2.4.2 Phased Approach to Remedial Investigation and Characterization H-5

3.0 Use of Nondetect Phase 2 Groundwater Results in Site Characterization H-12

3.1 USE OF PHASE 2 PQLS H-14

3.1.1 Comparison of Phase 2 and March 2020 Groundwater Results H-14

3.1.2 Comparison of Phase 2 Groundwater Reporting Limits to USEPA and Ecology PQLs H-14

4.0 Use of Nondetect Soil Results in Site Characterization H-16

5.0 Summary and Conclusion H-19

5.1 GROUNDWATER H-19

5.2 SOIL H-19

6.0 References H-20

List of Tables

Table H.1 Chemicals with Elevated Phase 1 PQLs Relative to Risk-Based Target CULs (embedded)

Table H.2 Chemicals with Elevated Phase 2 PQLs Relative to Risk-Based Target CULs (embedded)

Table H.3 Groundwater COCs with Elevated Phase 2 PQLs Relative to Groundwater Cleanup Levels (µg/L) (embedded)

Table H.4 Summary of March 2020 Groundwater Data (µg/L)

List of Figures

Figure H.1 Nondetect Groundwater Data: Box and Whisker Plots

List of Attachments

Attachment H.1 Pacific Agricultural Laboratory Certificate of Accreditation

List of Acronyms and Abbreviations

Acronym/ Abbreviation	Definition
BHC	Benzene hexachloride
CAS	Chemical Abstracts Service
COC	Chemical of concern
COPC	Chemical of potential concern
CUL	Cleanup level
CWA	Clean Water Act
Ecology	Washington State Department of Ecology
HCH	Hexachlorocyclohexane
MCL	Maximum contaminant level
MDL	Method detection limit
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
MTCA	Model Toxics Control Act
PAL	Pacific Agricultural Laboratory
PJLA	Perry Johnson Laboratory Accreditation
PQL	Practical quantitation limit
Property	Smith-Kem property
QA	Quality assurance
QC	Quality control
RI	Remedial Investigation
Smith-Kem	Smith-Kem Ellensburg, Inc.
SL	Screening level
WAC	Washington Administrative Code
Work Plan	Remedial Investigation Work Plan

1.0 Introduction

This appendix evaluates whether reporting limits associated with nondetect results for the Smith-Kem Ellensburg, Inc. (Smith-Kem) Site Remedial Investigation (RI) dataset meet RI data collection requirements. These requirements include collection of data sufficient to identify chemicals of concern (COCs) for the site and to define the nature and extent of contamination for each COC at the site. This appendix includes evaluation of nondetect data for analytes falling into the following categories:

- Chemicals that were analyzed during RI sampling, that had elevated reporting limits relative to risk-based target cleanup levels (CULs)[1] developed for the site; and
- Chemicals that were retained as soil COCs based on detected results but that have reporting limits elevated relative to laboratory PQLs.

1.1 DATA QUALITY OBJECTIVES

Specific objectives of the data quality evaluation in this appendix are listed below.

- Describe how the analytical methods used during the RI sampling comply with provisions for analytical procedures specified in Washington Administrative Code (WAC) 173-340-830.
- Describe why specialized sample analysis techniques were implemented to improve analytical sensitivity per WAC 173-340-707(3)(b).
- Demonstrate that the reporting limits associated with nondetect results in soil or groundwater are sufficient to eliminate analytes that were not detected (or detected at low frequency and magnitude relative to preliminary CULs) from further consideration as chemicals of potential concern (COPCs).
- Demonstrate that in instances where a chemical with a proposed CUL that is based on the PQL is retained as a soil COC, the nature and extent of contamination can be appropriately characterized using detected results; that is, nondetect results at the PQL are considered in compliance with the proposed CUL per WAC 173-340-707(2).

1.2 DOCUMENT ORGANIZATION

The remainder of this appendix is organized into the following sections:

- **Section 2.0—Definitions and Project Context.** This section provides information about the development and implementation of the analytical methods and analyte schedule and summarizes the issues affecting analytical sensitivity for the RI dataset. The terms used in this appendix are defined, including a description of the difference

[1] The risk-based target CUL is equivalent to the preliminary CUL prior to upward adjustment to the practical quantitation limit (PQL).

between the laboratory PQL and reporting limit. It describes how the PQL is used in RIs, site characterization, development of CULs, and evaluating compliance with CULs.

The analytical schema employed to characterize the site during the multiphase RI sampling effort is also described, including efforts to improve analytical sensitivity between the various phases of work. Notably, improvement in analytical sensitivity was achieved between the first and second phases (Phase 1 and Phase 2, respectively) of sampling following Washington State Department of Ecology (Ecology)-approved reductions in the analytical schedule between Phase 1 and Phase 2. Further improvements in analytical sensitivity were achieved in the March 2020 groundwater sampling event, which was required by Ecology under WAC 173-340-707(3)(b).

This section identifies analytes with laboratory PQLs greater than soil and groundwater preliminary CULs in Phase 2 data.

- **Section 3.0—Use of Nondetect Phase 2 Groundwater Results in Site Characterization.** This section describes how the compliance result is determined for legacy pesticides in groundwater. Additionally, this section evaluates the suitability of Phase 2 analytical methods by comparing the laboratory-achieved PQLs to the proposed CULs; March 2020 groundwater results; and PQLs accepted by U.S. Environmental Protection Agency (USEPA) and Ecology for regulation of drinking water and surface water discharges, respectively. This comparison is performed to determine whether it is appropriate to base compliance on a limited amount of data collected with high-resolution laboratory analysis methods.
- **Section 4.0—Use of Nondetect Soil Results in Site Characterization.** This section describes the use of nondetect results with elevated reporting limits relative to the proposed CULs developed in the RI. It concludes reporting limits are sufficiently sensitive to identify soil COCs and define the nature and extent of contamination in soil; areas where additional sample collection may be necessary do not represent a data gap relative to off-property contamination.
- **Section 5.0—Summary and Conclusion.** This section summarizes the results of the evaluation in the previous sections relative to the objectives identified in Section 1.1.
- **Section 6.0—References.** This section includes reference information for documents cited in this appendix.

2.0 Definitions and Project Context

2.1 DESCRIPTION OF SITE PRACTICES AFFECTING DATA ANALYSIS

Ongoing industrial operations at the Smith-Kem property (Property) include fertilizer distribution and handling of nitrogen- and ammonia-rich products. Materials that spill onto the ground can cause elevated concentrations of nitrogen and ammonia to be present in soil and groundwater. Additionally, lignin sulfonate was utilized as a dust suppressant in unpaved areas of the Property. Lignin sulfonate is naturally derived from trees and does not pose a risk to human health or the environment; however, it introduces high levels of sulfur into the environment. Elevated concentrations of either sulfur and nitrogen, or both, can cause matrix interference issues that cause reporting limits to be elevated relative to the PQL. Prior to completion of Phase 1 of the RI sampling, the extent to which the presence of sulfur would impact soil and groundwater analysis was unclear.

2.2 DEFINITION AND USE OF LABORATORY DETECTION LIMITS

The lowest concentration that an analytical instrument can detect is defined as the method detection limit (MDL), which is the lowest concentration that can be reported with 99% confidence that the measured concentration in the sample is distinguishable from the concentration in the method blank (i.e., greater than zero). The MDL is determined under ideal conditions via analysis of a prepared sample for a target analyte in a medium that does not interfere with the analytical instrument.

The PQL is defined in WAC 173-340-200 as "the lowest concentration that can be reliably measured within specified limits of precision, accuracy, representativeness, completeness, and comparability during routine laboratory operating conditions, using department approved methods." In other words, PQLs are the lowest reasonable concentration that an accredited laboratory can be expected to achieve for a particular analyte using the selected method when performing routine sample analysis. As a rule of thumb, the PQL is expected to be between 3 to 10 times greater than the MDL. Detections greater than the MDL but less than the PQL indicate that the contaminant is present, but at a concentration that cannot be quantified within acceptable quality assurance (QA) or quality control (QC) limits. When reporting analytical results, some laboratories provide estimated concentrations when the analyte is detected at a concentration greater than the MDL but less than the PQL; other laboratories report specific concentrations only for those results detected at concentrations greater than the PQL. Reporting results as nondetect at concentrations less than the PQL is consistent with how USEPA-approved methods under 40 CFR 136 and other federal regulations specify nondetect results should be reported.

Laboratory PQLs for particular analytes vary somewhat depending on specific instrument calibration, measurement technique, sample volume, and other factors, although the effect of this variation is typically small. However, matrix interference and the amount of contamination present exercise a greater degree of influence on PQL variation. As an example of the effect of

matrix interference on the reporting limit, the typical PQL for benzene using SW-846 Method 8260B is 5 micrograms per kilogram (µg/kg) for soils and sediments with low-level contamination, which is within the range of 5 to 10 times the MDL. But the method indicates that PQLs are 125 times the MDL for high-concentration soils, and 500 times the MDL for non-water-miscible waste. These multipliers are related to the dilution factors necessary to perform analysis of samples with high concentrations of contamination. Such variability is not unexpected and is a function of the nature of PQLs.

The reporting limit is the limit of quantitation reported by the laboratory for a specific sample. It can be thought of as a sample-specific PQL, as opposed to the PQL that can be achieved for a generic sample analyzed under routine conditions. The reporting limit takes into account site- and sample-specific factors, including sample dilution and degree of matrix interference present in the sample. In this appendix, the use of the term reporting limit refers to the actual limits of quantitation achieved in samples collected and analyzed within the study area. The use of the term PQL (or laboratory PQL) refers to the PQL the laboratory is capable of achieving in a typical sample.

2.3 ADJUSTMENT OF THE CUL TO THE PQL

There are guidelines for the use of the PQL in risk assessment. For example, WAC 173-340-707 allows for use of a PQL as a CUL in situations where the PQL is greater than both natural background and the target risk-based CUL for a particular analyte. Agencies use laboratory surveys to determine when a PQL should be used as a CUL for a particular analyte. To conduct a laboratory survey, an agency compares several laboratory PQLs following analyses of prepared samples of the same analyte under the same method. The agency can then identify an appropriate PQL for use as a CUL that can be achieved by multiple laboratories.

One limitation of the laboratory survey approach is that it does not reflect site-specific factors like matrix interference that can severely affect the ability of the laboratory to achieve the selected PQL at a particular site. In these cases, Ecology has approved use of a site-specific reporting limit-based PQL (e.g., Section 4.3.1 of *B&L Woodwaste Site Final Cleanup Action Plan;* Ecology 2008). This approach reflects consideration of matrix interference issues associated with the site.

Both approaches require periodic evaluation to determine whether lower PQL-based CULs can be achieved as a result of improvements in analytical methods. To ensure the protectiveness of site remedies, Ecology is also authorized to require the use of specialized sample analysis techniques to improve the PQL for the hazardous substances at a site under WAC 173-340-707(3)(b).

2.4 SITE CHARACTERIZATION APPROACH

The following sections describe the development and implementation of the analytical methods and analyte schedule used to collect soil and groundwater data for use in the RI.

2.4.1 Selection of the Analytical Laboratory for RI Sample Analysis

Pacific Agricultural Laboratory (PAL) was selected to perform analysis of samples for pesticides and herbicides for the RI and to ensure that the RI analytical procedures complied with WAC 173-340-830. PAL is a laboratory based in Sherwood, Oregon, that specializes in pesticide and herbicide analysis, including low-level analysis. PAL is accredited by Ecology (C820) and Perry Johnson Laboratory Accreditation (PJLA; ISO/IEC 17025:2017; Attachment H.1) to perform environmental analysis of pesticides and herbicides by a variety of methods, including USEPA Method 8081. PAL was selected based on its ability to conduct low-level analysis for a wide variety of pesticides and herbicides, including both active-use and legacy pesticides.

This specialization and accreditation was particularly important for the site because a broad range of pesticides and herbicides were potentially handled throughout the operational history of the Property, but specific lists of formulations, trade names, and chemicals used were unknown or incomplete. Critically, some laboratories cannot conduct analysis for less common or more complex pesticides/herbicides because they do not maintain the necessary chemical standards. To ensure accuracy and precision, laboratories must have a corresponding chemical standard for every analyte they report. PAL is accredited and competent to analyze for the broadest possible range of chemical standards for legacy and current pesticides and herbicides. PAL is situated to more accurately analyze for a broader range of pesticides and herbicides than other laboratories in the region.

2.4.2 Phased Approach to Remedial Investigation and Characterization

Phase 1

PAL's Multi-Residue Pesticides Profile and Chlorinated Acid Herbicides Profile were selected to provide initial characterization of soil and groundwater at the Property during Phase 1 of the RI because analysis via these profiles would provide analytical results for more than 100 different pesticides and herbicides. Given the lack of specific information concerning pesticides and herbicides handled at the Property, this approach allowed the broadest possible analytical schedule, including analysis for pesticides and herbicides that were highly unlikely to be detected or ever been in use on site.

PAL provided laboratory PQLs and QA information for each of the pesticides and herbicides analyzed in the RI dataset. Soil and groundwater PQLs provided by PAL are listed in Table A.3 of Appendix A of the Ecology-approved RI Work Plan (Work Plan; Floyd|Snider 2016). The PQLs that PAL provided are the same as the detection limits listed in the PJLA supplement to the certificate of accreditation for each analyte given the methodology and medium (Attachment H.1).

PQLs that can be achieved using the Multi-Residue Pesticides Profile and Chlorinated Acid Herbicides Profile for certain analytes are elevated relative to laboratory PQLs that could be obtained by performing analysis for each analyte class individually, rather than as part of a profile. However, because the intent of Phase 1 was to confirm the presence or absence of particular analytes and analyte classes in soil and groundwater at the Property, this was a deliberate and Ecology-approved trade-off. The objective was to analyze for the largest possible list of analytes.

Following Phase 1 of the RI, the list of analytes of interest was narrowed for groundwater and soil in two Ecology-approved memoranda (Attachments C.1 and C.2 in Appendix C) as described in Section 4.1.3 of the Remedial Investigation/Feasibility Study (RI/FS). Six different classes of pesticides and herbicides were eliminated from further consideration as COPCs in soil and groundwater (i.e., organophosphate pesticides; triazine herbicides; phenylurea herbicides; carbamate pesticides; organophosphorus and organosulfur pesticides; and organonitrogen pesticides). Within these analyte classes, only five pesticides and herbicides had nondetect results with elevated Phase 1 reporting limits in groundwater relative to the groundwater preliminary CULs. Soil reporting limits were less than the soil screening levels developed in the Work Plan for all analytes from eliminated analyte classes. Elevated reporting limits generally did not exceed the groundwater screening levels by a factor greater than 2; thus, Phase 1 analytical sensitivity was appropriate to meet the goals of Phase 1 and eliminate these analytes from further consideration as COPCs, despite elevated reporting limits in some samples.

The decision to eliminate these chemicals was revisited as part of the development of preliminary CULs in spring 2020. None of the chemicals in these analyte classes met the criteria described in the PCUL and COPC Memo (Attachment C.4) to be identified as soil or groundwater COPCs.

Among chemicals that were identified as COPCs in the PCUL and COPC Memo, 16 chemicals had nondetect results with elevated reporting limits relative to the preliminary CULs in soil or water. These chemicals and their affected media are identified in Table H.1.

Table H.1
Chemicals with Elevated Phase 1 PQLs Relative to Risk-Based Target CULs

Analyte	CAS No.	Groundwater	Soil
HCH-alpha (a-BHC)	319-84-6	X	X
HCH-beta (b-BHC)	319-85-7	X	X
g-BHC (Lindane)	58-89-9	X	X
Aldrin	309-00-2	X	X
Dieldrin	60-57-1	X	X
Endrin	72-20-8		X
Heptachlor	76-44-8	X	X
Heptachlor Epoxide	1024-57-3	X	X
4,4'-DDD / Sum DDD	72-54-8	X	X
4,4'-DDE / Sum DDE	72-55-9	X	
4,4'-DDT / Sum DDT	50-29-3	X	
Total DDx	T_DDx (U=0)		X
Hexachlorobenzene	118-74-1	X	X
Toxaphene	8001-35-2	X	X
alpha-Chlordane	5103-71-9		X
Pentachlorophenol	87-86-5		X

Note:
Bold/Red Chemical identified as a COPC in soil or groundwater in the RI/FS based on detected results.

Abbreviations:
BHC Benzene hexachloride
CAS Chemical Abstracts Service
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichlorethylene
DDT Dichlorodiphenyltrichloroethane
HCH Hexachlorocyclohexane
Total DDx Calculated as the sum of DDD, DDE, and DDT

Phase 2

Organochlorine pesticides, chlorinated herbicides, and certain other chlorinated/halogenated pesticides were retained for further analysis in Phase 2. The analytical methods selected for use in Phase 2 were informed by Phase 1 data collection efforts with respect to both site-specific matrix interference issues and the range of concentrations detected in samples analyzed during Phase 1.

In particular, the Multi-Residue Pesticides and Chlorinated Acid Herbicides Profile used during Phase 1 included analysis of halogenated pesticides, including organochlorine pesticides, by USEPA

Method 8081B. The method literature for Method 8081B notes that the presence of sulfur interferes with the detection of certain organochlorine pesticides. To address this issue, PAL performed a sulfur cleanup step (using tetrabutylammonium sulfite) during Phase 2 analysis for organochlorine pesticides using Method 8081B. Additionally, analysis was performed using tandem quadrupole mass spectrometry to minimize the effects of sulfur interference. With these modifications, PAL achieved reporting limits equivalent to the PQL for organochlorine pesticides in groundwater. In soil, PAL achieved significantly lower Phase 2 reporting limits for organochlorine pesticides but did not achieve reporting limits equivalent to the PQL for all organochlorine pesticides in all samples.

Use of other methods, including USEPA Method 608.3, was considered for organochlorine pesticide analysis but was ultimately not selected after consideration of the following factors:

- Method 608.3 was not appropriate because its approved modifications do not include the tetrabutylammonium sulfite cleanup. Under approved modifications, one cleanup option is to use mercury, which has associated health and safety risks. The second option provided by Method 608.3 is to use elemental copper, which has limited effectiveness for the matrix interferences present at the Property and would have resulted in higher reporting limits than were achieved with Method 8081B.
- Groundwater concentrations of chlordane and dieldrin within the source area surrounding MW-4 during Phase 1 were outside of the recommended concentration ranges for analysis by Method 608.3. For example, Method 608.3 is applicable to dieldrin groundwater concentrations of up to 2 micrograms per liter (µg/L). During Phase 1, dieldrin concentrations were measured as high as 10 µg/L from groundwater samples collected from well location MW-4. Therefore, performing analysis of groundwater samples with concentrations of target analytes outside the calibration range appropriate for the method would result in elevated PQLs and could result in data that do not meet the QA/QC objectives approved in the Work Plan.

Therefore, the analytical methods used during Phase 2 were the most appropriate and most sensitive analytical methods given the site-specific matrix interference issues and the expected range of concentrations at the Property. They meet sample analysis requirements under WAC 173-340-830(2)(d). Phase 2 analytical methods were specific to each of the retained analyte classes and were completed with appropriate cleanup steps to reduce matrix interference. This successfully reduced the minimum reporting limits in the soil and groundwater results to the PQLs listed in Table A.3 of the Work Plan. As noted in Table A.3 of the Work Plan, laboratory PQLs for 10 organochlorine pesticides and one chlorinated herbicide were still elevated relative to soil or groundwater screening levels presented in the Work Plan.

Relative to soil and groundwater preliminary CULs, only six chemicals had nondetect results with elevated reporting limits in Phase 2 samples in soil or groundwater. These chemicals are listed in Table H.2. Data collected during Phase 2 are sufficient to eliminate the remaining 10 chemicals with elevated Phase 1 reporting limits (Table H.1) from further consideration as COPCs.

Table H.2
Chemicals with Elevated Phase 2 PQLs Relative to Risk-Based Target CULs

Analyte	CAS No.	Groundwater	Soil
HCH-alpha (a-BHC)	319-84-6	X	
HCH-beta (b-BHC)	319-85-7	X	X
Aldrin	309-00-2	X	X
Heptachlor Epoxide	1024-57-3	X	
Dieldrin	60-57-1	X	X
Toxaphene	8001-35-2	X	X

Note:
Bold/Red Chemical identified as a COC in soil or groundwater in the RI/FS based on detected results.

Abbreviations:
BHC Benzene hexachloride
CAS Chemical Abstracts Service
HCH Hexachlorocyclohexane

As noted in Table H.2, certain chemicals with elevated PQLs were identified as COCs in soil or groundwater based on detected results. Data for detected analytes are evaluated in the RI/FS rather than in this appendix; however, nondetect results for chemicals retained as COCs are evaluated in this appendix to determine whether Phase 2 reporting limits for nondetect results are sufficient to delineate the nature and extent of contamination.

Evaluation of Analytical Methods and Implementation of Specialized Analytical Techniques

In accordance with WAC 173-340-707(3), in cases where PQLs exceed risk-based target CULs, Ecology may require (a) use of surrogate measures of hazardous substance contamination; (b) use or development of specialized sample collection or analysis techniques; or (c) continued monitoring.

Groundwater reporting limits for six legacy pesticides (alpha-BHC, beta-BHC, aldrin, dieldrin, heptachlor epoxide, and toxaphene) are greater than their risk-based target CULs.[2] Ecology required an evaluation to determine whether the use or development of specialized sample collection or analysis techniques at the site is warranted.

Table H.3 lists the median Phase 2 PAL PQL for beta-BHC, aldrin, dieldrin, and toxaphene and compares these PQLs to groundwater PQLs established by USEPA and Ecology for determining compliance with surface water and drinking water analysis requirements. As listed in Table H.3,

[2] beta-BHC, dieldrin, and toxaphene were identified as groundwater COCs in the RI/FS based on detected groundwater results collected during the RI sampling events. They are included in this analysis because nondetect data with elevated reporting limits are relevant to bound the nature and extent of contamination.

the median Phase 2 PQL achieved by PAL for toxaphene is elevated relative to the Ecology PQL and risk-based target CUL; all other PQLs are within the range of Ecology-accepted PQLs listed in the *Water Quality Program Permit Writer's Manual* (Ecology 2018).

Ecology, therefore, required completion of an additional sampling event to determine whether specialized analytical methods could lower the reporting limits for 10 legacy pesticides, such that groundwater preliminary CULs could be set equivalent to risk-based target CULs without requiring upward adjustment to the PQL. Floyd|Snider completed this groundwater sampling event in March 2020. During this event, all 20 monitoring wells were sampled using a low-level organochlorine pesticide analysis method. Analysis was completed by ALS Environmental (ALS) in Kelso, Washington.

Results of this event are summarized in Table H.4 and were presented to Ecology in the PCUL and COPC Memo (Attachment C.4). As summarized in Table H.4, PQLs achieved during this event are less than the risk-based target CUL for all 10 organochlorine pesticides analyzed. These data were used to set the preliminary CUL for these chemicals equivalent to the risk-based target CUL, as listed in RI/FS Table 5.1. March 2020 groundwater data were used to eliminate alpha-BHC and heptachlor epoxide from further consideration as site COPCs in the PCUL and COPC Memo (Attachment C.4).

The use of Phase 2 groundwater data to delineate the extent of groundwater contamination at the site for the remaining four legacy pesticides is further described in Section 3.0.

Table H.3
Groundwater COCs with Elevated Phase 2 PQLs Relative to Groundwater Cleanup Levels (µg/L)

Chemical	Risk-Based Target CUL (1)		USEPA PQL (2)		Ecology PQL (3)	Median Phase 2 PQL	Comment
	Value	Basis	MCL	PQL Range			
Analytes Detected in Groundwater During Remedial Investigation Sampling							
beta-BHC	0.049	MTCA Method B	NE	NE	0.05	0.06	Phase 2 PQL within range of Ecology PQL
Dieldrin	0.0055	MTCA Method B	NE	NE	0.05	0.06	Phase 2 PQL within range of Ecology PQL
Toxaphene	0.8	MCL adjusted to MTCA Method B	3	1.3–17	0.5	6	**Phase 2 PQL is elevated relative to Ecology PQL**
Analytes Not Detected in Groundwater During Remedial Investigation Sampling							
Aldrin	0.0026	MTCA Method B	NE	NE	0.05	0.06	Phase 2 PQL within range of Ecology PQL

Notes:

1 Groundwater CULs are developed in Section 5.2 of the RI/FS. Refer to RI/FS Table 5.1.

2 The federal MCL for toxaphene is equivalent to PQLs established by the USEPA. USEPA evaluated the PQLs in the 2016 *Chemical Contaminant Summaries for the Third Six-Year Review of Existing National Primary Drinking Water Regulations* (USEPA 2016). USEPA considered the range of MDLs achievable using USEPA-approved analytical methods for each analyte: USEPA calculated the PQL range by multiplying each MDL by a factor of 10.

3 PQLs are from Attachment 1-I of the *Water Quality Program Permit Writer's Manual* (Ecology 2018). These PQLs have been accepted by Ecology as suitable to determine that discharge is clean enough to meet discharge requirements under the CWA. Under the CWA, Ecology is required to establish discharge limits that protect the highest beneficial use of surface water, which for most surface waters includes drinking water use.

Abbreviations:

CWA Clean Water Act
MCL Maximum contaminant level
NE Not established

This page intentionally left blank.

3.0 Use of Nondetect Phase 2 Groundwater Results in Site Characterization

One objective of this appendix is to evaluate the appropriateness of using nondetect results to conduct site characterization. The following section evaluates the magnitude of the PQL/reporting limit relative to risk-based target CULs, in order to determine whether achieving a lower PQL could result in significantly greater protectiveness.

A well is considered in compliance with the proposed CUL for a particular chemical if both of the following conditions are met:

- The groundwater compliance result meets the proposed CUL; and
- The maximum detected result at that well is less than 2 times the proposed CUL.

For legacy pesticides, the compliance result at each monitoring well is determined as follows:

- If the chemical was not detected at a particular location during RI sampling conducted between 2016 and 2018, the compliance result is equivalent to the March 2020 groundwater result.
- If the chemical was detected at a well during RI sampling, the compliance result is calculated as the average among all results[3] collected during RI sampling, including both detect and nondetect results. Because Phase 1 groundwater results were not excluded from this calculation, this results in a conservative approximation of the true mean value at each well.

Compliance results are not calculated at temporary wells; at these locations, the maximum detected result (or minimum nondetect result, if the chemical was not detected) is used to determine if a location is in compliance with the proposed CUL.

This approach was approved by Ecology in the Data Gap Evaluation Memo (Attachment C.6) and was used to evaluate whether any additional groundwater data gaps remained following completion of the March 2020 groundwater sampling event. The sections that follow show that additional groundwater sampling using low-level analytical methods is not required to bound the extent of groundwater contamination for purposes of site characterization and remedy design in the RI/FS.

[3] Sample duplicates were resolved prior to performing this calculation. If both results were detected, the maximum result was used in the compliance result calculation. If both results were nondetect, the minimum result was used to calculate the compliance result. If one result was detected and one result was nondetect, the detected result was used.

3.1 USE OF PHASE 2 PQLS

March 2020 results confirm that elevated nondetect results are considered in compliance with the proposed CULs for chemicals with elevated groundwater reporting limits. The discussion in this section provides the rationale for this conclusion.

3.1.1 Comparison of Phase 2 and March 2020 Groundwater Results

Groundwater sampling results measured during March 2020 are typically an order of magnitude less than the median Phase 2 groundwater PQL due to the greater degree of analytical sensitivity achieved using the low-level organochlorine pesticide method. To evaluate whether these results can be considered representative of actual groundwater concentrations in wells where all RI sampling results were nondetect, dieldrin, chlordane, and toxaphene data in wells MW-1, MW-4, and MW-6 were evaluated.

These three chemicals and locations were selected because each of these chemicals was routinely detected in groundwater at these wells during both RI and March 2020 sampling. This comparison allows known concentrations measured by both laboratories to be compared directly to determine whether results measured by ALS are comparable to results measured by PAL.

Box and whiskers plots comparing March 2020 data to data collected from other events for each of these three chemicals and wells are presented in Figure H.1. As shown in Figure H.1, March 2020 results are generally within the interquartile range, which contains the middle 50% of the data. Toxaphene results at MW-1 and MW-4 are an exception; data at these locations are skewed by a higher percentage of nondetect results during RI sampling events than was observed for the other chemicals and locations.

These results provide a high degree of confidence that concentrations measured in the March 2020 groundwater sampling event are representative of groundwater quality, despite elevated reporting limits in previous sampling events.

3.1.2 Comparison of Phase 2 Groundwater Reporting Limits to USEPA and Ecology PQLs

Phase 2 reporting limits are greater than the proposed CUL for four legacy pesticides that became COCs in groundwater. In accordance with WAC 173-340-707(2), Ecology can consider the proposed CUL to be met when the PQL for the particular chemical, medium, and analytical procedure is no greater than the PQL established by the USEPA. This section establishes that this condition is met for the legacy pesticides with elevated reporting limits in Phase 2 groundwater data.

If the Phase 2 reporting limits achieved at a particular well are less than or approximately equivalent to USEPA and Ecology PQLs, then a nondetect result is considered appropriately sensitive to determine that the result is not indicative of contaminated groundwater per WAC 173-340-707(2)(b). In other words, nondetect Phase 2 results are considered in compliance with

the proposed CUL. Additionally, it is appropriate to use the more sensitive analytical result measured in March 2020 as the numeric result used to illustrate compliance.

Chemicals with Laboratory PQLs That Are Appropriately Sensitive per Agency PQLs

The USEPA has not promulgated PQLs for aldrin, dieldrin, or beta-BHC. However, the median Phase 2 PQLs for these chemicals are within the range of Ecology PQLs, as summarized in Table H.3. These Ecology PQLs are used to demonstrate compliance with surface water quality requirements enforced by USEPA under the CWA. Ecology PQLs were developed for treated water, which represents a matrix subject to fewer interferences than would be expected of untreated groundwater. PQLs associated with analysis of untreated groundwater would be expected to be greater than those for a treated water sample regardless of analytical method.

The maximum Phase 2 reporting limit achieved for aldrin, dieldrin, and beta-BHC chemicals is 0.06 µg/L (RI/FS Table 5.3). This is within 20% of the Ecology PQL for these analytes (0.05 µg/L), which is within the margin of error for precision and accuracy QA criteria approved in the Work Plan.

Chemicals with Laboratory PQLs That Are Elevated Relative to Agency PQLs

Phase 2 toxaphene reporting limits are elevated relative to USEPA and Ecology PQLs established for determining compliance with drinking water and surface water standards, of 3 and 0.5 µg/L, respectively. However, the median Phase 2 PQL falls within the range of PQLs for USEPA-developed analytical methods reported in the most recent review (USEPA 2016). Indeed, the upper limit of the range of PQLs that can be achieved using methods developed by the USEPA for analysis of drinking water samples is 17 µg/L; this is significantly greater than the median Phase 2 PQL.

The wide range of PQLs that can be achieved using USEPA-approved methods reflect the inherent difficulty of low-level toxaphene analysis. Toxaphene is a complex mixture of at least 650 different chlorinated compounds. Quantitation is usually performed by selecting and calibrating the analytical equipment using the most abundant compounds and making adjustments to the extraction and calibration, which increases analytical costs. Such specialized laboratory analysis is possible when there are relatively few chemicals that require quantification in a particular sample.

Despite the low reporting limits achieved in the March 2020 groundwater sampling event, it is possible that spectral interference and matrix interference observed at the site associated with the presence of nitrogen and lignin sulfonate may still prevent the laboratory from reaching the USEPA and Ecology PQLs in particular samples analyzed during future sampling events.

This page intentionally left blank.

4.0 Use of Nondetect Soil Results in Site Characterization

The leaching CUL was adjusted upward to the PQL per WAC 173-340-740(5)(c) for three pesticides that became soil COCs: beta-BHC, aldrin, and dieldrin. PAL PQLs were presented in the Work Plan for these and other pesticides. The listed PQLs were not achieved in all samples for all chemicals, due to site-specific matrix and other interferences.

In spring 2020, Ecology evaluated the appropriateness of RI PQLs achieved by PAL relative to PQLs reported by Manchester Laboratory. Ecology determined that the PAL PQLs were appropriately sensitive and that specialized analytical and sample analysis methods were not required to achieve greater analytical sensitivity for these chemicals. Thus, soil preliminary CULs developed in the PCUL and COPC Memo (Attachment C.4) were adjusted upward to the PAL PQL for pesticides.

The PAL and ALS PQLs represent typical PQLs that laboratories can achieve; these PQLs may not be achievable in all samples due to site-specific conditions or interferences. Indeed, during Phase 1, many pesticide results were not detected with reporting limits that were elevated relative to the typical PQL reported by the laboratory. Nondetect results measured during Phase 1 with elevated reporting limits should not be assumed to exceed the proposed CUL and are ignored when determining the percentage of results that exceed soil CULs for the direct contact and leaching pathways in Table 6.5 and Table 6.6, respectively. Additionally, if groundwater demonstrates compliance for beta-BHC, aldrin, or dieldrin in a particular area of concern (AOC), then nondetect data are considered in compliance with the leaching CUL.

If groundwater data are not sufficient to empirically demonstrate compliance with the leaching CUL, Phase 2 results are considered. Most nondetect results measured during Phase 2 are equivalent to the laboratory's typical PQL. Therefore, these results are sufficient to bound the nature and extent of soil contamination.

Due to the phased nature of the investigation, using Phase 2 results to bound the nature and extent of contamination while ignoring nondetect Phase 1 results will result in an overestimate of the contaminated area at the site. In the RI/FS, vertical and lateral extent of contamination was inferred using conservative approximations of the observed rate of decline in sample concentrations with increasing depth and distance from the source. However, the depth of contamination in AOC 1 and AOC 5 was inferred, based in part on nondetect Phase 1 results measured at deeper depths in the source area. Additional sampling may be required during remedy design to limit the scope of the proposed remedy, while still maintaining its protectiveness. Any new data collected as part of remedy design should be analyzed using sample preparation and analysis steps consistent with those implemented during Phase 2, to ensure that appropriately sensitive data are collected to allow comparison with the appropriate site CULs. Such new data should replace older data collected during Phase 1, because the newer data are expected to be more representative of subsurface conditions.

Notably, areas where additional sample collection and analysis may refine the extent of contamination are all located within the Property boundary and, therefore, do not impact the scope of the remedy with respect to off-property remedial actions.

5.0 Summary and Conclusion

This appendix evaluated nondetect data to ensure that reporting limits are sufficiently sensitive to identify soil and groundwater COCs and characterize the nature and extent of contamination at the site. The evaluation performed in Section 3.0 (groundwater) and Section 4.0 (soil) determined that reporting limits are generally sufficient for comparing site data to the proposed CULs developed in the RI/FS, as summarized in more detail in the following sections.

5.1 GROUNDWATER

Improvements in analytical sensitivity between Phase 1 and Phase 2 enabled PAL to achieve reporting limits sufficiently sensitive to eliminate six chemicals from consideration as groundwater COPCs. Further improvements in analytical sensitivity achieved in the March 2020 groundwater sampling event resulted in the elimination of two additional chemicals from further consideration as groundwater COPCs.

For legacy pesticides that became groundwater COCs, Section 3.0 describes how nondetect data with elevated reporting limits should be used with respect to site characterization. This evaluation found that Phase 2 reporting limits are appropriate to use in characterization of the nature and extent of contamination in groundwater, when used in combination with the March 2020 groundwater results.

An important conclusion stemming from this evaluation is that nondetect results in groundwater can be used to identify groundwater that is not contaminated at levels of concern. In other words, if the compliance result is less than the proposed CUL, and the maximum detected result at a well is less than 2 times the proposed CUL, this well is considered in compliance with the CUL, even if reporting limits in Phase 1 and Phase 2 RI data are elevated relative to the proposed CUL. Additionally, such results in groundwater are sufficient to satisfy the first requirement of an empirical demonstration under WAC 173-340-747(9)(b)(i): that groundwater concentrations are in compliance with groundwater cleanup levels.

5.2 SOIL

Improvements in analytical sensitivity between Phase 1 and Phase 2 enabled PAL to achieve reporting limits sufficiently sensitive to eliminate 12 chemicals from consideration as soil COPCs.

Phase 1 nondetect results are often elevated to soil CULs for the direct contact and leaching pathways. In these cases, compliance can be determined either by performing an empirical demonstration of groundwater quality (if the basis of the CUL is the leaching pathway) or by using Phase 2 results to bound the nature and extent of soil contamination. In some cases—e.g., when Phase 2 data are geographically distant from Phase 1 data, or when Phase 1 data are being used to bound the maximum depth of contamination—it may be appropriate to collect additional data to refine the scope of the remedy. However, existing pesticide data are sufficient to bound the nature and extent of soil contamination, as concluded in the Data Gap Evaluation Memo (Attachment C.6).

This page intentionally left blank.

6.0 References

Floyd|Snider. 2016. *Smith-Kem Site Remedial Investigation Work Plan*. Prepared for Foster Pepper LLC, Seattle, Washington, and Shell Oil Products US, Carson, California. July.

U.S. Environmental Protection Agency (USEPA). 2016. *Chemical Contaminant Summaries for the Third Six-Year Review of Existing National Primary Drinking Water Regulations.* Publication No. EPA 810-R-16-044. November.

Washington State Department of Ecology (Ecology). 2008. *B&L Woodwaste Site Final Cleanup Action Plan.* January.

_____. 2018. *Water Quality Program Permit Writer's Manual.* Publication No. 92-109. July.

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix H
Evaluation of Nondetect Results and Analytical Sensitivity

Tables

Table H.4
Summary of March 2020 Groundwater Data (µg/L)

Chemical [1]	CAS No.	Groundwater Proposed CUL [2]	Information About Detected Results [3]			Information About Nondetect Results [3]		
			Number of Results	Minimum Result	Maximum Result	Number of Results	Minimum Result	Maximum Result
Organochlorine Pesticides								
Aldrin	309-00-2	0.0026	2	**0.0057**	**0.0059**	19	0.0020	0.0020
alpha-BHC	319-84-6	0.014	4	0.0015	0.0044	17	0.0010	0.0010
beta-BHC	319-85-7	0.049	5	0.0041	0.014	16	0.0010	0.0010
Chlordane	57-74-9	2.0	12	0.0067	1.4	9	0.020	0.020
Dieldrin	60-57-1	0.0055	13	0.00051	**0.73**	8	0.0010	0.0010
gamma-BHC (Lindane)	58-89-9	0.20	5	0.0034	0.12	16	0.0020	0.0020
Heptachlor	76-44-8	0.19	2	0.0082	0.0098	19	0.0019	0.0031
Heptachlor Epoxide	1024-57-3	0.048	9	0.00040	0.0056	12	0.0010	0.0010
Hexachlorobenzene	118-74-1	0.55				21	0.0010	0.0010
Toxaphene	8001-35-2	0.80	11	0.11	**8.0**	10	0.10	0.10

Notes:

Blank cells are intentional.

BOLD/RED Chemical is a COC in groundwater.

BOLD/RED Result exceeds the proposed CUL.

1 All chemicals analyzed during the March 2020 groundwater sampling event are incldued in this table.

2 Proposed groundwater CULs are numerically equivalent to the preliminary CULs developed in Table 5.1 in the RI/FS.

3 Results are rounded to two significant figures. Field duplicate samples are counted as unique results.

Abbreviations:

BHC Benzene hexachloride

CAS Chemical Abstracts Service

CUL Cleanup level

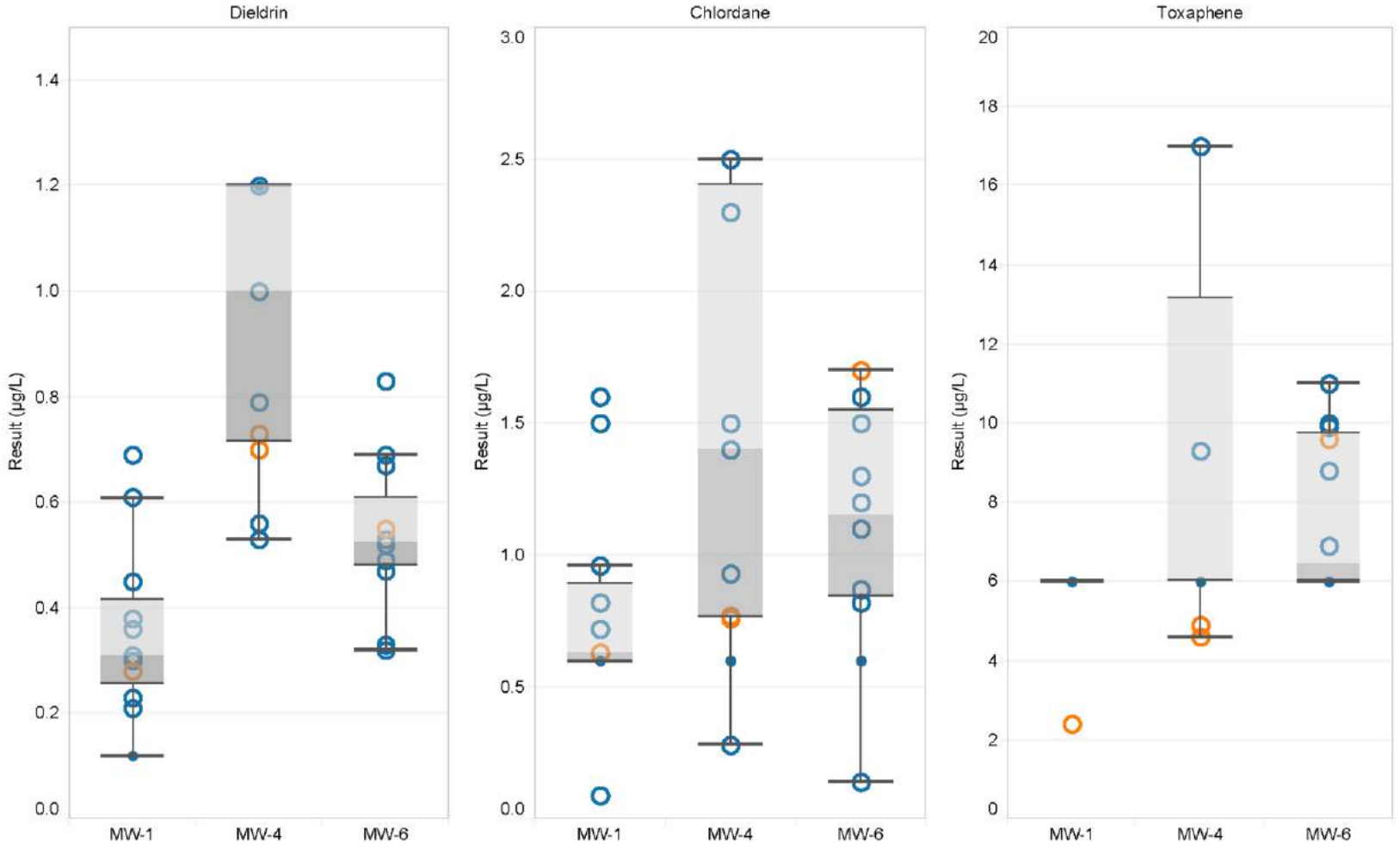
RI/FS Remedial Investigation/Feasibility Study

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix H
Evaluation of Nondetect Results and Analytical Sensitivity

Figure



FLOYD | SNIDER
strategy ▪ science ▪ engineering

Remedial Investigation/Feasibility Study
Smith-Kem Site
Ellensburg, Washington

Figure H.1
Nondetect Groundwater Data:
Box and Whisker Plots

2/24/2021

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix H
Evaluation of Nondetect Results and Analytical Sensitivity

Attachment H.1
Pacific Agricultural Laboratory Certificate of Accreditation

PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

Pacific Agricultural Laboratory, LLC

21830 SW Alexander Lane, Sherwood, OR 97140

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

& Meets the Requirements of the AOAC International Guidelines for Laboratories Performing Microbiological and Chemical Analyses of Food and Pharmaceutical-2015 & APLAC TC 007 Guidelines for Food Testing Laboratories

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system
(as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Chemical and Environmental Testing

(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President/Operations Manager

Perry Johnson Laboratory Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
January 7, 2013	August 2, 2018	September 30, 2020

Accreditation No.	*Certificate No.:*
64422	L18-354

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjlabs.com

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Multi-Residue Pesticides QuEChERS	AOAC 2007.01 AM-601/ GC-MS/MS	D.L.= 0.01 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Multi-Residue Pesticides QuEChERS	AOAC 2007.01 AM-701/ LC-MS/MS	D.L.= 0.01 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Multi-Residue Pesticides JASBC	JASBC 69(3):121-126, 2011, AM-601/AM-605 GC-MS/MS	D.L.= 0.1 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Multi-Residue Pesticides JASBC	JASBC 69(3):121-126, 2011, AM-701/AM-705 LC-MS/MS	D.L.= 0.1 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Pesticide Residue EPTC MITC	AMVAC Method WRC 88-43, AM-601/ GC-MS/MS AM-404/ GC-FPD	D.L.= 0.01 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Pesticide Residue Phenoxy Herbicides	FDA PAM II Method 180.292 AM-601/ GC-MS/MS	D.L.= 0.006 7 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Pesticide Residue Imidazolinone Herbicides	BASF Reg Doc # 2010/1090461 AM-701/ LC-MS/MS	D.L.= 1 µg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Pesticide Residue Sulfonylurea Herbicides	DuPont Method AM-701/ LC-MS/MS	D.L.= 0.4 µg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Pesticide Residue Aminocyclopyrachlor	Modified Anal.Chem./Vol 81#2 Nanita AM-701/ LC-MS/MS	D.L.= 0.004 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Pesticide Residue Aminopyralid	Modified Dow Study ID #081126 AM-701/ LC-MS/MS	D.L.= 0.004 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Pesticide Residue Polar Pesticides QuPPe	EURL, Ver.8.1, 2015 AM-702/ LC-MS/MS	D.L.= 0.1 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Pesticide Residue Paraquat/Diquat	JAOAC Method, Vol. 76 #6 AM-702/ LC-MS/MS	D.L.= 0.03 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Pesticide Residue Maleic hydrazide	JOAFC, Vol. 29 1980 AM-502/ LC-DAD/FLD	D.L.= 0.2 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Potency	AOAC V98-6 AM-505/ LC-DAD	D.L. = 0.2 mg/kg
Chemical[F]	Food, Plant Tissue & Agricultural Commodities	Pesticide Residue Dithiocarbamates	JAOAC Method, Vol78, #5 AM-405/ GC-FPD	D.L. = 0.1 mg/kg
Environmental[F]	Aqueous Solid	Multi-Residue Pesticides	EPA 8081B, AM-403/ GC-ECD	D.L. = 0.06 µg/L D.L. = 0.006 7 mg/kg
Environmental[F]	Aqueous Solid	Multi-Residue Pesticides	EPA 8270D/ EPA 8151A AM-604/ GC-MS/MS	D.L. = 0.06 µg/L D.L. = 0.006 7 mg/kg
Environmental[F]	Aqueous Solid	Multi-Residue Pesticides	EPA 8321B, AM-704/ LC-MS/MS	D.L. = 0.06 µg/L D.L. = 0.006 7 mg/kg
Environmental[F]	Aqueous Solid	Multi-Residue Pesticides	EPA 8141A, AM-404/ GC-FPD	D.L. = 0.06 µg/L D.L. = 0.017 mg/kg

1. The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location. Example: Outside Micrometer [F] would mean that the laboratory performs this testing at its fixed location.

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	2,4,5-T	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	2,4,5-TP	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	2,4-D	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, A M-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	2,4-DB	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	2,6-Dichlorobenzamide	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	3-Hydroxycarbofuran	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Environmental[F]	Aqueous	4-Nitrophenol	Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Abamectin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.5 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Acephate	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.4 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 10 µg/L
Chemical[F]	Plant Tissue	Acequinocyl-Hydroxy	JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.5 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.5 mg/kg
Chemical[F]	Plant Tissue	Acetamiprid	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Acetochlor	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Acibenzolar-S-methyl	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.12 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Acifluorfen	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	Aclonifen	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Alachlor	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Aldicarb	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Aldicarb Sulfone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Aldicarb Sulfoxide	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Aldrin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Allethrin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Ametoctradin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Ametryn	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Aminocyclopyrachlor	Modified Anal. Chem., Vol 81, #2, Nanita, AM-702	D.L. = 0.004 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.004 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 1.0 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Aminopyralid	Mod. Dow Study ID #081126, AM-701	D.L. = 0.004 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.004 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 1.0 µg/L
Chemical[F]	Plant Tissue	Amitraz	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	AMPA	EURL Ver 8.1, 2015, AM-702	D.L. = 0.12 mg/kg
Environmental[F]	Soil		Monsanto Method, AM-501	D.L. = 0.017 µg/L
	Aqueous		Modified EPA 547, AM-501	D.L. = 10 µg/L
			Modified EPA 8321B, AM-704	D.L. = 1 µg/L
Chemical[F]	Plant Tissue	Aspon	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Atrazine	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Azinphos-ethyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Azinphos-methyl	AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Azoxystrobin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Bendiocarb	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Benfluralin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Bensulfuron-methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	DL=0.4 µg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Bensulfuron-methyl	DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Bensulide	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Bentazon	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	BHC, alpha	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	BHC, beta	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	BHC, delta	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	BHC, delta	Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	BHC, gamma (Lindane)	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Bifenazate	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Chemical[F]	Plant Tissue	Bifenthrin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-601	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Bitertanol	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Bitertanol	Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Bolstar	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Boscalid	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Bromacil	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Bromopropylate	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Bromoxynil	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	Buprofezin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Buprofezin	Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Environmental[F]	Soil	Captafol	Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Captan	AOAC 2007.01, AM-601	D.L. = 0.2 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 2.0 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.067 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.6 µg/L
Chemical[F]	Plant Tissue	Carbaryl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Carbendazim	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Environmental[F]	Soil	Carbofenothion	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Carbofuran	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Carbofuran	Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Environmental[F]	Soil	Carboxin	Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
Chemical[F]	Plant Tissue	Carfentrazone-ethyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.02 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	CBD	AOAC V98-6, AM-505	D.L. = 0.1 % by Weight
Chemical[F]	Plant Tissue	CBD-A	AOAC V98-6, AM-505	D.L. = 0.1 % by Weight
Chemical[F]	Plant Tissue	CBN	AOAC V98-6, AM-505	D.L. = 0.1 % by Weight
Chemical[F]	Plant Tissue	Chlorantraniliprole	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Chlordane	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.033 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.6 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Chlorfenapyr	JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Chlorfenvinphos	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Chlorimuron-ethyl	DuPont Method, AM-701	D.L. = 0.4 µg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Environmental[F]	Soil	Chlorobenzilate	Modified EPA 8081B, AM-403	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Chloroneb	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Chlorosulfuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Chlorothalonil	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Chlorpropham	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Chlorpyrifos	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Chlorpyrifos-methyl	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Chlorsulfuron	DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	cis-Nonachlor	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Clethodim	AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Clethodim	Modified EPA 8321B, AM-704	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Clofentezine	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg
Environmental[F]	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Clomazone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Clopyralid	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	Cloransulam-methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Clothianidin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Environmental[F]	Soil	Coumaphos	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Cyanazine (Fortrol)	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.12 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Cyanazine (Fortrol)	Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Cyantraniliprole	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Cyazofamid	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Cycloate	AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Cyflufenamid	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Cyflumetofen	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Cyfluthrin	AOAC 2007.01, AM-601	D.L. = 0.05 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.5 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Cyfluthrin	Modified EPA 8081B, AM-403	D.L. = 0.033 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.033 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Cyhalothrin, lambda	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.033 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Cymoxanil (Curzate)	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Cypermethrin	AOAC 2007.01, AM-601	D.L. = 0.05 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.5 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.033 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.033 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Cyprodinil	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Cyprosulfamide	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Cyromazine	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Chemical[F]	Plant Tissue	Dacthal (DCPA)	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Daminozide	JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.5 mg/kg
Chemical[F]	Plant Tissue	DCPMU	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	DDD-p,p	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	DDE-p,p	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	DDE-p,p	Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	DDT-p,p	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Environmental[F]	Soil	Deisopropylatrazine	Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Deltamethrin	AOAC 2007.01, AM-601	D.L. = 0.05 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.5 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.033 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Demeton	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Desethyl Atrazine	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Diazinon	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD O TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Diazinon	JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.01 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Dicamba	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	Dichlobenil	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Dichlofenthion	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD O TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Dichlofenthion	Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Dichlorprop	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	Dichlorvos (DDVP)	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Diclofop-methyl	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Dicloran	AOAC 2007.01, AM-601	D.L. = 0.05 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.5 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.033 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Dicofol	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-601	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD O TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Dicofol	Modified EPA 8081B, AM-403	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Environmental[F]	Soil	Dicrotophos	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Dieldrin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Difenoconazole	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Diflubenzuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Diflufenican	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Dimethenamid-P	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD O TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
ChemicalF	Plant Tissue	Dimethoate	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
EnvironmentalF	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Dimethomorph	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Dinoseb	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	Dinotefuran	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
Chemical[F]	Plant Tissue	Diphenamid	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Diphenylamine (DPA)	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Diquat	JAOAC Method, Vol. 76, #6, AM-702	D.L. = 0.03 mg/kg
Environmental[F]	Aqueous		Modified EPA 549.2, AM-703	D.L. = 10 µg/L
Chemical[F]	Plant Tissue	Disulfoton	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Disulfoton sulfone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Dithiocarbamates	JAOAC Method, Vol. 78, #5, AM-405	D.L. = 0.1 mg/kg
Environmental[F]	Soil		JAOAC Method, Vol. 78, #5, AM-405	D.L. = 0.04 mg/kg
	Aqueous		Modified EPA 630.1, AM-405	D.L. = 10 µg/L
Chemical[F]	Plant Tissue	Dithiopyr	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Dithiopyr	Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Diuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Dodine	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	d-Phenothrin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Emamectin Benzoate	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Endosulfan I	AOAC 2007.01, AM-601	D.L. = 0.02 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Endosulfan II	AOAC 2007.01, AM-601	D.L. = 0.02 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.12 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
ChemicalF	Plant Tissue	Endosulfan sulfate	AOAC 2007.01, AM-601	D.L. = 0.02 mg/kg
EnvironmentalF	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.12 µg/L
ChemicalF	Plant Tissue	Endrin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
EnvironmentalF	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Endrin aldehyde	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Endrin ketone	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Environmental[F]	Soil	EPN	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	EPTC	AMVAC Method 88-43, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		AMVAC Method 88-43, AM-604	D.L. = 0.01 mg/kg
	Aqueous		AMVAC Method 88-43, AM-604	D.L. = 0.06 µg/L

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Esfenvalerate	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Ethalfluralin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Ethion	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Ethofumesate	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Ethoprop (Ethoprophos)	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Ethoxyquin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Etofenprox	JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Chemical[F]	Plant Tissue	Etoxazole	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-601	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Etridiazole	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Famoxadone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Famphur	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fenamidone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Environmental[F]	Soil	Fenamiphos	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Fenamiphos sulfone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fenamiphos sulfoxide	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Fenarimol	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fenazaquin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fenbuconazole	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fenbutatin oxide	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Fenhexamid	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fenitrothion	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Fenobucarb	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fenoxaprop-ethyl	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fenoxycarb	JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Chemical[F]	Plant Tissue	Fenpropathrin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fenpyroximate	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Environmental[F]	Soil	Fensulfothion	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Fenthion	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Fenuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fenvalerate	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fipronil	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Flonicamid	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fluazifop-p-butyl	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Fluazinam	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Flubendiamide	AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Fludioxonil	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Flufenacet	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Flumioxazin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.5 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fluometuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fluopicolide	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Fluopicolide	JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fluopyram	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fluoxastrobin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Flupyradifurone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fluridone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fluroxypyr-meptyl	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Flurtamone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Fluthiacet-methyl	AOAC 2007.01, AM 601	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Flutolanil	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.067 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.6 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Flutriafol	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fluvalinate	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Fluxapyroxad	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Environmental[F]	Soil	Folpet	Modified EPA 8081B, AM-403	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Fomesafen	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Zeneca Ag Method, AM-404	D.L.= 0.003 4 mg/kg
Chemical[F]	Plant Tissue	Fonofos	AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Fonofos	Modified EPA 8321B, AM-704	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Foramsulfuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Formetanate HCl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Chemical[F]	Plant Tissue	Fosetyl-Al	EURL Version 8.1, AM-702	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Glufosinate	EURL Ver 8.1, 2015, AM-702	D.L. = 0.03 mg/kg
Environmental[F]	Aqueous		Modified EPA 8321B, AM-704	D.L. =1 µg/L
Chemical[F]	Plant Tissue	Glyphosate	EURL Ver 8.1, 2015, AM-702	D.L. = 0.03 mg/kg
Environmental[F]	Soil		Monsanto Method, AM-501	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 547, AM-501	D.L. =10 µg/L
			Modified EPA 8321B, AM-704	D.L. =1 µg/L
Chemical[F]	Plant Tissue	Halosulfuron-methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Heptachlor	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Heptachlor epoxide	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Heptachlor epoxide	Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Hexachlorobenzene	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Hexaconazole	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Hexazinone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Hexythiazox	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Idosulfuron-methyl-sodium	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Imazalil	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg
Environmental[F]	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Imazamox	BASF Doc# 2010/1090461, AM-701	D.L. = 1 µg/kg
Environmental[F]	Soil		BASF Doc# 2010/1090461, AM-704	D.L. = 0.5 µg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.02 µg/L
Chemical[F]	Plant Tissue	Imazapic	BASF Doc# 2010/1090461, AM-701	D.L. = 1 µg/kg
Environmental[F]	Soil		BASF Doc# 2010/1090461, AM-704	D.L. = 0.5 µg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.02 µg/L
Chemical[F]	Plant Tissue	Imazapyr	BASF Doc# 2010/1090461, AM-701	D.L. = 1 µg/kg
Environmental[F]	Soil		BASF Doc# 2010/1090461, AM-704	D.L. = 0.5 µg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.02 µg/L
Chemical[F]	Plant Tissue	Imazaquin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			BASF Doc# 2010/1090461, AM-701	D.L. = 1 µg/kg
Environmental[F]	Soil		BASF Doc# 2010/1090461, AM-704	D.L. = 0.5 µg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.02 µg/L
Chemical[F]	Plant Tissue	Imazethapyr	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			BASF Doc# 2010/1090461, AM-701	D.L. = 1 µg/kg
Environmental[F]	Soil		BASF Doc# 2010/1090461, AM-704	D.L. = 0.5 µg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.02 µg/L
Chemical[F]	Plant Tissue	Imidacloprid	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Imidacloprid	Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Indaziflam	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Indoxacarb	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Iprodione	AOAC 2007.01, AM-701	D.L. = 0.05 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.034 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Isoxaben	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Isoxadifen-ethyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Isoxaflutole	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Kresoxim-methyl	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue		JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Kresoxim-methyl	Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Lactofen	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Linuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Malaoxon	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Malathion	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Maleic Hydrazide	JOAFC Vol. 28, 1980, AM-702	D.L. = 1 mg/kg
Chemical[F]	Plant Tissue	Mandipropamid	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD O TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Mandipropamid	JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	MCPA	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	MCPB	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	MCPP	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	Mefenoxam	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Environmental[F]	Soil	Merphos	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Mesosulfuron-methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 mg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
ChemicalF	Plant Tissue	Mesotrione	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
EnvironmentalF	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
Chemical[F]	Plant Tissue	Metalaxyl (Mefenoxam)	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Metconazole	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Methamidophos	AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.4 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
Environmental[F]	Aqueous		Modified EPA 8321B, AM-704	D.L. = 10 µg/L
Chemical[F]	Plant Tissue	Methidathion	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Methiocarb (Mercaptodimethur)	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
ChemicalF	Plant Tissue	Methomyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Methoxychlor	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Methoxyfenozide	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Metolachlor	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Metrafenone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD O TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
ChemicalF	Plant Tissue	Metribuzin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Metsulfuron-methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Mevinphos (Phosdrin)	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	MGK-264	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Mirex	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	MITC	AMVAC Method 88-43, AM-404	D.L. = 0.02 mg/kg
Environmental[F]	Soil		AMVAC Method 88-43, AM-404	D.L. = 0.02 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	MITC	Modified EPA 1569, AM-404	D.L. = 20 µg/L
Environmental[F]	Soil	Monocrotophos	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Monuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Morpholine	EURL Ver 8.1, 2015, AM-702	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Myclobutanil	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-601	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Napropamide	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Neburon (Phosphoramidothioic acid)	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Nicosulfuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Norflurazon	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Novaluron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Omethoate	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
Chemical[F]	Plant Tissue	o-Phenylphenol	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Oryzalin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Oryzalin	Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Ovex	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Oxadiazon	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.12 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Oxadixyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.5 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Oxamyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Oxydemeton-Methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
Chemical[F]	Plant Tissue	Oxyfluorfen	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Enviromental[F]	Soil	Oxyfluorfen	Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.12 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Paclobutrazol	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Chemical[F]	Plant Tissue	Paraquat	JAOAC Method, Vol. 76, #6, AM-702	D.L. = 0.03 mg/kg
Environmental[F]	Aqueous		Modified EPA 549.2, AM-703	D.L. = 10 µg/L
ChemicalF	Plant Tissue	Parathion ethyl	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Parathion methyl	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	PCNB	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemial[F]	Plant Tissue	Pendimethalin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pentachloroaniline (PCA)	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pentachlorobenzene (PCB)	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Environmental[F]	Soil	Pentachlorophenol	Modified EPA 8151A, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.16 µg/L
Chemical[F]	Plant Tissue	Pentachlorophenyl methyl sulfide	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pentachlorothioanisole	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Penthiopyrad	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Penthiopyrad	JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Permethrin	AOAC 2007.01, AM-601	D.L. = 0.05 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.033 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.033 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Phenmedipham	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil	Phorate	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Phorate Sulfone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.5 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Phorate Sulfoxide	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Phosalone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Phosmet	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Phosphamidon	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Phosphite	EURL Version 8.1, AM-702	D.L. = 0.2 mg/kg
Chemical[F]	Plant Tissue	Phosphorous Acid	EURL Version 8.1, AM-702	D.L. = 0.2 mg/kg
Chemical[F]	Plant Tissue	Picloram	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.01 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	Piperonyl Butoxide	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.5 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pirimicarb	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Pirimicarb	Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pirimiphos-methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
			DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
			DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Prallethrin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Chemical[F]	Plant Tissue	Primisulfuron-methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Procymidone	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Prodiamine	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.25 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Prodiamine	Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Prometon	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Prometryn	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pronamide	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Propachlor	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.017 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Soil	Propachlor	Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Propamocarb	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil	Propanil	Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Propargite (Omite)	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Propazine	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Propiconazole	AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.017 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.013 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Propiconazole	Modified EPA 8081B, AM-403	D.L. = 0.3 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Propoxur	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Prothioconazole	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
Chemical[F]	Plant Tissue	Pymetrozine	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Chemical[F]	Plant Tissue	Pyraclostrobin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pyraflufen-ethyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.05 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pyrethrin	AOAC 2007.01, AM-701	D.L. = 0.05 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.5 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.034 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.3 µg/L

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Pyridaben	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.5 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pyrimethanil	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pyriproxyfen	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Pyroxasulfone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Pyroxsulam	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Quinclorac	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	Quinoxyfen	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-601	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Quinoxyfen	JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Resmethrin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Rimsulfuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Ronnel	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Rotenone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Saflufenacil	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Sethoxydim	AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Siduron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Siduron	Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Simazine	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Simetryn	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Spinetoram	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Spinosad	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Spirodiclofen	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-601	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Spiromesifen	AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Spirotetramat	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Spiroxamine	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Sulfentrazone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Sulfometuron-methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Sulfosulfuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Sulfoxaflor	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Environmental[F]	Soil	Sulprofos	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Tebuconazole	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Tebufenoxide	JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Tebufenozide	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Tebuthiuron	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Environmental[F]	Soil	Tefluthrin	Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
Chemical[F]	Plant Tissue	Tembotrione	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
Chemical[F]	Plant Tissue	Terbacil	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Terbufos	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Terbuthylazine	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Terbutryn	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Environmental[F]	Soil	Tetrachlorvinphos	Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Tetraconazole	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Tetradifon	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	THC	AOAC V98-6, AM-505	D.L. = 0.1 % by Weight
Chemical[F]	Plant Tissue	THC-A	AOAC V98-6, AM-505	D.L. = 0.1 % by Weight

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Thiabendazole	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Thiacloprid	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Thiamethoxam	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Thiencarbazone-methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Thifensulfuron-methyl (DPX-M6316)	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Thiobencarb	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Thiodicarb	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Environmental[F]	Aqueous	Thiodicarb	Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Thiophanate methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	Tokuthion	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Tolfenpyrad	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Topramezone	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
Environmental[F]	Aqueous	Toxaphene	Modified EPA 8081B, AM-403	D.L. = 6 µg/L
Chemical[F]	Plant Tissue	Tralomethrin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Chemical[F]	Plant Tissue	trans-Nonachlor	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Triadimefon	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8270D, AM-604	D.L. = 0.013 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8270D, AM-604	D.L. = 0.12 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Triadimenol	AOAC 2007.01, AM-701	D.L. = 0.02 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.2 mg/kg
Environmental[F]	Soil		Modified EPA 8321B, AM-704	D.L. = 0.013 mg/kg
	Aqueous		Modified EPA 8321B, AM-704	D.L. = 0.12 µg/L
Chemical[F]	Plant Tissue	Tribenuron-methyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Trichloronate	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8141B, AM-404	D.L. = 0.017 mg/kg
	Aqueous		Modified EPA 8141B, AM-404	D.L. = 0.3 µg/L
Chemical[F]	Plant Tissue	Triclopyr	FDA PAM II Method 180.292, AM-601	D.L. = 0.006 7 mg/kg
Environmental[F]	Soil		Modified EPA 8151A, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8151A, AM-604	D.L. = 0.08 µg/L
Chemical[F]	Plant Tissue	Trifloxystrobin	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-601	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Trifloxysulfuron-Sodium	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg

Certificate of Accreditation: Supplement

Pacific Agricultural Laboratory, LLC
21830 SW Alexander Lane, Sherwood, OR 97140
Contact Name: Stephen Thun Phone: 503-626-7943

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical[F]	Plant Tissue	Triflumizole	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-601	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-701	D.L. = 0.1 mg/kg
			JASBC 69(3):121-126, 2011, AM-705	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8321B, AM-704	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8321B, AM-704	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Trifluralin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
			JASBC 69(3):121-126, 2011, AM-605	D.L. = 0.1 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L
Chemical[F]	Plant Tissue	Trinexapac-ethyl	AOAC 2007.01, AM-701	D.L. = 0.01 mg/kg
			DuPont Method, AM-701	D.L. = 0.4 µg/kg
Environmental[F]	Soil		DuPont Method, AM-704	D.L. = 0.4 µg/kg
	Aqueous		DuPont Method, AM-704	D.L. = 0.008 µg/L
Chemical[F]	Plant Tissue	Vinclozalin	AOAC 2007.01, AM-601	D.L. = 0.01 mg/kg
Environmental[F]	Soil		Modified EPA 8081B, AM-403	D.L. = 0.006 7 mg/kg
			Modified EPA 8270D, AM-604	D.L. = 0.006 7 mg/kg
	Aqueous		Modified EPA 8081B, AM-403	D.L. = 0.06 µg/L
			Modified EPA 8270D, AM-604	D.L. = 0.06 µg/L

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix I
Cost Estimate

Table I.1
Alternative Summary

Alternative	Restoration Time Frame (years)	Construction Cost	Long-Term Monitoring	Other Professional Services	Cost
Alternative 1	20-25	$1,304,000	$345,400	$370,000	$2,508,000
Alternative 2	15	$1,057,000	$266,900	$392,000	$2,099,000
Alternative 3	10	$1,158,000	$188,400	$394,000	$2,137,000
Alternative 4	5	$1,992,000	$109,900	$530,000	$3,209,000

Abbreviations:

AOC Area of concern
CUL Cleanup level
REL Remediation level

Table I.2
Alternative 1

Smith-Kem Remediation						
Task #	**Task List**	**Quantity**	**Unit**	**Unit Rate**	**Total**	**Notes**
	Site Prep and Environmental Controls					
	Mobilization	1	LS	$ 79,000	$ 79,000	7% of site work
	Survey	2	Day	$ 750	$ 1,500	
	TESC and Pollution Prevention	1	LS	$ 50,000	$ 50,000	
	Excavation within AOCs					
	Excavate and Stockpile/Load Soil	820	CY	$ 15	$ 12,300	
	Load, Transport & Dispose Subtitle D	1,394	Ton	$ 65	$ 90,610	1.7 tons/CY conversion
	Backfill and Compact	78	Ton	$ 30	$ 2,340	1.7 ton/cy
	Cap Placement					
	Excavate (Outside AOCs)	990	CY	$ 15	$ 14,850	
	Load, Transport & Dispose Subtitle D (Outside AOCs)	1,683	Ton	$ 65	$ 109,395	1.7 tons/CY conversion
	Place CSBC	2,333	Ton	$ 30	$ 70,000	9" CSBC, 1.75 tons/CY conversion, cost from PBS
	Place Asphalt	48,000	SF	$ 2.36	$ 113,280	4.5" Asphalt, cost from PBS
	Stormwater System Equipment					
	Conveyance System	1	LS	$ 287,300	$ 287,300	PBS Estimate
	Structural Excavation Class B Incl. Haul (conveyance structures	1,618	CY	$ 55	$ 88,990	PBS Estimate, added in 10% contractor MU
	Gravel Backfill for Trench	1,346	CY	$ 77	$ 103,642	PBS Estimate, added in 10% contractor MU
	Load, Transport & Dispose Subtitle D	2,751	Ton	$ 65	$ 178,789	PBS Estimate, 1.7 ton/cy
	1 Day of Startup Assistance and Operator Training	1	Day	$ 1,500	$ 1,500	PBS Estimate

Direct Costs	$ 1,203,496
Ellensburg Sales Tax @ 8.3%	$ 99,890
Total	$ 1,304,000

Professional Services						
Task #	**Task List**	**Quantity**	**Unit**	**Unit Rate**	**Total**	**Notes**
	Engineering Design				$ 100,000	Project experience
	Ecology Review Costs				$ 20,000	Project experience
	Construction Reporting				$ 60,000	Project experience
	Institutional Controls Development and Implementation				$ 30,000	Project experience
	Permitting				$ 20,000	Project experience
	Construction Oversight	12	Week	$ 11,000	$ 132,000	Weekly cost based on one field engineer, including travel time, and PM @ 10 hr/wk
	Well Decommisioning and Installation	1	Each	$ 8,000	$ 8,000	Project experience
	Long-Term Monitoring (Semiannual for 2 years, Annual for 18 y	22	Event	$ 15,700	$ 345,400	Project experience
	Cap Inspection and Maintenance	20	Year	$ 3,500	$ 70,000	Project experience

Base Total	$ 2,089,400
20% Contingency	$ 417,880
Total	$ 2,508,000

Table I.3
Alternative 2

Smith-Kem Remediation						
Task #	**Task List**	**Quantity**	**Unit**	**Unit Rate**	**Total**	**Notes**
	Site Prep and Environmental Controls					
	Mobilization	1	LS	$ 51,000	$ 51,000	7% of site work
	Survey	8	Day	$ 750	$ 6,000	
	TESC and Pollution Prevention	1	LS	$ 5,000	$ 5,000	
	Excavation within AOCs					
	Dewatering	1	LS	$ 5,000	$ 5,000	
	Utility Protection	1	LS	$ 10,000	$ 10,000	
	Shoring	1	LS	$ 10,000	$ 10,000	Trenchboxes and sheets as needed
	Excavate and Stockpile/Load Soil	2,110	CY	$ 15	$ 31,650	
	Load, Transport & Dispose Subtitle D	3,587	Ton	$ 65	$ 233,155	PBS Estimate, 1.7 ton/cy
	Clean Fill Backfill and Compact (exclude top 1.5 ft in GCL areas)	2,333	Ton	$ 30	$ 69,987	1.7 ton/cy
	Contingency Excavate Soil	633	CY	$ 15	$ 9,495	30% contingency
	Contingency Load, Transport & Dispose Subtitle D	1,076	Ton	$ 65	$ 69,947	30% contingency
	Contingency Clean Fill Backfill and Compact	700	Ton	$ 30	$ 20,996	30% contingency
	Geosynthetic Clay Liner					
	Excavate, Segregate & Stockpile Soil (Outside AOCs)	500	CY	$ 15	$ 7,500	
	Load, Transport & Dispose Subtitle D	850	Ton	$ 65	$ 55,250	1.7 ton/cy
	Place GCL	22,300	SF	$ 1.55	$ 34,565	Includes GCL, 6oz orange indicator, and 10 oz black fabric.
	Place Sand	22,300	SF	$ 0.55	$ 12,265	4" sand bedding
	Place CSBC	2,166	Ton	$ 30	$ 64,975	12" CSBC topping
	Drainage System					
	Drainage System Conveyance Structures	1	LS	$ 44,700.00	$ 44,700	PBS Estimate
	Clean and Inspect Existing SE Culvert	1	LS	$ 2,750.00	$ 2,750	PBS Estimate, added in 10% contractor MU
	Structural Excavation Class B Incl. Haul	132	CY	$ 55	$ 7,260	PBS Estimate, added in 10% contractor MU
	Gravel Backfill for Drain	105	CY	$ 77	$ 8,085	PBS Estimate, added in 10% contractor MU
	Load, Transport & Dispose Subtitle D	224	Ton	$ 65	$ 14,586	PBS Estimate, 1.7 ton/cy
	In-Situ Groundwater Treatment					
	PlumeStop DVT	1	LS	$ 15,500	$ 15,500	
	Purchase of PlumeStop Product	1	LS	$ 107,000	$ 107,000	
	Equipment and Labor	1	LS	$ 79,000	$ 79,000	

Direct Costs	$ 975,665
Ellensburg Sales Tax @ 8.3%	$ 80,980
Total	$ 1,057,000

Professional Services						
Task #	**Task List**	**Quantity**	**Unit**	**Unit Rate**	**Total**	**Notes**
	Pre-Design Investigation				$ 10,000	Project experience
	Engineering Design				$ 125,000	Project experience
	Ecology Review Costs				$ 20,000	Project experience
	Construction Reporting				$ 60,000	Project experience
	Institutional Controls Development and Implementation				$ 30,000	Project experience
	Permitting				$ 15,000	Project experience
	Construction Oversight	12	Week	$ 11,000	$ 132,000	Weekly cost based on one field engineer, per diem, and PM @ 10 hr/wk
	Well Decommisioning and Installation	1	LS	$ 10,000	$ 10,000	Project experience
	Long-Term Monitoring (Semiannual for 2 years, Annual for 13 years	17	Event	$ 15,700	$ 266,900	Project experience
	Cap Inspection and Maintenance	15	Year	$ 1,500	$ 22,500	Project experience

Base Total	$ 1,748,400
20% Contingency	$ 349,680
Total	$ 2,099,000

Table I.4
Alternative 3

Smith-Kem Remediation						
Task #	**Task List**	**Quantity**	**Unit**	**Unit Rate**	**Total**	**Notes**
	Site Prep and Environmental Controls					
	Mobilization	1	LS	$ 57,000	$ 57,000	7% of site work
	Survey	8	Day	$ 750	$ 6,000	
	TESC and Pollution Prevention	1	LS	$ 5,000	$ 5,000	
	Excavation within AOCs					
	Well Decommissioning	4	Each	$ 800	$ 3,200	
	Dewatering	1	LS	$ 5,000	$ 5,000	
	Utility Protection	1	LS	$ 10,000	$ 10,000	
	Shoring	1	LS	$ 15,000	$ 15,000	Trenchboxes and sheets as needed
	Excavate and Stockpile/Load Soil	2,680	CY	$ 15	$ 40,200	
	Load, Transport & Dispose Subtitle D	4,556	Ton	$ 65	$ 296,140	1.7 ton/cy
	Clean Fill Backfill and Compact (exclude top 1.5 ft in GCL areas)	3,736	Ton	$ 30	$ 112,065	1.7 ton/cy
	Contingency Excavate Soil	804	CY	$ 15	$ 12,060	30% contingency
	Contingency Load, Transport & Dispose Subtitle D	1,121	Ton	$ 65	$ 72,842	30% contingency
	Contingency Clean Fill Backfill and Compact	1,121	Ton	$ 30	$ 33,620	30% contingency
	Geosynthetic Clay Liner					
	Excavate, Segregate & Stockpile Soil (Excludes AOC areas)	390	CY	$ 15.00	$ 5,850	
	Load, Transport & Dispose Subtitle D	663	Ton	$ 65	$ 43,095	1.7 ton/cy
	Place GCL	15,700	SF	$ 1.55	$ 24,335	Includes GCL, 6oz orange indicator, and 10 oz black fabric.
	Place Sand	15,700	SF	$ 0.55	$ 8,635	4" sand bedding
	Place CSBC	1,519	Ton	$ 30	$ 45,585	12" CSBC topping
	Drainage System					
	Drainage System Conveyance Structures	1	LS	$ 29,600	$ 29,600	PBS Estimate, added in 10% contractor MU
	Clean and Inspect Existing SE Culvert	1	LS	$ 2,750.00	$ 2,750	PBS Estimate, added in 10% contractor MU
	Structural Excavation Class B Incl. Haul	171	CY	$ 55	$ 9,405	PBS Estimate, added in 10% contractor MU
	Gravel Backfill for Drain	144	CY	$ 77	$ 11,088	PBS Estimate, added in 10% contractor MU
	Load, Transport & Dispose Subtitle D	291	Ton	$ 65	$ 18,896	PBS Estimate, 1.7 ton/cy
	In-Situ Groundwater Treatment					
	PlumeStop DVT	1	LS	$ 15,500	$ 15,500	
	Purchase of PlumeStop Product	1	LS	$ 107,000	$ 107,000	
	Equipment and Labor	1	LS	$ 79,000	$ 79,000	

Direct Costs	$ 1,068,865
Ellensburg Sales Tax @ 8.3%	$ 88,716
Total	$ 1,158,000

Professional Services						
Task #	**Task List**	**Quantity**	**Unit**	**Unit Rate**	**Total**	**Notes**
	Pre-Design Investigation				$ 25,000.00	Project experience
	Engineering Design				$ 125,000	Project experience
	Ecology Review Costs				$ 20,000	Project experience
	Construction Reporting				$ 60,000	Project experience
	Institutional Controls Development and Implementation				$ 30,000	Project experience
	Permitting				$ 15,000	Project experience
	Construction Oversight	12	Week	$ 11,000	$ 132,000	Weekly cost based on one field engineer and PM @ 10 hr/wk
	Well Installation and Decommisioning	1	Each	$ 12,000	$ 12,000	Project experience
	Long-Term Monitoring (Semiannual for 2 years, Annual for 8 years)	12	Event	$ 15,700	$ 188,400	Project experience
	Cap Inspection and Maintenance	10	Year	$ 1,500	$ 15,000	Project experience

Base Total	$ 1,780,400
20% Contingency	$ 356,080
Total	$ 2,137,000

Table I.5
Alternative 4

Smith-Kem Remediation						
Task #	**Task List**	**Quantity**	**Unit**	**Unit Rate**	**Total**	**Notes**
	Site Prep and Environmental Controls					
	Mobilization	1	LS	$ 121,000	$ 121,000	7% of site work
	Survey	8	Day	$ 750	$ 6,000	Two surveys per excavation area
	TESC and Pollution Prevention	1	LS	$ 5,000	$ 5,000	Based on contractor quote
	Excavation within AOCs					
	Dewatering	2	Month	$ 22,000	$ 44,000	Project experience
	Utility Protection	1	LS	$ 10,000	$ 10,000	Project experience
	Shoring	1	LS	$ 70,000	$ 70,000	Project experience
	Office and Storage Building Demolition	4,130	SF	$ 10	$ 41,300	Project experience/RS Means
	Office and Storage Building Rebuilt	4,130	SF	$ 75	$ 309,750	RS Means
	Excavate and Stockpile/Load Soil	5,370	CY	$ 15	$ 80,550	
	Load, Transport & Dispose Subtitle D	9,129	Ton	$ 65	$ 593,385	PBS Estimate, 1.7 ton/cy
	Backfill and Compact	9,129	Ton	$ 30	$ 273,870	1.7 ton/cy
	Contingency Excavate Soil	1,611	CY	$ 15	$ 24,165	30% contingency
	Contingency Load, Transport & Dispose Subtitle D	2,739	Ton	$ 65	$ 178,016	30% contingency
	Contingency Backfill and Compact	2,739	Ton	$ 30	$ 82,161	30% contingency

Direct Costs	$ 1,839,197
Ellensburg Sales Tax @ 8.3%	$ 152,653
Total	$ 1,992,000

Professional Services						
Task #	**Task List**	**Quantity**	**Unit**	**Unit Rate**	**Total**	**Notes**
	Pre-Design Investigation				$ 30,000.00	Project experience
	Engineering Design				$ 175,000	Project experience
	Ecology Review Costs				$ 20,000	Project experience
	Construction Reporting				$ 30,000	Project experience
	Institutional Controls Development and Implementation				$ 30,000	Project experience
	Permitting				$ 40,000	Project experience (building permit, etc.)
	Construction Oversight	20	Week	$ 11,000	$ 220,000	Weekly cost based on one field engineer and PM @ 10 hr/wk
	Well Installation and Decommisioning	1	Each	$ 15,000	$ 15,000	Project experience
	Long-Term Monitoring (Semiannual for 2 years, Annual for 3 years)	7	Event	$ 15,700	$ 109,900	Project experience
	Cap Inspection and Maintenance	10	Year	$ 1,200	$ 12,000	Project experience

Base Total	$ 2,673,900
20% Contingency	$ 534,780
Total	$ 3,209,000

Smith-Kem Site

Remedial Investigation/Feasibility Study

Appendix J
Statement from the McGregor Company on Current Operations

DEDICATED PEOPLE
WHO CARE
ABOUT FARM FAMILIES
ABOUT THE ENVIRONMENT
ABOUT THE COMMUNITIES WE SERVE

509.397.4355
800.873.8666
www.mcgregor.com

PO Box 740
Colfax, WA 99111

McGREGOR

Mr. Andy King

PKG Law, P.S.

2701 First Ave, Suite 410

Seattle, WA 98121

Sent Via Email

Andy;

Regarding your request for information pertaining to comments #15 and #40 of the Ecology comments on agency review draft, Smith-Kem Site Remedial Investigation/Feasibility Study, dated June 2021, we are providing information below. However, it appears that Ecology may be asking more for Floyd-Snider to support their claim of ongoing operations contributing to contamination than for information regarding how those operations are being handled. As we have maintained from the outset, current operations are not responsible for the contamination. Having said that, the information mentioned at the outset is provided below.

Loading, unloading, and handling of dry fertilizer materials takes place over concrete surfaces. In the event of an accidental spill (which is quite rare), clean-up takes place immediately and the product is handled in a manner suitable for the situation. This is typically done through a crop application process following the intended use of the product. Small amounts may be disposed of through standard solid waste processes as well. The incidental spills mentioned would generally be quite minimal and unlikely to contribute to a measurable level of

contamination. In the event the amount would exceed that minimal level it would be picked up and dealt with as mentioned above or consumed in the facility's standard blending and application process.

Liquid fertilizer is stored in secondary containment meeting the requirements set forth by Washington State Department of Agriculture. This secondary containment has been upgraded at our expense since The McGregor Company has assumed operations at the Ellensburg site. Transfer operations take place on a concrete operational area containment pad which has also been upgraded to meet WSDA requirements at TMC expense since assuming operations at the site.

This upgraded operational area containment also serves as the loading area for any on-site fuel transfers. On-site fuel storage has been decreased and fuel transfers limited since TMC began operations at the site.

Additionally, this curbed concrete operational area containment is used to meet the requirements for the bulk transfer of Roundup PowerMax. Essentially all liquid product transfers take place on this area so in the event of a spill, capture and clean up would be a contained and straightforward process which would allow the product to be used for its intended purpose or disposed of appropriately. The only negative to this operational area containment pad is the monitoring well which is placed in it, and which of course penetrates through the concrete itself. This well was in place when TMC assumed operations and it has been clearly stated that TMC is not allowed to change anything which would affect the well and its use.

The only "bulk" crop protection product handled on site is Roundup PowerMax which is stored inside in its own secondary containment structure. TMC has also upgraded this secondary containment to bring it in to compliance since assuming operations at the site.

We assume this information makes it quite clear as to why we have been adamant from the beginning that TMC has not, is not and will not be contributing to contamination of the site. We trust that you will do all in your power to assist in communicating this to Ecology.

Additionally, in the event of an accidental spill not covered in the information already provided, TMC has a written process that is followed for notifications,

both internal and external i.e., any appropriate agencies, which would be followed. In addition to the necessary notifications the plan triggers the clean-up procedures which would be used to mitigate the event. We are well prepared to deal with these unforeseen events but prefer to take the steps outlined above to prevent them from happening in the first place.

We hope this information satisfies your request and will look forward to seeing your response to Ecology's other 38 comments as well.

Regards,

Ian McGregor

President