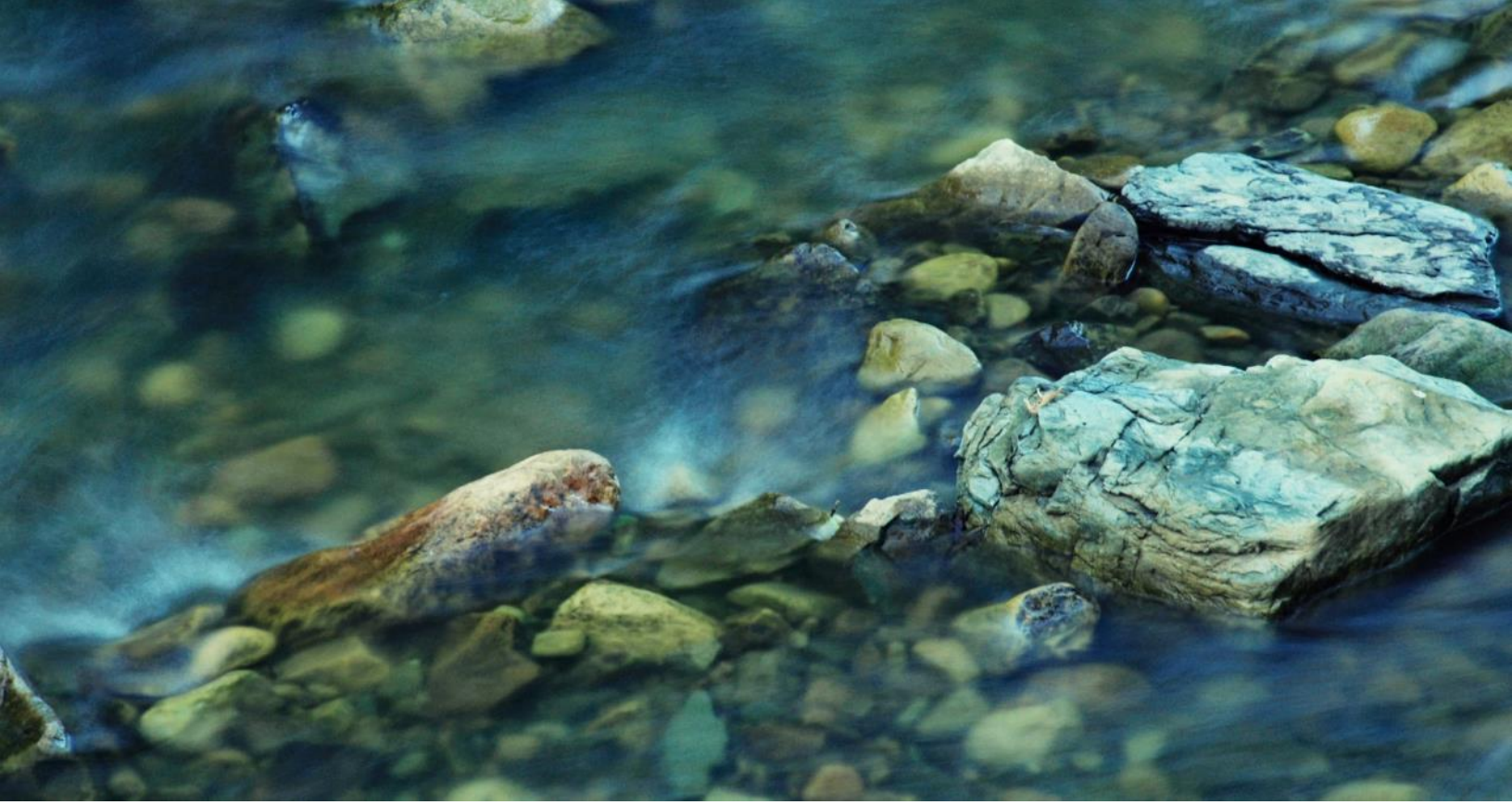


January 2019
Sudden Valley Area Z Remediation

ANCHOR QEA

Completion Report

Prepared for Wilson Engineering and
Sudden Valley Community Association

January 2019
Sudden Valley Area Z Remediation

Completion Report

Prepared for
Wilson Engineering
805 Dupont Street, Suite 7
Bellingham, Washington 98225

and:

Sudden Valley Community Association
4 Clubhouse Circle
Bellingham, Washington 98229

Prepared by
Anchor QEA, LLC
1605 Cornwall Avenue
Bellingham, Washington 98225

TABLE OF CONTENTS

1 Introduction 1

2 Site Background 2

2.1 Site Discovery and Previous Cleanup Actions 2

2.2 2017 Data Report and Cleanup Plan 3

3 Results of Groundwater Monitoring 5

3.1 Groundwater Trends 5

3.2 Compliance with MTCA Cleanup Levels 6

3.3 Pending Reuse of Soil Stockpile Area 6

4 Conclusion 8

5 References Cited 9

CHART

Chart 1 Total Petroleum Hydrocarbon Concentration in Groundwater Over Time

TABLES

Table 1 Summary of 2018 Groundwater Testing Data

Table 2 2018 Groundwater Testing Data

FIGURES

Figure 1 All Field Sampling

Figure 2 Treatment Area with Proposed Development Features

APPENDICES

Appendix A Sudden Valley Area Z Remediation Data Report and Cleanup Plan & Opinion on Proposed Cleanup

Appendix B Analytical Results

Appendix C Terrestrial Ecological Evaluation Form

ABBREVIATIONS

µg/L	micrograms per liter
AST	aboveground storage tank
BTEX	benzene, toluene, ethylbenzene, and xylene
Ecology	Washington State Department of Ecology
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MTCA	Model Toxics Control Act
NWTPH	Northwest Total Petroleum Hydrocarbon (analytical method)
NWTPH-d	Northwest Total Petroleum Hydrocarbon-diesel range
NWTPH-dx	Northwest Total Petroleum Hydrocarbon-diesel range extended
Sudden Valley	Sudden Valley Communication Association
TEE	Terrestrial Ecological Evaluation
WAC	Washington Administrative Code

1 Introduction

This report documents the results of groundwater confirmation monitoring conducted by Anchor QEA, LLC, on behalf of Wilson Engineering and the Sudden Valley Community Association (Sudden Valley) in 2018. The quarterly groundwater testing was performed in accordance with the Area Z Remediation Data Report and Cleanup Plan (Data Report and Cleanup Plan) (Anchor QEA 2018) submitted to and reviewed by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program.

As described in Section 2.1, soil and groundwater contamination was discovered at Area Z in 1999. That contamination was reported to Ecology in accordance with the Model Toxics Control Act (MTCA) (Washington Administrative Code [WAC] 173-304). Subsequent cleanup actions were performed to remediate the contamination.

The monitoring described in this report addresses remaining data gaps defined in the Data Report and Cleanup Plan. Results demonstrate that groundwater within the site complies with MTCA Method A requirements and no further action is required at the site.

2 Site Background

This section provides a summary of site background information, including a summary of previous investigation and remediation actions. Additional detail is described in the Data Report and Cleanup Plan (Anchor QEA 2018).

2.1 Site Discovery and Previous Cleanup Actions

Previous investigation and cleanup actions were performed between 1999 and 2014 by Sudden Valley under the direction of GeoEngineers. Figure 1 summarizes locations of previous soil and groundwater testing activities, soil removal areas, and other site features.

Previous work as described in GeoEngineers reports submitted to Ecology and attached to the Data Report and Cleanup Plan include the following:

- **Environmental Drilling and Sampling Results for Area Z (September 1999) (GeoEngineers 1999):** This report documents the presence of diesel contamination in soil at concentrations of up to 14,100 milligrams per kilogram (mg/kg). Contamination was also detected in groundwater at diesel concentrations up to 19.2 milligrams per liter (mg/L). These concentrations exceeded applicable cleanup levels at the time, and also exceed current applicable cleanup levels (2,000 mg diesel/kg for soils, and 0.5 mg diesel/L for groundwater). The most heavily contaminated area was located in an area near Bear Creek. This area was near a former aboveground storage tank (AST) present within Area Z during 1975 and subsequently removed.
- **February and May 2001 Groundwater Sampling Area Z (GeoEngineers 2000):** During 2000, contaminated soils were excavated from Area Z and placed in an on-site stockpile. The soils were treated using biotreatment (i.e., landfarming). Following that remediation work, GeoEngineers installed a monitoring well (MW-4) at the downgradient edge of the soil removal area, just upgradient from Beaver Creek. Diesel concentrations in that well were measured quarterly between August 2000 and May of 2001. Diesel concentrations in that well decreased over time from 16 mg/L in August 2000 to 1.7 mg/L in May 2001. All four measurements exceeded the groundwater cleanup level applicable at that time for diesel hydrocarbons (1.0 mg/L) and also exceeded the current MTCA Method A groundwater cleanup level (0.5 mg/L).
- **Report of Environmental Services – Area Z Soil Stockpile Sampling (GeoEngineers 2014):** During 2014, GeoEngineers conducted test pit sampling within the portion of Area Z used to treat the petroleum-contaminated soils. Two locations adjacent to the soil stockpile were also tested. One of the stockpile samples (TP-4) contained petroleum concentrations of 2,410 mg/kg, slightly in excess of the current MTCA Method A cleanup level (2,000 mg/kg). Two other samples exceeded the ecological screening levels used by Ecology for diesel hydrocarbons (260 mg/kg for

soil biota; screening level revised as of August 2017). One of the samples from the adjacent area (diesel/oil concentration of 650 mg/kg) also exceeded this ecological screening level but not the Method A cleanup level. Despite the presence of organic matter (plant roots, etc.) in the soil samples, testing during this study was not performed using silica gel cleanup (used to differentiate between petroleum hydrocarbons and non-petroleum, polar or biogenic compounds). This data gap was later resolved by Anchor QEA during 2017 soil testing as described below.

Results of these studies were reviewed by Ecology under the Voluntary Cleanup Program. Ecology concluded that additional information was required to demonstrate compliance with MTCA requirements (Ecology 2014).

2.2 2017 Data Report and Cleanup Plan

In 2017, Anchor QEA was retained by Wilson Engineering and Sudden Valley to resolve site data gaps and assess compliance of the site conditions with MTCA requirements. Test pits were sampled by Anchor QEA within the soil stockpile and adjacent areas in August 2017 at locations shown in Figure 1. This testing was performed to assess whether additional biotreatment was required to comply with MTCA Method A cleanup levels. Soils were analyzed for petroleum concentrations, including Northwest Total Petroleum Hydrocarbon-diesel range (NWTPH-d) analyses performed with and without silica gel cleanup. Consistent with current Ecology guidance for the NWTPH-d analyses, the results of tests performed using silica gel cleanup were used to assess compliance with MTCA Method A cleanup levels. None of the petroleum concentrations measured using silica gel cleanup during the 2017 test pit survey exceeded the MTCA Method A cleanup level.

Due to the small size and developed nature of the site (total acreage of the site is approximately 0.7 acre including the former AST remediation area and the soil stockpile area) the site qualifies for an exclusion from requirements to perform a terrestrial ecological risk evaluation (see exclusion form in Appendix C). However, out of abundance of caution, Anchor QEA performed additional testing to verify the protectiveness of completed soil treatment for sensitive terrestrial ecological receptors using earthworm toxicity bioassays. Testing was performed on soils from locations TP-102 and TP-103, where the highest petroleum concentrations were measured. Soils from near the community garden (TP-100), where no indications of contaminated soils have been observed, were also tested to assess potential background effects. No toxicity was observed in any of the samples tested. Results confirmed that existing soil quality is protective of ecological receptors.

Supplemental groundwater testing was also performed in the stockpile and former source areas. Groundwater testing was performed in the soil stockpile area to verify that soil treatment operations did not impact groundwater quality in this area. Testing locations are shown in Figure 1 and included two temporary soil borings (SB-109 and SB-110) located near the areas of highest measured

petroleum concentrations in soils. No exceedances of groundwater cleanup levels were noted at either of these testing locations.

Groundwater testing was also performed in the former source removal area along Bear Creek, downgradient of the former soil removal area. That testing was performed using both the existing monitoring well (MW-4) and two temporary soil borings located east and west of MW-4 (see Figure 1). Diesel- and oil-range petroleum hydrocarbons were well below MTCA Method A cleanup levels in water samples collected from each of the temporary soil borings. Higher concentrations were detected in MW-4.

These data were used as the basis for defining a recommended cleanup plan for the site, as described in the Data Report and Cleanup Plan. That plan called for implementation of four quarters of groundwater monitoring at well MW-4 located on the downgradient edge of the former soil removal area. Monitoring activities were to include testing for petroleum hydrocarbons both with and without silica gel cleanup so that any biogenic influences on test results could be evaluated.

This Data Report and Cleanup Plan was reviewed by Ecology under the Voluntary Cleanup Program. Ecology concluded that the proposed cleanup plan met the substantive requirements of MTCA, and that upon completion of the work, additional action would not likely be necessary (Ecology 2018). The Data Report and Cleanup Plan and Ecology Opinion Letter are attached as Appendix A.

3 Results of Groundwater Monitoring

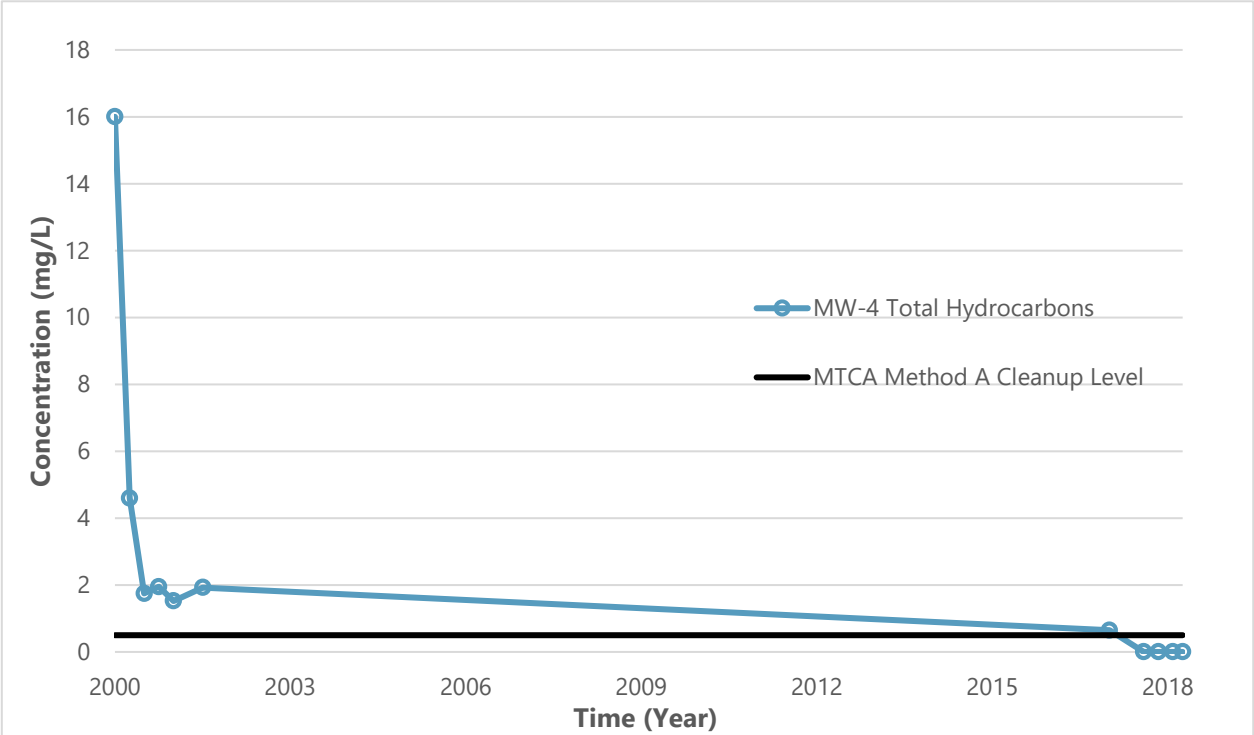
This section provides a summary of groundwater monitoring activities for MW-4 located on the downgradient edge of the former soil removal area. Testing locations are shown in Figure 1.

3.1 Groundwater Trends

Groundwater testing has shown substantial continued reductions of petroleum hydrocarbon concentrations in groundwater since completion of source area soil removal upgradient of MW-4. Results show that conditions have improved substantially since the remediation excavation in 2000. These results are consistent with 1) the removal of the source of the contamination; and 2) subsequent attenuation of residual groundwater contamination through natural biodegradation.

Chart 1 illustrates the decreasing NWTPH concentrations since MW-4 was installed in 2000.

Chart 1
Total Diesel and Motor Oil Concentration in Groundwater Over Time



Notes:
1. Samples collected in 2000 include only diesel range hydrocarbon concentration.
2. When calculating the total concentration of diesel and motor oil range hydrocarbons, non-detect results are assigned a value equal to half of the reporting limit.
3. Data shown prior to 2017 were collected by GeoEngineers.

3.2 Compliance with MTCA Cleanup Levels

Consistent with the Data Report and Cleanup Plan, groundwater was sampled quarterly from MW-4 during 2018. Results are summarized in Table 1. Quarterly results are provided in Table 2 and analytical reports are attached as Appendix B.

All groundwater results from MW-4 during 2018 complied with applicable MTCA Method A cleanup levels for groundwater. Results of paired NWTPH-dx analyses were performed on the sample from MW-4 both with and without silica gel cleanup. The paired analyses were used to quantitatively assess the contribution of the non-petroleum hydrocarbons to measured diesel and oil concentrations. Results confirmed that the presence of non-petroleum compounds produces a bias to the measured concentrations of diesel and oil in MW-4 groundwater. However, cleanup levels were not exceeded with or without the inclusion of silica gel cleanup in the analysis.

- **Results without silica gel cleanup:** The combined maximum concentration (0.26 mg/L) did not exceed the MTCA cleanup level for groundwater (0.5 mg/L).
- **Results with silica gel cleanup:** Testing with silica gel cleanup showed lower concentrations. In this analysis, concentrations of diesel- and oil-range hydrocarbons were below the method reporting limits (0.12 mg/L and 0.20 mg/L, respectively).

Groundwater testing also included analysis for benzene, toluene, ethylbenzene, and xylene (BTEX) compounds. None of these compounds exceeded MTCA cleanup levels in any of the 2018 measurements.

3.3 Pending Reuse of Soil Stockpile Area

Based on the findings of the 2017 test pit survey and groundwater testing, no additional remediation activities are required for the soil stockpile area. Groundwater quality in this area complies with MTCA Method A cleanup levels. Soil quality complies with the MTCA Method A cleanup level for diesel and oil hydrocarbons (combined cleanup level of 2,000 mg/kg) when biogenic interferences are considered. Biotreated soils were tested for toxicity to earthworms and no toxicity was noted.

The total acreage of the site, including the stockpile area and the soil removal area upgradient of MW-4, is approximately 0.7 acre. The former soil removal area is in use as a pump station and equipment yard. The soil stockpile area is to be used for construction of a shop building. The layout of the shop building as approved by Whatcom County is shown in Figure 2. The work will include construction of a maintenance building, a concrete apron, and gravel drive aisles.

In accordance with WAC 173-340-7491(1)(c)(i), the site qualifies for an exclusion from Terrestrial Ecological Evaluation (TEE) as documented in the completed TEE form (Appendix C).

Table 1
Summary of 2018 Groundwater Testing Data

	Location ID Sample Date Sample Matrix	SVCA-MW-4 2018 (Q1-Q4) Groundwater	
	MTCA Method A Cleanup Levels	Max Concentration	Min Concentration
Gasoline range hydrocarbons (mg/L)	0.8	0.10 U	0.10 U
Total Petroleum Hydrocarbons (mg/L)			
Diesel range hydrocarbons	0.5	**0.16**	0.10 U
Motor oil range hydrocarbons	0.5	0.20 U	0.20 U
Total diesel and motor oil range hydrocarbons	0.5	**0.26**	0.15 U
Total Petroleum Hydrocarbons (with silica gel cleanup) (mg/L)			
Diesel range hydrocarbons (with silica gel cleanup)	0.5	**0.12**	0.10 U
Motor oil range hydrocarbons (with silica gel cleanup)	0.5	0.20 U	0.20 U
Total diesel and motor oil range hydrocarbons (with silica gel cleanup)	0.5	**0.22**	0.15 U
Volatile Organics (µg/L)			
Benzene	5	0.20 U	0.20 U
Ethylbenzene	700	0.20 U	0.20 U
Toluene	1000	0.20 U	0.20 U
m,p-Xylene	1000	0.40 U	0.40 U
o-Xylene	1000	0.20 U	0.20 U

Notes:

1. When calculating the total concentration of diesel and motor oil range hydrocarbons, non-detect results are assigned a value equal to half of the reporting limit.
2. "U" indicates that the compound was analyzed, but not detected above detection limit.

4 Conclusion

Groundwater testing data from four consecutive quarters of monitoring have confirmed that groundwater at MW-4 complies with applicable MTCA cleanup levels for groundwater. This demonstration was the final cleanup work required under the Data Report and Cleanup Plan submitted to Ecology under the Voluntary Cleanup Program.

Previous data collected from the stockpile area also indicates that soils and groundwater in this area comply with applicable MTCA Method A cleanup levels. Cleanup actions at Sudden Valley's Area Z are complete and no further remedial actions are required.

5 References Cited

Anchor QEA, 2018. *Sudden Valley Area Z Remediation Data Report and Cleanup Plan*. Prepared for Wilson Engineering and Sudden Valley Community Association. June 8, 2018.

Ecology (Washington State Department of Ecology), 2014. Letter to: Mr. Jeff Schlaak, Sudden Valley Resort. Regarding: Further Action at the Following Site: Sudden Valley Resort. September 2, 2014.

Ecology, 2018. Letter to: Mr. Mark Larsen, Anchor QEA. Regarding: Opinion on Proposed Cleanup of the Following Site: Sudden Valley Resort. August 20, 2018.

GeoEngineers, 1999. Memorandum to: Sandy Cameron, Sudden Valley Community Association. Regarding: Environmental Drilling and Sampling Results for Area Z. September 14, 1999.

GeoEngineers, 2000. *Report of Remedial Excavation Activities, Area Z, Sudden Valley Community Association, Bellingham, Washington*. Prepared for Sudden Valley Community Association. May 23, 2000.

GeoEngineers, 2014. *Report of Environmental Services, Area Z Soil Stockpile Sampling*. Prepared for Sudden Valley Community Association. May 14, 2014.

Tables

Table 2
2018 Groundwater Testing Data

	Location ID Sample Date Sample Matrix	SVCA-MW-4 03/26/2018 Groundwater	SVCA-MW-4 06/12/2018 Groundwater	SVCA-MW-4 09/04/2018 Groundwater	SVCA-MW-4 11/29/2018 Groundwater
	MTCA Method A Cleanup Levels				
Gasoline range hydrocarbons (mg/L)	0.8	0.10 U	0.10 U	0.10 U	0.10 U
Total Petroleum Hydrocarbons (mg/L)					
Diesel range hydrocarbons	0.5	0.10 U	**0.16**	**0.16**	**0.10**
Motor oil range hydrocarbons	0.5	0.20 U	0.20 U	0.20 U	0.20 U
Total diesel and motor oil range hydrocarbons	0.5	0.15 U	**0.26**[1]	**0.26**[1]	**0.20**[1]
Total Petroleum Hydrocarbons (with silica gel cleanup) (mg/L)					
Diesel range hydrocarbons (with silica gel cleanup)	0.5	**0.12**	0.10 U	0.10 U	0.10 U
Motor oil range hydrocarbons (with silica gel cleanup)	0.5	0.20 U	0.20 U	0.20 U	0.20 U
Total diesel and motor oil range hydrocarbons (with silica gel cleanup)	0.5	**0.22**	0.15[1] U	0.15[1] U	0.15[1] U
Fraction removed by silica gel cleanup	--	--	--	--	--
Volatile Organics (µg/L)					
Benzene	5	0.20 U	0.20 U	0.20 U	0.20 U
Ethylbenzene	700	0.20 U	0.20 U	0.20 U	0.20 U
Toluene	1000	0.20 U	0.20 U	0.20 U	0.20 U
m,p-Xylene	1000	0.40 U	0.40 U	0.40 U	0.40 U
o-Xylene	1000	0.20 U	0.20 U	0.20 U	0.20 U

Notes:

1. When calculating the total concentration of diesel and motor oil range hydrocarbons, non-detect results are assigned a value equal to half of the reporting limit.

Detected concentration is greater than the corresponding MTCA Method A cleanup level.

Bold: Detected result

J: Estimated value

U: Compound analyzed, but not detected above detection limit

* : Silica gel cleanup is used to remove biogenic interferences when significant quantities of plant matter or other non-petroleum organic matter are present. In the case of biodegraded petroleum products, the Washington State Department of Ecology determines on a case-by-case basis whether silica gel cleanup is appropriate for determining compliance with cleanup levels.

mg/L: milligrams per liter

µg/L: micrograms per liter

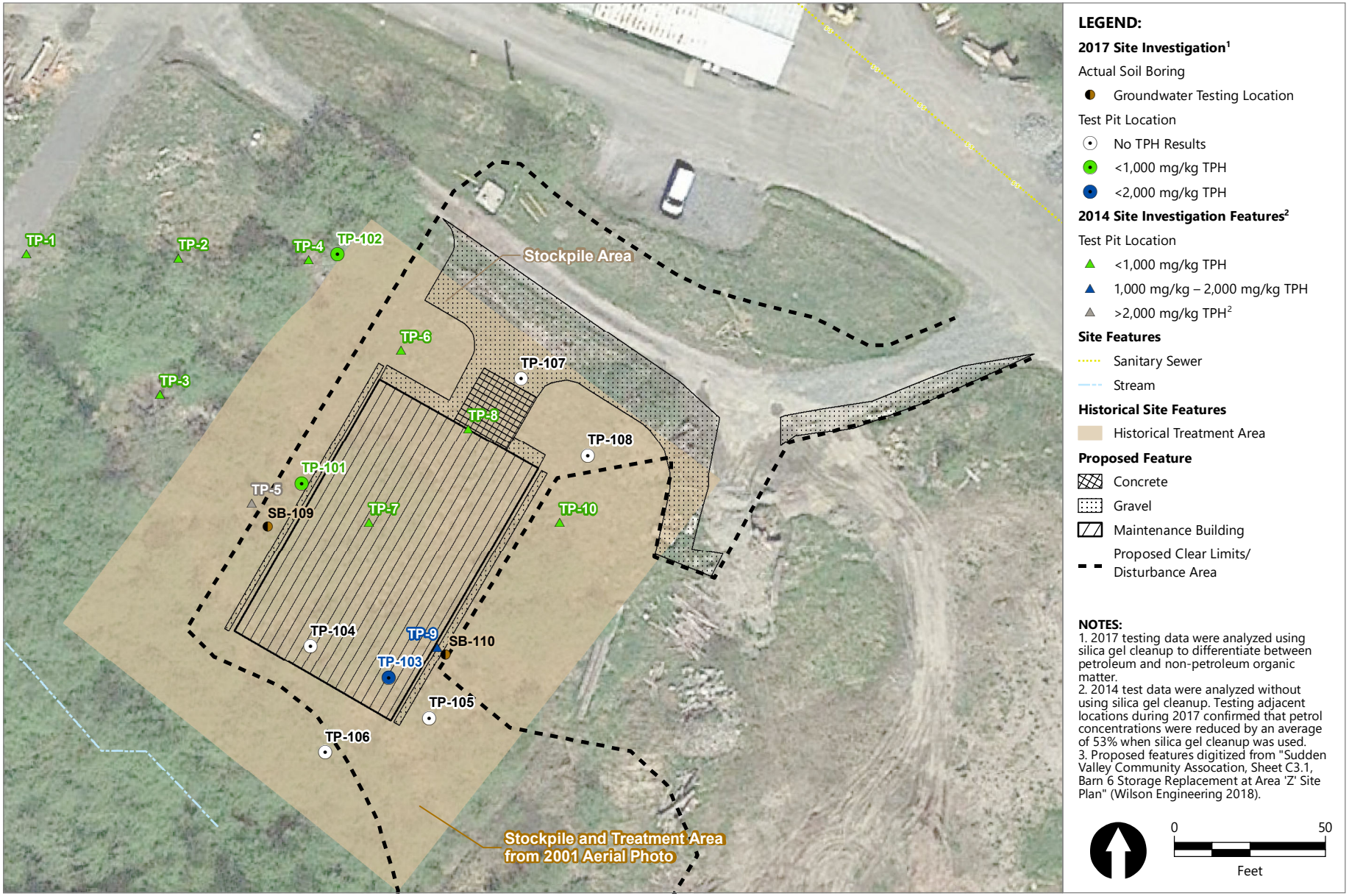
Figures



Publish Date: 2019/01/17, 10:49 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WilsonEngineering_1240\SuddenValleyCommunityAssoc\Maps\AreaZ_Remediation\Proposed_Development\SVCA_Fig1_SamplingLocationsMap.mxd

ANCHOR QEA

Figure 1
Sampling Locations
Area Z Remediation
Sudden Valley Community Association



Publish Date: 2019/01/17, 11:16 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WilsonEngineering_1240\SuddenValleyCommunityAssoc\Maps\AreaZ_Remediation\Proposed_Development\SVCA_Fig2_TreatmentArea_wProposedDevelopmentMap.mxd

ANCHOR QEA

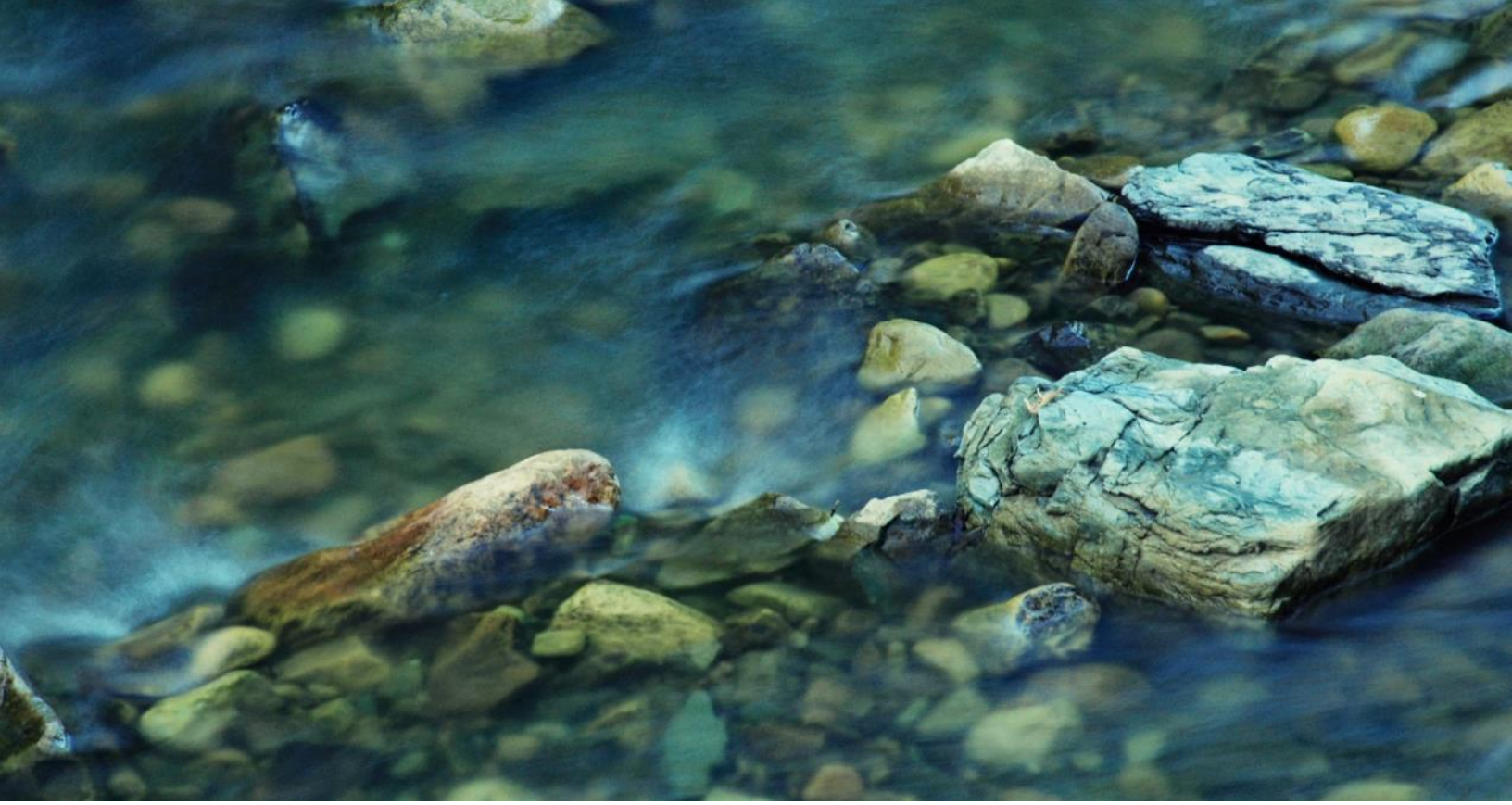
Figure 2
Treatment Area with Proposed Development Area
Area Z Remediation
Sudden Valley Community Association

Appendix A
Sudden Valley Area Z Remediation Data Report and Cleanup Plan & Opinion on Proposed Cleanup

Sudden Valley Area Z Remediation Data Report and Cleanup Plan, Anchor QEA, LLC, June 8, 2018

Opinion on Proposed Cleanup at the Following Site: Sudden Valley Resort, Washington State Department of Ecology, August 20, 2018

Sudden Valley Area Z Remediation Data Report and Cleanup Plan, Anchor QEA, LLC, June 8, 2018



June 2018
Sudden Valley Area Z Remediation

ANCHOR QEA

Data Report and Cleanup Plan

Prepared for Wilson Engineering and
Sudden Valley Community Association

June 2018
Sudden Valley Area Z Remediation

Data Report and Cleanup Plan

Prepared for
Wilson Engineering
805 Dupont Street, Suite 7
Bellingham, Washington 98225

and:

Sudden Valley Community Association
4 Clubhouse Circle
Bellingham, Washington 98229

Prepared by
Anchor QEA, LLC
1605 Cornwall Avenue
Bellingham, Washington 98225

Project Number: 171240-01.02
B:\Projects\WilsonEng\SVCA Area Z\Phase 2\Sudden Valley_Area Z Data Report and Cleanup Plan_2018-06-08.docx

TABLE OF CONTENTS

1 Introduction 1

1.1 Site Background 1

1.2 Purpose of the Current Report 2

2 Investigation Methods 3

2.1 Historical Research and Base Map Update 3

2.2 Soil Sampling and Analysis 4

2.3 Groundwater Sampling and Analysis 5

3 Findings of Supplemental Testing 6

3.1 Soil Quality in Stockpile Area 6

3.2 Soil Quality Near the Community Garden 7

3.3 Earthworm Toxicity Evaluation 7

3.4 Groundwater Quality in Treated Soil Stockpile Area 7

3.5 Groundwater Quality in Former Source Removal Area 7

4 Recommended Cleanup Action 9

4.1 No Additional Work Required in Soil Stockpile Area 9

4.2 Additional Monitoring Recommended for Groundwater in Former Soil Removal Area 9

5 References Cited 11

TABLES

Table 1 Soil Chemical Testing Data

Table 2 Earthworm Bioassay Testing Data

Table 3 Groundwater Testing Data

FIGURES

Figure 1 All Field Sampling

Figure 2 Treatment Area

Figure 3 Aerial Photograph: March 27, 1975

Figure 4 Aerial Photograph: August 9, 2001

APPENDICES

Appendix A	Previous Field Investigations
Appendix B	Historical Aerial Photographs
Appendix C	Field Documentation
Appendix D	Analytical Results
Appendix E	Analysis of Petroleum Chromatograms

ABBREVIATIONS

ARI	Analytical Resources, Inc.
AST	aboveground storage tank
BTEX	benzene, toluene, ethylbenzene, and xylene
Ecology	Washington State Department of Ecology
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MTCA	Model Toxics Control Act
NWTPH	Northwest Total Petroleum Hydrocarbon (analytical method)
NWTPH-d	Northwest Total Petroleum Hydrocarbon-diesel range
NWTPH-dx	Northwest Total Petroleum Hydrocarbon-diesel range extended
NWTPH-g	Northwest Total Petroleum Hydrocarbon-gasoline range
Sudden Valley	Sudden Valley Communication Association
UST	underground storage tank
WAC	Washington Administrative Code

1 Introduction

This report documents the results of soil and groundwater testing conducted by Anchor QEA, LLC, on behalf of Wilson Engineering and the Sudden Valley Community Association (Sudden Valley).

The supplemental soil and groundwater testing was performed to evaluate current environmental conditions within the portion of Sudden Valley known as Area Z. Soil and groundwater contamination in Area Z was discovered in 1999 and reported to the Washington State Department of Ecology (Ecology) in accordance with the Model Toxics Control Act (MTCA; WAC 173-304).

Subsequent cleanup actions have been performed within Area Z, and Sudden Valley has requested review of the cleanup actions under the Voluntary Cleanup Program. Area Z remains listed as a MTCA cleanup site at this time.

1.1 Site Background

Previous investigation and cleanup actions were performed between 1999 and 2014 by Sudden Valley under the direction of GeoEngineers. Figures 1 and 2 summarize locations of previous soil and groundwater testing activities, soil removal areas, and other site features.

Excerpts of previous GeoEngineers reports are attached as Appendix A. These include the following:

- **Environmental Drilling and Sampling Results for Area Z (September 1999) (GeoEngineers 1999):** This report documents the presence of diesel contamination in soil at concentrations of up to 14,100 milligrams per kilogram (mg/kg). Contamination was also detected in groundwater at diesel concentrations up to 19.2 milligrams per liter (mg/L). These concentrations exceeded applicable cleanup levels at the time, and also exceed current applicable cleanup levels (2,000 mg diesel/kg for soils, and 0.5 mg diesel/L for groundwater). The most heavily contaminated area was located in an area near Bear Creek. This area was near a former aboveground storage tank (AST) present within Area Z during 1975 (refer to Section 2.1 and Figure 3).
- **February and May 2001 Groundwater Sampling Area Z (GeoEngineers 2000):** During 2000, contaminated soils were excavated from Area Z and placed in an on-site stockpile (see 2001 aerial photograph in Figure 4). The soils were treated using biotreatment (i.e., landfarming). Following that remediation work, GeoEngineers installed a monitoring well (MW-4) at the downgradient edge of the soil removal area, just upgradient from Beaver Creek. Diesel concentrations in that well were measured quarterly between August 2000 and May of 2001. Diesel concentrations in that well decreased over time from 16 mg/L in August 2000 to 1.7 mg/L in May 2001. All four measurements exceeded the groundwater cleanup level applicable at that time for diesel hydrocarbons (1.0 mg/L) and also exceeded the current MTCA Method A groundwater cleanup level (0.5 mg/L).

- **Report of Environmental Services – Area Z Soil Stockpile Sampling (GeoEngineers 2014):** During 2014, GeoEngineers conducted test pit sampling within the portion of Area Z used to treat the petroleum-contaminated soils. Two locations adjacent to the soil stockpile were also tested. One of the stockpile samples (TP-4) contained petroleum concentrations of 2,410 mg/kg, slightly in excess of the current MTCA Method A cleanup level (2,000 mg/kg). Two other samples exceeded the ecological screening levels used by Ecology for diesel hydrocarbons (260 mg/kg for soil biota; screening level revised as of August 2017). One of the samples from the adjacent area (diesel/oil concentration of 650 mg/kg) also exceeded this ecological screening level but not the Method A cleanup level. Despite the presence of organic matter (plant roots, etc.) in the soil samples, testing during this study was not performed using silica gel cleanup (used to differentiate between petroleum hydrocarbons and non-petroleum, polar or biogenic compounds).

Results of these studies were reviewed by Ecology under the Voluntary Cleanup Program. Ecology concluded that additional information was required to demonstrate compliance with MTCA requirements (Ecology 2014).

1.2 Purpose of the Current Report

Anchor QEA was retained by Wilson Engineering and Sudden Valley to resolve site data gaps, assess compliance of the site conditions with MTCA requirements, and make recommendations regarding final cleanup of the site. Data gaps addressed with the supplemental sampling included the following:

- **Historical Research:** Historical aerial photographs and environmental reports were reviewed to resolve the source of the petroleum contamination. Results were used to update the site base map.
- **Supplemental Soil Stockpile Testing:** Supplemental test pits were sampled by Anchor QEA within the soil stockpile and adjacent areas. This testing was performed to assess whether additional biotreatment was required to comply with MTCA Method A cleanup levels. Soils were analyzed for petroleum concentrations. Additional testing was performed to evaluate protectiveness for sensitive terrestrial ecological receptors.
- **Supplemental Groundwater Testing:** Supplemental groundwater testing was performed in two areas. Groundwater testing was performed in the soil stockpile area to verify that soil treatment operations did not impact groundwater quality in this area. Groundwater testing was also performed in the area along Bear Creek, downgradient of the former soil removal area. That testing was performed using both the existing monitoring well (MW-4) and two temporary soil borings located east and west of MW-4.

Methods and results of the supplemental testing conducted by Anchor QEA work are described in Sections 2 and 3 of this report, respectively. These data are then used as the basis for defining a recommended cleanup plan for the site. That cleanup plan is provided in Section 4.

2 Investigation Methods

The work performed by Anchor QEA was intended to document current soil and groundwater quality relative to MTCA cleanup standards. Activities performed by Anchor QEA are described in this section.

2.1 Historical Research and Base Map Update

Historical research was conducted to resolve the source of the petroleum contamination. This included review of prior environmental reports and Ecology files, compilation and review of historical aerial photographs, and completing interviews with current Sudden Valley staff. Significant observations from that research are summarized below:

- **1992 Underground Storage Tank Removal Report:** Two underground storage tanks (USTs; reported as two 1,000-gallon gasoline tanks) had been located along the western edge of the 2000 source removal area. The completion report for that tank removal (Pinner 1992) did not indicate the presence of petroleum contamination at the UST removal locations. Testing was performed for gasoline and benzene, toluene, ethylbenzene, and xylene (BTEX) compounds, and no contamination was detected above applicable cleanup levels. Testing was not performed for diesel.
- **Subsequent Soil and Groundwater Testing:** Diesel fuel contamination was identified during geotechnical studies for a proposed utility project. Subsequent soil testing was performed by GeoEngineers to assess the nature and extent of the diesel contamination and guide soil remediation activities (GeoEngineers 1999). Measured petroleum concentrations near the former UST removal area did not exceed current MTCA Method A cleanup levels. Concentrations were much higher in the central northern portion of the source removal area. The maximum concentration detected there was 14,100 mg/kg.
- **Initial Release Report and Subsequent Cleanup:** A release report was submitted by GeoEngineers to Ecology (GeoEngineers 2000). That release report referenced the source of the contamination as an AST.
- **Review of Aerial Photographs:** Historical aerial photographs were obtained and reviewed. These photographs are contained in Figures 3 (1975) and 4 (2001) and in Appendix B.
  - 1975 AST: In a photograph from 1975, a large cylindrical AST is visible. The location of the tank is consistent with the areas of highest measured petroleum concentrations in soil. The tank was no longer visible in that location in the next aerial photograph reviewed (1981).
  - UST removal areas: A concrete slab is visible in a photograph from 1988 in approximately the location of the UST removal. The resolution of the photographs is not sufficient to identify pump islands or additional details.
  - Soil treatment stockpile: The soil treatment stockpile area is clearly visible in the photograph from 2001.

- Interviews: Anchor QEA attempted to identify former residents or employees with knowledge of the former UST and AST operations or subsequent cleanup activities. No persons with direct knowledge of these activities were identified.

Figure 1 integrates the findings of the above-listed research, along with the locations of identified utilities, structures, and previous sampling locations.

2.2 Soil Sampling and Analysis

Anchor QEA conducted soil sampling using a small rubber-tired backhoe operated by Sudden Valley staff. Prior to testing, Wilson Engineering confirmed the absence of any regulated wetlands or sensitive areas in the project area.

The locations of previous testing locations were verified by differential GPS. The boundaries of the former stockpile were also confirmed in this manner based on the historical aerial photograph. The historical boundaries were approximately the same as the boundaries of the stockpile observed based on current site topography.

Test pits were then excavated throughout the stockpile area and at one location between the stockpile and the community garden. Test pit locations are shown on Figures 1 and 2.

Each test pit was logged and photographed. Soil samples were screened for the potential presence of volatile organic compounds using a photo-ionization detector. These compounds were not present, consistent with the results of previous testing.

Soil samples were collected for analysis of diesel- and oil-range petroleum hydrocarbons using the Northwest Total Petroleum Hydrocarbon-diesel extended (NWTPH-dx) method. The analysis was performed both with and without silica gel cleanup to assess the influence of non-petroleum hydrocarbons on measured diesel/oil concentrations.

Chemical analyses were performed by Analytical Resources Inc. (ARI, Tukwila). Additional soil samples were archived for contingent earthworm bioassay testing. These samples were sent to the bioassay laboratory (EcoAnalysts, Port Gamble).

Following receipt of soil petroleum testing data, three soil samples were selected for earthworm bioassay testing. Testing was performed by EcoAnalysts consistent with current Ecology guidance. Testing methods are described in Appendix D.

2.3 Groundwater Sampling and Analysis

Groundwater sampling was performed in two steps. First well MW-4 was inspected. Based on silt accumulations in the well, it was redeveloped. Following redevelopment, groundwater samples were collected by low-flow sampling. Groundwater sampling was conducted in August 24, 2017.

Temporary soil borings were then driven by geoprobe to collect groundwater from four additional locations. This second step was performed on September 13, 2017. The four testing locations included the following:

- Locations Near MW-4: Two borings were placed to the east (SB-111) and west (SB-112) of MW-4, along the downgradient edge of the former excavation.
- Locations within Treated Soil Stockpile: Two borings (SB-109 and SB-110) were placed within the footprint of the treated soil stockpile. These were located near the soils containing the highest measured petroleum concentrations during the 2014 and 2017 soil sampling activities.

Groundwater samples were analyzed by ARI for the following constituents:

- Gasoline hydrocarbons (NWTPH-g)
- Diesel/oil hydrocarbons (NWTPH-dx; paired analysis with and without silica gel cleanup)
- BTEX compounds (EPA 8020)

Appendix C contains copies of field logs and associated documentation. Appendix D contains copies of the laboratory testing data.

3 Findings of Supplemental Testing

This section summarizes the preliminary findings of soil and groundwater testing performed by Anchor QEA in 2017. The results are discussed along with the results of prior testing.

3.1 Soil Quality in Stockpile Area

Test pit observations completed in August 2017 verified the location and composition of the treated soil stockpile area. Anchor QEA excavated test pits at each of the locations shown in Figure 1. The boundaries of the stockpile were confirmed visually (based on topography; and based on the presence of plastic liner material in the test pits). Vegetation (saplings, brush, and grasses) was present at each sampling location.

Table 1 summarizes the petroleum concentrations measured in the stockpile soils. The highest concentrations of diesel and oil were measured at TP-102 and TP-103. These locations were near GeoEngineers sampling locations TP-4 and TP-9, the test pits containing the highest petroleum concentrations (petroleum concentrations were measured without the use of silica gel cleanup) during from the 2014 test pit survey.

The Anchor QEA testing included NWTPH-d analyses performed with and without silica gel cleanup. Results of the paired analyses showed that between 40% and 60% of the petroleum contamination consisted of non-petroleum hydrocarbons (polar organic matter such as plant matter or biodegraded petroleum hydrocarbons). Chromatographic analyses of the soil petroleum hydrocarbon data are contained in Appendix E. These analyses confirm the contribution of non-petroleum hydrocarbons to the measured hydrocarbon concentrations in soil.

Consistent with current Ecology guidance for the NWTPH-d analyses, the results of tests performed using silica gel cleanup were used to assess compliance with MTCA Method A cleanup levels:

- None of the petroleum concentrations measured using silica gel cleanup during the 2017 test pit survey exceeded the MTCA Method A cleanup level.
- The 2014 testing results from the GeoEngineers study were evaluated in light of the 2017 results. Only a single sample from the 2014 survey (TP-4; reported TPH concentration of 2,410 mg/kg) had exceeded the MTCA Method A cleanup level. However, when a conservative allowance of 40 percent non-petroleum hydrocarbons is assumed (consistent with the findings of paired analyses performed in 2017 from the same area), the true petroleum concentration estimated for TP-4 is 1,446 mg/kg. A lower concentration would be estimated if the average non-petroleum composition of the 2017 samples were used.

3.2 Soil Quality Near the Community Garden

Test pit sampling was also performed near the community garden, in the location previously sampled by GeoEngineers. No odors, staining, or other indications of contaminated soil were noted. Results of testing at sample TP-100 were well below MTCA Method A cleanup levels.

3.3 Earthworm Toxicity Evaluation

To evaluate potential adverse impacts to sensitive terrestrial ecological receptors, soil toxicity testing was performed using earthworm toxicity bioassays. Results of these bioassays are summarized in Table 2, and laboratory reports are contained in Appendix D.

Testing was performed on soils from TP-102 and TP-103, where the highest petroleum concentrations were measured. Soils from near the community garden (TP-100) were also tested to assess potential background effects.

No toxicity was observed in any of the samples tested. Results demonstrate that existing soil quality is protective of ecological receptors.

3.4 Groundwater Quality in Treated Soil Stockpile Area

Groundwater quality was tested in the treated soil stockpile area. Testing locations are shown in Figure 1 and included two temporary soil borings (SB-109 and SB-110) located near the areas of highest measured petroleum concentrations in soils. No exceedances of groundwater cleanup levels were noted at either of these testing locations.

Results confirm that there were no impacts to groundwater during previous biotreatment of the petroleum-contaminated soils.

3.5 Groundwater Quality in Former Source Removal Area

Groundwater quality was tested in the former source removal area using a combination of the existing groundwater well (MW-4) and two additional temporary soil borings located east and west of that location (see Figure 1).

Prior to the 2000 source removal, three groundwater wells (MW-1, MW-2, and MW-3) had been located at the site. These wells were removed during the cleanup action. MW-4 was then installed following the source removal, at the downgradient edge of the excavation, adjacent to Bear Creek.

Significant siltation was present in MW-4. This was addressed by re-developing the well prior to sampling. Sampling was performed in August 2017 both for MW-4 and for the two nearby soil borings (SB-111 and SB-112).

Diesel- and oil-range petroleum hydrocarbons were well below MTCA Method A cleanup levels in water samples collected from each of the temporary soil borings. Higher concentrations were detected in MW-4.

Results of paired NWTPH-dx analyses were performed on the sample from MW-4 both with and without silica gel cleanup. The paired analyses were used to quantitatively assess the contribution of the non-petroleum hydrocarbons to measured diesel and oil concentrations:

- **Results without silica gel cleanup:** The combined concentration (0.65 mg/L) exceeded the MTCA cleanup level for groundwater (0.5 mg/L). This cleanup level is also considered applicable to surface water (i.e., waters of Beaver Creek) by Ecology.
- **Results with silica gel cleanup:** As with the stockpiled soils, testing with silica gel cleanup showed significantly lower concentrations. In that analysis, concentrations of diesel- and oil-range hydrocarbons were below the method reporting limits (0.10 mg/L and 0.20 mg/L, respectively). Results confirmed that the presence of non-petroleum compounds produces a high bias to the measured concentrations of diesel and oil in MW-4 groundwater.
- **Chromatogram Review:** Appendix E contains a review of TPH chromatograms for the MW-4 groundwater. Results are not consistent with diesel hydrocarbons. The results of paired analyses (with and without silica gel cleanup) indicate a significant contribution of non-petroleum organic matter to the concentrations of petroleum reported from analyses not utilizing silica gel cleanup.

4 Recommended Cleanup Action

This section provides a concise summary of the environmental conditions at Area C, and recommendations regarding additional actions to complete the cleanup of Area Z soils and groundwater under current MTCA regulations and guidance.

4.1 No Additional Work Required in Soil Stockpile Area

Current environmental conditions within the former soil stockpile area comply with applicable MTCA cleanup levels for both soils and groundwater:

- **Soils Comply with MTCA Method A Cleanup Levels:** Results of soil testing confirmed that the stockpiled soil has been successfully treated to below applicable cleanup levels for human health and groundwater quality protection (i.e., below MTCA Method A cleanup levels of 2,000 mg/kg) as measured using appropriate testing procedures (NWTPH-dx with silica gel cleanup). Results of paired analyses demonstrate that both the current data collected by Anchor QEA and the data collected by GeoEngineers in 2014 comply with MTCA Method A cleanup levels.
- **No Impacts were Observed to Terrestrial Ecological Receptors:** The potential for treated soils in the stockpile area to adversely impact the most sensitive terrestrial ecological receptors (in this case earthworms) was directly assessed using soil toxicity bioassays. That testing also included a sample collected near the community garden. No toxicity to earthworms was detected in any of the test samples, confirming that current conditions are protective of ecological receptors.
- **Groundwater Complies with Method A Cleanup Levels:** Groundwater testing was also performed within the soil treatment stockpile area. Results demonstrated that groundwater in that area complies with current MTCA cleanup levels. Testing was performed at two locations representing the highest residual petroleum concentrations, and no impacts were detected.

Based on the foregoing findings, no additional remediation activities are warranted for the soil stockpile area. Neither institutional controls nor future monitoring are required for this area.

4.2 Additional Monitoring Recommended for Groundwater in Former Soil Removal Area

Groundwater testing has shown substantial reductions of petroleum hydrocarbon concentrations in groundwater since completion of source area soil removal near Bear Creek. Results show that conditions have improved substantially over time. These results are consistent with 1) the removal of the source of the contamination; and 2) subsequent attenuation of residual groundwater contamination through natural biodegradation.

Observations from recent testing include the following:

- **Groundwater Analyses Show Decreasing Concentrations at MW-4:** Petroleum concentrations (measured without silica gel cleanup) have decreased dramatically since the source removal was performed in 2000. Reported diesel/oil concentrations have decreased from 19.1 mg/L in 2000, to 1.7 mg/L in 2001 to 0.65 mg/L in 2017. Results are consistent with natural attenuation of residual hydrocarbon concentrations following source removal.
- **Groundwater Near MW-4 Complies with MTCA Cleanup Levels:** The existing monitoring well (MW-4) is located just downgradient of the source removal area. Borings were placed to the east and west of this location. No exceedances of MTCA Method A cleanup levels were detected in groundwater samples collected from either of these borings. This result was consistent both with and without the use of silica gel cleanup.
- **Biogenic Compounds Contribute to Reported Petroleum Concentrations at MW-4:** Prior to the current study, petroleum testing was performed at Area Z without the use of silica gel cleanup. Results of paired analyses of petroleum performed with and without silica gel cleanup were evaluated quantitatively, showing that silica gel cleanup removed the majority of the measured hydrocarbons. Results in samples analyzed with silica gel cleanup comply with MTCA Method A cleanup levels (at reporting limits of 0.10 mg/L for diesel-range and 0.20 mg/L for oil-range hydrocarbons). Chromatograms were also analyzed for chemical signatures (see Appendix E). Results demonstrated the presence of biogenic organic compounds. These observations are consistent with observations from boring logs that showed organic matter (roots, plant matter) in saturated zone soils. Taken together, these factors indicate that the petroleum concentration measurements performed without silica gel cleanup are biased high and are not representative of true petroleum concentrations in MW-4 groundwater.

At this time, we recommend that four quarters of groundwater monitoring be performed at MW-4 to assess seasonal variability and provide a basis for conclusively assessing compliance with MTCA Method A cleanup levels. The recommended monitoring approach is as follows:

- **Collect Four Quarters of Groundwater Data from MW-4:** Four quarters of groundwater monitoring data should be collected from location MW-4. Groundwater should be collected using standard low-flow sampling techniques.
- **Analyze Petroleum Hydrocarbons with and without Silica Gel Cleanup:** Groundwater monitoring should be performed using method NWTPH-dx, both with and without silica gel cleanup. The larger data set (2017 analyses plus four quarters of additional data) will enable the contribution of biogenic hydrocarbons to the observed petroleum concentrations to be more conclusively assessed.
- **Assess Compliance with Method A Cleanup Levels at Year-End:** After four quarters of groundwater monitoring data have been collected, the compliance of the site with MTCA Method A cleanup levels should be re-evaluated.

5 References Cited

Ecology (Washington State Department of Ecology), 2014. Letter to: Mr. Jeff Schlaak, Sudden Valley Resort. Regarding: Further Action at the Following Site: Sudden Valley Resort. September 2, 2014.

GeoEngineers, 1999. Memorandum to: Sandy Cameron, Sudden Valley Community Association. Regarding: Environmental Drilling and Sampling Results for Area Z. September 14, 1999.

GeoEngineers, 2000. *Report of Remedial Excavation Activities, Area Z, Sudden Valley Community Association, Bellingham, Washington*. Prepared for Sudden Valley Community Association. May 23, 2000.

GeoEngineers, 2014. *Report of Environmental Services, Area Z Soil Stockpile Sampling*. Prepared for Sudden Valley Community Association. May 14, 2014.

Pinner (John A. Pinner & Associates), 1992. *Sudden Valley, Three Regulated Underground Storage Tank Removals*. Prepared for Mr. Gordy Gerard, Gerard Enterprises. November 6, 1992.

Tables

Table 1
Soil Chemical Testing Data

	Location ID	SVCA-TP-100	SVCA-TP-101		SVCA-TP-102		SVCA-TP-103		SVCA-SB-111	SVCA-SB-112
	Sample Date	08/23/2017	08/23/2017	08/23/2017	08/23/2017	08/23/2017	08/23/2017	08/23/2017	09/13/2017	09/13/2017
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Depth Interval	0-4 ft	0-2 ft	2-3.5 ft	0-2 ft	3-4 ft	0-2 ft	3-4 ft	14-16 ft	12.5-14.5 ft
	MTCA Method A Cleanup Levels									
Gasoline Range Hydrocarbons	30	2.98 U	2.91 U	--	2.61 U	--	2.93 U	--	5.79 U	5.95 U
Total Petroleum Hydrocarbons (mg/kg)										
Diesel range hydrocarbons	2000	**14.5**	**30.8**	**80.8**	**65.4**	**42.0**	**265**	**754 D**	5.48 U	5.51 U
Motor oil range hydrocarbons	2000	**130**	**56**	**58.5**	**889**	**114**	**315**	**2300 D**	11.0 U	11.0 U
Total diesel and motor oil range hydrocarbons	2000	**144.5**	**86.8**	**139.3**	**954.4**	**156.0**	**580**	**3054**	8.29 U	8.26 U
Total Petroleum Hydrocarbons (with silica gel cleanup) (mg/kg)										
Diesel range hydrocarbons (with silica gel cleanup)	2000	**22.2**	**29.2**	**70.2**	**36.4**	20.5 U	**256**	**447 D**	5.57 U	5.50 U
Motor oil range hydrocarbons (with silica gel cleanup)	2000	**174**	**36.9**	**42.3**	**469**	**42.5**	**91.2**	**861 D**	11.1 U	11.0 U
Total diesel and motor oil range hydrocarbons (with silica gel cleanup)	2000	**196.2**	**66.1**	**112.5**	**505.4**	**52.8**	**347.2**	**1308**	8.33 U	8.25 U
Fraction removed by silica gel cleanup	--	--	--	--	47%	66%	40%	57%	--	--
Results of earthworm toxicity tests (see Table 2)	--	**Pass**	Not tested	Not tested	**Pass**	Not tested	**Pass**	Not tested	Not tested	Not tested
Volatile Organics (µg/kg)										
Benzene	30	**0.42 J**	**0.2 J**	**--**	**0.95**	**--**	**0.25 J**	**--**	0.98 U	0.88 U
Ethylbenzene	6000	0.55 U	0.51 U	**--**	0.47 U	**--**	**0.23 J**	**--**	0.98 U	0.88 U
Toluene	7000	**13.4**	**0.32 J**	**--**	**0.41 J**	**--**	**0.34 J**	**--**	0.98 U	0.88 U
m,p-Xylene	9000	1.11 U	1.02 U	**--**	0.95 U	**--**	**0.62 J**	**--**	1.96 U	1.76 U
o-Xylene	9000	0.55 U	0.51 U	**--**	0.47 U	**--**	**0.24 J**	**--**	0.98 U	0.88 U

Detected concentration is greater than the corresponding MTCA Method A cleanup level.

Bold: Detected result

J: Estimated value

U: Compound analyzed, but not detected above detection limit

D: Reported value is from a dilution

* : Silica gel cleanup is used to remove biogenic interferences when significant quantities of plant matter or other non-petroleum organic matter is present. In the case of biodegraded petroleum products the Washington State Department of Ecology determines on a case-by-case basis whether silica gel cleanup is appropriate for determining compliance with cleanup levels.

mg/kg: milligrams per kilogram

µg/kg: micrograms per kilogram

Table 2
Earthworm Bioassay Testing Data

Location ID	Sample Date	Depth Interval	TPH Concentration (Diesel and Oil)	Replicate	Number Initiated	Number Surviving	Number Missing or Dead	Percentage Survival	Mean Percentage Survival	SD
Control	--	--	--	1	10	10	0	100%	100%	0
				2	10	10	0	100%		
				3	10	10	0	100%		
SVCA-TP-100	8/23/2017	0-4 ft	**144.5** (196.2)	1	10	10	0	100%	100%	0
				2	10	10	0	100%		
				3	10	10	0	100%		
SVCA-TP-102	8/23/2017	0-2 ft	**954.4** (505.4)	1	10	10	0	100%	100%	0
				2	10	10	0	100%		
				3	10	10	0	100%		
SVCA-TP-103	8/23/2017	0-2 ft	**580** (340.7)	1	10	9	1	90%	97%	5.8
				2	10	10	0	100%		
				3	10	10	0	100%		

Notes:
Bold values represent petroleum hydrocarbon concentrations measured wtihout silica gel cleanup. The values in parentheses represent petroleum concentrations measured after silica gel cleanup.
TPH: total petroleum hydrocarbon
SD: standard deviation

Table 3
Groundwater Testing Data

	Location ID	SVCA-MW-4	SVCA-MW-4	SVCA-GW-109	SVCA-GW-110	SVCA-GW-111	SVCA-SB-112
	Sample Date	08/24/2017	03/26/2018	09/13/2017	09/13/2017	09/13/2017	09/13/2017
	Sample Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
	MTCA Method A Cleanup Levels						
Gasoline range hydrocarbons (mg/L)	0.8	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Total Petroleum Hydrocarbons (mg/L)							
Diesel range hydrocarbons	0.5	**0.37**	0.10 U	**0.23**	0.10 U	**0.14**	0.10 U
Motor oil range hydrocarbons	0.5	**0.28**	0.20 U	0.23 U	0.20 U	0.20 U	0.20 U
Total diesel and motor oil range hydrocarbons	0.5	**0.65**	0.15 U	**0.35**[1]	0.15[1] U	**0.23**[1]	0.15[1] U
Total Petroleum Hydrocarbons (with silica gel cleanup) (mg/L)							
Diesel range hydrocarbons (with silica gel cleanup)	0.5	0.05 U	**0.12**	0.10 U	0.10 U	0.10 U	0.10 U
Motor oil range hydrocarbons (with silica gel cleanup)	0.5	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Total diesel and motor oil range hydrocarbons (with silica gel cleanup)	0.5	0.15 U	**0.12**	0.15[1] U	0.15[1] U	0.15[1] U	0.15[1] U
Fraction removed by silica gel cleanup	--	--	--	--	--	--	--
Volatile Organics (µg/L)							
Benzene	5	0.20 U	0.20 U	0.20 U	0.20 U	**0.04 J**	0.20 U
Ethylbenzene	700	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Toluene	1000	**0.04 J**	0.20 U	0.20 U	0.20 U	**0.05 J**	0.20 U
m,p-Xylene	1000	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
o-Xylene	1000	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Notes:
1. When calculating the total concentration of diesel and motor oil range hydrocarbons, non-detect results are assigned a value equal to half of the reporting limit

Detected concentration is greater than the corresponding MTCA Method A cleanup level.

Bold: Detected result

J: Estimated value

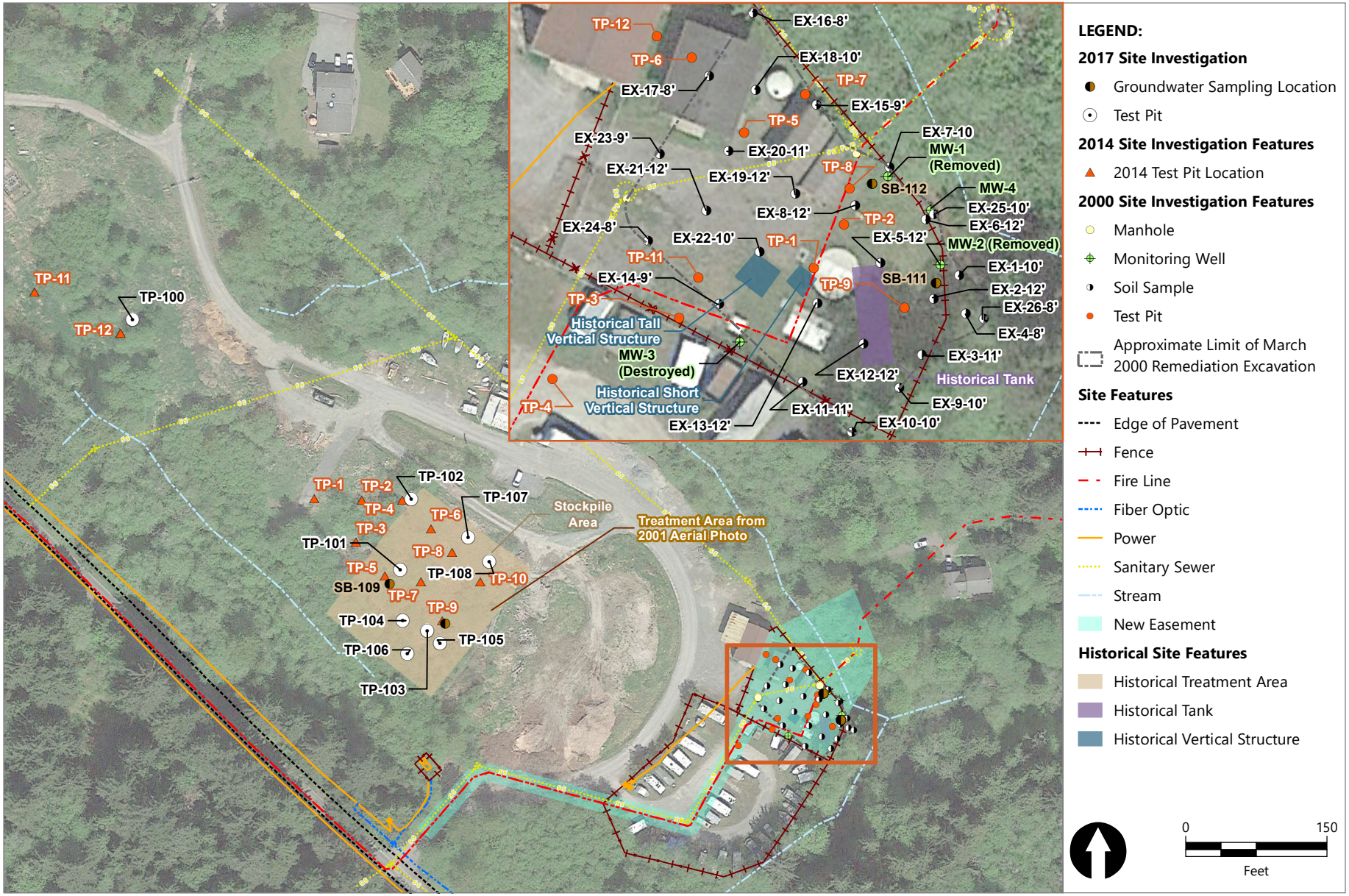
U: Compound analyzed, but not detected above detection limit

* : Silica gel cleanup is used to remove biogenic interferences when significant quantities of plant matter or other non-petroleum organic matter are present. In the case of biodegraded petroleum products, the Washington State Department of Ecology determines on a case-by-case basis whether silica gel cleanup is appropriate for determining compliance with cleanup levels.

mg/L: milligrams per liter

µg/L: micrograms per liter

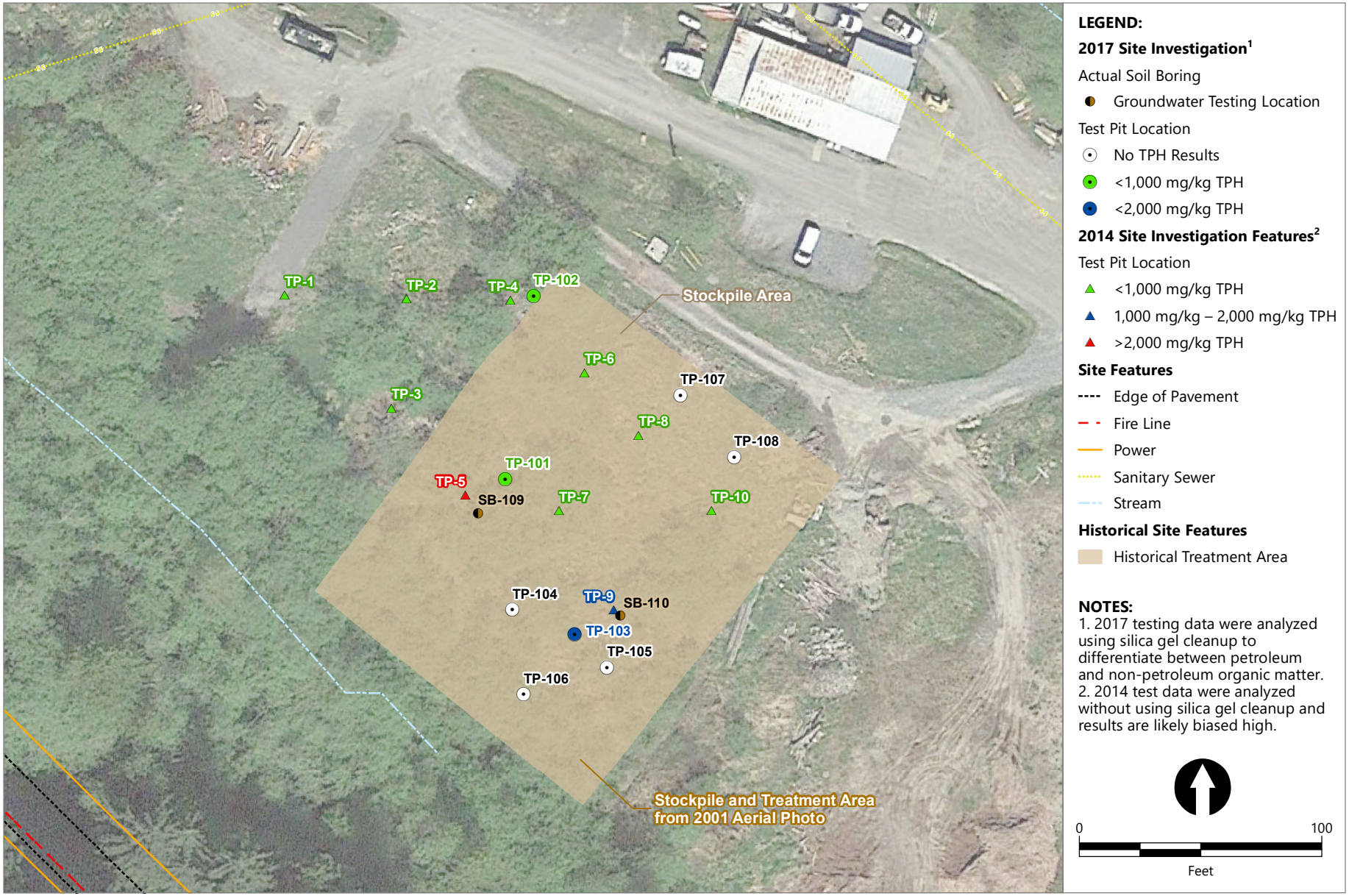
Figures



Publish Date: 2018/06/08, 6:58 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WilsonEngineering_1240\SuddenValleyCommunityAssoc\Maps\AreaZ_Remediation\Memo_to_Ecology\SVCA_Fig1_AllSampling_SummaryMap.mxd

ANCHOR QEA

Figure 1
Sampling
Area Z Remediation
Sudden Valley Community Association



Publish Date: 2018/06/08, 7:02 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WilsonEngineering_1240\SuddenValleyCommunityAssoc\Maps\AreaZ_Remediation\Memo_to_Ecology\SVCA_Fig2_TreatmentAreaMap.mxd

ANCHOR QEA

Figure 2
Treatment Area
Area Z Remediation
Sudden Valley Community Association



ANCHOR QEA

Figure 3
Aerial Photograph: March 27, 1975
SVCA Area Z Remediation



ANCHOR QEA

Figure 4
Aerial Photograph: August 9, 2001
SVCA Area Z Remediation

Opinion on Proposed Cleanup at the Following Site: Sudden Valley Resort, Washington State Department of Ecology, August 20, 2018

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Bellingham Field Office • 913 Squalicum Way, Unit 101 • Bellingham, Washington 98225
(360)255-4400 • FAX (360) 715-5225

August 20, 2018

Mr. Mark Larsen
Anchor QEA
1119 Pacific Ave., Suite 1600
Tacoma, WA 98402

Re: Opinion on Proposed Cleanup of the following Site:

- **Site Name:** Sudden Valley Resort
- **Site Address:** 2650 Lake Louise Road, Bellingham, WA 98229
- **Facility/Site No.:** 47652753
- **VCP Project No.:** NW2897
- **Cleanup Site ID:** 6154
- **LUST No.**: 3929 – Sudden Valley Area Z

Dear Mr. Larsen:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of the Sudden Valley Resort facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Upon completion of the proposed cleanup, will further remedial action likely be necessary to clean up contamination at the Site?

NO. Ecology has determined that, upon completion of your proposed cleanup, no further remedial action will likely be necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Gasoline-, diesel- and oil-range petroleum hydrocarbons into the soil.
- Diesel-range petroleum hydrocarbons into the ground water.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. John A. Pinner & Associates, *Sudden Valley 2145 Lake Whatcom Blvd, Bellingham, Washington, Multiple Underground Storage Tank Removal,* November 6, 1992.

2. John A. Pinner & Associates, *Final Report, Treatment Bed Area Z, Sudden Valley, Washington,* July 16, 1993.

3. GeoEngineers, Memorandum – *Environmental Drilling and Sampling Results for Area Z,* September 14, 1999.

4. GeoEngineers, *Report of Remedial Excavation Activities, Area Z, Sudden Valley Community Association, Bellingham, Washington*, May 23, 2000.

5. GeoEngineers, *Report of Environmental Services, Monitoring Well Replacement and Ground Water Sampling, Area Z, Bellingham, Washington*, December 27, 2000.

6. GeoEngineers, *February and May 2001 Ground Water Sampling, Area Z, Bellingham, Washington*, June 4, 2001.

7. GeoEngineers, *February 2002 Ground Water Sampling, Sudden Valley Community Association, Area Z, Bellingham, Washington*, February 26, 2002.

8. GeoEngineers, *Report of Environmental Services, Area Z Soil Stockpile Sampling*, May 14, 2014.

9. Department of Ecology, *Further Action Opinion Letter, Sudden Valley Resort, VCP*

NW2897, September 2, 2014.

10. Anchor QEA, *Data Report and Cleanup Action Plan, Sudden Valley Area Z Remediation*, June, 2018.

The reports listed above will be kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by completing a Request for Public Record form (https://www.ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests) and emailing it to PublicRecordsOfficer@ecy.wa.gov, or contacting the Public Records Officer at 360-407-6040. A number of these documents are accessible in electronic form from the Site web page (https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=6154).

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that, upon completion of your proposed cleanup, **no further remedial action** will likely be necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A**

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

Soil:

The Site is located in a residential/recreational development in rural Whatcom County. Soil cleanup levels suitable for unrestricted land uses are therefore applicable to this Site. MTCA Method A cleanup levels for unrestricted land uses were selected. Method A cleanup levels for soil were established based on direct contact and the protection of ground water.

The following potential exposure/risk pathways were appropriate to consider:

- Human health protection from direct soil contact pathway exposure

- Human health protection from soil-to-groundwater pathway exposure
- Human health protection from soil-to-air pathway exposure
- Human health protection from soil-to-surface water pathway exposure
- Terrestrial ecological protection

Soil cleanup levels protective of terrestrial ecological receptors are not applicable for this Site, based on the exclusion relating to proximity of undeveloped land in accordance with WAC 173-340-7491(1)(c)(i). There are less than 1.5 contiguous acres of undeveloped land on or within 500 feet of any part of the Site. Eligibility for a TEE exclusion must be documented by completion and submittal to Ecology of a TEE Evaluation form; see https://fortress.wa.gov/ecy/publications/SummaryPages/ECY090300.html .

The point of compliance for soil under these conditions is throughout the Site.

Ground Water:

Ground water cleanup levels protective of ground water as a drinking water source are appropriate for this Site. MTCA Method A was selected for the establishment of cleanup levels for the Site which is protective of this use.

The standard point of compliance for ground water is throughout the Site, from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site.

3. Selection of cleanup action.

Ecology has determined the cleanup action you proposed for the Site meets the substantive requirements of MTCA.

The selected cleanup action for soil consisted of contaminated soil excavation, on-Site soil treatment by land farming, natural attenuation, and collecting and analyzing an appropriate number of soil samples, to demonstrate that the resulting data complies with the MTCA Method A soil cleanup levels.

The selected cleanup action for ground water consists of natural attenuation. Four quarters of groundwater monitoring data will be collected from location MW-4. Ground water samples will be collected using standard low-flow sampling techniques.

Ground water sample analyses will be conducted using method NWTPH-Dx, both with and without silica gel cleanup. The larger data set (2017 analyses plus four quarters of additional data) will enable the proposed contribution of biogenic hydrocarbons to the observed petroleum concentrations to be more conclusively assessed, following the requirements of the June 2016 "*Guidance for Remediation of Petroleum Contaminated Sites*," as discussed in detail in Site Description, Enclosure A to this letter.

Following four consecutive quarters of ground water monitoring, the data will be evaluated for compliance with MTCA Method A cleanup levels.

4. **Submittal of Site documents.**

Please note that engineering, geologic, and hydrogeologic work must be performed under seal of an appropriately licensed professional, per RCW 18.43 and 18.220.

Limitations of the Opinion

1. **Opinion does not settle liability with the state.**

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. **Opinion does not constitute a determination of substantial equivalence.**

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you proposed will be substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. **Opinion is limited to proposed cleanup.**

This letter does not provide an opinion on whether further remedial action will actually be necessary at the Site upon completion of your proposed cleanup. To obtain such an opinion, you must submit a report to Ecology upon completion of your cleanup and request an opinion under the VCP.

4. **State is immune from liability.**

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). As you conduct your cleanup, please do not hesitate to request additional services. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at (360) 255-4381 or e-mail at john.guenther@ecy.wa.gov.

Sincerely,

John Guenther, LHG
NWRO Toxics Cleanup Program

Enclosure: A – Description and Diagrams of the Site

cc: Sonia Fernandez, NWRO VCP Coordinator, Ecology
Mitch Waterman, Sudden Valley Community Association

Enclosure A

Description and Diagrams of the Site

Site Description

This section provides Ecology's understanding and interpretation of Site conditions, and is the basis for the opinions expressed in the body of the letter.

Site Definition
The Site is defined by the nature and extent of gasoline-, diesel- and oil-range petroleum hydrocarbons into the soil and diesel-range petroleum hydrocarbons into the ground water at 2650 Lake Louise Road, Bellingham, Washington. The Site is located within a Property known as Sudden Valley Resort Area Z.

Area/Property Description
The Property (Area Z) is a developed maintenance and service area consisting of gravel surfaced roads and parking areas, a couple of maintenance shop buildings, boat storage, slash piles and an underground sewer lift station. The Property is identified as Whatcom County Tax Parcel 3704073823790000.

Property History and Current Use
The Property was undeveloped and forested until sometime during the 1970s when it was developed as part of the Sudden Valley residential and recreational community. Current use consists of materials storage, equipment maintenance and an underground sewer lift station. The Property is zoned "Rural" according to the Whatcom County Title 20 Zoning Designation map dated 2013.

Contaminant Source and History
The source of gasoline-range petroleum hydrocarbon contamination in soil is from four former gasoline underground storage tanks (USTs). The source of diesel- and oil-range petroleum hydrocarbon contamination in soil and ground water is from a former aboveground storage tank that was located near Bear Creek (Anchor, 2018).

Physiographic Setting
The Site is located within the northern portion of the Puget Sound Lowland Physiographic Province, a north-south trending structural and topographic depression bordered on its west side by the Puget Sound and San Juan Islands and to the east by the Cascade Mountain foothills. The San Juan Islands form the division between the Puget Sound Lowland and the Strait of Georgia in British Columbia. The Puget Sound Lowland is underlain by Tertiary volcanic and sedimentary bedrock, and has been filled to the present day land surface with Pleistocene glacial and non-glacial sediments.

Repeated advances and retreats of the continental glaciers that flowed through the area out of Canada more than 10,000 years ago created the low undulating plains that are characteristic of the Puget Sound Lowland. Current land surfaces reflect the most recent changes that are directly related to glacial events, including the regionally expansive Fraser River Delta, occurring between 13,000 and 20,000 years ago.

Ecological Setting
The ecological setting is forested residential development with two creeks (Beaver and Austin) within relatively close proximity to the Site. Beaver Creek is located approximately 200 feet to the northeast of the soil stockpile and adjacent to a former aboveground storage tank. Austin Creek is located approximately 400 feet to the southeast of the soil stockpile. Lake Louise Road bounds the western Site boundary.

Geology
According to a U.S. Geologic Survey (USGS) geologic map for the project area, "Geologic Map of Western Whatcom County, Washington" by Don J. Easterbrook, 1976, the Site lies within an area underlain by bedrock of the Chuckanut Formation. However, based on previous exploration and excavation activities, the subsurface in Area Z consists of modified ground (historical fill) over alluvium from the nearby Beaver and Austin Creeks, glacial deposits, and then bedrock.

According to the "Soil Survey of Whatcom County Area, Washington," United States Department of Agriculture Soil Conservation Service (SCS), 1992, the Site lies within an area mapped as Sehome loam, described as gravelly loam underlain by dense glacial till at depth. Permeability is moderate in the upper part of the Sehome soil and very slow in the dense glacial till.

Ground Water
The nearest drinking water well is located at 2097 Lake Whatcom Boulevard, approximately 1.7 miles northeast of the Site, according to Ecology's Washington State Well Log Viewer online mapping application.

Depth to ground water in monitoring well MW-4, the only existing monitoring well on the Property, has ranged from 9.16 to 12.75 feet bgs (historic and 2017 data). In 2017, four ground water samples were collected from four temporary soil borings (SB-109, SB-110, SB-11 and SB-112) and depth to ground water was measured at 15.0, 15.0, 15.0 and 13.5 feet bgs, respectively. The ground water flow direction and hydraulic gradient has not been determined, but is presumed to be eastward toward Beaver Creek.

Surface Water
Natural surface water features proximal to the Property include Beaver Creek, Austin Creek, Lake Louise and Lake Whatcom. Beaver Creek is located approximately 200 feet to the northeast, Austin Creek is located approximately 400 feet to the southeast, Lake Louise is located approximately 2,000 feet to the east and Lake Whatcom is located approximately 1 mile east of the Site.

Water Use/Water Supply
Potable water is supplied to the Sudden Valley Resort and surrounding community via a water intake located in Lake Whatcom that is owned, operated and maintained by the Lake Whatcom Water and Sewer District.

Release and Extent of Contamination – Soil

Diesel- and oil-range petroleum hydrocarbon contaminated soil was encountered during geotechnical work associated with the expansion of a proposed sewer lift station at Area Z in 1999. Approximately 2,500 cubic yards of diesel- and oil-range petroleum hydrocarbon contaminated soil were excavated as part of the development of the new sewer lift station in 2000. It is not clear if this soil was mixed with gasoline-range petroleum hydrocarbon contaminated soil generated from the removal of the four USTs in 1992 and stockpiled at Area Z.

In 2014, a total of ten test pits (TP-1 through TP-10) were completed in the soil stockpile and one soil sample was collected from each test pit. Each test pit was completed to a depth ranging from 5 to 10 feet below the ground surface bgs. Subsurface conditions encountered in each of the test pits consisted of fill soil comprised of brown and gray silty sand with varying gravel content.

Buried visqueen plastic sheeting, assumed to be from the cover of the original stockpile, was observed at approximately 3 feet bgs in some areas – indicating that clean fill may have been placed on the stockpile. The soils above the visqueen did not exhibit evidence of petroleum contamination by field screening. The gray-colored soils below the visqueen intermittently exhibited visual field screening evidence of petroleum contamination.

Occasional wood, concrete rubble, cobbles and asphalt concrete fragments were encountered in several test pits. Significant amounts of asphalt concrete fragments were encountered in test pit TP-5 at approximately 3 to 5 feet bgs. Shallow perched groundwater seepage was also encountered approximately 5 feet and 4 feet bgs in test pits TP-3 and TP-5, respectively. Petroleum sheen was not observed on the groundwater seepage. The bottom of the stockpile and condition of the visqueen liner below the stockpile was not identified. The sources of the wood, concrete rubble, cobbles and asphalt concrete fragments were not reported.

Oil-range petroleum hydrocarbon contamination was detected in two soil samples (TP-11 and TP-12) collected near the community garden area in 2014. No potential source for this oil-range petroleum hydrocarbon contamination has been reported.

Additional soil quality investigation work was conducted in 2017. Current environmental conditions within the former soil stockpile area indicate compliance with applicable MTCA Method A soil cleanup levels. Results of soil testing confirmed that the stockpiled soil has been successfully treated to below applicable cleanup levels for human health and groundwater quality protection (i.e., below MTCA Method A cleanup levels of 2,000 mg/kg), as measured using appropriate testing procedures (NWTPH-dx with silica gel cleanup). Results of paired analyses demonstrate that both the current data collected by Anchor QEA and the data collected by GeoEngineers in 2014 comply with MTCA Method A cleanup levels.

The potential for treated soils in the stockpile area to adversely impact the most sensitive terrestrial ecological receptors (in this case earthworms) was directly assessed using soil toxicity bioassays. That testing also included a sample collected near the community garden. No toxicity

to earthworms was detected in any of the test samples, confirming that current conditions are protective of ecological receptors.

Release and Extent of Contamination – Ground Water

Ground water contamination beneath the Site has been characterized. Three ground water monitoring wells (MW-1 through MW-3) were completed on the Property in 1999. Monitoring wells MW-1 and MW-2 were removed during remediation activities at a later unknown date. Monitoring well MW-3 was covered or destroyed and has not been re-located. No ground water data from monitoring well's MW-1, MW-2 or MW-3 have been reported.

A fourth ground water monitoring well (MW-4) was completed to 20 feet bgs on the Property in 2000. Ground water samples were collected from monitoring well MW-4 on six occasions: in August and November 2000; February, May and August 2001; and in February 2002. Diesel-range petroleum hydrocarbons were detected in each of the MW-4 ground water samples ranging from 1,400 to 16,000 micrograms per liter (µg/L). The MTCA Method A groundwater cleanup level for diesel-range petroleum hydrocarbons is 500 µg/L.

Five ground water samples were collected in 2017, one each from MW-4 and four temporary soil borings, and analyzed for diesel- and oil-range petroleum hydrocarbons and BETX. The combined diesel- and oil-range petroleum hydrocarbons detected in the sample collected from MW-4 was 650 µg/L, slightly above the MTCA Method A ground water cleanup level of 500 µg/L. The analytical results for the other four ground water samples were either non-detect or below the MTCA Method A ground water cleanup levels. Well MW-4 was also sampled in March 2018.

All of the ground water samples were analyzed with and without silica gel cleanup, and the chromatograms for all of the analyses were presented. Petroleum concentrations (measured without silica gel cleanup) have decreased dramatically since the source removal was performed in 2000. Reported diesel/oil concentrations have decreased as follows: 19.1 mg/L in 2000, 1.7 mg/L in 2001, 0.65 mg/L in 2017, and <0.15 mg/L in 2018. Results are consistent with natural attenuation of residual hydrocarbon concentrations following source removal.

The existing monitoring well (MW-4) is located immediately in the presumed hydraulically downgradient location of the source removal area. The four temporary soil borings completed in 2017 were advanced to the east and west of this location. No exceedances of MTCA Method A cleanup levels were detected in ground water samples collected from these borings. This result was consistent both with and without the use of silica gel cleanup.

Prior to the current remedial investigation, petroleum testing was performed at Area Z without the use of silica gel cleanup. Results of paired analyses of petroleum performed with and without silica gel cleanup were evaluated quantitatively, showing that silica gel cleanup removed the majority of the measured hydrocarbons. Results in samples analyzed with silica gel cleanup comply with MTCA Method A cleanup levels (at reporting limits of 100 µg/L for diesel-range and 200 µg/L for oil range hydrocarbons).

Chromatograms were also analyzed for chemical signatures. Results demonstrated the presence of biogenic organic compounds. These observations are consistent with observations from boring logs that showed organic matter (roots, plant matter) in saturated zone soils. Taken together, these factors indicate that the petroleum concentration measurements performed without silica gel cleanup may be biased high and may not be representative of true petroleum concentrations in MW-4 groundwater.

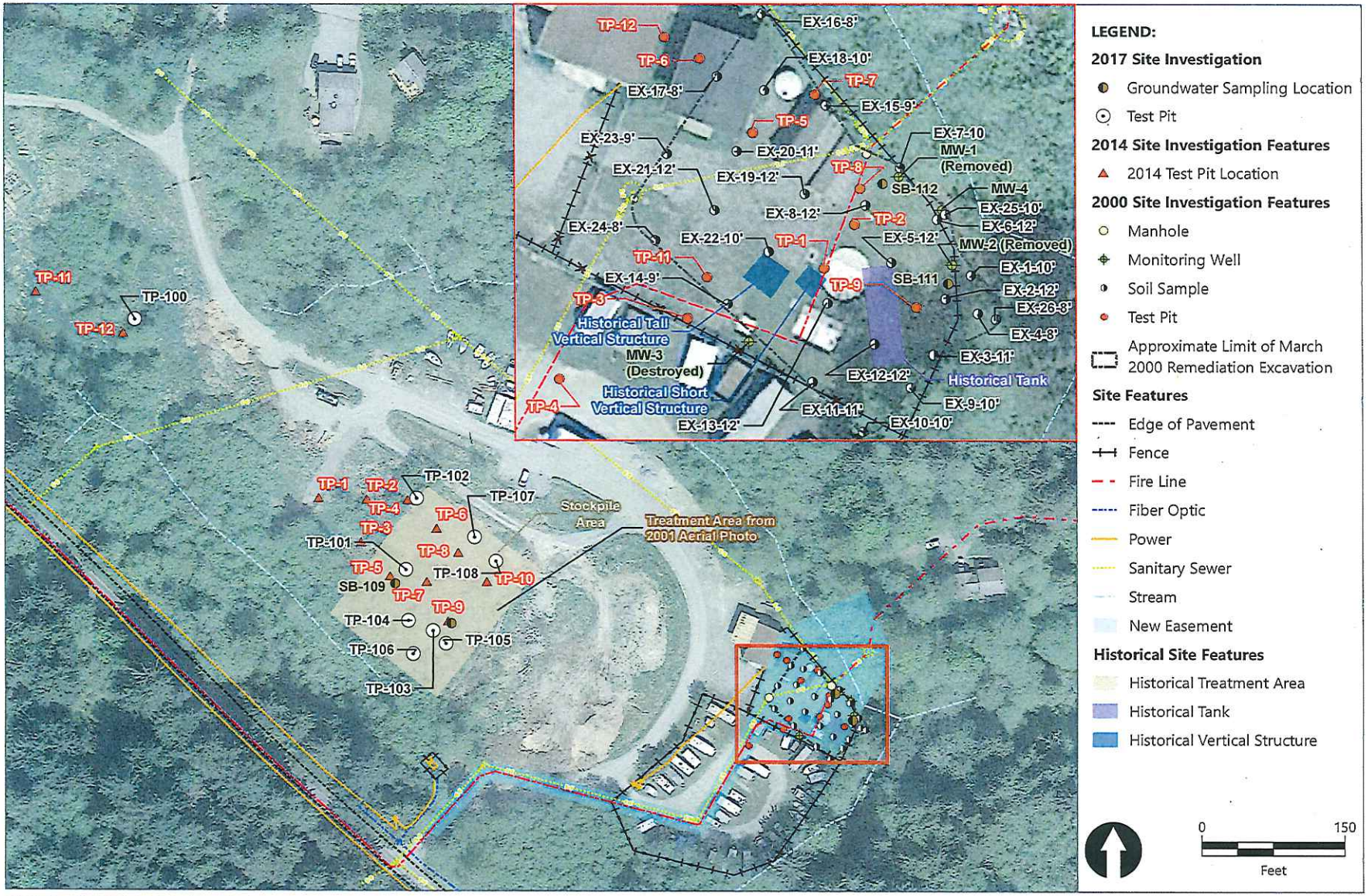
In order to accept ground water samples subjected to silica gel cleanup, the following section on page 99 of the "*Guidance for Remediation of Petroleum Contaminated Sites*" (Ecology Publication No. 10-09-057, Revised June 2016) must be followed:

However, most groundwater does not contain significant levels of naturally occurring organic matter. For this reason, silica gel cleanup should not be used for NWTPH-Dx analyses of groundwater samples unless uncontaminated background samples indicate that naturally occurring organic matter is a significant component of the TPH being detected in the groundwater samples.[23] If silica gel cleanup is used, groundwater samples should be split and analyzed both with and without silica gel cleanup.

[23] Determined by analyzing clean background samples to obtain an estimate of the naturally occurring organics contribution to the TPH totals.

Ecology is requiring a minimum of four consecutive quarters of ground water data results below the MTCA Method A cleanup levels for ground water samples collected from MW-4 prior to considering a No Further Action opinion.

Site Diagrams



Publish Date: 2018/06/08, 6:58 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WilsonEngineering_1240\SuddenValleyCommunityAssoc\Maps\AreaZ_Remediation\Memo_to_Ecology\SVCA_Fig1_AllSampling_SummaryMap.mxd

ANCHOR QEA

Figure 1
Sampling
Area Z Remediation
Sudden Valley Community Association

Appendix B
Analytical Results

Groundwater Analytical Results (18C0424), Analytical Resources, Inc., April 2018

Groundwater Analytical Results (18F0189), Analytical Resources, Inc., June 2018

Groundwater Analytical Results (18I0031), Analytical Resources, Inc., September 2018

Groundwater Analytical Results (18K0439), Analytical Resources, Inc., December 2018

Analytical Resources, Incorporated
Analytical Chemists and Consultants

09 April 2018

Jennifer Allen
Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle, WA 98101

RE: SVCA Area Z Remediation

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
18C0424	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.



Amanda Volgardsen, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006

PJLA Testing
Accreditation # 66169

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

180424

Chain of Custody Record & Laboratory Analysis Request

Laboratory: **Analytical Resources, Inc.**
Date:
Project Name: **SVCA Area Z Remediation**
Project Manager: **Jennifer Allen**
Phone Number: **360-715-2724**
Shipment Method:

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: NWTPH-G	NWTPH-D	BTEX	Archive									Comments/Preservation
1	MW-4-180326	3/26/18 1142	GW	9	X	X	X										TDH
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

Notes: NWTPH-D extended analyzed with and without silica gel cleanup. See contract for analysis details

Email sample confirmation report to labdata@anchorqea.com

Relinquished By:	Company: Anchor QEA, LLC
Signature/Printed Name: Samantha Wright	Date/Time: 3/27/18 8:27

Received By:	Company: ARI
Signature/Printed Name: Jacob Hyatt	Date/Time: 03/27/18 0827

3.4°C

Relinquished By:	Company:
Signature/Printed Name	Date/Time

Received By:	Company:
Signature/Printed Name	Date/Time

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Archer Project Name: _____

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 180424 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? ..... (YES) NO

Were custody papers properly filled out (ink, signed, etc.) ..... (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.4°C

Time: 0827

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D005206

Cooler Accepted by: JBW Date: 03/27/18 Time: 0827

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? ..... YES (NO)

What kind of packing material was used? ... (Bubble Wrap) (Wet Ice) Gel Packs (Baggies) (Foam Block) Paper Other: _____

Was sufficient ice used (if appropriate)? ..... NA (YES) NO

Were all bottles sealed in individual plastic bags? ..... YES (NO)

Did all bottles arrive in good condition (unbroken)? ..... (YES) NO

Were all bottle labels complete and legible? ..... (YES) NO

Did the number of containers listed on COC match with the number of containers received? ..... JBW (YES) NO

Did all bottle labels and tags agree with custody papers? ..... JBW (YES) NO

Were all bottles used correct for the requested analyses? ..... (YES) NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... (NA) YES NO

Were all VOC vials free of air bubbles? ..... NA YES (NO)

Was sufficient amount of sample sent in each bottle? ..... (YES) NO

Date VOC Trip Blank was made at ARI..... NA 3/21/18

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JBW Date: 03/27/18 Time: 0835

*** Notify Project Manager of discrepancies or concerns ***

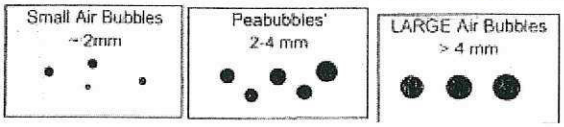
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

Trip Blank has 1 peabubble, no other vials have airbubbles

Trip Blank is not on COC.

By: JBW Date: 03/27/18



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Analytical Report

Anchor QEA, LLC	Project: SVCA Area Z Remediation	
720 Olive Way, Suite 1900	Project Number: [none]	**Reported:**
Seattle WA, 98101	Project Manager: Jennifer Allen	09-Apr-2018 15:38

Case Narrative

Sample receipt

Samples as listed on the preceding page were received March 27, 2018 under ARI work order 18C0424. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Gasoline by NWTPH-g (GC/MS)

The samples were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx (with and without Ac/Si cleaned)

The samples were extracted and analyzed within the recommended holding times.

Batch BGC0819 is in association with the acid silica cleaned portion of the analysis for sample 18C0424-02.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Anchor QEA, LLC	Project: SVCA Area Z Remediation	
720 Olive Way, Suite 1900	Project Number: [none]	**Reported:**
Seattle, WA 98101	Project Manager: Jennifer Allen	04/09/2018 15:38

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18C0424-01	MW-4-180326	Water	03/26/18 11:42	03/27/18 08:27
18C0424-02	MW-4-180326	Water	03/26/18 11:42	03/27/18 08:27
18C0424-03	Trip Blank	Water	03/26/18 11:42	03/27/18 08:27

Analytical Resources, Incorporated

QUALIFIERS AND NOTES

Qualifier	Definition
U	This analyte is not detected above the applicable reporting or detection limit.
J	Estimated concentration value detected below the reporting limit.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
D	The reported value is from a dilution
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

MW-4-180326

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

Volatile Organic Compounds

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Groundwater	Laboratory ID:	18C0424-01	SDG:	18C0424
Sampled:	03/26/18 11:42	Prepared:	03/27/18 10:48	File ID:	V303271823.D
% Solids:		Preparation:	EPA 5030 (Purge a	Analyzed:	03/27/18 17:41
Batch:	BGC0717	Sequence:	SGC0407	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	AK00023

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	5.23	105	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	5.08	102	80 - 120	
Toluene-d8	5.0000	4.96	99.2	80 - 120	
4-Bromofluorobenzene	5.0000	4.87	97.5	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180327.b\V303271823.D

Date : 27-MAR-2018 17:41

Client ID:

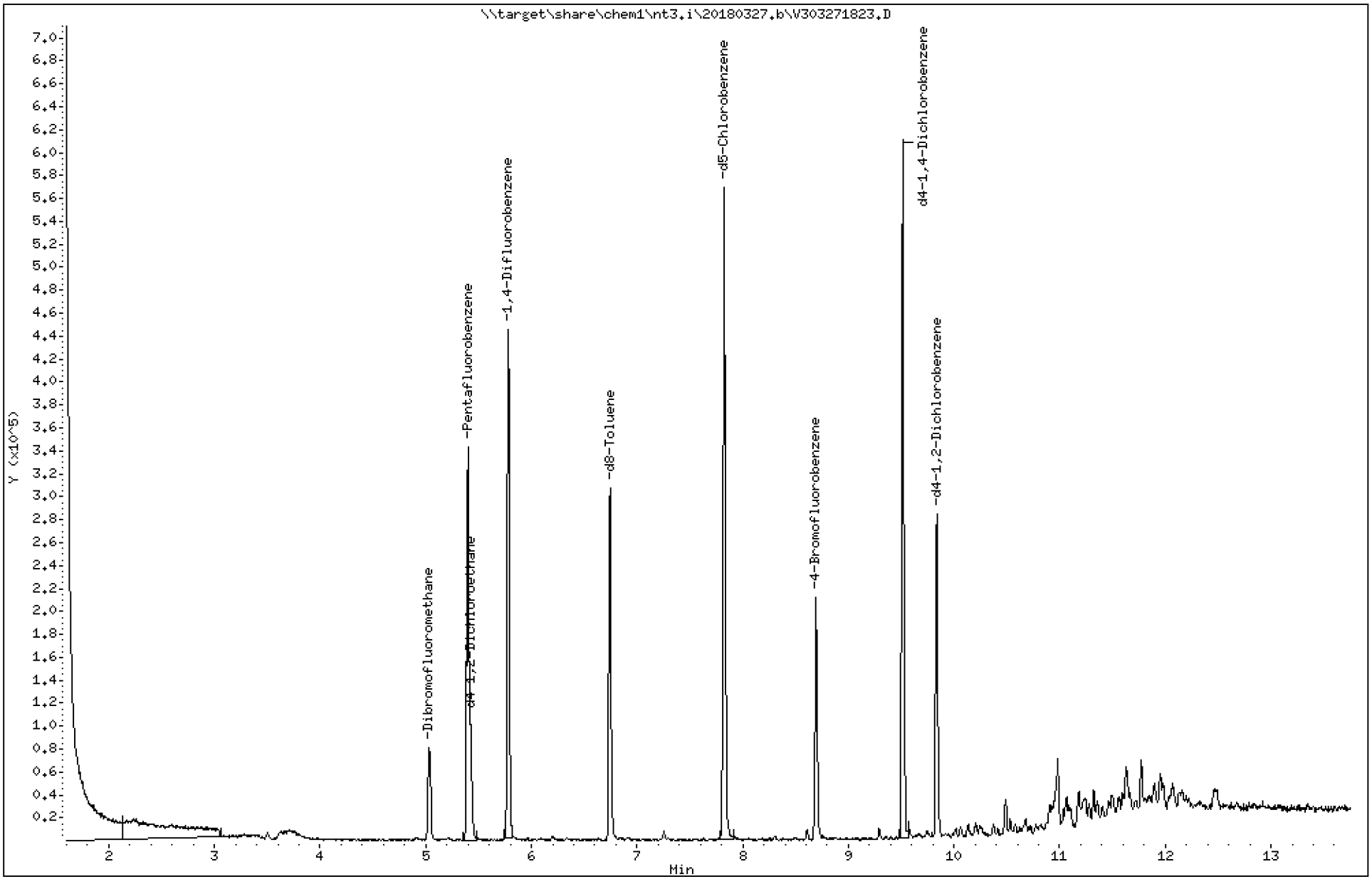
Instrument: nt3.i

Sample Info: 18C0424-01

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Data File: \\target\share\chem1\nt3.i\20180327.b\V303271823.D

Date : 27-MAR-2018 17:41

Client ID:

Instrument: nt3.i

Sample Info: 18C0424-01

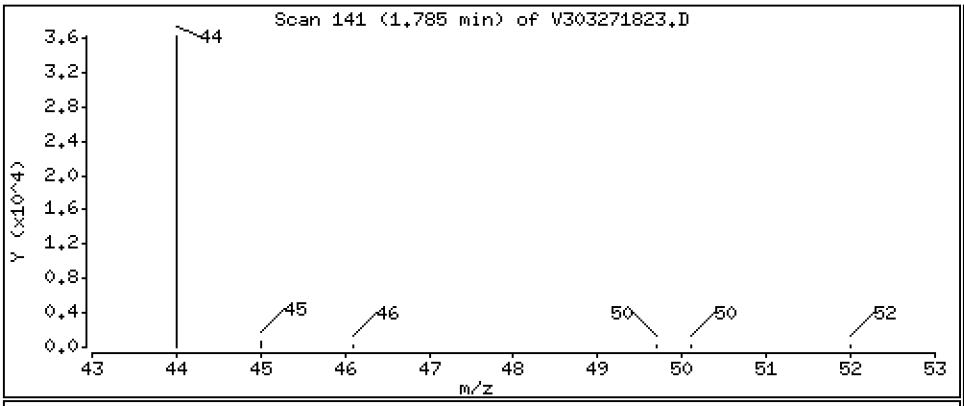
Operator: PKC

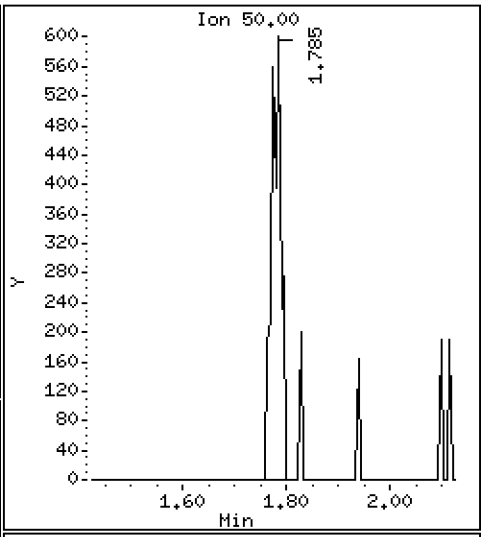
Column phase: RTXVMS

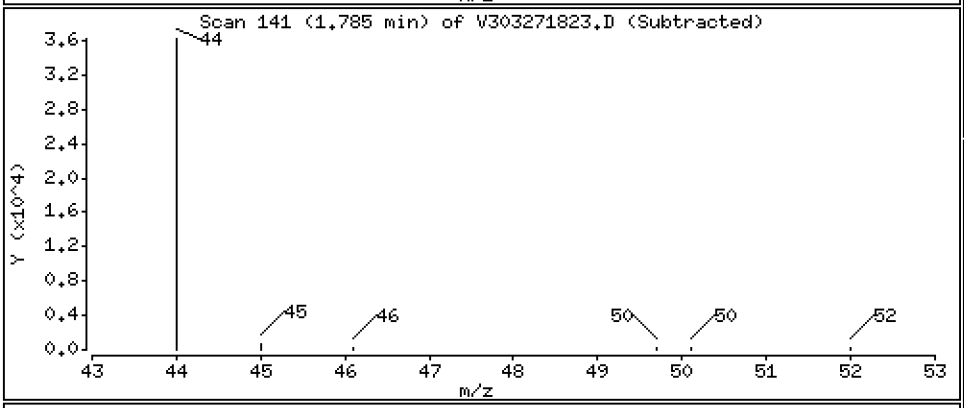
Column diameter: 0.18

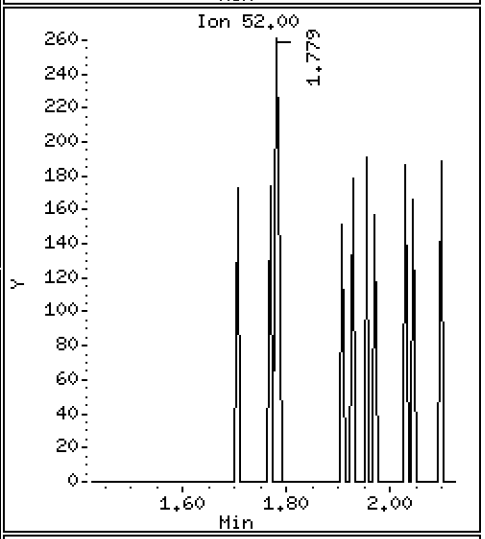
2 Chloromethane

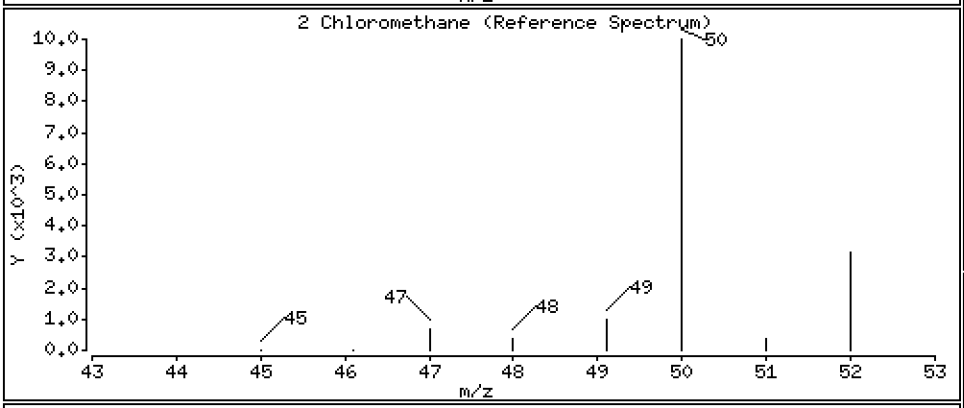
Concentration: 0.03100 ug/L

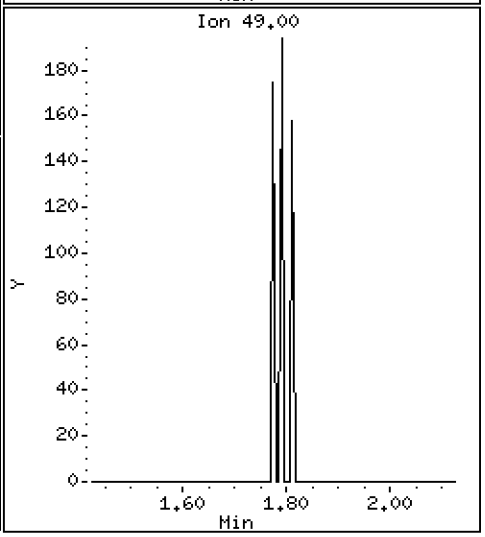


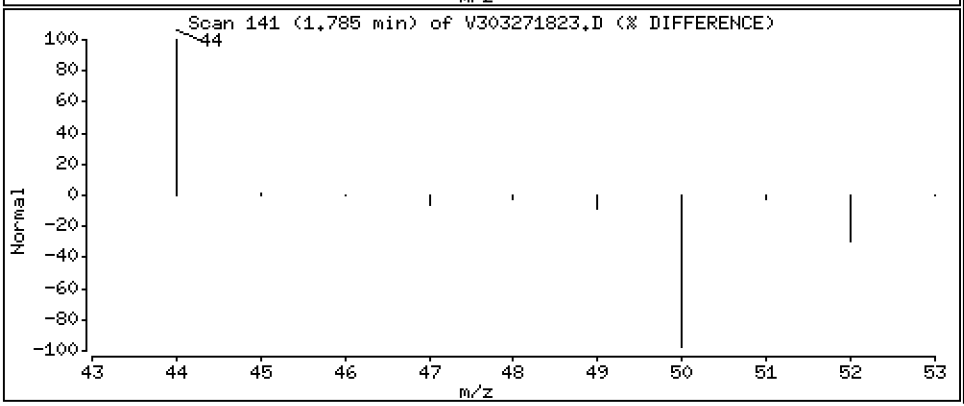












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271823.D

Date : 27-MAR-2018 17:41

Client ID:

Instrument: nt3.i

Sample Info: 18C0424-01

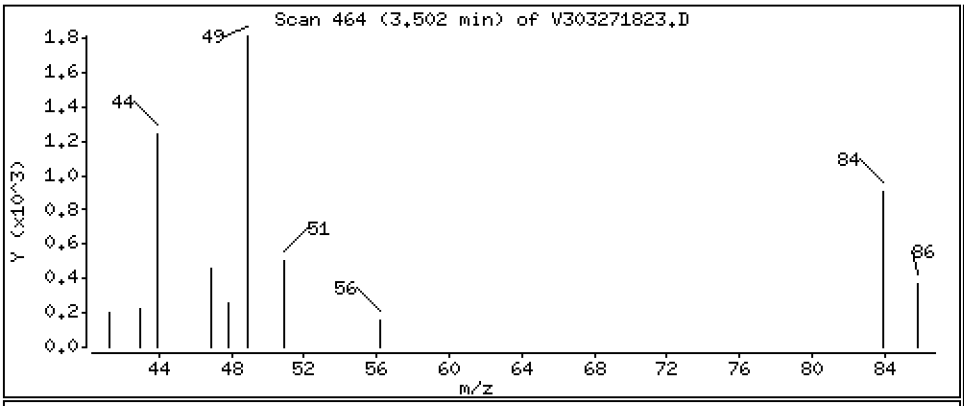
Operator: PKC

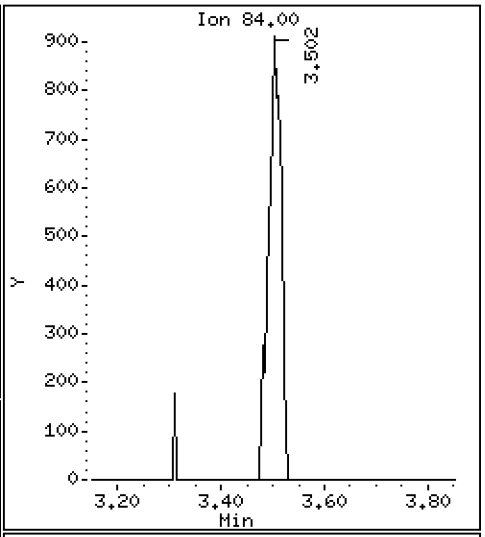
Column phase: RTXVMS

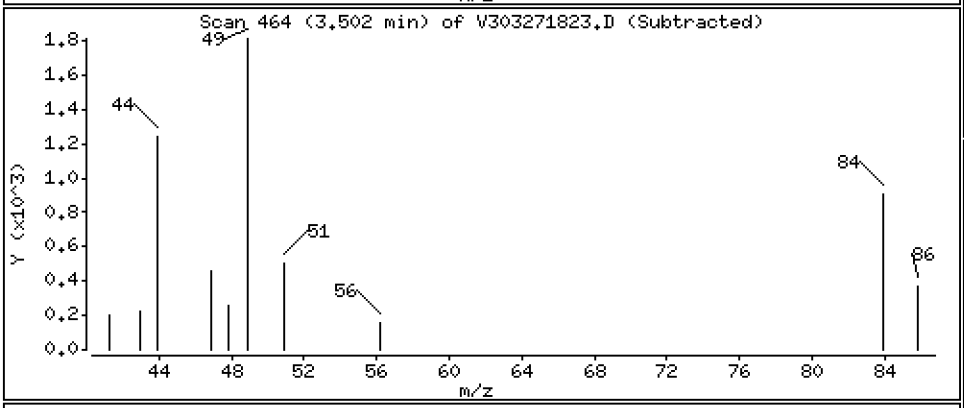
Column diameter: 0.18

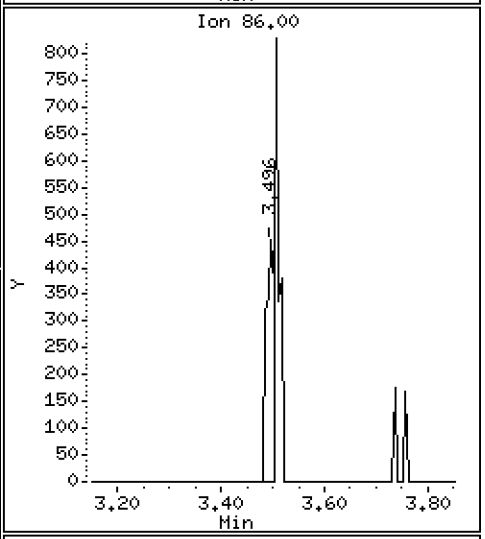
13 Methylene Chloride

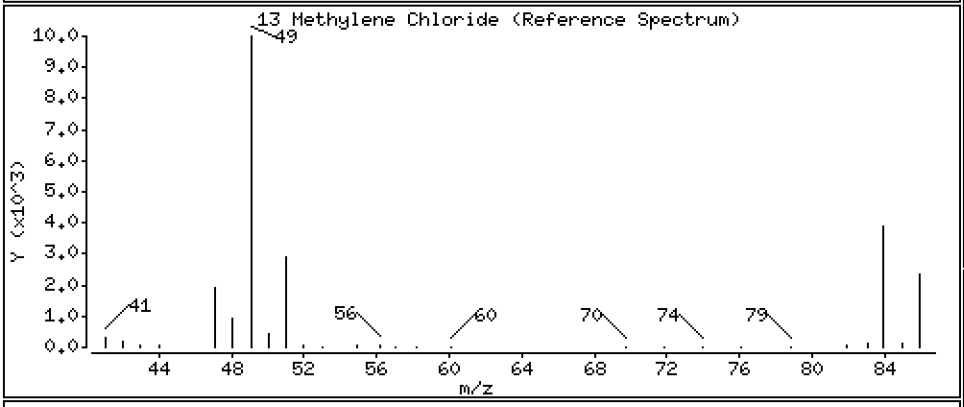
Concentration: 0.1380 ug/L

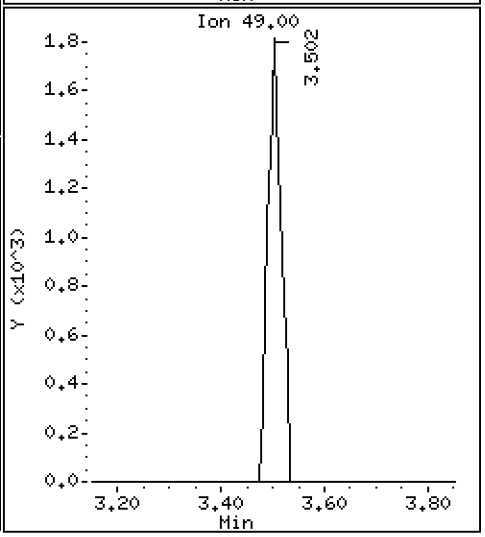


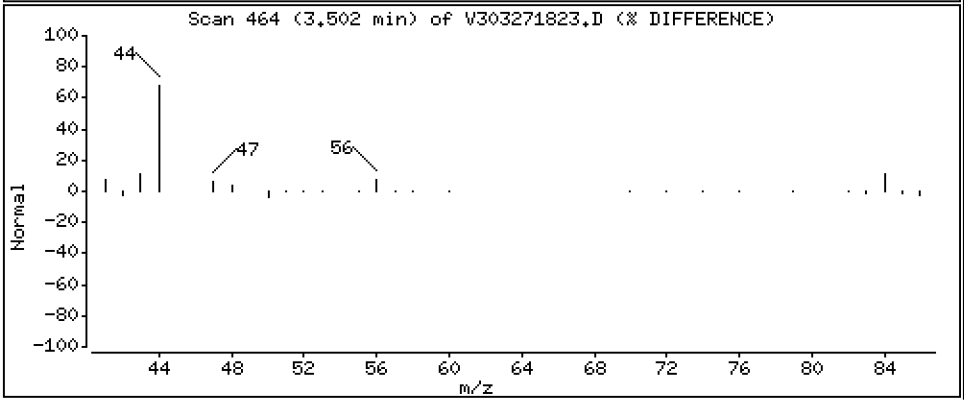












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271823.D

Date : 27-MAR-2018 17:41

Client ID:

Instrument: nt3.i

Sample Info: 18C0424-01

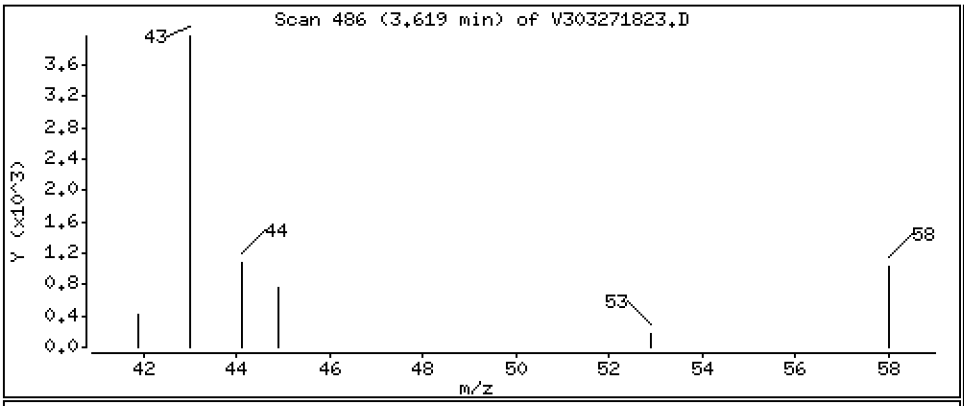
Operator: PKC

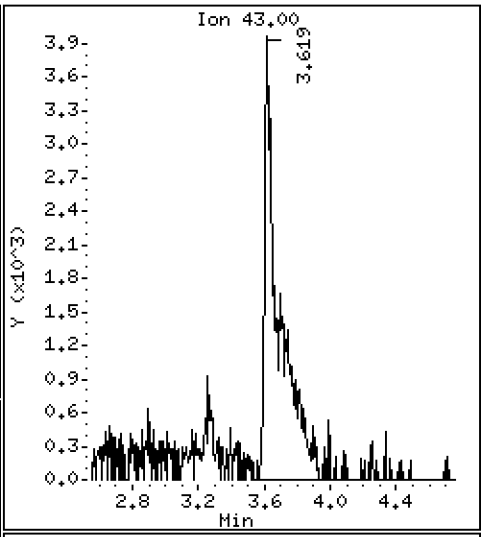
Column phase: RTXVMS

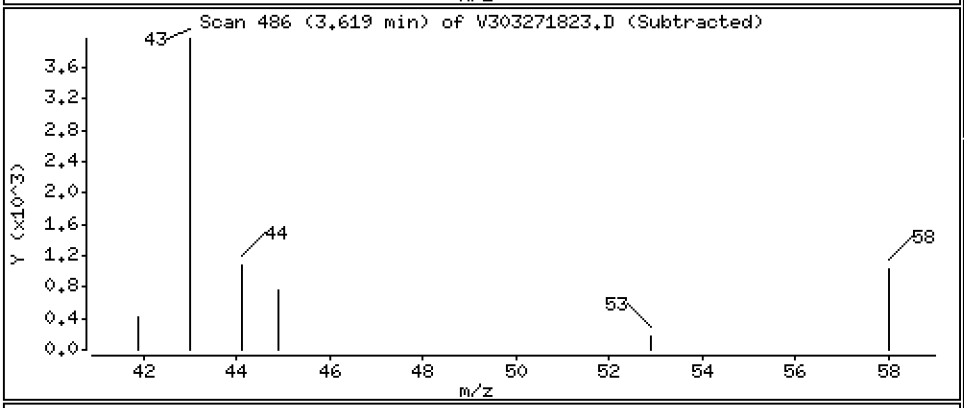
Column diameter: 0.18

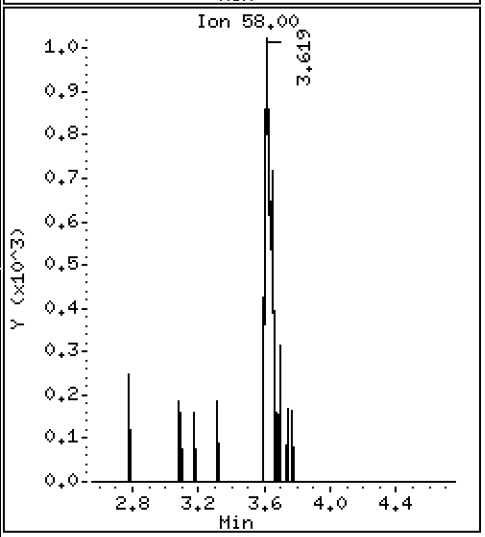
14 Acetone

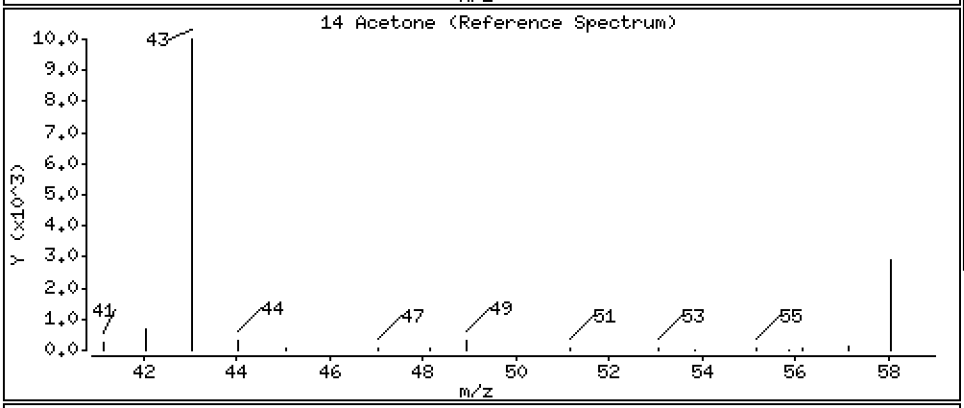
Concentration: 7.463 ug/L

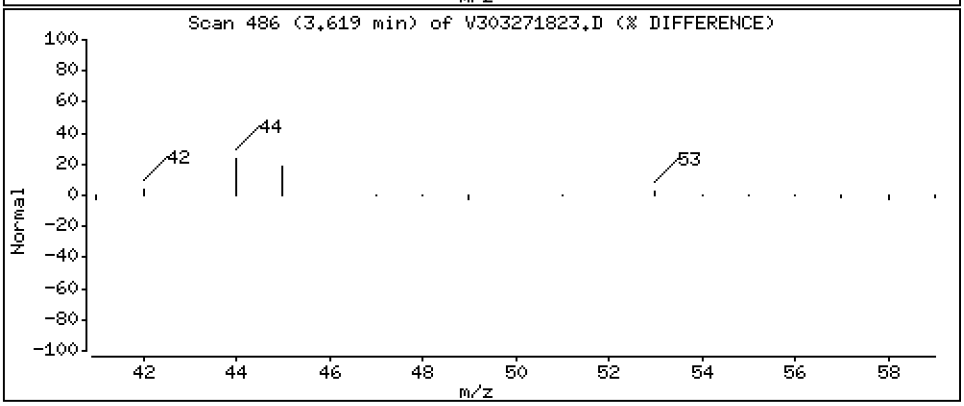












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271823.D

Date : 27-MAR-2018 17:41

Client ID:

Instrument: nt3.i

Sample Info: 18C0424-01

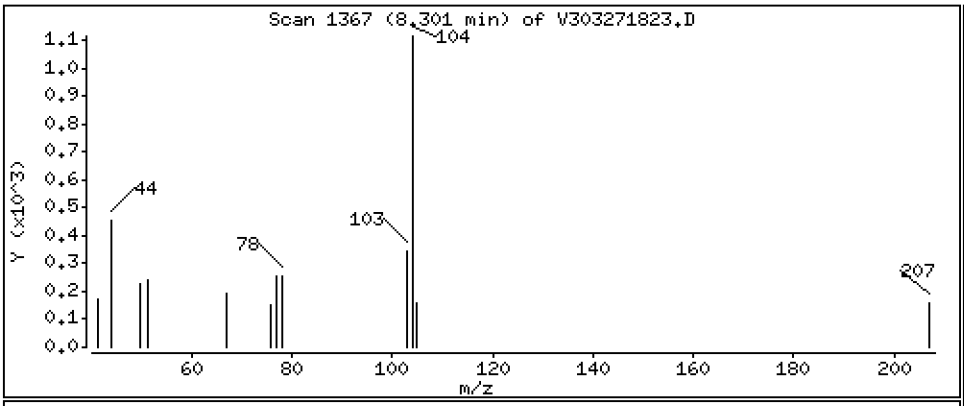
Operator: PKC

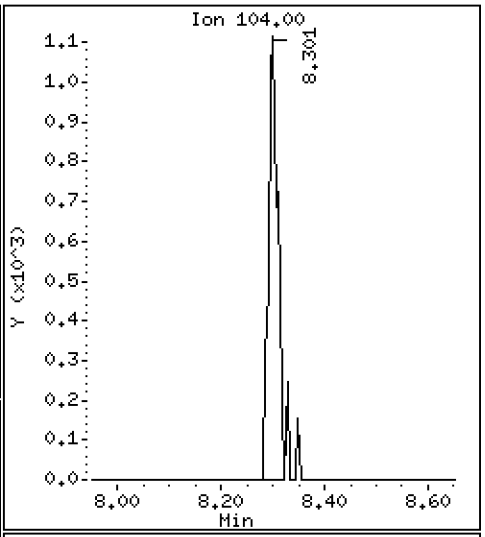
Column phase: RTXVMS

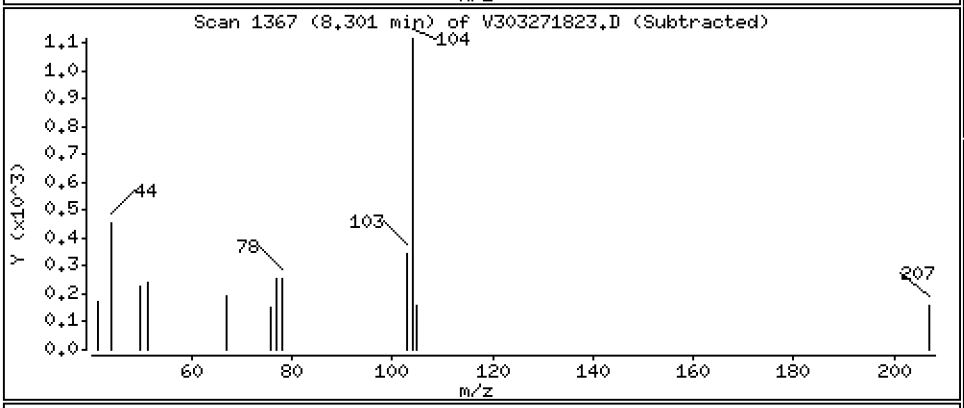
Column diameter: 0.18

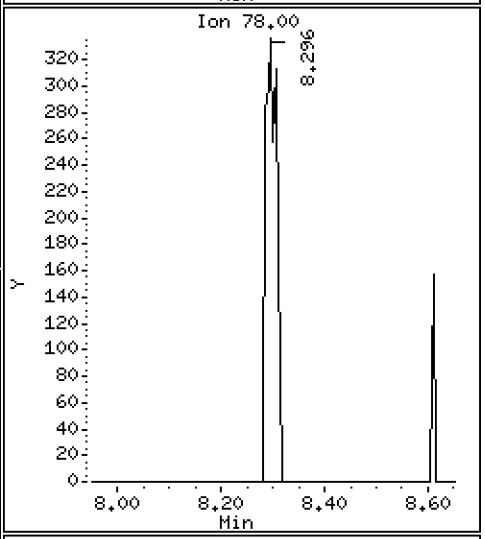
59 Styrene

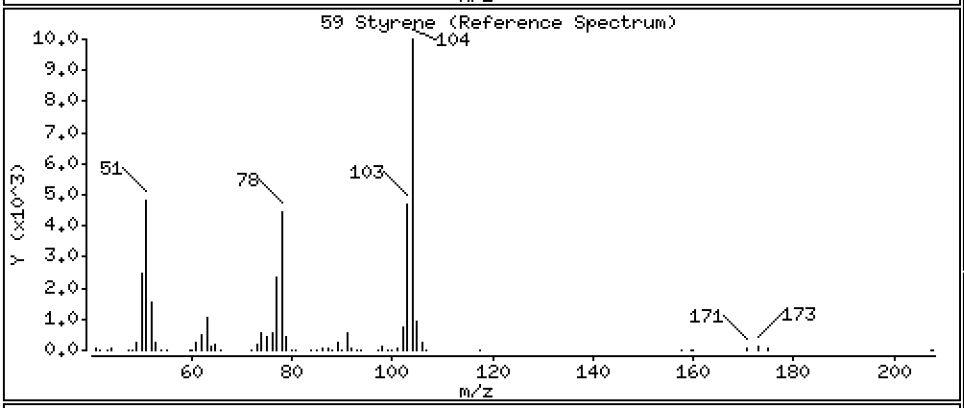
Concentration: 0.04139 ug/L

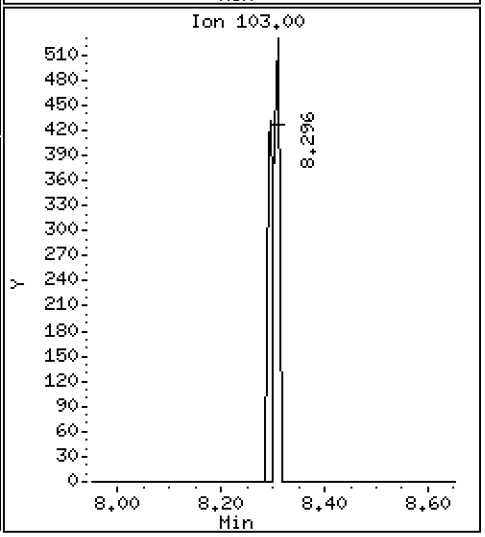


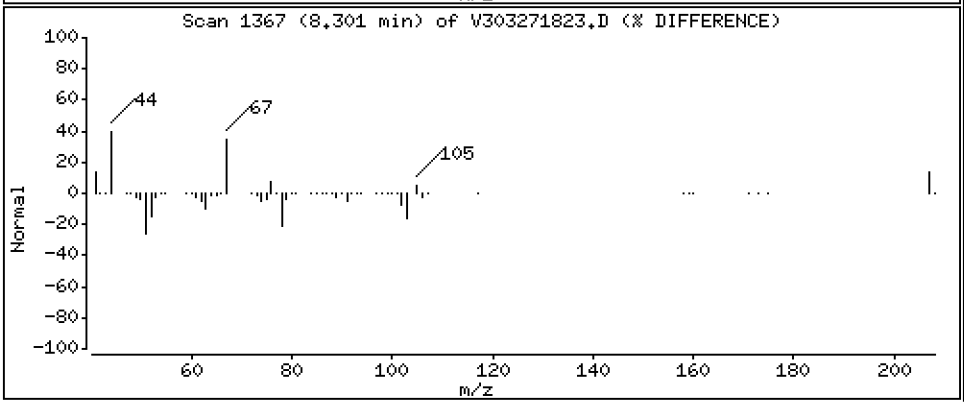












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271823.D

Date : 27-MAR-2018 17:41

Client ID:

Instrument: nt3.i

Sample Info: 18C0424-01

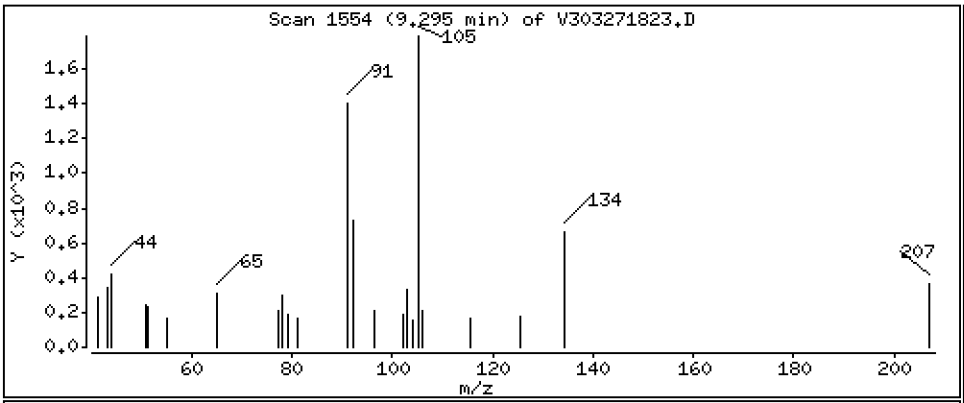
Operator: PKC

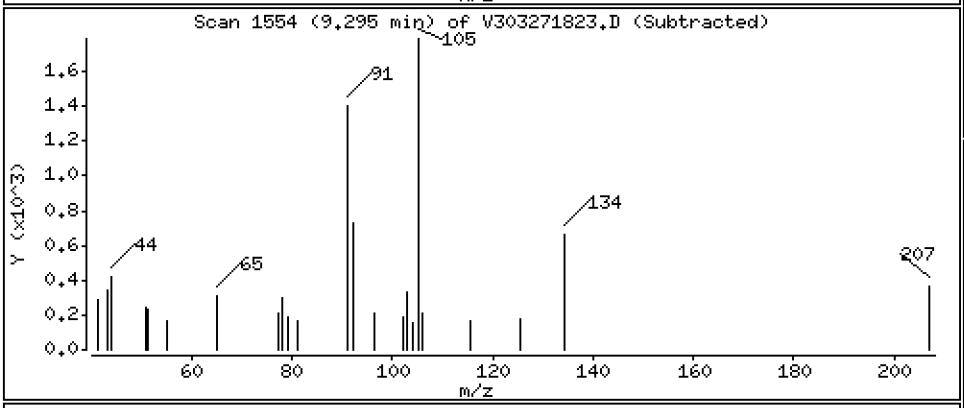
Column phase: RTXVMS

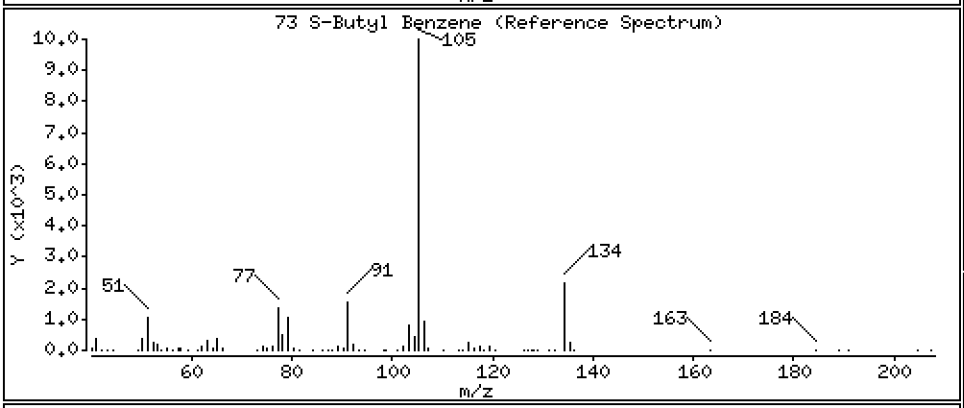
Column diameter: 0.18

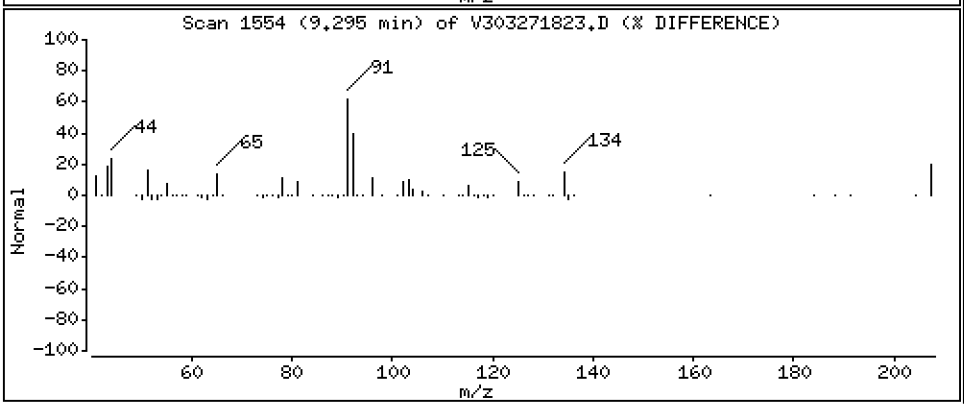
73 S-Butyl Benzene

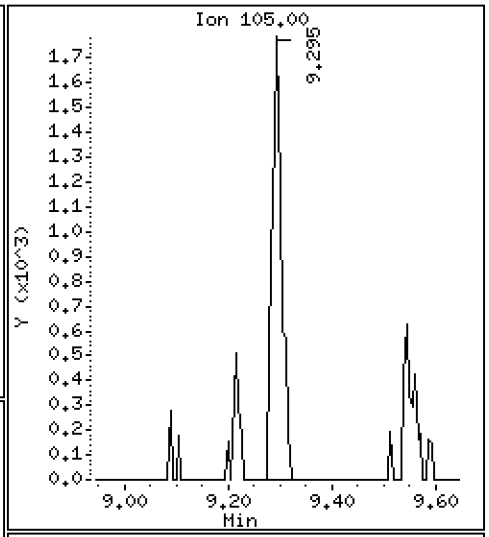
Concentration: 0.03785 ug/L

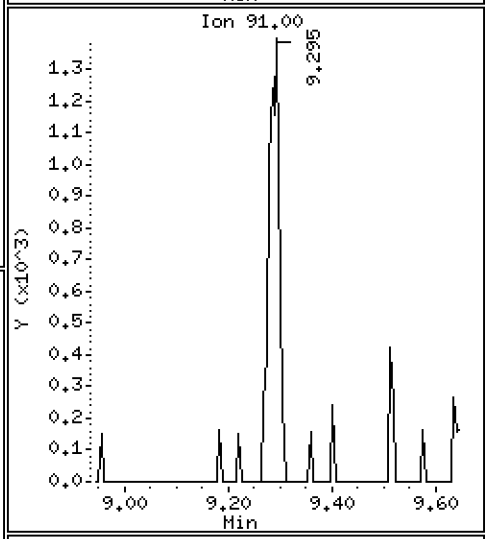


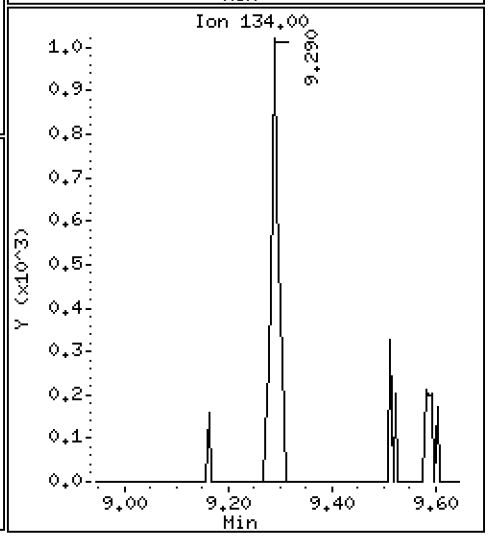












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271823.D

Date : 27-MAR-2018 17:41

Client ID:

Instrument: nt3.i

Sample Info: 18C0424-01

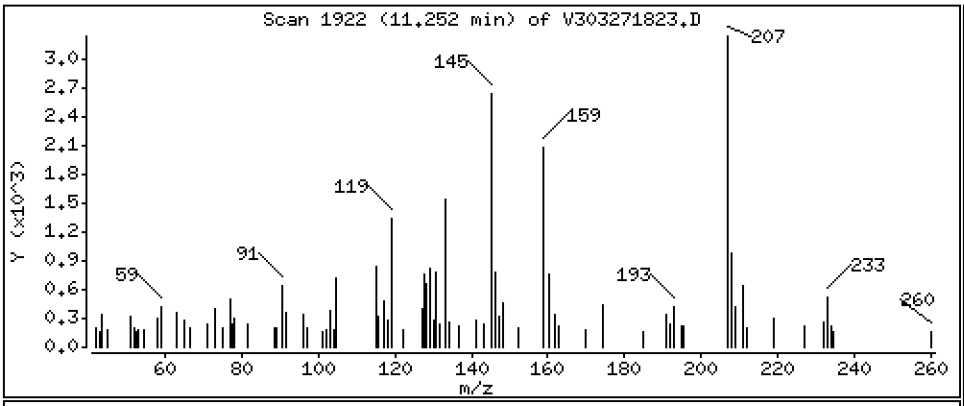
Operator: PKC

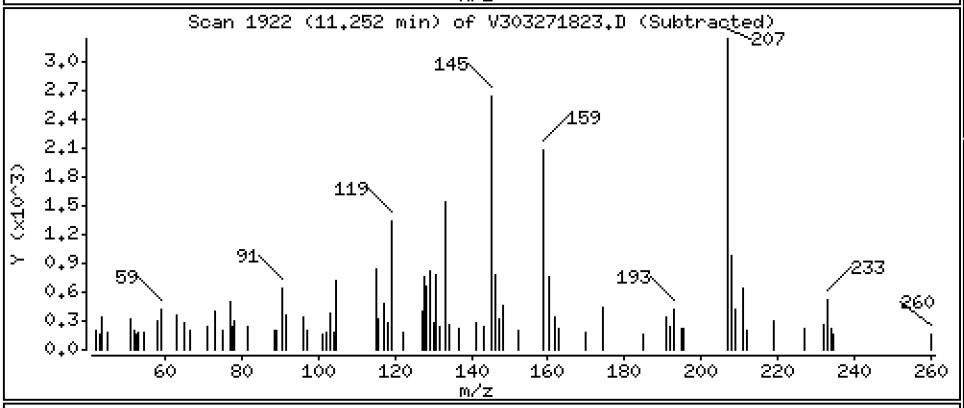
Column phase: RTXVMS

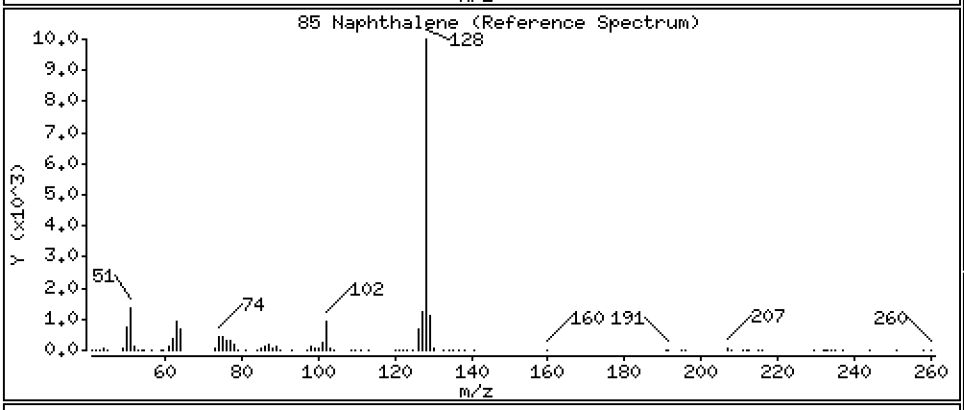
Column diameter: 0.18

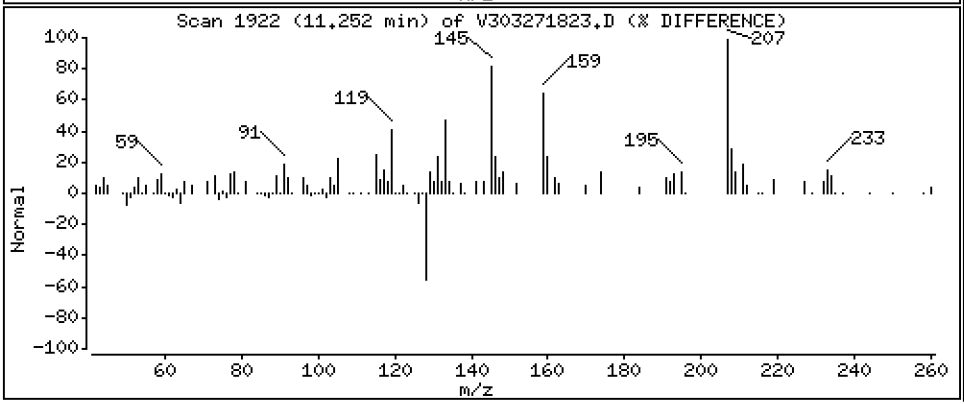
85 Naphthalene

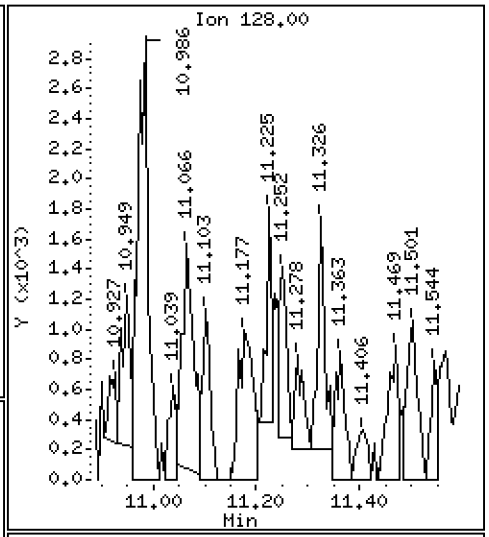
Concentration: 0.05952 ug/L

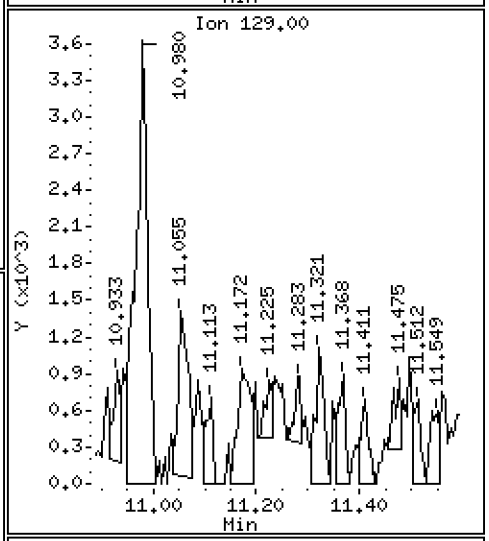


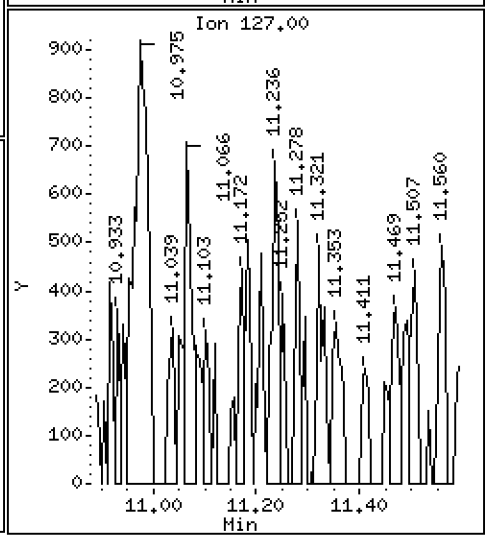












ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327.b\V303271823.D
Lab Smp Id: 18C0424-01
Inj Date : 27-MAR-2018 17:41
Operator : PKC Inst ID: nt3.i
Smp Info : 18C0424-01
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Meth Date : 28-Mar-2018 09:42 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 52
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	1 Dichlorodifluoromethane	85	Compound Not Detected.					
	2 Chloromethane	50	1.784	1.773	(0.331)	786	0.03100	0.03100
	3 Vinyl Chloride	62	Compound Not Detected.					
	4 Bromomethane	94	Compound Not Detected.					
	5 Chloroethane	64	Compound Not Detected.					
	6 Trichlorofluoromethane	101	Compound Not Detected.					
	7 1,1-Dichloroethene	61	Compound Not Detected.					
	8 Carbon Disulfide	76	Compound Not Detected.					
	9 112Trichloro122Trifluoroethane	101	Compound Not Detected.					
	10 Iodomethane	142	Compound Not Detected.					
	11 Bromoethane	108	Compound Not Detected.					
	12 Acrolein	56	Compound Not Detected.					
	13 Methylene Chloride	84	3.501	3.501	(0.649)	1570	0.13798	0.1380
	14 Acetone	43	3.618	3.655	(0.670)	23532	7.46256	7.463(M)
	15 Trans-1,2-Dichloroethene	96	Compound Not Detected.					
	17 Methyl tert butyl ether	73	Compound Not Detected.					
	18 1,1-Dichloroethane	63	Compound Not Detected.					
	19 Acrylonitrile	53	Compound Not Detected.					
	20 Vinyl Acetate	43	Compound Not Detected.					
	22 Cis-1,2-Dichloroethene	96	Compound Not Detected.					
	23 2,2-Dichloropropane	77	Compound Not Detected.					
	24 Bromochloromethane	128	Compound Not Detected.					
	25 Chloroform	83	Compound Not Detected.					
	26 Carbon Tetrachloride	117	Compound Not Detected.					
$	27 Dibromofluoromethane	111	5.032	5.032	(0.932)	40627	5.11619	5.116(R)
	28 1,1,1-Trichloroethane	97	Compound Not Detected.					
	30 1,1-Dichloropropene	75	Compound Not Detected.					
	29 2-Butanone	43	Compound Not Detected.					
	31 Benzene	78	Compound Not Detected.					
*	32 Pentafluorobenzene	168	5.399	5.399	(1.000)	182756	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.425	5.425	(1.005)	49637	5.22841	5.228(R)
	34 1,2-Dichloroethane	62	Compound Not Detected.					
	36 Trichloroethene	130	Compound Not Detected.					

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/L)	FINAL (ug/L)
*	37	1,4-Difluorobenzene	114	5.781	5.781	(1.000)	267350	10.0000	
	38	Dibromomethane	93	Compound Not Detected.					
	39	1,2-Dichloropropane	63	Compound Not Detected.					
	40	Bromodichloromethane	83	Compound Not Detected.					
	173	2-Pentanone	86	Compound Not Detected.					
	41	2-Chloroethyl Vinyl Ether	63	Compound Not Detected.					
	42	Cis 1,3-dichloropropene	75	Compound Not Detected.					
$	43	d8-Toluene	98	6.744	6.743	(1.166)	155534	4.96189	4.962(R)
	44	Toluene	92	Compound Not Detected.					
	46	Tetrachloroethene	166	Compound Not Detected.					
	45	4-Methyl-2-Pentanone	58	Compound Not Detected.					
	47	Trans 1,3-Dichloropropene	75	Compound Not Detected.					
	48	1,1,2-Trichloroethane	97	Compound Not Detected.					
	49	Chlorodibromomethane	129	Compound Not Detected.					
	50	1,3-Dichloropropane	76	Compound Not Detected.					
	51	1,2-Dibromoethane	107	Compound Not Detected.					
	52	2-Hexanone	43	Compound Not Detected.					
*	53	d5-Chlorobenzene	117	7.823	7.822	(1.000)	253318	10.0000	
	54	Chlorobenzene	112	Compound Not Detected.					
	55	Ethyl Benzene	106	Compound Not Detected.					
	56	1,1,1,2-Tetrachloroethane	131	Compound Not Detected.					
	57	m,p-xylene	106	Compound Not Detected.					
	58	o-Xylene	106	Compound Not Detected.					
	59	Styrene	104	8.301	8.301	(1.061)	1448	0.04139	0.04139
	60	Bromoform	173	Compound Not Detected.					
	61	Isopropyl Benzene	105	Compound Not Detected.					
$	62	4-Bromofluorobenzene	174	8.694	8.694	(1.111)	51929	4.87431	4.874(R)
	63	Bromobenzene	156	Compound Not Detected.					
	64	N-Propyl Benzene	91	Compound Not Detected.					
	65	1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
	66	2-Chloro Toluene	91	Compound Not Detected.					
	67	1,3,5-Trimethyl Benzene	105	Compound Not Detected.					
	68	1,2,3-Trichloropropane	110	Compound Not Detected.					
	69	Trans-1,4-Dichloro 2-Butene	53	Compound Not Detected.					
	70	4-Chloro Toluene	91	Compound Not Detected.					
	71	T-Butyl Benzene	119	Compound Not Detected.					
	72	1,2,4-Trimethylbenzene	105	Compound Not Detected.					
	73	S-Butyl Benzene	105	9.295	9.295	(0.977)	2352	0.03785	0.03785
	74	4-Isopropyl Toluene	119	Compound Not Detected.					
	75	1,3-Dichlorobenzene	146	Compound Not Detected.					
*	76	d4-1,4-Dichlorobenzene	152	9.513	9.513	(1.000)	135680	10.0000	
	77	1,4-Dichlorobenzene	146	Compound Not Detected.					
	78	N-Butyl Benzene	91	Compound Not Detected.					
$	79	d4-1,2-Dichlorobenzene	152	9.837	9.837	(1.034)	64316	5.08400	5.084(R)
	80	1,2-Dichlorobenzene	146	Compound Not Detected.					
	81	1,2-Dibromo 3-Chloropropane	75	Compound Not Detected.					
	83	Hexachloro 1,3-Butadiene	225	Compound Not Detected.					
	84	1,2,4-Trichlorobenzene	180	Compound Not Detected.					
	85	Naphthalene	128	11.251	11.240	(1.183)	1326	0.05952	0.05952
	86	1,2,3-Trichlorobenzene	180	Compound Not Detected.					

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271823.D
Lab Smp Id: 18C0424-01
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	182756	-12.48
37 1,4-Difluorobenze	319374	159687	638748	267350	-16.29
53 d5-Chlorobenzene	290356	145178	580712	253318	-12.76
76 d4-1,4-Dichlorobe	151501	75751	303002	135680	-10.44

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	0.00
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	0.00
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	0.00
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930a
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: 18C0424-01
Level: Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: mdl.sub
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.116	102.32	
$ 33 d4-1,2-Dichloroeth	5.000	5.228	104.57	
$ 43 d8-Toluene	5.000	4.962	99.24	
$ 62 4-Bromofluorobenze	5.000	4.874	97.49	
$ 79 d4-1,2-Dichloroben	5.000	5.084	101.68	

REVIEW SUMMARY FOR FILE - V303271823.D

Lab ID: 18C0424-01
nt3.i, 20180327.b\8260C110717.m,   27-MAR-2018 17:41

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

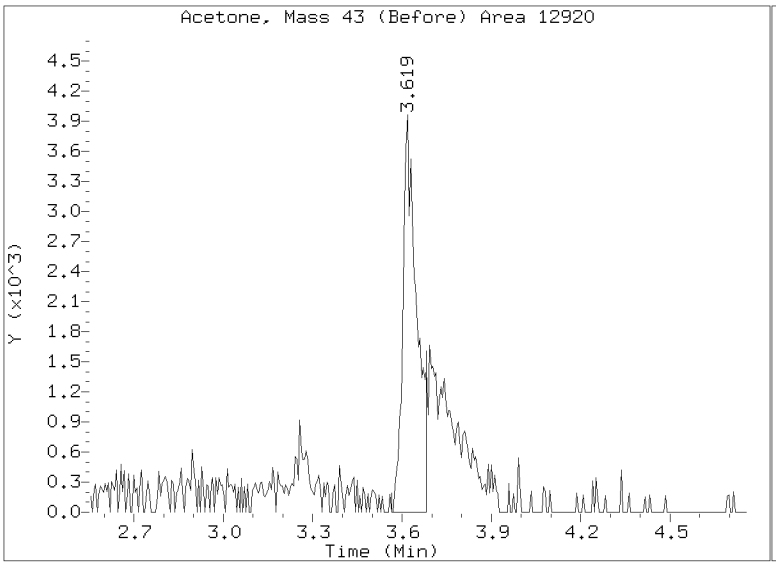
RRT	CCV RRT	DELTA	COMPOUND
NONE			

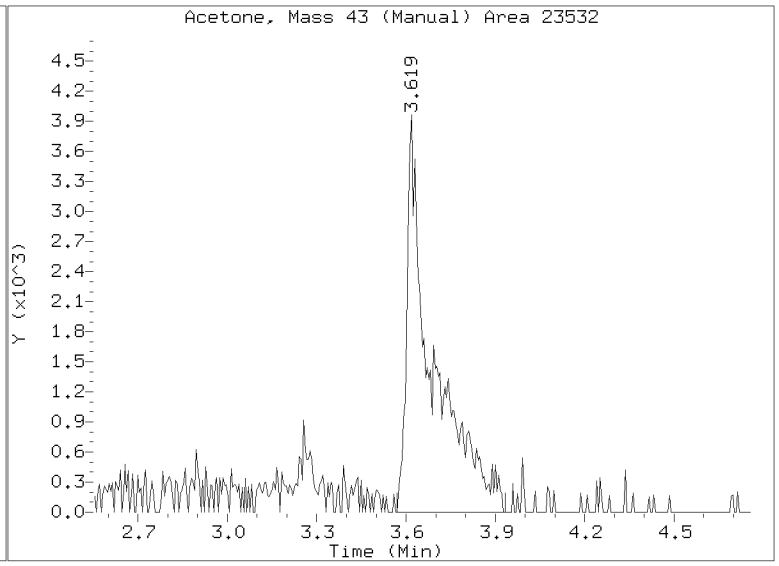
On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20180327.b/V303271823.D
Injection Date: 27-MAR-2018 17:41
Lab ID:18C0424-01 Client ID:
Report Date: 03/28/2018 09:44





Trip Blank

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

Volatile Organic Compounds

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18C0424-03	SDG:	18C0424
Sampled:	03/26/18 11:42	Prepared:	03/27/18 10:48	File ID:	V303271822.D
% Solids:		Preparation:	EPA 5030 (Purge a	Analyzed:	03/27/18 17:15
Batch:	BGC0717	Sequence:	SGC0407	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	AK00023

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	5.19	104	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	4.97	99.5	80 - 120	
Toluene-d8	5.0000	4.88	97.7	80 - 120	
4-Bromofluorobenzene	5.0000	4.72	94.4	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180327.b\V303271822.D

Date : 27-MAR-2018 17:15

Client ID: PB

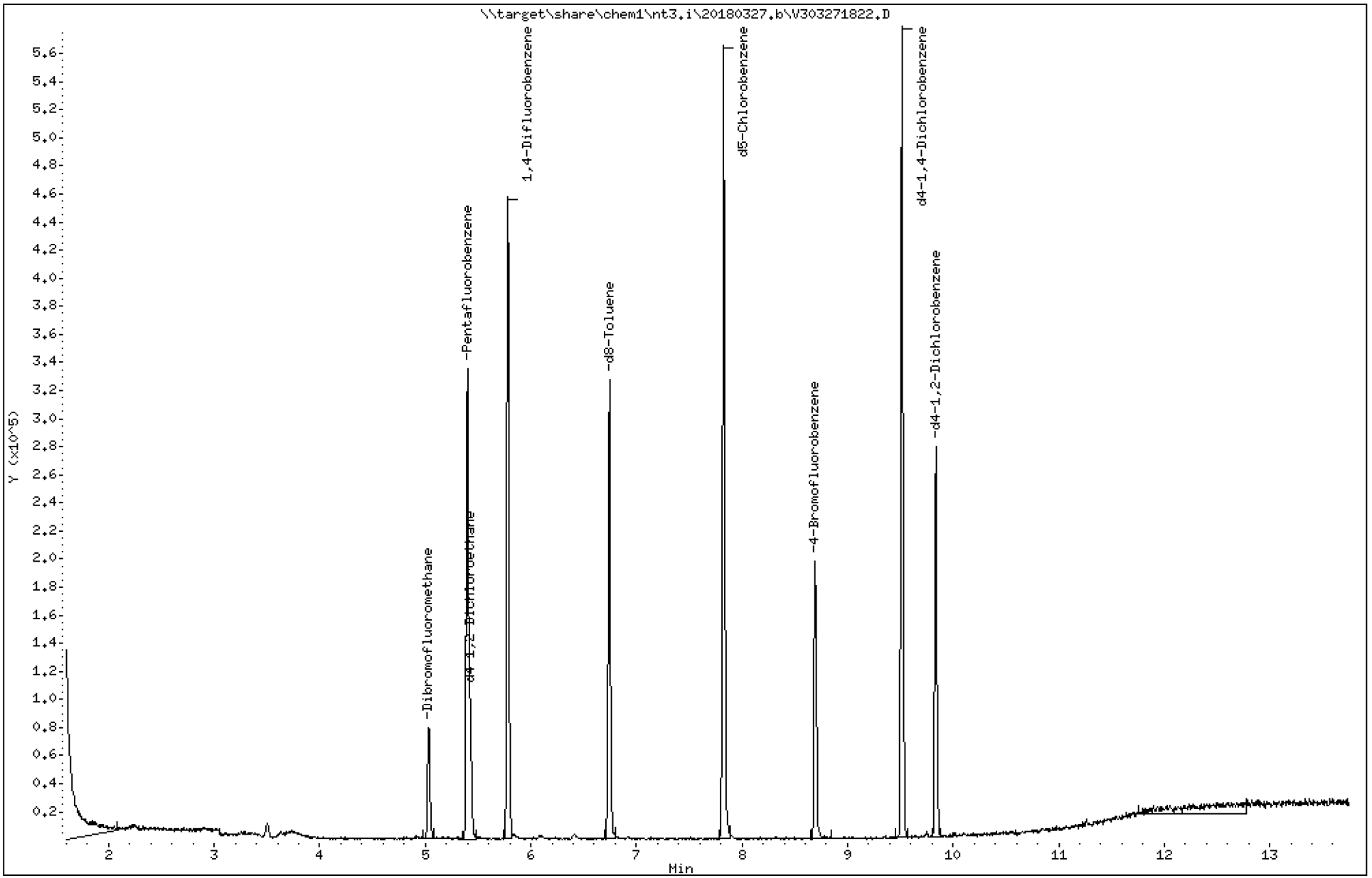
Sample Info: 18C0424-03

Instrument: nt3.i

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Data File: \\target\share\chem1\nt3.i\20180327.b\V303271822.D

Date : 27-MAR-2018 17:15

Client ID: PB

Instrument: nt3.i

Sample Info: 18C0424-03

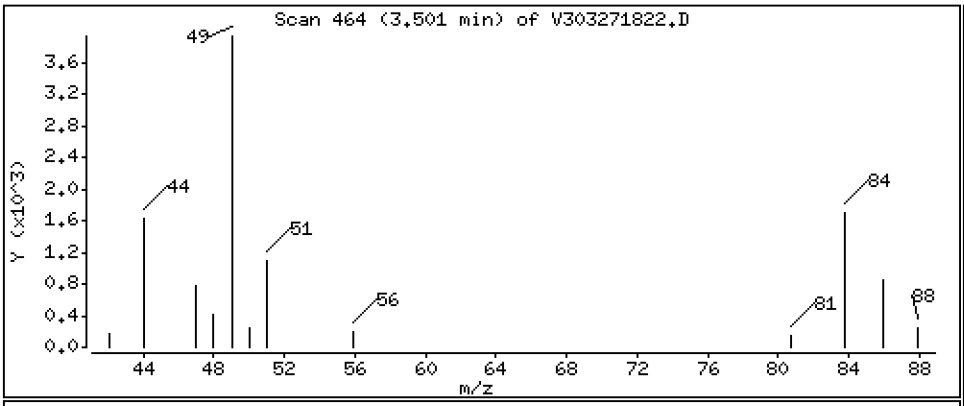
Operator: PKC

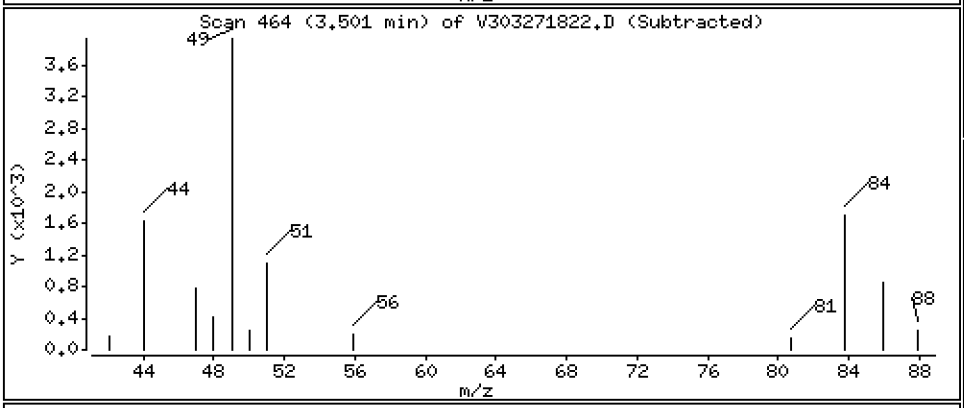
Column phase: RTXVMS

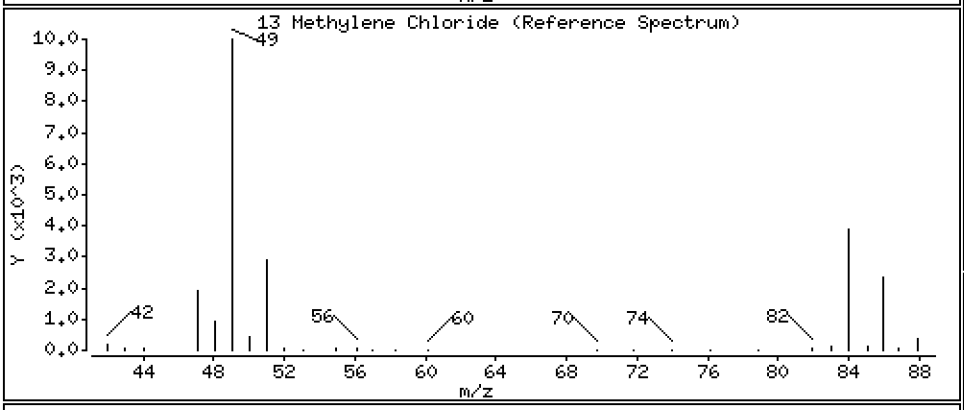
Column diameter: 0.18

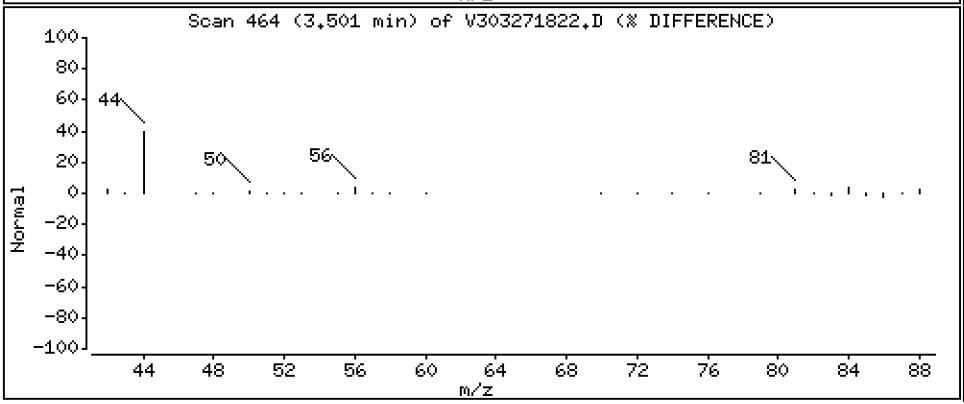
13 Methylene Chloride

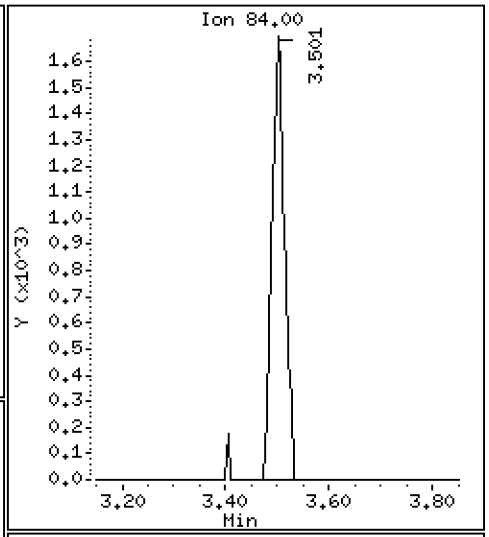
Concentration: 0.2619 ug/L

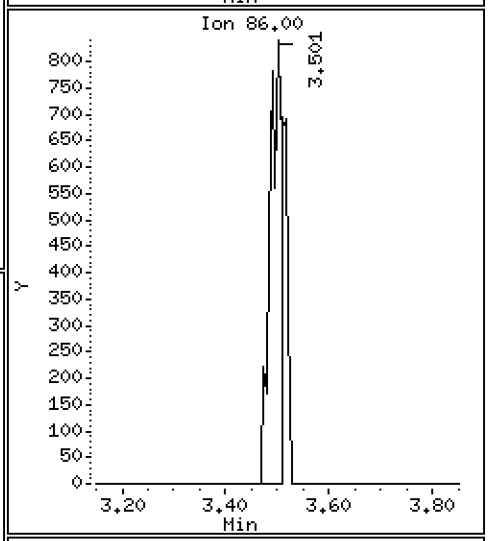


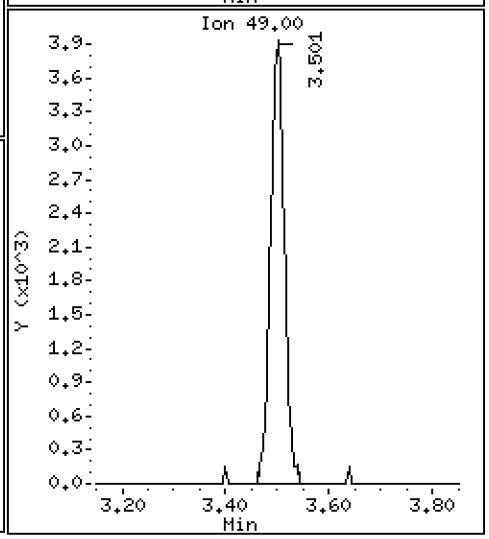












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271822.D

Date : 27-MAR-2018 17:15

Client ID: PB

Instrument: nt3.i

Sample Info: 18C0424-03

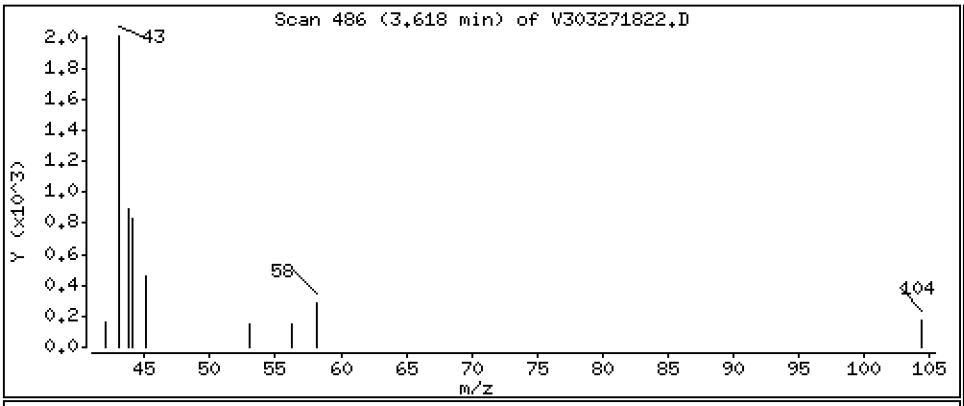
Operator: PKC

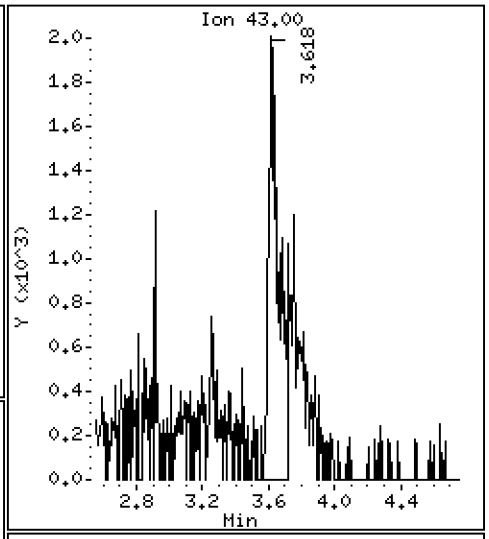
Column phase: RTXVMS

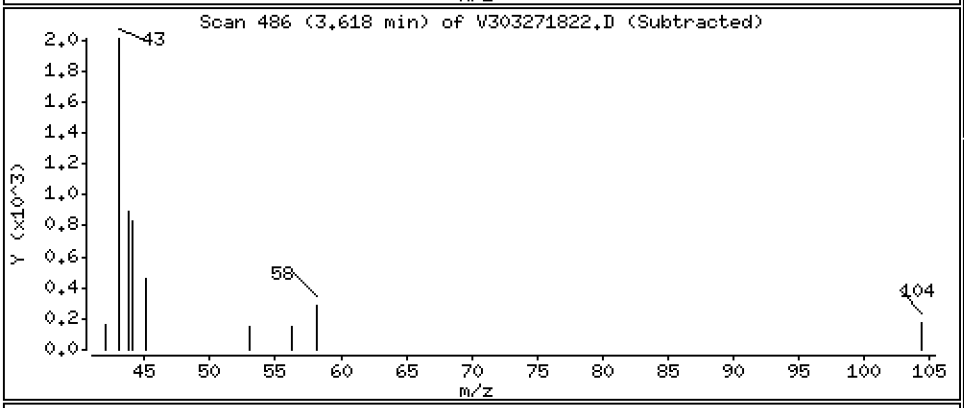
Column diameter: 0.18

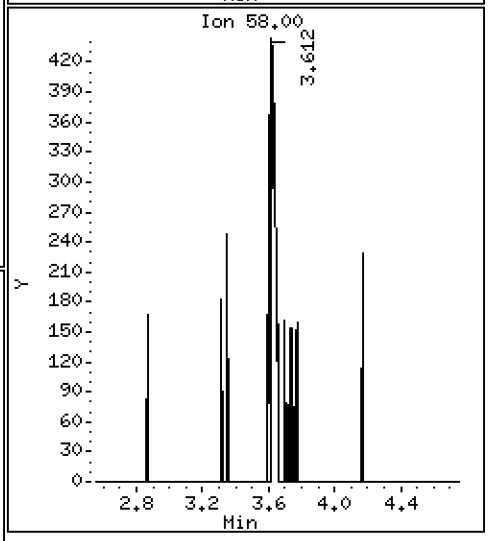
14 Acetone

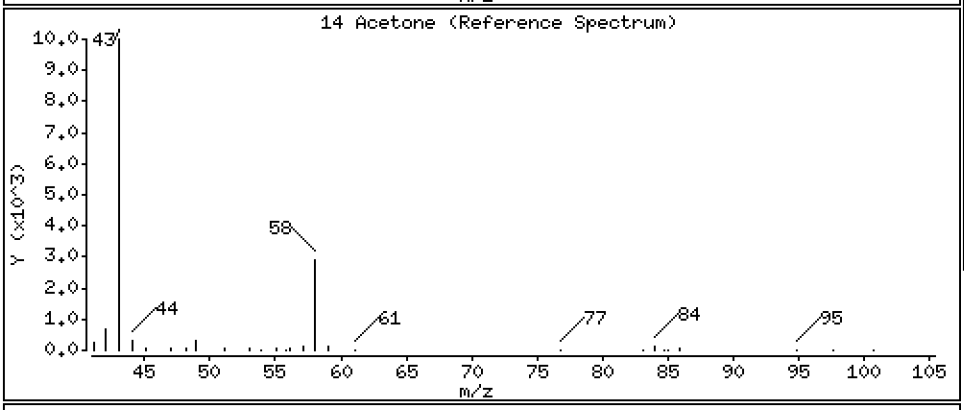
Concentration: 2.601 ug/L

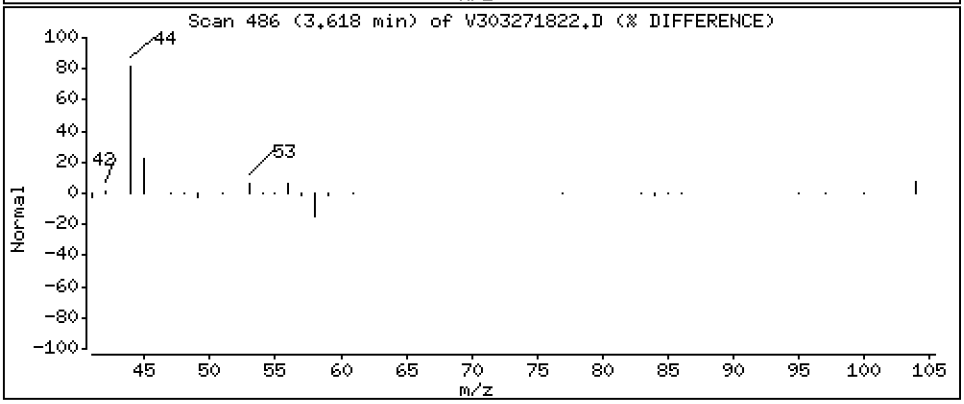












ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327.b\V303271822.D
Lab Smp Id: 18C0424-03 Client Smp ID: PB
Inj Date : 27-MAR-2018 17:15
Operator : PKC Inst ID: nt3.i
Smp Info : 18C0424-03
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Meth Date : 28-Mar-2018 09:42 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 51
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1	Dichlorodifluoromethane	85	Compound Not Detected.					
2	Chloromethane	50	Compound Not Detected.					
3	Vinyl Chloride	62	Compound Not Detected.					
4	Bromomethane	94	Compound Not Detected.					
5	Chloroethane	64	Compound Not Detected.					
6	Trichlorofluoromethane	101	Compound Not Detected.					
7	1,1-Dichloroethene	61	Compound Not Detected.					
8	Carbon Disulfide	76	Compound Not Detected.					
9	112Trichloro122Trifluoroethane	101	Compound Not Detected.					
10	Iodomethane	142	Compound Not Detected.					
11	Bromoethane	108	Compound Not Detected.					
12	Acrolein	56	Compound Not Detected.					
13	Methylene Chloride	84	3.500	3.501	(0.648)	2924	0.26188	0.2619
14	Acetone	43	3.617	3.655	(0.670)	8048	2.60087	2.601
15	Trans-1,2-Dichloroethene	96	Compound Not Detected.					
17	Methyl tert butyl ether	73	Compound Not Detected.					
18	1,1-Dichloroethane	63	Compound Not Detected.					
19	Acrylonitrile	53	Compound Not Detected.					
20	Vinyl Acetate	43	Compound Not Detected.					
22	Cis-1,2-Dichloroethene	96	Compound Not Detected.					
23	2,2-Dichloropropane	77	Compound Not Detected.					
24	Bromochloromethane	128	Compound Not Detected.					
25	Chloroform	83	Compound Not Detected.					
26	Carbon Tetrachloride	117	Compound Not Detected.					
$ 27	Dibromofluoromethane	111	5.031	5.032	(0.932)	41052	5.26827	5.268(R)
28	1,1,1-Trichloroethane	97	Compound Not Detected.					
30	1,1-Dichloropropene	75	Compound Not Detected.					
29	2-Butanone	43	Compound Not Detected.					
31	Benzene	78	Compound Not Detected.					
* 32	Pentafluorobenzene	168	5.398	5.399	(1.000)	179337	10.0000	
$ 33	d4-1,2-Dichloroethane	65	5.424	5.425	(1.005)	48326	5.18737	5.187(R)
34	1,2-Dichloroethane	62	Compound Not Detected.					
36	Trichloroethene	130	Compound Not Detected.					

			Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
*	37		1,4-Difluorobenzene	114	5.780	5.781	(1.000)	271958	10.0000	
	38		Dibromomethane	93	Compound Not Detected.					
	39		1,2-Dichloropropane	63	Compound Not Detected.					
	40		Bromodichloromethane	83	Compound Not Detected.					
	173		2-Pentanone	86	Compound Not Detected.					
	41		2-Chloroethyl Vinyl Ether	63	Compound Not Detected.					
	42		Cis 1,3-dichloropropene	75	Compound Not Detected.					
$	43		d8-Toluene	98	6.743	6.743	(1.166)	155758	4.88484	4.885(R)
	44		Toluene	92	Compound Not Detected.					
	46		Tetrachloroethene	166	Compound Not Detected.					
	45		4-Methyl-2-Pentanone	58	Compound Not Detected.					
	47		Trans 1,3-Dichloropropene	75	Compound Not Detected.					
	48		1,1,2-Trichloroethane	97	Compound Not Detected.					
	49		Chlorodibromomethane	129	Compound Not Detected.					
	50		1,3-Dichloropropane	76	Compound Not Detected.					
	51		1,2-Dibromoethane	107	Compound Not Detected.					
	52		2-Hexanone	43	Compound Not Detected.					
*	53		d5-Chlorobenzene	117	7.822	7.822	(1.000)	256546	10.0000	
	54		Chlorobenzene	112	Compound Not Detected.					
	55		Ethyl Benzene	106	Compound Not Detected.					
	56		1,1,1,2-Tetrachloroethane	131	Compound Not Detected.					
	57		m,p-xylene	106	Compound Not Detected.					
	58		o-Xylene	106	Compound Not Detected.					
	59		Styrene	104	Compound Not Detected.					
	60		Bromoform	173	Compound Not Detected.					
	61		Isopropyl Benzene	105	Compound Not Detected.					
$	62		4-Bromofluorobenzene	174	8.693	8.694	(1.111)	50906	4.71816	4.718(R)
	63		Bromobenzene	156	Compound Not Detected.					
	64		N-Propyl Benzene	91	Compound Not Detected.					
	65		1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
	66		2-Chloro Toluene	91	Compound Not Detected.					
	67		1,3,5-Trimethyl Benzene	105	Compound Not Detected.					
	68		1,2,3-Trichloropropane	110	Compound Not Detected.					
	69		Trans-1,4-Dichloro 2-Butene	53	Compound Not Detected.					
	70		4-Chloro Toluene	91	Compound Not Detected.					
	71		T-Butyl Benzene	119	Compound Not Detected.					
	72		1,2,4-Trimethylbenzene	105	Compound Not Detected.					
	73		S-Butyl Benzene	105	Compound Not Detected.					
	74		4-Isopropyl Toluene	119	Compound Not Detected.					
	75		1,3-Dichlorobenzene	146	Compound Not Detected.					
*	76		d4-1,4-Dichlorobenzene	152	9.517	9.513	(1.000)	133490	10.0000	
	77		1,4-Dichlorobenzene	146	Compound Not Detected.					
	78		N-Butyl Benzene	91	Compound Not Detected.					
$	79		d4-1,2-Dichlorobenzene	152	9.836	9.837	(1.034)	61921	4.97498	4.975(R)
	80		1,2-Dichlorobenzene	146	Compound Not Detected.					
	81		1,2-Dibromo 3-Chloropropane	75	Compound Not Detected.					
	83		Hexachloro 1,3-Butadiene	225	Compound Not Detected.					
	84		1,2,4-Trichlorobenzene	180	Compound Not Detected.					
	85		Naphthalene	128	Compound Not Detected.					
	86		1,2,3-Trichlorobenzene	180	Compound Not Detected.					

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271822.D
Lab Smp Id: 18C0424-03
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Client Smp ID: PB
Level:
Sample Type:
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	179337	-14.12
37 1,4-Difluorobenze	319374	159687	638748	271958	-14.85
53 d5-Chlorobenzene	290356	145178	580712	256546	-11.64
76 d4-1,4-Dichlorobe	151501	75751	303002	133490	-11.89

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	-0.02
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	-0.01
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	-0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.52	0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930a
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: 18C0424-03 Client Smp ID: PB
Level: Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: mdl.sub
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.268	105.37	
$ 33 d4-1,2-Dichloroeth	5.000	5.187	103.75	
$ 43 d8-Toluene	5.000	4.885	97.70	
$ 62 4-Bromofluorobenze	5.000	4.718	94.36	
$ 79 d4-1,2-Dichloroben	5.000	4.975	99.50	

REVIEW SUMMARY FOR FILE - V303271822.D

Lab ID: 18C0424-03
nt3.i, 20180327.b\8260C110717.m,   27-MAR-2018 17:15

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

* Only compounds listed in the work order have been verified by the analyst *

PREPARATION BATCH SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc. SDG: 18C0424

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGC0717 Batch Matrix: Water Preparation: EPA 5030 (Purge and Trap)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180326	18C0424-01	V303271823.D	03/27/18 10:48	
Trip Blank	18C0424-03	V303271822.D	03/27/18 10:48	PB
Blank	BGC0717-BLK1	V303271808.D	03/27/18 11:22	
LCS	BGC0717-BS1	V303271803LCS.D	03/27/18 09:15	
LCS Dup	BGC0717-BSD1	V303271804.D	03/27/18 09:40	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BENCH SHEET

BGC0717

Printed: 3/28/2018 10:35:24AM

Matrix: Water **Prepared using: Volatiles - EPA 5030 (Purge and Trap)** **Surrogate used: F011916**

Lab Number	Analysis	Prepared	Initial (mL)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	pH	Extraction Comments
18C0313-01 A	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-01 G	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-03 H	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-05 H	8260C VOA	27-Mar-2018 10:48	10	10				1	2	PB
18C0346-07 G	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-09 G	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-11 G	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-13 A	8260C VOA	27-Mar-2018 10:48	10	10				1	2	PB
18C0415-01 C	8260C VOA	27-Mar-2018 10:48	0.05	10				1	2	Do not over dilute
18C0424-01 E	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0424-01 E	8260C Gas (NWTPH)	27-Mar-2018 10:48	10	10				1	2	
18C0424-03 A	8260C VOA	27-Mar-2018 10:48	10	10				1	2	PB
18C0424-03 A	8260C Gas (NWTPH)	27-Mar-2018 10:48	10	10				1	2	PB
18C0427-01 H	624 VOC	27-Mar-2018 10:48	10	10				1	2	Use Version, HS
18C0439-01 C	8260C VOA	27-Mar-2018 10:48	0.05	10				1	2	Use Go No Go List
BGC0717-BLK1	QC	27-Mar-2018 11:22	10	10				1		
BGC0717-BLK2	QC	27-Mar-2018 11:22	10	10				1		
BGC0717-BS1	QC	27-Mar-2018 09:15	10	10	G002467		5	1		
BGC0717-BS2	QC	27-Mar-2018 10:05	10	10	G001199		2	1		
BGC0717-BSD1	QC	27-Mar-2018 09:40	10	10	G002467		5	1		
BGC0717-BSD2	QC	27-Mar-2018 10:31	10	10	G001199		2	1		

Spiking Witnessed By Date

Preparation Reviewed By Date

Extracts Received By Date

Form I

METHOD BLANK DATA SHEET

EPA 8260C

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18C0424
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGC0717-BLK1	File ID:	V303271808.D
Sampled:	N/A	Prepared:	03/27/18 11:22	Analyzed:	03/27/18 11:22
Solids:		Preparation:	EPA 5030 (Purge and Trap)	Initial/Final:	10 mL / 10 ml
Batch:	BGC0717	Sequence:	SGC0407	Calibration:	AK00023
Instrument:	NT3	Column:	RTX-VMS		

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	5.15	103	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	5.14	103	80 - 120	
Toluene-d8	5.0000	4.86	97.1	80 - 120	
4-Bromofluorobenzene	5.0000	4.81	96.2	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180327.b\V303271808.D

Date : 27-MAR-2018 11:22

Client ID:

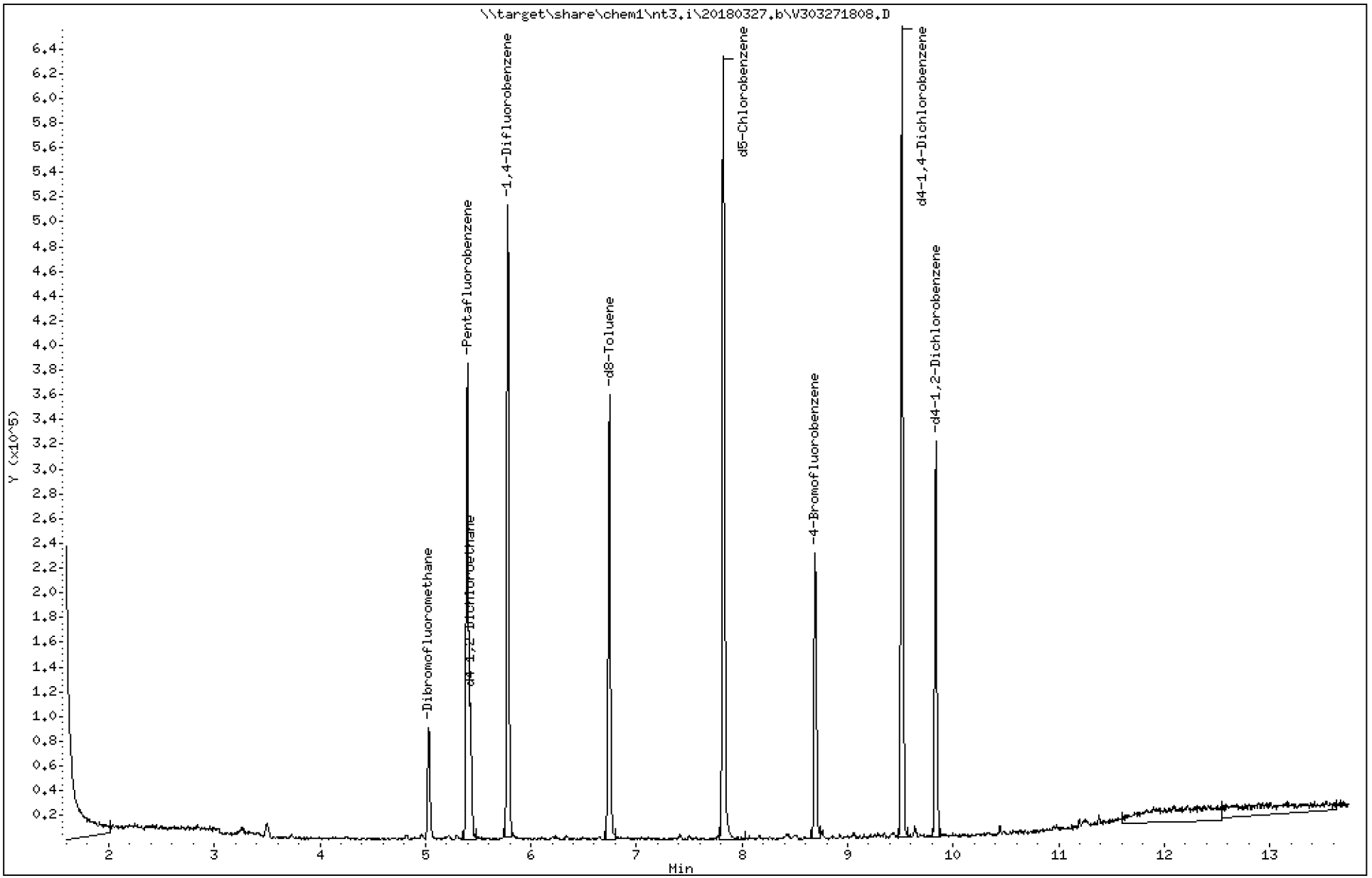
Sample Info: BGC0717-BLK1

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC

Column diameter: 0.18



Data File: \\target\share\chem1\nt3.i\20180327.b\V303271808.D

Date : 27-MAR-2018 11:22

Client ID:

Instrument: nt3.i

Sample Info: BGC0717-BLK1

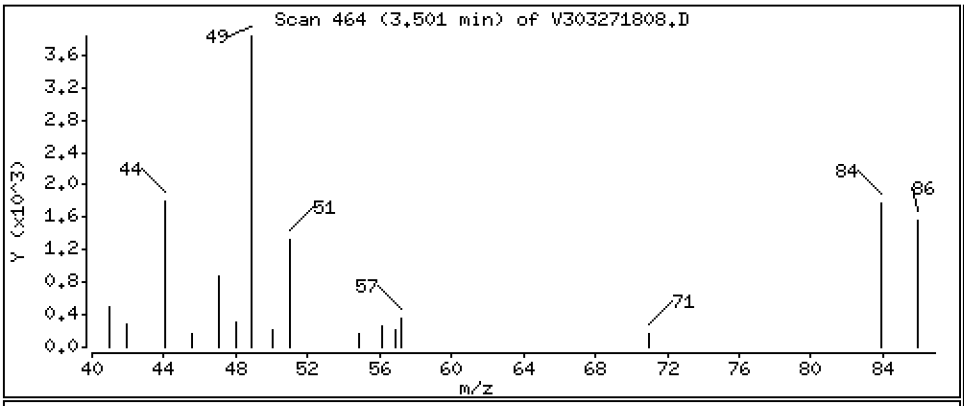
Operator: PKC

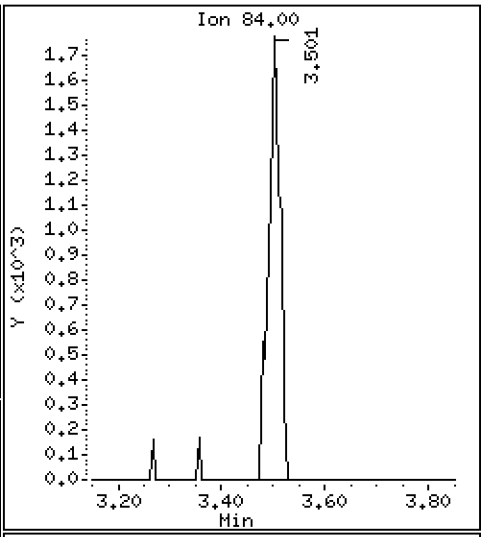
Column phase: RTXVMS

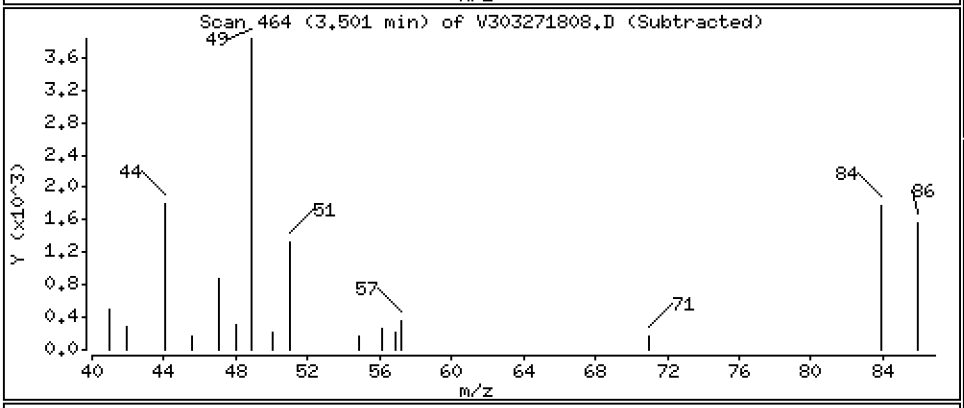
Column diameter: 0.18

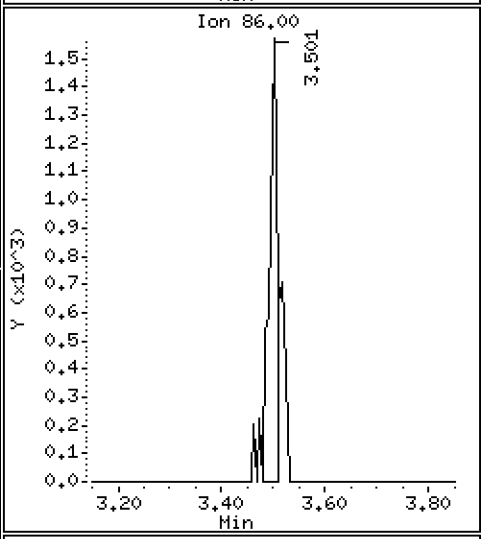
13 Methylene Chloride

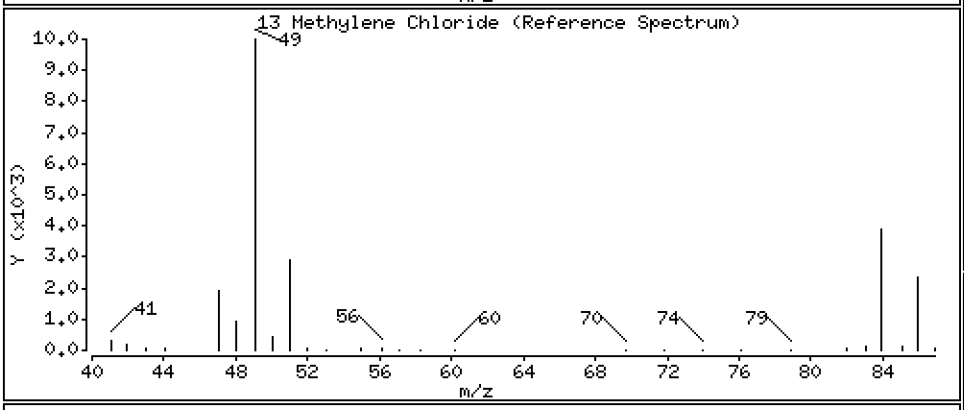
Concentration: 0.2210 ug/L

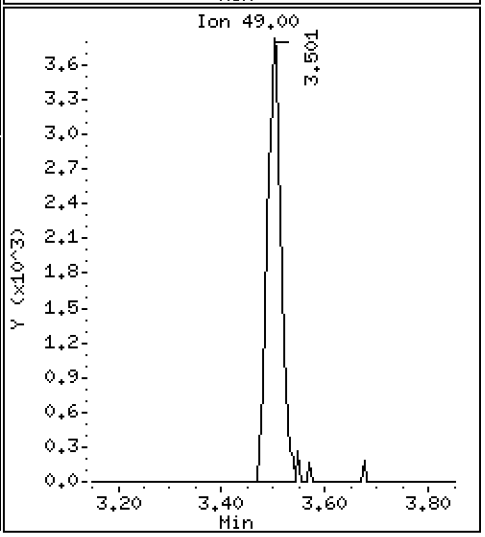


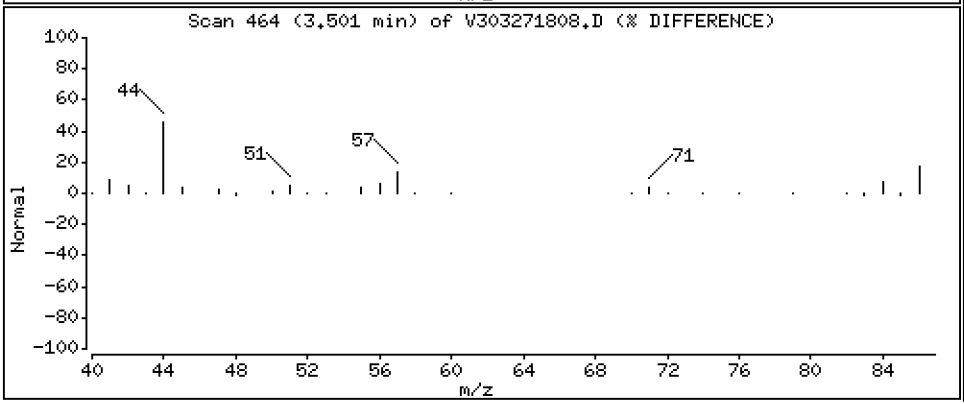












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271808.D

Date : 27-MAR-2018 11:22

Client ID:

Instrument: nt3.i

Sample Info: BGC0717-BLK1

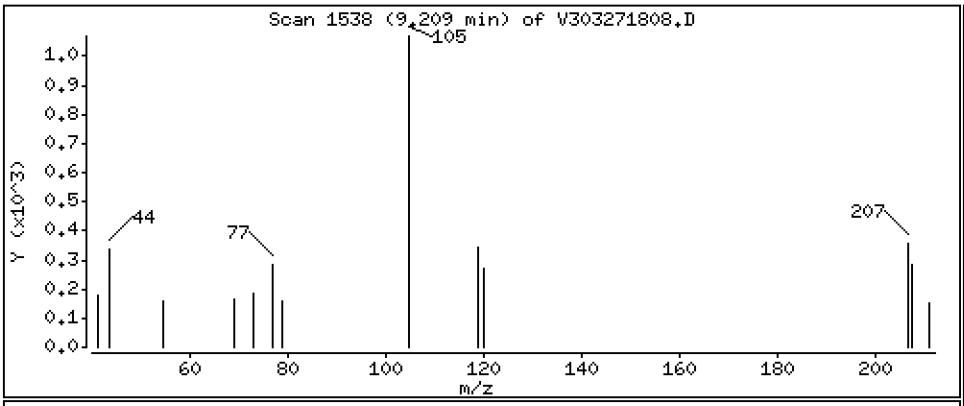
Operator: PKC

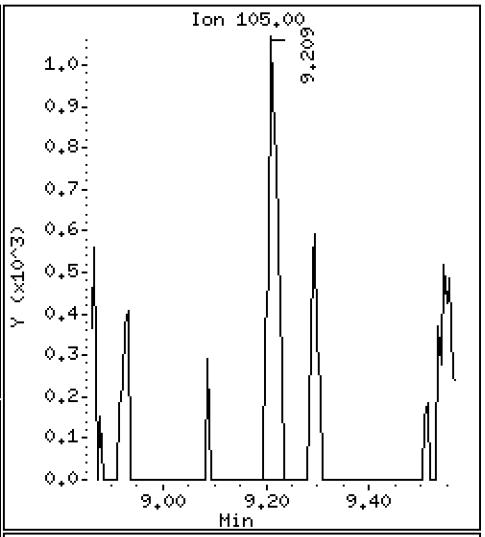
Column phase: RTXVMS

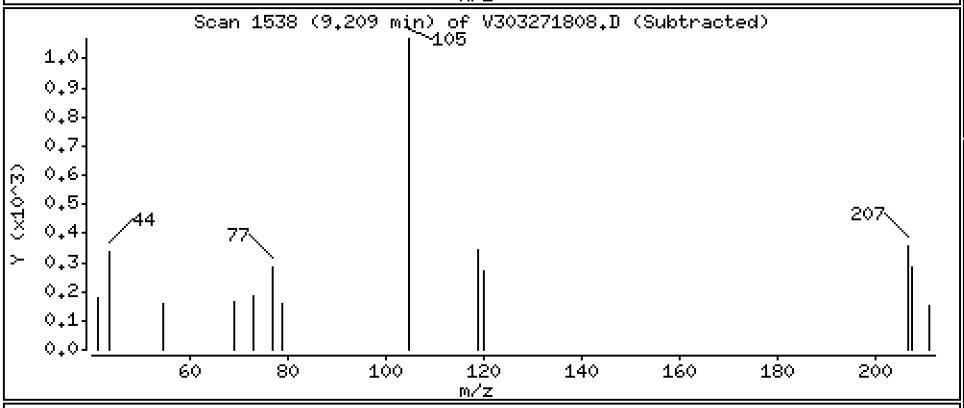
Column diameter: 0.18

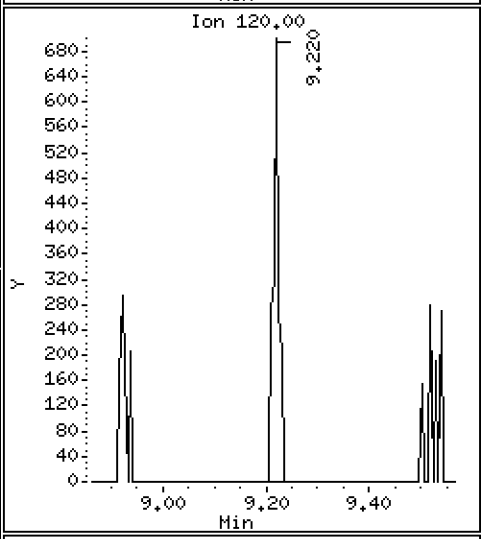
72 1,2,4-Trimethylbenzene

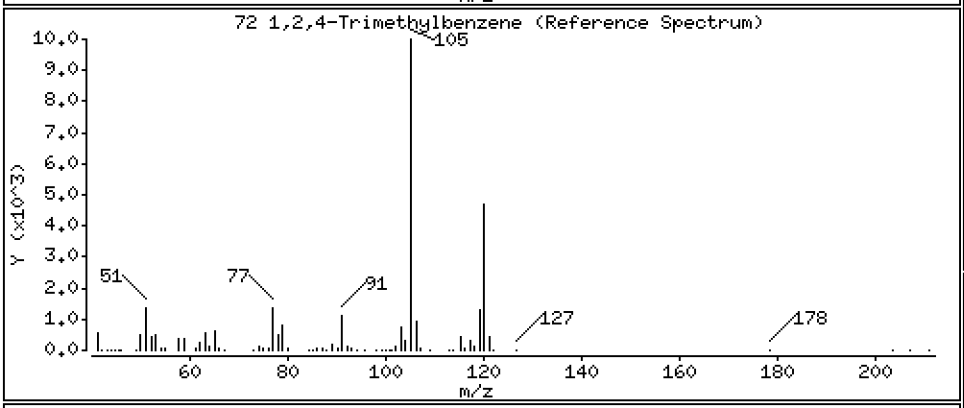
Concentration: 0.02355 ug/L

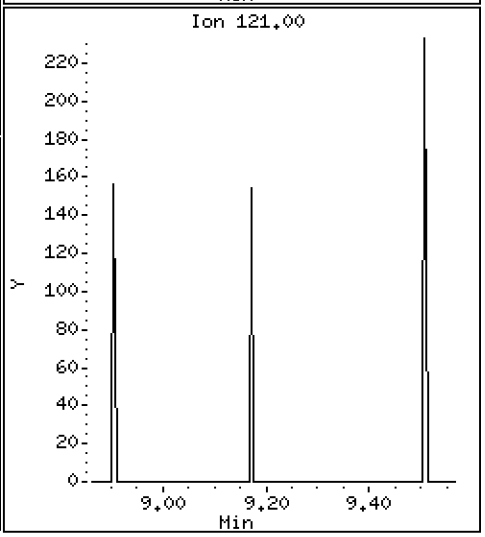


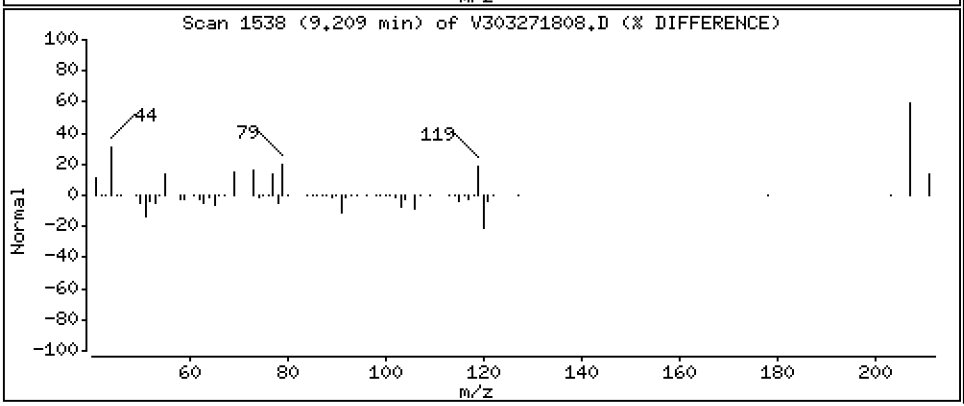












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271808.D

Date : 27-MAR-2018 11:22

Client ID:

Instrument: nt3.i

Sample Info: BGC0717-BLK1

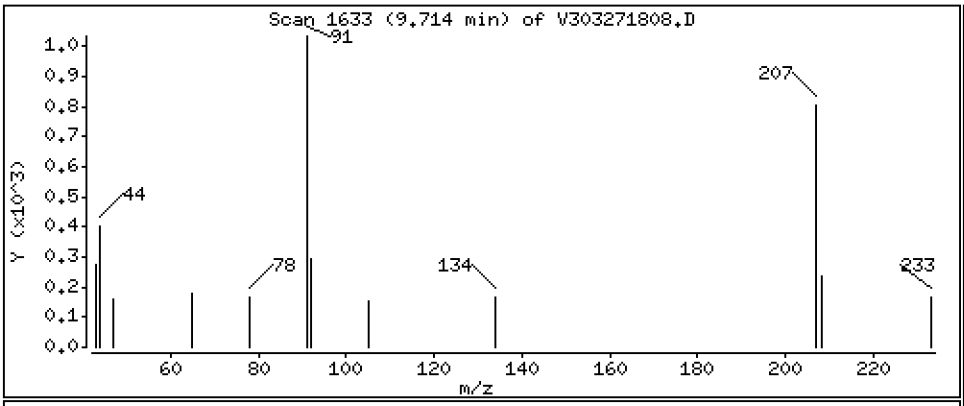
Operator: PKC

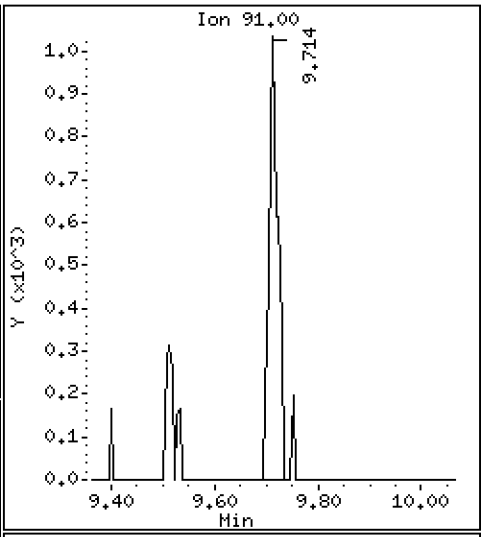
Column phase: RTXVMS

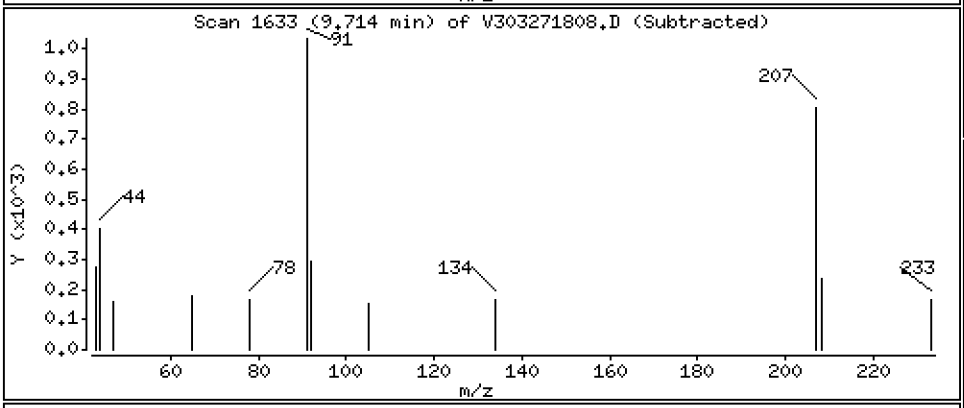
Column diameter: 0.18

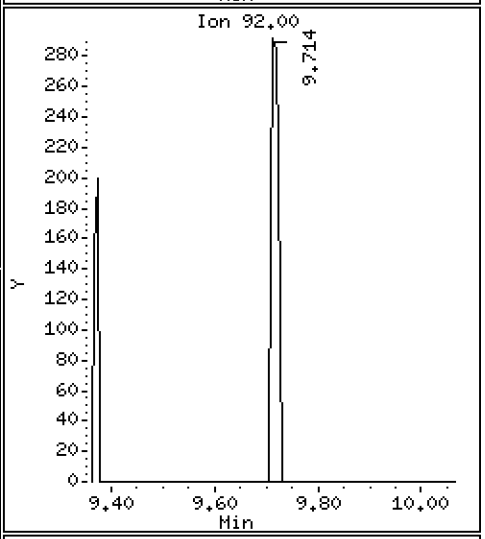
78 N-Butyl Benzene

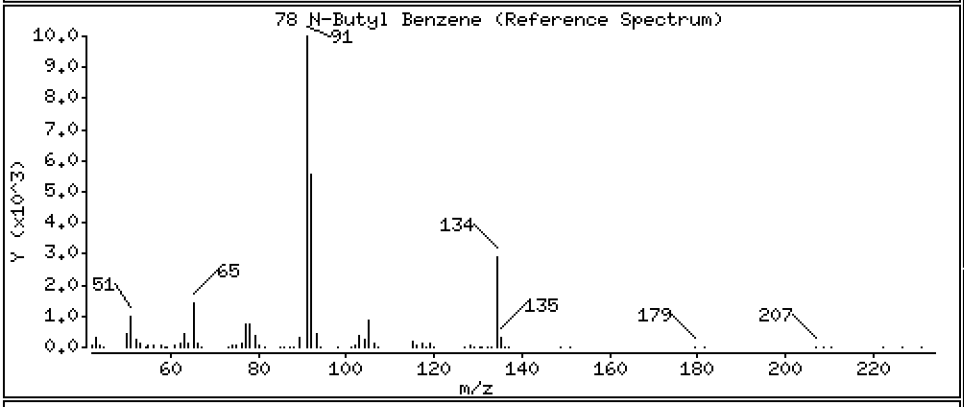
Concentration: 0.02460 ug/L

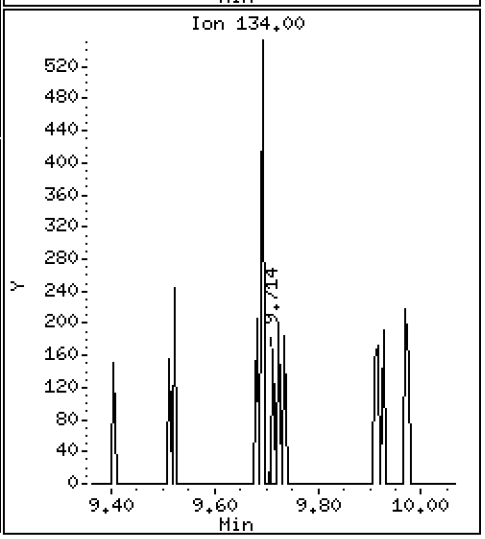


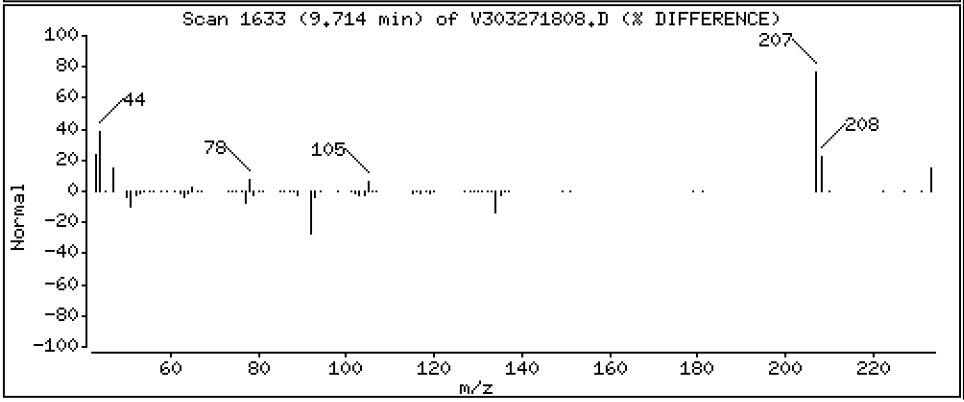












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271808.D

Date : 27-MAR-2018 11:22

Client ID:

Instrument: nt3.i

Sample Info: BGC0717-BLK1

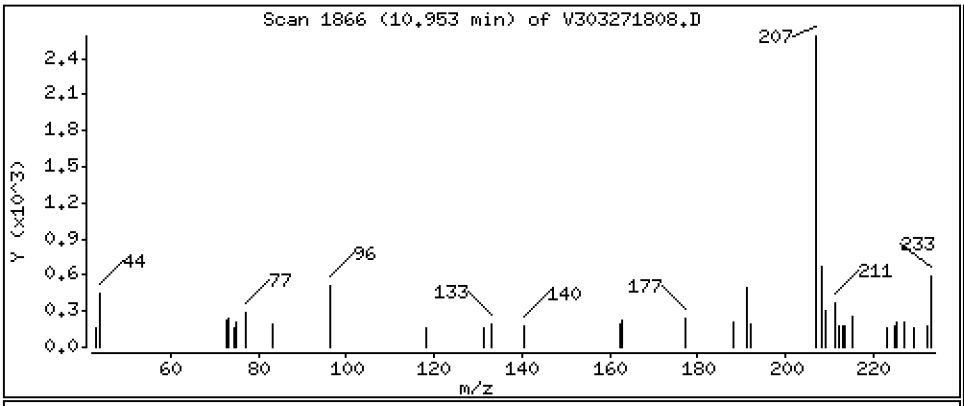
Operator: PKC

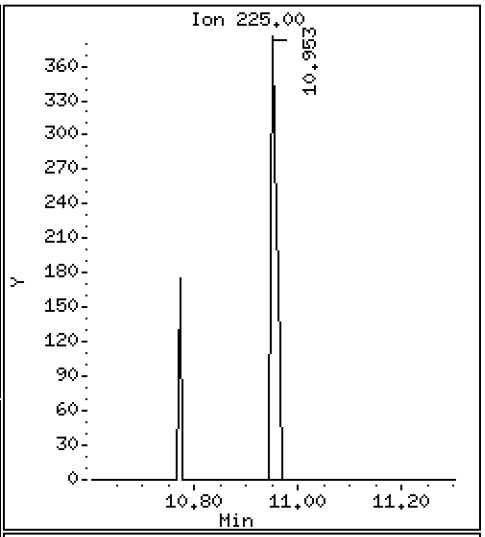
Column phase: RTXVMS

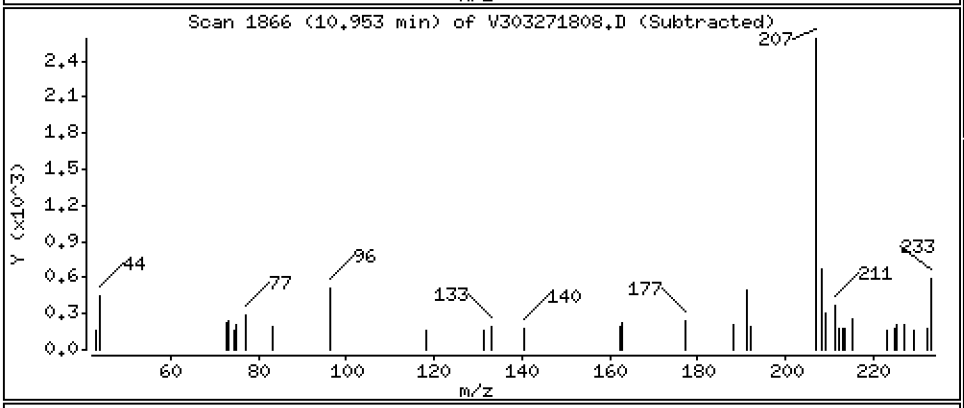
Column diameter: 0.18

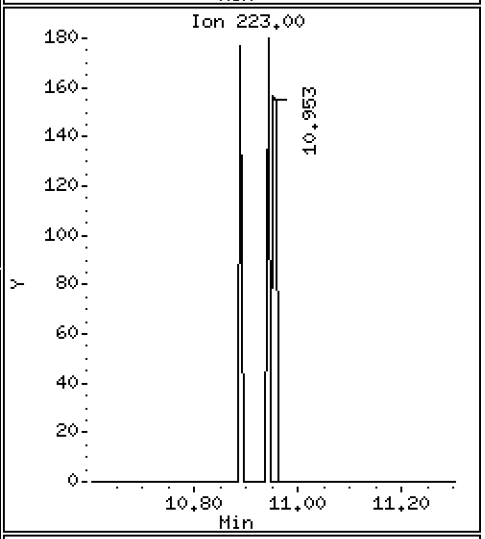
83 Hexachloro 1,3-Butadiene

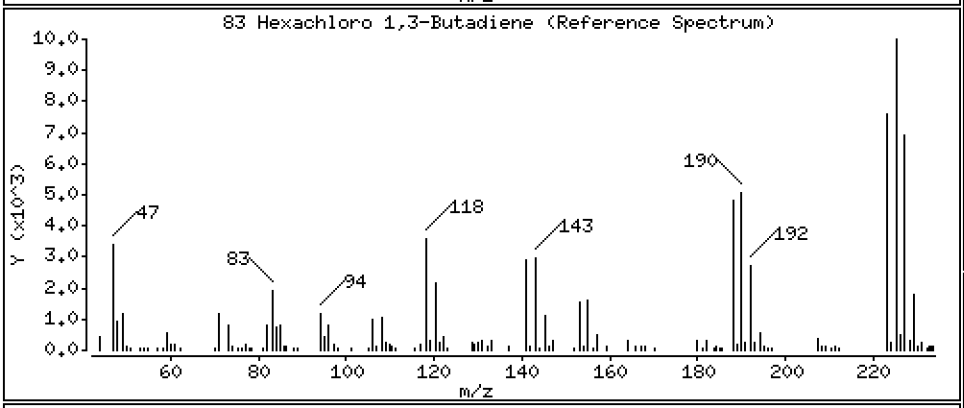
Concentration: 0.03872 ug/L

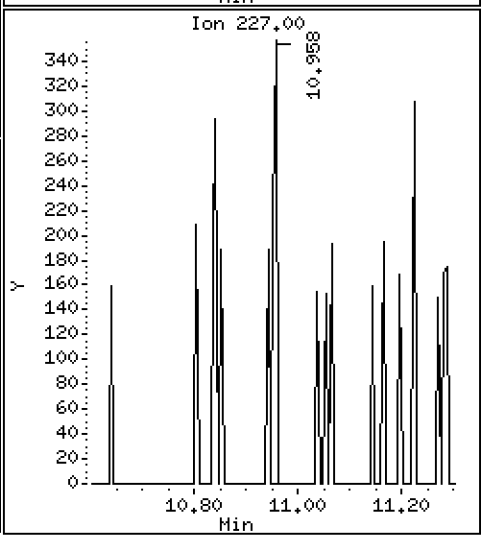


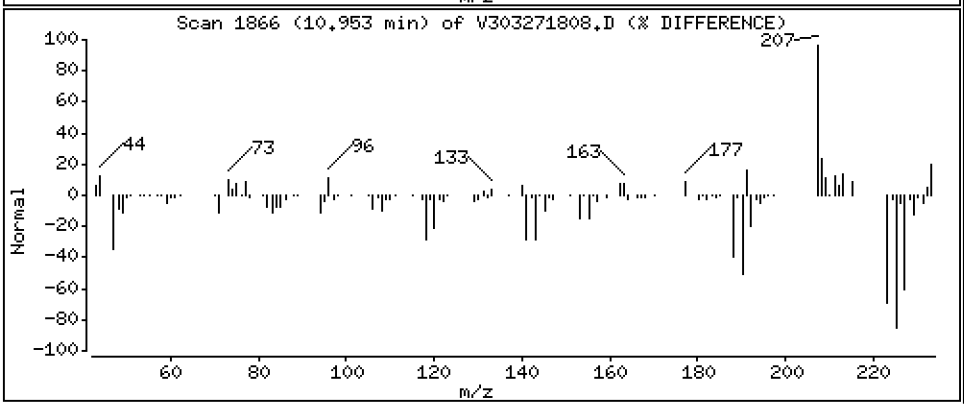












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271808.D

Date : 27-MAR-2018 11:22

Client ID:

Instrument: nt3.i

Sample Info: BGC0717-BLK1

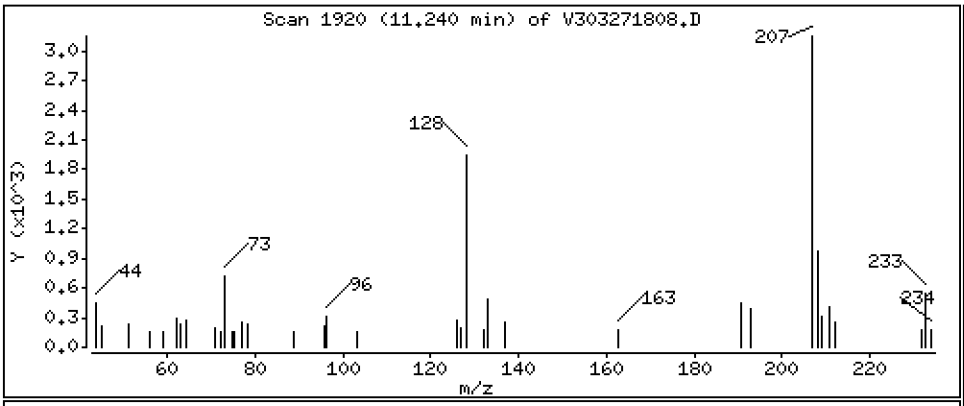
Operator: PKC

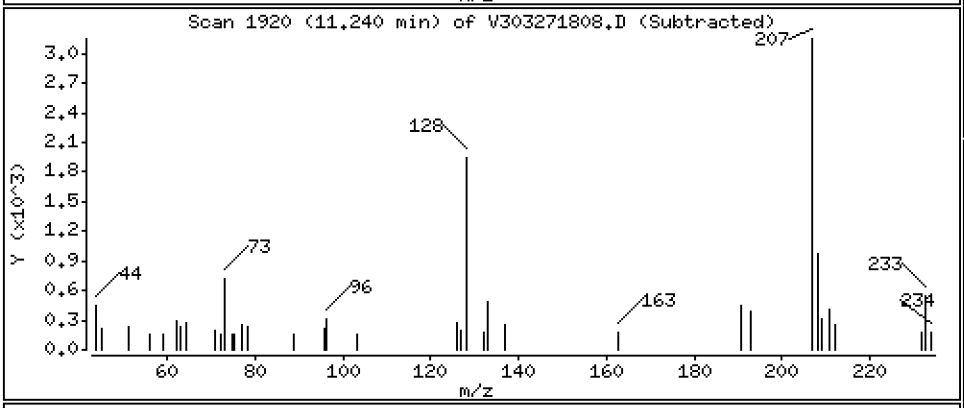
Column phase: RTXVMS

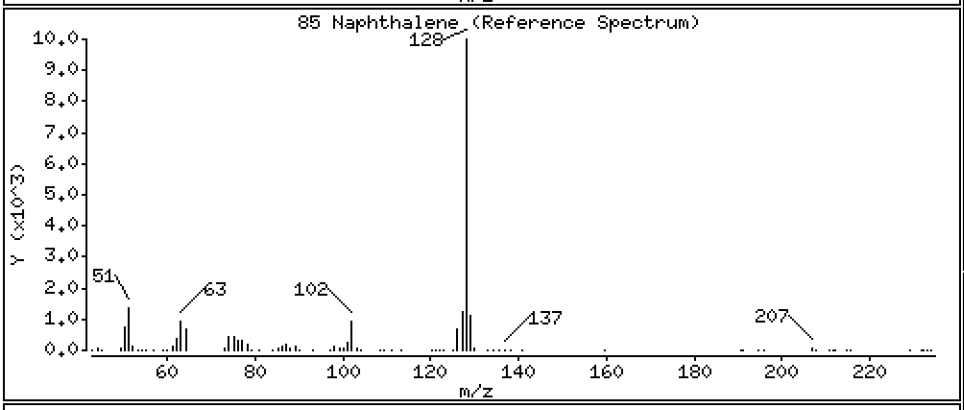
Column diameter: 0.18

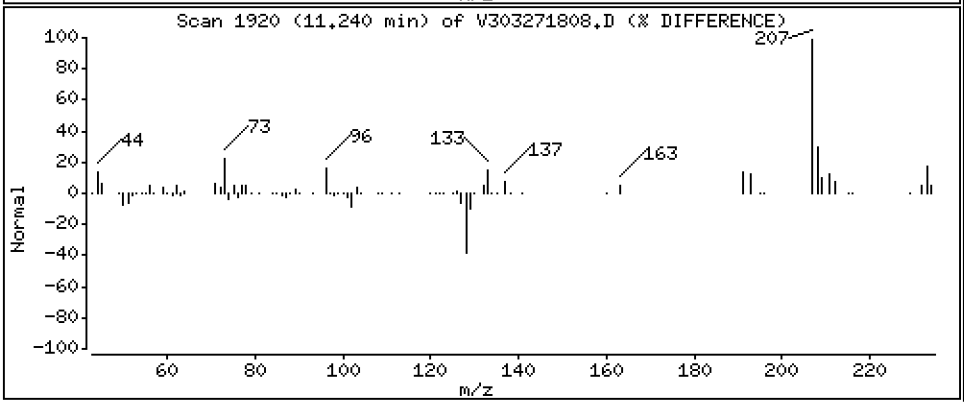
85 Naphthalene

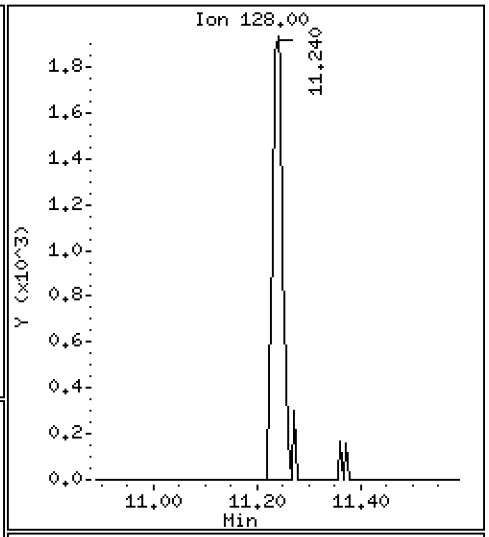
Concentration: 0.1106 ug/L

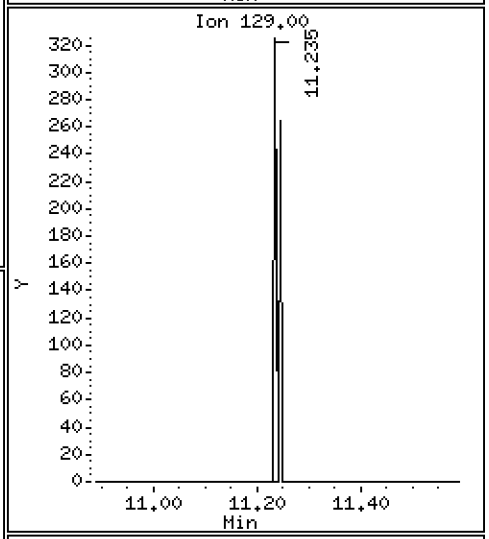


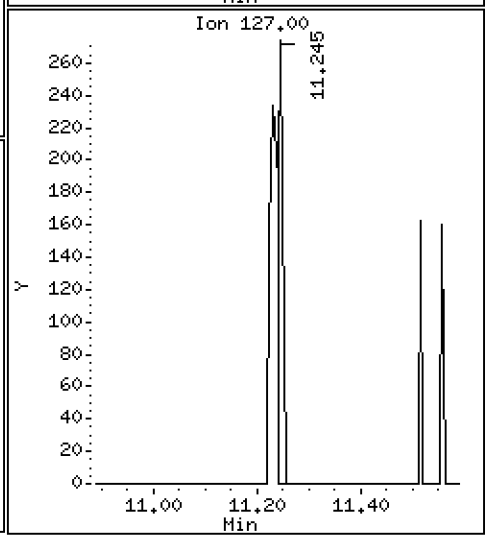












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271808.D

Date : 27-MAR-2018 11:22

Client ID:

Instrument: nt3.i

Sample Info: BGC0717-BLK1

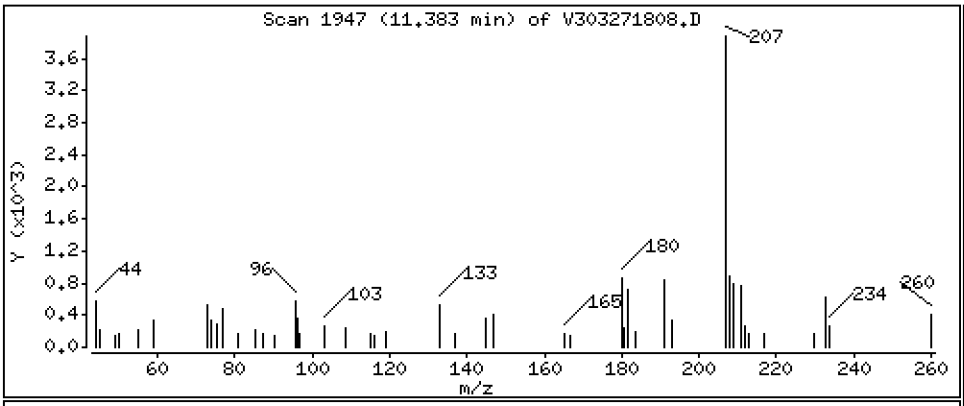
Operator: PKC

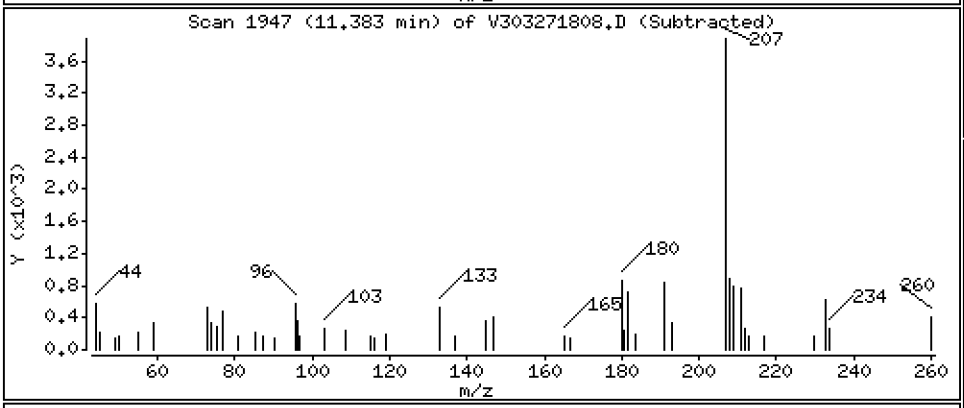
Column phase: RTXVMS

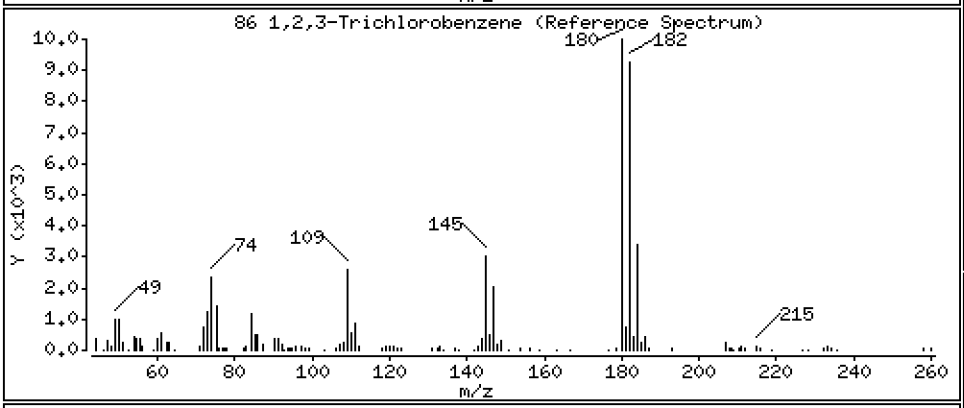
Column diameter: 0.18

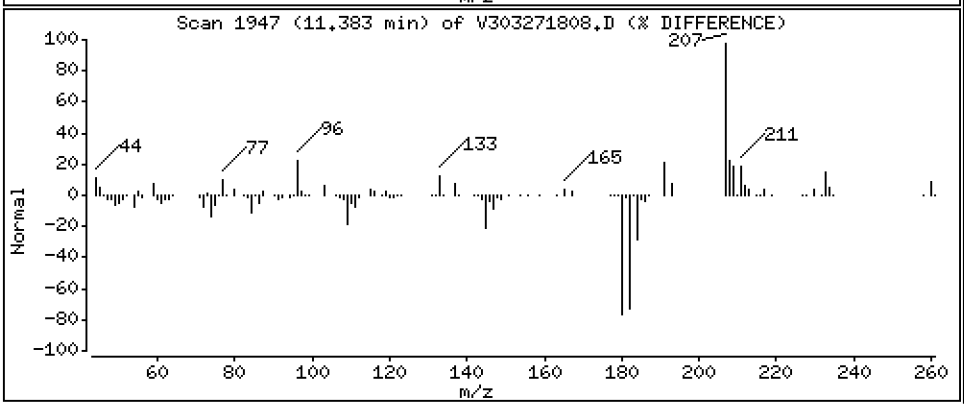
86 1,2,3-Trichlorobenzene

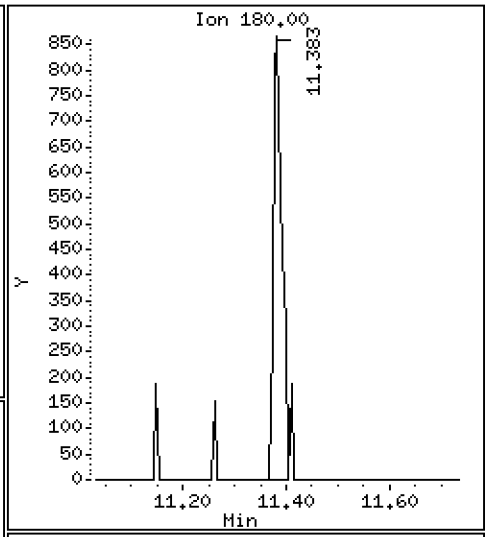
Concentration: 0.08652 ug/L

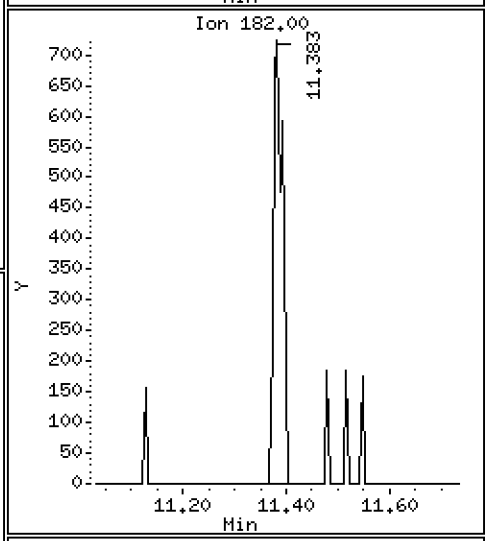


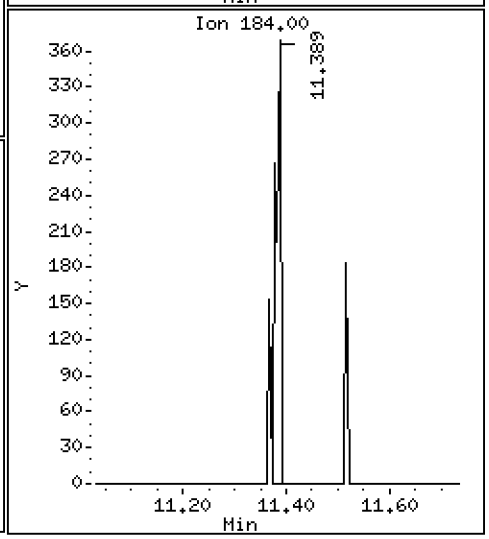












ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327.b\V303271808.D
Lab Smp Id: BGC0717-BLK1
Inj Date : 27-MAR-2018 11:22
Operator : PKC Inst ID: nt3.i
Smp Info : BGC0717-BLK1
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Meth Date : 28-Mar-2018 09:42 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 50
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	1 Dichlorodifluoromethane	85	Compound Not Detected.					
	2 Chloromethane	50	Compound Not Detected.					
	3 Vinyl Chloride	62	Compound Not Detected.					
	4 Bromomethane	94	Compound Not Detected.					
	5 Chloroethane	64	Compound Not Detected.					
	6 Trichlorofluoromethane	101	Compound Not Detected.					
	7 1,1-Dichloroethene	61	Compound Not Detected.					
	8 Carbon Disulfide	76	Compound Not Detected.					
	9 112Trichloro122Trifluoroethane	101	Compound Not Detected.					
	10 Iodomethane	142	Compound Not Detected.					
	11 Bromoethane	108	Compound Not Detected.					
	12 Acrolein	56	Compound Not Detected.					
	13 Methylene Chloride	84	3.500	3.501	(0.648)	2842	0.22101	0.2210
	14 Acetone	43	Compound Not Detected.					
	15 Trans-1,2-Dichloroethene	96	Compound Not Detected.					
	17 Methyl tert butyl ether	73	Compound Not Detected.					
	18 1,1-Dichloroethane	63	Compound Not Detected.					
	19 Acrylonitrile	53	Compound Not Detected.					
	20 Vinyl Acetate	43	Compound Not Detected.					
	22 Cis-1,2-Dichloroethene	96	Compound Not Detected.					
	23 2,2-Dichloropropane	77	Compound Not Detected.					
	24 Bromochloromethane	128	Compound Not Detected.					
	25 Chloroform	83	Compound Not Detected.					
	26 Carbon Tetrachloride	117	Compound Not Detected.					
$	27 Dibromofluoromethane	111	5.031	5.032	(0.932)	45503	5.07039	5.070(R)
	28 1,1,1-Trichloroethane	97	Compound Not Detected.					
	30 1,1-Dichloropropene	75	Compound Not Detected.					
	29 2-Butanone	43	Compound Not Detected.					
	31 Benzene	78	Compound Not Detected.					
*	32 Pentafluorobenzene	168	5.398	5.399	(1.000)	206539	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.424	5.425	(1.005)	55261	5.15054	5.151(R)
	34 1,2-Dichloroethane	62	Compound Not Detected.					
	36 Trichloroethene	130	Compound Not Detected.					

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/L)	FINAL (ug/L)
*	37	1,4-Difluorobenzene	114	5.780	5.781	(1.000)	307456	10.0000	
	38	Dibromomethane	93	Compound Not Detected.					
	39	1,2-Dichloropropane	63	Compound Not Detected.					
	40	Bromodichloromethane	83	Compound Not Detected.					
	173	2-Pentanone	86	Compound Not Detected.					
	41	2-Chloroethyl Vinyl Ether	63	Compound Not Detected.					
	42	Cis 1,3-dichloropropene	75	Compound Not Detected.					
$	43	d8-Toluene	98	6.742	6.743	(1.166)	175075	4.85672	4.857(R)
	44	Toluene	92	Compound Not Detected.					
	46	Tetrachloroethene	166	Compound Not Detected.					
	45	4-Methyl-2-Pentanone	58	Compound Not Detected.					
	47	Trans 1,3-Dichloropropene	75	Compound Not Detected.					
	48	1,1,2-Trichloroethane	97	Compound Not Detected.					
	49	Chlorodibromomethane	129	Compound Not Detected.					
	50	1,3-Dichloropropane	76	Compound Not Detected.					
	51	1,2-Dibromoethane	107	Compound Not Detected.					
	52	2-Hexanone	43	Compound Not Detected.					
*	53	d5-Chlorobenzene	117	7.822	7.822	(1.000)	289501	10.0000	
	54	Chlorobenzene	112	Compound Not Detected.					
	55	Ethyl Benzene	106	Compound Not Detected.					
	56	1,1,1,2-Tetrachloroethane	131	Compound Not Detected.					
	57	m,p-xylene	106	Compound Not Detected.					
	58	o-Xylene	106	Compound Not Detected.					
	59	Styrene	104	Compound Not Detected.					
	60	Bromoform	173	Compound Not Detected.					
	61	Isopropyl Benzene	105	Compound Not Detected.					
$	62	4-Bromofluorobenzene	174	8.693	8.694	(1.111)	58564	4.81005	4.810(R)
	63	Bromobenzene	156	Compound Not Detected.					
	64	N-Propyl Benzene	91	Compound Not Detected.					
	65	1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
	66	2-Chloro Toluene	91	Compound Not Detected.					
	67	1,3,5-Trimethyl Benzene	105	Compound Not Detected.					
	68	1,2,3-Trichloropropane	110	Compound Not Detected.					
	69	Trans-1,4-Dichloro 2-Butene	53	Compound Not Detected.					
	70	4-Chloro Toluene	91	Compound Not Detected.					
	71	T-Butyl Benzene	119	Compound Not Detected.					
	72	1,2,4-Trimethylbenzene	105	9.209	9.215	(0.968)	1393	0.02355	0.02355
	73	S-Butyl Benzene	105	Compound Not Detected.					
	74	4-Isopropyl Toluene	119	Compound Not Detected.					
	75	1,3-Dichlorobenzene	146	Compound Not Detected.					
*	76	d4-1,4-Dichlorobenzene	152	9.512	9.513	(1.000)	152124	10.0000	
	77	1,4-Dichlorobenzene	146	Compound Not Detected.					
	78	N-Butyl Benzene	91	9.714	9.715	(1.021)	1297	0.02460	0.02460
$	79	d4-1,2-Dichlorobenzene	152	9.836	9.837	(1.034)	72851	5.13618	5.136(R)
	80	1,2-Dichlorobenzene	146	Compound Not Detected.					
	81	1,2-Dibromo 3-Chloropropane	75	Compound Not Detected.					
	83	Hexachloro 1,3-Butadiene	225	10.952	10.953	(1.151)	319	0.03872	0.03872
	84	1,2,4-Trichlorobenzene	180	Compound Not Detected.					
	85	Naphthalene	128	11.239	11.240	(1.182)	2762	0.11058	0.1106
	86	1,2,3-Trichlorobenzene	180	11.383	11.384	(1.197)	1034	0.08652	0.08652

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271808.D
Lab Smp Id: BGC0717-BLK1
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	206539	-1.10
37 1,4-Difluorobenze	319374	159687	638748	307456	-3.73
53 d5-Chlorobenzene	290356	145178	580712	289501	-0.29
76 d4-1,4-Dichlorobe	151501	75751	303002	152124	0.41

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	-0.02
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	-0.02
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	-0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930a
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: BGC0717-BLK1
Level: Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: mdl.sub
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.070	101.41	
$ 33 d4-1,2-Dichloroeth	5.000	5.151	103.01	
$ 43 d8-Toluene	5.000	4.857	97.13	
$ 62 4-Bromofluorobenze	5.000	4.810	96.20	
$ 79 d4-1,2-Dichloroben	5.000	5.136	102.72	

REVIEW SUMMARY FOR FILE - V303271808.D

Lab ID: BGC0717-BLK1
nt3.i, 20180327.b\8260C110717.m,   27-MAR-2018 11:22

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

* Only compounds listed in the work order have been verified by the analyst *

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	03/27/18 09:15
Batch:	BGC0717	Laboratory ID:	BGC0717-BS1
Preparation:	EPA 5030 (Purge and Trap)	Sequence Name:	LCS
Initial/Final:	10 mL / 10 ml		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Benzene	10.0	10.4		104	80 - 120
Toluene	10.0	10.1		101	80 - 120
Ethylbenzene	10.0	9.90		99.0	80 - 120
m,p-Xylene	20.0	20.3		102	80 - 121
o-Xylene	10.0	9.86		98.6	80 - 121

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	10.0	9.97		99.7	4.43	30	80 - 120
Toluene	10.0	9.73		97.3	4.12	30	80 - 120
Ethylbenzene	10.0	9.68		96.8	2.25	30	80 - 120
m,p-Xylene	20.0	19.2		96.0	5.73	30	80 - 121
o-Xylene	10.0	9.62		96.2	2.41	30	80 - 121

* Indicates values outside of QC limits

Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

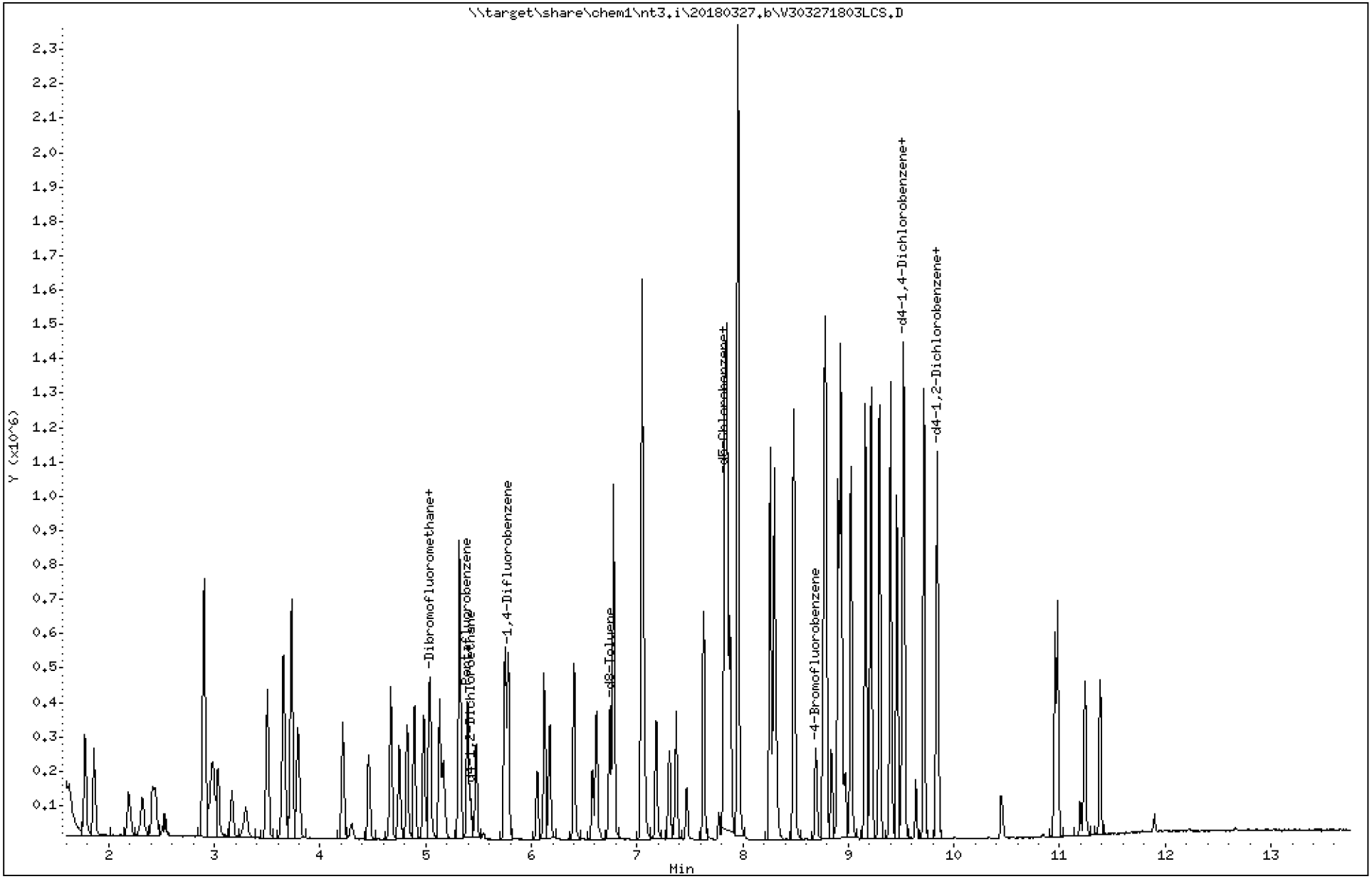
Instrument: nt3.i

Sample Info: BGC0717-BS1

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

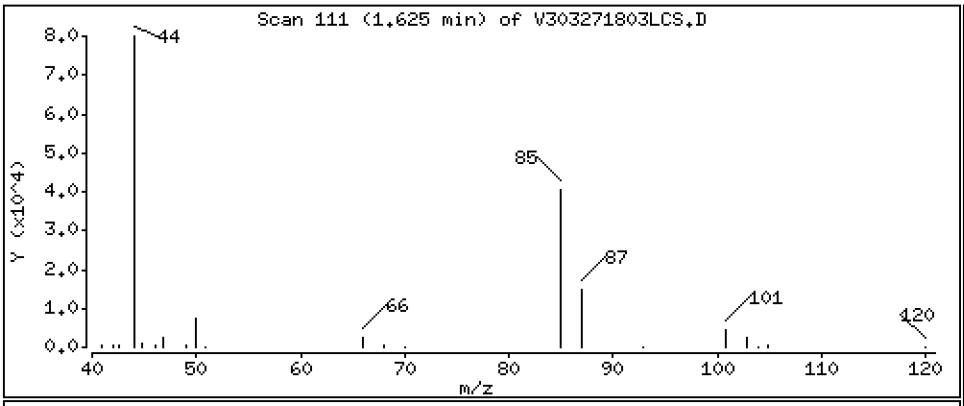
Operator: PKC

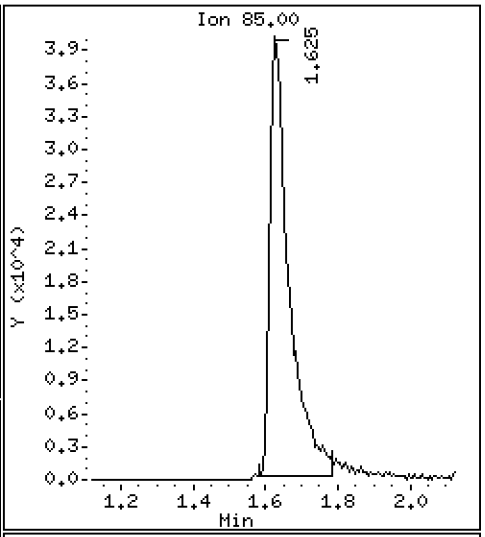
Column phase: RTXVMS

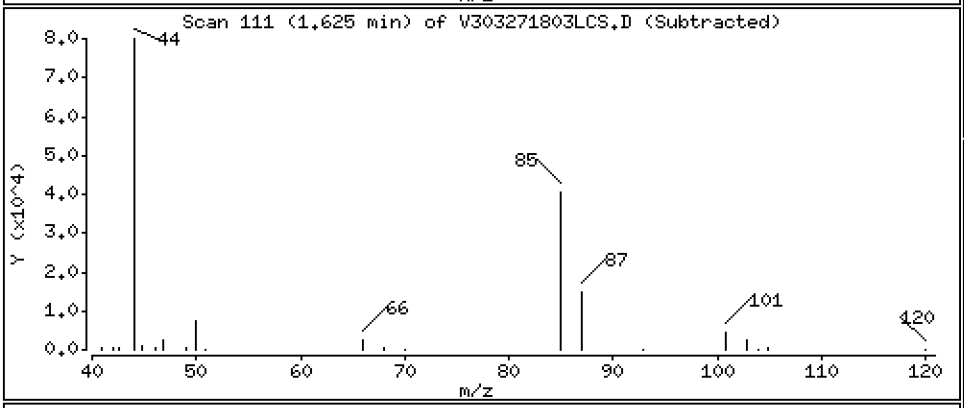
Column diameter: 0.18

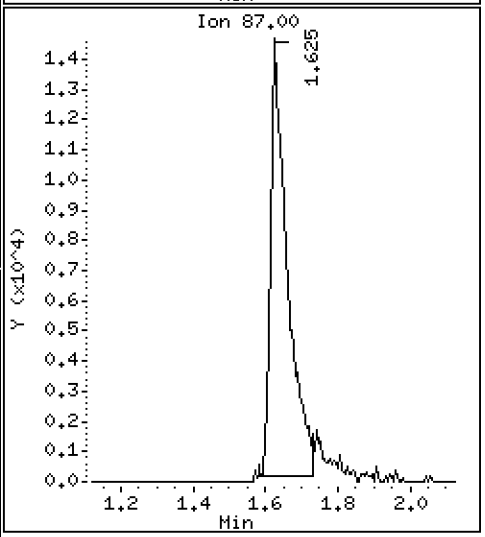
1 Dichlorodifluoromethane

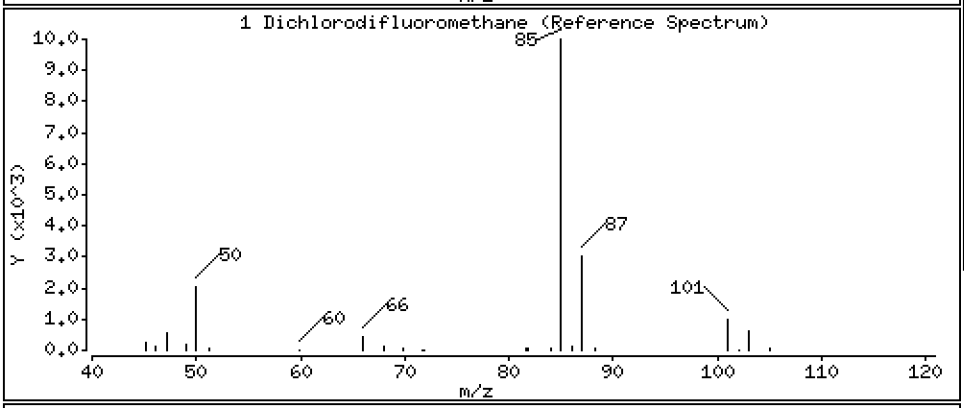
Concentration: 9.812 ug/L

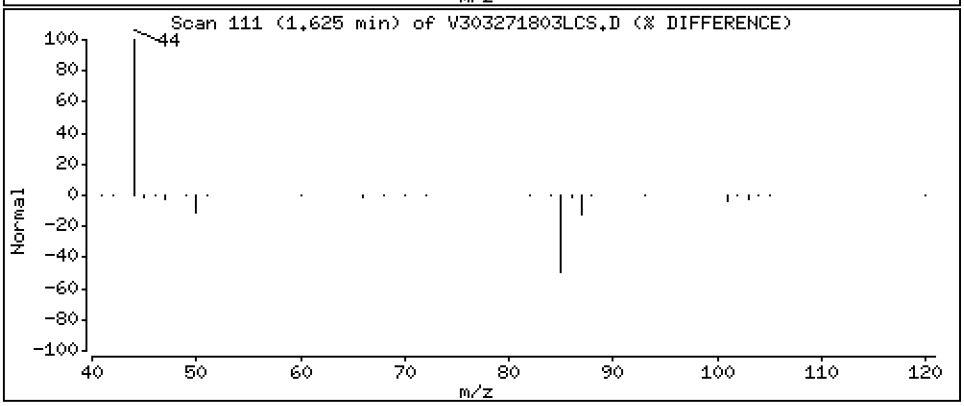












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

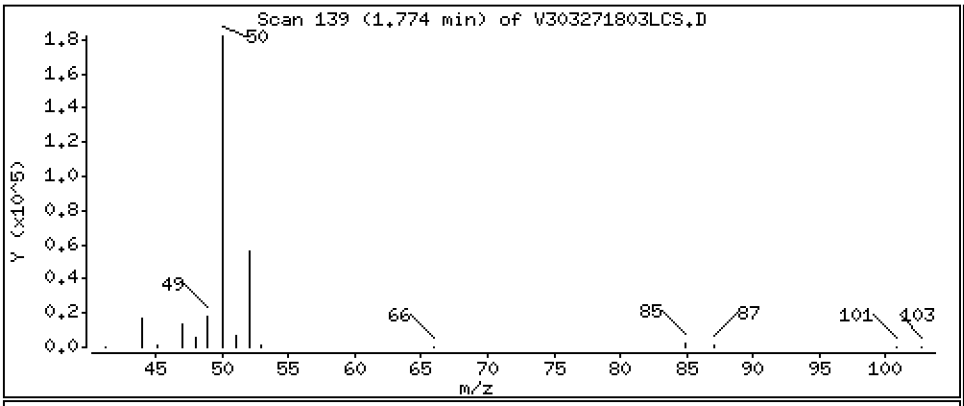
Operator: PKC

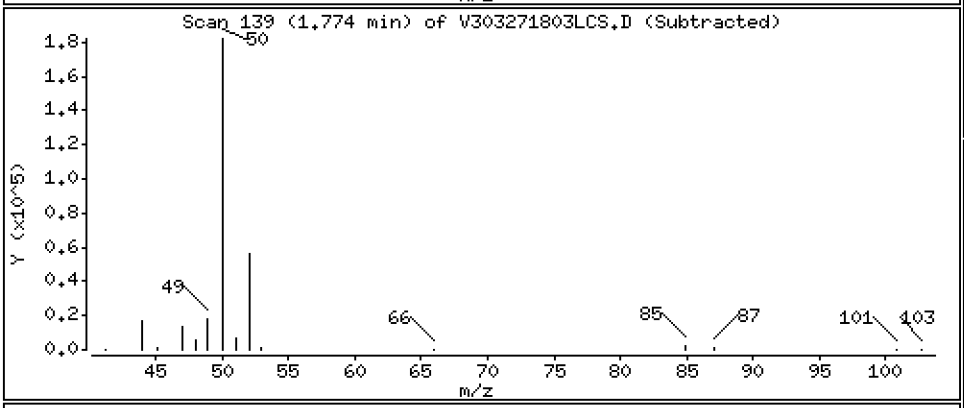
Column phase: RTXVMS

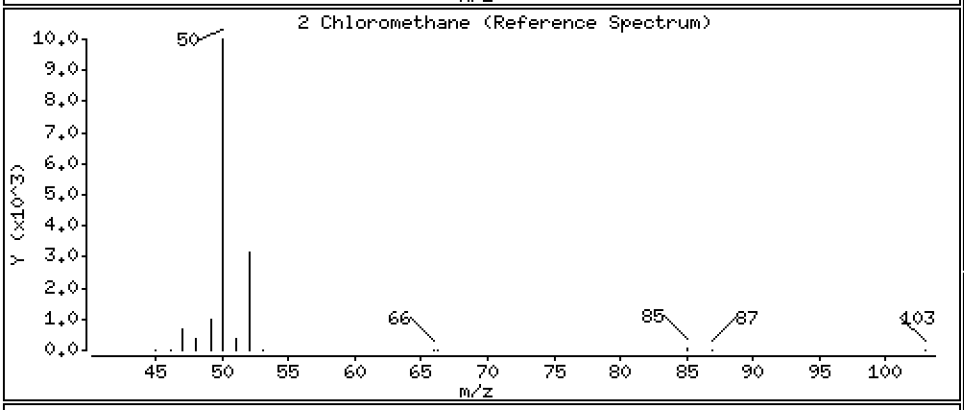
Column diameter: 0.18

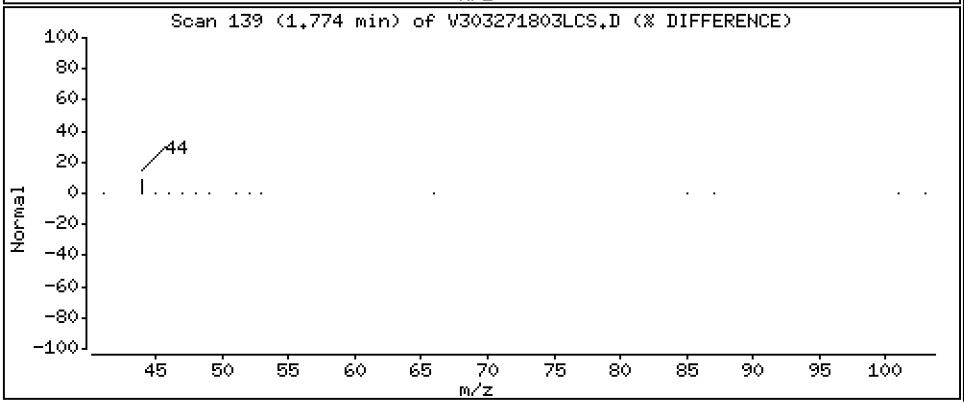
2 Chloromethane

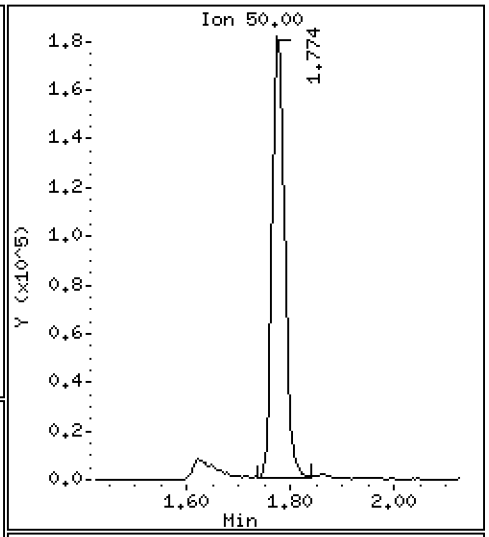
Concentration: 9.814 ug/L

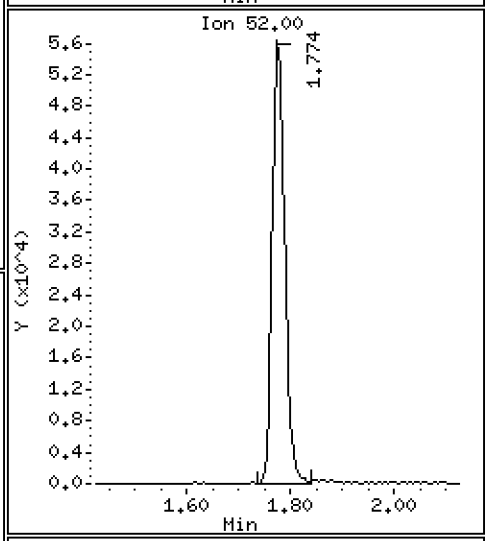


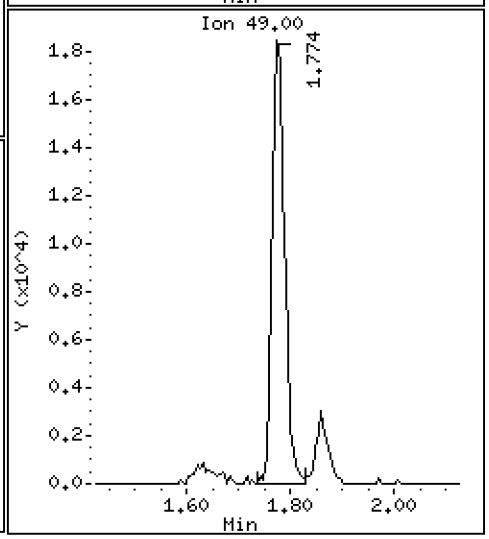












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

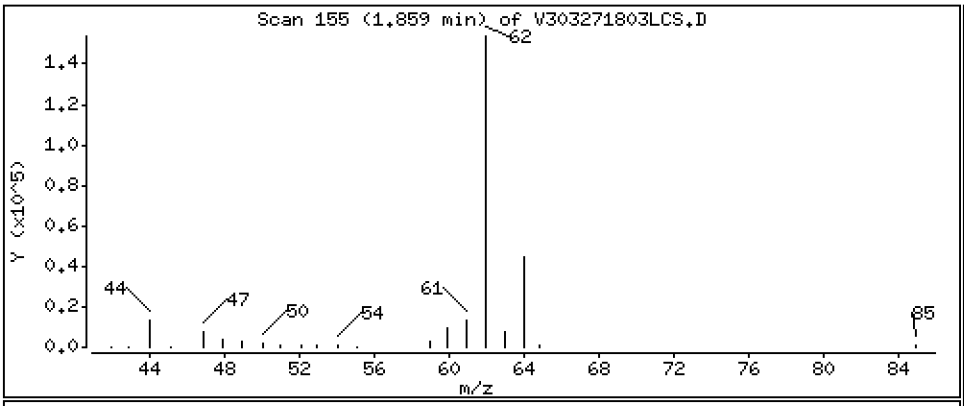
Operator: PKC

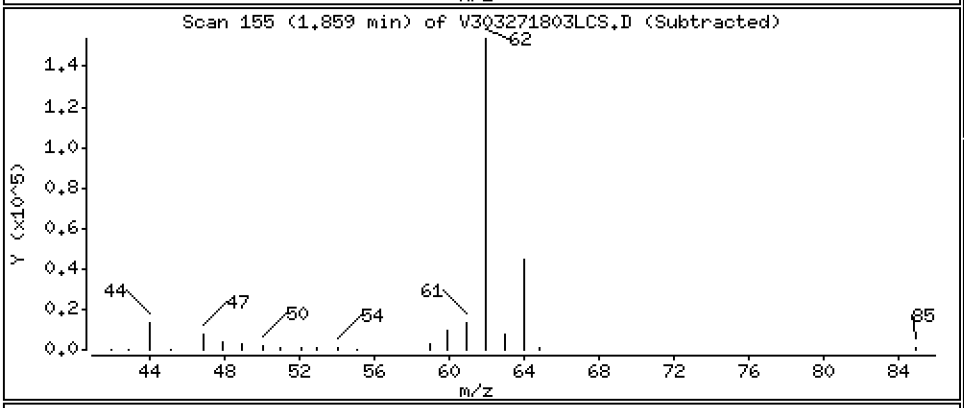
Column phase: RTXVMS

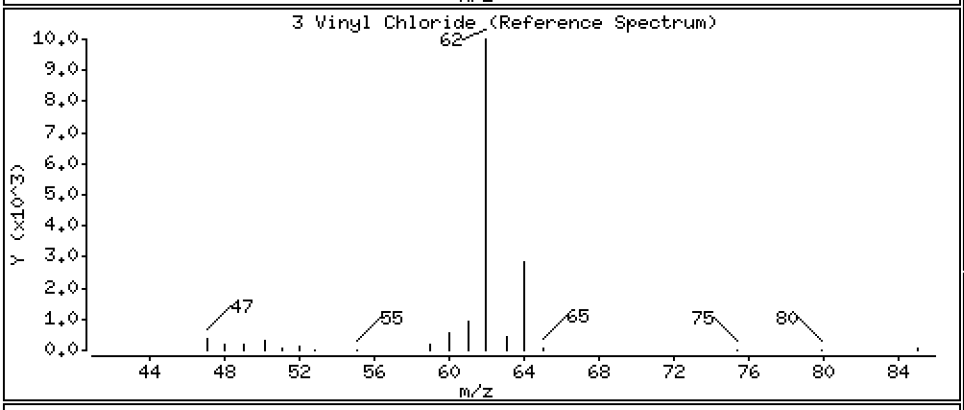
Column diameter: 0.18

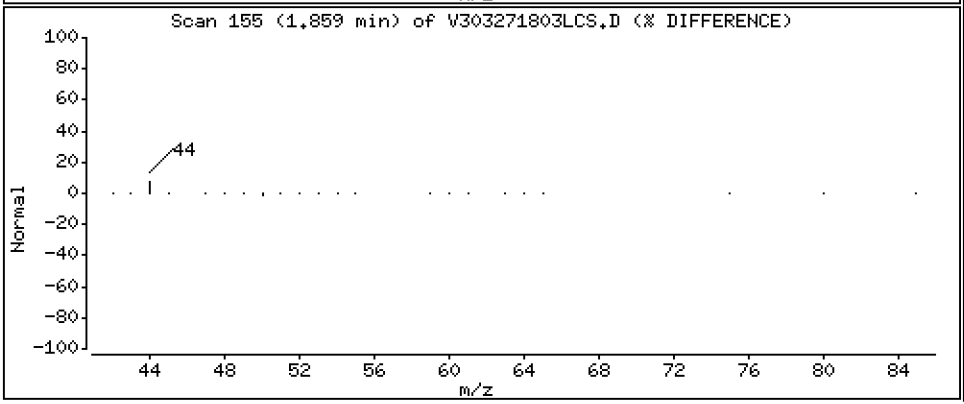
3 Vinyl Chloride

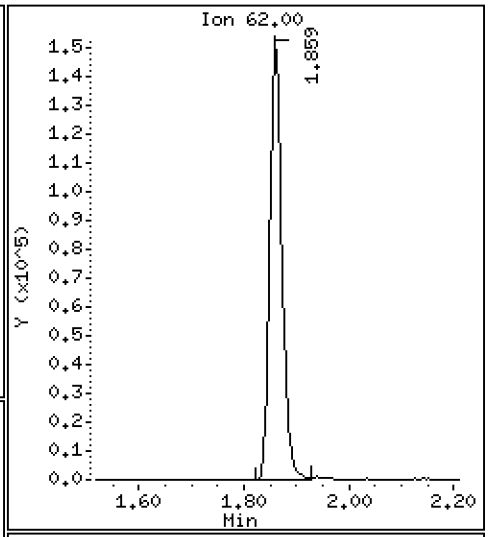
Concentration: 9.836 ug/L

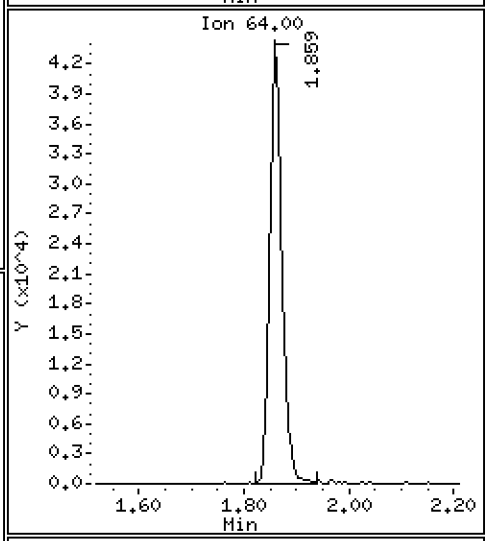


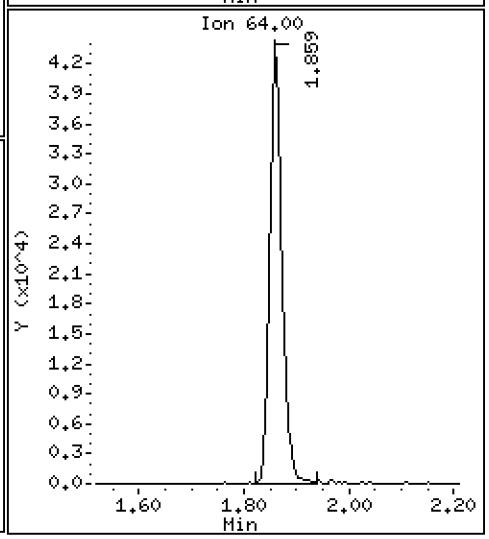












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

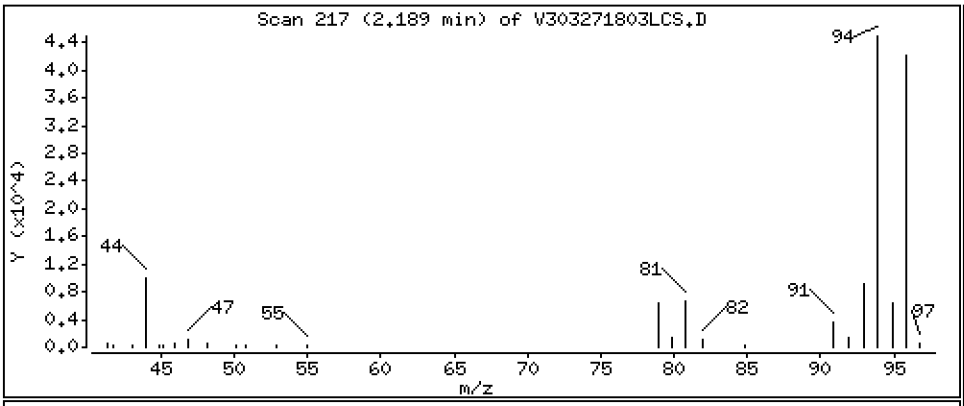
Operator: PKC

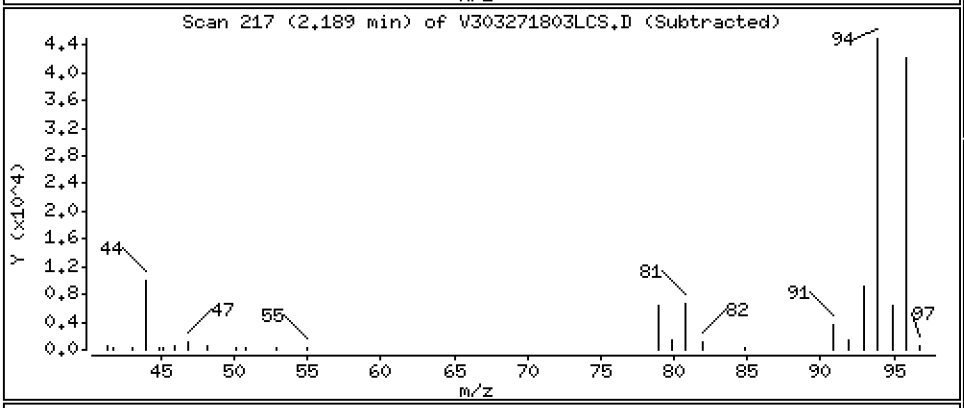
Column phase: RTXVMS

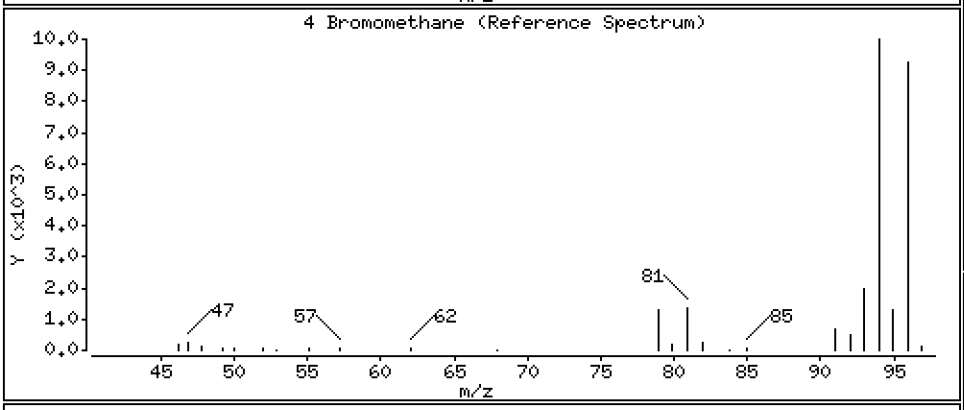
Column diameter: 0.18

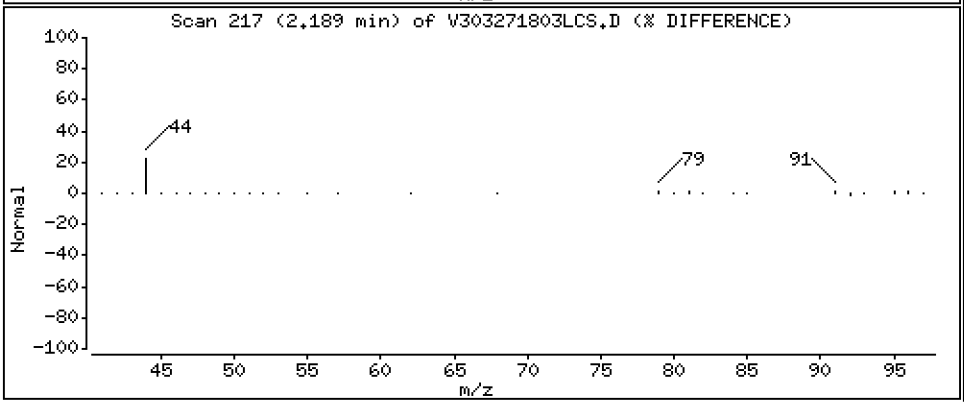
4 Bromomethane

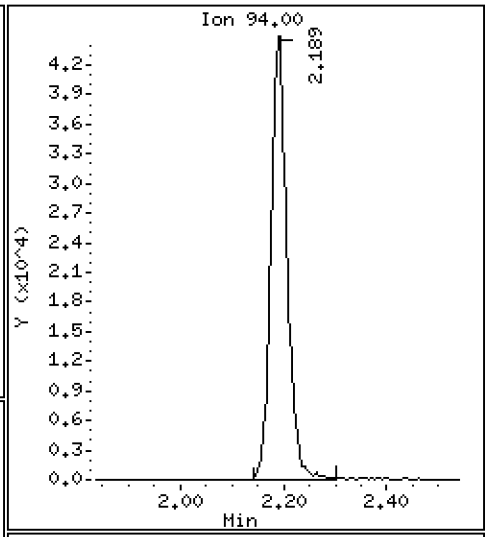
Concentration: 8.445 ug/L

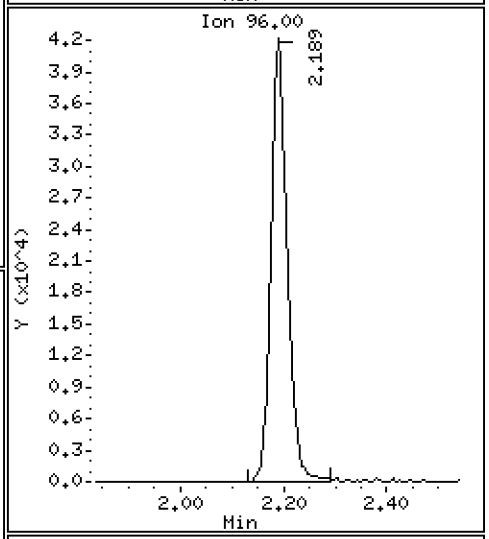


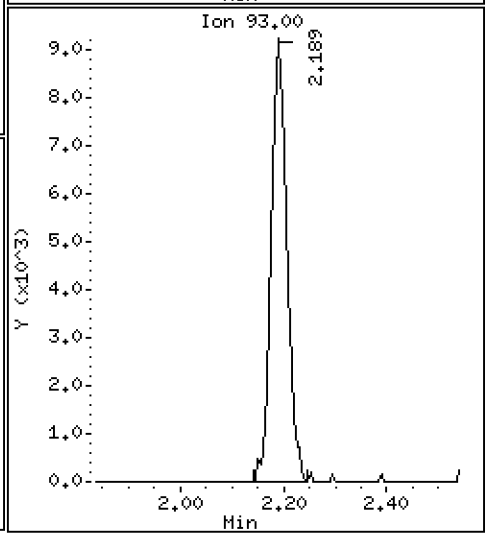












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

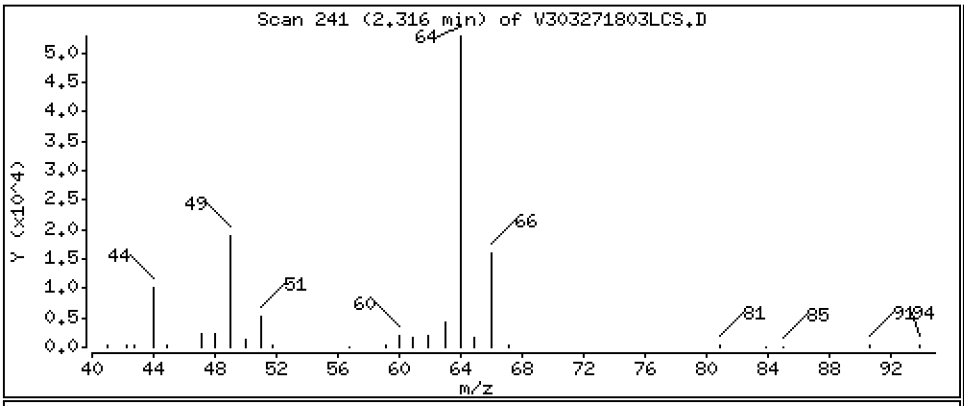
Operator: PKC

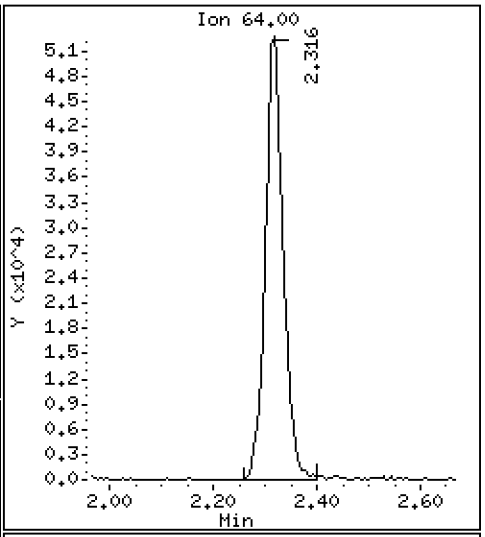
Column phase: RTXVMS

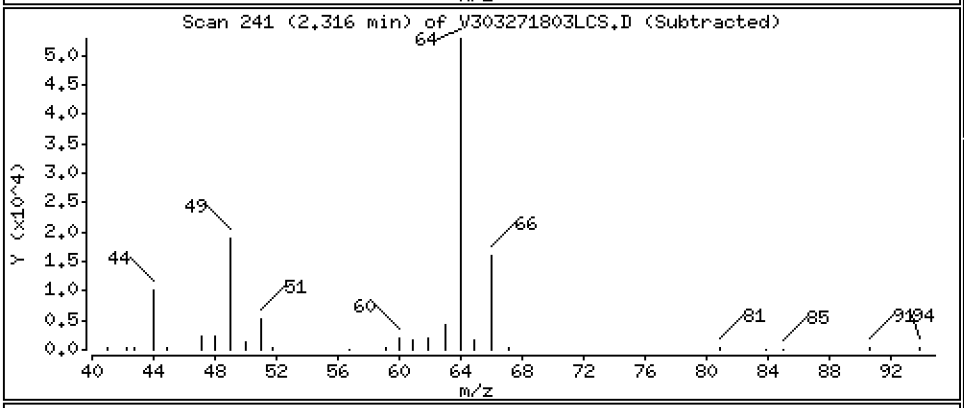
Column diameter: 0.18

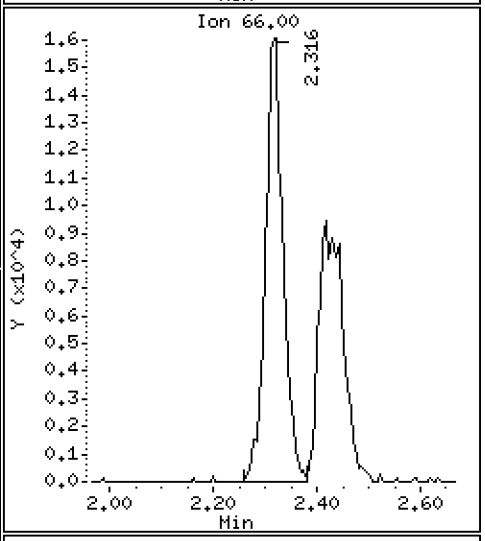
5 Chloroethane

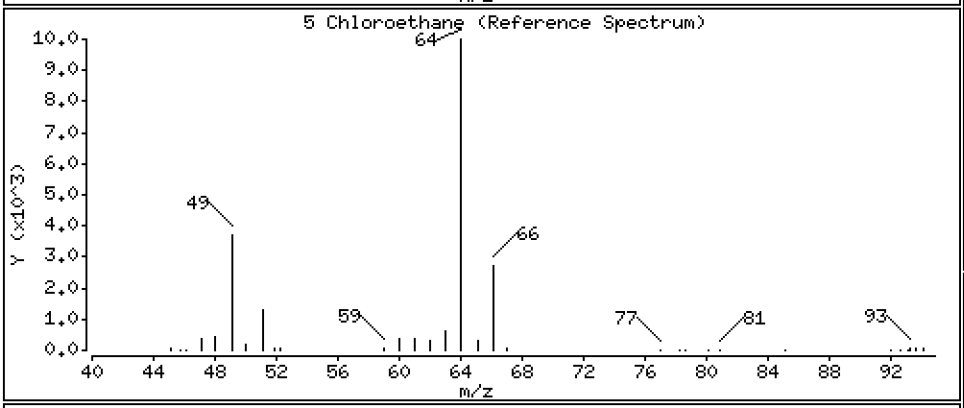
Concentration: 8.485 ug/L

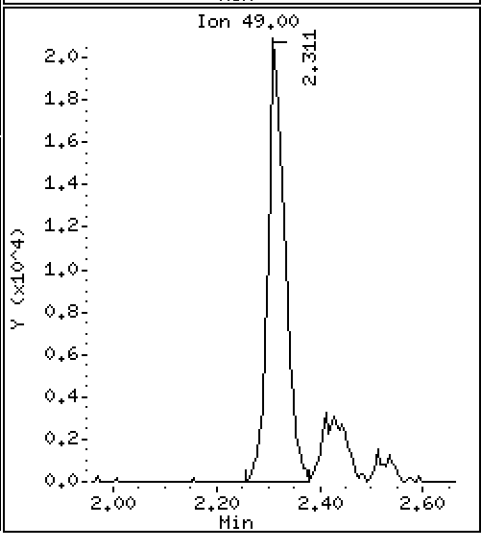


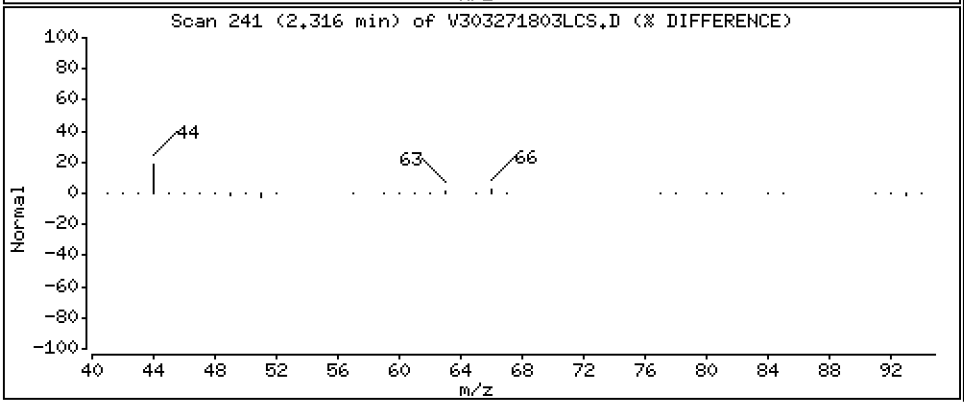












Date : 27-MAR-2018 09:15

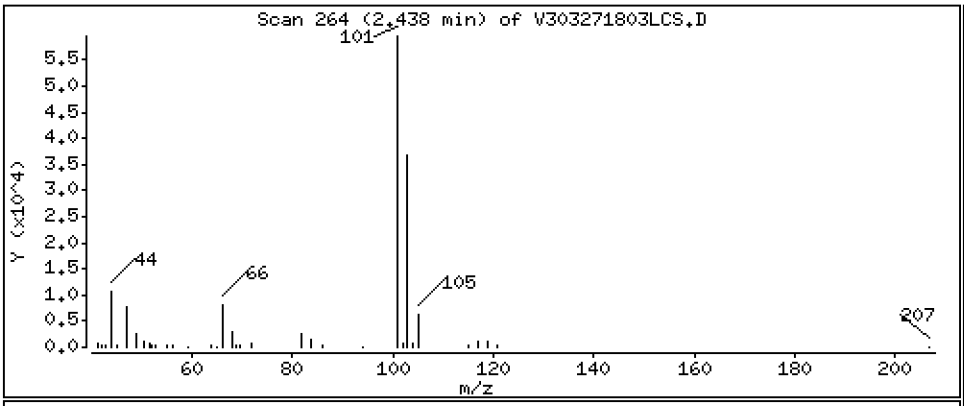
Client ID: VOA Instrument: nt3.i

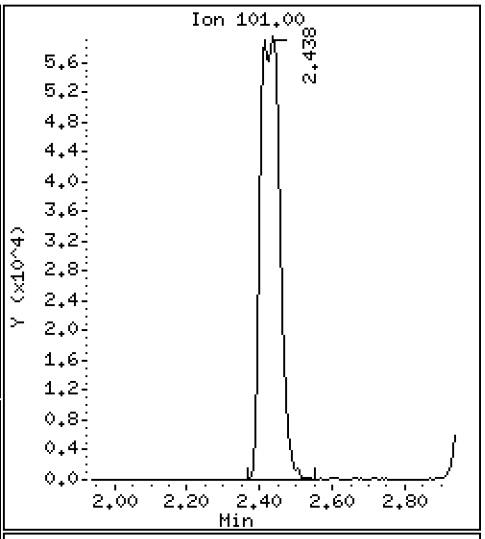
Sample Info: BGC0717-BS1

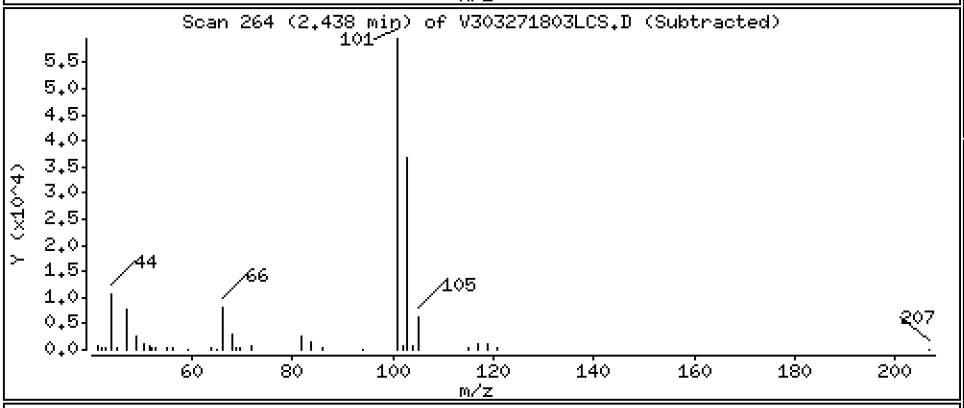
Operator: PKC

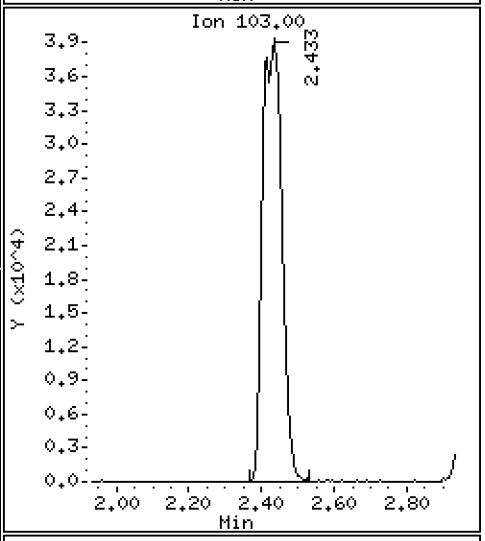
Column phase: RTXVMS Column diameter: 0.18

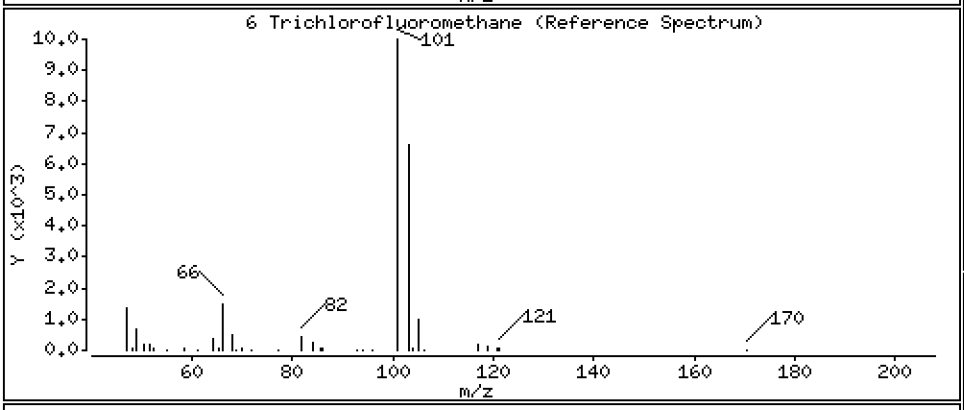
6 Trichlorofluoromethane Concentration: 9.150 ug/L

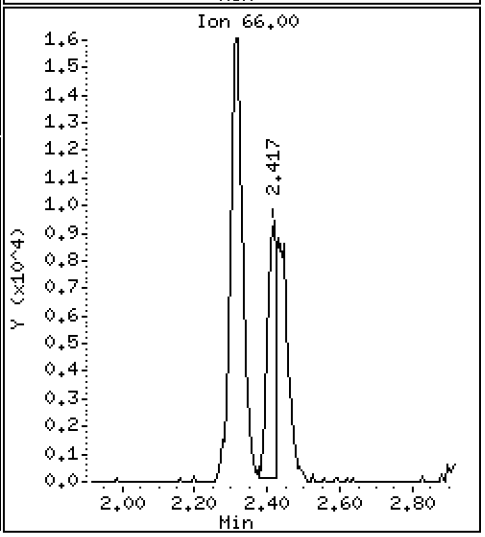


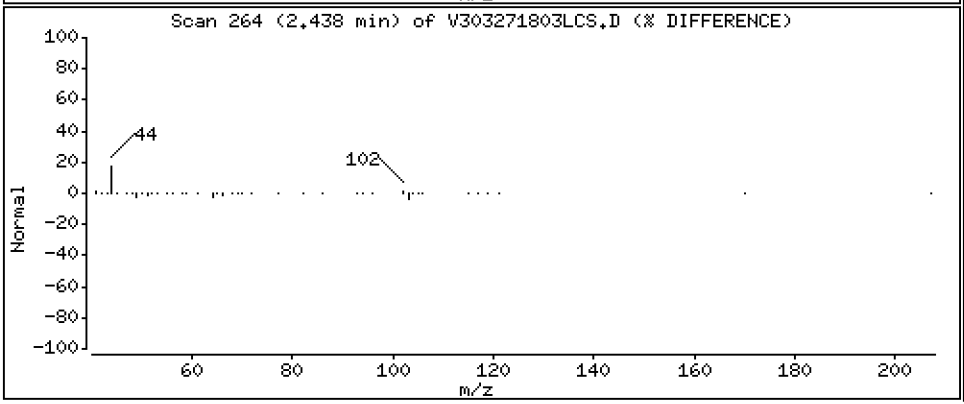












Date : 27-MAR-2018 09:15

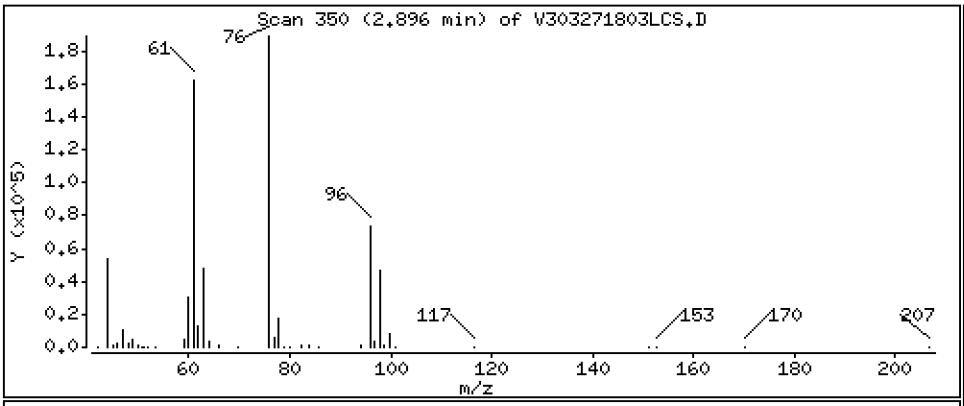
Client ID: VOA Instrument: nt3.i

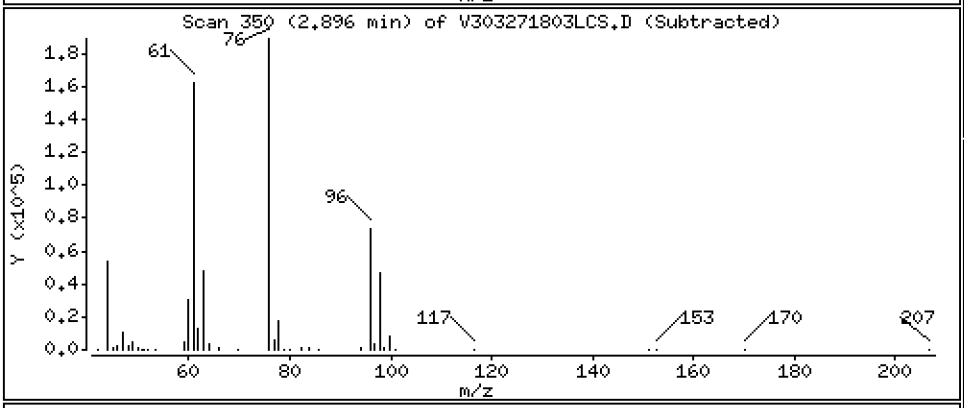
Sample Info: BGC0717-BS1

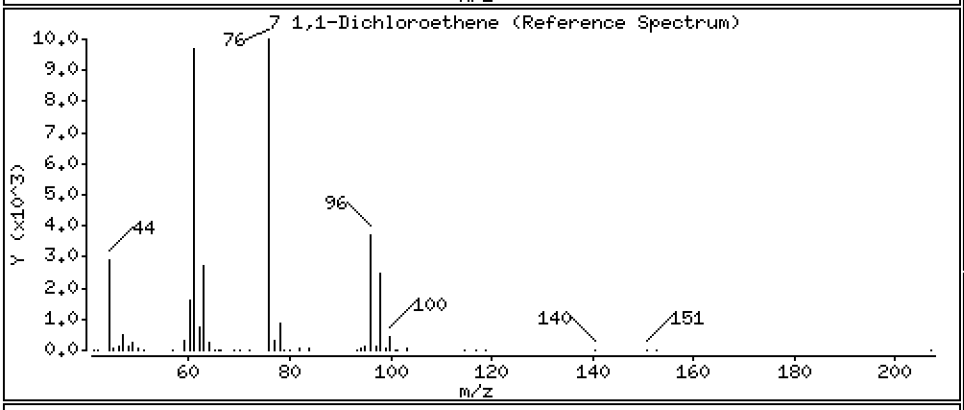
Operator: PKC

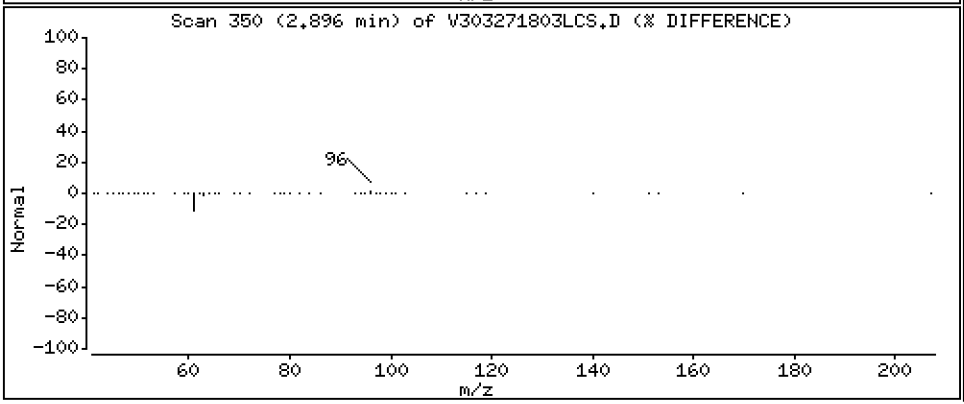
Column phase: RTXVMS Column diameter: 0.18

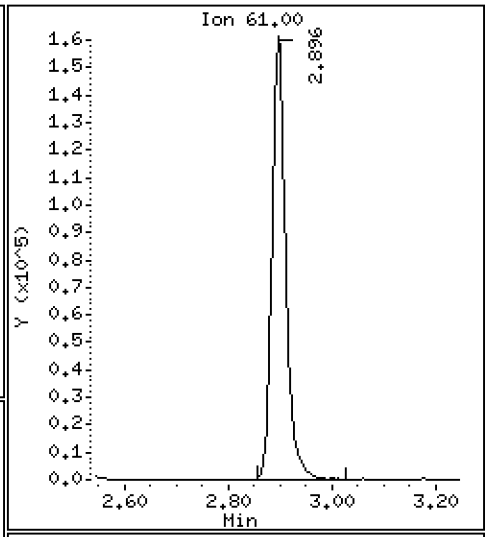
7 1,1-Dichloroethene Concentration: 9.787 ug/L

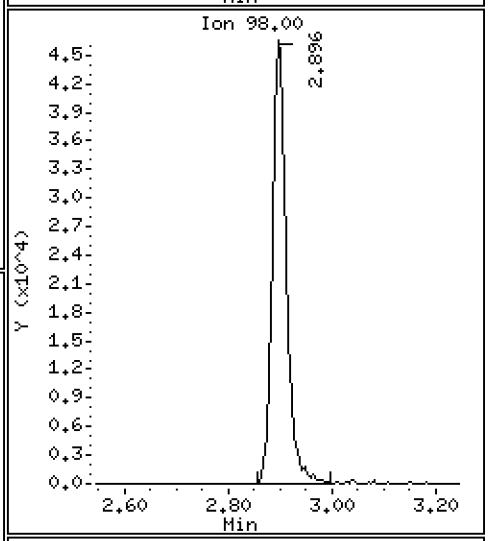


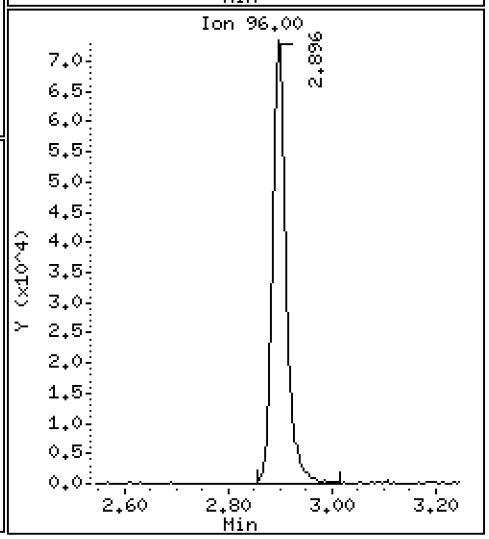












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

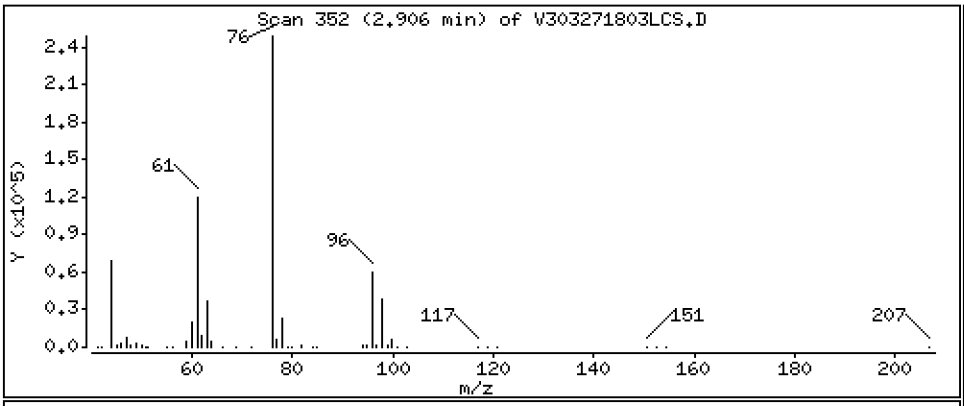
Operator: PKC

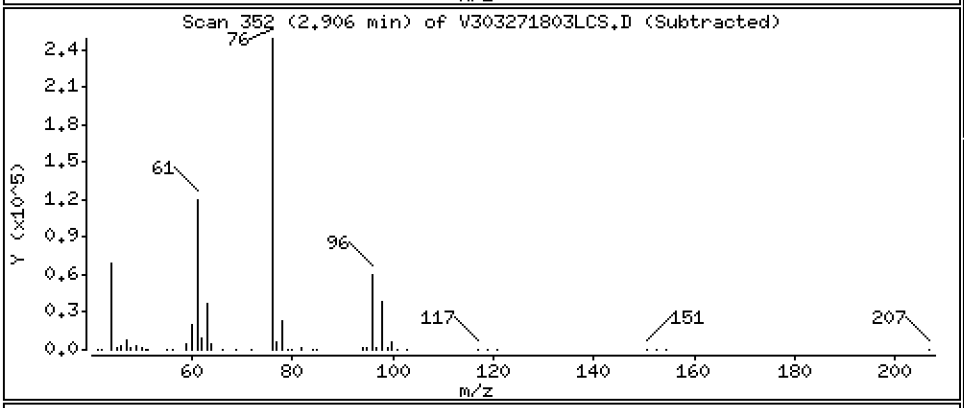
Column phase: RTXVMS

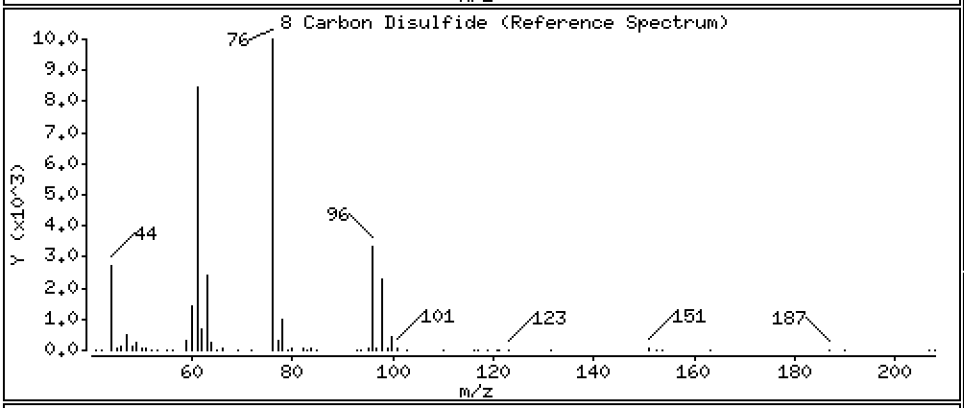
Column diameter: 0.18

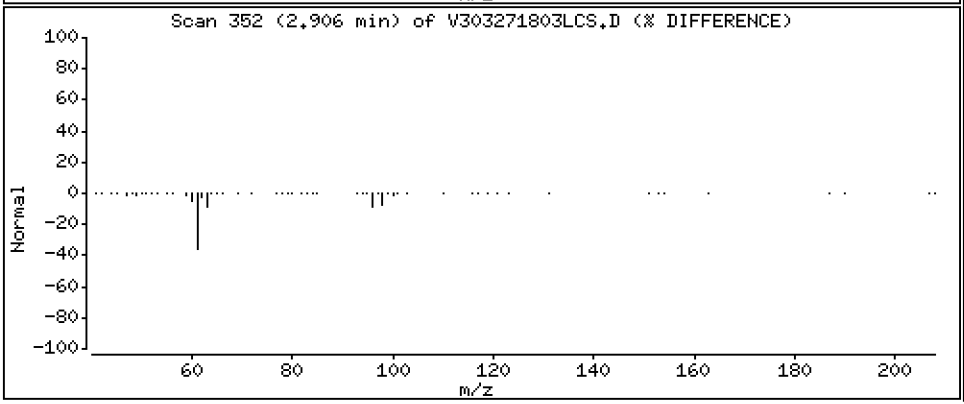
8 Carbon Disulfide

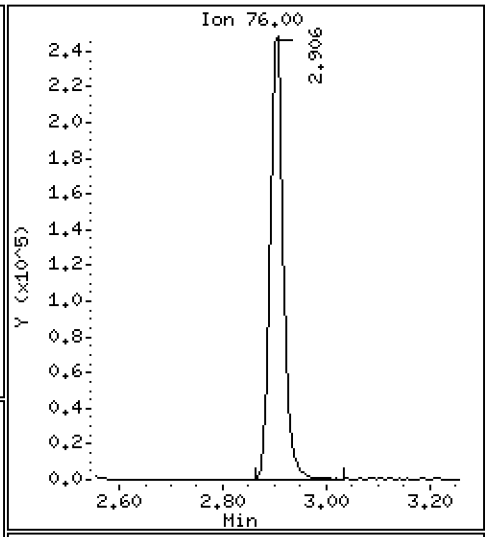
Concentration: 9.533 ug/L

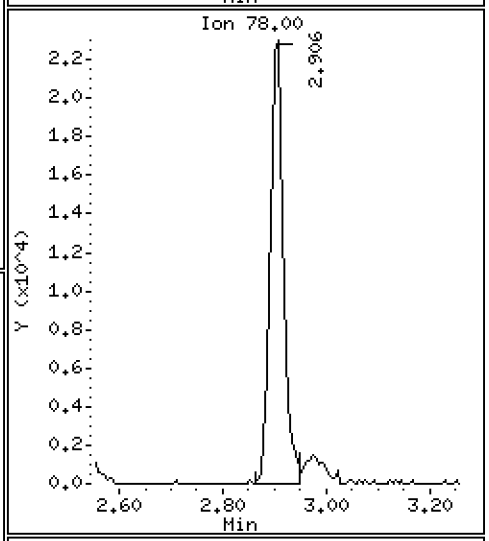


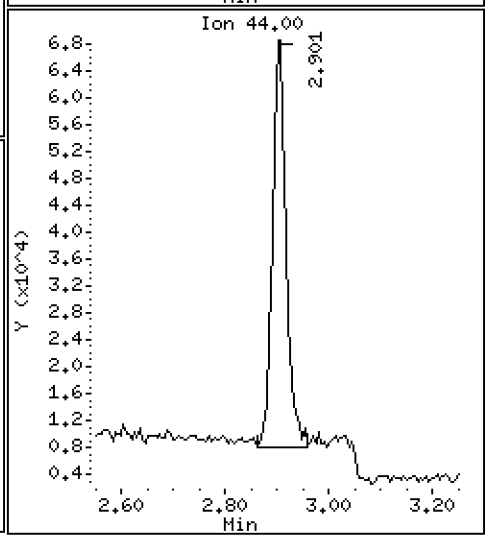












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

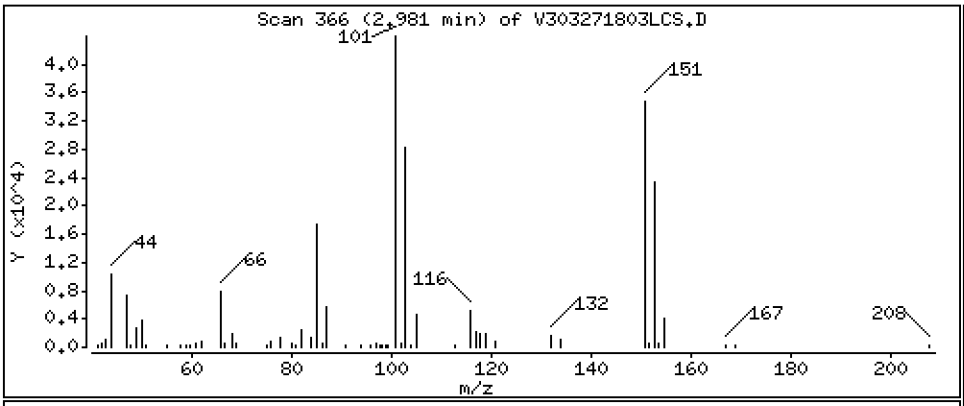
Operator: PKC

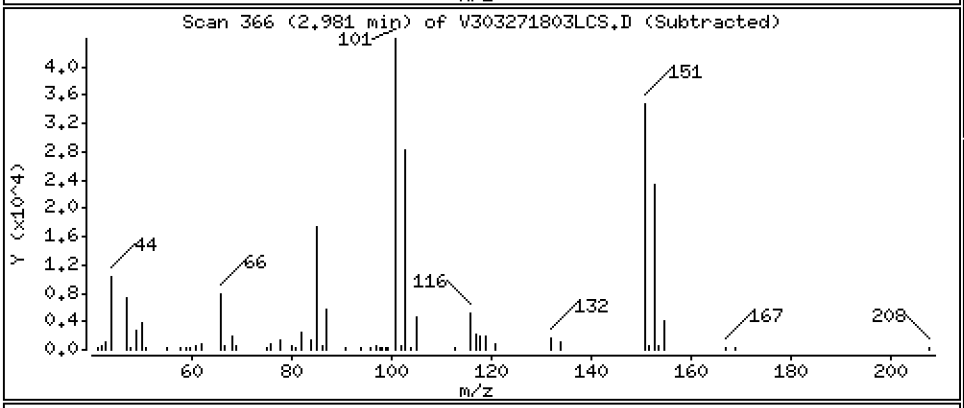
Column phase: RTXVMS

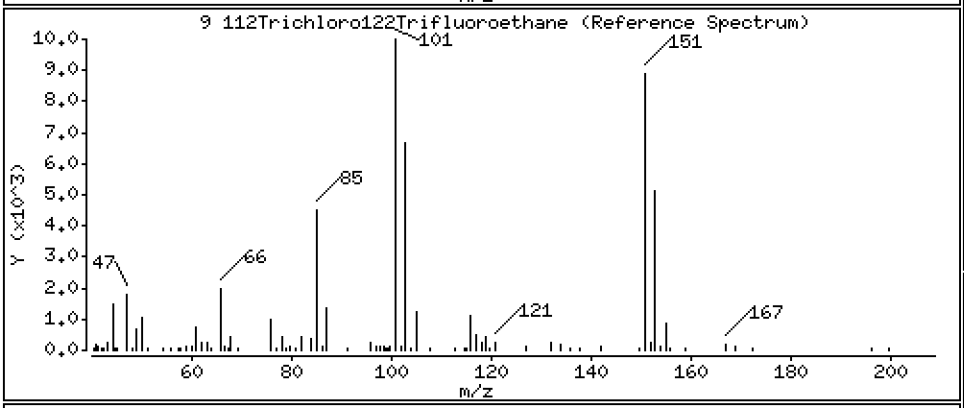
Column diameter: 0.18

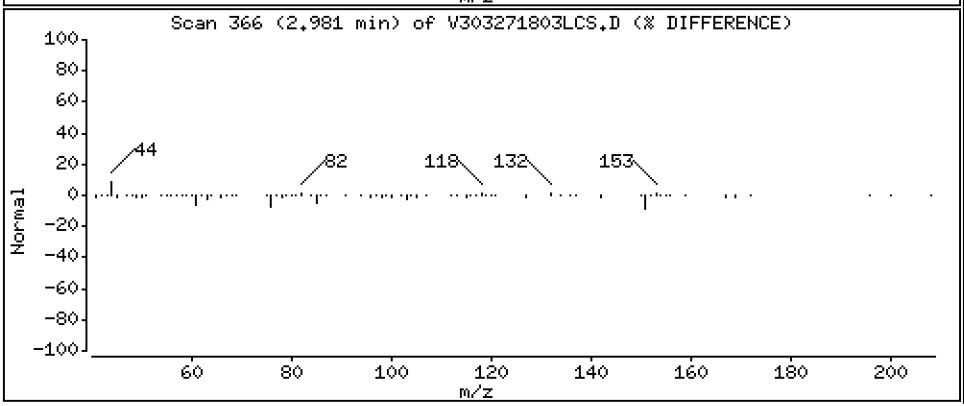
9 112Trichloro122Trifluoroethane

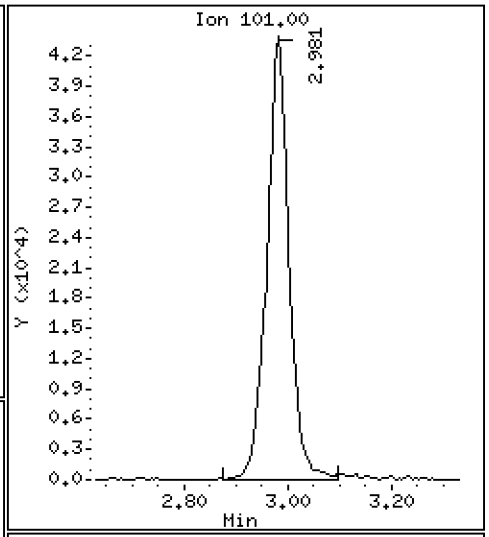
Concentration: 9.105 ug/L

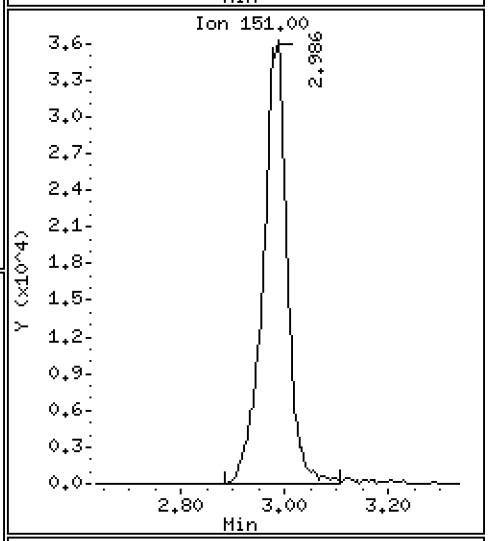


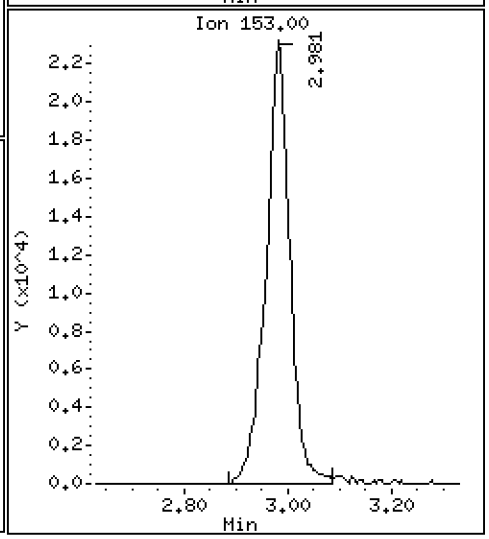












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

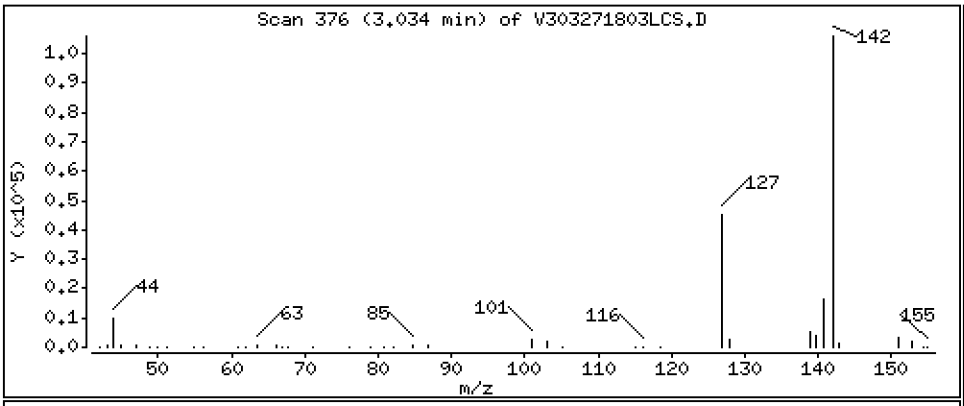
Operator: PKC

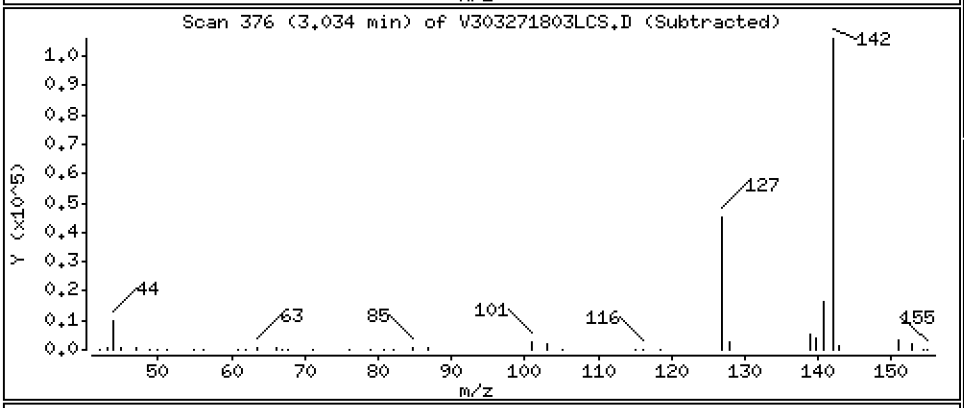
Column phase: RTXVMS

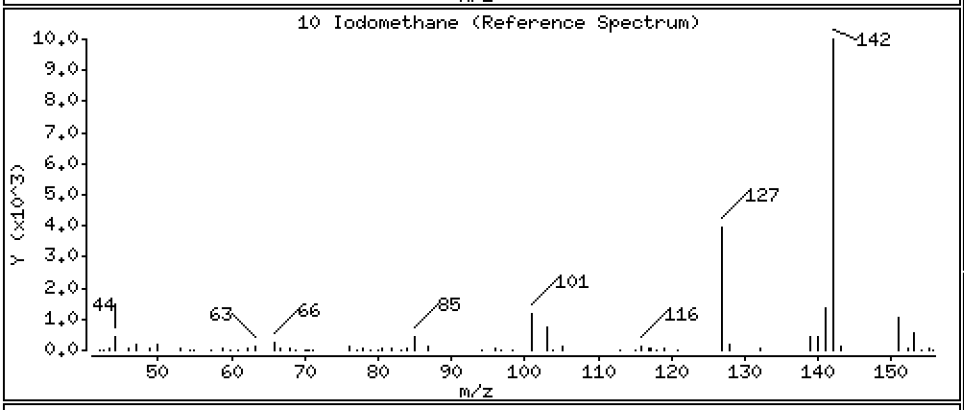
Column diameter: 0.18

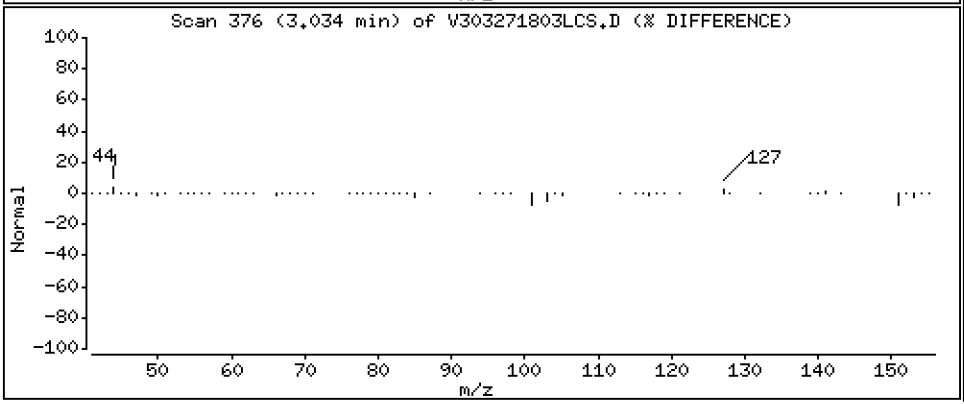
10 Iodomethane

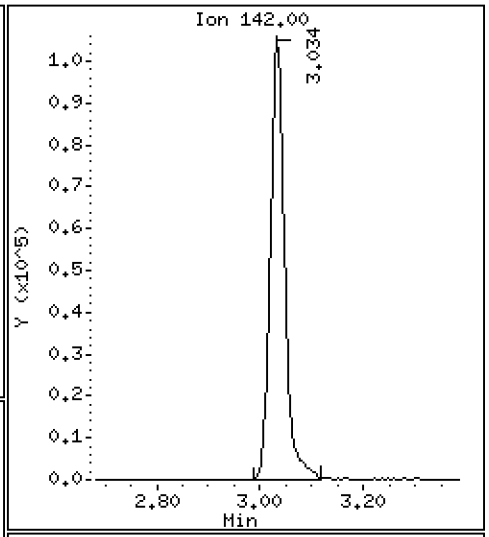
Concentration: 9.618 ug/L

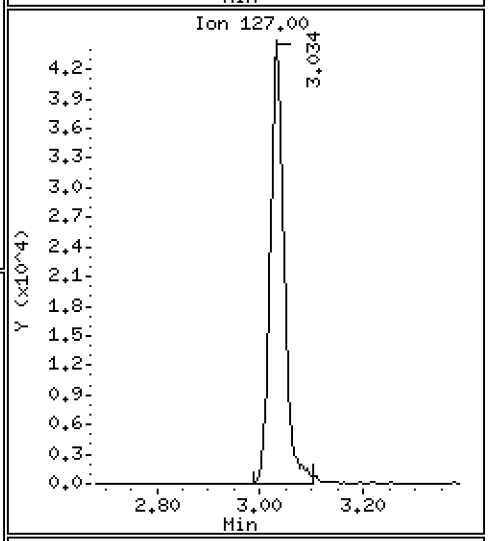


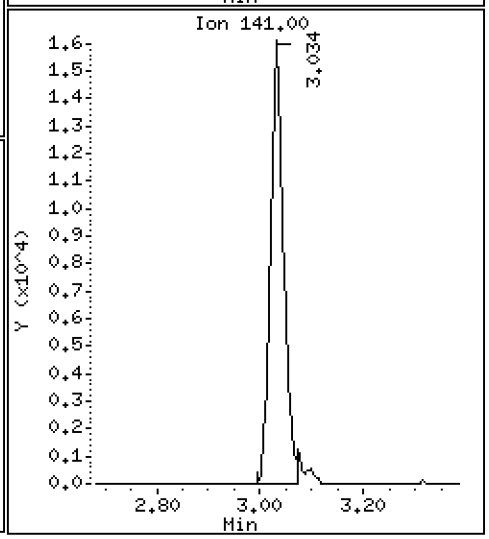












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

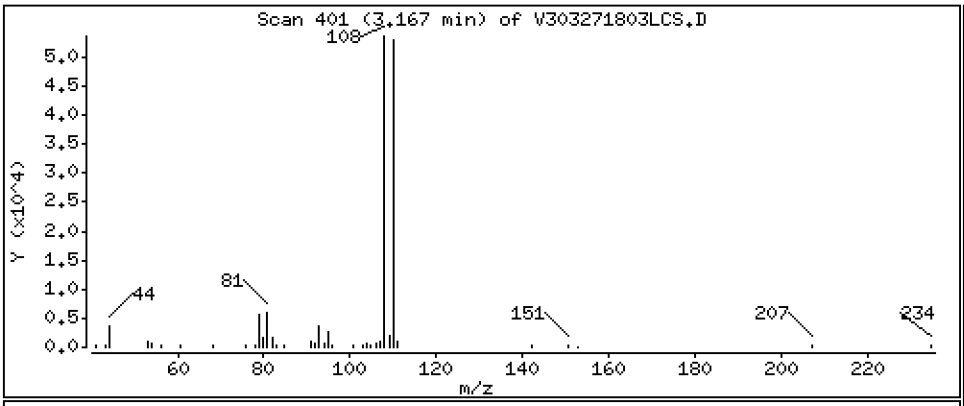
Operator: PKC

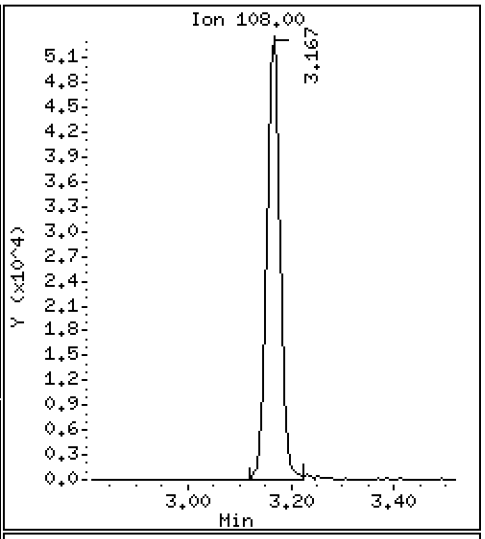
Column phase: RTXVMS

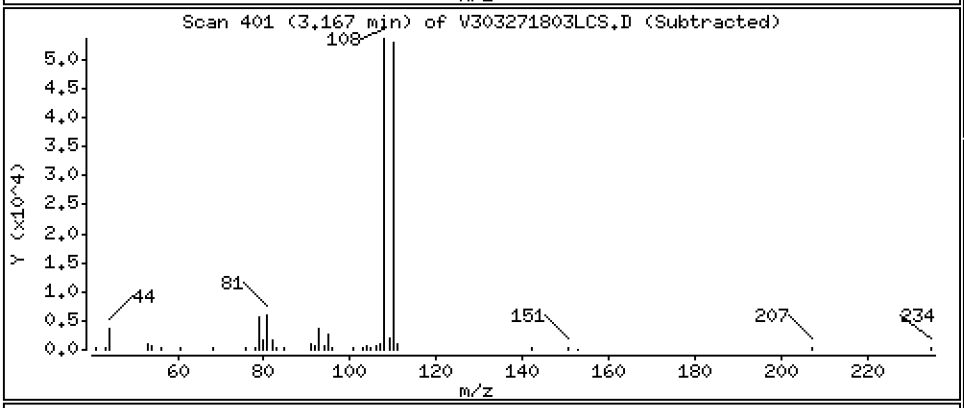
Column diameter: 0.18

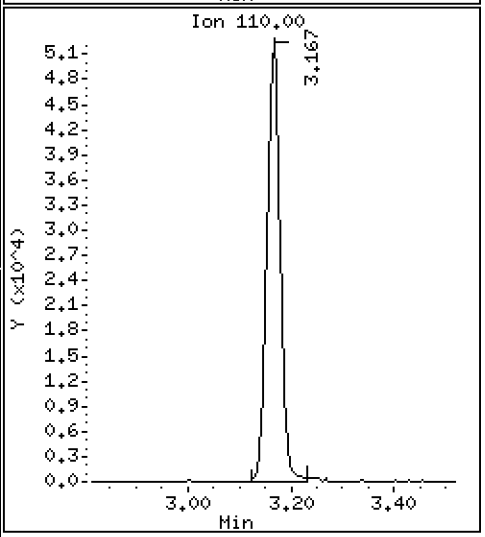
11 Bromoethane

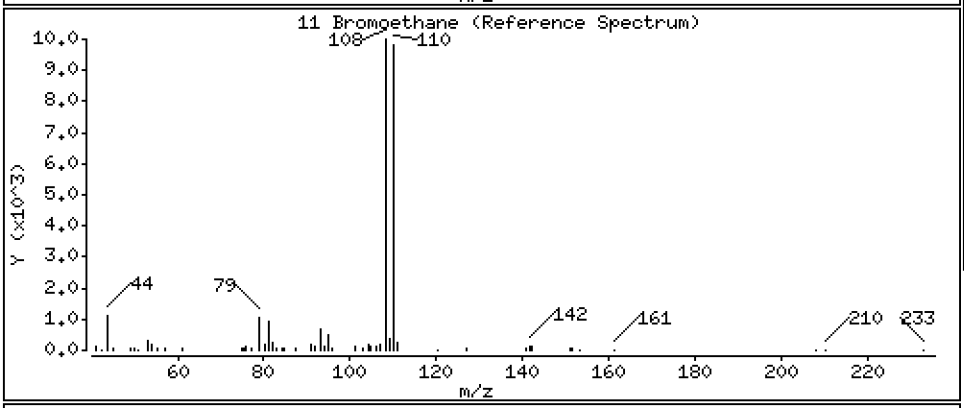
Concentration: 8.947 ug/L

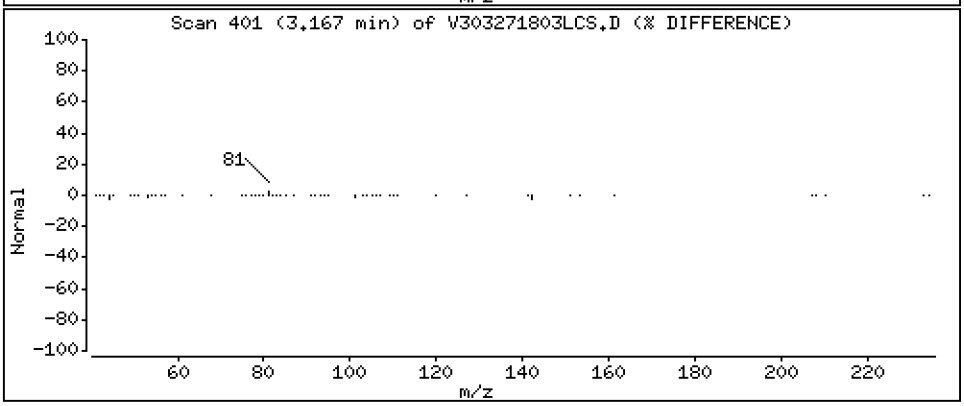












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

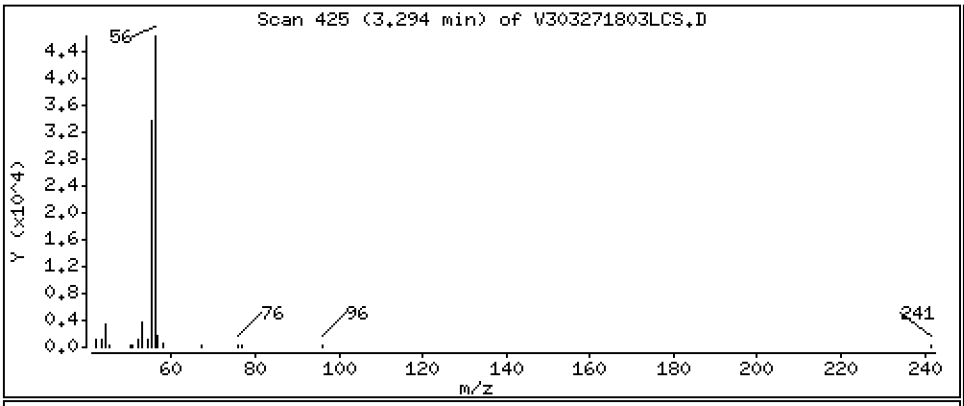
Operator: PKC

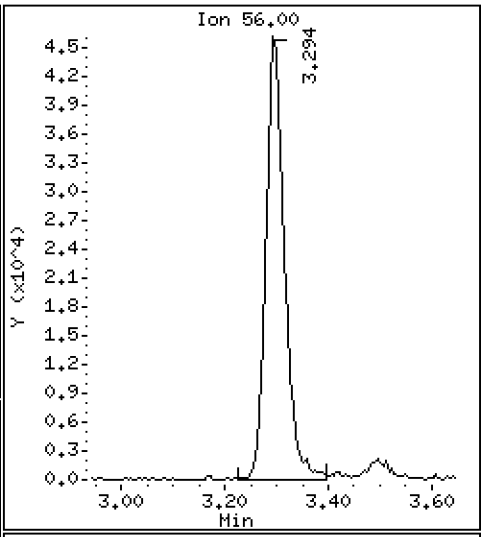
Column phase: RTXVMS

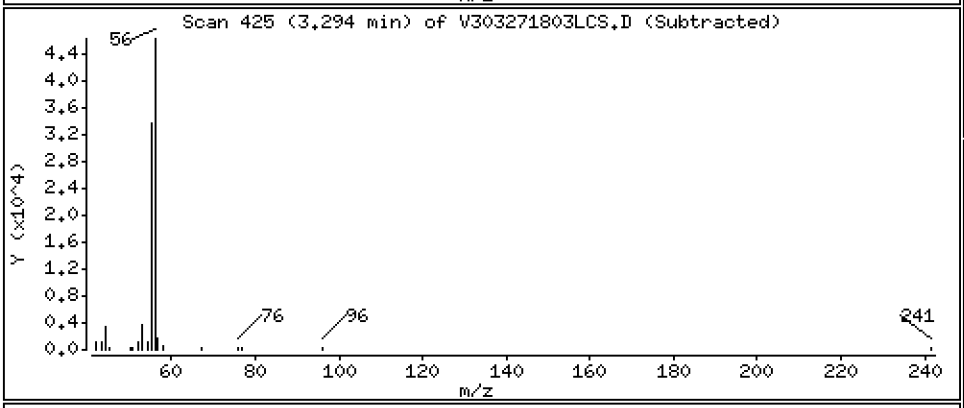
Column diameter: 0.18

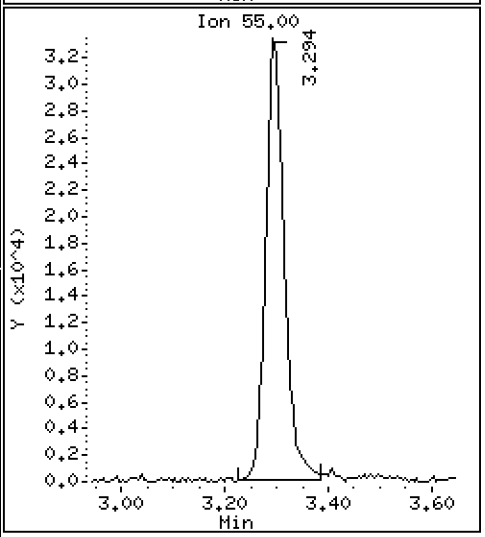
12 Acrolein

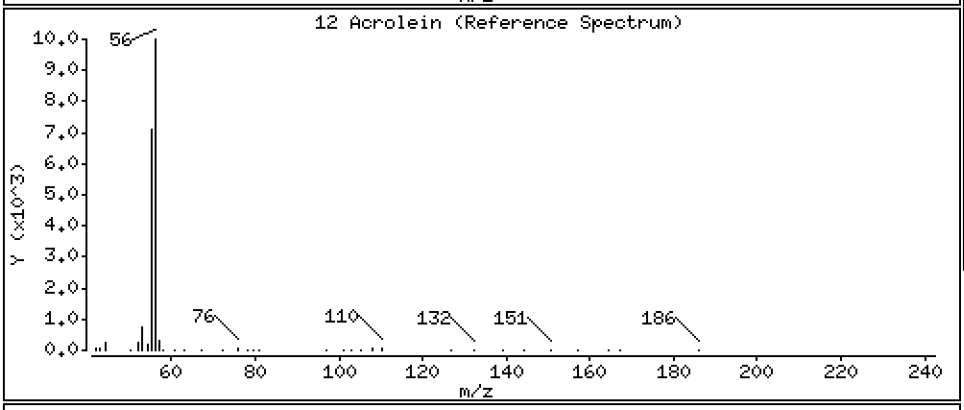
Concentration: 47.235 ug/L

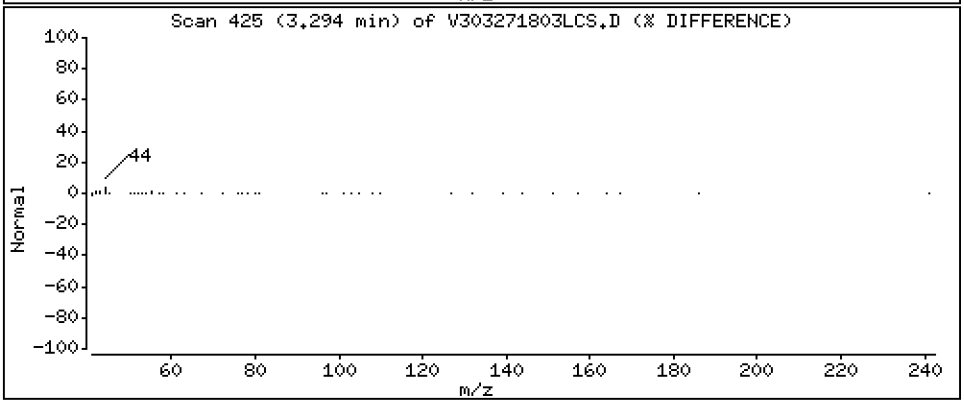












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

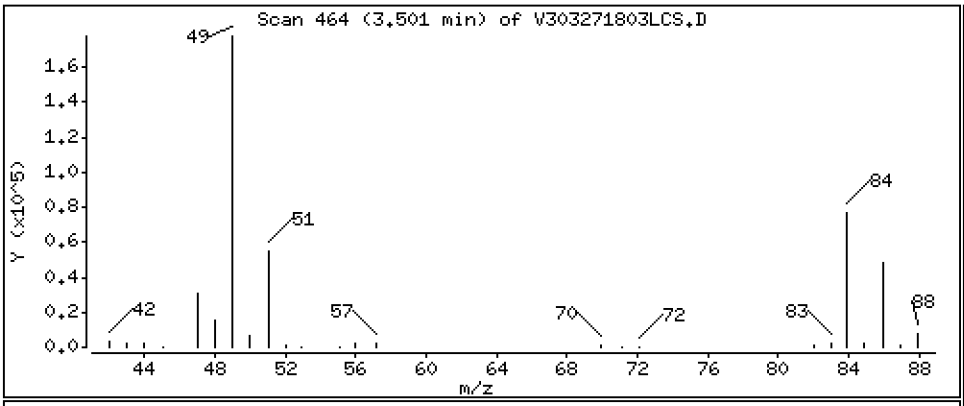
Operator: PKC

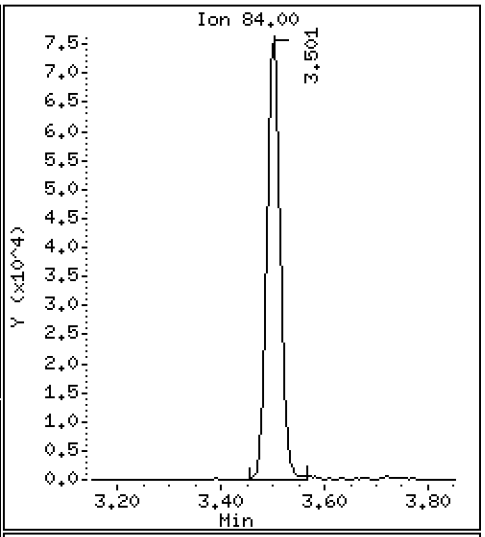
Column phase: RTXVMS

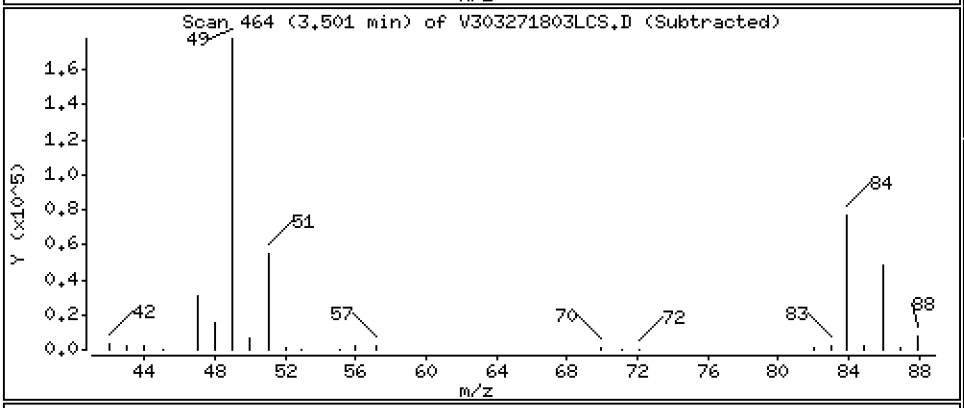
Column diameter: 0.18

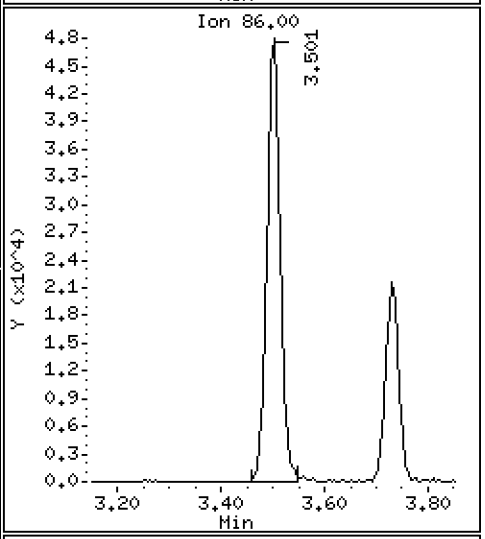
13 Methylene Chloride

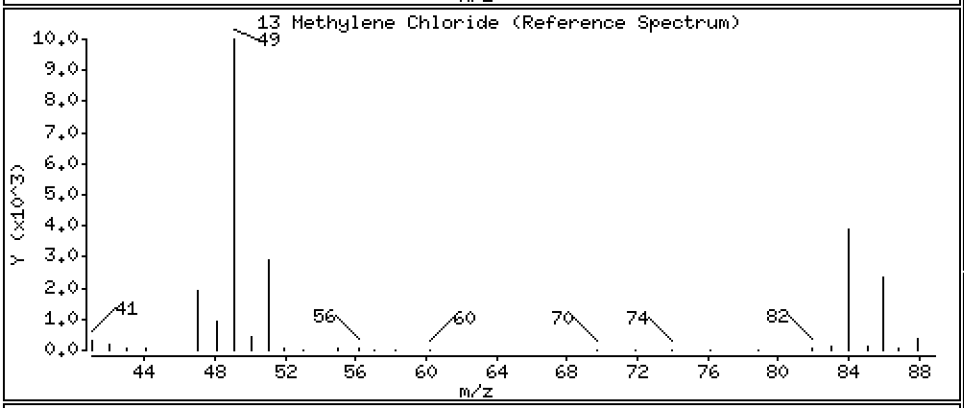
Concentration: 10.004 ug/L

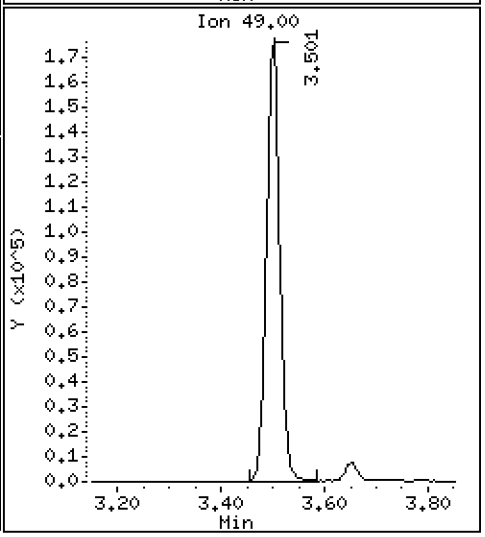


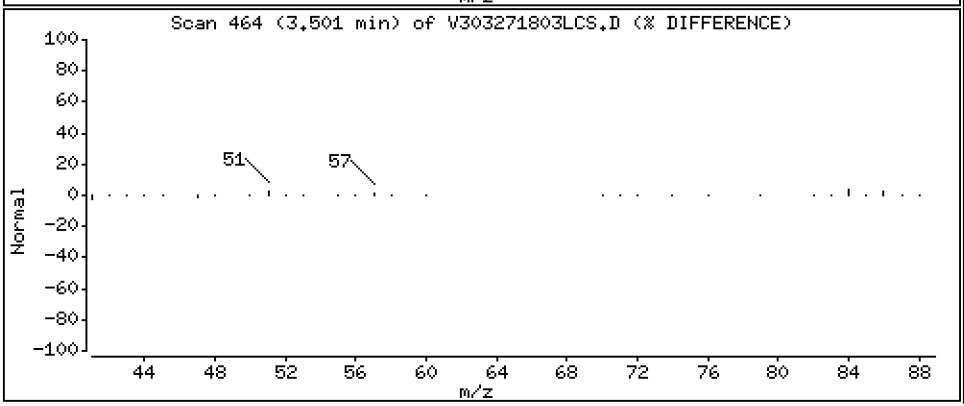












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

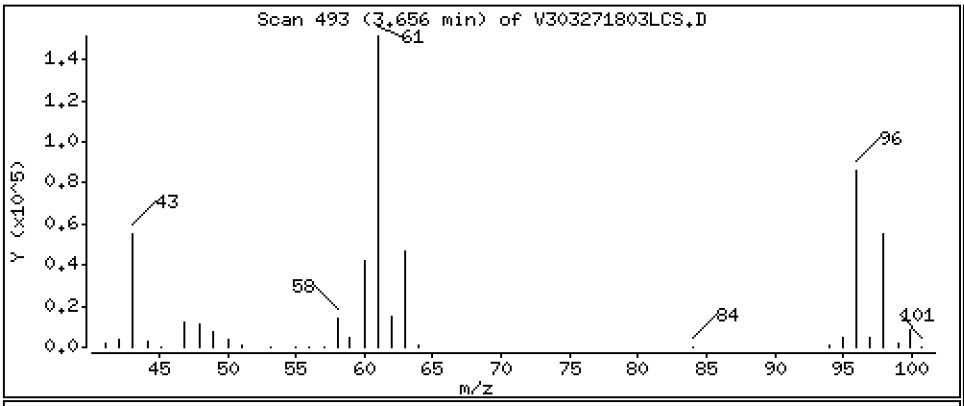
Operator: PKC

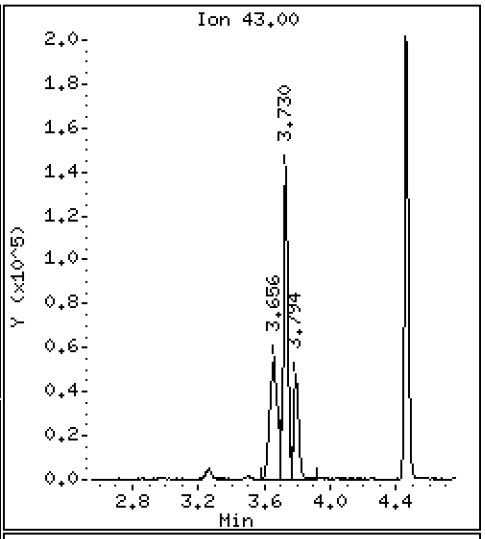
Column phase: RTXVMS

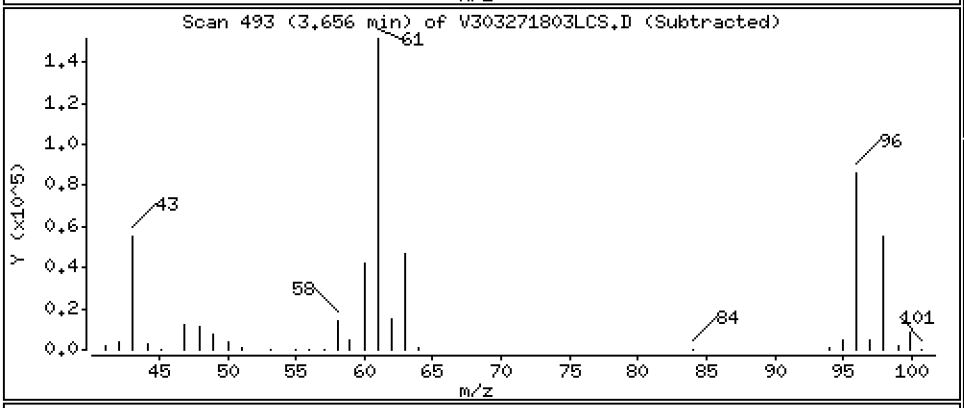
Column diameter: 0.18

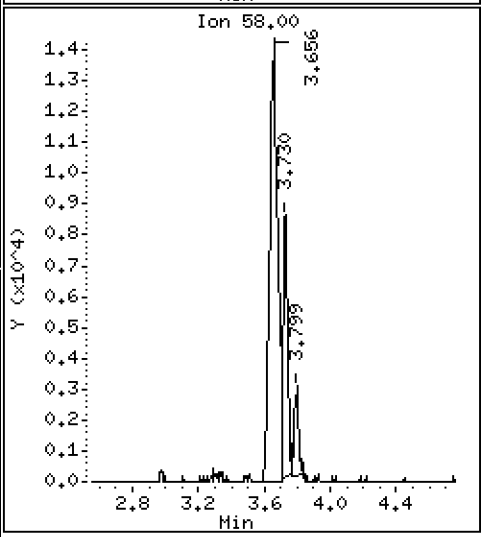
14 Acetone

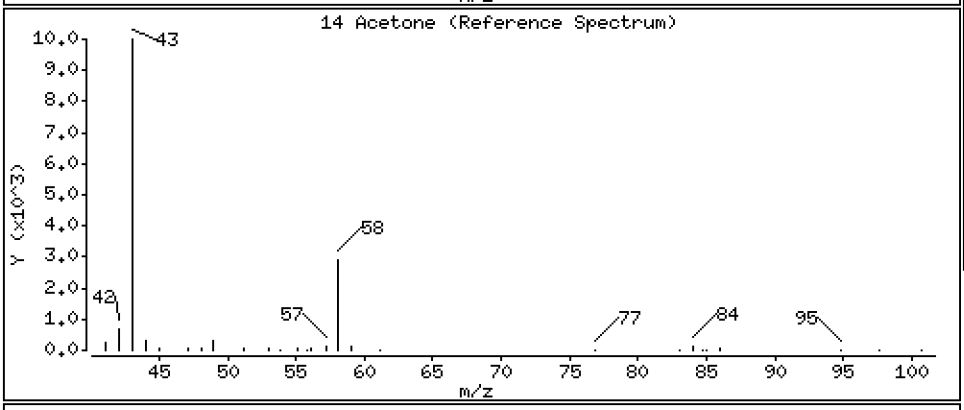
Concentration: 46.519 ug/L

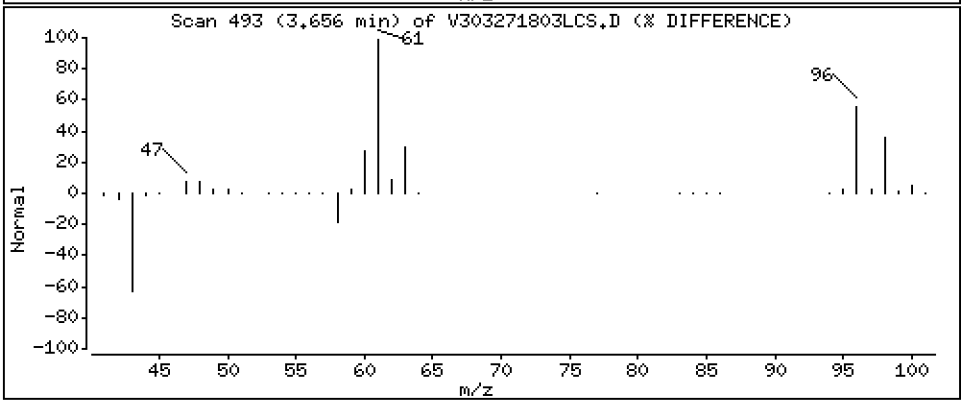












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

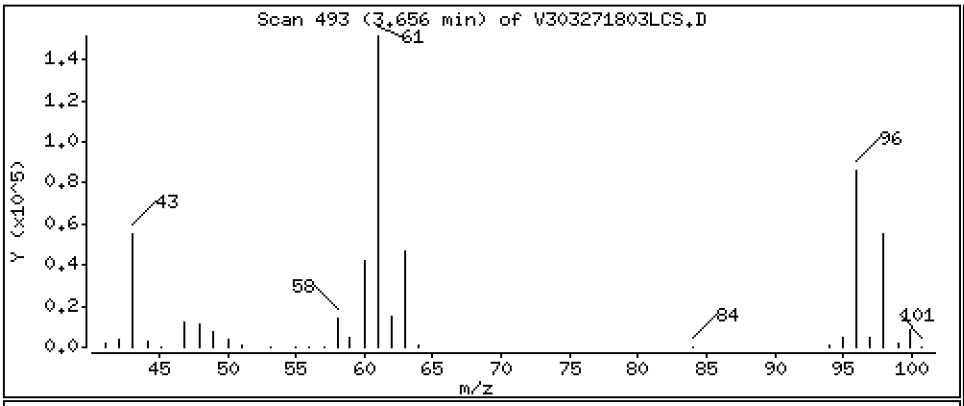
Operator: PKC

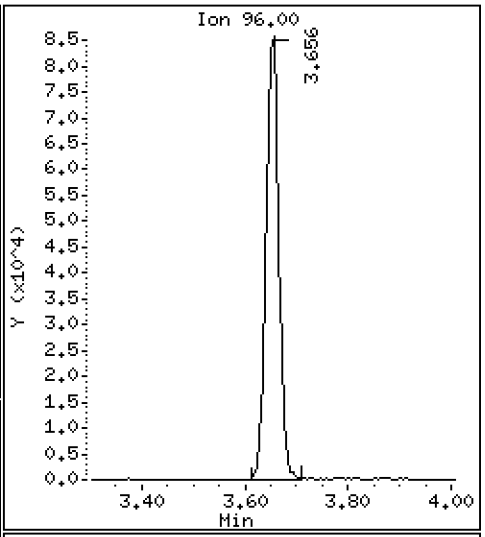
Column phase: RTXVMS

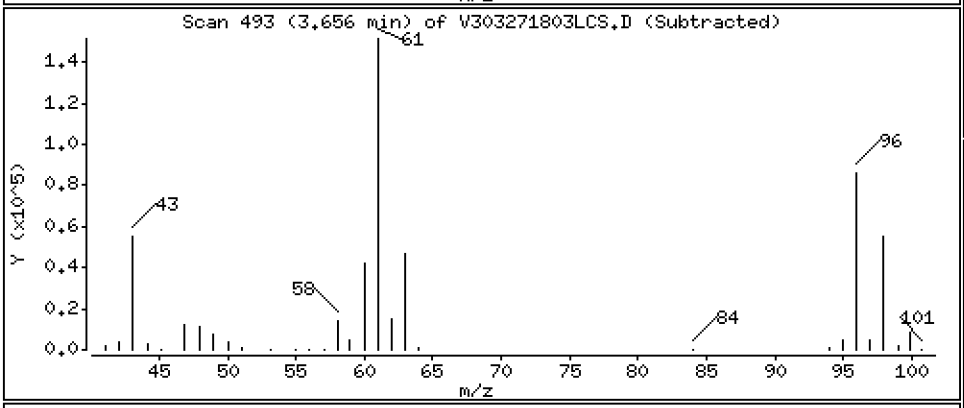
Column diameter: 0.18

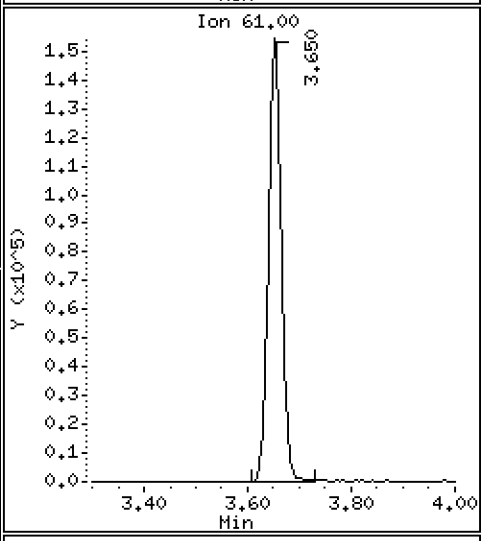
15 Trans-1,2-Dichloroethene

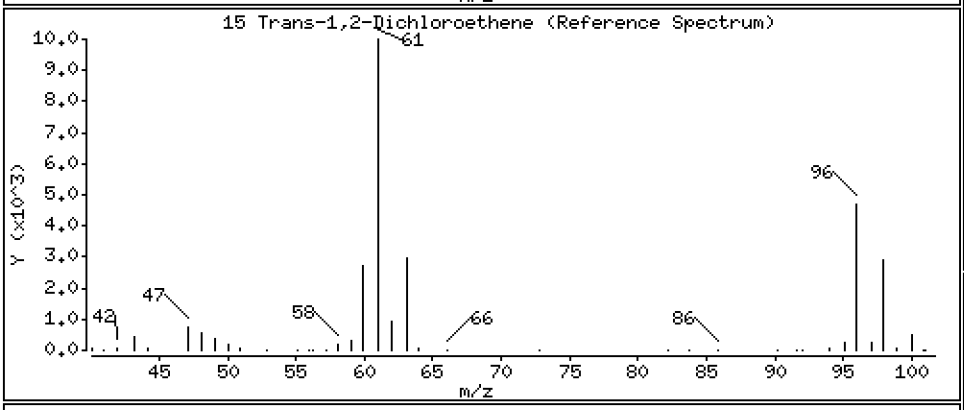
Concentration: 9.704 ug/L

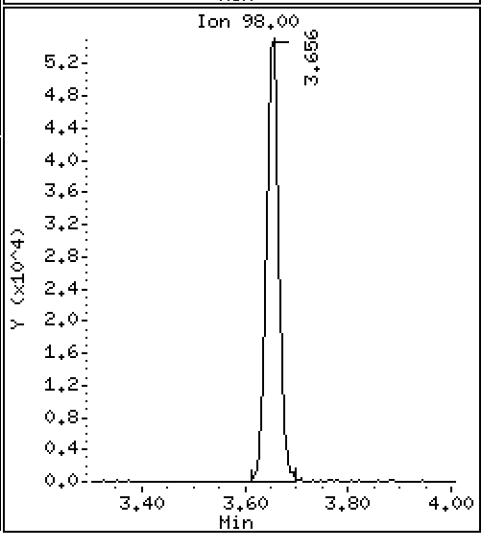


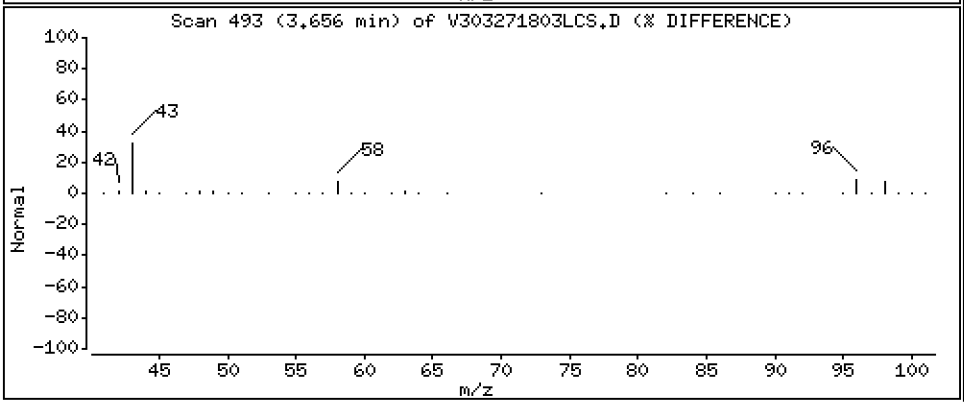












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

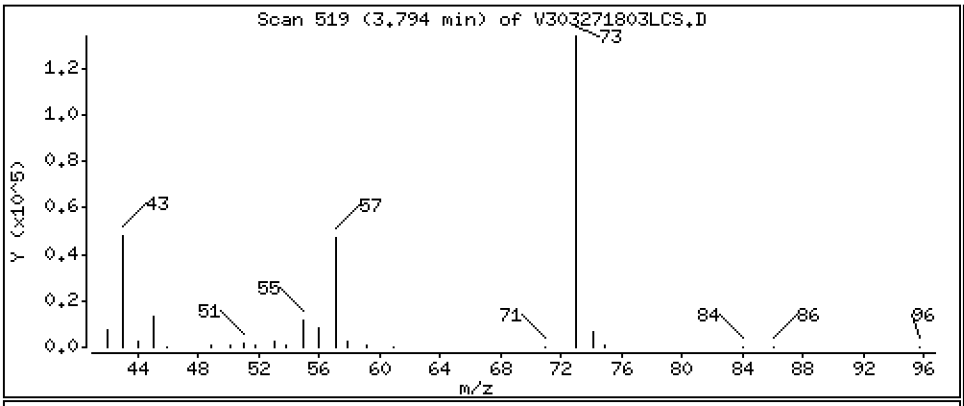
Operator: PKC

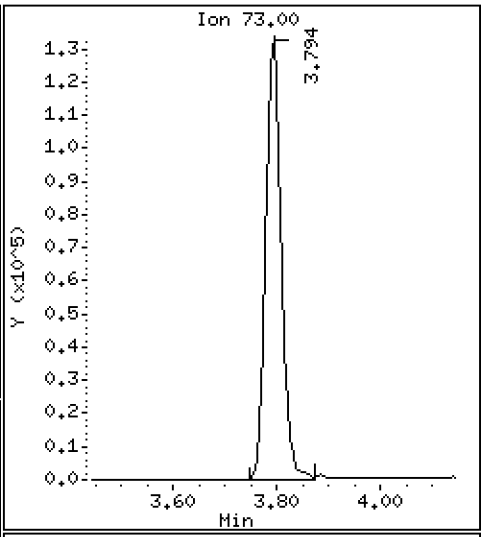
Column phase: RTXVMS

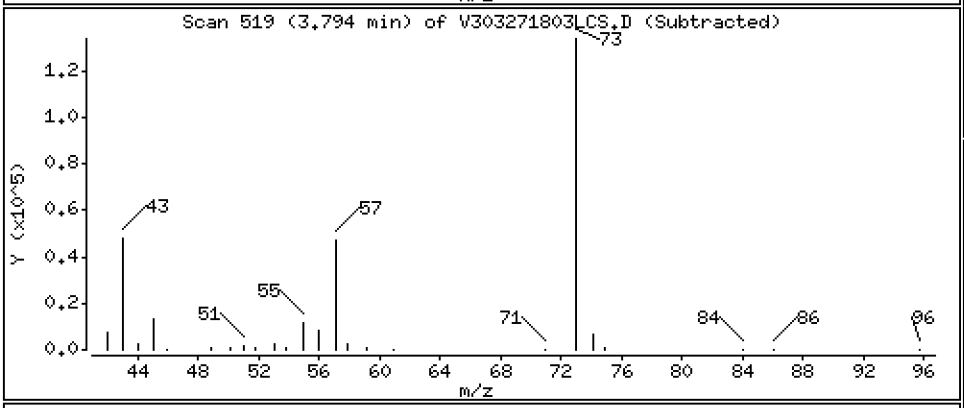
Column diameter: 0.18

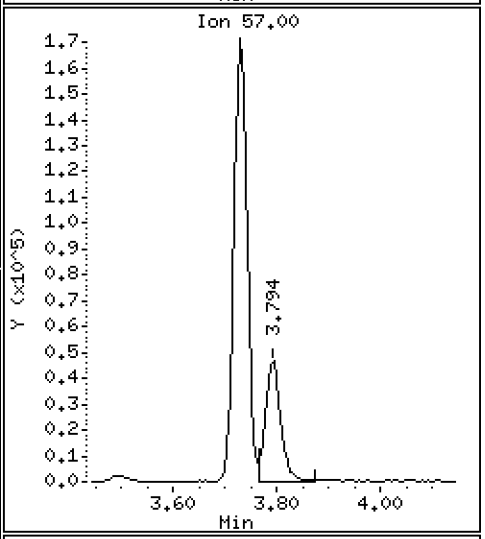
17 Methyl tert butyl ether

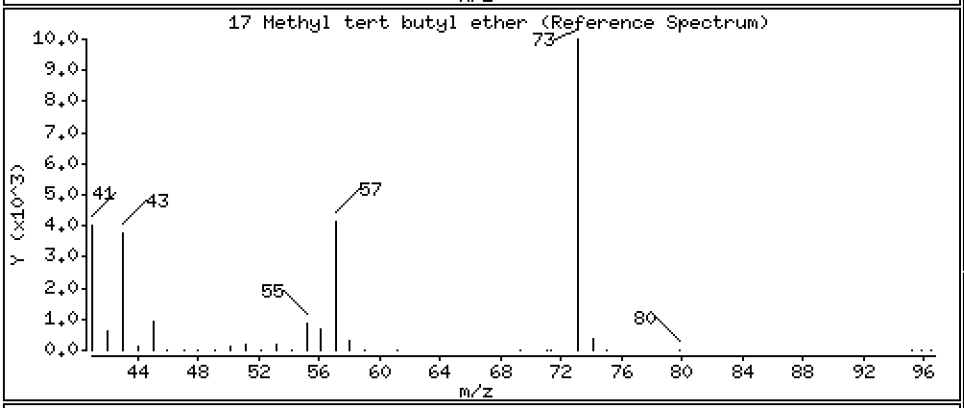
Concentration: 9.449 ug/L

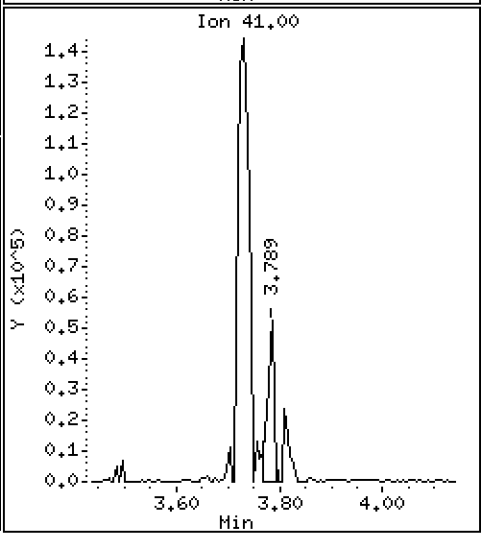


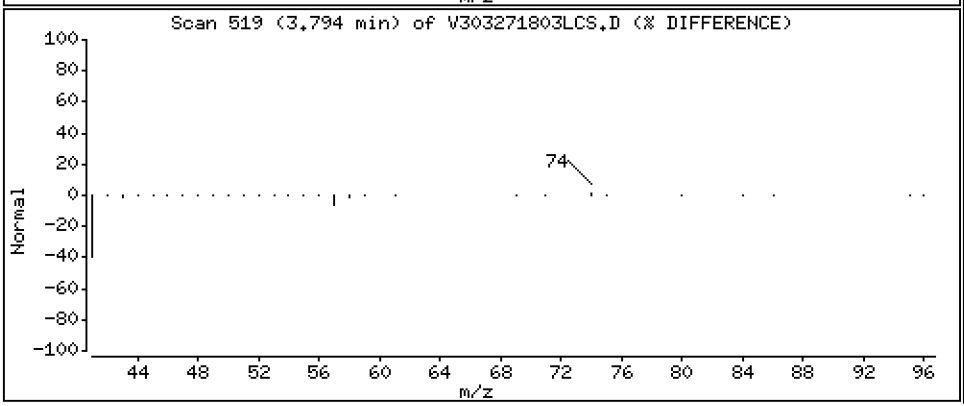












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

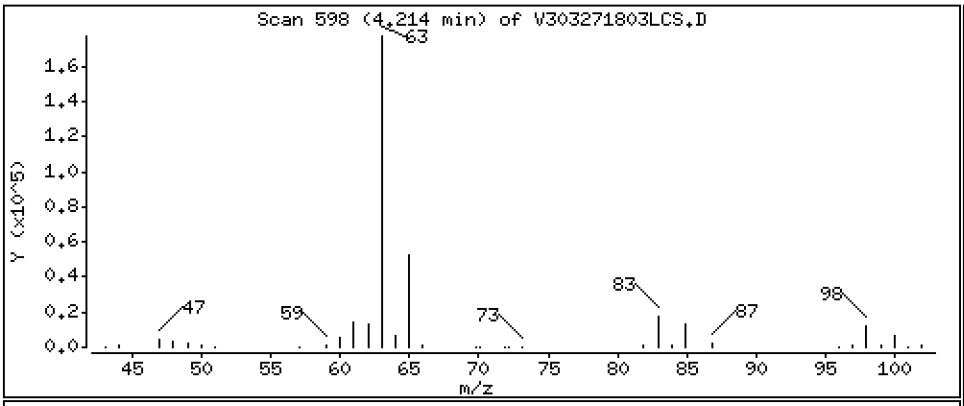
Operator: PKC

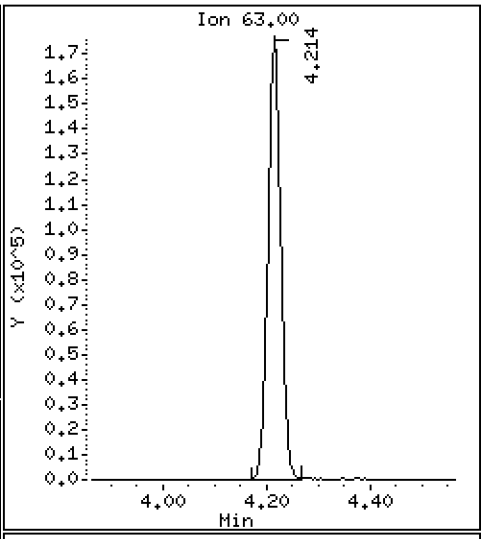
Column phase: RTXVMS

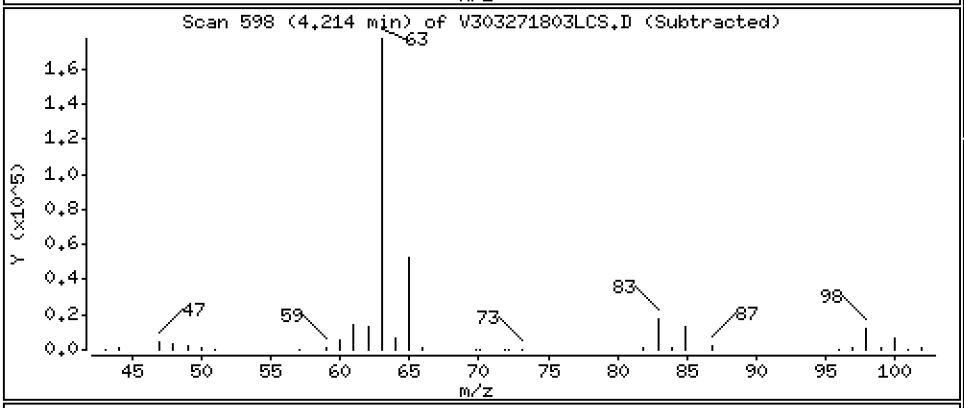
Column diameter: 0.18

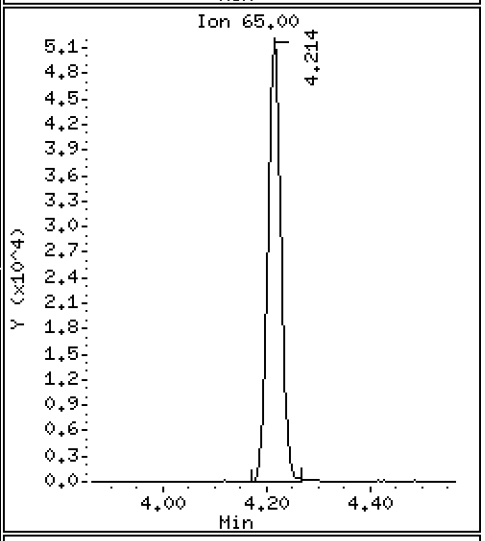
18 1,1-Dichloroethane

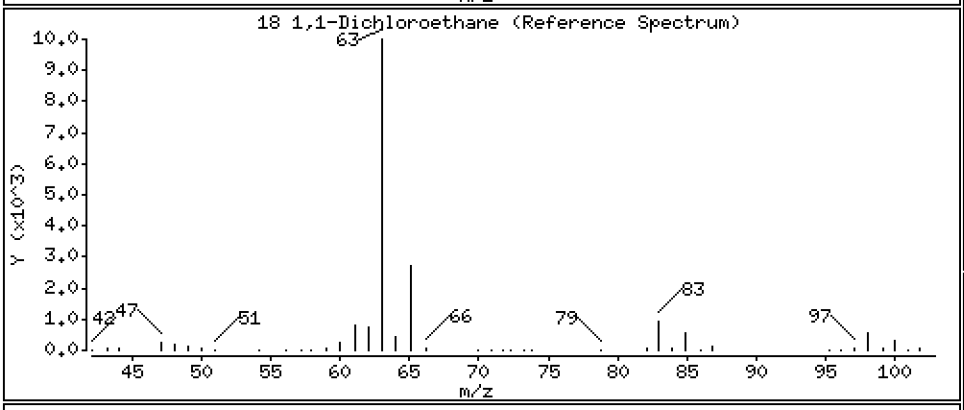
Concentration: 9.547 ug/L

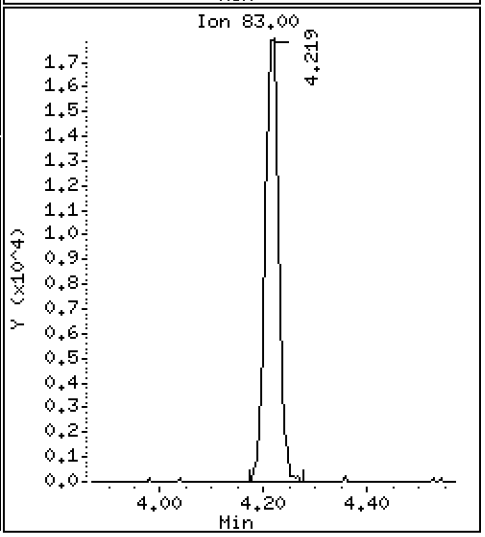


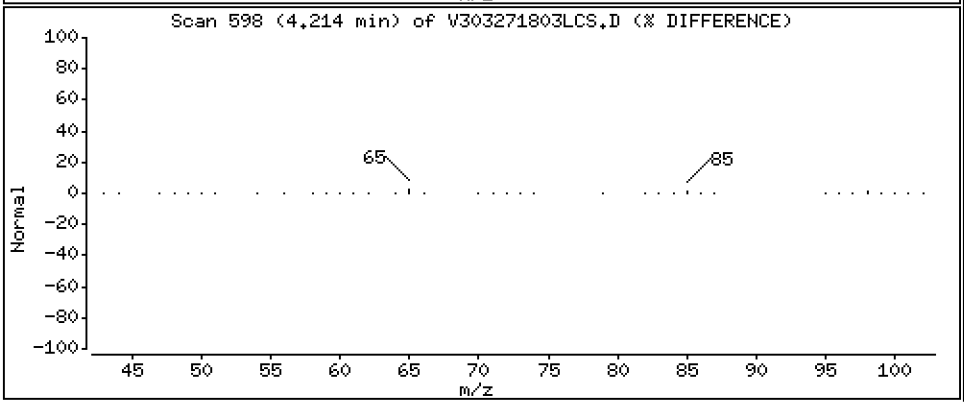












Date : 27-MAR-2018 09:15

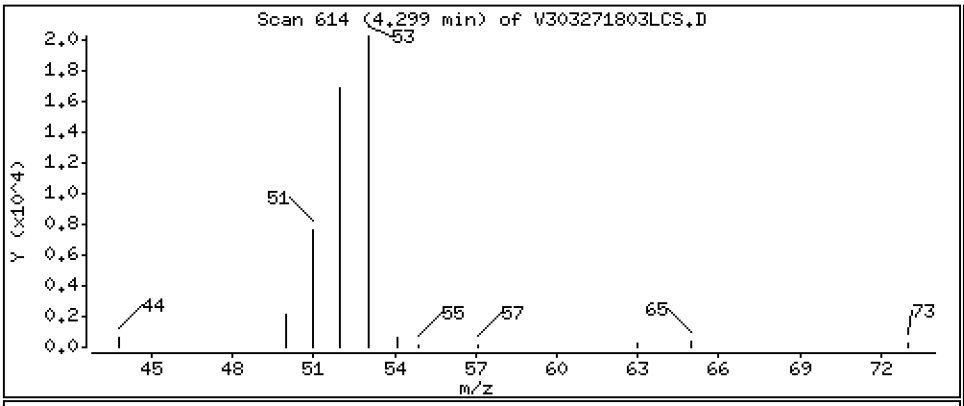
Client ID: VOA Instrument: nt3.i

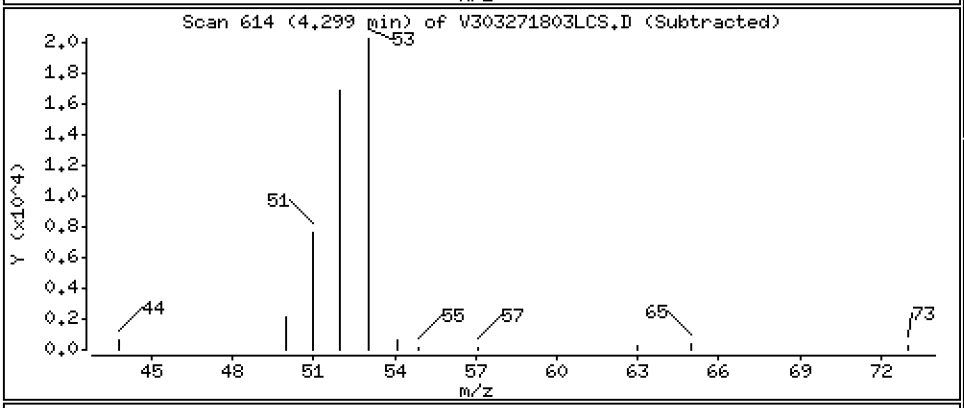
Sample Info: BGC0717-BS1

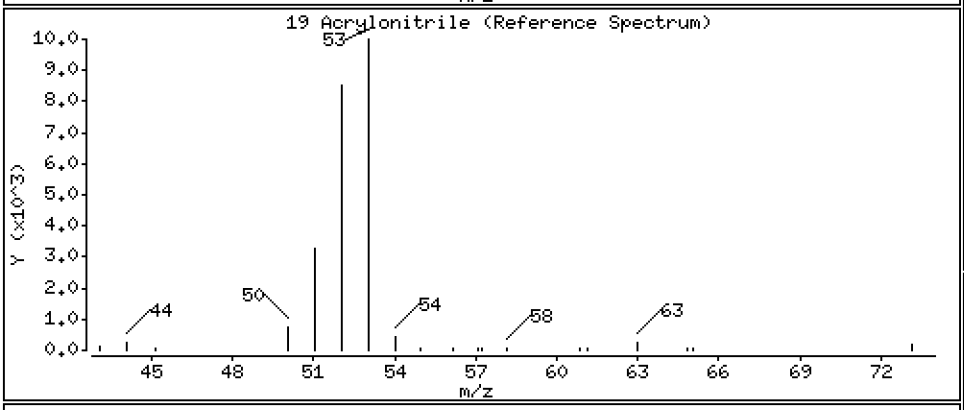
Operator: PKC

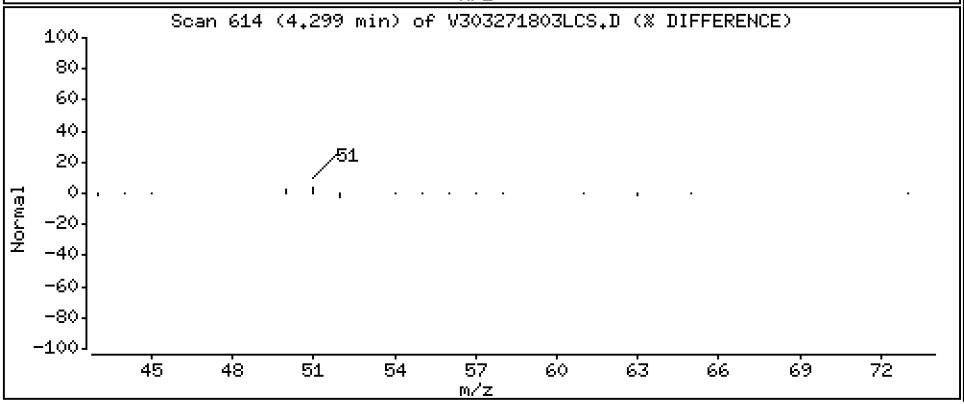
Column phase: RTXVMS Column diameter: 0.18

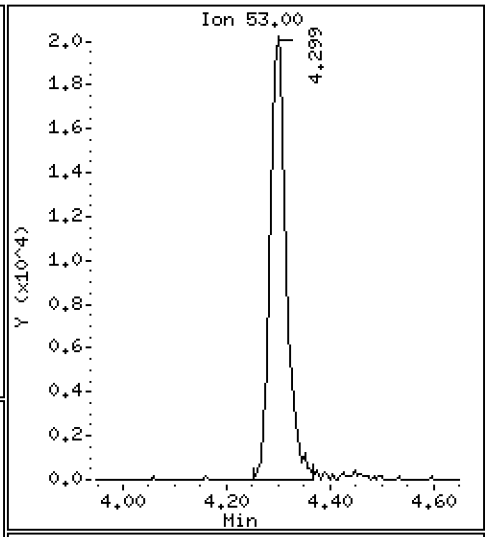
19 Acrylonitrile Concentration: 9.115 ug/L

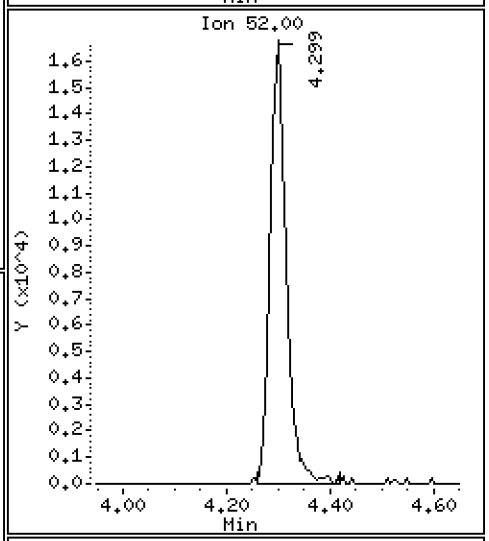


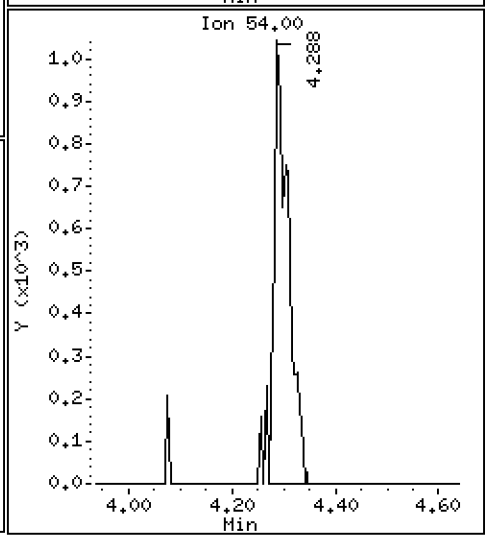












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

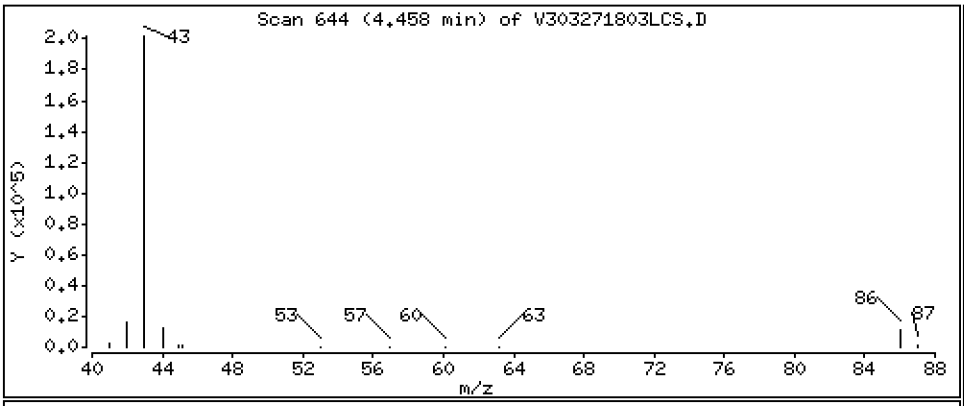
Operator: PKC

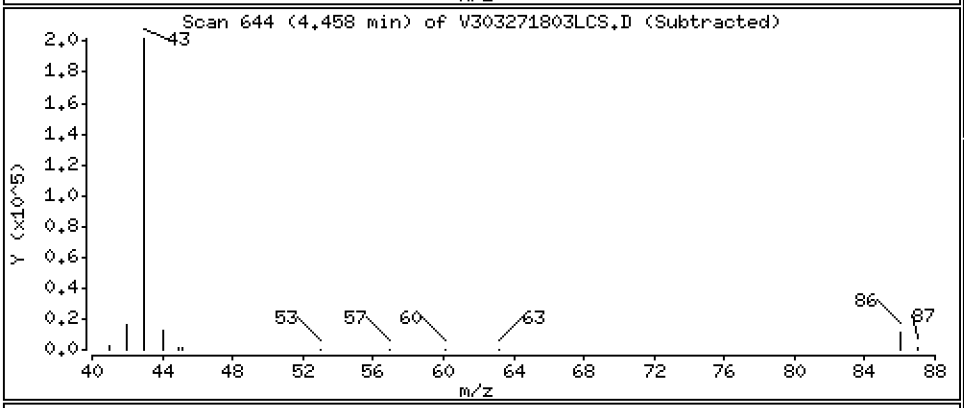
Column phase: RTXVMS

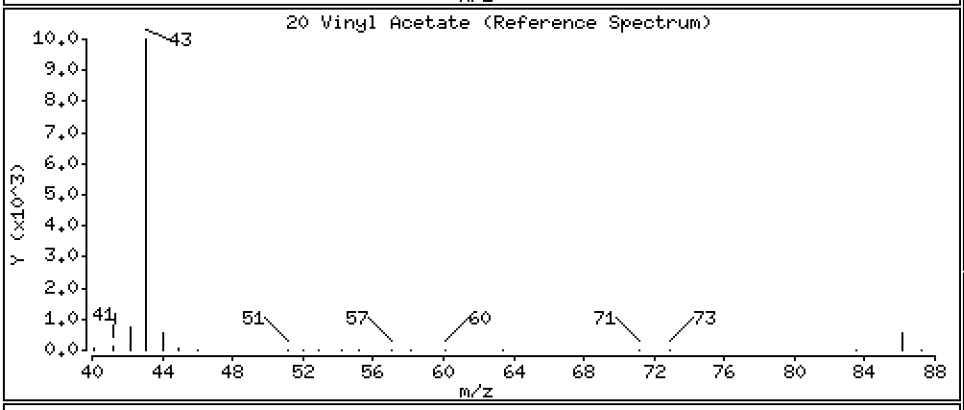
Column diameter: 0.18

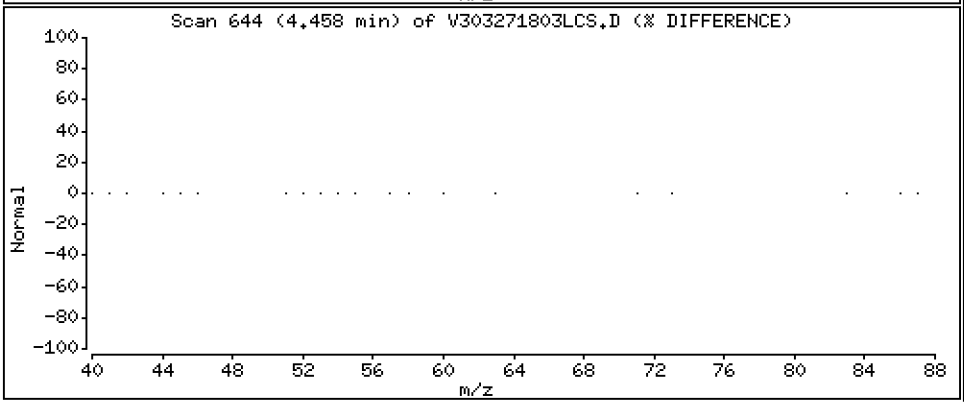
20 Vinyl Acetate

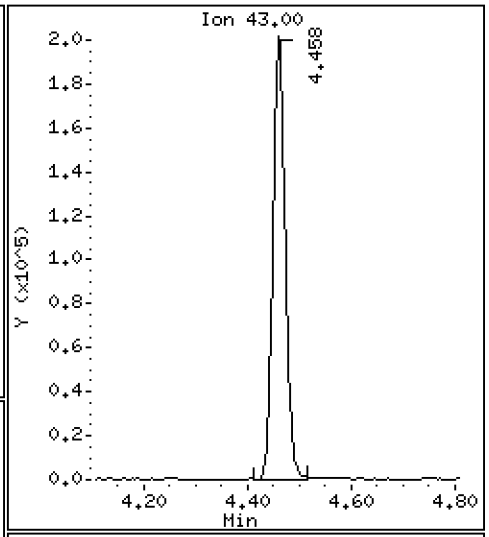
Concentration: 10.042 ug/L

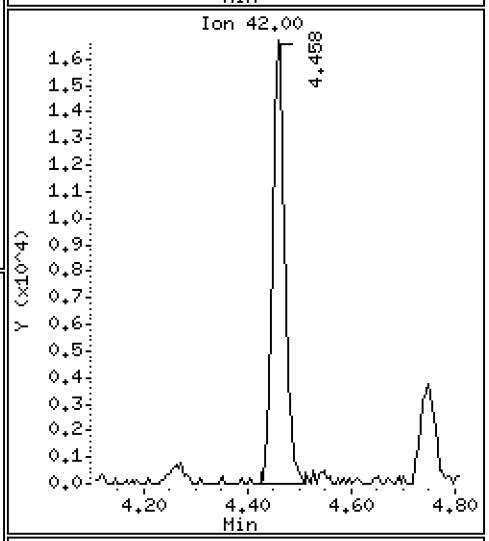


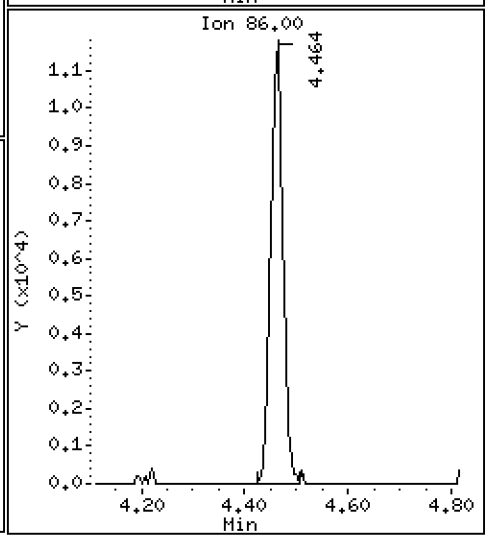












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

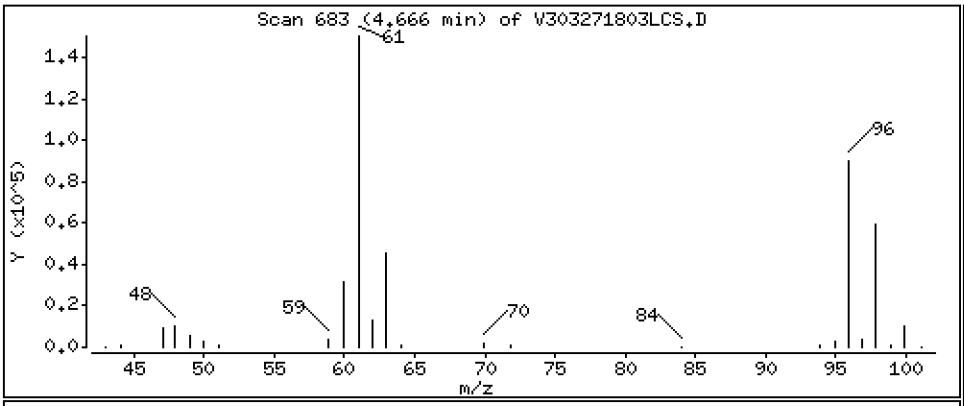
Operator: PKC

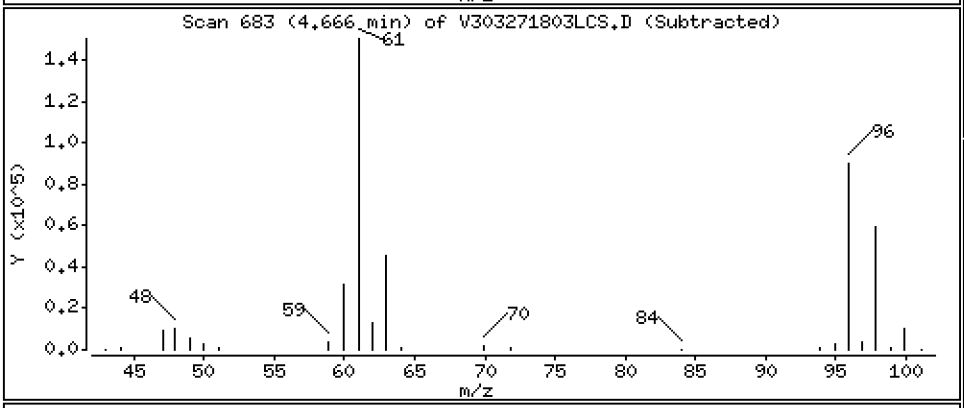
Column phase: RTXVMS

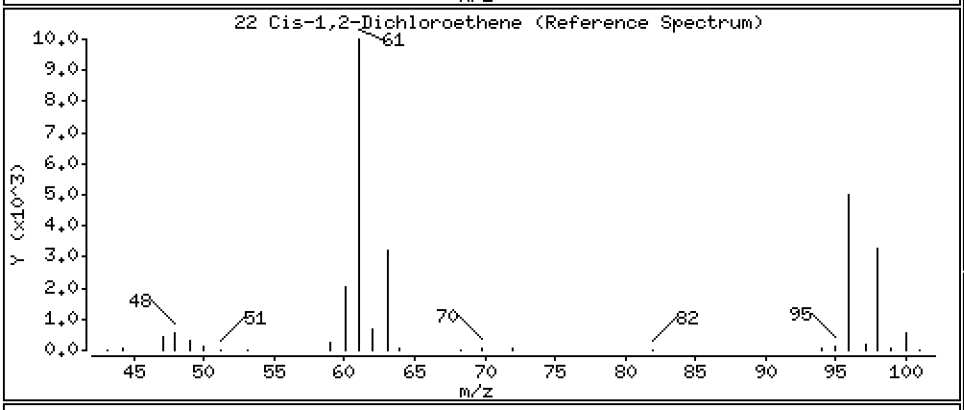
Column diameter: 0.18

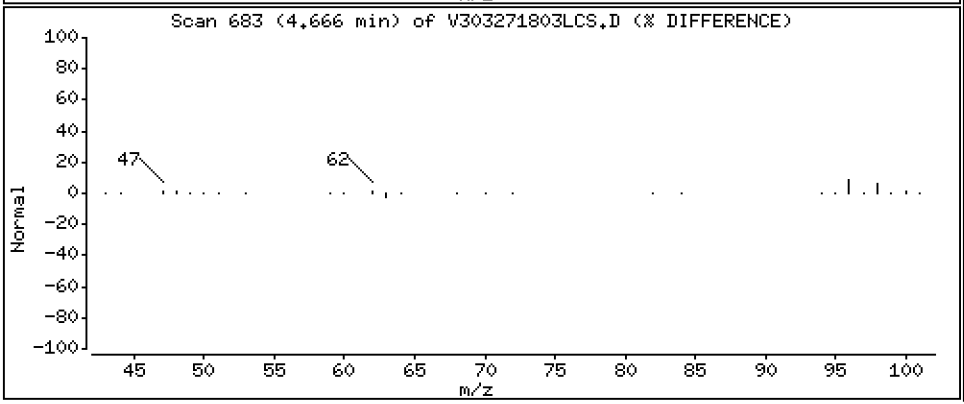
22 Cis-1,2-Dichloroethene

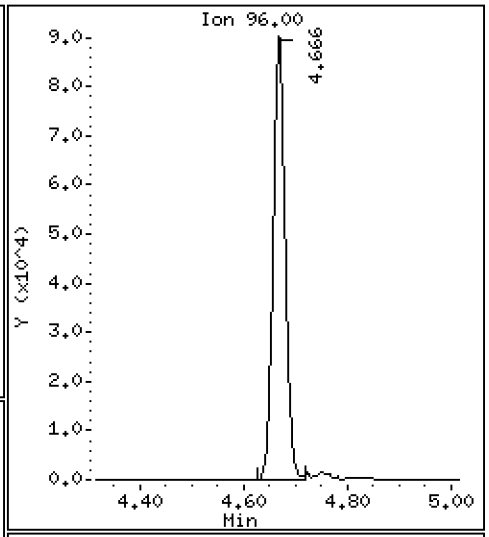
Concentration: 9.289 ug/L

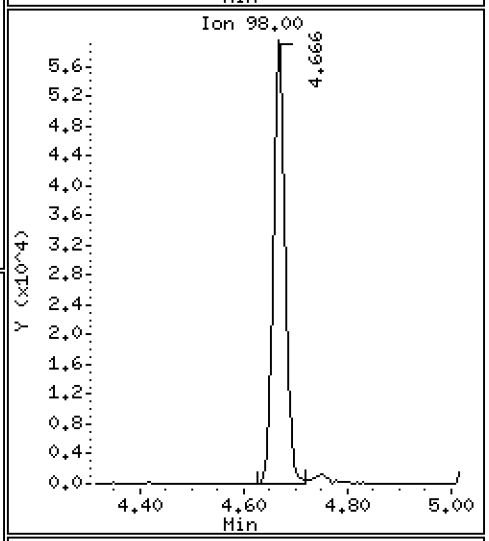


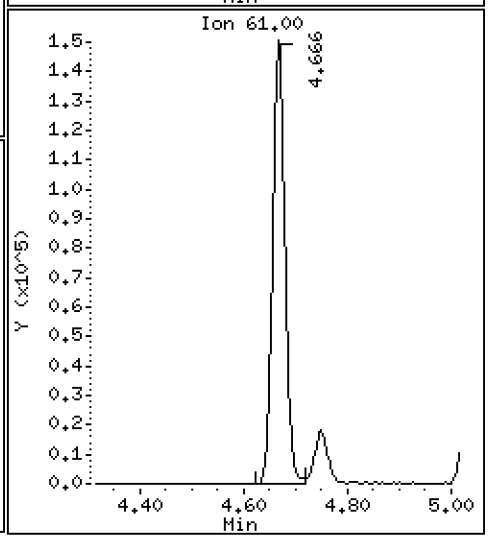












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

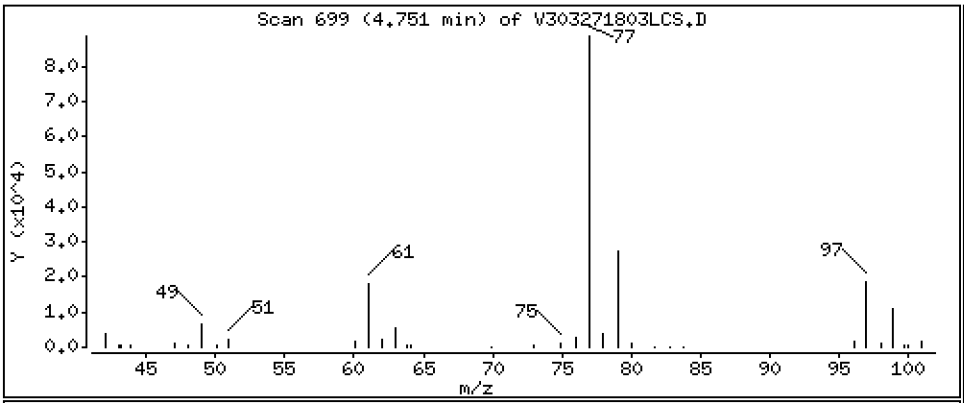
Operator: PKC

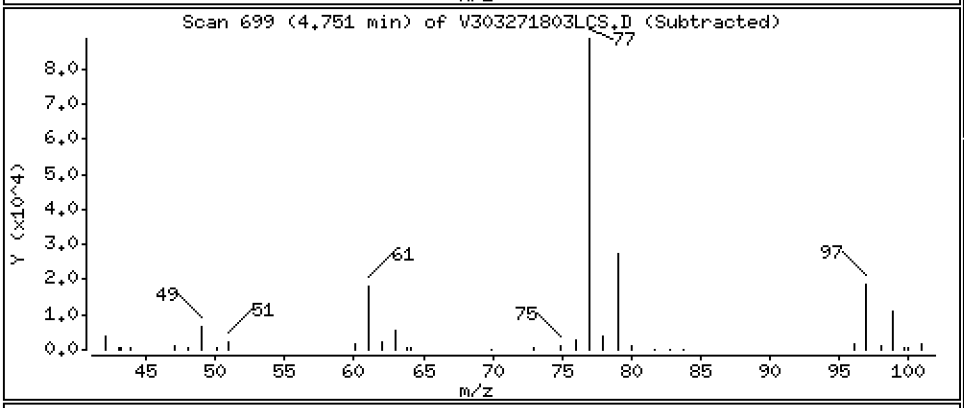
Column phase: RTXVMS

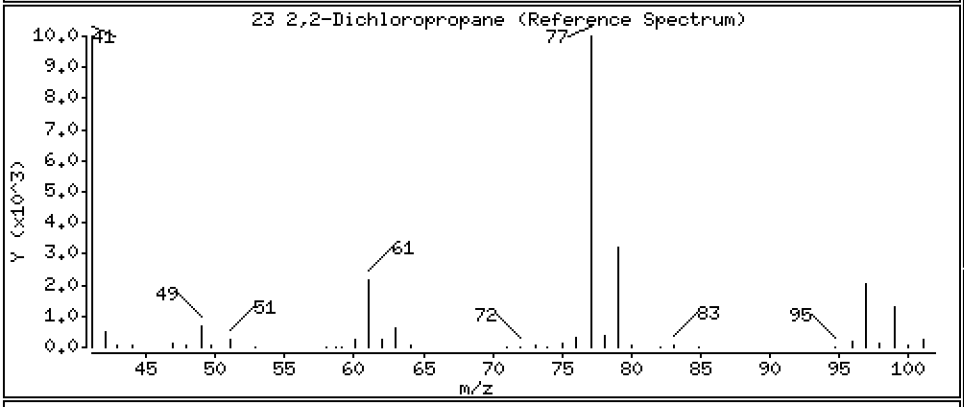
Column diameter: 0.18

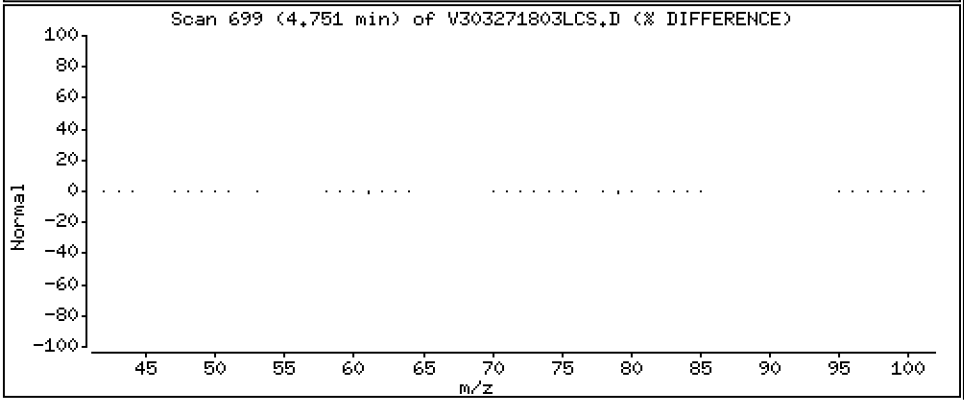
23 2,2-Dichloropropane

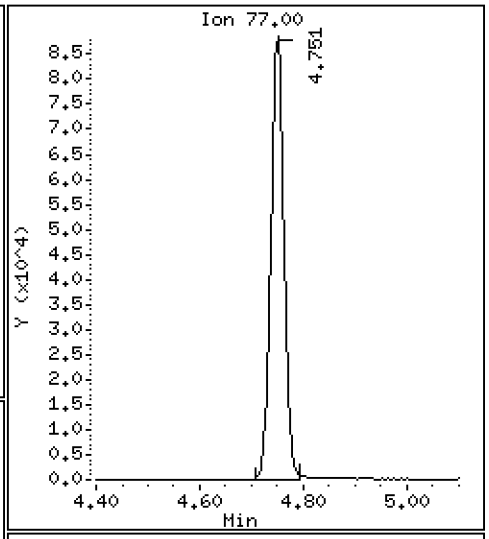
Concentration: 8.415 ug/L

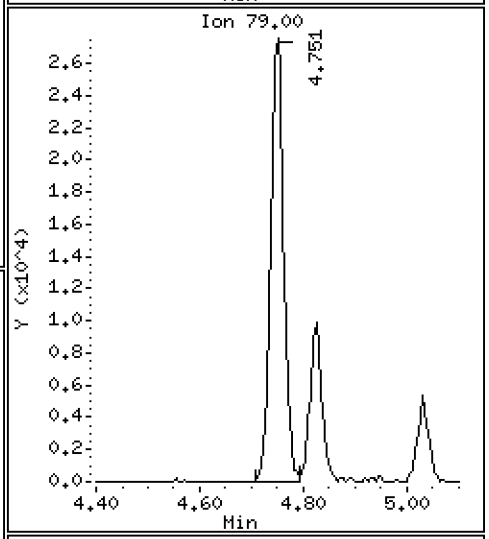


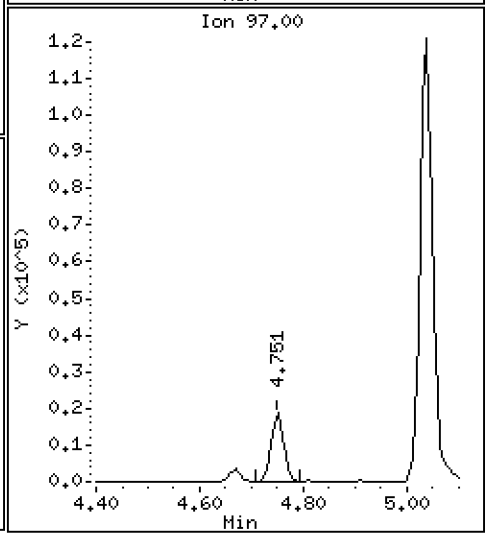












Date : 27-MAR-2018 09:15

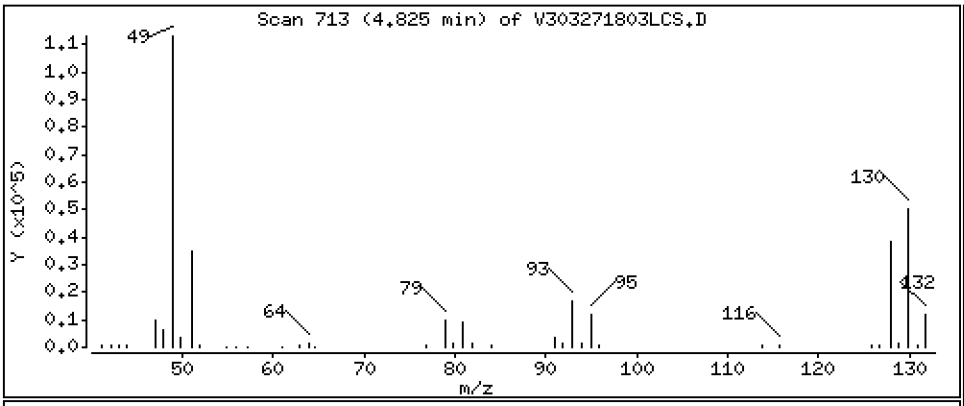
Client ID: VOA Instrument: nt3.i

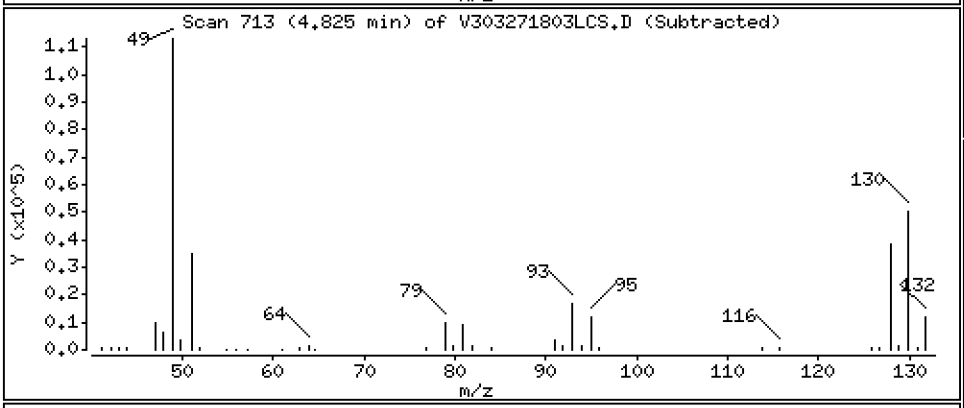
Sample Info: BGC0717-BS1

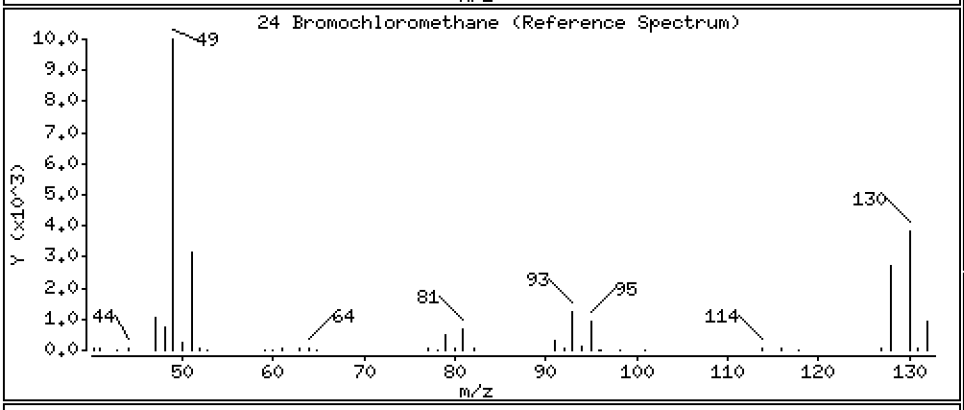
Operator: PKC

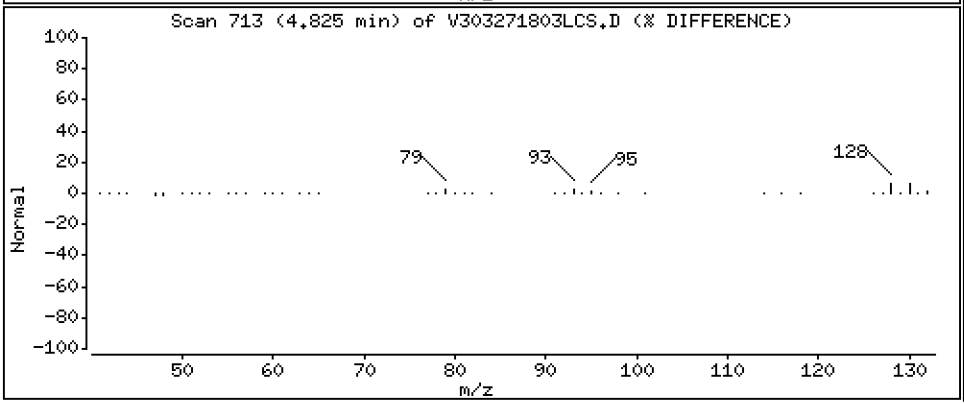
Column phase: RTXVMS Column diameter: 0.18

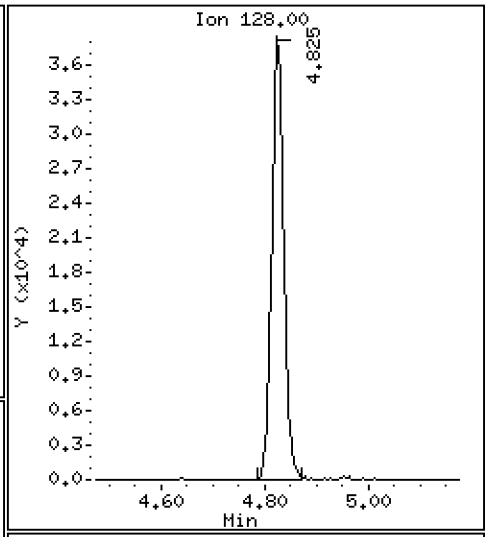
24 Bromochloromethane Concentration: 9.228 ug/L

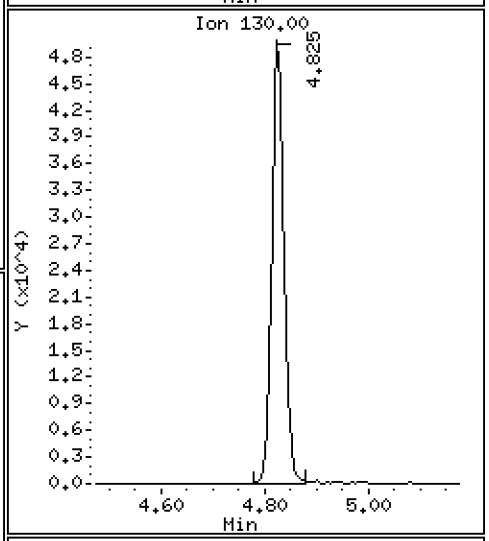


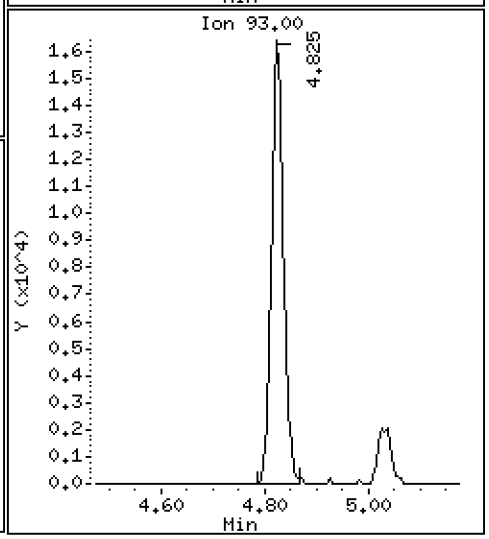












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

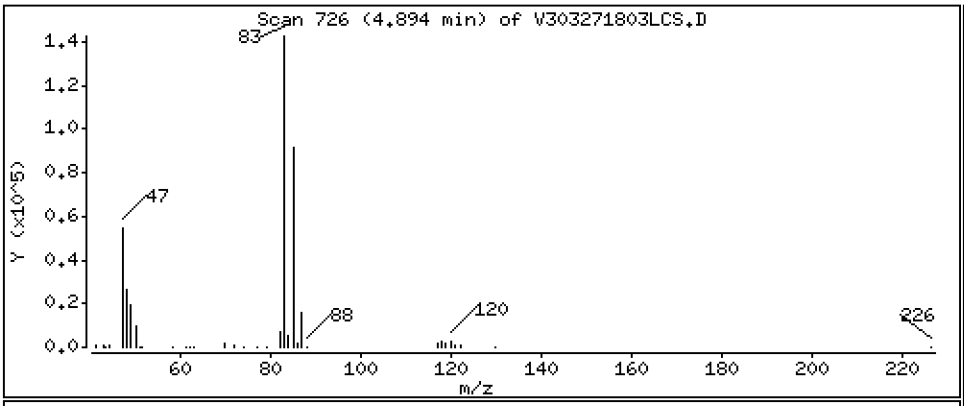
Operator: PKC

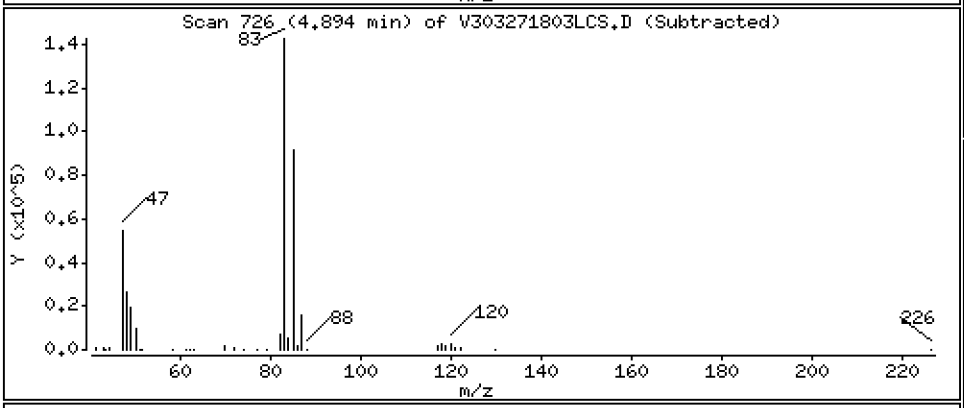
Column phase: RTXVMS

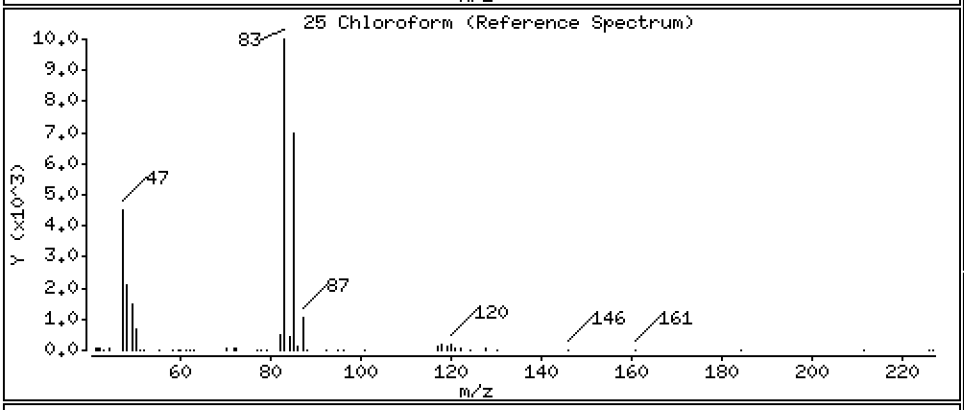
Column diameter: 0.18

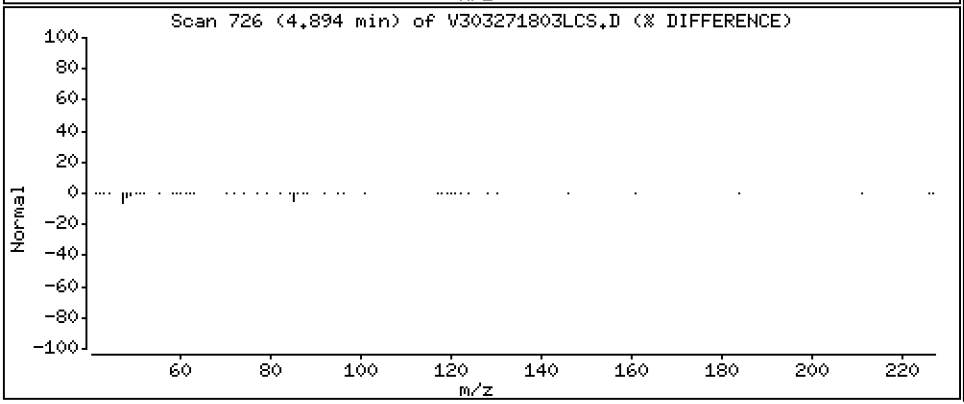
25 Chloroform

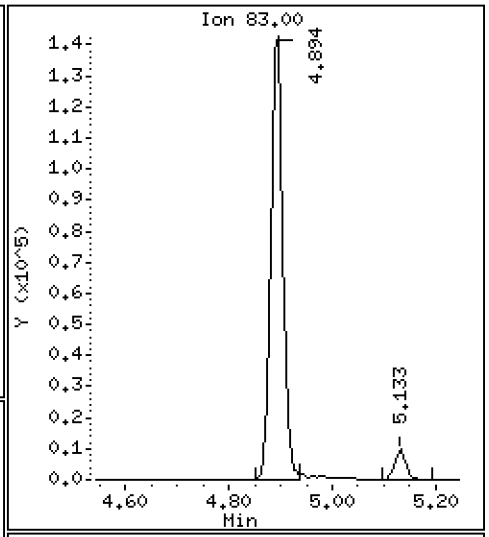
Concentration: 9.660 ug/L

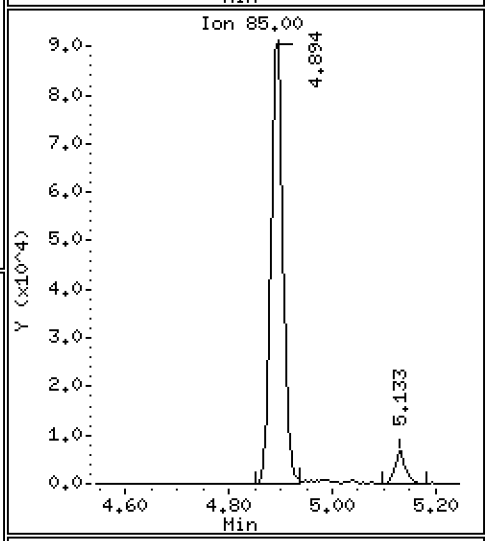


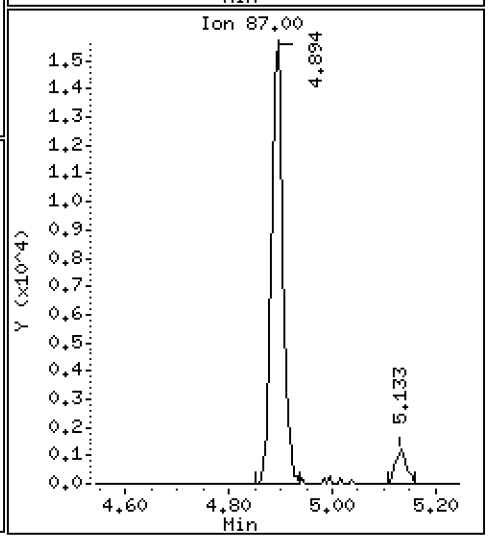












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

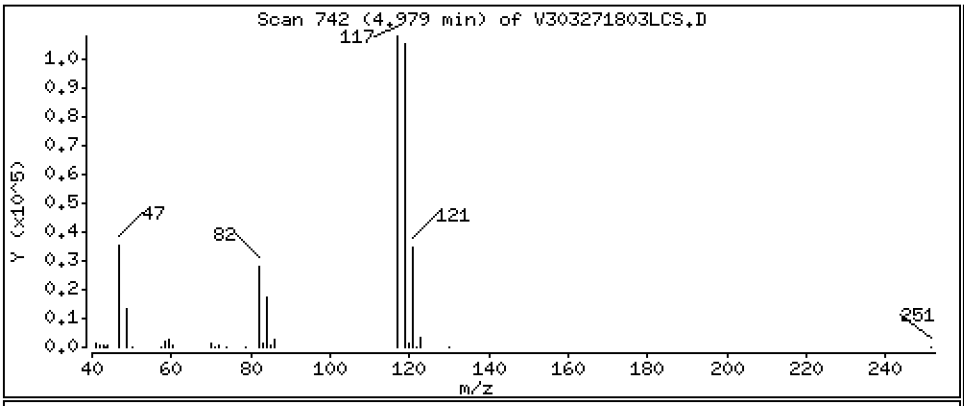
Operator: PKC

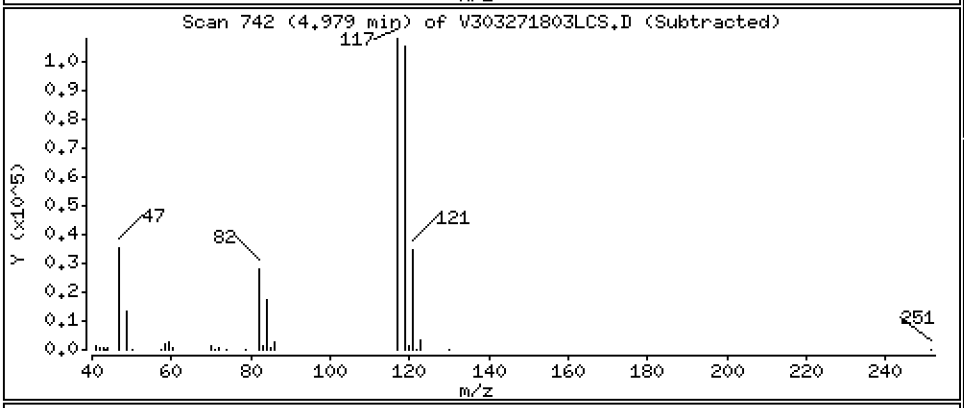
Column phase: RTXVMS

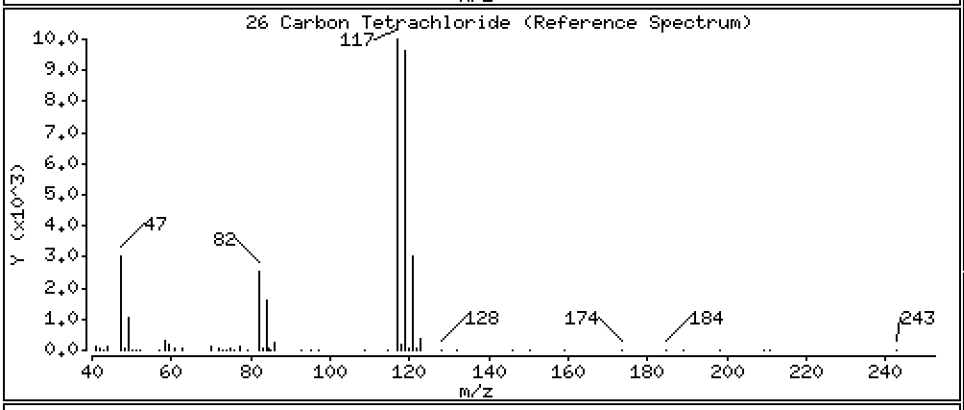
Column diameter: 0.18

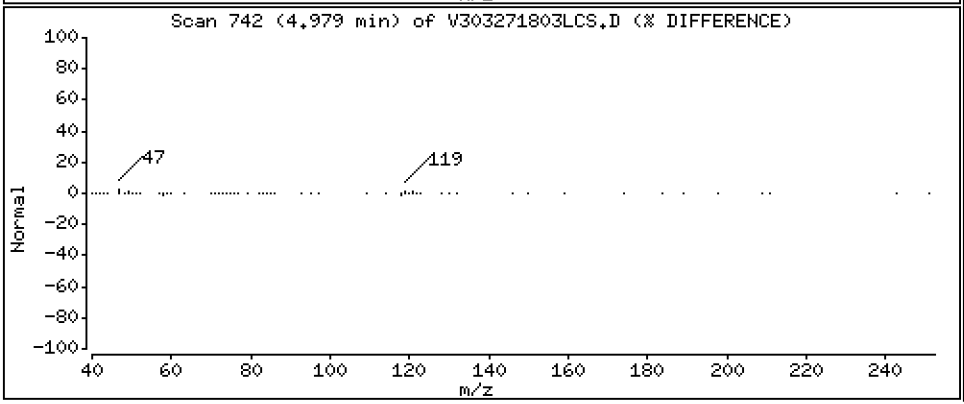
26 Carbon Tetrachloride

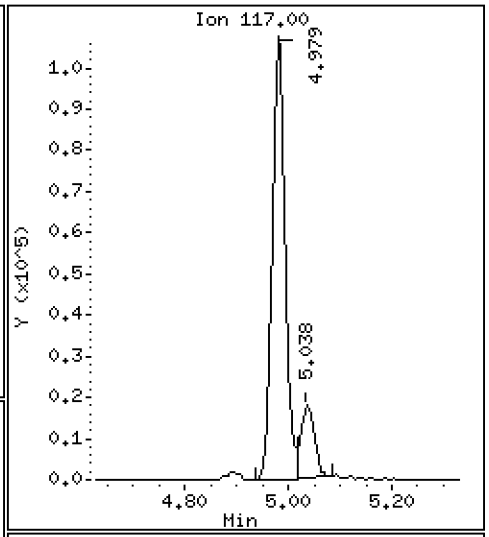
Concentration: 10.222 ug/L

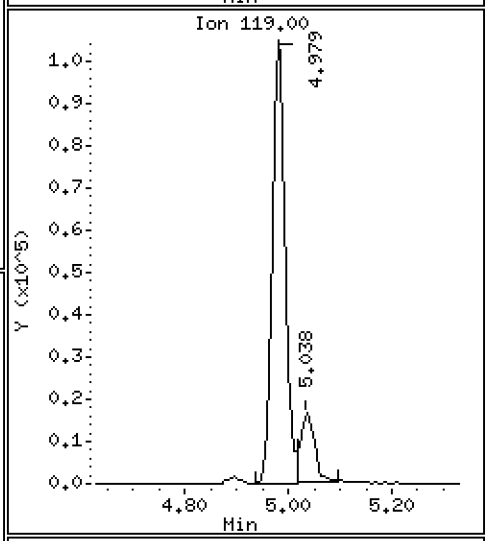


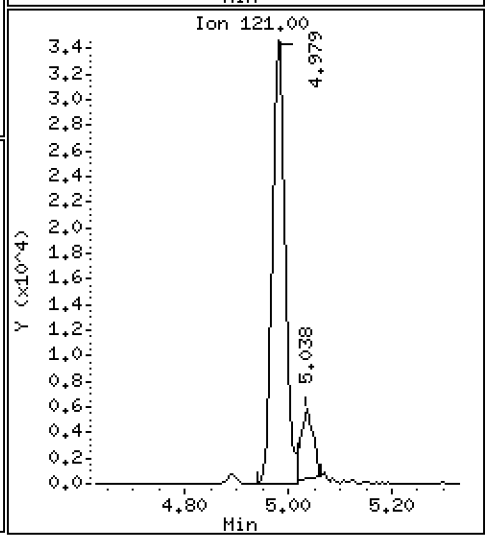












Date : 27-MAR-2018 09:15

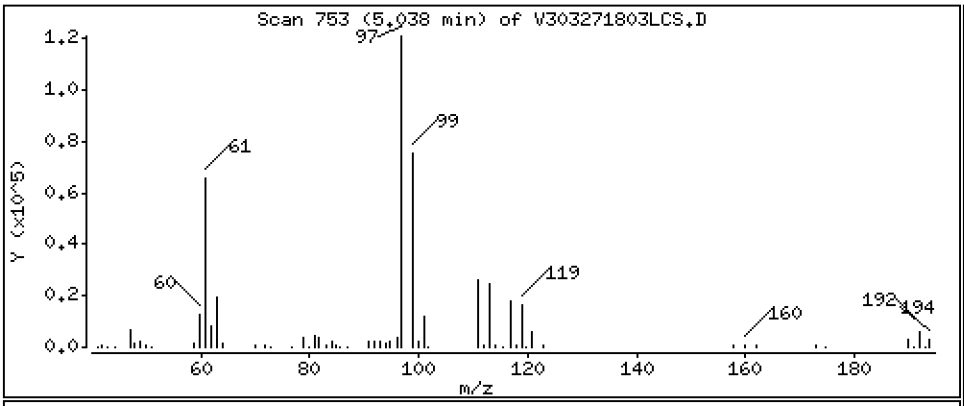
Client ID: VOA Instrument: nt3.i

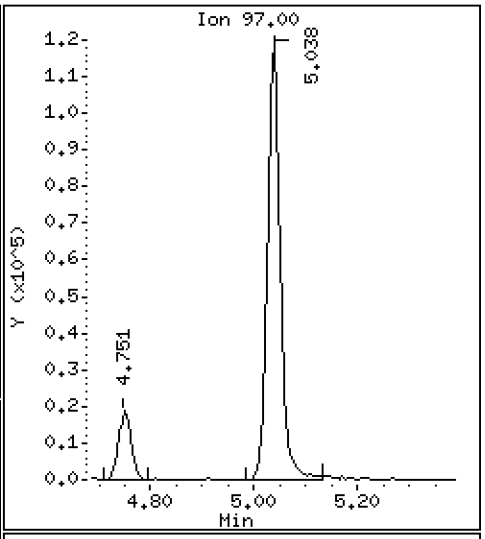
Sample Info: BGC0717-BS1

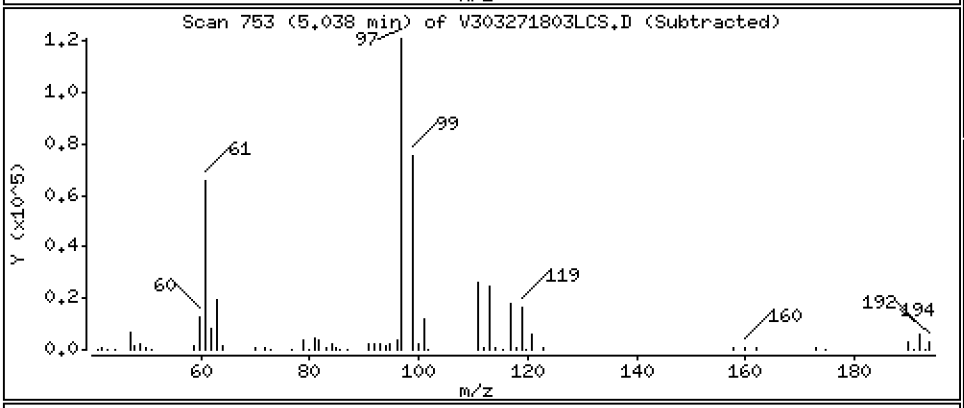
Operator: PKC

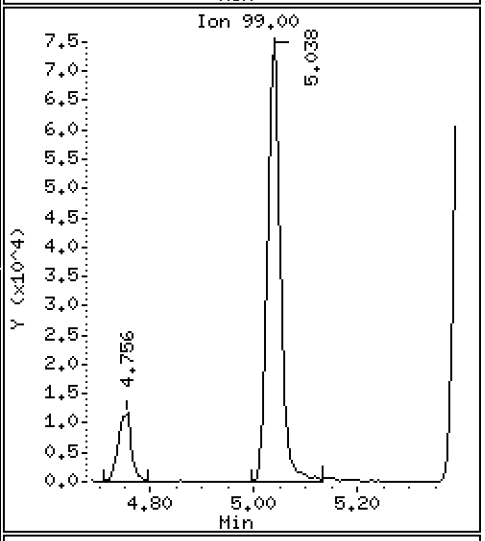
Column phase: RTXVMS Column diameter: 0.18

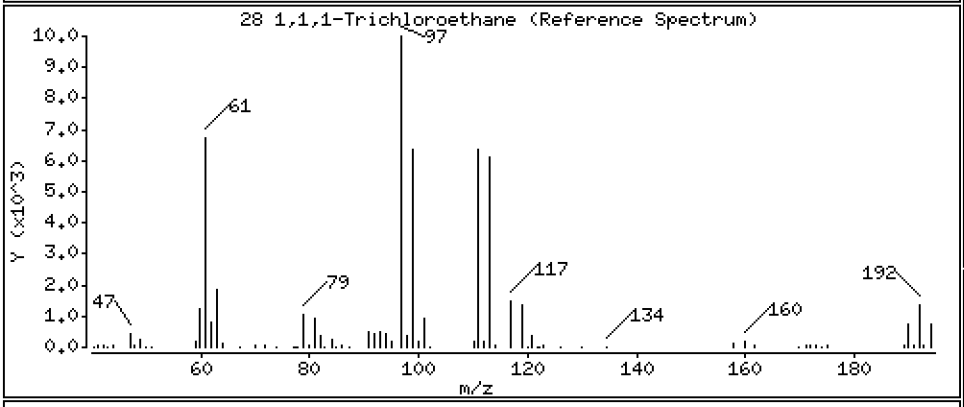
28 1,1,1-Trichloroethane Concentration: 9.293 ug/L

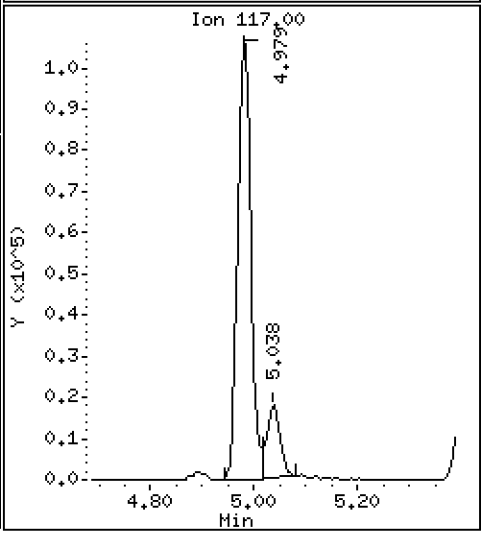


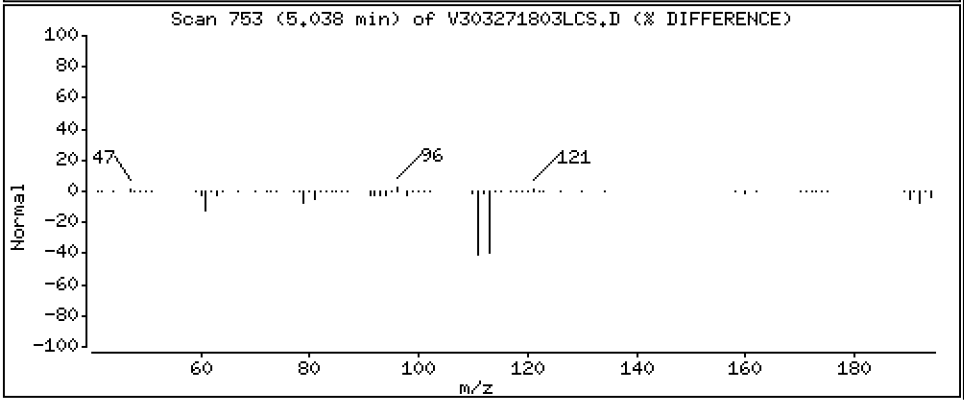












Date : 27-MAR-2018 09:15

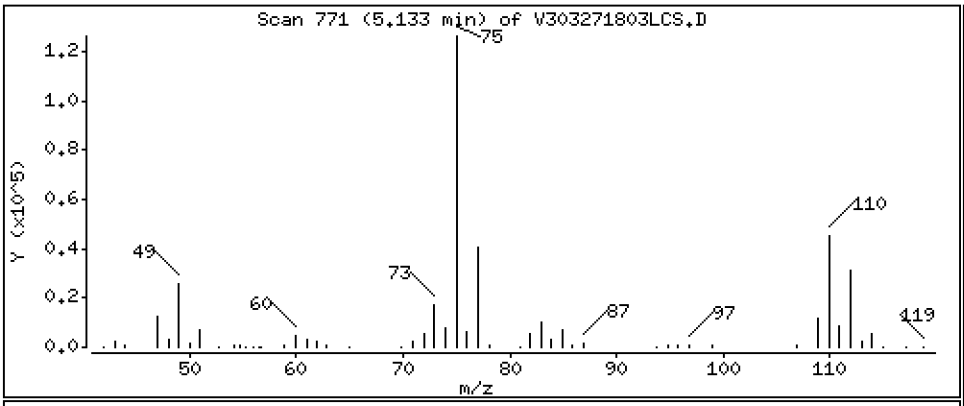
Client ID: VOA Instrument: nt3.i

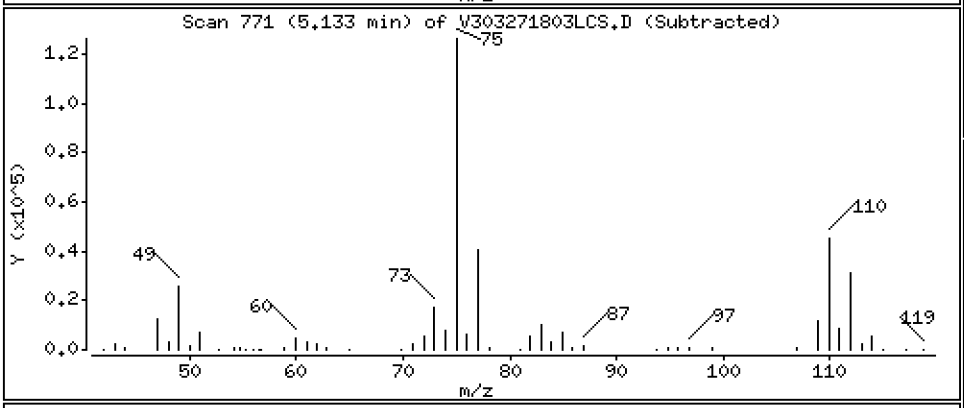
Sample Info: BGC0717-BS1

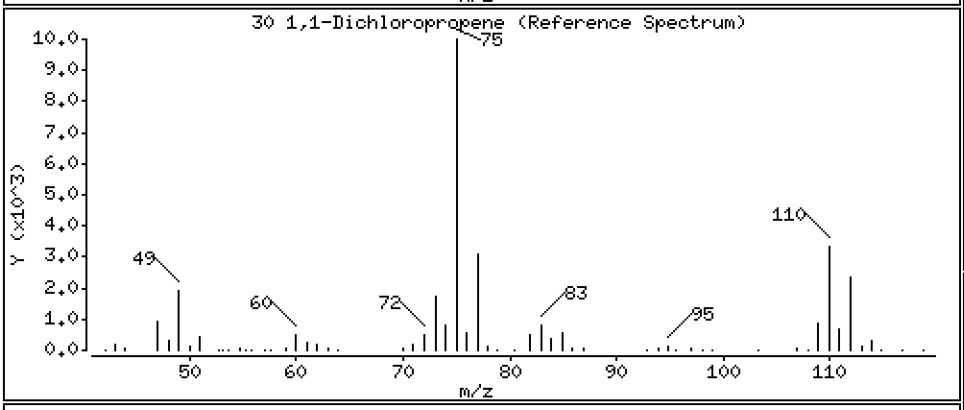
Operator: PKC

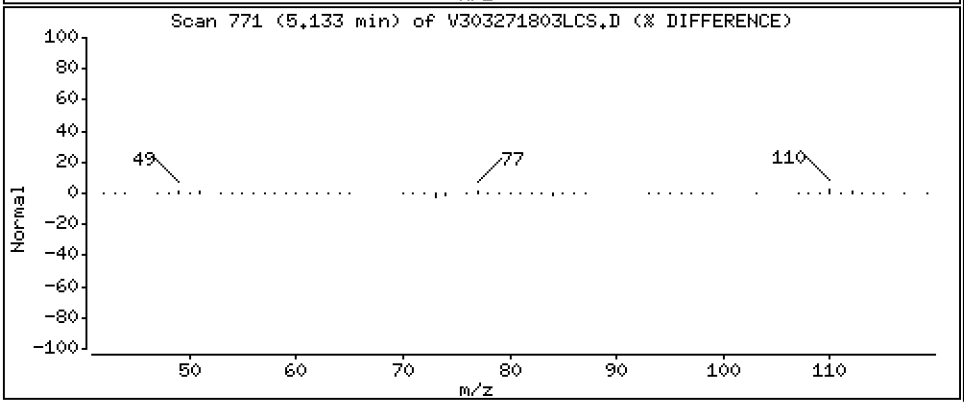
Column phase: RTXVMS Column diameter: 0.18

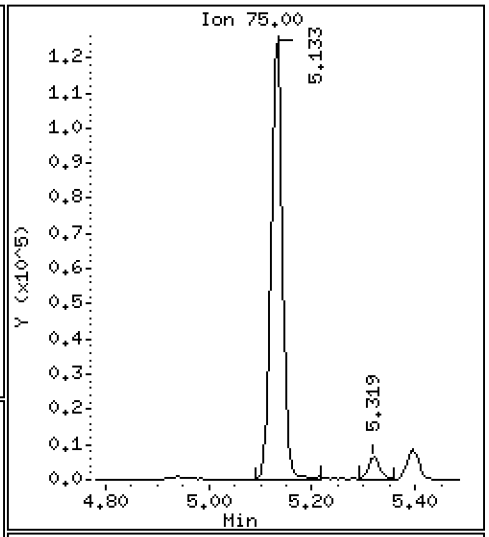
30 1,1-Dichloropropene Concentration: 10.533 ug/L

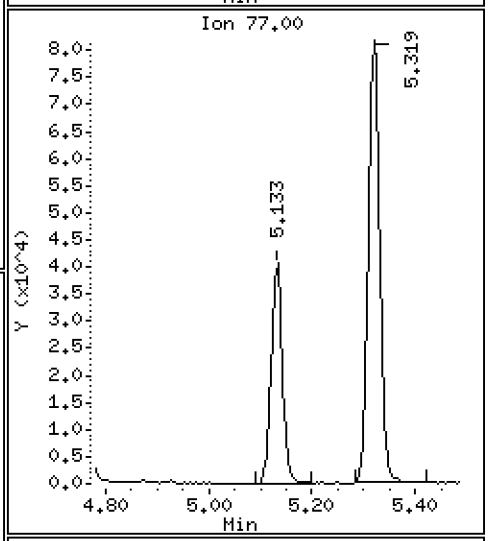


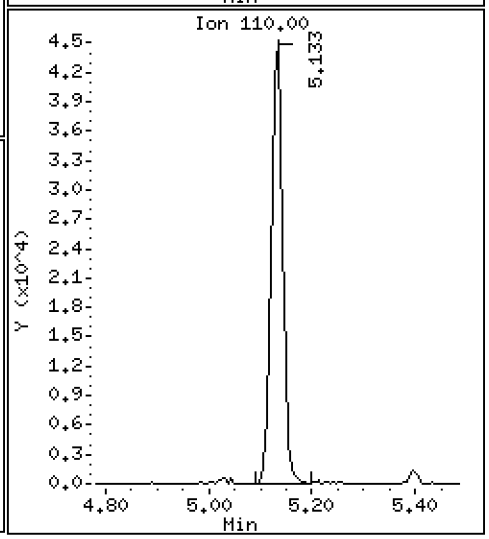












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

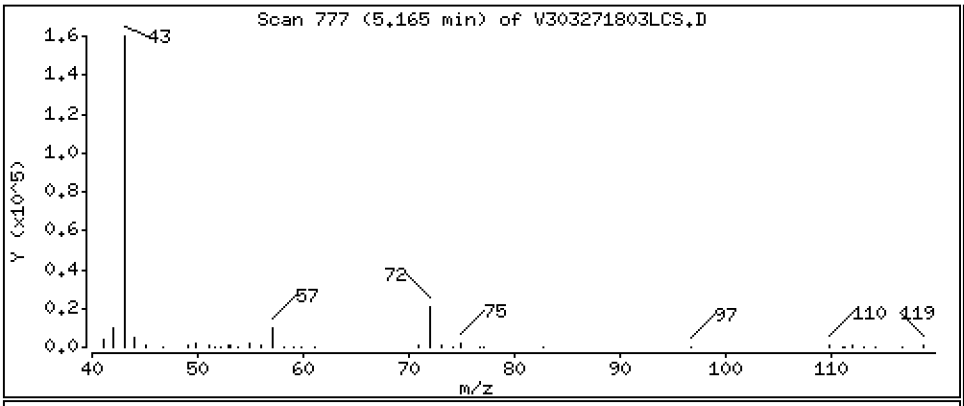
Operator: PKC

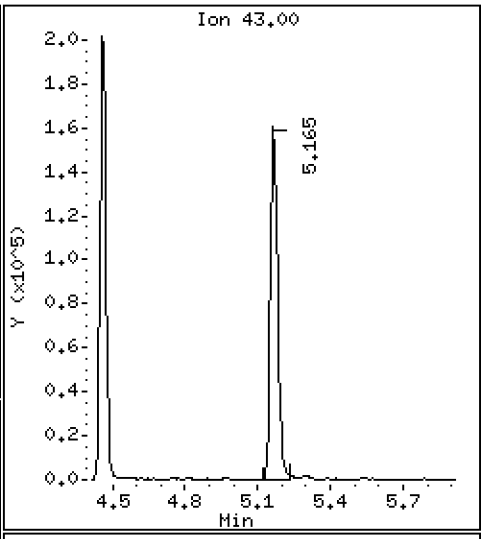
Column phase: RTXVMS

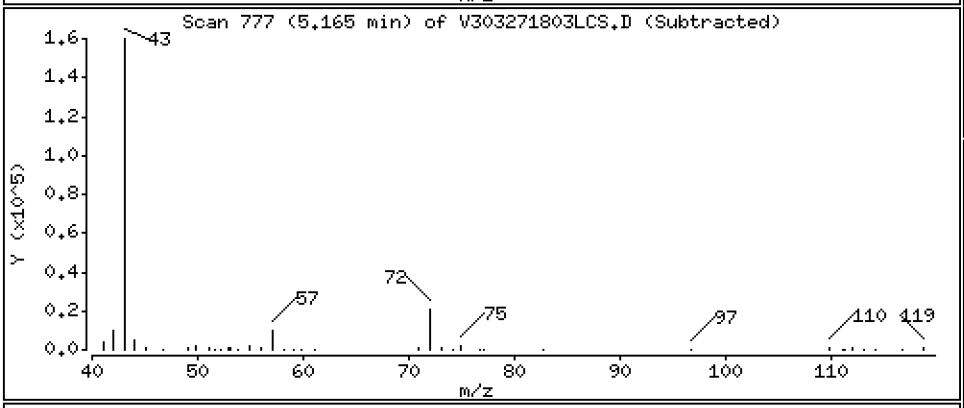
Column diameter: 0.18

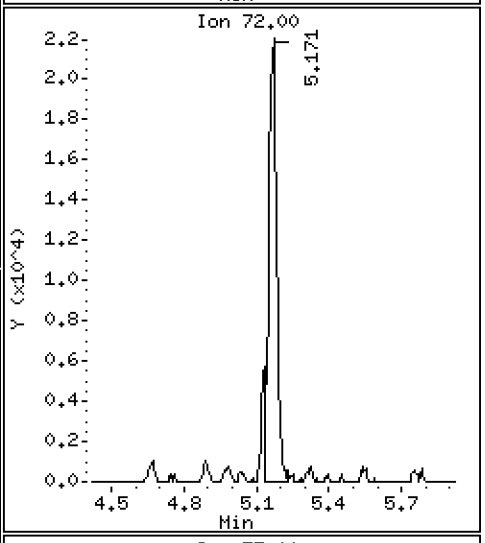
29 2-Butanone

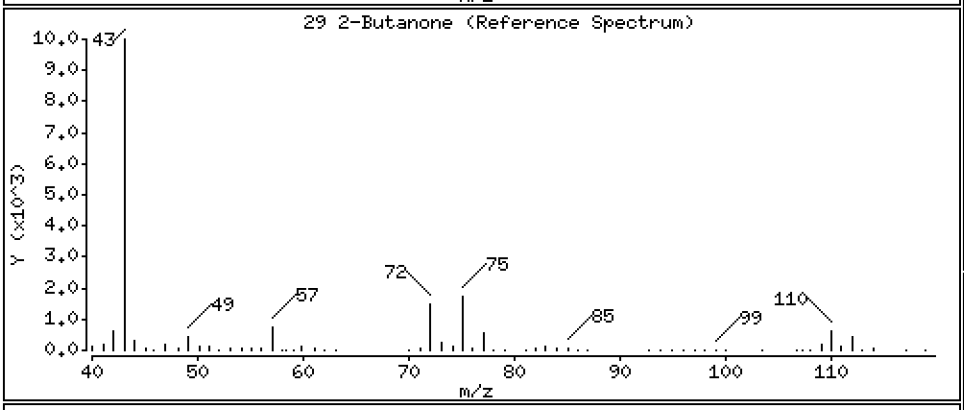
Concentration: 50.762 ug/L

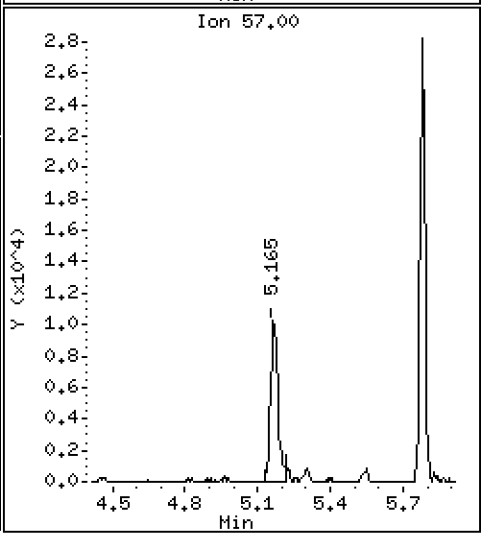


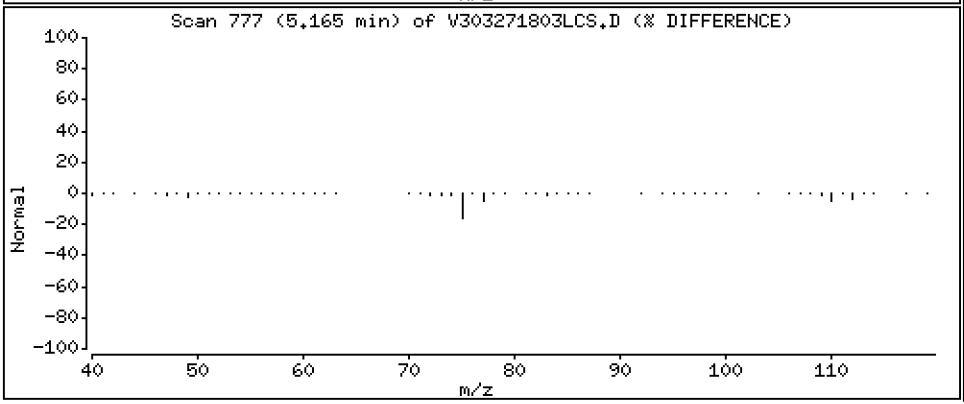












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

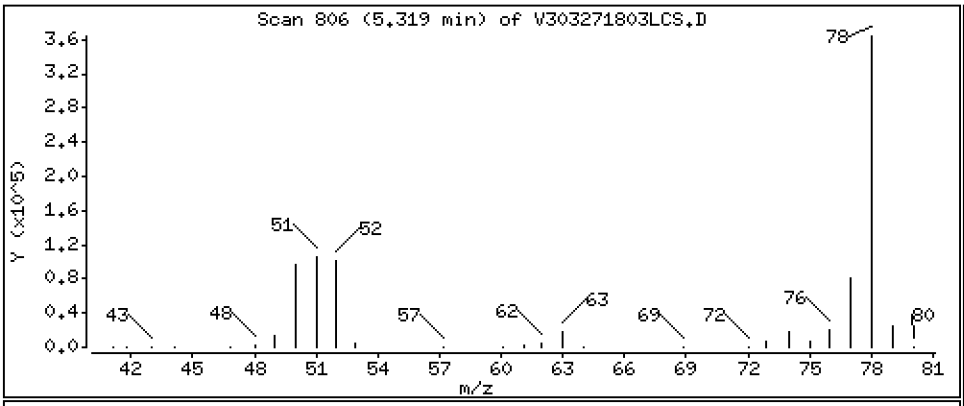
Operator: PKC

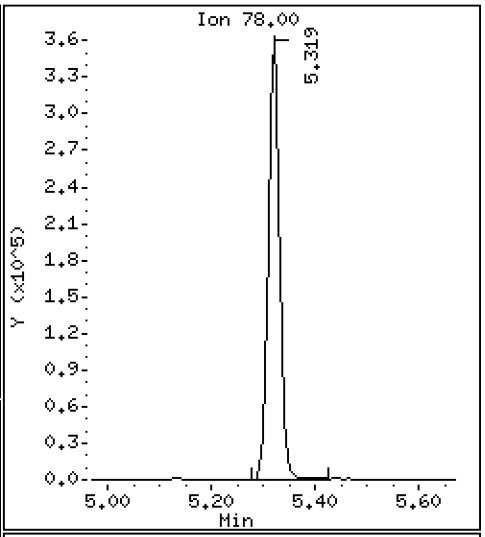
Column phase: RTXVMS

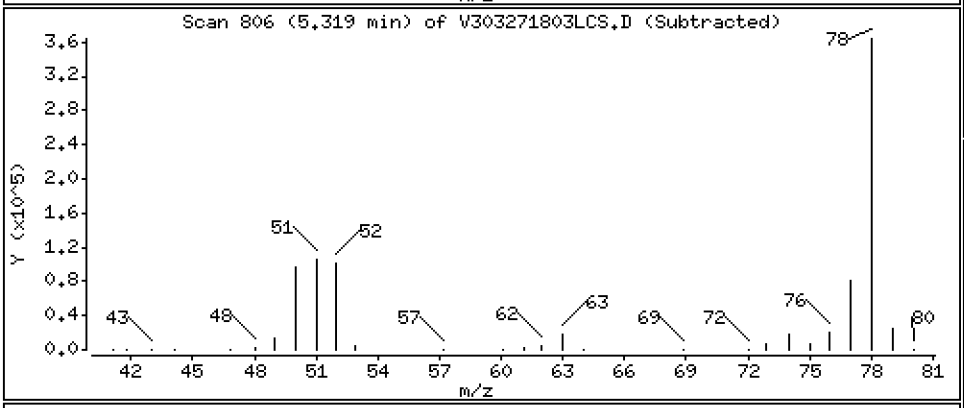
Column diameter: 0.18

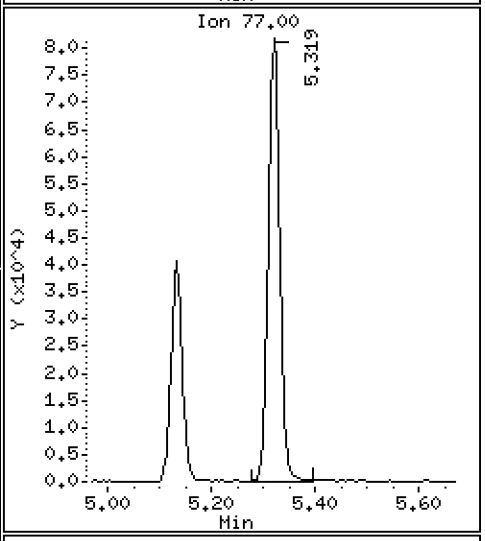
31 Benzene

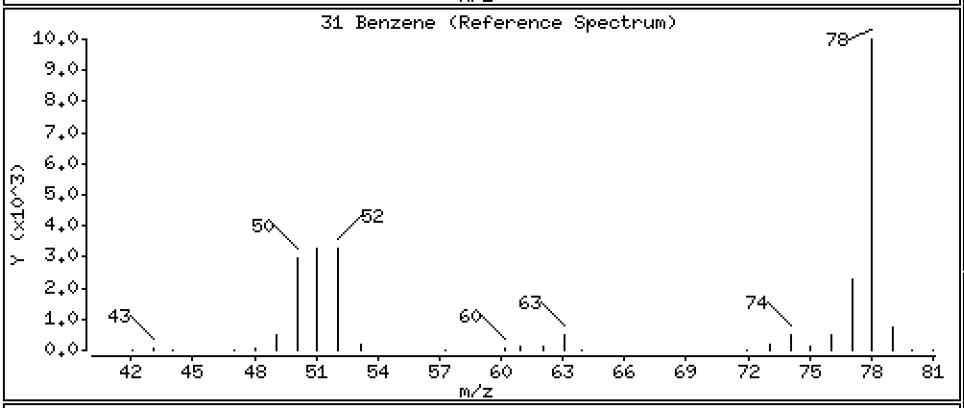
Concentration: 10.426 ug/L

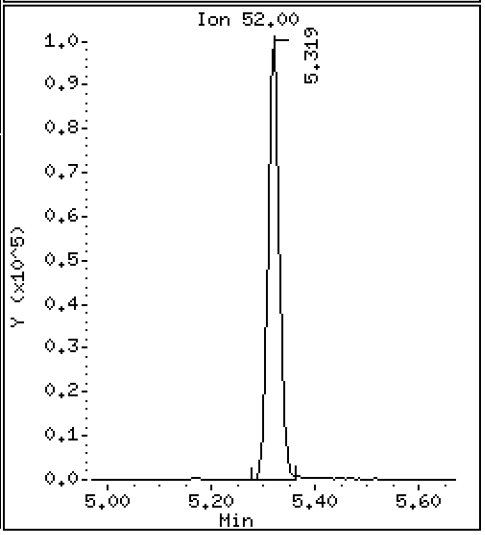


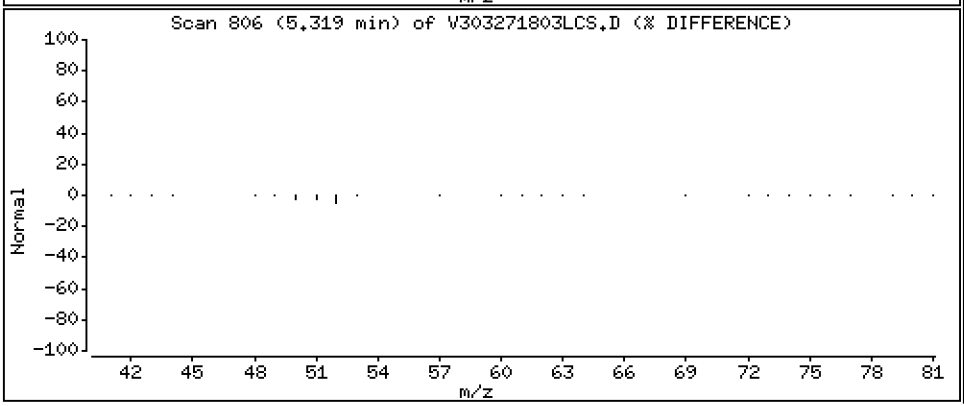












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

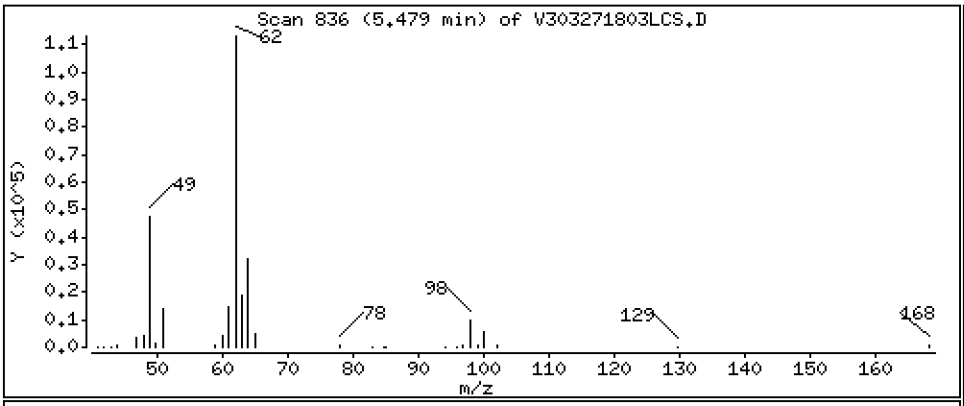
Operator: PKC

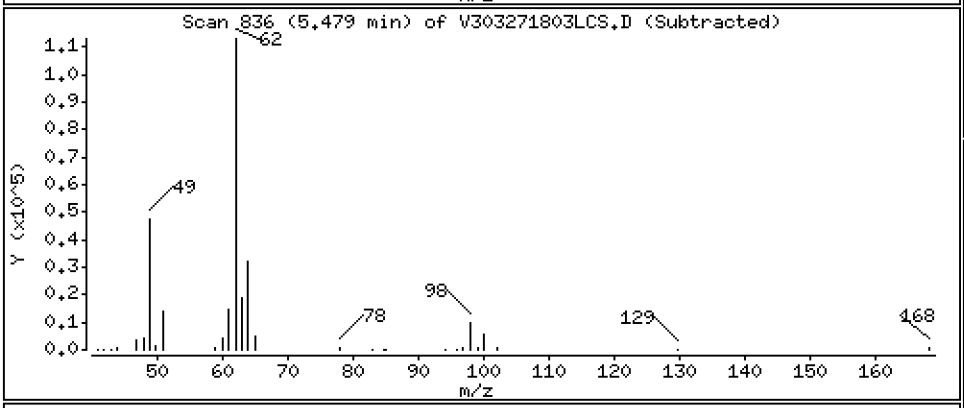
Column phase: RTXVMS

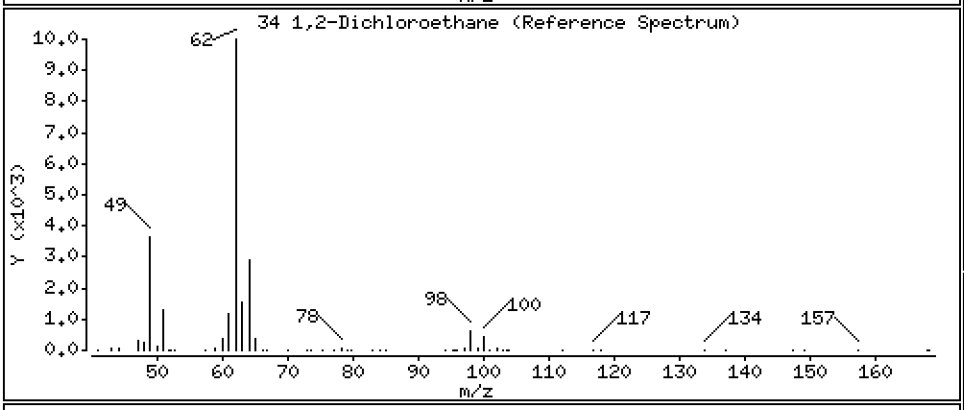
Column diameter: 0.18

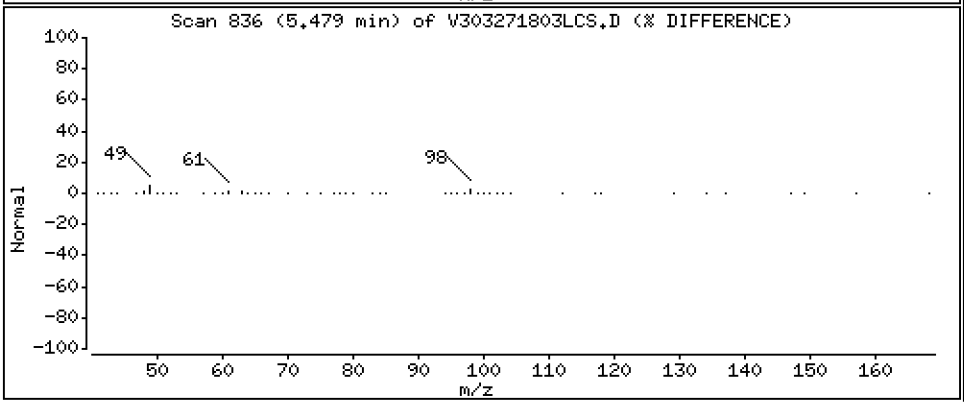
34 1,2-Dichloroethane

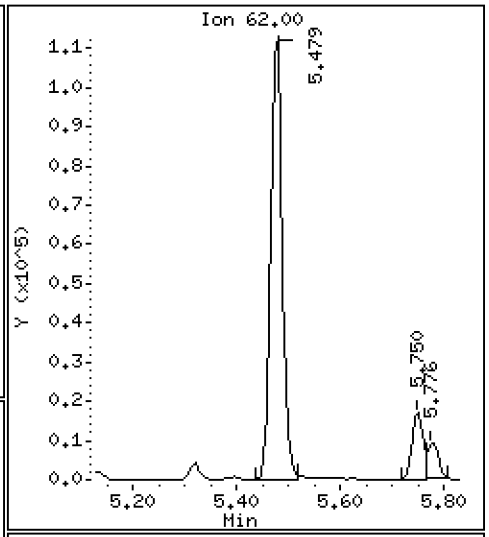
Concentration: 9.675 ug/L

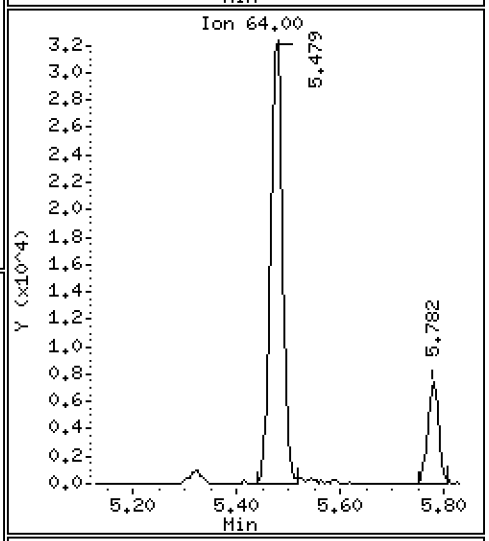


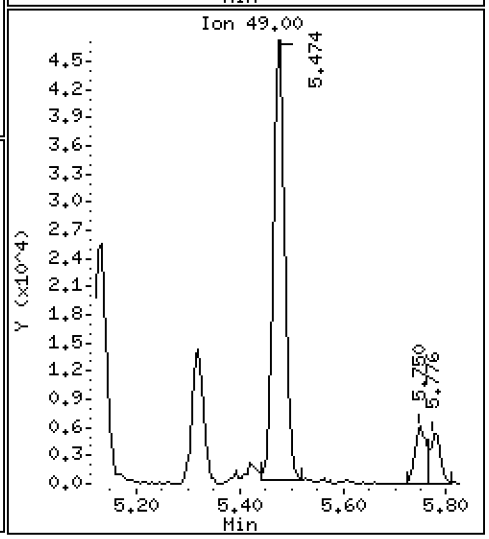












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

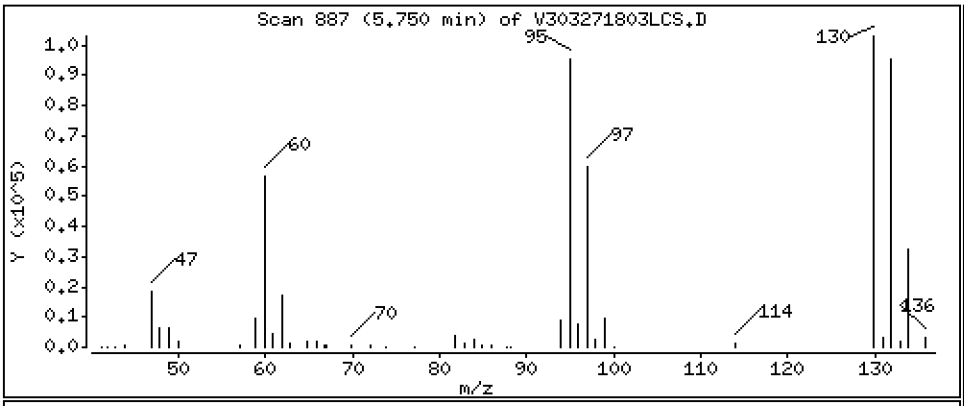
Operator: PKC

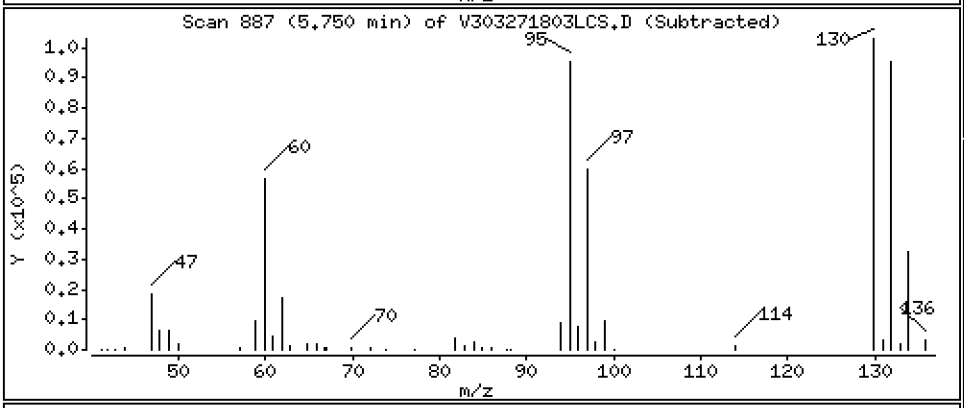
Column phase: RTXVMS

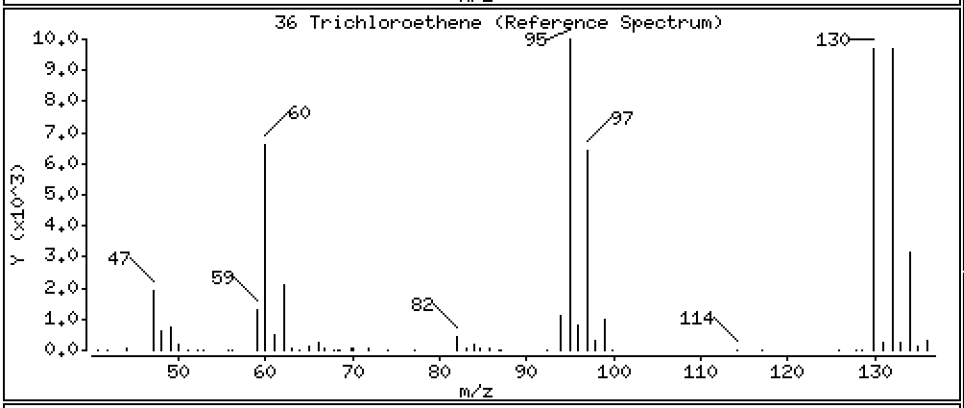
Column diameter: 0.18

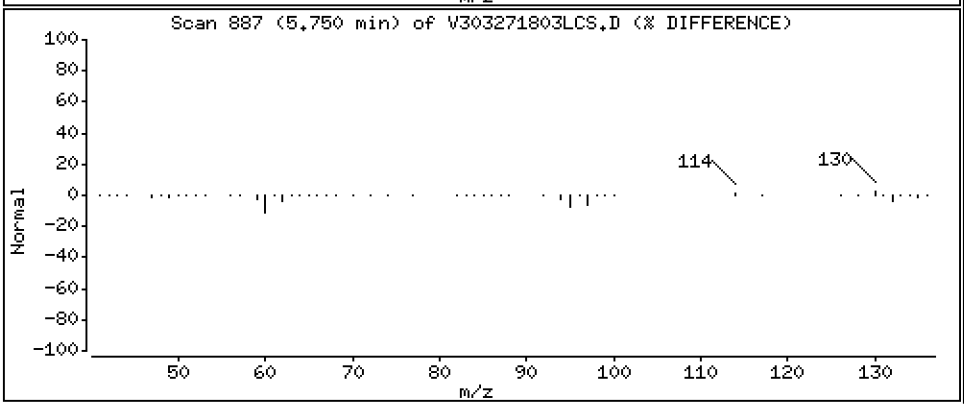
36 Trichloroethene

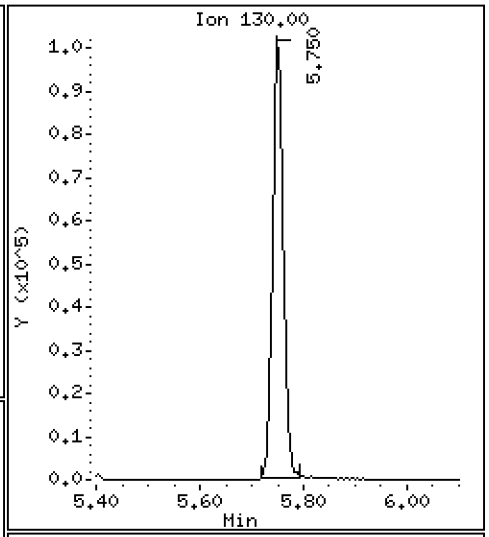
Concentration: 9.868 ug/L

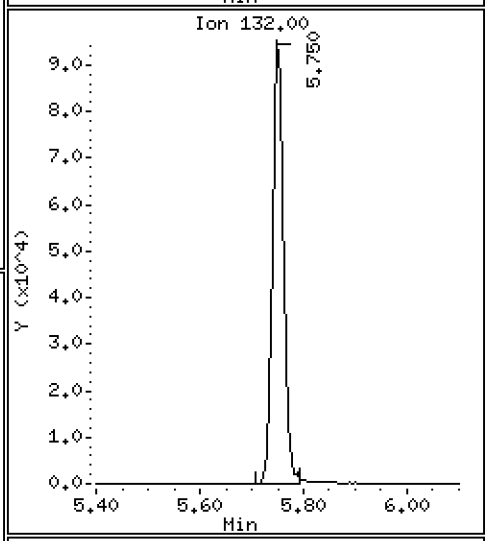


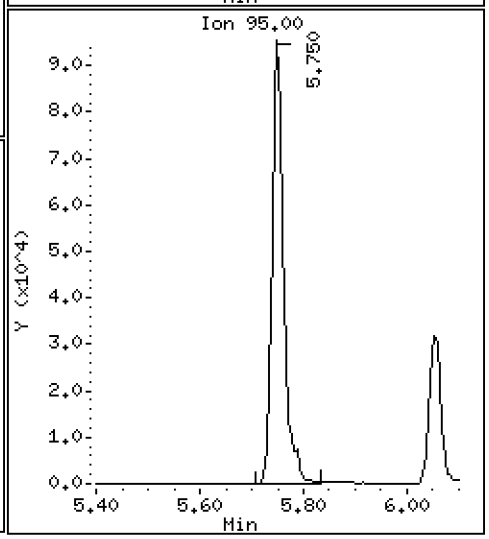












Date : 27-MAR-2018 09:15

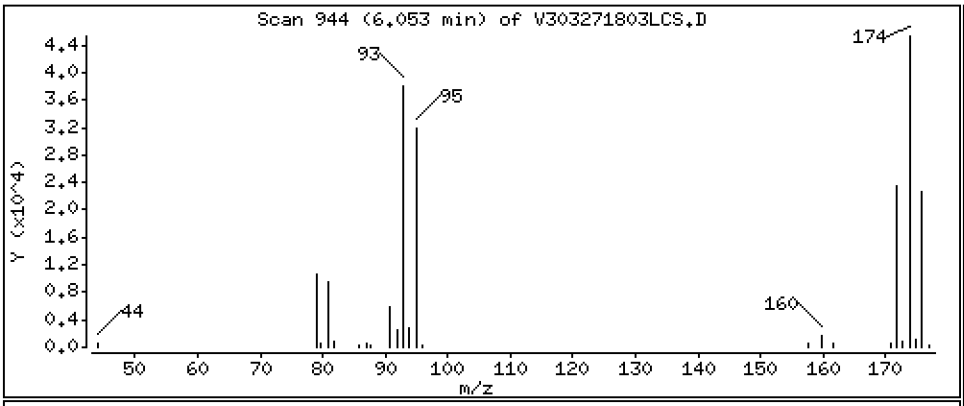
Client ID: VOA Instrument: nt3.i

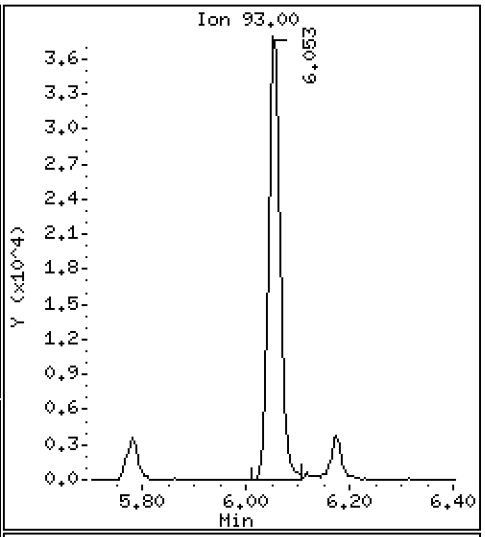
Sample Info: BGC0717-BS1

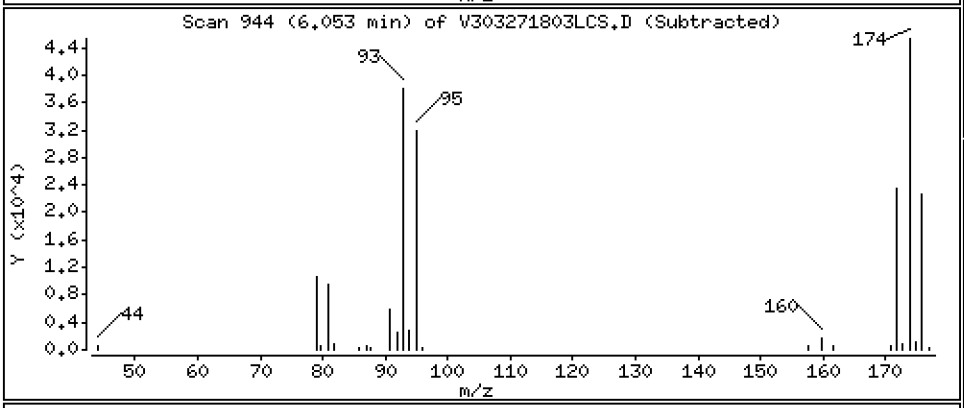
Operator: PKC

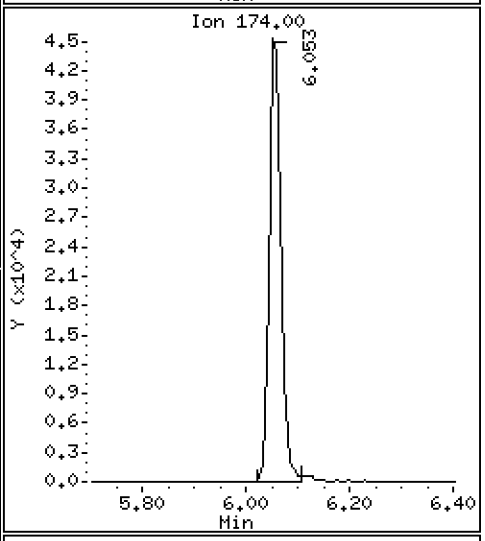
Column phase: RTXVMS Column diameter: 0.18

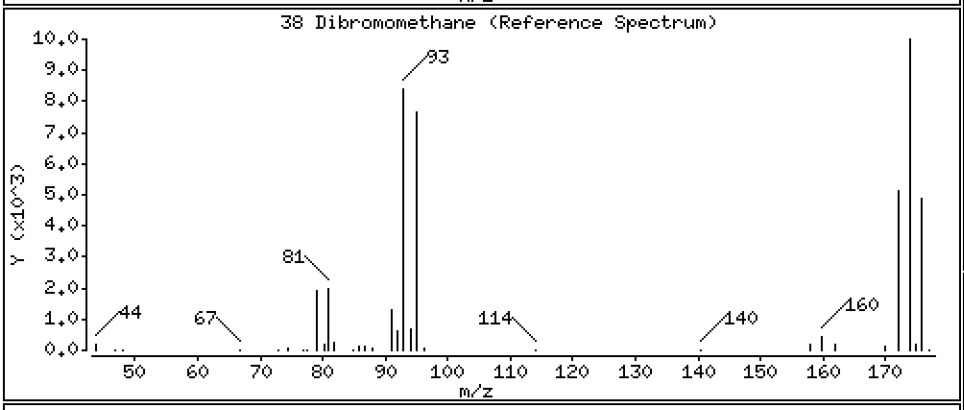
38 Dibromomethane Concentration: 10.042 ug/L

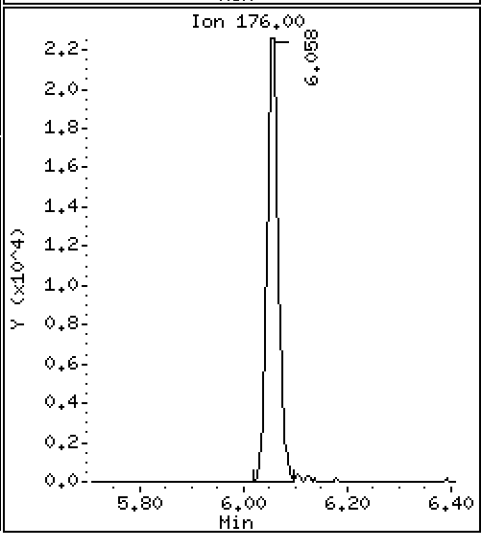


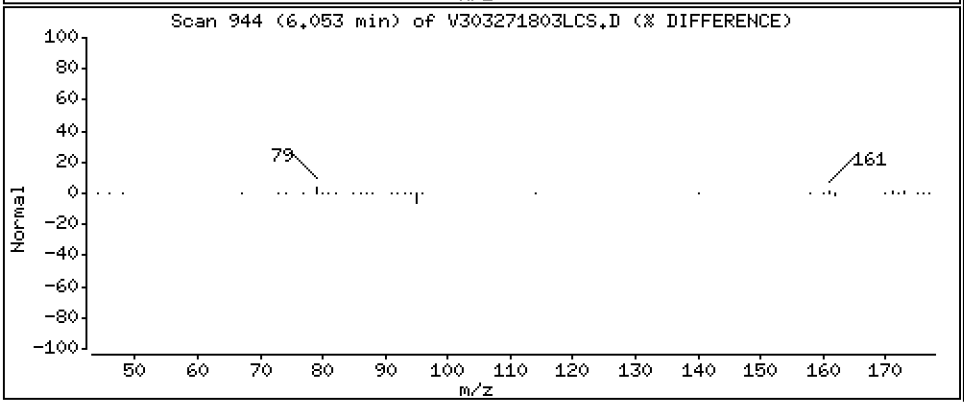












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

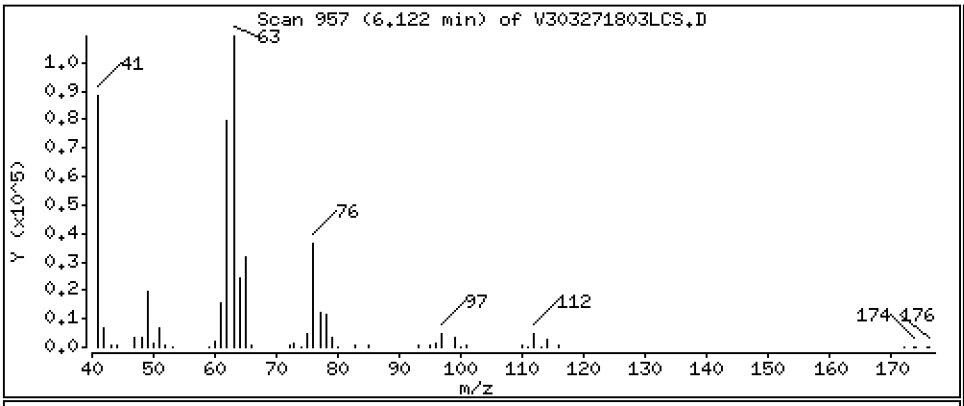
Operator: PKC

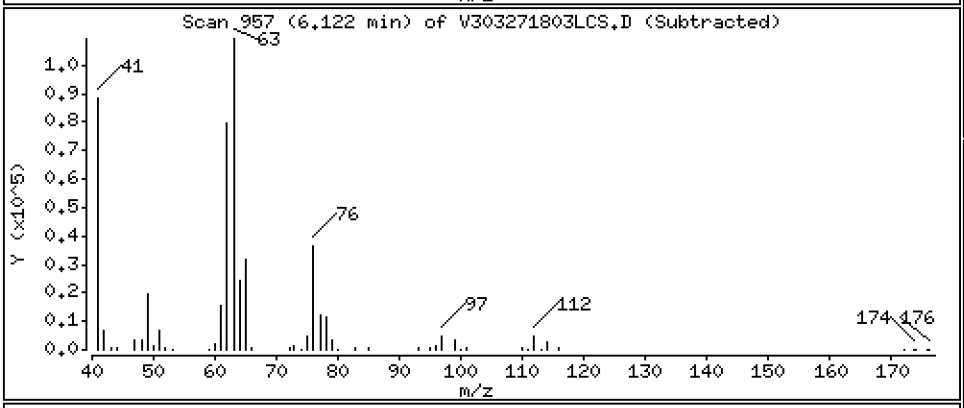
Column phase: RTXVMS

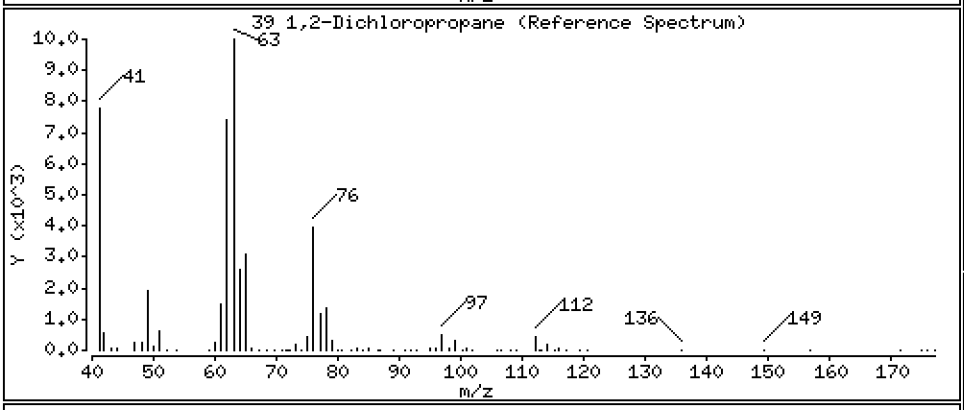
Column diameter: 0.18

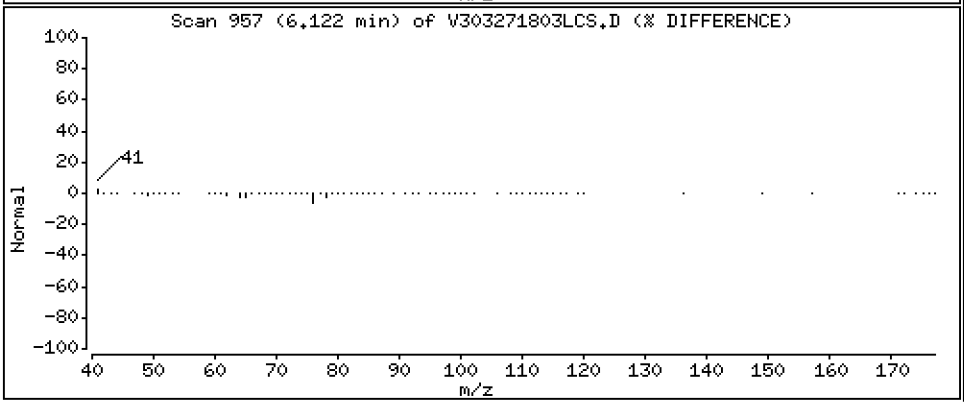
39 1,2-Dichloropropane

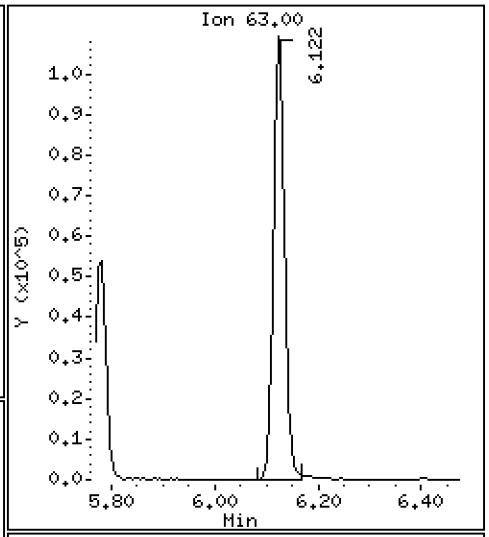
Concentration: 10.044 ug/L

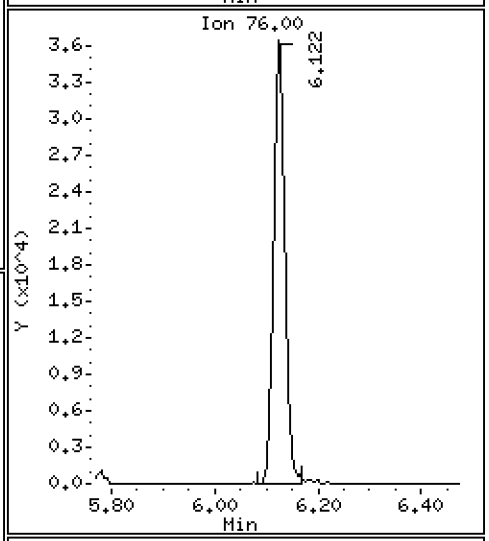


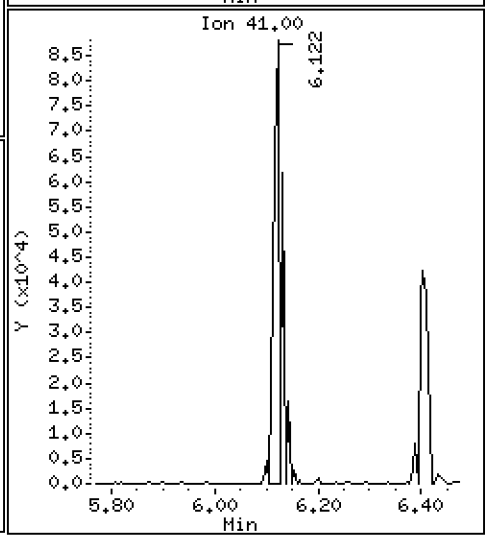












Date : 27-MAR-2018 09:15

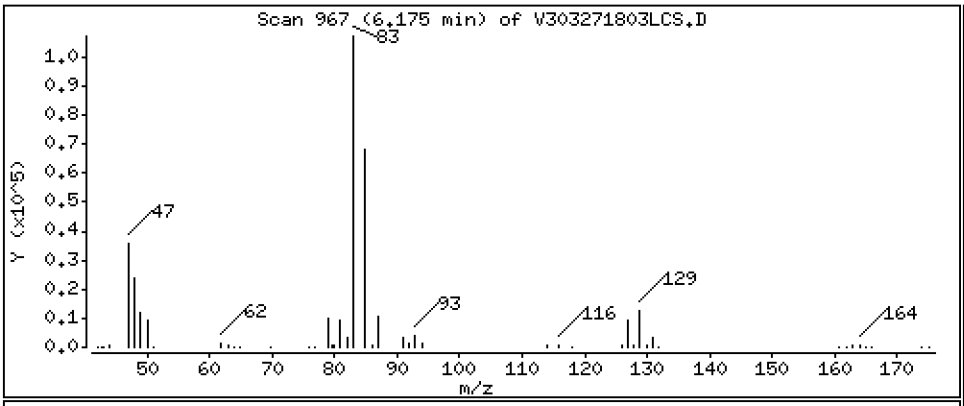
Client ID: VOA Instrument: nt3.i

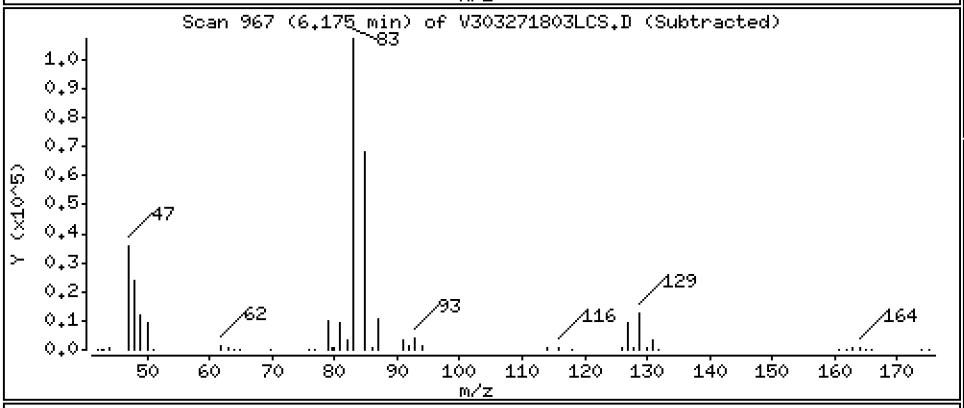
Sample Info: BGC0717-BS1

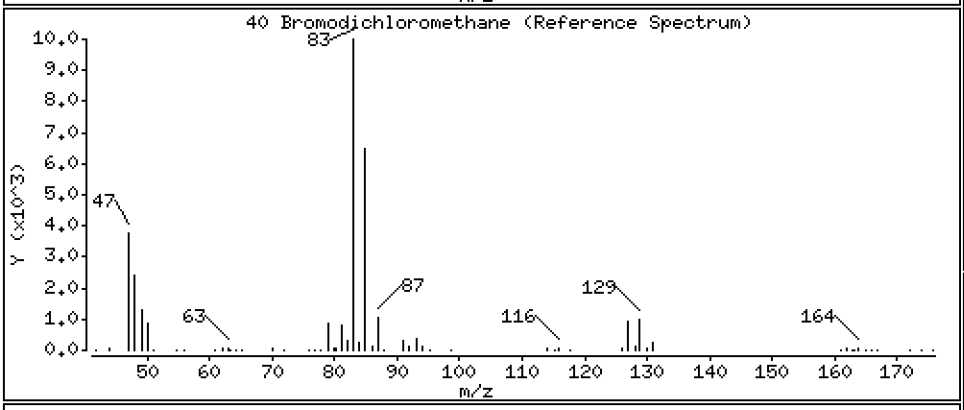
Operator: PKC

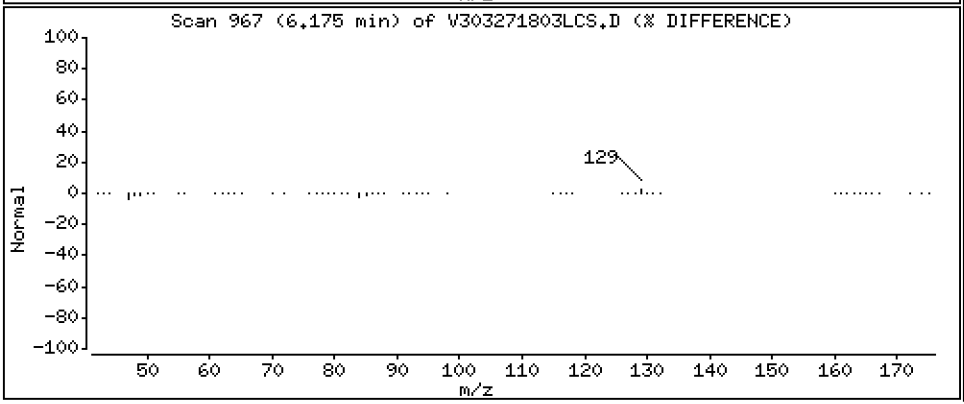
Column phase: RTXVMS Column diameter: 0.18

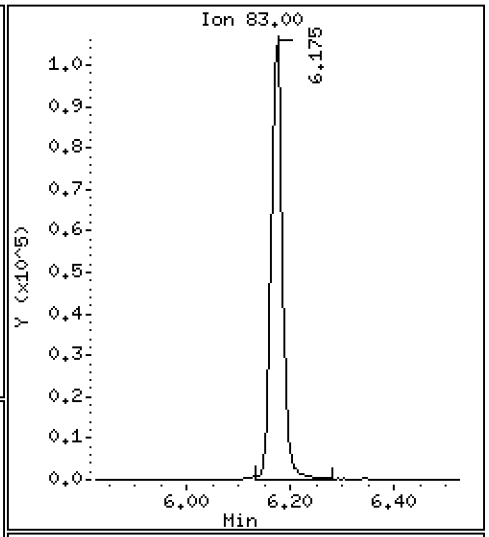
40 Bromodichloromethane Concentration: 9.943 ug/L

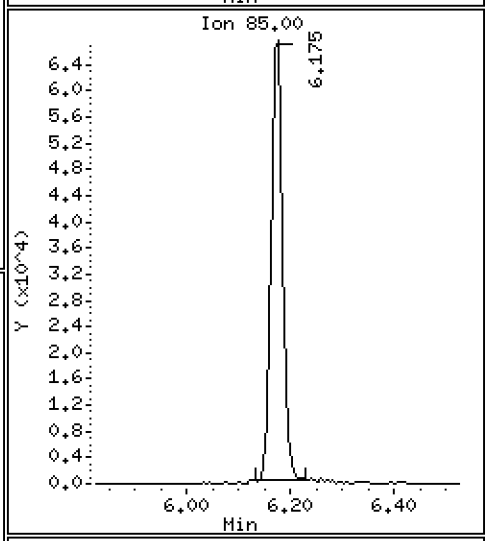


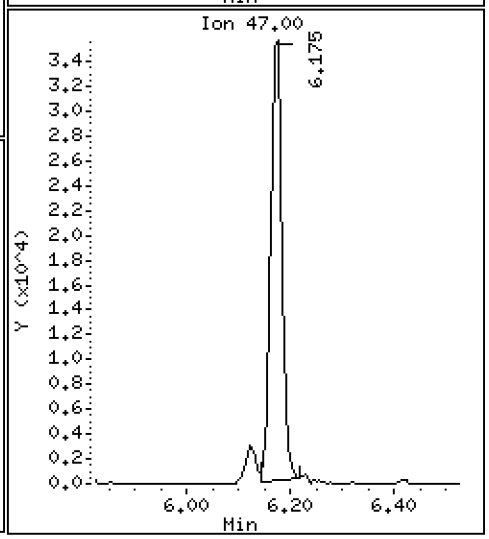












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

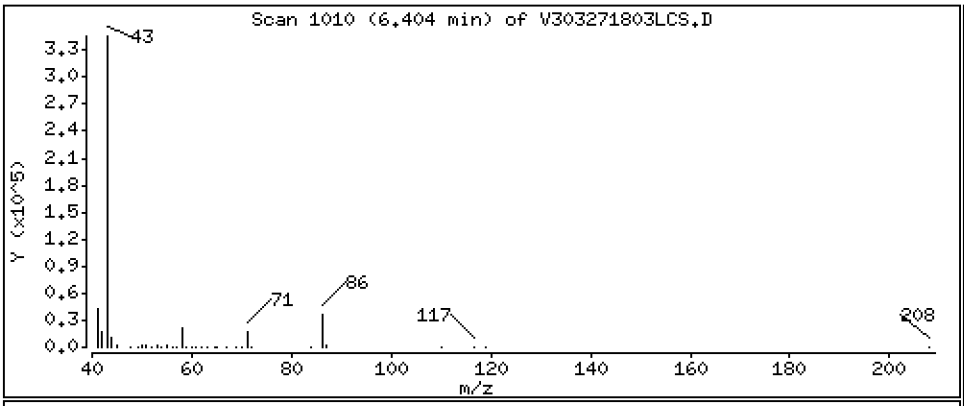
Operator: PKC

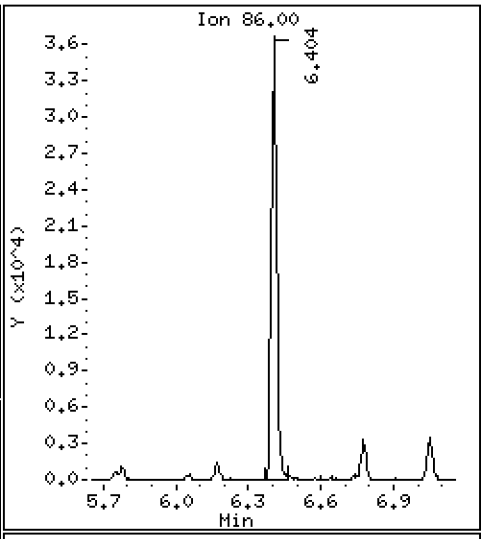
Column phase: RTXVMS

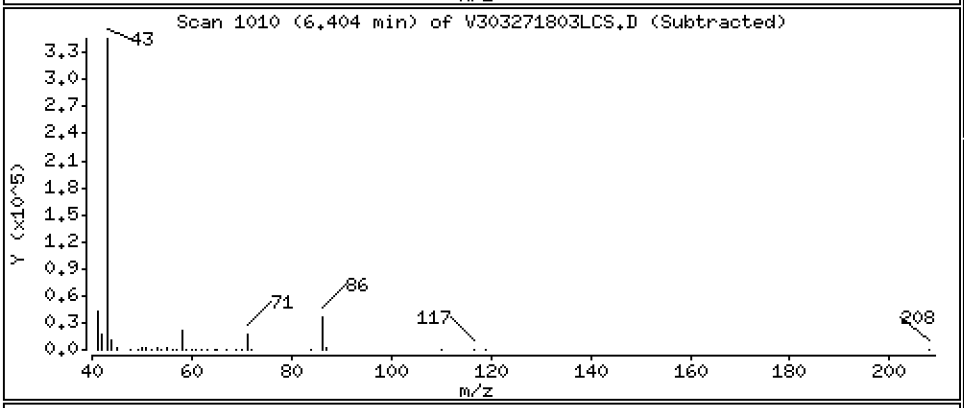
Column diameter: 0.18

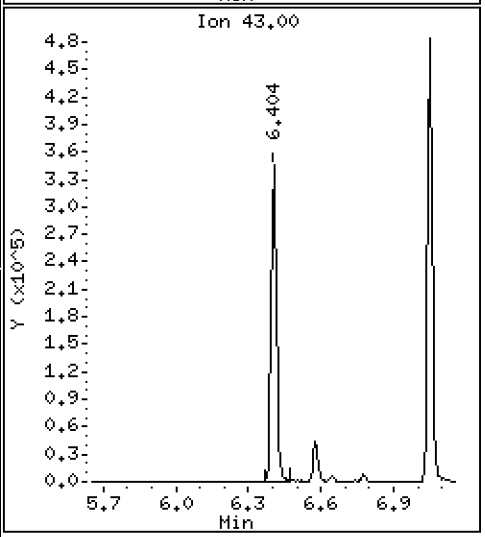
173 2-Pentanone

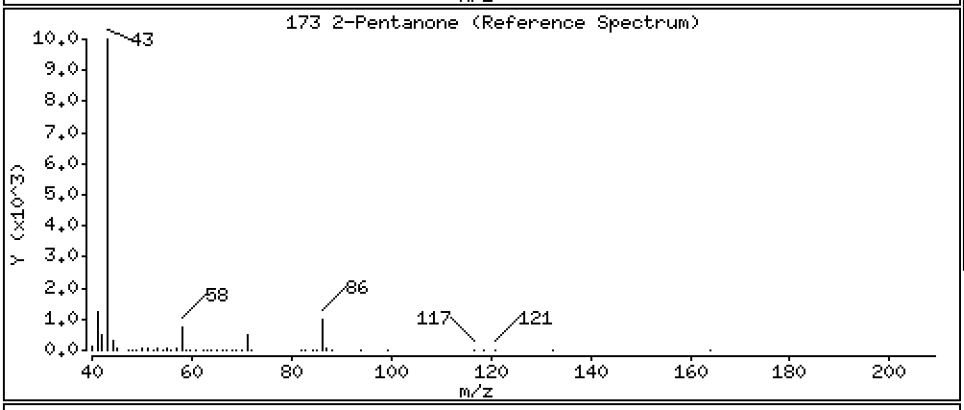
Concentration: 48.521 ug/L

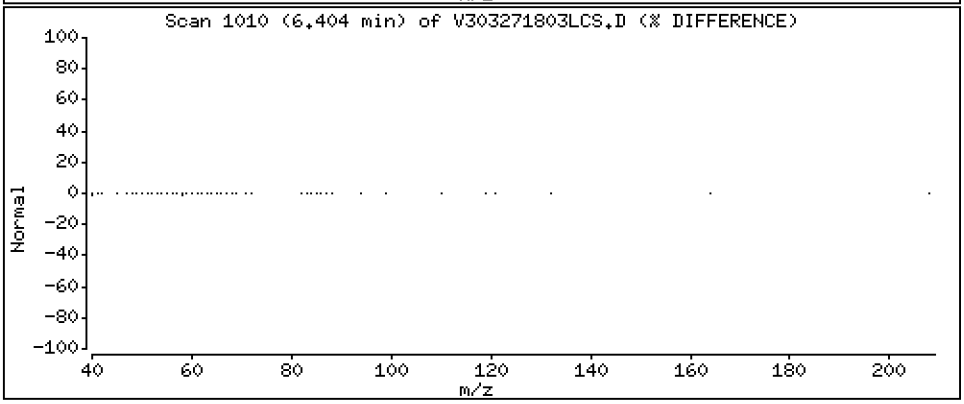












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

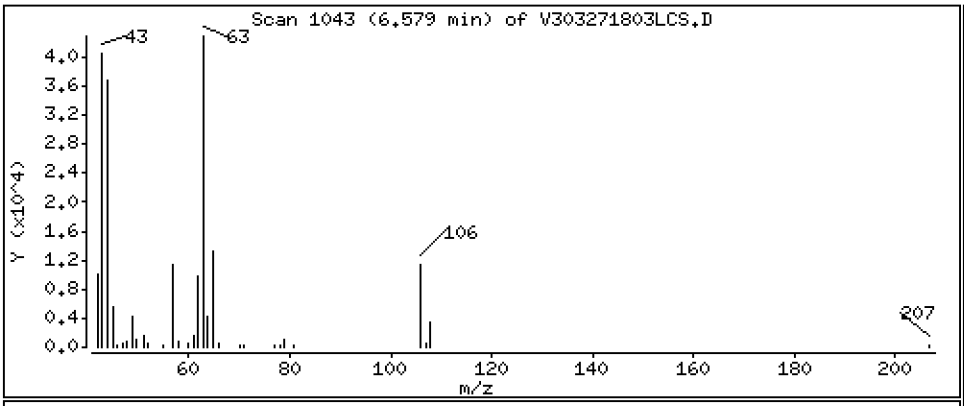
Operator: PKC

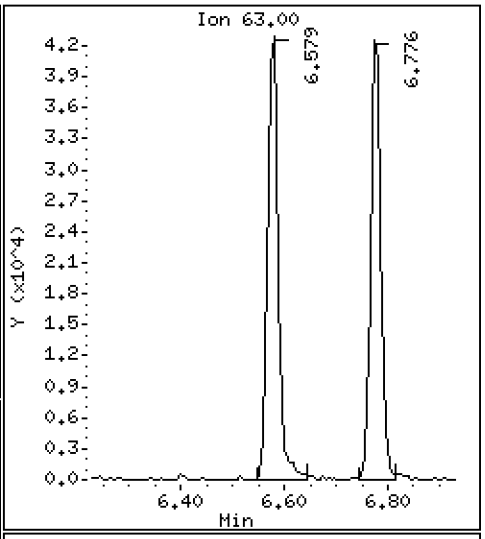
Column phase: RTXVMS

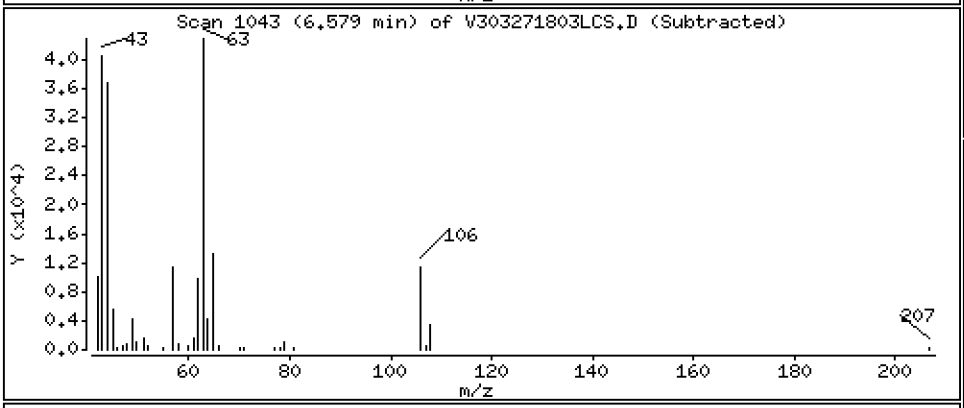
Column diameter: 0.18

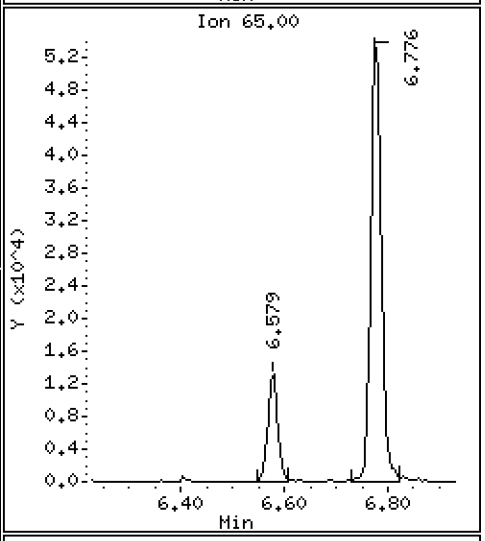
41 2-Chloroethyl Vinyl Ether

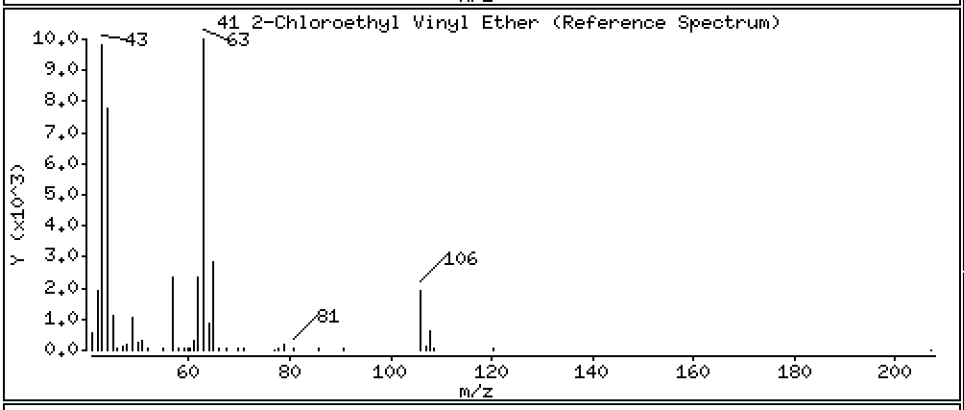
Concentration: 8.792 ug/L

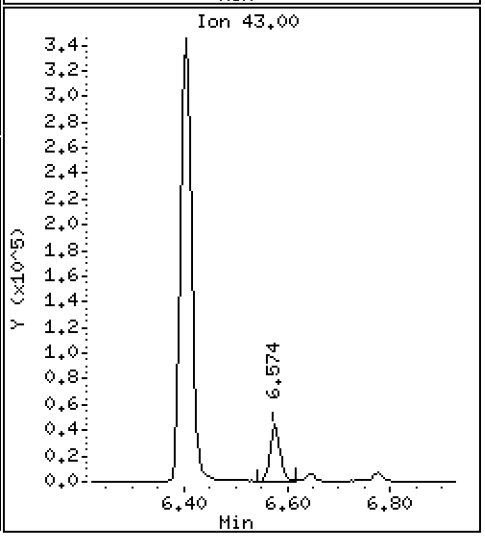


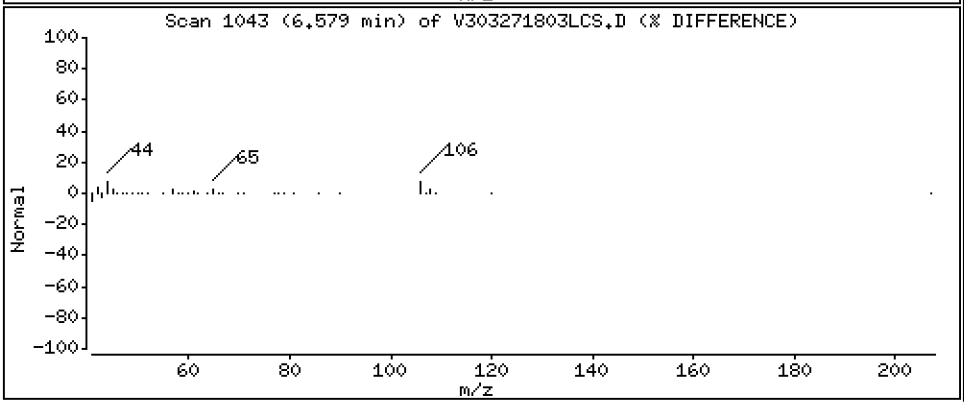












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

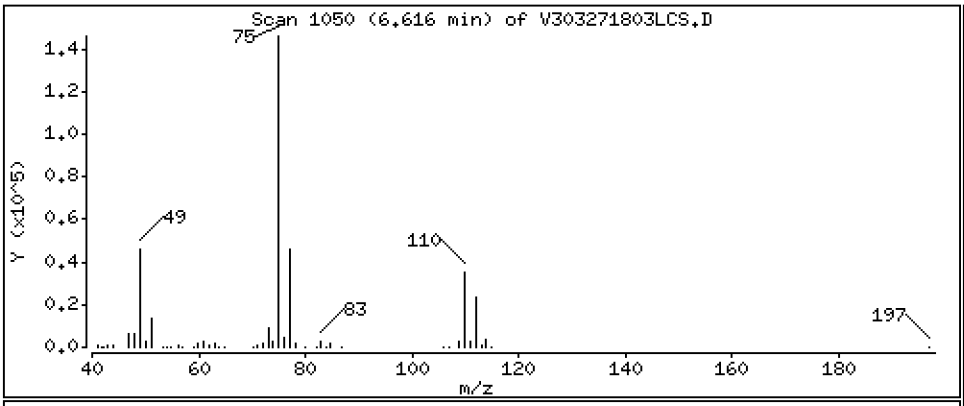
Operator: PKC

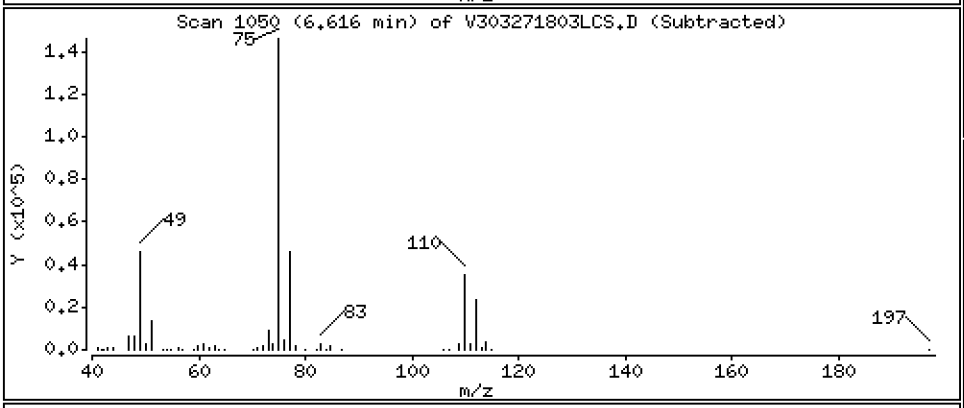
Column phase: RTXVMS

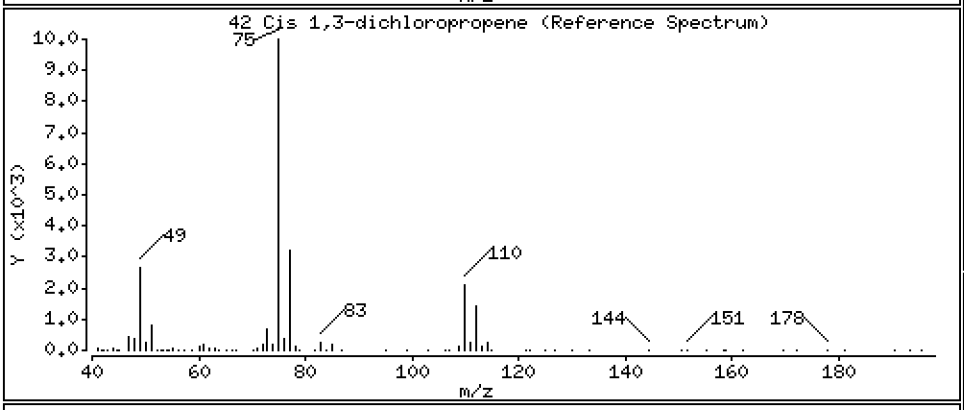
Column diameter: 0.18

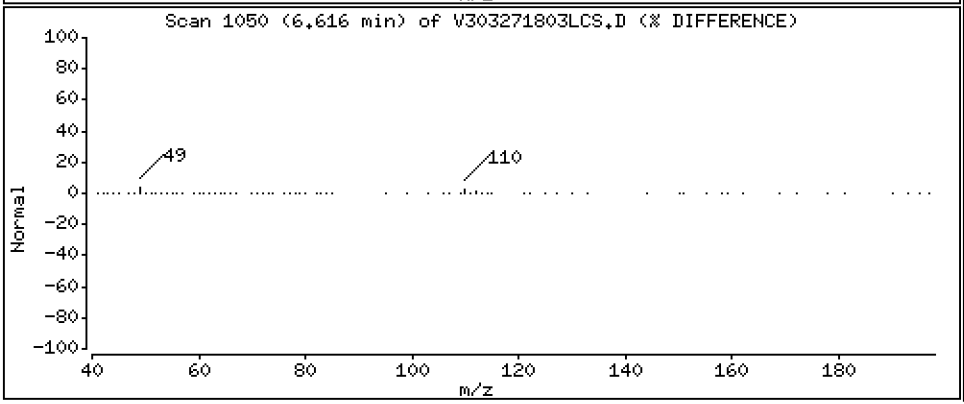
42 Cis 1,3-dichloropropene

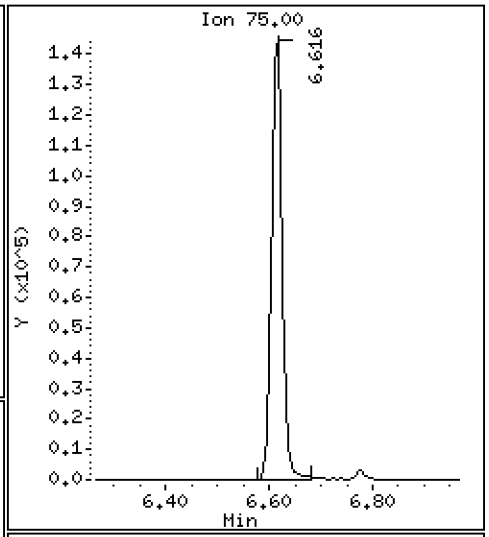
Concentration: 10.342 ug/L

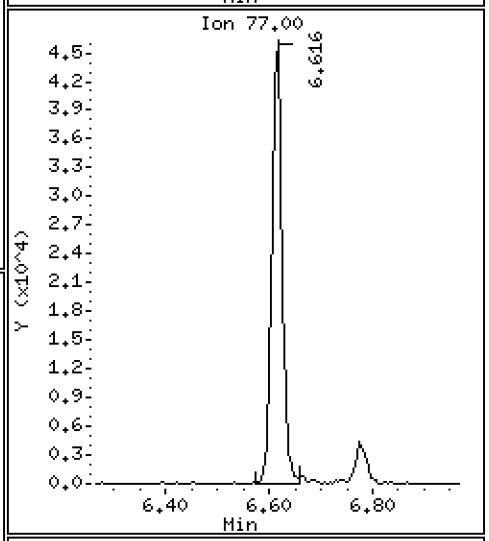


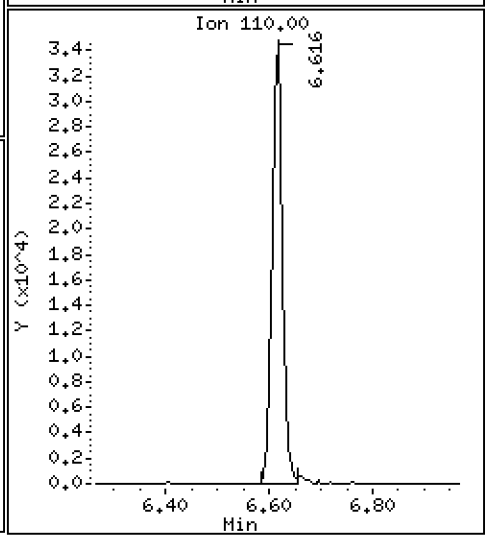












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

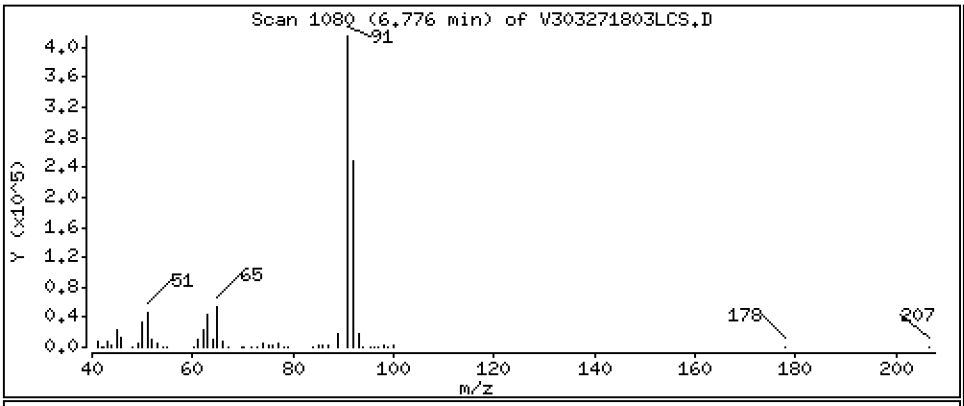
Operator: PKC

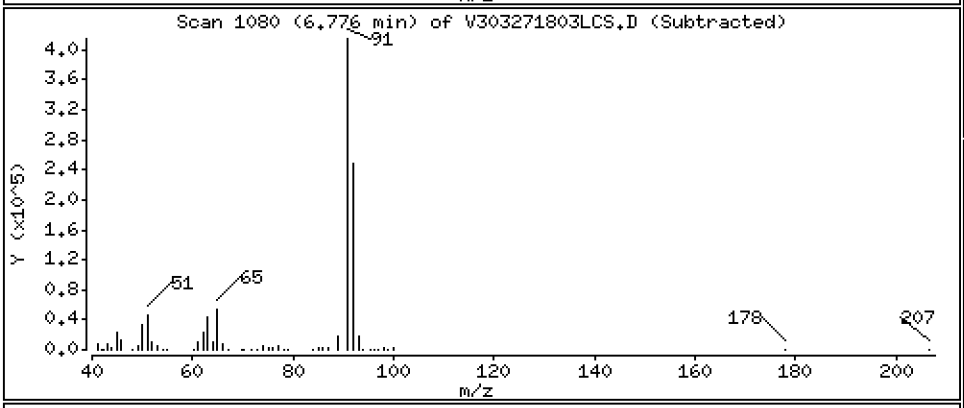
Column phase: RTXVMS

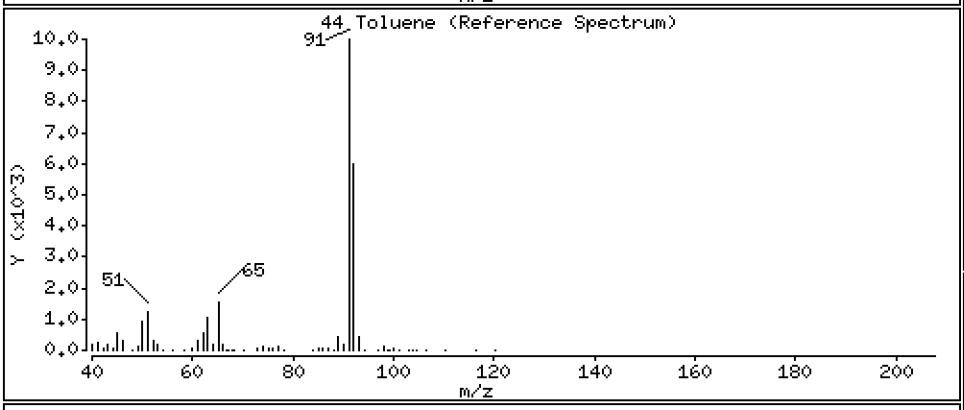
Column diameter: 0.18

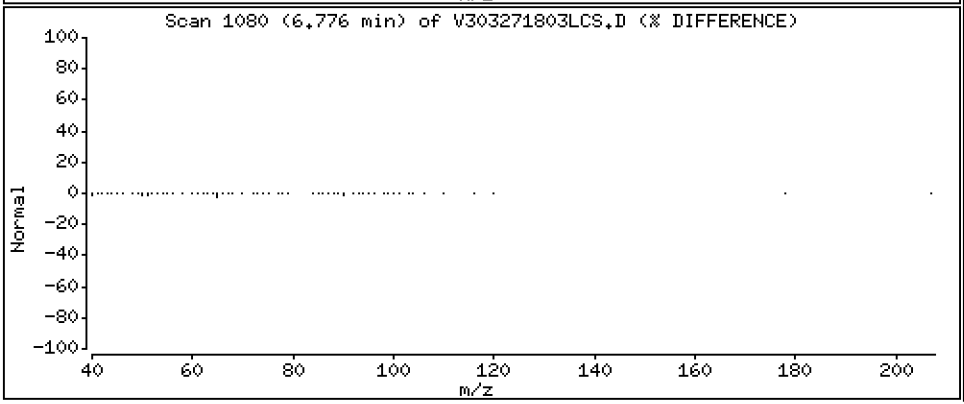
44 Toluene

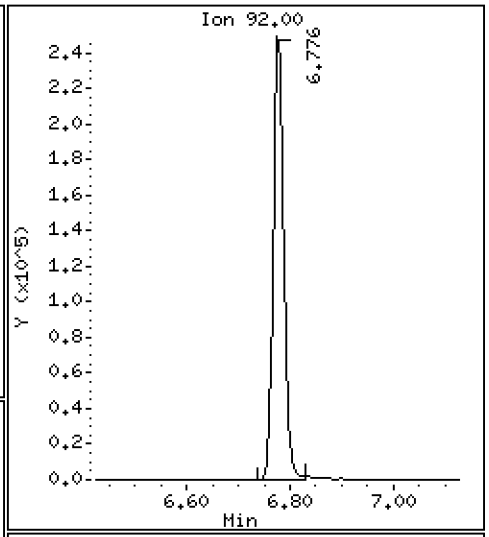
Concentration: 10.141 ug/L

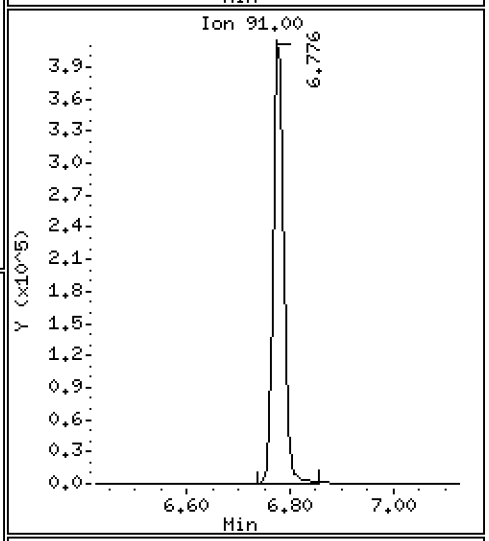


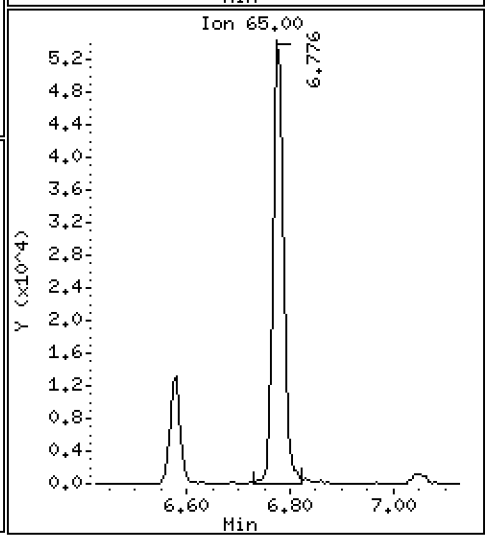












Date : 27-MAR-2018 09:15

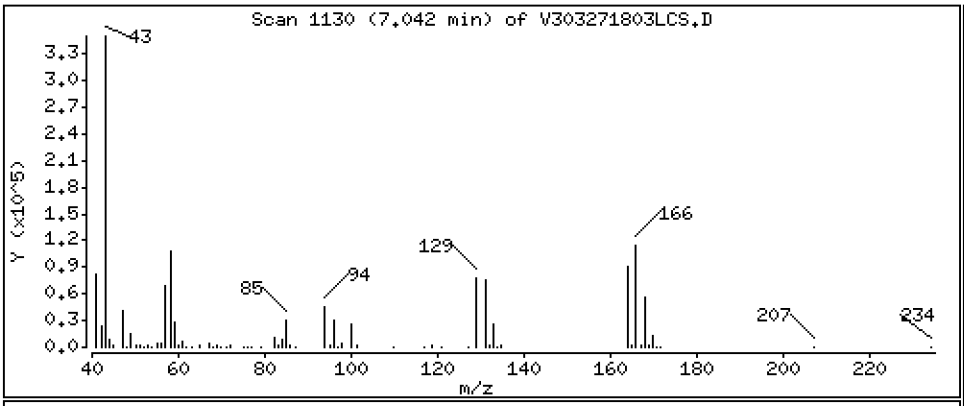
Client ID: VOA Instrument: nt3.i

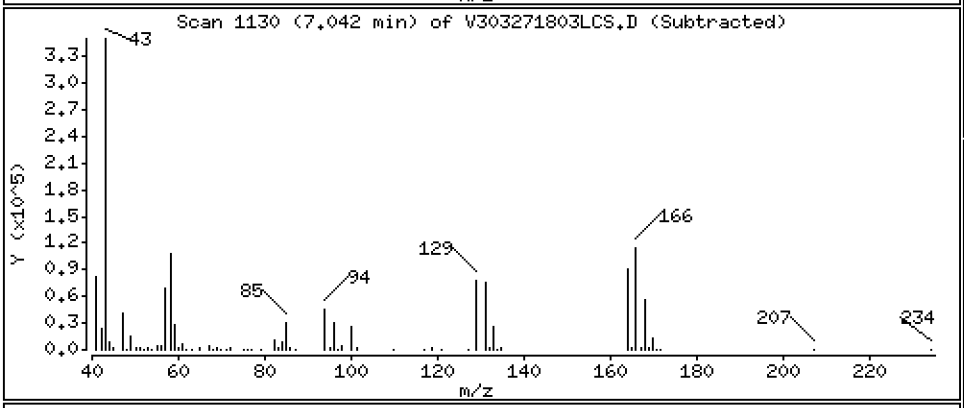
Sample Info: BGC0717-BS1

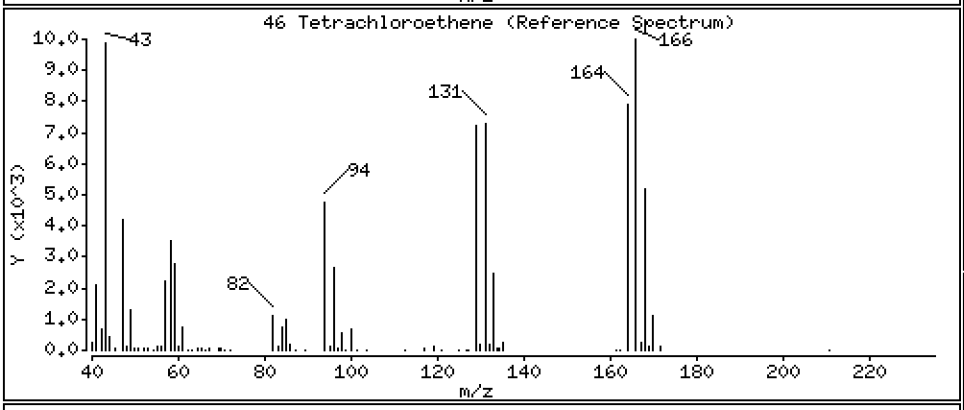
Operator: PKC

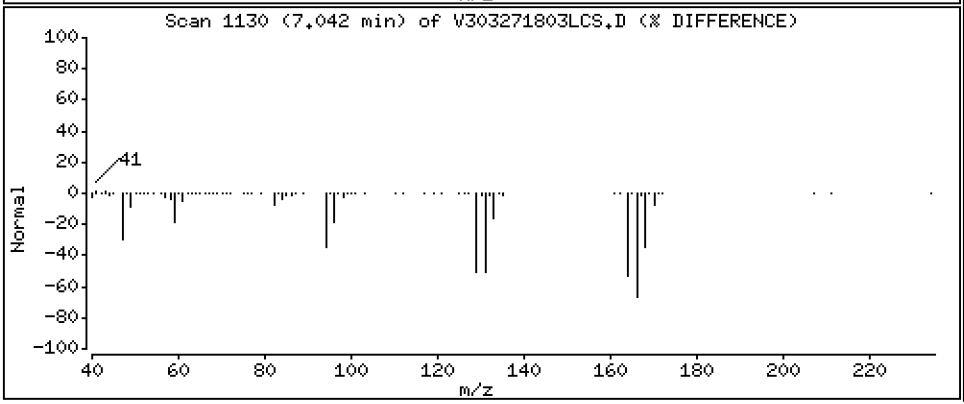
Column phase: RTXVMS Column diameter: 0.18

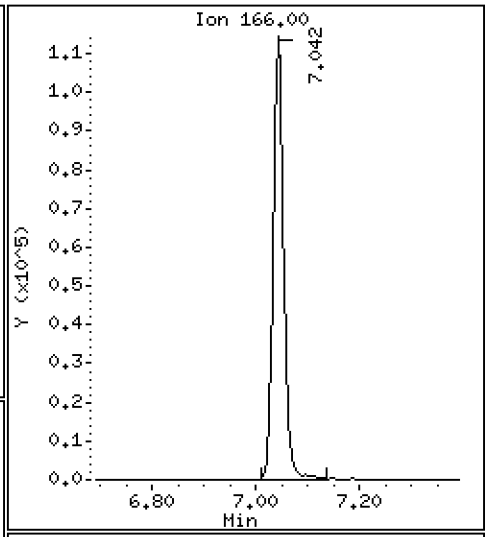
46 Tetrachloroethene Concentration: 10.124 ug/L

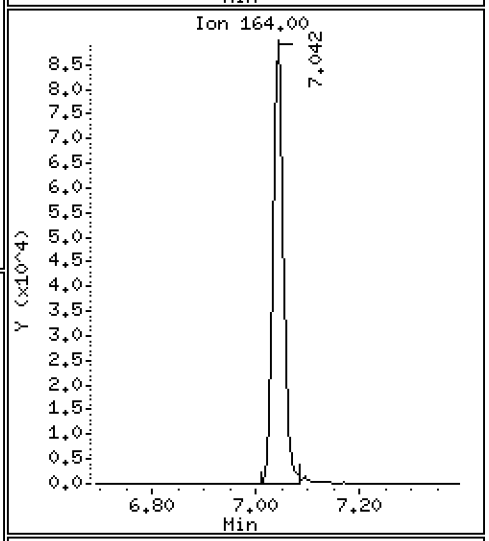


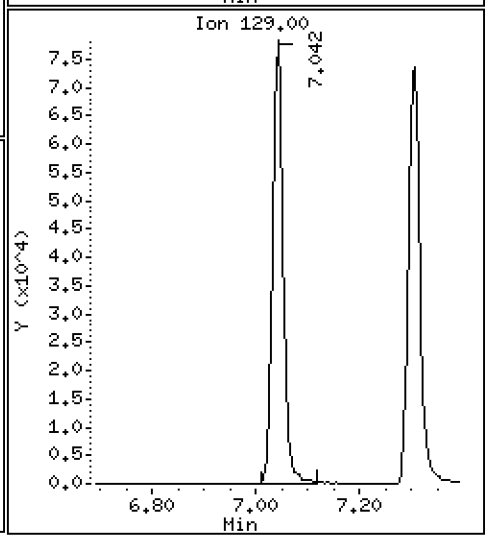












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

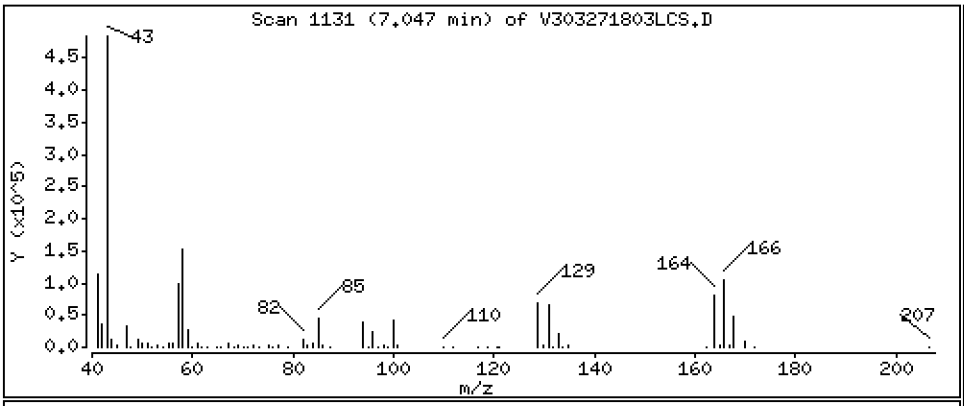
Operator: PKC

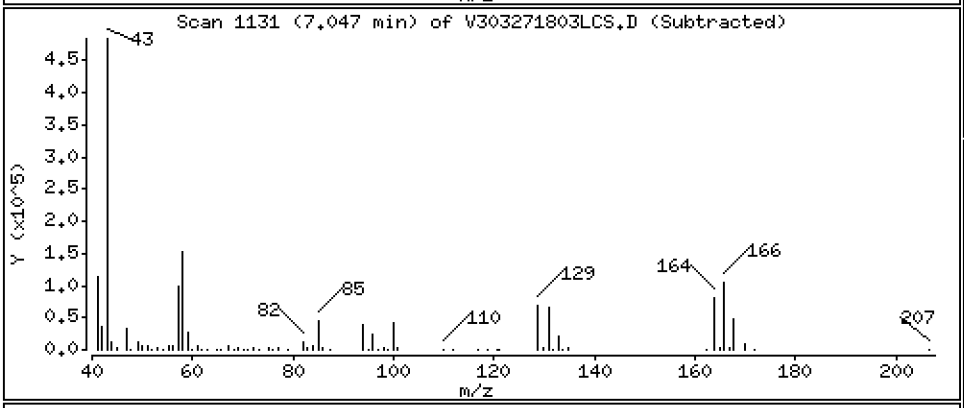
Column phase: RTXVMS

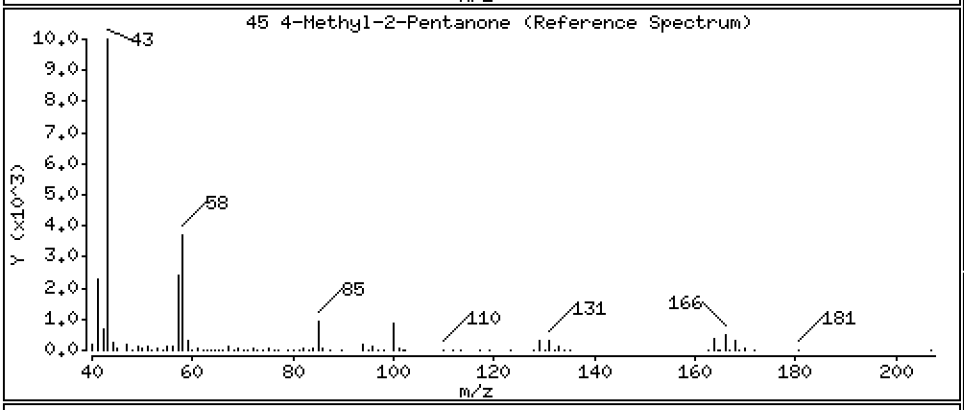
Column diameter: 0.18

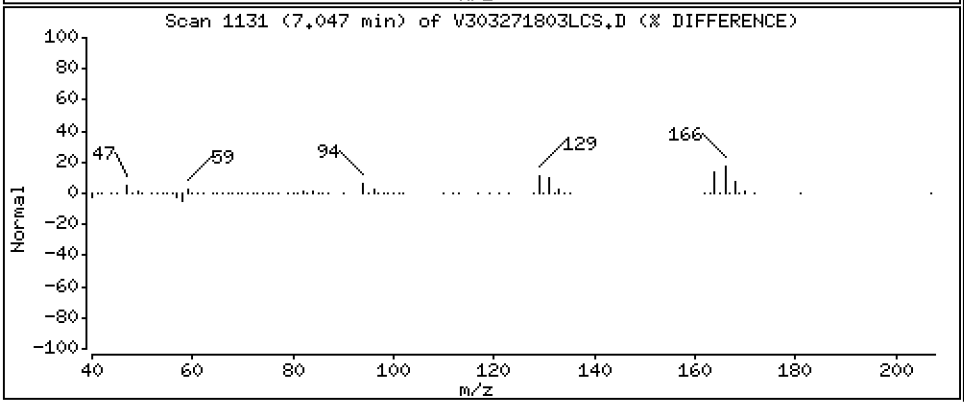
45 4-Methyl-2-Pentanone

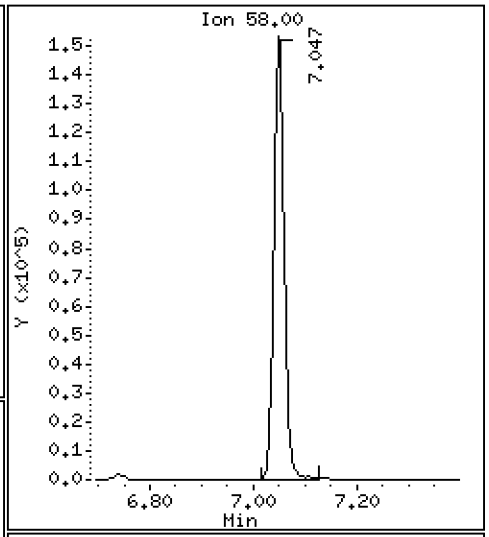
Concentration: 48.523 ug/L

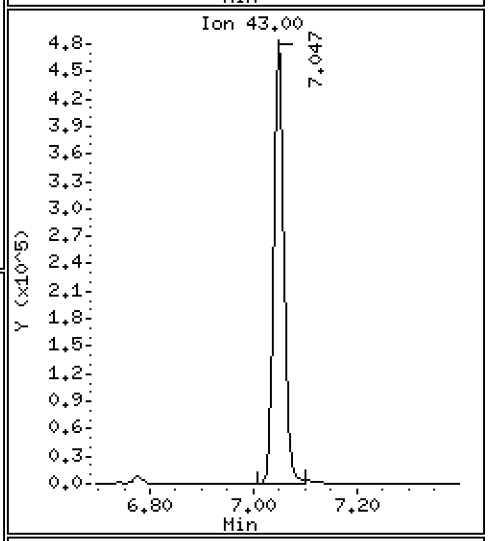


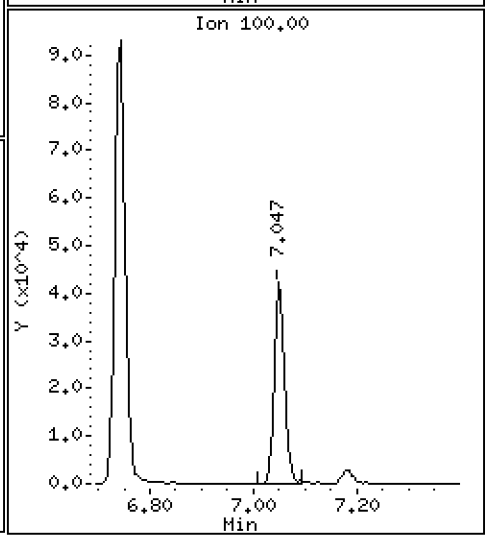












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

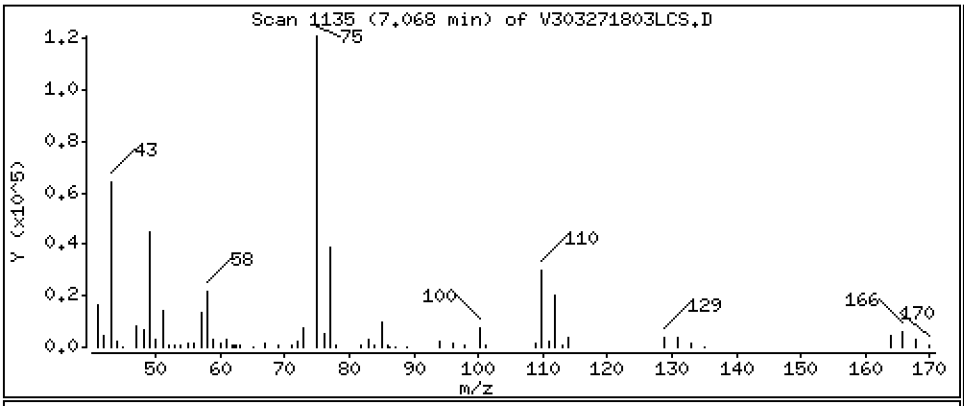
Operator: PKC

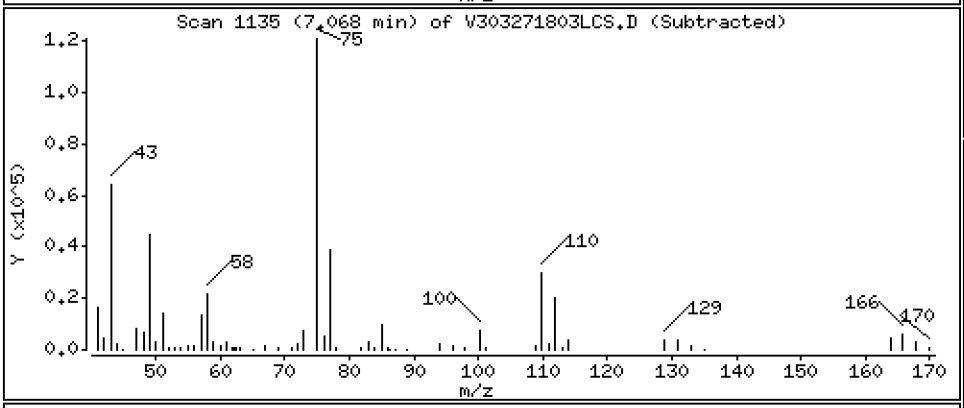
Column phase: RTXVMS

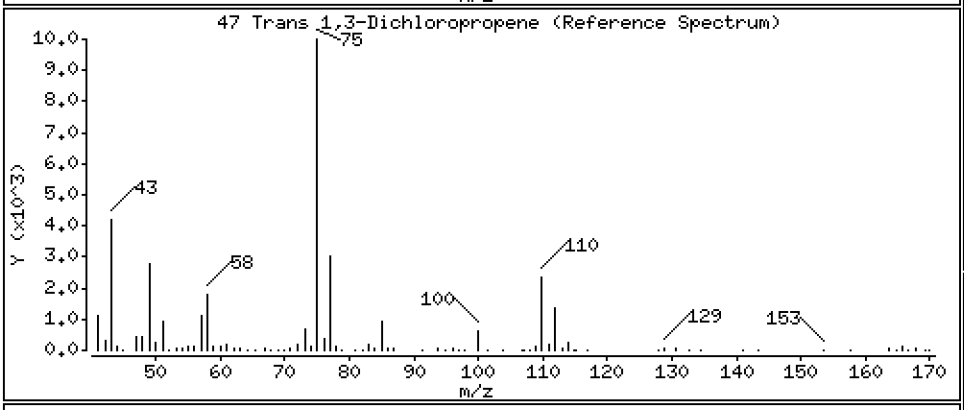
Column diameter: 0.18

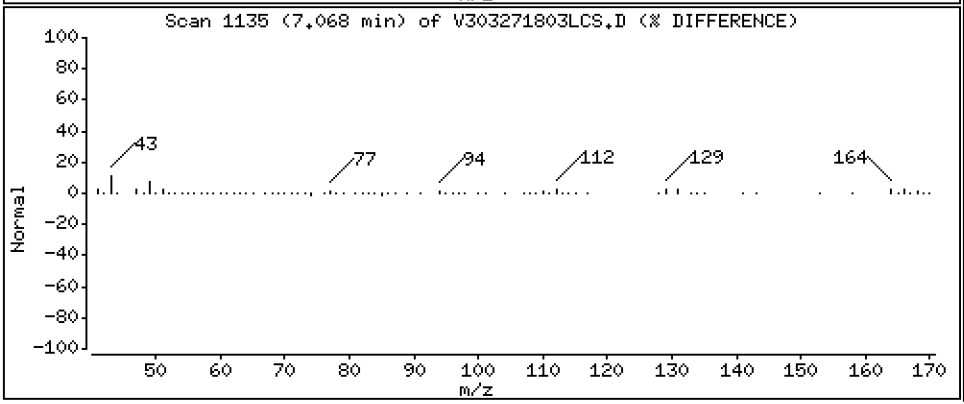
47 Trans 1,3-Dichloropropene

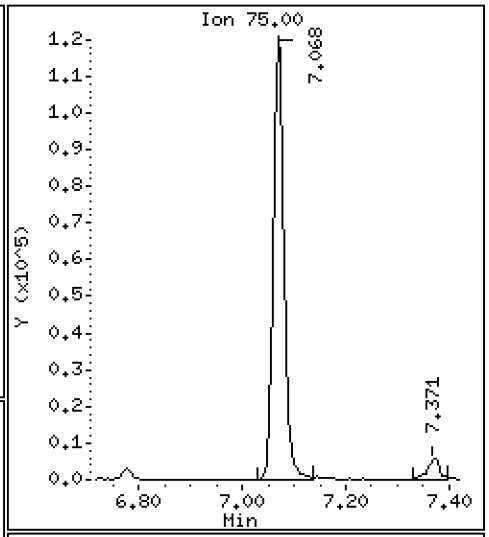
Concentration: 10.805 ug/L

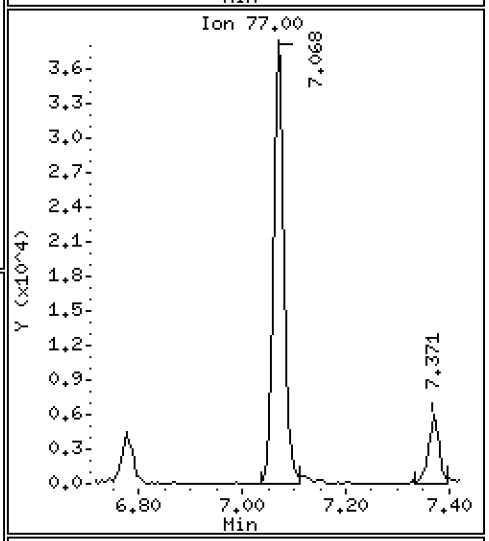


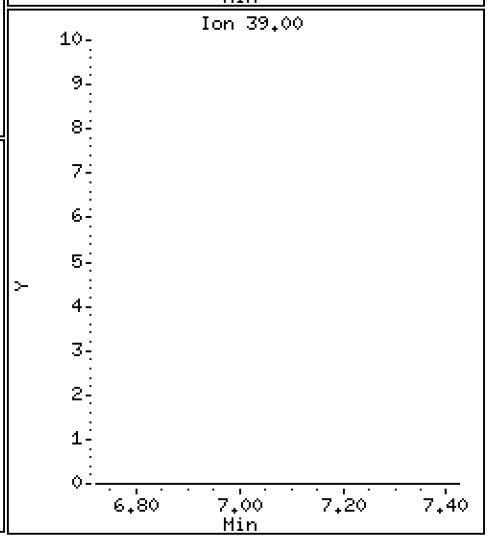












Date : 27-MAR-2018 09:15

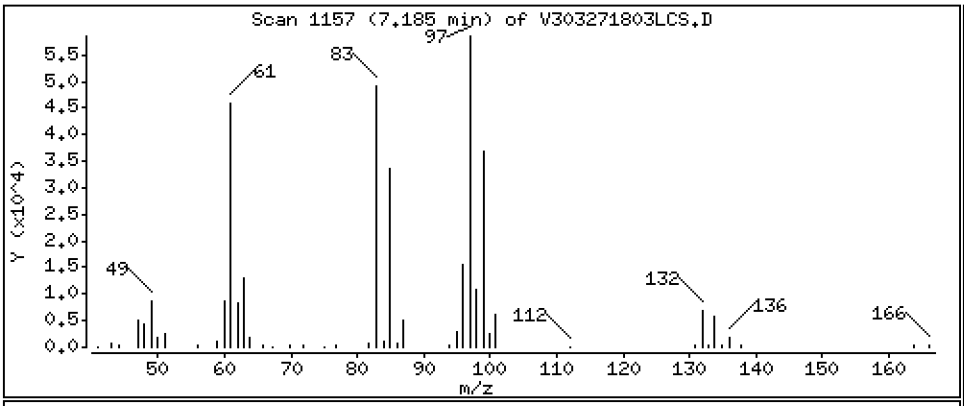
Client ID: VOA Instrument: nt3.i

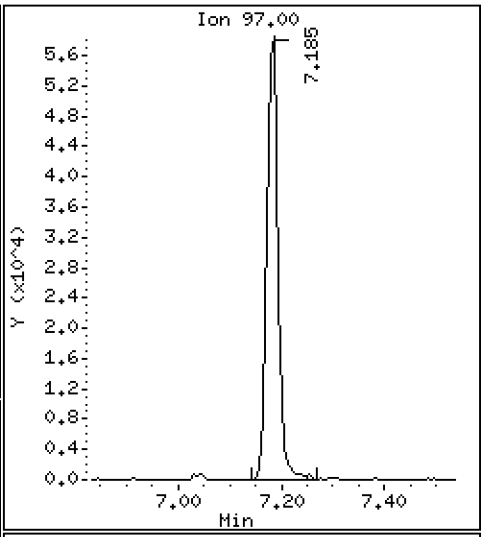
Sample Info: BGC0717-BS1

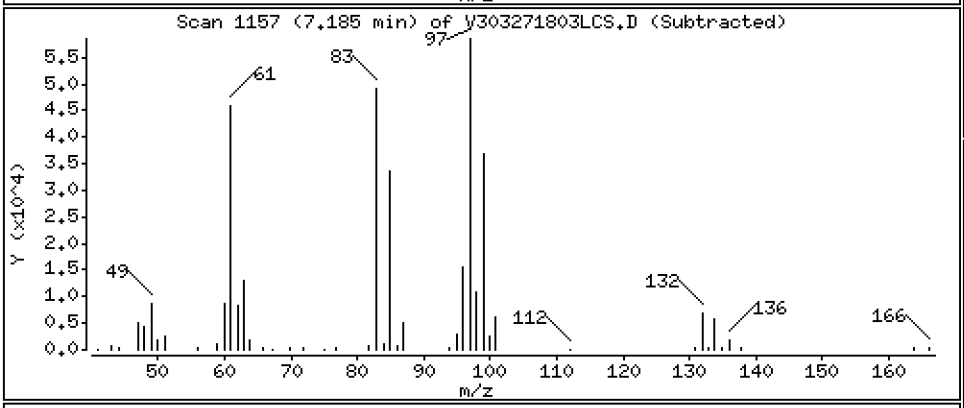
Operator: PKC

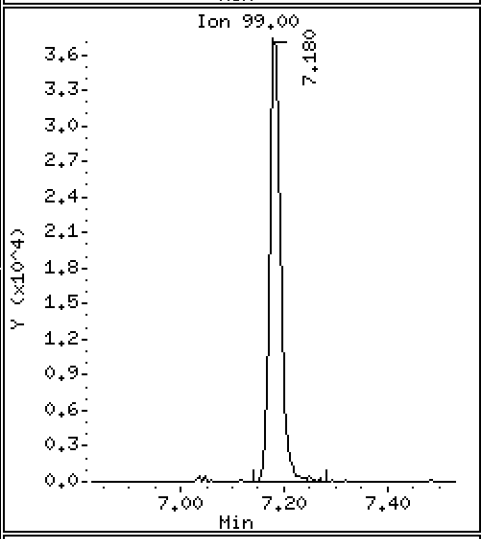
Column phase: RTXVMS Column diameter: 0.18

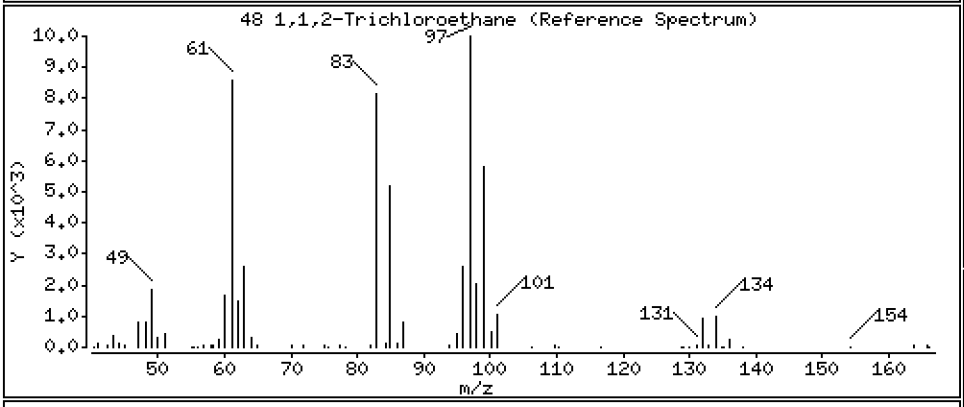
48 1,1,2-Trichloroethane Concentration: 9.784 ug/L

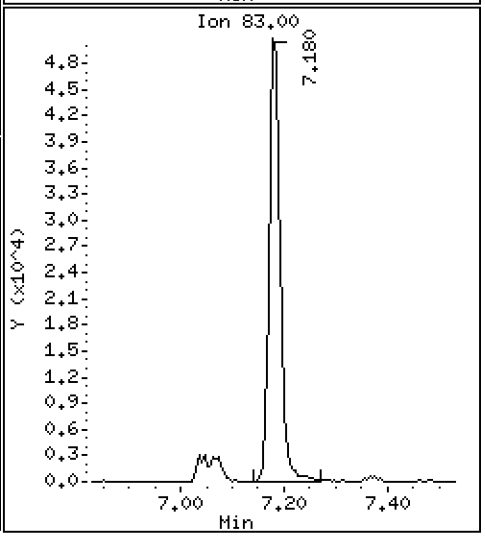


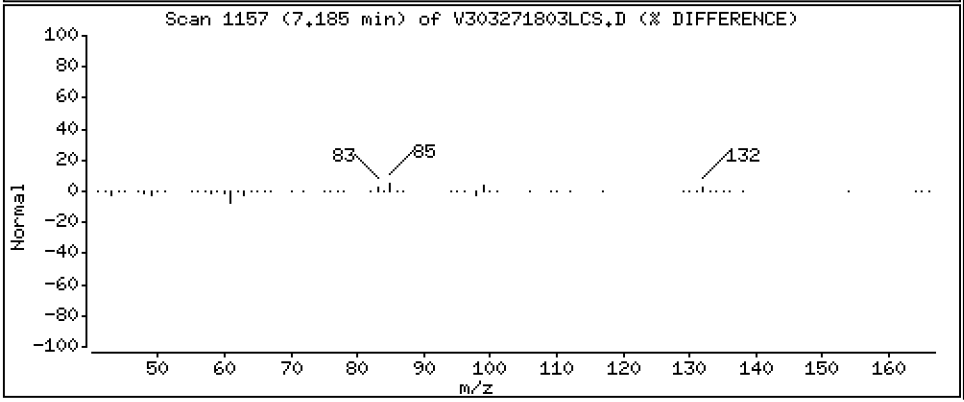












Date : 27-MAR-2018 09:15

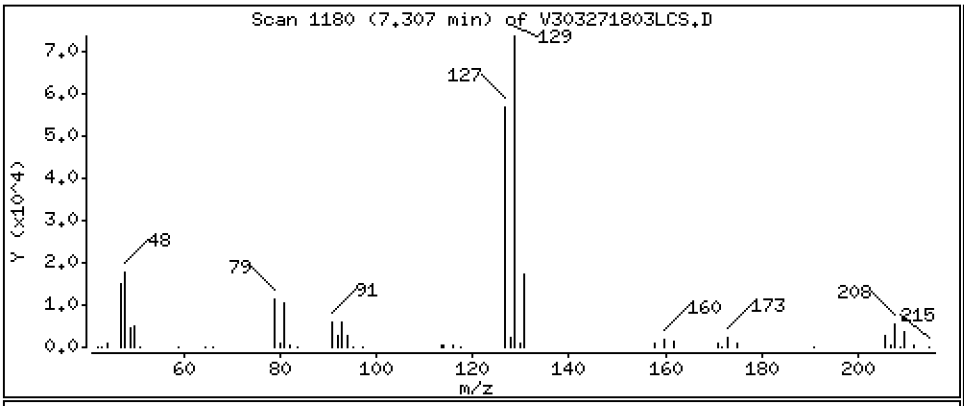
Client ID: VOA Instrument: nt3.i

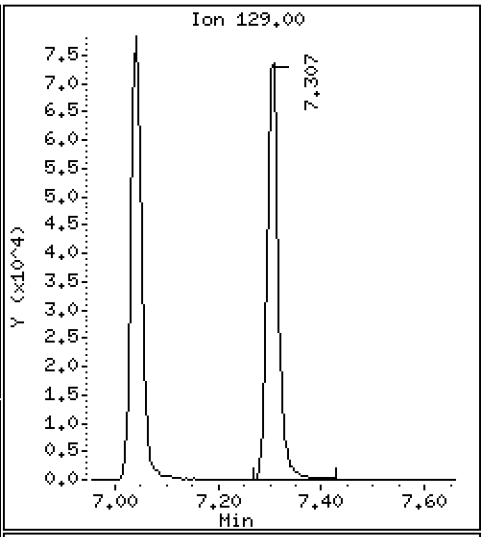
Sample Info: BGC0717-BS1

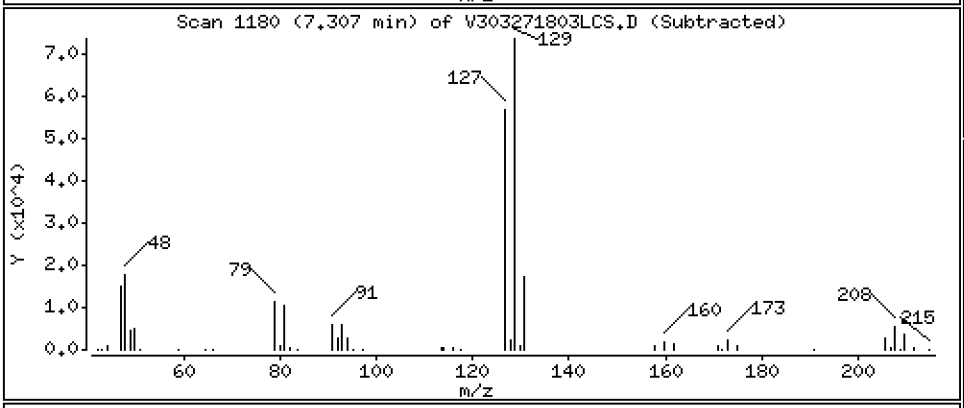
Operator: PKC

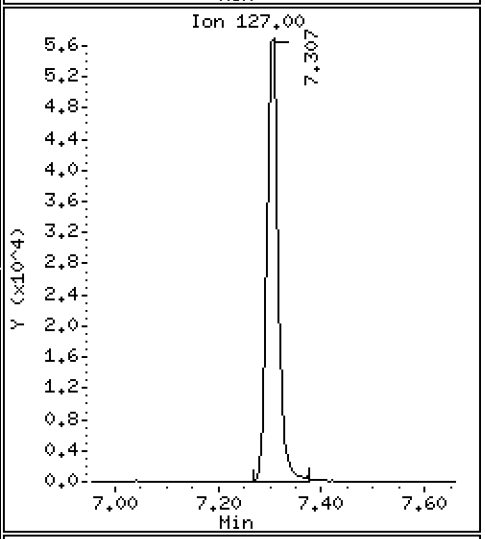
Column phase: RTXVMS Column diameter: 0.18

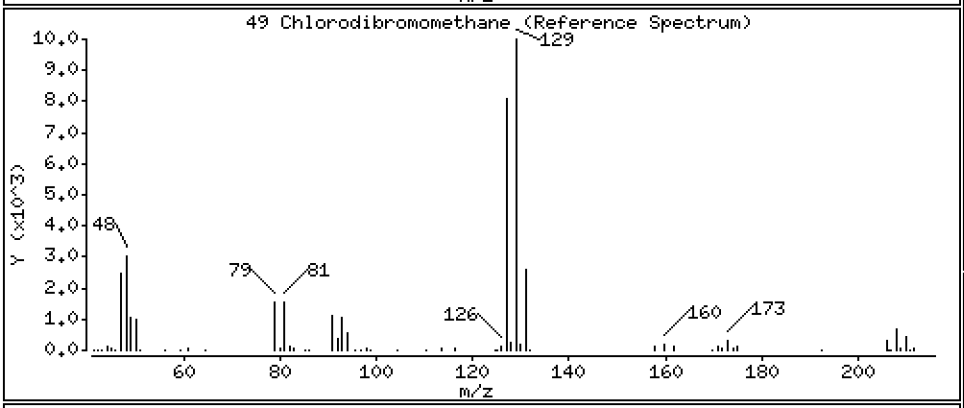
49 Chlorodibromomethane Concentration: 10.323 ug/L

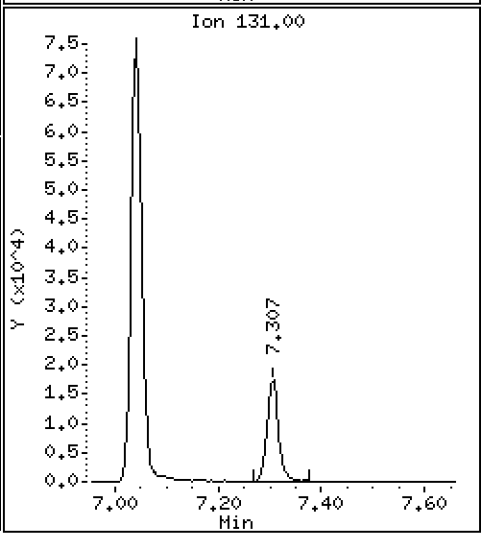


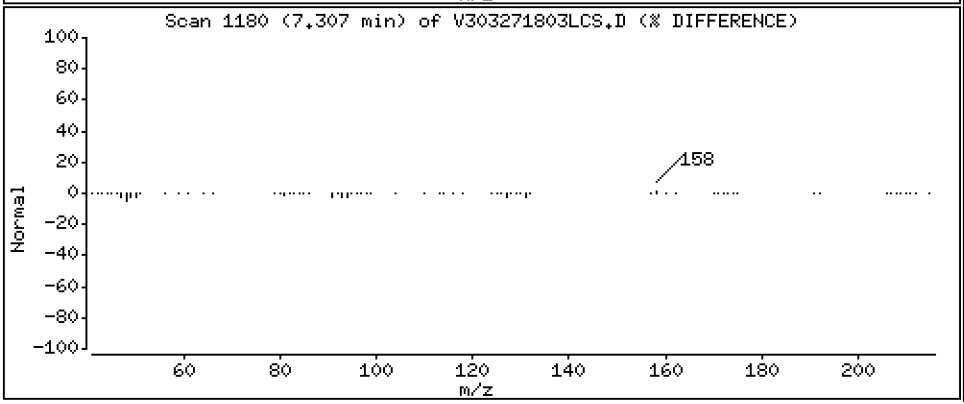












Date : 27-MAR-2018 09:15

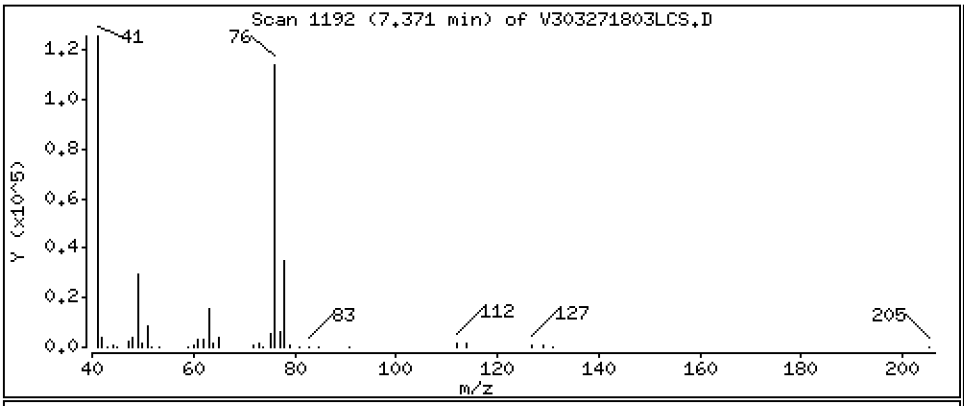
Client ID: VOA Instrument: nt3.i

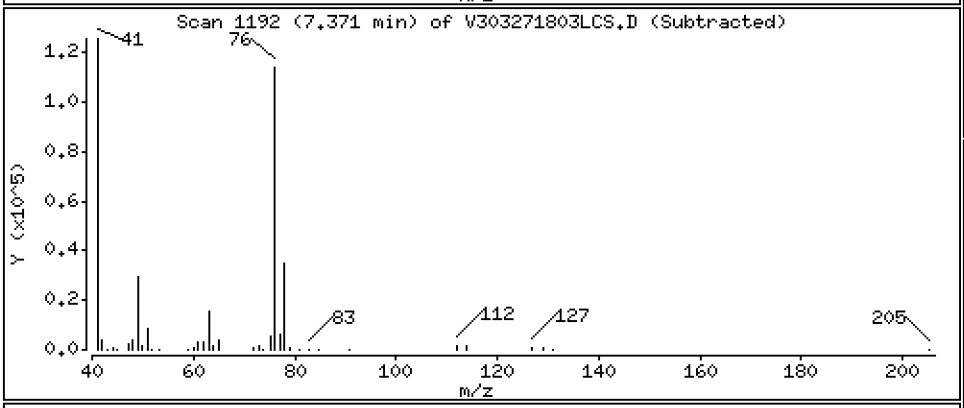
Sample Info: BGC0717-BS1

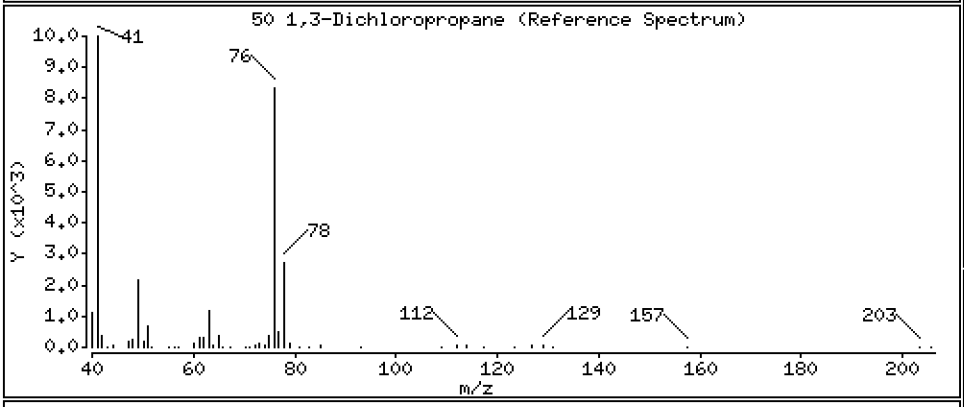
Operator: PKC

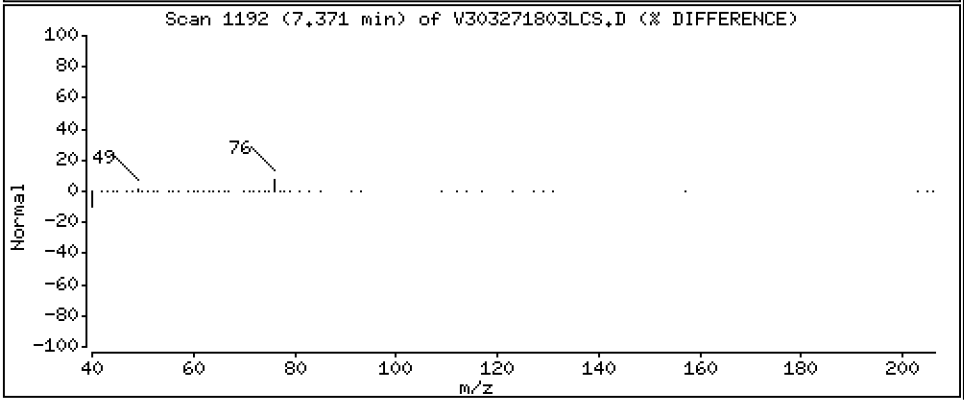
Column phase: RTXVMS Column diameter: 0.18

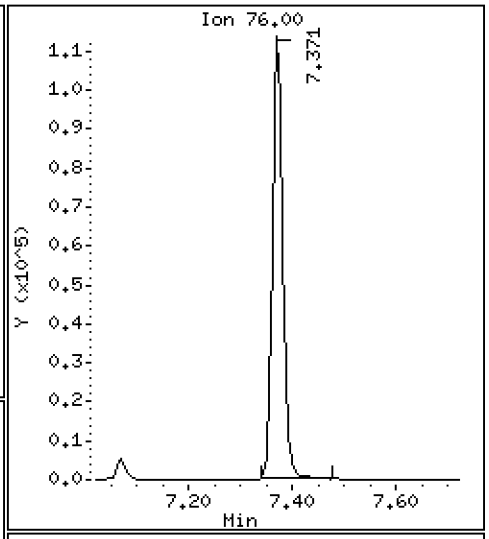
50 1,3-Dichloropropane Concentration: 9.655 ug/L

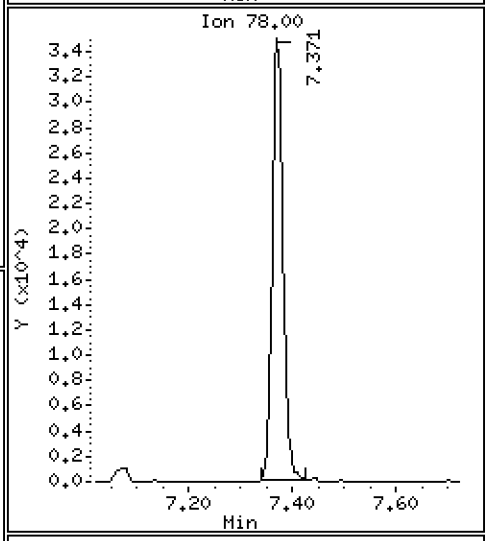


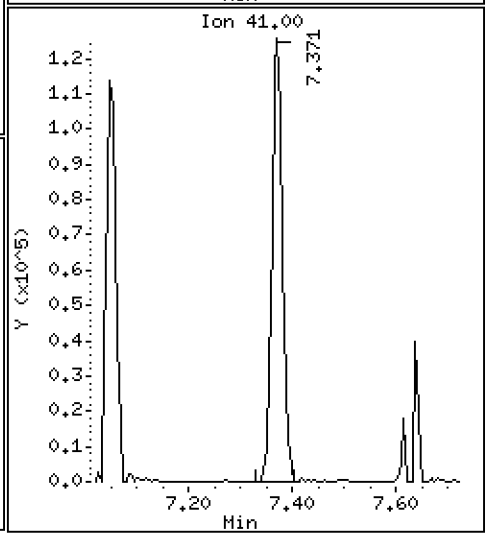












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

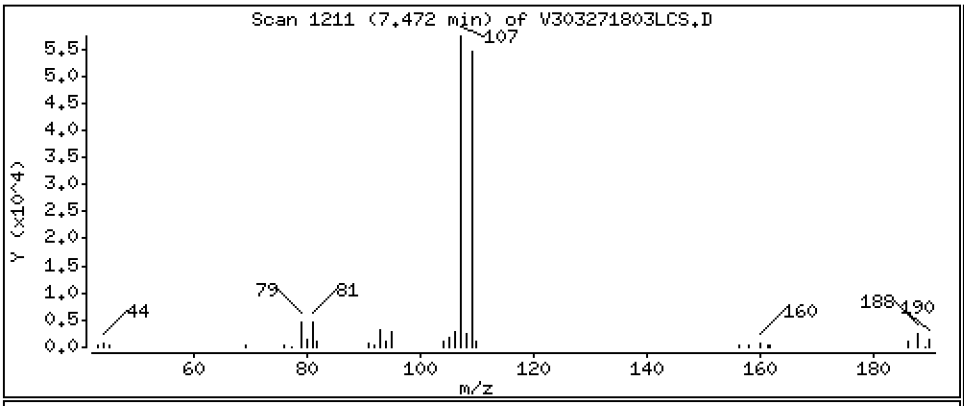
Operator: PKC

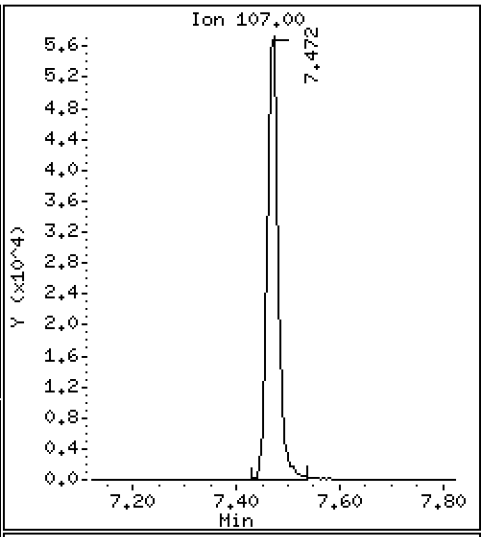
Column phase: RTXVMS

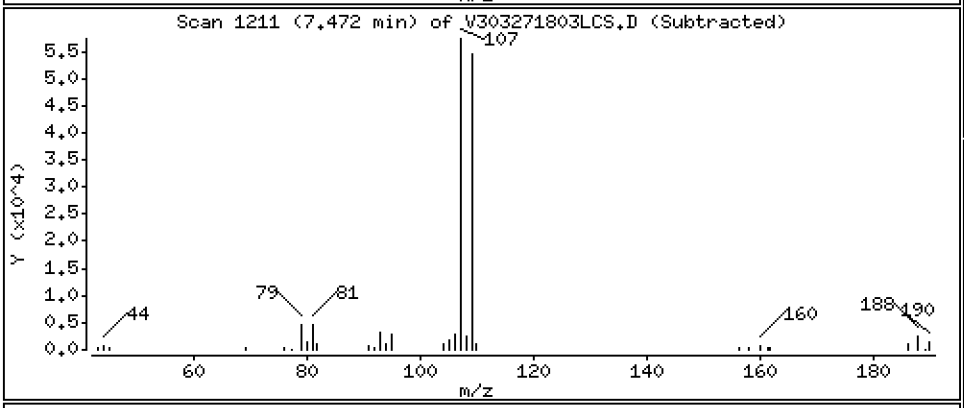
Column diameter: 0.18

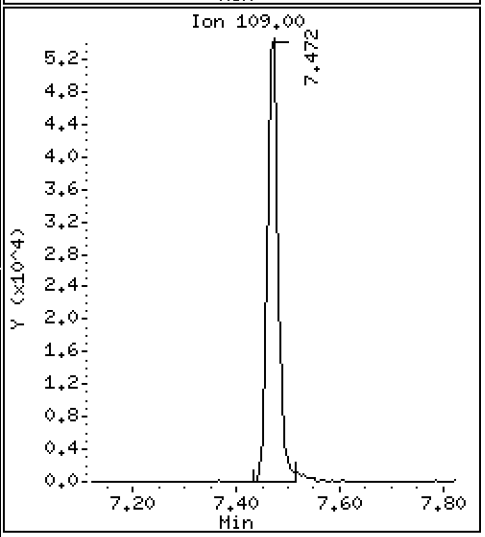
51 1,2-Dibromoethane

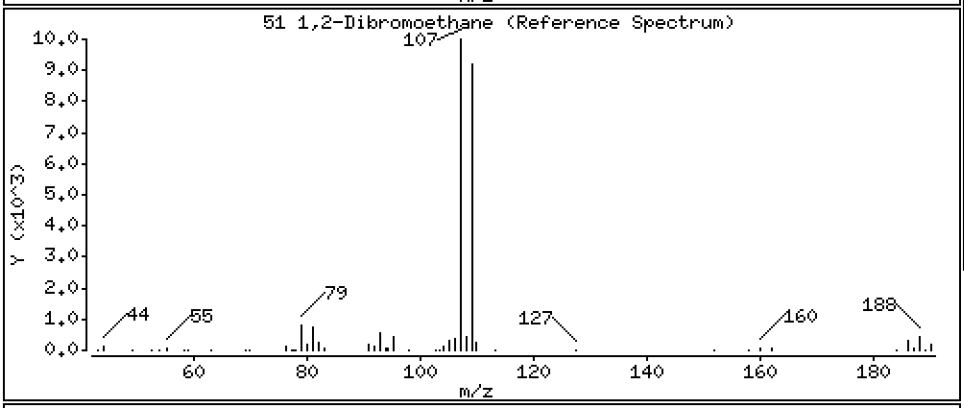
Concentration: 10.046 ug/L

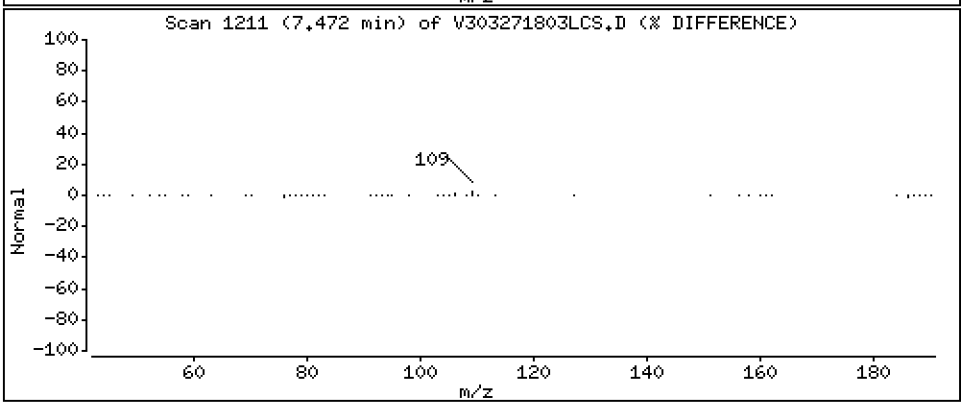












Date : 27-MAR-2018 09:15

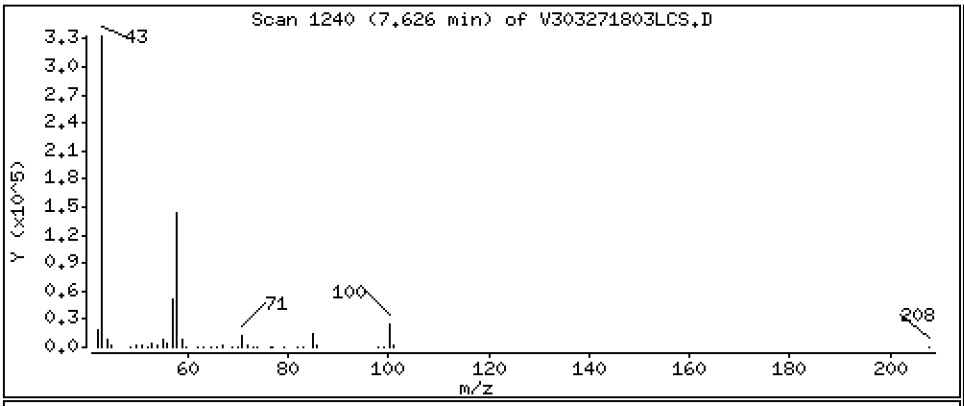
Client ID: VOA Instrument: nt3.i

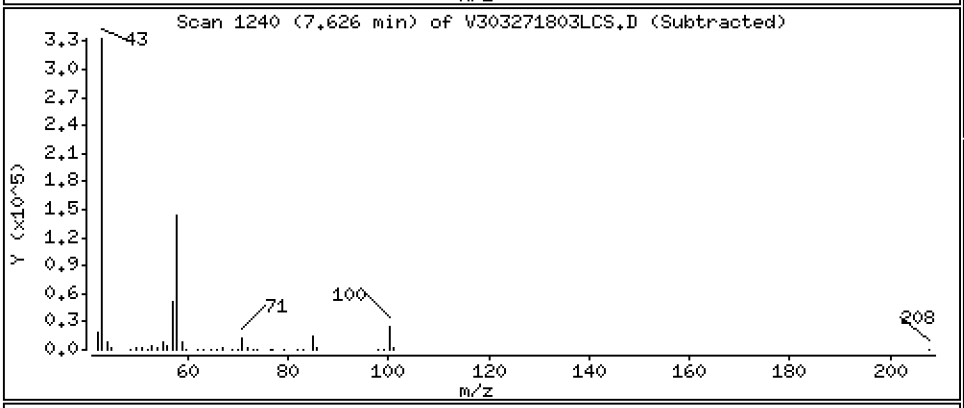
Sample Info: BGC0717-BS1

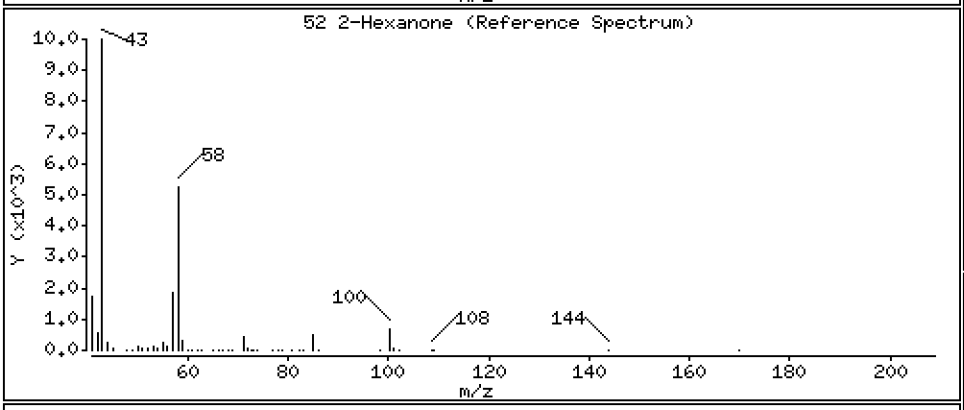
Operator: PKC

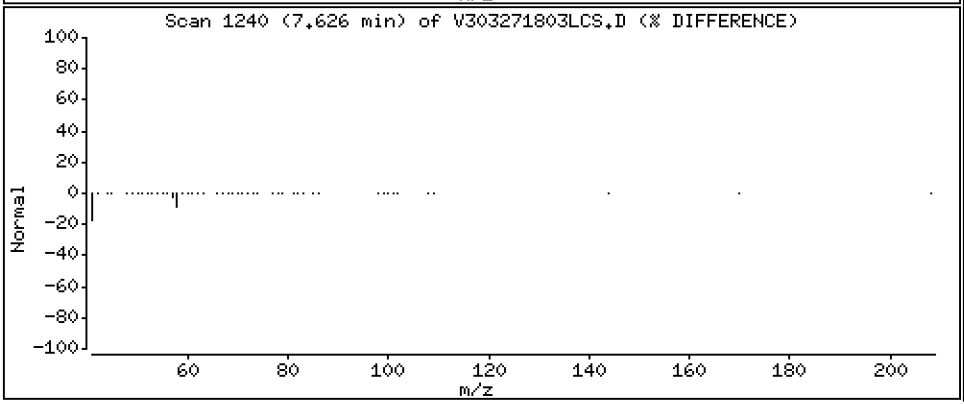
Column phase: RTXVMS Column diameter: 0.18

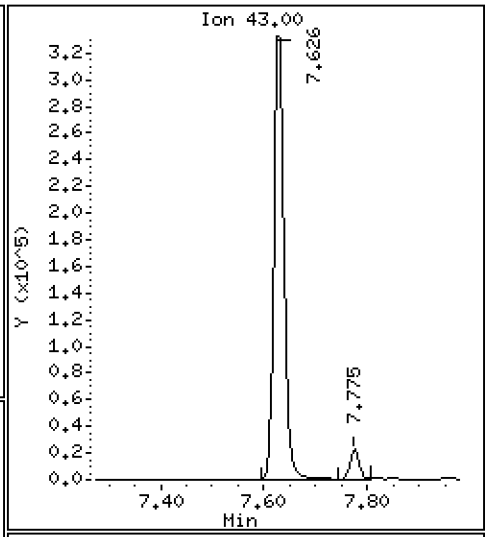
52 2-Hexanone Concentration: 52.644 ug/L

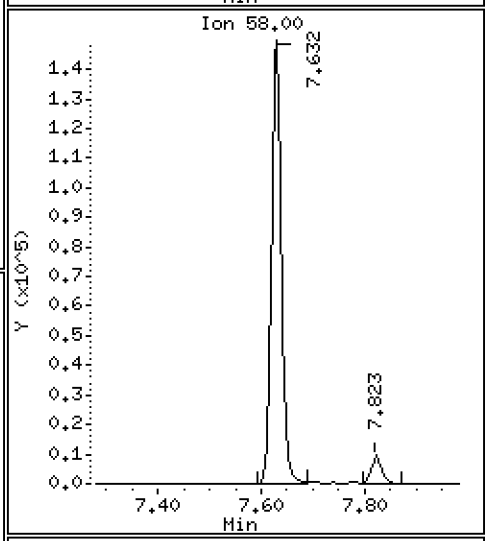


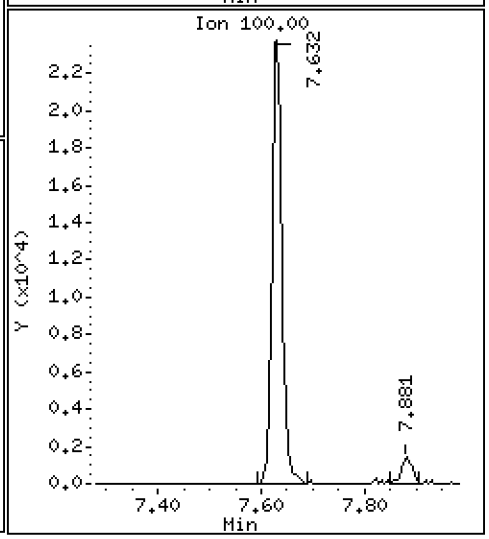












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

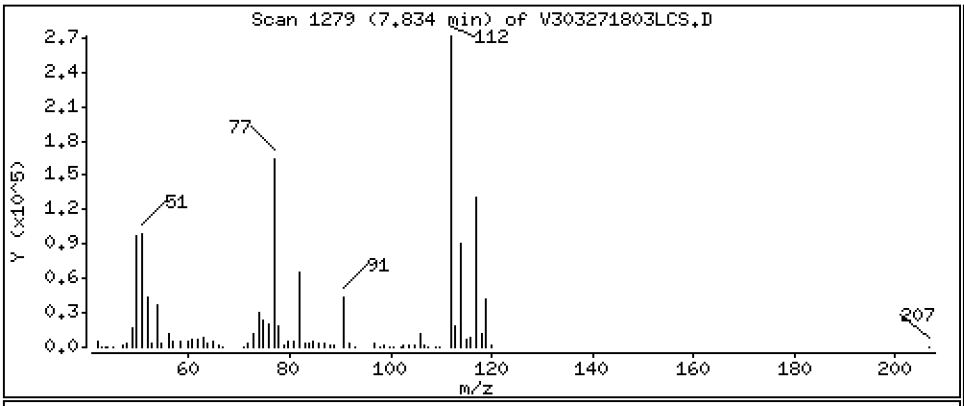
Operator: PKC

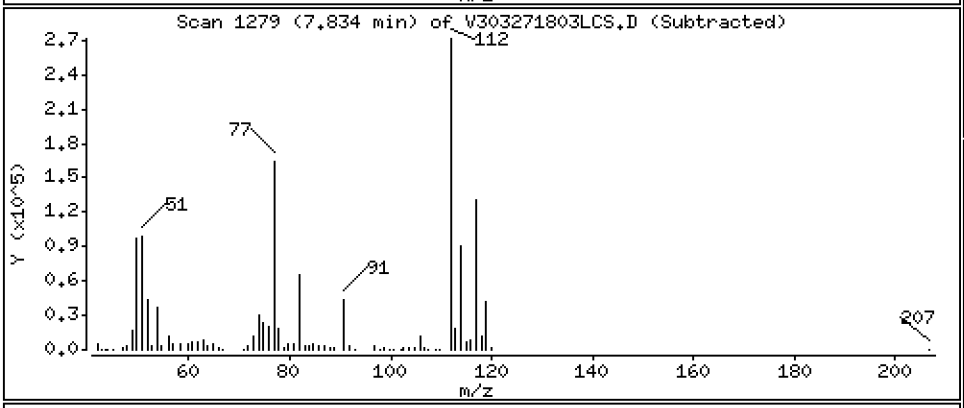
Column phase: RTXVMS

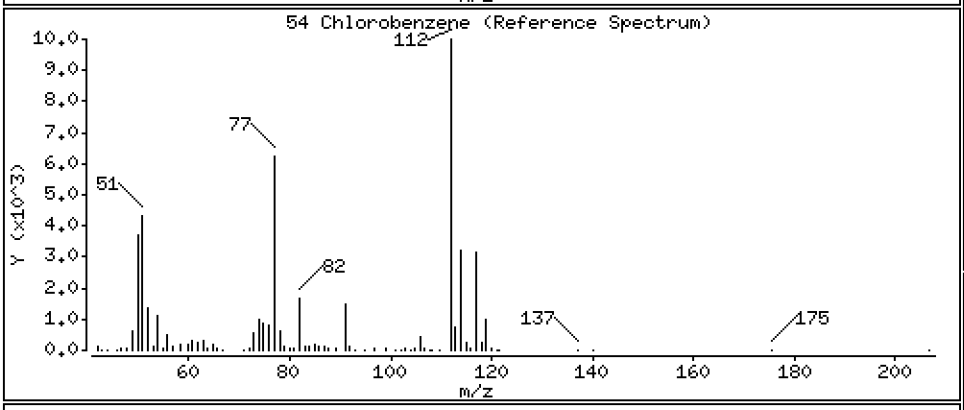
Column diameter: 0.18

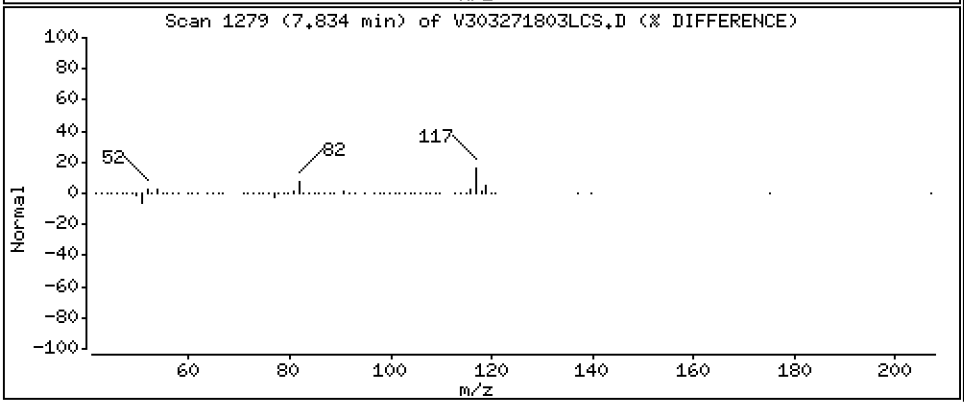
54 Chlorobenzene

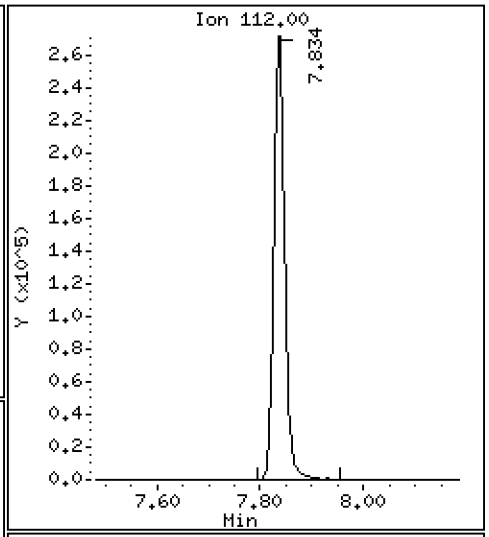
Concentration: 9.794 ug/L

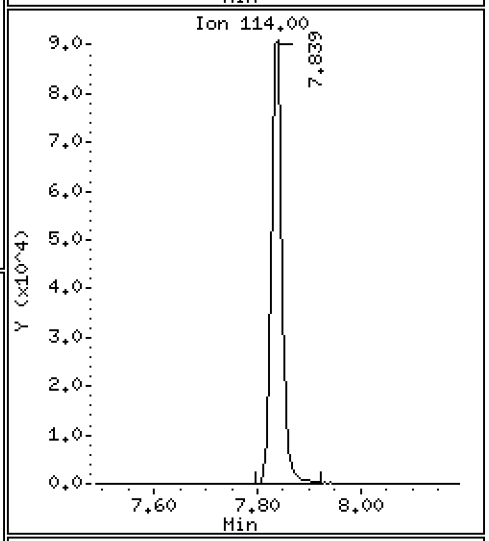


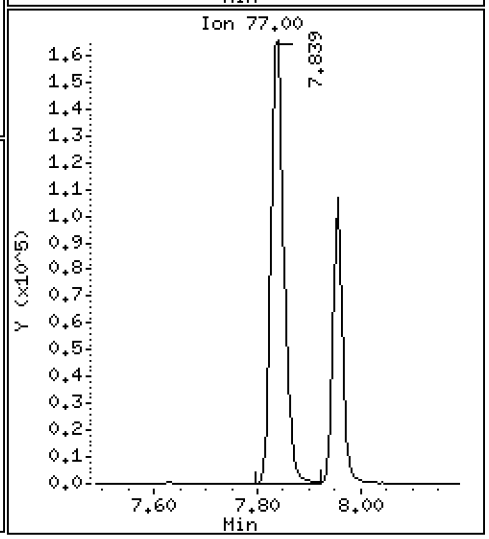












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

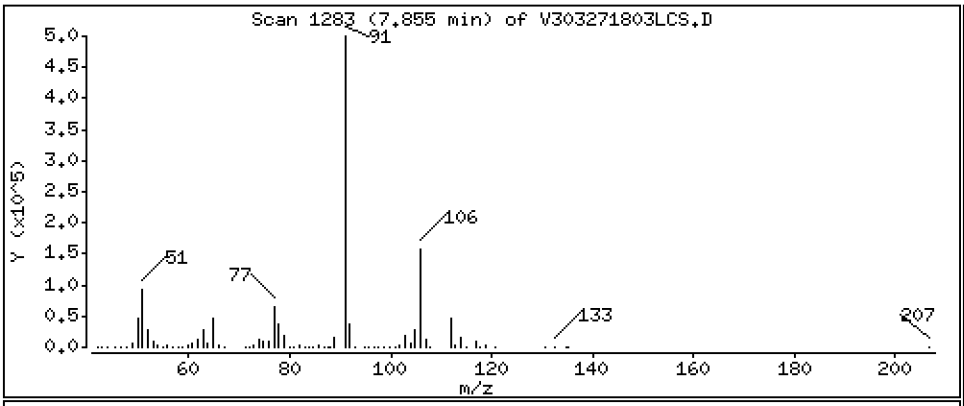
Operator: PKC

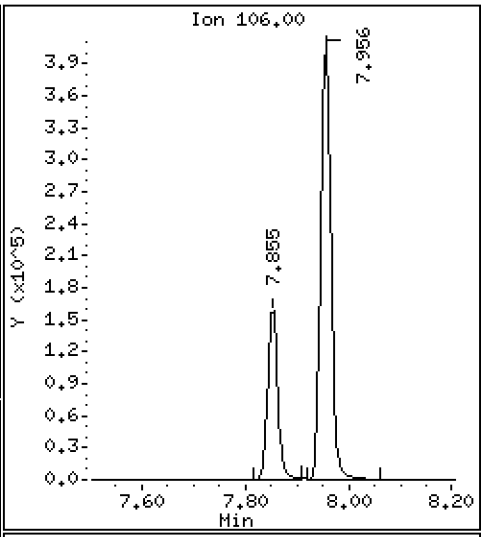
Column phase: RTXVMS

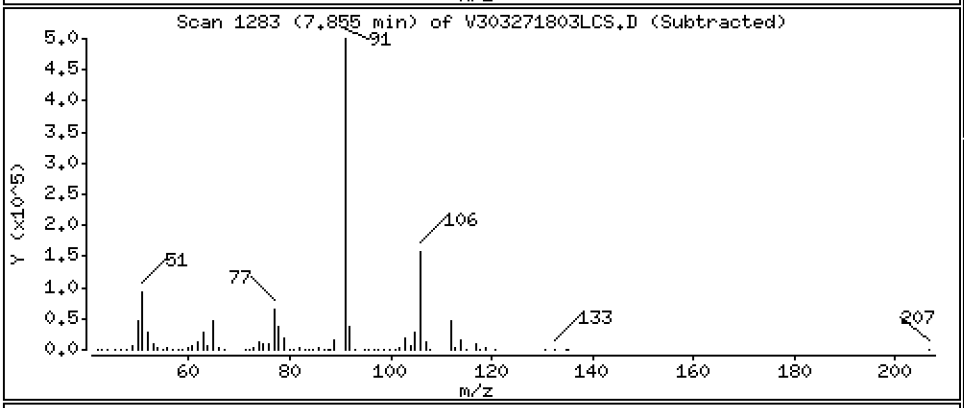
Column diameter: 0.18

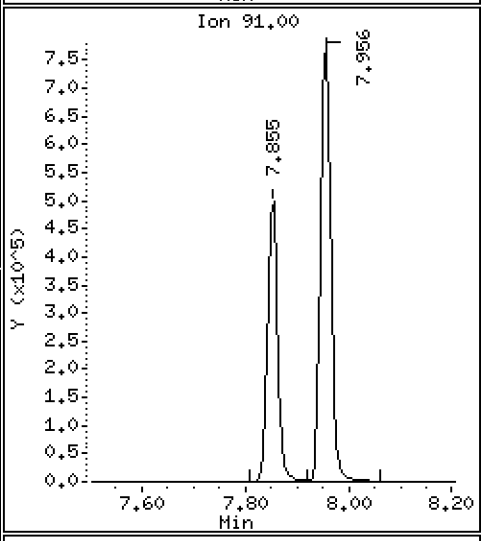
55 Ethyl Benzene

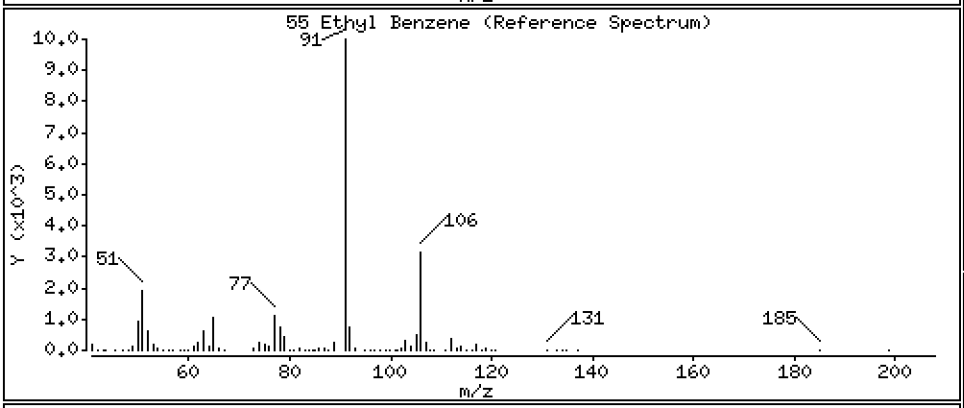
Concentration: 9.896 ug/L

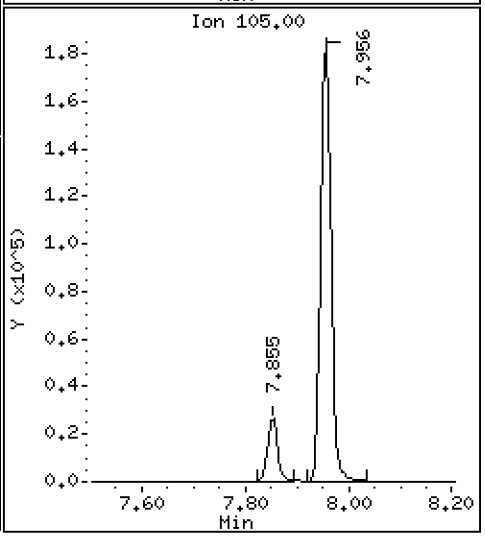


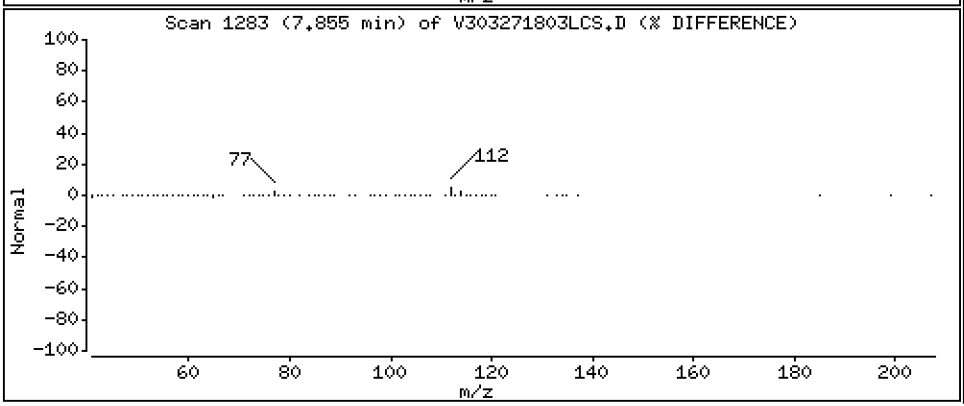












Date : 27-MAR-2018 09:15

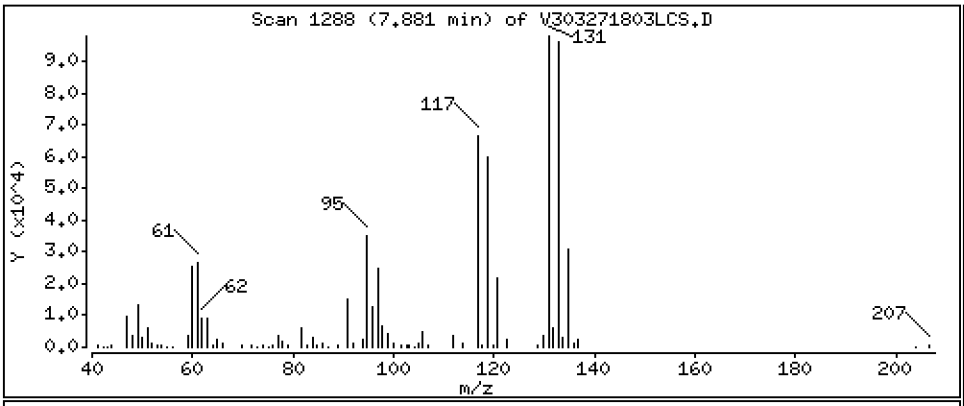
Client ID: VOA Instrument: nt3.i

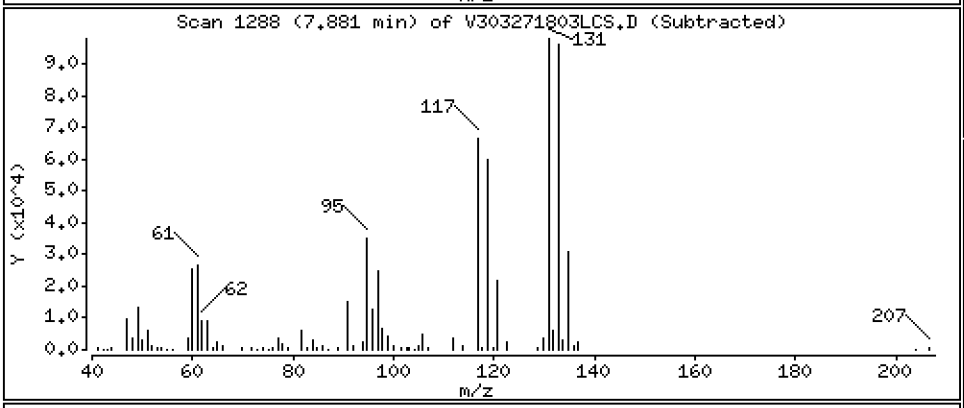
Sample Info: BGC0717-BS1

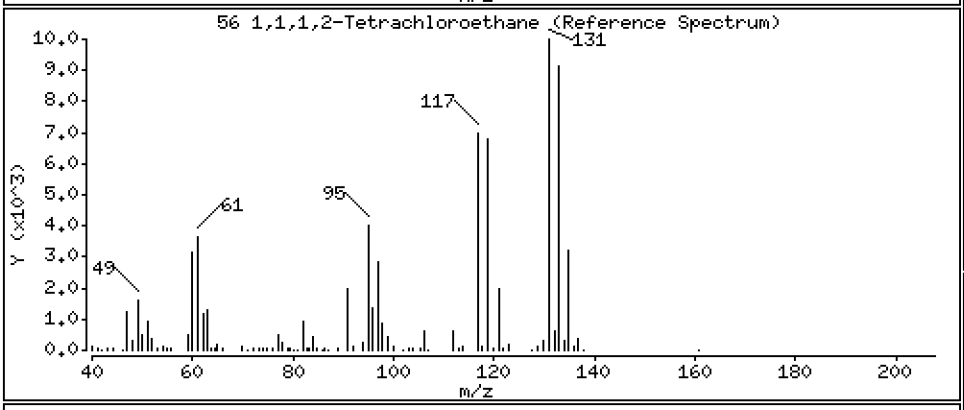
Operator: PKC

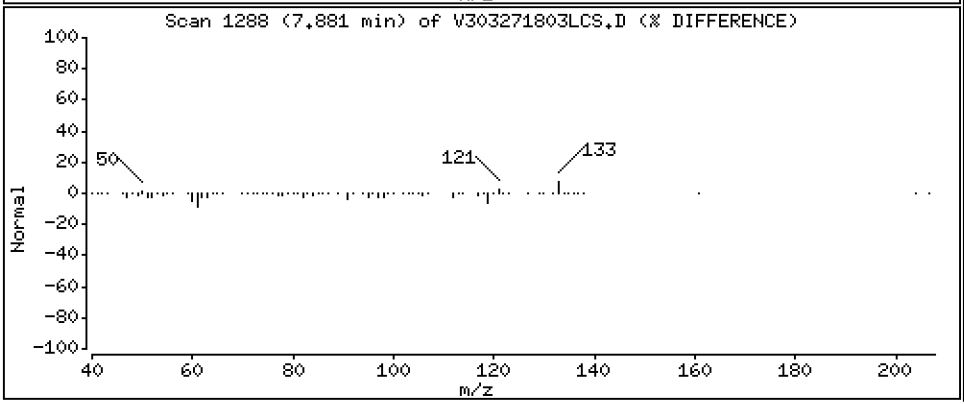
Column phase: RTXVMS Column diameter: 0.18

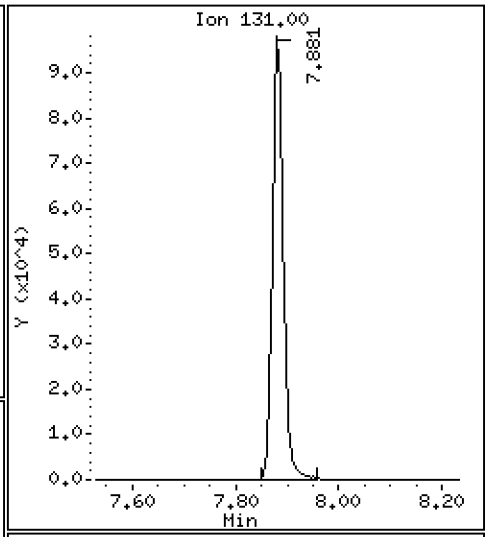
56 1,1,1,2-Tetrachloroethane Concentration: 10.270 ug/L

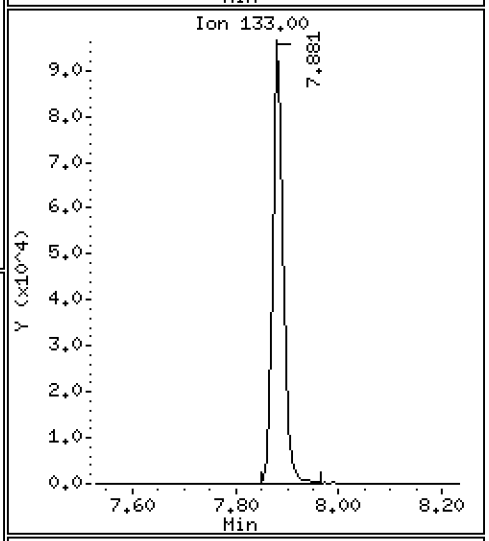


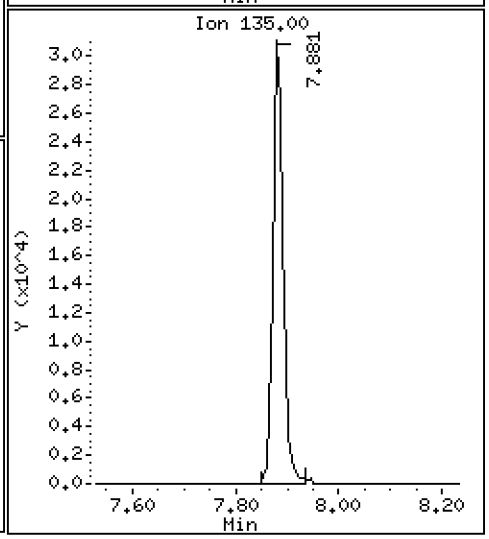












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

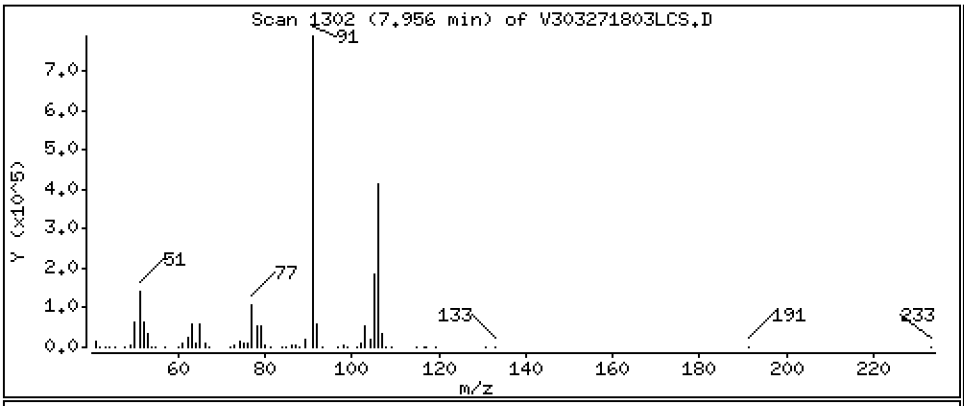
Operator: PKC

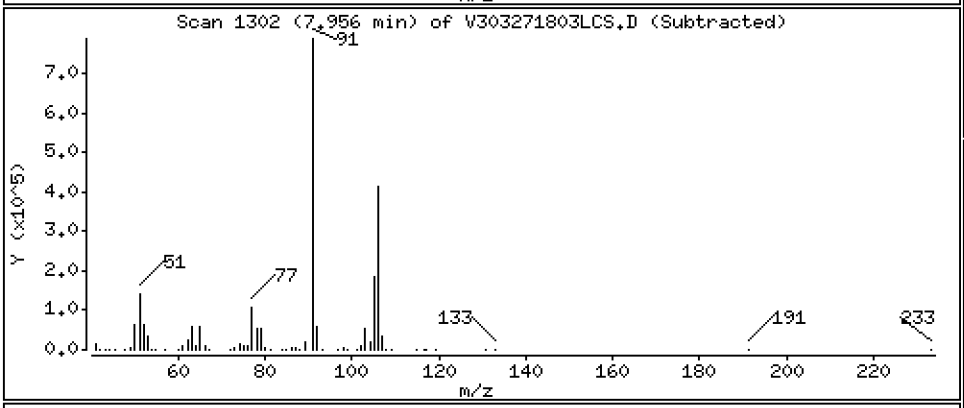
Column phase: RTXVMS

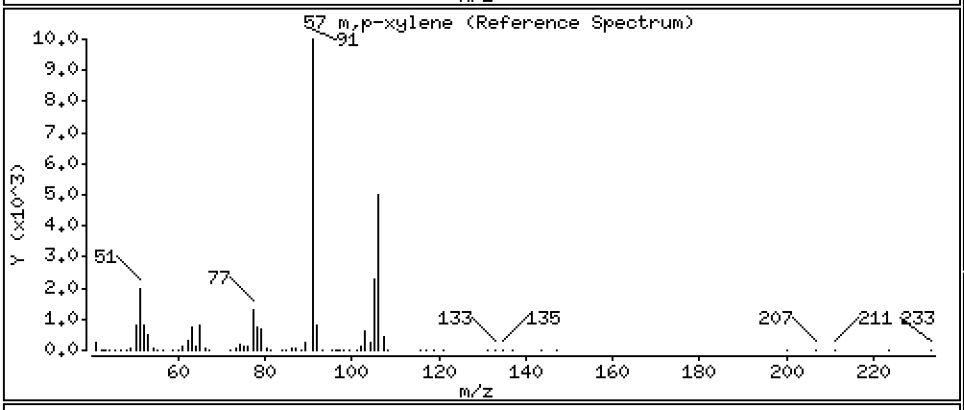
Column diameter: 0.18

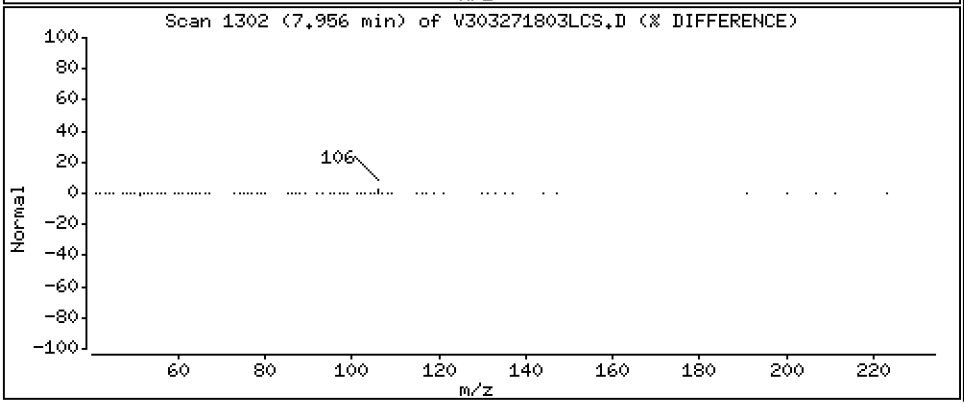
57 m,p-xylene

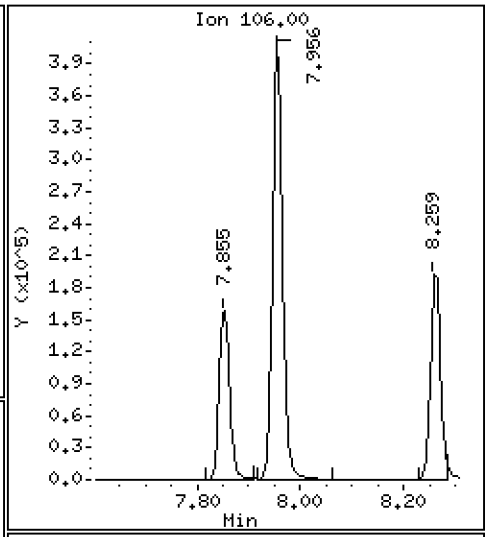
Concentration: 20.332 ug/L

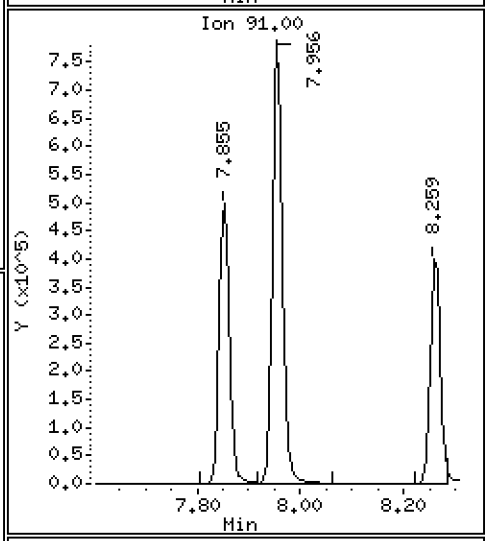


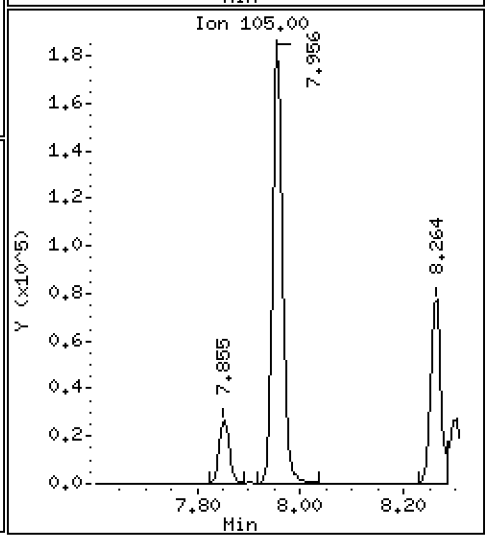












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

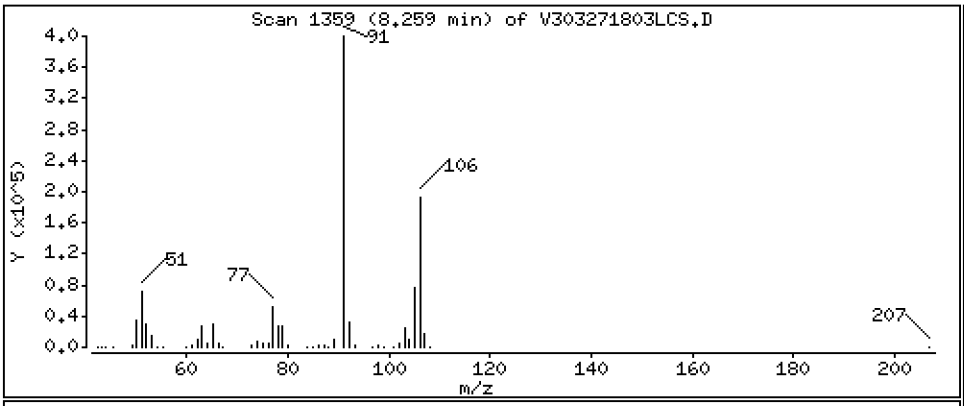
Operator: PKC

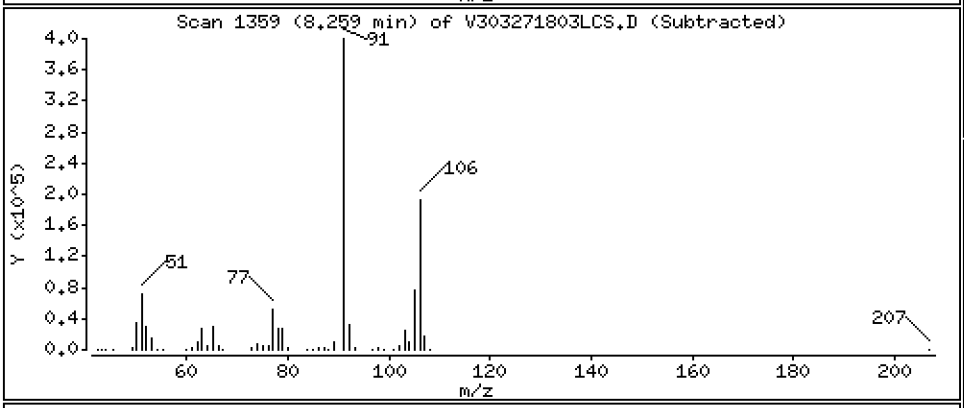
Column phase: RTXVMS

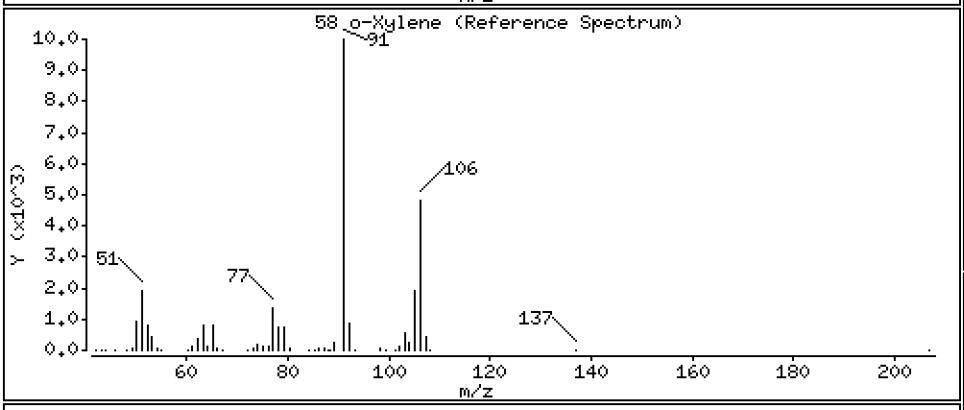
Column diameter: 0.18

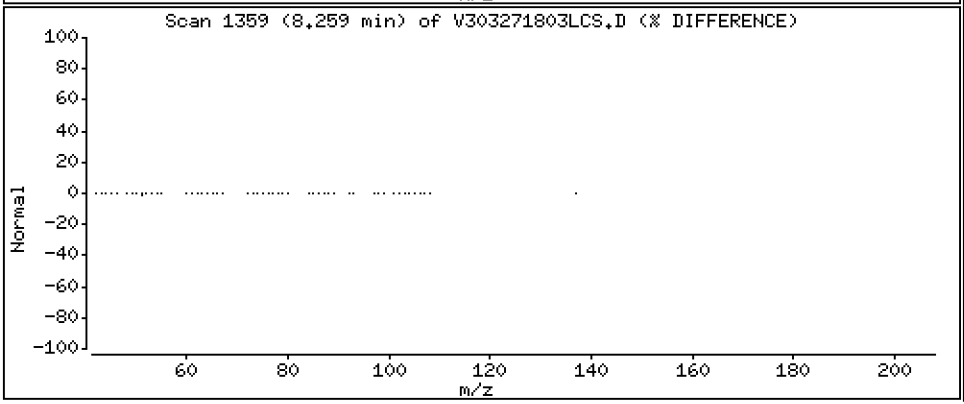
58 o-Xylene

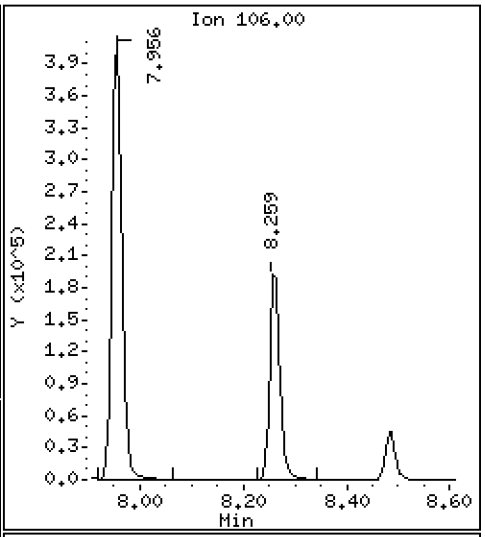
Concentration: 9.858 ug/L

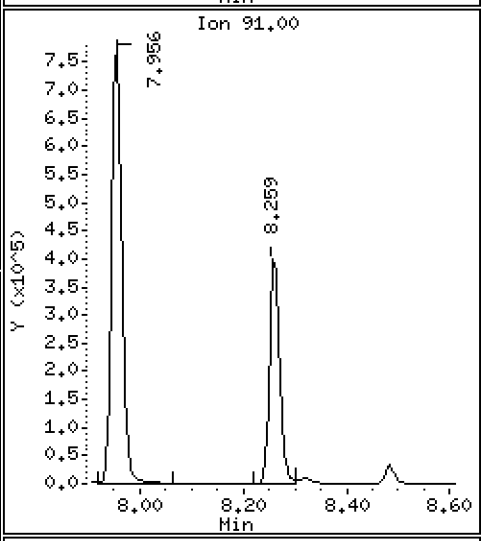


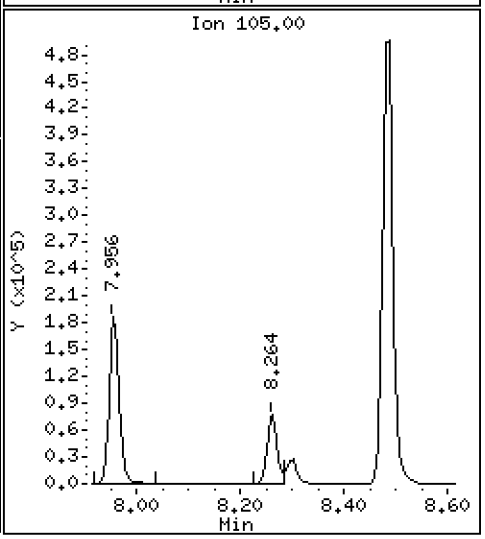












Date : 27-MAR-2018 09:15

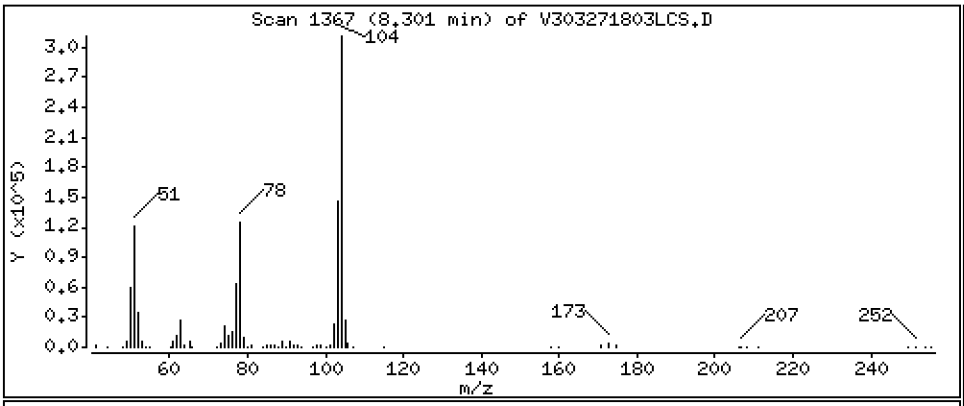
Client ID: VOA Instrument: nt3.i

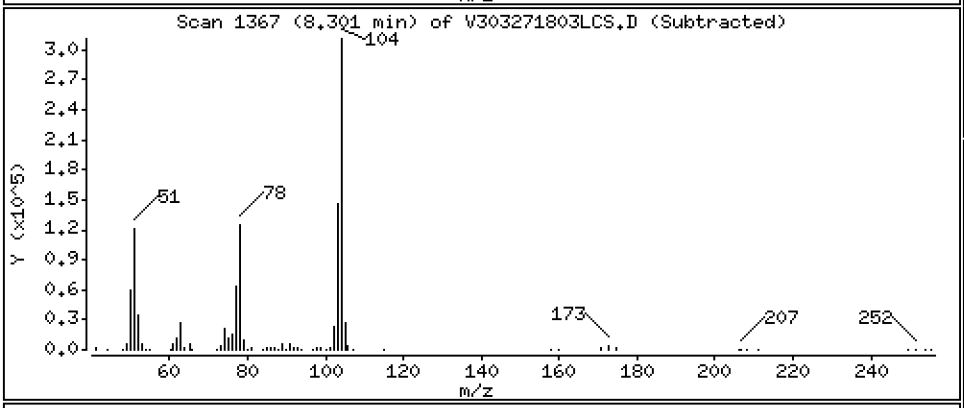
Sample Info: BGC0717-BS1

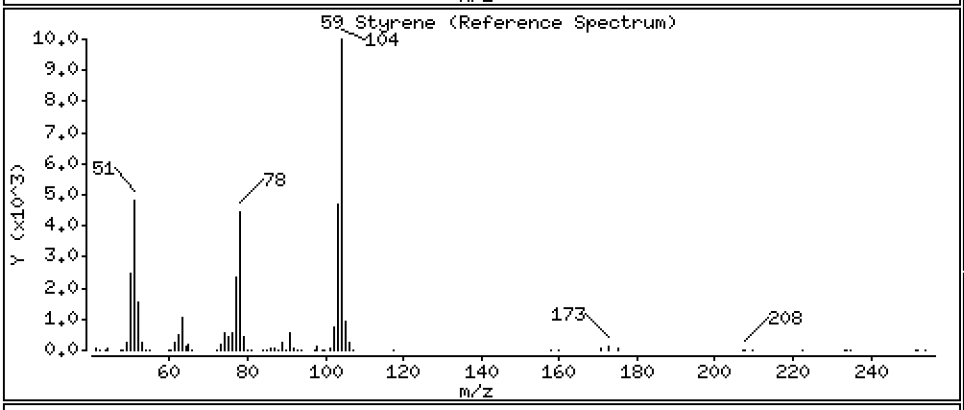
Operator: PKC

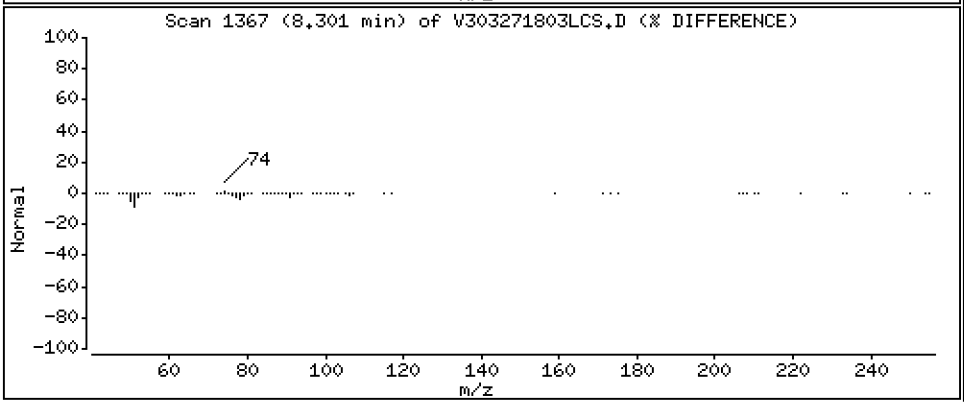
Column phase: RTXVMS Column diameter: 0.18

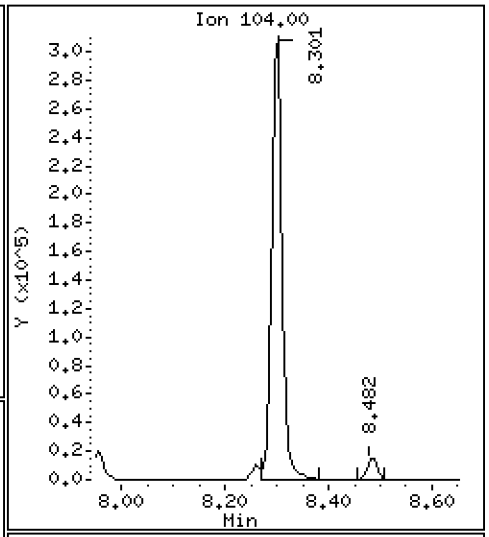
59 Styrene Concentration: 10.388 ug/L

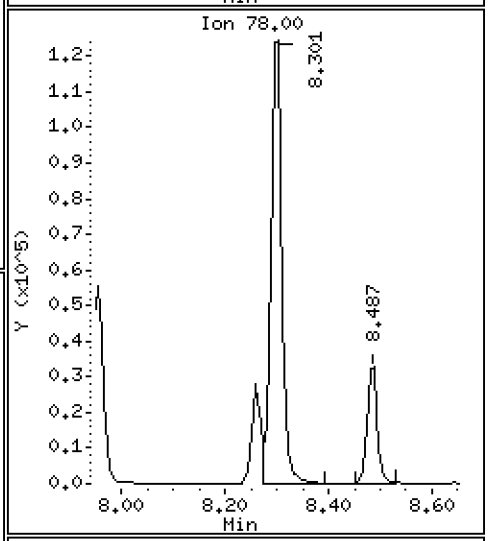


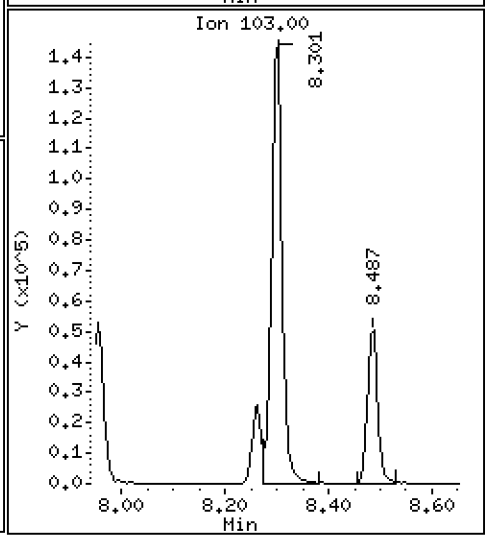












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

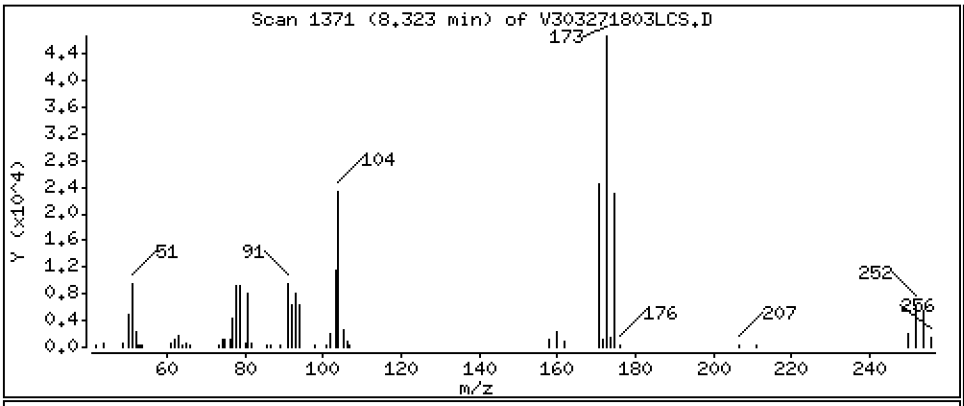
Operator: PKC

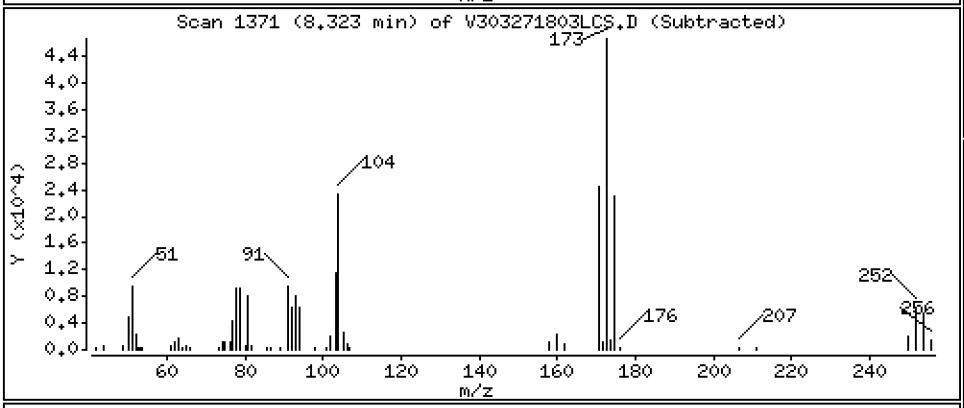
Column phase: RTXVMS

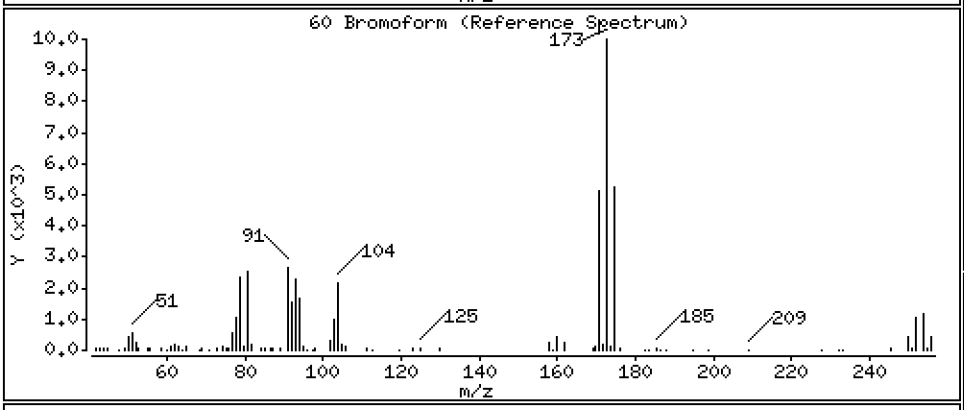
Column diameter: 0.18

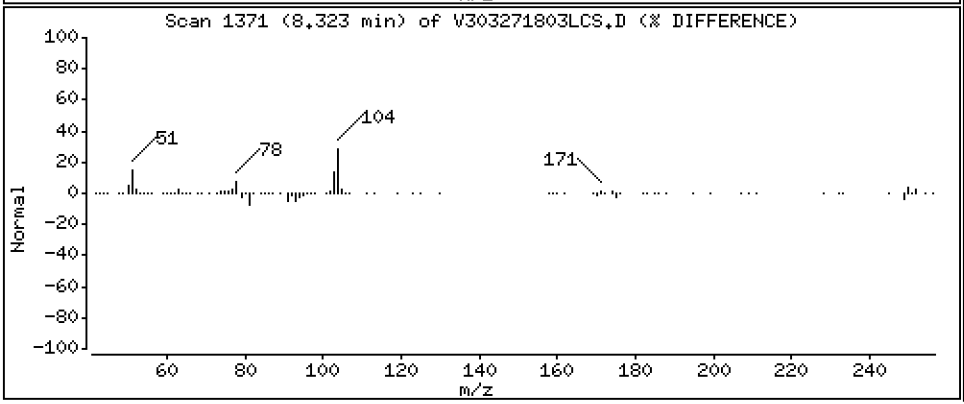
60 Bromoform

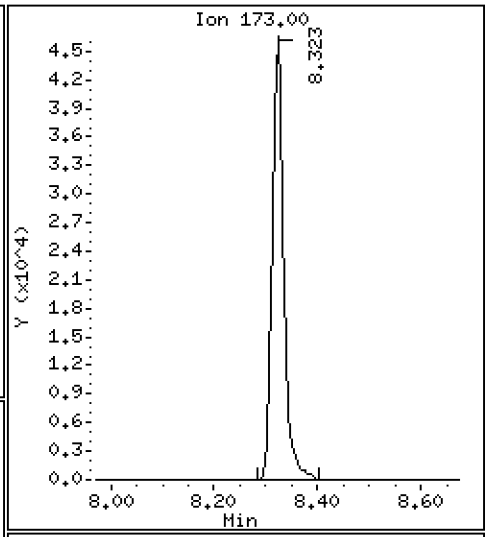
Concentration: 10.231 ug/L

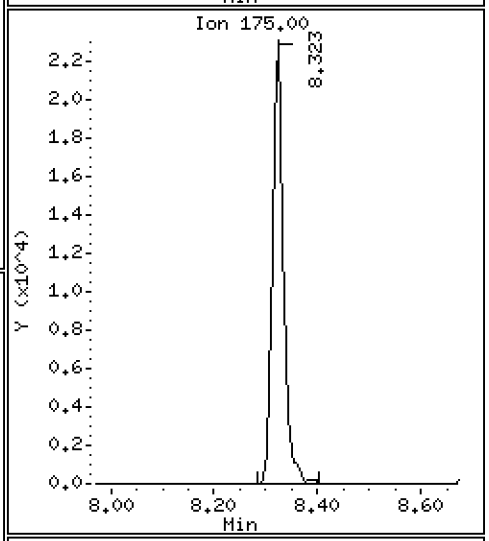


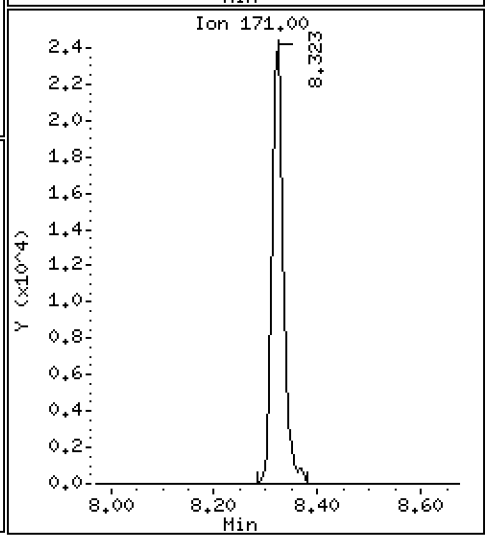












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

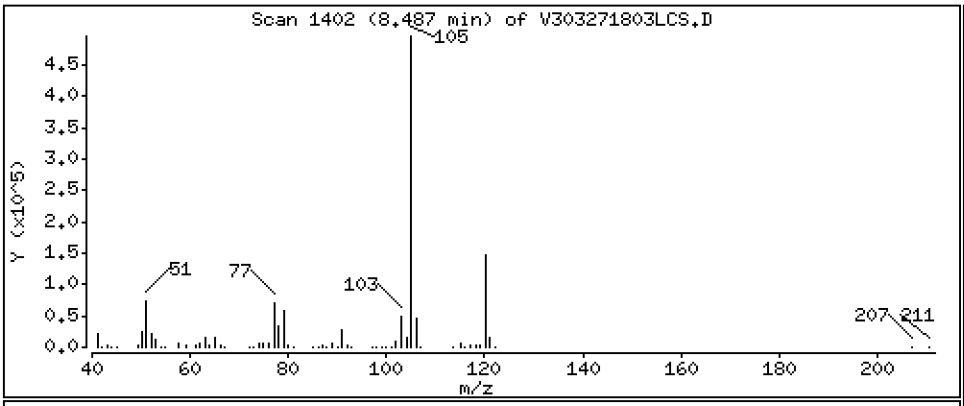
Operator: PKC

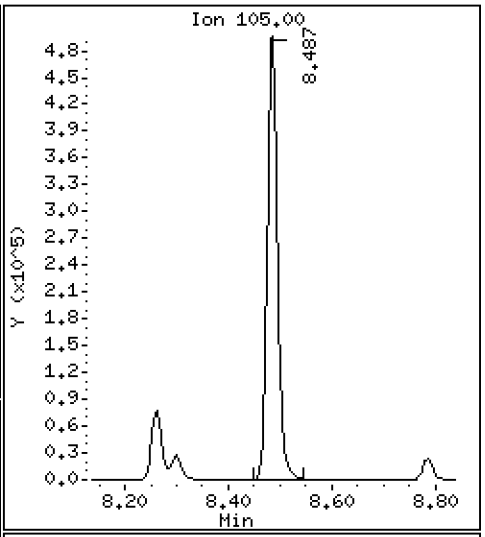
Column phase: RTXVMS

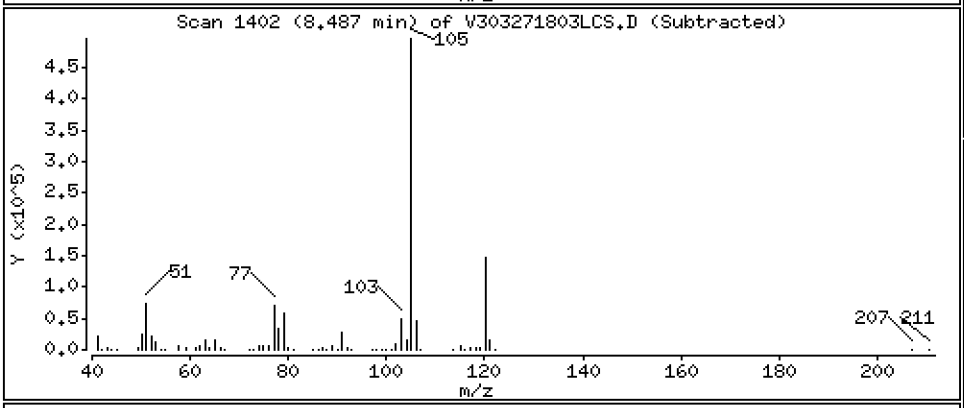
Column diameter: 0.18

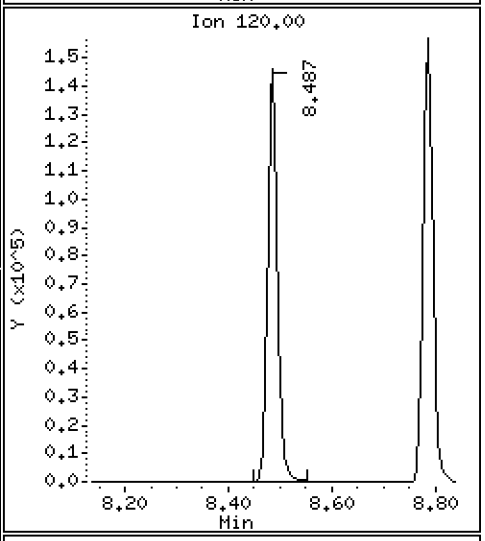
61 Isopropyl Benzene

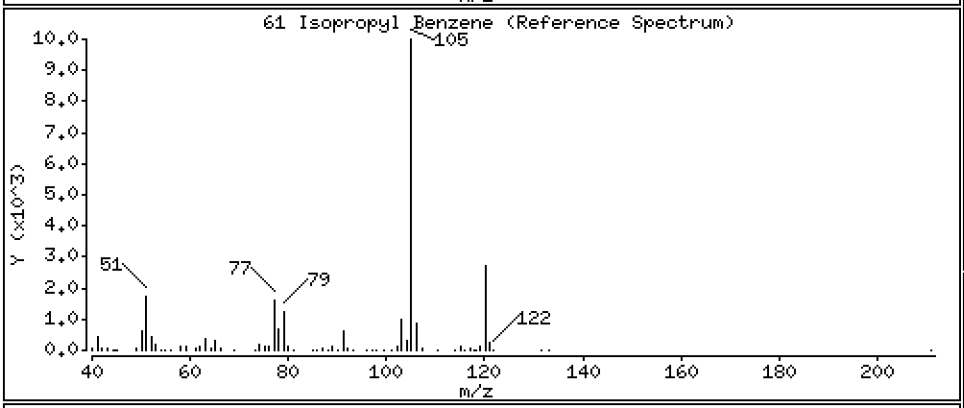
Concentration: 9.209 ug/L

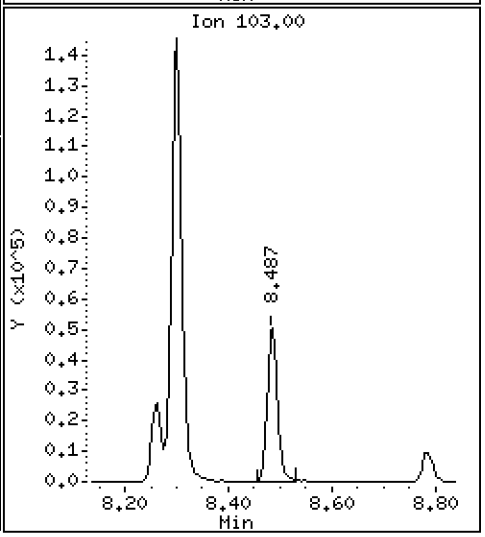


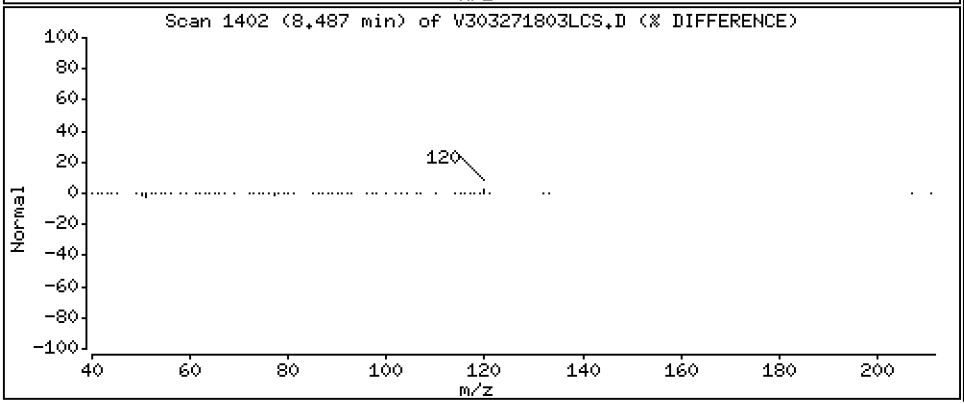












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

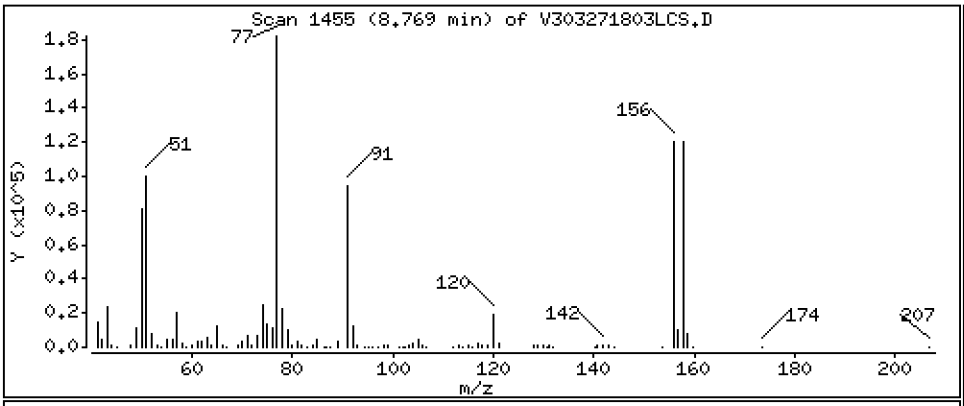
Operator: PKC

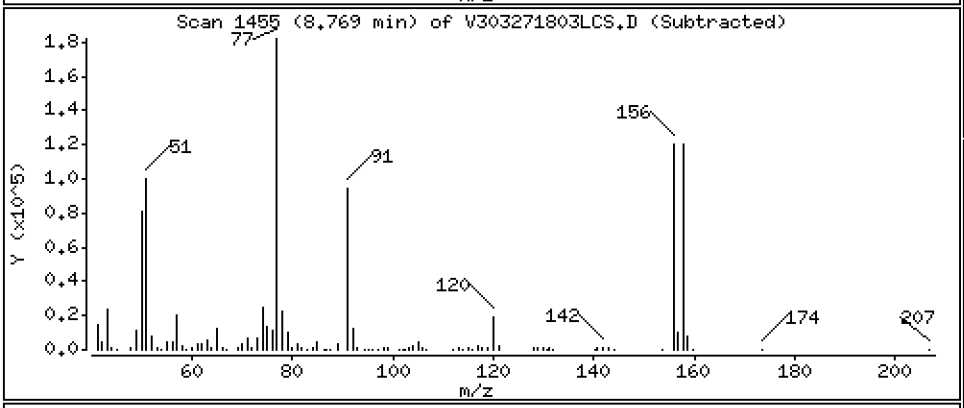
Column phase: RTXVMS

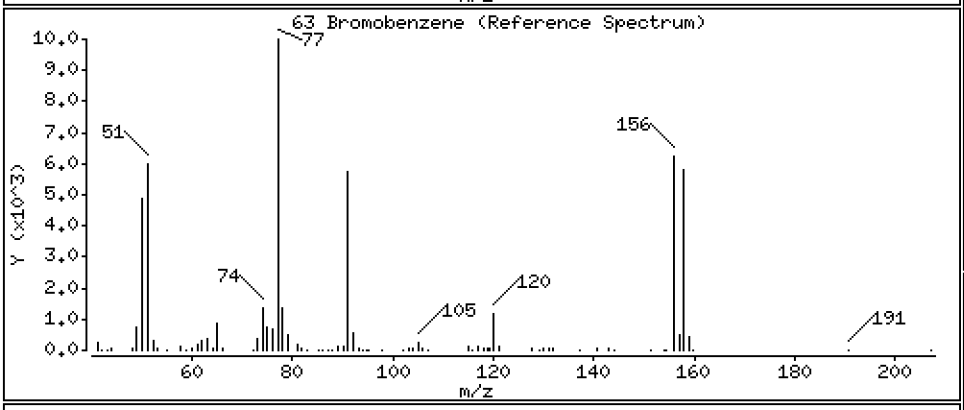
Column diameter: 0.18

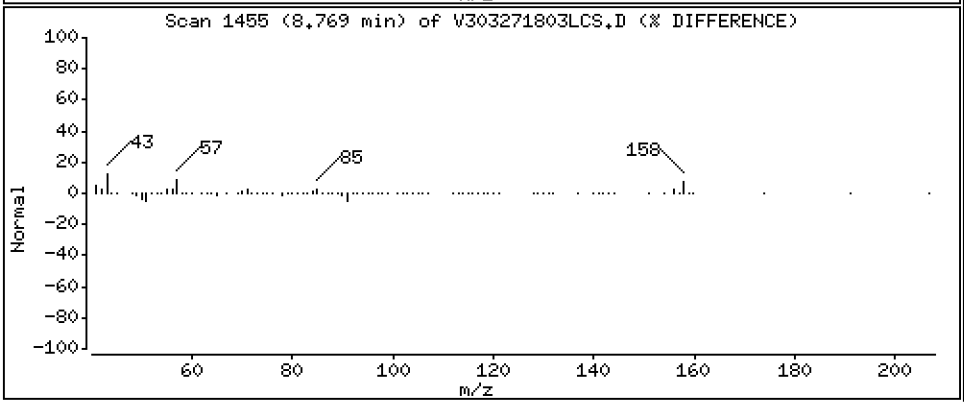
63 Bromobenzene

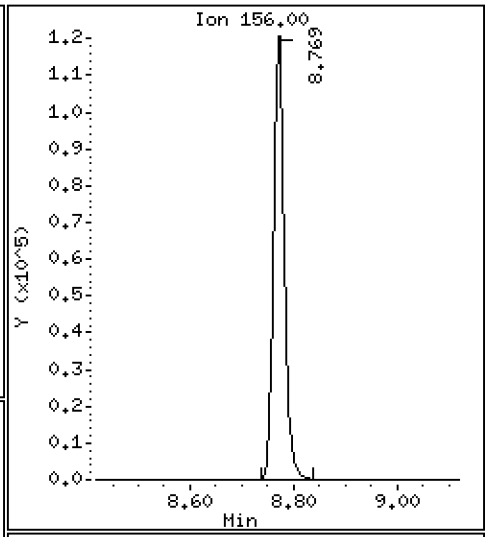
Concentration: 9.351 ug/L

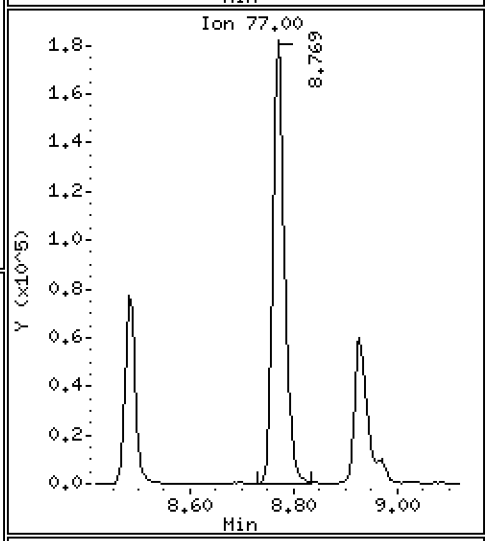


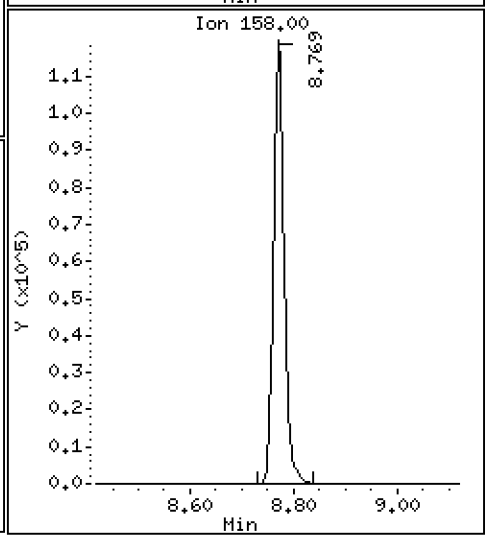












Date : 27-MAR-2018 09:15

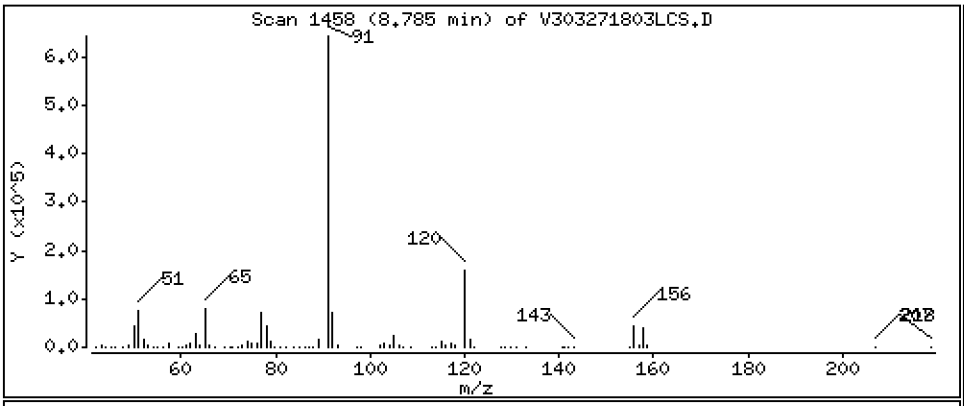
Client ID: VOA Instrument: nt3.i

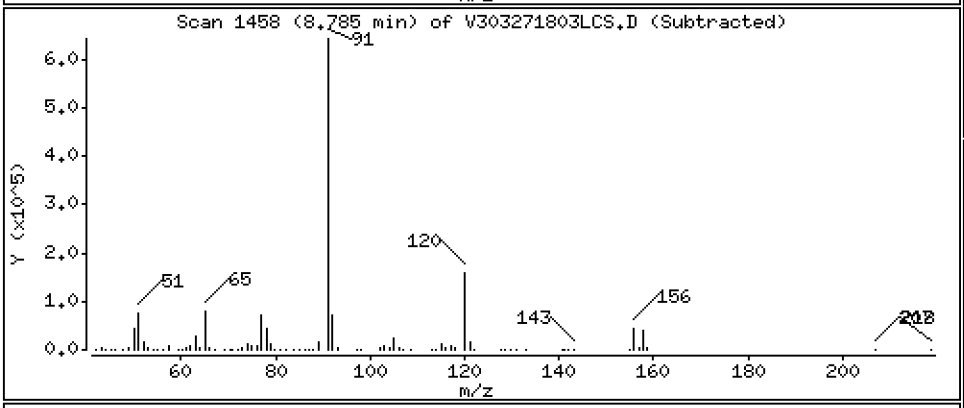
Sample Info: BGC0717-BS1

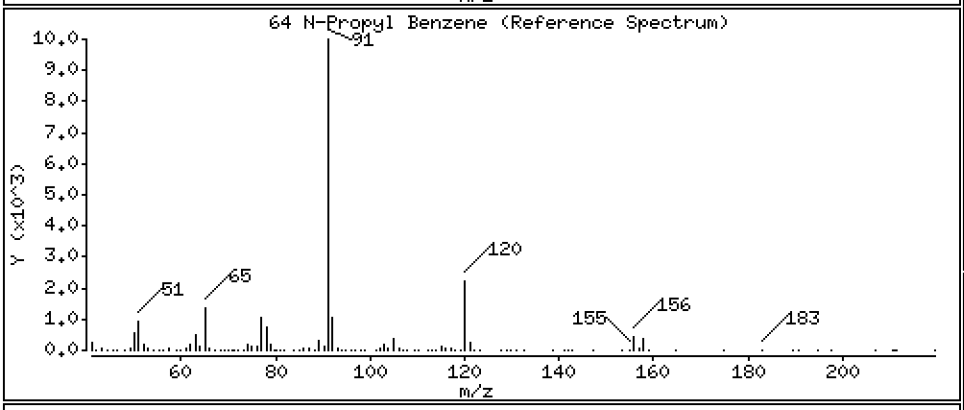
Operator: PKC

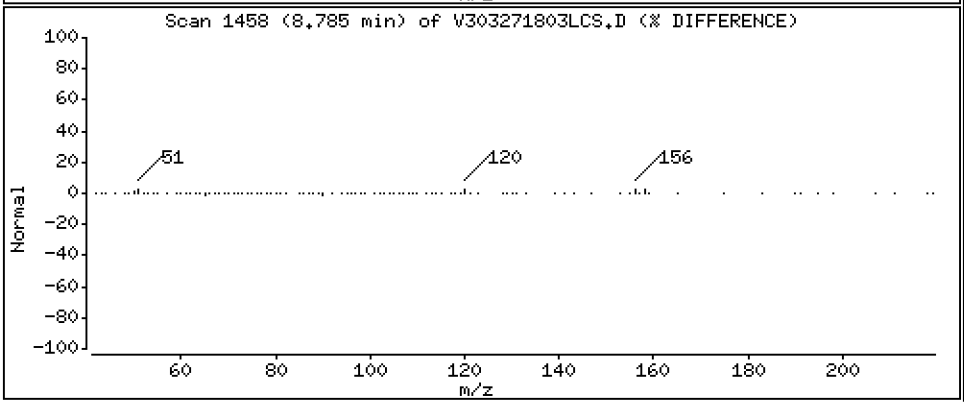
Column phase: RTXVMS Column diameter: 0.18

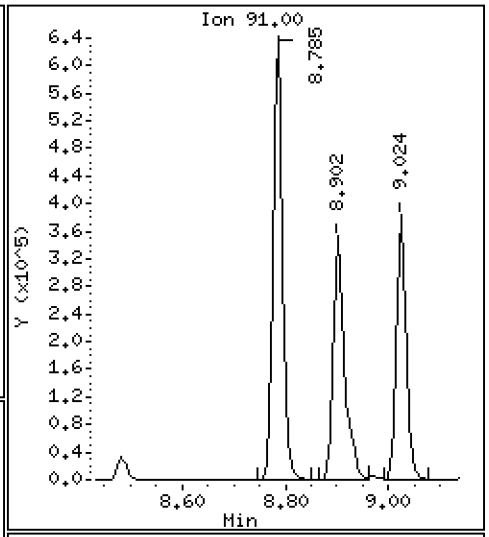
64 N-Propyl Benzene Concentration: 9.368 ug/L

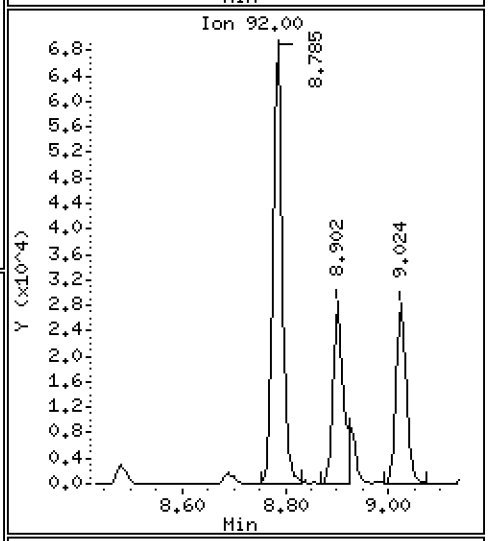


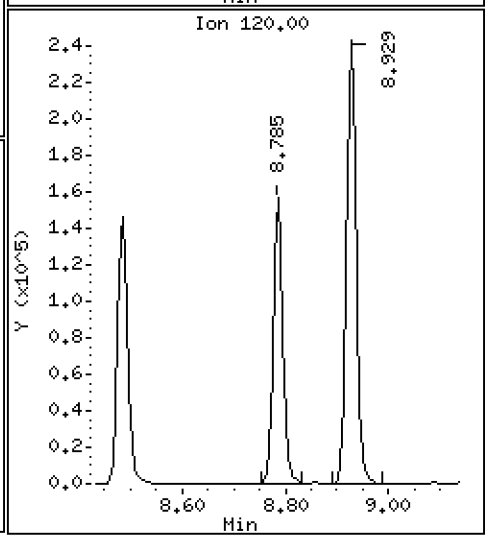












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

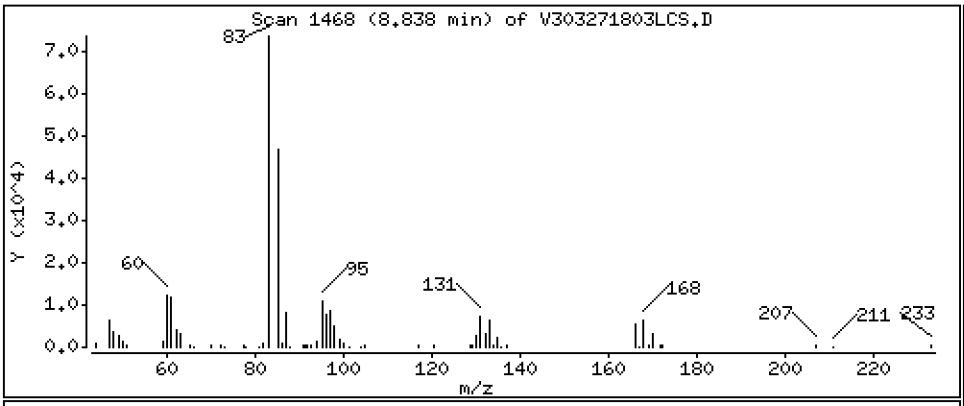
Operator: PKC

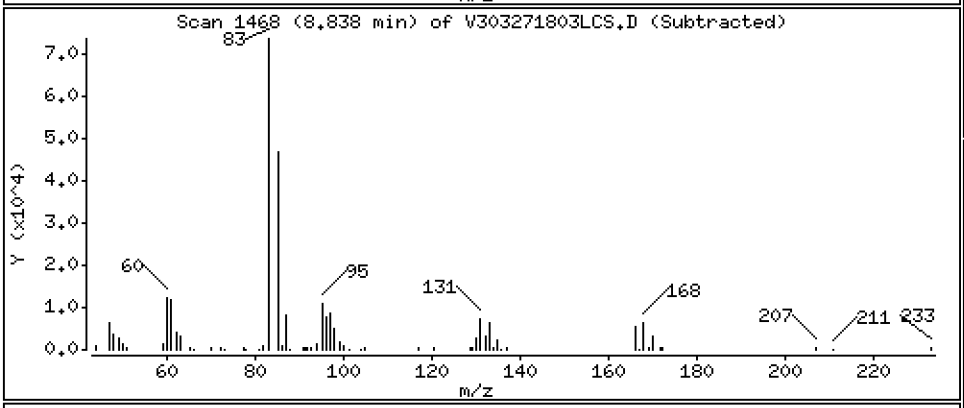
Column phase: RTXVMS

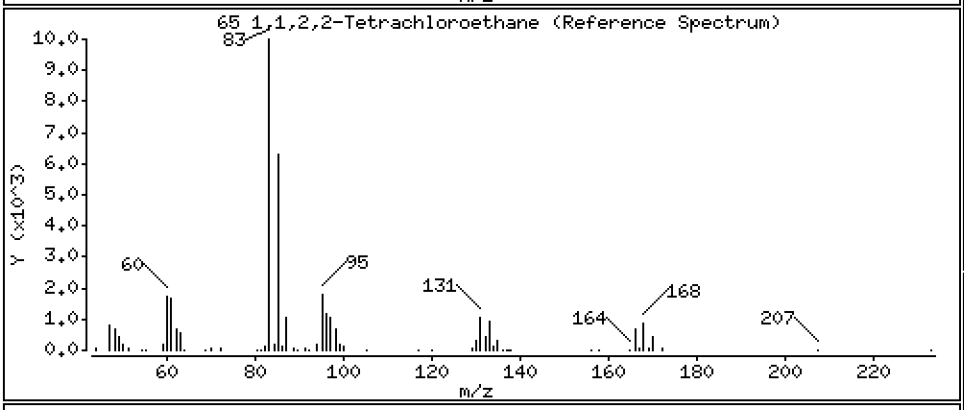
Column diameter: 0.18

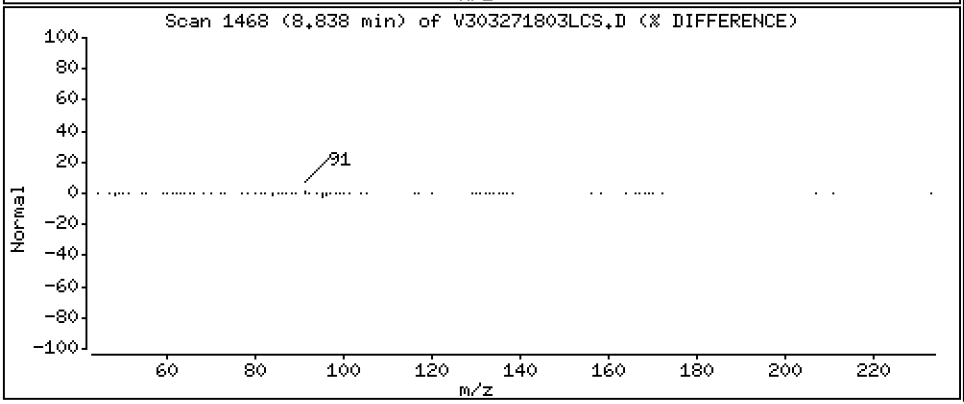
65 1,1,2,2-Tetrachloroethane

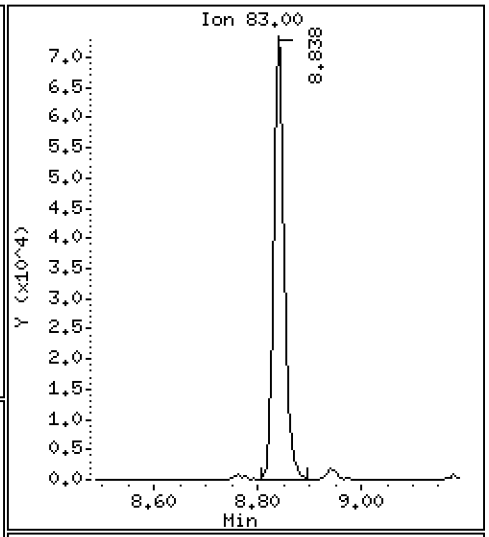
Concentration: 9.404 ug/L

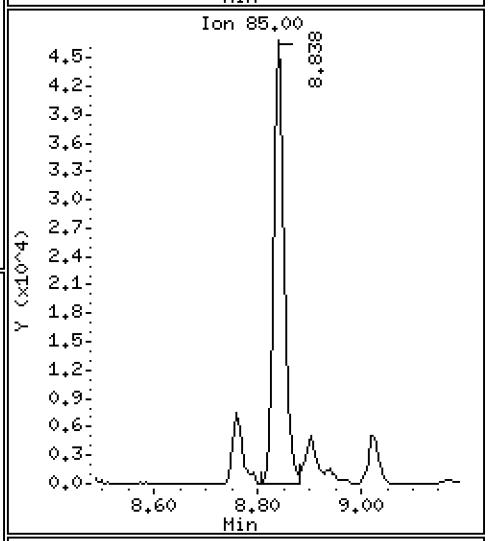


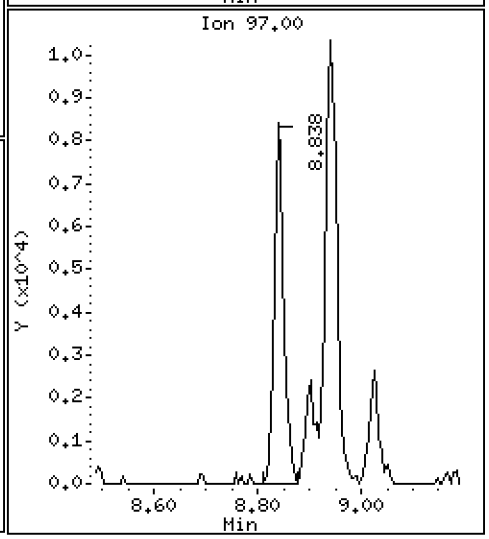












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

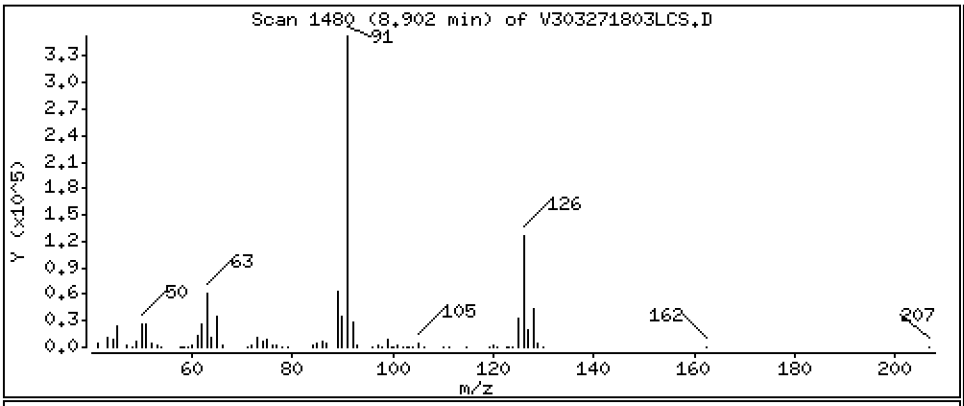
Operator: PKC

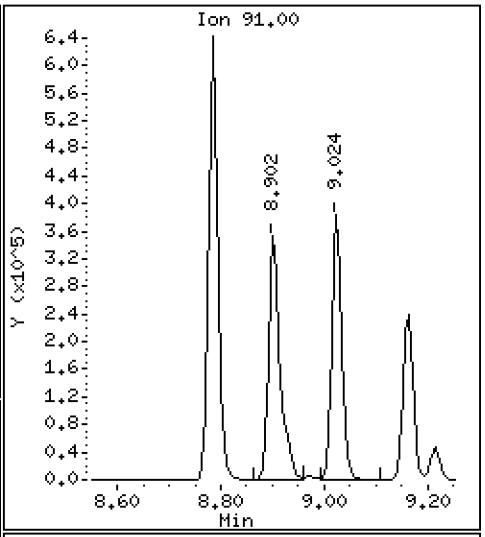
Column phase: RTXVMS

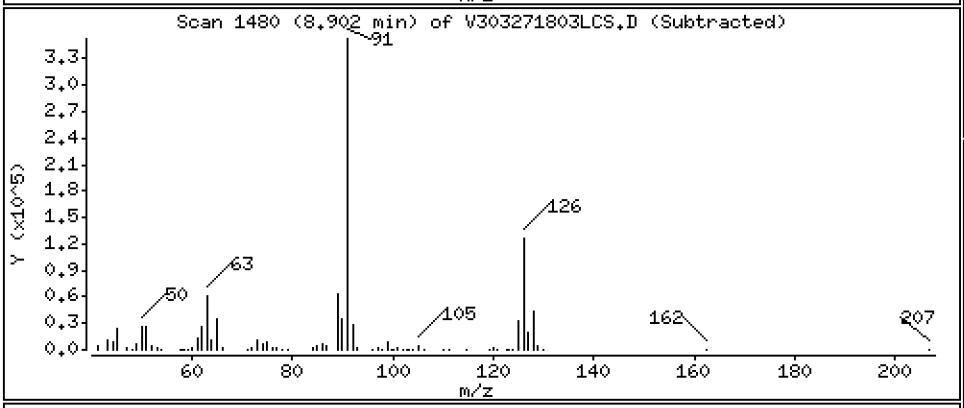
Column diameter: 0.18

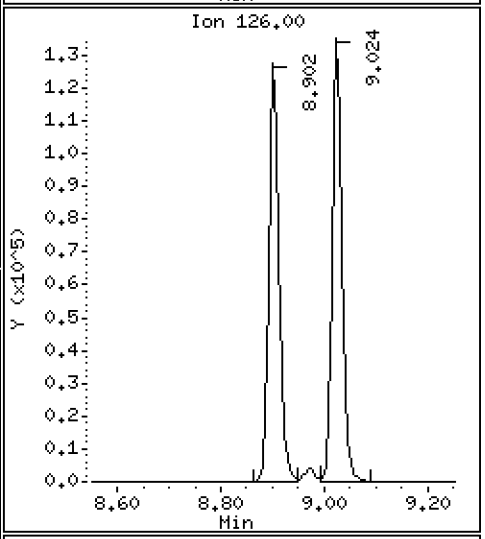
66 2-Chloro Toluene

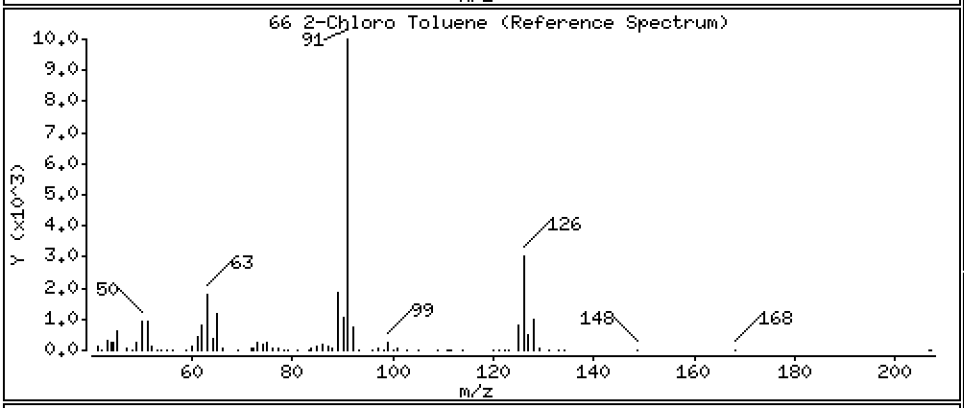
Concentration: 9.031 ug/L

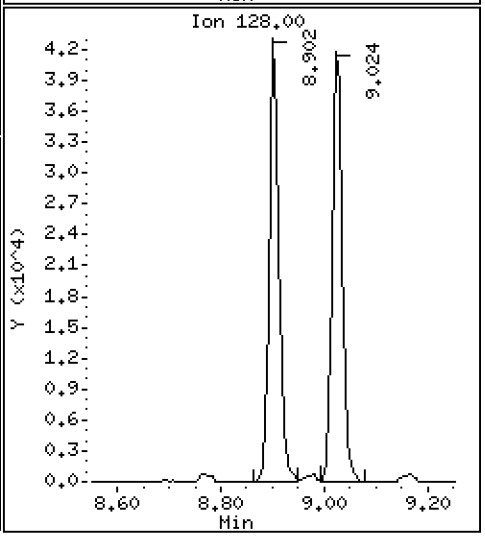


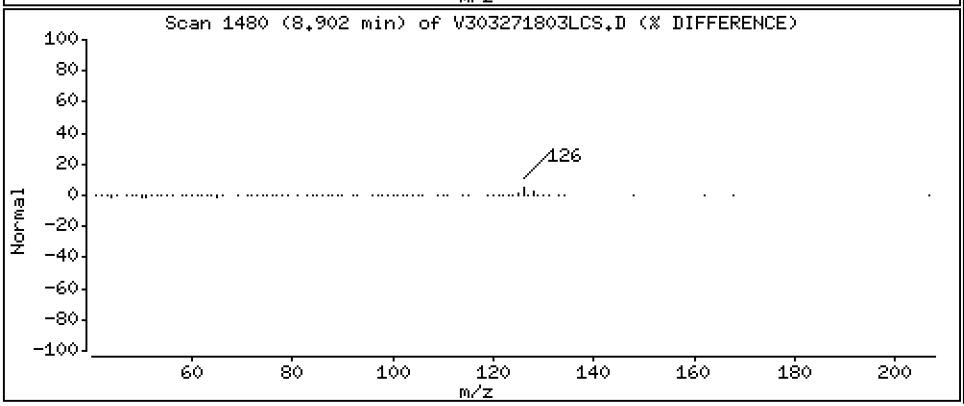












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

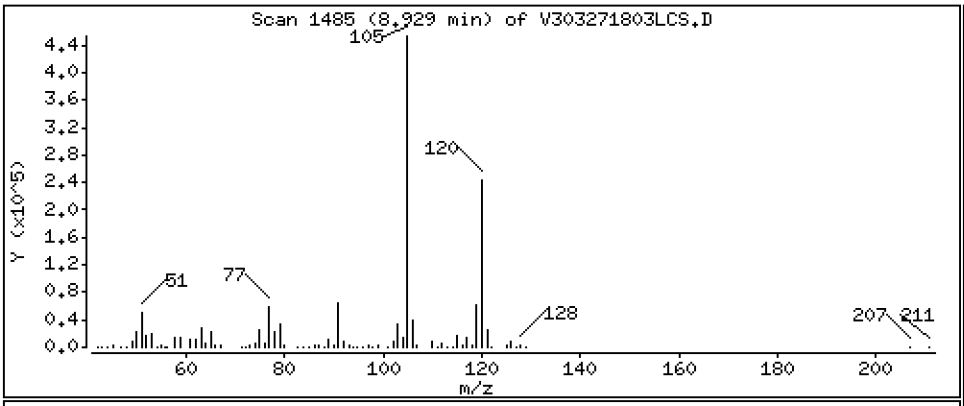
Operator: PKC

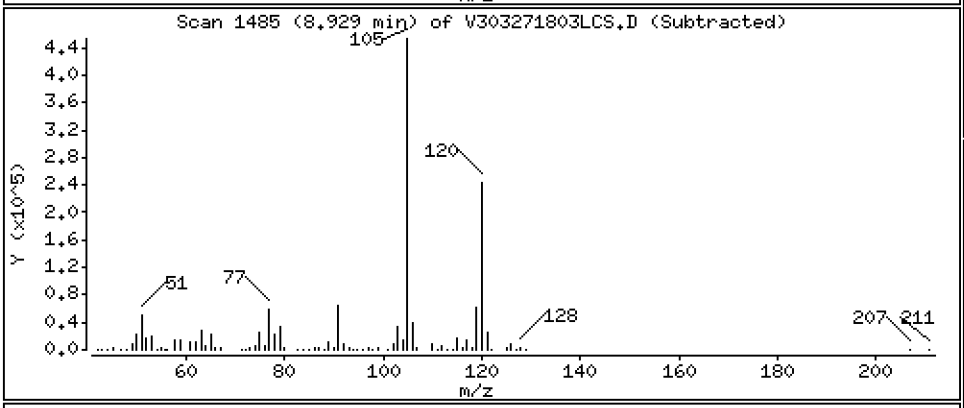
Column phase: RTXVMS

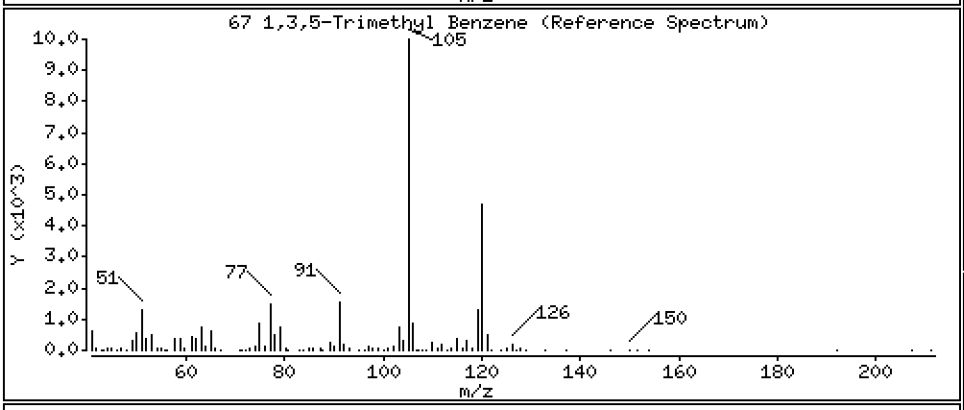
Column diameter: 0.18

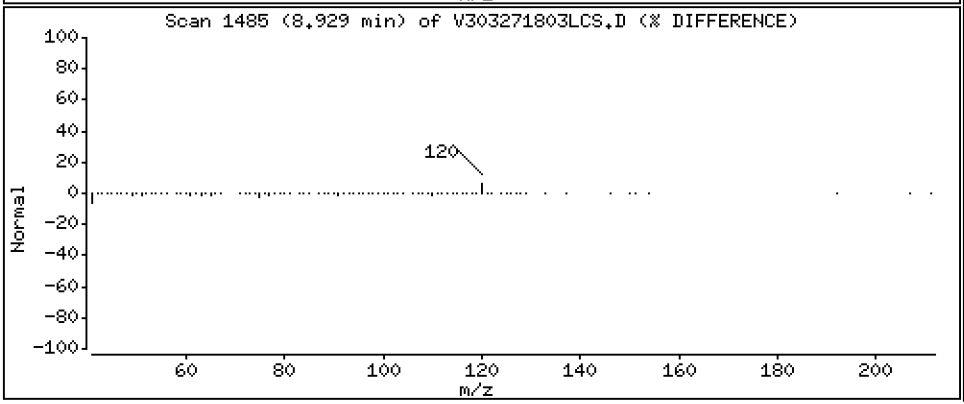
67 1,3,5-Trimethyl Benzene

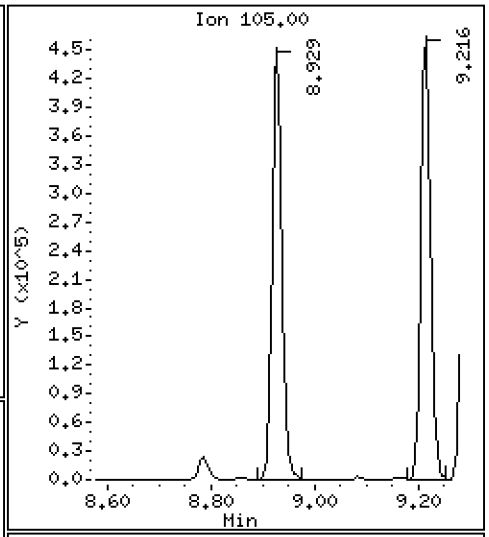
Concentration: 9.185 ug/L

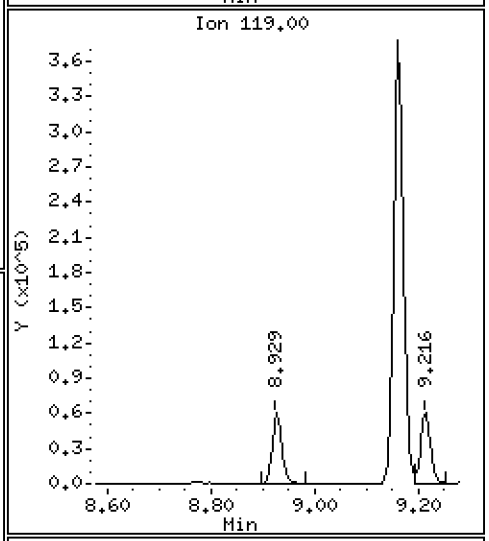


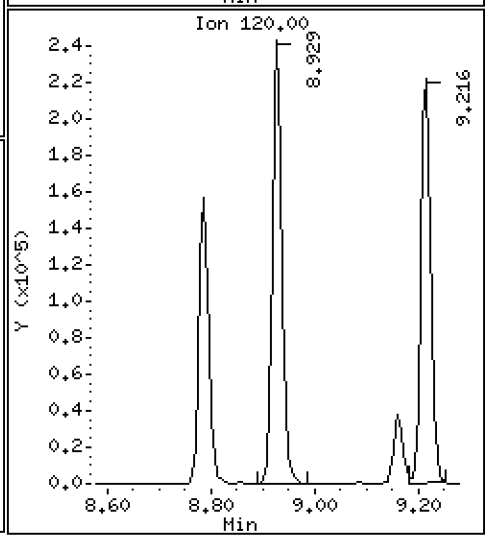












Date : 27-MAR-2018 09:15

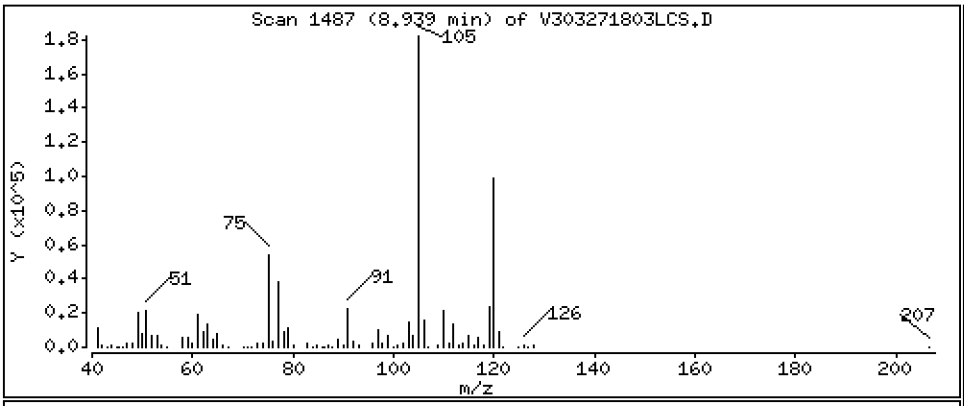
Client ID: VOA Instrument: nt3.i

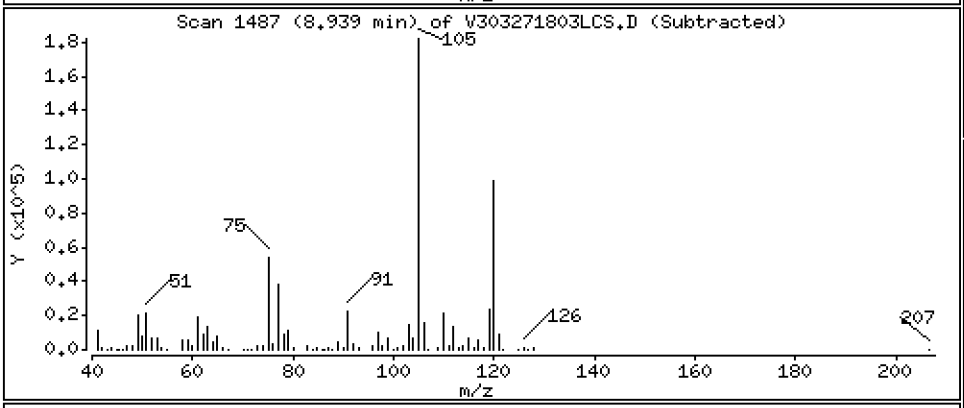
Sample Info: BGC0717-BS1

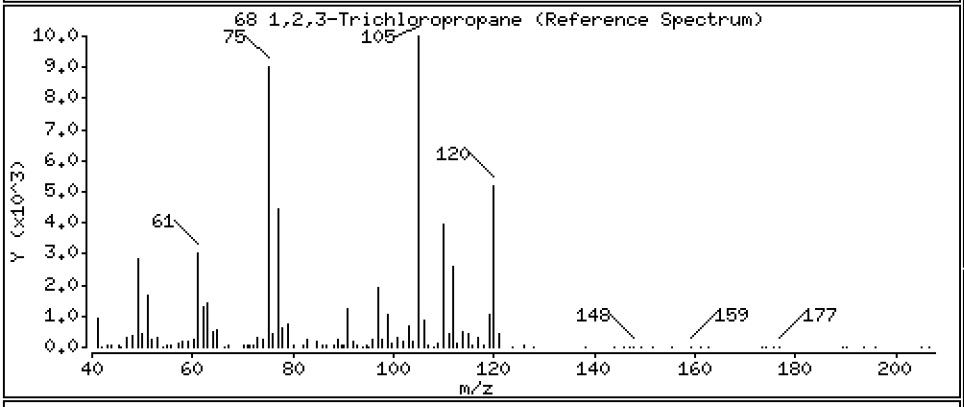
Operator: PKC

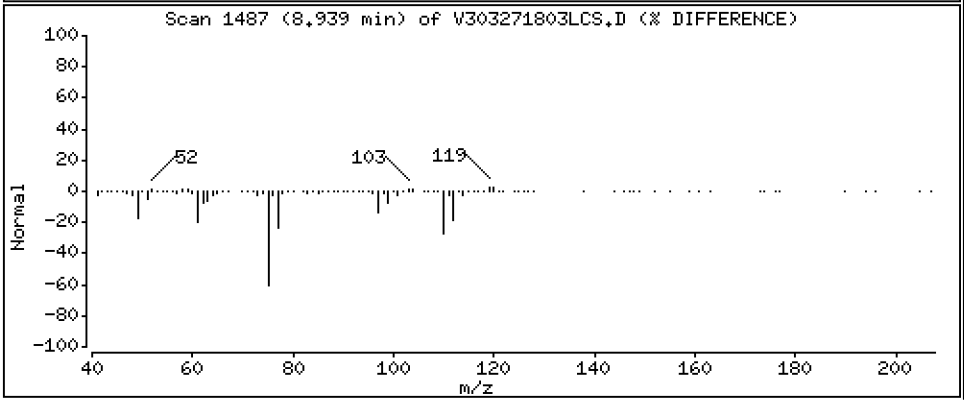
Column phase: RTXVMS Column diameter: 0.18

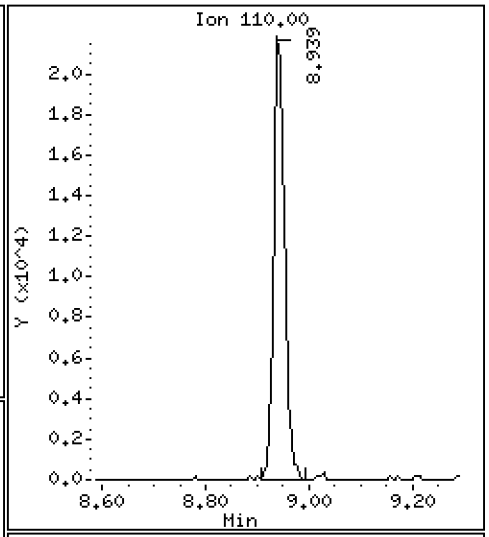
68 1,2,3-Trichloropropane Concentration: 9.120 ug/L

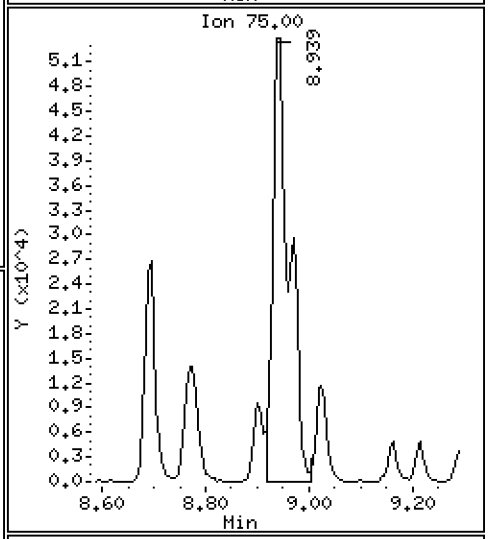


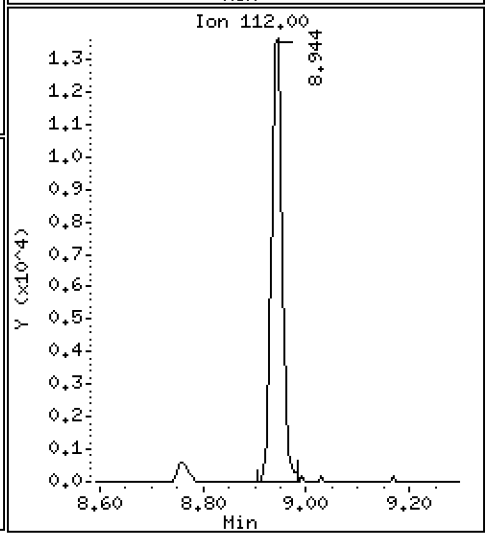












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

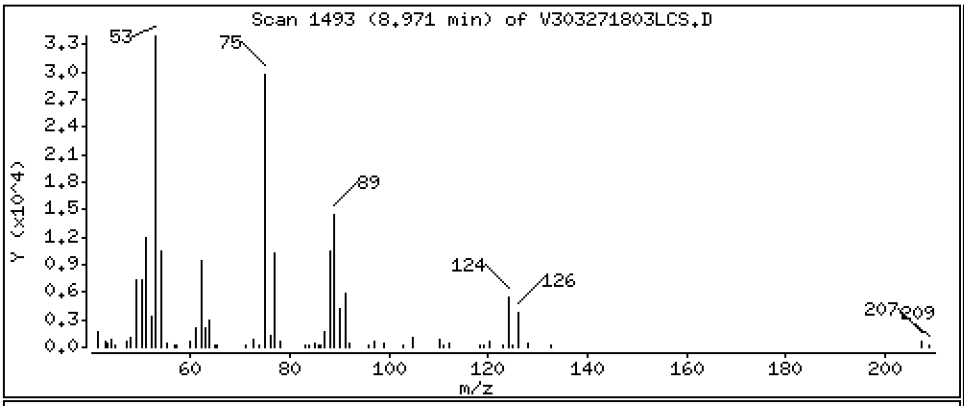
Operator: PKC

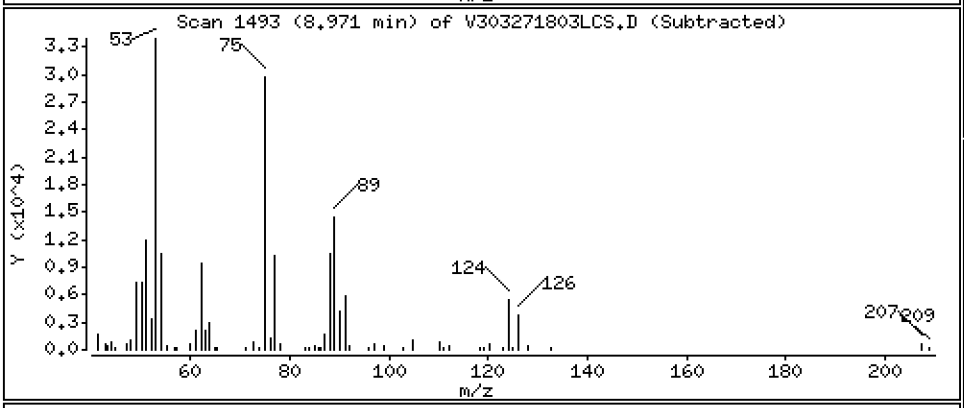
Column phase: RTXVMS

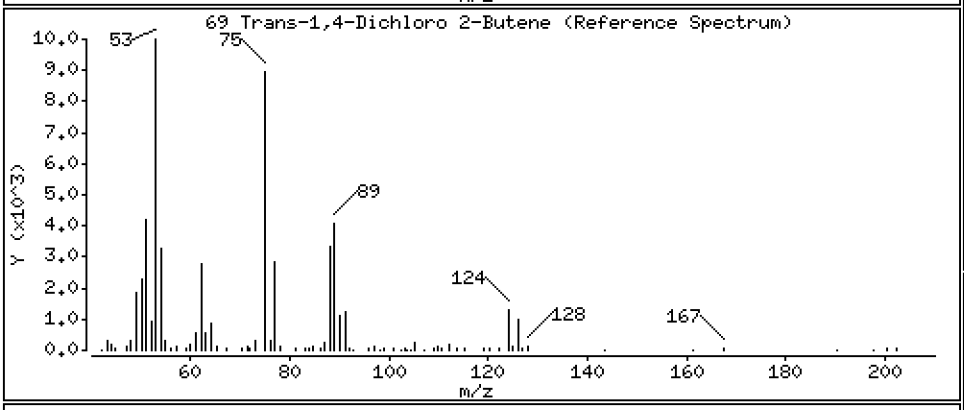
Column diameter: 0.18

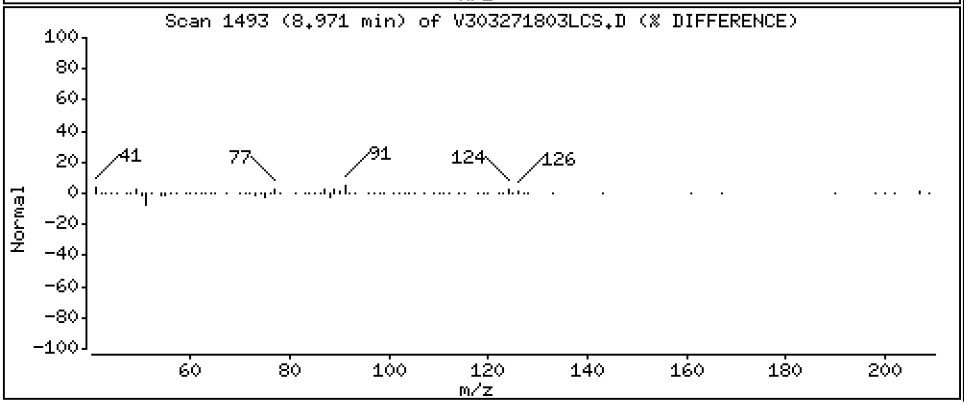
69 Trans-1,4-Dichloro 2-Butene

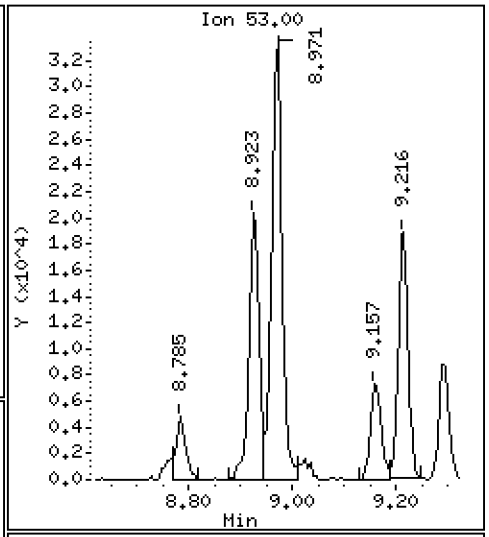
Concentration: 8.717 ug/L

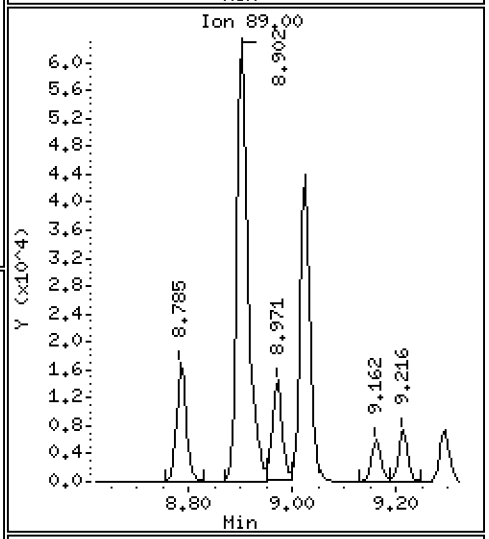


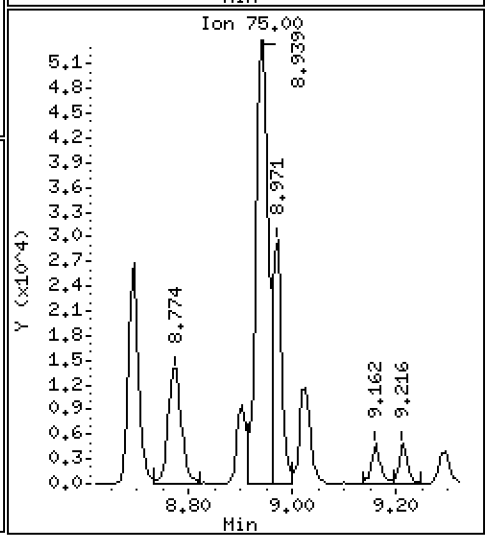












Date : 27-MAR-2018 09:15

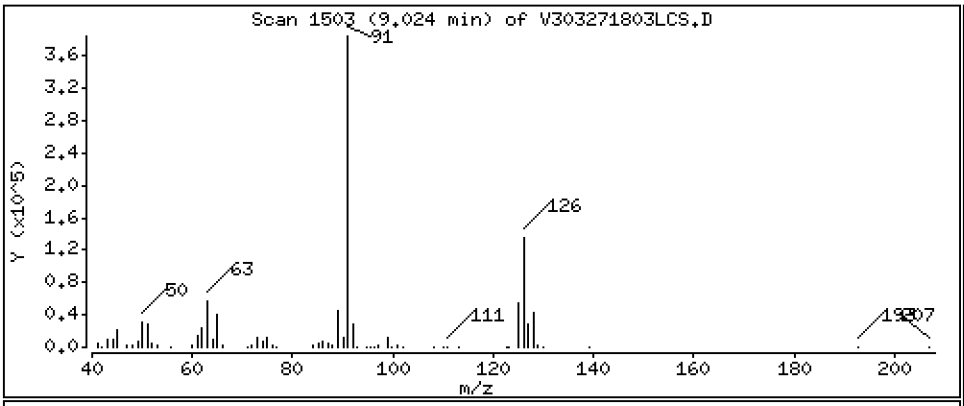
Client ID: VOA Instrument: nt3.i

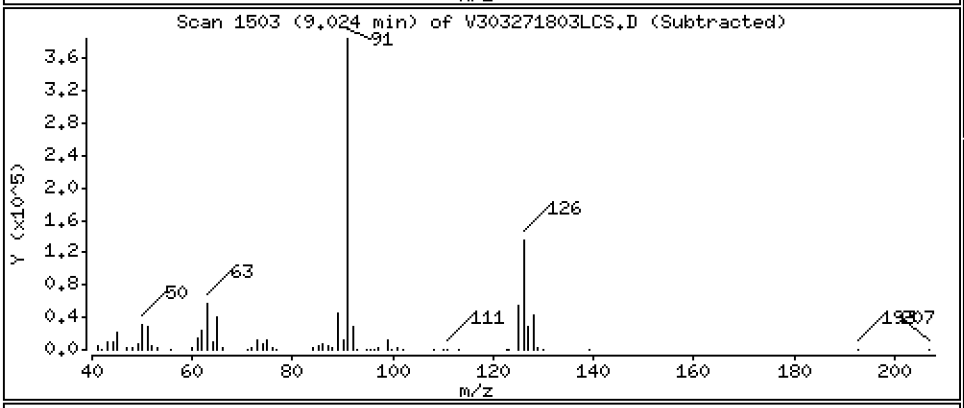
Sample Info: BGC0717-BS1

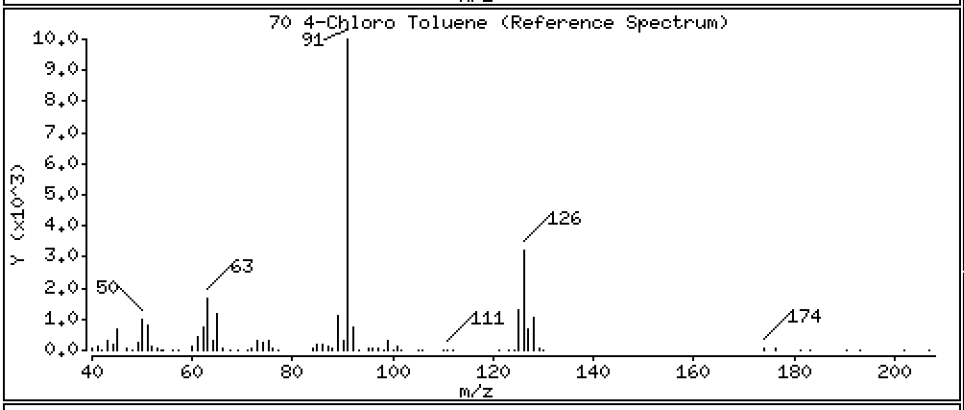
Operator: PKC

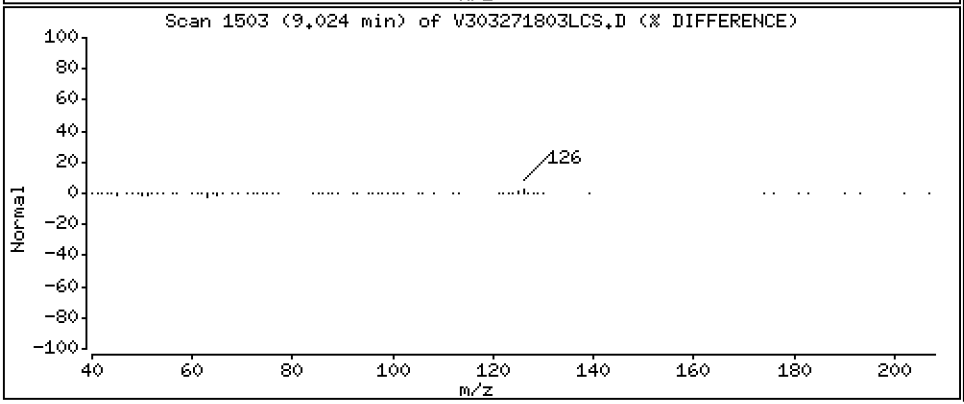
Column phase: RTXVMS Column diameter: 0.18

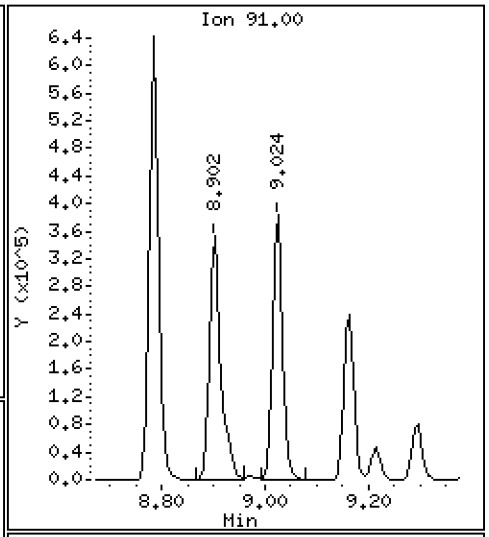
70 4-Chloro Toluene Concentration: 9.022 ug/L

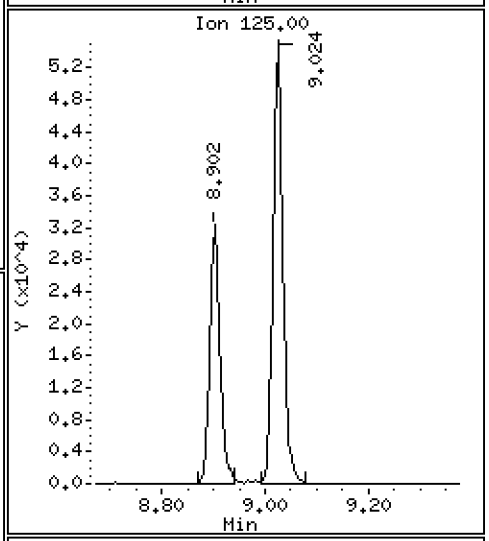


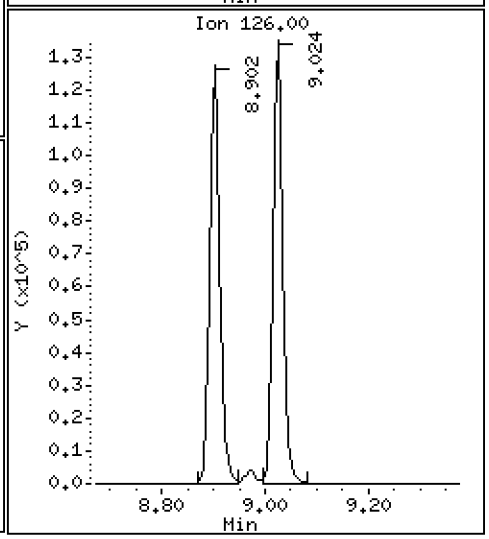












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

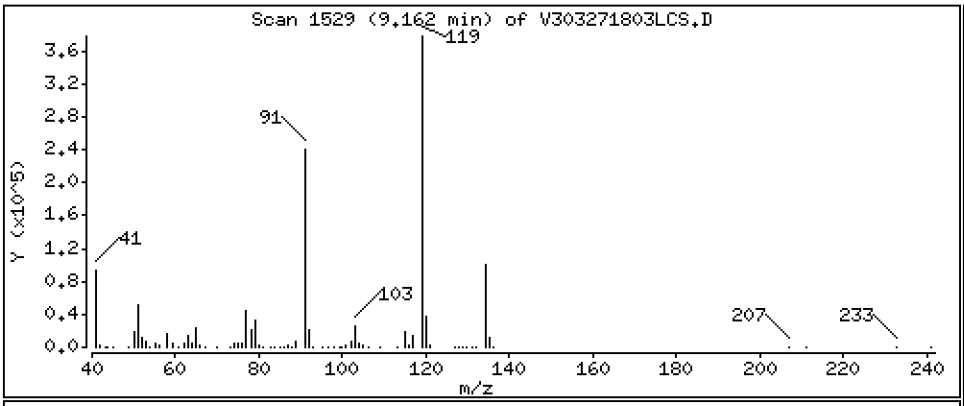
Operator: PKC

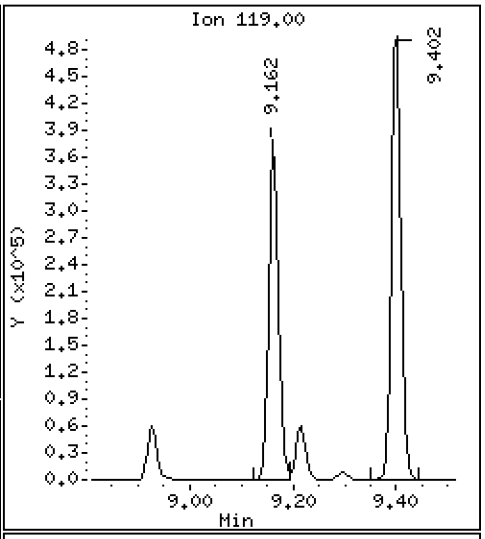
Column phase: RTXVMS

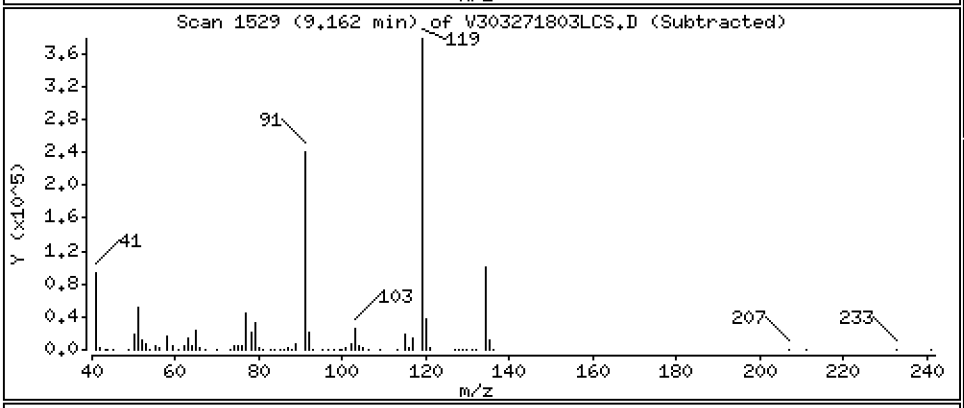
Column diameter: 0.18

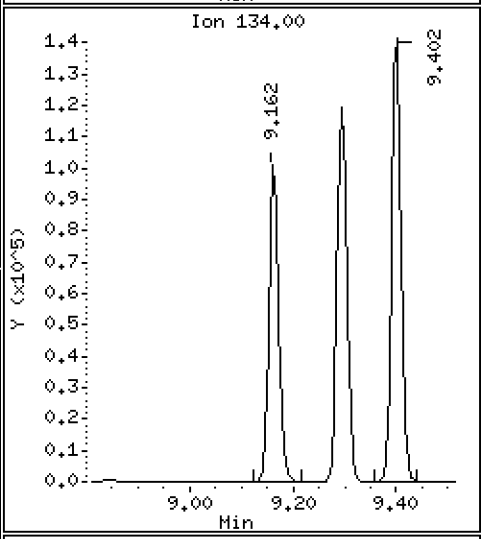
71 T-Butyl Benzene

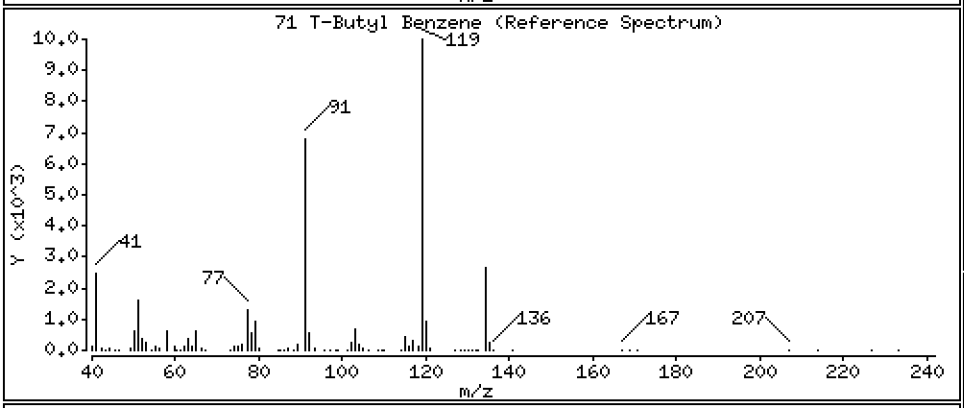
Concentration: 9.027 ug/L

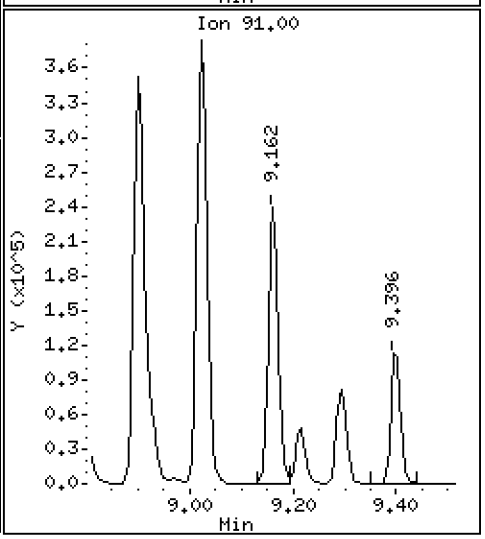


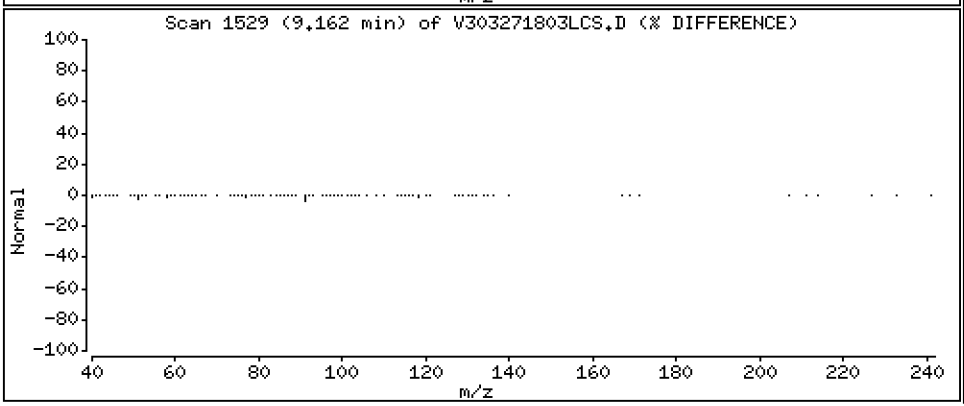












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

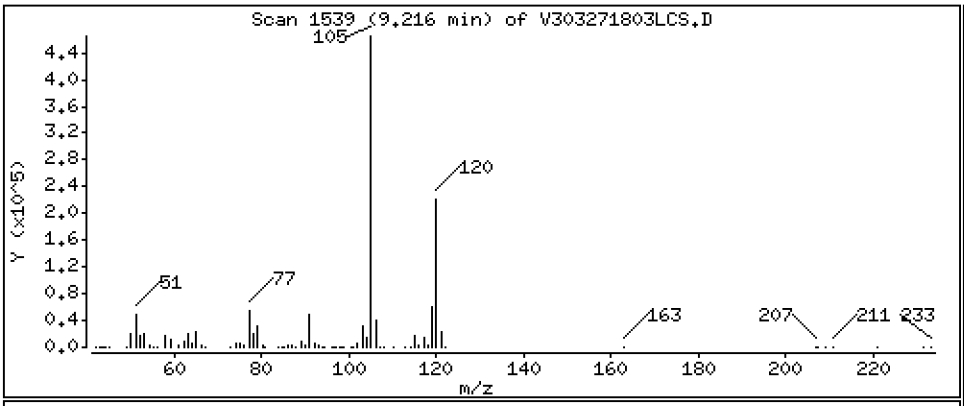
Operator: PKC

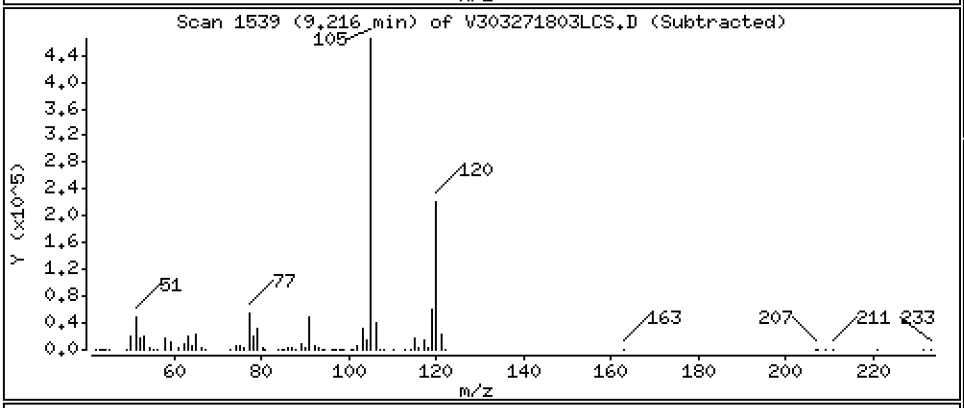
Column phase: RTXVMS

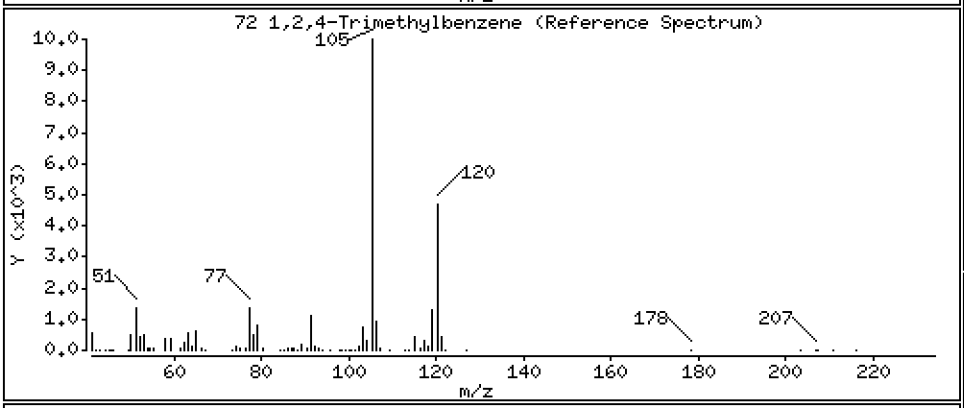
Column diameter: 0.18

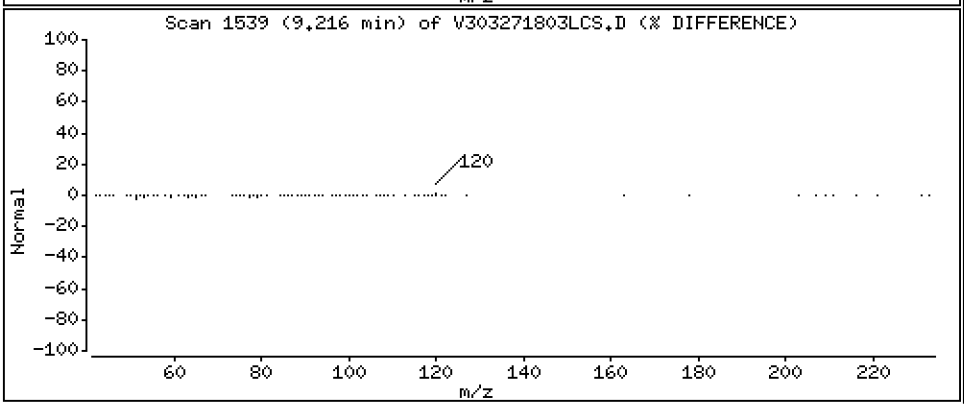
72 1,2,4-Trimethylbenzene

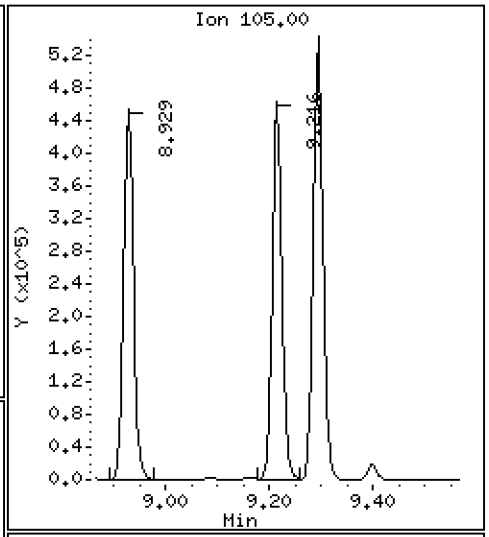
Concentration: 9.158 ug/L

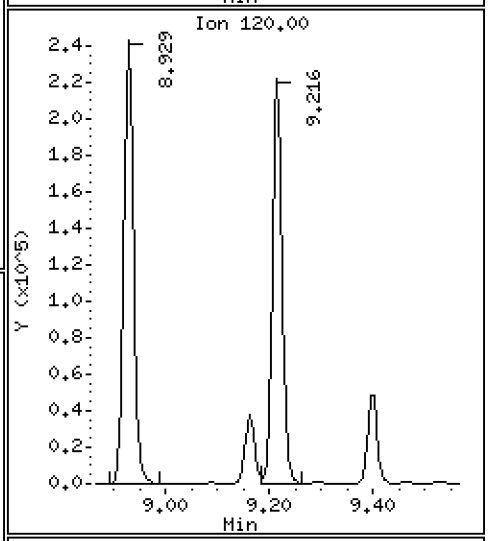


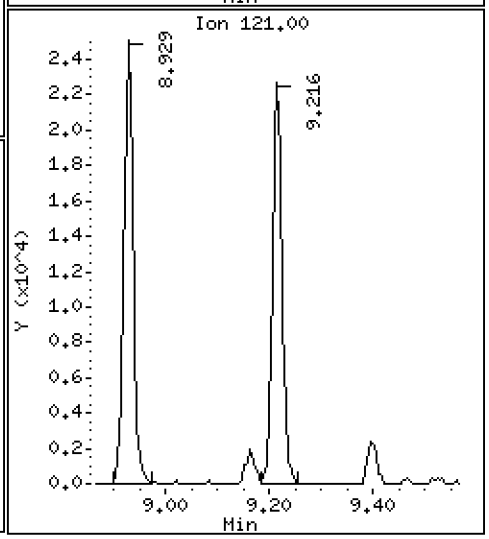












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

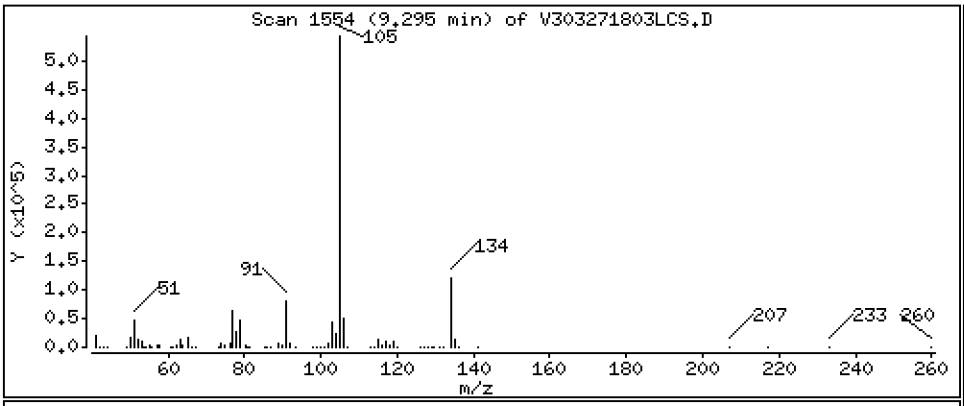
Operator: PKC

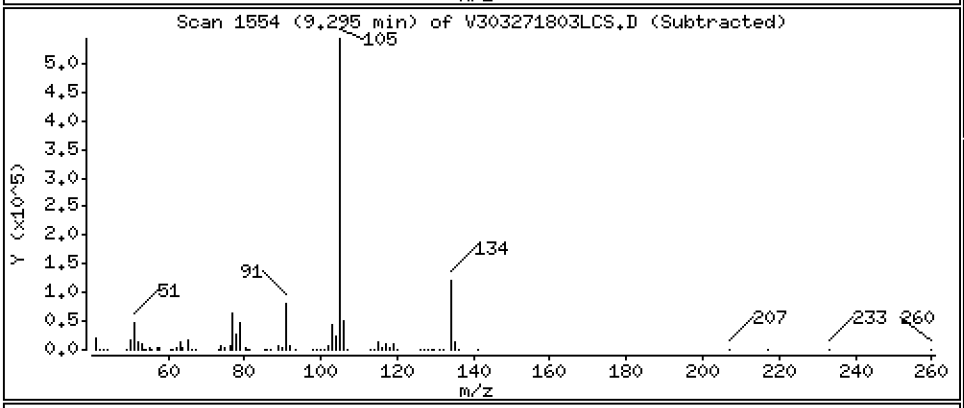
Column phase: RTXVMS

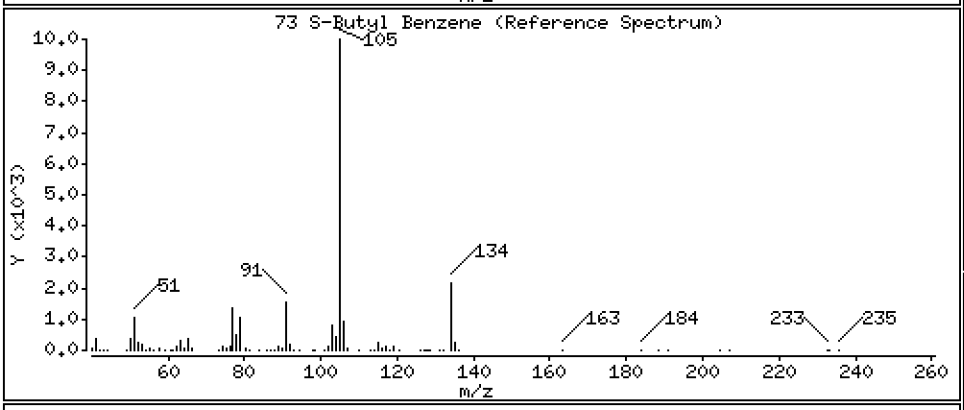
Column diameter: 0.18

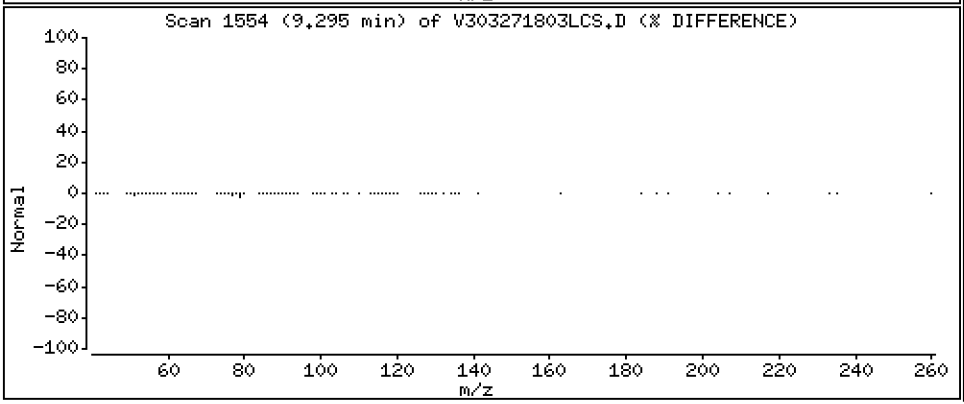
73 S-Butyl Benzene

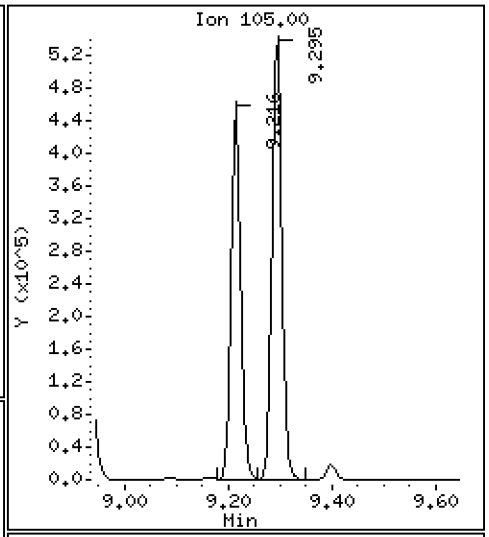
Concentration: 9.334 ug/L

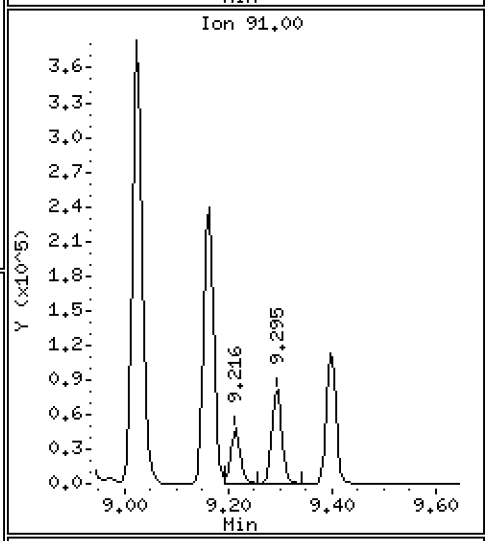


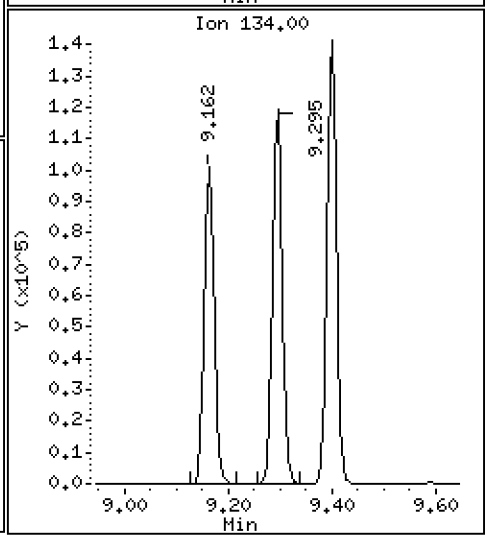












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

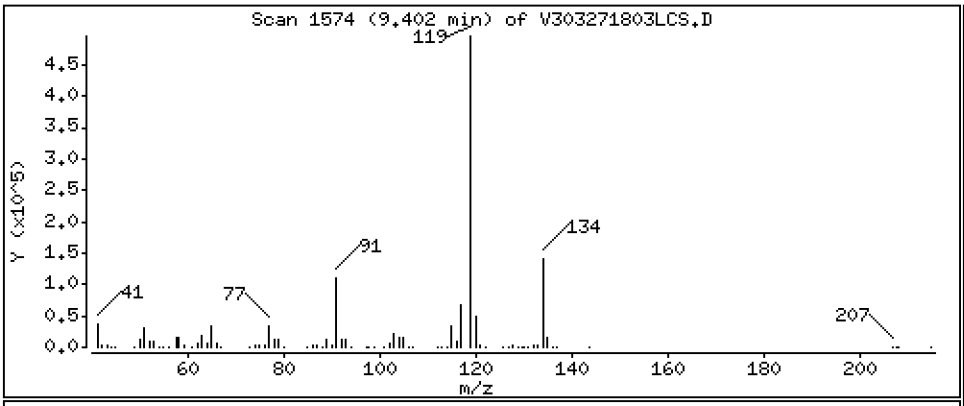
Operator: PKC

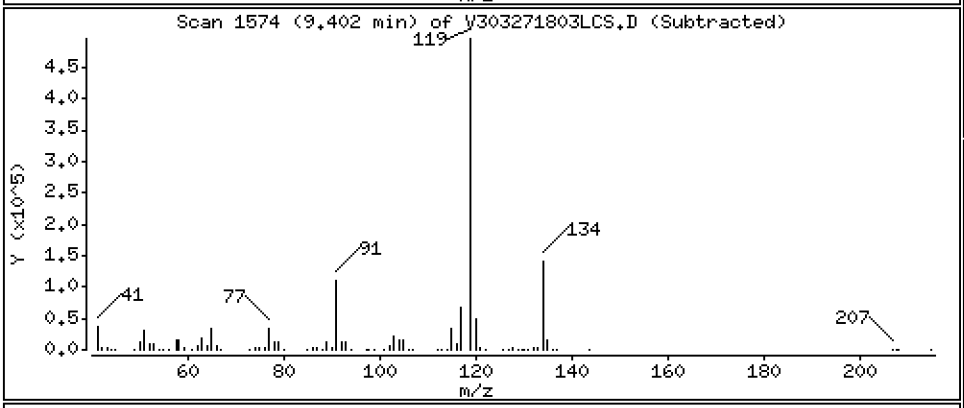
Column phase: RTXVMS

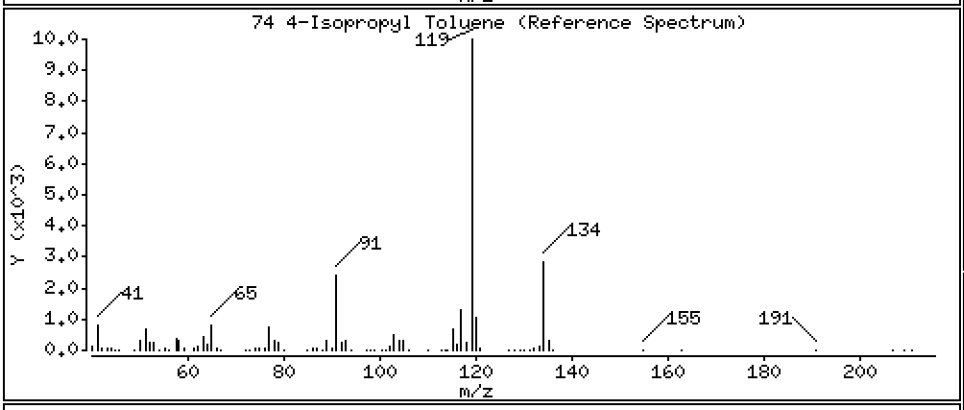
Column diameter: 0.18

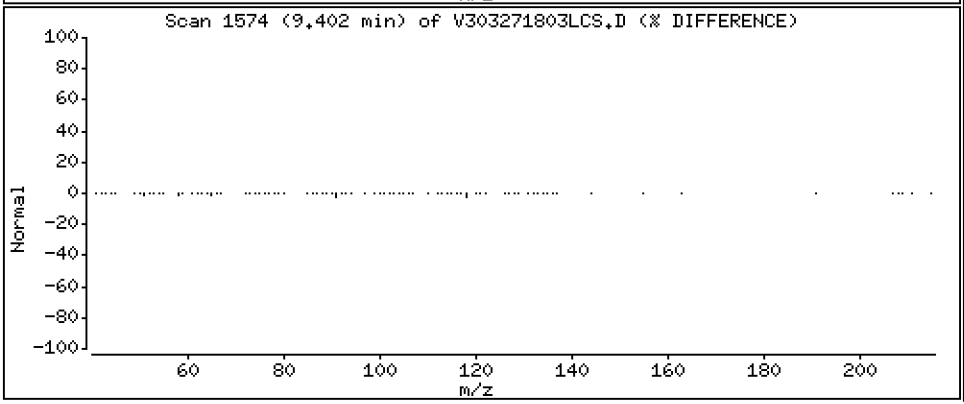
74 4-Isopropyl Toluene

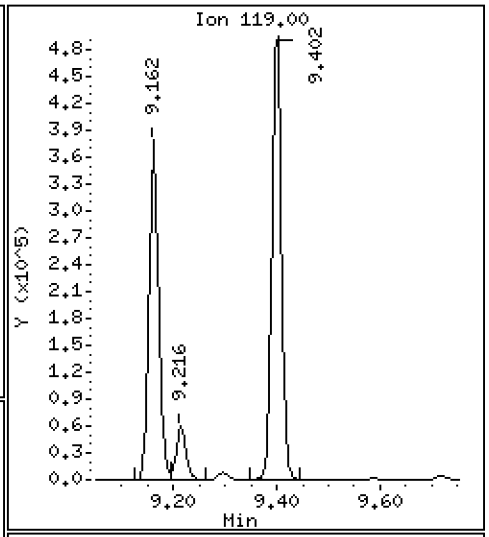
Concentration: 9.315 ug/L

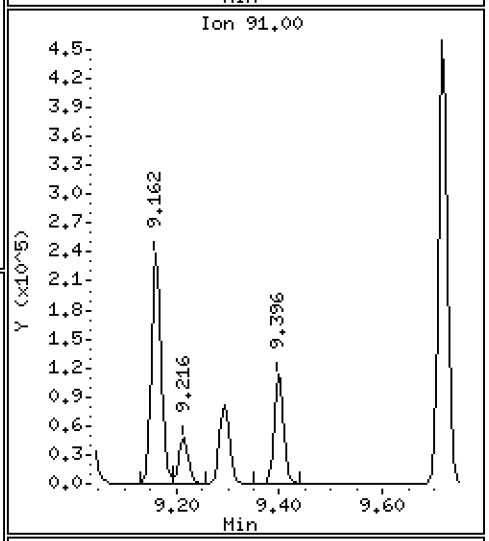


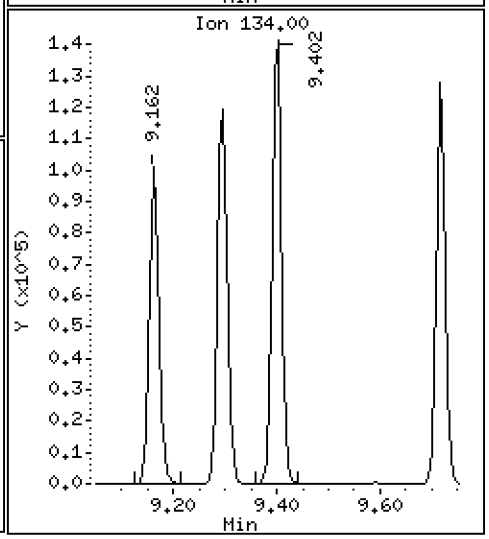












Date : 27-MAR-2018 09:15

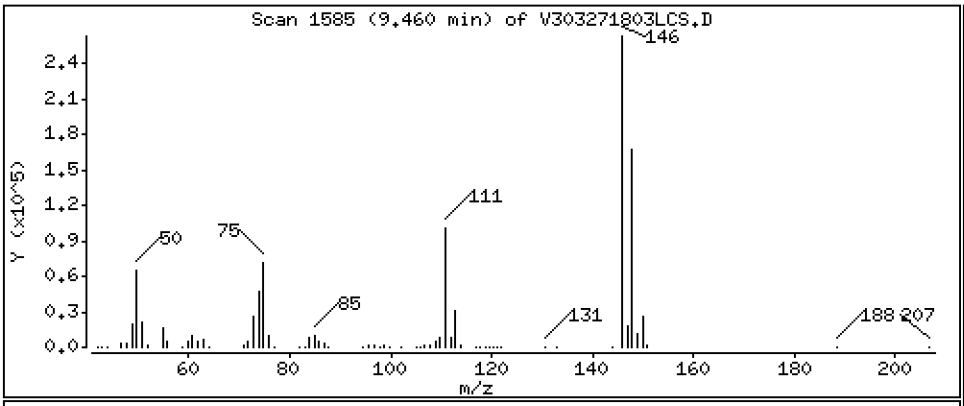
Client ID: VOA Instrument: nt3.i

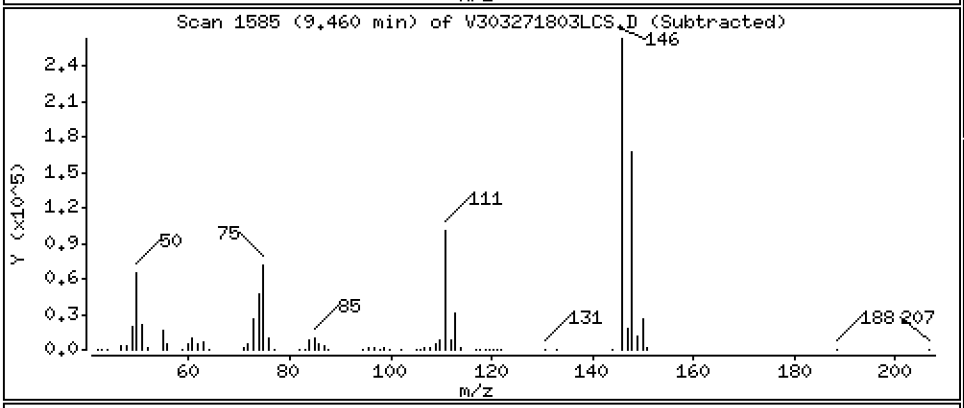
Sample Info: BGC0717-BS1

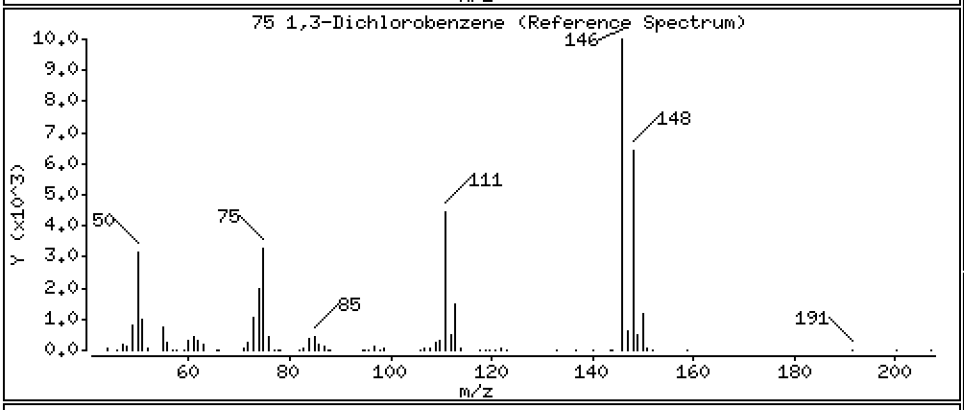
Operator: PKC

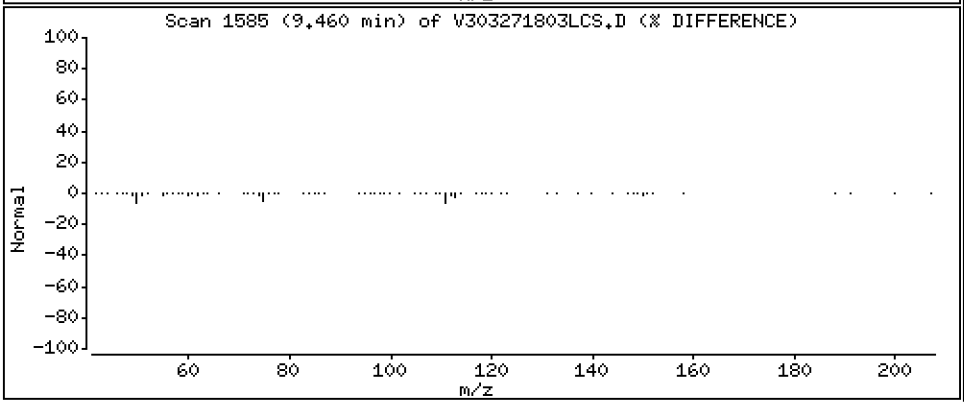
Column phase: RTXVMS Column diameter: 0.18

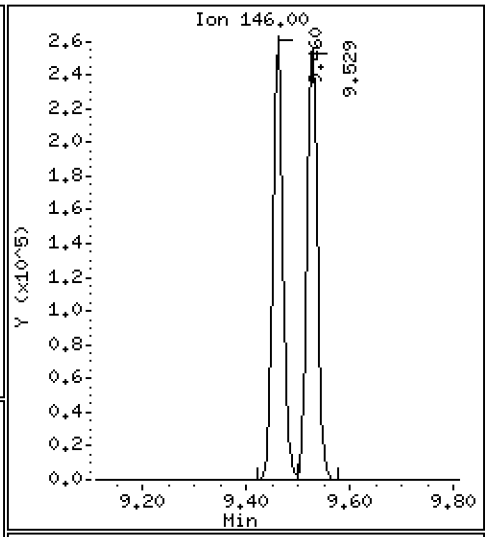
75 1,3-Dichlorobenzene Concentration: 9.475 ug/L

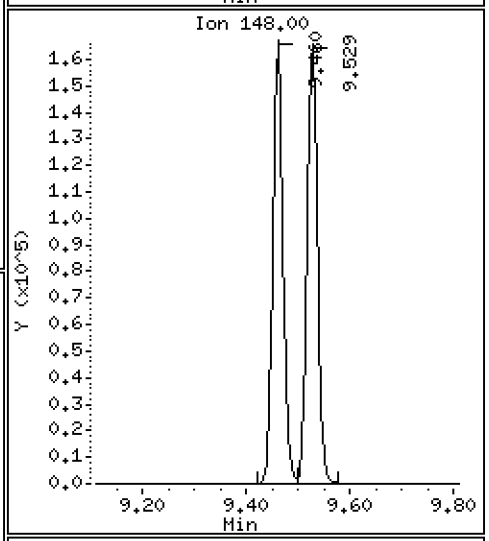


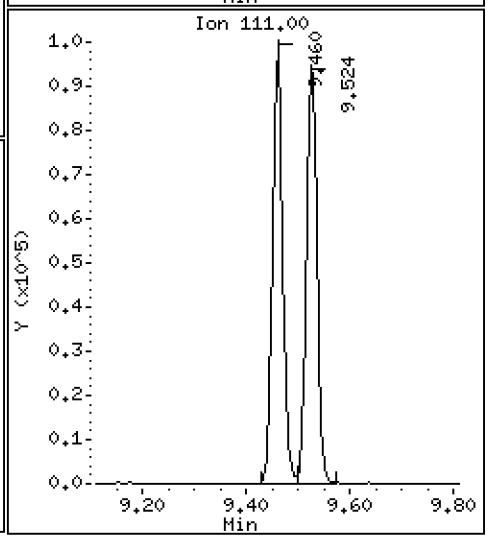












Date : 27-MAR-2018 09:15

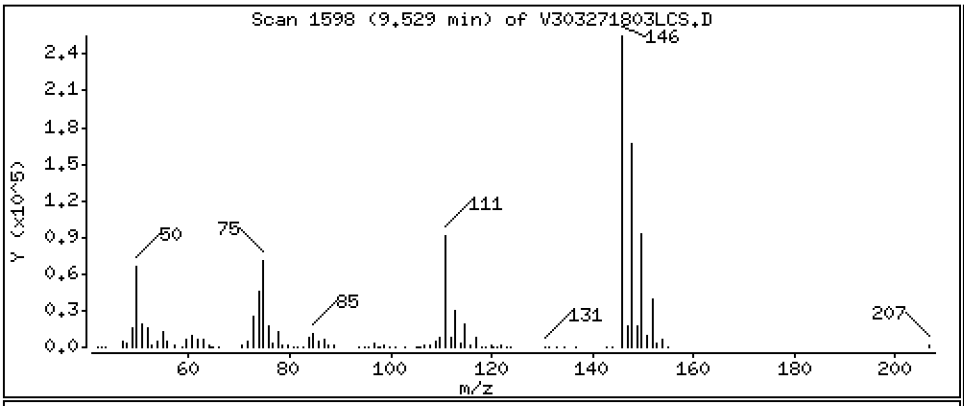
Client ID: VOA Instrument: nt3.i

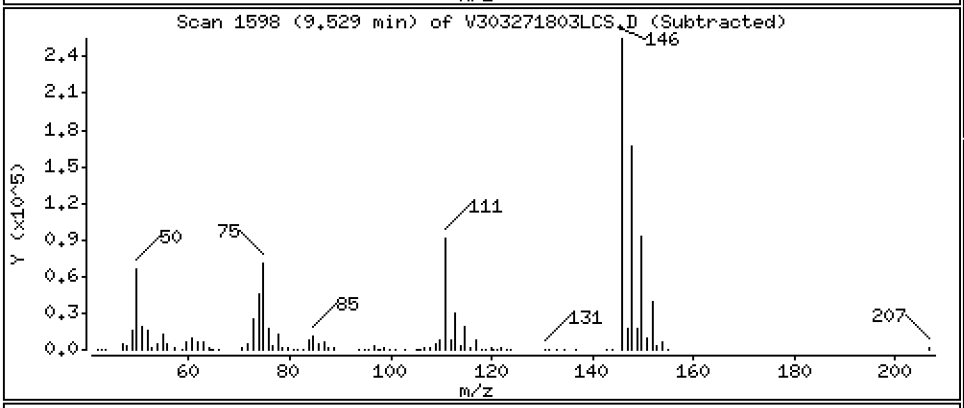
Sample Info: BGC0717-BS1

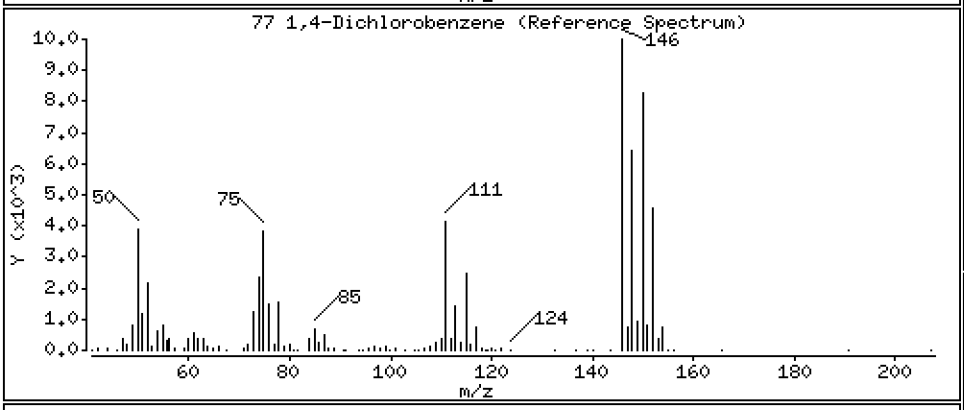
Operator: PKC

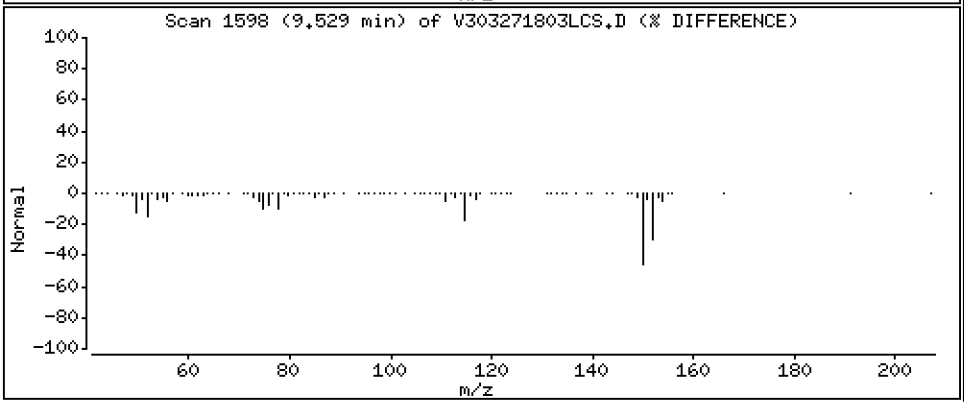
Column phase: RTXVMS Column diameter: 0.18

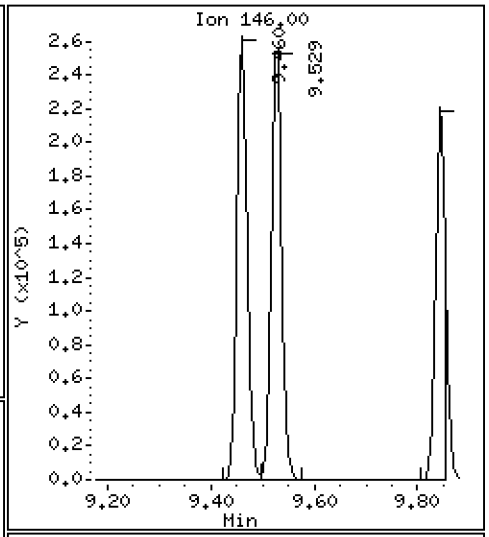
77 1,4-Dichlorobenzene Concentration: 9.460 ug/L

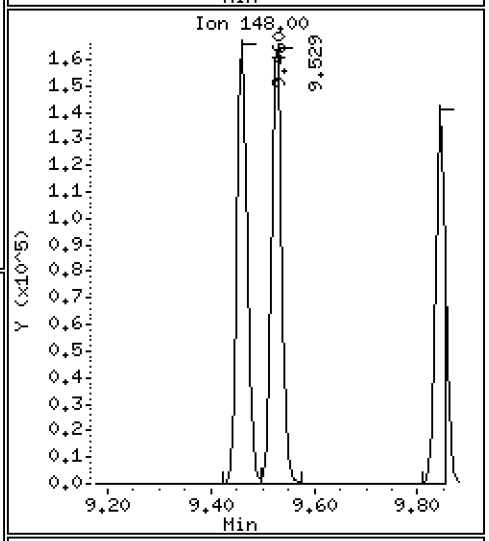


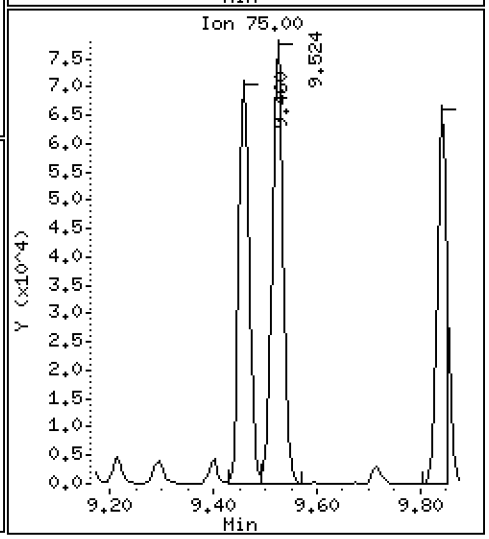












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

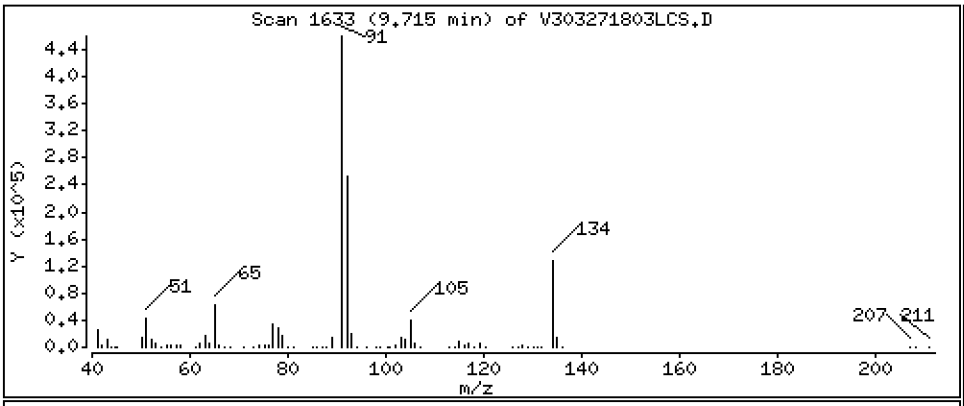
Operator: PKC

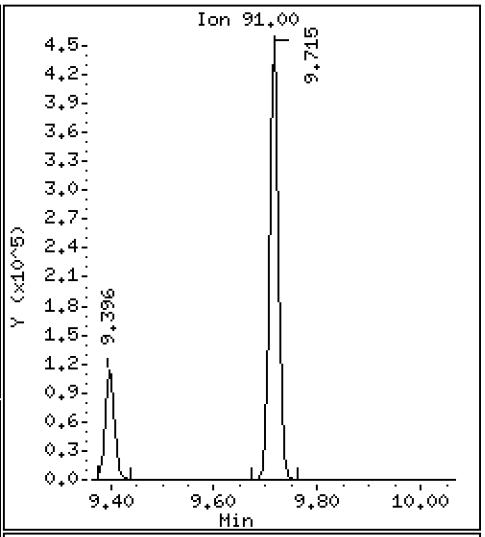
Column phase: RTXVMS

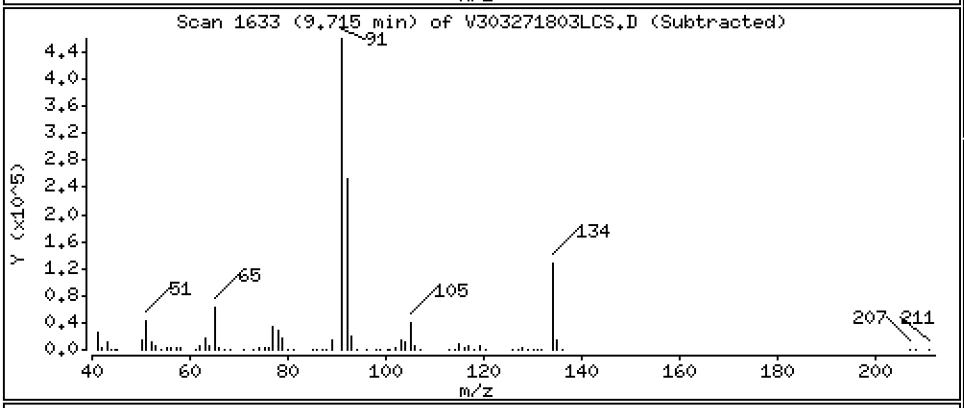
Column diameter: 0.18

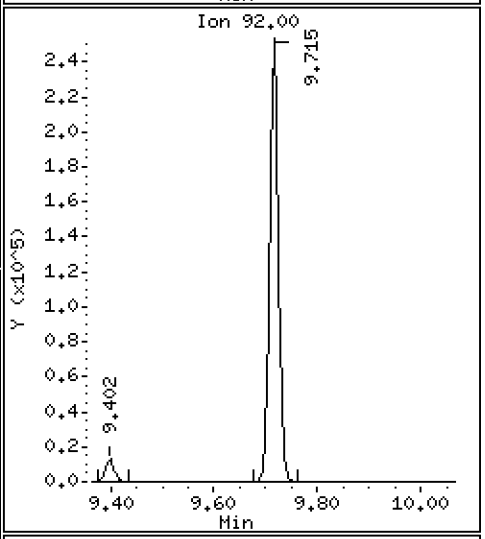
78 N-Butyl Benzene

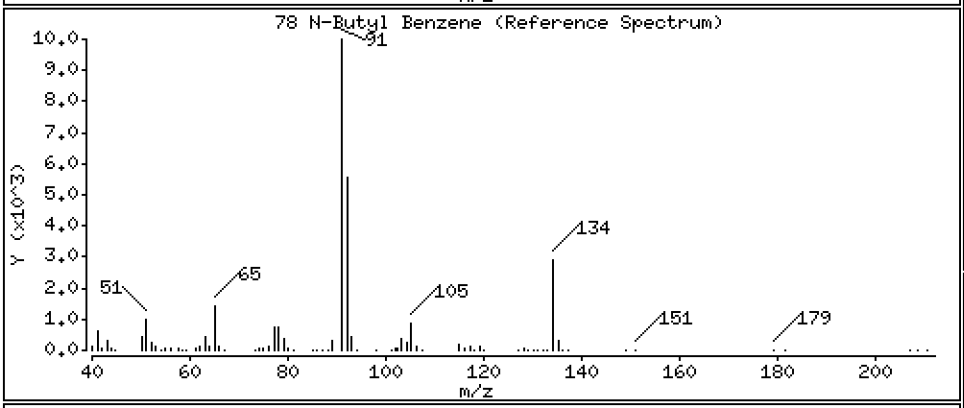
Concentration: 9.433 ug/L

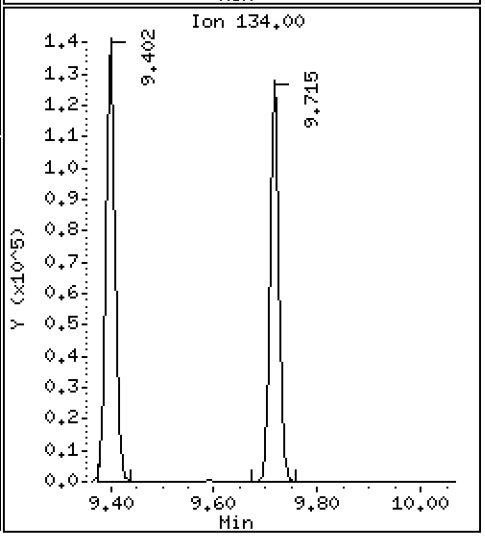


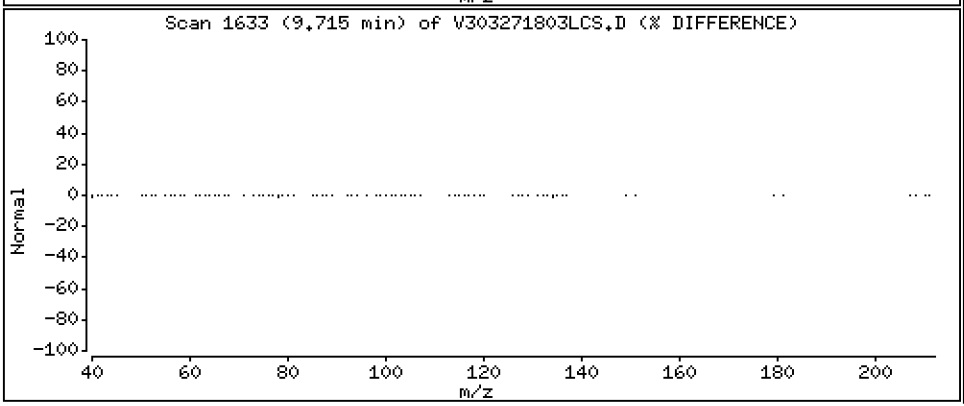












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

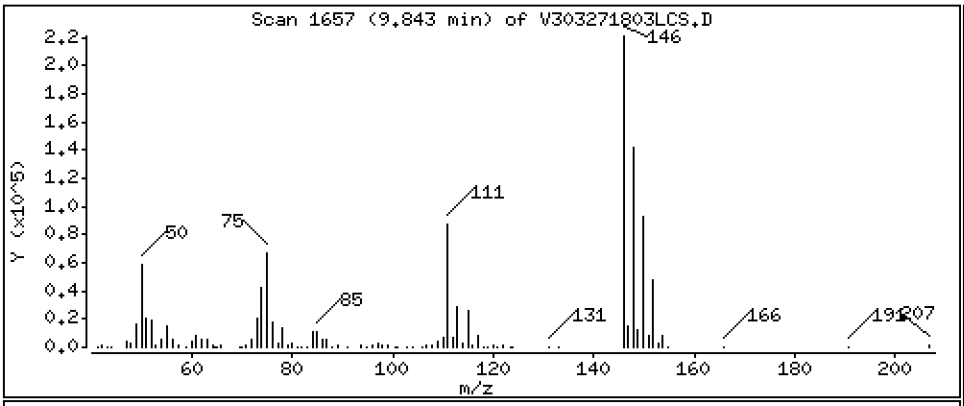
Operator: PKC

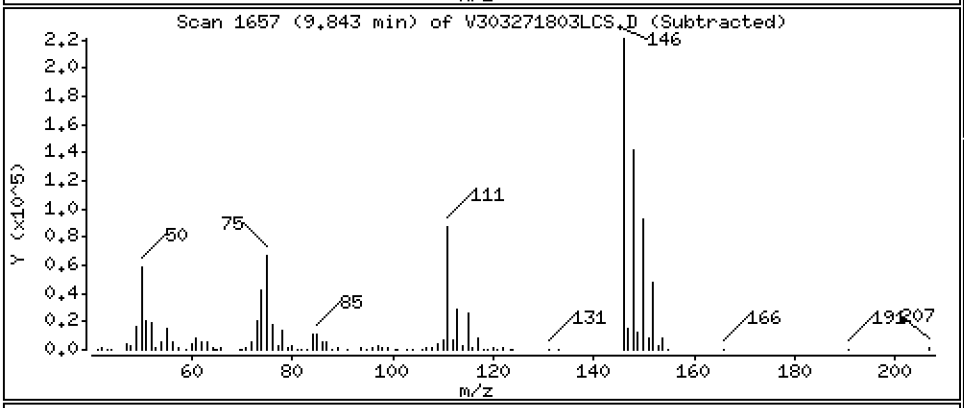
Column phase: RTXVMS

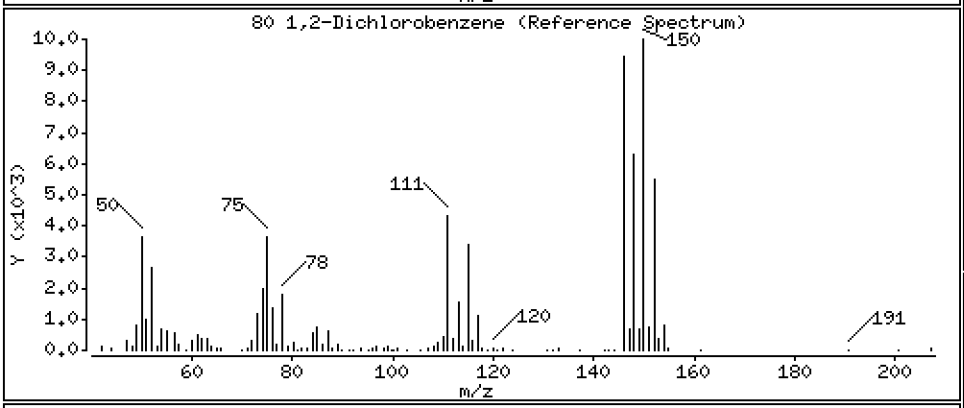
Column diameter: 0.18

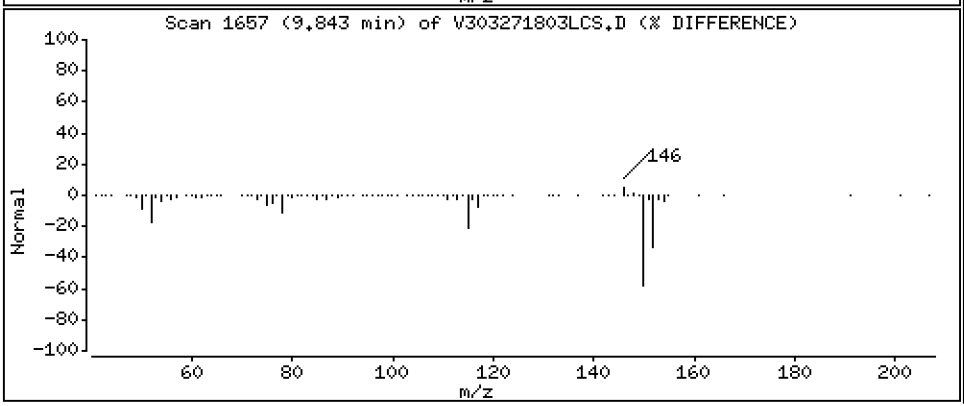
80 1,2-Dichlorobenzene

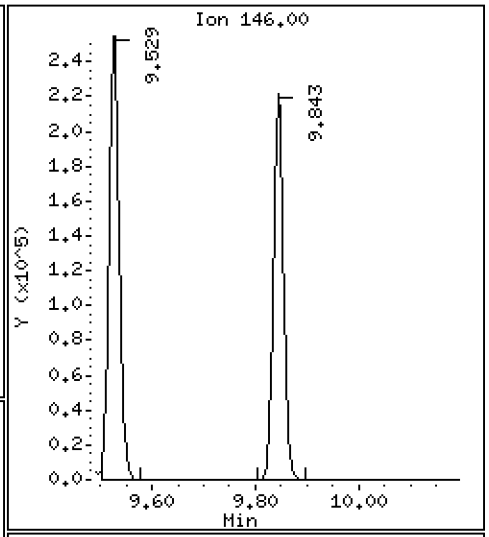
Concentration: 9.280 ug/L

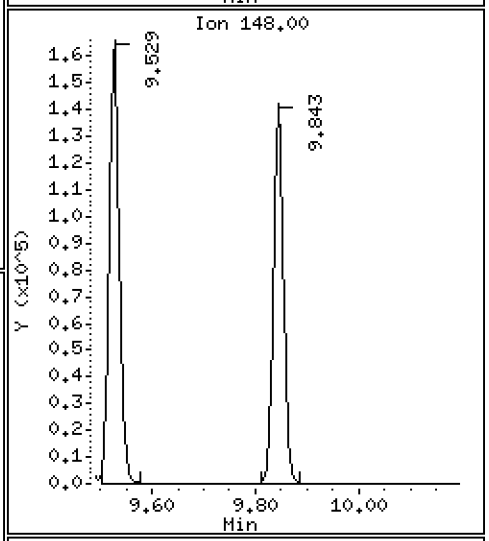


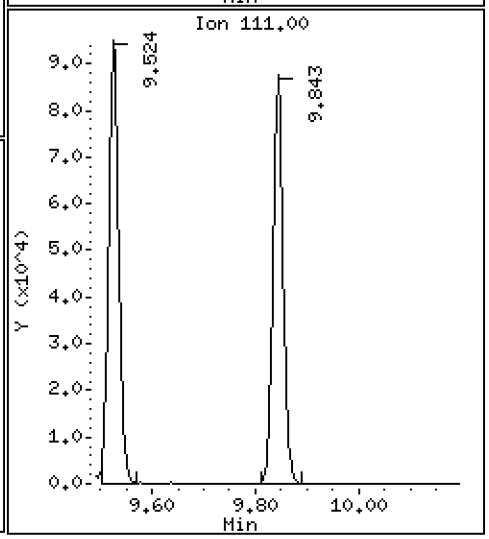












Date : 27-MAR-2018 09:15

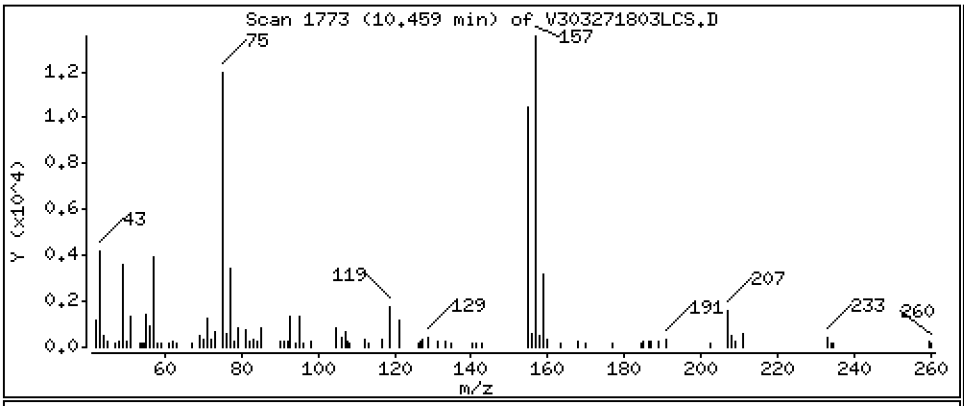
Client ID: VOA Instrument: nt3.i

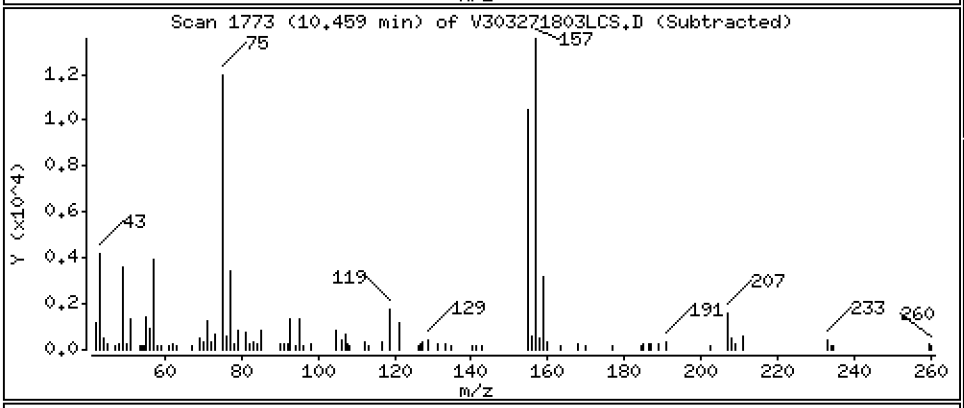
Sample Info: BGC0717-BS1

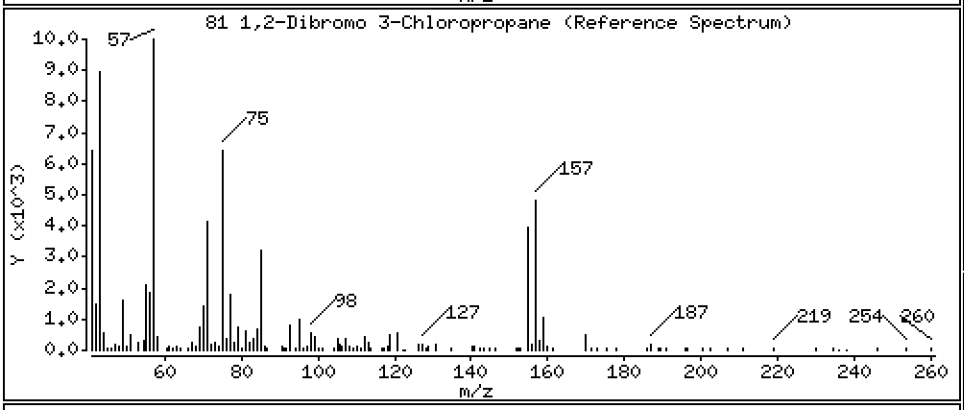
Operator: PKC

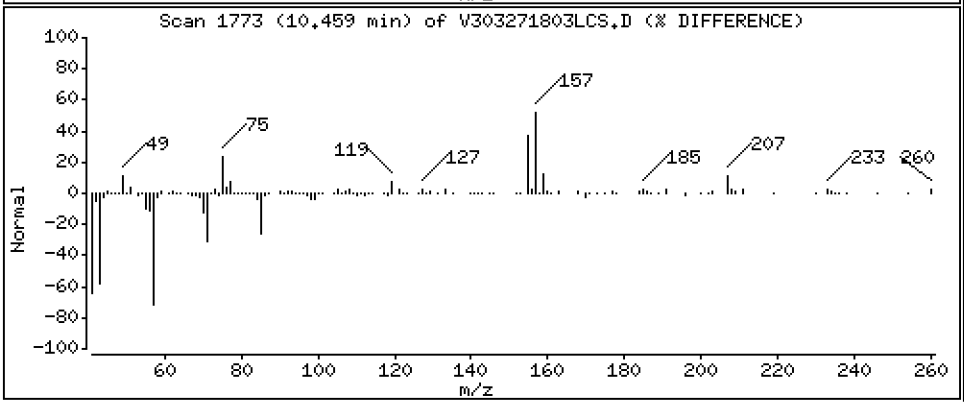
Column phase: RTXVMS Column diameter: 0.18

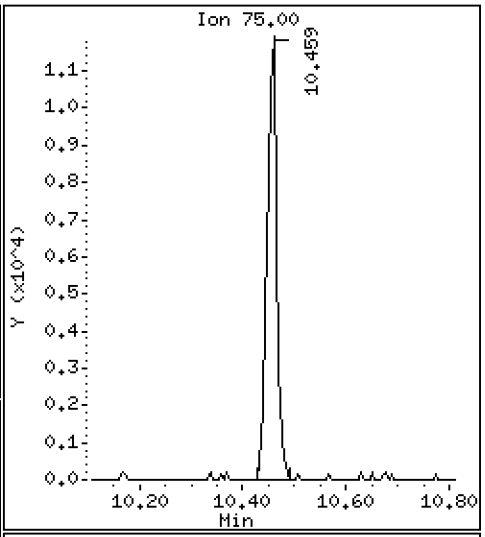
81 1,2-Dibromo 3-Chloropropane Concentration: 8.290 ug/L

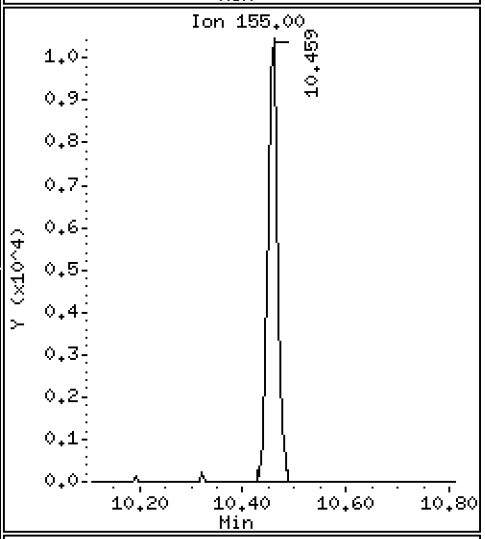


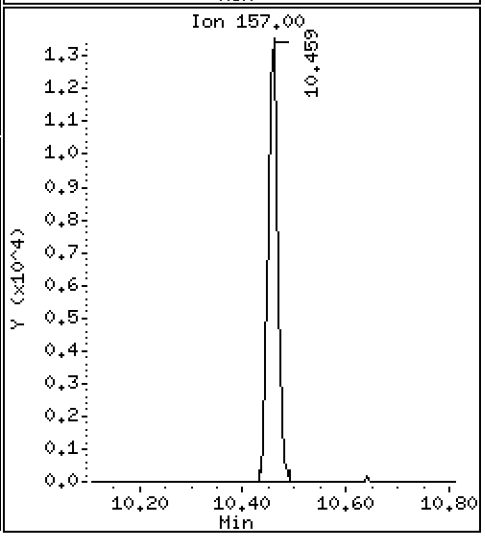












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

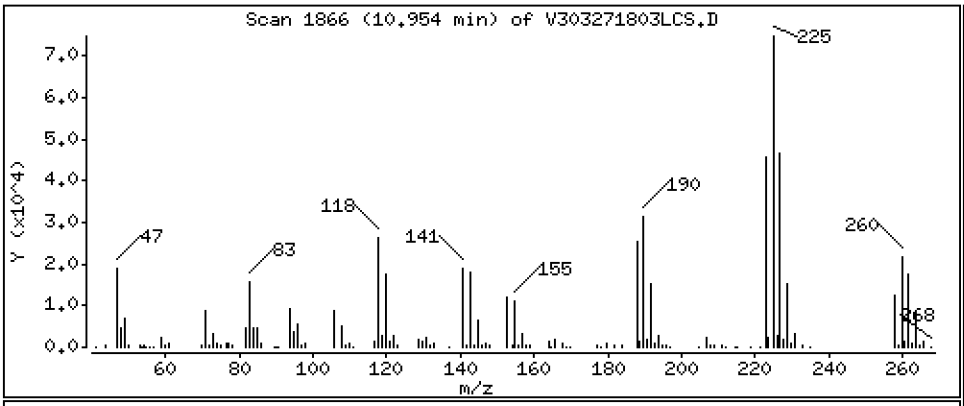
Operator: PKC

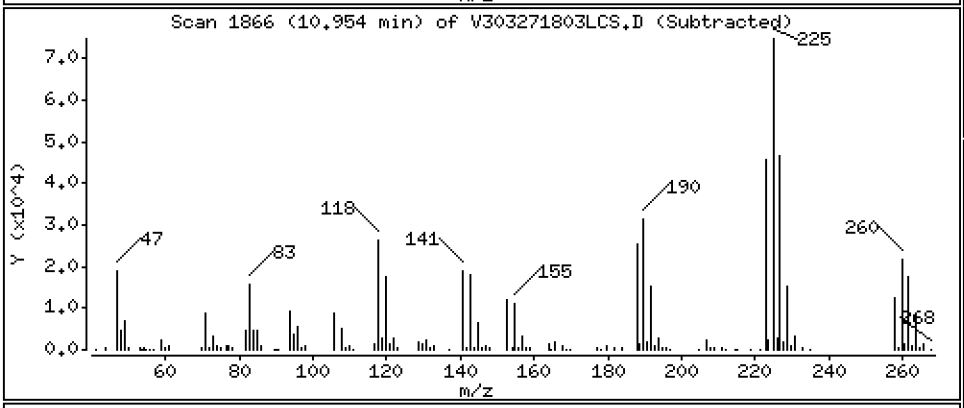
Column phase: RTXVMS

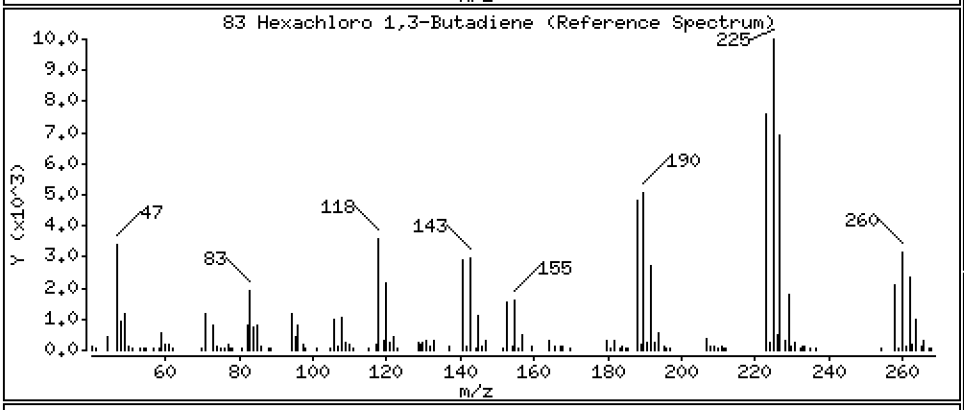
Column diameter: 0.18

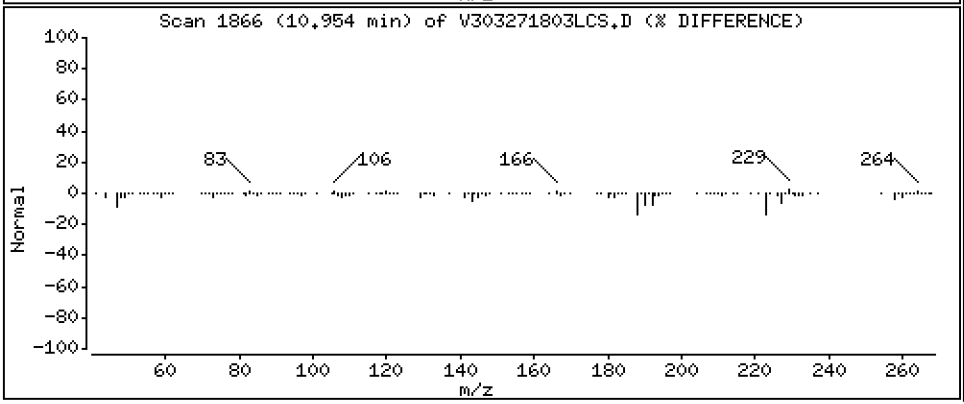
83 Hexachloro 1,3-Butadiene

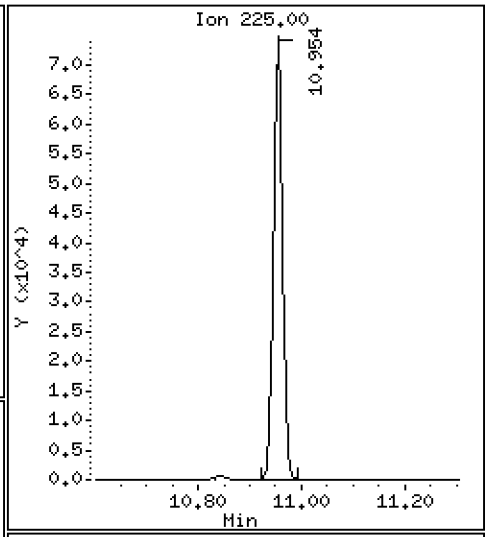
Concentration: 9.975 ug/L

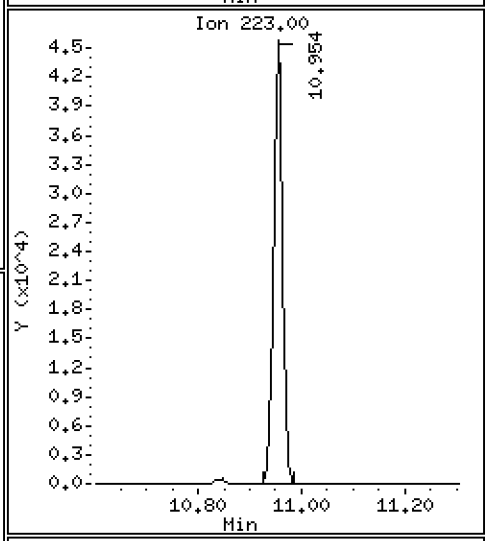


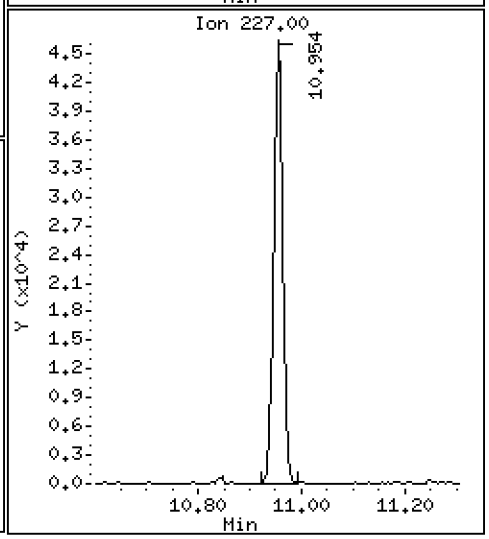












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

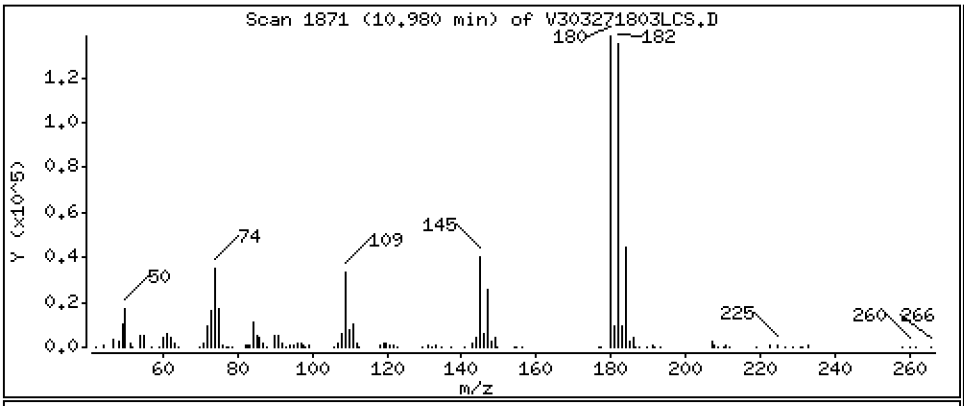
Operator: PKC

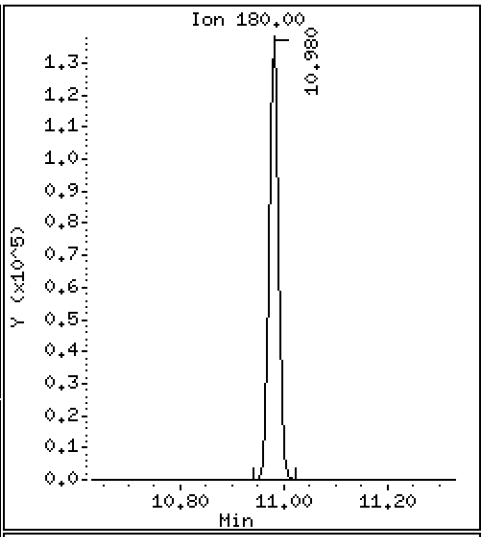
Column phase: RTXVMS

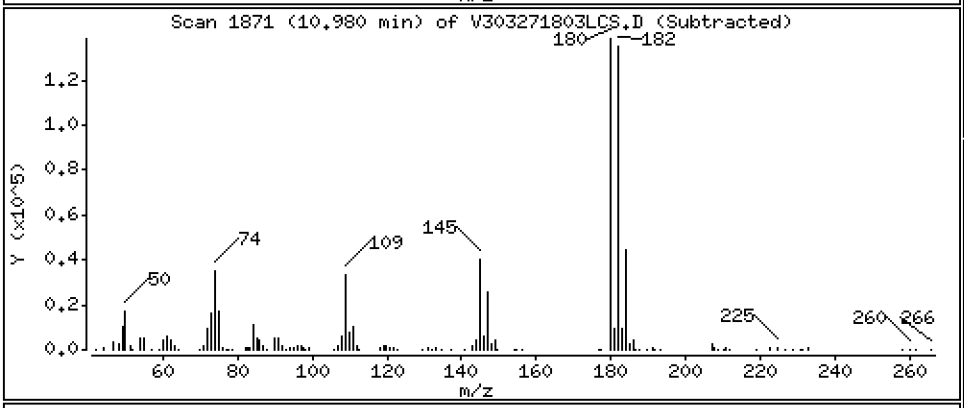
Column diameter: 0.18

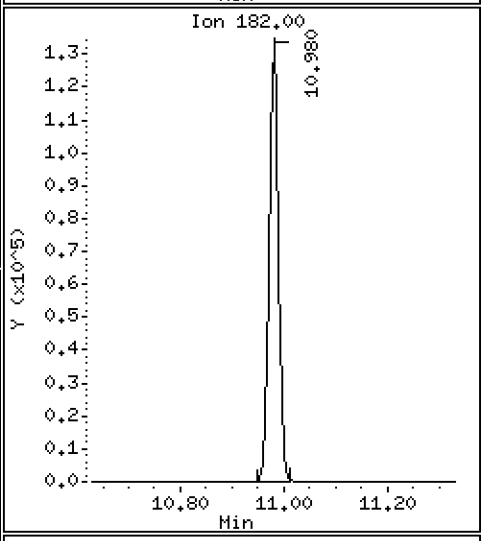
84 1,2,4-Trichlorobenzene

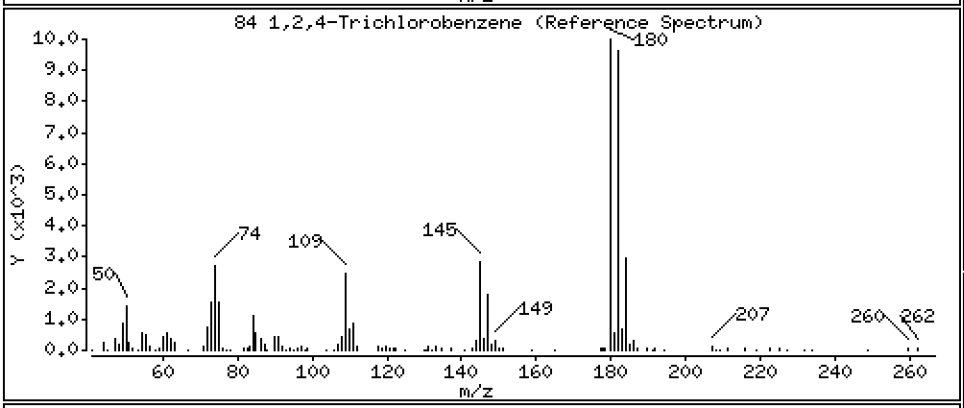
Concentration: 9.004 ug/L

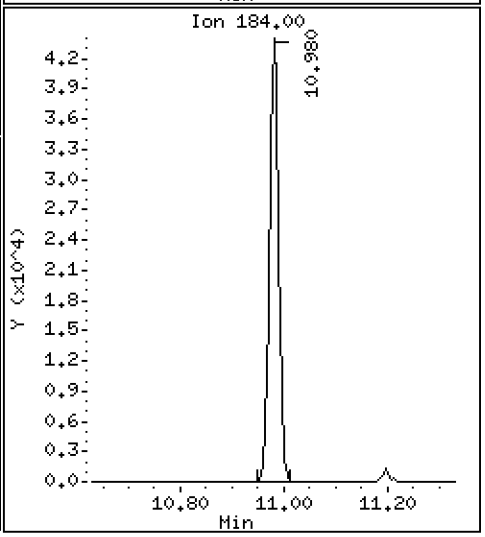


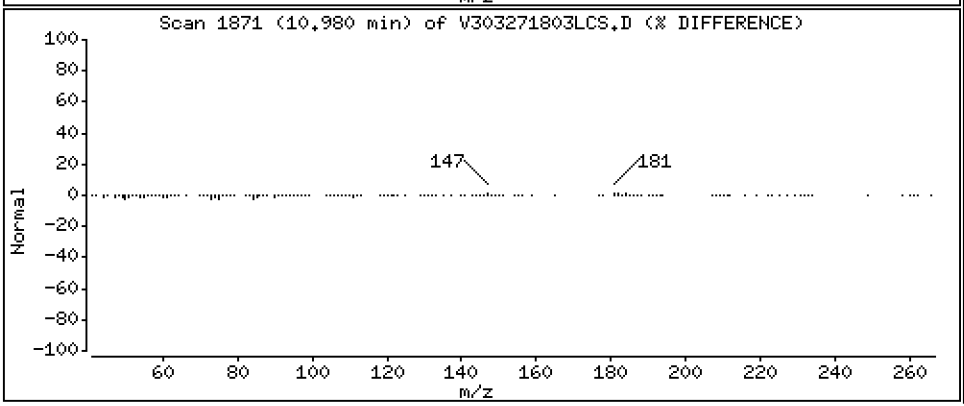












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

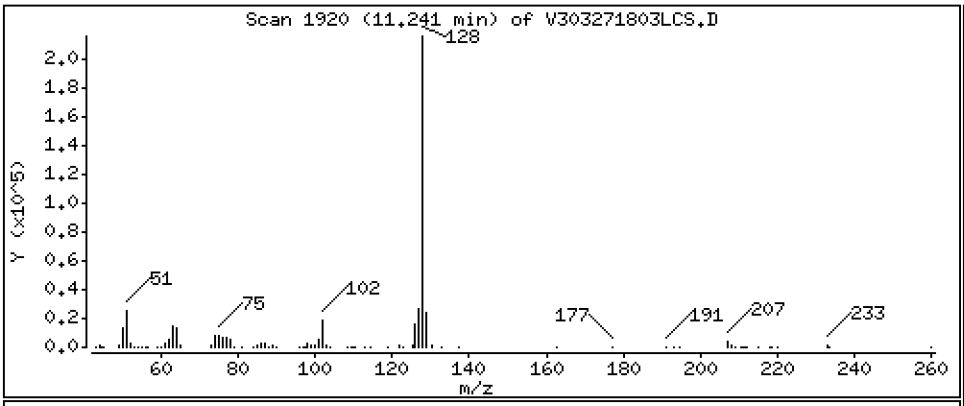
Operator: PKC

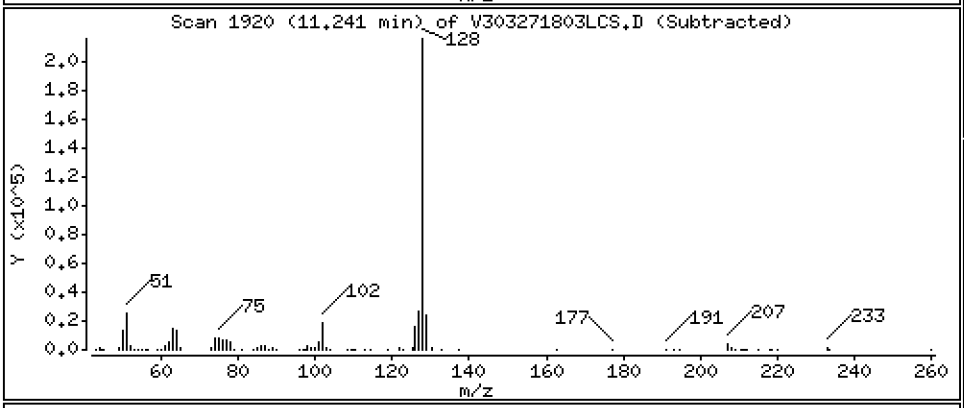
Column phase: RTXVMS

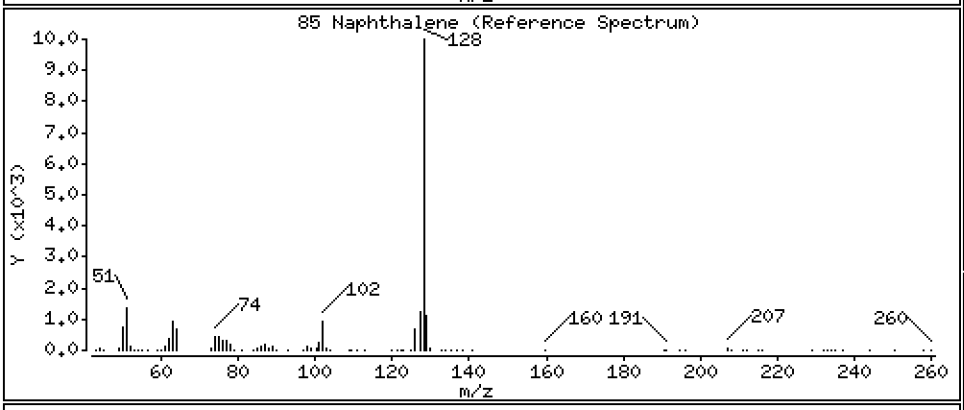
Column diameter: 0.18

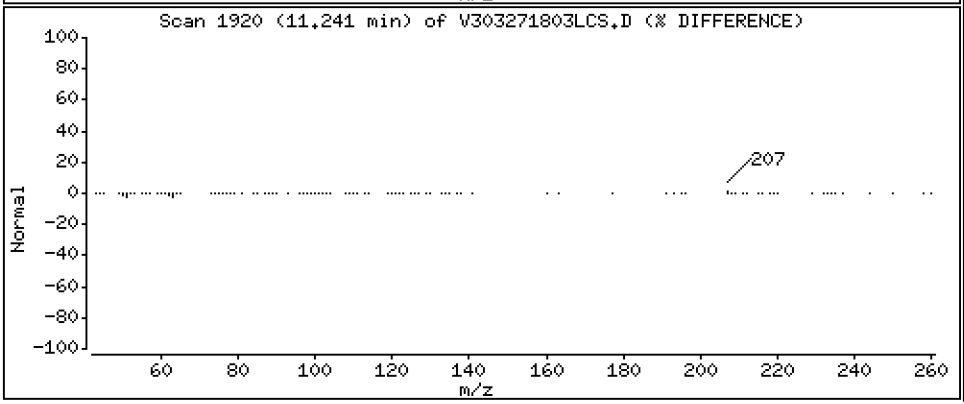
85 Naphthalene

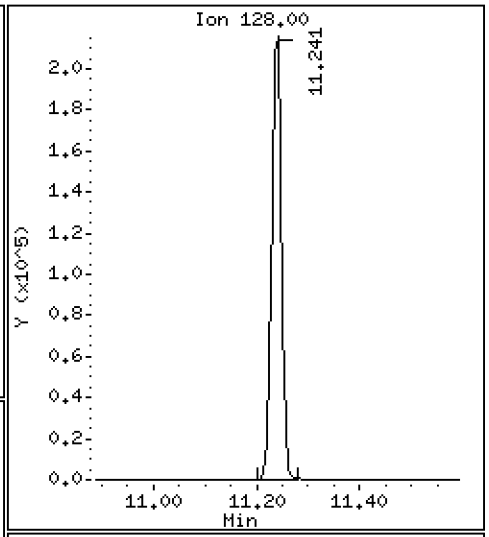
Concentration: 10.228 ug/L

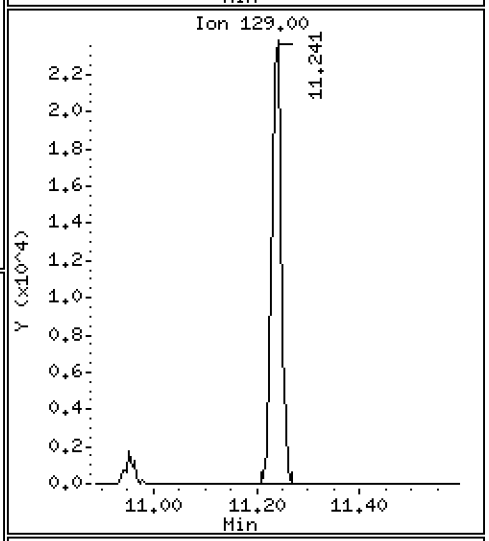


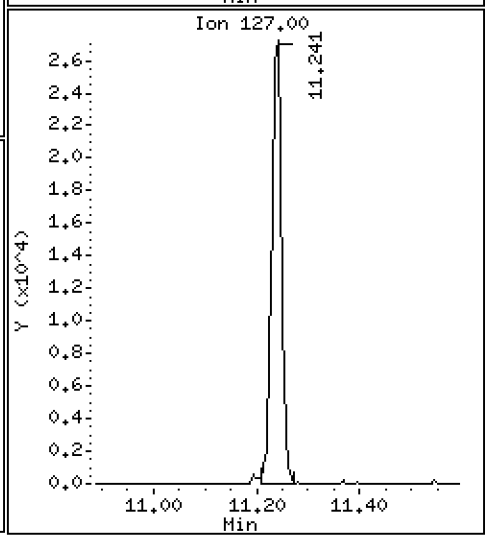












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D

Date : 27-MAR-2018 09:15

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BS1

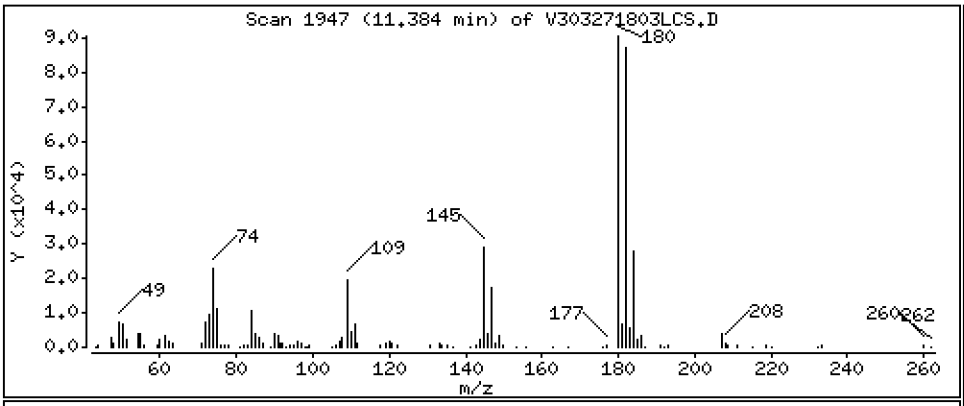
Operator: PKC

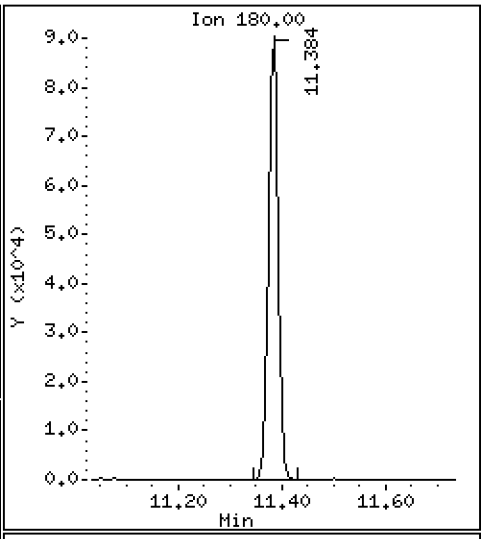
Column phase: RTXVMS

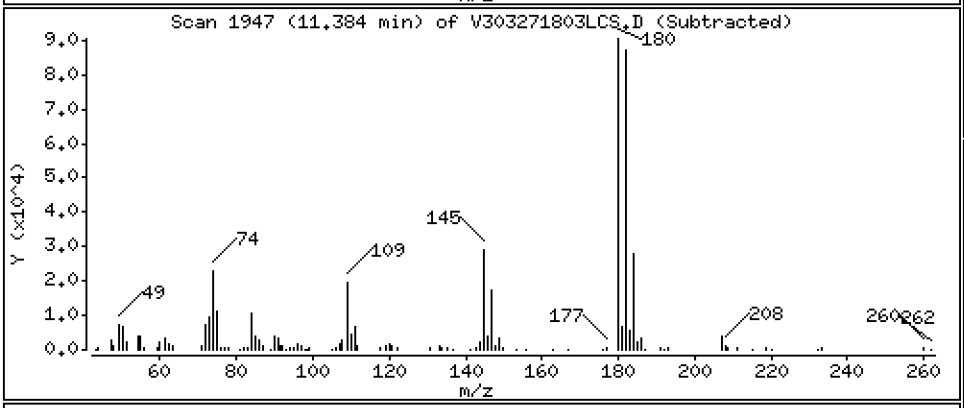
Column diameter: 0.18

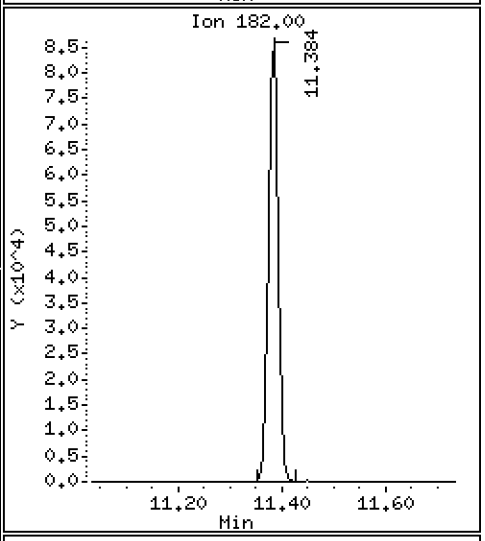
86 1,2,3-Trichlorobenzene

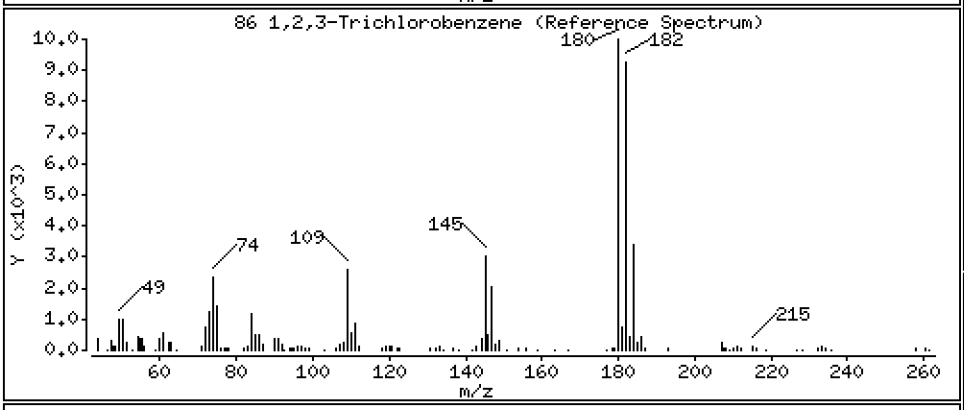
Concentration: 8.964 ug/L

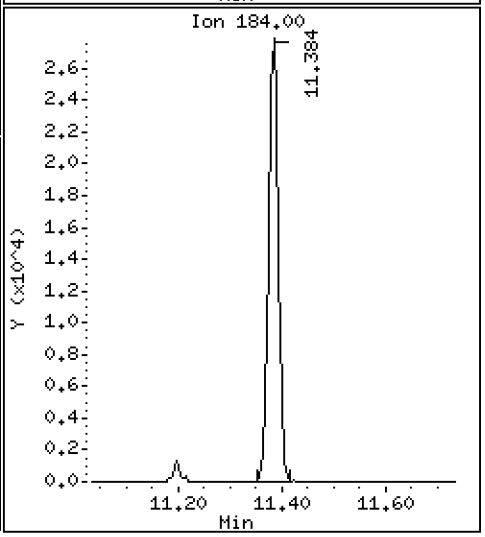


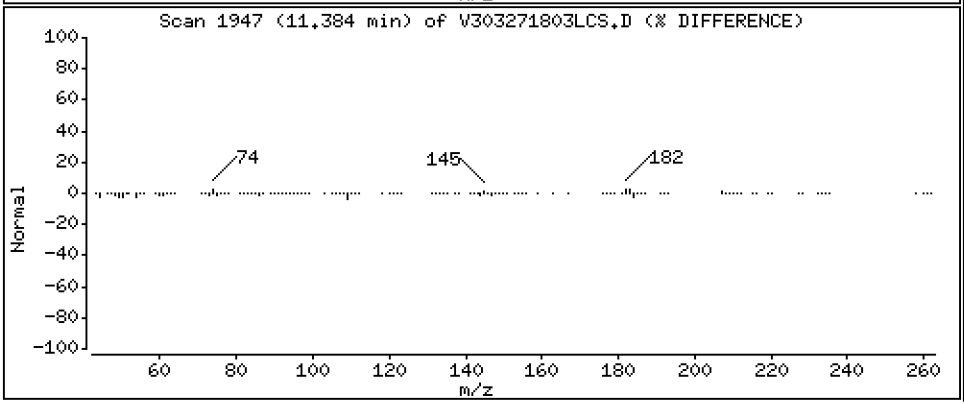












ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327.b\V303271803LCS.D
Lab Smp Id: BGC0717-BS1 Client Smp ID: VOA
Inj Date : 27-MAR-2018 09:15
Operator : PKC Inst ID: nt3.i
Smp Info : BGC0717-BS1
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Meth Date : 28-Mar-2018 09:42 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 50 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	1 Dichlorodifluoromethane	85	1.625	1.625	(0.301)	148223	9.81231	9.812
	2 Chloromethane	50	1.773	1.773	(0.329)	304289	9.81366	9.814
	3 Vinyl Chloride	62	1.858	1.858	(0.344)	248626	9.83604	9.836
	4 Bromomethane	94	2.188	2.188	(0.405)	98644	8.44524	8.445
	5 Chloroethane	64	2.316	2.316	(0.429)	127276	8.48515	8.485
	6 Trichlorofluoromethane	101	2.438	2.438	(0.452)	210438	9.15031	9.150(M)
	7 1,1-Dichloroethene	61	2.895	2.895	(0.536)	303967	9.78729	9.787
	8 Carbon Disulfide	76	2.906	2.906	(0.538)	445931	9.53335	9.533
	9 112Trichloro122Trifluoroethane	101	2.980	2.980	(0.552)	131226	9.10491	9.105
	10 Iodomethane	142	3.033	3.033	(0.562)	206322	9.61768	9.618
	11 Bromoethane	108	3.166	3.166	(0.587)	97299	8.94692	8.947
	12 Acrolein	56	3.294	3.294	(0.610)	115222	47.2347	47.235
	13 Methylene Chloride	84	3.501	3.501	(0.649)	139186	10.0035	10.004
	14 Acetone	43	3.655	3.655	(0.677)	179380	46.5194	46.519
	15 Trans-1,2-Dichloroethene	96	3.655	3.655	(0.677)	149366	9.70419	9.704
	17 Methyl tert butyl ether	73	3.793	3.793	(0.703)	279949	9.44885	9.449
	18 1,1-Dichloroethane	63	4.213	4.213	(0.780)	308924	9.54709	9.547
	19 Acrylonitrile	53	4.298	4.298	(0.796)	44538	9.11516	9.115
	20 Vinyl Acetate	43	4.458	4.458	(0.826)	339367	10.0422	10.042
	22 Cis-1,2-Dichloroethene	96	4.665	4.665	(0.864)	148981	9.28901	9.289
	23 2,2-Dichloropropane	77	4.750	4.750	(0.880)	156722	8.41527	8.415
	24 Bromochloromethane	128	4.825	4.825	(0.894)	62557	9.22816	9.228
	25 Chloroform	83	4.894	4.894	(0.906)	232102	9.66010	9.660
	26 Carbon Tetrachloride	117	4.979	4.979	(0.861)	189211	10.2222	10.222
$	27 Dibromofluoromethane	111	5.032	5.032	(0.932)	47757	4.91813	4.918(R)
	28 1,1,1-Trichloroethane	97	5.037	5.037	(0.933)	209043	9.29341	9.293
	30 1,1-Dichloropropene	75	5.133	5.133	(0.888)	193496	10.5328	10.533
	29 2-Butanone	43	5.165	5.165	(0.957)	318211	50.7617	50.762
	31 Benzene	78	5.319	5.319	(0.920)	559783	10.4257	10.426
*	32 Pentafluorobenzene	168	5.399	5.399	(1.000)	223481	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.425	5.425	(1.005)	55741	4.80142	4.801(R)
	34 1,2-Dichloroethane	62	5.478	5.478	(0.948)	176542	9.67531	9.675
	36 Trichloroethene	130	5.749	5.749	(0.994)	148405	9.86752	9.868

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/L)	FINAL (ug/L)
*	37	1,4-Difluorobenzene	114	5.781	5.781	(1.000)	325422	10.0000	
	38	Dibromomethane	93	6.052	6.052	(1.047)	60339	10.0421	10.042
	39	1,2-Dichloropropane	63	6.121	6.121	(1.059)	167357	10.0436	10.044
	40	Bromodichloromethane	83	6.175	6.175	(1.068)	164528	9.94332	9.943
	173	2-Pentanone	86	6.403	6.403	(1.108)	53726	48.5210	48.521
	41	2-Chloroethyl Vinyl Ether	63	6.579	6.579	(1.138)	63222	8.79218	8.792
	42	Cis 1,3-dichloropropene	75	6.616	6.616	(1.144)	210690	10.3419	10.342
$	43	d8-Toluene	98	6.743	6.743	(1.166)	191756	5.02579	5.026(R)
	44	Toluene	92	6.775	6.775	(1.172)	356271	10.1411	10.141
	46	Tetrachloroethene	166	7.041	7.041	(0.900)	165442	10.1236	10.124
	45	4-Methyl-2-Pentanone	58	7.046	7.046	(1.219)	218770	48.5226	48.523
	47	Trans 1,3-Dichloropropene	75	7.068	7.068	(1.222)	177660	10.8052	10.805(T)
	48	1,1,2-Trichloroethane	97	7.185	7.185	(1.243)	89927	9.78362	9.784
	49	Chlorodibromomethane	129	7.307	7.307	(0.934)	114510	10.3229	10.323
	50	1,3-Dichloropropane	76	7.371	7.371	(0.942)	159722	9.65458	9.655
	51	1,2-Dibromoethane	107	7.472	7.472	(1.292)	86548	10.0460	10.046
	52	2-Hexanone	43	7.626	7.626	(0.975)	460471	52.6439	52.644
*	53	d5-Chlorobenzene	117	7.822	7.822	(1.000)	303233	10.0000	
	54	Chlorobenzene	112	7.833	7.833	(1.001)	406894	9.79381	9.794
	55	Ethyl Benzene	106	7.854	7.854	(1.004)	222523	9.89561	9.896
	56	1,1,1,2-Tetrachloroethane	131	7.881	7.881	(1.007)	145326	10.2698	10.270
	57	m,p-xylene	106	7.955	7.955	(1.017)	560533	20.3319	20.332
	58	o-Xylene	106	8.258	8.258	(1.056)	268283	9.85819	9.858
	59	Styrene	104	8.301	8.301	(1.061)	435040	10.3883	10.388
	60	Bromoform	173	8.322	8.322	(0.875)	72829	10.2307	10.231
	61	Isopropyl Benzene	105	8.487	8.487	(0.892)	701681	9.20894	9.209
$	62	4-Bromofluorobenzene	174	8.694	8.694	(1.111)	64541	5.06091	5.061(R)
	63	Bromobenzene	156	8.769	8.769	(0.922)	179872	9.35105	9.351
	64	N-Propyl Benzene	91	8.785	8.785	(0.923)	827541	9.36786	9.368
	65	1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.929)	106780	9.40421	9.404
	66	2-Chloro Toluene	91	8.901	8.901	(0.936)	547649	9.03090	9.031
	67	1,3,5-Trimethyl Benzene	105	8.928	8.928	(0.939)	600381	9.18542	9.185
	68	1,2,3-Trichloropropane	110	8.939	8.939	(0.940)	32422	9.12044	9.120
	69	Trans-1,4-Dichloro 2-Butene	53	8.971	8.971	(0.943)	48017	8.71685	8.717
	70	4-Chloro Toluene	91	9.024	9.024	(0.949)	517977	9.02204	9.022
	71	T-Butyl Benzene	119	9.162	9.162	(0.963)	500611	9.02674	9.027
	72	1,2,4-Trimethylbenzene	105	9.215	9.215	(0.969)	609506	9.15832	9.158
	73	S-Butyl Benzene	105	9.295	9.295	(0.977)	731877	9.33434	9.334
	74	4-Isopropyl Toluene	119	9.401	9.401	(0.988)	641417	9.31490	9.315
	75	1,3-Dichlorobenzene	146	9.460	9.460	(0.994)	361587	9.47501	9.475
*	76	d4-1,4-Dichlorobenzene	152	9.513	9.513	(1.000)	171190	10.0000	
	77	1,4-Dichlorobenzene	146	9.529	9.529	(1.002)	359954	9.45968	9.460
	78	N-Butyl Benzene	91	9.715	9.715	(1.021)	559685	9.43282	9.433
$	79	d4-1,2-Dichlorobenzene	152	9.837	9.837	(1.034)	79219	4.96310	4.963(R)
	80	1,2-Dichlorobenzene	146	9.842	9.842	(1.035)	308267	9.28015	9.280
	81	1,2-Dibromo 3-Chloropropane	75	10.459	10.459	(1.099)	15601	8.29046	8.290
	83	Hexachloro 1,3-Butadiene	225	10.953	10.953	(1.151)	92487	9.97504	9.975
	84	1,2,4-Trichlorobenzene	180	10.980	10.980	(1.154)	179096	9.00422	9.004
	85	Naphthalene	128	11.240	11.240	(1.182)	287489	10.2278	10.228
	86	1,2,3-Trichlorobenzene	180	11.384	11.384	(1.197)	120559	8.96392	8.964

QC Flag Legend

T - Target compound detected outside RT window.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271803LCS.D
Lab Smp Id: BGC0717-BS1
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Client Smp ID: VOA
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	223481	7.02
37 1,4-Difluorobenze	319374	159687	638748	325422	1.89
53 d5-Chlorobenzene	290356	145178	580712	303233	4.43
76 d4-1,4-Dichlorobe	151501	75751	303002	171190	13.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	0.00
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	0.00
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	0.00
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930a
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: BGC0717-BS1 Client Smp ID: VOA
Level: Operator: PKC
Data Type: MS DATA SampleType: LCS
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: mdl.sub
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

SPIKE	COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
1	Dichlorodifluorome	10.000	9.812	98.12	
2	Chloromethane	10.000	9.814	98.14	
3	Vinyl Chloride	10.000	9.836	98.36	
4	Bromomethane	10.000	8.445	84.45	
5	Chloroethane	10.000	8.485	84.85	
6	Trichlorofluoromet	10.000	9.150	91.50	
7	1,1-Dichloroethene	10.000	9.787	97.87	
8	Carbon Disulfide	10.000	9.533	95.33	
9	112Trichloro122Tri	10.000	9.105	91.05	
10	Iodomethane	10.000	9.618	96.18	
11	Bromoethane	10.000	8.947	89.47	
12	Acrolein	50.000	47.235	94.47	
13	Methylene Chloride	10.000	10.004	100.04	
14	Acetone	50.000	46.519	93.04	
15	Trans-1,2-Dichloro	10.000	9.704	97.04	
17	Methyl tert butyl	10.000	9.449	94.49	
18	1,1-Dichloroethane	10.000	9.547	95.47	
19	Acrylonitrile	10.000	9.115	91.15	
20	Vinyl Acetate	10.000	10.042	100.42	
22	Cis-1,2-Dichloroet	10.000	9.289	92.89	
23	2,2-Dichloropropan	10.000	8.415	84.15	
24	Bromochloromethane	10.000	9.228	92.28	
25	Chloroform	10.000	9.660	96.60	
26	Carbon Tetrachlori	10.000	10.222	102.22	
28	1,1,1-Trichloroeth	10.000	9.293	92.93	
30	1,1-Dichloropropen	10.000	10.533	105.33	
29	2-Butanone	50.000	50.762	101.52	
31	Benzene	10.000	10.426	104.26	
34	1,2-Dichloroethane	10.000	9.675	96.75	
36	Trichloroethene	10.000	9.868	98.68	
38	Dibromomethane	10.000	10.042	100.42	
39	1,2-Dichloropropan	10.000	10.044	100.44	
40	Bromodichlorometha	10.000	9.943	99.43	
173	2-Pentanone	50.000	48.521	97.04	
41	2-Chloroethyl Viny	10.000	8.792	87.92	
42	Cis 1,3-dichloropr	10.000	10.342	103.42	
44	Toluene	10.000	10.141	101.41	
46	Tetrachloroethene	10.000	10.124	101.24	
45	4-Methyl-2-Pentano	50.000	48.523	97.05	
47	Trans 1,3-Dichloro	10.000	10.805	108.05	

SPIKE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
48 1,1,2-Trichloroeth	10.000	9.784	97.84	
49 Chlorodibromometha	10.000	10.323	103.23	
50 1,3-Dichloropropan	10.000	9.655	96.55	
51 1,2-Dibromoethane	10.000	10.046	100.46	
52 2-Hexanone	50.000	52.644	105.29	
54 Chlorobenzene	10.000	9.794	97.94	
55 Ethyl Benzene	10.000	9.896	98.96	
56 1,1,1,2-Tetrachlor	10.000	10.270	102.70	
57 m,p-xylene	20.000	20.332	101.66	
58 o-Xylene	10.000	9.858	98.58	
59 Styrene	10.000	10.388	103.88	
60 Bromoform	10.000	10.231	102.31	
61 Isopropyl Benzene	10.000	9.209	92.09	
63 Bromobenzene	10.000	9.351	93.51	
64 N-Propyl Benzene	10.000	9.368	93.68	
65 1,1,2,2-Tetrachlor	10.000	9.404	94.04	
66 2-Chloro Toluene	10.000	9.031	90.31	
67 1,3,5-Trimethyl Be	10.000	9.185	91.85	
68 1,2,3-Trichloropro	10.000	9.120	91.20	
69 Trans-1,4-Dichloro	10.000	8.717	87.17	
70 4-Chloro Toluene	10.000	9.022	90.22	
71 T-Butyl Benzene	10.000	9.027	90.27	
72 1,2,4-Trimethylben	10.000	9.158	91.58	
73 S-Butyl Benzene	10.000	9.334	93.34	
74 4-Isopropyl Toluen	10.000	9.315	93.15	
75 1,3-Dichlorobenzen	10.000	9.475	94.75	
77 1,4-Dichlorobenzen	10.000	9.460	94.60	
78 N-Butyl Benzene	10.000	9.433	94.33	
80 1,2-Dichlorobenzen	10.000	9.280	92.80	
81 1,2-Dibromo 3-Chlo	10.000	8.290	82.90	
83 Hexachloro 1,3-But	10.000	9.975	99.75	
84 1,2,4-Trichloroben	10.000	9.004	90.04	
85 Naphthalene	10.000	10.228	102.28	
86 1,2,3-Trichloroben	10.000	8.964	89.64	

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.918	98.36	
$ 33 d4-1,2-Dichloroeth	5.000	4.801	96.03	
$ 43 d8-Toluene	5.000	5.026	100.52	
$ 62 4-Bromofluorobenze	5.000	5.061	101.22	
$ 79 d4-1,2-Dichloroben	5.000	4.963	99.26	

REVIEW SUMMARY FOR FILE - V303271803LCS.D

Lab ID: BGC0717-BS1
nt3.i, 20180327.b\8260C110717.m,   27-MAR-2018 09:15

RT	CO-ELUTION COMPOUNDS
3.656	Acetone and Trans-1,2-Dichloroethene
3.656	Trans-1,2-Dichloroethene and Acetone

Quant Method: ICAL

RRT CHECK

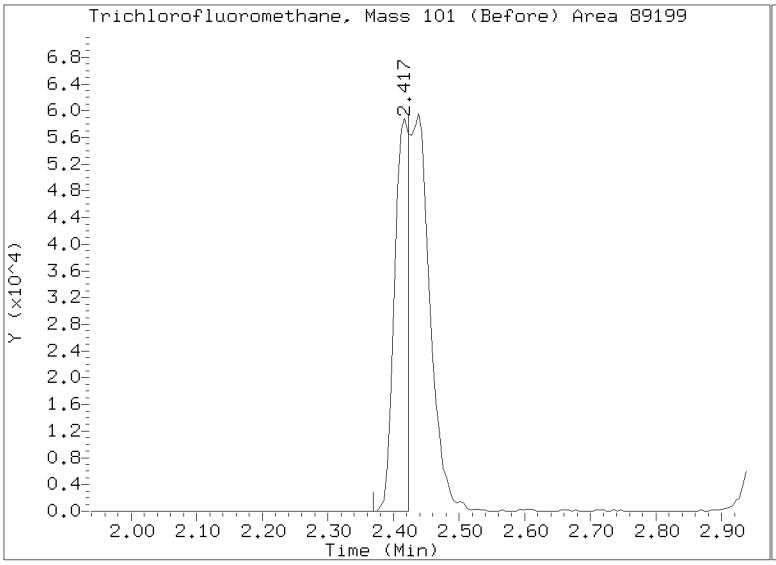
RRT	CCV RRT	DELTA	COMPOUND
NONE			

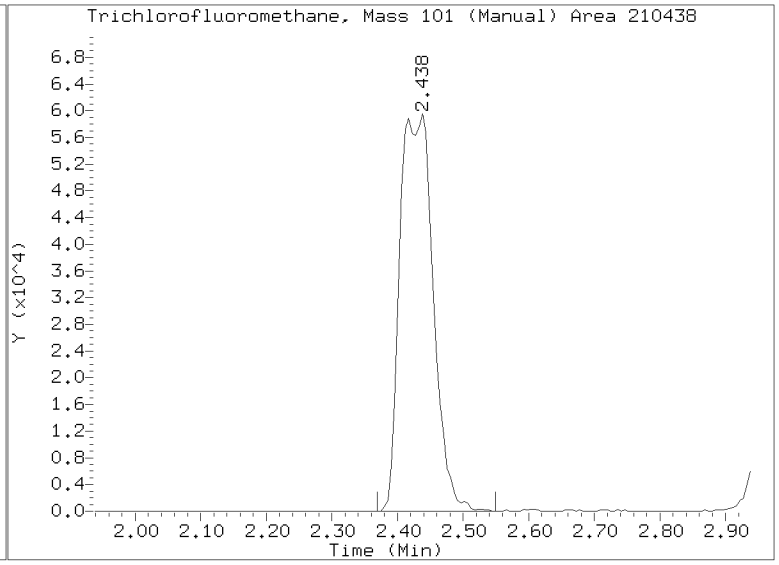
On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20180327.b/V303271803LCS.D
Injection Date: 27-MAR-2018 09:15
Lab ID:BGC0717-BS1 Client ID:VOA
Report Date: 03/28/2018 09:49





Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

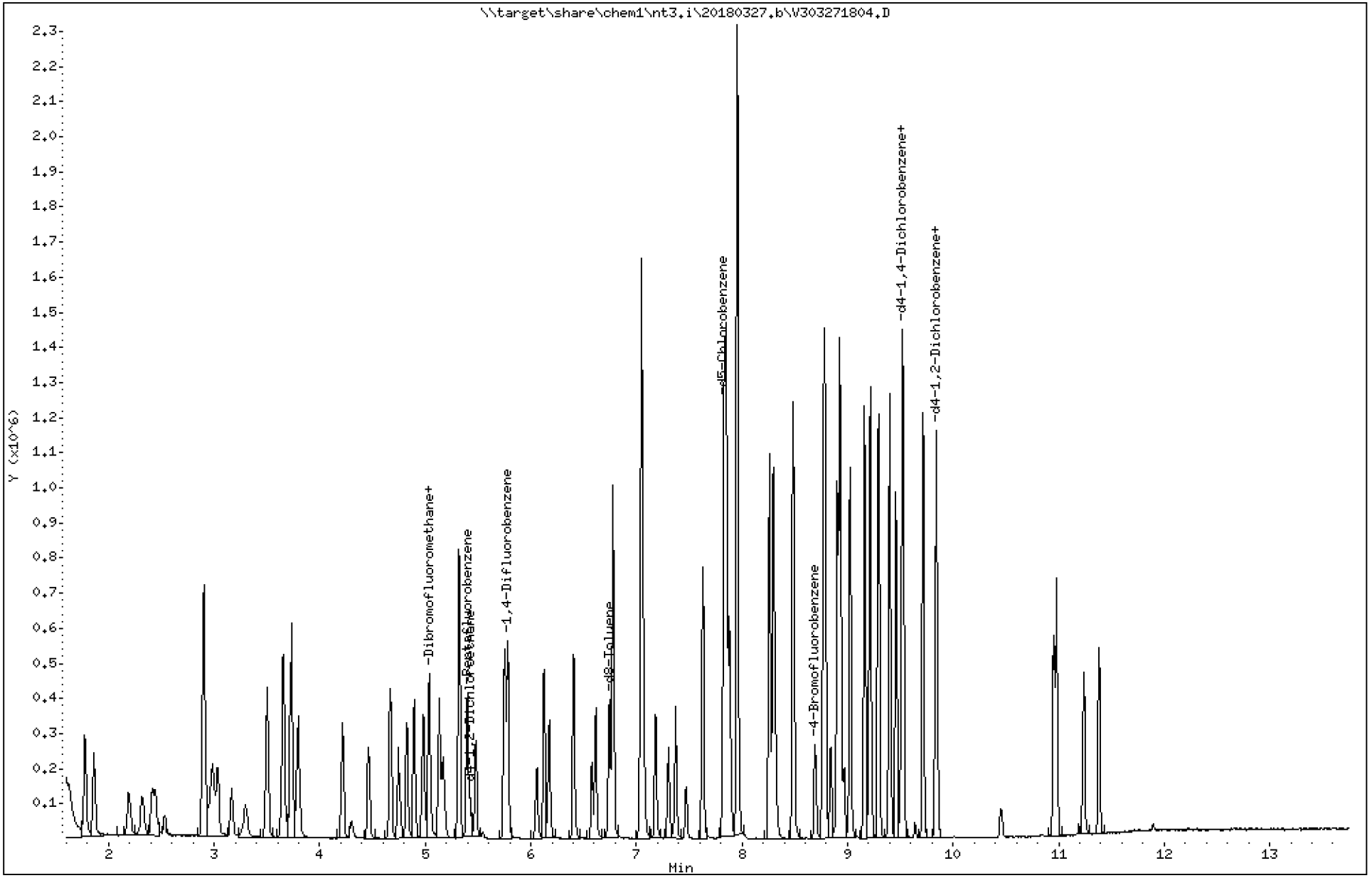
Instrument: nt3.i

Sample Info: BGC0717-BSD1

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

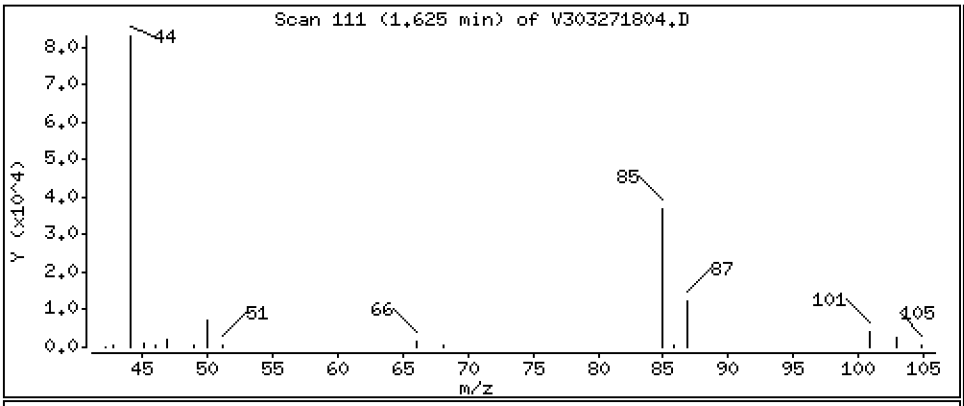
Operator: PKC

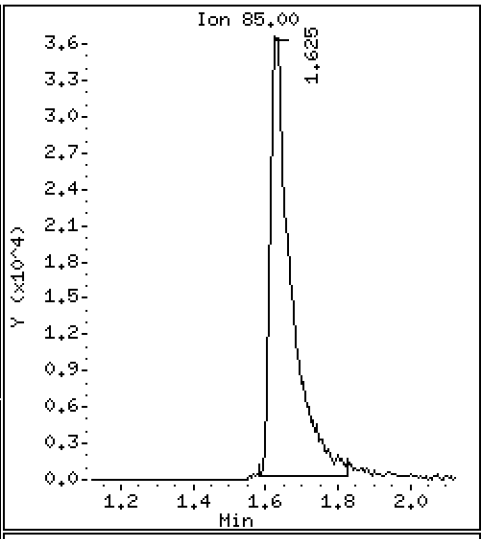
Column phase: RTXVMS

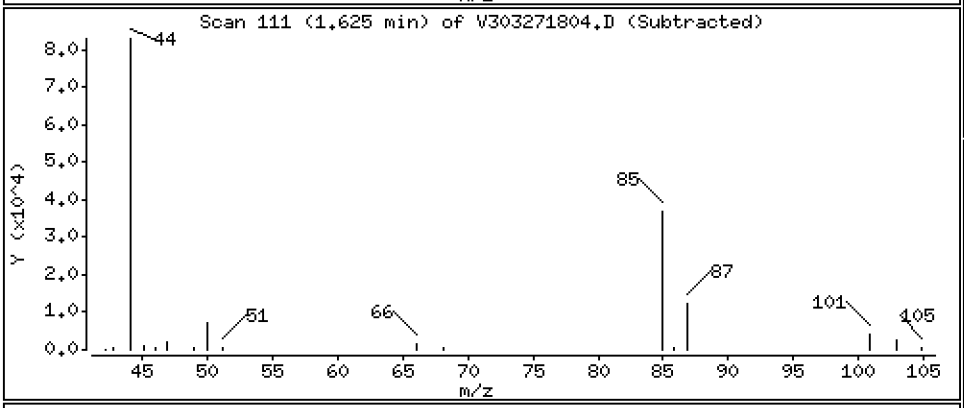
Column diameter: 0.18

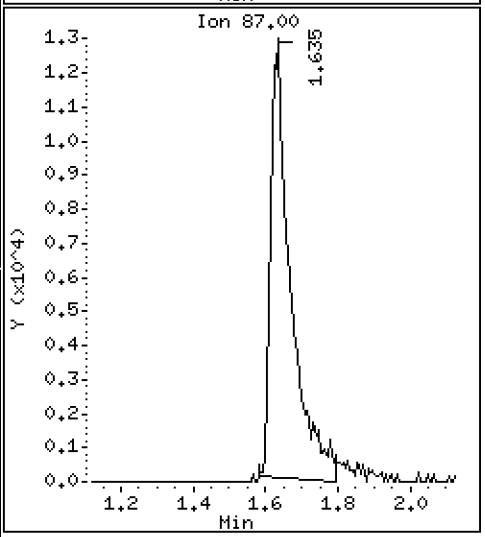
1 Dichlorodifluoromethane

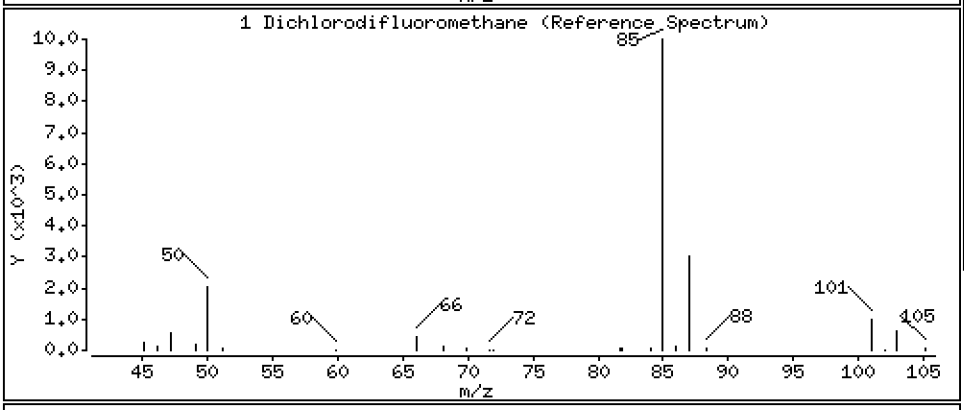
Concentration: 9.832 ug/L

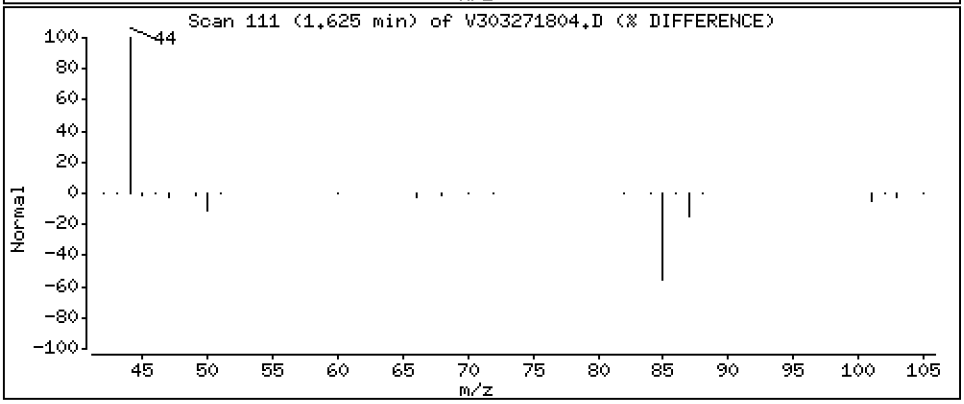












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

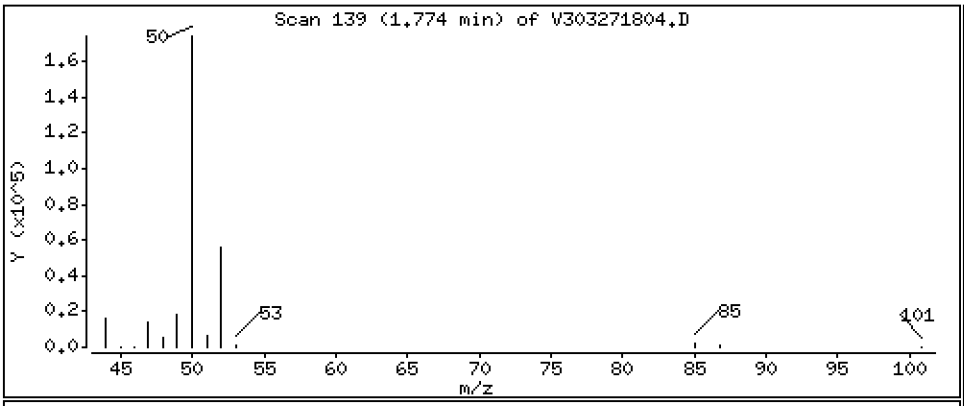
Operator: PKC

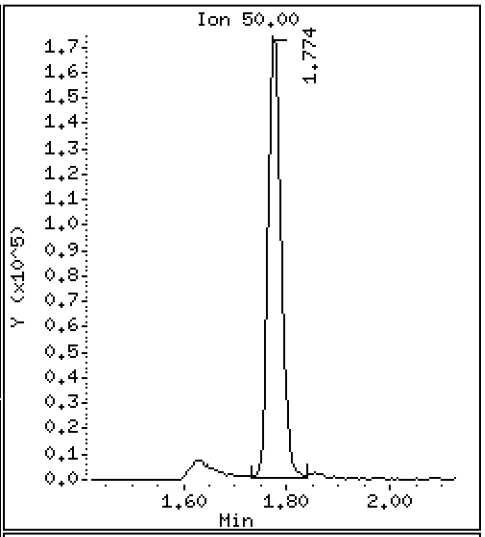
Column phase: RTXVMS

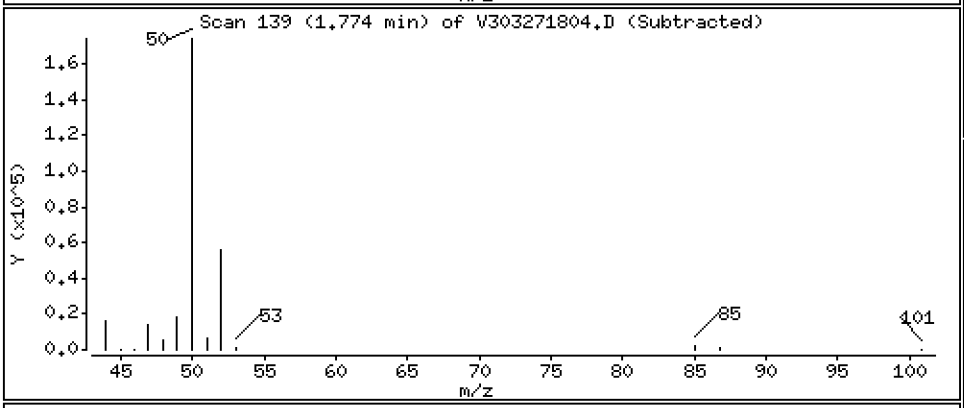
Column diameter: 0.18

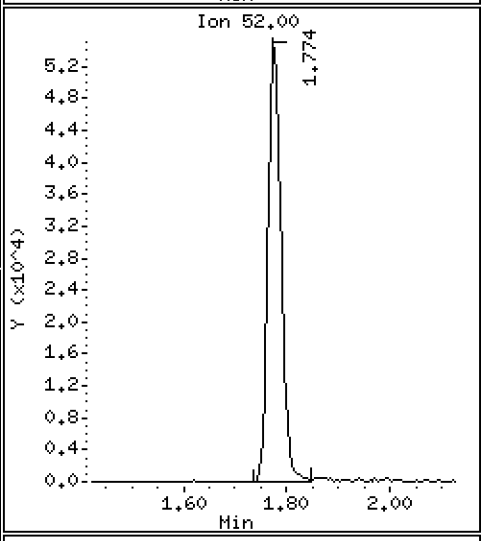
2 Chloromethane

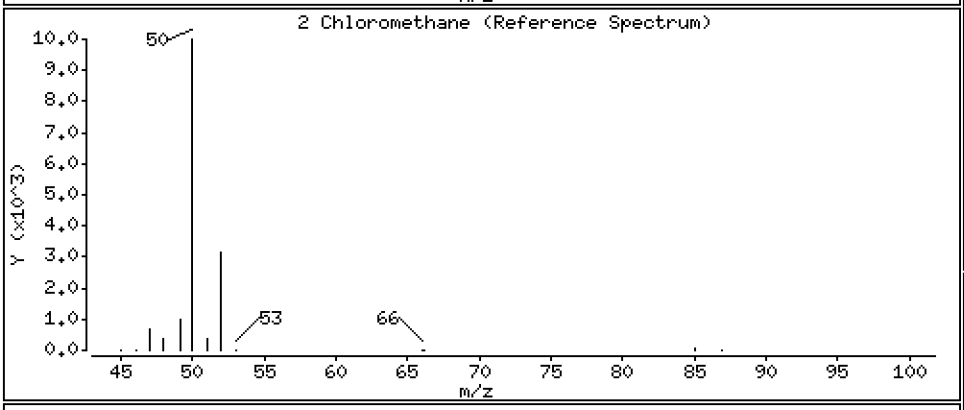
Concentration: 9.704 ug/L

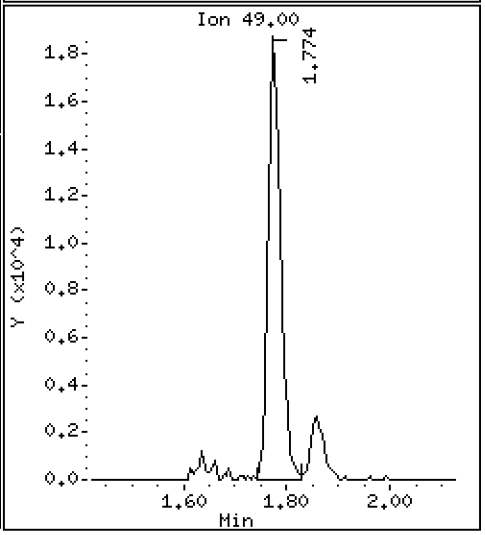


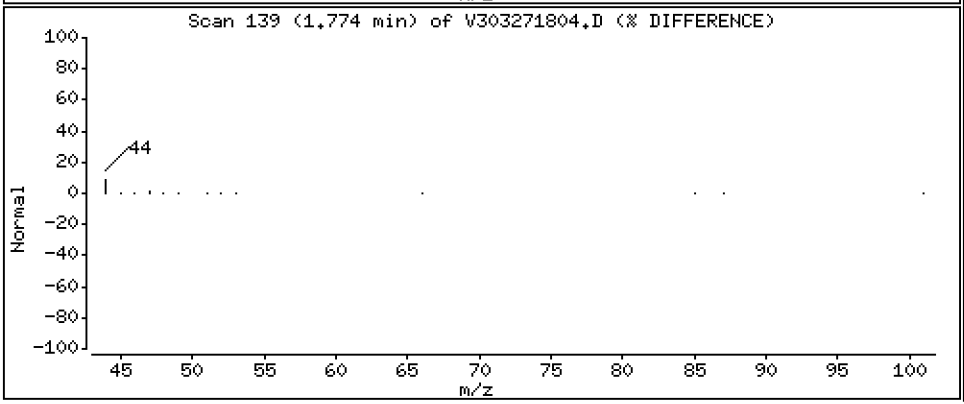












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

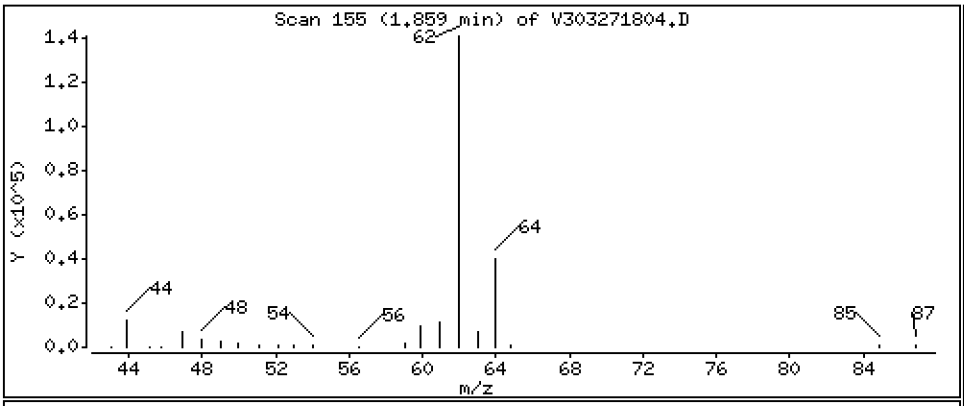
Operator: PKC

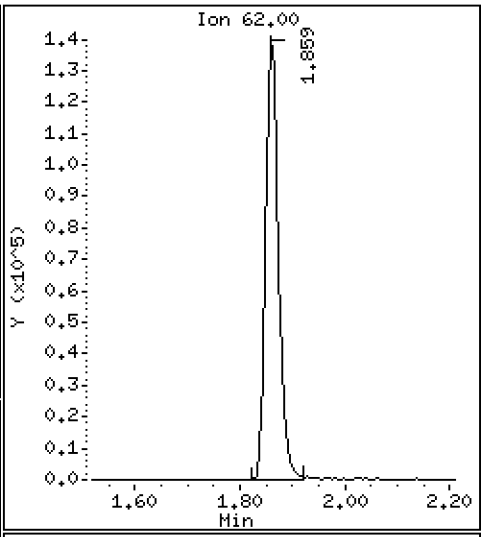
Column phase: RTXVMS

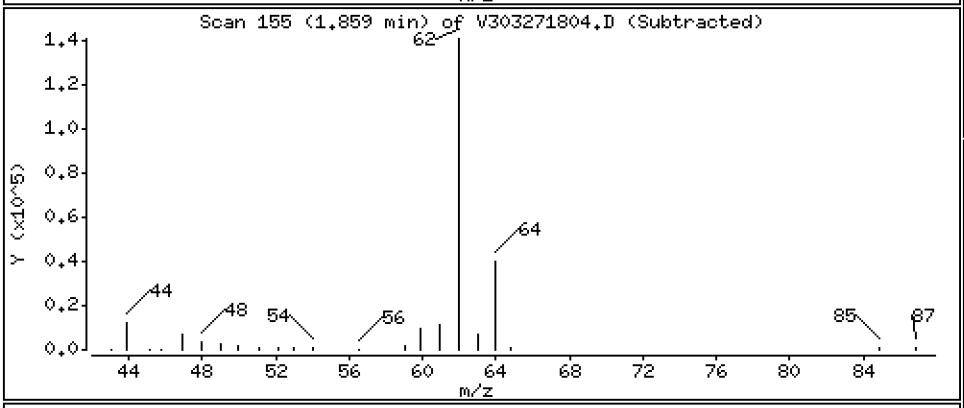
Column diameter: 0.18

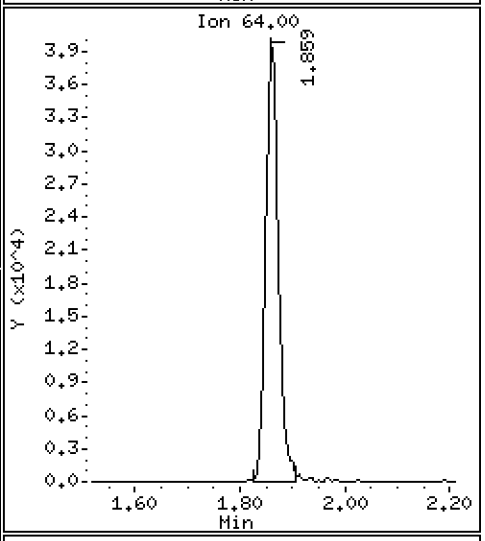
3 Vinyl Chloride

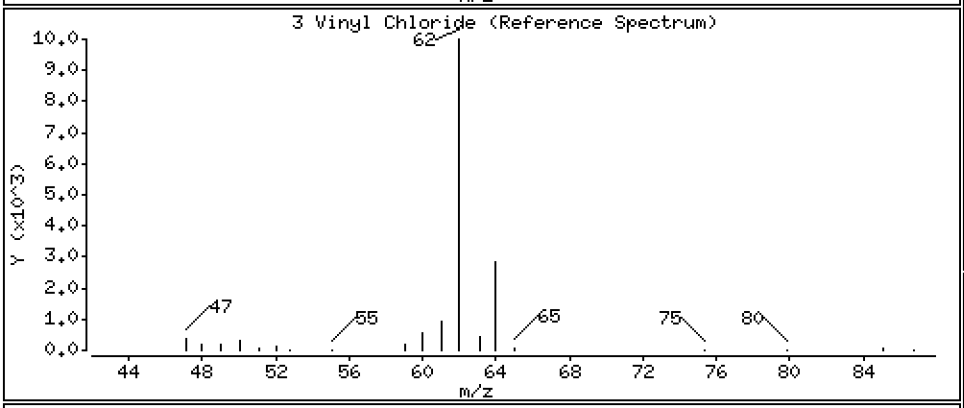
Concentration: 9.680 ug/L

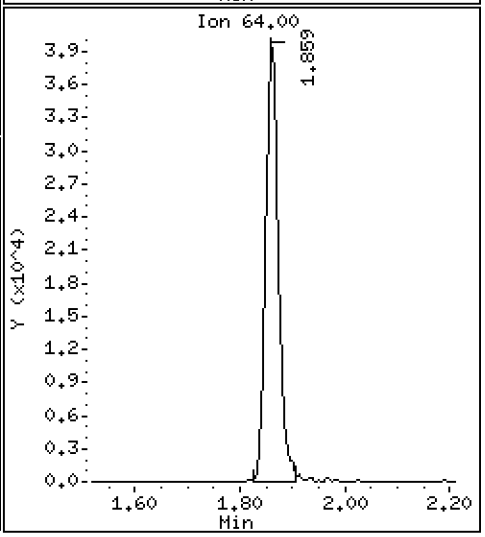


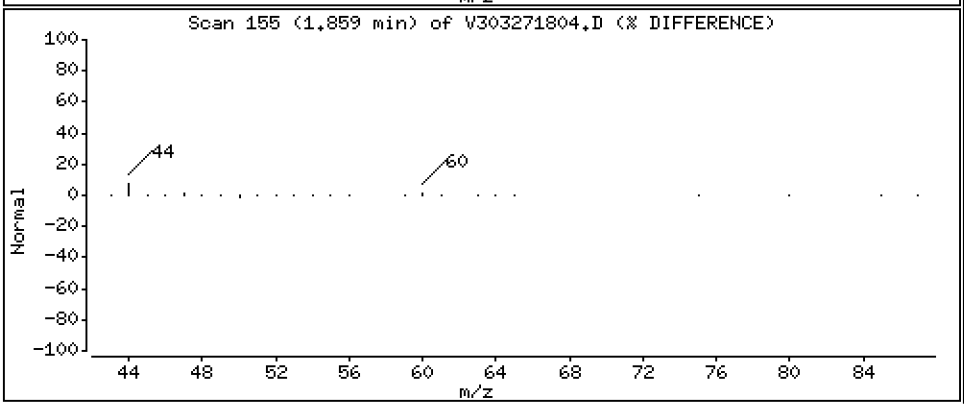












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

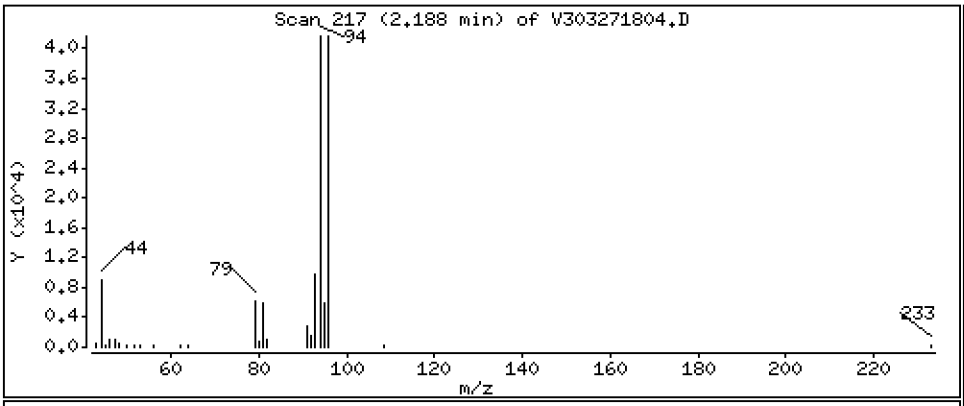
Operator: PKC

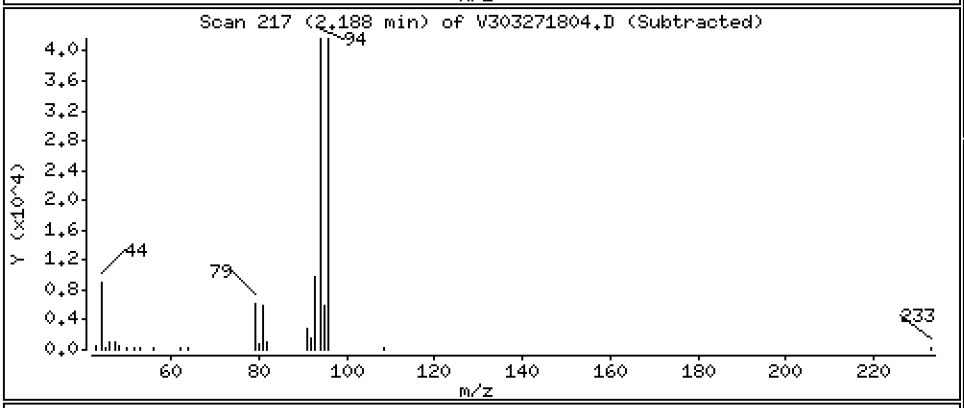
Column phase: RTXVMS

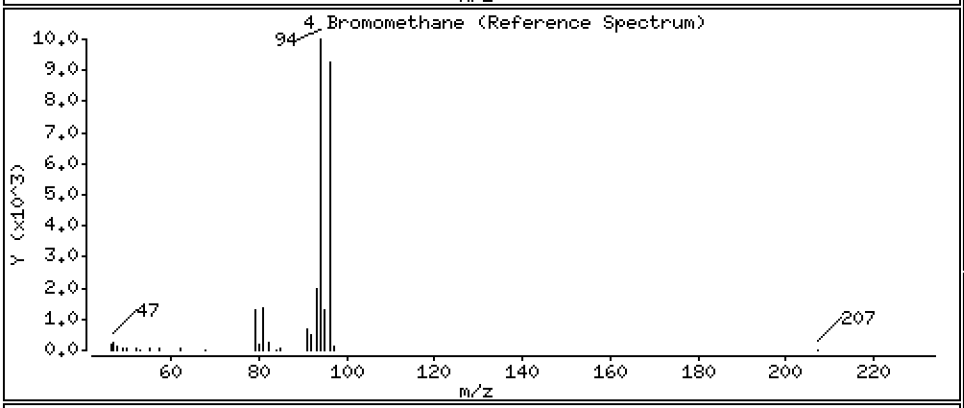
Column diameter: 0.18

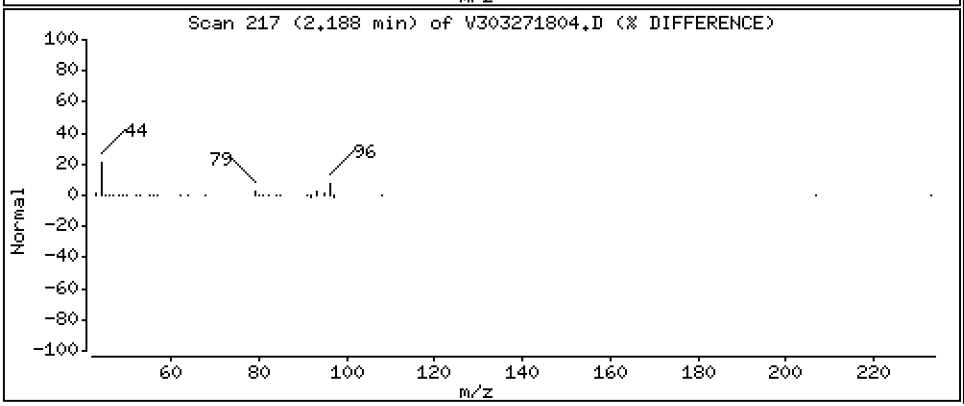
4 Bromomethane

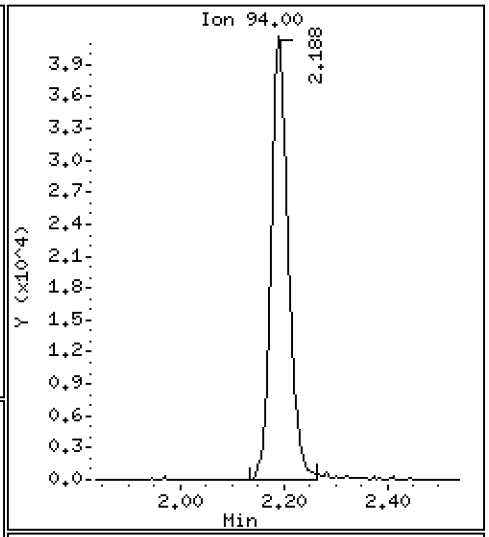
Concentration: 8.335 ug/L

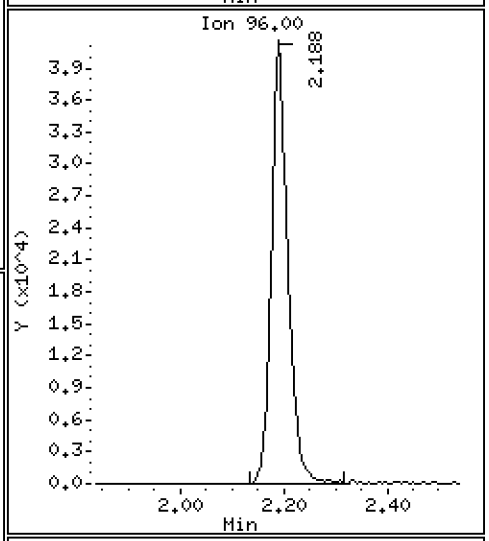


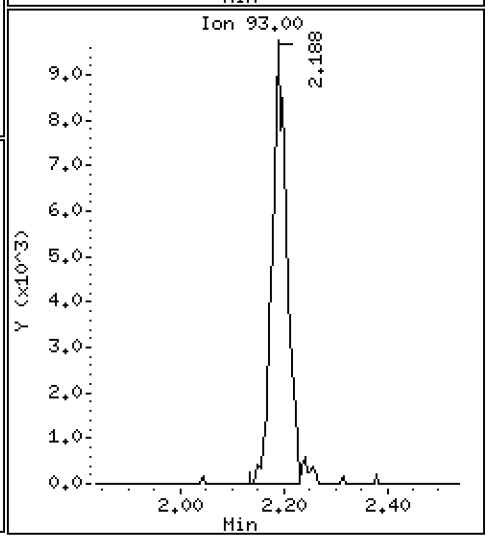












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

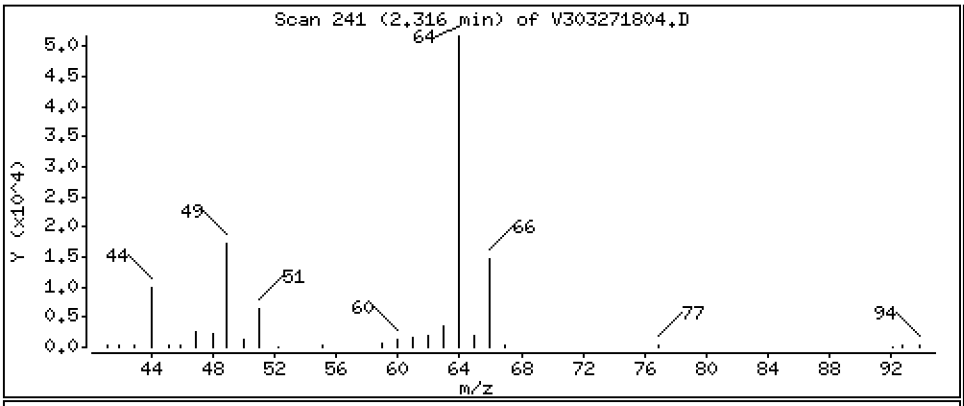
Operator: PKC

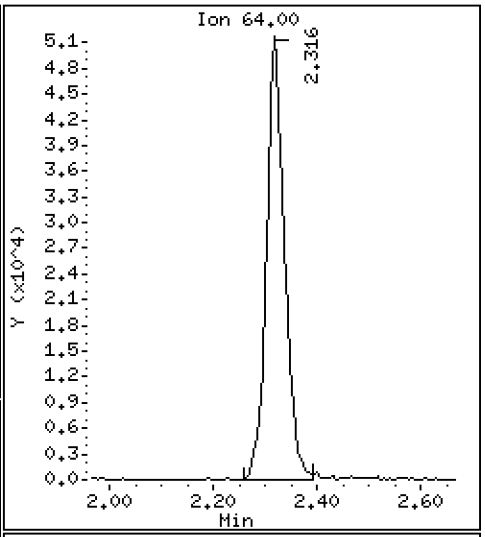
Column phase: RTXVMS

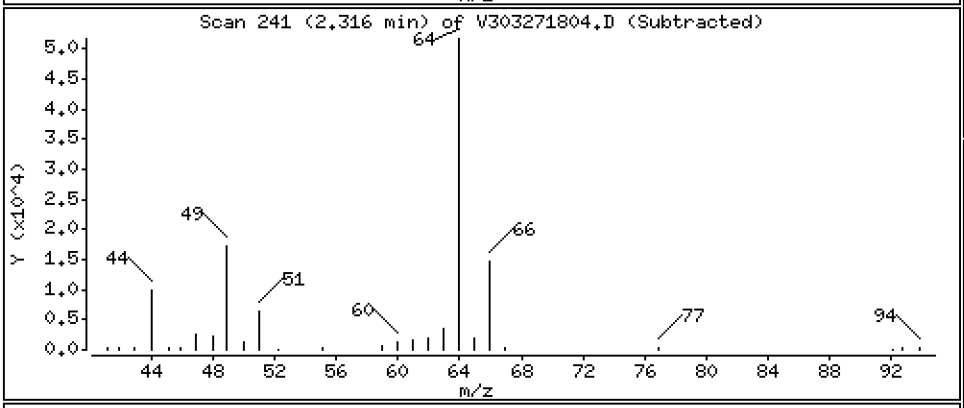
Column diameter: 0.18

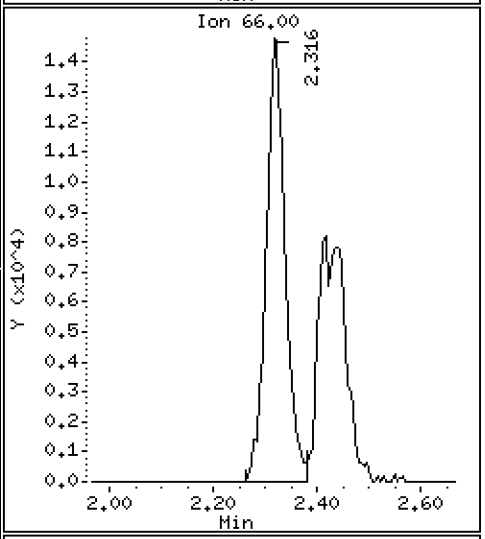
5 Chloroethane

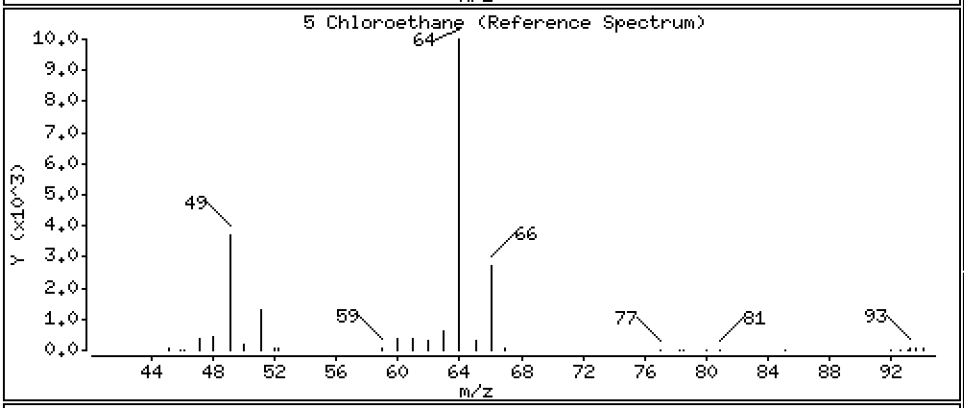
Concentration: 8.445 ug/L

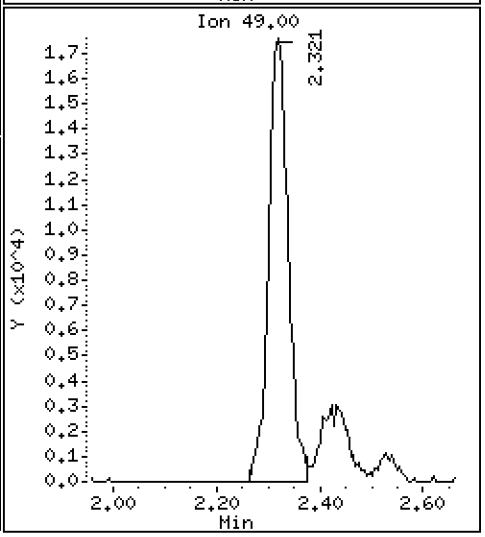


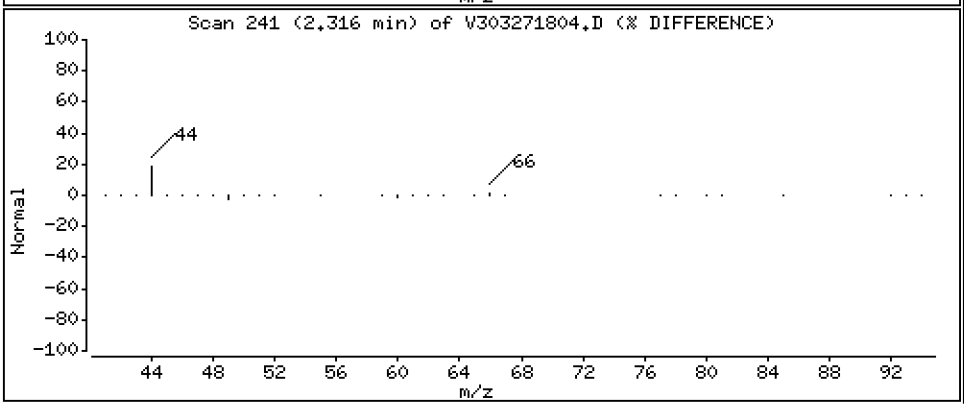












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

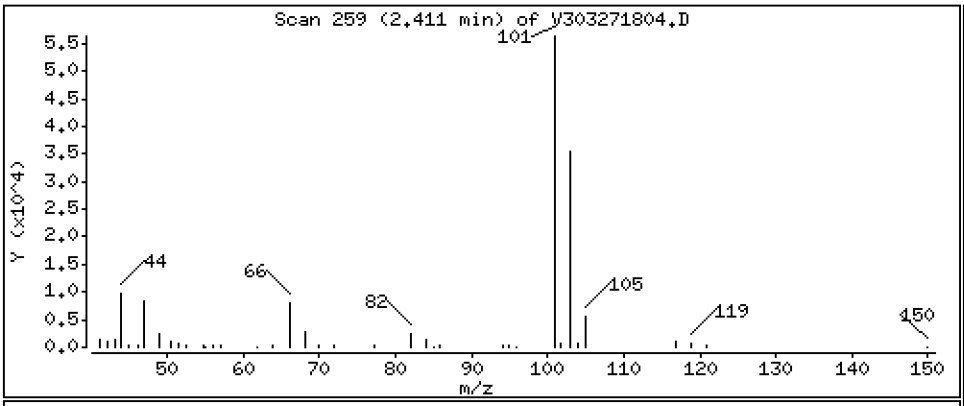
Operator: PKC

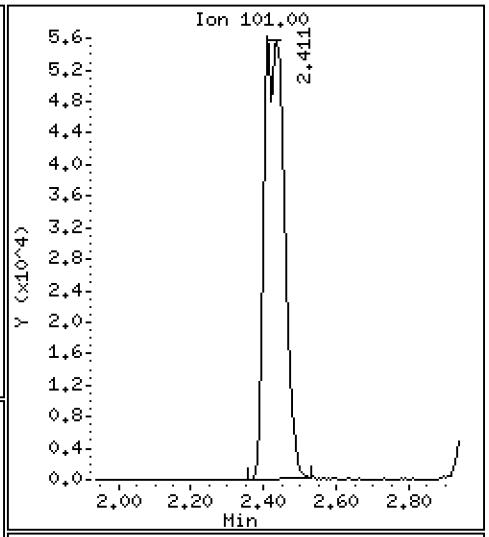
Column phase: RTXVMS

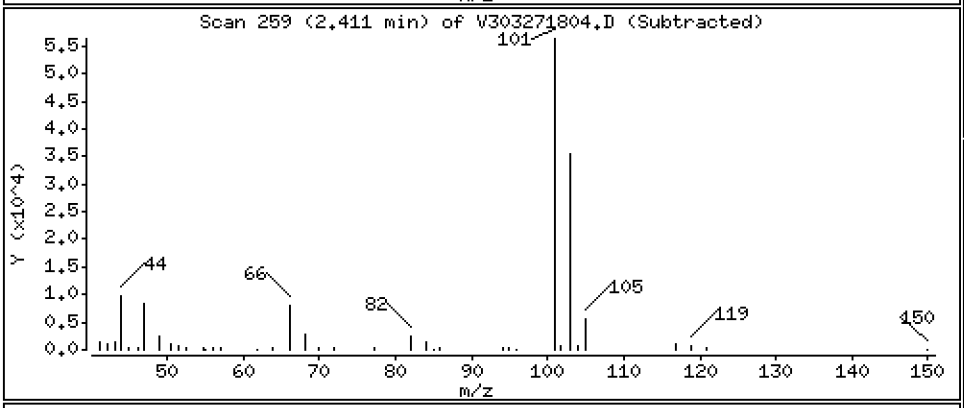
Column diameter: 0.18

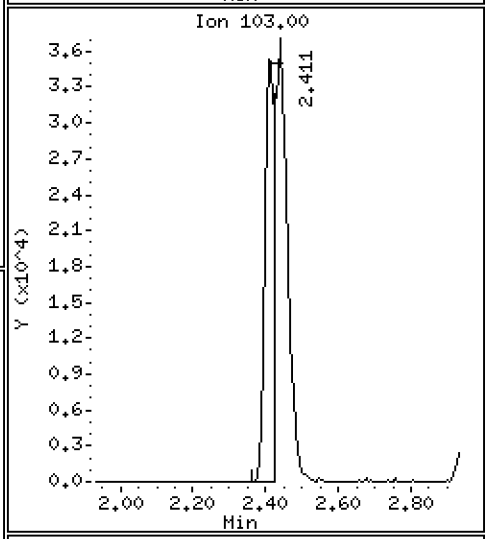
6 Trichlorofluoromethane

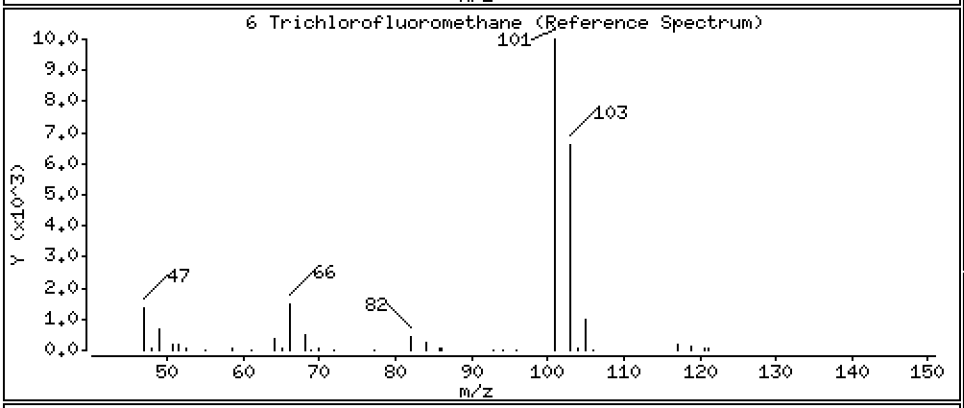
Concentration: 8.922 ug/L

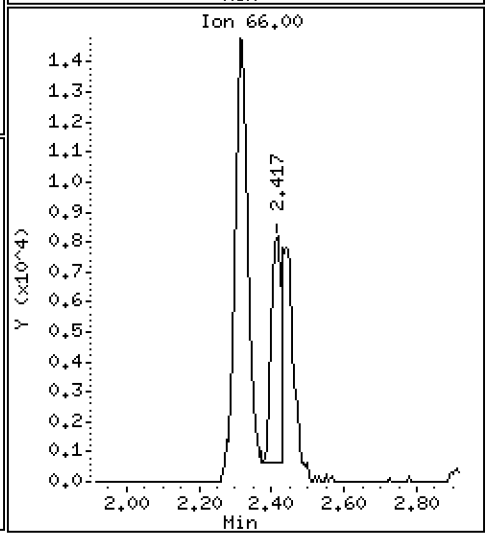


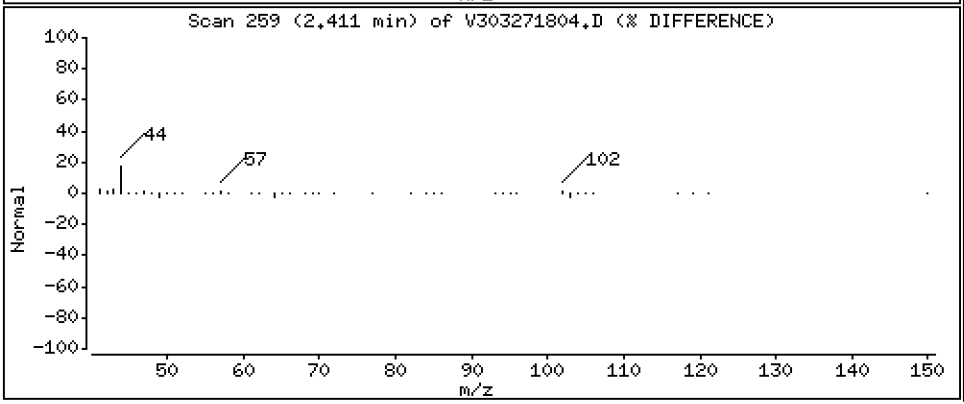












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

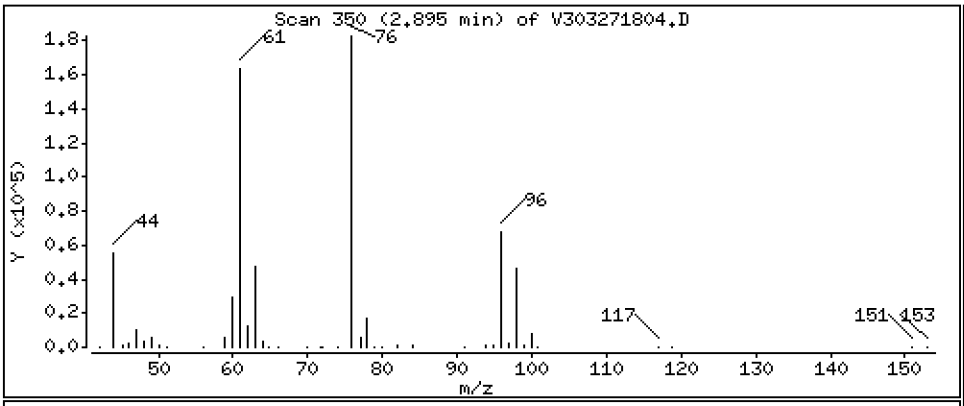
Operator: PKC

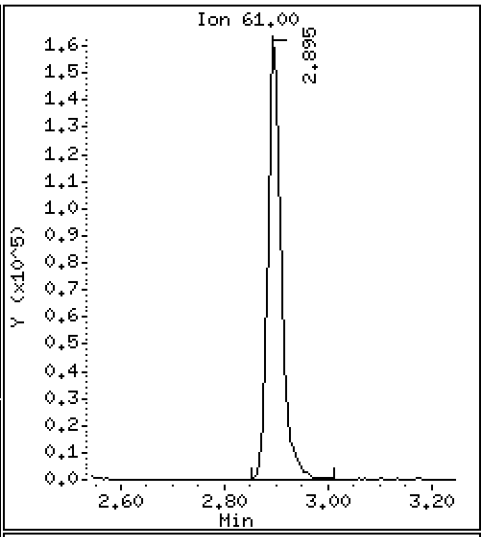
Column phase: RTXVMS

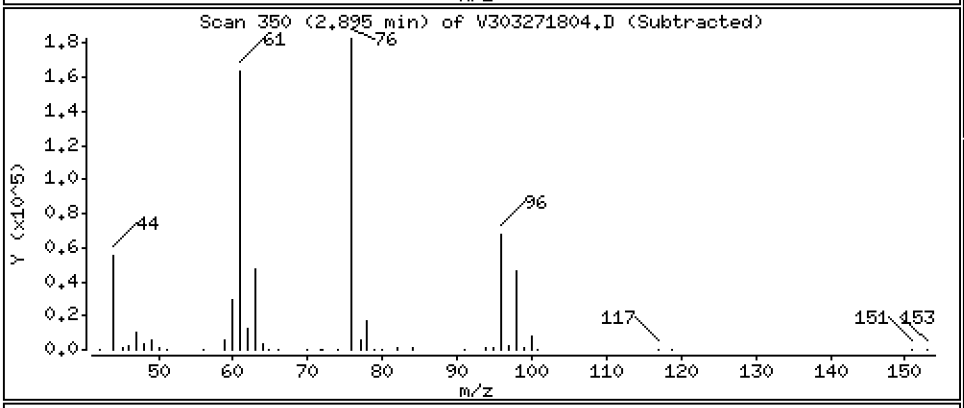
Column diameter: 0.18

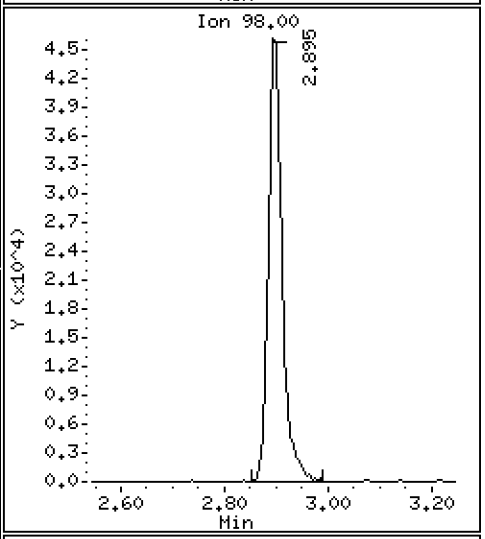
7 1,1-Dichloroethene

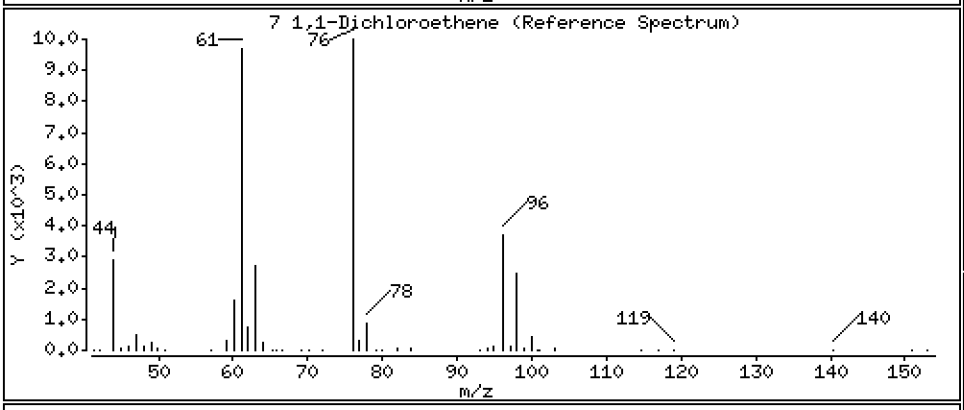
Concentration: 9.653 ug/L

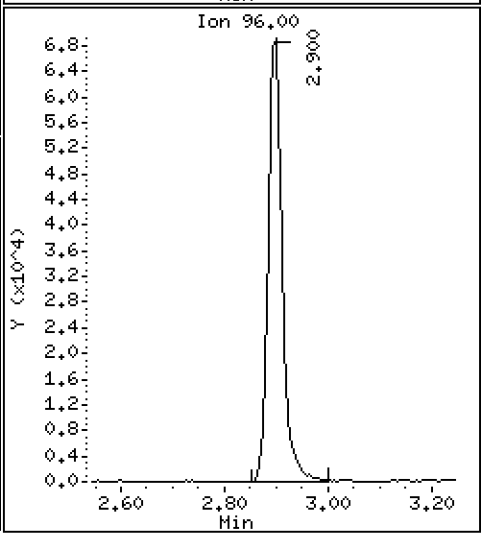


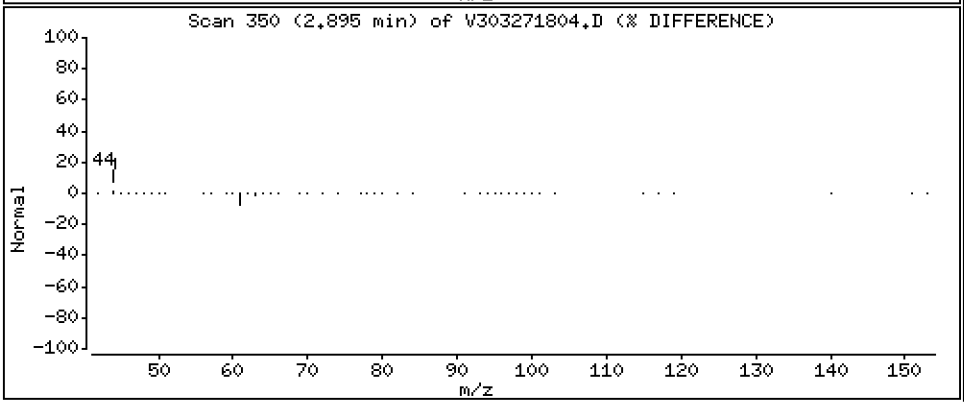












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

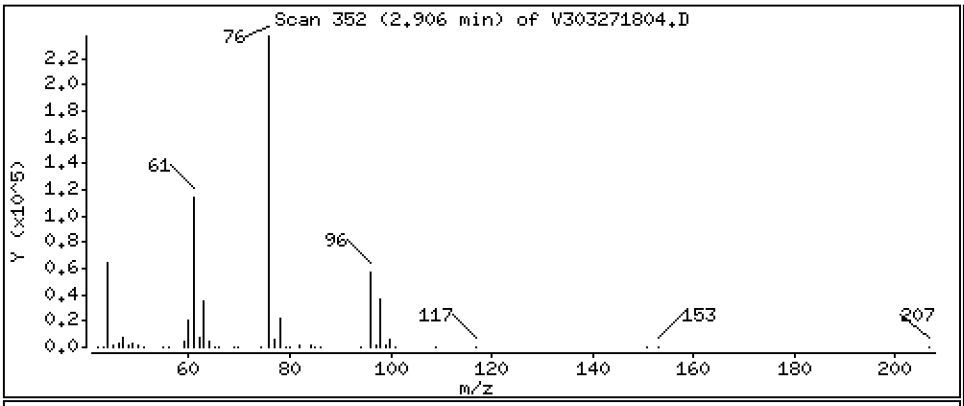
Operator: PKC

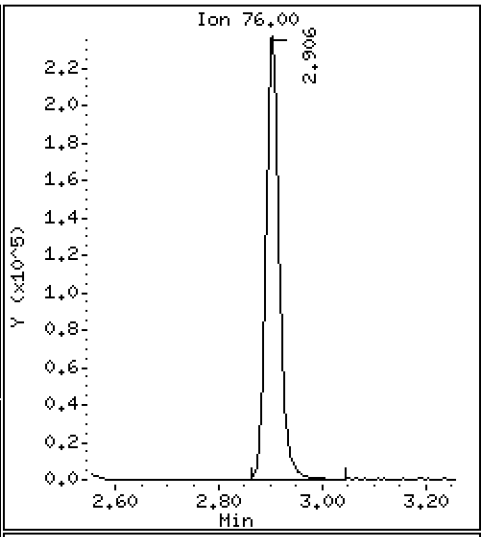
Column phase: RTXVMS

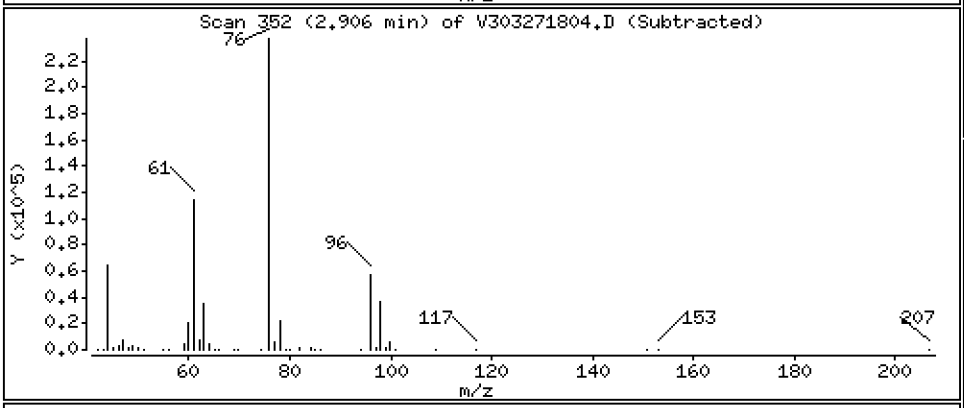
Column diameter: 0.18

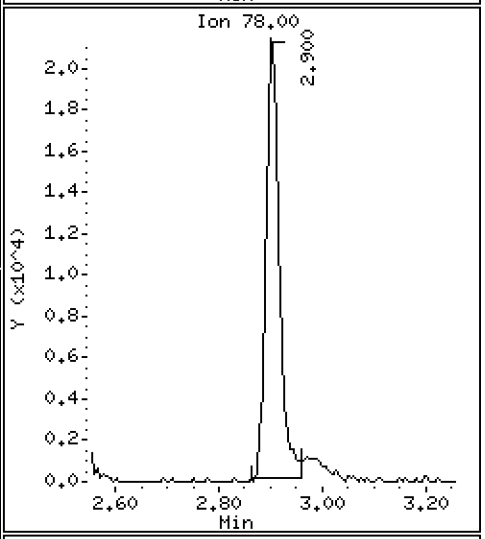
8 Carbon Disulfide

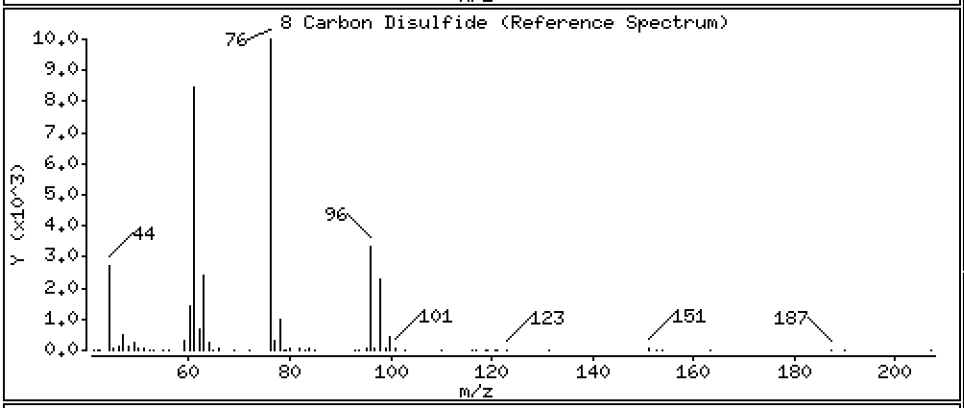
Concentration: 9.369 ug/L

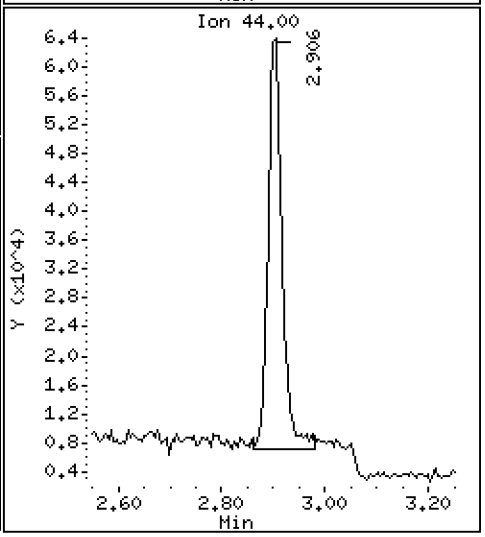


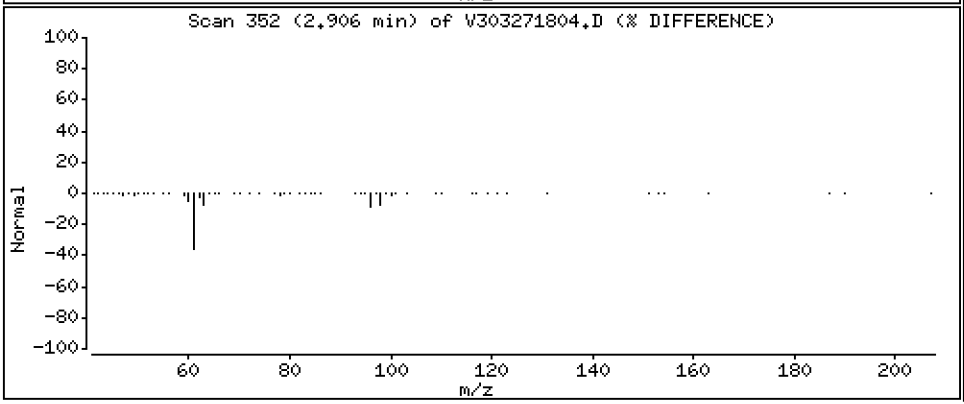












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

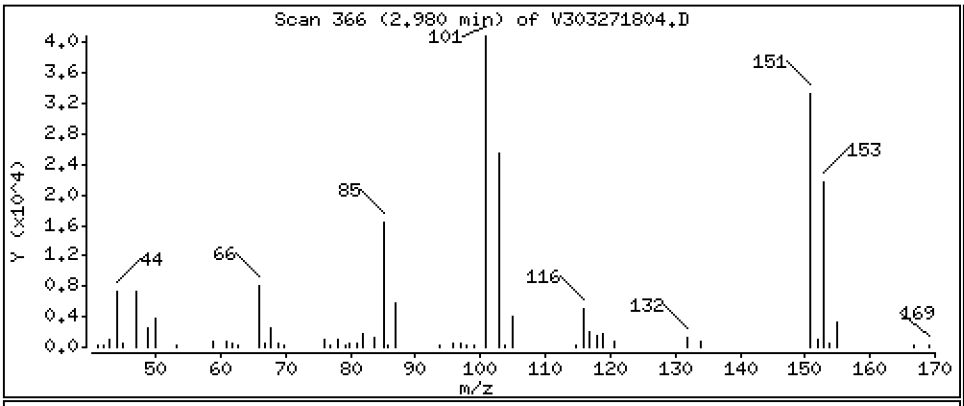
Operator: PKC

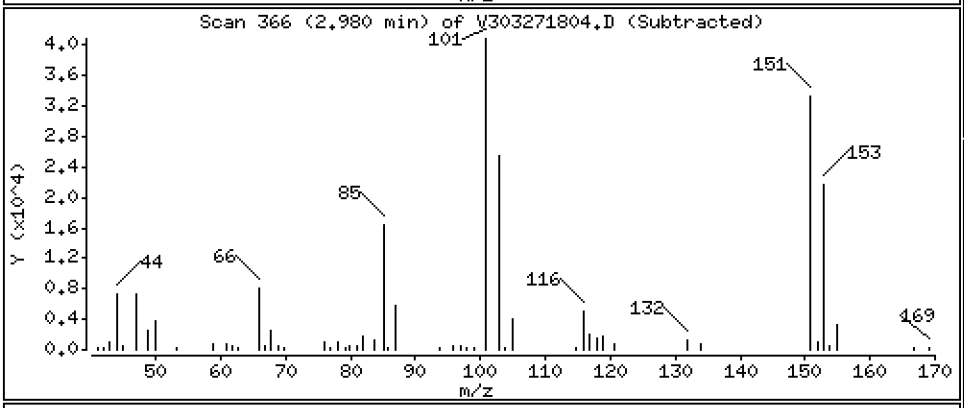
Column phase: RTXVMS

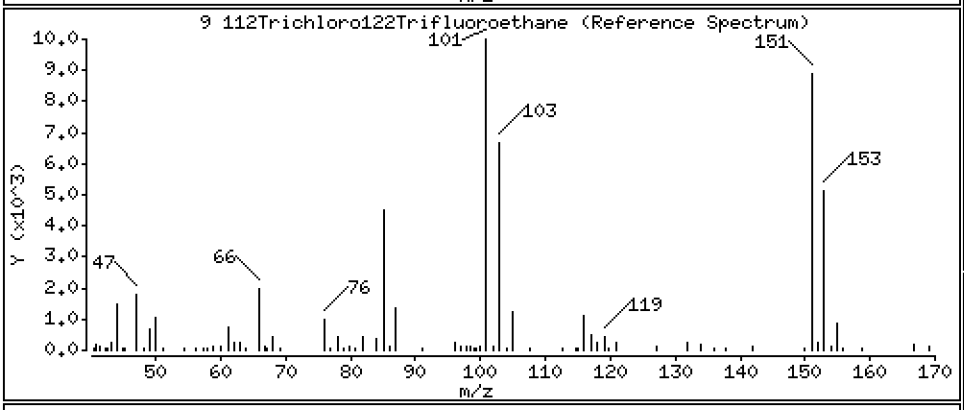
Column diameter: 0.18

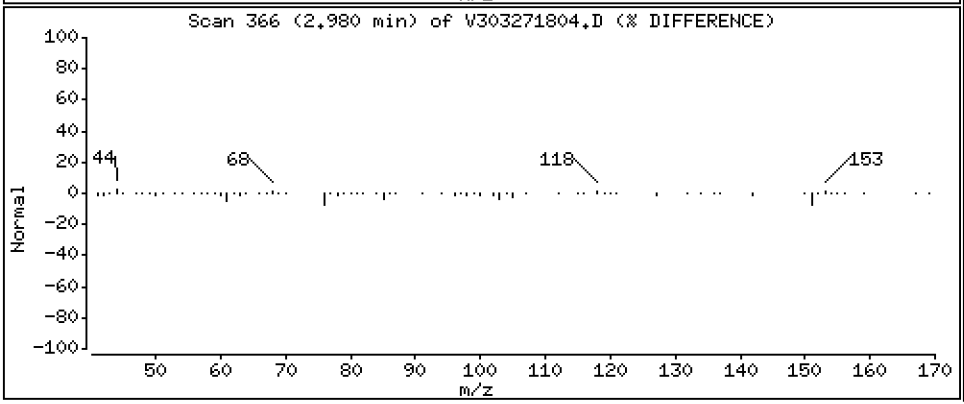
9 112Trichloro122Trifluoroethane

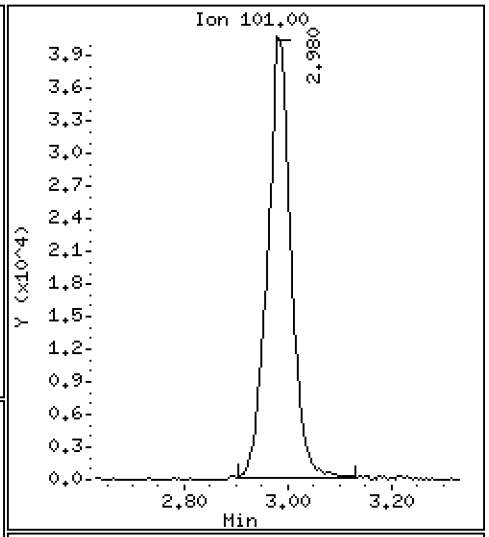
Concentration: 8.841 ug/L

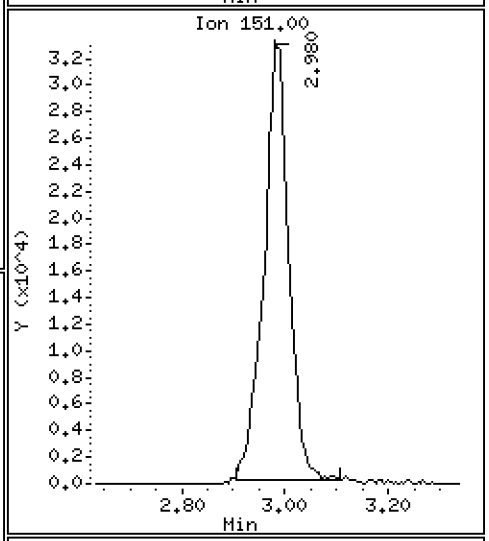


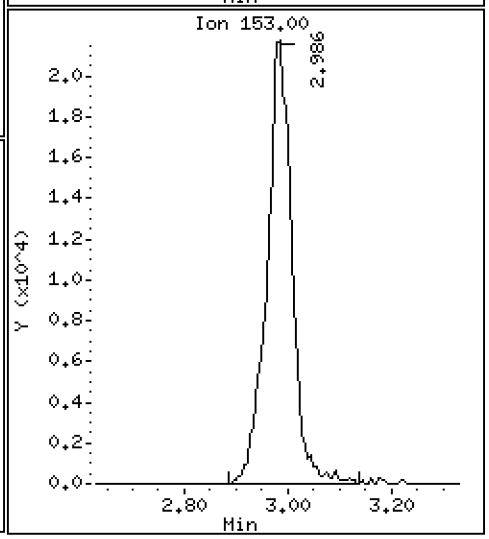












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

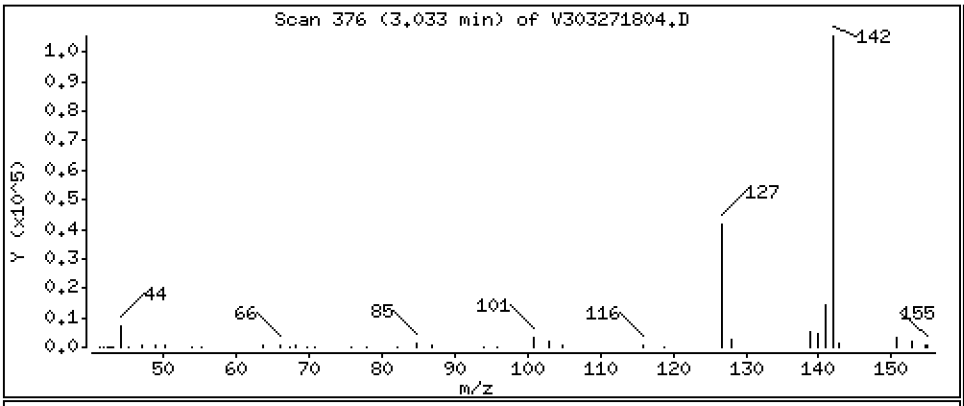
Operator: PKC

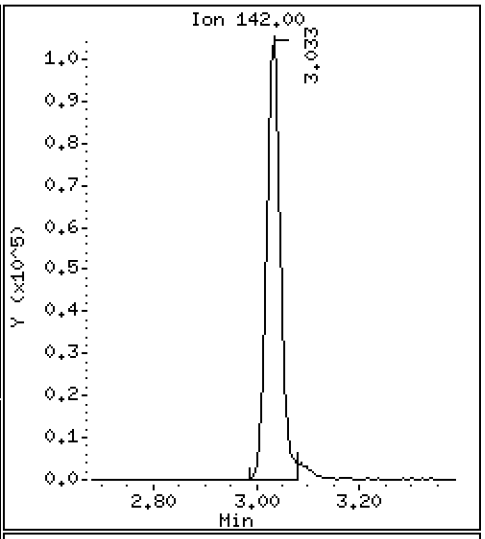
Column phase: RTXVMS

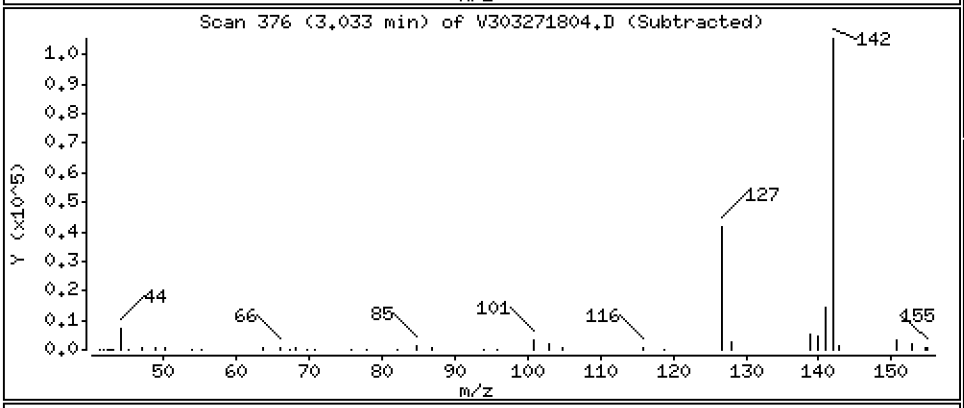
Column diameter: 0.18

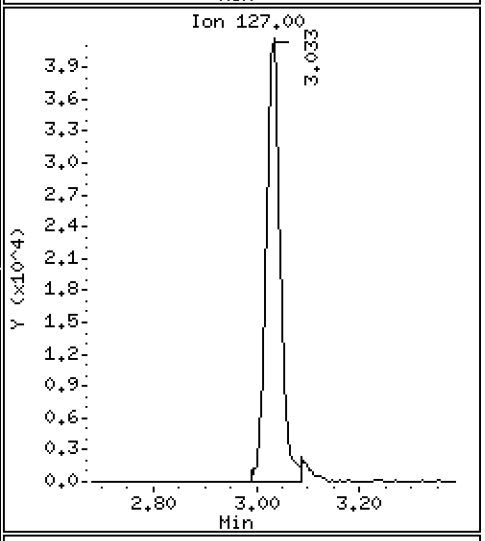
10 Iodomethane

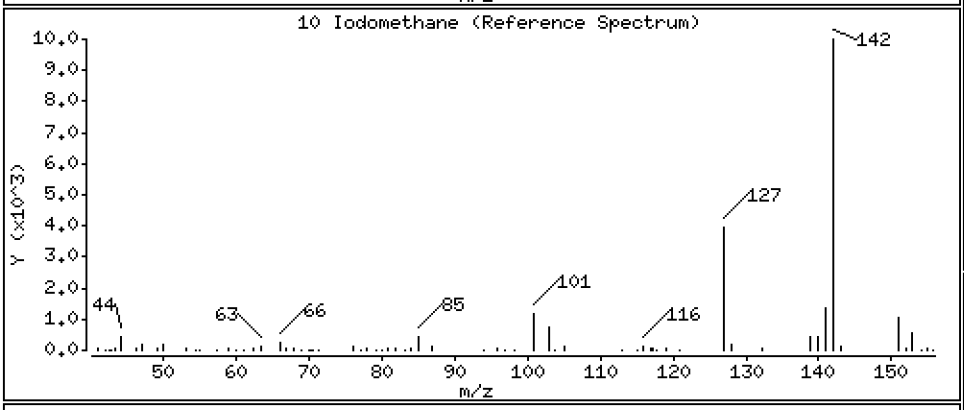
Concentration: 9.356 ug/L

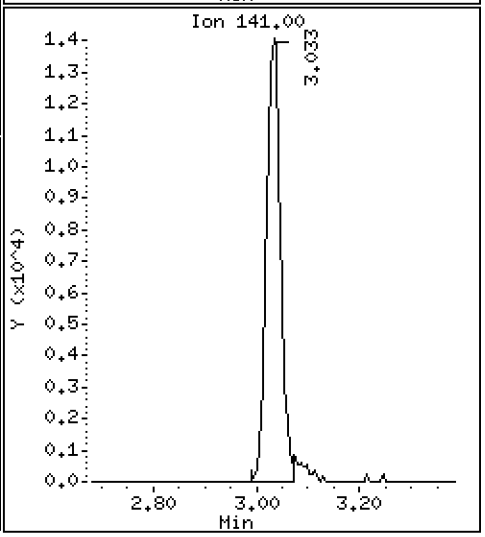


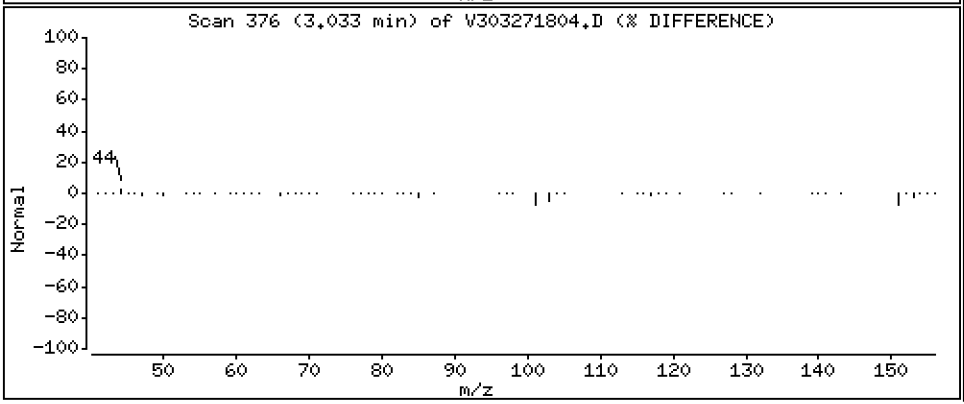












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

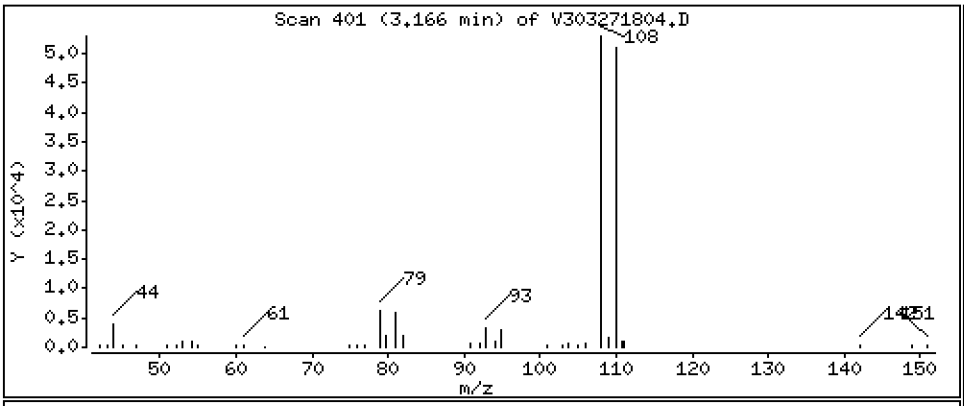
Operator: PKC

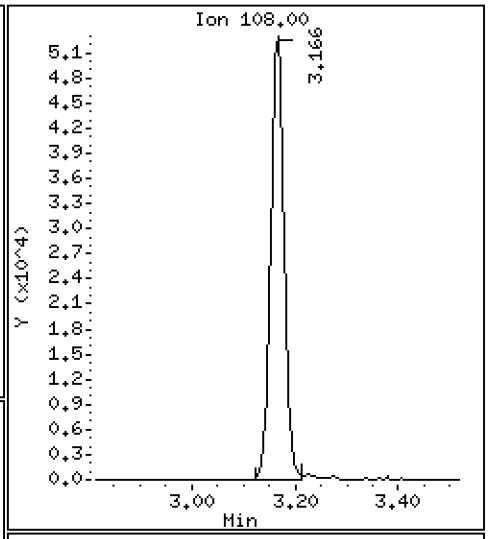
Column phase: RTXVMS

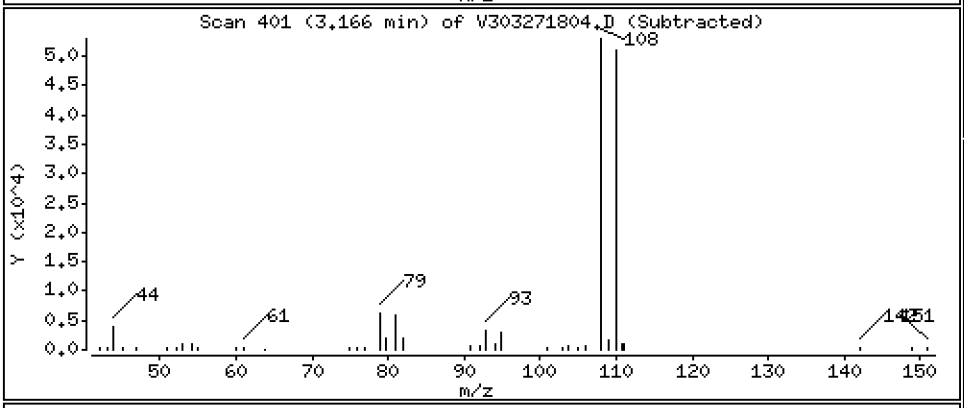
Column diameter: 0.18

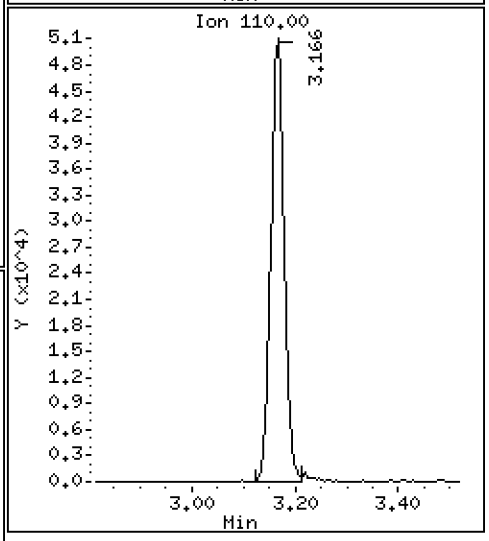
11 Bromoethane

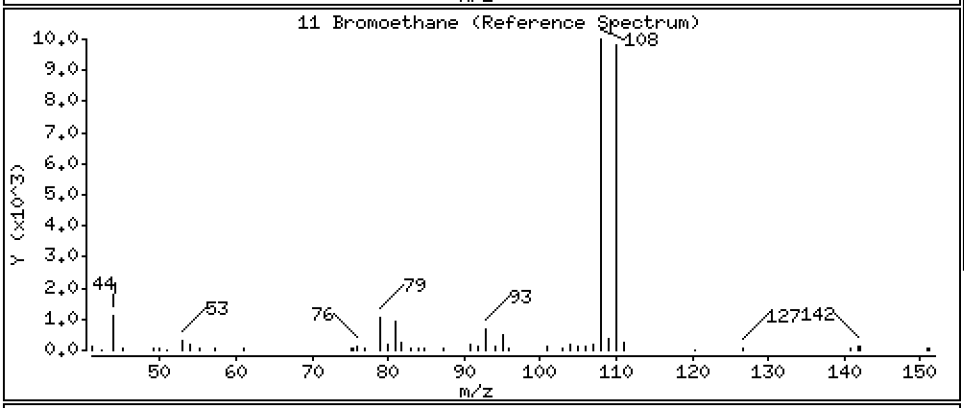
Concentration: 8.917 ug/L

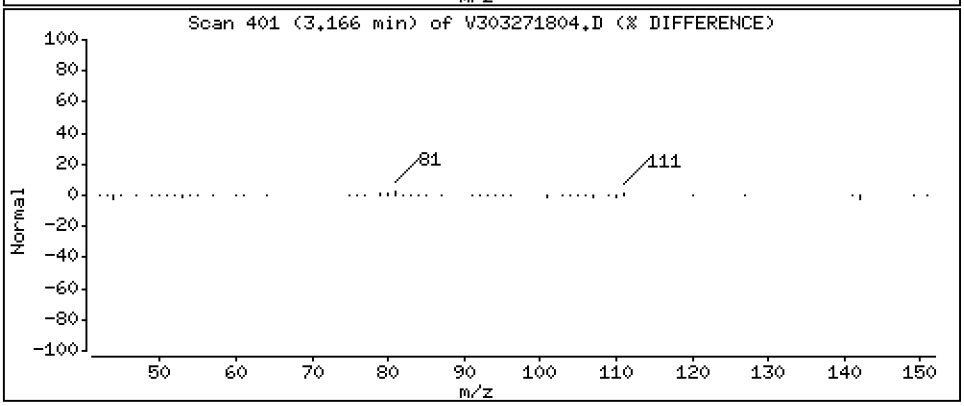












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

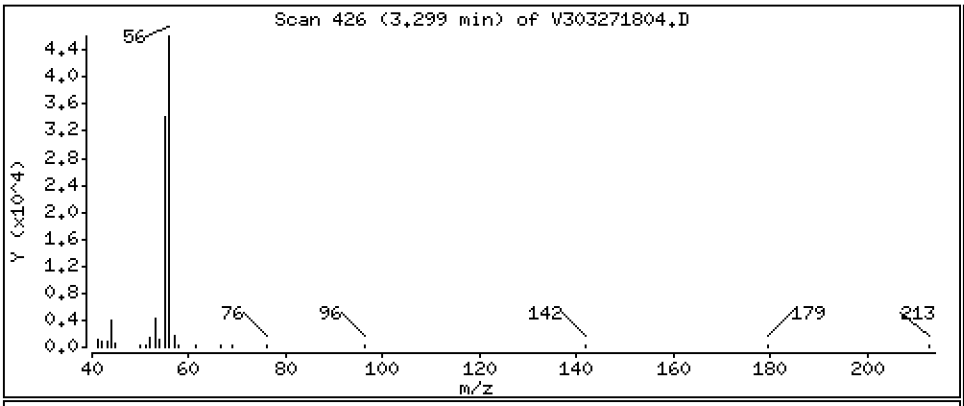
Operator: PKC

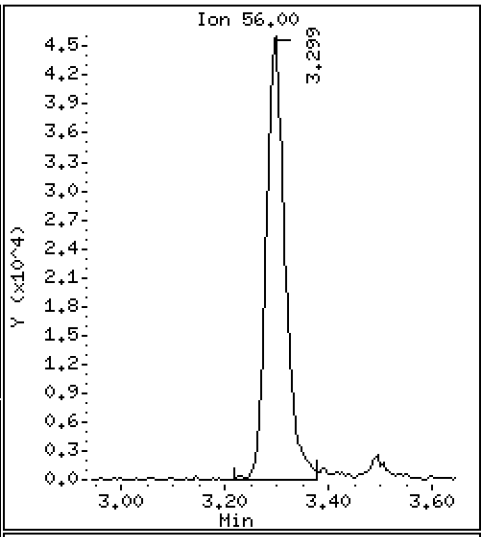
Column phase: RTXVMS

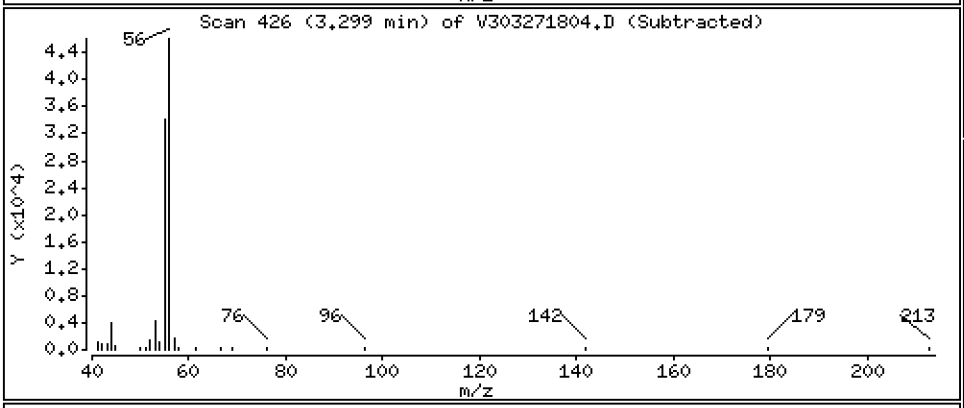
Column diameter: 0.18

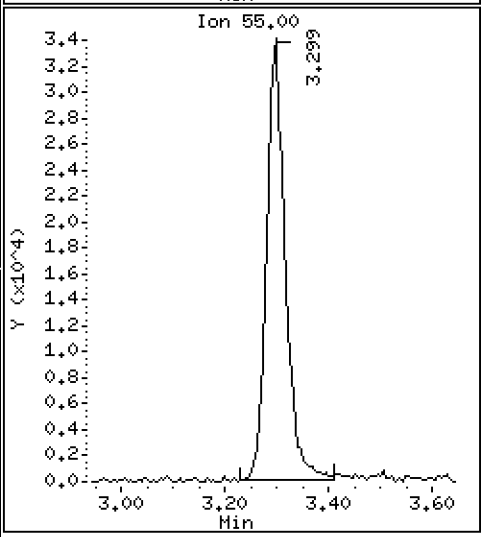
12 Acrolein

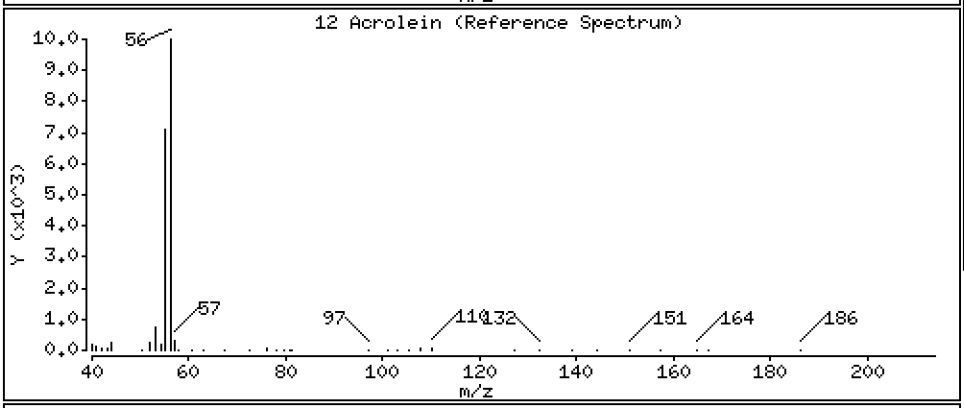
Concentration: 48.824 ug/L

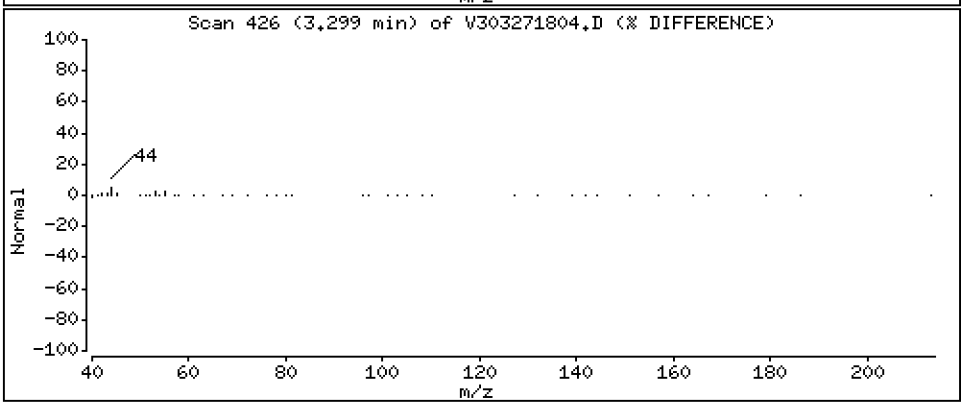












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

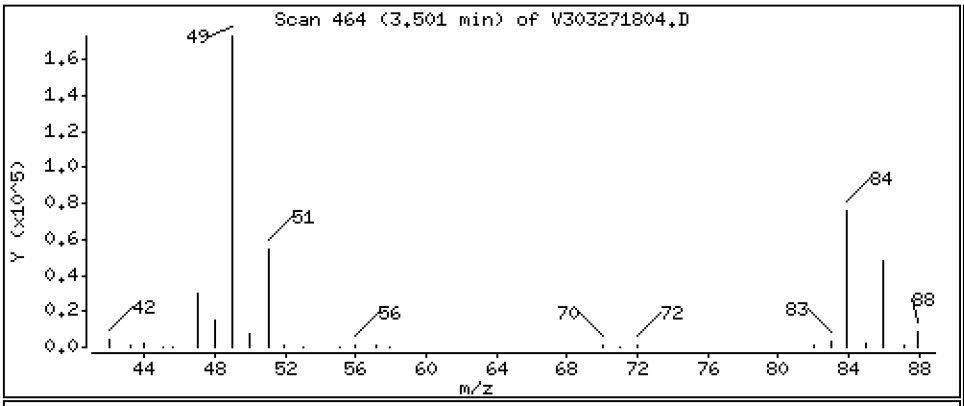
Operator: PKC

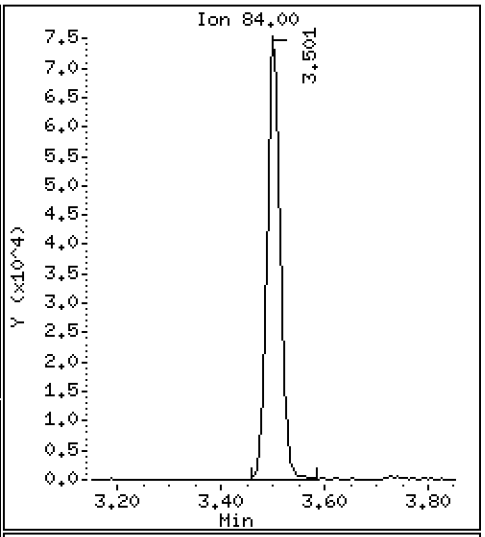
Column phase: RTXVMS

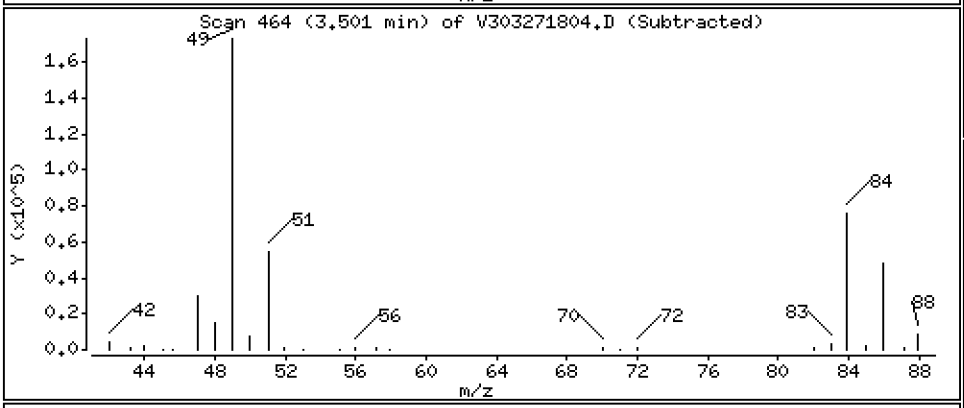
Column diameter: 0.18

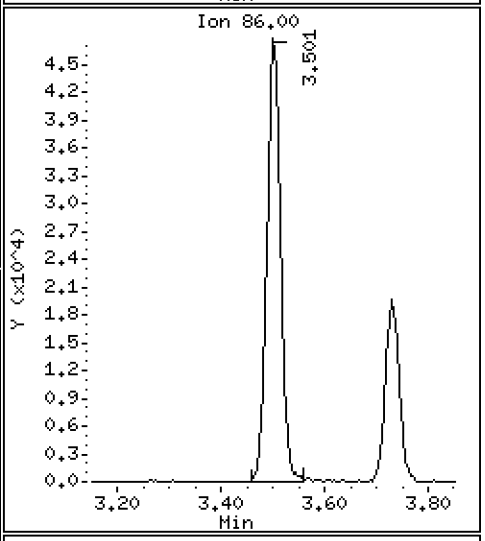
13 Methylene Chloride

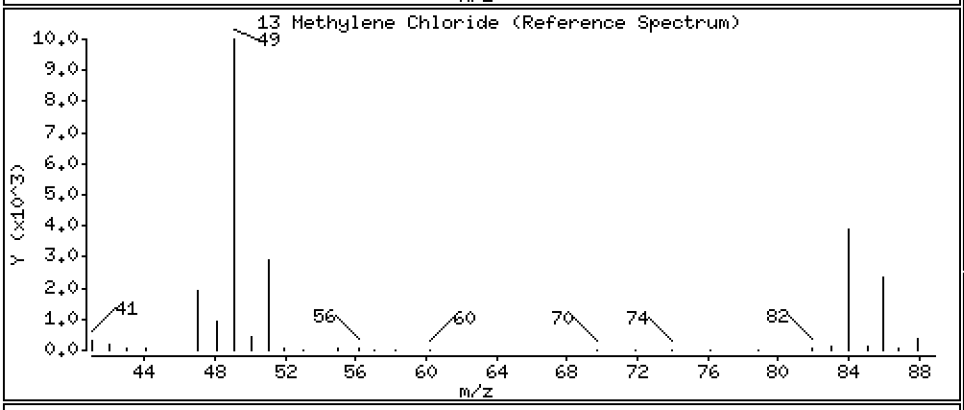
Concentration: 9.828 ug/L

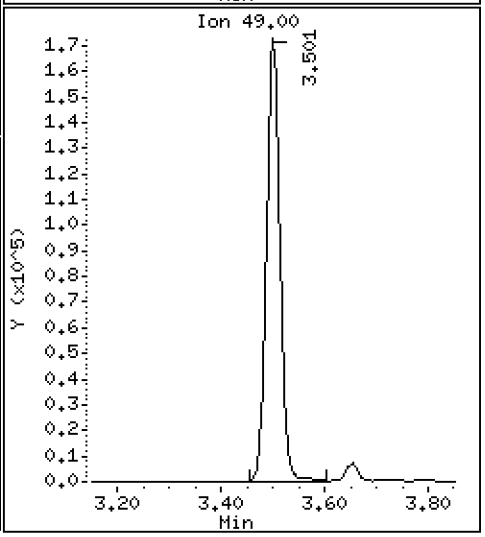


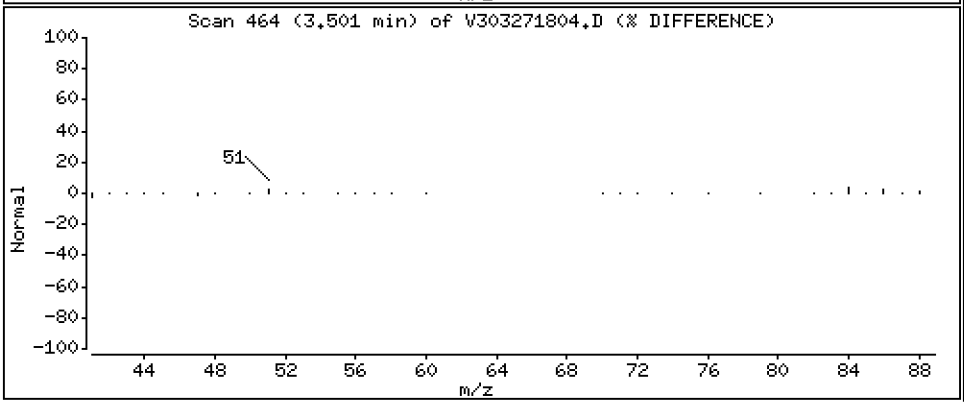












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

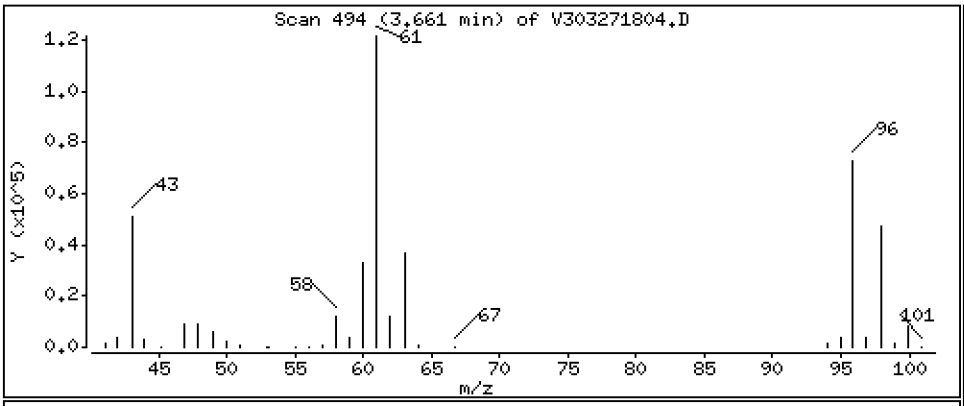
Operator: PKC

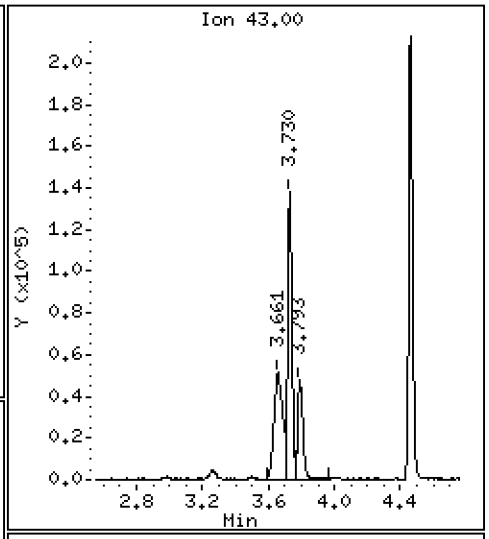
Column phase: RTXVMS

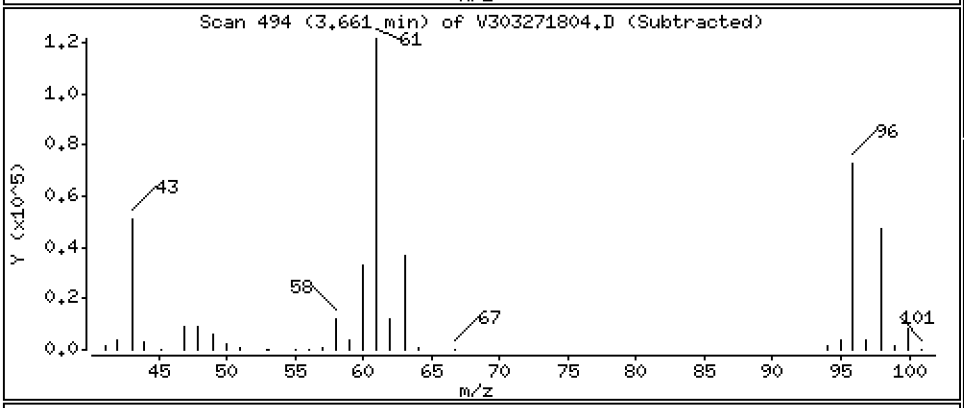
Column diameter: 0.18

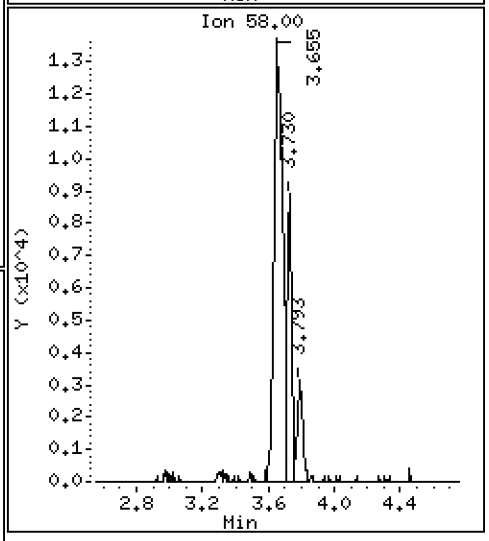
14 Acetone

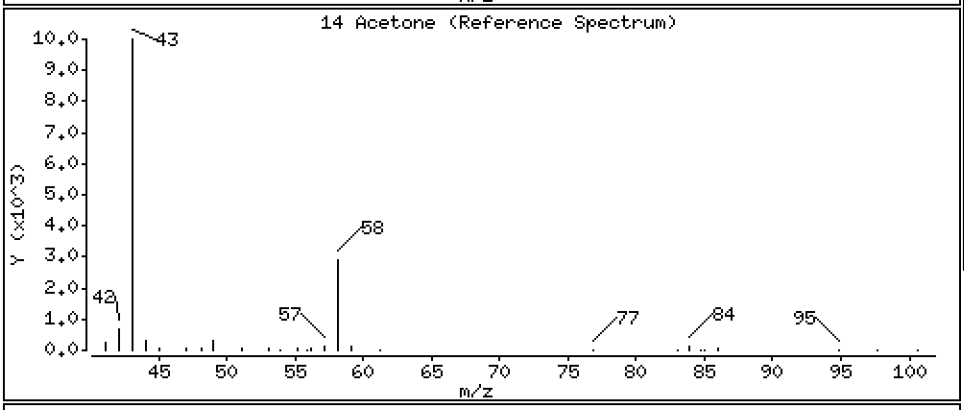
Concentration: 49.372 ug/L

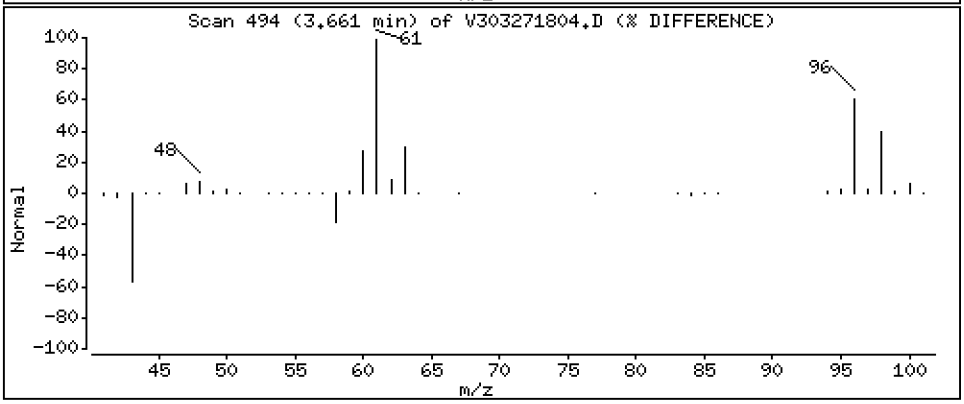












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

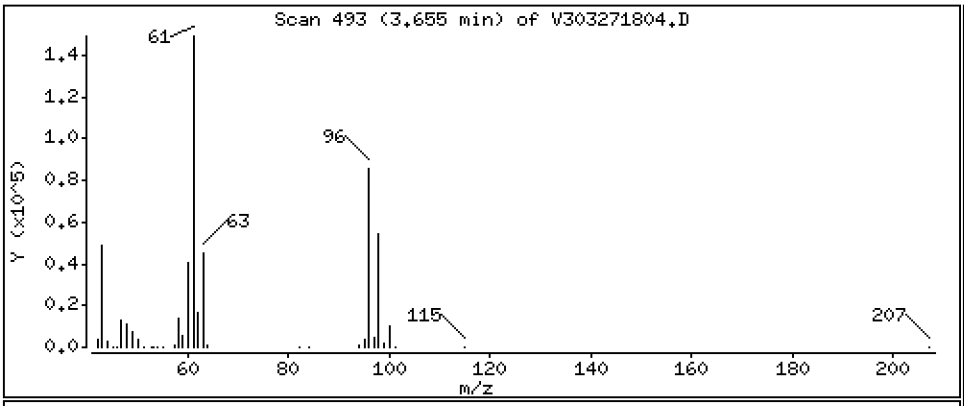
Operator: PKC

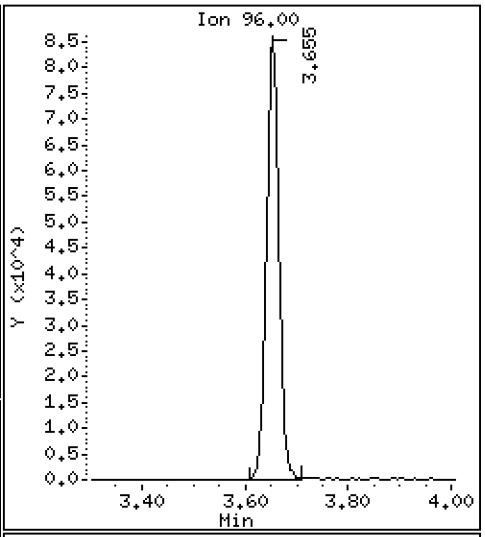
Column phase: RTXVMS

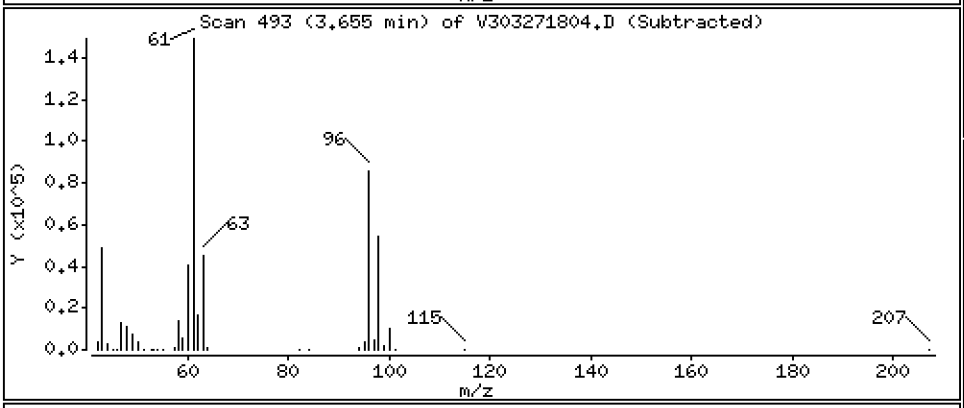
Column diameter: 0.18

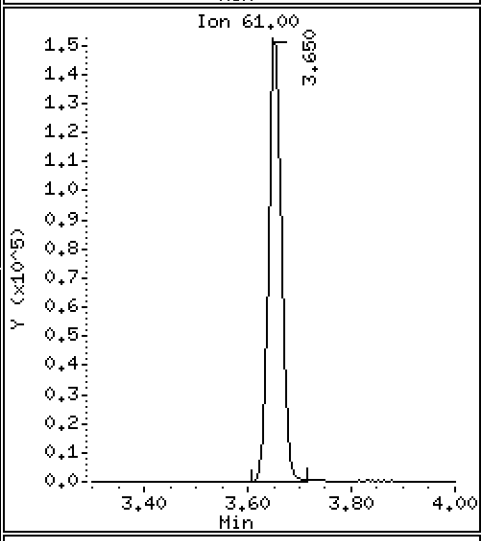
15 Trans-1,2-Dichloroethene

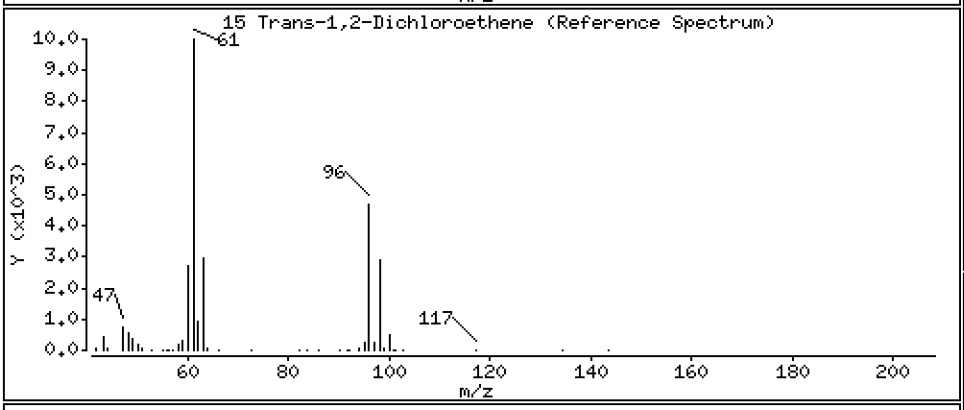
Concentration: 9.592 ug/L

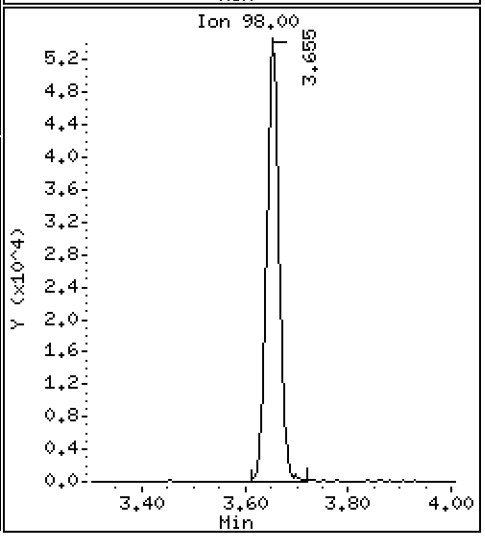


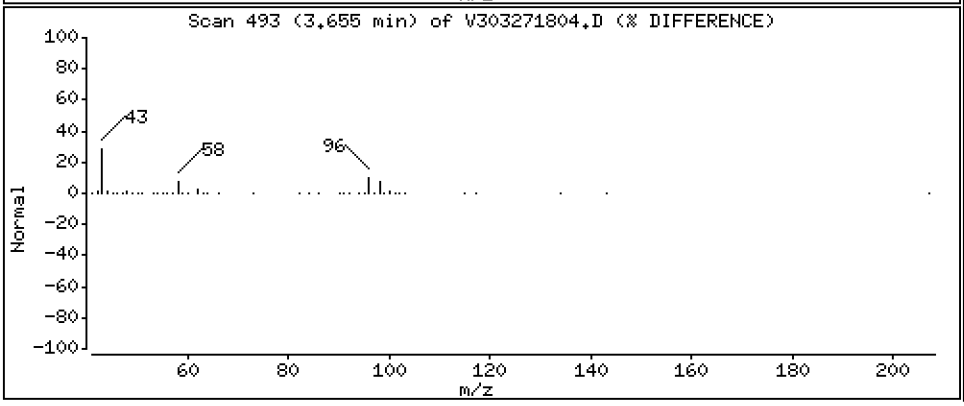












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

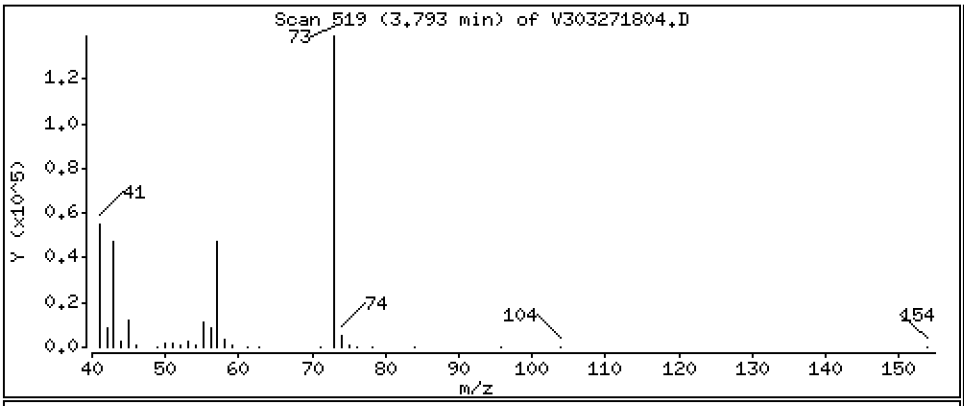
Operator: PKC

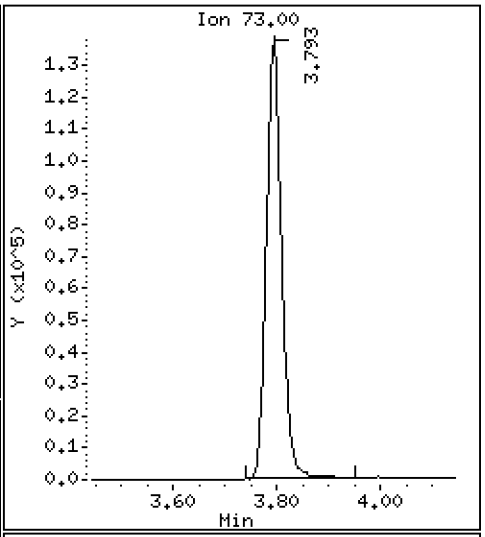
Column phase: RTXVMS

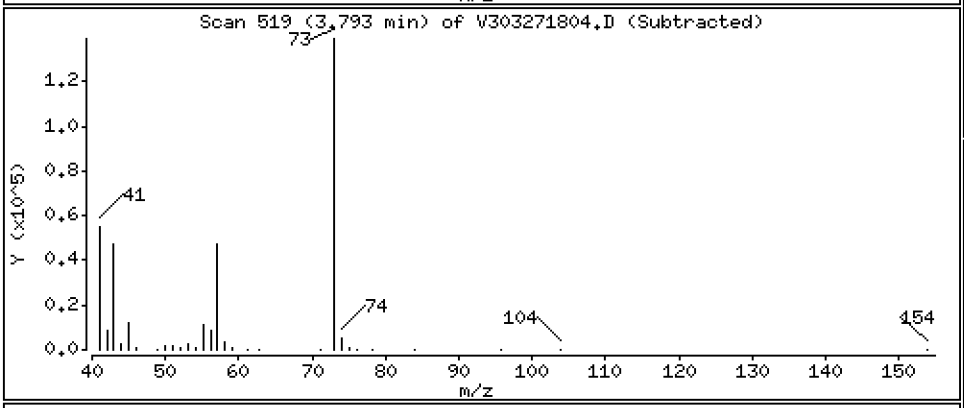
Column diameter: 0.18

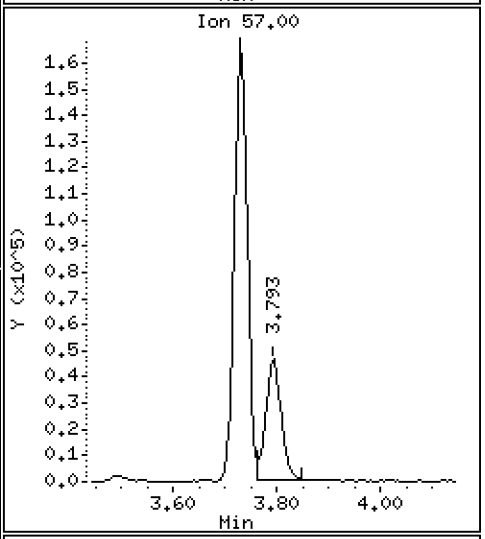
17 Methyl tert butyl ether

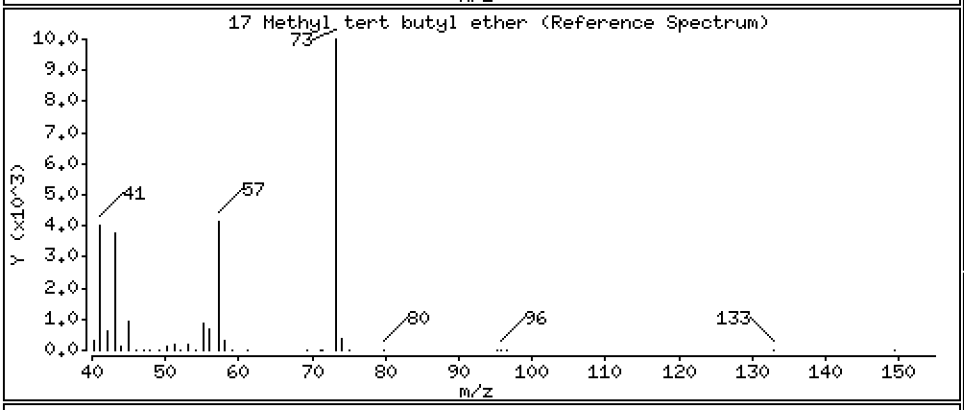
Concentration: 9.746 ug/L

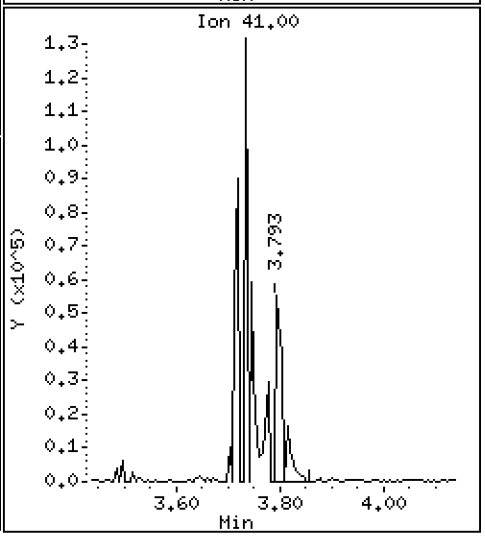


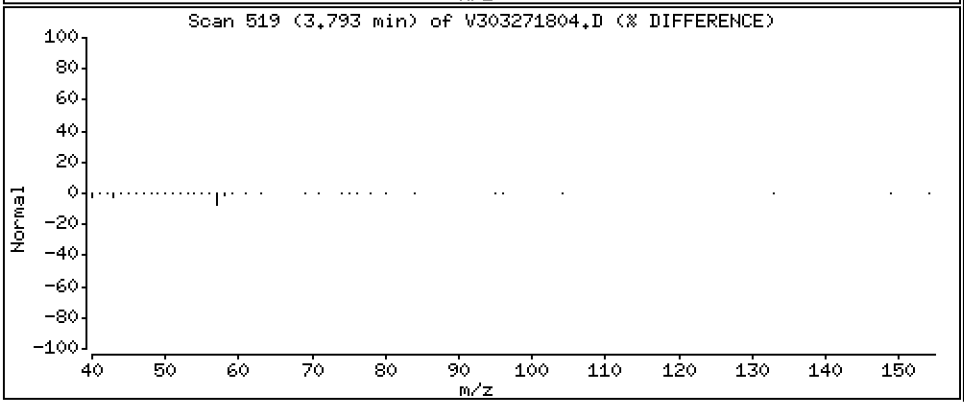












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

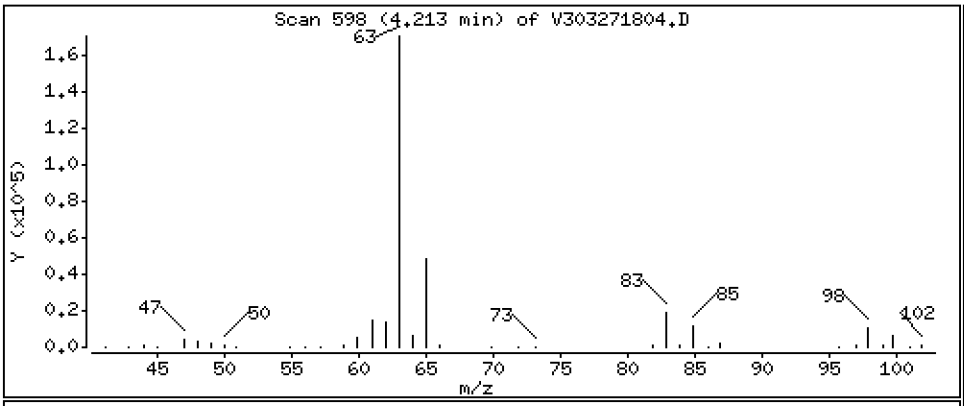
Operator: PKC

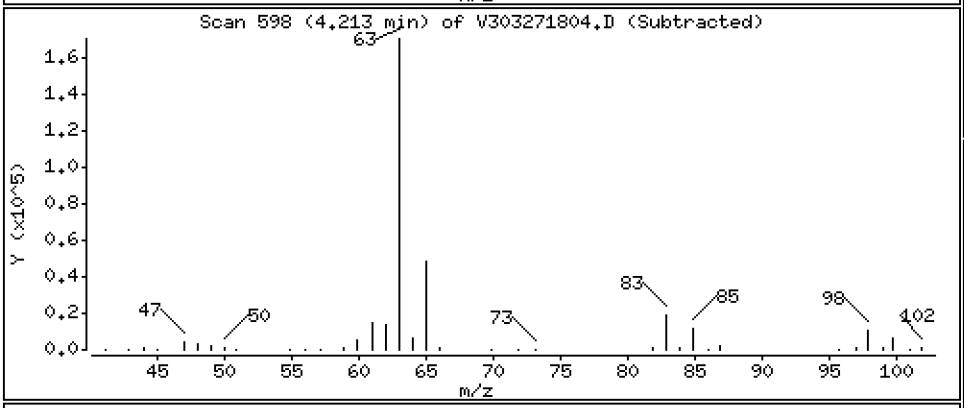
Column phase: RTXVMS

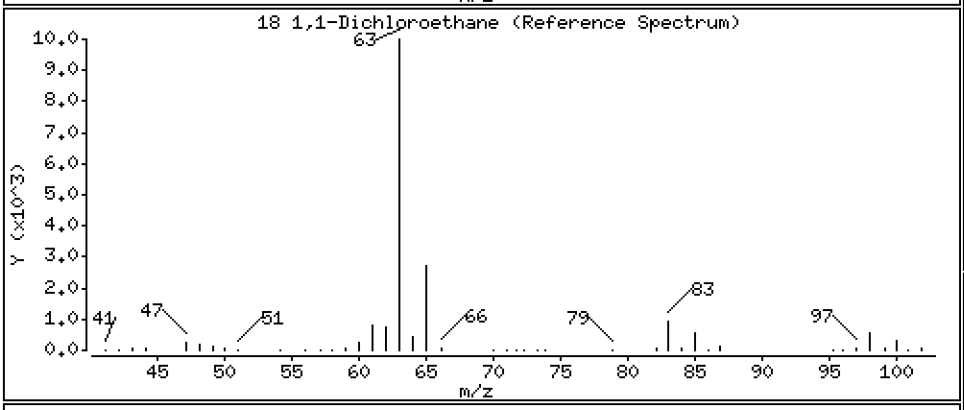
Column diameter: 0.18

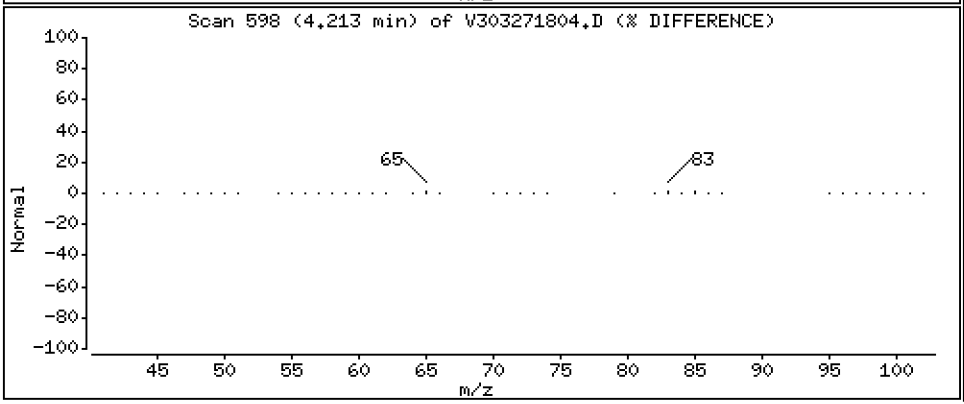
18 1,1-Dichloroethane

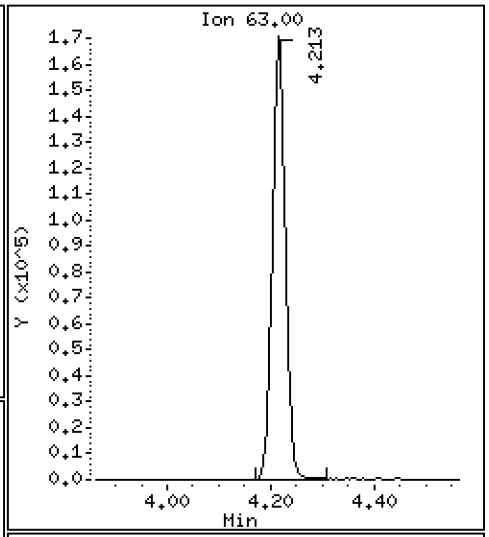
Concentration: 9.404 ug/L

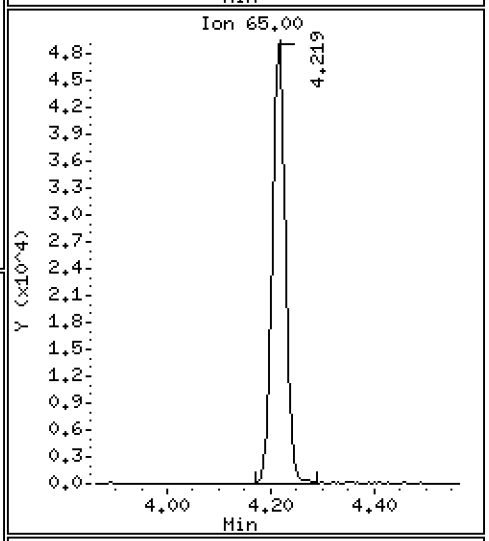


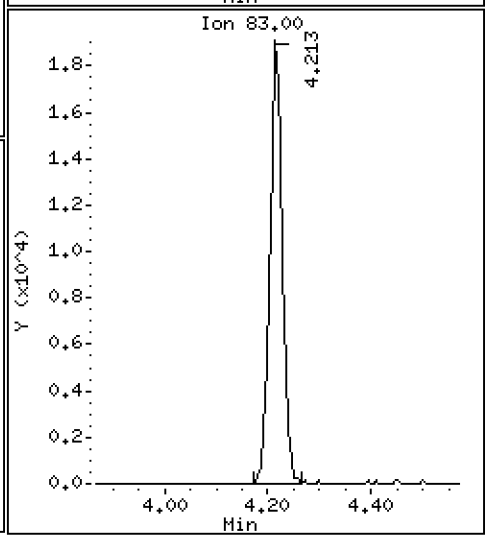












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

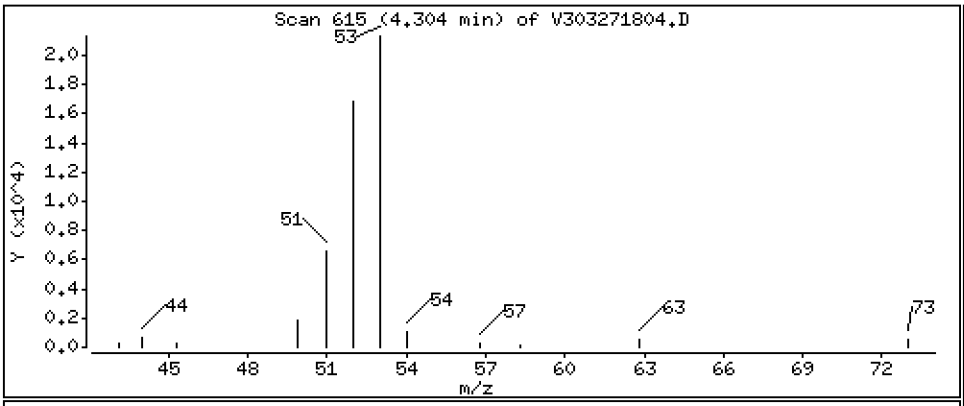
Operator: PKC

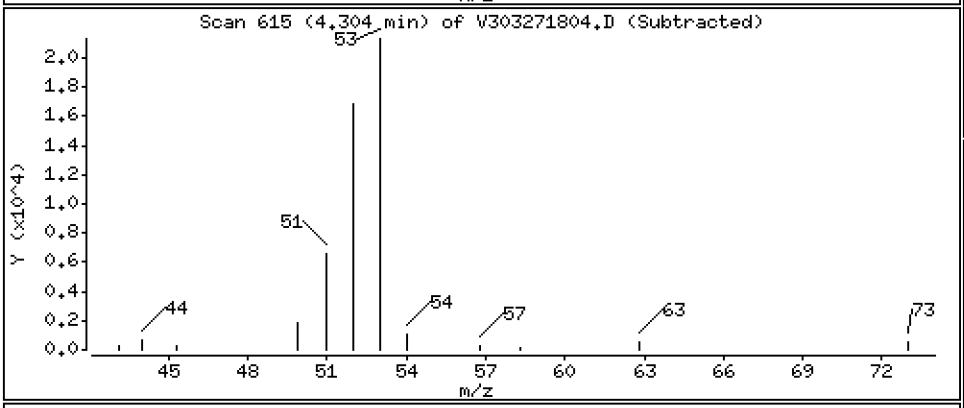
Column phase: RTXVMS

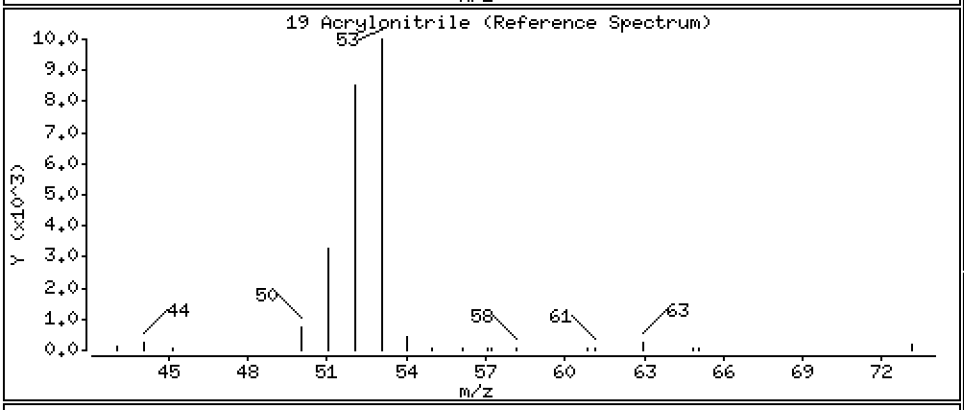
Column diameter: 0.18

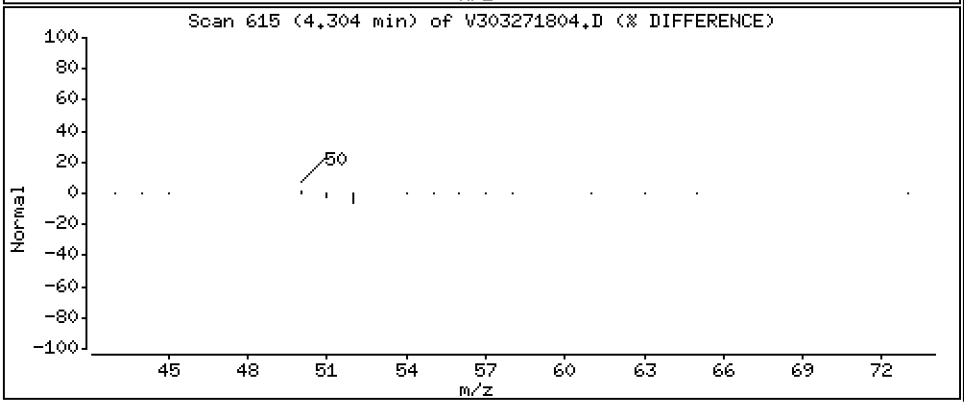
19 Acrylonitrile

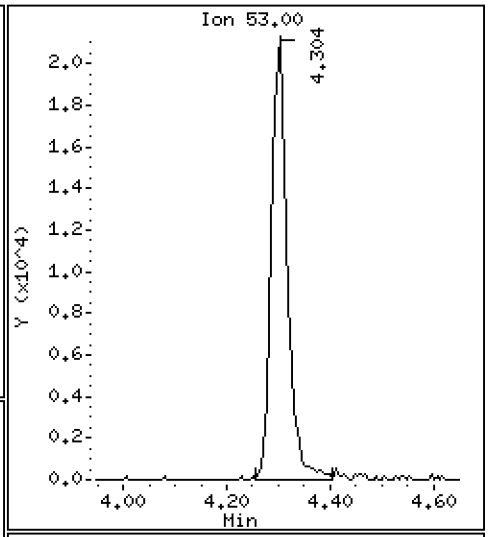
Concentration: 9.557 ug/L

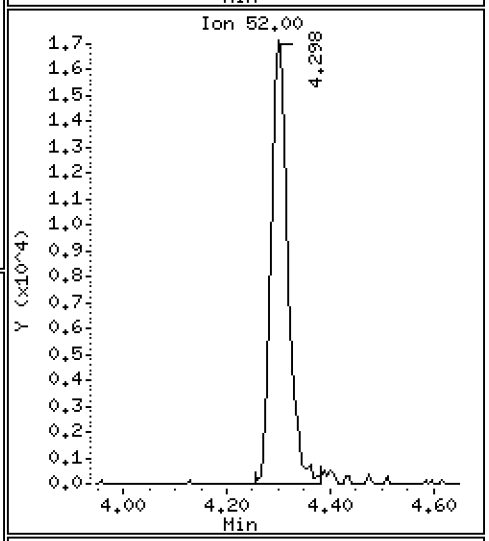


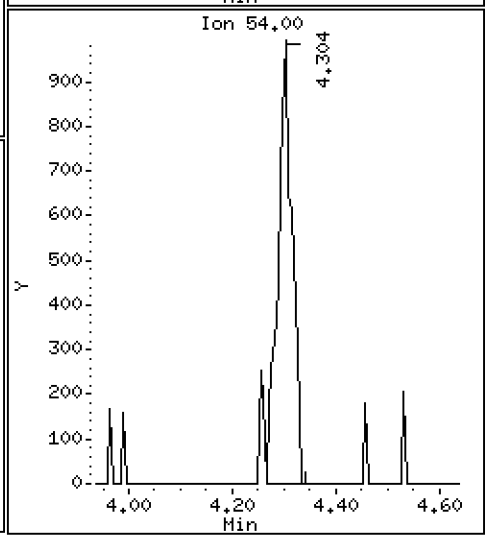












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

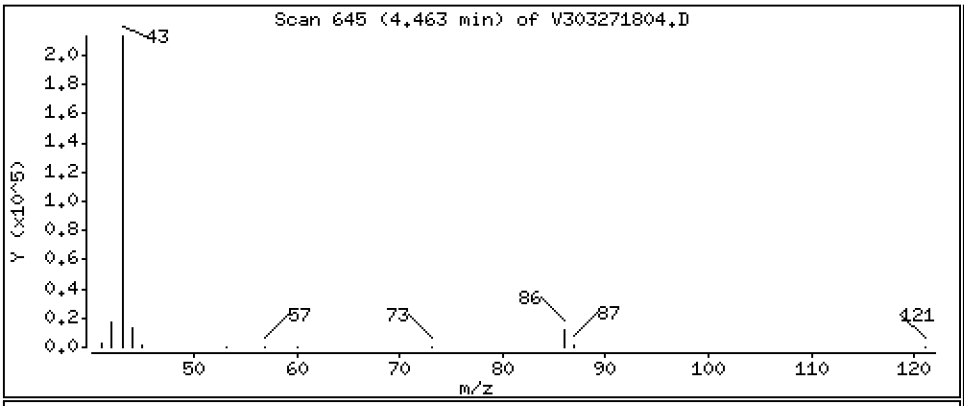
Operator: PKC

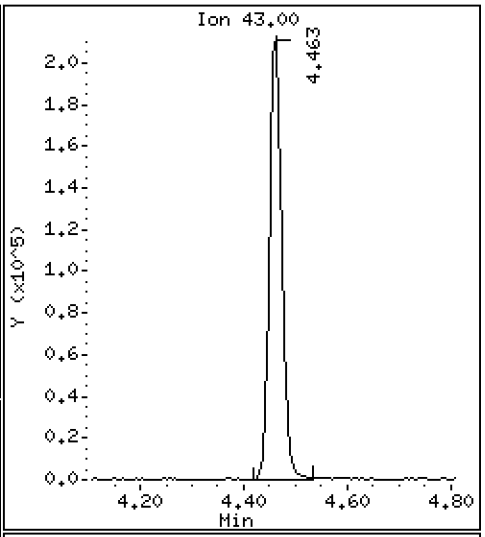
Column phase: RTXVMS

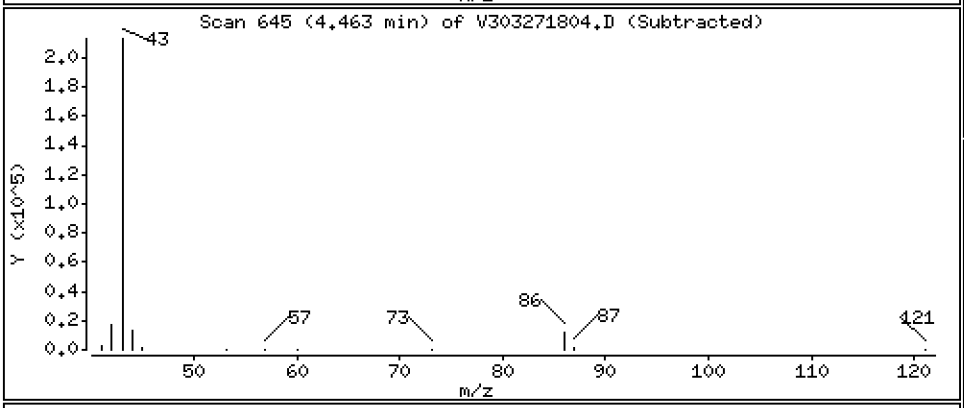
Column diameter: 0.18

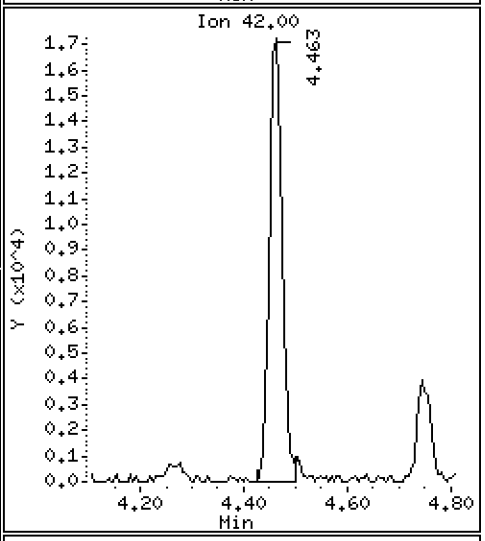
20 Vinyl Acetate

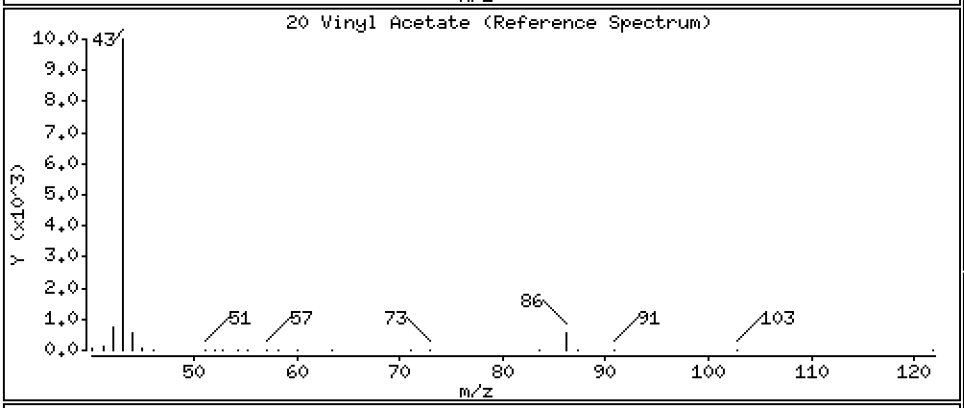
Concentration: 10.549 ug/L

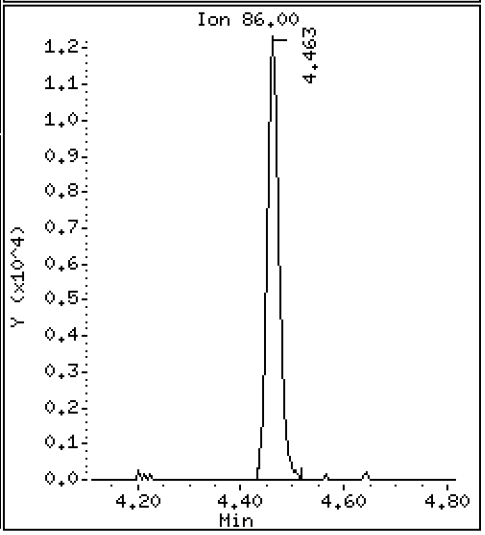


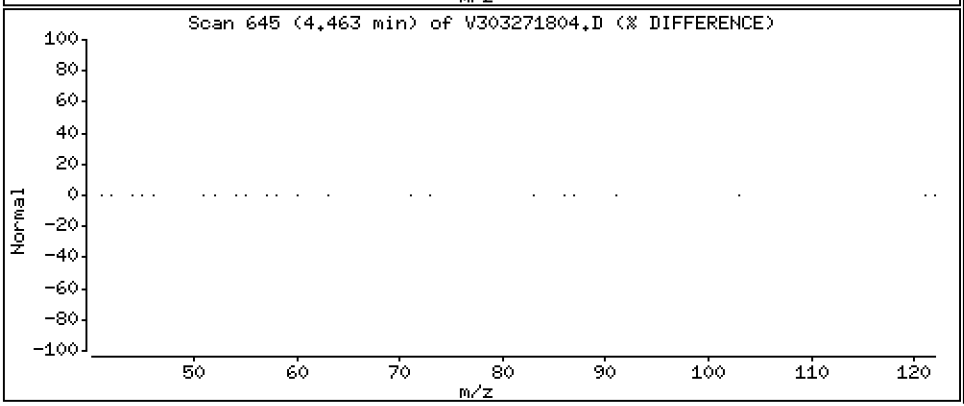












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

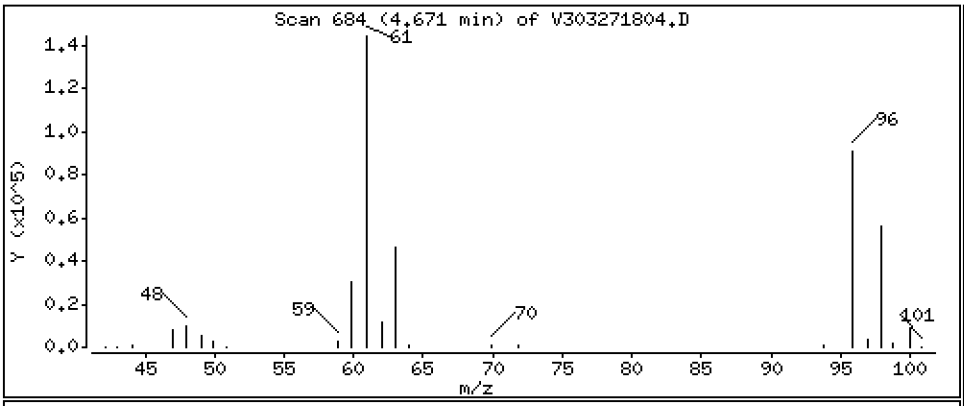
Operator: PKC

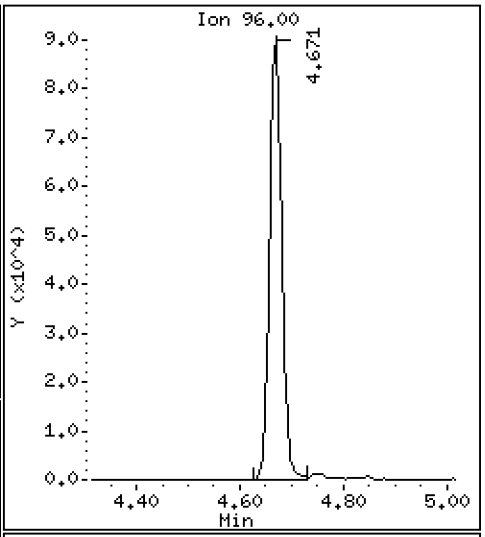
Column phase: RTXVMS

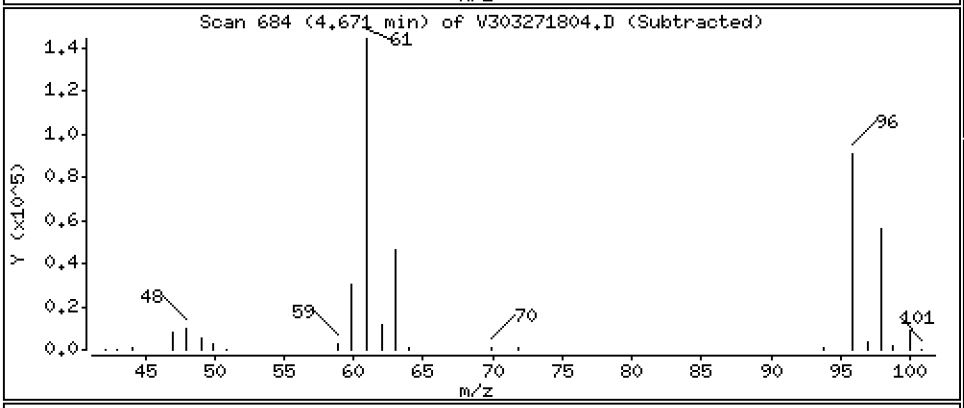
Column diameter: 0.18

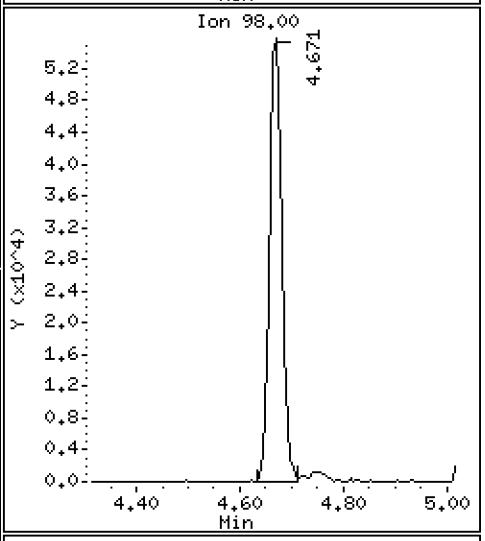
22 Cis-1,2-Dichloroethene

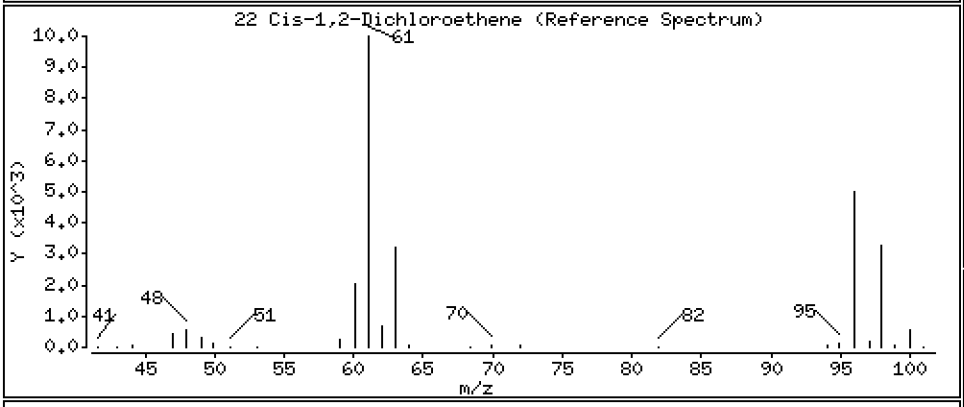
Concentration: 9.413 ug/L

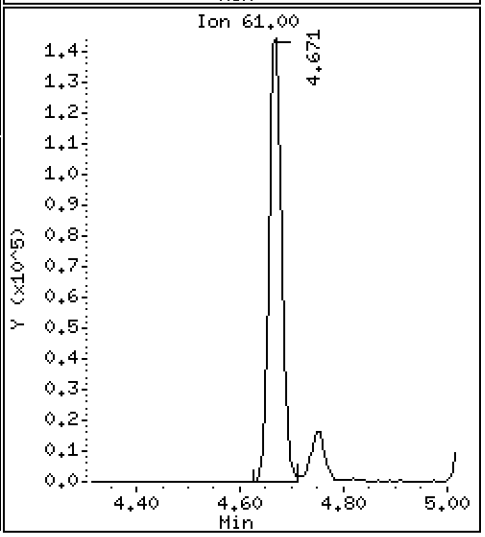


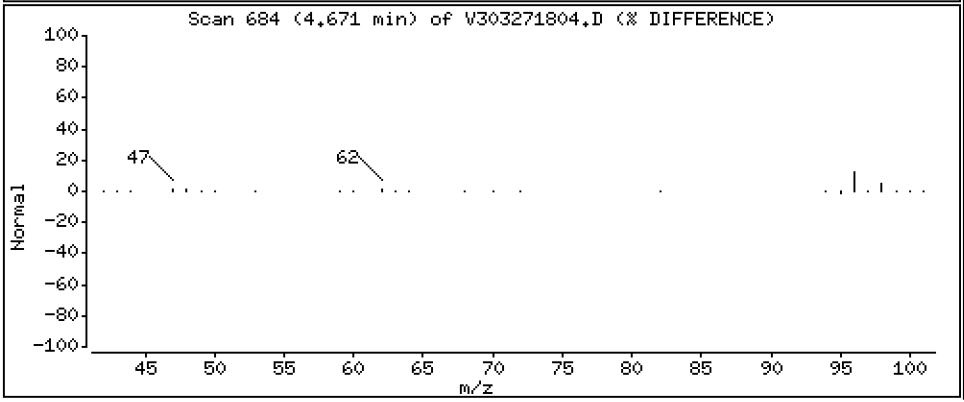












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

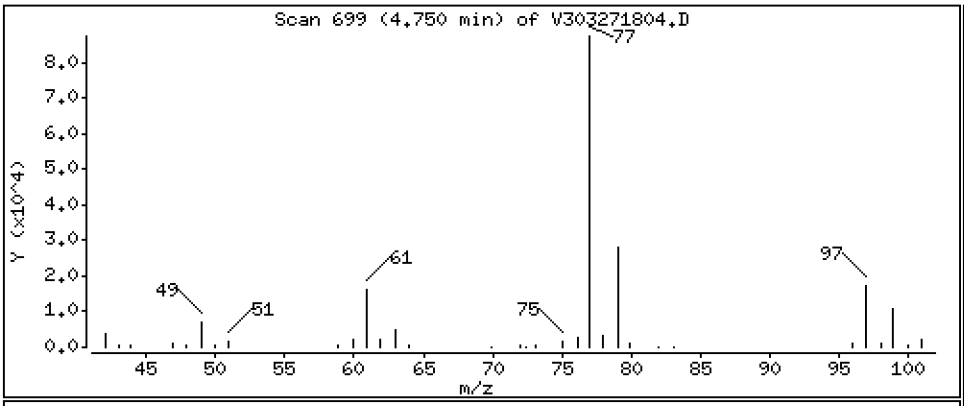
Operator: PKC

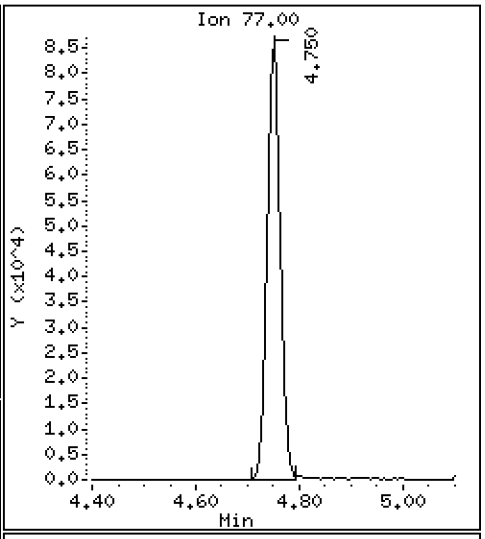
Column phase: RTXVMS

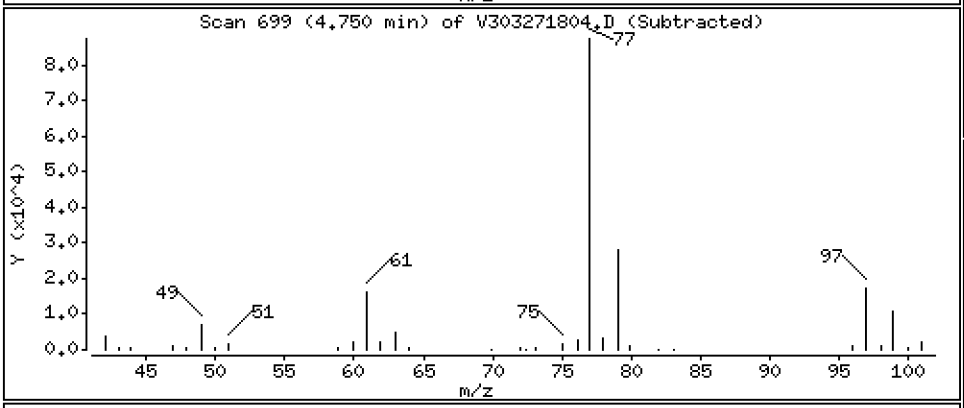
Column diameter: 0.18

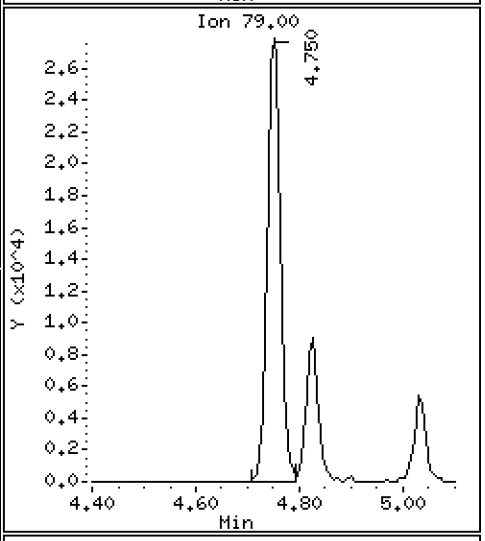
23 2,2-Dichloropropane

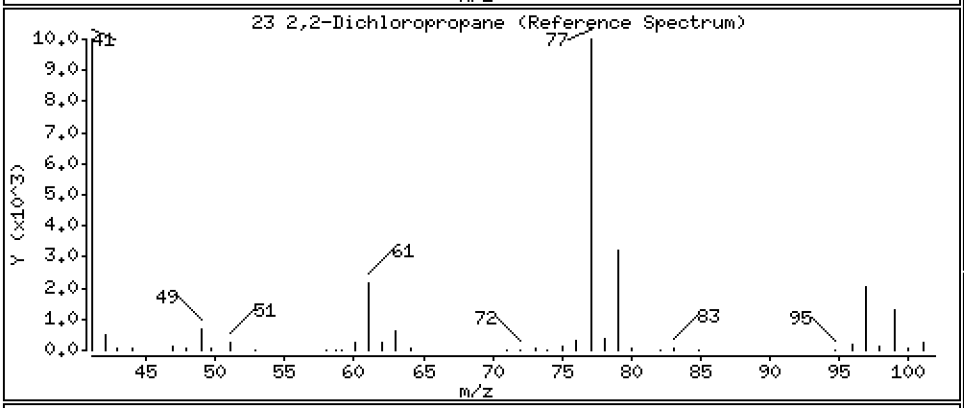
Concentration: 8.326 ug/L

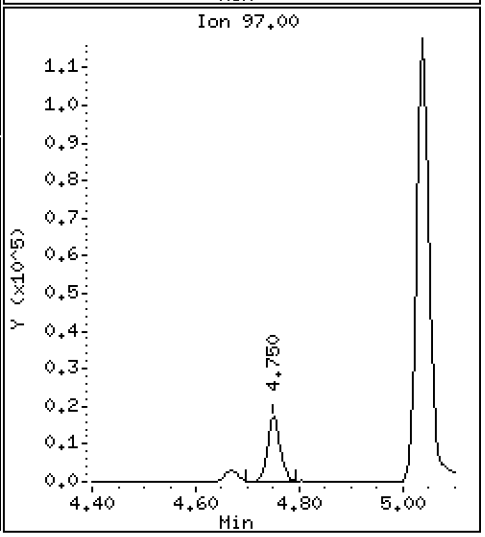


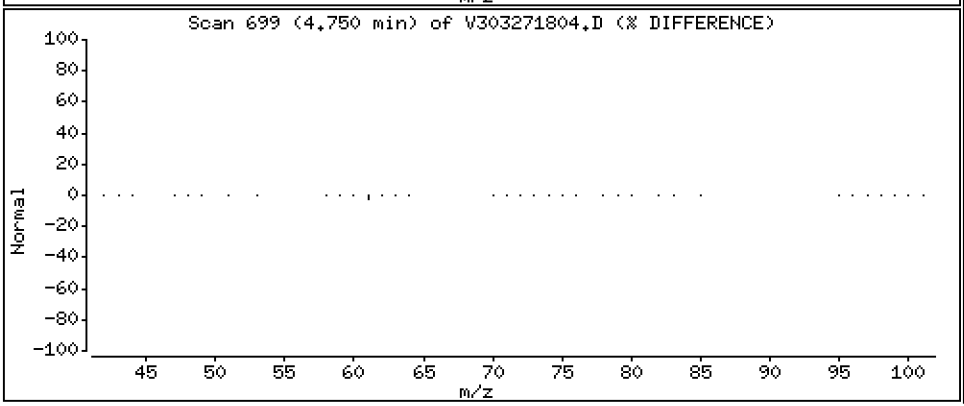












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

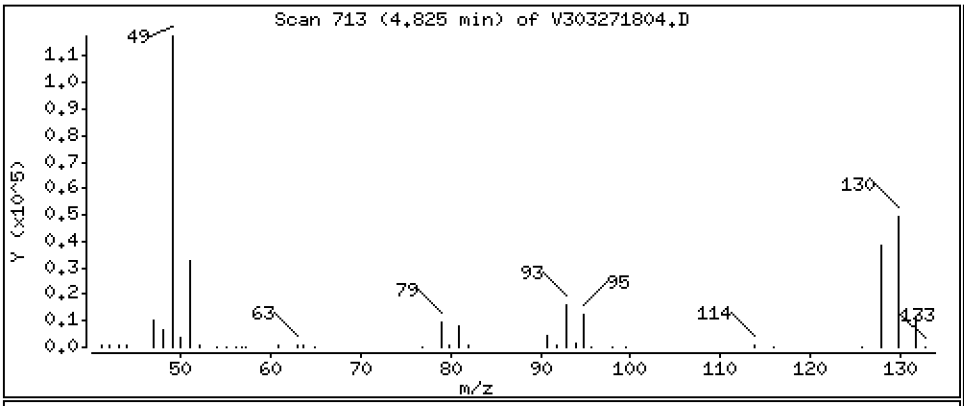
Operator: PKC

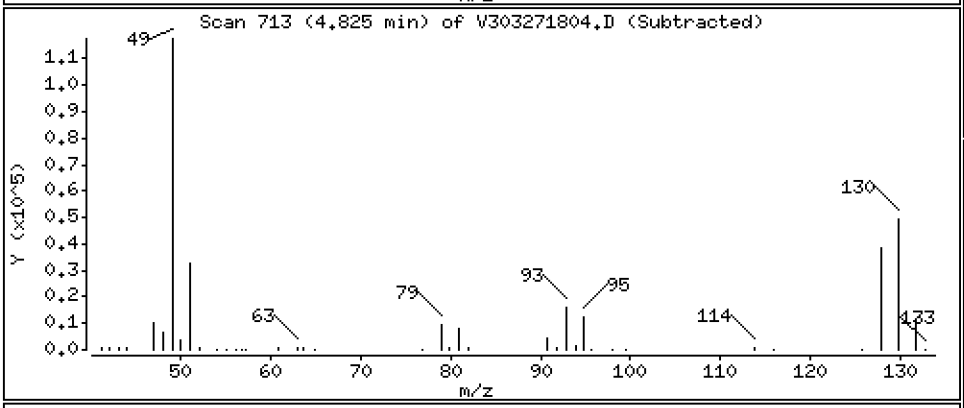
Column phase: RTXVMS

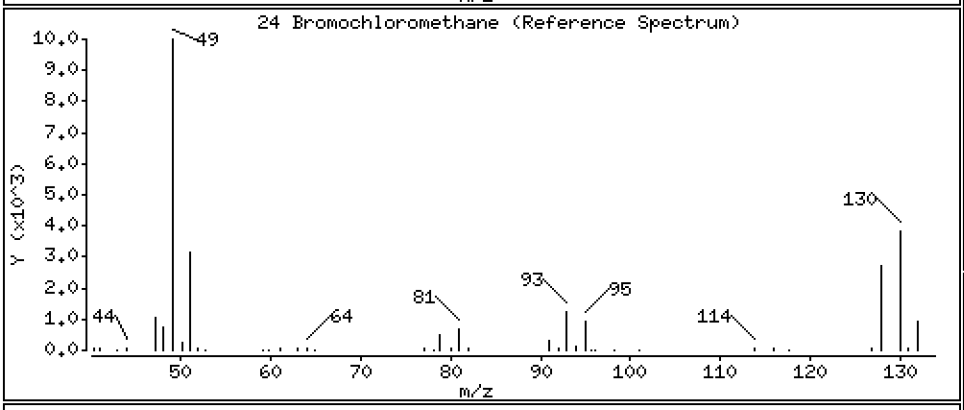
Column diameter: 0.18

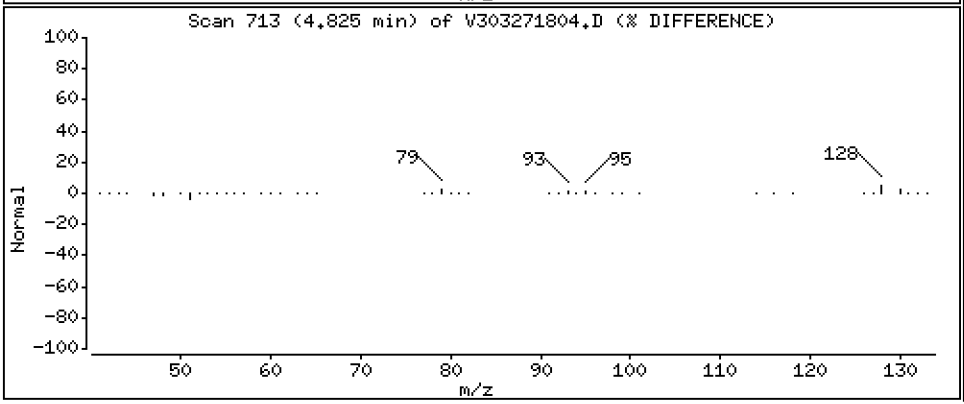
24 Bromochloromethane

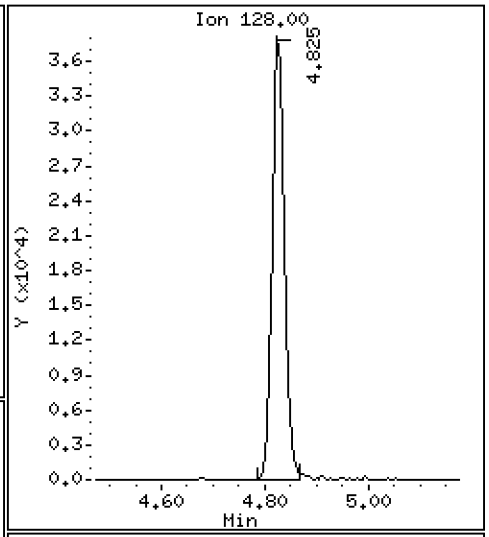
Concentration: 9.399 ug/L

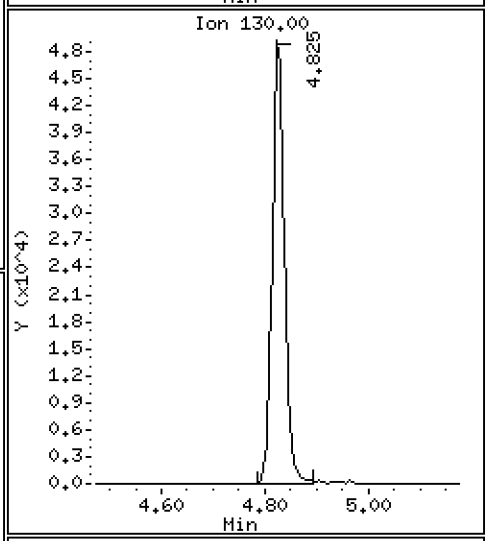


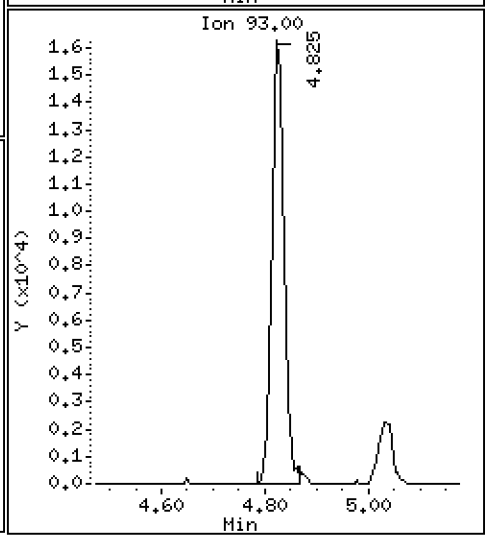












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

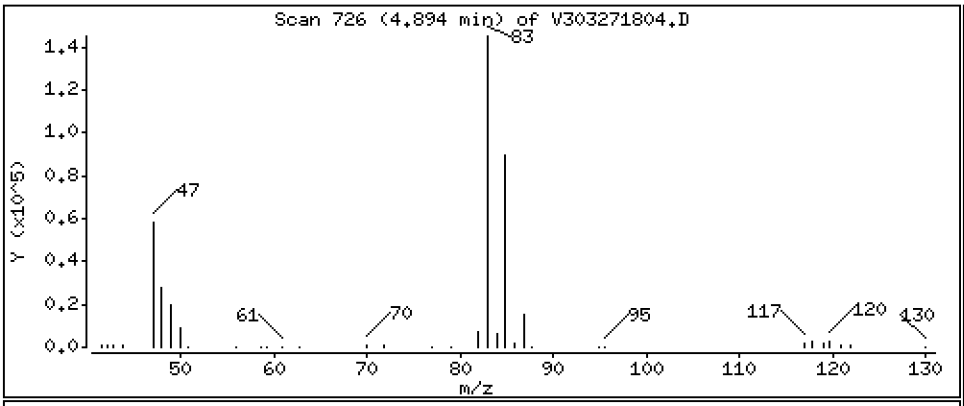
Operator: PKC

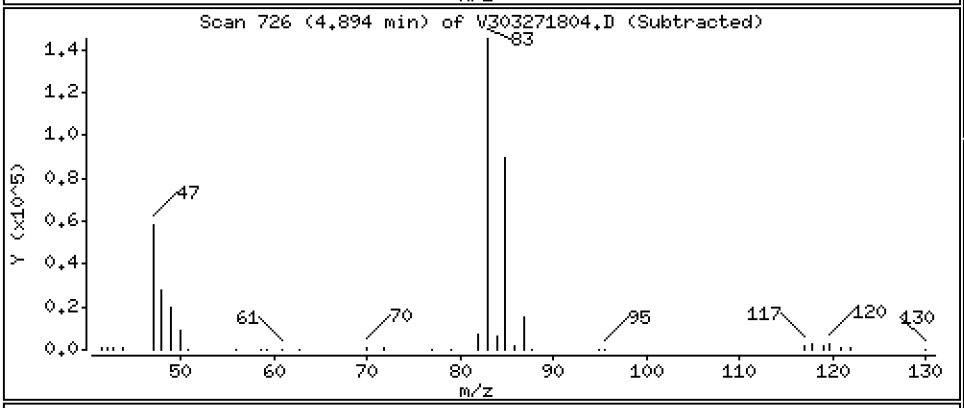
Column phase: RTXVMS

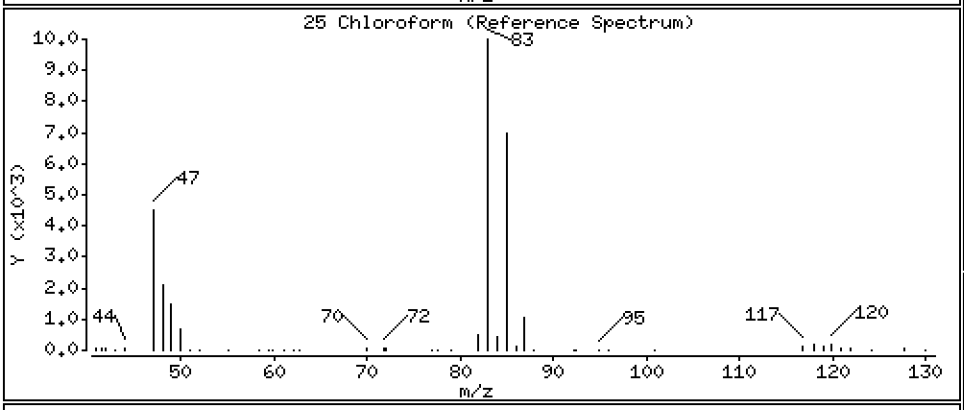
Column diameter: 0.18

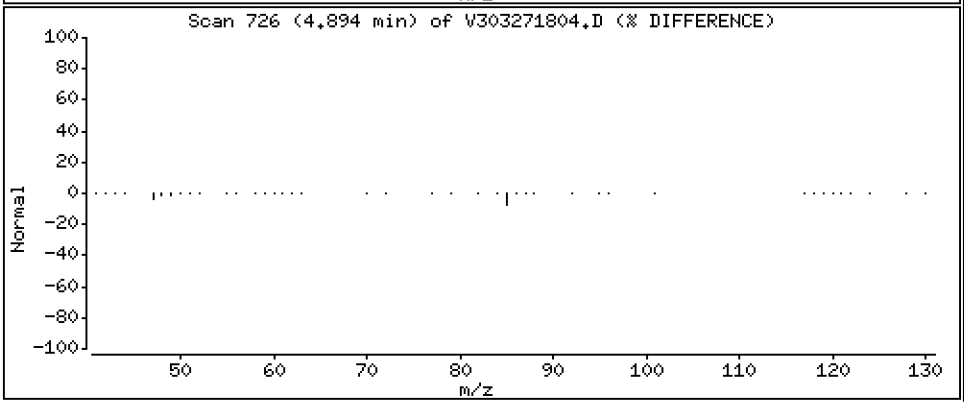
25 Chloroform

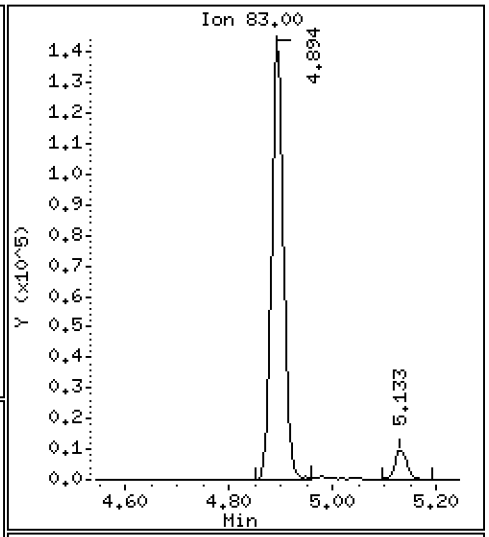
Concentration: 9.812 ug/L

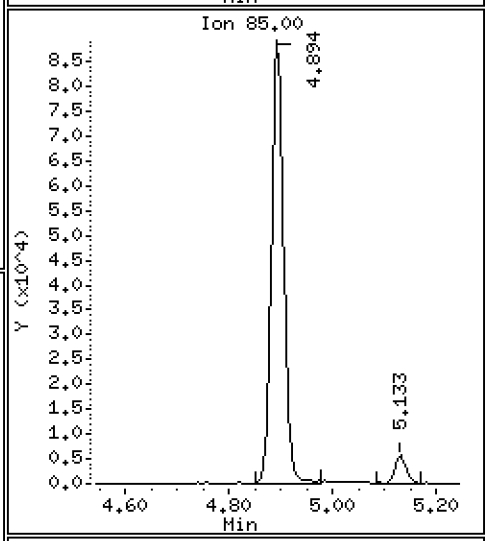


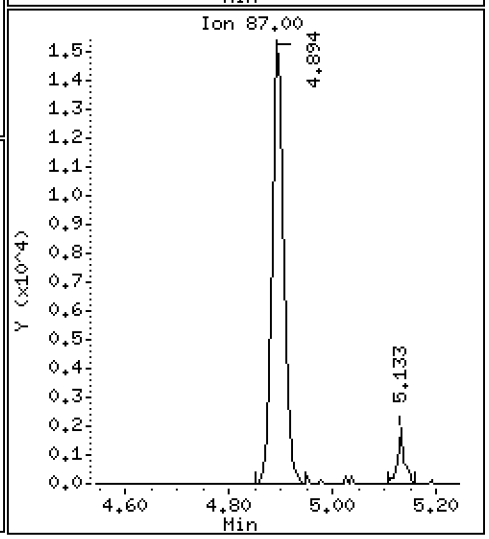












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

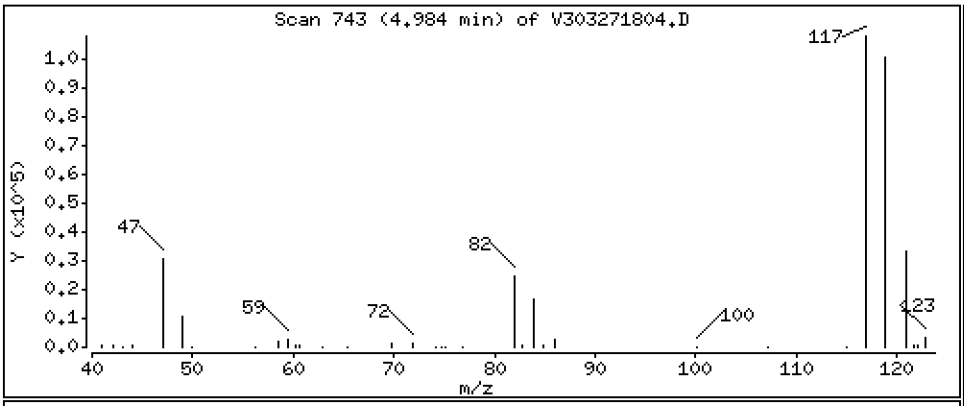
Operator: PKC

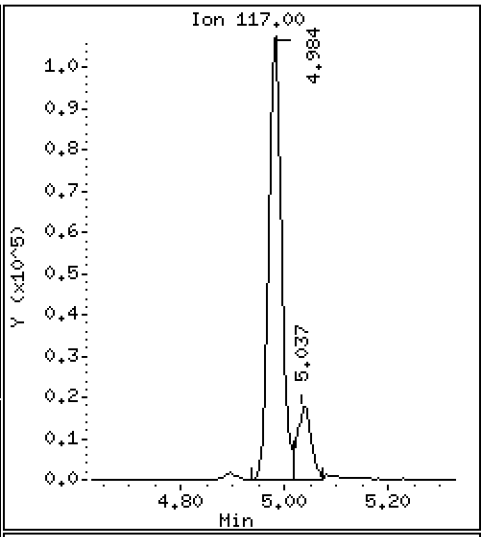
Column phase: RTXVMS

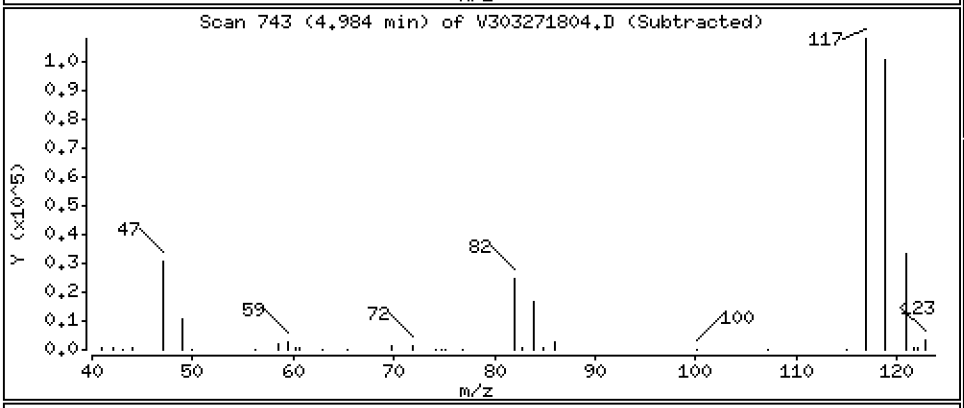
Column diameter: 0.18

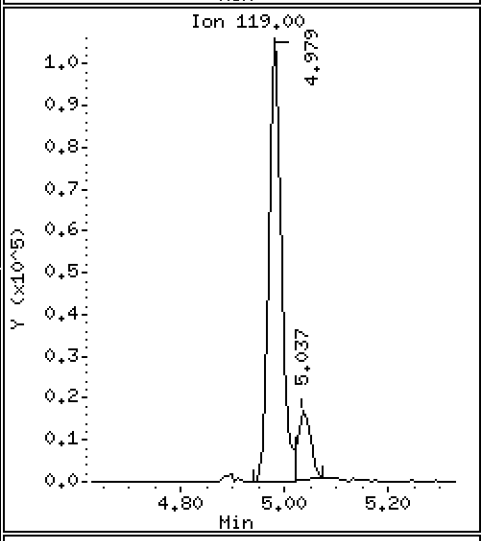
26 Carbon Tetrachloride

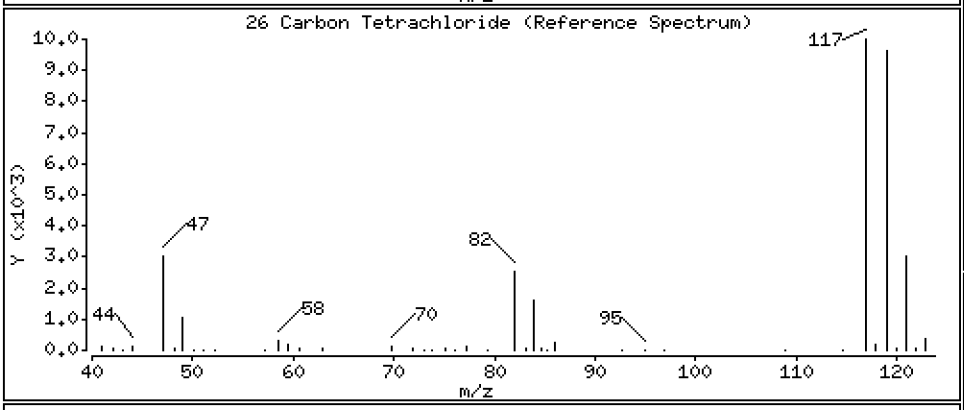
Concentration: 10.181 ug/L

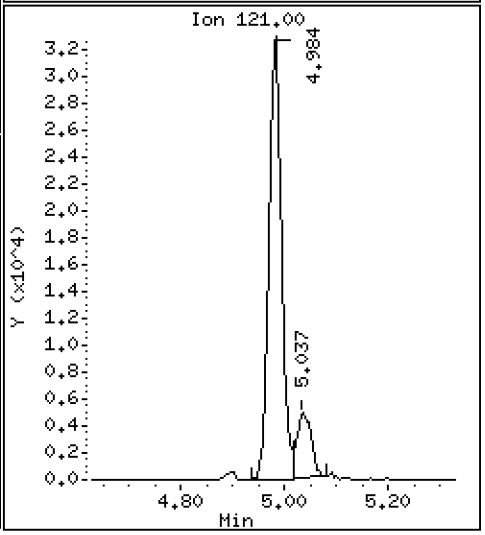


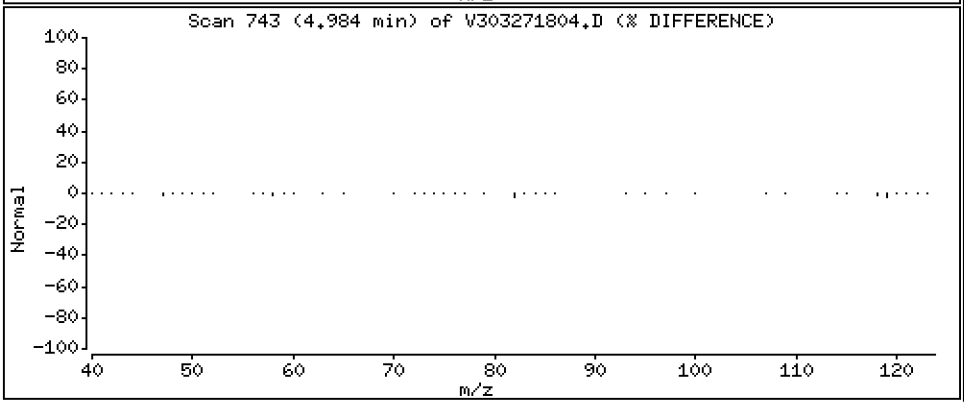












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

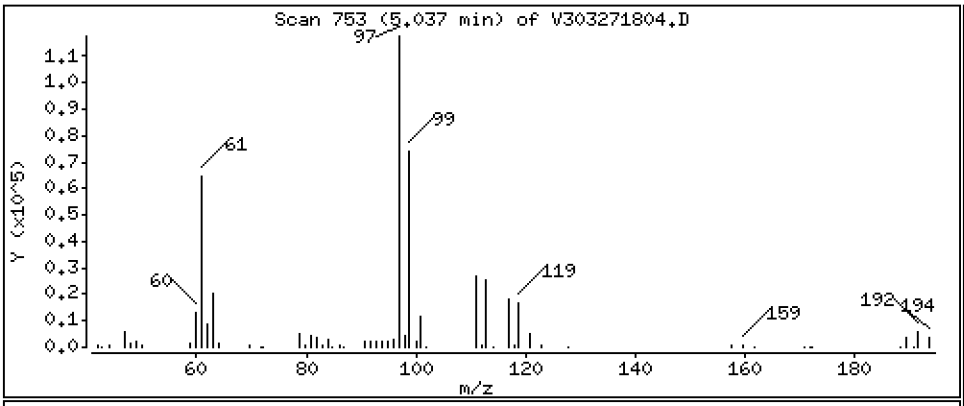
Operator: PKC

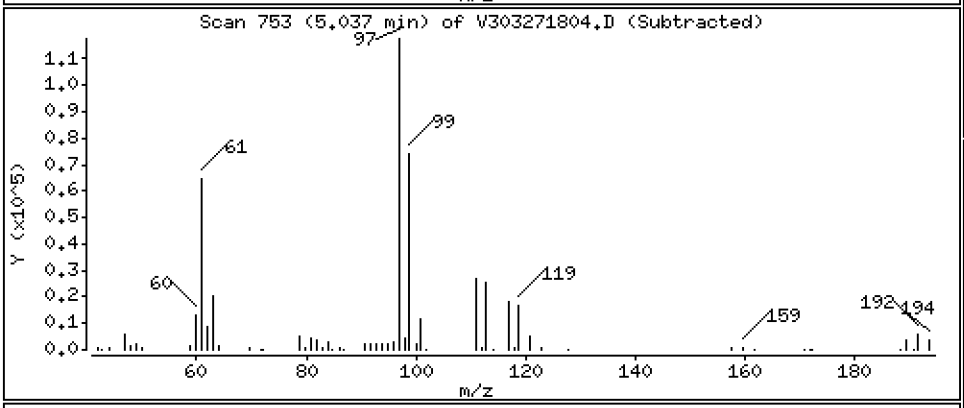
Column phase: RTXVMS

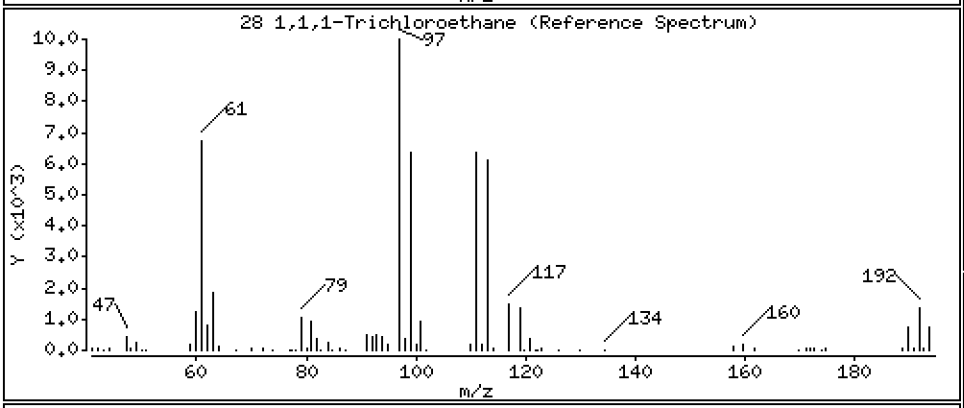
Column diameter: 0.18

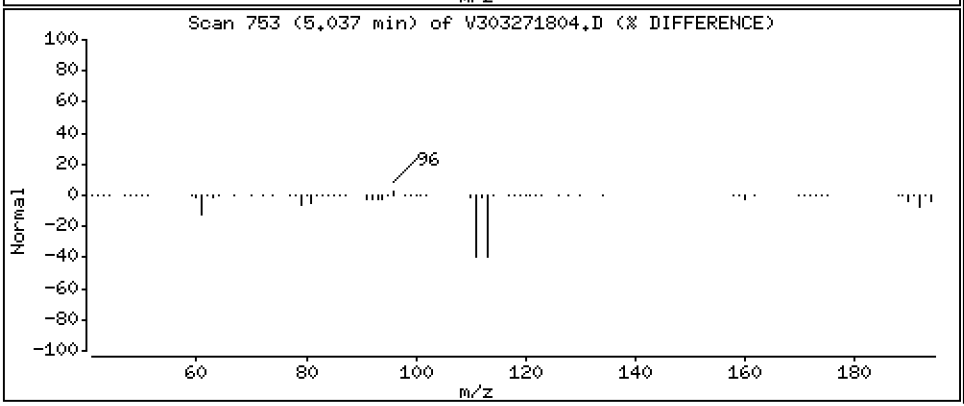
28 1,1,1-Trichloroethane

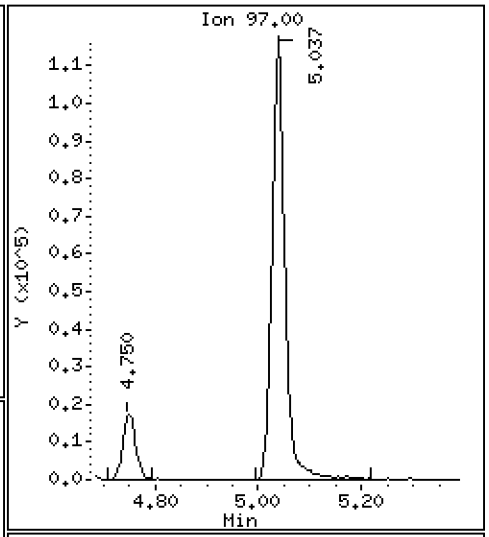
Concentration: 9.255 ug/L

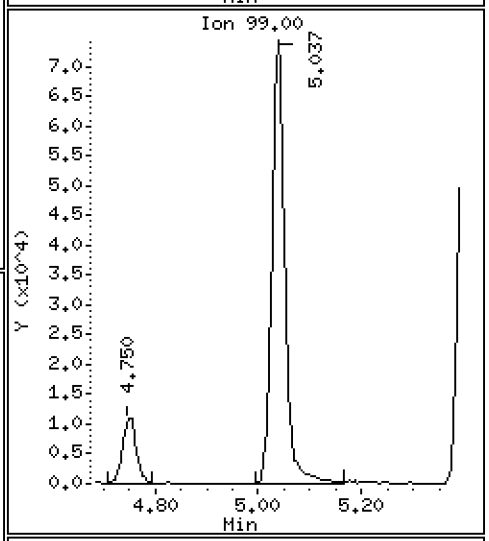


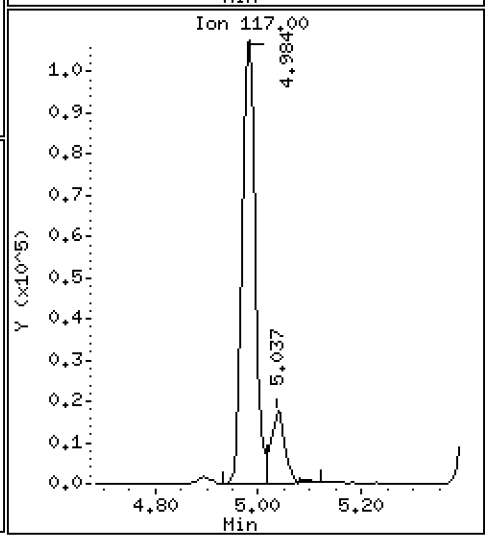












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

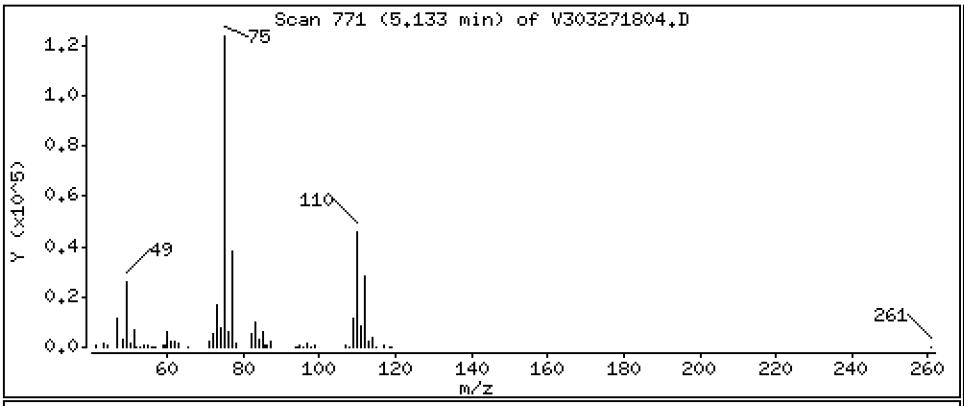
Operator: PKC

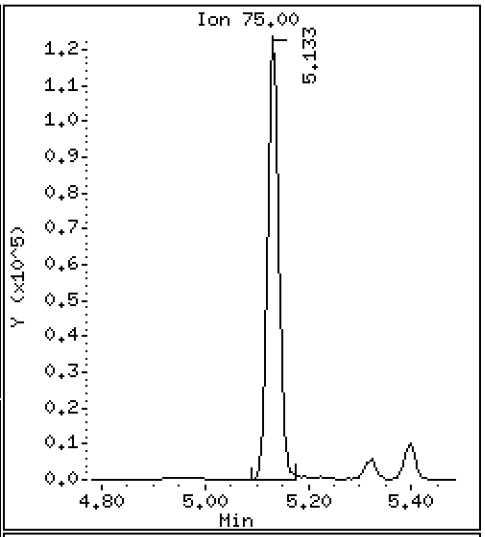
Column phase: RTXVMS

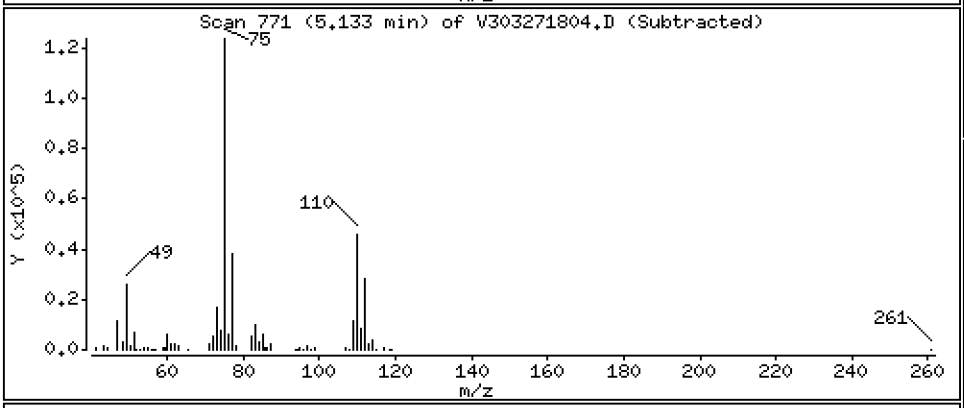
Column diameter: 0.18

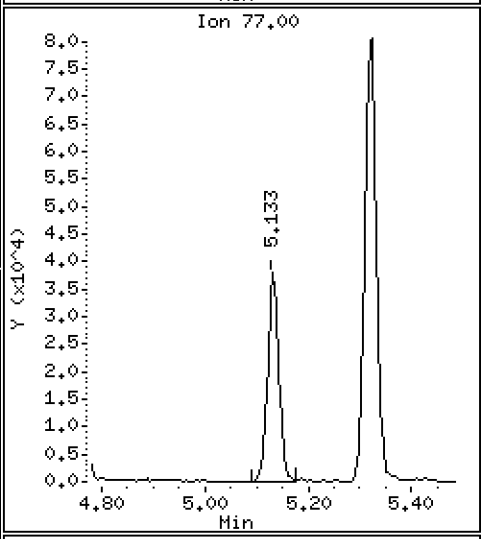
30 1,1-Dichloropropene

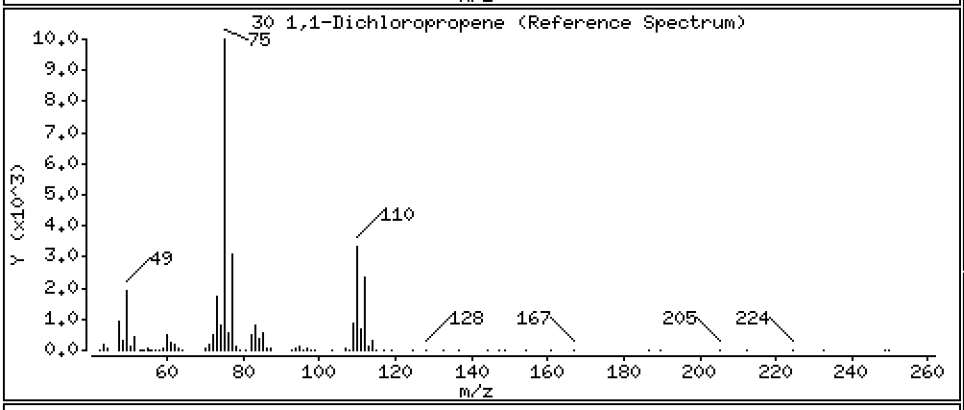
Concentration: 10.303 ug/L

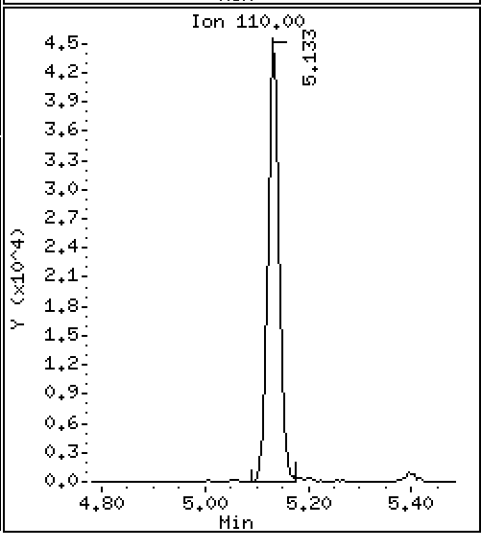


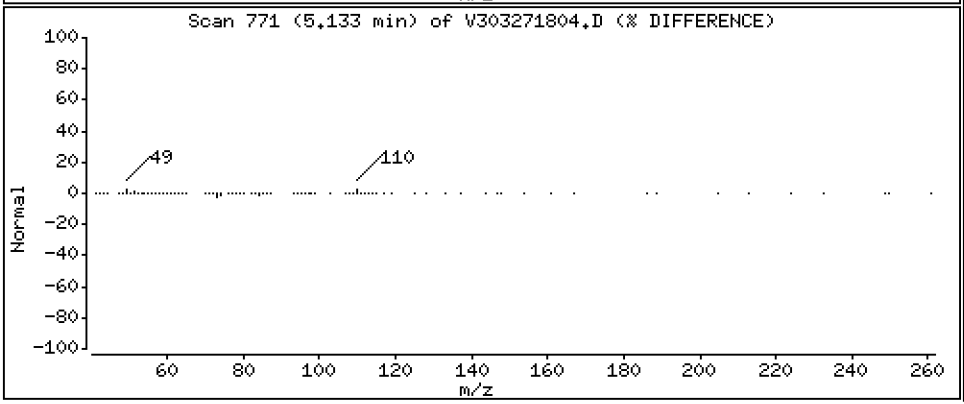












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

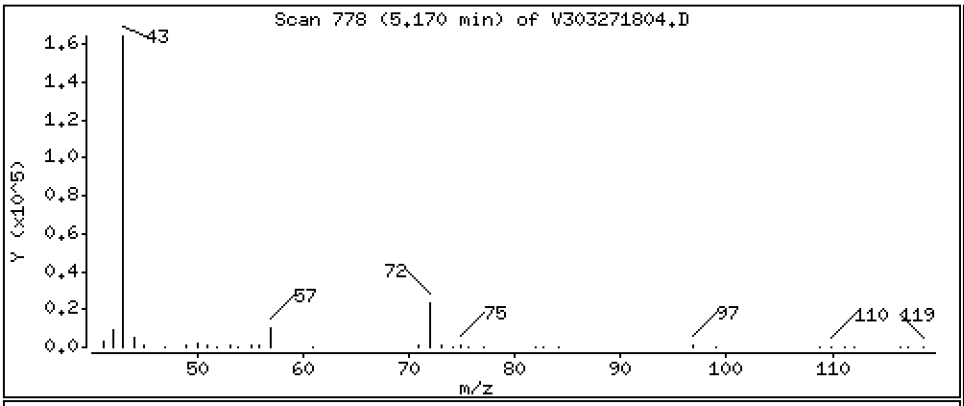
Operator: PKC

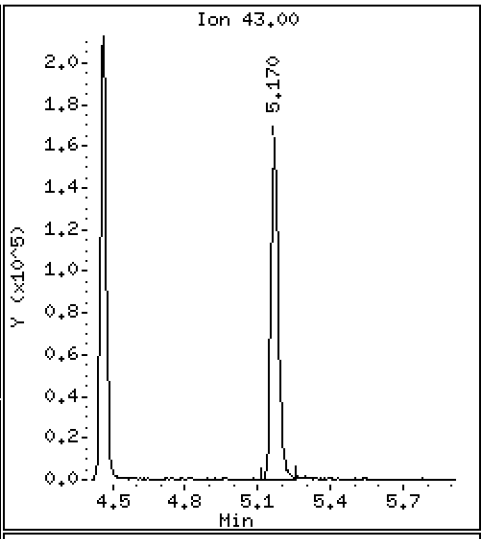
Column phase: RTXVMS

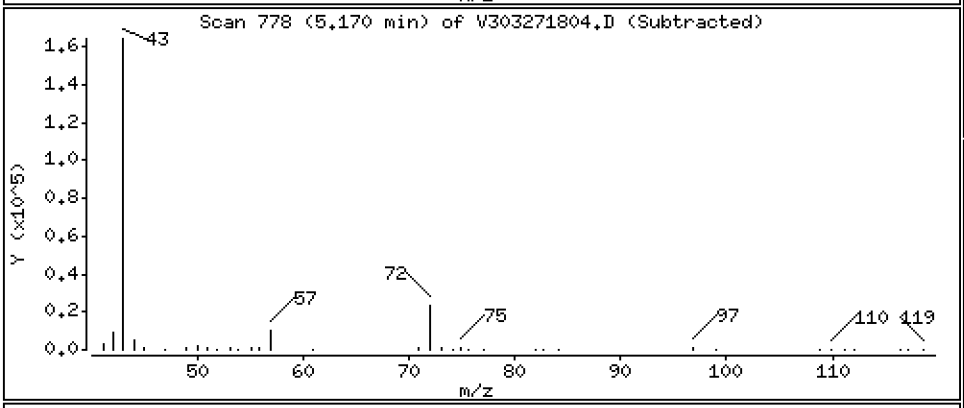
Column diameter: 0.18

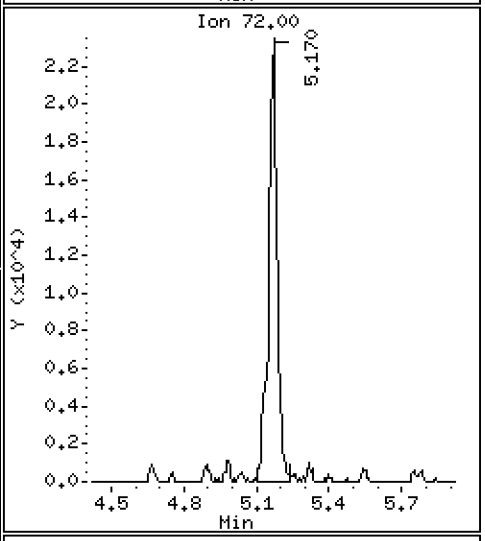
29 2-Butanone

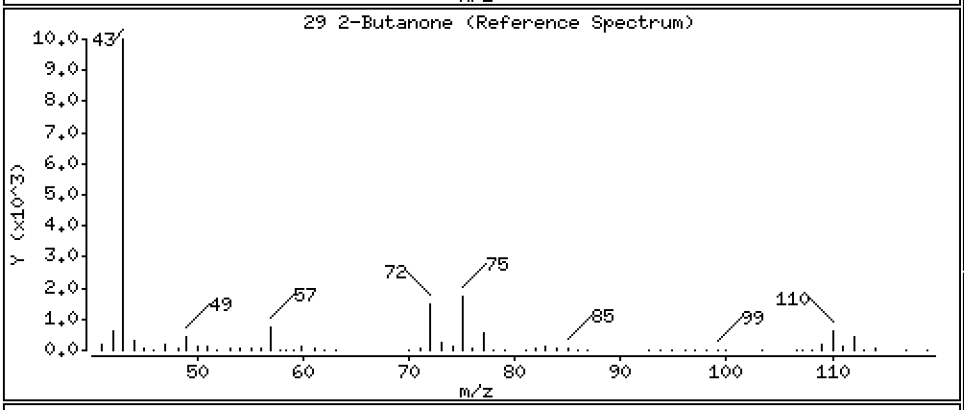
Concentration: 54.670 ug/L

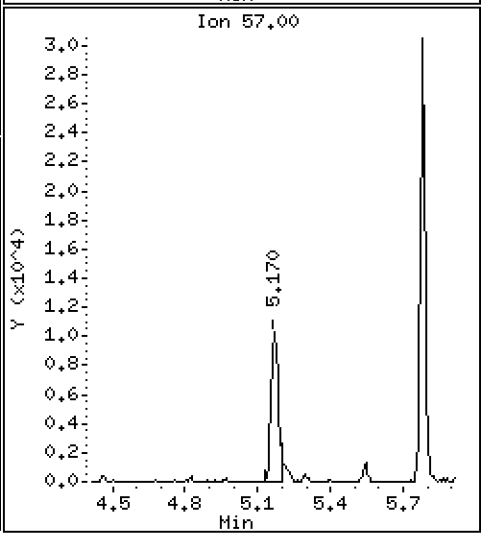


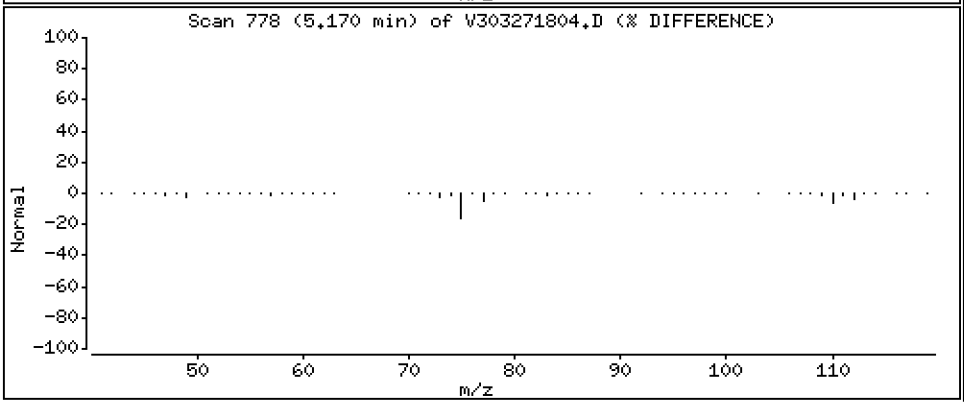












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

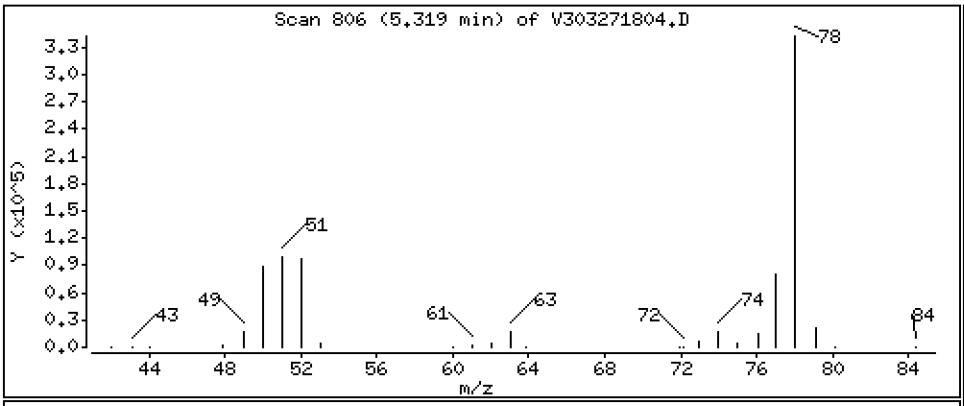
Operator: PKC

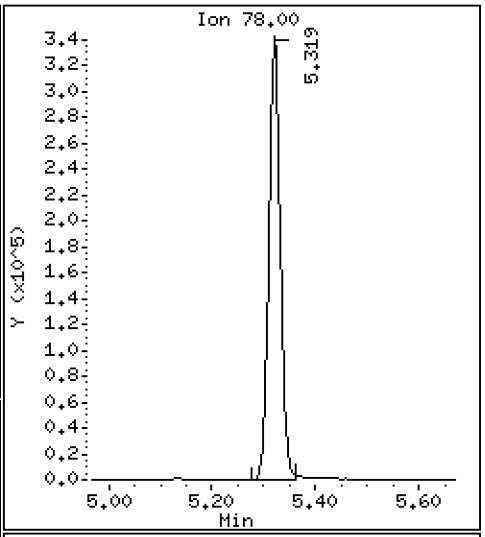
Column phase: RTXVMS

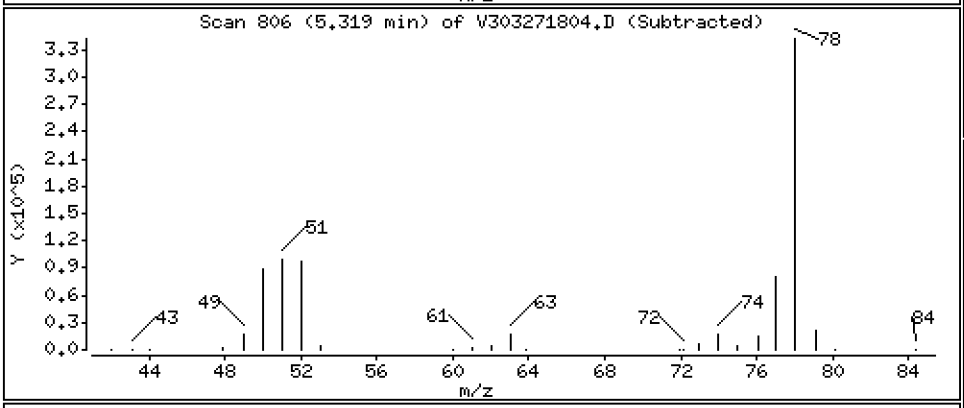
Column diameter: 0.18

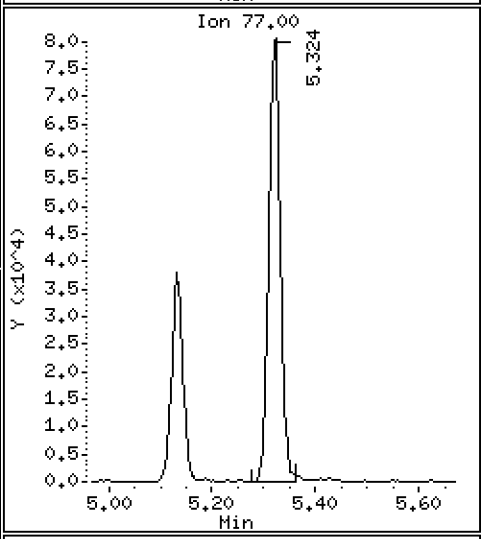
31 Benzene

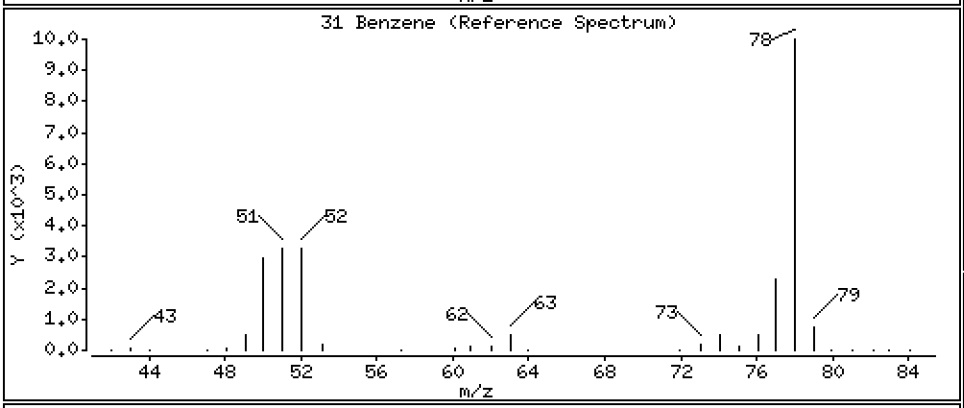
Concentration: 9.974 ug/L

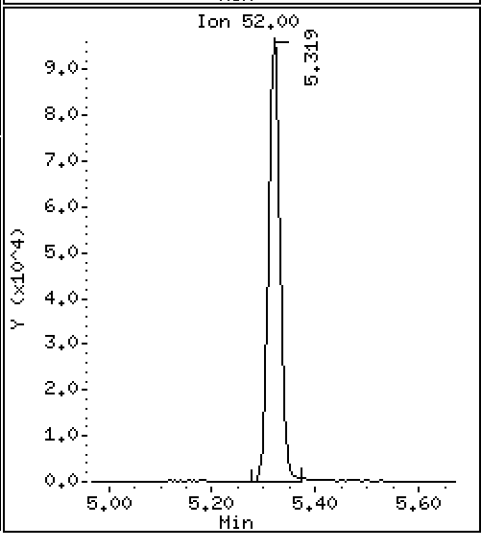


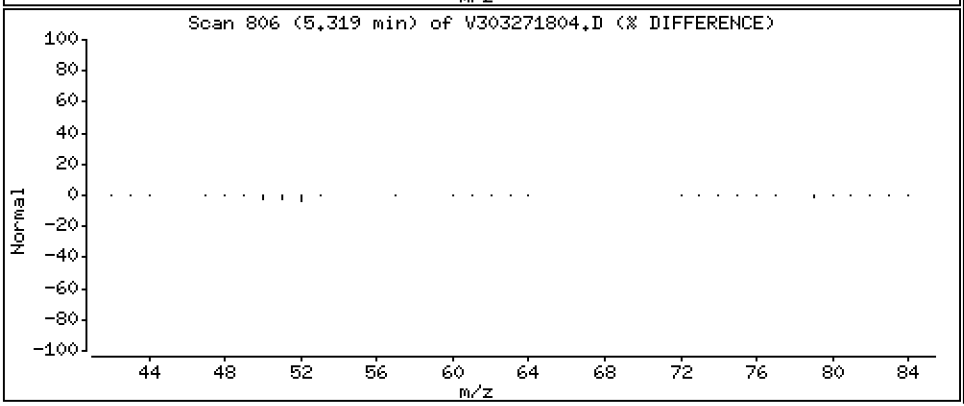












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

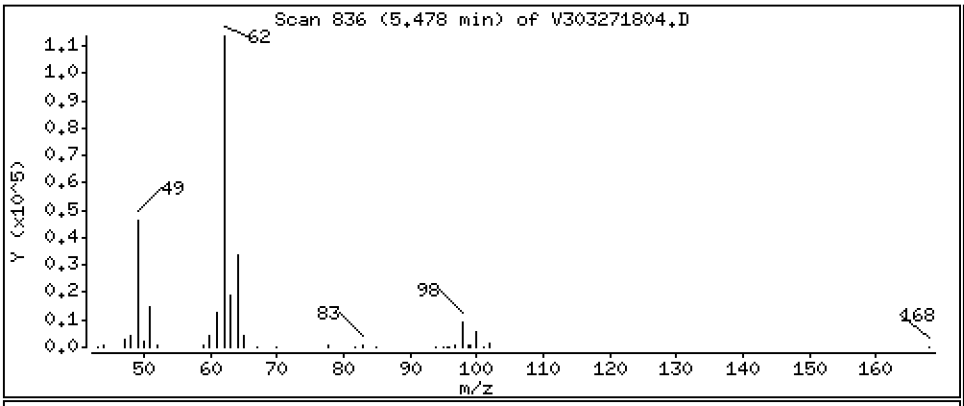
Operator: PKC

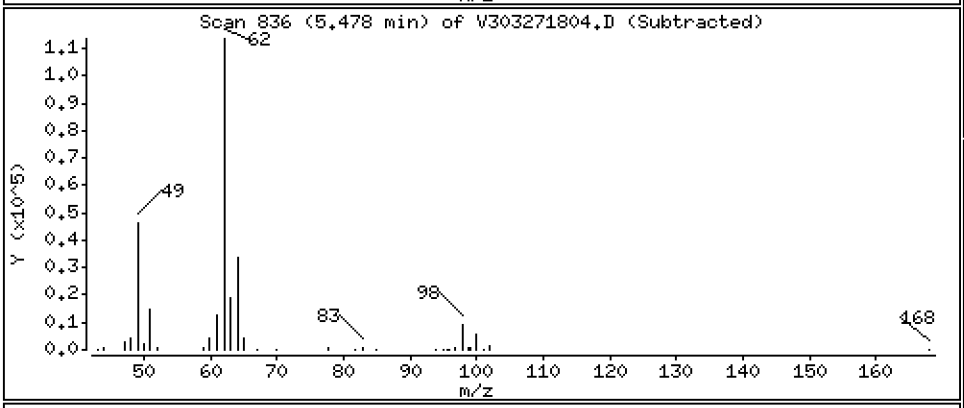
Column phase: RTXVMS

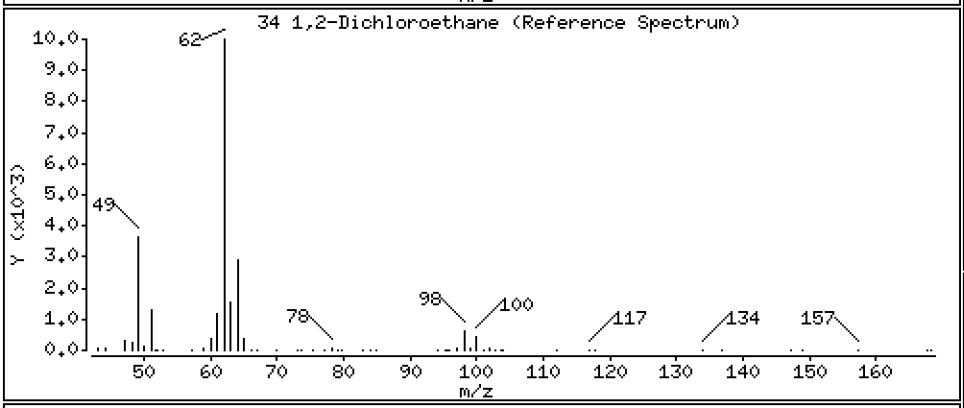
Column diameter: 0.18

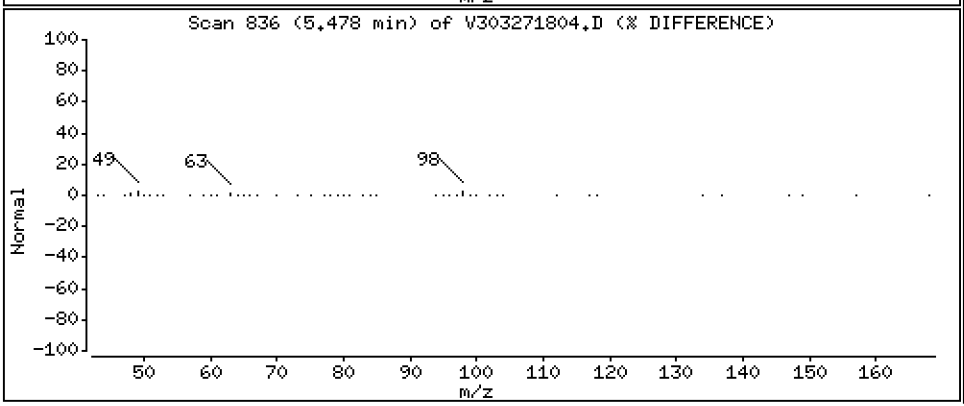
34 1,2-Dichloroethane

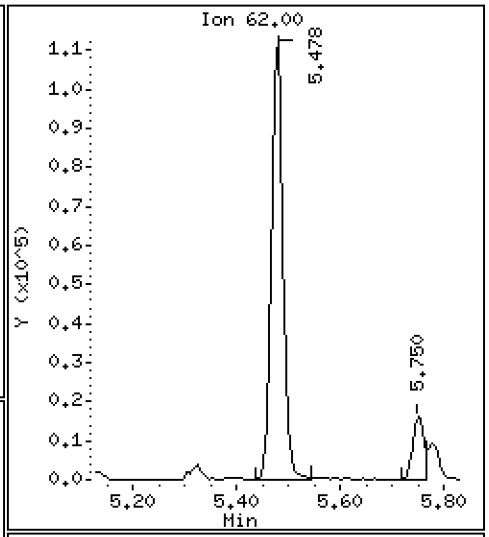
Concentration: 9.678 ug/L

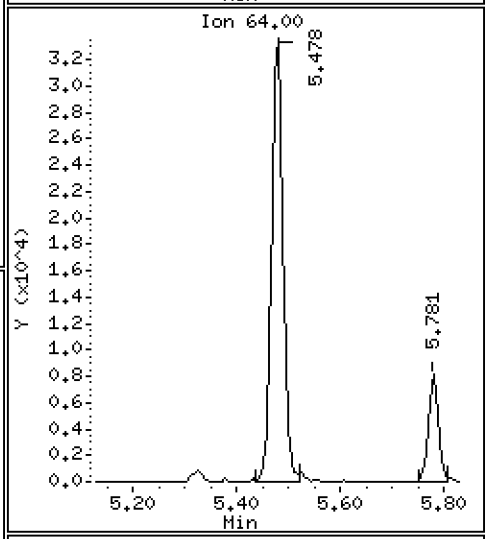


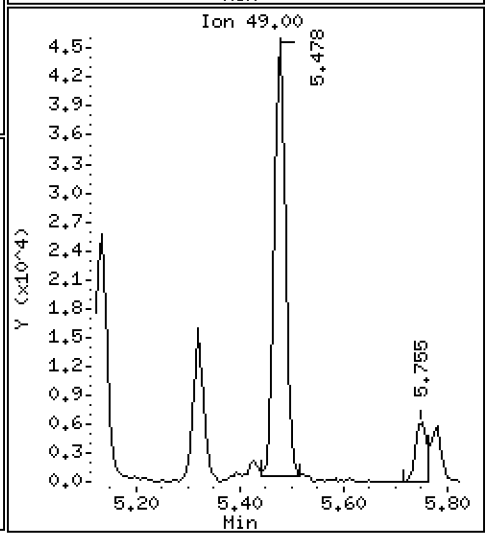












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

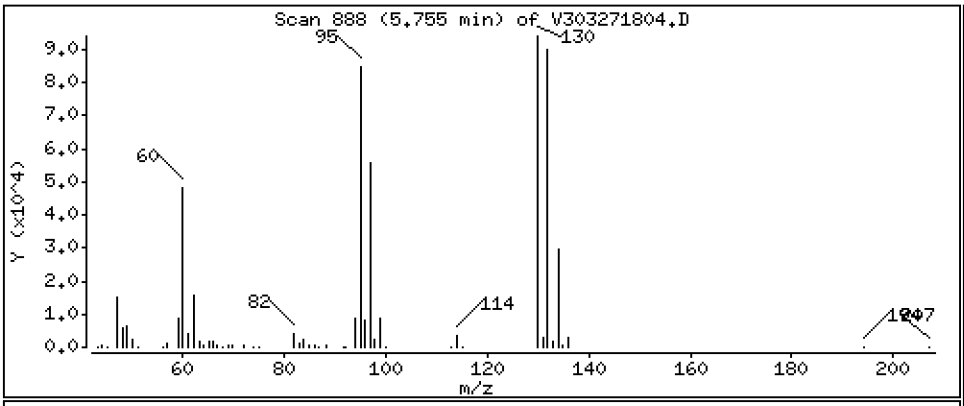
Operator: PKC

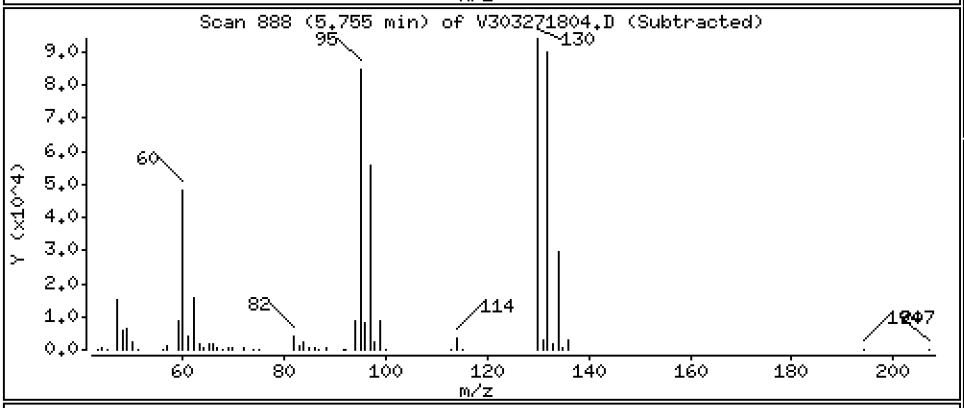
Column phase: RTXVMS

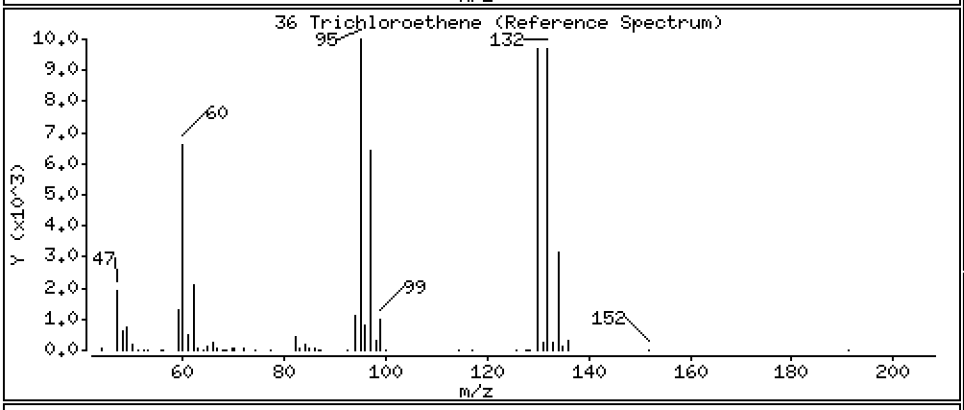
Column diameter: 0.18

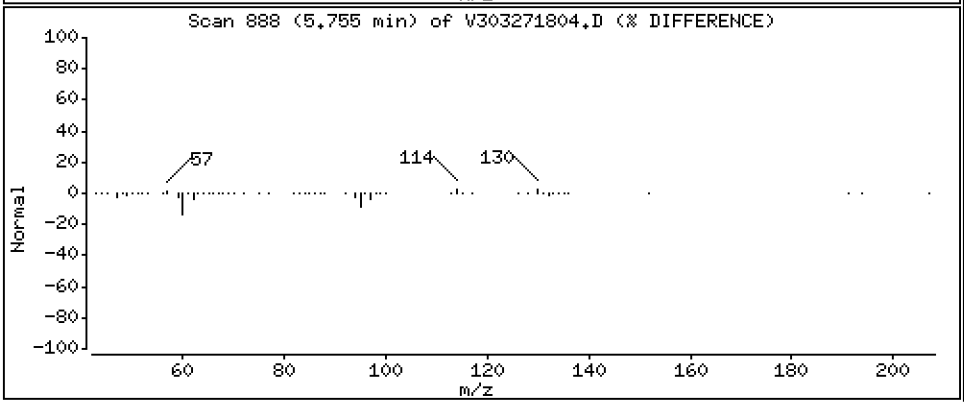
36 Trichloroethene

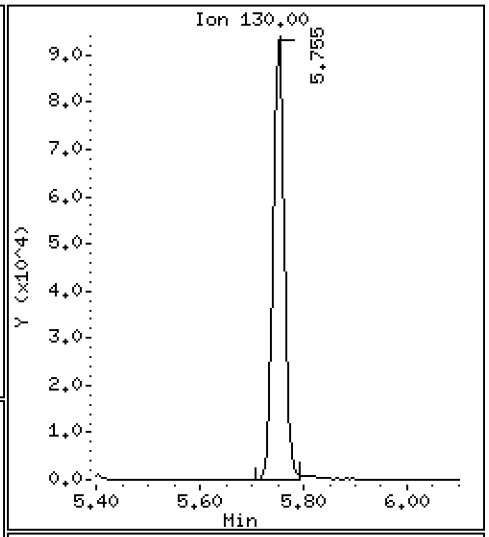
Concentration: 9.676 ug/L

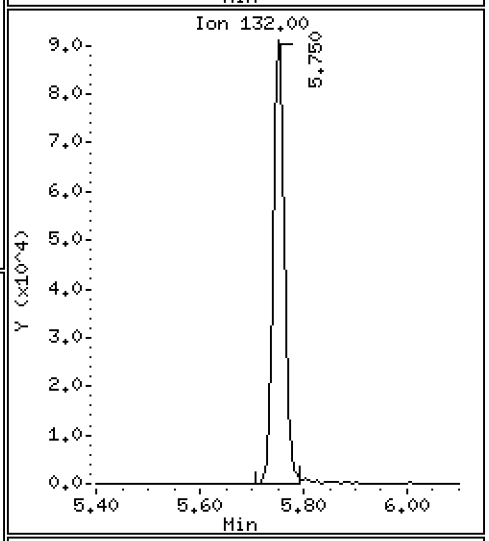


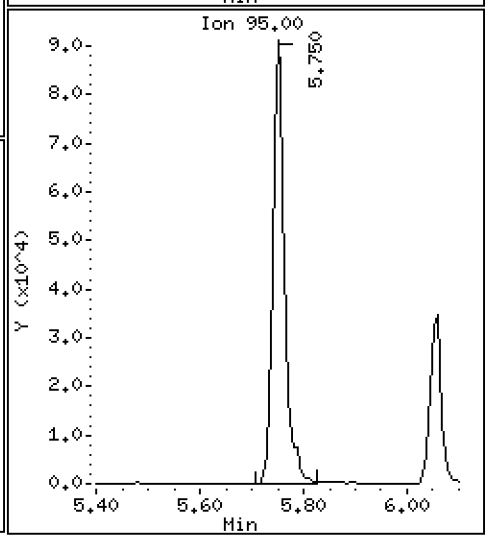












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

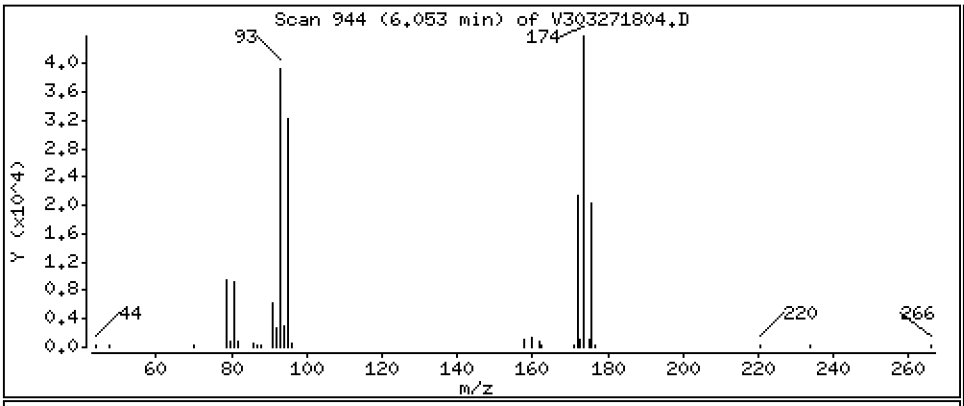
Operator: PKC

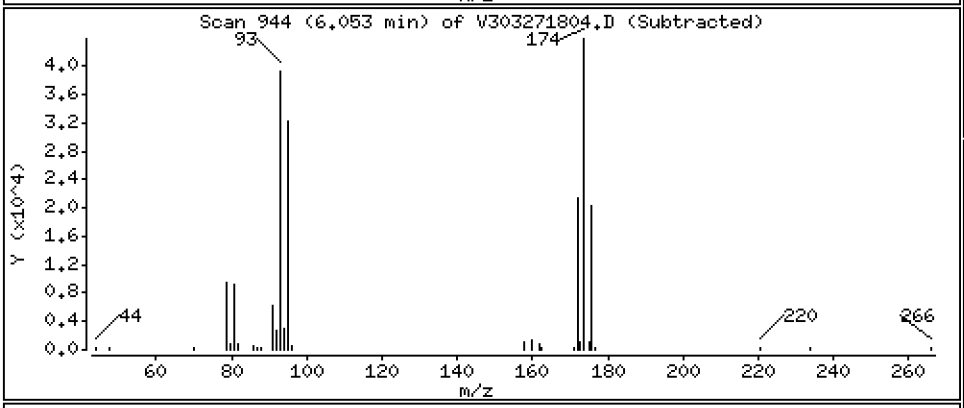
Column phase: RTXVMS

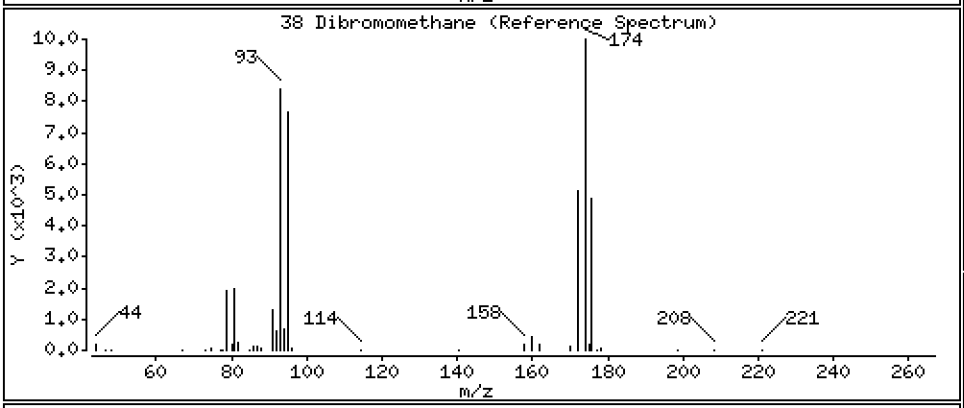
Column diameter: 0.18

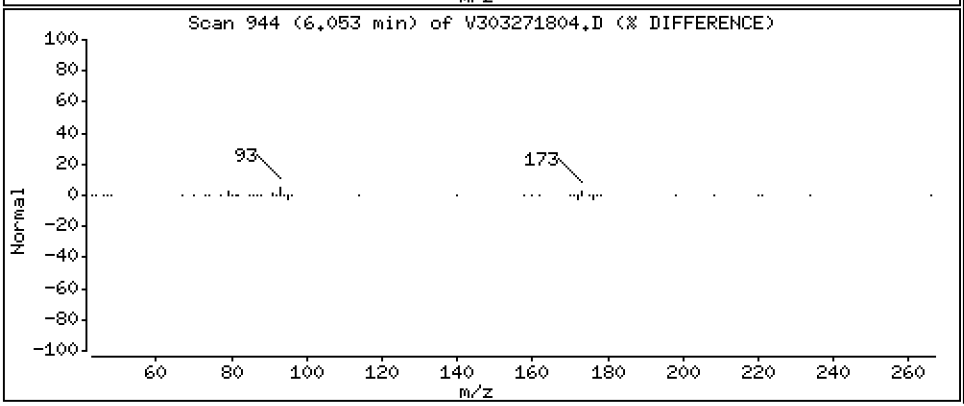
38 Dibromomethane

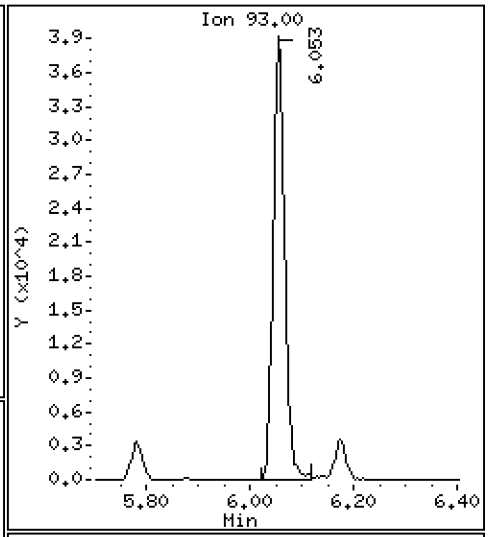
Concentration: 10.245 ug/L

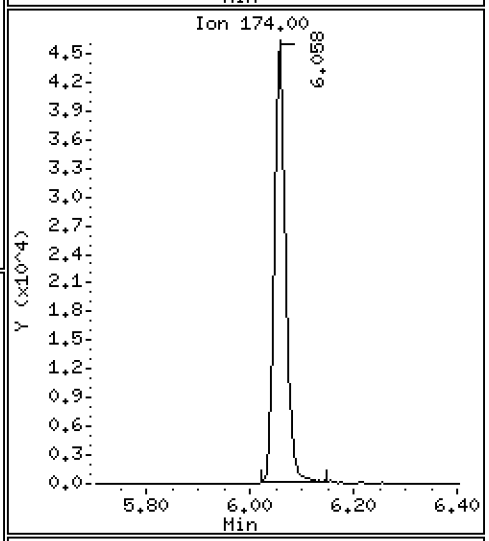


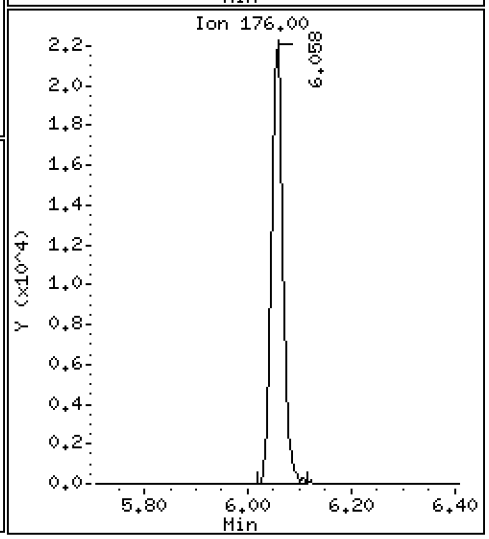












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

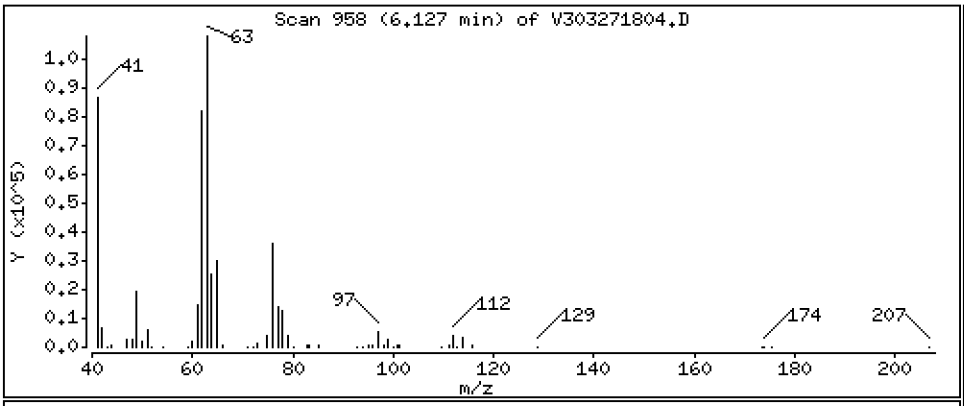
Operator: PKC

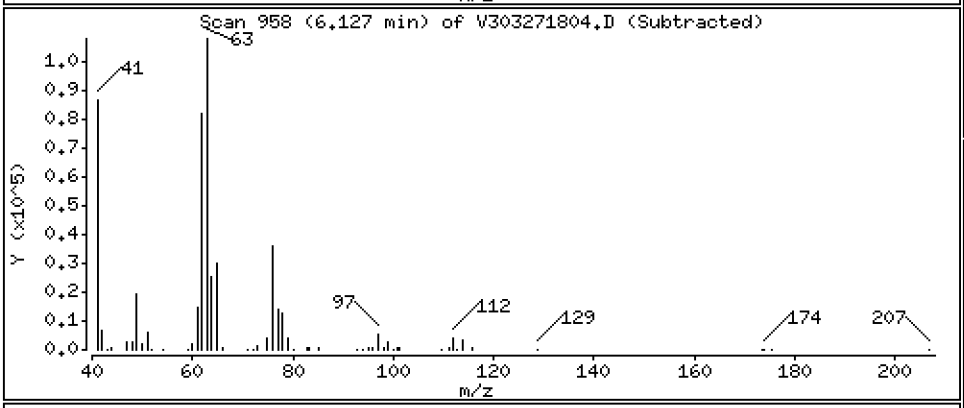
Column phase: RTXVMS

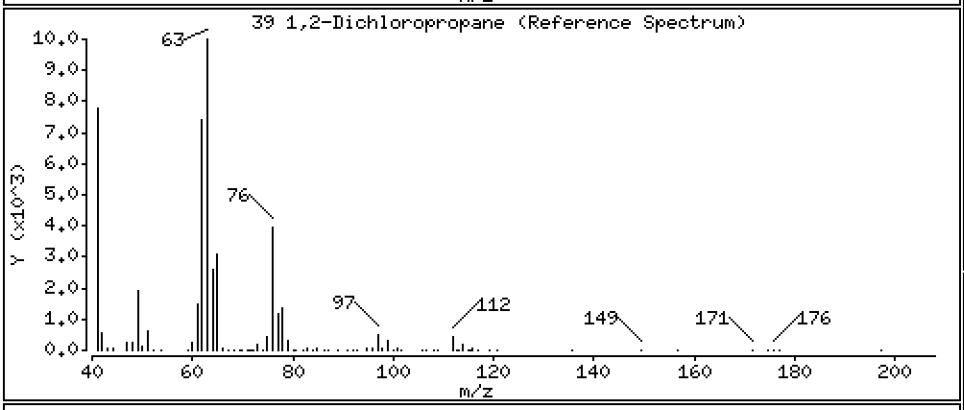
Column diameter: 0.18

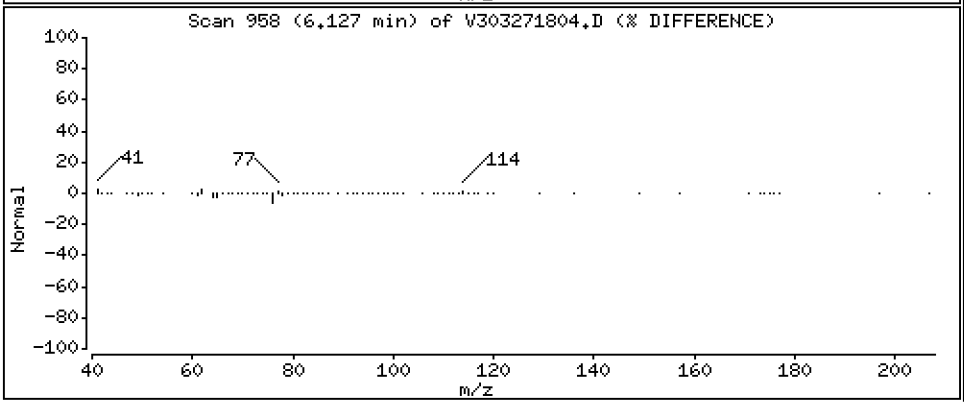
39 1,2-Dichloropropane

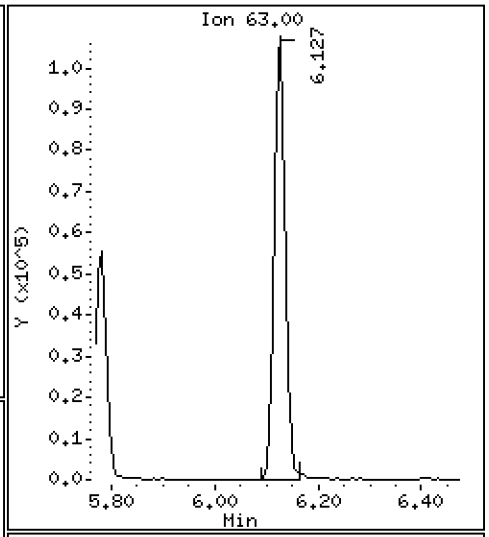
Concentration: 9.805 ug/L

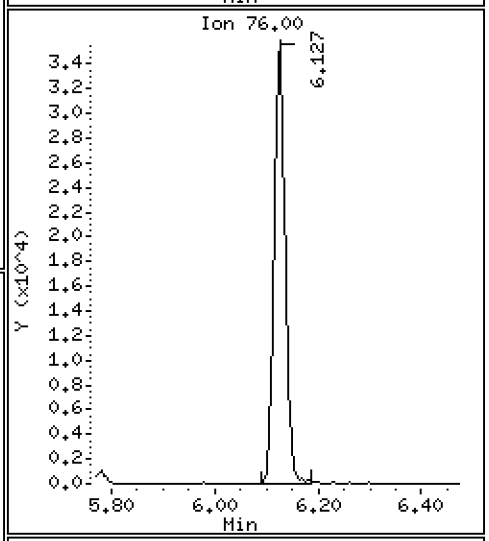


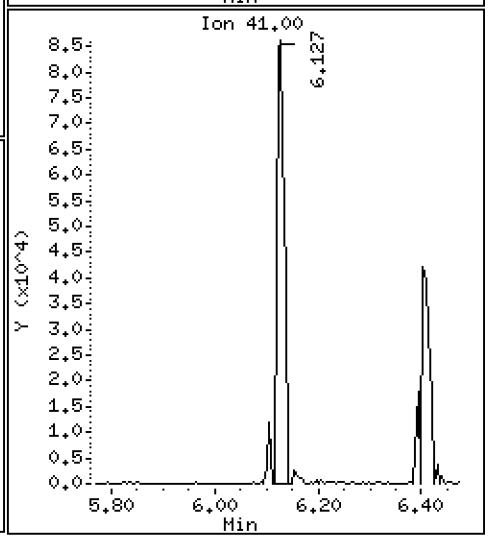












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

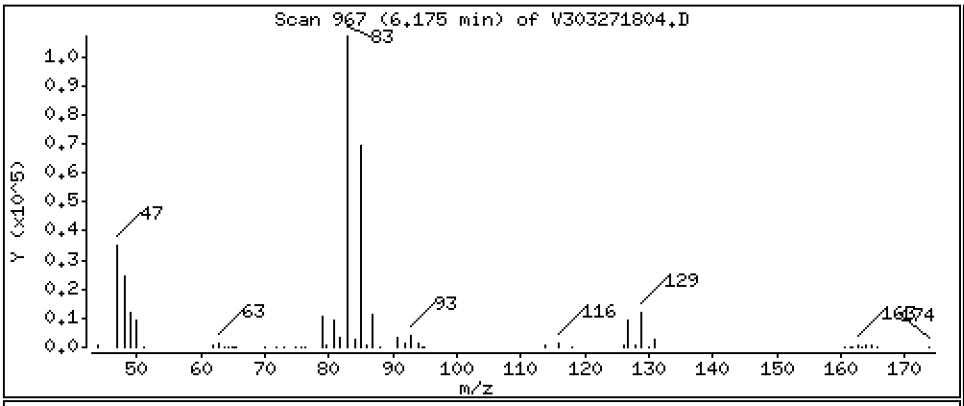
Operator: PKC

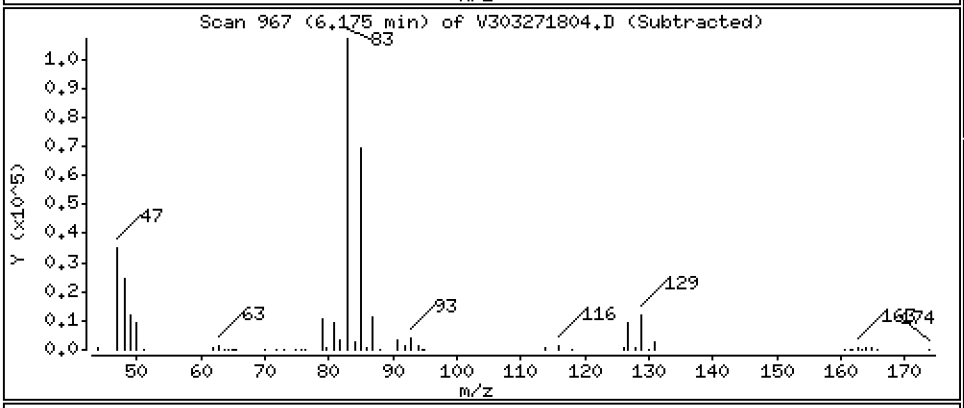
Column phase: RTXVMS

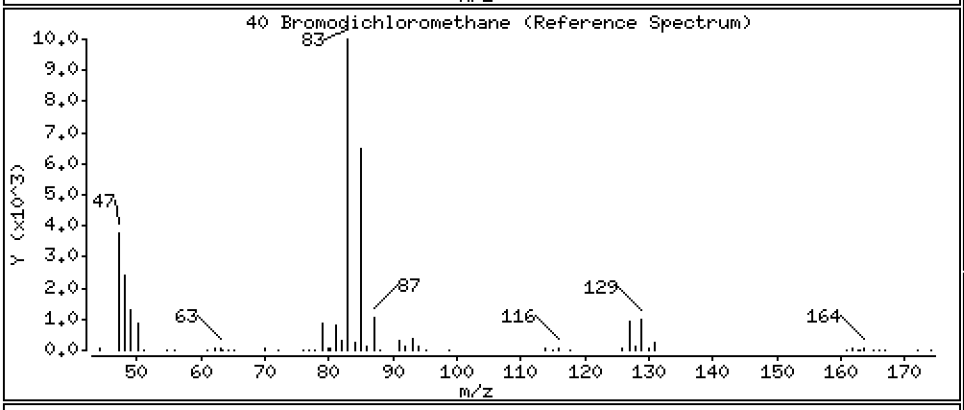
Column diameter: 0.18

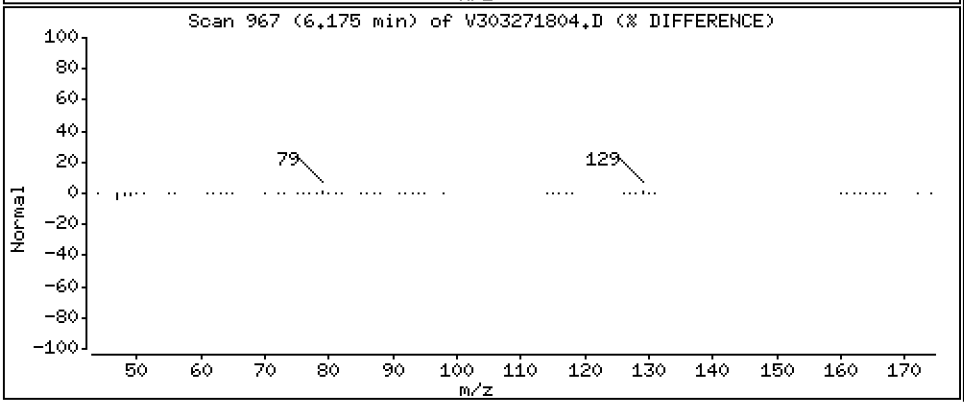
40 Bromodichloromethane

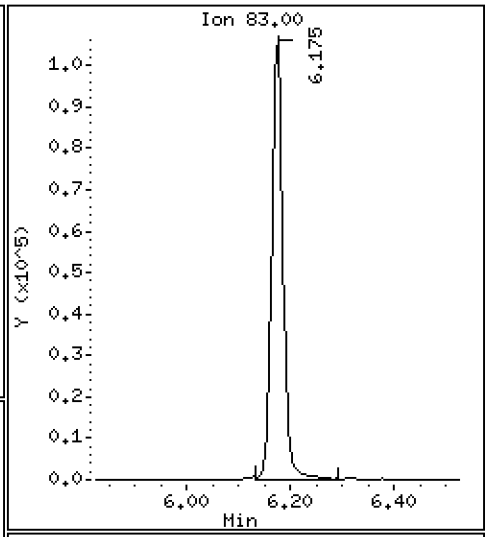
Concentration: 9.932 ug/L

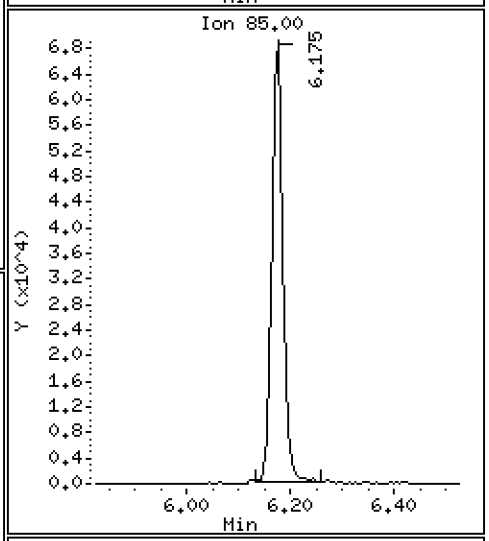


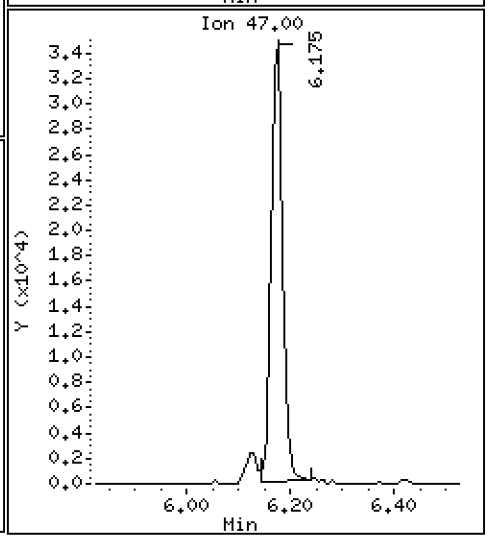












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

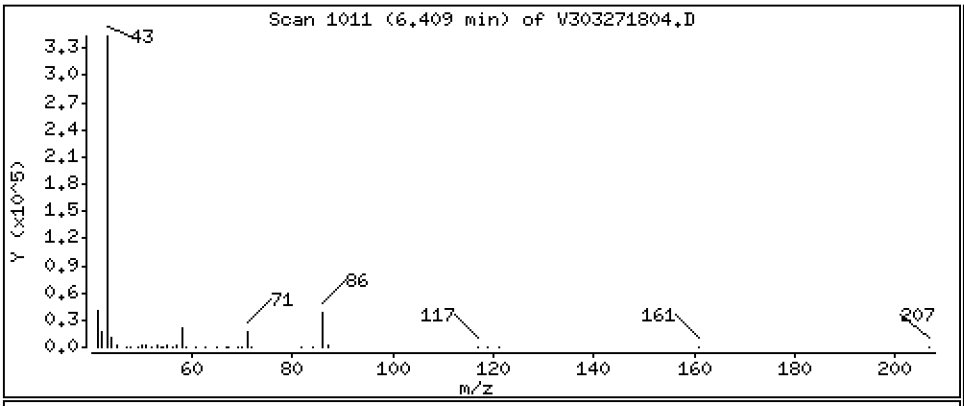
Operator: PKC

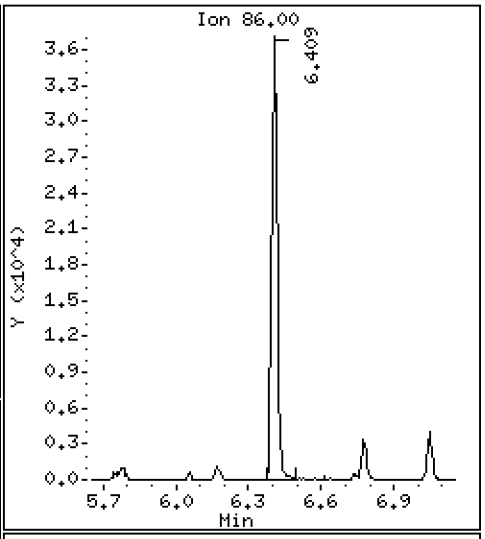
Column phase: RTXVMS

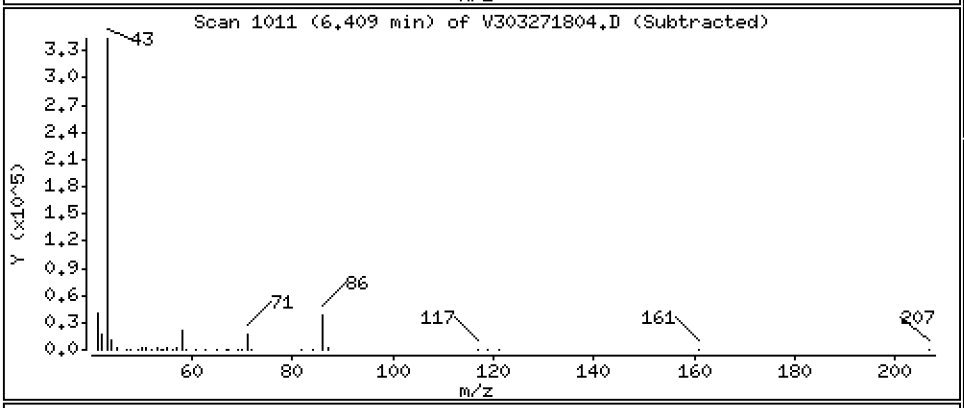
Column diameter: 0.18

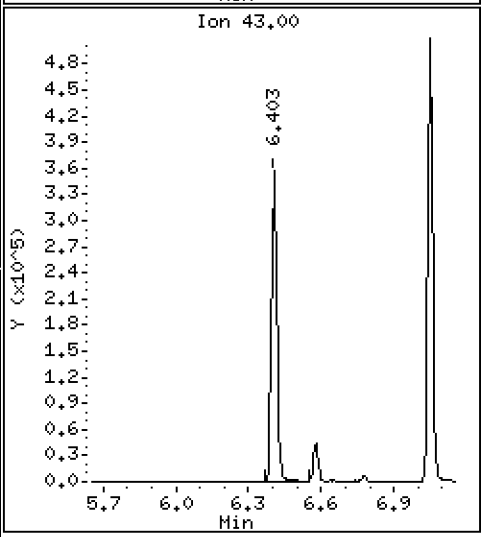
173 2-Pentanone

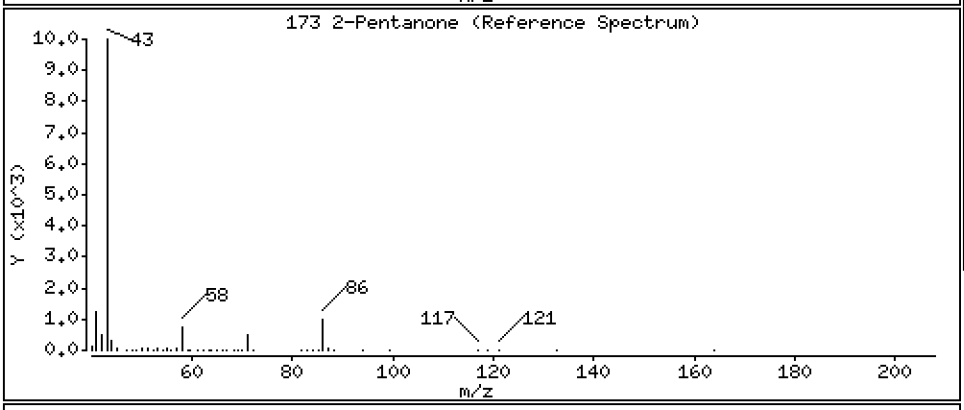
Concentration: 50.971 ug/L

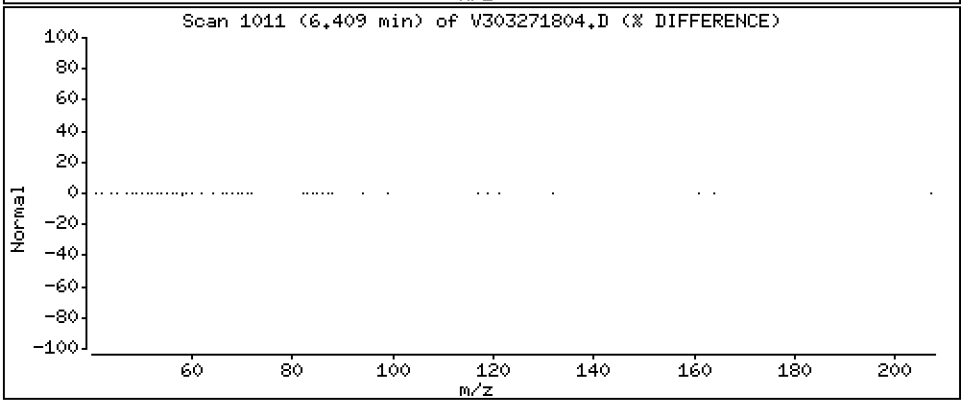












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

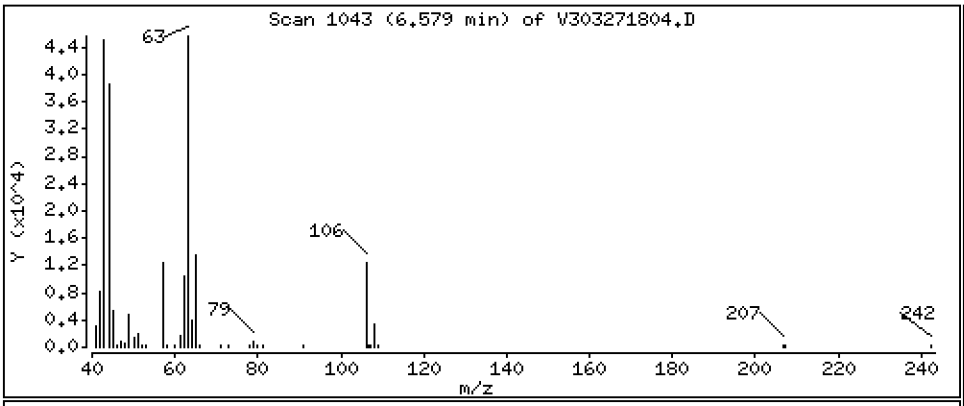
Operator: PKC

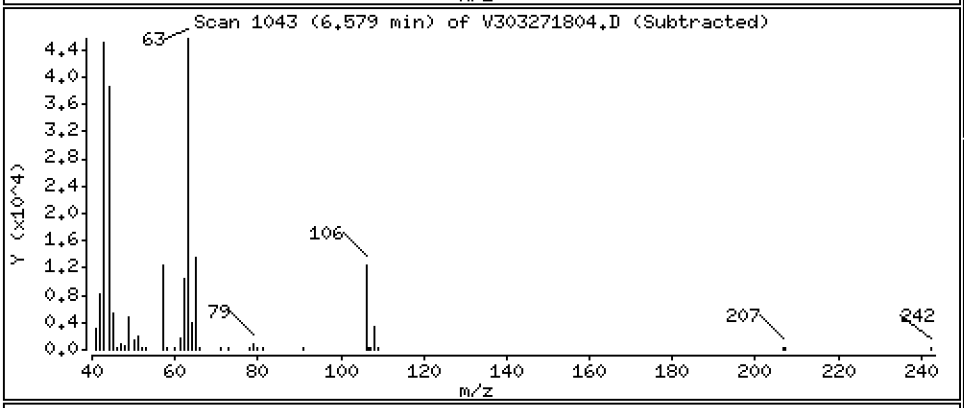
Column phase: RTXVMS

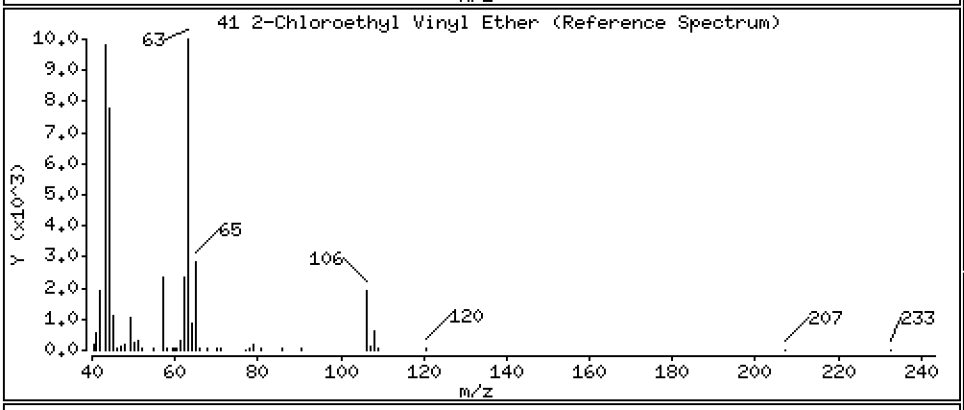
Column diameter: 0.18

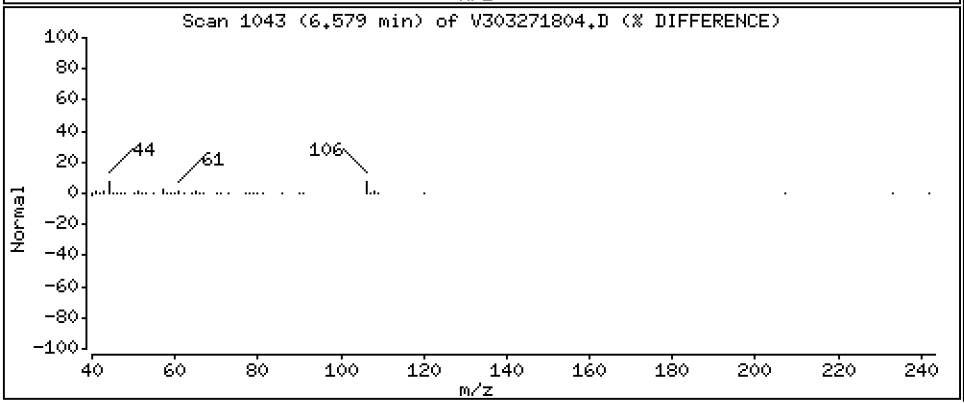
41 2-Chloroethyl Vinyl Ether

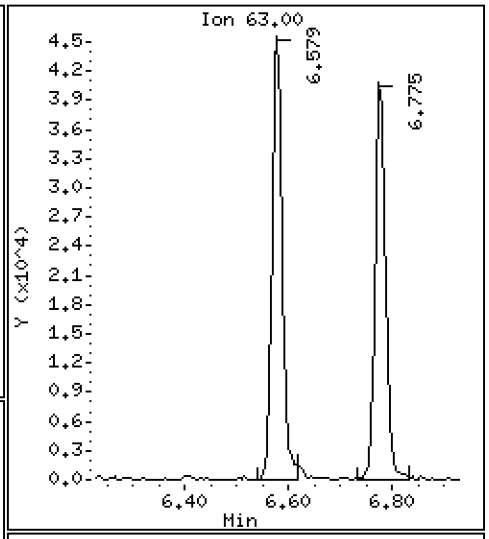
Concentration: 8.936 ug/L

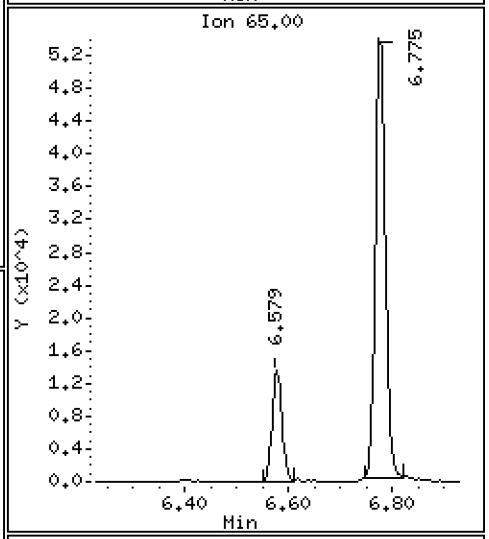


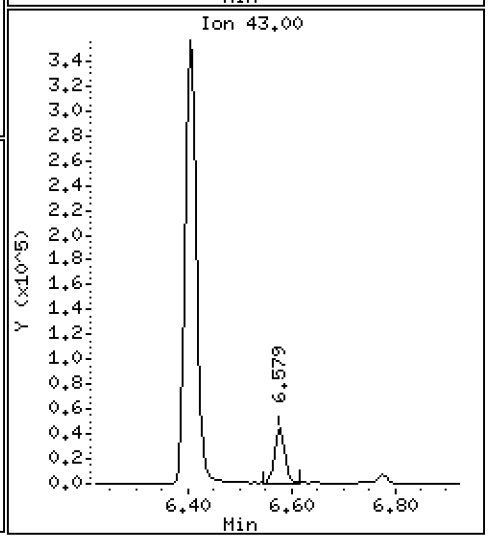












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

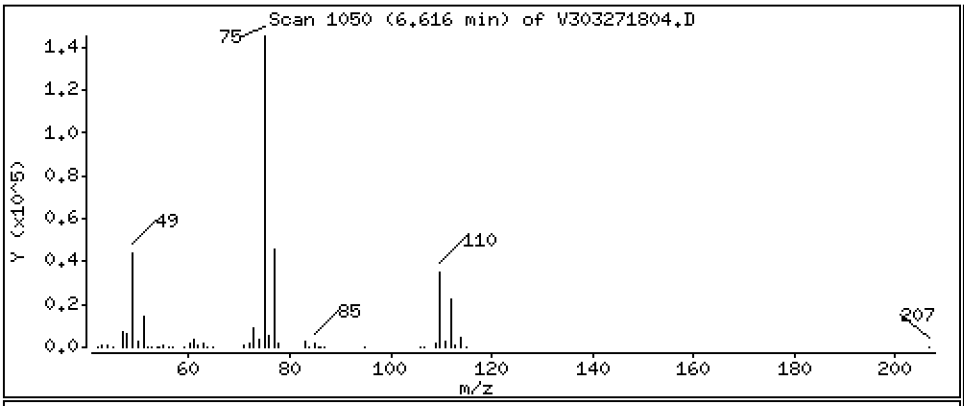
Operator: PKC

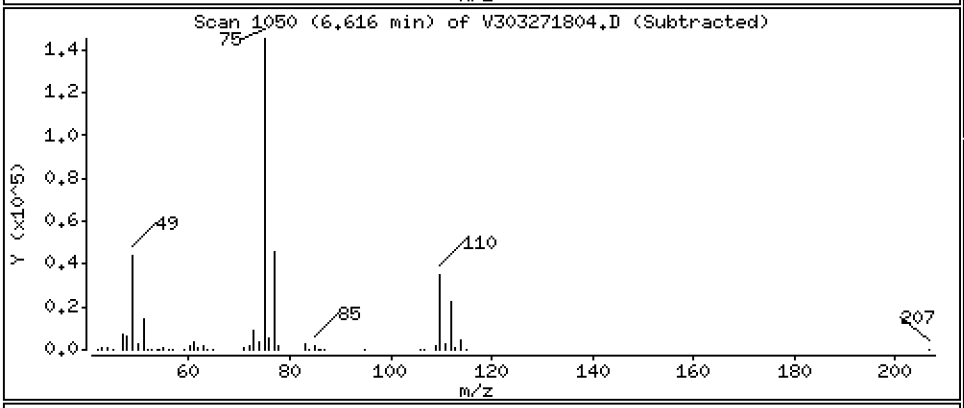
Column phase: RTXVMS

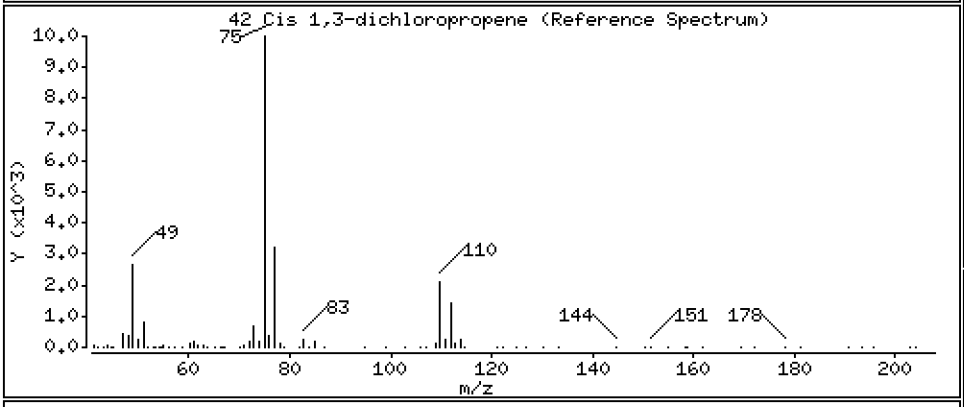
Column diameter: 0.18

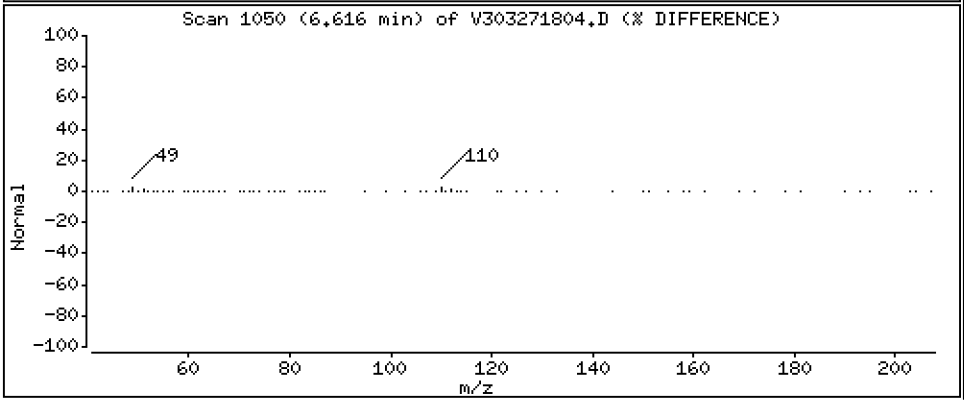
42 Cis 1,3-dichloropropene

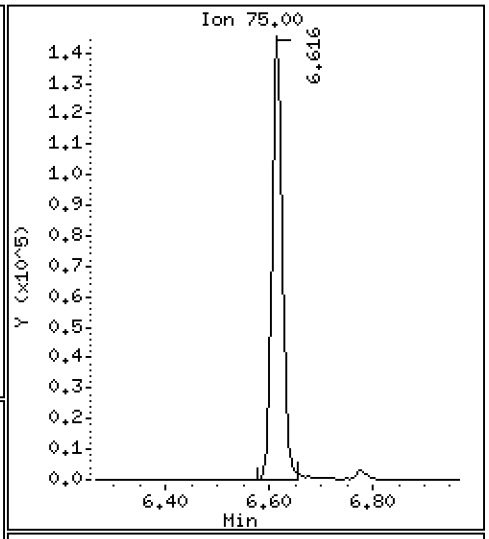
Concentration: 10.104 ug/L

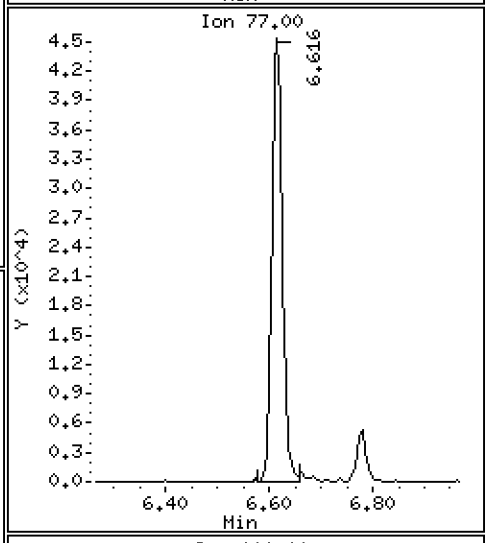


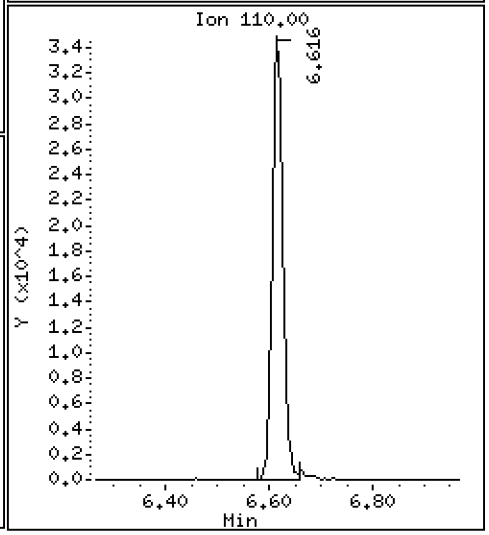












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

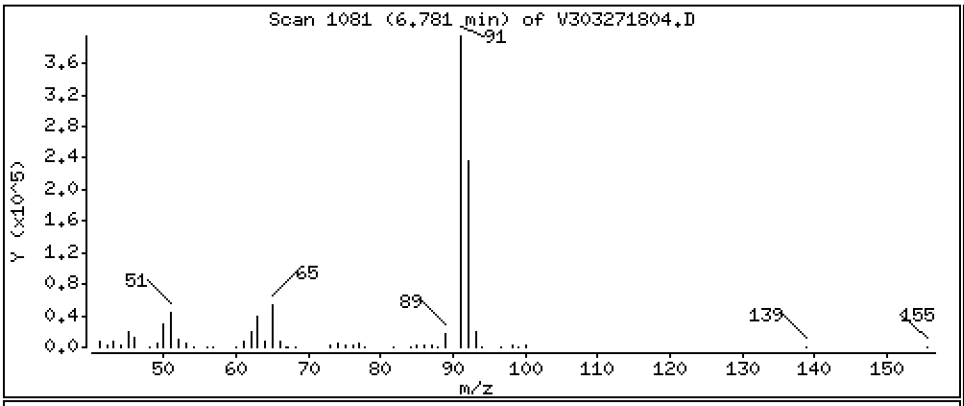
Operator: PKC

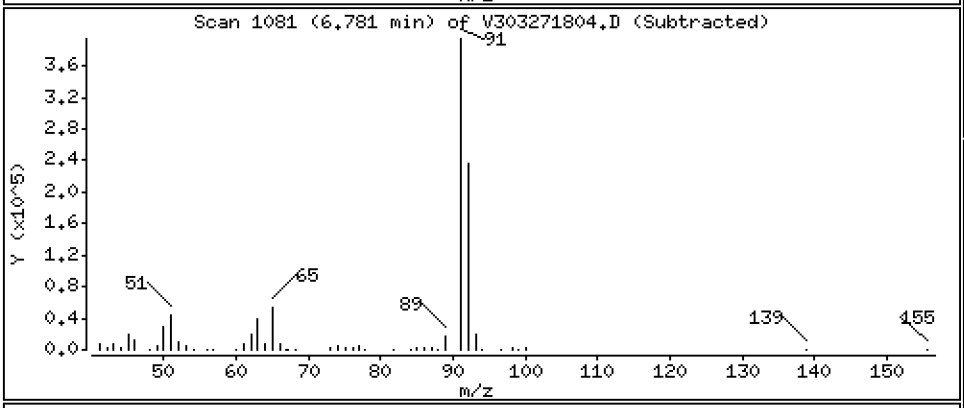
Column phase: RTXVMS

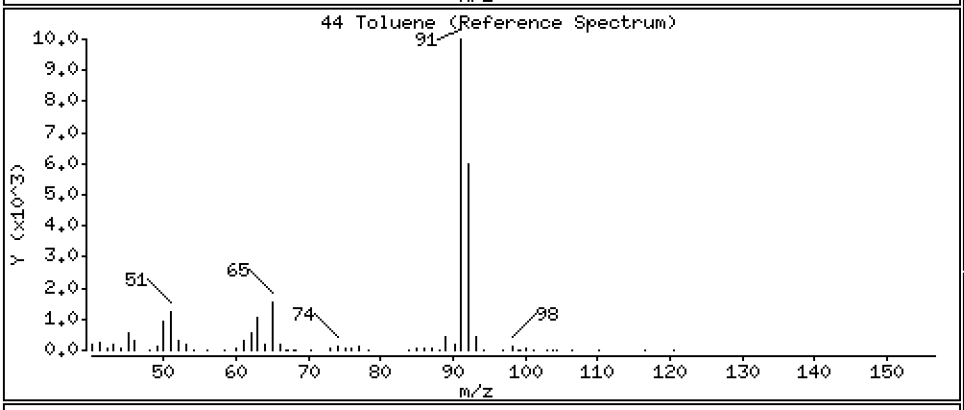
Column diameter: 0.18

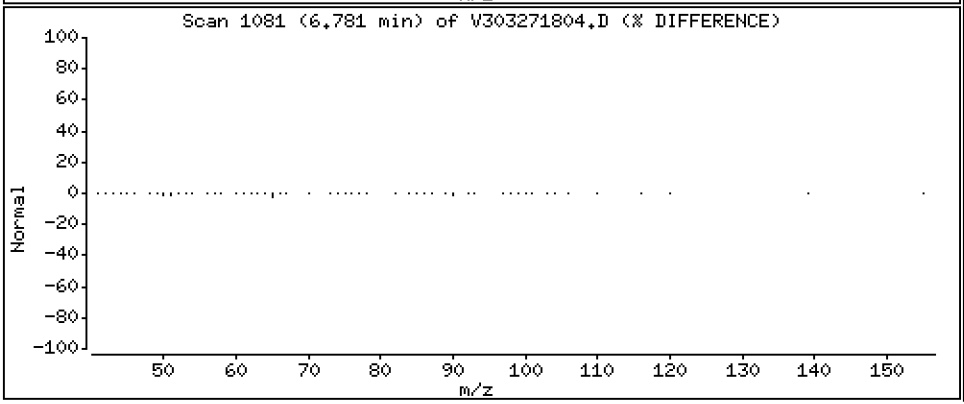
44 Toluene

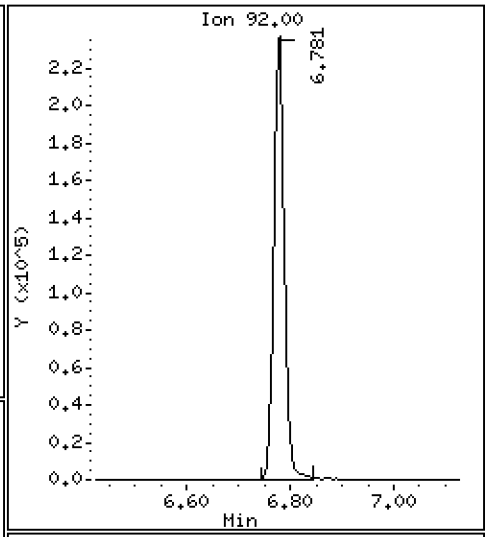
Concentration: 9.732 ug/L

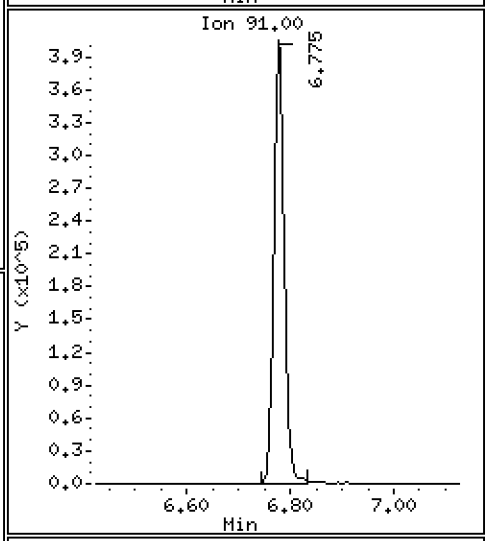


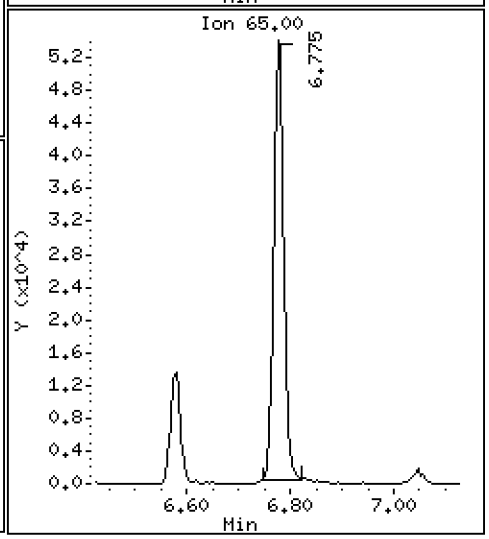












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

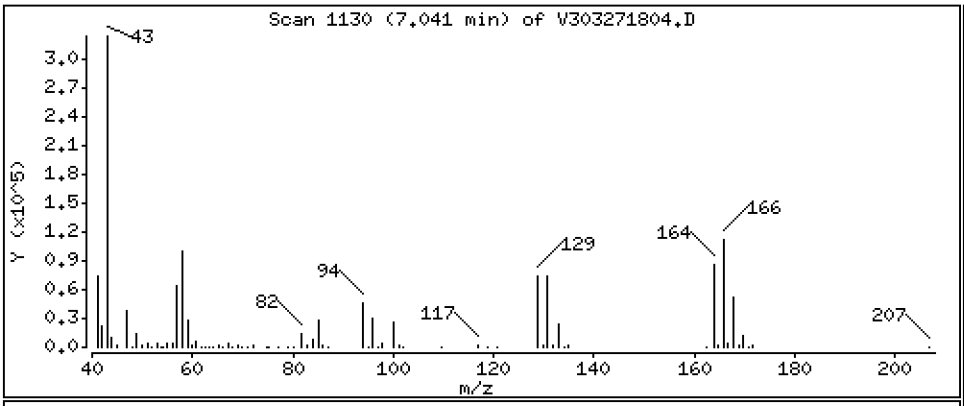
Operator: PKC

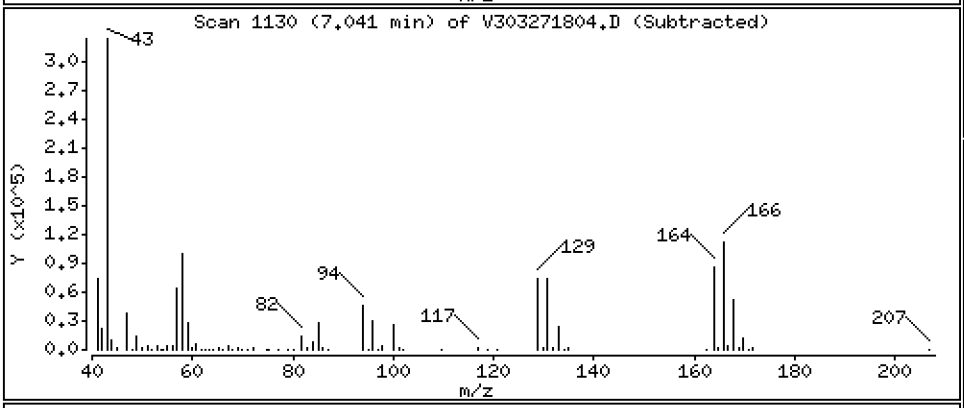
Column phase: RTXVMS

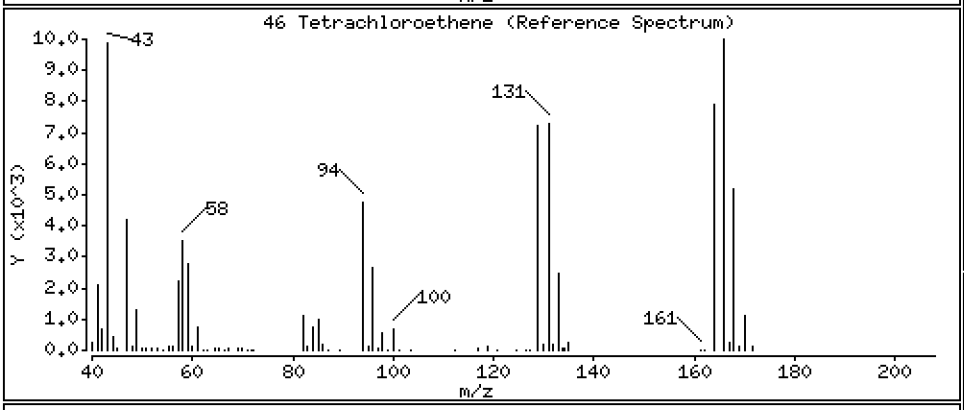
Column diameter: 0.18

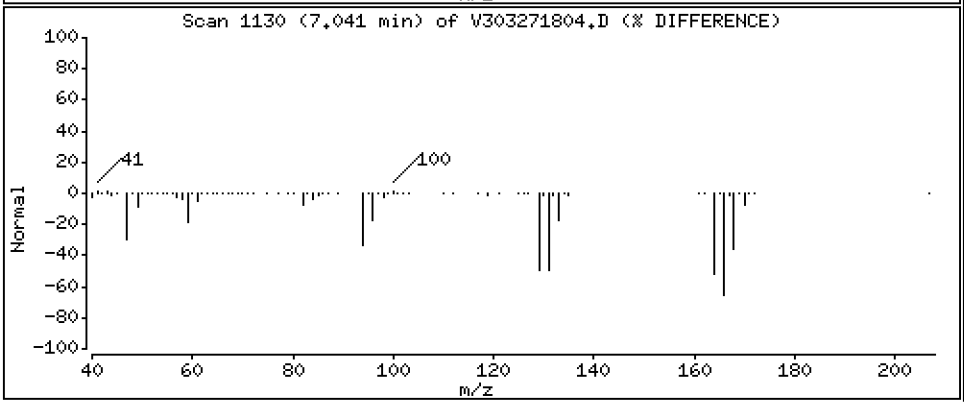
46 Tetrachloroethene

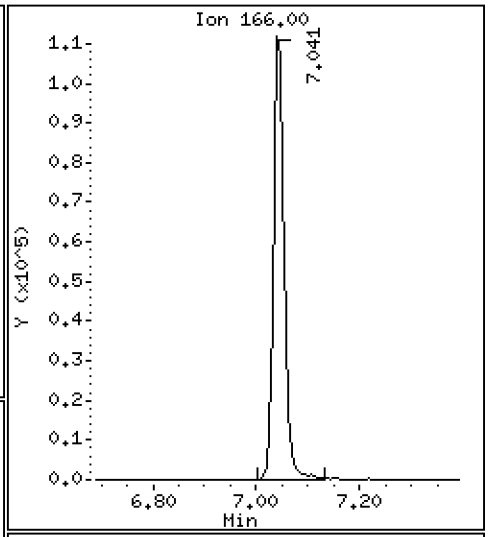
Concentration: 9.794 ug/L

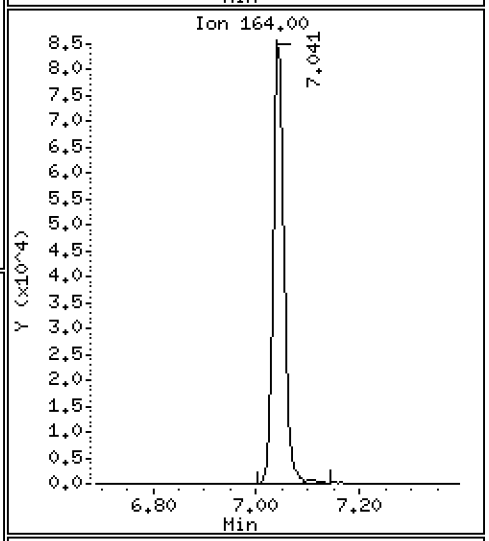


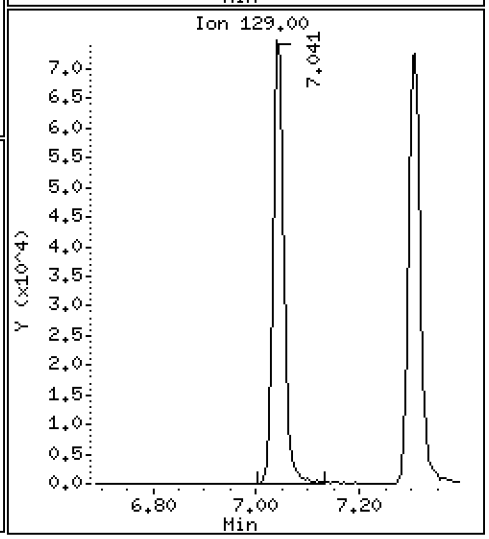












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

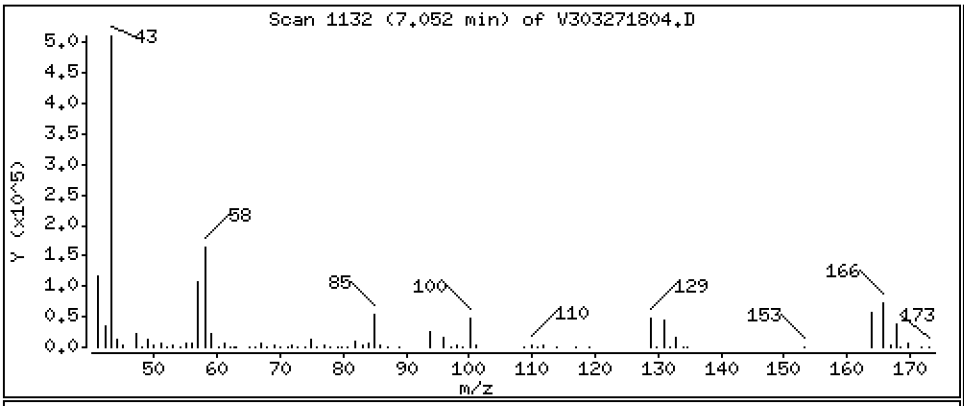
Operator: PKC

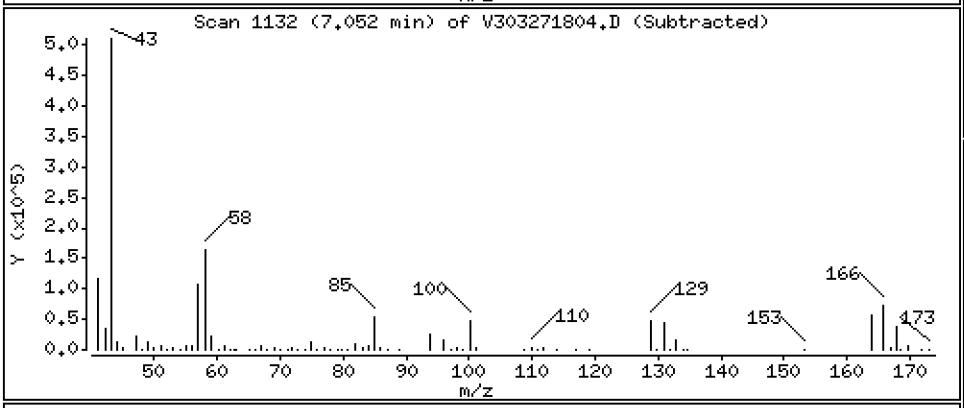
Column phase: RTXVMS

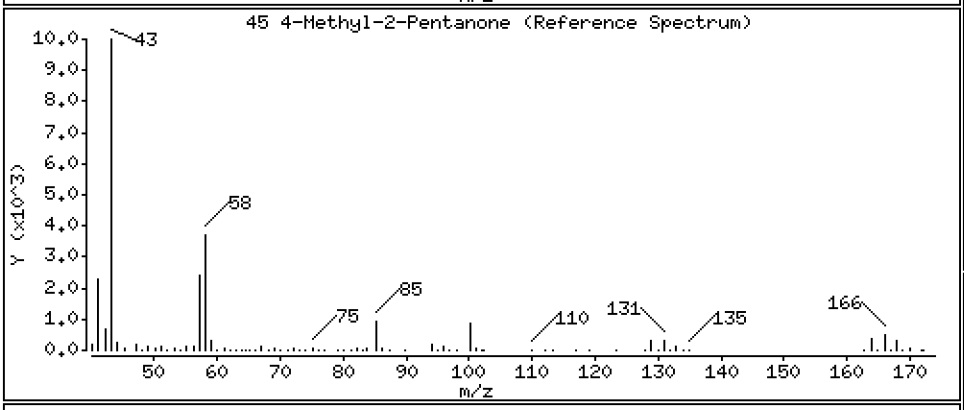
Column diameter: 0.18

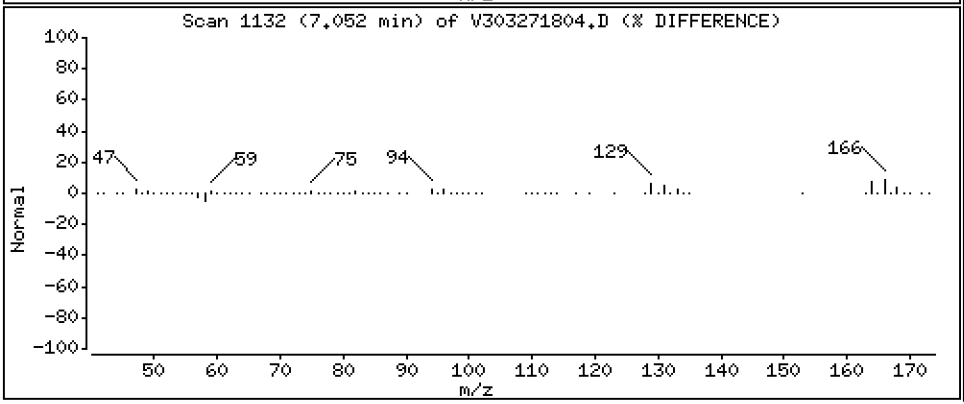
45 4-Methyl-2-Pentanone

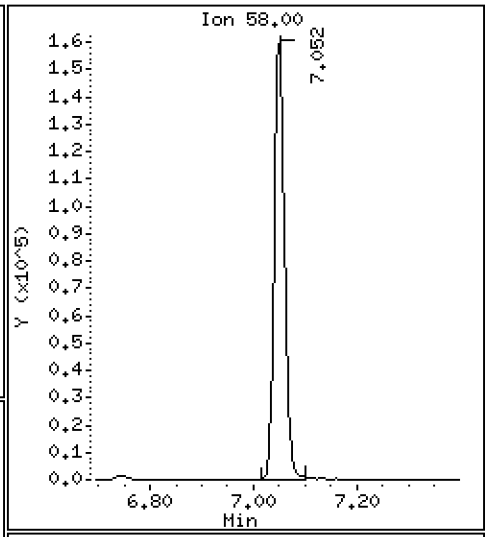
Concentration: 49.604 ug/L

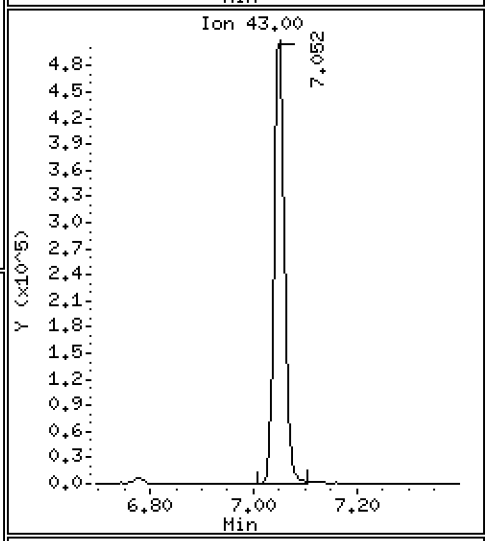


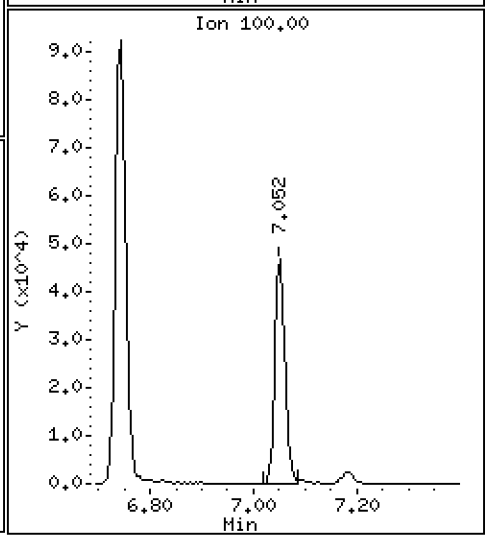












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

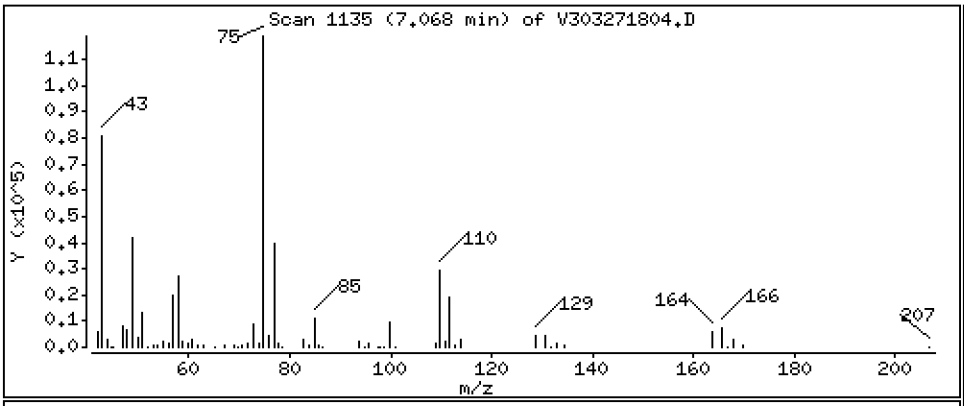
Operator: PKC

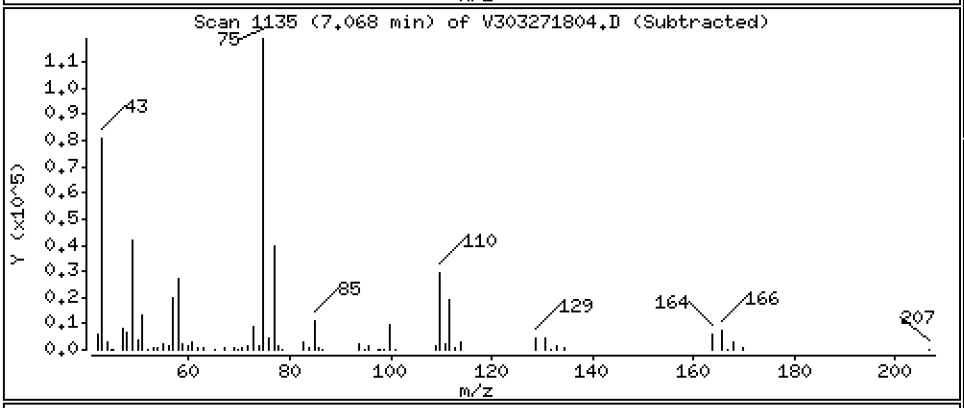
Column phase: RTXVMS

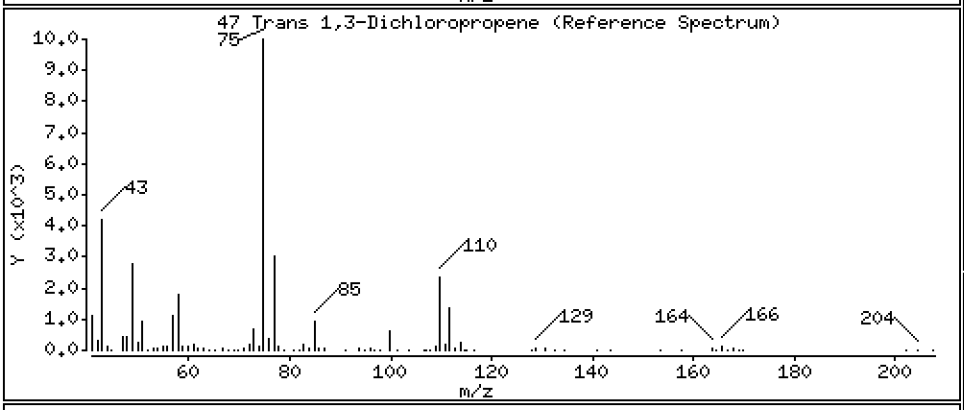
Column diameter: 0.18

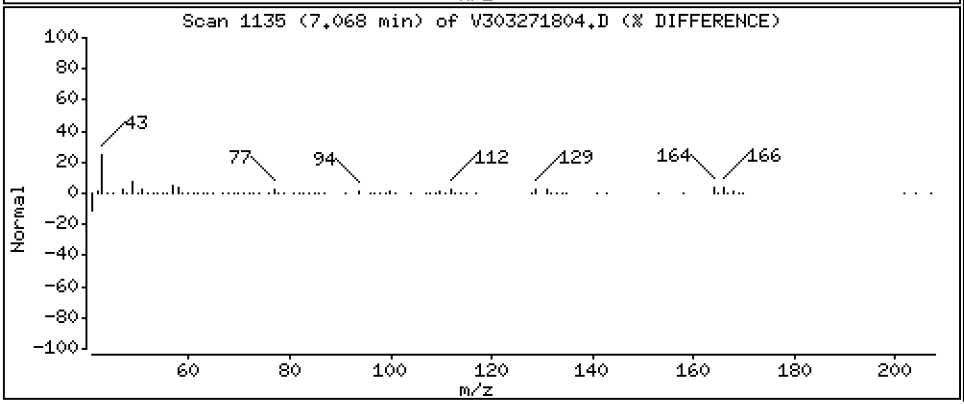
47 Trans 1,3-Dichloropropene

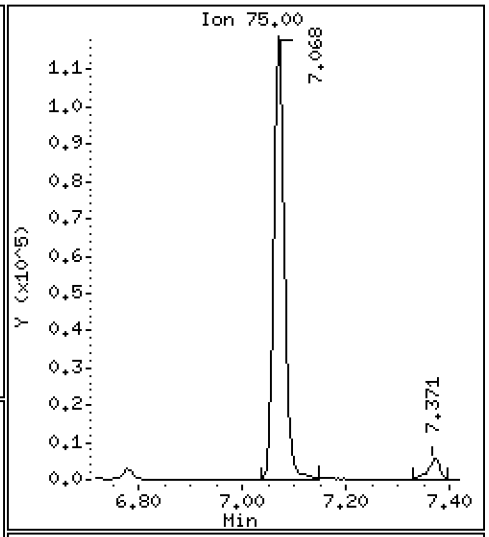
Concentration: 10.692 ug/L

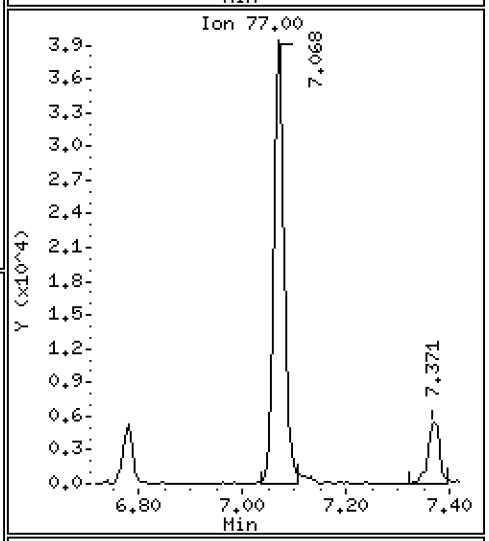


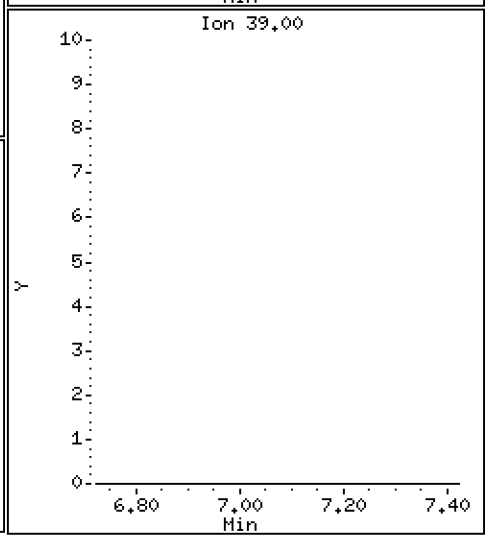












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

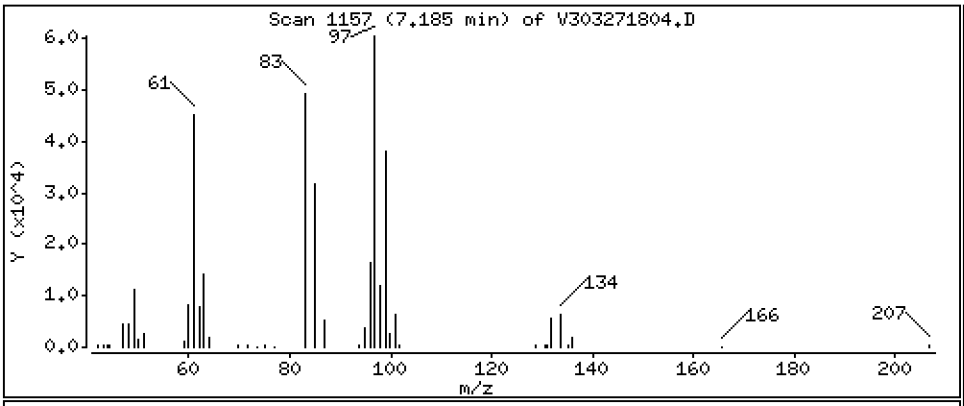
Operator: PKC

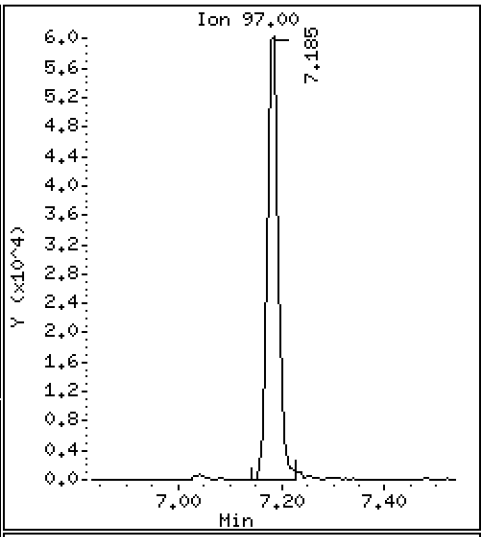
Column phase: RTXVMS

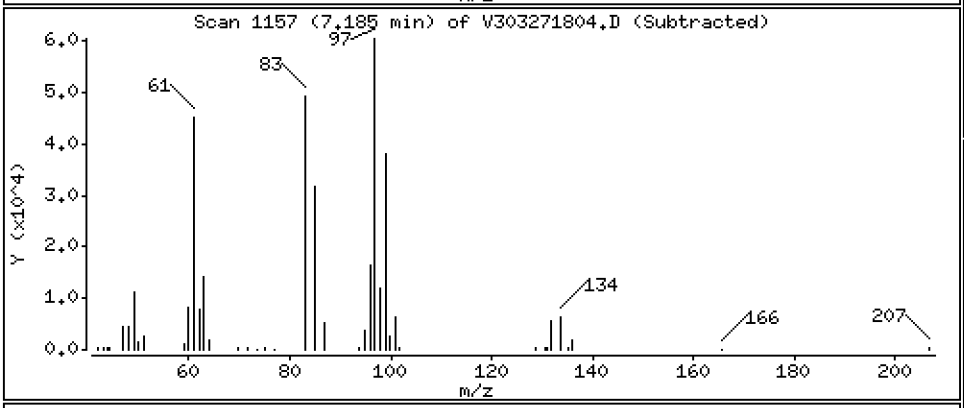
Column diameter: 0.18

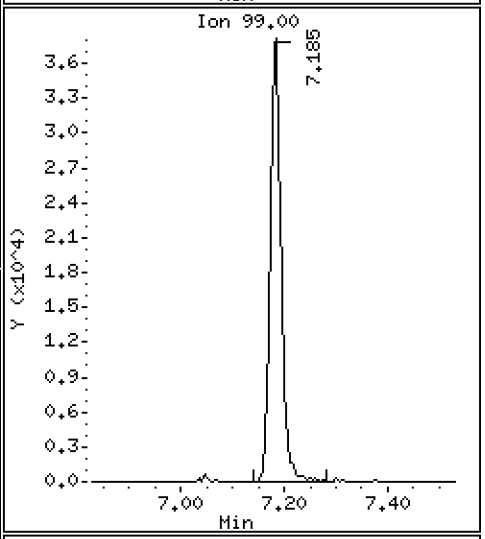
48 1,1,2-Trichloroethane

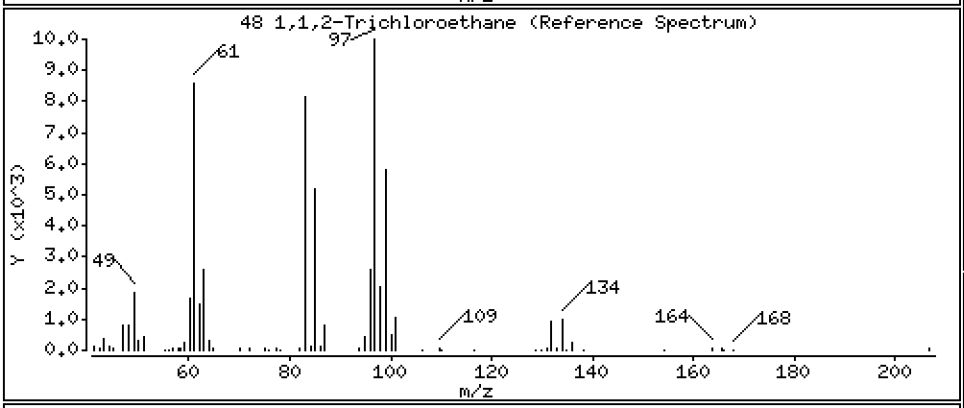
Concentration: 9.891 ug/L

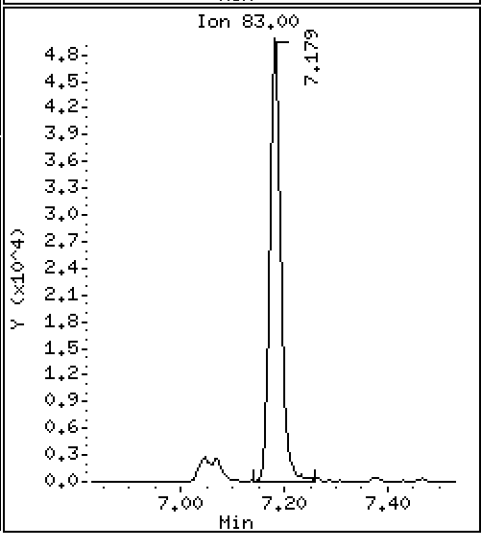


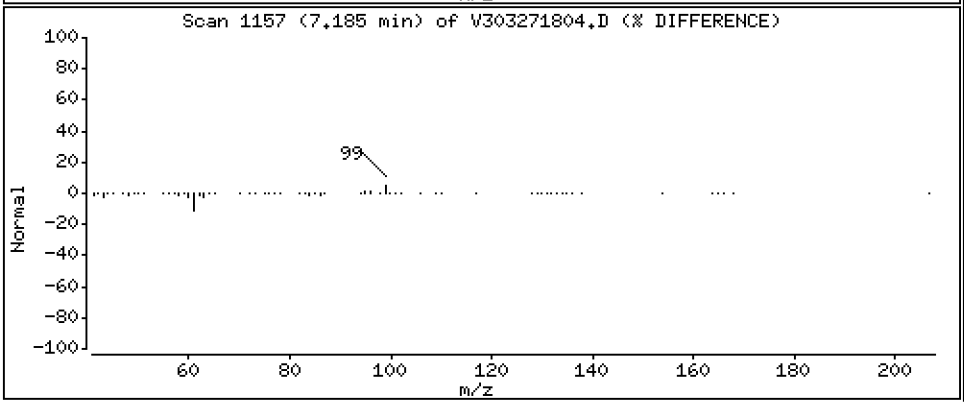












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

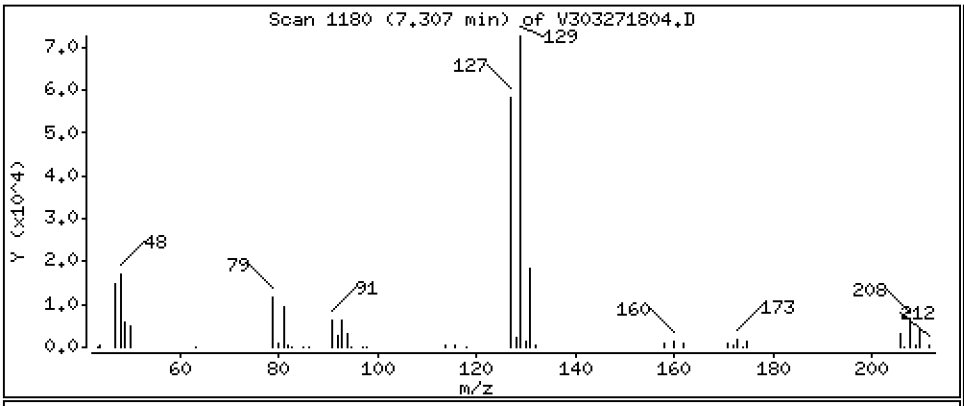
Operator: PKC

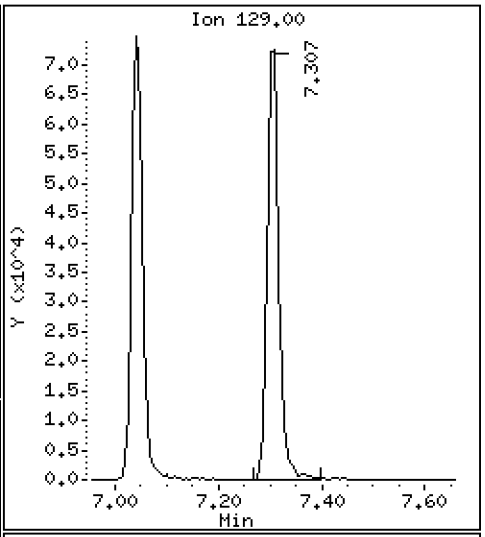
Column phase: RTXVMS

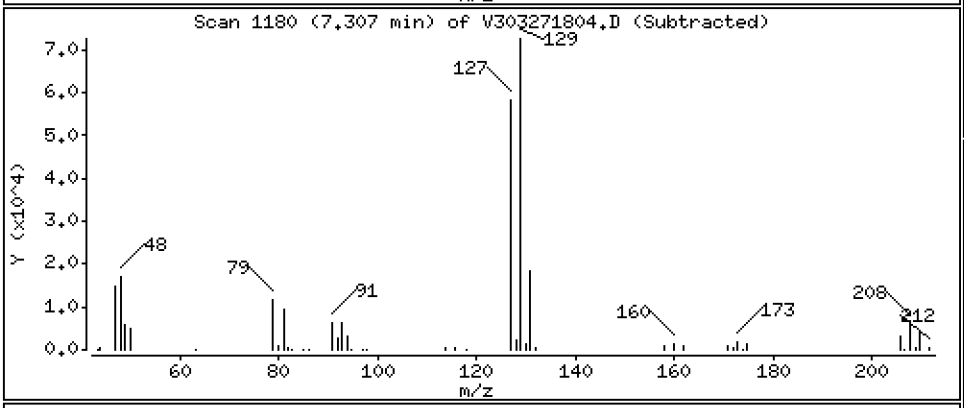
Column diameter: 0.18

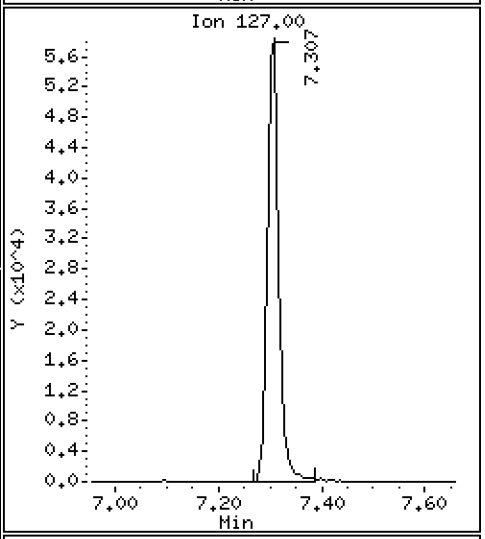
49 Chlorodibromomethane

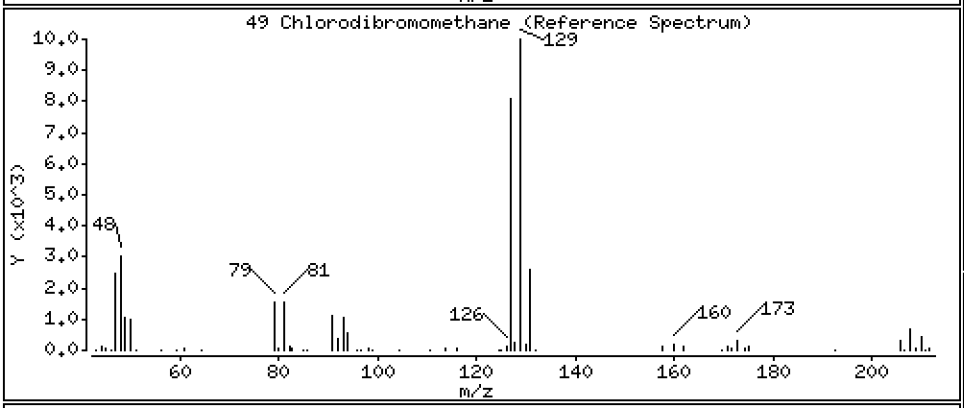
Concentration: 10.312 ug/L

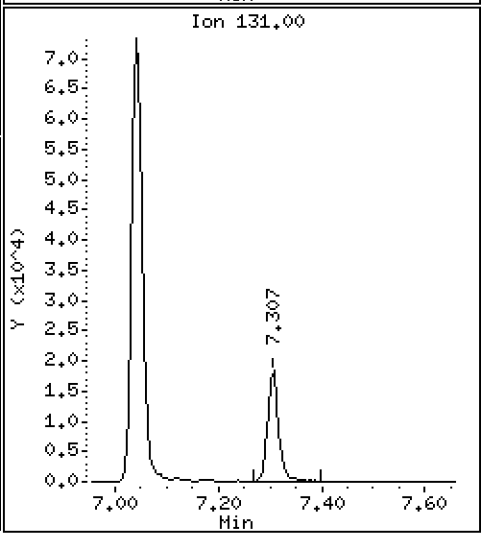


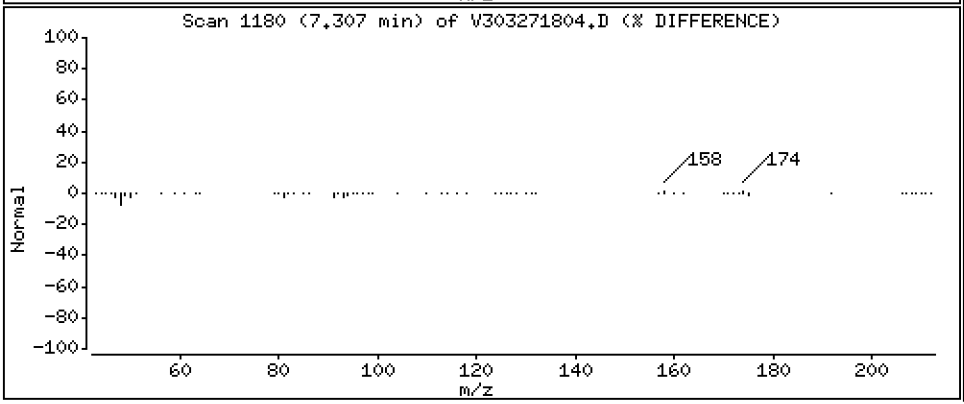












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

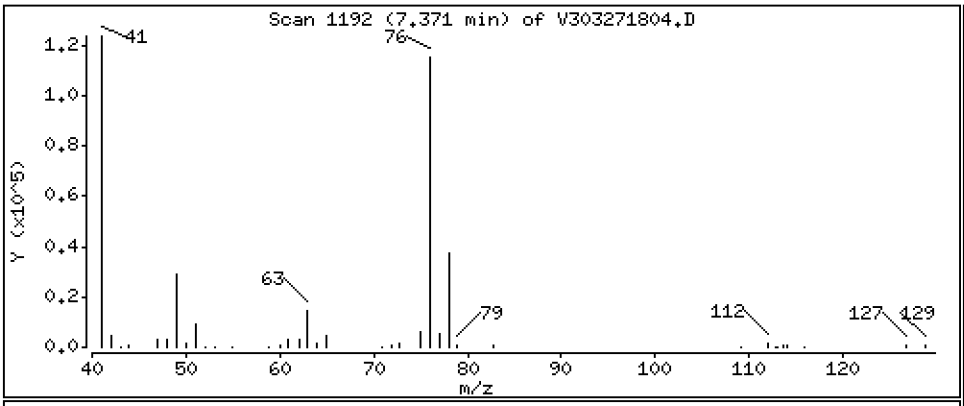
Operator: PKC

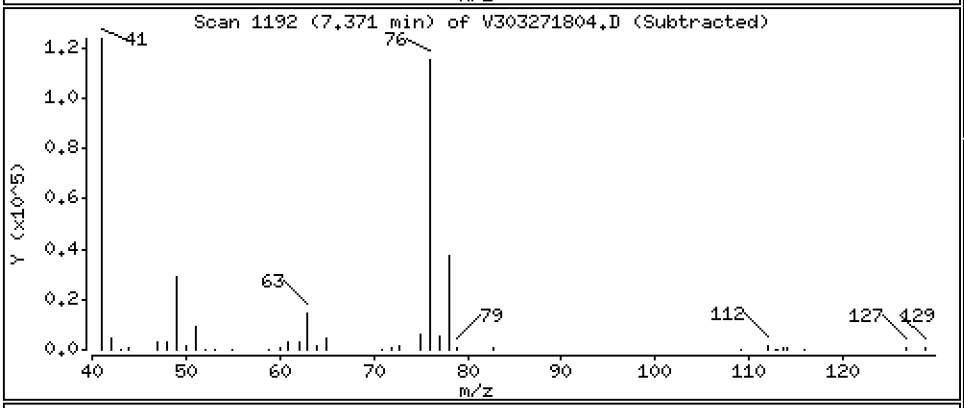
Column phase: RTXVMS

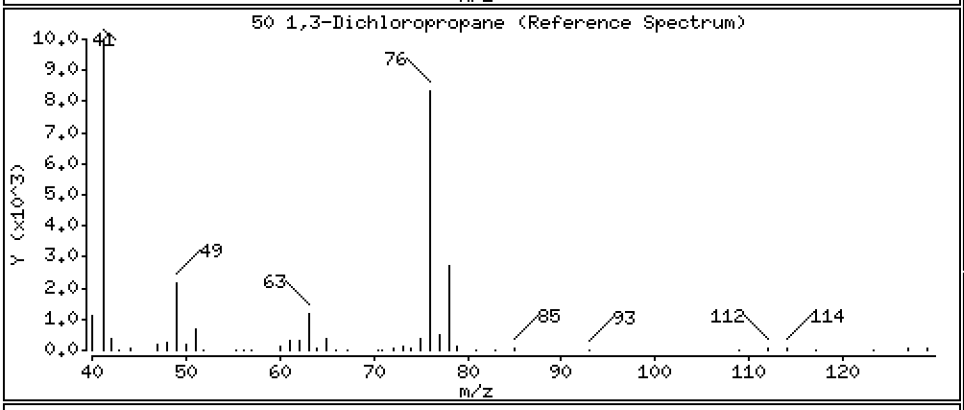
Column diameter: 0.18

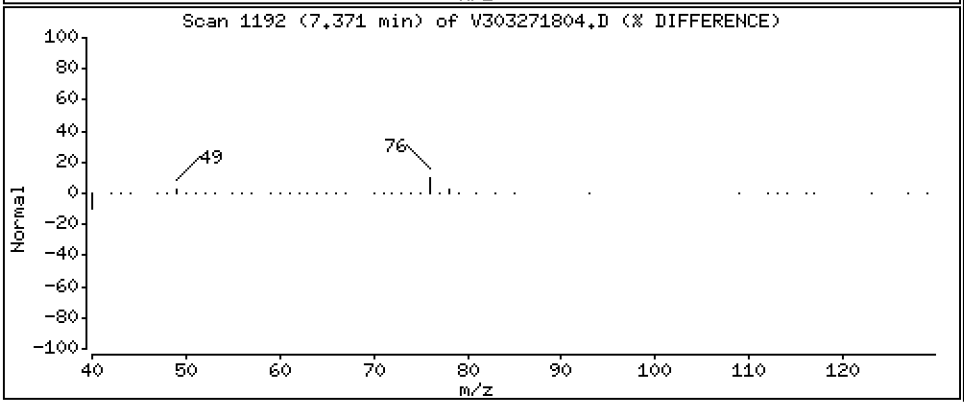
50 1,3-Dichloropropane

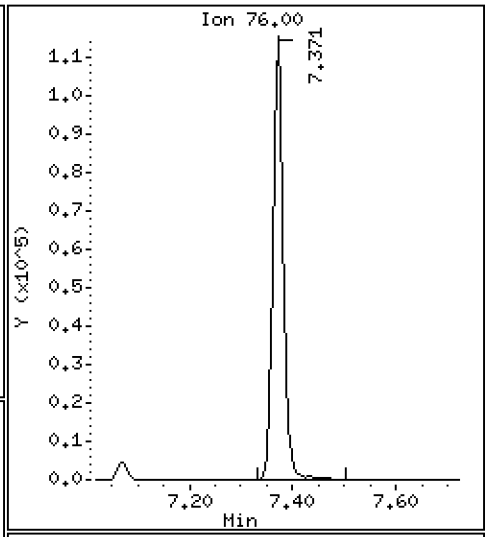
Concentration: 9.781 ug/L

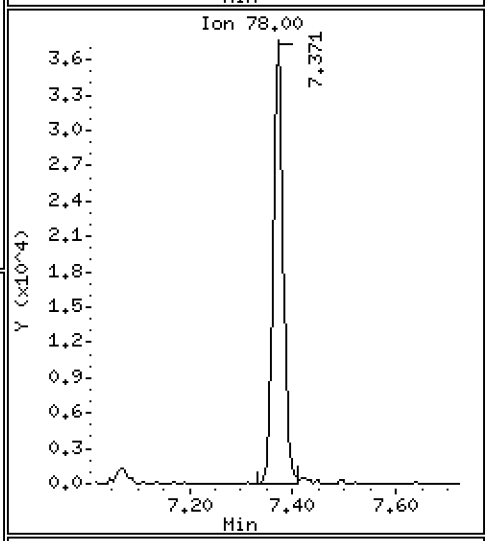


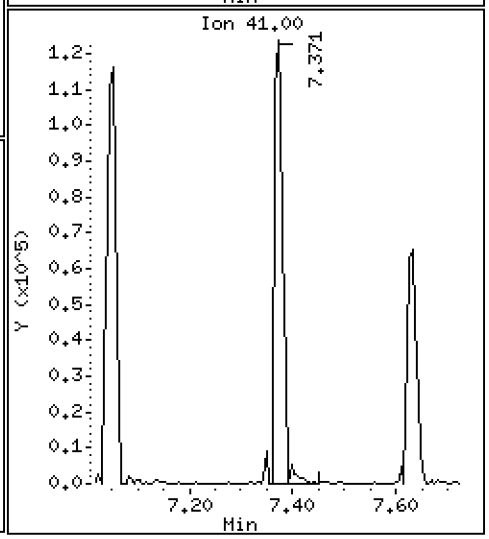












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

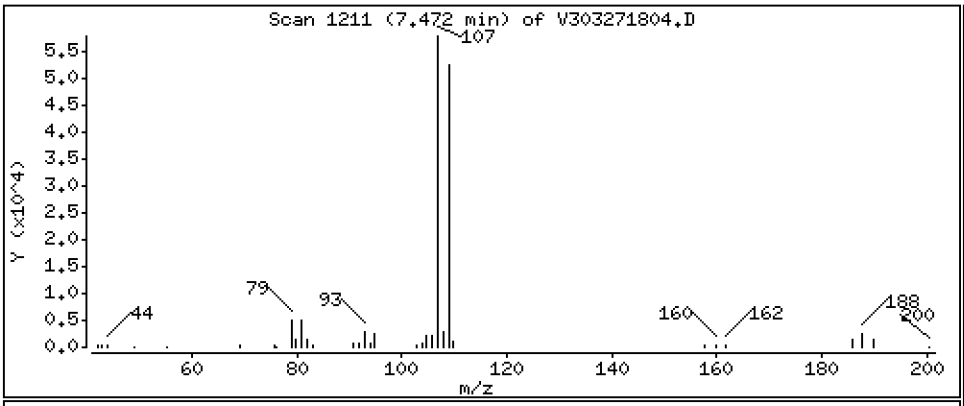
Operator: PKC

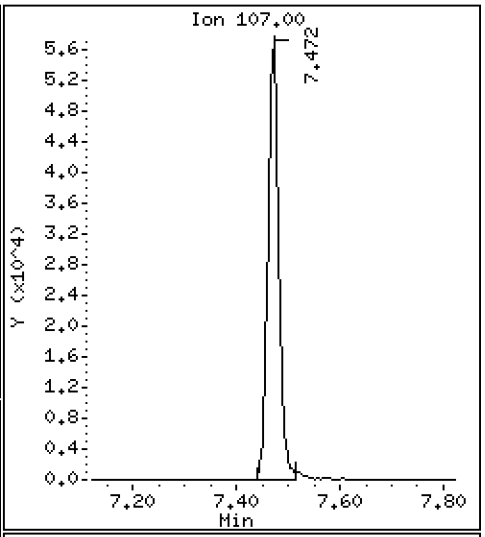
Column phase: RTXVMS

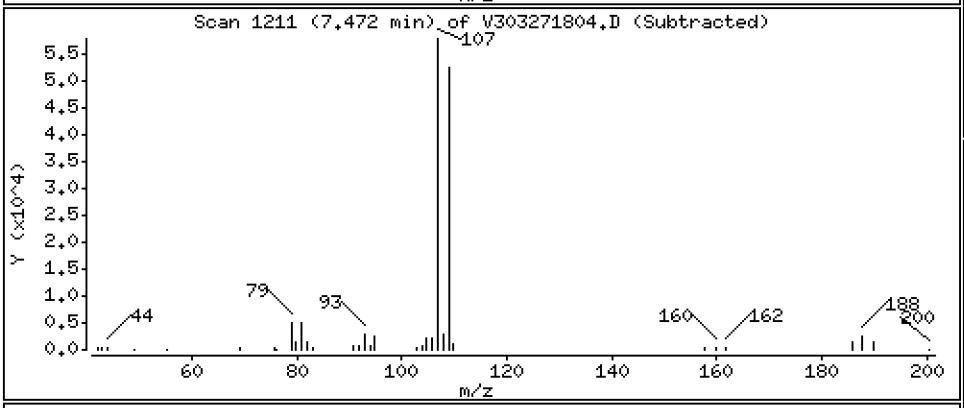
Column diameter: 0.18

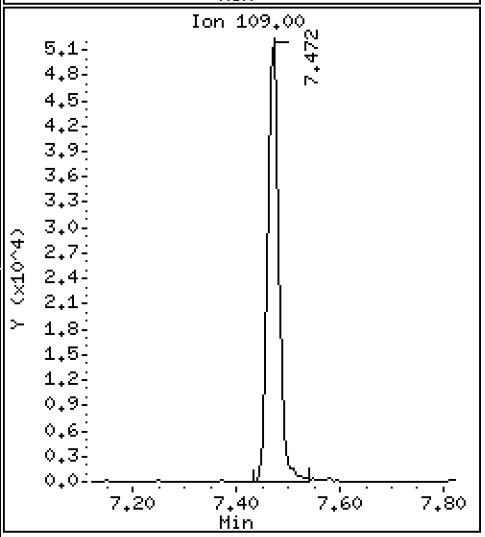
51 1,2-Dibromoethane

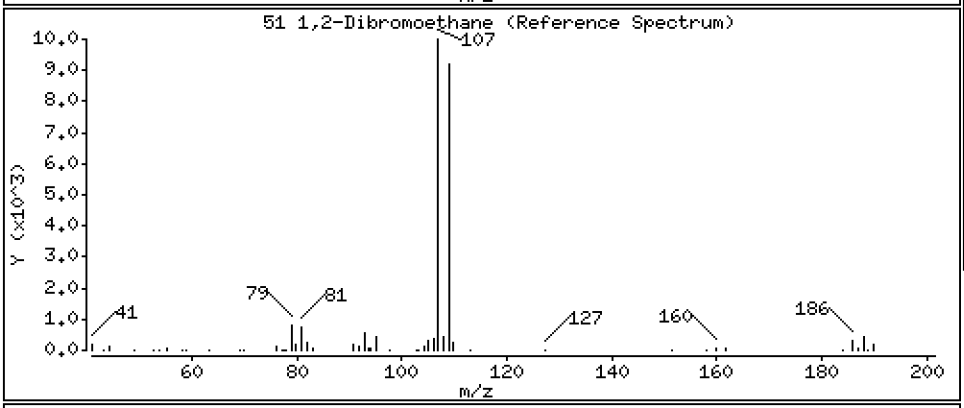
Concentration: 9.853 ug/L

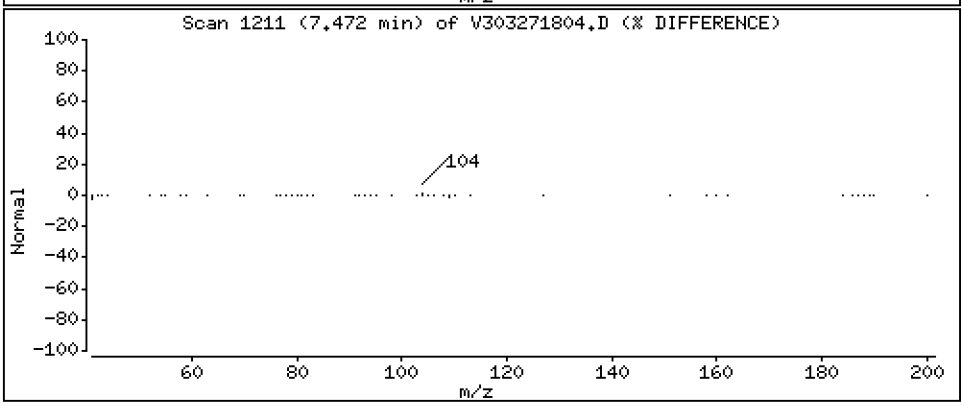












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

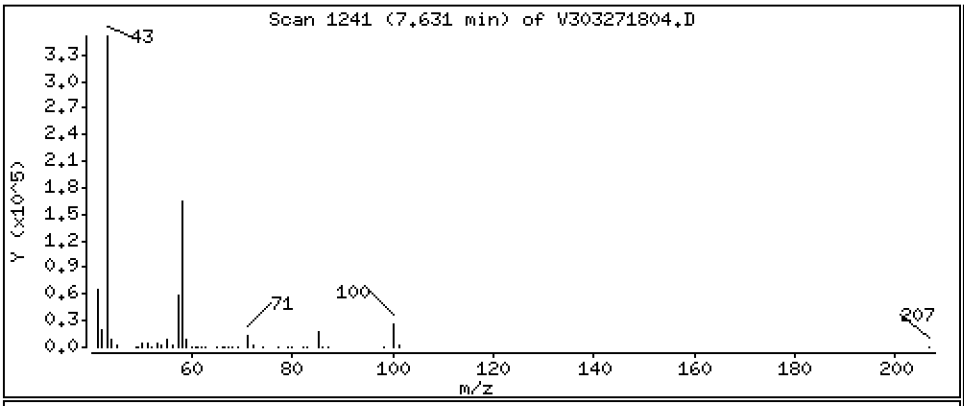
Operator: PKC

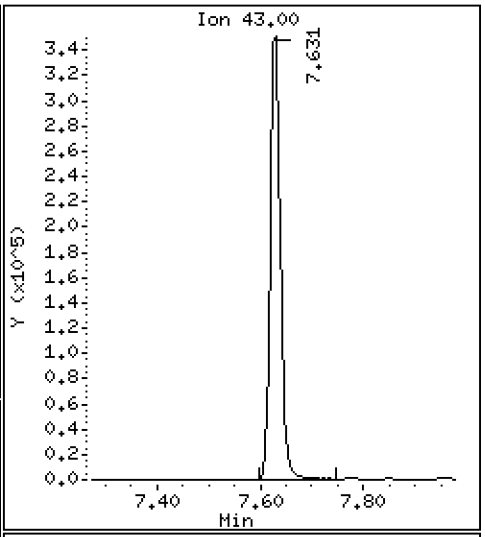
Column phase: RTXVMS

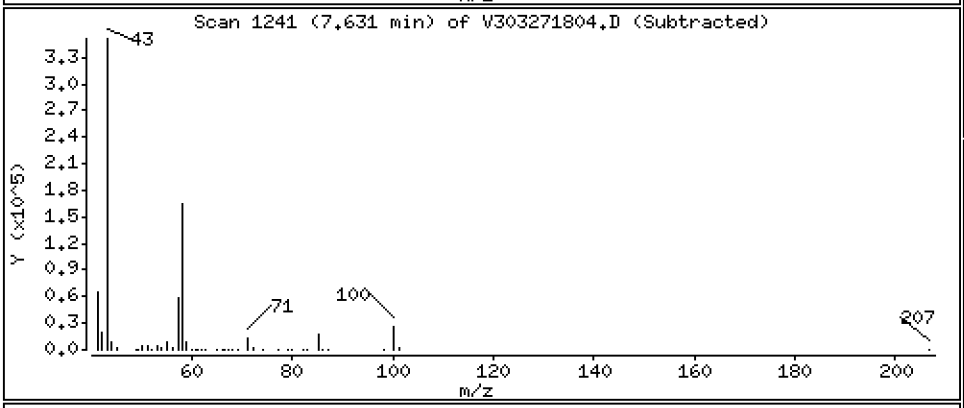
Column diameter: 0.18

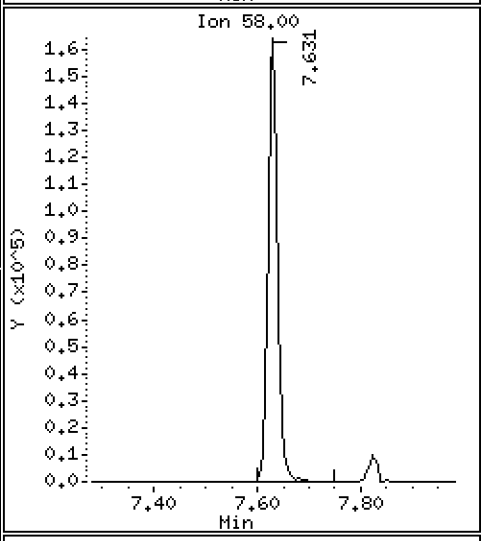
52 2-Hexanone

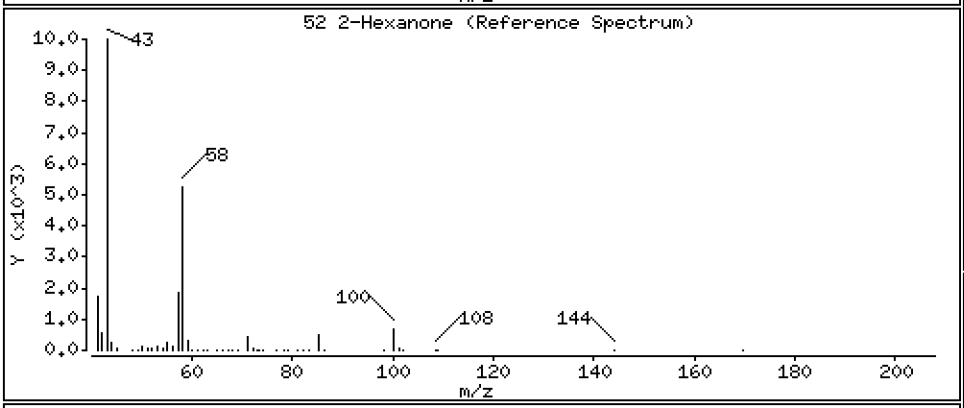
Concentration: 54.642 ug/L

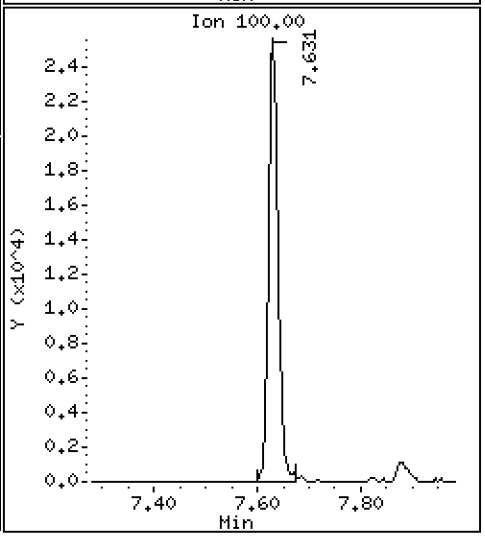


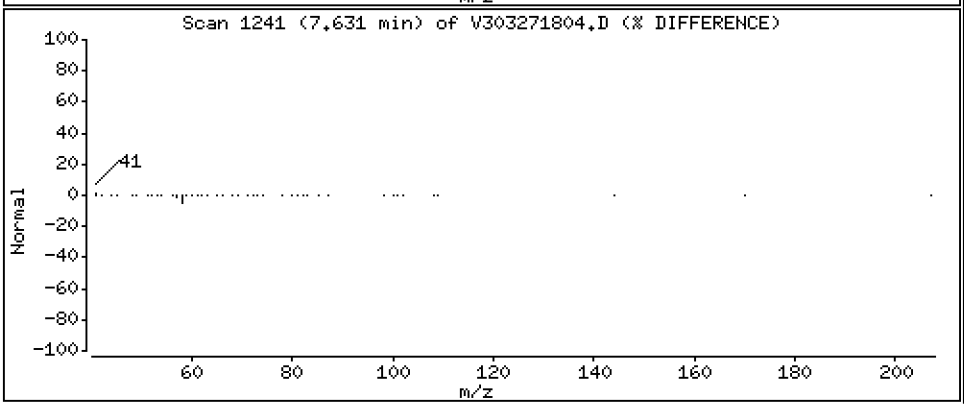












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

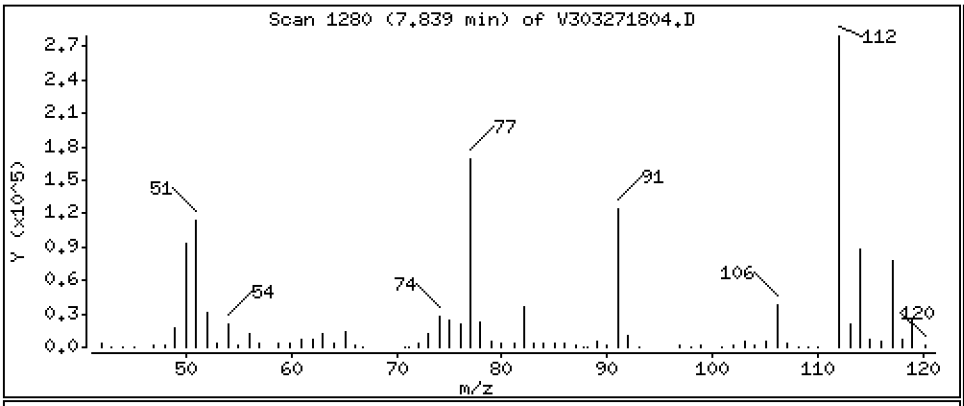
Operator: PKC

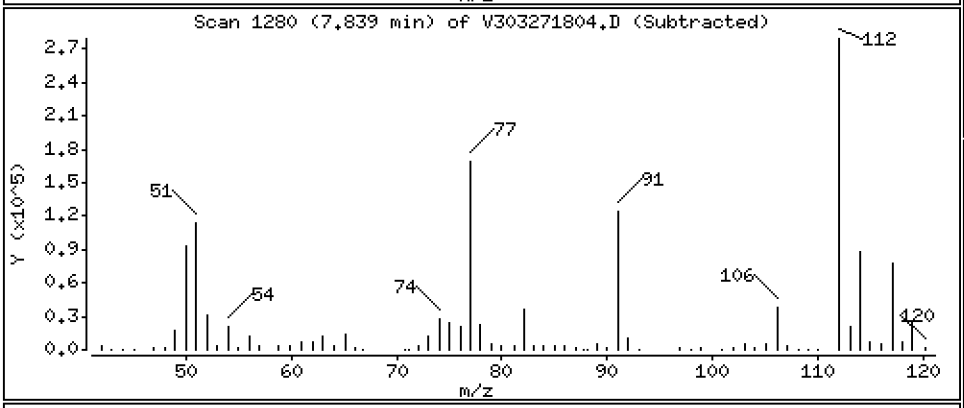
Column phase: RTXVMS

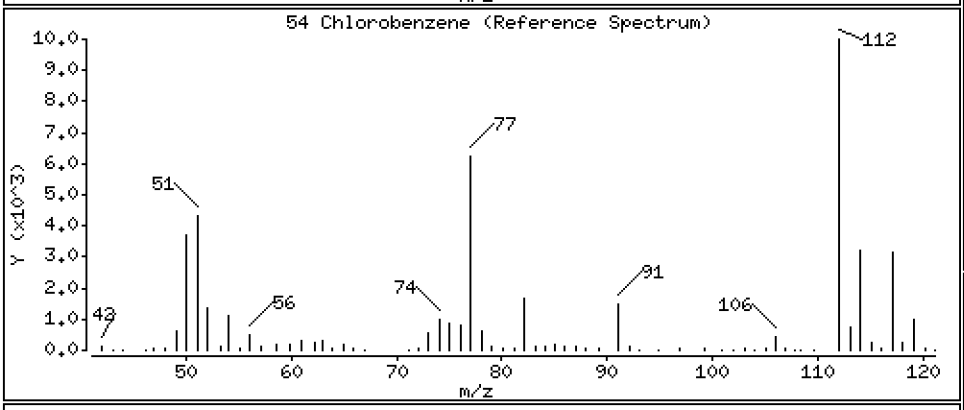
Column diameter: 0.18

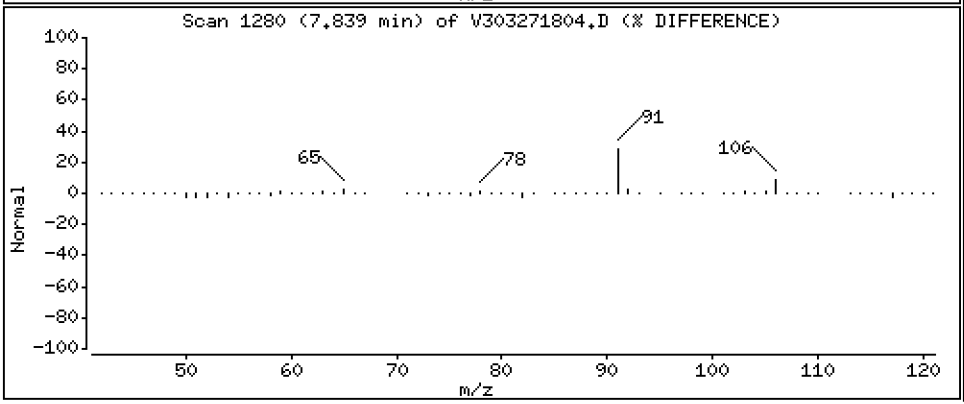
54 Chlorobenzene

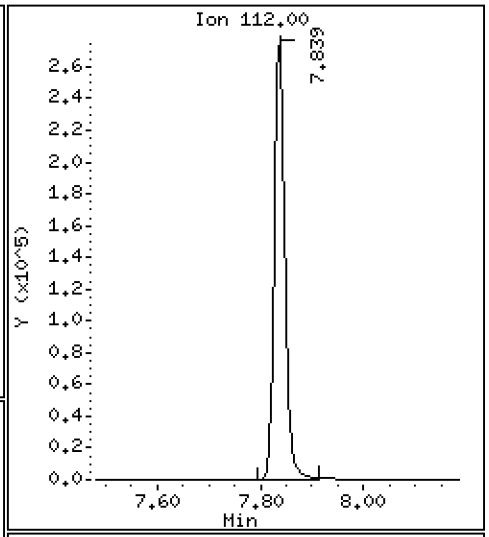
Concentration: 9.457 ug/L

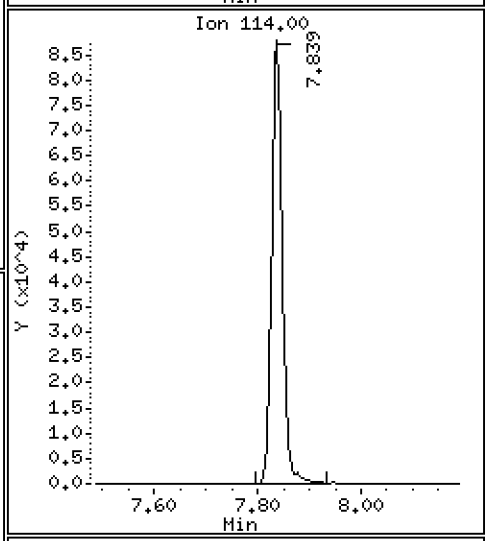


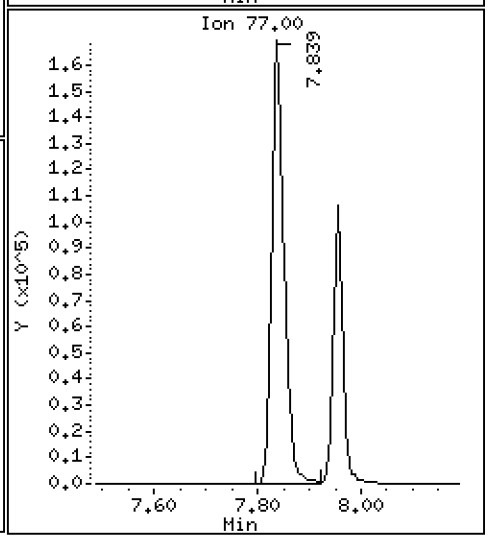












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

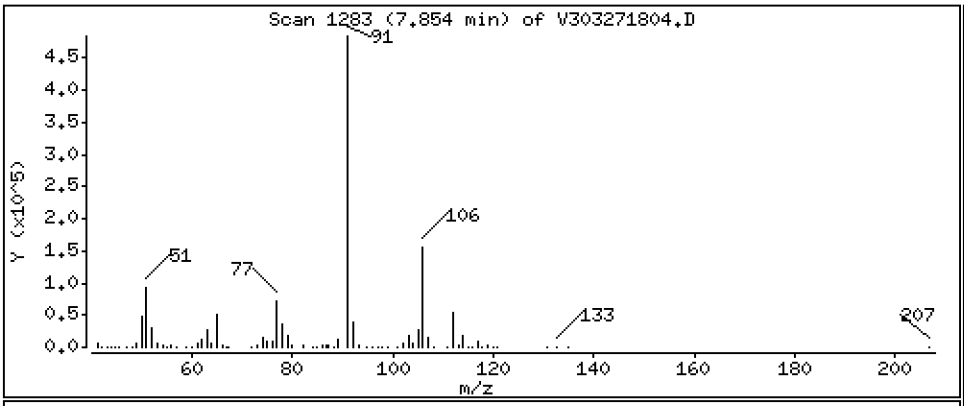
Operator: PKC

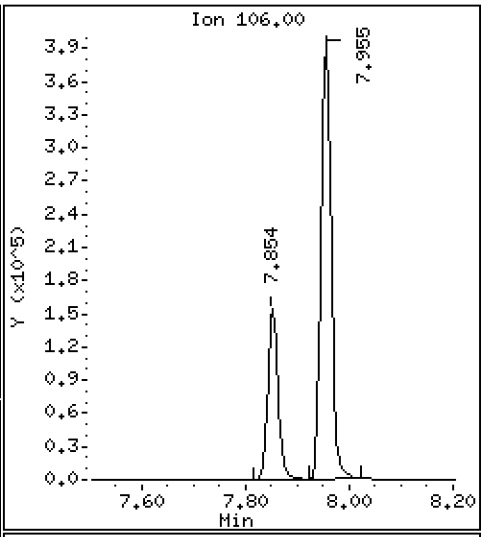
Column phase: RTXVMS

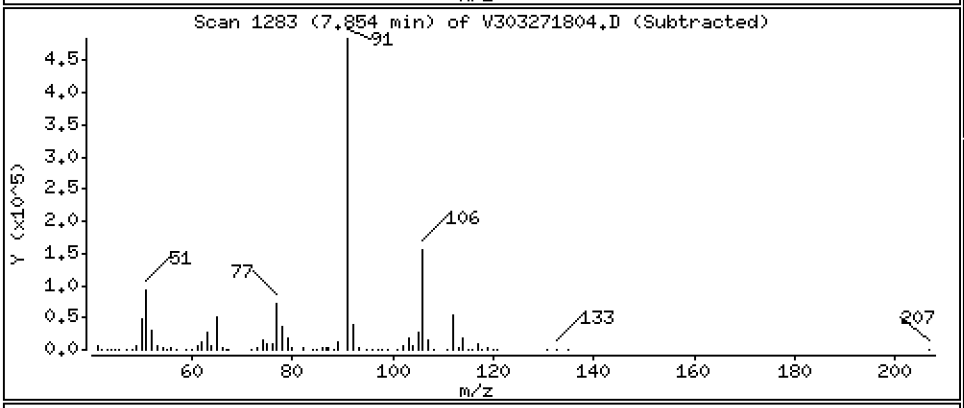
Column diameter: 0.18

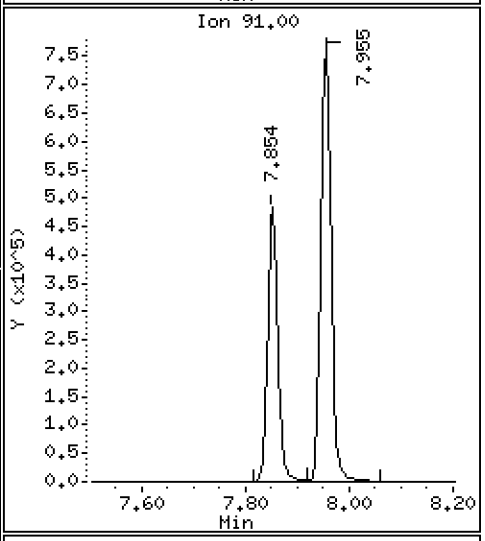
55 Ethyl Benzene

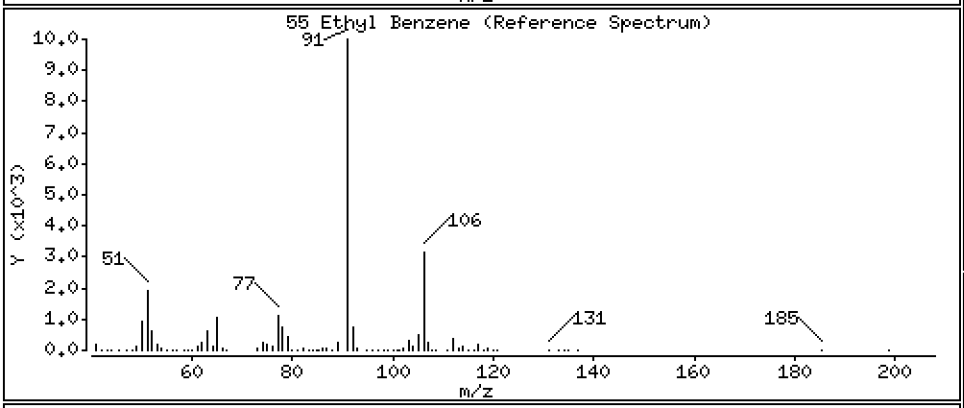
Concentration: 9.676 ug/L

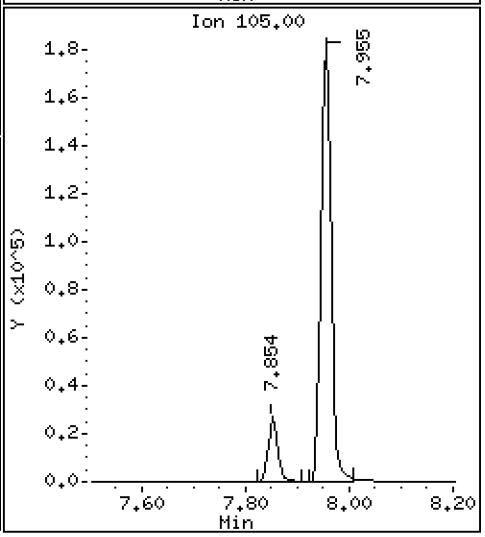


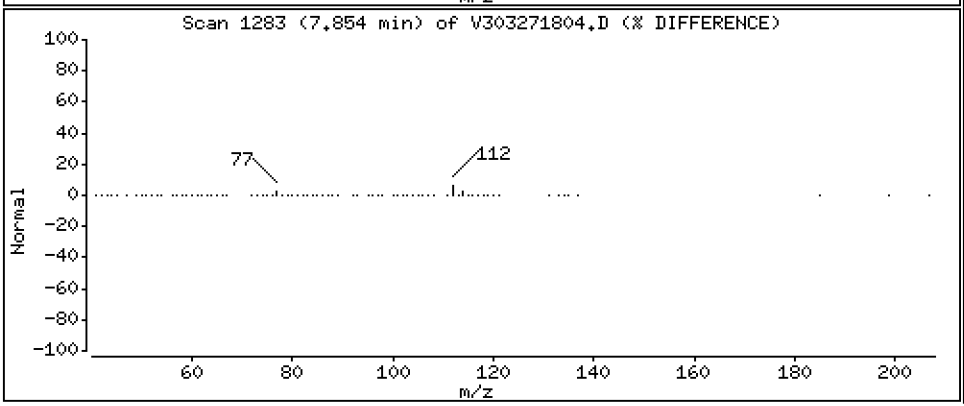












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

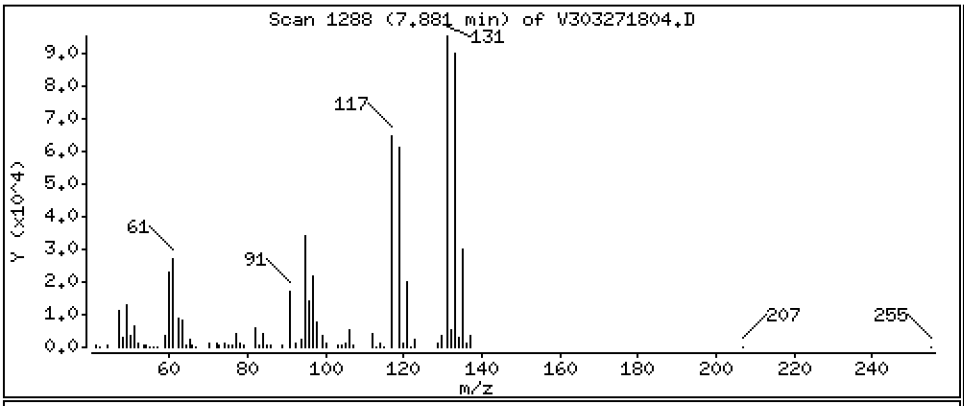
Operator: PKC

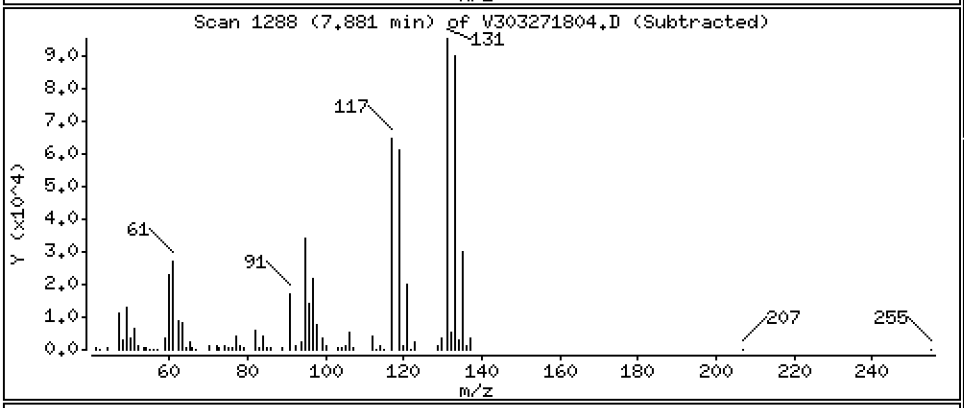
Column phase: RTXVMS

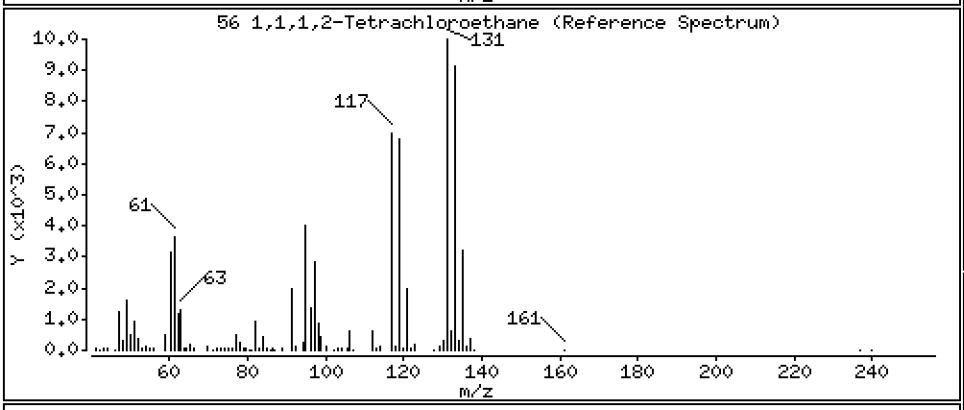
Column diameter: 0.18

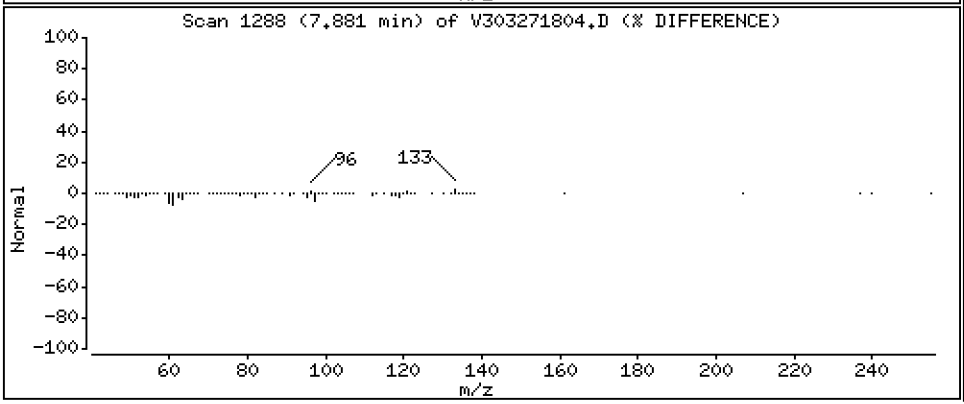
56 1,1,1,2-Tetrachloroethane

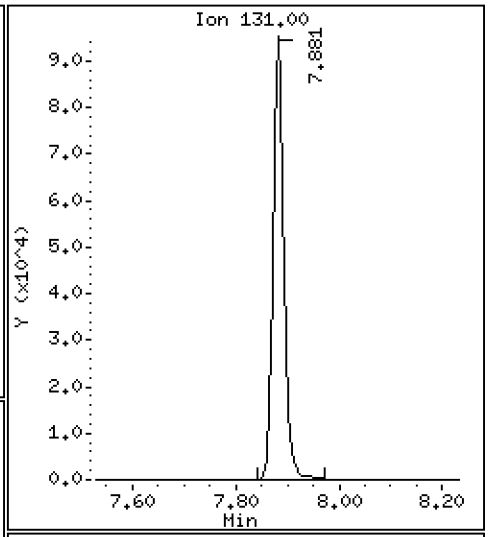
Concentration: 9.814 ug/L

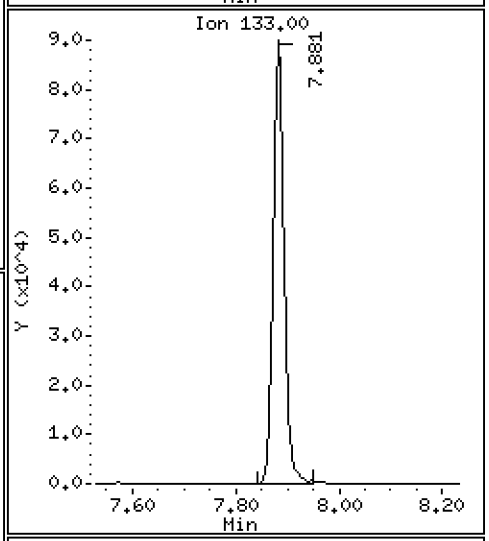


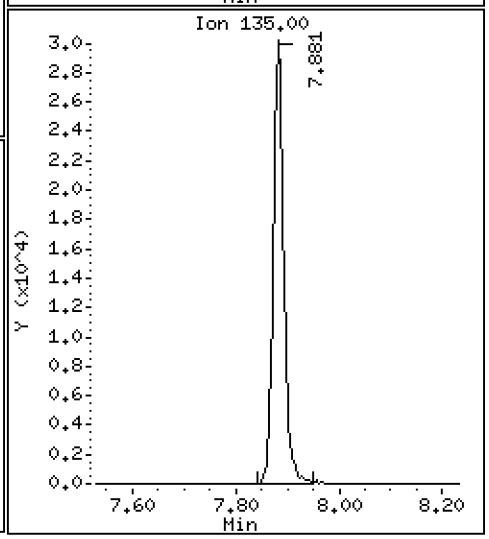












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

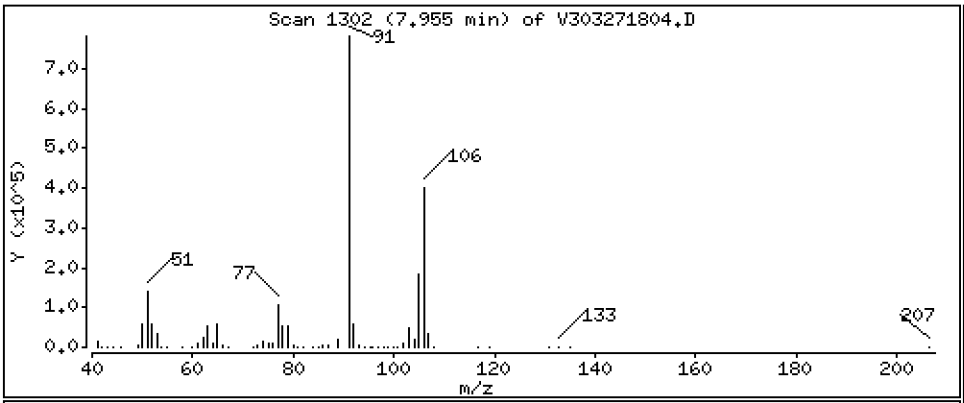
Operator: PKC

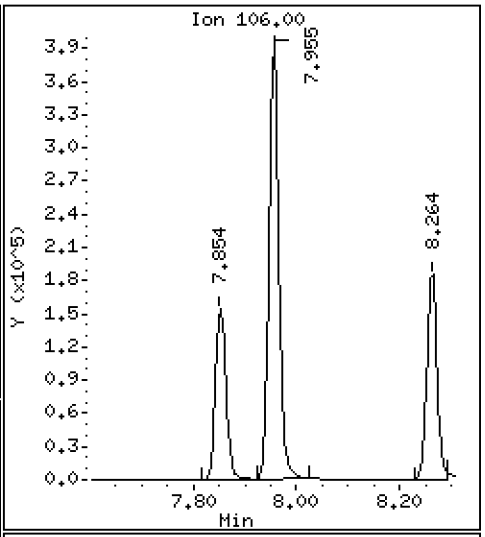
Column phase: RTXVMS

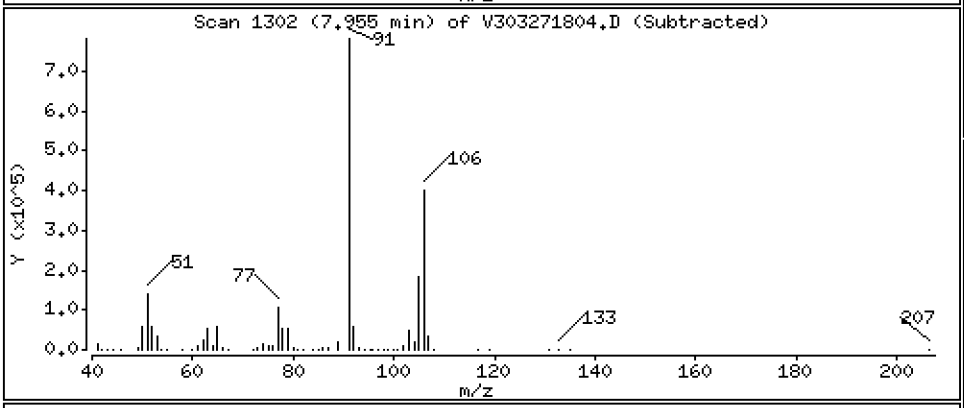
Column diameter: 0.18

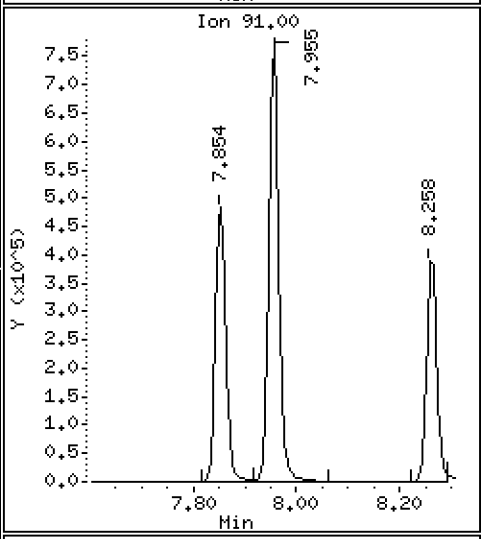
57 m,p-xylene

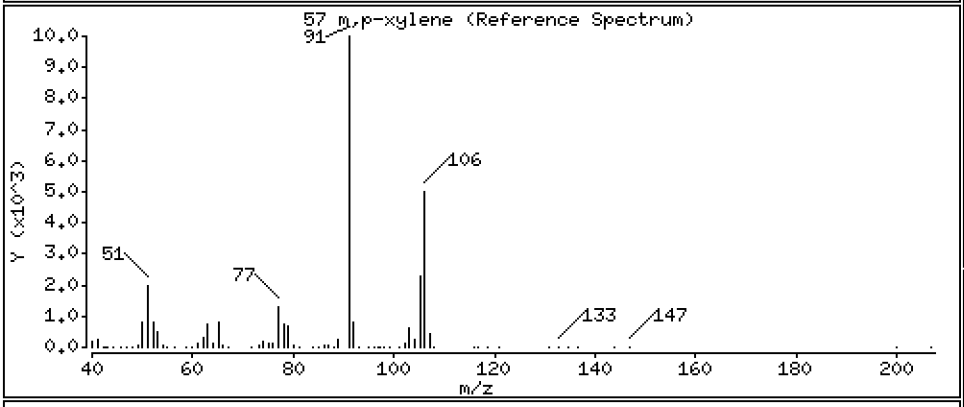
Concentration: 19.200 ug/L

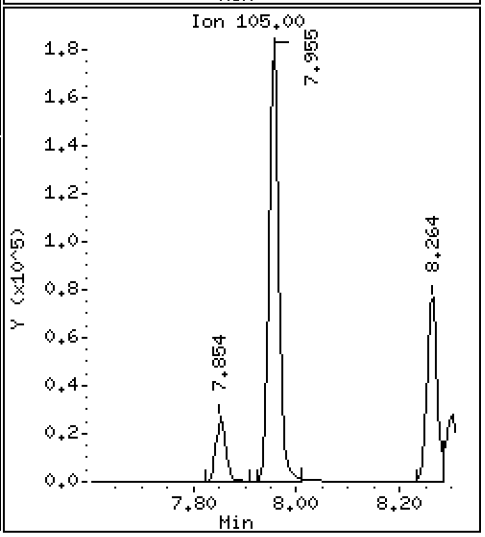


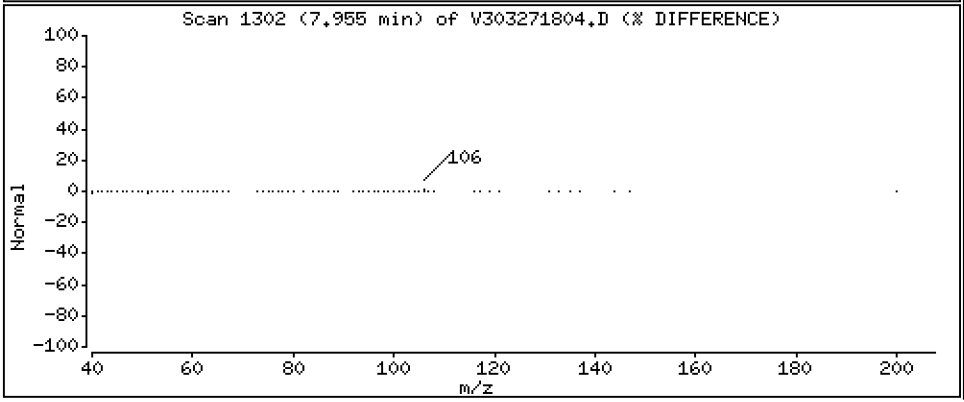












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

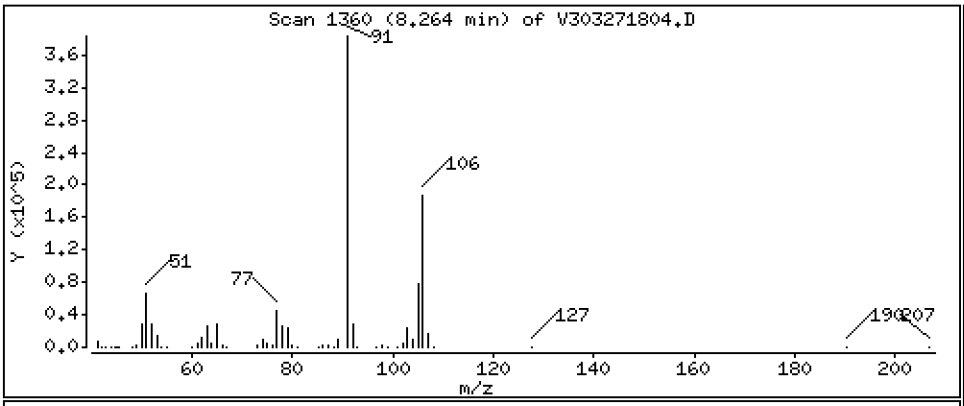
Operator: PKC

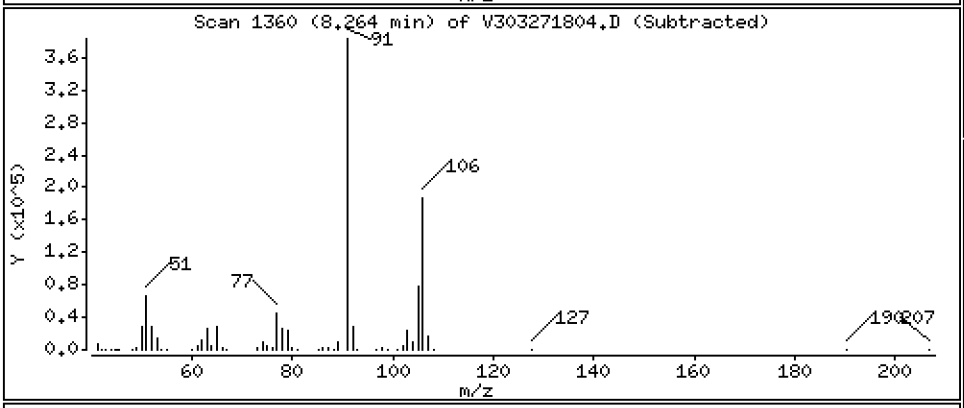
Column phase: RTXVMS

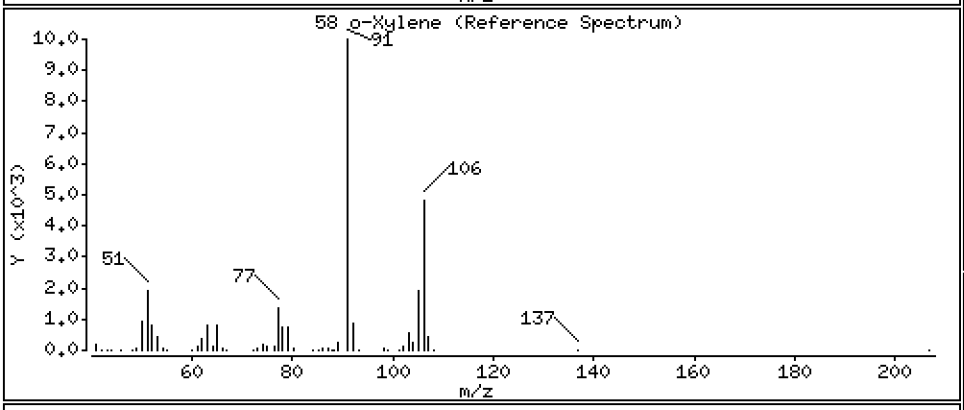
Column diameter: 0.18

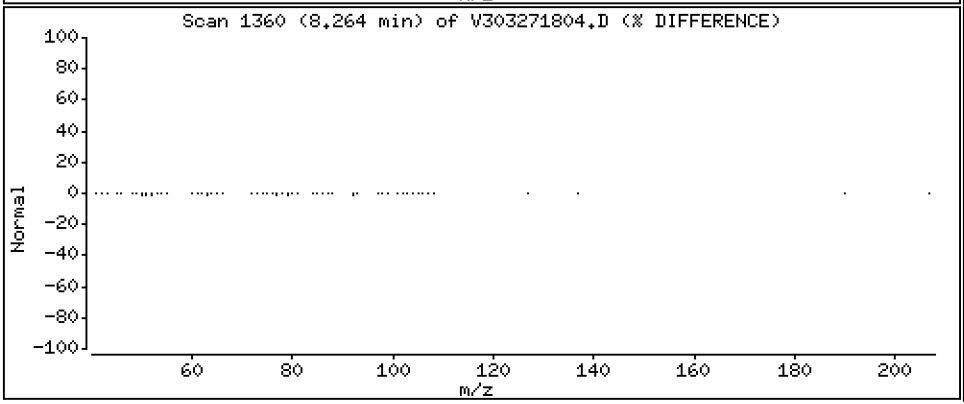
58 o-Xylene

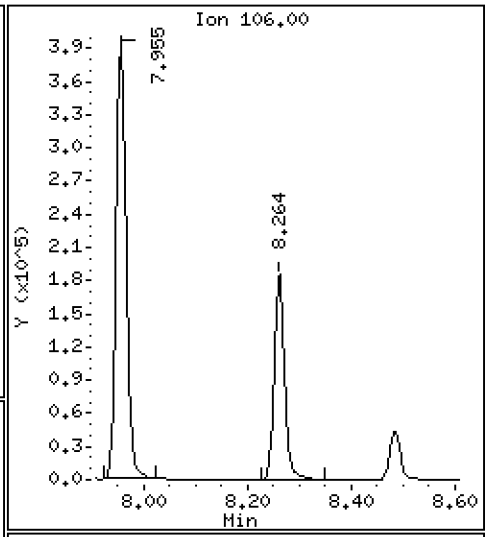
Concentration: 9.623 ug/L

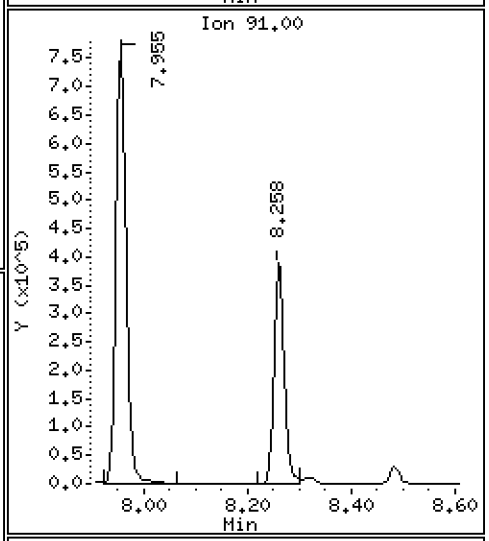


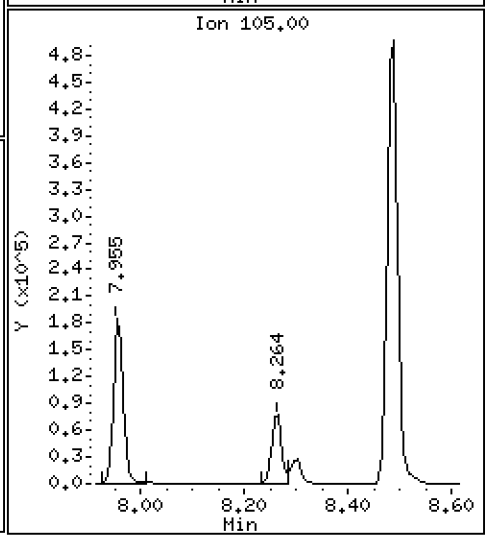












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

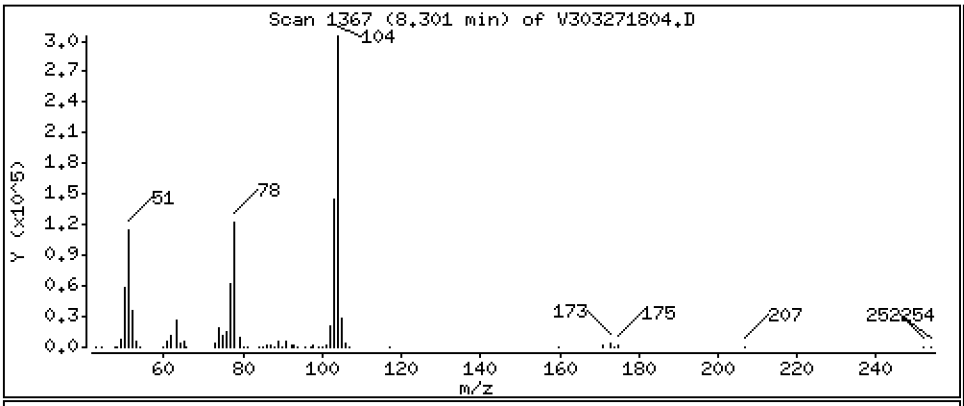
Operator: PKC

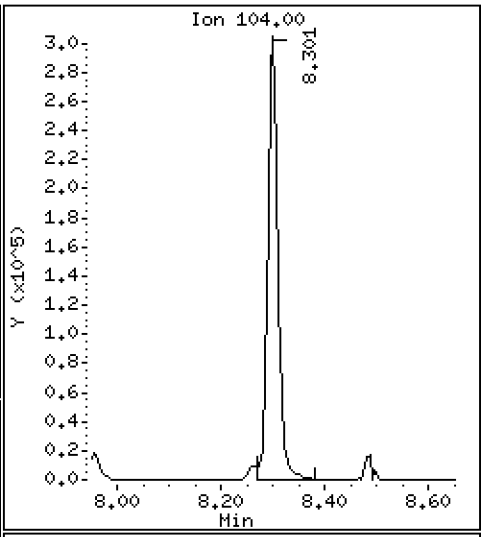
Column phase: RTXVMS

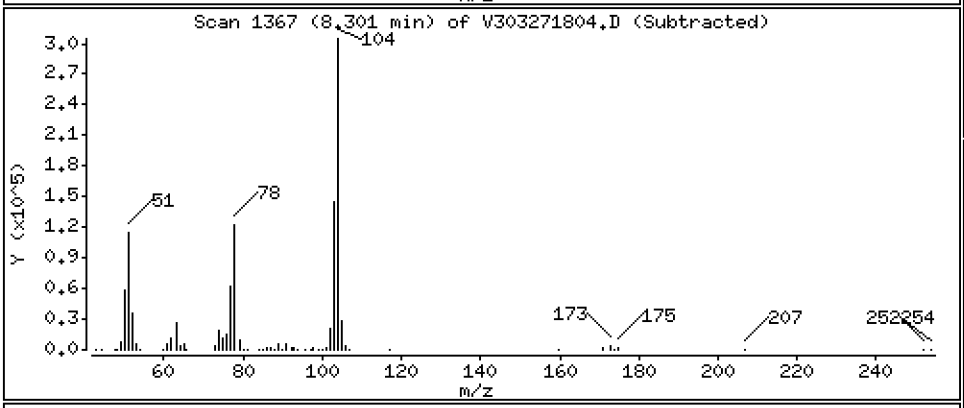
Column diameter: 0.18

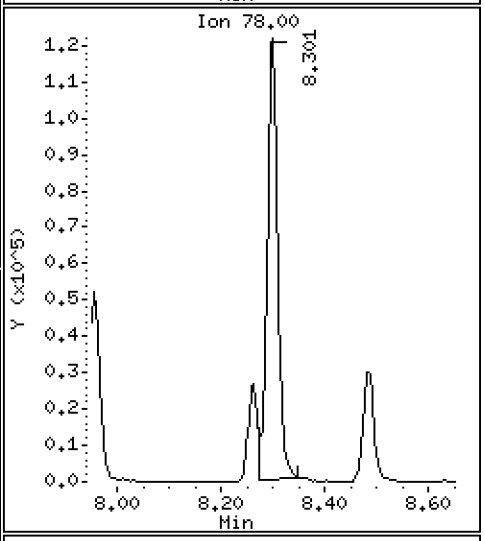
59 Styrene

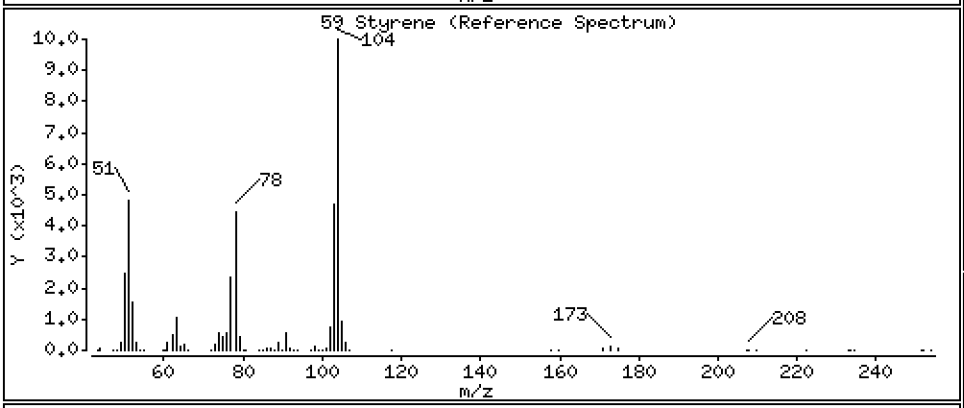
Concentration: 10.007 ug/L

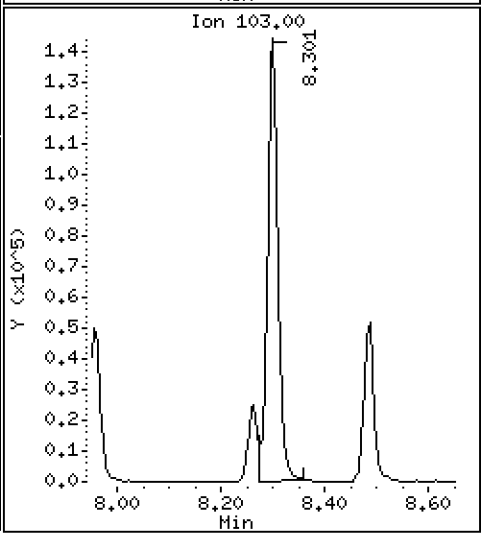


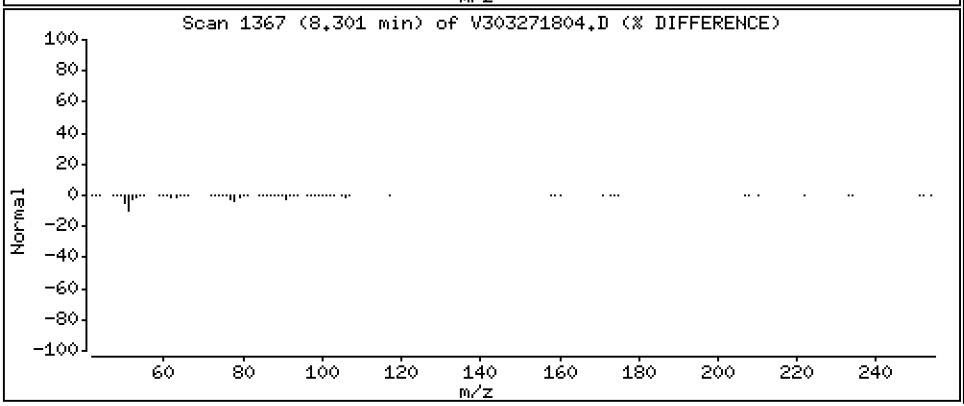












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

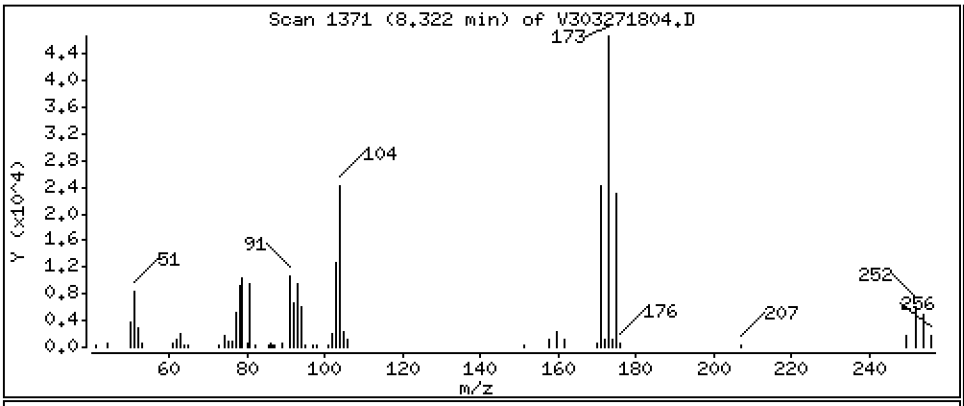
Operator: PKC

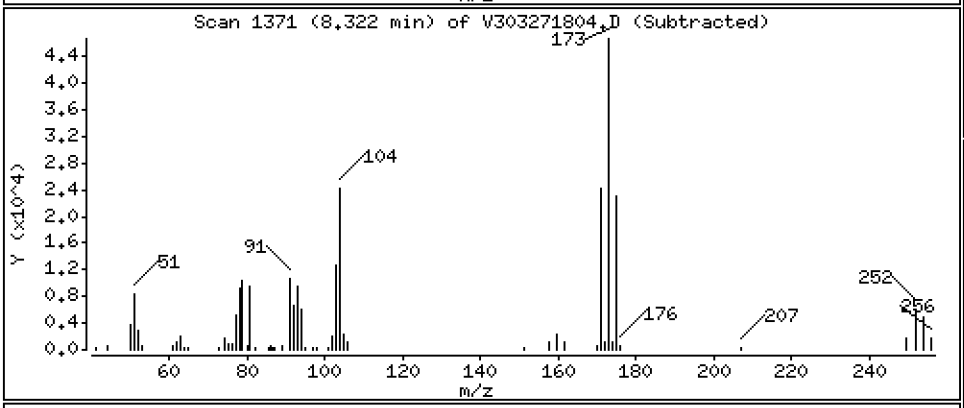
Column phase: RTXVMS

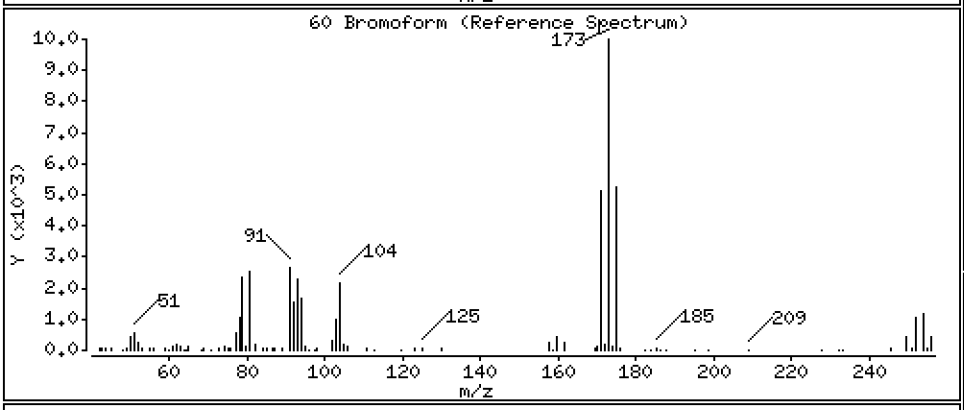
Column diameter: 0.18

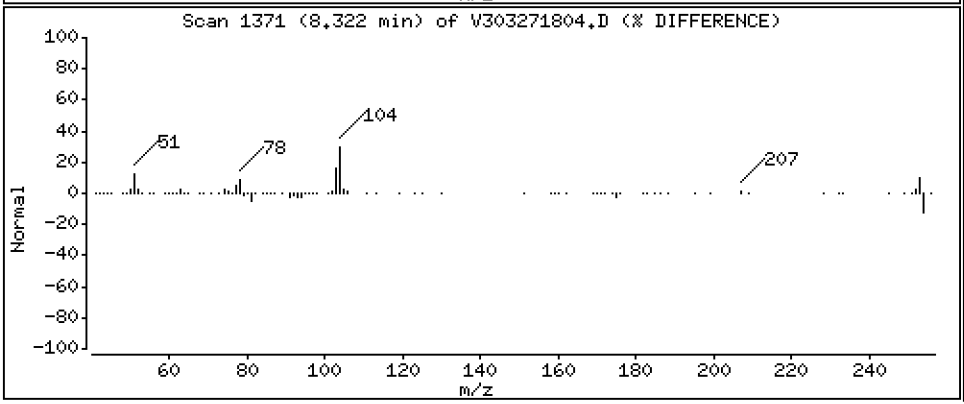
60 Bromoform

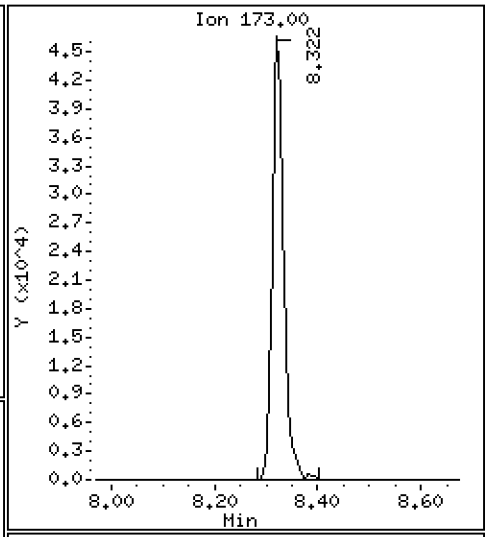
Concentration: 10.310 ug/L

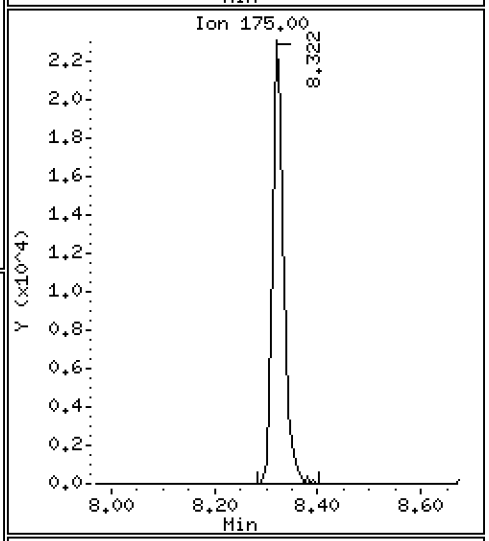


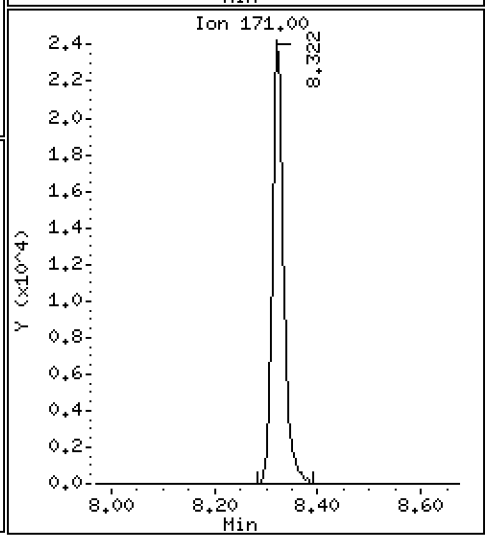












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

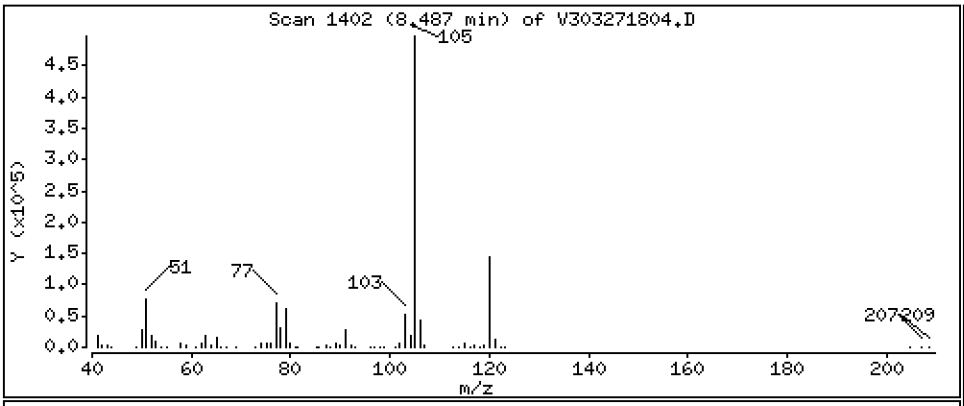
Operator: PKC

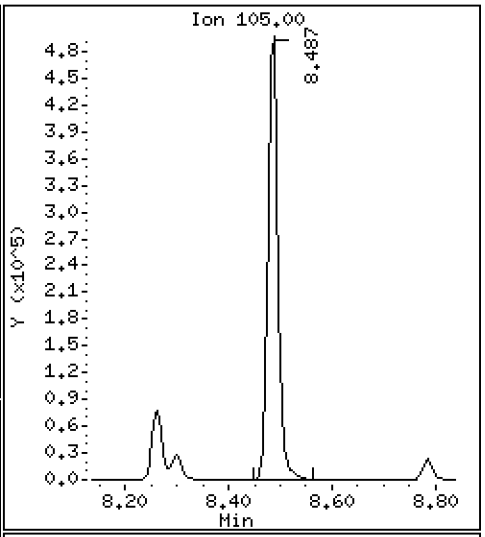
Column phase: RTXVMS

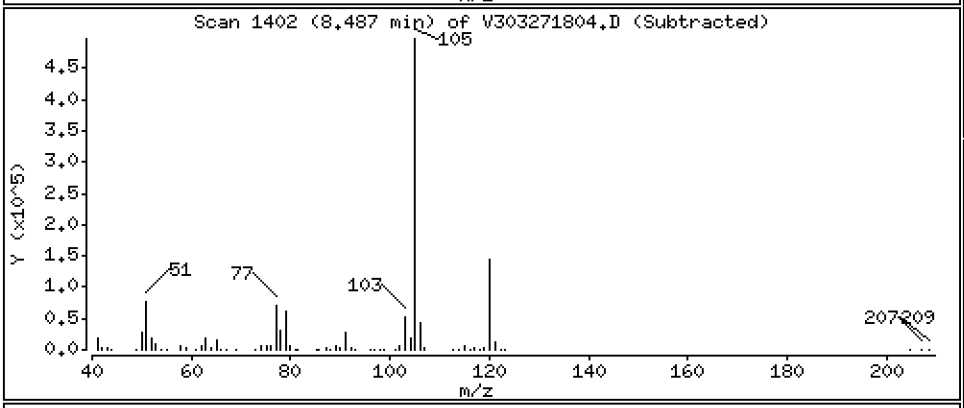
Column diameter: 0.18

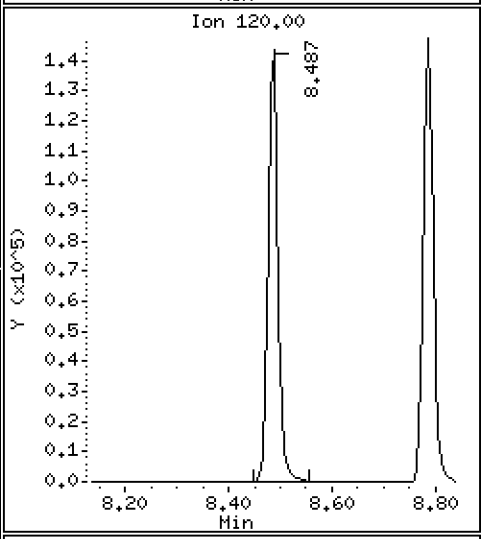
61 Isopropyl Benzene

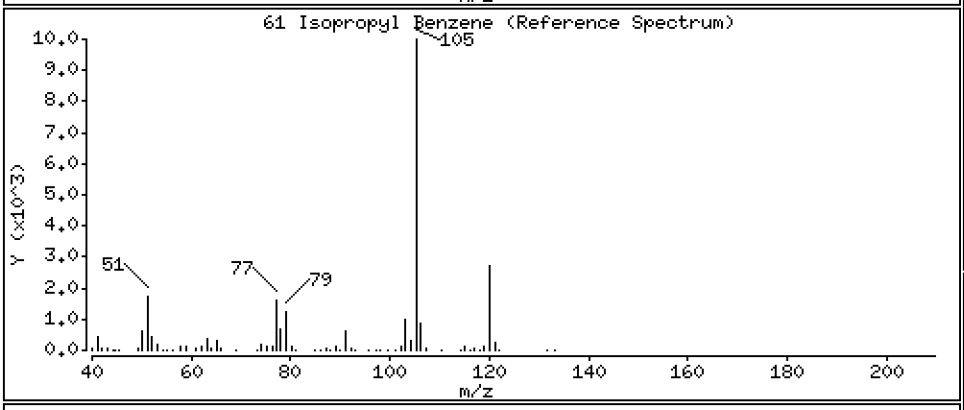
Concentration: 9.000 ug/L

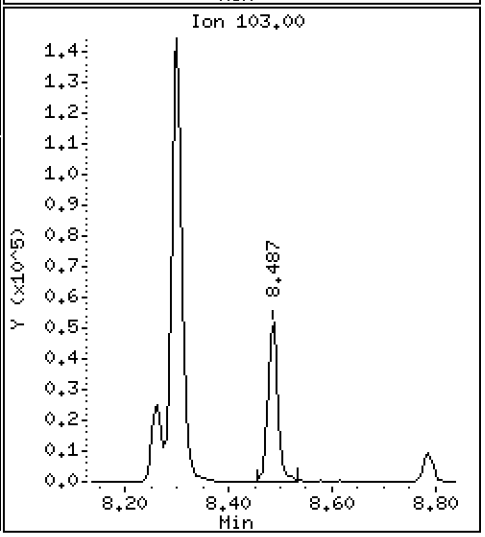


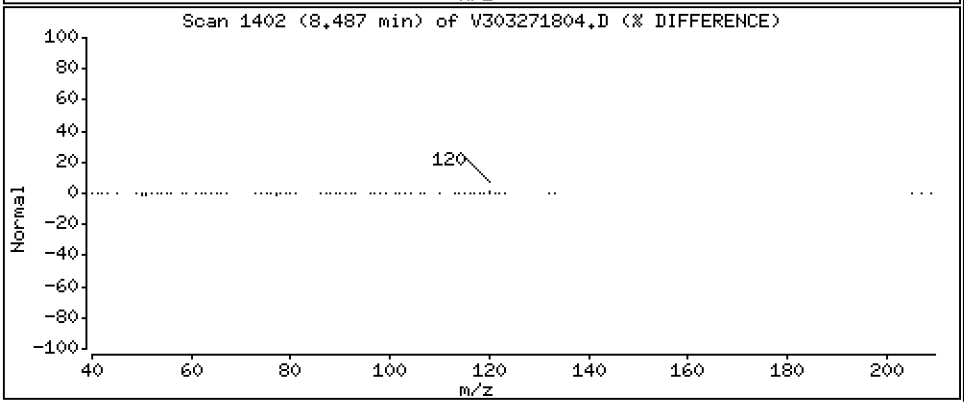












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

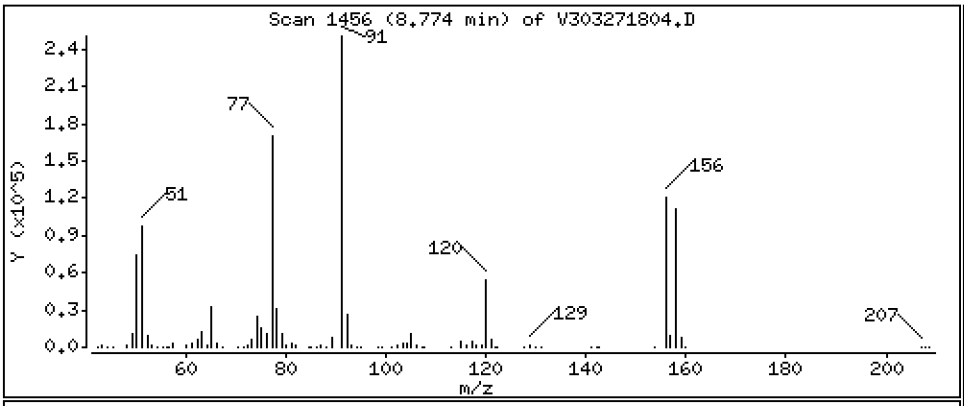
Operator: PKC

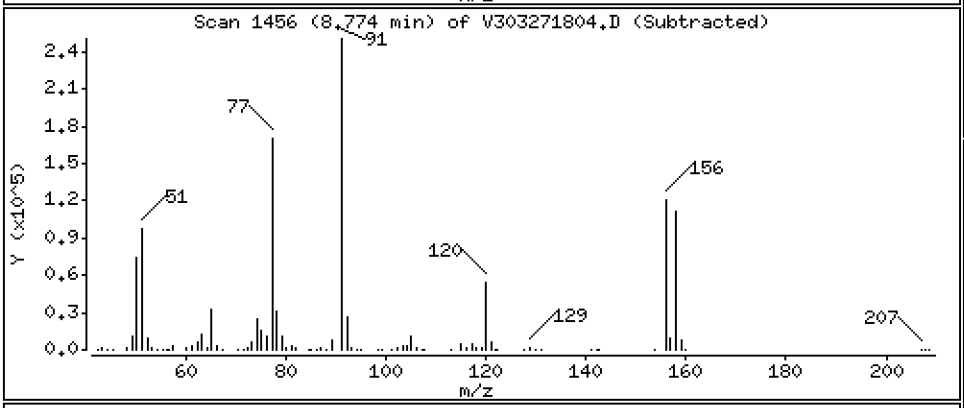
Column phase: RTXVMS

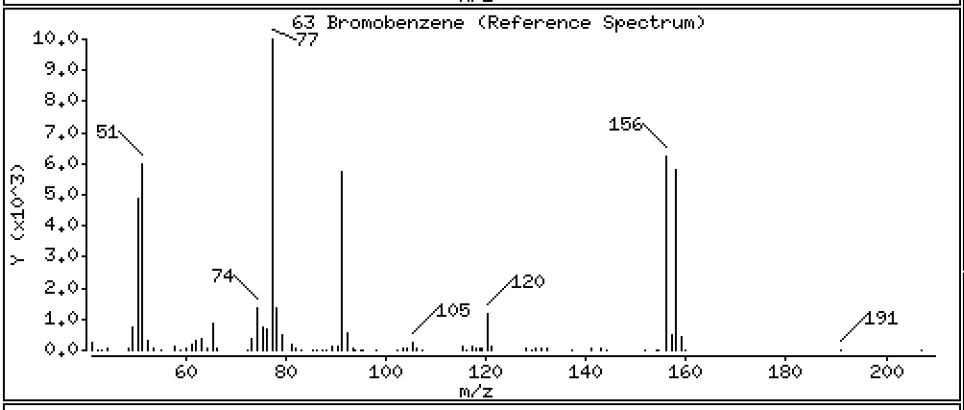
Column diameter: 0.18

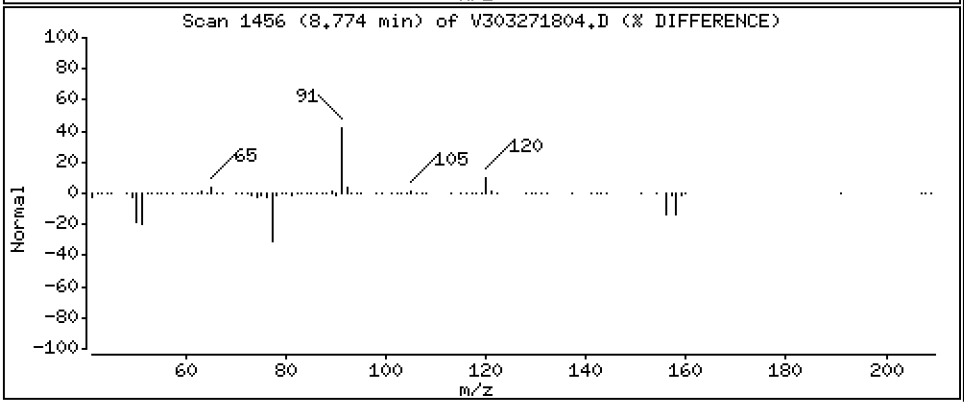
63 Bromobenzene

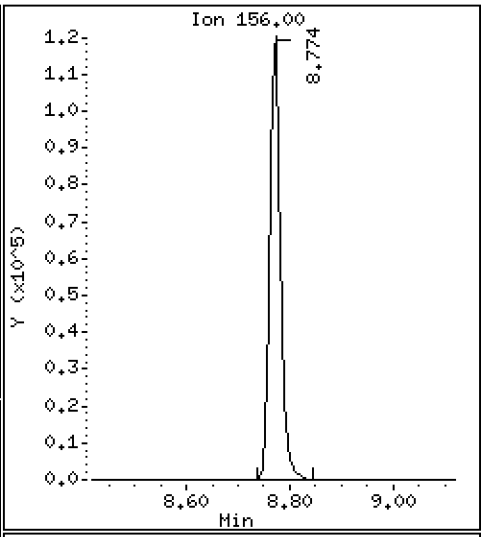
Concentration: 9.324 ug/L

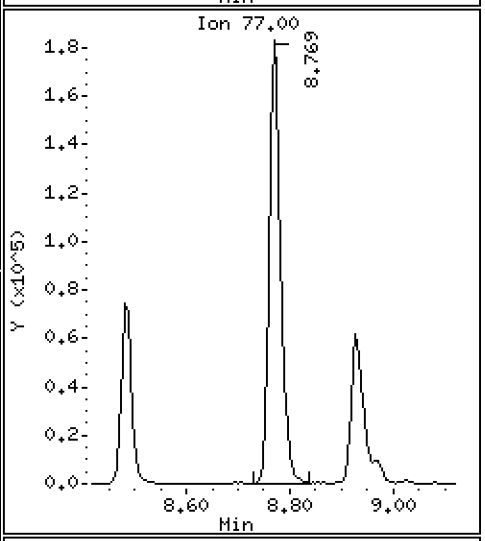


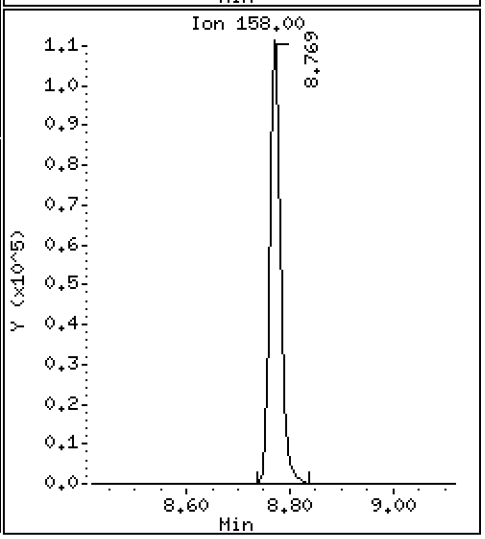












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

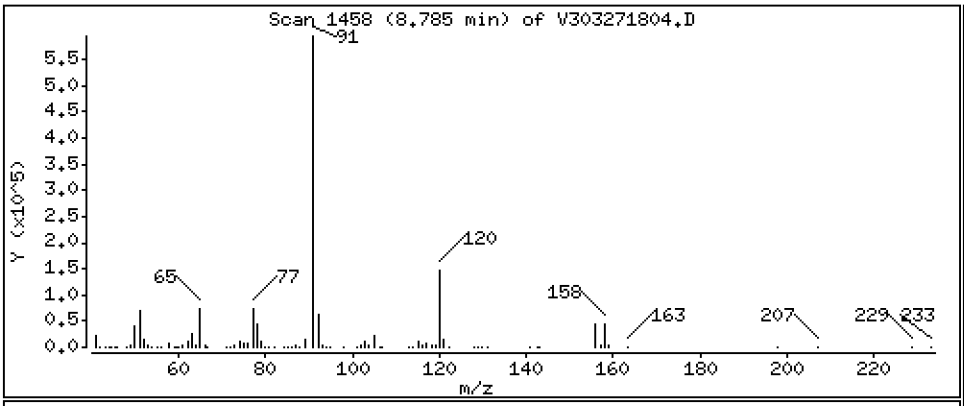
Operator: PKC

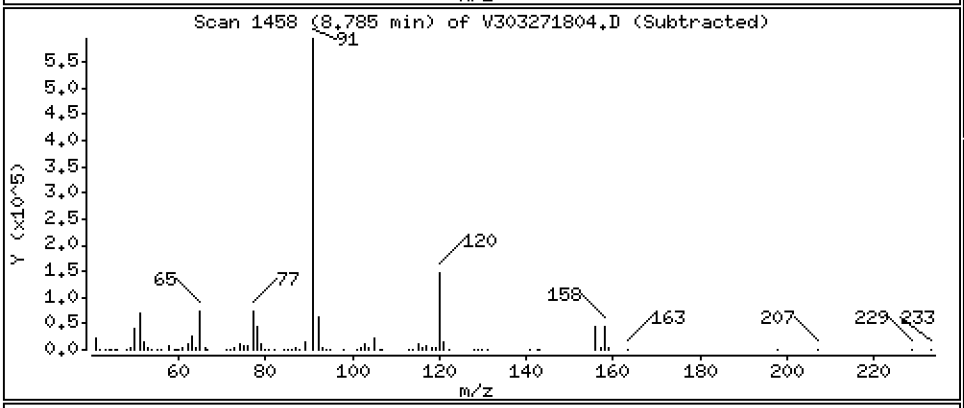
Column phase: RTXVMS

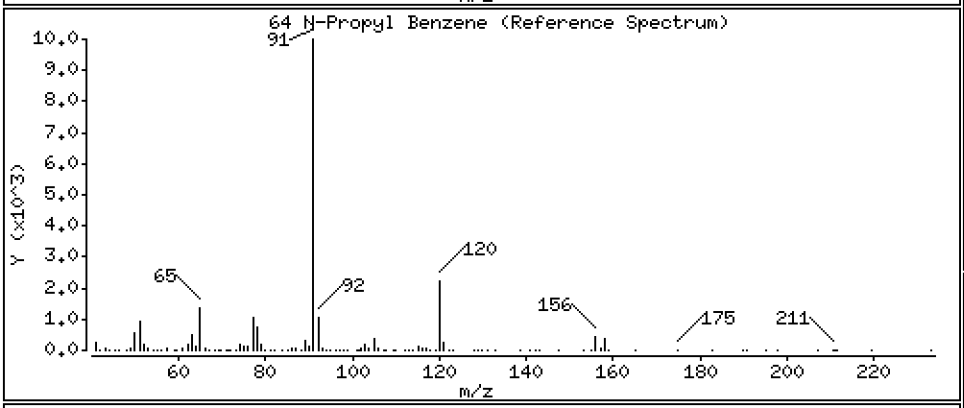
Column diameter: 0.18

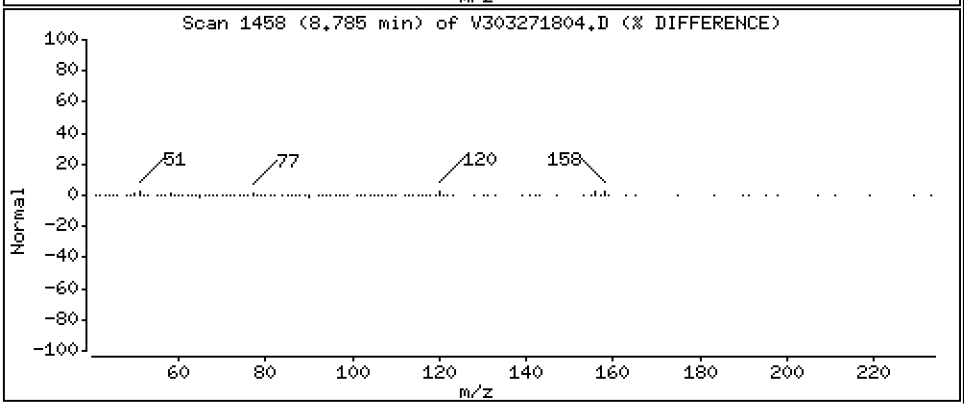
64 N-Propyl Benzene

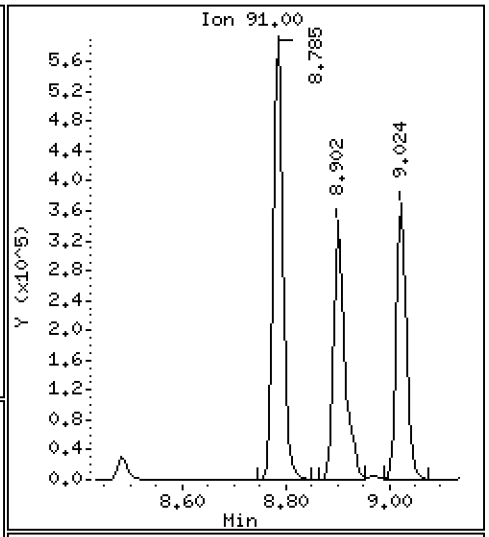
Concentration: 9.149 ug/L

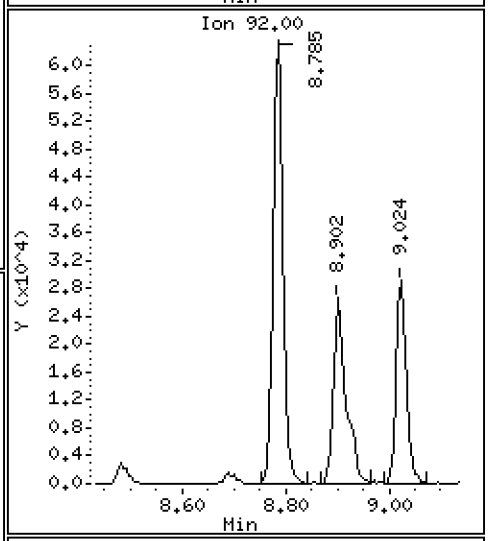


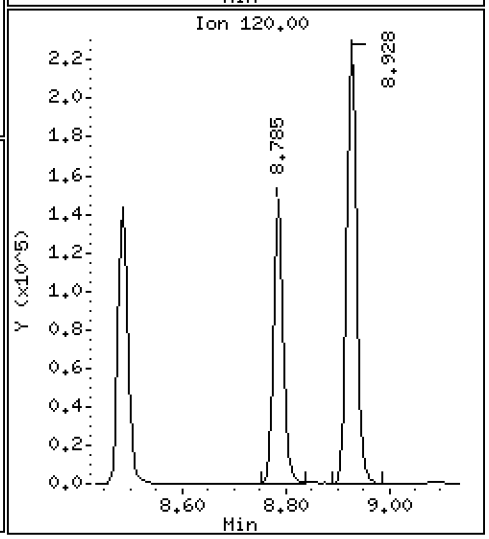












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

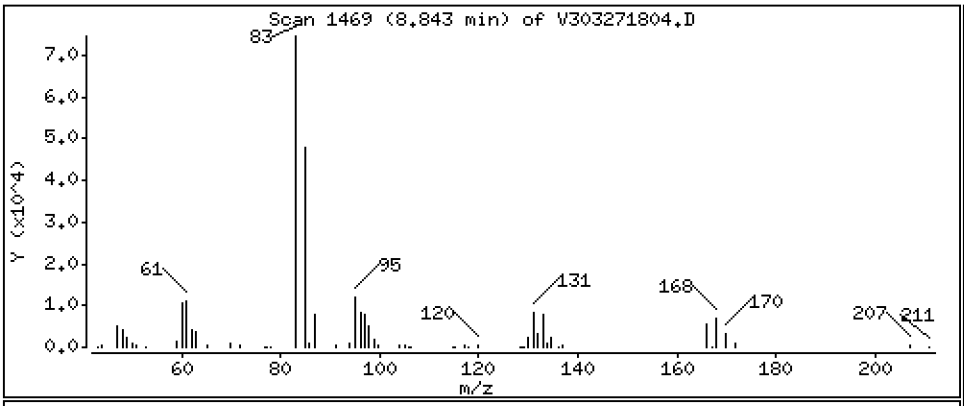
Operator: PKC

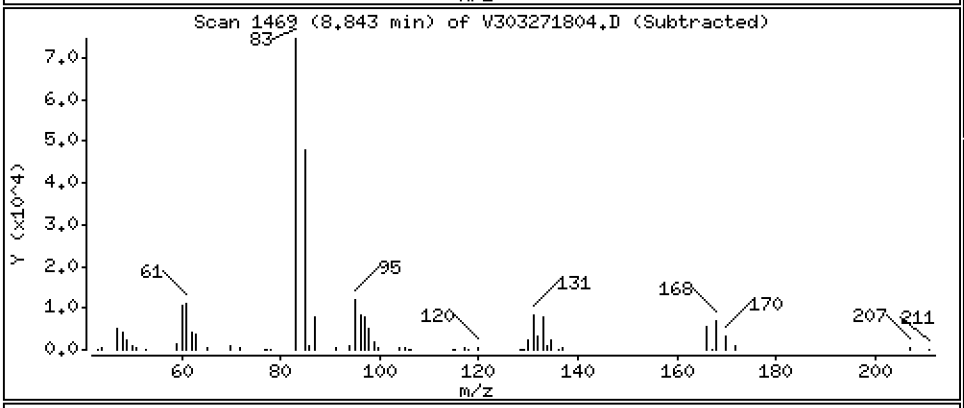
Column phase: RTXVMS

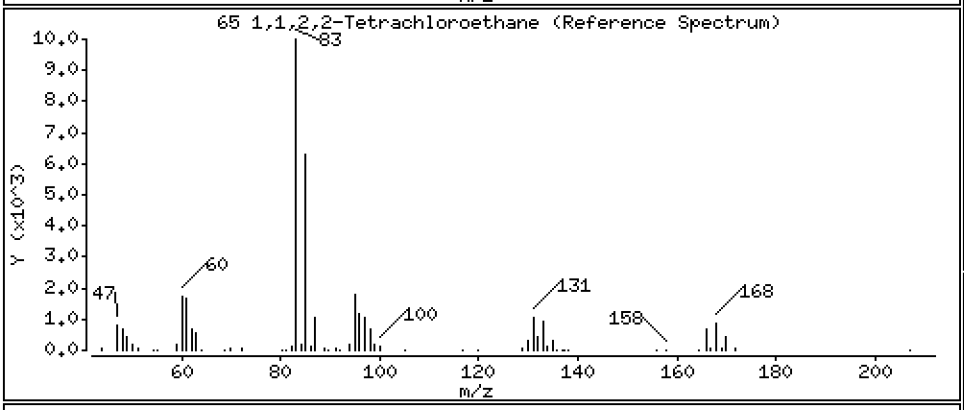
Column diameter: 0.18

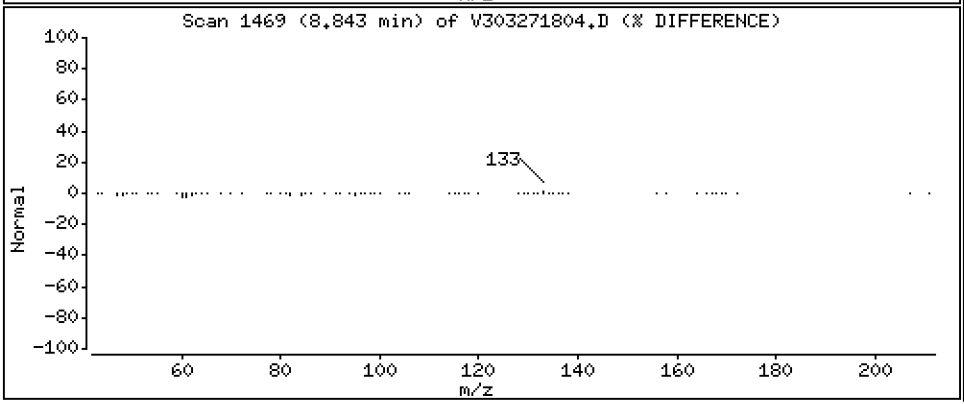
65 1,1,2,2-Tetrachloroethane

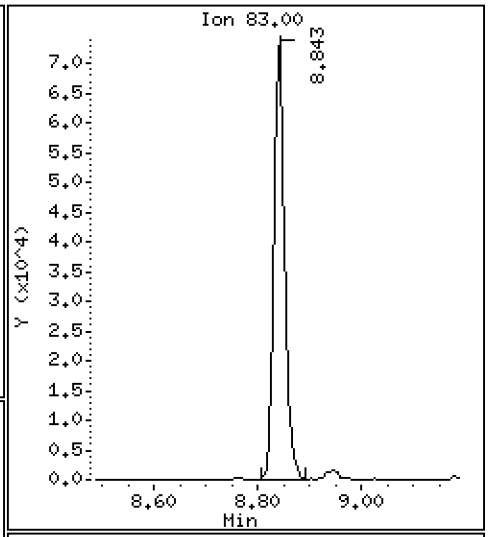
Concentration: 9.737 ug/L

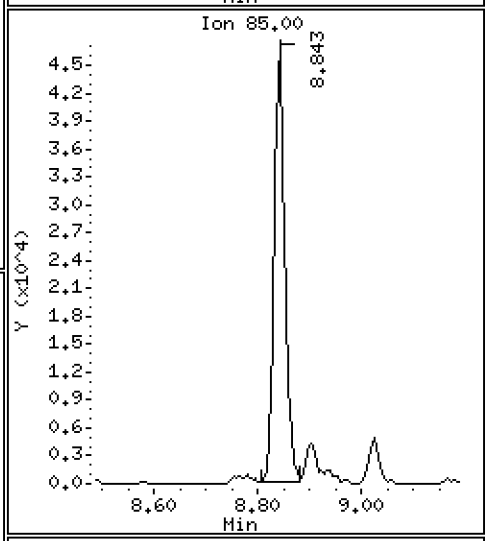


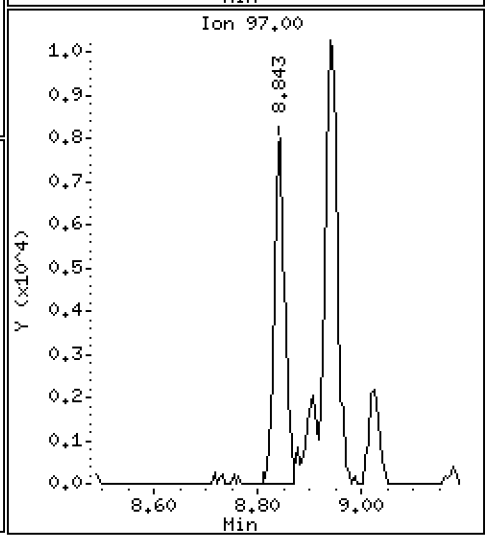












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

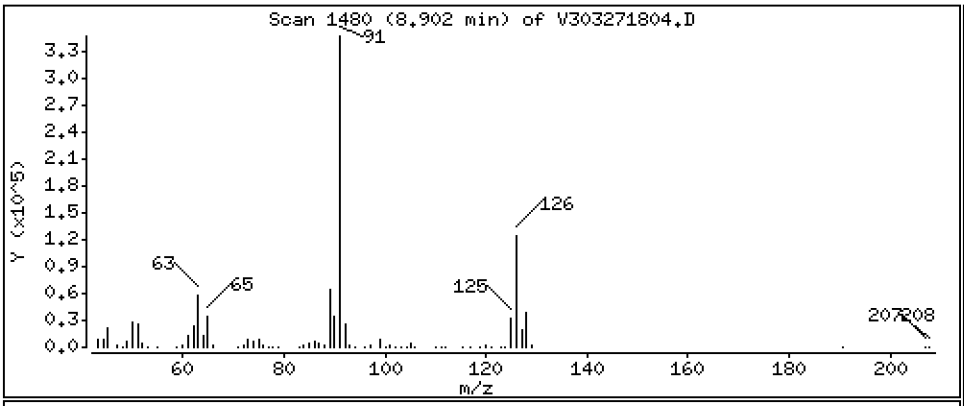
Operator: PKC

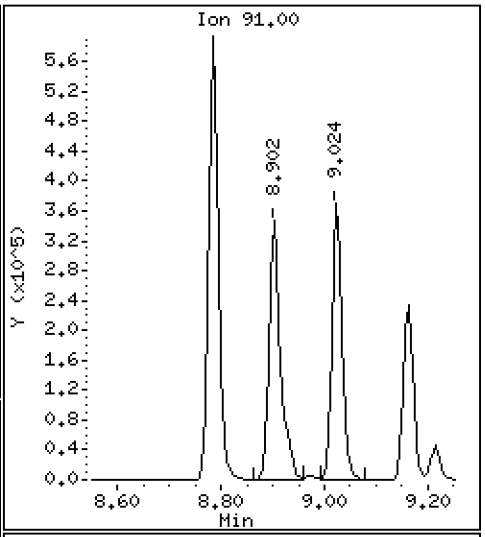
Column phase: RTXVMS

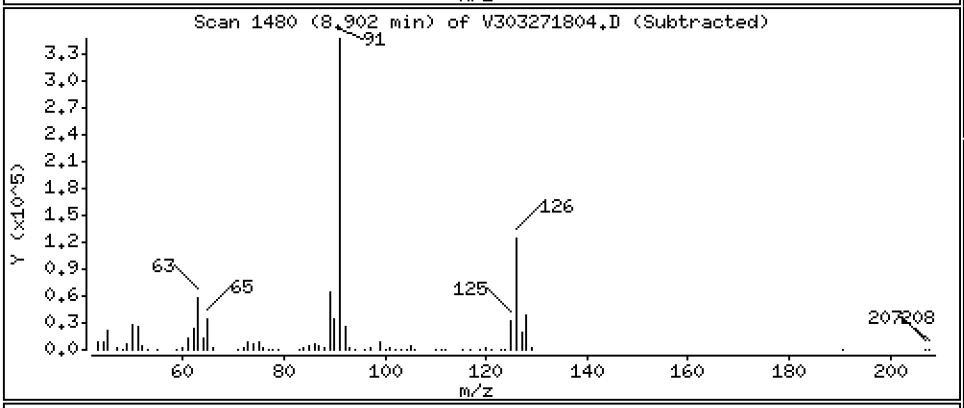
Column diameter: 0.18

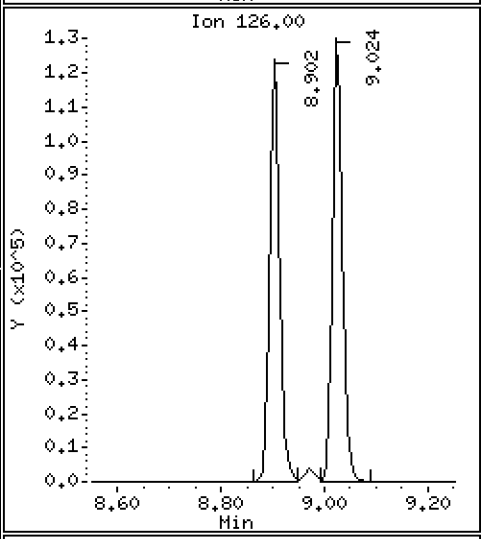
66 2-Chloro Toluene

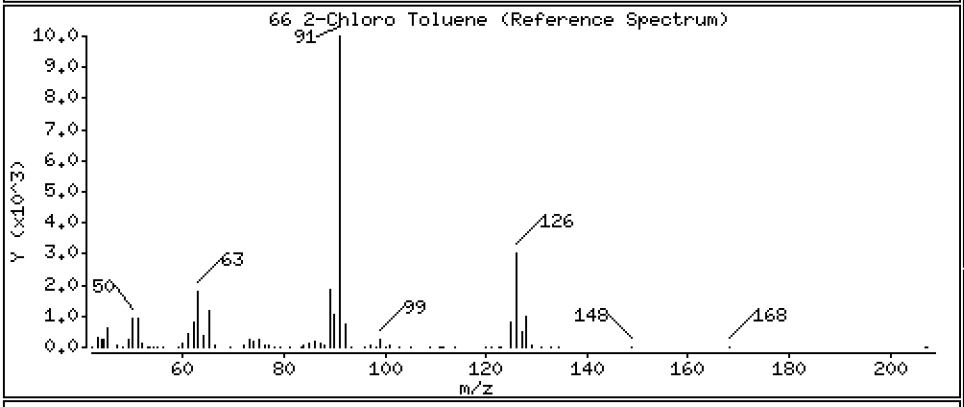
Concentration: 8.958 ug/L

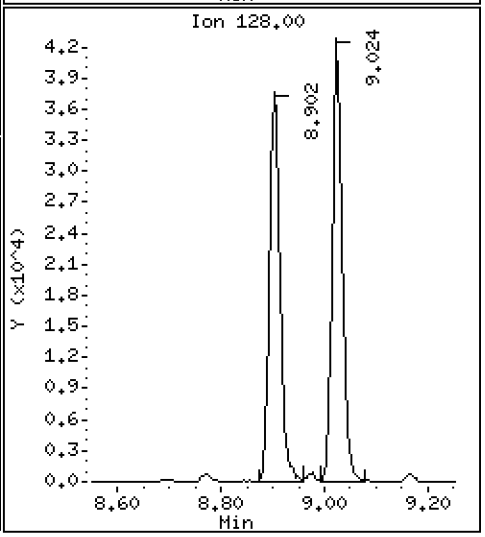


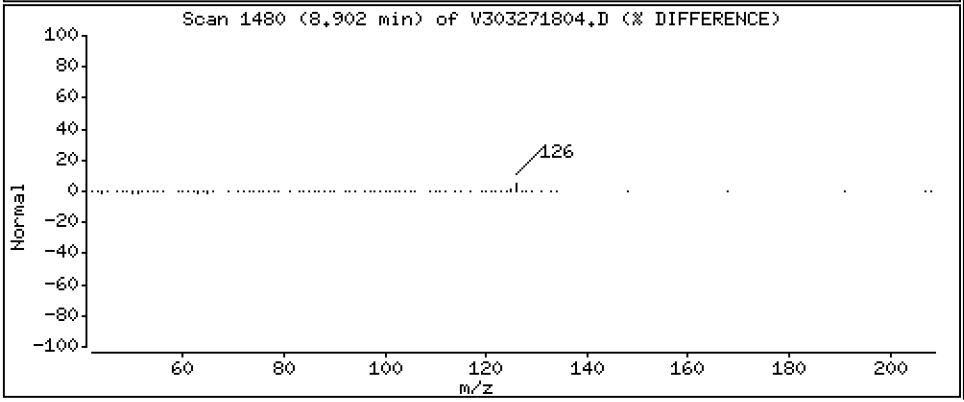












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

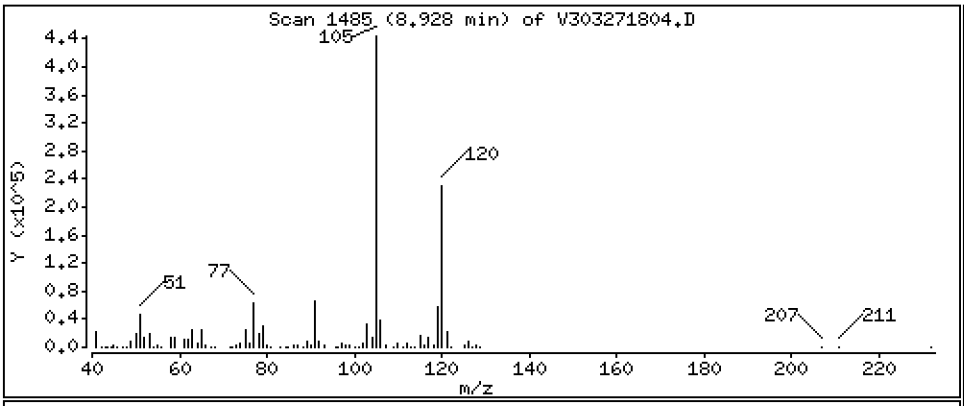
Operator: PKC

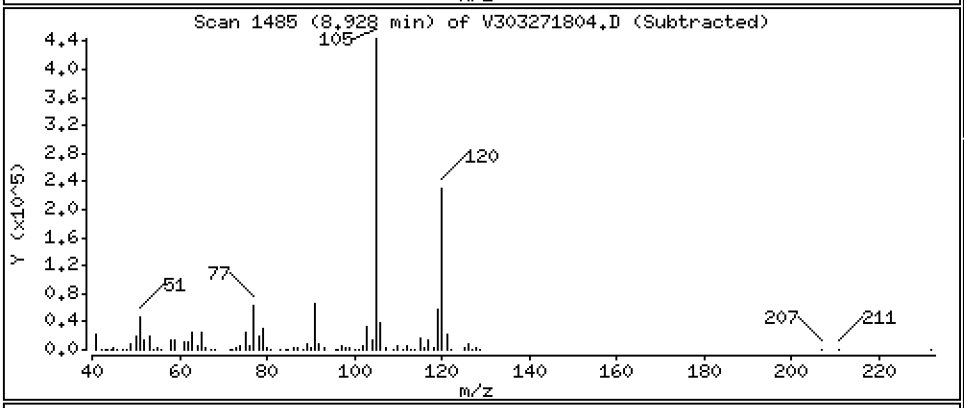
Column phase: RTXVMS

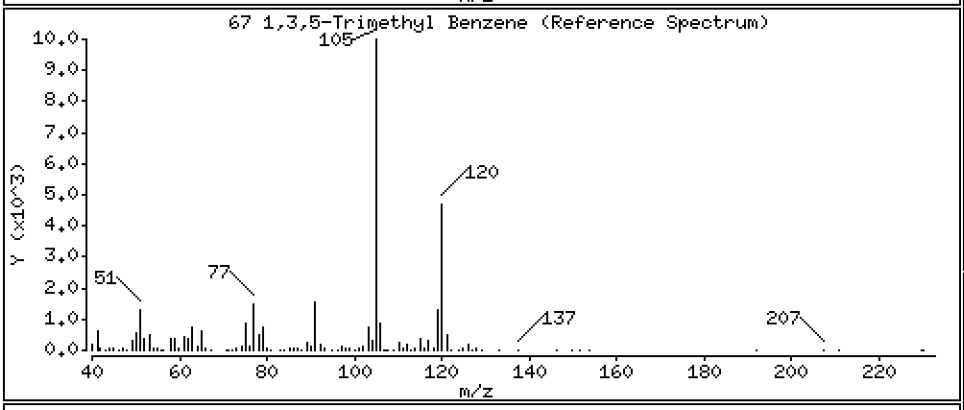
Column diameter: 0.18

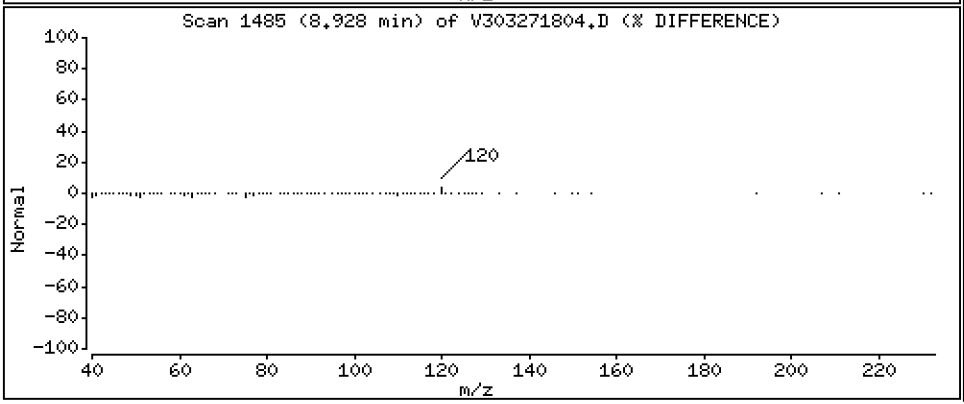
67 1,3,5-Trimethyl Benzene

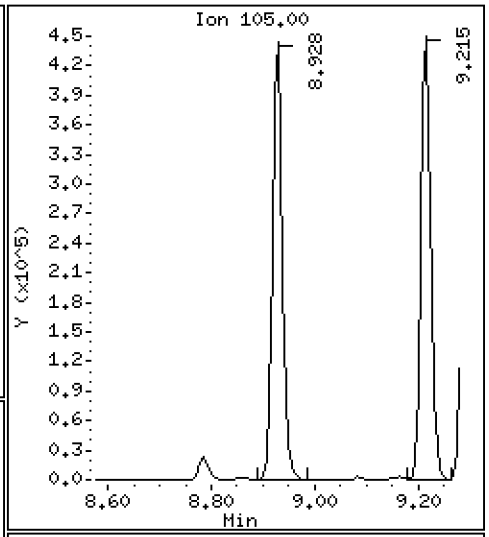
Concentration: 9.102 ug/L

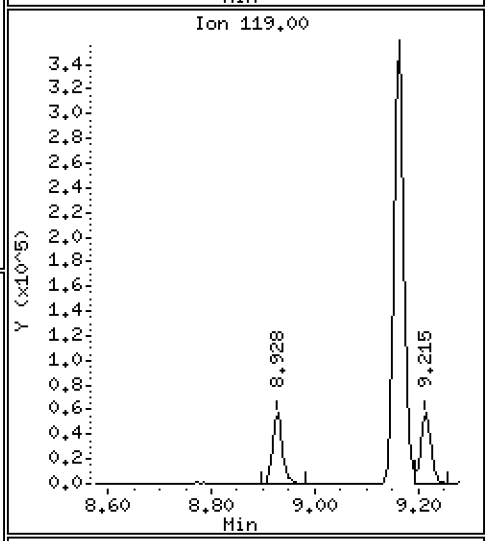


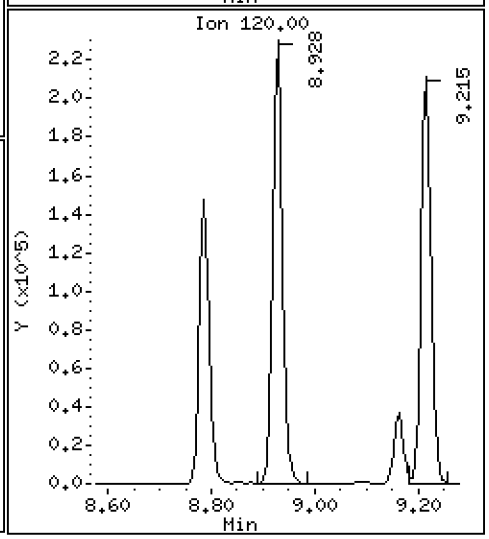












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

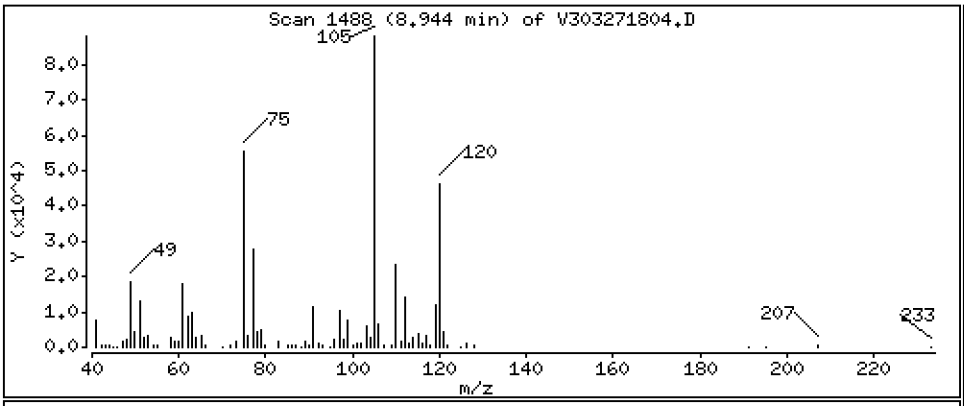
Operator: PKC

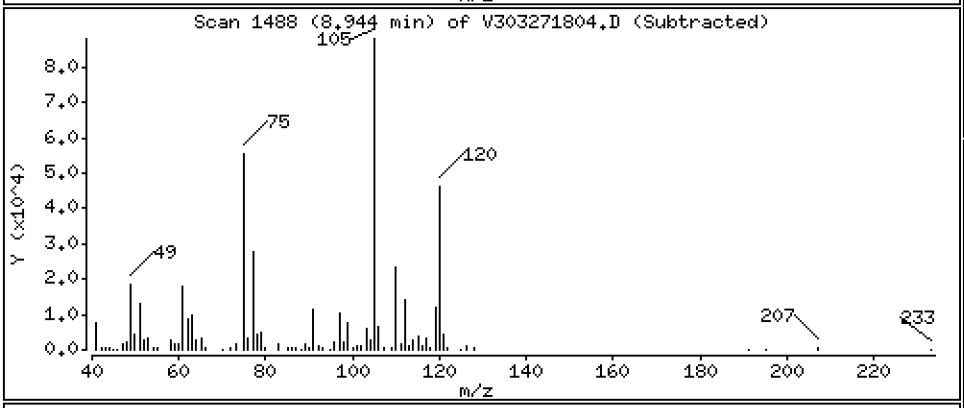
Column phase: RTXVMS

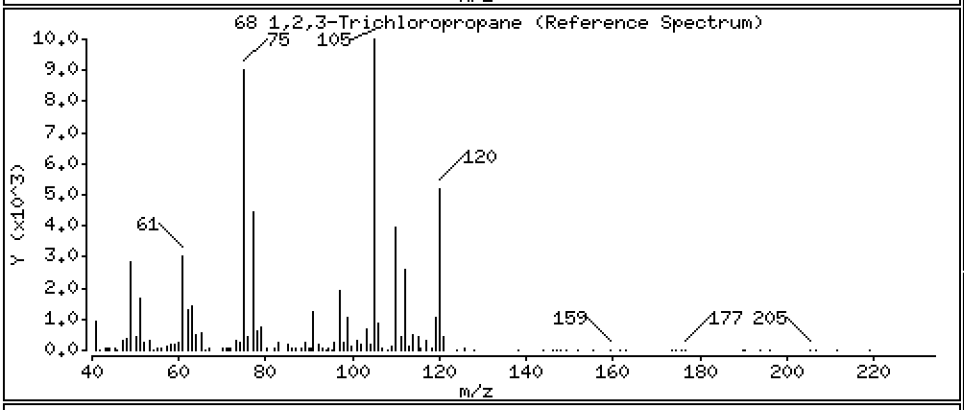
Column diameter: 0.18

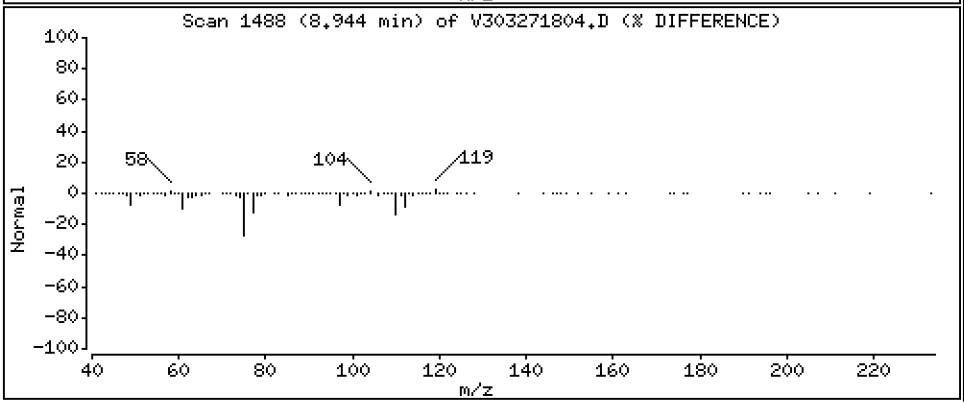
68 1,2,3-Trichloropropane

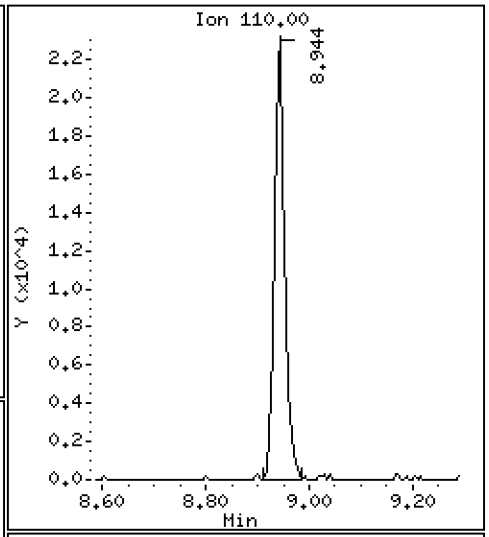
Concentration: 9.272 ug/L

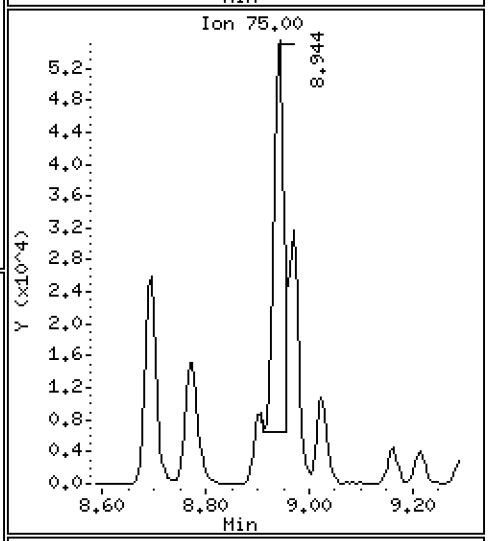


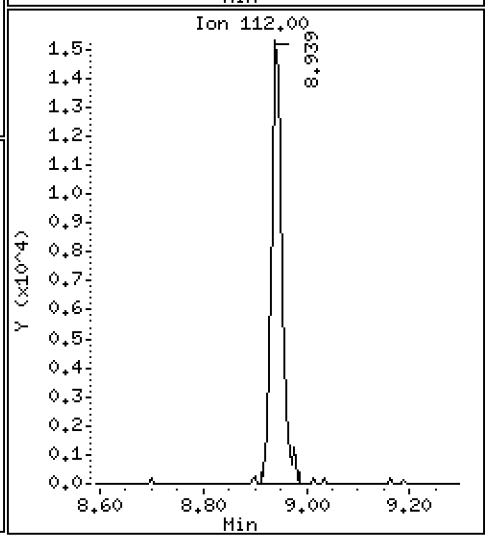












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

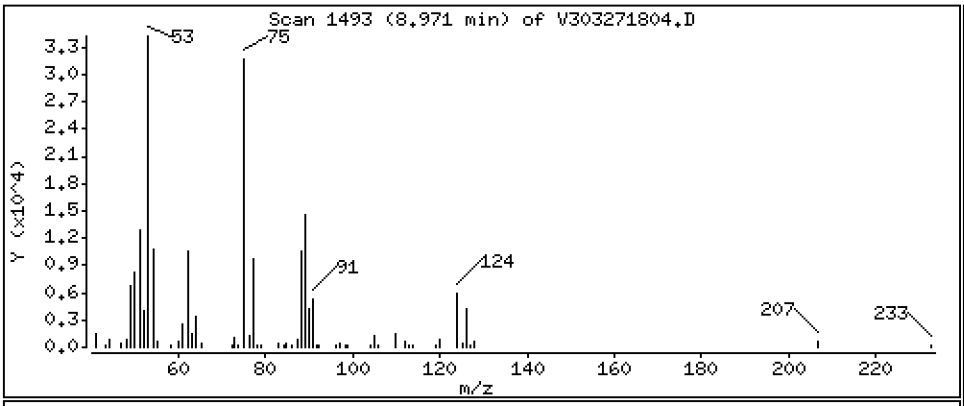
Operator: PKC

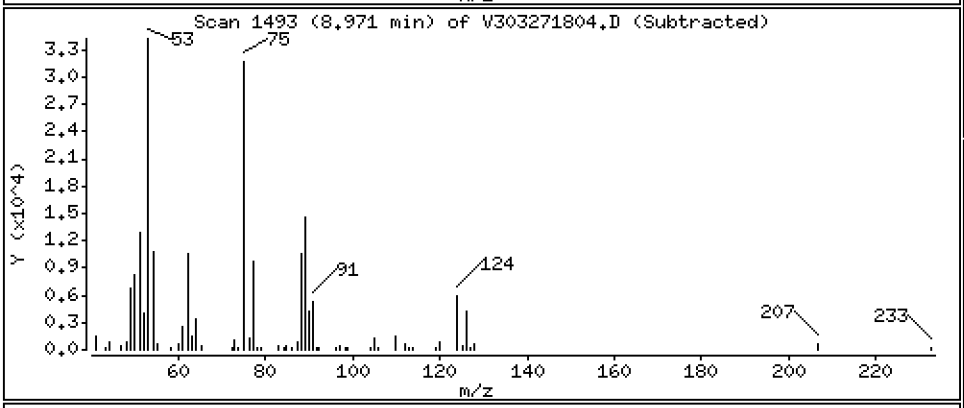
Column phase: RTXVMS

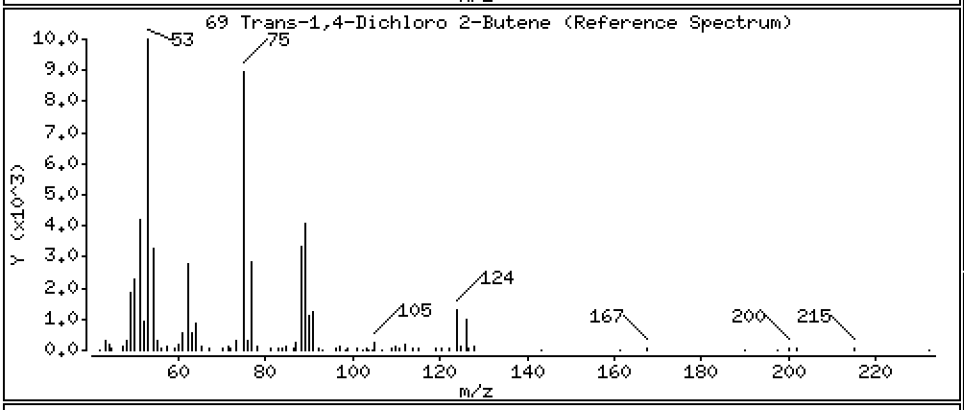
Column diameter: 0.18

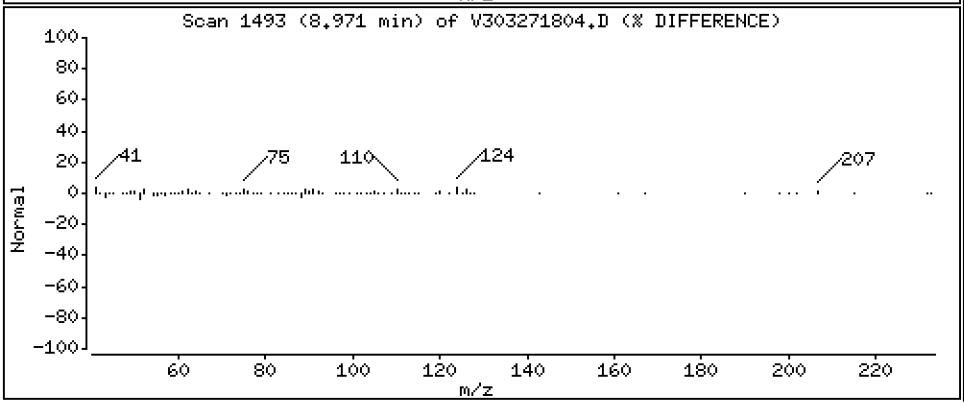
69 Trans-1,4-Dichloro 2-Butene

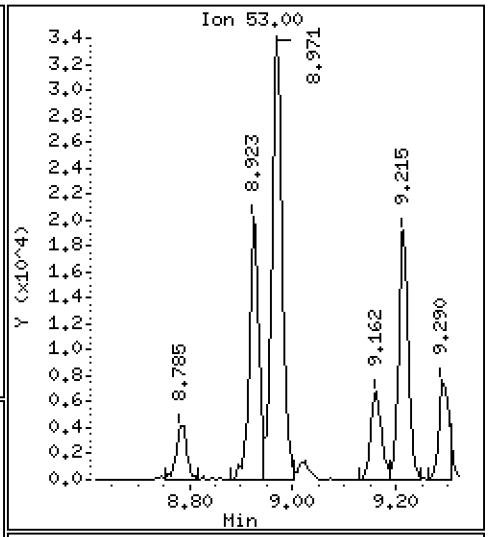
Concentration: 9.004 ug/L

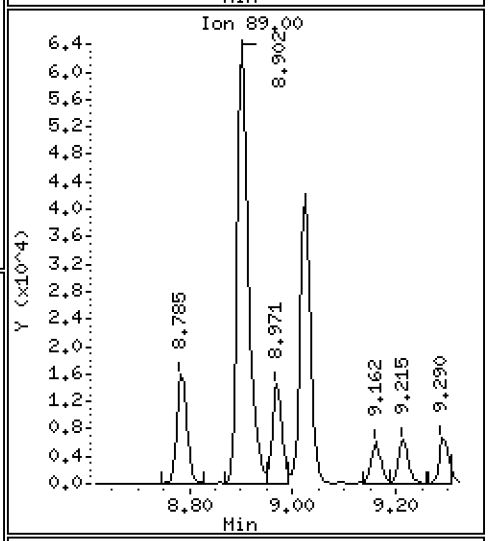


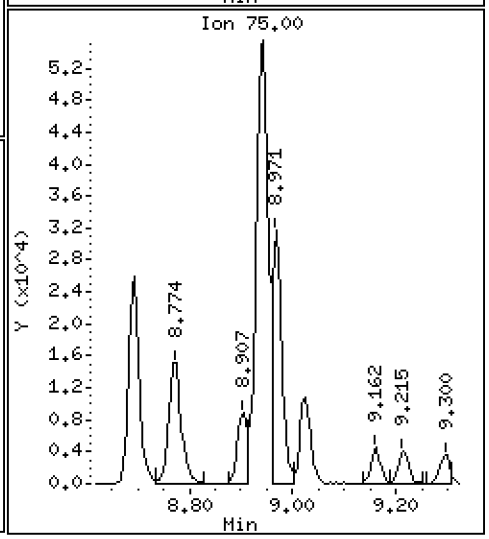












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

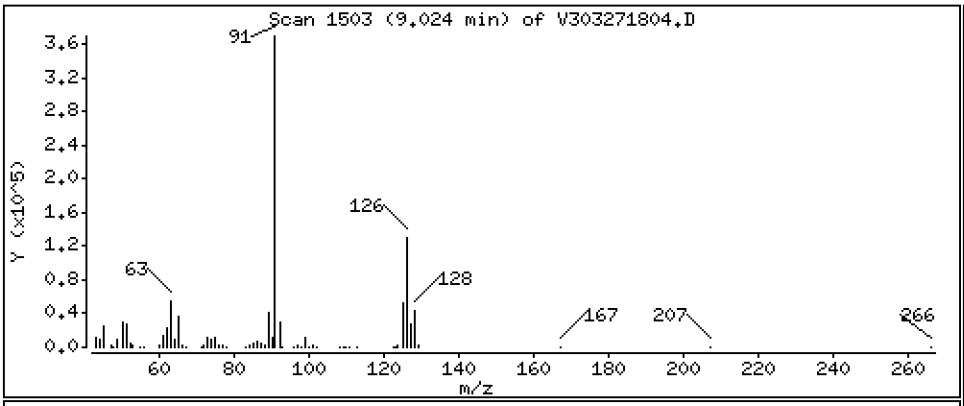
Operator: PKC

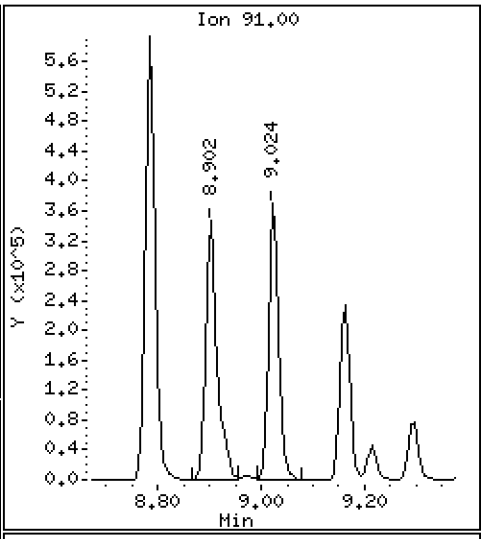
Column phase: RTXVMS

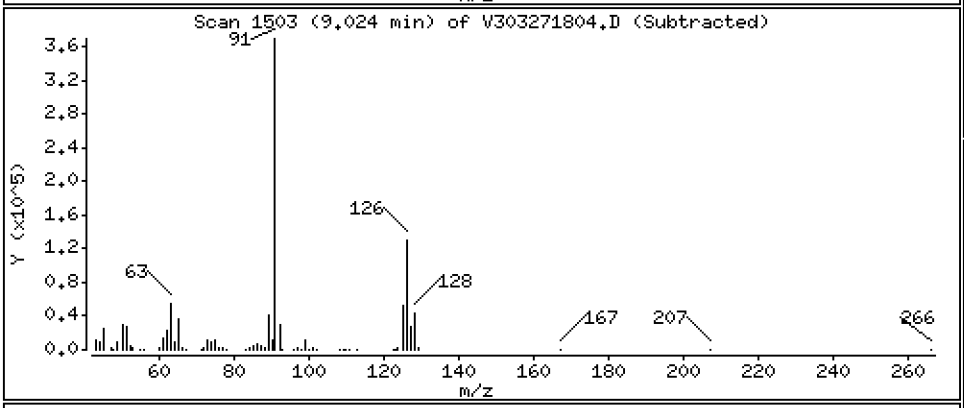
Column diameter: 0.18

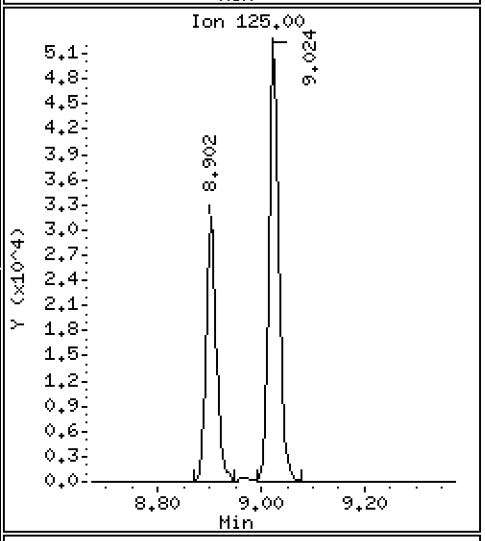
70 4-Chloro Toluene

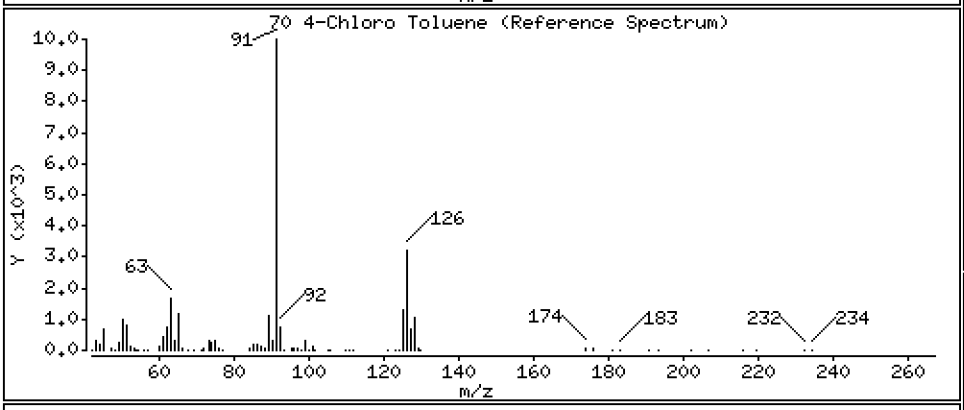
Concentration: 8.802 ug/L

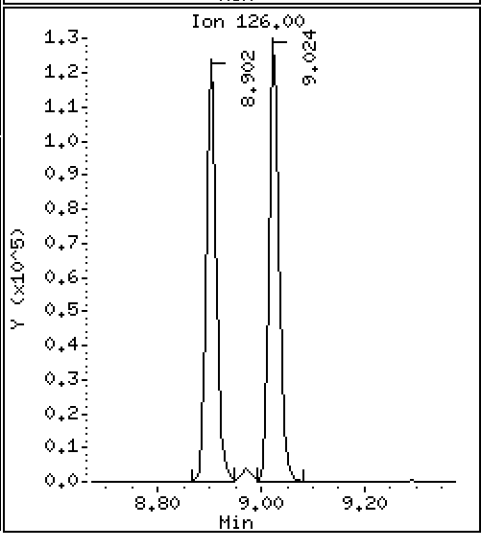


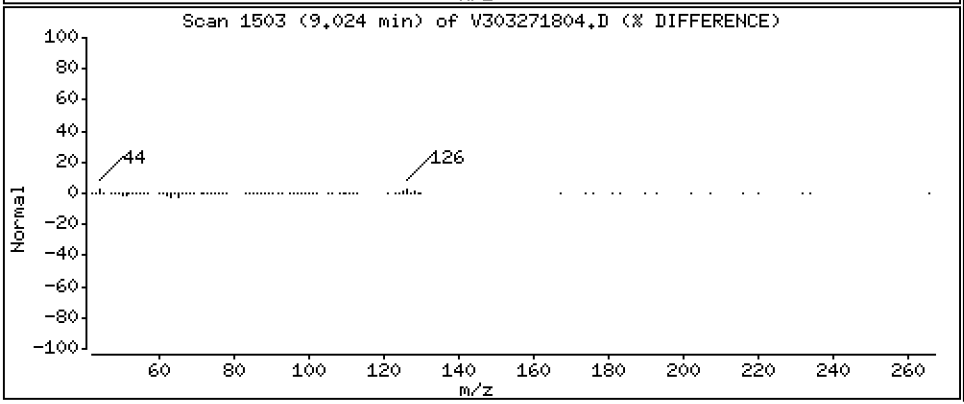












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

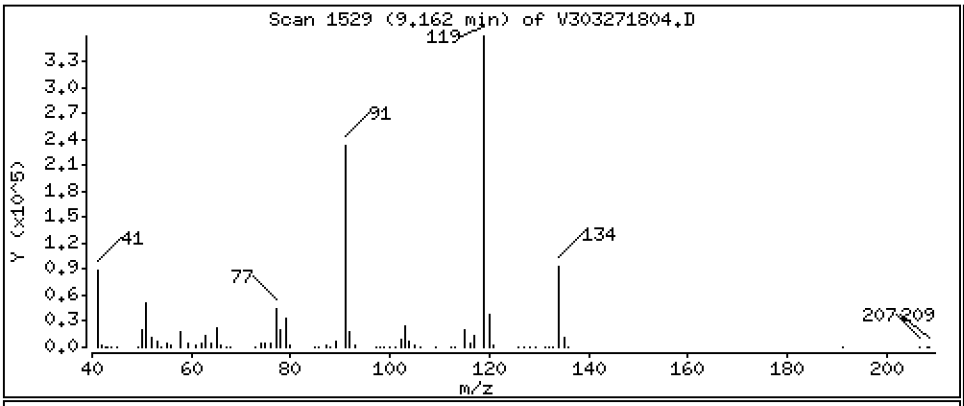
Operator: PKC

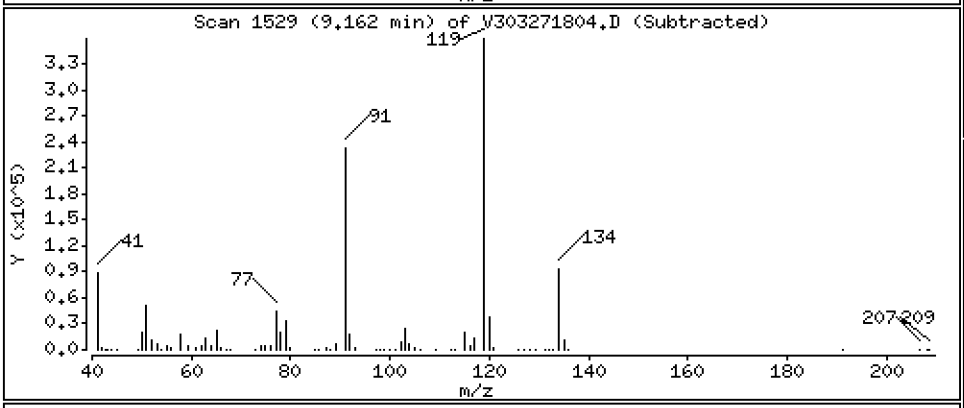
Column phase: RTXVMS

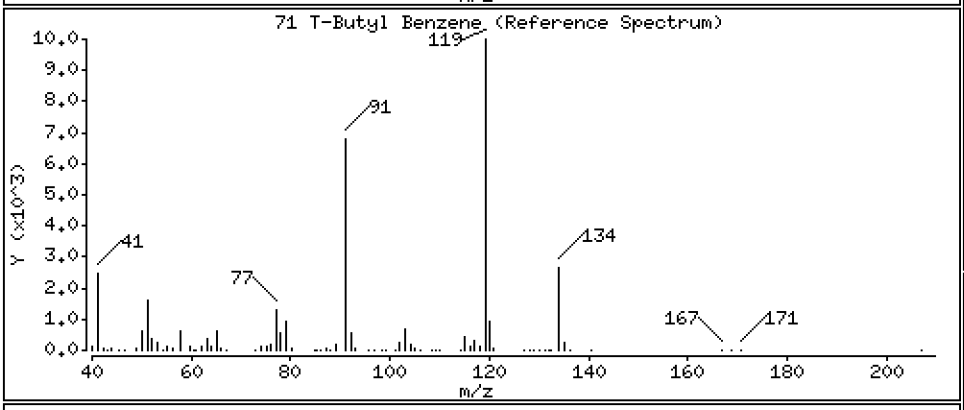
Column diameter: 0.18

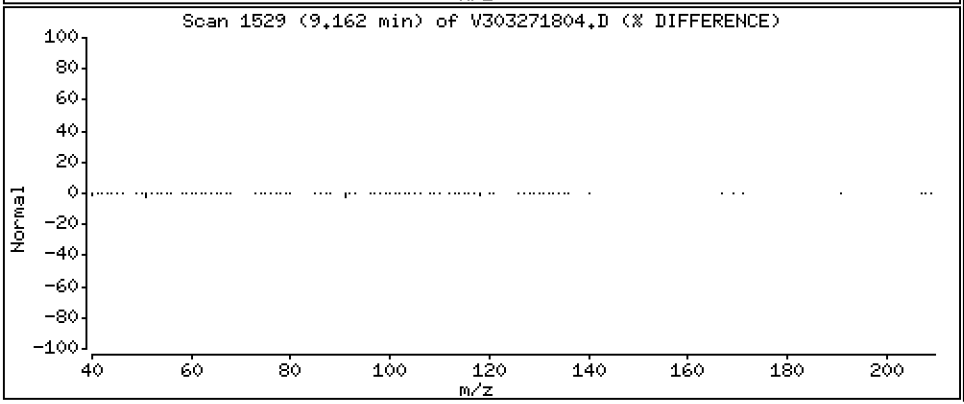
71 T-Butyl Benzene

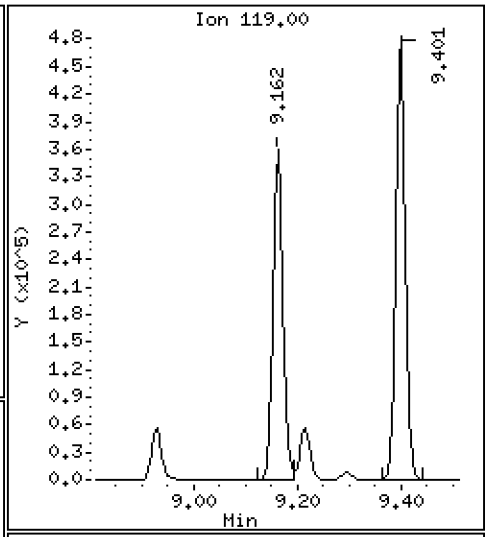
Concentration: 8.905 ug/L

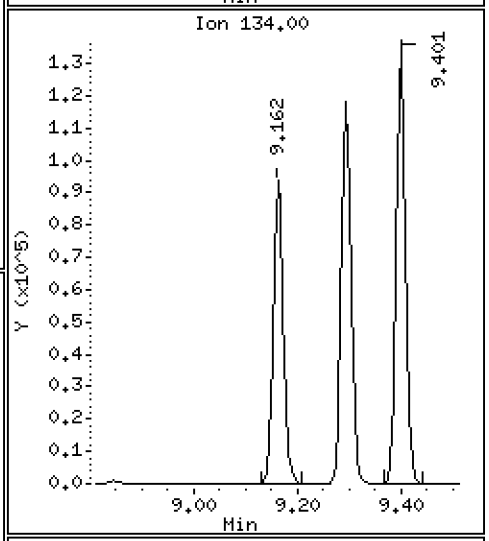


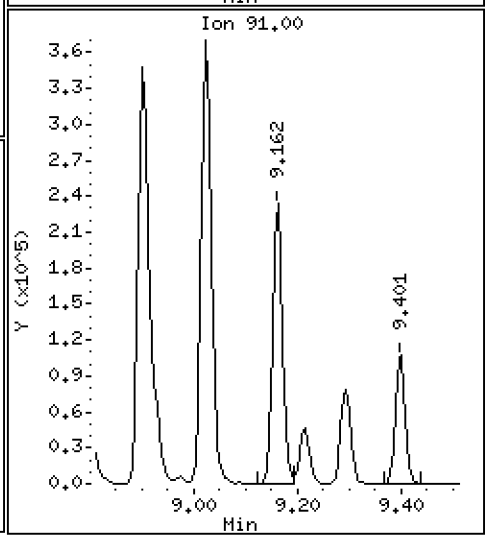












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

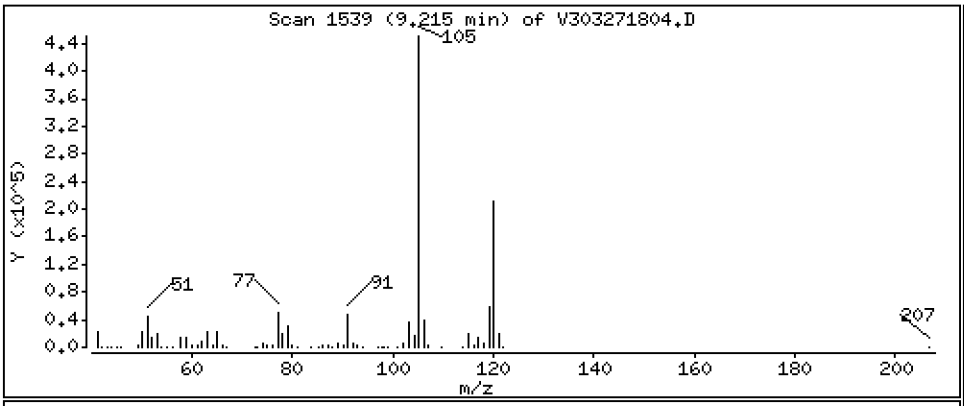
Operator: PKC

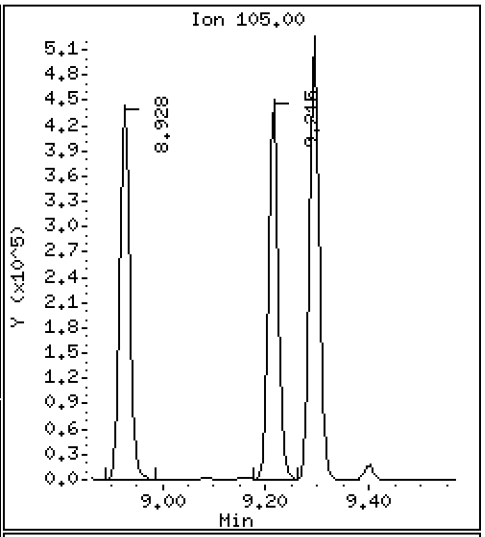
Column phase: RTXVMS

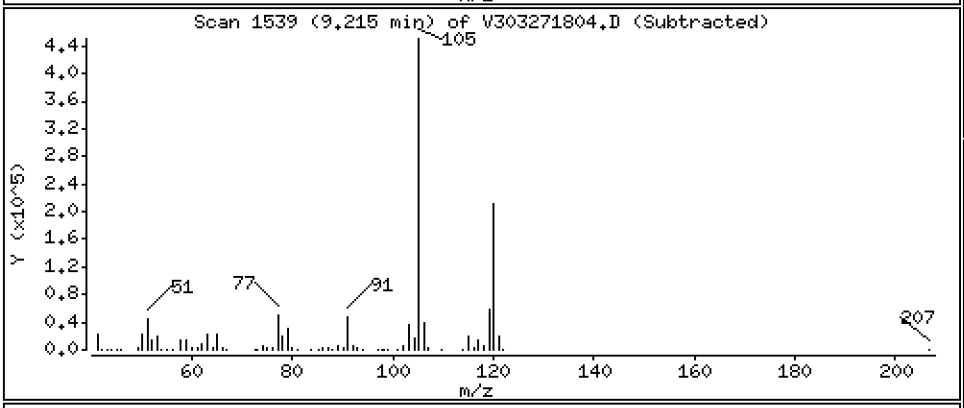
Column diameter: 0.18

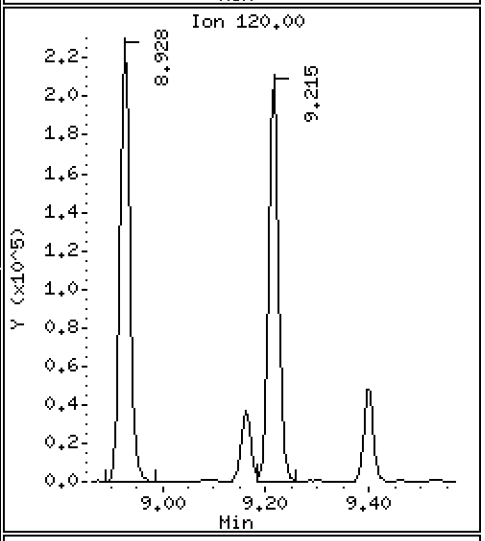
72 1,2,4-Trimethylbenzene

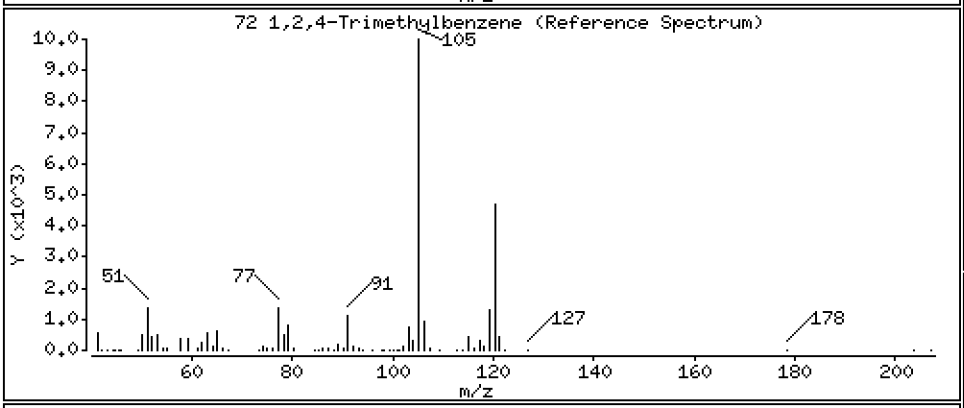
Concentration: 9.036 ug/L

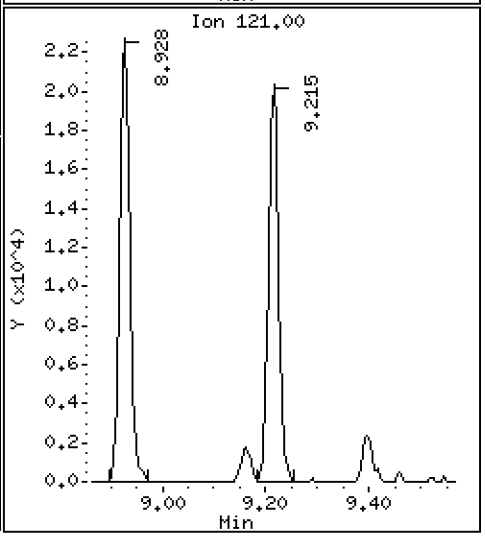


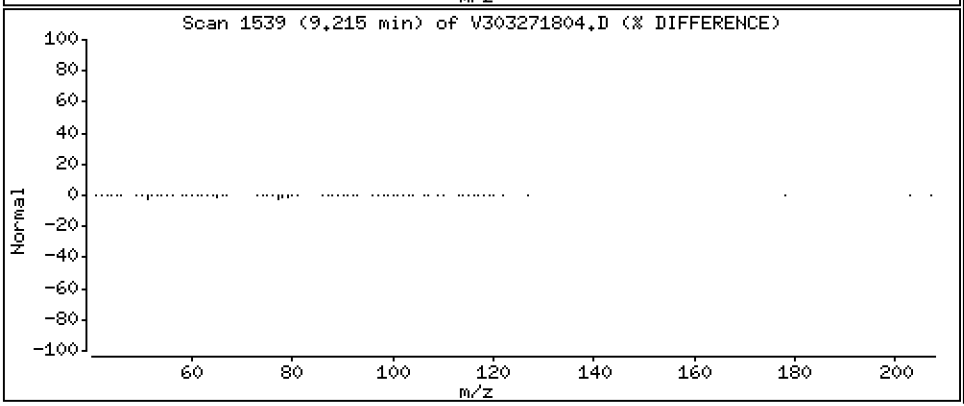












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

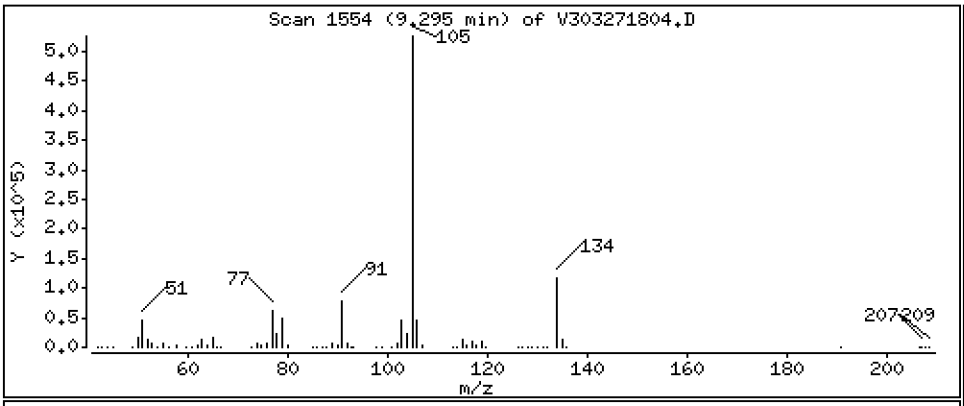
Operator: PKC

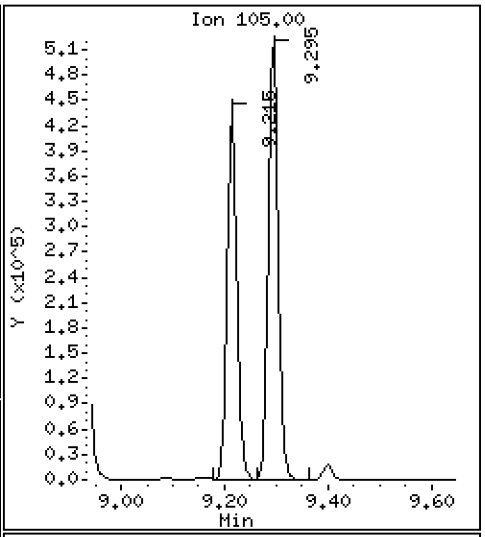
Column phase: RTXVMS

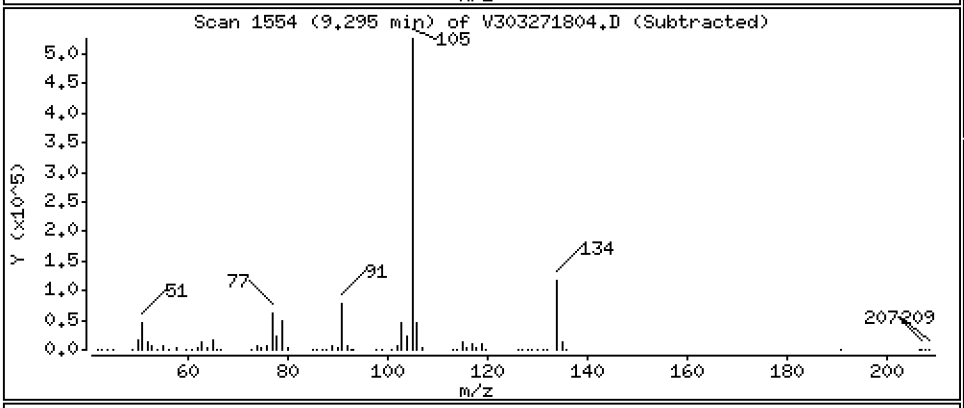
Column diameter: 0.18

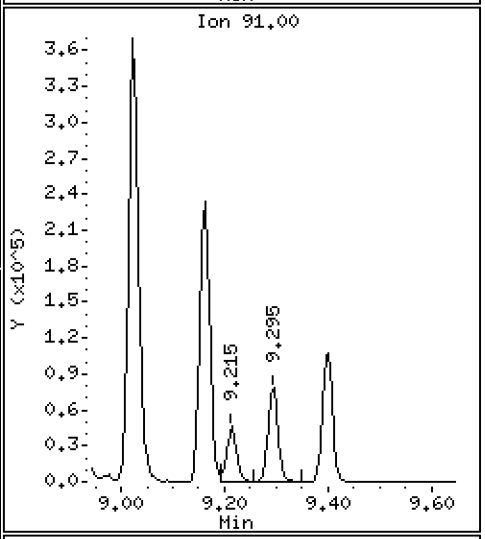
73 S-Butyl Benzene

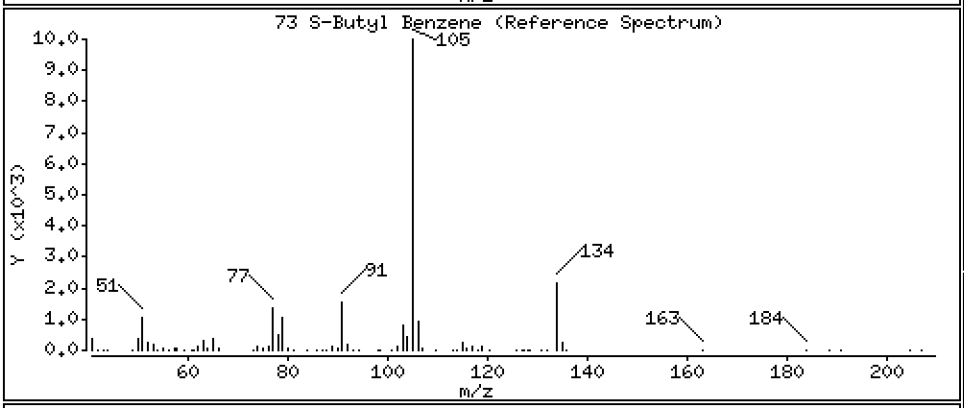
Concentration: 9.125 ug/L

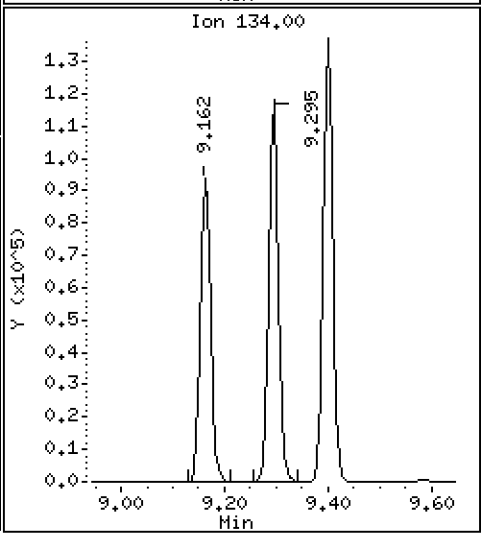


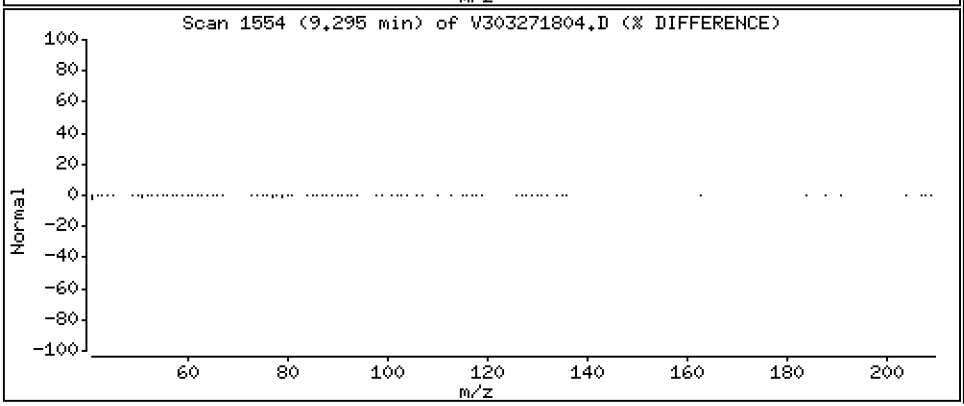












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

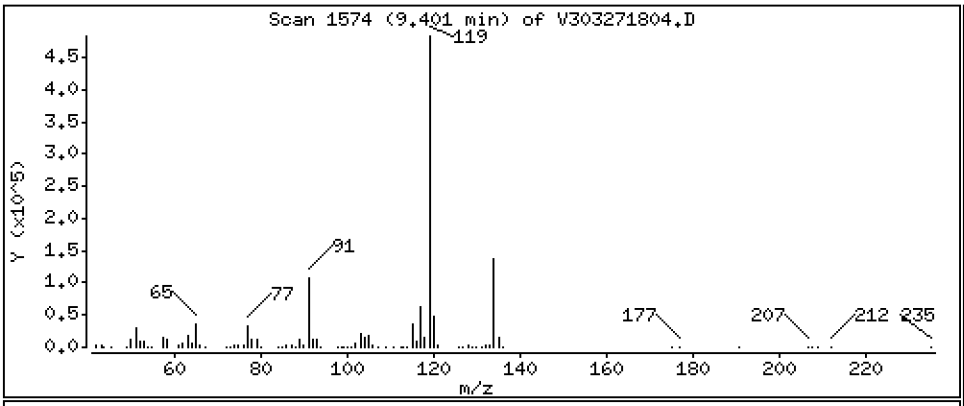
Operator: PKC

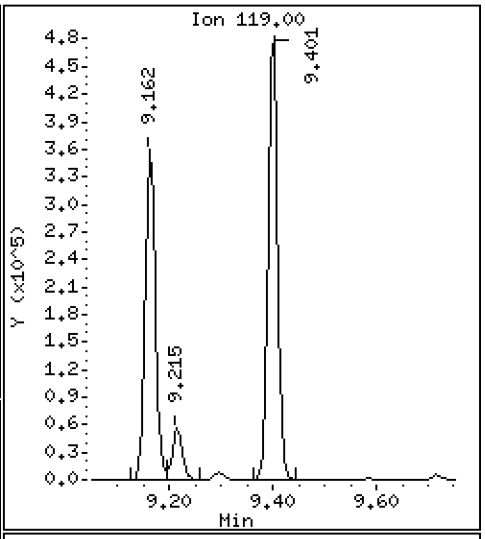
Column phase: RTXVMS

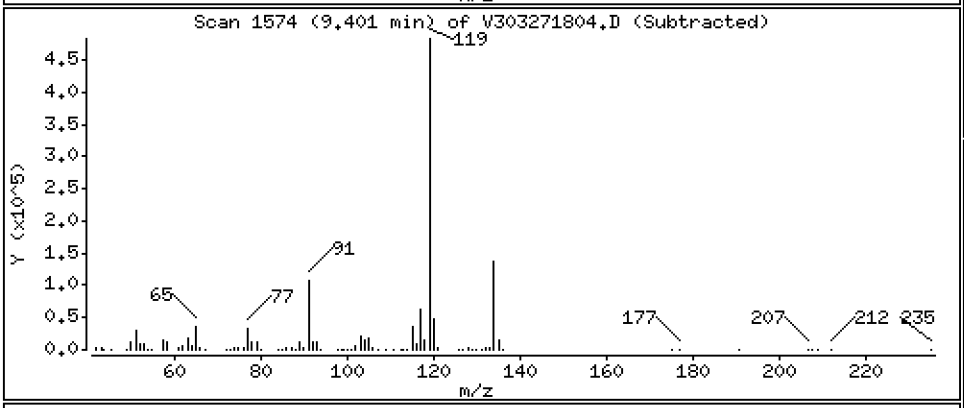
Column diameter: 0.18

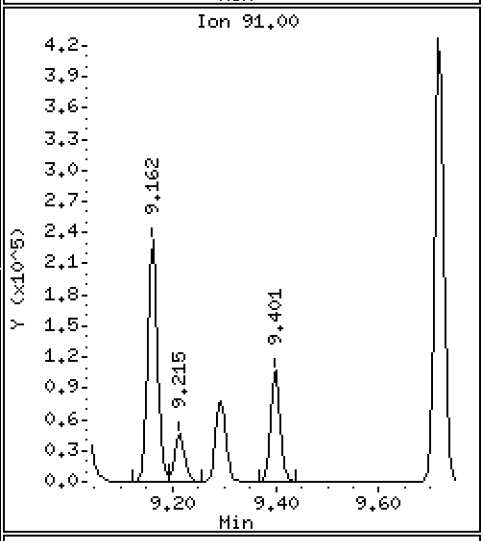
74 4-Isopropyl Toluene

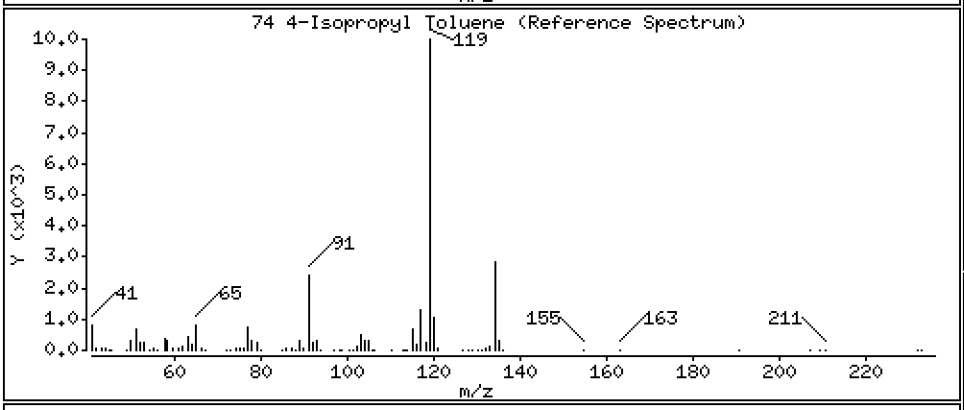
Concentration: 9.115 ug/L

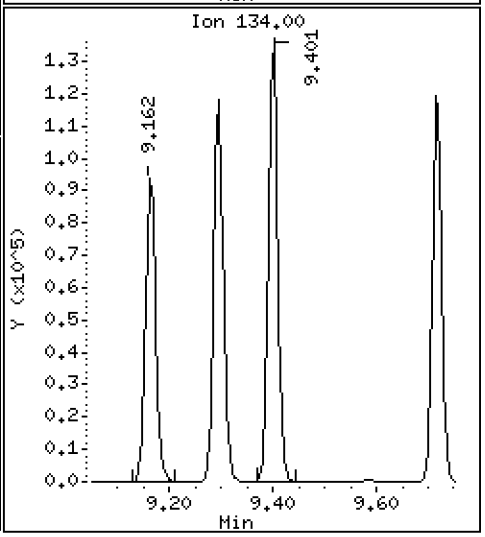


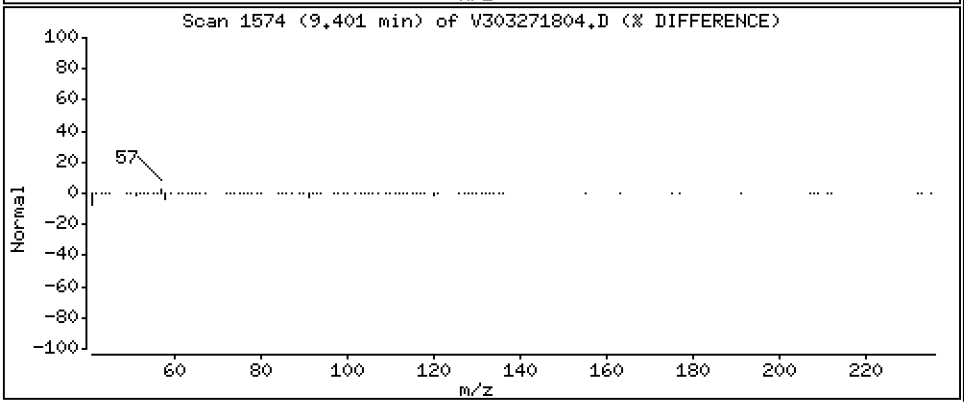












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

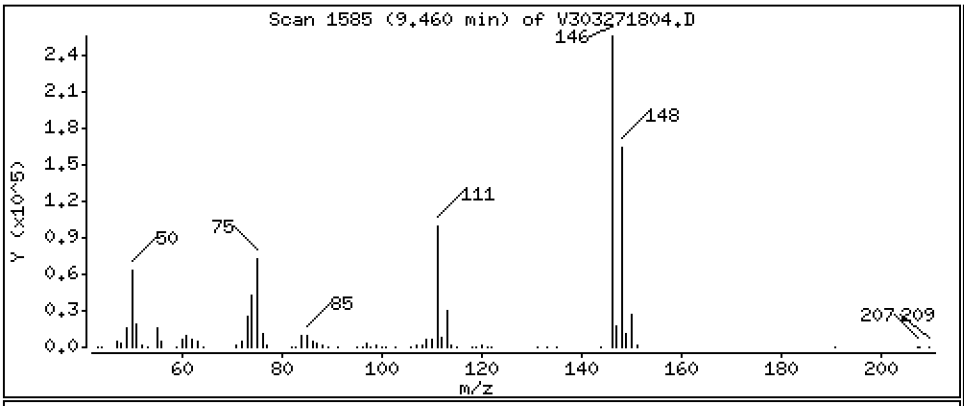
Operator: PKC

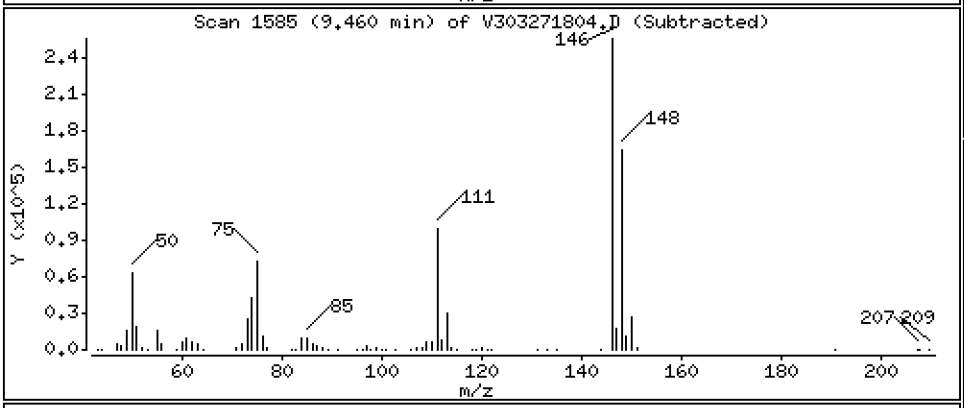
Column phase: RTXVMS

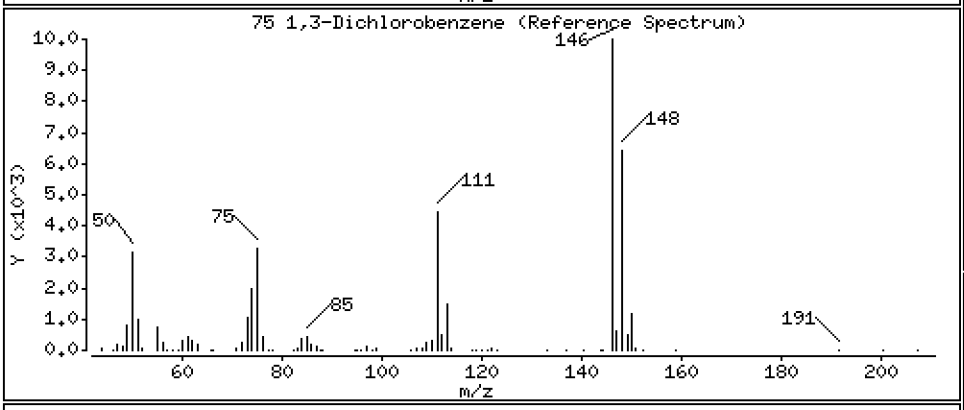
Column diameter: 0.18

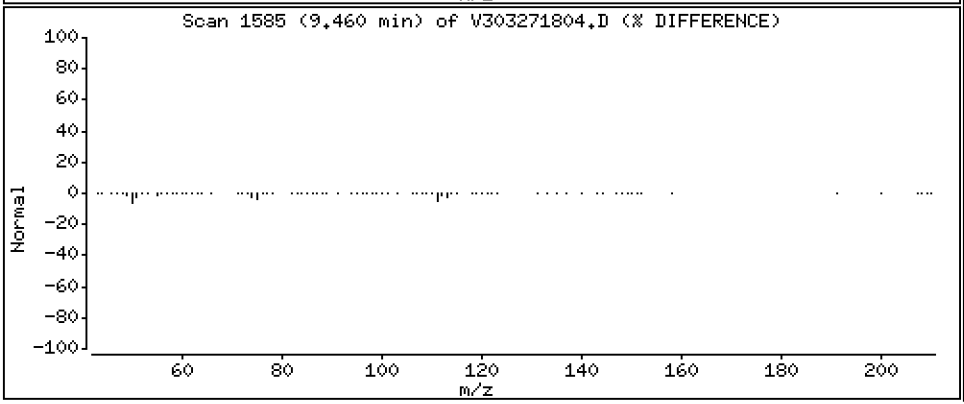
75 1,3-Dichlorobenzene

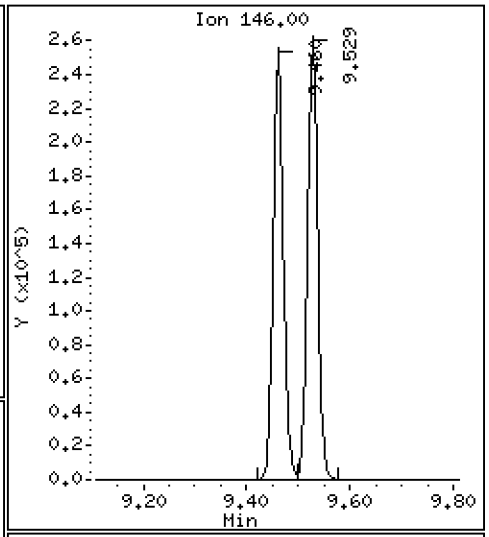
Concentration: 9.404 ug/L

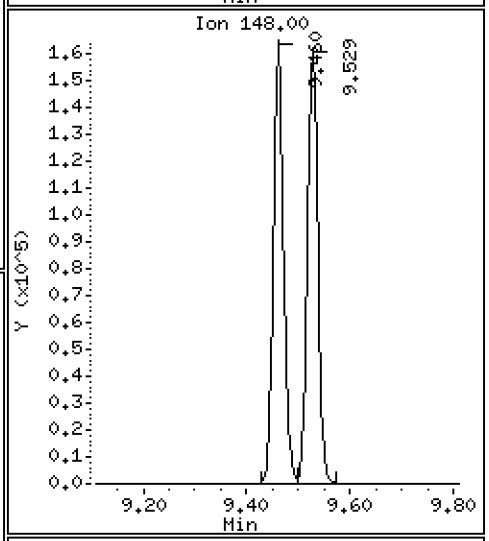


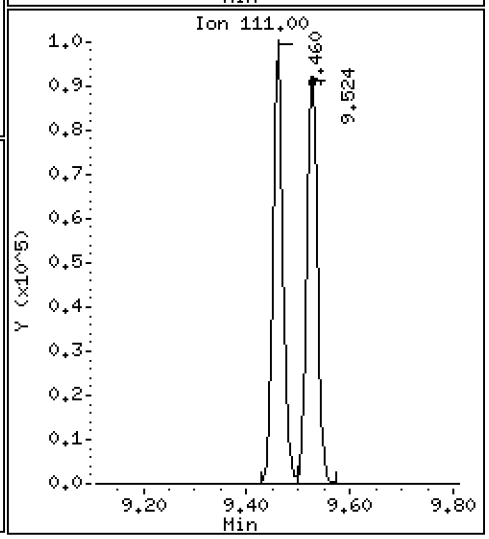












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

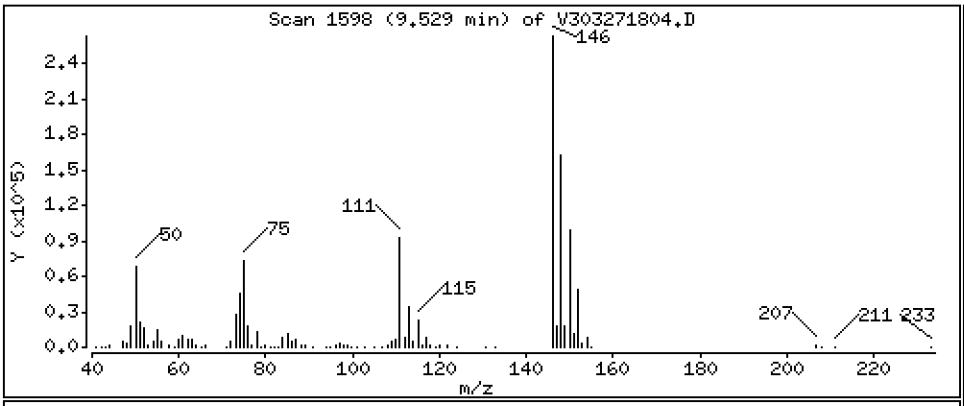
Operator: PKC

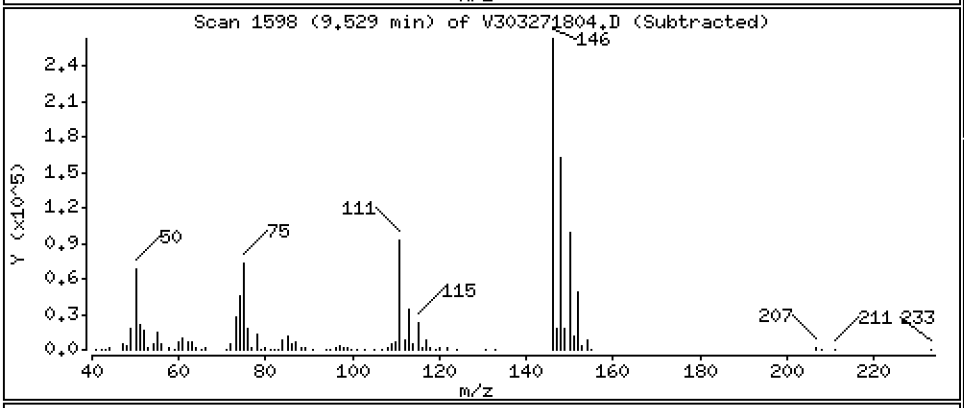
Column phase: RTXVMS

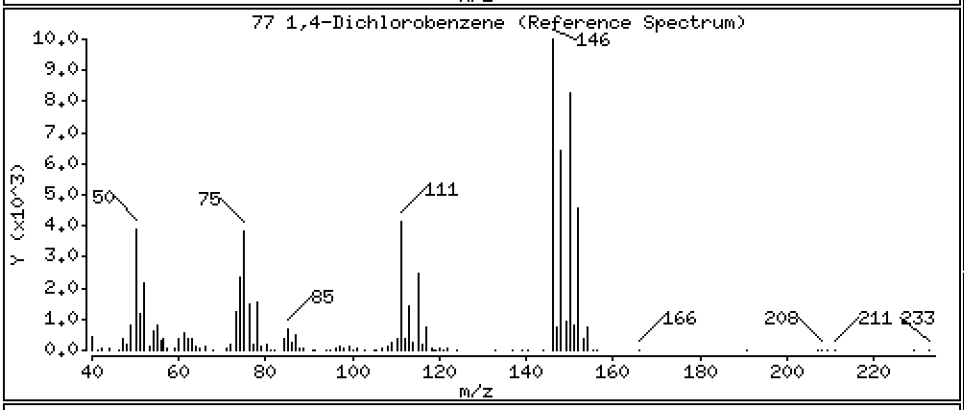
Column diameter: 0.18

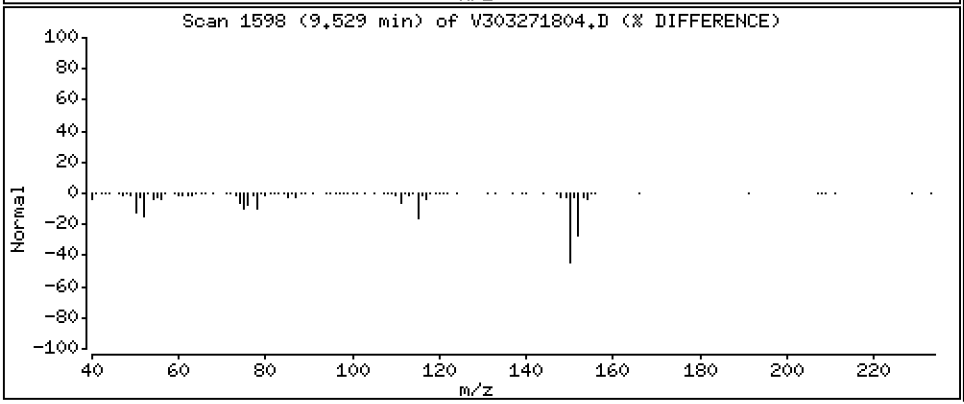
77 1,4-Dichlorobenzene

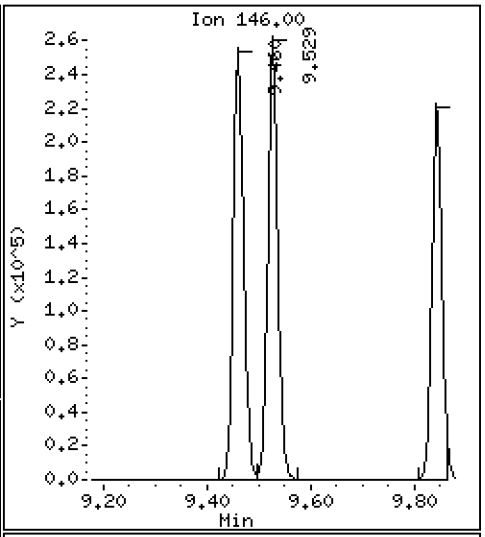
Concentration: 9.440 ug/L

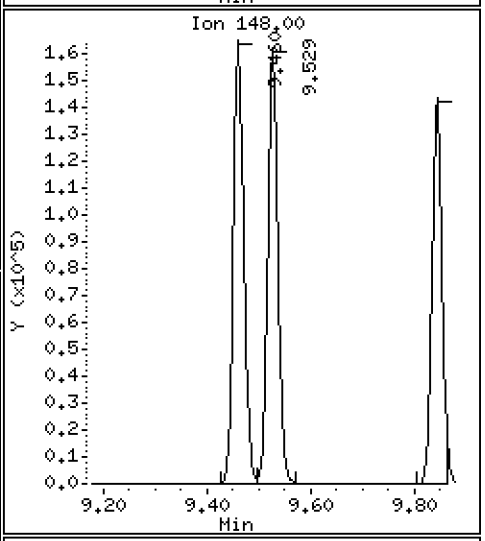


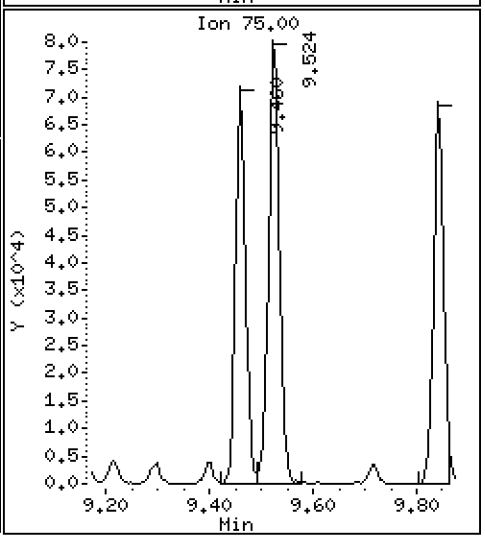












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

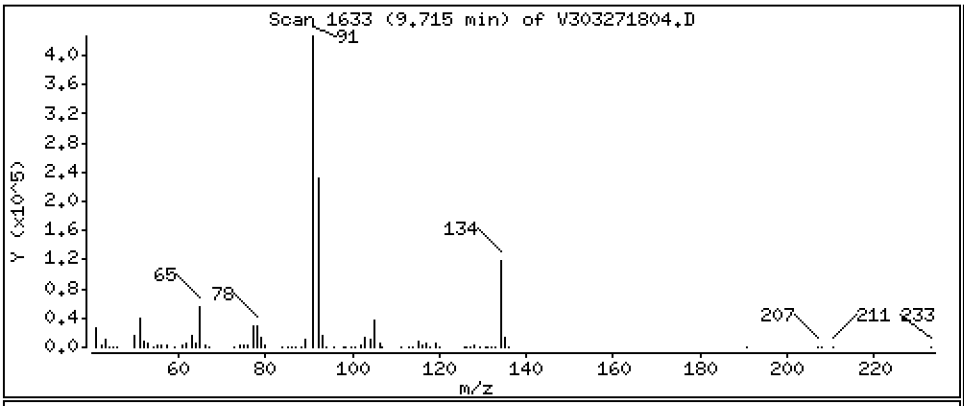
Operator: PKC

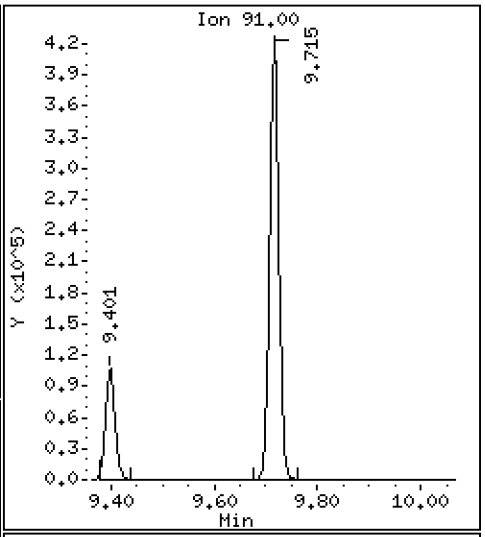
Column phase: RTXVMS

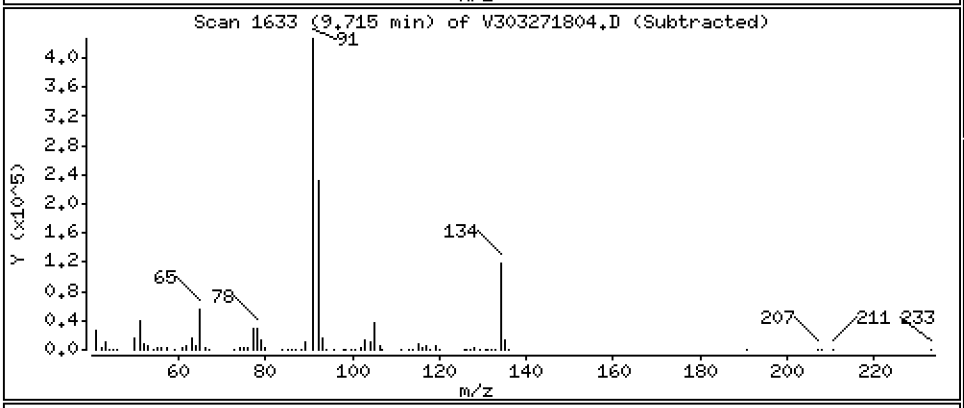
Column diameter: 0.18

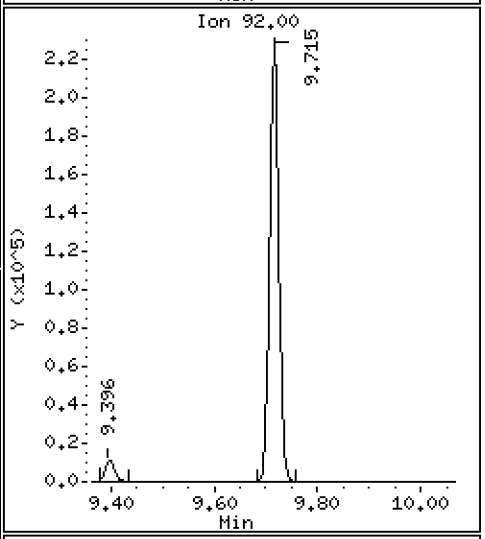
78 N-Butyl Benzene

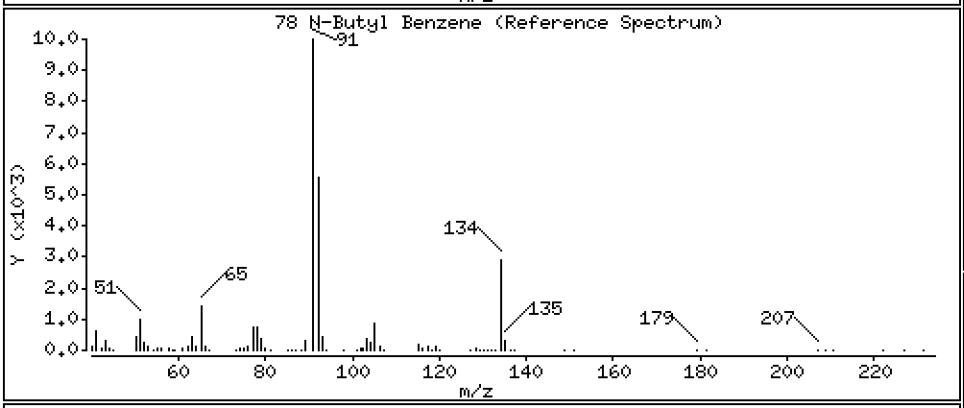
Concentration: 9.201 ug/L

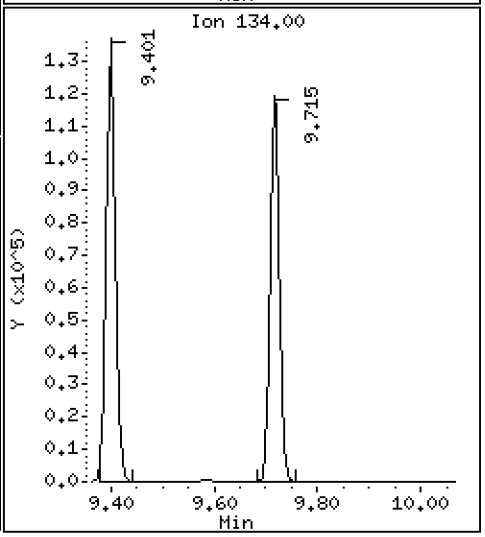


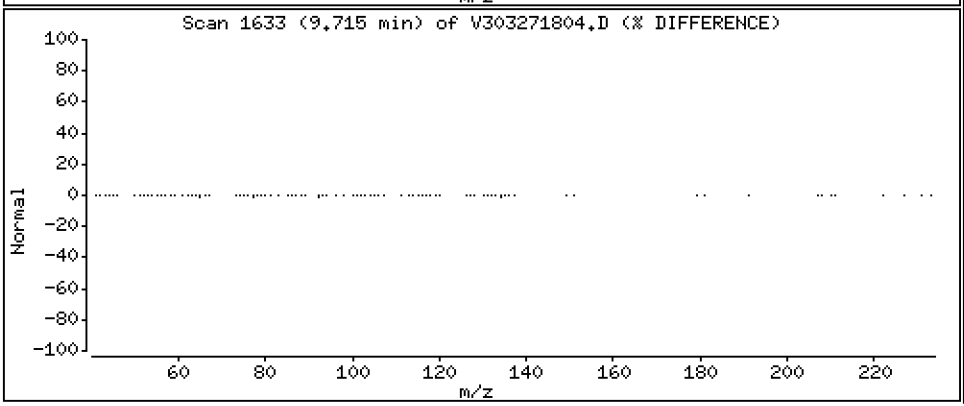












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

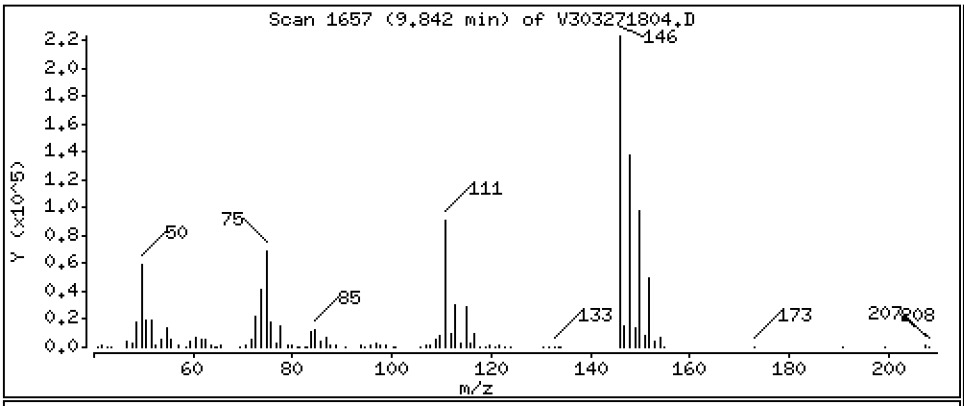
Operator: PKC

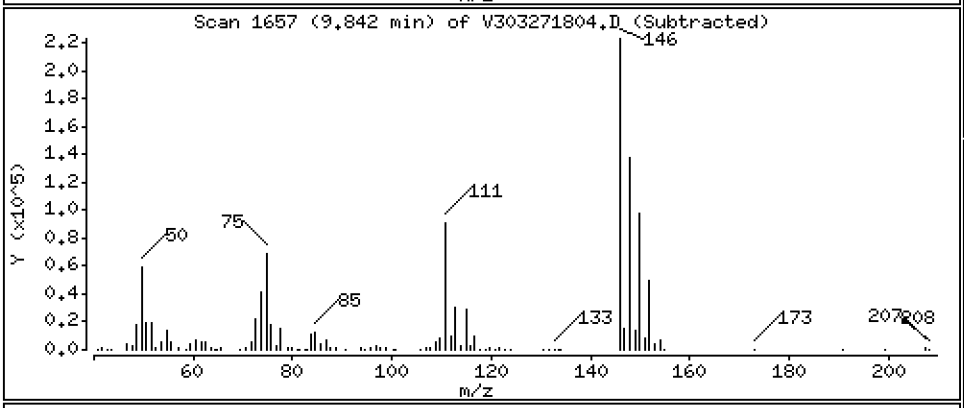
Column phase: RTXVMS

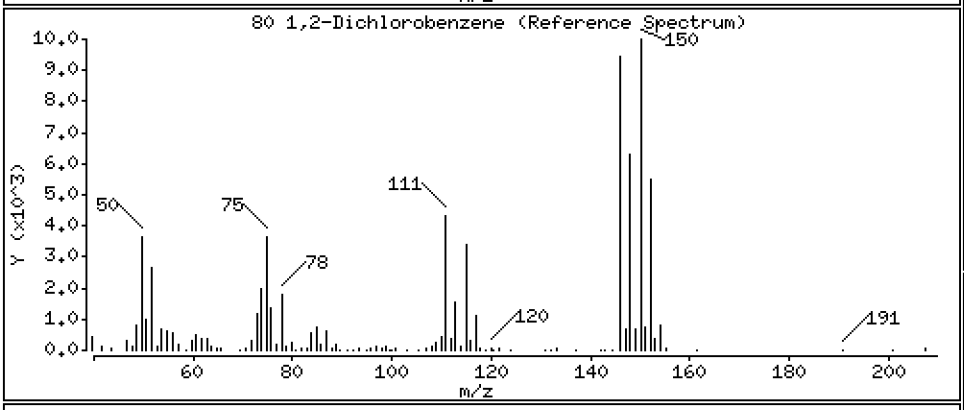
Column diameter: 0.18

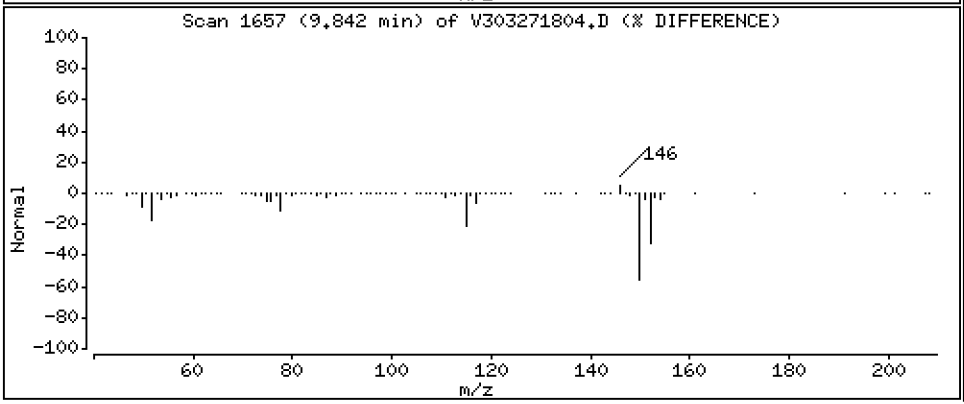
80 1,2-Dichlorobenzene

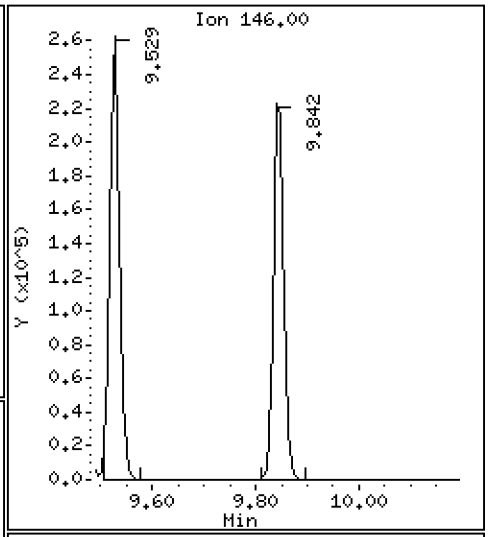
Concentration: 9.419 ug/L

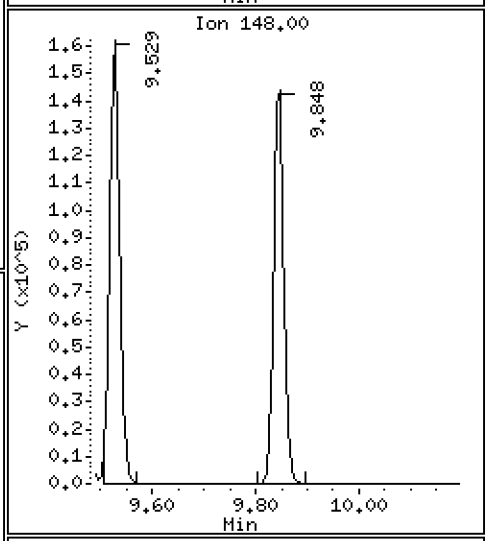


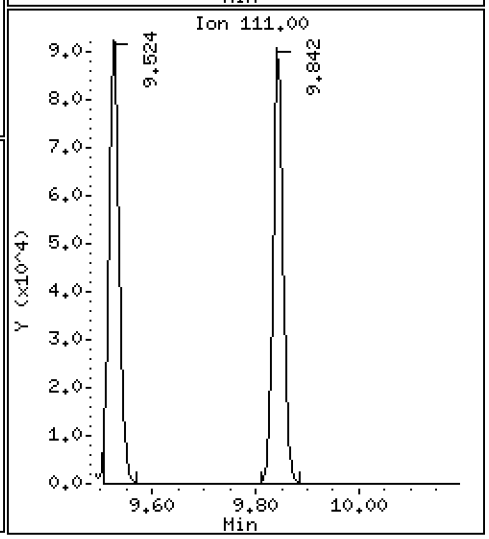












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

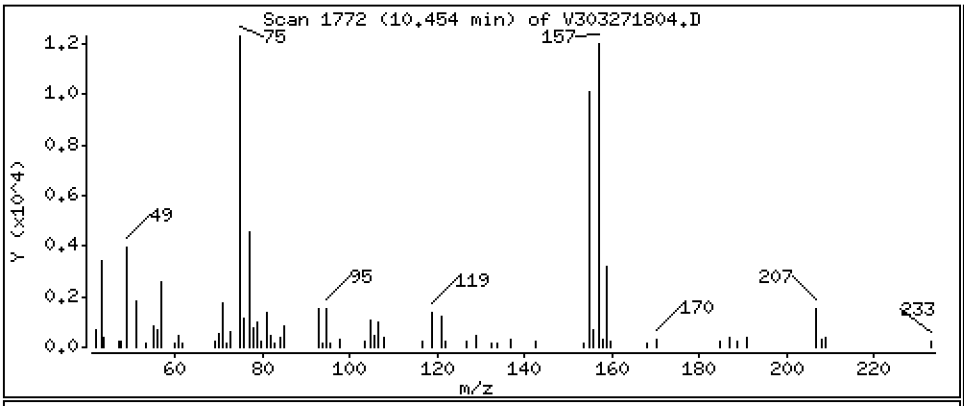
Operator: PKC

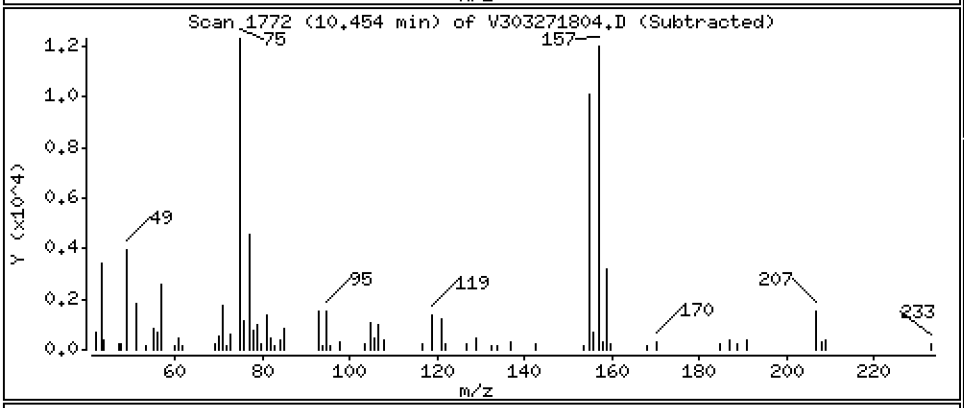
Column phase: RTXVMS

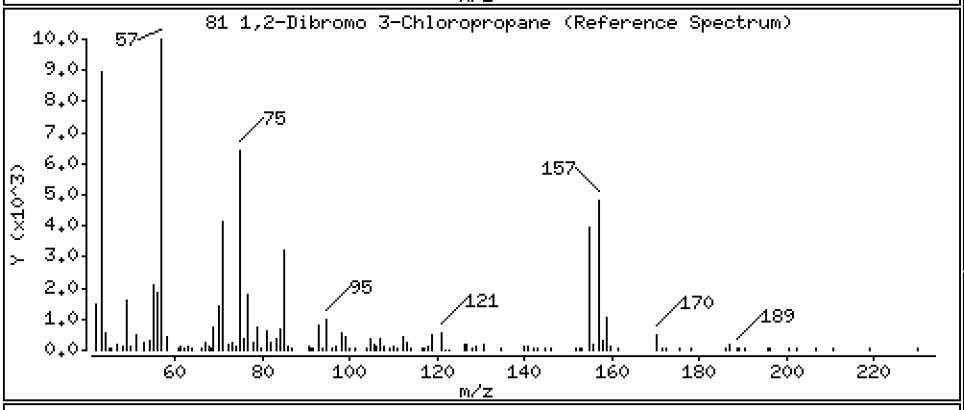
Column diameter: 0.18

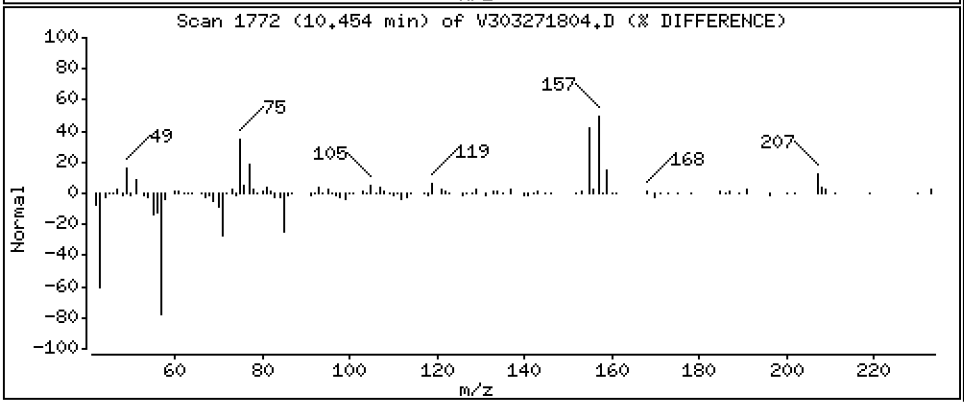
81 1,2-Dibromo 3-Chloropropane

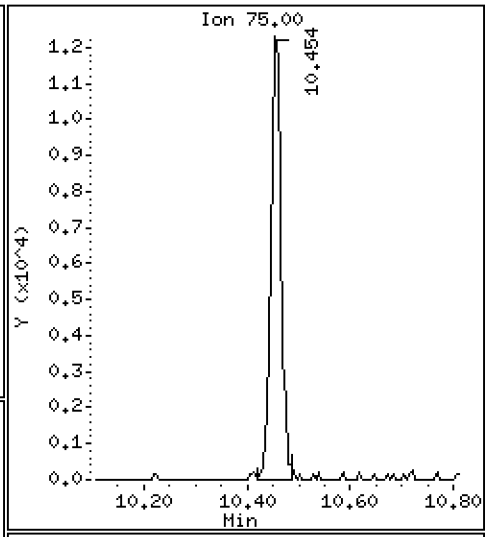
Concentration: 9.102 ug/L

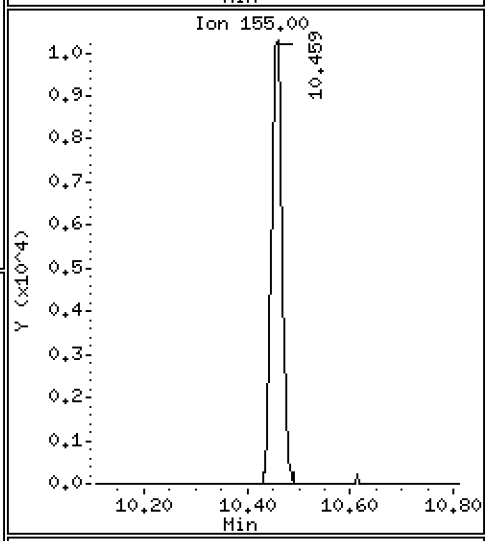


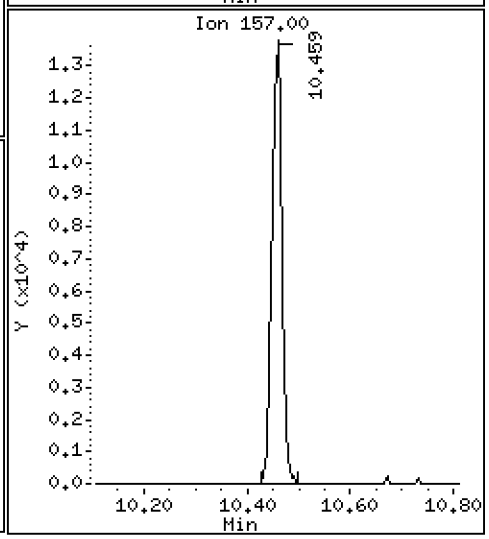












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

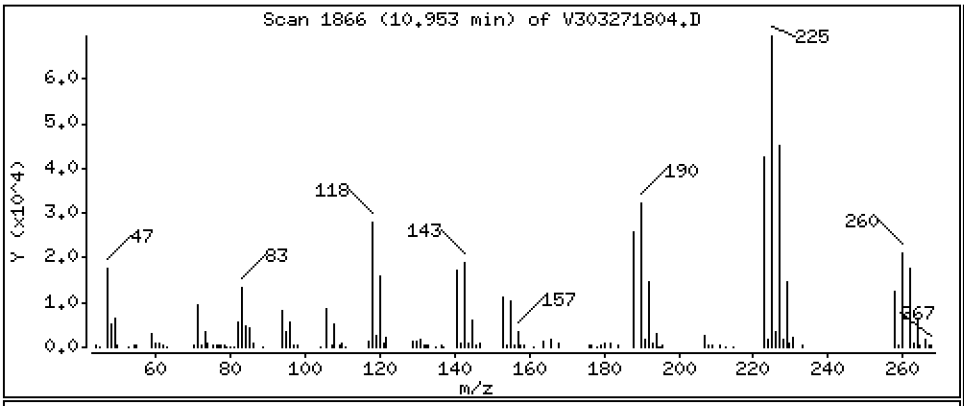
Operator: PKC

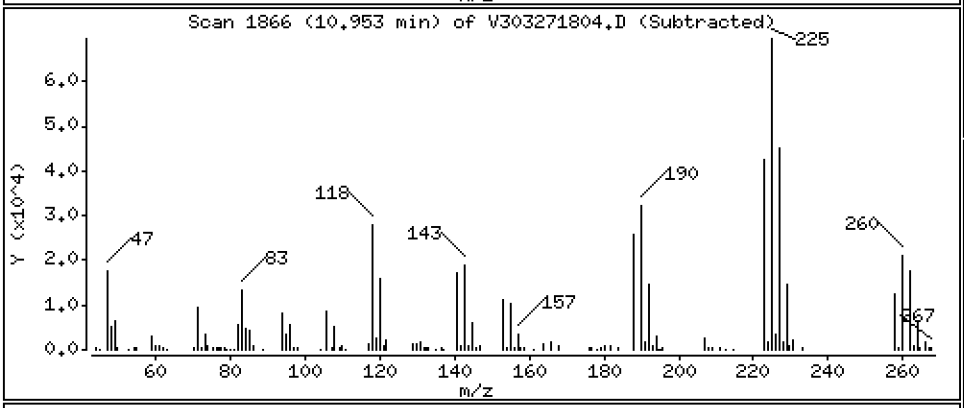
Column phase: RTXVMS

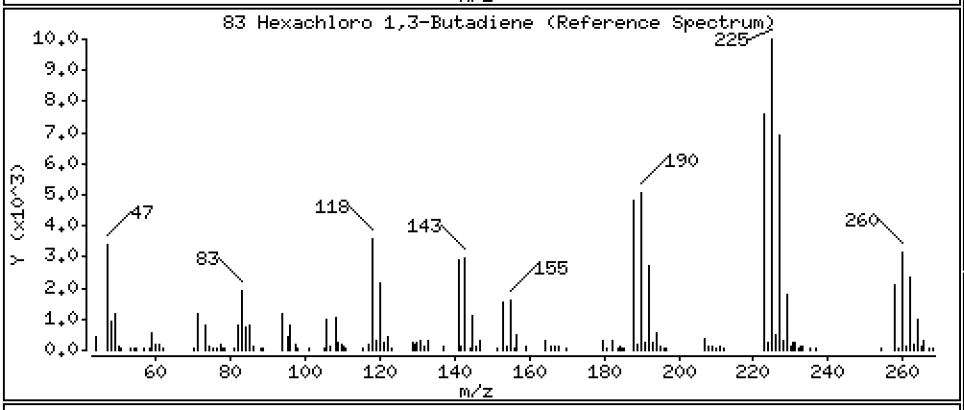
Column diameter: 0.18

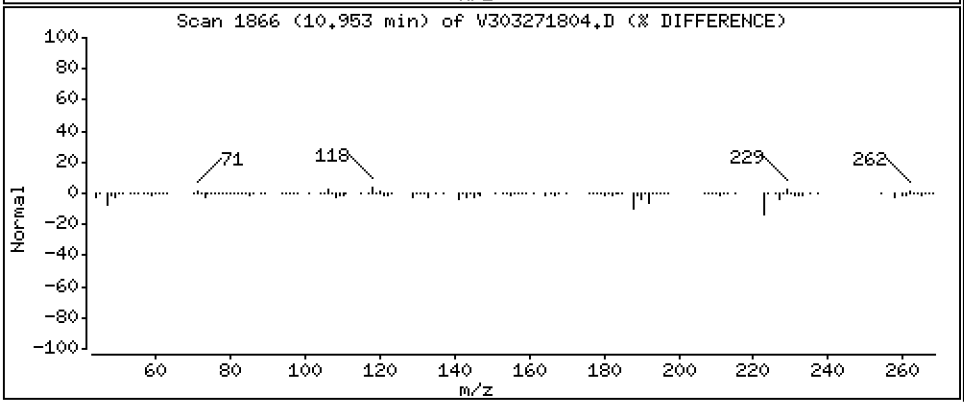
83 Hexachloro 1,3-Butadiene

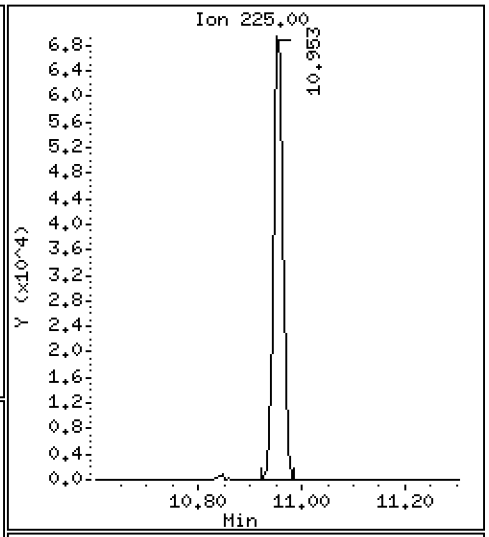
Concentration: 9.850 ug/L

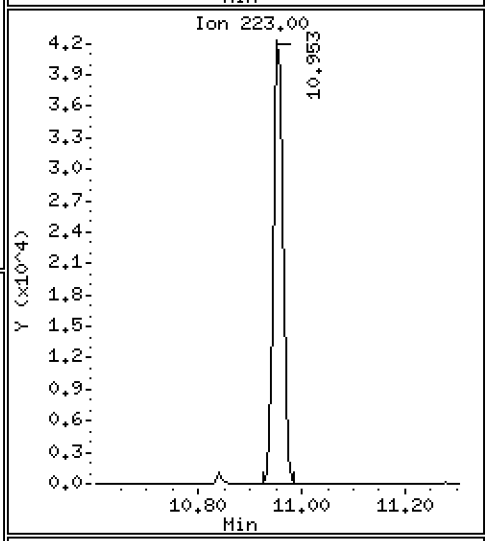


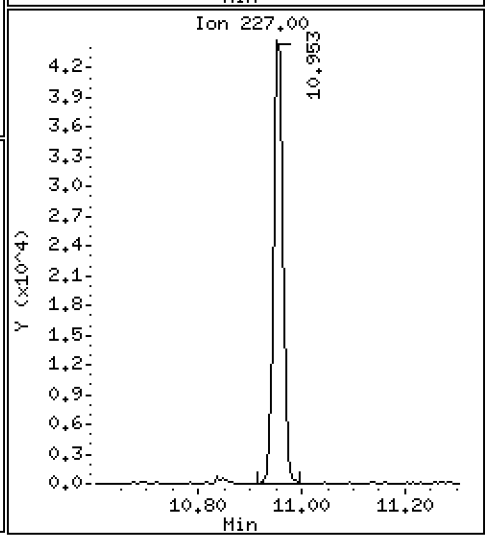












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

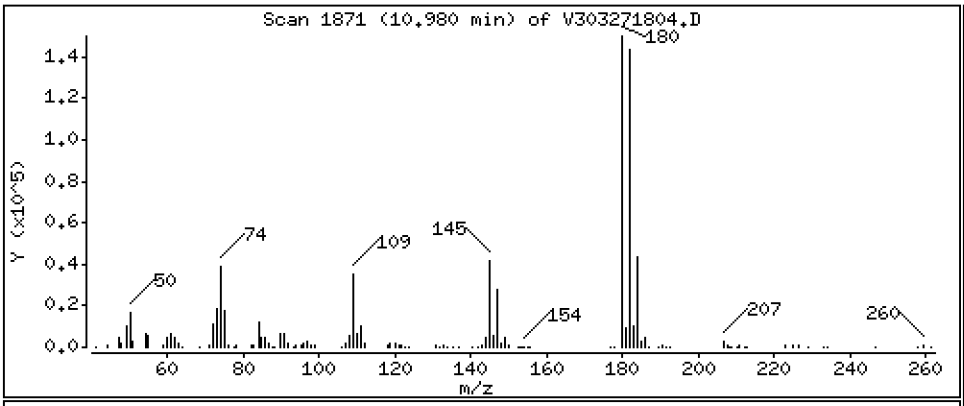
Operator: PKC

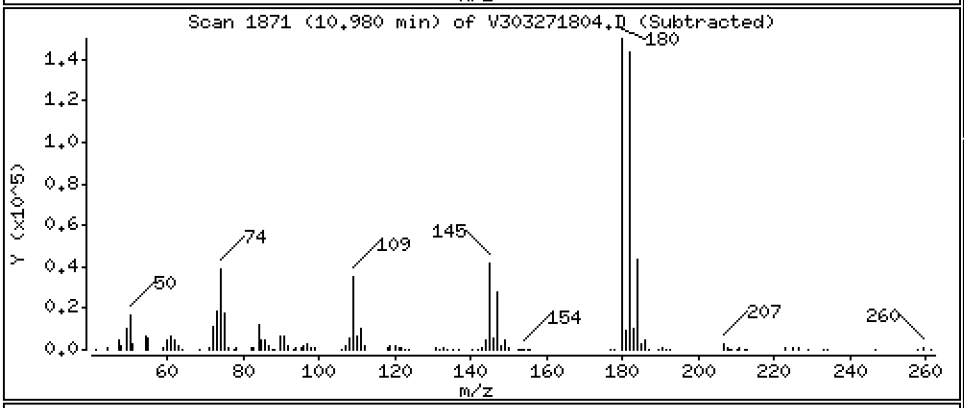
Column phase: RTXVMS

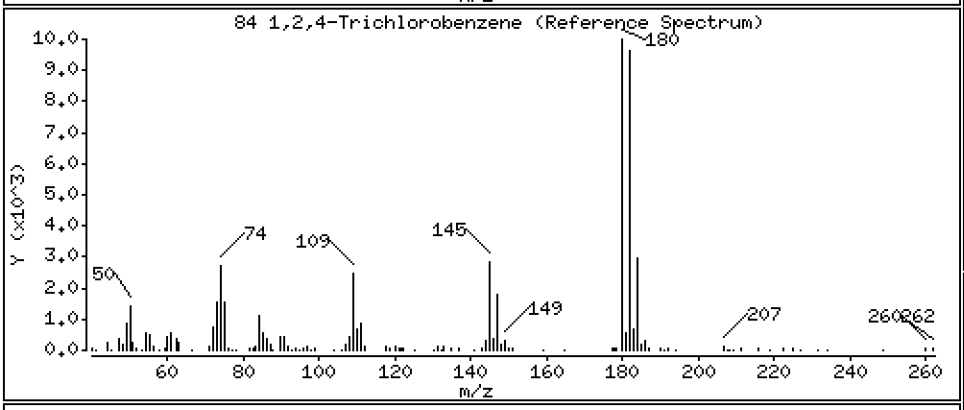
Column diameter: 0.18

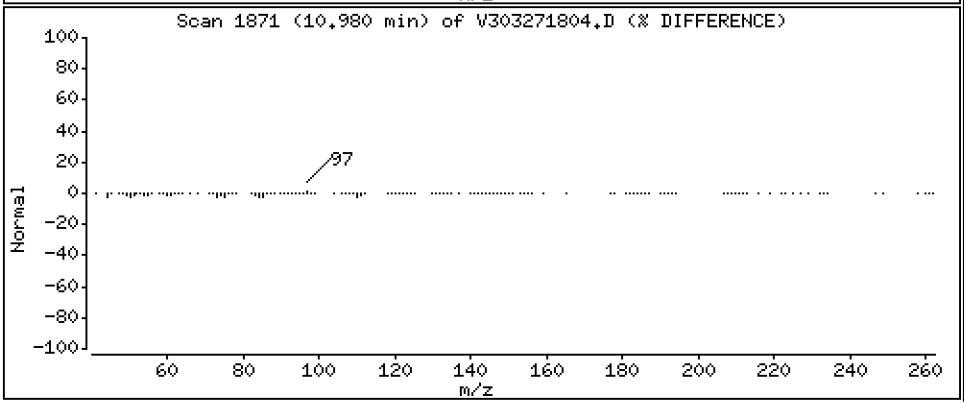
84 1,2,4-Trichlorobenzene

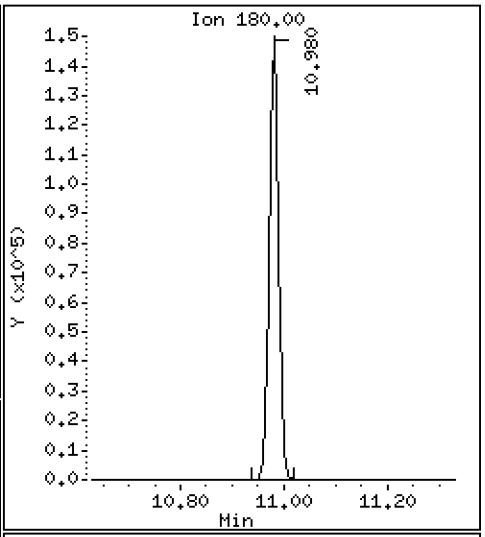
Concentration: 9.752 ug/L

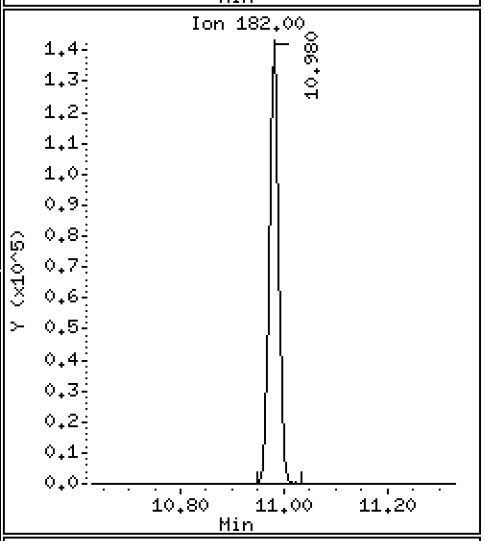


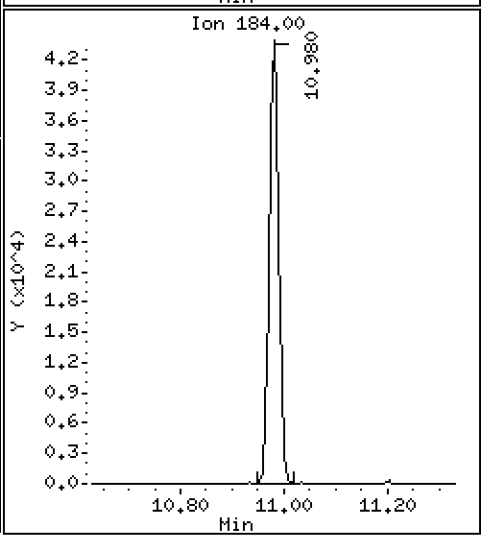












Data File: \\target\share\chem1\nt3.i\20180327.b\V303271804.D

Date : 27-MAR-2018 09:40

Client ID: VOA

Instrument: nt3.i

Sample Info: BGC0717-BSD1

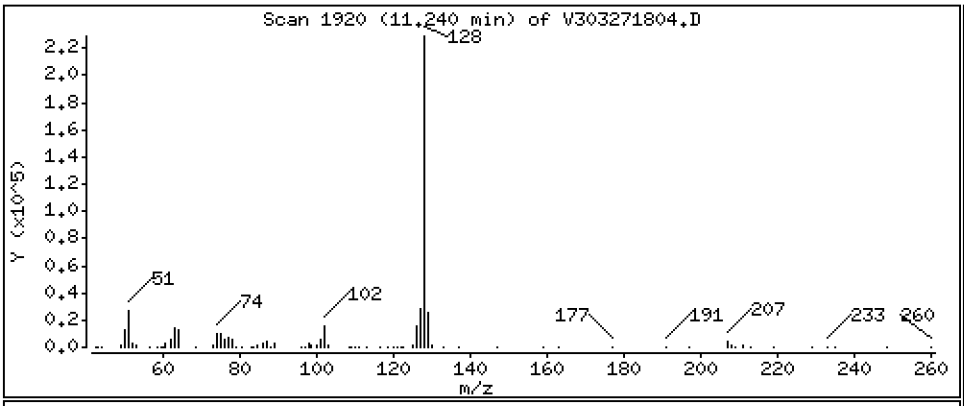
Operator: PKC

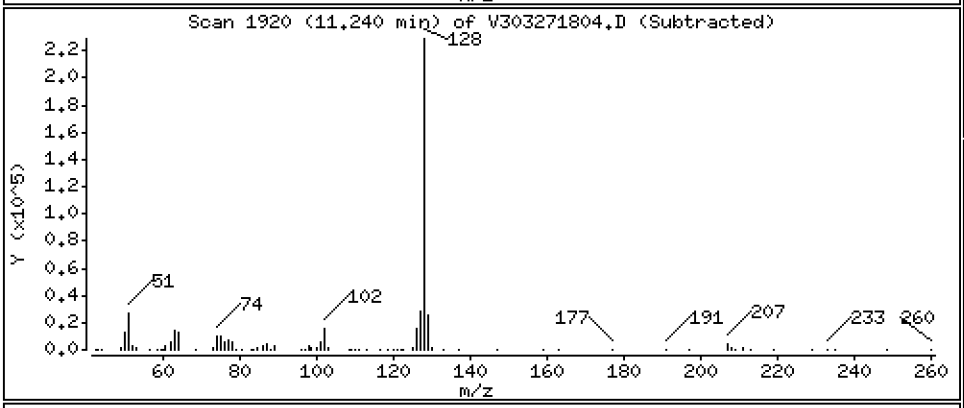
Column phase: RTXVMS

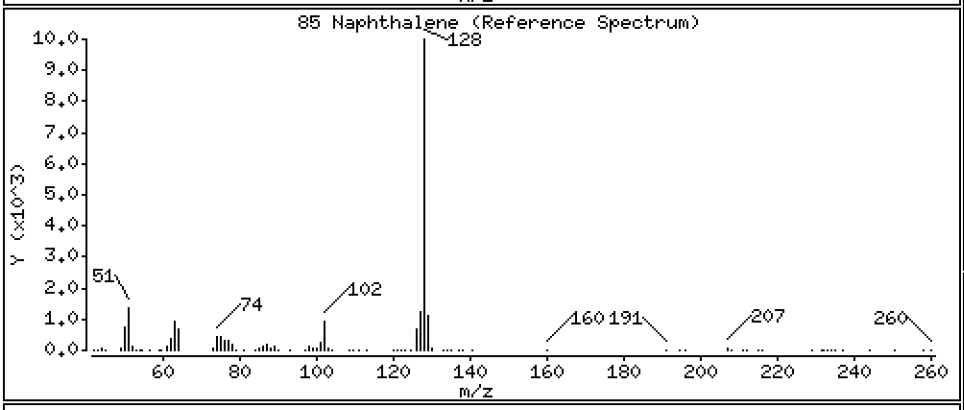
Column diameter: 0.18

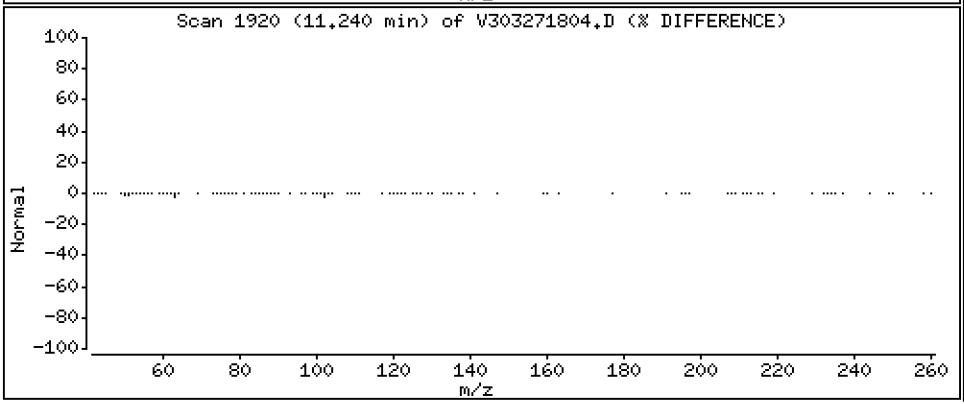
85 Naphthalene

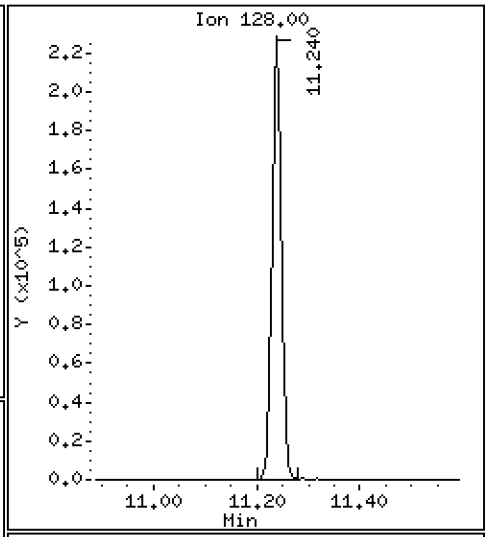
Concentration: 10.453 ug/L

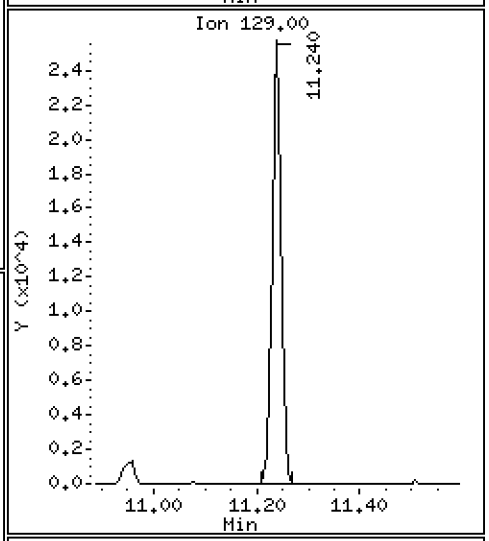


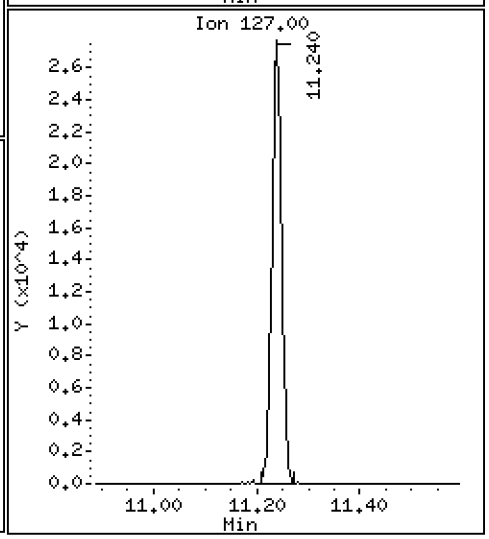












Date : 27-MAR-2018 09:40

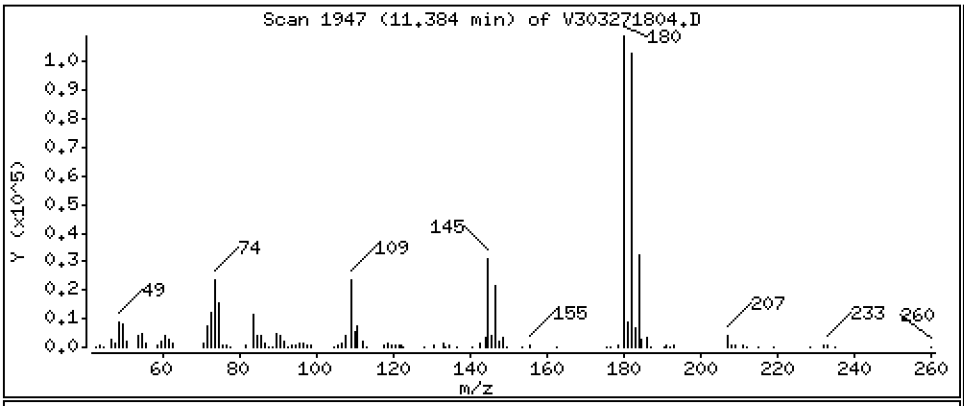
Client ID: VOA Instrument: nt3.i

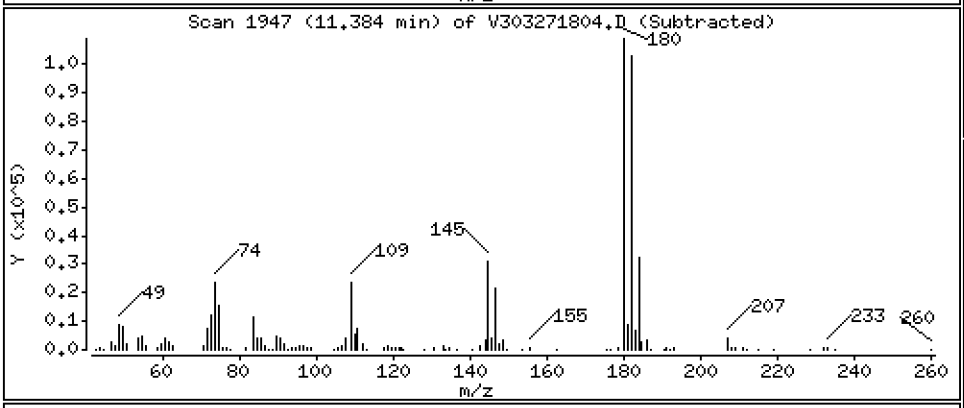
Sample Info: BGC0717-BSD1

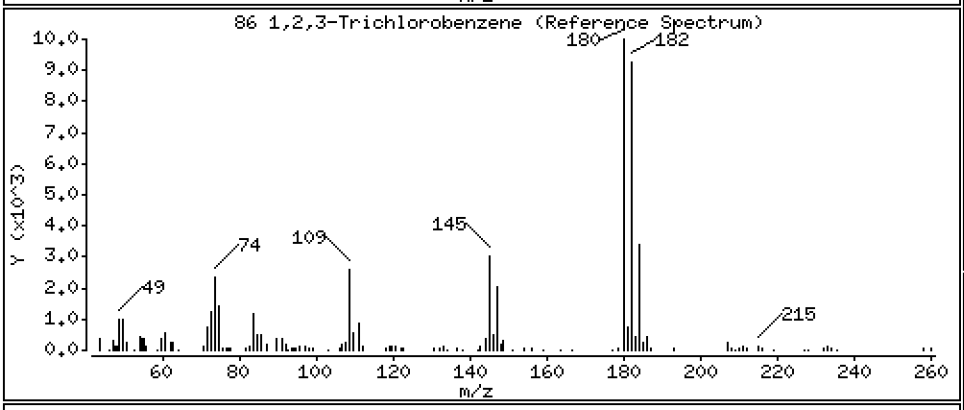
Operator: PKC

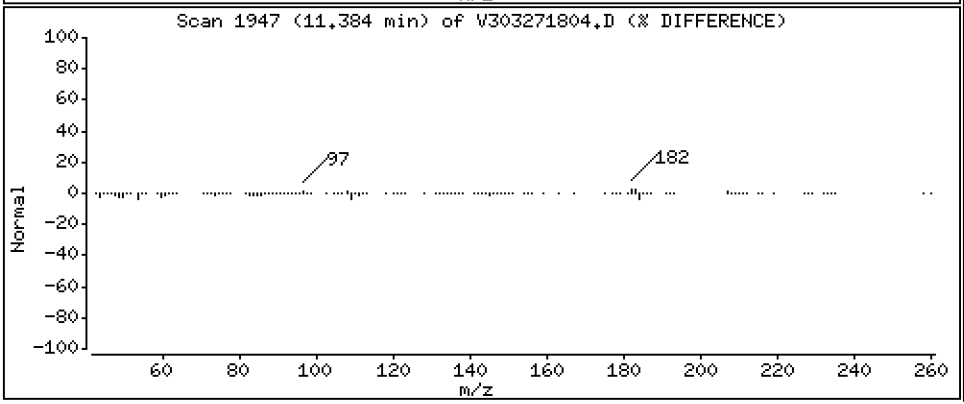
Column phase: RTXVMS Column diameter: 0.18

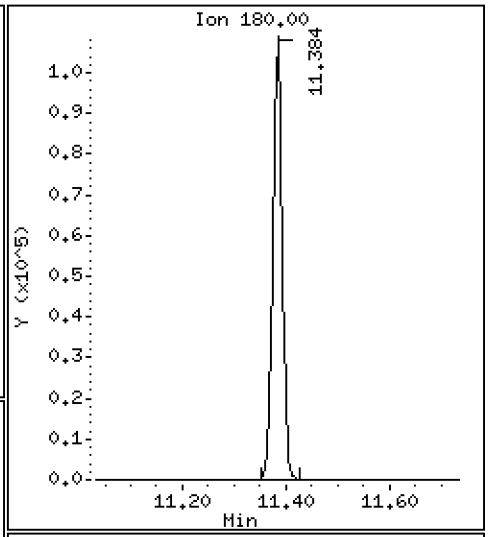
86 1,2,3-Trichlorobenzene Concentration: 10.461 ug/L

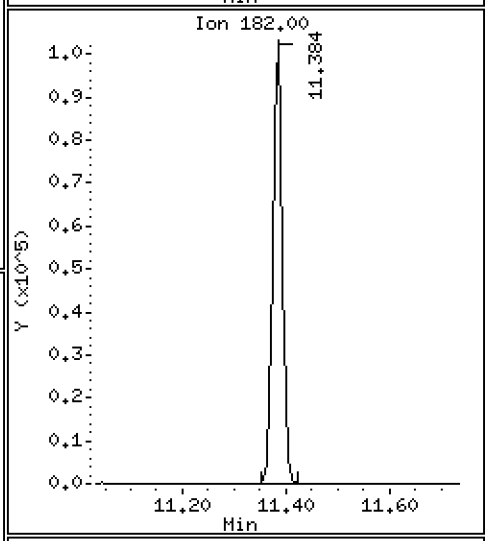


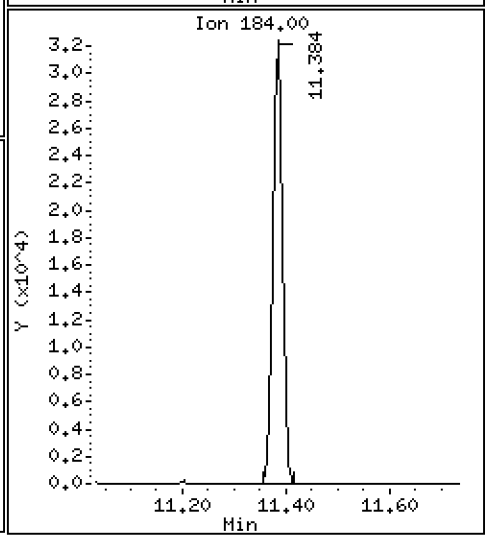












ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327.b\V303271804.D
Lab Smp Id: BGC0717-BSD1 Client Smp ID: VOA
Inj Date : 27-MAR-2018 09:40
Operator : PKC Inst ID: nt3.i
Smp Info : BGC0717-BSD1
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Meth Date : 28-Mar-2018 09:42 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 50 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	1 Dichlorodifluoromethane	85	1.624	1.625	(0.301)	147389	9.83202	9.832
	2 Chloromethane	50	1.773	1.773	(0.329)	298605	9.70430	9.704
	3 Vinyl Chloride	62	1.858	1.858	(0.344)	242820	9.68012	9.680
	4 Bromomethane	94	2.188	2.188	(0.405)	96616	8.33513	8.335
	5 Chloroethane	64	2.315	2.316	(0.429)	125703	8.44463	8.445
	6 Trichlorofluoromethane	101	2.411	2.438	(0.447)	203622	8.92192	8.922(M)
	7 1,1-Dichloroethene	61	2.895	2.895	(0.536)	297502	9.65269	9.653
	8 Carbon Disulfide	76	2.905	2.906	(0.538)	434884	9.36857	9.369
	9 112Trichloro122Trifluoroethane	101	2.980	2.980	(0.552)	126458	8.84146	8.841
	10 Iodomethane	142	3.033	3.033	(0.562)	199180	9.35606	9.356
	11 Bromoethane	108	3.166	3.166	(0.586)	96239	8.91741	8.917
	12 Acrolein	56	3.299	3.294	(0.611)	118191	48.8239	48.824
	13 Methylene Chloride	84	3.501	3.501	(0.649)	135703	9.82810	9.828
	14 Acetone	43	3.660	3.655	(0.678)	188930	49.3723	49.372
	15 Trans-1,2-Dichloroethene	96	3.655	3.655	(0.677)	146517	9.59219	9.592
	17 Methyl tert butyl ether	73	3.793	3.793	(0.703)	286553	9.74601	9.746
	18 1,1-Dichloroethane	63	4.213	4.213	(0.780)	301960	9.40353	9.404
	19 Acrylonitrile	53	4.303	4.298	(0.797)	46343	9.55740	9.557
	20 Vinyl Acetate	43	4.463	4.458	(0.827)	353791	10.5494	10.549
	22 Cis-1,2-Dichloroethene	96	4.670	4.665	(0.865)	149815	9.41273	9.413
	23 2,2-Dichloropropane	77	4.750	4.750	(0.880)	153876	8.32589	8.326
	24 Bromochloromethane	128	4.824	4.825	(0.894)	63228	9.39876	9.399
	25 Chloroform	83	4.893	4.894	(0.906)	233961	9.81224	9.812
	26 Carbon Tetrachloride	117	4.984	4.979	(0.862)	188934	10.1813	10.181
$	27 Dibromofluoromethane	111	5.031	5.032	(0.932)	48115	4.99304	4.993(R)
	28 1,1,1-Trichloroethane	97	5.037	5.037	(0.933)	206585	9.25466	9.255
	30 1,1-Dichloropropene	75	5.132	5.133	(0.888)	189748	10.3026	10.303
	29 2-Butanone	43	5.170	5.165	(0.958)	340097	54.6696	54.670
	31 Benzene	78	5.319	5.319	(0.920)	536892	9.97395	9.974
*	32 Pentafluorobenzene	168	5.398	5.399	(1.000)	221778	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.425	5.425	(1.005)	56196	4.87779	4.878(R)
	34 1,2-Dichloroethane	62	5.478	5.478	(0.948)	177049	9.67847	9.678
	36 Trichloroethene	130	5.754	5.749	(0.995)	145897	9.67614	9.676

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/L)	FINAL (ug/L)
*	37	1,4-Difluorobenzene	114	5.781	5.781	(1.000)	326250	10.0000	
	38	Dibromomethane	93	6.052	6.052	(1.047)	61712	10.2446	10.245
	39	1,2-Dichloropropane	63	6.126	6.121	(1.060)	163793	9.80480	9.805
	40	Bromodichloromethane	83	6.174	6.175	(1.068)	164766	9.93243	9.932
	173	2-Pentanone	86	6.408	6.403	(1.108)	56582	50.9706	50.971
	41	2-Chloroethyl Vinyl Ether	63	6.578	6.579	(1.138)	64419	8.93590	8.936
	42	Cis 1,3-dichloropropene	75	6.615	6.616	(1.144)	206372	10.1042	10.104
$	43	d8-Toluene	98	6.743	6.743	(1.166)	195155	5.10189	5.102(R)
	44	Toluene	92	6.780	6.775	(1.173)	342773	9.73210	9.732
	46	Tetrachloroethene	166	7.041	7.041	(0.900)	162080	9.79389	9.794
	45	4-Methyl-2-Pentanone	58	7.051	7.046	(1.220)	224214	49.6038	49.604
	47	Trans 1,3-Dichloropropene	75	7.067	7.068	(1.222)	176253	10.6925	10.692
	48	1,1,2-Trichloroethane	97	7.184	7.185	(1.243)	91146	9.89108	9.891
	49	Chlorodibromomethane	129	7.306	7.307	(0.933)	115833	10.3116	10.312
	50	1,3-Dichloropropane	76	7.370	7.371	(0.942)	163865	9.78117	9.781
	51	1,2-Dibromoethane	107	7.471	7.472	(1.292)	85105	9.85344	9.853
	52	2-Hexanone	43	7.631	7.626	(0.975)	483998	54.6419	54.642
*	53	d5-Chlorobenzene	117	7.827	7.822	(1.000)	307072	10.0000	
	54	Chlorobenzene	112	7.838	7.833	(1.001)	397892	9.45740	9.457
	55	Ethyl Benzene	106	7.854	7.854	(1.003)	220333	9.67573	9.676
	56	1,1,1,2-Tetrachloroethane	131	7.881	7.881	(1.007)	140631	9.81377	9.814
	57	m,p-xylene	106	7.955	7.955	(1.016)	536026	19.1999	19.200
	58	o-Xylene	106	8.263	8.258	(1.056)	265211	9.62348	9.623
	59	Styrene	104	8.300	8.301	(1.060)	424367	10.0068	10.007
	60	Bromoform	173	8.322	8.322	(0.874)	72852	10.3097	10.310
	61	Isopropyl Benzene	105	8.487	8.487	(0.892)	680726	9.00007	9.000
$	62	4-Bromofluorobenzene	174	8.694	8.694	(1.111)	66311	5.13469	5.135(R)
	63	Bromobenzene	156	8.774	8.769	(0.922)	178033	9.32397	9.324
	64	N-Propyl Benzene	91	8.784	8.785	(0.923)	802310	9.14947	9.149
	65	1,1,2,2-Tetrachloroethane	83	8.843	8.838	(0.929)	109748	9.73715	9.737
	66	2-Chloro Toluene	91	8.901	8.901	(0.935)	539251	8.95825	8.958
	67	1,3,5-Trimethyl Benzene	105	8.928	8.928	(0.938)	590536	9.10168	9.102
	68	1,2,3-Trichloropropane	110	8.944	8.939	(0.940)	32718	9.27184	9.272
	69	Trans-1,4-Dichloro 2-Butene	53	8.970	8.971	(0.942)	49234	9.00395	9.004
	70	4-Chloro Toluene	91	9.023	9.024	(0.948)	501614	8.80171	8.802
	71	T-Butyl Benzene	119	9.162	9.162	(0.963)	490247	8.90530	8.905
	72	1,2,4-Trimethylbenzene	105	9.215	9.215	(0.968)	596941	9.03593	9.036
	73	S-Butyl Benzene	105	9.294	9.295	(0.977)	710226	9.12526	9.125
	74	4-Isopropyl Toluene	119	9.401	9.401	(0.988)	623029	9.11484	9.115
	75	1,3-Dichlorobenzene	146	9.459	9.460	(0.994)	356240	9.40400	9.404
*	76	d4-1,4-Dichlorobenzene	152	9.518	9.513	(1.000)	169932	10.0000	
	77	1,4-Dichlorobenzene	146	9.528	9.529	(1.001)	356551	9.43962	9.440
	78	N-Butyl Benzene	91	9.714	9.715	(1.021)	541890	9.20052	9.201
$	79	d4-1,2-Dichlorobenzene	152	9.837	9.837	(1.034)	78889	4.97902	4.979(R)
	80	1,2-Dichlorobenzene	146	9.842	9.842	(1.034)	310569	9.41867	9.419
	81	1,2-Dibromo 3-Chloropropane	75	10.453	10.459	(1.098)	17003	9.10238	9.102
	83	Hexachloro 1,3-Butadiene	225	10.953	10.953	(1.151)	90656	9.84995	9.850
	84	1,2,4-Trichlorobenzene	180	10.979	10.980	(1.154)	192537	9.75164	9.752
	85	Naphthalene	128	11.240	11.240	(1.181)	291671	10.4534	10.453
	86	1,2,3-Trichlorobenzene	180	11.383	11.384	(1.196)	139657	10.4608	10.461

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271804.D
Lab Smp Id: BGC0717-BSD1
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Client Smp ID: VOA
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	221778	6.20
37 1,4-Difluorobenze	319374	159687	638748	326250	2.15
53 d5-Chlorobenzene	290356	145178	580712	307072	5.76
76 d4-1,4-Dichlorobe	151501	75751	303002	169932	12.17

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	-0.01
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	-0.01
53 d5-Chlorobenzene	7.82	7.32	8.32	7.83	0.06
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.52	0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930a
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: BGC0717-BSD1 Client Smp ID: VOA
Level: Operator: PKC
Data Type: MS DATA SampleType: LCS
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: mdl.sub
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

SPIKE	COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
1	Dichlorodifluorome	10.000	9.832	98.32	
2	Chloromethane	10.000	9.704	97.04	
3	Vinyl Chloride	10.000	9.680	96.80	
4	Bromomethane	10.000	8.335	83.35	
5	Chloroethane	10.000	8.445	84.45	
6	Trichlorofluoromet	10.000	8.922	89.22	
7	1,1-Dichloroethene	10.000	9.653	96.53	
8	Carbon Disulfide	10.000	9.369	93.69	
9	112Trichloro122Tri	10.000	8.841	88.41	
10	Iodomethane	10.000	9.356	93.56	
11	Bromoethane	10.000	8.917	89.17	
12	Acrolein	50.000	48.824	97.65	
13	Methylene Chloride	10.000	9.828	98.28	
14	Acetone	50.000	49.372	98.74	
15	Trans-1,2-Dichloro	10.000	9.592	95.92	
17	Methyl tert butyl	10.000	9.746	97.46	
18	1,1-Dichloroethane	10.000	9.404	94.04	
19	Acrylonitrile	10.000	9.557	95.57	
20	Vinyl Acetate	10.000	10.549	105.49	
22	Cis-1,2-Dichloroet	10.000	9.413	94.13	
23	2,2-Dichloropropan	10.000	8.326	83.26	
24	Bromochloromethane	10.000	9.399	93.99	
25	Chloroform	10.000	9.812	98.12	
26	Carbon Tetrachlori	10.000	10.181	101.81	
28	1,1,1-Trichloroeth	10.000	9.255	92.55	
30	1,1-Dichloropropen	10.000	10.303	103.03	
29	2-Butanone	50.000	54.670	109.34	
31	Benzene	10.000	9.974	99.74	
34	1,2-Dichloroethane	10.000	9.678	96.78	
36	Trichloroethene	10.000	9.676	96.76	
38	Dibromomethane	10.000	10.245	102.45	
39	1,2-Dichloropropan	10.000	9.805	98.05	
40	Bromodichlorometha	10.000	9.932	99.32	
173	2-Pentanone	50.000	50.971	101.94	
41	2-Chloroethyl Viny	10.000	8.936	89.36	
42	Cis 1,3-dichloropr	10.000	10.104	101.04	
44	Toluene	10.000	9.732	97.32	
46	Tetrachloroethene	10.000	9.794	97.94	
45	4-Methyl-2-Pentano	50.000	49.604	99.21	
47	Trans 1,3-Dichloro	10.000	10.692	106.92	

SPIKE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
48 1,1,2-Trichloroeth	10.000	9.891	98.91	
49 Chlorodibromometha	10.000	10.312	103.12	
50 1,3-Dichloropropan	10.000	9.781	97.81	
51 1,2-Dibromoethane	10.000	9.853	98.53	
52 2-Hexanone	50.000	54.642	109.28	
54 Chlorobenzene	10.000	9.457	94.57	
55 Ethyl Benzene	10.000	9.676	96.76	
56 1,1,1,2-Tetrachlor	10.000	9.814	98.14	
57 m,p-xylene	20.000	19.200	96.00	
58 o-Xylene	10.000	9.623	96.23	
59 Styrene	10.000	10.007	100.07	
60 Bromoform	10.000	10.310	103.10	
61 Isopropyl Benzene	10.000	9.000	90.00	
63 Bromobenzene	10.000	9.324	93.24	
64 N-Propyl Benzene	10.000	9.149	91.49	
65 1,1,2,2-Tetrachlor	10.000	9.737	97.37	
66 2-Chloro Toluene	10.000	8.958	89.58	
67 1,3,5-Trimethyl Be	10.000	9.102	91.02	
68 1,2,3-Trichloropro	10.000	9.272	92.72	
69 Trans-1,4-Dichloro	10.000	9.004	90.04	
70 4-Chloro Toluene	10.000	8.802	88.02	
71 T-Butyl Benzene	10.000	8.905	89.05	
72 1,2,4-Trimethylben	10.000	9.036	90.36	
73 S-Butyl Benzene	10.000	9.125	91.25	
74 4-Isopropyl Toluen	10.000	9.115	91.15	
75 1,3-Dichlorobenzen	10.000	9.404	94.04	
77 1,4-Dichlorobenzen	10.000	9.440	94.40	
78 N-Butyl Benzene	10.000	9.201	92.01	
80 1,2-Dichlorobenzen	10.000	9.419	94.19	
81 1,2-Dibromo 3-Chlo	10.000	9.102	91.02	
83 Hexachloro 1,3-But	10.000	9.850	98.50	
84 1,2,4-Trichloroben	10.000	9.752	97.52	
85 Naphthalene	10.000	10.453	104.53	
86 1,2,3-Trichloroben	10.000	10.461	104.61	

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.993	99.86	
$ 33 d4-1,2-Dichloroeth	5.000	4.878	97.56	
$ 43 d8-Toluene	5.000	5.102	102.04	
$ 62 4-Bromofluorobenze	5.000	5.135	102.69	
$ 79 d4-1,2-Dichloroben	5.000	4.979	99.58	

REVIEW SUMMARY FOR FILE - V303271804.D

Lab ID: BGC0717-BSD1
nt3.i, 20180327.b\8260C110717.m,   27-MAR-2018 09:40

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

* Only compounds listed in the work order have been verified by the analyst *

ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327.b\V303271804.D
Lab Smp Id: BGC0717-BSD1 Client Smp ID: VOA
Inj Date : 27-MAR-2018 09:40
Operator : PKC Inst ID: nt3.i
Smp Info : BGC0717-BSD1
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Meth Date : 28-Mar-2018 09:42 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 50 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA20

	QUANT SIG	CONCENTRATIONS ON-COLUMN	FINAL

	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/L)	(ug/L)
	1 Dichlorodifluoromethane	85	1.624	1.625	(0.301)	147389	9.83202	9.832
	2 Chloromethane	50	1.773	1.773	(0.329)	298605	9.70430	9.704
	3 Vinyl Chloride	62	1.858	1.858	(0.344)	242820	9.68012	9.680
	4 Bromomethane	94	2.188	2.188	(0.405)	96616	8.33513	8.335
	5 Chloroethane	64	2.315	2.316	(0.429)	125703	8.44463	8.445
	6 Trichlorofluoromethane	101	2.411	2.438	(0.447)	203622	8.92192	8.922(M)
	7 1,1-Dichloroethene	61	2.895	2.895	(0.536)	297502	9.65269	9.653
	8 Carbon Disulfide	76	2.905	2.906	(0.538)	434884	9.36857	9.369
	9 112Trichloro122Trifluoroethane	101	2.980	2.980	(0.552)	126458	8.84146	8.841
	10 Iodomethane	142	3.033	3.033	(0.562)	199180	9.35606	9.356
	11 Bromoethane	108	3.166	3.166	(0.586)	96239	8.91741	8.917
	12 Acrolein	56	3.299	3.294	(0.611)	118191	48.8239	48.824
	13 Methylene Chloride	84	3.501	3.501	(0.649)	135703	9.82810	9.828
	14 Acetone	43	3.660	3.655	(0.678)	188930	49.3723	49.372
	15 Trans-1,2-Dichloroethene	96	3.655	3.655	(0.677)	146517	9.59219	9.592
	17 Methyl tert butyl ether	73	3.793	3.793	(0.703)	286553	9.74601	9.746
	18 1,1-Dichloroethane	63	4.213	4.213	(0.780)	301960	9.40353	9.404
	19 Acrylonitrile	53	4.303	4.298	(0.797)	46343	9.55740	9.557
	20 Vinyl Acetate	43	4.463	4.458	(0.827)	353791	10.5494	10.549
	22 Cis-1,2-Dichloroethene	96	4.670	4.665	(0.865)	149815	9.41273	9.413
	23 2,2-Dichloropropane	77	4.750	4.750	(0.880)	153876	8.32589	8.326
	24 Bromochloromethane	128	4.824	4.825	(0.894)	63228	9.39876	9.399
	25 Chloroform	83	4.893	4.894	(0.906)	233961	9.81224	9.812
	26 Carbon Tetrachloride	117	4.984	4.979	(0.862)	188934	10.1813	10.181
$	27 Dibromofluoromethane	111	5.031	5.032	(0.932)	48115	4.99304	4.993(R)
	28 1,1,1-Trichloroethane	97	5.037	5.037	(0.933)	206585	9.25466	9.255
	30 1,1-Dichloropropene	75	5.132	5.133	(0.888)	189748	10.3026	10.303
	29 2-Butanone	43	5.170	5.165	(0.958)	340097	54.6696	54.670
	31 Benzene	78	5.319	5.319	(0.920)	536892	9.97395	9.974
*	32 Pentafluorobenzene	168	5.398	5.399	(1.000)	221778	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.425	5.425	(1.005)	56196	4.87779	4.878(R)
	34 1,2-Dichloroethane	62	5.478	5.478	(0.948)	177049	9.67847	9.678
	36 Trichloroethene	130	5.754	5.749	(0.995)	145897	9.67614	9.676

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
*	37	1,4-Difluorobenzene	114	5.781	5.781	(1.000)	326250	10.0000	
	38	Dibromomethane	93	6.052	6.052	(1.047)	61712	10.2446	10.245
	39	1,2-Dichloropropane	63	6.126	6.121	(1.060)	163793	9.80480	9.805
	40	Bromodichloromethane	83	6.174	6.175	(1.068)	164766	9.93243	9.932
	173	2-Pentanone	86	6.408	6.403	(1.108)	56582	50.9706	50.971
	41	2-Chloroethyl Vinyl Ether	63	6.578	6.579	(1.138)	64419	8.93590	8.936
	42	Cis 1,3-dichloropropene	75	6.615	6.616	(1.144)	206372	10.1042	10.104
$	43	d8-Toluene	98	6.743	6.743	(1.166)	195155	5.10189	5.102(R)
	44	Toluene	92	6.780	6.775	(1.173)	342773	9.73210	9.732
	46	Tetrachloroethene	166	7.041	7.041	(0.900)	162080	9.79389	9.794
	45	4-Methyl-2-Pentanone	58	7.051	7.046	(1.220)	224214	49.6038	49.604
	47	Trans 1,3-Dichloropropene	75	7.067	7.068	(1.222)	176253	10.6925	10.692
	48	1,1,2-Trichloroethane	97	7.184	7.185	(1.243)	91146	9.89108	9.891
	49	Chlorodibromomethane	129	7.306	7.307	(0.933)	115833	10.3116	10.312
	50	1,3-Dichloropropane	76	7.370	7.371	(0.942)	163865	9.78117	9.781
	51	1,2-Dibromoethane	107	7.471	7.472	(1.292)	85105	9.85344	9.853
	52	2-Hexanone	43	7.631	7.626	(0.975)	483998	54.6419	54.642
*	53	d5-Chlorobenzene	117	7.827	7.822	(1.000)	307072	10.0000	
	54	Chlorobenzene	112	7.838	7.833	(1.001)	397892	9.45740	9.457
	55	Ethyl Benzene	106	7.854	7.854	(1.003)	220333	9.67573	9.676
	56	1,1,1,2-Tetrachloroethane	131	7.881	7.881	(1.007)	140631	9.81377	9.814
	57	m,p-xylene	106	7.955	7.955	(1.016)	536026	19.1999	19.200
	58	o-Xylene	106	8.263	8.258	(1.056)	265211	9.62348	9.623
	59	Styrene	104	8.300	8.301	(1.060)	424367	10.0068	10.007
	60	Bromoform	173	8.322	8.322	(0.874)	72852	10.3097	10.310
	61	Isopropyl Benzene	105	8.487	8.487	(0.892)	680726	9.00007	9.000
$	62	4-Bromofluorobenzene	174	8.694	8.694	(1.111)	66311	5.13469	5.135(R)
	63	Bromobenzene	156	8.774	8.769	(0.922)	178033	9.32397	9.324
	64	N-Propyl Benzene	91	8.784	8.785	(0.923)	802310	9.14947	9.149
	65	1,1,2,2-Tetrachloroethane	83	8.843	8.838	(0.929)	109748	9.73715	9.737
	66	2-Chloro Toluene	91	8.901	8.901	(0.935)	539251	8.95825	8.958
	67	1,3,5-Trimethyl Benzene	105	8.928	8.928	(0.938)	590536	9.10168	9.102
	68	1,2,3-Trichloropropane	110	8.944	8.939	(0.940)	32718	9.27184	9.272
	69	Trans-1,4-Dichloro 2-Butene	53	8.970	8.971	(0.942)	49234	9.00395	9.004
	70	4-Chloro Toluene	91	9.023	9.024	(0.948)	501614	8.80171	8.802
	71	T-Butyl Benzene	119	9.162	9.162	(0.963)	490247	8.90530	8.905
	72	1,2,4-Trimethylbenzene	105	9.215	9.215	(0.968)	596941	9.03593	9.036
	73	S-Butyl Benzene	105	9.294	9.295	(0.977)	710226	9.12526	9.125
	74	4-Isopropyl Toluene	119	9.401	9.401	(0.988)	623029	9.11484	9.115
	75	1,3-Dichlorobenzene	146	9.459	9.460	(0.994)	356240	9.40400	9.404
*	76	d4-1,4-Dichlorobenzene	152	9.518	9.513	(1.000)	169932	10.0000	
	77	1,4-Dichlorobenzene	146	9.528	9.529	(1.001)	356551	9.43962	9.440
	78	N-Butyl Benzene	91	9.714	9.715	(1.021)	541890	9.20052	9.201
$	79	d4-1,2-Dichlorobenzene	152	9.837	9.837	(1.034)	78889	4.97902	4.979(R)
	80	1,2-Dichlorobenzene	146	9.842	9.842	(1.034)	310569	9.41867	9.419
	81	1,2-Dibromo 3-Chloropropane	75	10.453	10.459	(1.098)	17003	9.10238	9.102
	83	Hexachloro 1,3-Butadiene	225	10.953	10.953	(1.151)	90656	9.84995	9.850
	84	1,2,4-Trichlorobenzene	180	10.979	10.980	(1.154)	192537	9.75164	9.752
	85	Naphthalene	128	11.240	11.240	(1.181)	291671	10.4534	10.453
	86	1,2,3-Trichlorobenzene	180	11.383	11.384	(1.196)	139657	10.4608	10.461

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271804.D
Lab Smp Id: BGC0717-BSD1
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Client Smp ID: VOA
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	221778	6.20
37 1,4-Difluorobenze	319374	159687	638748	326250	2.15
53 d5-Chlorobenzene	290356	145178	580712	307072	5.76
76 d4-1,4-Dichlorobe	151501	75751	303002	169932	12.17

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	-0.01
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	-0.01
53 d5-Chlorobenzene	7.82	7.32	8.32	7.83	0.06
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.52	0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930a
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: BGC0717-BSD1 Client Smp ID: VOA
Level: Operator: PKC
Data Type: MS DATA SampleType: LCS
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: mdl.sub
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

SPIKE	COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
1	Dichlorodifluorome	10.000	9.832	98.32	
2	Chloromethane	10.000	9.704	97.04	
3	Vinyl Chloride	10.000	9.680	96.80	
4	Bromomethane	10.000	8.335	83.35	
5	Chloroethane	10.000	8.445	84.45	
6	Trichlorofluoromet	10.000	8.922	89.22	
7	1,1-Dichloroethene	10.000	9.653	96.53	
8	Carbon Disulfide	10.000	9.369	93.69	
9	112Trichloro122Tri	10.000	8.841	88.41	
10	Iodomethane	10.000	9.356	93.56	
11	Bromoethane	10.000	8.917	89.17	
12	Acrolein	50.000	48.824	97.65	
13	Methylene Chloride	10.000	9.828	98.28	
14	Acetone	50.000	49.372	98.74	
15	Trans-1,2-Dichloro	10.000	9.592	95.92	
17	Methyl tert butyl	10.000	9.746	97.46	
18	1,1-Dichloroethane	10.000	9.404	94.04	
19	Acrylonitrile	10.000	9.557	95.57	
20	Vinyl Acetate	10.000	10.549	105.49	
22	Cis-1,2-Dichloroet	10.000	9.413	94.13	
23	2,2-Dichloropropan	10.000	8.326	83.26	
24	Bromochloromethane	10.000	9.399	93.99	
25	Chloroform	10.000	9.812	98.12	
26	Carbon Tetrachlori	10.000	10.181	101.81	
28	1,1,1-Trichloroeth	10.000	9.255	92.55	
30	1,1-Dichloropropen	10.000	10.303	103.03	
29	2-Butanone	50.000	54.670	109.34	
31	Benzene	10.000	9.974	99.74	
34	1,2-Dichloroethane	10.000	9.678	96.78	
36	Trichloroethene	10.000	9.676	96.76	
38	Dibromomethane	10.000	10.245	102.45	
39	1,2-Dichloropropan	10.000	9.805	98.05	
40	Bromodichlorometha	10.000	9.932	99.32	
173	2-Pentanone	50.000	50.971	101.94	
41	2-Chloroethyl Viny	10.000	8.936	89.36	
42	Cis 1,3-dichloropr	10.000	10.104	101.04	
44	Toluene	10.000	9.732	97.32	
46	Tetrachloroethene	10.000	9.794	97.94	
45	4-Methyl-2-Pentano	50.000	49.604	99.21	
47	Trans 1,3-Dichloro	10.000	10.692	106.92	

	SPIKE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
48	1,1,2-Trichloroeth	10.000	9.891	98.91	
49	Chlorodibromometha	10.000	10.312	103.12	
50	1,3-Dichloropropan	10.000	9.781	97.81	
51	1,2-Dibromoethane	10.000	9.853	98.53	
52	2-Hexanone	50.000	54.642	109.28	
54	Chlorobenzene	10.000	9.457	94.57	
55	Ethyl Benzene	10.000	9.676	96.76	
56	1,1,1,2-Tetrachlor	10.000	9.814	98.14	
57	m,p-xylene	20.000	19.200	96.00	
58	o-Xylene	10.000	9.623	96.23	
59	Styrene	10.000	10.007	100.07	
60	Bromoform	10.000	10.310	103.10	
61	Isopropyl Benzene	10.000	9.000	90.00	
63	Bromobenzene	10.000	9.324	93.24	
64	N-Propyl Benzene	10.000	9.149	91.49	
65	1,1,2,2-Tetrachlor	10.000	9.737	97.37	
66	2-Chloro Toluene	10.000	8.958	89.58	
67	1,3,5-Trimethyl Be	10.000	9.102	91.02	
68	1,2,3-Trichloropro	10.000	9.272	92.72	
69	Trans-1,4-Dichloro	10.000	9.004	90.04	
70	4-Chloro Toluene	10.000	8.802	88.02	
71	T-Butyl Benzene	10.000	8.905	89.05	
72	1,2,4-Trimethylben	10.000	9.036	90.36	
73	S-Butyl Benzene	10.000	9.125	91.25	
74	4-Isopropyl Toluen	10.000	9.115	91.15	
75	1,3-Dichlorobenzen	10.000	9.404	94.04	
77	1,4-Dichlorobenzen	10.000	9.440	94.40	
78	N-Butyl Benzene	10.000	9.201	92.01	
80	1,2-Dichlorobenzen	10.000	9.419	94.19	
81	1,2-Dibromo 3-Chlo	10.000	9.102	91.02	
83	Hexachloro 1,3-But	10.000	9.850	98.50	
84	1,2,4-Trichloroben	10.000	9.752	97.52	
85	Naphthalene	10.000	10.453	104.53	
86	1,2,3-Trichloroben	10.000	10.461	104.61	

	SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27	Dibromofluorometha	5.000	4.993	99.86	
$ 33	d4-1,2-Dichloroeth	5.000	4.878	97.56	
$ 43	d8-Toluene	5.000	5.102	102.04	
$ 62	4-Bromofluorobenze	5.000	5.135	102.69	
$ 79	d4-1,2-Dichloroben	5.000	4.979	99.58	

REVIEW SUMMARY FOR FILE - V303271804.D

Lab ID: BGC0717-BSD1
nt3.i, 20180327.b\8260C110717.m,   27-MAR-2018 09:40

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

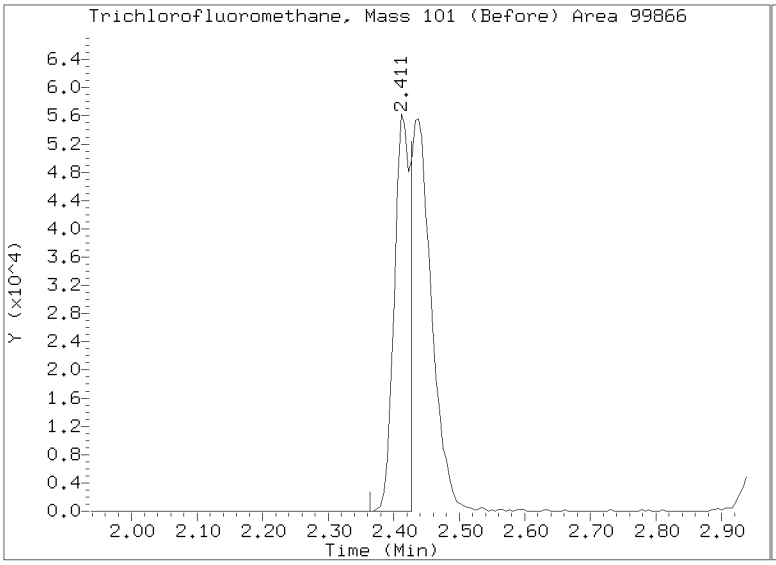
NONE

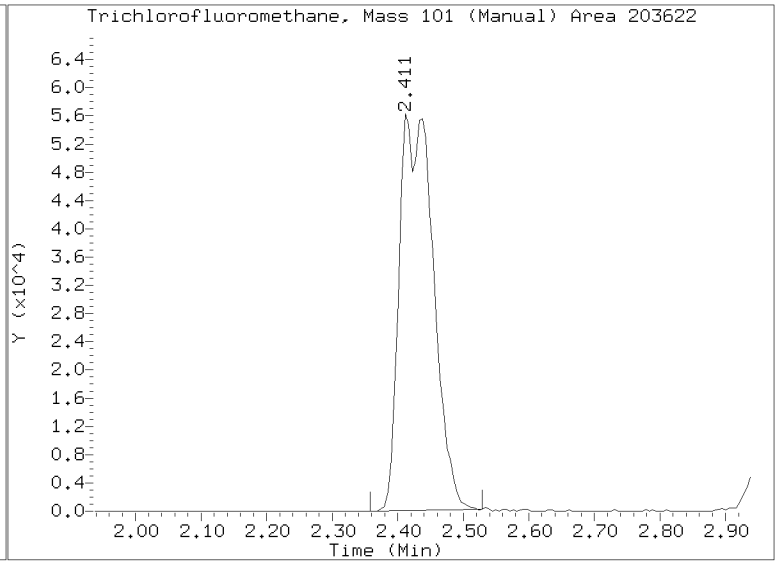
On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20180327.b/V303271804.D
Injection Date: 27-MAR-2018 09:40
Lab ID:BGC0717-BSD1 Client ID:VOA
Report Date: 03/28/2018 09:51





Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8260C

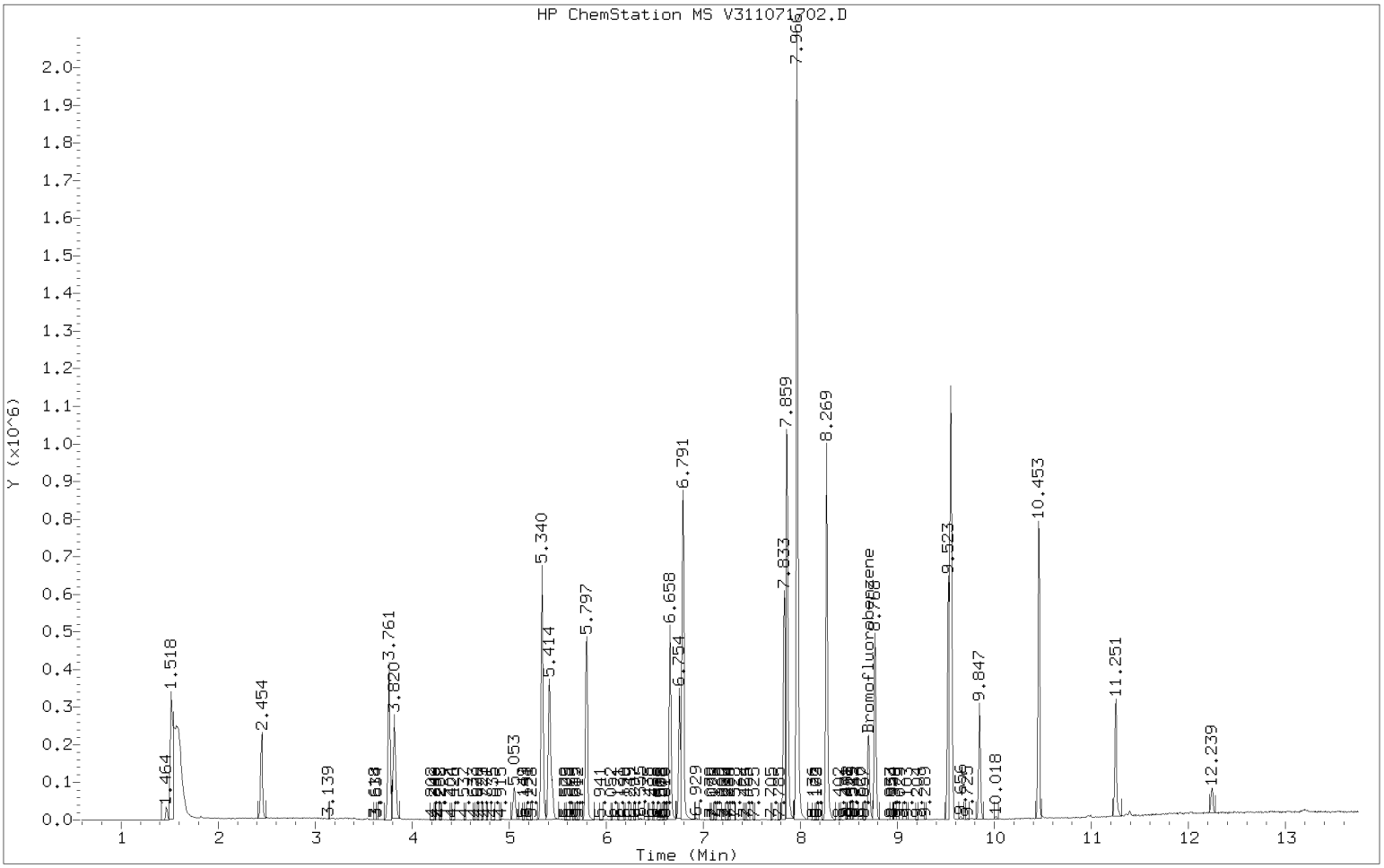
Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V311071702.D	Injection Date:	11/07/17
Instrument ID:	NT3	Injection Time:	08:48
Sequence:	SFK0116	Lab Sample ID:	SFK0116-TUN1

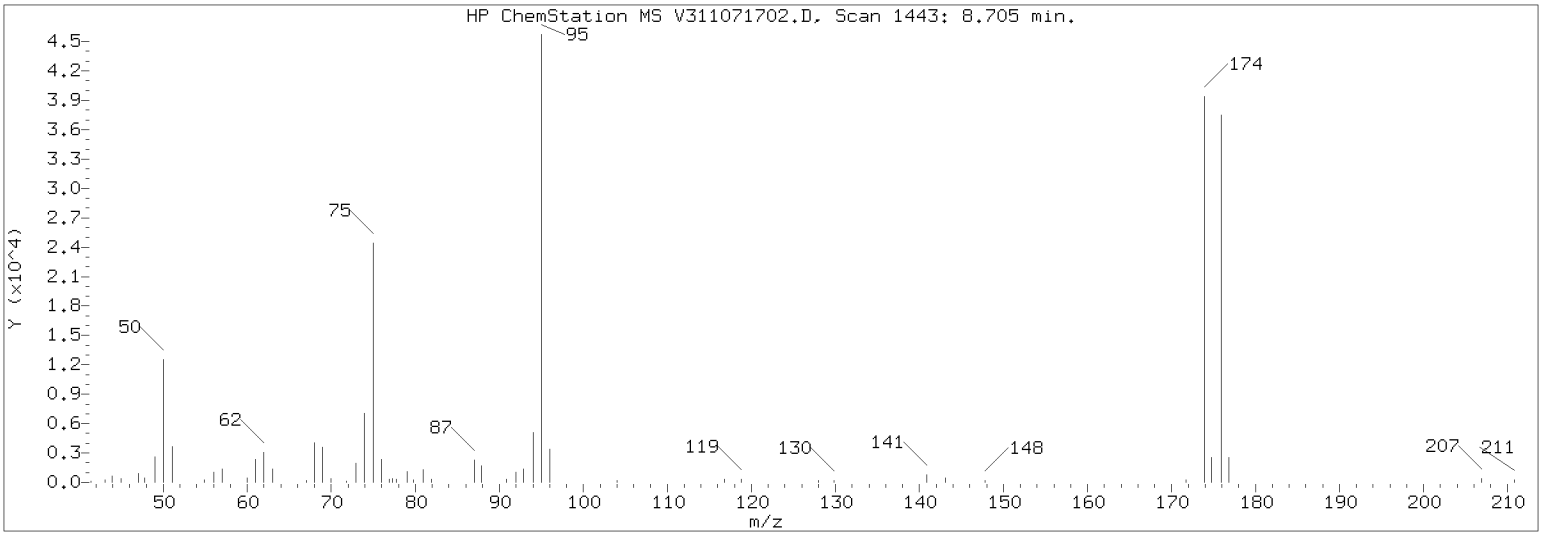
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	28.7	PASS
75	30 - 80% of 95	49.3	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.56	PASS
173	Less than 2% of 174	0.378	PASS
174	50 - 120% of 95	84	PASS
175	5 - 9% of 174	7.52	PASS
176	95 - 101% of 174	100	PASS
177	5 - 9% of 176	6.66	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SFK0116-TUN1	V311071702.D	11/07/2017	8:48
Cal Standard	SFK0116-CAL1	V311071707.D	11/07/2017	11:33
Cal Standard	SFK0116-CAL2	V311071708.D	11/07/2017	11:58
Cal Standard	SFK0116-CAL3	V311071709.D	11/07/2017	12:24
Cal Standard	SFK0116-CAL4	V311071710.D	11/07/2017	12:49
Cal Standard	SFK0116-CAL5	V311071711.D	11/07/2017	13:14
Cal Standard	SFK0116-CAL6	V311071712.D	11/07/2017	13:40
Cal Standard	SFK0116-CAL7	V311071713.D	11/07/2017	14:05
Cal Standard	SFK0116-CAL8	V311071714.D	11/07/2017	14:30
Secondary Cal Check	SFK0116-SCV1	V311071716.D	11/07/2017	15:21

BFB TUNE GRAPHIC REPORT

Datafile Analyzed: /20171107.b/V311071702.D
Method Used: \20171107.b\bfb8260.m Inst: nt3
Injection Date: 07-NOV-2017 08:48 Operator: PC
Sample Info: SFK0116-TUN1 SFK0116-TUN1
Report Date: 11/07/2017 15:18





m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	28.69
75	30.00 - 60.00% of mass 95	49.27
96	5.00 - 9.00% of mass 95	7.56
173	Less than 2.00% of mass 174	0.32 (0.38)
174	50.00 - 100.00% of mass 95	83.98
175	5.00 - 9.00% of mass 174	6.31 (7.52)
176	95.00 - 101.00% of mass 174	84.19 (100.25)
177	5.00 - 9.00% of mass 176	5.61 (6.66)

Data File: V311071702.D
Spectrum: Avg. Scans 1442-1444 (8.70), Background Scan 1435
Location of Maximum: 95.00
Number of points: 67

m/z	Y	m/z	Y	m/z	Y	m/z	Y
41.00	116	63.00	1512	87.00	1771	130.00	68
42.00	60	65.00	75	88.00	1424	140.00	50
43.00	76	67.00	56	89.00	62	141.00	546
44.00	229	68.00	3733	91.00	296	143.00	441
45.00	512	69.00	3417	92.00	994	148.00	179
47.00	777	70.00	366	93.00	1430	155.00	64
48.00	608	72.00	245	94.00	4529	157.00	59
49.00	2410	73.00	1973	95.00	41552	159.00	53
50.00	11922	74.00	7185	96.00	3143	172.00	77
51.00	3454	75.00	20472	97.00	50	173.00	132
52.00	136	76.00	1985	104.00	265	174.00	34896
55.00	257	77.00	527	106.00	71	175.00	2624
56.00	871	78.00	118	116.00	86	176.00	34984
57.00	1570	79.00	1097	117.00	247	177.00	2329
60.00	506	80.00	226	119.00	158	207.00	7
61.00	2153	81.00	1207	128.00	124	211.00	89
62.00	2682	82.00	335	129.00	52		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8260C

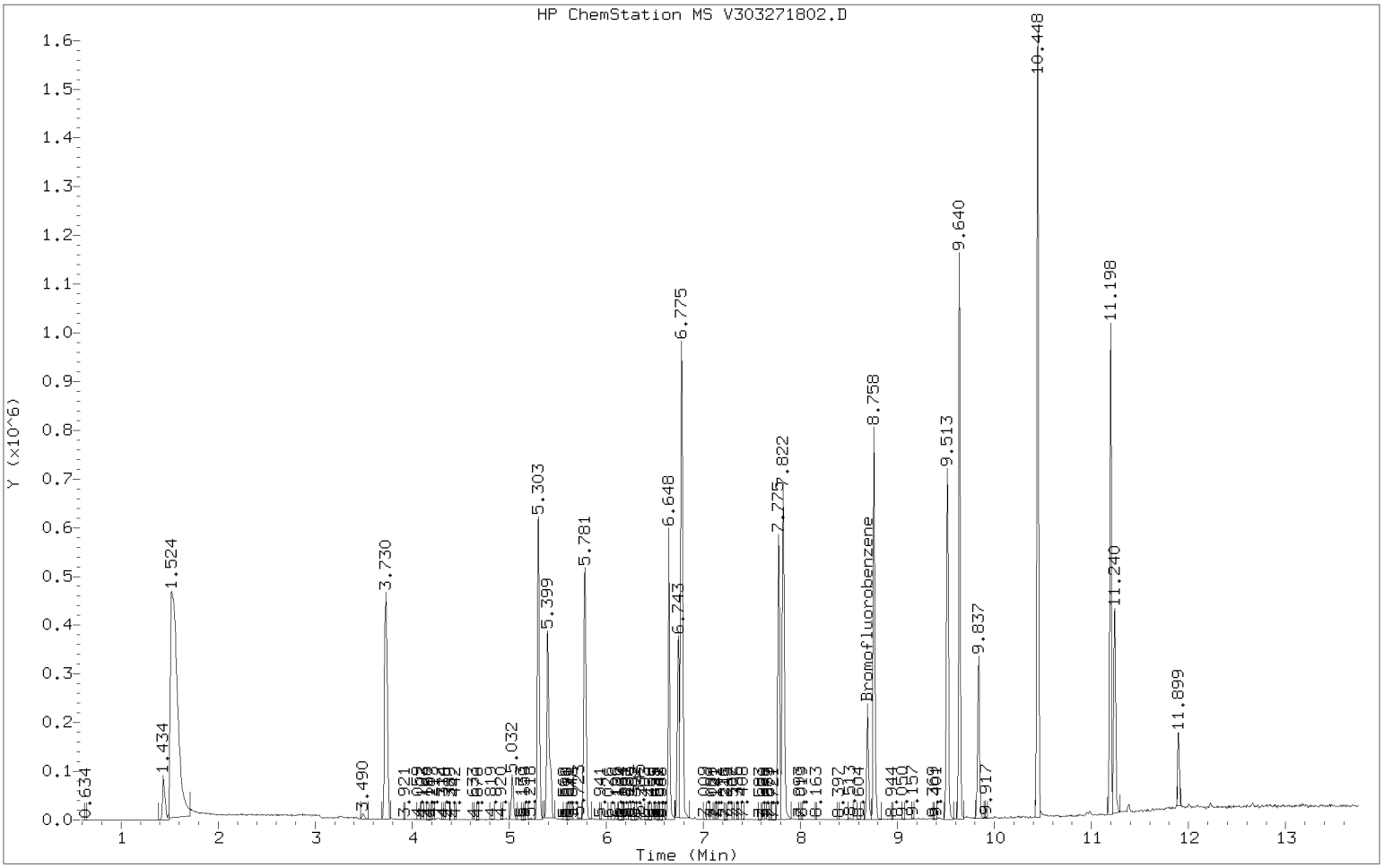
Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V303271802.D	Injection Date:	03/27/18
Instrument ID:	NT3	Injection Time:	08:39
Sequence:	SGC0407	Lab Sample ID:	SGC0407-TUN1

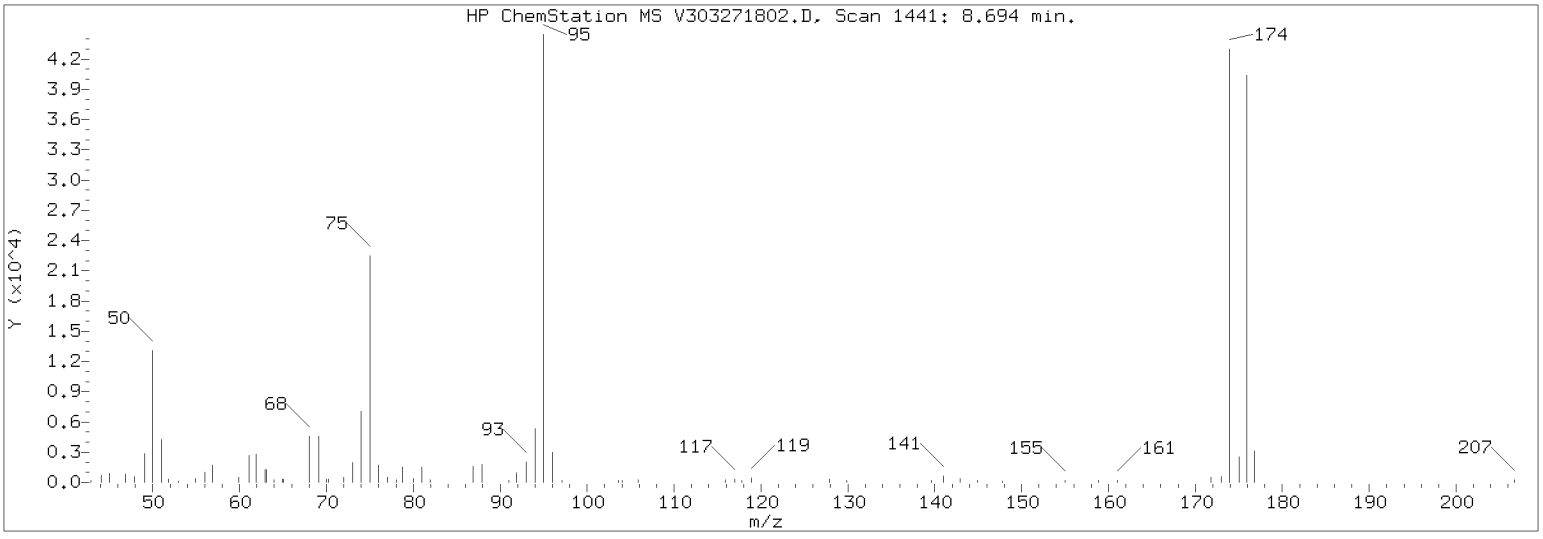
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	29.9	PASS
75	30 - 80% of 95	49.6	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.15	PASS
173	Less than 2% of 174	0.497	PASS
174	50 - 120% of 95	93.9	PASS
175	5 - 9% of 174	6.32	PASS
176	95 - 101% of 174	95.3	PASS
177	5 - 9% of 176	7.15	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGC0407-TUN1	V303271802.D	03/27/2018	8:39
LCS	BGC0717-BS1	V303271803LCS.D	03/27/2018	9:15
Initial Cal Check	SGC0407-ICV1	V303271803.D	03/27/2018	9:15
LCS Dup	BGC0717-BSD1	V303271804.D	03/27/2018	9:40
Blank	BGC0717-BLK1	V303271808.D	03/27/2018	11:22
ZZZZZ	18C0313-01	V303271809.D	03/27/2018	11:47
ZZZZZ	18C0346-13	V303271810.D	03/27/2018	12:12
ZZZZZ	18C0346-01	V303271814.D	03/27/2018	13:53
ZZZZZ	18C0346-03	V303271815.D	03/27/2018	14:19
ZZZZZ	18C0346-05	V303271816.D	03/27/2018	14:44
ZZZZZ	18C0346-07	V303271817.D	03/27/2018	15:09
ZZZZZ	18C0346-09	V303271818.D	03/27/2018	15:34
ZZZZZ	18C0346-11	V303271819.D	03/27/2018	16:00
ZZZZZ	18C0415-01	V303271820.D	03/27/2018	16:25
Trip Blank	18C0424-03	V303271822.D	03/27/2018	17:15
MW-4-180326	18C0424-01	V303271823.D	03/27/2018	17:41
ZZZZZ	18C0439-01	V303271826.D	03/27/2018	18:56
Calibration Check	SGC0407-CCV1	V303271828.D	03/27/2018	19:47

BFB TUNE GRAPHIC REPORT

Datafile Analyzed: /20180327.b/V303271802.D
Method Used: \20180327.b\bfb8260.m Inst: nt3
Injection Date: 27-MAR-2018 08:39 Operator: PKC
Sample Info: SGC0407-TUN1 SGC0407-TUN1
Report Date: 03/28/2018 09:41





m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	29.90
75	30.00 - 60.00% of mass 95	49.62
96	5.00 - 9.00% of mass 95	7.15
173	Less than 2.00% of mass 174	0.47 (0.50)
174	50.00 - 100.00% of mass 95	93.89
175	5.00 - 9.00% of mass 174	5.93 (6.32)
176	95.00 - 101.00% of mass 174	89.43 (95.26)
177	5.00 - 9.00% of mass 176	6.40 (7.15)

Data File: V303271802.D
Spectrum: Avg. Scans 1440-1442 (8.69), Background Scan 1433
Location of Maximum: 95.00
Number of points: 75

m/z	Y	m/z	Y	m/z	Y	m/z	Y
41.00	84	64.00	240	88.00	1643	141.00	557
43.00	60	65.00	365	91.00	198	143.00	371
44.00	403	66.00	57	92.00	1058	145.00	130
45.00	645	67.00	54	93.00	1916	148.00	52
47.00	1399	68.00	4050	94.00	4660	155.00	152
48.00	496	69.00	3954	95.00	40952	157.00	118
49.00	2602	70.00	474	96.00	2928	159.00	59
50.00	12246	72.00	419	97.00	71	161.00	59
51.00	3725	73.00	1873	103.00	132	171.00	76
52.00	157	74.00	6468	104.00	215	172.00	642
53.00	50	75.00	20320	106.00	259	173.00	191
55.00	160	76.00	1493	107.00	60	174.00	38448
56.00	1071	77.00	226	116.00	204	175.00	2430
57.00	1309	78.00	311	117.00	275	176.00	36624
58.00	69	79.00	1235	118.00	224	177.00	2620
60.00	475	80.00	469	119.00	258	181.00	63
61.00	2409	81.00	1117	128.00	154	207.00	51
62.00	2518	82.00	274	130.00	133	251.00	69
63.00	1959	87.00	1560	139.00	65		

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	AK00023	Instrument:	NT3
Calibration Date:	11/07/2017 8:29	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Benzene	0.2	1.534118	0.5	1.691154	1	1.73921	2	1.723779	10	1.67823	20	1.656835
Toluene	0.2	1.107448	0.5	1.100914	1	1.05754	2	1.099855	10	1.078923	20	1.083634
Ethylbenzene	0.2	0.7165266	0.5	0.7547535	1	0.7192388	2	0.7576026	10	0.7497727	20	0.7432643
m,p-Xylene	0.4	0.8603468	1	0.9181545	2	0.9118829	4	0.9404862	20	0.9283311	40	0.9101724
o-Xylene	0.2	0.875278	0.5	0.889669	1	0.8721321	2	0.9119626	10	0.9162476	20	0.8938697
1,2-Dichloroethane-d4	5	0.4997185	5	0.548195	5	0.5338033	5	0.5334251	5	0.503194	5	0.5068851
1,2-Dichlorobenzene-d4	5	0.9267921	5	0.9197239	5	0.9385696	5	0.9198744	5	0.9470961	5	0.9427683
Toluene-d8	5	1.173696	5	1.169665	5	1.14211	5	1.178434	5	1.171955	5	1.190068
4-Bromofluorobenzene	5	0.4090535	5	0.4122882	5	0.4304876	5	0.417143	5	0.4223918	5	0.4200208
Dibromofluoromethane	5	0.4280672	5	0.4384611	5	0.4351639	5	0.4385926	5	0.4288546	5	0.4232471

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	AK00023	Instrument:	NT3
Calibration Date:	11/07/2017 8:29	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Benzene	40	1.623229	80	1.552999								
Toluene	40	1.069762	80	1.038459								
Ethylbenzene	40	0.7546636	80	0.7367876								
m,p-Xylene	80	0.9274587	160	0.8765513								
o-Xylene	40	0.9189333	80	0.9016569								
1,2-Dichloroethane-d4	5	0.5071411	5	0.5234326								
1,2-Dichlorobenzene-d4	5	0.9161146	5	0.9481817								
Toluene-d8	5	1.179228	5	1.174522								
4-Bromofluorobenzene	5	0.4216929	5	0.4314252								
Dibromofluoromethane	5	0.4365348	5	0.4471342								

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	AK00023	Instrument:	NT3
Calibration Date:	11/07/2017 8:29	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Benzene	1.649944	4.6			RSD (15)	
Toluene	1.079567	2.2			RSD (15)	
Ethylbenzene	0.7415762	2.2			RSD (15)	
m,p-Xylene	0.909173	3.0			RSD (15)	
o-Xylene	0.8974687	2.0			RSD (15)	
1,2-Dichloroethane-d4	0.5194743	3.4			RSD (15)	
1,2-Dichlorobenzene-d4	0.9323901	1.4			RSD (15)	
Toluene-d8	1.17246	1.2			RSD (15)	
4-Bromofluorobenzene	0.4205629	1.9			RSD (15)	
Dibromofluoromethane	0.4345069	1.7			RSD (15)	

Printed: 11/8/2017 8:40:29AM

ANALYSIS SEQUENCE

SFK0116

Instrument: NT3 Element Column ID: 1300725 RTXV
Calibration ID: AK00023 Tune File: bfb.u
EM Voltage: 1988

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SFK0116-TUN1	MS Tune	QC		1	F009789	F009420	
SFK0116-CAL1	8260C 0.2	QC		2	F010278	F009420	
SFK0116-CAL2	8260C 0.5	QC		3	F010279	F009420	
SFK0116-CAL3	8260C 1.0	QC		4	F010280	F009420	
SFK0116-CAL4	8260C 2.0	QC		5	F010281	F009420	
SFK0116-CAL5	8260C 10	QC		6	F010282	F009420	
SFK0116-CAL6	8260C 20	QC		7	F010283	F009420	
SFK0116-CAL7	8260C 40	QC		8	F010284	F009420	
SFK0116-CAL8	8260C 80	QC		9	F010285	F009420	
SFK0116-SCV1	8260C SCV 10	QC		10	F010286	F009420	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20171107.b

	Time	Filename	LabID	ClientID	Vial#	pH	DF								
1	0822	V311071701.D	RINSE				1								
2	0848	V311071702.D	SFK0116-TUN1				1								
3	0923	V311071703.D	SFK0-ICV1				1								
4	0948	V311071704.D	BFK0-BSD1				1								
5	1014	V311071705.D	SFK0-ICV1				1	5.42	201461	5.80	321075	7.83	280974	9.52	149170
6	1039	V311071706.D	RINSE				1	5.41	204432	5.80	314403	7.83	283111	9.52	142269
7	1133	V311071707.D	SFK0116-CAL1				1	5.41	204267	5.79	316990	7.83	291336	9.52	142949
8	1158	V311071708.D	SFK0116-CAL2				1	5.42	189750	5.80	298116	7.83	268909	9.52	139668
9	1224	V311071709.D	SFK0116-CAL3				1	5.41	198886	5.80	307818	7.83	276598	9.52	140175
10	1249	V311071710.D	SFK0116-CAL4				1	5.42	197696	5.79	300285	7.83	270828	9.52	142052
11	1314	V311071711.D	SFK0116-CAL5				1	5.42	208826	5.80	319374	7.83	290356	9.52	151501
12	1340	V311071712.D	SFK0116-CAL6				1	5.42	208422	5.80	321753	7.83	296852	9.52	154023
13	1405	V311071713.D	SFK0116-CAL7				1	5.42	213692	5.80	334590	7.83	304487	9.52	162257
14	1430	V311071714.D	SFK0116-CAL8				1	5.41	214893	5.80	342289	7.84	312972	9.53	166312
15	1456	V311071715.D	RINSE				1	5.41	209802	5.80	327880	7.83	295389	9.52	146370
16	1521	V311071716.D	SFK0116-SCV1				1	5.41	212374	5.80	332609	7.83	291732	9.52	153105
17	1546	V311071717.D	SFK0117-CAL9				1	5.41	204187	5.80	321071	7.83	285449	9.52	146333
18	1611	V311071718.D	SFK0117-CALA				1	5.42	200651	5.80	315550	7.83	286162	9.52	143460
19	1636	V311071719.D	SFK0117-CALB				1	5.42	204214	5.80	320134	7.83	287780	9.52	147309
20	1702	V311071720.D	SFK0117-CALC				1	5.42	212480	5.80	330024	7.83	294715	9.52	151290

21	1727	V311071721.D	SFK0117-CALD	1	5.41	217425	5.80	350921	7.83	309601	9.52	158904
22	1753	V311071722.D	SFK0117-CALE	1	5.42	212108	5.80	354978	7.83	307108	9.52	161526
23	1818	V311071723.D	RINSE	1	5.41	210660	5.80	333868	7.83	298628	9.52	155122
24	1843	V311071724.D	SFK0117-SCV2	1	5.41	208326	5.80	335647	7.83	299574	9.52	152979

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20171107.b

ARI Job No.: SFK0 Method: 8260C110717.m Instrument: nt3.i Date: 07-NOV-2017

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1133	V311071707.D	SFK0116-CAL1		1	Dichlorodifluoromethane, Chloroethane, 112Trichloro122Trifluoroethane, Bromochloromethane, 2-Chloroethyl Vinyl Ether,
1158	V311071708.D	SFK0116-CAL2		1	Dichlorodifluoromethane, Chloroethane, Trichlorofluoromethane,
1224	V311071709.D	SFK0116-CAL3		1	Dichlorodifluoromethane, Chloroethane, Trichlorofluoromethane, Acrolein,
1249	V311071710.D	SFK0116-CAL4		1	Dichlorodifluoromethane, d5-Chlorobenzene,
1314	V311071711.D	SFK0116-CAL5		1	Trichlorofluoromethane,
1340	V311071712.D	SFK0116-CAL6		1	Trichlorofluoromethane,
1405	V311071713.D	SFK0116-CAL7		1	Trichlorofluoromethane,
1430	V311071714.D	SFK0116-CAL8		1	Trichlorofluoromethane, 112Trichloro122Trifluoroethane, Pentafluorobenzene,
1521	V311071716.D	SFK0116-SCV1		1	Trichlorofluoromethane,

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Batch File: \\target\share\chem1\nt3.i\20171107.b
Inst ID: nt3.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	RT09
FILENAME:	V311071707	V311071708	V311071709	V311071710	V311071711	V311071712	V311071713	V311071714	V311071716
INJ.DATE:	07-NOV-2017	07-NOV-2017	07-NOV-2017	07-NOV-2017	07-NOV-2017	07-NOV-2017	07-NOV-2017	07-NOV-2017	07-NOV-2017
INJ.TIME:	11:33	11:58	12:24	12:49	13:14	13:40	14:05	14:30	15:21

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	RT09	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Dichlorodifluoromethan	1.656	1.673	1.667	1.668	1.668	1.668	1.663	1.667	1.667	1.668	1.560-1.776	1.666	0.005
2 Chloromethane	1.810	1.817	1.811	1.811	1.811	1.817	1.811	1.816	1.811	1.811	1.703-1.920	1.813	0.003
3 Vinyl Chloride	1.890	1.897	1.906	1.902	1.907	1.912	1.918	1.927	1.906	1.907	1.799-2.015	1.907	0.011
4 Bromomethane	2.220	2.237	2.236	2.231	2.231	2.237	2.231	2.230	2.231	2.231	2.123-2.340	2.232	0.005
5 Chloroethane	2.363	2.359	2.364	2.364	2.364	2.370	2.354	2.358	2.364	2.364	2.256-2.473	2.362	0.005
6 Trichlorofluoromethane	2.448	2.449	2.449	2.449	2.449	2.449	2.449	2.448	2.449	2.449	2.341-2.558	2.449	0.000
7 1,1-Dichloroethene	2.927	2.933	2.932	2.938	2.933	2.933	2.928	2.927	2.932	2.933	2.825-3.041	2.931	0.004
8 Carbon Disulfide	2.937	2.938	2.938	2.943	2.938	2.938	2.933	2.932	2.938	2.938	2.830-3.047	2.937	0.003
9 112Trichloro122Trifluo	3.001	3.034	3.044	3.039	3.034	3.045	3.029	3.022	3.033	3.034	2.926-3.142	3.031	0.013
10 Iodomethane	3.065	3.071	3.071	3.071	3.071	3.071	3.066	3.065	3.071	3.071	2.963-3.179	3.069	0.003
11 Bromoethane	3.198	3.199	3.198	3.204	3.204	3.199	3.199	3.198	3.198	3.204	3.096-3.312	3.200	0.003
12 Acrolein	3.315	3.321	3.326	3.326	3.321	3.316	3.310	3.315	3.326	3.321	3.213-3.429	3.319	0.006
13 Methylene Chloride	3.533	3.534	3.533	3.533	3.528	3.534	3.528	3.527	3.533	3.528	3.420-3.637	3.531	0.003
14 Acetone	3.660	3.656	3.650	3.656	3.656	3.645	3.640	3.644	3.671	3.656	3.548-3.764	3.653	0.010
15 Trans-1,2-Dichloroethe	3.676	3.683	3.682	3.688	3.688	3.682	3.682	3.682	3.682	3.688	3.579-3.796	3.683	0.003
16 n-hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.763	3.655-3.871	+++++	+++++
17 Methyl tert butyl ethe	3.814	3.821	3.820	3.821	3.815	3.815	3.815	3.814	3.820	3.815	3.707-3.924	3.817	0.003

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Batch File: \\target\share\chem1\nt3.i\20171107.b
Inst ID: nt3.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	RT09	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	18 1,1-Dichloroethane	4.240	4.235	4.240	4.240	4.241	4.241	4.241	4.240	4.240	4.241	4.132-4.349	4.240	0.002
	19 Acrylonitrile	4.319	4.320	4.320	4.315	4.315	4.315	4.310	4.309	4.320	4.315	4.207-4.423	4.316	0.004
	21 Allyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.560	4.452-4.668	+++++	+++++
	20 Vinyl Acetate	4.479	4.485	4.484	4.485	4.485	4.480	4.480	4.479	4.484	4.485	4.377-4.593	4.482	0.003
	22 Cis-1,2-Dichloroethene	4.686	4.687	4.686	4.692	4.692	4.692	4.687	4.686	4.692	4.692	4.584-4.801	4.689	0.003
	23 2,2-Dichloropropane	4.766	4.772	4.772	4.772	4.772	4.772	4.772	4.771	4.771	4.772	4.664-4.880	4.771	0.002
	24 Bromochloromethane	4.856	4.847	4.846	4.852	4.847	4.847	4.846	4.846	4.846	4.847	4.738-4.955	4.848	0.004
	25 Chloroform	4.915	4.910	4.915	4.915	4.910	4.910	4.910	4.909	4.915	4.910	4.802-5.019	4.912	0.003
	26 Carbon Tetrachloride	4.994	5.001	5.005	5.001	5.001	5.001	5.001	5.000	5.000	5.001	4.885-5.117	5.000	0.003
$	27 Dibromofluoromethane	5.053	5.049	5.048	5.054	5.049	5.054	5.048	5.053	5.053	5.049	4.940-5.157	5.051	0.003
	28 1,1,1-Trichloroethane	5.053	5.059	5.059	5.059	5.054	5.054	5.054	5.058	5.059	5.054	4.946-5.162	5.056	0.003
	30 1,1-Dichloropropene	5.143	5.150	5.154	5.149	5.150	5.150	5.149	5.149	5.149	5.150	5.034-5.266	5.149	0.003
	29 2-Butanone	5.191	5.176	5.181	5.176	5.176	5.171	5.171	5.170	5.181	5.176	5.068-5.284	5.177	0.007
	31 Benzene	5.335	5.336	5.340	5.341	5.341	5.341	5.336	5.340	5.335	5.341	5.225-5.457	5.338	0.003
*	32 Pentafluorobenzene	5.414	5.415	5.415	5.415	5.415	5.415	5.415	5.414	5.415	5.415	5.307-5.524	5.415	0.000
$	33 d4-1,2-Dichloroethane	5.441	5.442	5.441	5.442	5.447	5.442	5.442	5.446	5.441	5.447	5.339-5.556	5.443	0.002
	35 Methyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.693	5.577-5.809	+++++	+++++
	34 1,2-Dichloroethane	5.489	5.495	5.494	5.495	5.495	5.495	5.495	5.494	5.494	5.495	5.379-5.611	5.494	0.002
	36 Trichloroethene	5.760	5.766	5.766	5.766	5.766	5.766	5.766	5.765	5.765	5.766	5.650-5.882	5.765	0.002
*	37 1,4-Difluorobenzene	5.792	5.798	5.797	5.793	5.798	5.798	5.798	5.797	5.797	5.798	5.682-5.914	5.796	0.002
	38 Dibromomethane	6.068	6.069	6.063	6.074	6.069	6.069	6.069	6.068	6.068	6.069	5.953-6.185	6.069	0.003
	39 1,2-Dichloropropane	6.137	6.138	6.138	6.138	6.138	6.138	6.138	6.137	6.138	6.138	6.022-6.254	6.138	0.000

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Batch File: \\target\share\chem1\nt3.i\20171107.b
Inst ID: nt3.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	RT09	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	40 Bromodichloromethane	6.185	6.186	6.185	6.186	6.186	6.186	6.186	6.185	6.185	6.186	6.070-6.302	6.186	0.000
	173 2-Pentanone	6.419	6.420	6.414	6.414	6.415	6.415	6.415	6.414	6.419	6.415	6.299-6.531	6.416	0.003
	42 Cis 1,3-dichloropropen	6.626	6.627	6.627	6.627	6.627	6.627	6.627	6.626	6.627	6.627	6.511-6.743	6.627	0.000
$	43 d8-Toluene	6.754	6.755	6.754	6.755	6.755	6.755	6.755	6.754	6.754	6.755	6.639-6.871	6.754	0.000
	41 2-Chloroethyl Vinyl Et	6.578	6.590	6.595	6.590	6.590	6.590	6.590	6.589	6.589	6.590	6.474-6.706	6.589	0.004
	44 Toluene	6.791	6.787	6.791	6.792	6.792	6.792	6.792	6.791	6.791	6.792	6.676-6.908	6.791	0.002
	45 4-Methyl-2-Pentanone	7.057	7.058	7.062	7.058	7.058	7.058	7.058	7.062	7.062	7.058	6.942-7.174	7.059	0.002
	46 Tetrachloroethene	7.057	7.053	7.052	7.052	7.053	7.052	7.052	7.057	7.052	7.053	6.896-7.209	7.053	0.002
	47 Trans 1,3-Dichloroprop	7.078	7.085	7.084	7.084	7.079	7.079	7.079	7.083	7.078	7.079	6.963-7.195	7.081	0.003
	48 1,1,2-Trichloroethane	7.195	7.191	7.195	7.191	7.191	7.196	7.196	7.195	7.190	7.191	7.075-7.307	7.193	0.003
	49 Chlorodibromomethane	7.312	7.318	7.312	7.313	7.318	7.318	7.318	7.317	7.318	7.318	7.162-7.475	7.316	0.003
	50 1,3-Dichloropropane	7.386	7.382	7.381	7.382	7.382	7.382	7.382	7.381	7.381	7.382	7.225-7.539	7.382	0.002
	51 1,2-Dibromoethane	7.482	7.483	7.477	7.483	7.483	7.483	7.483	7.482	7.482	7.483	7.367-7.599	7.482	0.002
	52 2-Hexanone	7.642	7.637	7.642	7.637	7.637	7.637	7.637	7.636	7.642	7.637	7.480-7.794	7.639	0.002
*	53 d5-Chlorobenzene	7.833	7.834	7.833	7.834	7.834	7.834	7.834	7.838	7.833	7.834	7.677-7.991	7.834	0.002
	54 Chlorobenzene	7.849	7.845	7.849	7.844	7.845	7.850	7.850	7.849	7.849	7.845	7.688-8.001	7.848	0.002
	55 Ethyl Benzene	7.859	7.861	7.865	7.860	7.866	7.866	7.866	7.865	7.865	7.866	7.709-8.022	7.864	0.003
	56 1,1,1,2-Tetrachloroeth	7.891	7.892	7.892	7.892	7.892	7.892	7.892	7.891	7.892	7.892	7.736-8.049	7.892	0.000
	57 m,p-xylene	7.966	7.967	7.966	7.967	7.967	7.967	7.967	7.971	7.966	7.967	7.810-8.123	7.967	0.002
	58 o-Xylene	8.269	8.270	8.269	8.270	8.270	8.270	8.275	8.274	8.269	8.270	8.113-8.426	8.271	0.002
	59 Styrene	8.311	8.307	8.306	8.307	8.307	8.312	8.312	8.311	8.312	8.307	8.150-8.464	8.310	0.003
	60 Bromoform	8.333	8.334	8.333	8.333	8.334	8.333	8.333	8.333	8.333	8.334	8.143-8.524	8.333	0.000
	61 Isopropyl Benzene	8.497	8.493	8.498	8.493	8.493	8.493	8.498	8.497	8.492	8.493	8.302-8.683	8.495	0.003
$	62 4-Bromofluorobenzene	8.705	8.706	8.705	8.705	8.706	8.706	8.706	8.705	8.705	8.706	8.549-8.862	8.705	0.000

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Batch File: \\target\share\chem1\nt3.i\20171107.b
Inst ID: nt3.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	RT09	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	63 Bromobenzene	8.779	8.785	8.779	8.780	8.780	8.780	8.780	8.779	8.779	8.780	8.589-8.970	8.780	0.002
	64 N-Propyl Benzene	8.795	8.796	8.795	8.796	8.796	8.796	8.796	8.795	8.795	8.796	8.605-8.986	8.796	0.000
	82 Cyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.074	8.917-9.231	+++++	+++++
	65 1,1,2,2-Tetrachloroeth	8.848	8.849	8.848	8.849	8.849	8.849	8.849	8.853	8.848	8.849	8.659-9.040	8.849	0.002
	66 2-Chloro Toluene	8.912	8.908	8.912	8.913	8.913	8.913	8.913	8.912	8.912	8.913	8.722-9.103	8.912	0.002
	67 1,3,5-Trimethyl Benzen	8.939	8.940	8.939	8.939	8.940	8.939	8.939	8.938	8.939	8.940	8.749-9.130	8.939	0.000
	68 1,2,3-Trichloropropane	8.954	8.950	8.955	8.950	8.950	8.950	8.950	8.954	8.949	8.950	8.760-9.141	8.951	0.002
	69 Trans-1,4-Dichloro 2-B	8.981	8.977	8.976	8.976	8.977	8.982	8.982	8.981	8.981	8.977	8.786-9.167	8.979	0.003
	70 4-Chloro Toluene	9.034	9.035	9.035	9.035	9.035	9.035	9.035	9.034	9.034	9.035	8.845-9.226	9.035	0.000
	71 T-Butyl Benzene	9.172	9.173	9.173	9.173	9.173	9.173	9.173	9.172	9.173	9.173	8.983-9.364	9.173	0.000
	72 1,2,4-Trimethylbenzene	9.226	9.221	9.226	9.226	9.227	9.226	9.226	9.226	9.226	9.227	9.036-9.417	9.226	0.002
	73 S-Butyl Benzene	9.305	9.306	9.306	9.306	9.306	9.306	9.306	9.305	9.306	9.306	9.116-9.497	9.306	0.000
	74 4-Isopropyl Toluene	9.406	9.407	9.412	9.407	9.413	9.413	9.412	9.412	9.412	9.413	9.222-9.603	9.410	0.003
	75 1,3-Dichlorobenzene	9.470	9.471	9.470	9.471	9.471	9.471	9.471	9.470	9.470	9.471	9.281-9.662	9.471	0.000
*	76 d4-1,4-Dichlorobenzene	9.523	9.524	9.524	9.524	9.524	9.524	9.524	9.529	9.523	9.524	9.334-9.715	9.524	0.002
	77 1,4-Dichlorobenzene	9.539	9.535	9.540	9.535	9.535	9.535	9.540	9.539	9.534	9.535	9.344-9.725	9.537	0.003
	78 N-Butyl Benzene	9.725	9.726	9.726	9.726	9.726	9.726	9.726	9.725	9.725	9.726	9.536-9.917	9.726	0.000
$	79 d4-1,2-Dichlorobenzene	9.847	9.849	9.848	9.848	9.848	9.848	9.848	9.847	9.848	9.848	9.658-10.039	9.848	0.000
	80 1,2-Dichlorobenzene	9.853	9.854	9.853	9.854	9.854	9.854	9.854	9.858	9.853	9.854	9.663-10.044	9.854	0.002
	81 1,2-Dibromo 3-Chloropr	10.464	10.460	10.470	10.465	10.465	10.465	10.465	10.464	10.464	10.465	10.274-10.655	10.465	0.003
	83 Hexachloro 1,3-Butadie	10.964	10.965	10.969	10.964	10.965	10.965	10.965	10.969	10.964	10.965	10.774-11.155	10.965	0.002
	84 1,2,4-Trichlorobenzene	10.990	10.991	10.991	10.991	10.991	10.991	10.991	10.990	10.991	10.991	10.801-11.182	10.991	0.000
	85 Naphthalene	11.245	11.252	11.251	11.252	11.252	11.252	11.252	11.251	11.251	11.252	11.061-11.442	11.251	0.002

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Batch File: \\target\share\chem1\nt3.i\20171107.b
Inst ID: nt3.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	RT09	EXPEC RT	RT WINDOW	AVG RT	STD DEV
86 1,2,3-Trichlorobenzene	11.394	11.395	11.395	11.395	11.395	11.395	11.395	11.394	11.395	11.395	11.205-11.586	11.395	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2017 11:33
End Cal Date : 07-NOV-2017 14:30
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Last Edit : 07-Nov-2017 14:55 Paul
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem1\nt3.i\20171107.b\V311071707.D
Level 2: \\target\share\chem1\nt3.i\20171107.b\V311071708.D
Level 3: \\target\share\chem1\nt3.i\20171107.b\V311071709.D
Level 4: \\target\share\chem1\nt3.i\20171107.b\V311071710.D
Level 5: \\target\share\chem1\nt3.i\20171107.b\V311071711.D
Level 6: \\target\share\chem1\nt3.i\20171107.b\V311071712.D
Level 7: \\target\share\chem1\nt3.i\20171107.b\V311071713.D
Level 8: \\target\share\chem1\nt3.i\20171107.b\V311071714.D

Compound	0.20000 Level 1 / 40.000 Level 7	0.50000 Level 2 / 80.000 Level 8	1.000 Level 3	2.000 Level 4	10.000 Level 5	20.000 Level 6	RRF	% RSD
1 Dichlorodifluoromethane	0.68415 / 0.63237	0.81391 / 0.61541	0.69547	0.71059	0.63341	0.62216	0.67593	9.837
2 Chloromethane	+++++ / 1.31260	1.53708 / 1.29254	1.49503	1.39646	1.33148	1.34690	1.38744	6.801
3 Vinyl Chloride	1.08192 / 1.12684	1.21718 / 1.11947	1.14116	1.11904	1.10306	1.13981	1.13106	3.519
4 Bromomethane	+++++ / 0.50870	+++++ / 0.49886	0.56439	0.52712	0.51930	0.51757	0.52266	4.329
5 Chloroethane	0.70520 / 0.64410	0.71452 / 0.63477	0.68969	0.66757	0.65260	0.66108	0.67119	4.325
6 Trichlorofluoromethane	1.04128 / 0.99941	1.12980 / 0.99314	1.04291	1.03171	0.98978	1.00458	1.02908	4.470
7 1,1-Dichloroethene	1.45398 / 1.33720	1.51800 / 1.29521	1.43097	1.38930	1.34406	1.34893	1.38971	5.283
8 Carbon Disulfide	2.28941 / 1.98724	2.30651 / 1.91010	2.10935	2.11244	2.00451	2.02493	2.09306	6.803

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2017 11:33
End Cal Date : 07-NOV-2017 14:30
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Last Edit : 07-Nov-2017 14:55 Paul
Curve Type : Average

Compound	0.20000 Level 1	0.50000 Level 2	1.000 Level 3	2.000 Level 4	10.000 Level 5	20.000 Level 6	40.000 Level 7	80.000 Level 8	___ RRF	% RSD
9 112Trichloro122Trifluoroethan	0.67363	0.68448	0.66204	0.65798	0.62759	0.61689	0.63373	0.60299	0.64492	4.472
10 Iodomethane	+++++	+++++	0.98489	0.96403	0.95256	0.96172	0.95783	0.93848	0.95992	1.588
11 Bromoethane	0.45994	0.57433	0.49978	0.49725	0.47302	0.46639	0.46347	0.45881	0.48662	7.995
12 Acrolein	+++++	+++++	0.10822	0.11899	0.10324	0.10732	0.10789	0.10925	0.10915	4.806
13 Methylene Chloride	+++++	+++++	0.65339	0.63646	0.61031	0.61834	0.61121	0.60583	0.62259	2.979
14 Acetone	+++++	+++++	0.18138	0.18899	0.17452	0.16814	0.16136	0.16088	0.17254	6.521
15 Trans-1,2-Dichloroethene	0.66775	0.74740	0.74369	0.68846	0.65148	0.66626	0.67322	0.67160	0.68873	5.301
16 n-hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
17 Methyl tert butyl ether	+++++	1.31942	1.30703	1.35837	1.33703	1.30783	1.32189	1.32863	1.32574	1.352
18 1,1-Dichloroethane	1.29145	1.58630	1.45445	1.51045	1.42981	1.44476	1.44373	1.42229	1.44790	5.755
19 Acrylonitrile	+++++	+++++	0.23114	0.23650	0.21453	0.21103	0.20891	0.20971	0.21864	5.504

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2017 11:33
End Cal Date : 07-NOV-2017 14:30
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Last Edit : 07-Nov-2017 14:55 Paul
Curve Type : Average

Compound	0.20000 Level 1	0.50000 Level 2	1.000 Level 3	2.000 Level 4	10.000 Level 5	20.000 Level 6	40.000 Level 7	80.000 Level 8	___ RRF	% RSD
21 Allyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
20 Vinyl Acetate	1.37394	1.56606	1.48568	1.51490	1.52290	1.55954	1.54423	1.53009	1.51217	4.063
22 Cis-1,2-Dichloroethene	0.77325	0.77924	0.69366	0.71344	0.70163	0.69596	0.69159	0.69253	0.71766	5.137
23 2,2-Dichloropropane	0.84375	0.93723	0.82992	0.87999	0.83068	0.79360	0.79412	0.75742	0.83334	6.724
24 Bromochloromethane	0.30255	0.33043	0.30706	0.29525	0.29958	0.29859	0.29673	0.29647	0.30333	3.823
25 Chloroform	1.00187	1.16754	1.08308	1.08960	1.06642	1.07751	1.06183	1.05309	1.07512	4.294
26 Carbon Tetrachloride	0.55743	0.59051	0.58138	0.57549	0.56667	0.55744	0.56678	0.55467	0.56880	2.244
28 1,1,1-Trichloroethane	0.91816	1.08564	1.03039	1.02255	0.97025	1.00078	1.01489	1.00946	1.00651	4.797
30 1,1-Dichloropropene	0.53062	0.59111	0.57969	0.57069	0.55885	0.56457	0.56660	0.55405	0.56452	3.191
29 2-Butanone	+++++	+++++	0.29002	0.28428	0.28379	0.27898	0.27326	0.27269	0.28050	2.425
31 Benzene	1.53412	1.69115	1.73921	1.72378	1.67823	1.65683	1.62323	1.55300	1.64994	4.552

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2017 11:33
End Cal Date : 07-NOV-2017 14:30
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Last Edit : 07-Nov-2017 14:55 Paul
Curve Type : Average

Compound	0.20000 Level 1	0.50000 Level 2	1.000 Level 3	2.000 Level 4	10.000 Level 5	20.000 Level 6	40.000 Level 7	80.000 Level 8	___ RRF	% RSD
35 Methyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
34 1,2-Dichloroethane	0.58582	0.59749	0.56498	0.57818	0.55468	0.54557	0.53567	0.52327	0.56071	4.572
36 Trichloroethene	0.42273	0.48692	0.45969	0.48579	0.46518	0.46228	0.46298	0.45173	0.46216	4.367
38 Dibromomethane	0.16862	0.18738	0.18992	0.18880	0.18901	0.18816	0.18370	0.18153	0.18464	3.838
39 1,2-Dichloropropane	0.50270	0.52168	0.52362	0.51573	0.51818	0.50813	0.51217	0.49414	0.51204	1.955
40 Bromodichloromethane	0.51074	0.52382	0.51384	0.51791	0.49524	0.50713	0.50448	0.49455	0.50847	2.029
173 2-Pentanone	+++++	+++++	0.03059	0.03494	0.03511	0.03449	0.03473	0.03428	0.03403	5.025
42 Cis 1,3-dichloropropene	0.55995	0.63116	0.62316	0.63784	0.63775	0.65090	0.63934	0.62815	0.62603	4.468
41 2-Chloroethyl Vinyl Ether	+++++	+++++	0.21695	0.23344	0.21834	0.22034	0.21755	0.21917	0.22097	2.819
44 Toluene	1.10745	1.10091	1.05754	1.09986	1.07892	1.08363	1.06976	1.03846	1.07957	2.196
45 4-Methyl-2-Pentanone	+++++	+++++	0.12602	0.13850	0.14381	0.14461	0.14051	0.13783	0.13855	4.851

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2017 11:33
End Cal Date : 07-NOV-2017 14:30
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Last Edit : 07-Nov-2017 14:55 Paul
Curve Type : Average

Compound	0.20000 Level 1	0.50000 Level 2	1.000 Level 3	2.000 Level 4	10.000 Level 5	20.000 Level 6	40.000 Level 7	80.000 Level 8	___ RRF	% RSD
46 Tetrachloroethene	0.56104	0.58406	0.55163	0.54093	0.52897	0.51424	0.52247	0.50810	0.53893	4.767
47 Trans 1,3-Dichloropropene	0.45569	0.48907	0.48223	0.50765	0.52322	0.53735	0.52757	0.51923	0.50525	5.446
48 1,1,2-Trichloroethane	0.32446	0.26459	0.26821	0.30055	0.27912	0.27792	0.27663	0.26813	0.28245	7.187
49 Chlorodibromomethane	0.28936	0.36094	0.35684	0.37278	0.37902	0.38648	0.39231	0.38880	0.36582	9.143
50 1,3-Dichloropropane	0.60497	0.50024	0.54798	0.55340	0.54399	0.54516	0.54469	0.52417	0.54558	5.416
51 1,2-Dibromoethane	0.22225	0.27734	0.27260	0.27640	0.26829	0.27037	0.26627	0.26439	0.26474	6.710
52 2-Hexanone	+++++	+++++	0.27312	0.29963	0.30080	0.29314	0.28784	0.27620	0.28845	4.058
54 Chlorobenzene	1.37487	1.43290	1.41469	1.38259	1.35587	1.35102	1.35389	1.29498	1.37010	3.095
55 Ethyl Benzene	0.71653	0.75475	0.71924	0.75760	0.74977	0.74326	0.75466	0.73679	0.74158	2.175
56 1,1,1,2-Tetrachloroethane	0.40572	0.47548	0.46837	0.48261	0.48253	0.47023	0.47543	0.47295	0.46666	5.391
57 m,p-xylene	0.86035	0.91815	0.91188	0.94049	0.92833	0.91017	0.92746	0.87655	0.90917	3.003

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2017 11:33
End Cal Date : 07-NOV-2017 14:30
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Last Edit : 07-Nov-2017 14:55 Paul
Curve Type : Average

Compound	0.20000 Level 1	0.50000 Level 2	1.000 Level 3	2.000 Level 4	10.000 Level 5	20.000 Level 6	40.000 Level 7	80.000 Level 8	___ RRF	% RSD
58 o-Xylene	0.87528	0.88967	0.87213	0.91196	0.91625	0.89387	0.91893	0.90166	0.89747	1.997
59 Styrene	1.10131	1.36648	1.25258	1.41507	1.47208	1.47975	1.51275	1.44832	1.38104	10.094
60 Bromoform	0.42952	0.34296	0.39215	0.40753	0.43288	0.43797	0.43851	0.44515	0.41583	8.272
61 Isopropyl Benzene	4.56561	4.51170	4.50059	4.56512	4.58332	4.33834	4.42662	4.11618	4.45094	3.554
63 Bromobenzene	1.20637	1.16548	1.18438	1.11266	1.09736	1.09189	1.07289	1.05804	1.12363	4.873
64 N-Propyl Benzene	5.48307	5.14978	5.32477	5.30091	5.37856	4.96185	5.06334	4.61972	5.16025	5.381
82 Cyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
65 1,1,2,2-Tetrachloroethane	0.55404	0.64481	0.71154	0.67729	0.69476	0.69495	0.66699	0.66176	0.66327	7.388
66 2-Chloro Toluene	3.57925	3.58450	3.65465	3.61111	3.57877	3.45920	3.48749	3.38392	3.54236	2.544
67 1,3,5-Trimethyl Benzene	3.83528	3.78626	3.86339	3.86763	3.96031	3.75213	3.84743	3.63252	3.81812	2.537
68 1,2,3-Trichloropropane	+++++	0.20620	0.20004	0.21341	0.21651	0.20941	0.20561	0.20242	0.20766	2.824

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2017 11:33
End Cal Date : 07-NOV-2017 14:30
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Last Edit : 07-Nov-2017 14:55 Paul
Curve Type : Average

Compound	0.20000 Level 1	0.50000 Level 2	1.000 Level 3	2.000 Level 4	10.000 Level 5	20.000 Level 6	40.000 Level 7	80.000 Level 8	___ RRF	% RSD
69 Trans-1,4-Dichloro 2-Butene	+++++	+++++	0.32017	0.31957	0.33206	0.32789	0.31856	0.31243	0.32178	2.190
70 4-Chloro Toluene	3.53483	3.42312	3.48978	3.41178	3.36293	3.25616	3.24973	3.10145	3.35372	4.270
71 T-Butyl Benzene	3.24521	3.23768	3.32470	3.29724	3.35551	2.99171	3.28870	3.17603	3.23960	3.538
72 1,2,4-Trimethylbenzene	4.14553	3.86875	3.87038	3.88069	3.97492	3.79972	3.87725	3.68370	3.88762	3.427
73 S-Butyl Benzene	4.79122	4.75800	4.73294	4.71215	4.76062	4.01897	4.58717	4.27983	4.58011	6.146
74 4-Isopropyl Toluene	4.01017	3.92087	4.11314	4.22894	4.23921	3.67347	4.12791	3.86538	4.02239	4.845
75 1,3-Dichlorobenzene	2.28438	2.22427	2.34821	2.30771	2.22109	2.16304	2.16986	2.11527	2.22923	3.570
77 1,4-Dichlorobenzene	2.36028	2.29931	2.32723	2.25150	2.21222	2.11736	2.12593	2.08822	2.22276	4.663
78 N-Butyl Benzene	3.80975	3.49558	3.56932	3.56056	3.57130	2.92970	3.47653	3.31495	3.46596	7.399
80 1,2-Dichlorobenzene	2.04164	2.09812	1.98102	1.95164	1.90022	1.86071	1.86267	1.82726	1.94041	4.917
81 1,2-Dibromo 3-Chloropropane	+++++	0.13489	0.12984	0.10468	0.10176	0.10176	0.09784	0.09870	0.10992	14.155

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2017 11:33
End Cal Date : 07-NOV-2017 14:30
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Last Edit : 07-Nov-2017 14:55 Paul
Curve Type : Average

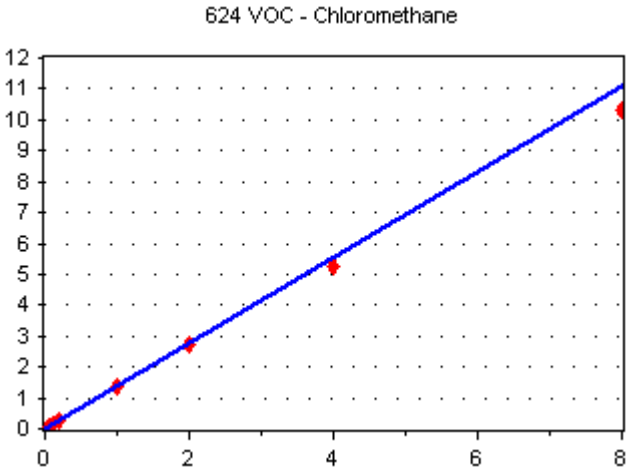
Compound	0.20000 Level 1	0.50000 Level 2	1.000 Level 3	2.000 Level 4	10.000 Level 5	20.000 Level 6	40.000 Level 7	80.000 Level 8	___ RRF	% RSD
83 Hexachloro 1,3-Butadiene	+++++	0.65555	0.58042	0.58824	0.56056	0.32307	0.54158	0.54187	0.54161	19.185
84 1,2,4-Trichlorobenzene	+++++	1.21517	1.24630	1.17411	1.15146	1.07572	1.14025	1.13015	1.16188	4.859
85 Naphthalene	+++++	1.62199	1.67576	1.69607	1.58760	1.63121	1.65295	1.62804	1.64195	2.204
86 1,2,3-Trichlorobenzene	+++++	0.87708	0.78637	0.82364	0.74196	0.73924	0.77351	0.75767	0.78564	6.321
$ 27 Dibromofluoromethane		0.42807	0.43846	0.43516	0.43859	0.42885	0.42325	0.43653	0.44713	0.43451	1.732
$ 33 d4-1,2-Dichloroethane		0.49972	0.54819	0.53380	0.53343	0.50319	0.50689	0.50714	0.52343	0.51947	3.418
$ 43 d8-Toluene		1.17370	1.16967	1.14211	1.17843	1.17196	1.19007	1.17923	1.17452	1.17246	1.174
$ 62 4-Bromofluorobenzene		0.40905	0.41229	0.43049	0.41714	0.42239	0.42002	0.42169	0.43143	0.42056	1.872
$ 79 d4-1,2-Dichlorobenzene		0.92679	0.91972	0.93857	0.91987	0.94710	0.94277	0.91611	0.94818	0.93239	1.419

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

Chloromethane

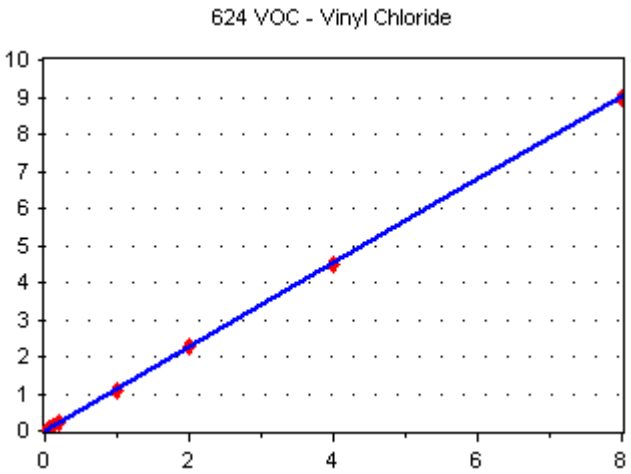


Average RF

RF RSD: 6.801404

[Conc] = 1.387441 * [Response]

Vinyl Chloride



Average RF

RF RSD: 3.519232

[Conc] = 1.131059 * [Response]

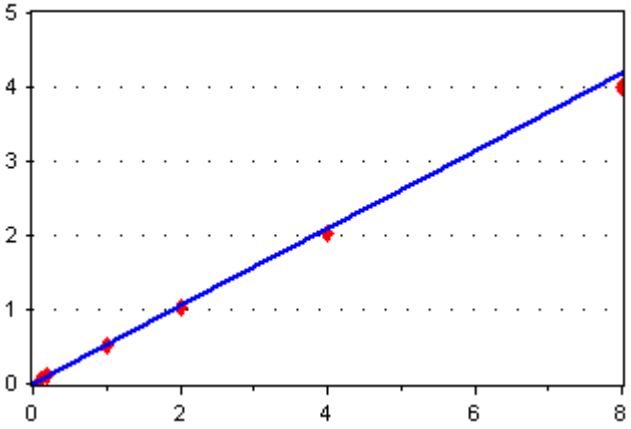
Bromomethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - Bromomethane



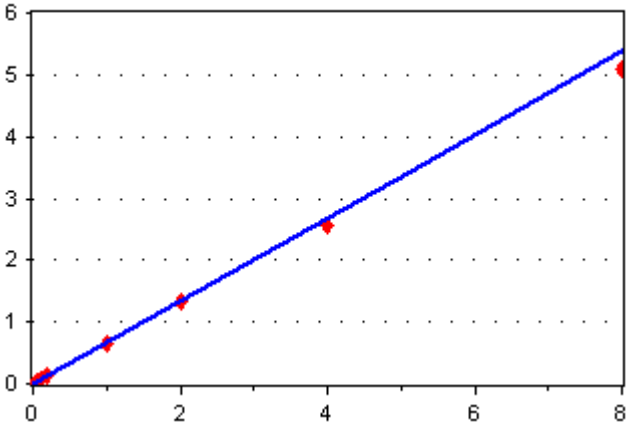
Average RF

RF RSD: 4.329187

[Conc] = 0.5226587 * [Response]

Chloroethane

624 VOC - Chloroethane



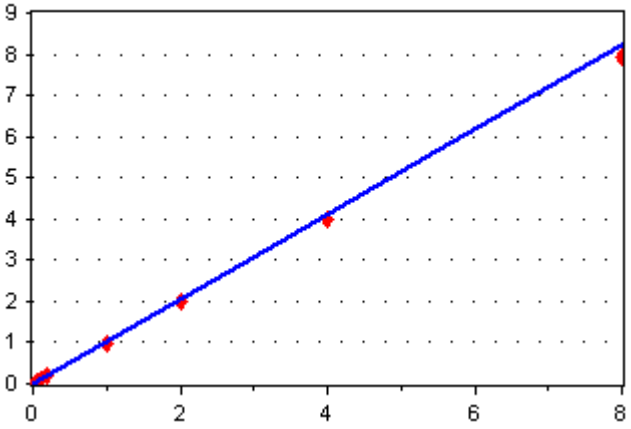
Average RF

RF RSD: 4.324667

[Conc] = 0.6711917 * [Response]

Trichlorofluoromethane

624 VOC - Trichlorofluoromethane



Average RF

RF RSD: 4.469536

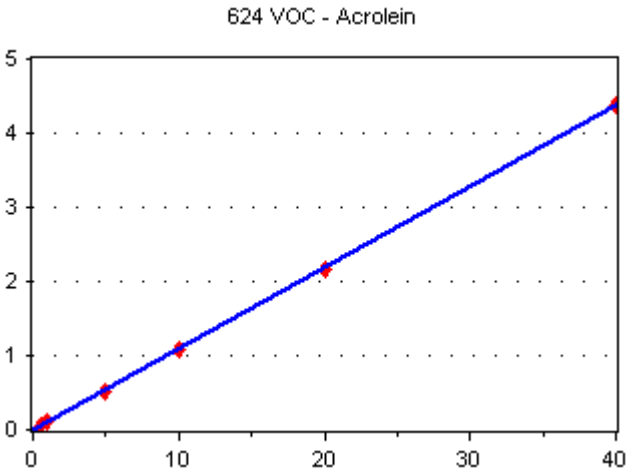
[Conc] = 1.029077 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

Acrolein

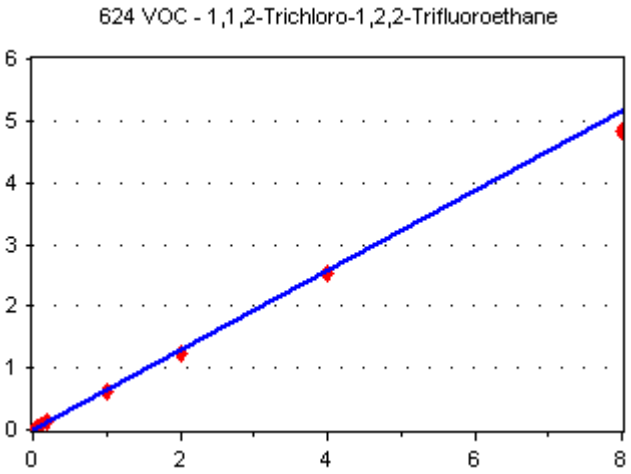


Average RF

RF RSD: 4.806169

[Conc] = 0.1091525 * [Response]

1,1,2-Trichloro-1,2,2-Trifluoroeth



Average RF

RF RSD: 4.471673

[Conc] = 0.6449168 * [Response]

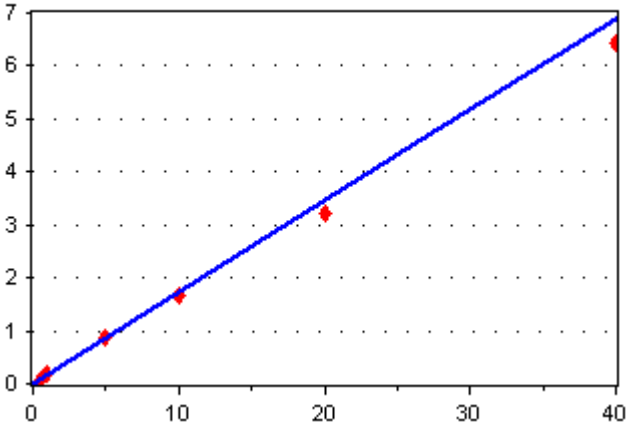
Acetone

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - Acetone



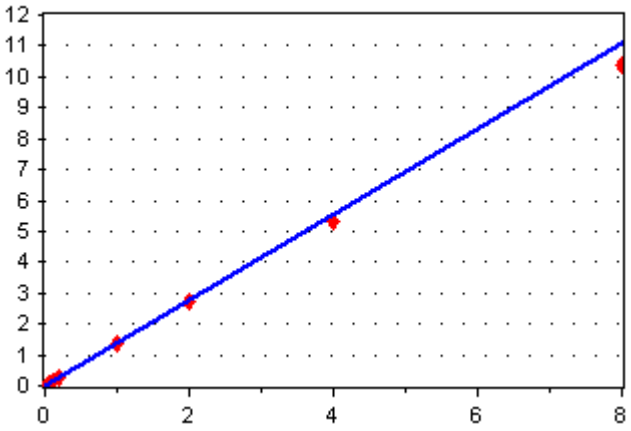
Average RF

RF RSD: 6.520715

[Conc] = 0.1725437 * [Response]

1,1-Dichloroethene

624 VOC - 1,1-Dichloroethene



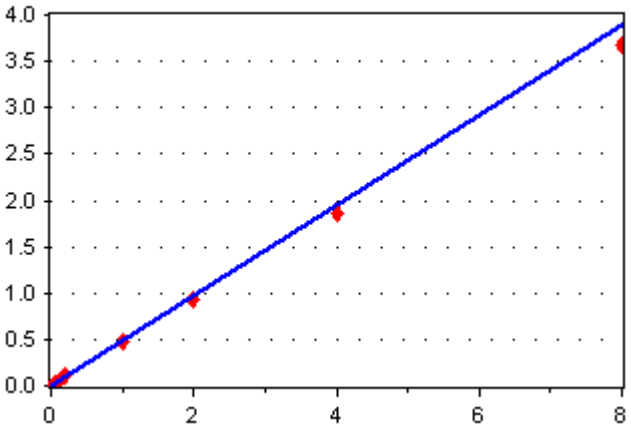
Average RF

RF RSD: 5.282519

[Conc] = 1.389707 * [Response]

Bromoethane

624 VOC - Bromoethane



Average RF

RF RSD: 7.995117

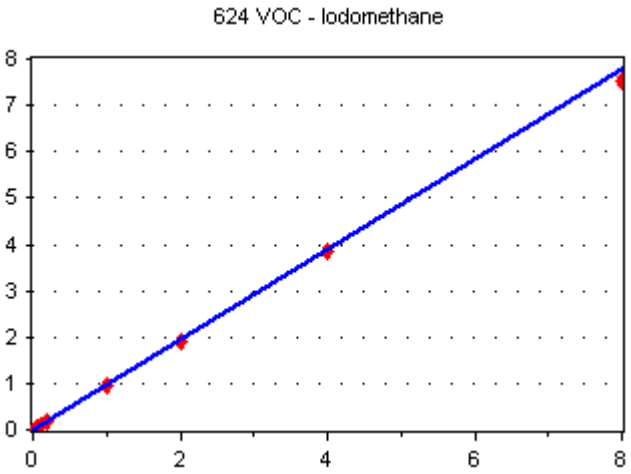
[Conc] = 0.4866247 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

Iodomethane

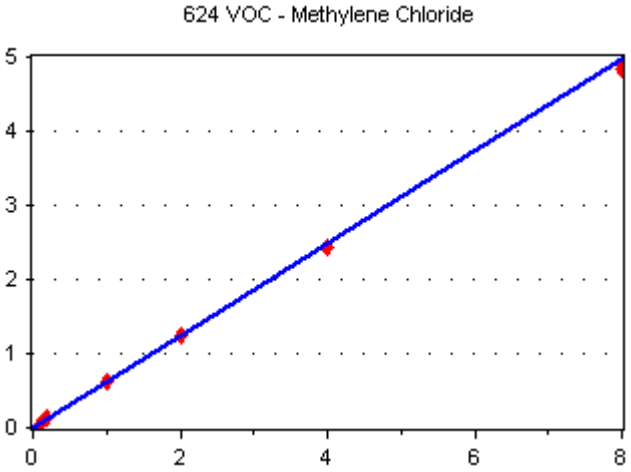


Average RF

RF RSD: 4.206697

[Conc] = 0.9734293 * [Response]

Methylene Chloride



Average RF

RF RSD: 2.979223

[Conc] = 0.6225891 * [Response]

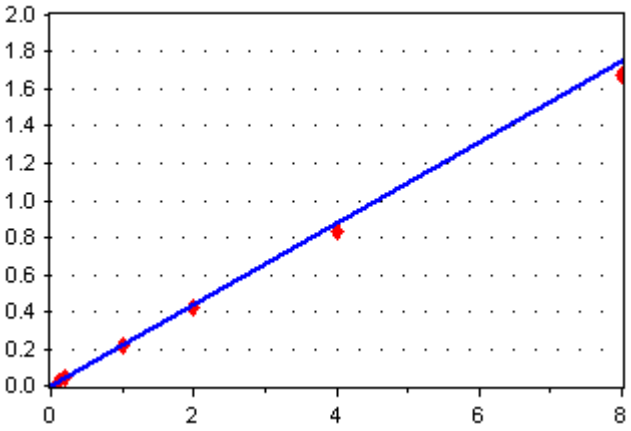
Acrylonitrile

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - Acrylonitrile



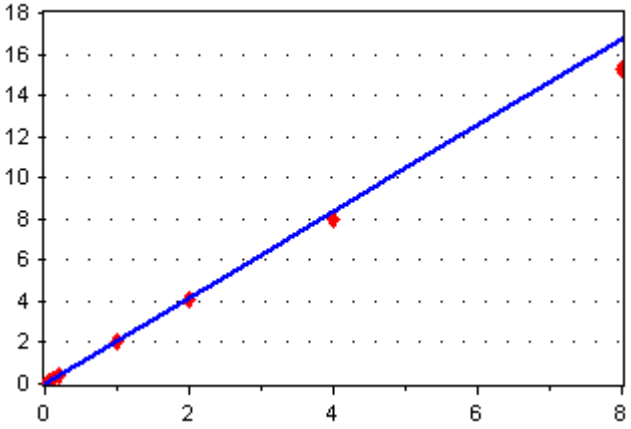
Average RF

RF RSD: 5.50449

[Conc] = 0.2186381 * [Response]

Carbon Disulfide

624 VOC - Carbon Disulfide



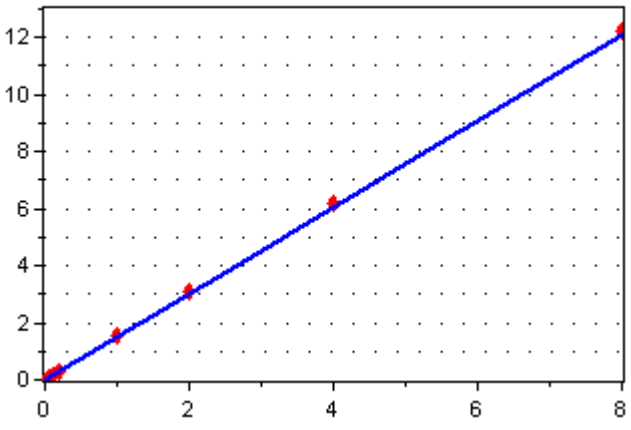
Average RF

RF RSD: 6.802613

[Conc] = 2.093059 * [Response]

Vinyl Acetate

624 VOC - Vinyl Acetate



Average RF

RF RSD: 4.063481

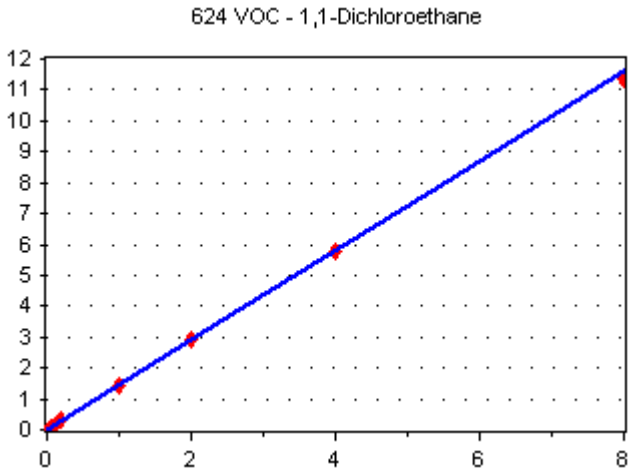
[Conc] = 1.512167 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

1,1-Dichloroethane

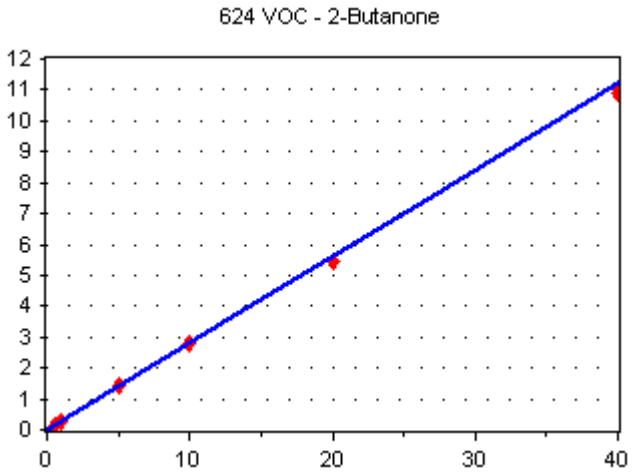


Average RF

RF RSD: 5.754636

[Conc] = 1.447905 * [Response]

2-Butanone



Average RF

RF RSD: 2.425506

[Conc] = 0.2805036 * [Response]

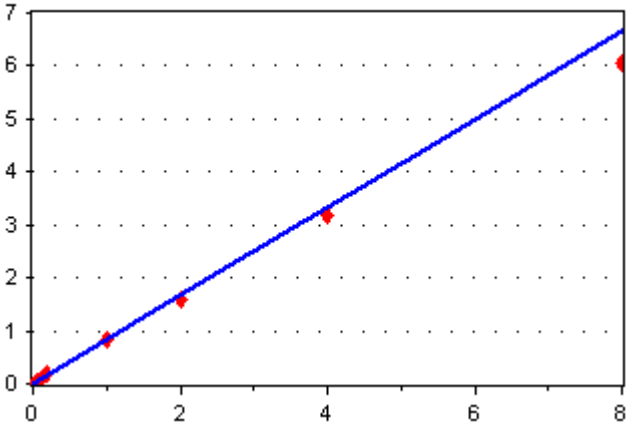
2,2-Dichloropropane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - 2,2-Dichloropropane



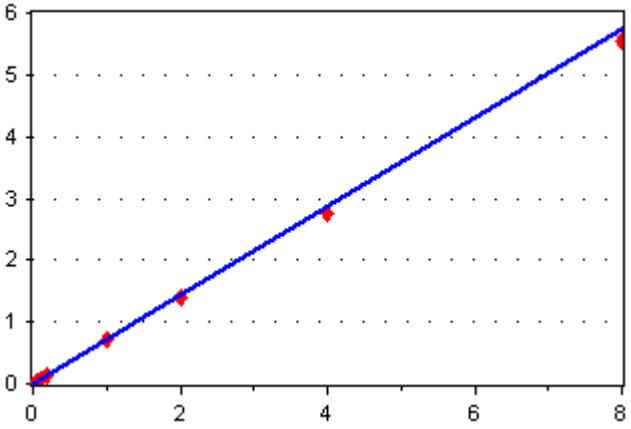
Average RF

RF RSD: 6.724053

[Conc] = 0.8333386 * [Response]

cis-1,2-Dichloroethene

624 VOC - cis-1,2-Dichloroethene



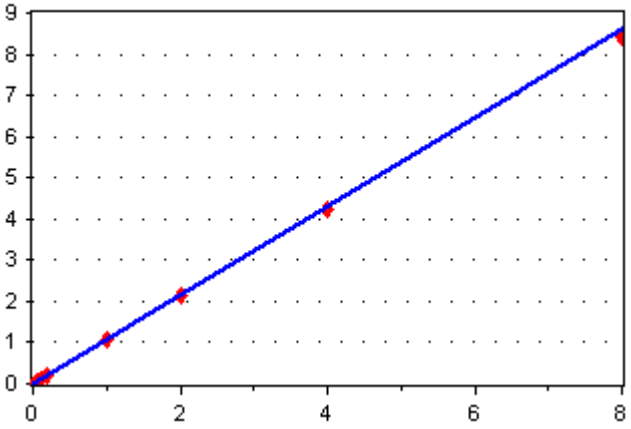
Average RF

RF RSD: 5.137177

[Conc] = 0.7176638 * [Response]

Chloroform

624 VOC - Chloroform



Average RF

RF RSD: 4.294404

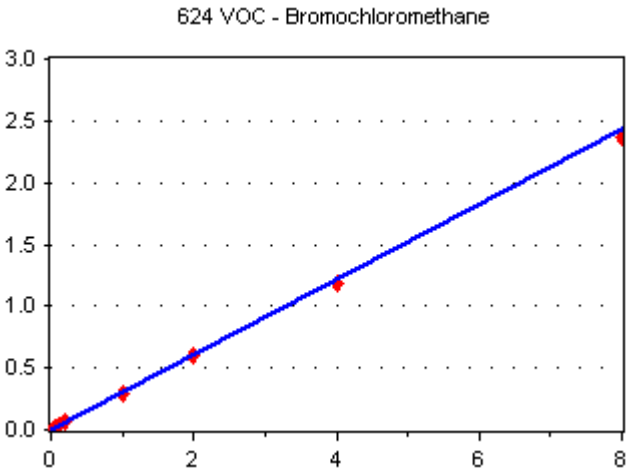
[Conc] = 1.07512 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

Bromochloromethane

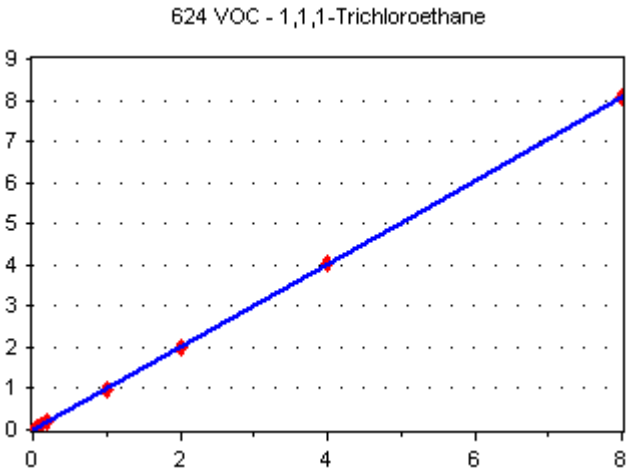


Average RF

RF RSD: 3.823448

[Conc] = 0.3033335 * [Response]

1,1,1-Trichloroethane



Average RF

RF RSD: 4.797428

[Conc] = 1.006514 * [Response]

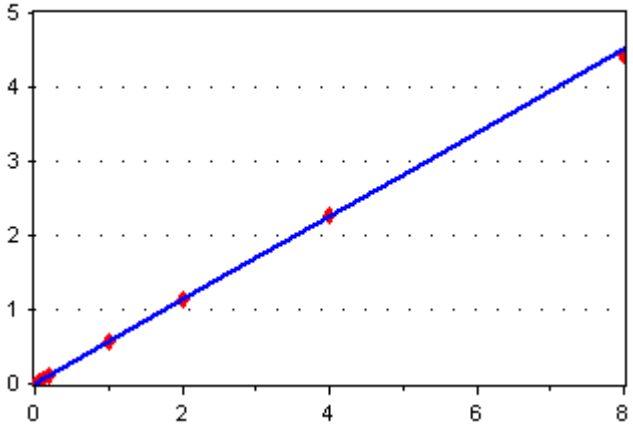
1,1-Dichloropropene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - 1,1-Dichloropropene



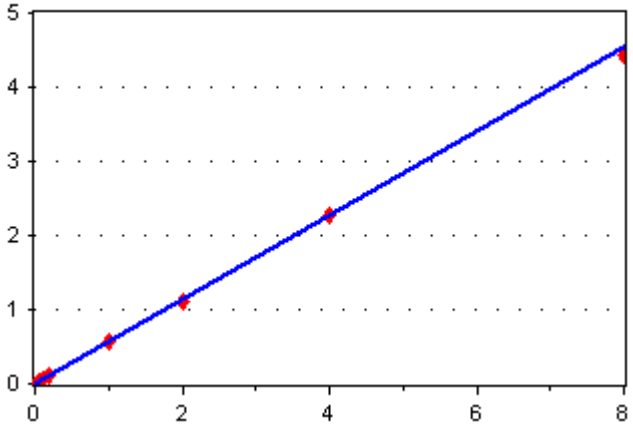
Average RF

RF RSD: 3.190752

[Conc] = 0.564523 * [Response]

Carbon tetrachloride

624 VOC - Carbon tetrachloride



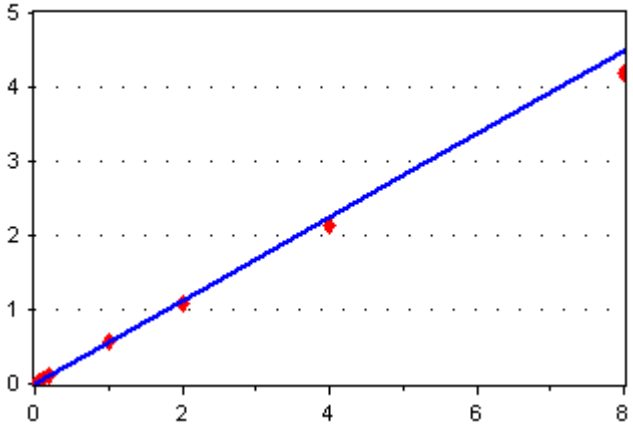
Average RF

RF RSD: 2.244469

[Conc] = 0.5687959 * [Response]

1,2-Dichloroethane

624 VOC - 1,2-Dichloroethane



Average RF

RF RSD: 4.572287

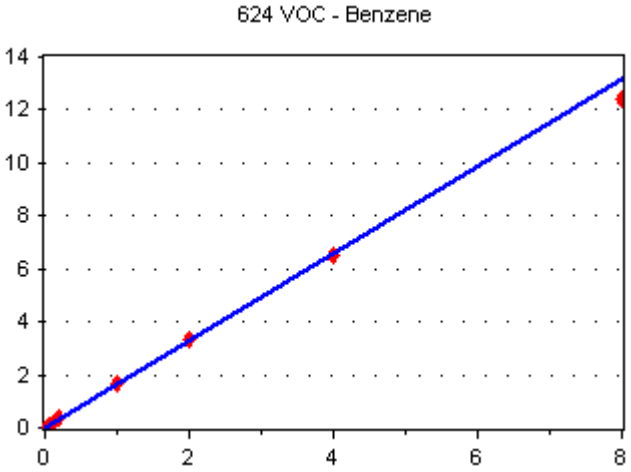
[Conc] = 0.5607074 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

Benzene

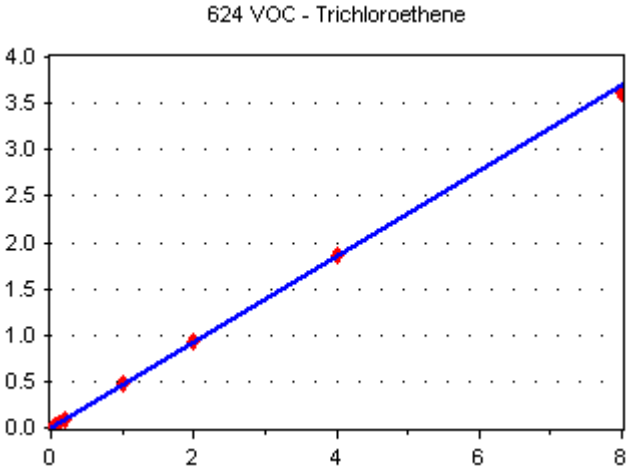


Average RF

RF RSD: 4.552444

[Conc] = 1.649944 * [Response]

Trichloroethene



Average RF

RF RSD: 4.367003

[Conc] = 0.4621614 * [Response]

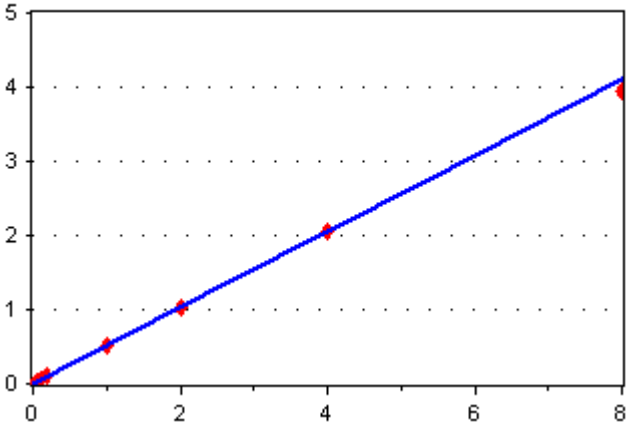
1,2-Dichloropropane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - 1,2-Dichloropropane



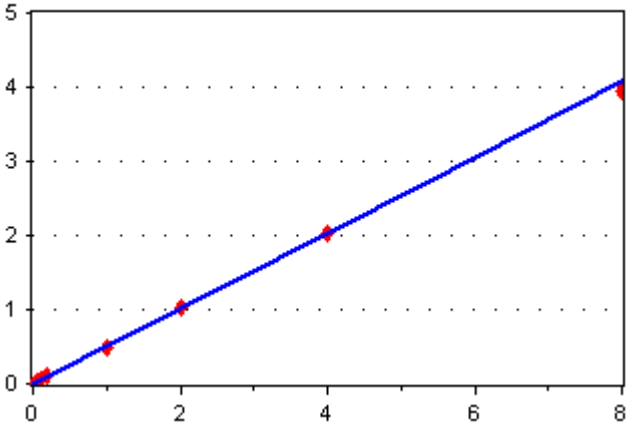
Average RF

RF RSD: 1.954958

[Conc] = 0.5120427 * [Response]

Bromodichloromethane

624 VOC - Bromodichloromethane



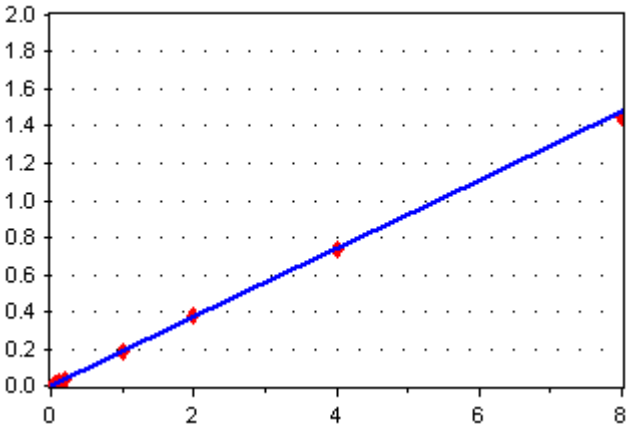
Average RF

RF RSD: 2.029064

[Conc] = 0.5084654 * [Response]

Dibromomethane

624 VOC - Dibromomethane



Average RF

RF RSD: 3.838062

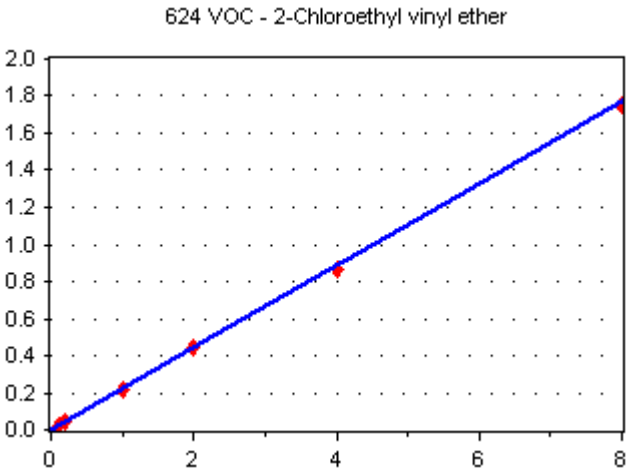
[Conc] = 0.18464 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

2-Chloroethyl vinyl ether

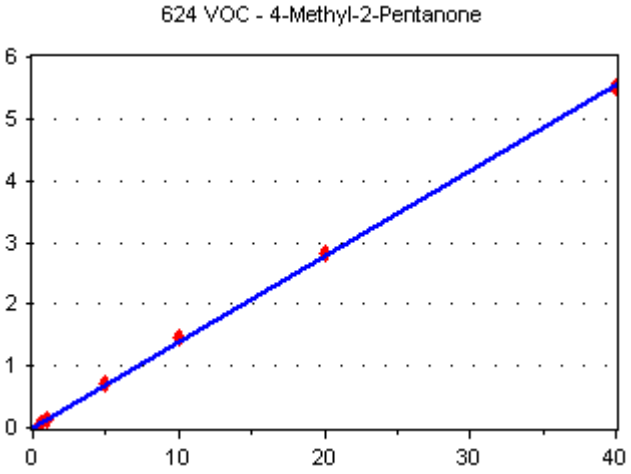


Average RF

RF RSD: 2.819434

[Conc] = 0.2209657 * [Response]

4-Methyl-2-Pentanone



Average RF

RF RSD: 4.851356

[Conc] = 0.138547 * [Response]

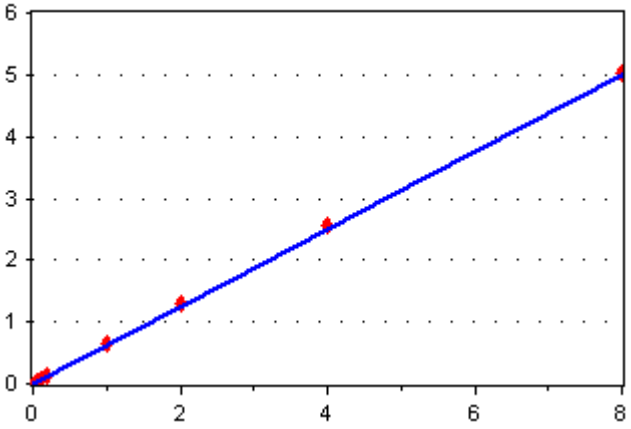
cis-1,3-Dichloropropene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - cis-1,3-Dichloropropene



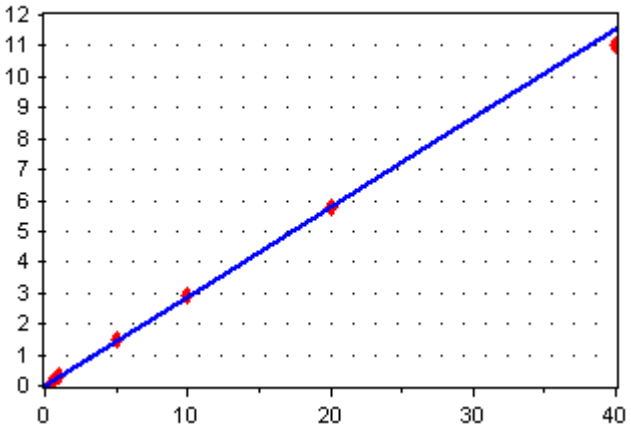
Average RF

RF RSD: 4.46843

[Conc] = 0.6260336 * [Response]

2-Hexanone

624 VOC - 2-Hexanone



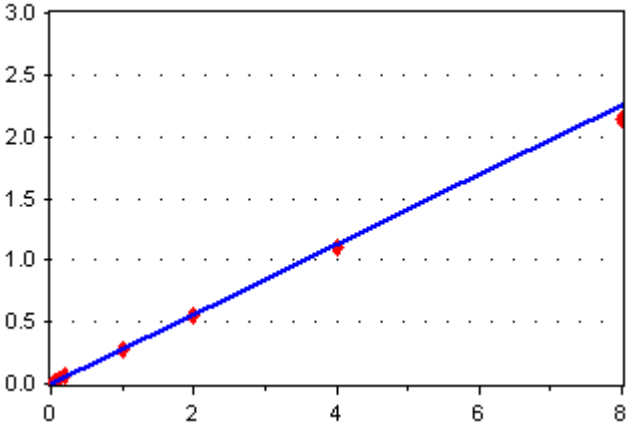
Average RF

RF RSD: 4.057726

[Conc] = 0.2884545 * [Response]

1,1,2-Trichloroethane

624 VOC - 1,1,2-Trichloroethane



Average RF

RF RSD: 7.186771

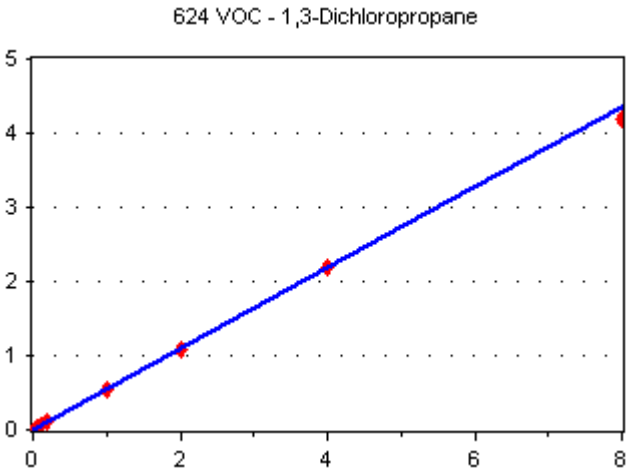
[Conc] = 0.2824512 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

1,3-Dichloropropane

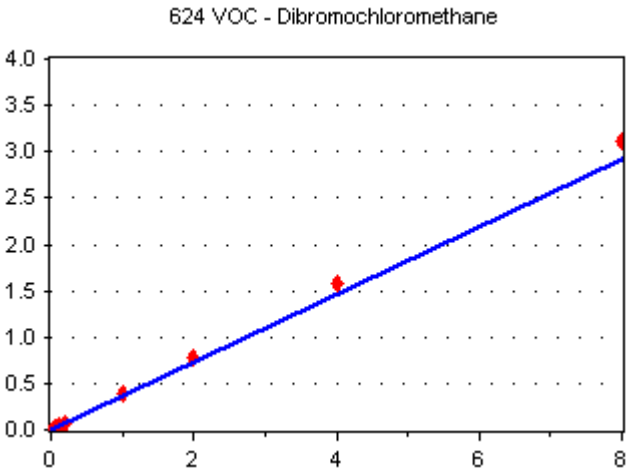


Average RF

RF RSD: 5.415805

[Conc] = 0.5455758 * [Response]

Dibromochloromethane



Average RF

RF RSD: 9.143215

[Conc] = 0.3658172 * [Response]

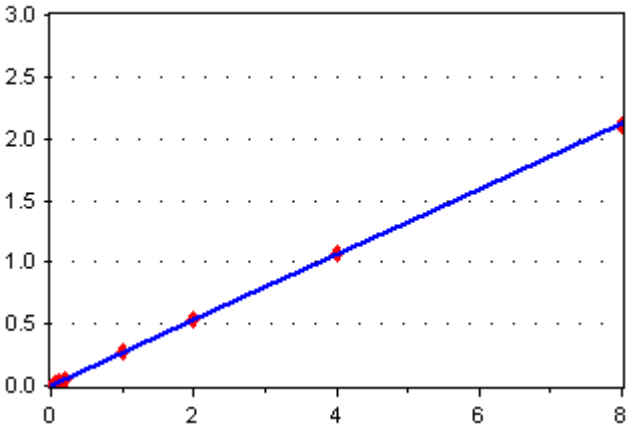
1,2-Dibromoethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - 1,2-Dibromoethane



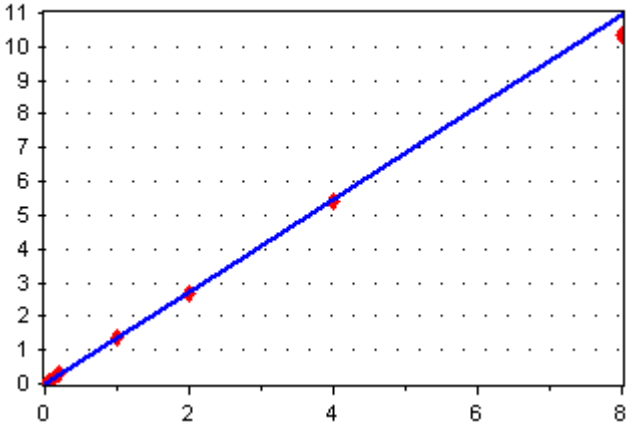
Average RF

RF RSD: 6.710197

[Conc] = 0.2647383 * [Response]

Chlorobenzene

624 VOC - Chlorobenzene



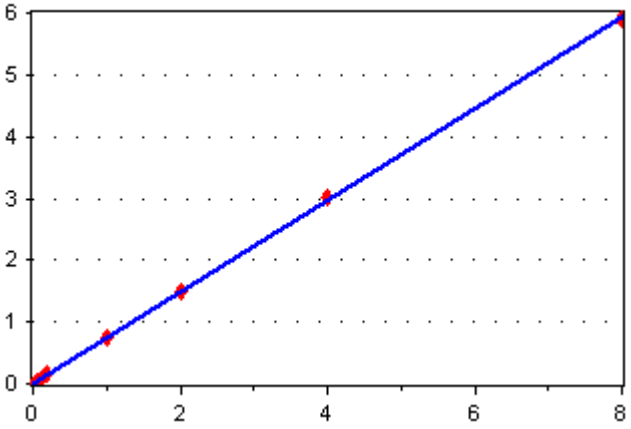
Average RF

RF RSD: 3.094478

[Conc] = 1.370103 * [Response]

Ethylbenzene

624 VOC - Ethylbenzene



Average RF

RF RSD: 2.175029

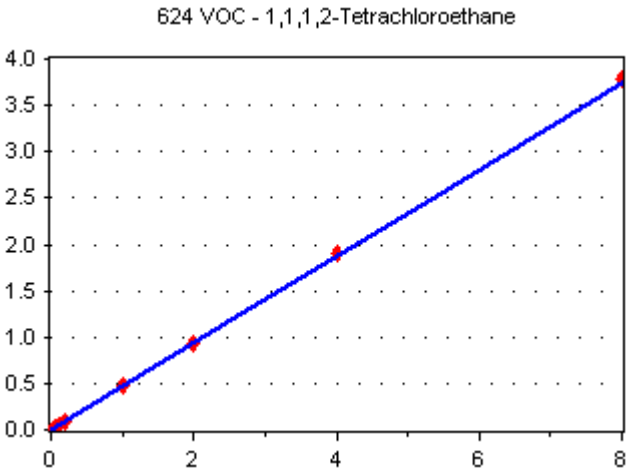
[Conc] = 0.7415762 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

1,1,1,2-Tetrachloroethane

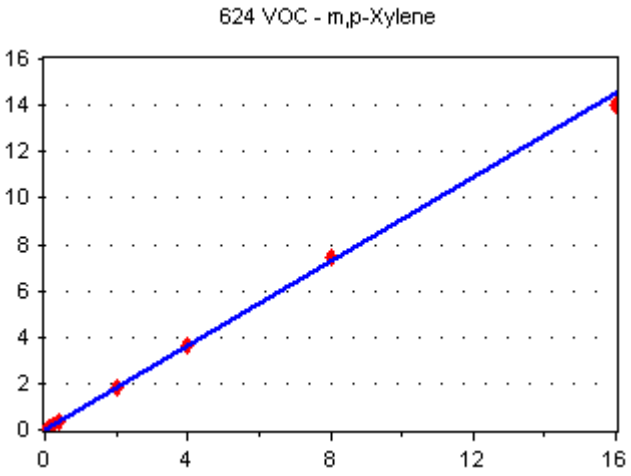


Average RF

RF RSD: 5.390908

[Conc] = 0.4666645 * [Response]

m,p-Xylene



Average RF

RF RSD: 3.003314

[Conc] = 0.909173 * [Response]

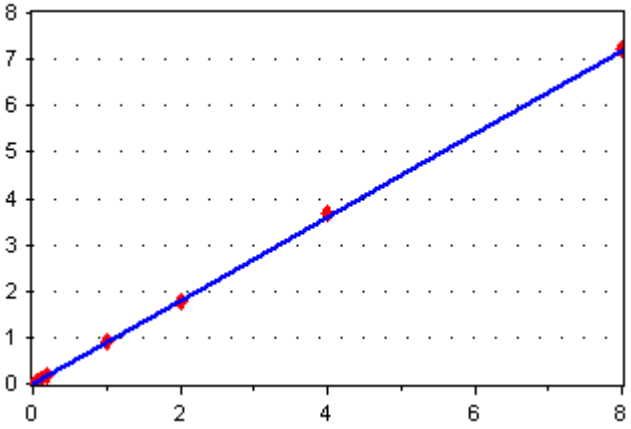
o-Xylene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - o-Xylene



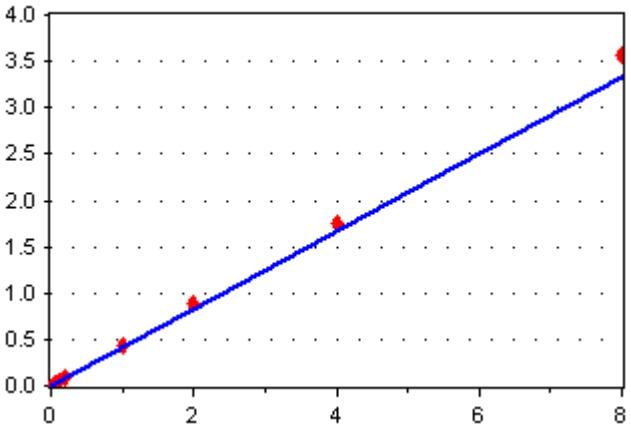
Average RF

RF RSD: 1.997315

[Conc] = 0.8974687 * [Response]

Bromoform

624 VOC - Bromoform



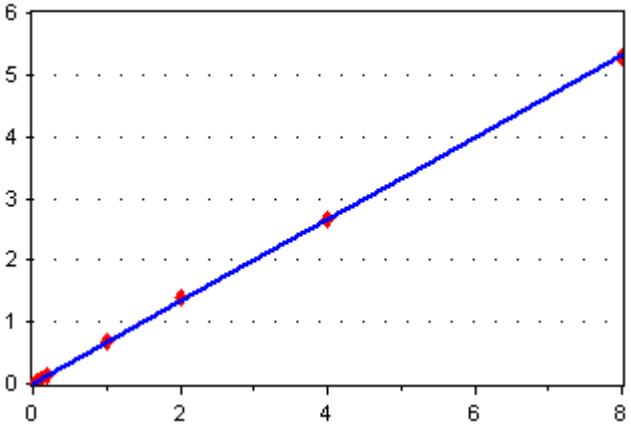
Average RF

RF RSD: 8.272292

[Conc] = 0.4158349 * [Response]

1,1,2,2-Tetrachloroethane

624 VOC - 1,1,2,2-Tetrachloroethane



Average RF

RF RSD: 7.388106

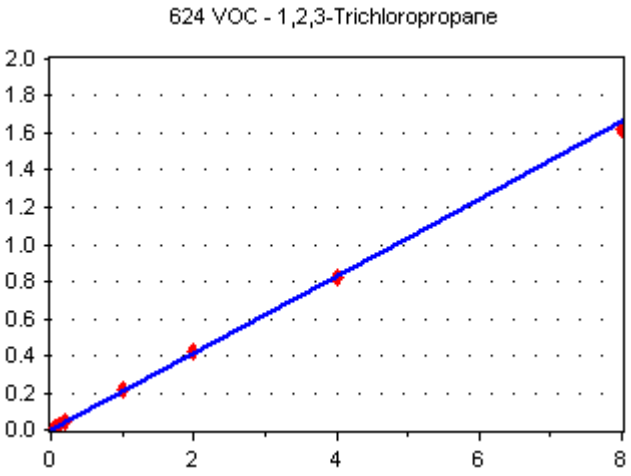
[Conc] = 0.6632686 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

1,2,3-Trichloropropane

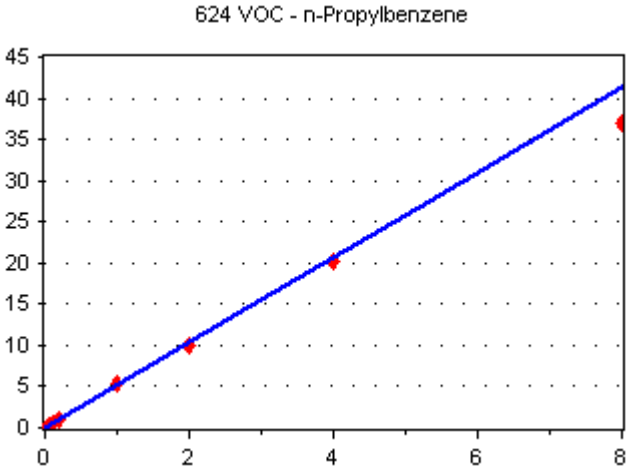


Average RF

RF RSD: 2.824324

[Conc] = 0.2076566 * [Response]

n-Propylbenzene



Average RF

RF RSD: 5.381233

[Conc] = 5.160252 * [Response]

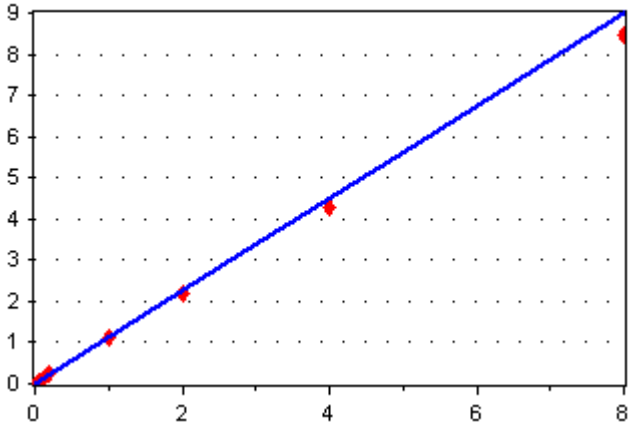
Bromobenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - Bromobenzene



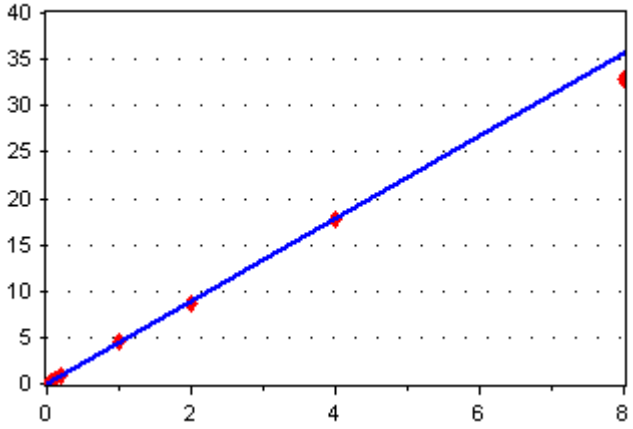
Average RF

RF RSD: 4.872522

[Conc] = 1.123633 * [Response]

Isopropyl Benzene

624 VOC - Isopropyl Benzene



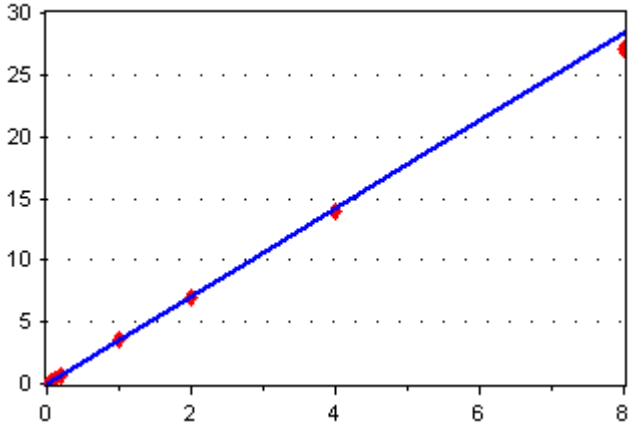
Average RF

RF RSD: 3.554428

[Conc] = 4.450937 * [Response]

2-Chlorotoluene

624 VOC - 2-Chlorotoluene



Average RF

RF RSD: 2.543521

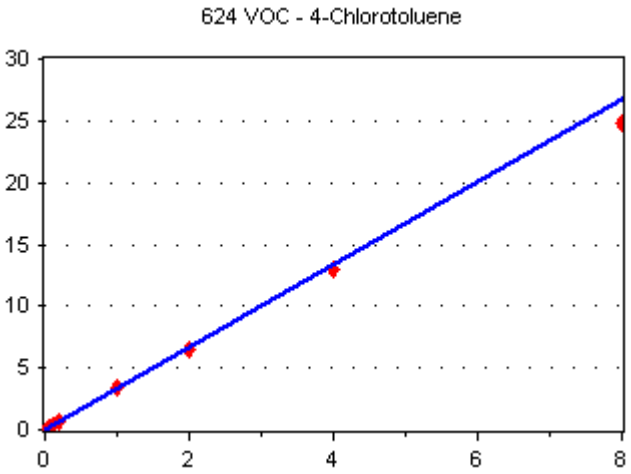
[Conc] = 3.54236 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

4-Chlorotoluene

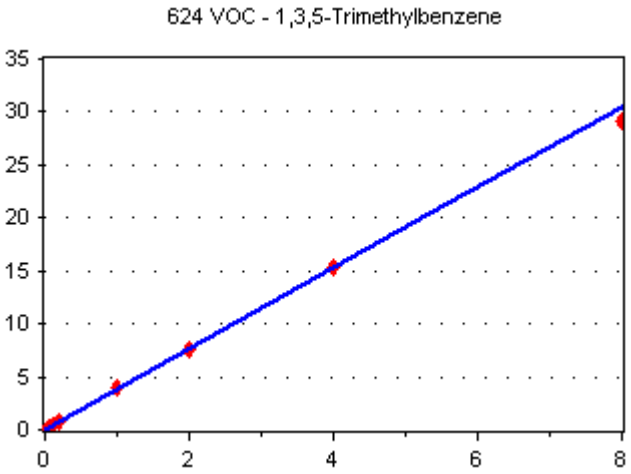


Average RF

RF RSD: 4.270012

[Conc] = 3.353723 * [Response]

1,3,5-Trimethylbenzene



Average RF

RF RSD: 2.537154

[Conc] = 3.81812 * [Response]

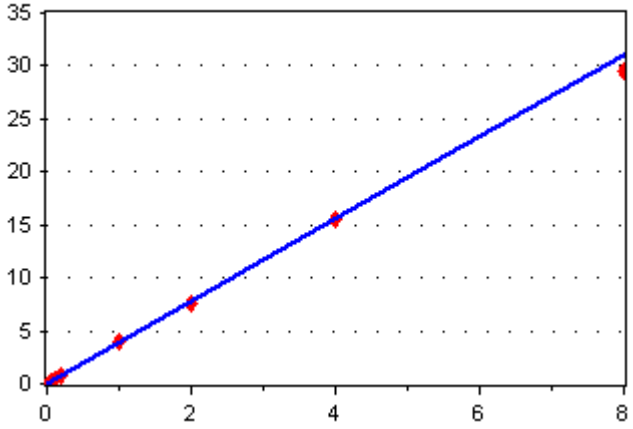
1,2,4-Trimethylbenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - 1,2,4-Trimethylbenzene



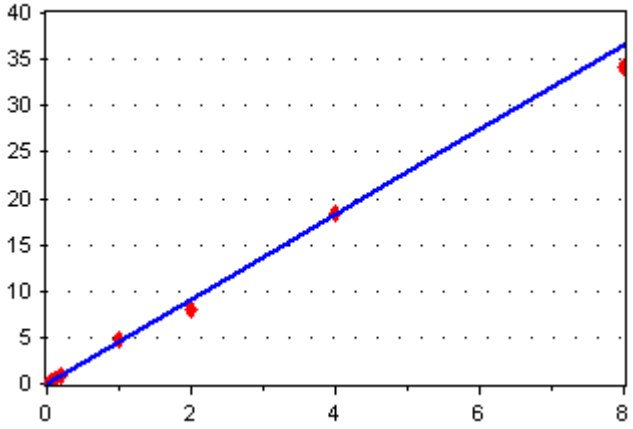
Average RF

RF RSD: 3.427156

[Conc] = 3.887618 * [Response]

s-Butylbenzene

624 VOC - s-Butylbenzene



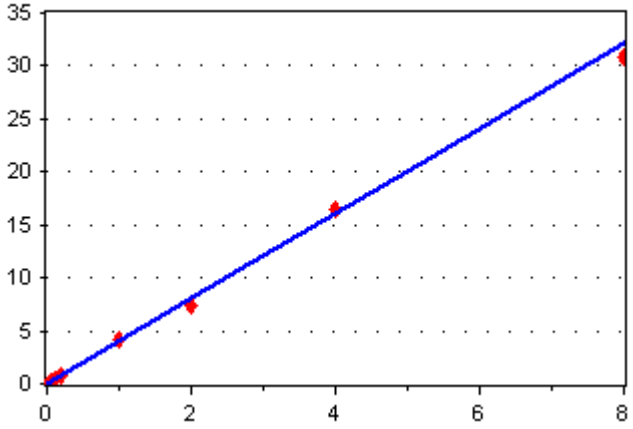
Average RF

RF RSD: 6.146076

[Conc] = 4.580111 * [Response]

4-Isopropyl Toluene

624 VOC - 4-Isopropyl Toluene



Average RF

RF RSD: 4.845394

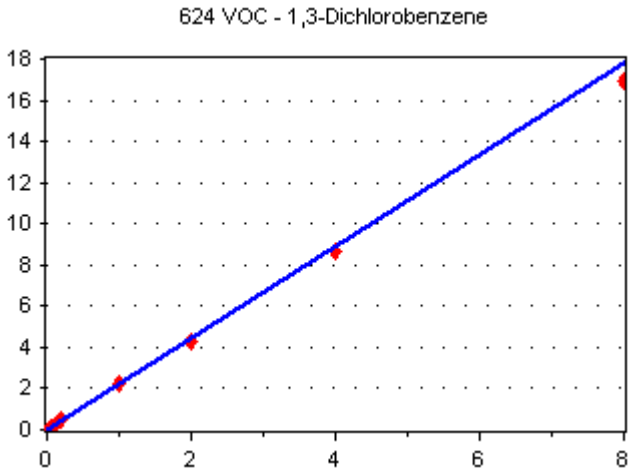
[Conc] = 4.022387 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

1,3-Dichlorobenzene

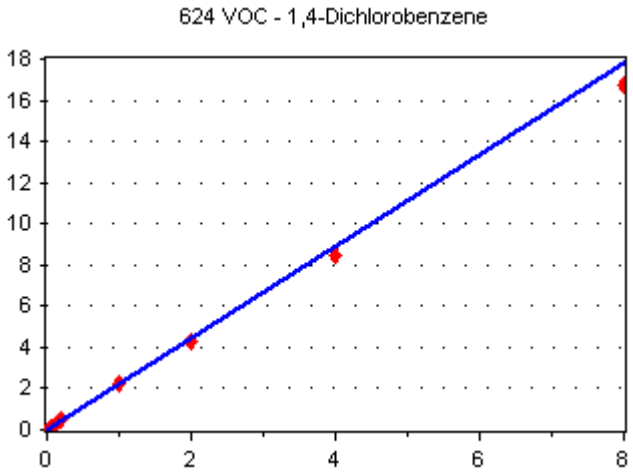


Average RF

RF RSD: 3.570234

[Conc] = 2.22923 * [Response]

1,4-Dichlorobenzene



Average RF

RF RSD: 4.663286

[Conc] = 2.222757 * [Response]

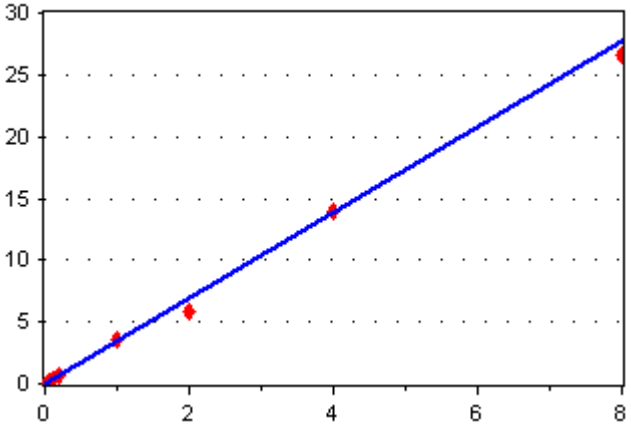
n-Butylbenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - n-Butylbenzene



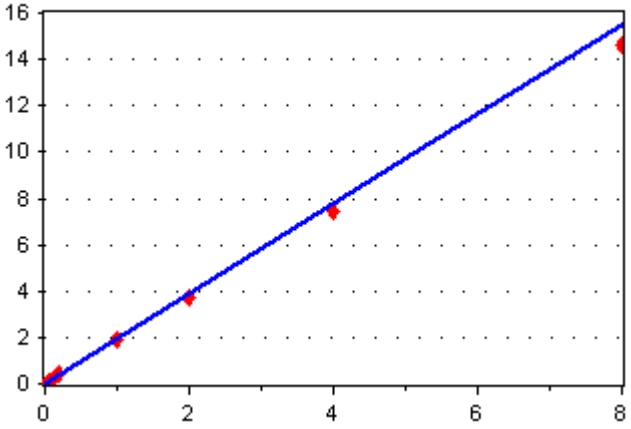
Average RF

RF RSD: 7.398521

[Conc] = 3.465962 * [Response]

1,2-Dichlorobenzene

624 VOC - 1,2-Dichlorobenzene



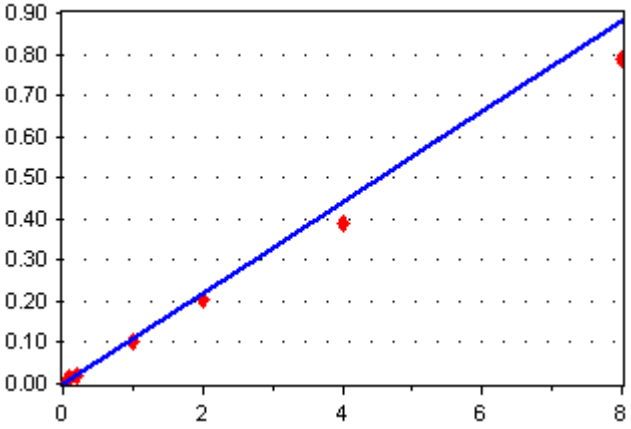
Average RF

RF RSD: 4.916545

[Conc] = 1.940409 * [Response]

1,2-Dibromo-3-chloropropane

624 VOC - 1,2-Dibromo-3-chloropropane



Average RF

RF RSD: 14.15501

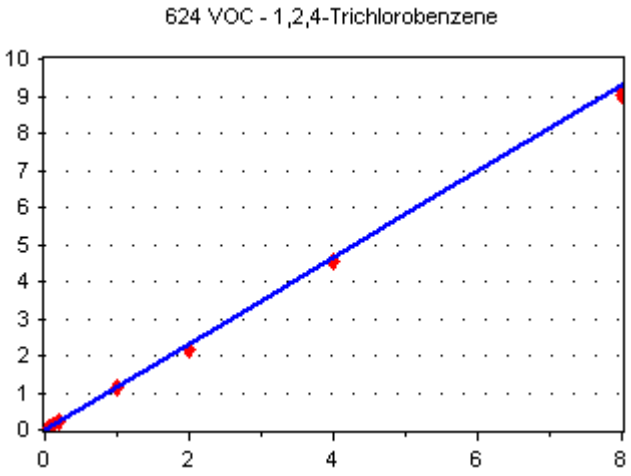
[Conc] = 0.1099248 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

1,2,4-Trichlorobenzene

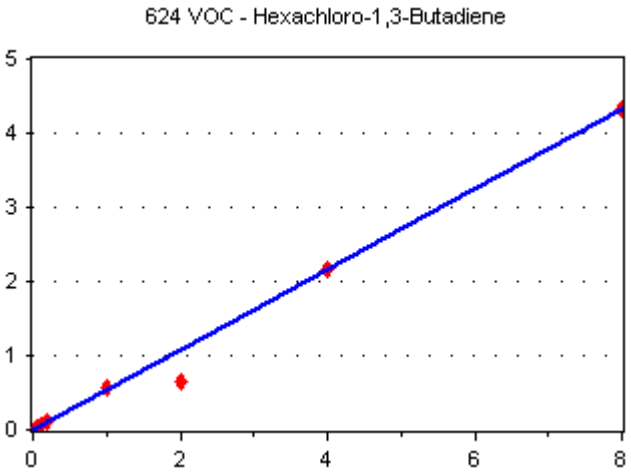


Average RF

RF RSD: 4.858798

[Conc] = 1.16188 * [Response]

Hexachloro-1,3-Butadiene



Average RF

RF RSD: 19.18541

[Conc] = 0.5416111 * [Response]

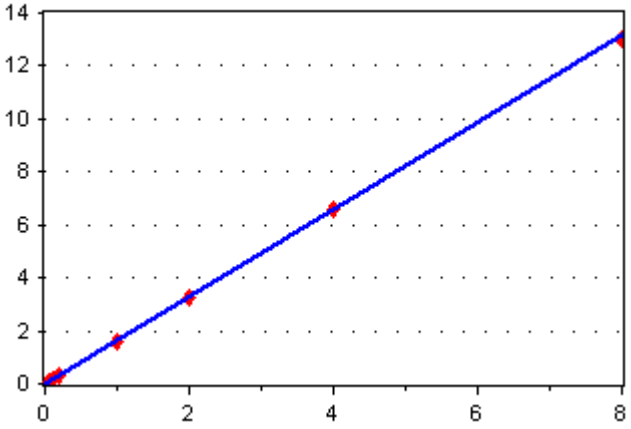
Naphthalene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - Naphthalene



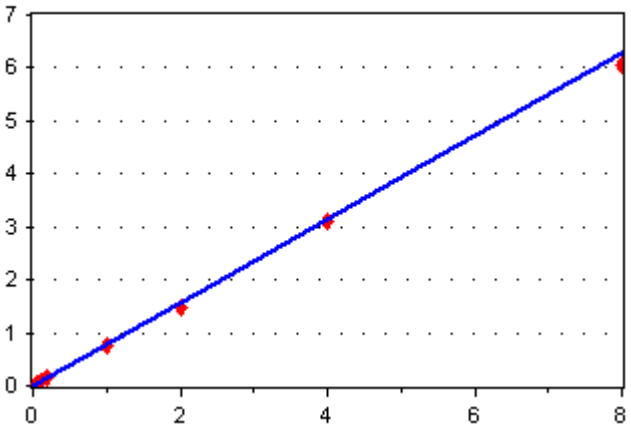
Average RF

RF RSD: 2.203534

[Conc] = 1.641945 * [Response]

1,2,3-Trichlorobenzene

624 VOC - 1,2,3-Trichlorobenzene



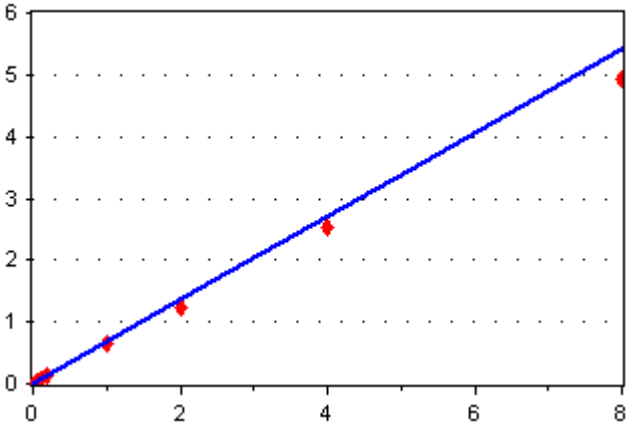
Average RF

RF RSD: 6.320922

[Conc] = 0.7856392 * [Response]

Dichlorodifluoromethane

624 VOC - Dichlorodifluoromethane



Average RF

RF RSD: 9.837361

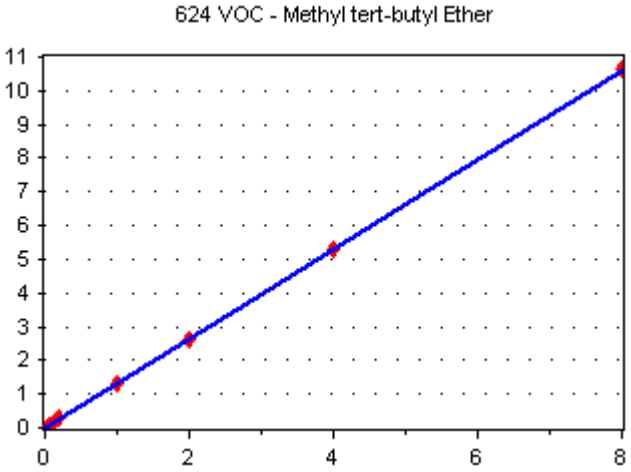
[Conc] = 0.6759334 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

Methyl tert-butyl Ether

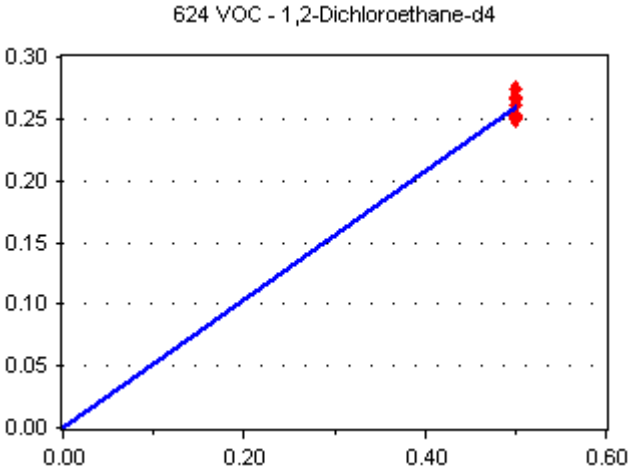


Average RF

RF RSD: 1.351435

[Conc] = 1.325743 * [Response]

1,2-Dichloroethane-d4



Average RF

RF RSD: 3.41766

[Conc] = 0.5194743 * [Response]

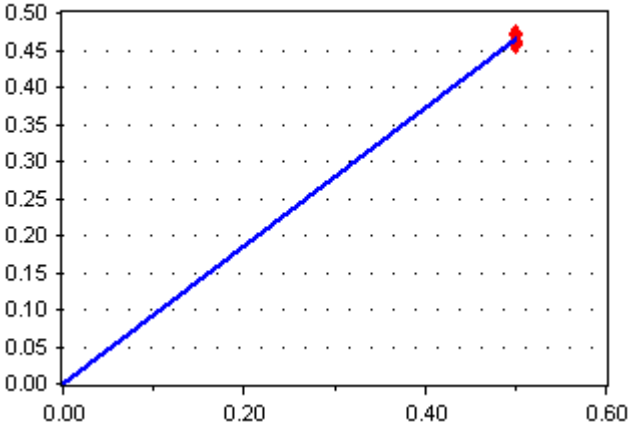
1,2-Dichlorobenzene-d4

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - 1,2-Dichlorobenzene-d4



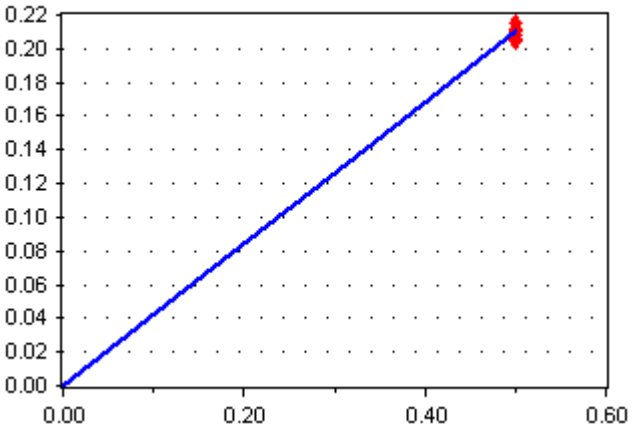
Average RF

RF RSD: 1.418709

[Conc] = 0.9323901 * [Response]

4-Bromofluorobenzene

624 VOC - 4-Bromofluorobenzene



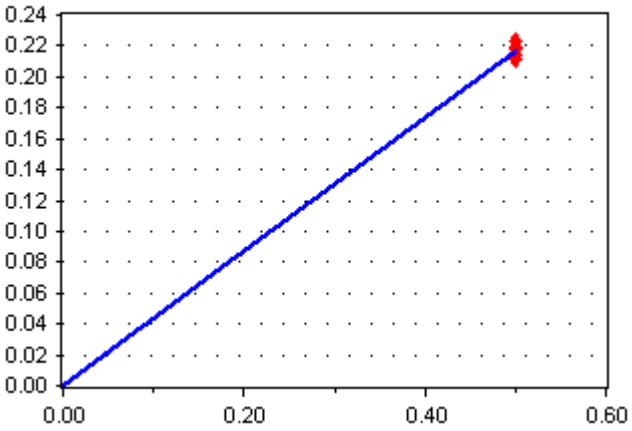
Average RF

RF RSD: 1.872363

[Conc] = 0.4205629 * [Response]

Dibromofluoromethane

624 VOC - Dibromofluoromethane



Average RF

RF RSD: 1.732171

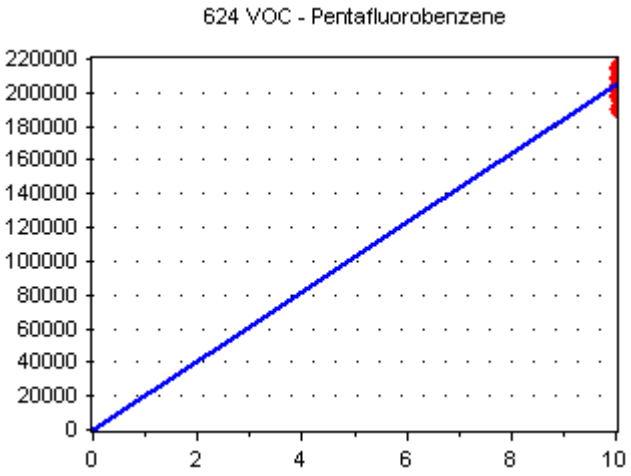
[Conc] = 0.4345069 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

Pentafluorobenzene

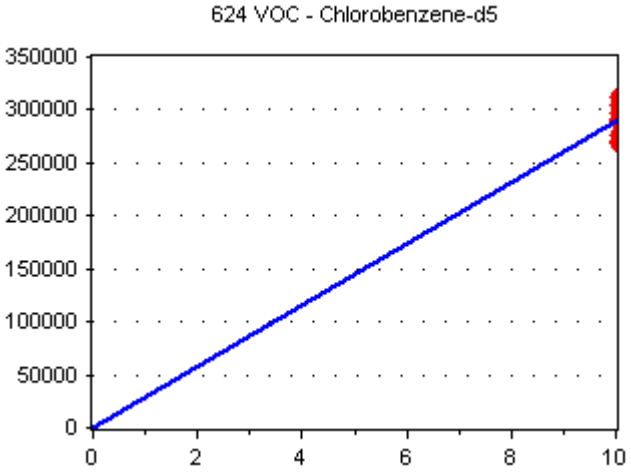


Average RF

RF RSD: 4.221646

[Conc] = 20455.4 * [Response]

Chlorobenzene-d5



Average RF

RF RSD: 5.503176

[Conc] = 28904.23 * [Response]

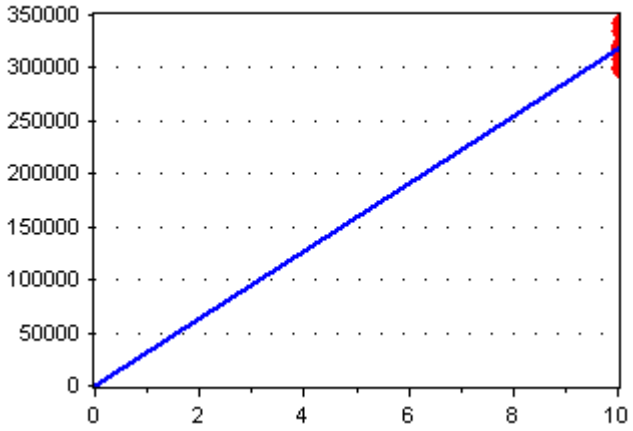
1,4-Difluorobenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - 1,4-Difluorobenzene



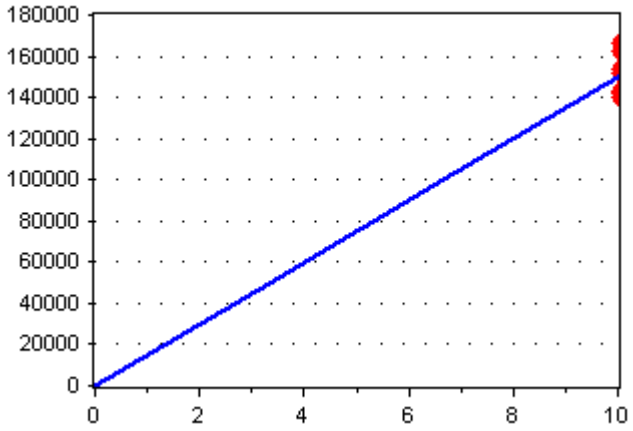
Average RF

RF RSD: 4.897403

[Conc] = 31765.19 * [Response]

1,4-Dichlorobenzene-d4

624 VOC - 1,4-Dichlorobenzene-d4



Average RF

RF RSD: 6.910365

[Conc] = 14986.71 * [Response]

8260C VOA

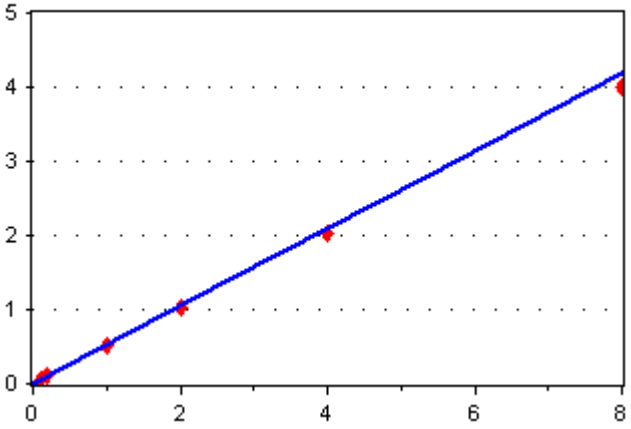
Bromomethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - Bromomethane



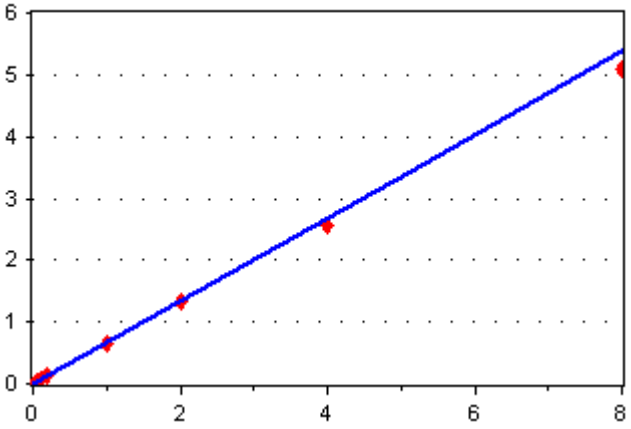
Average RF

RF RSD: 4.329187

[Conc] = 0.5226587 * [Response]

Chloroethane

8260C VOA - Chloroethane



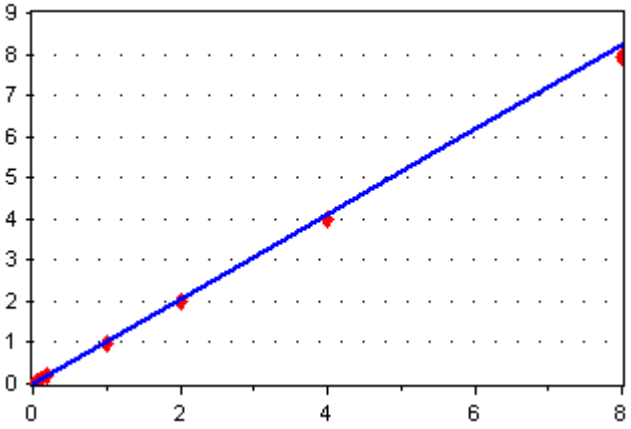
Average RF

RF RSD: 4.324667

[Conc] = 0.6711917 * [Response]

Trichlorofluoromethane

8260C VOA - Trichlorofluoromethane



Average RF

RF RSD: 4.469536

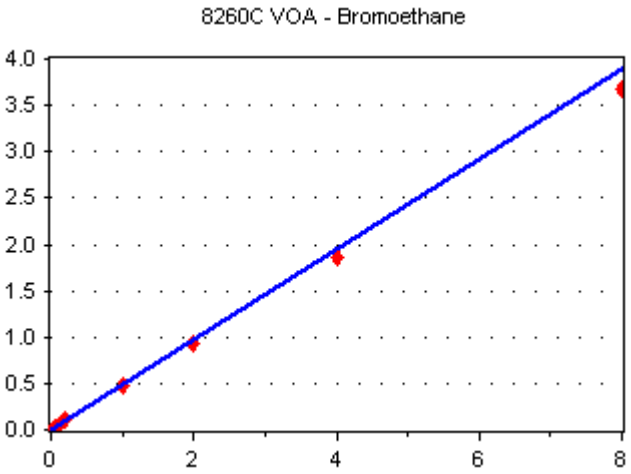
[Conc] = 1.029077 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

Bromoethane

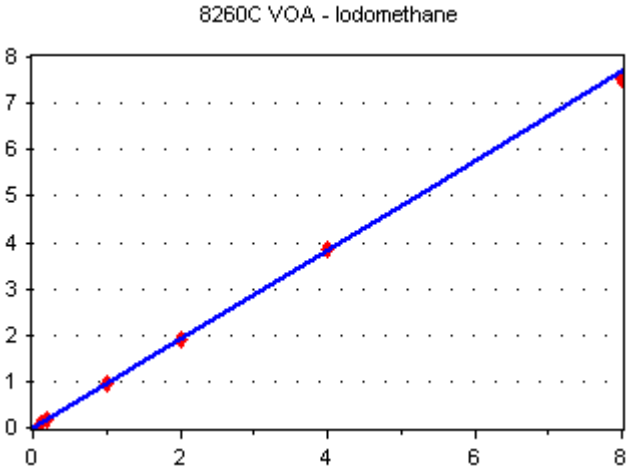


Average RF

RF RSD: 7.995117

[Conc] = 0.4866247 * [Response]

Iodomethane



Average RF

RF RSD: 1.587856

[Conc] = 0.9599186 * [Response]

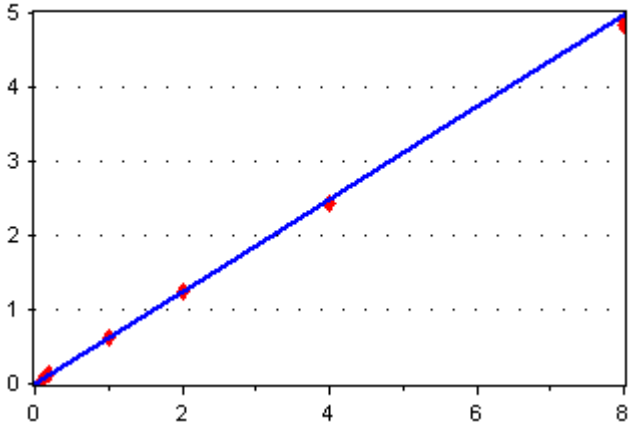
Methylene Chloride

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - Methylene Chloride



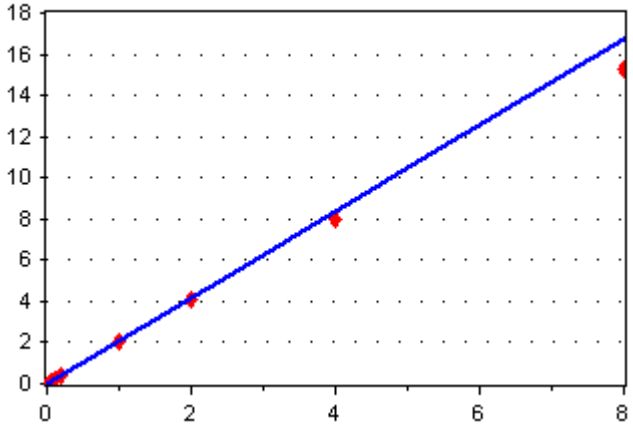
Average RF

RF RSD: 2.979223

[Conc] = 0.6225891 * [Response]

Carbon Disulfide

8260C VOA - Carbon Disulfide



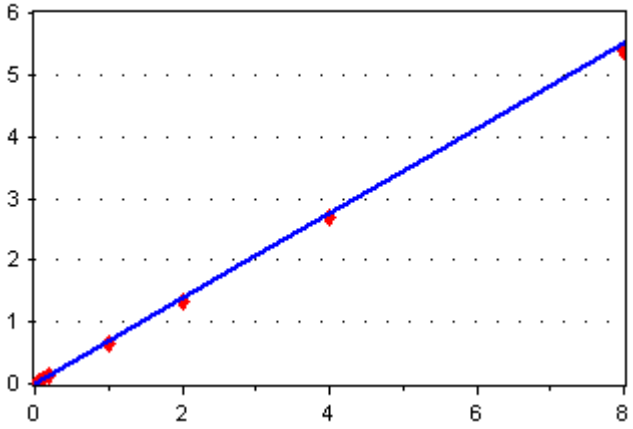
Average RF

RF RSD: 6.802613

[Conc] = 2.093059 * [Response]

trans-1,2-Dichloroethene

8260C VOA - trans-1,2-Dichloroethene



Average RF

RF RSD: 5.300671

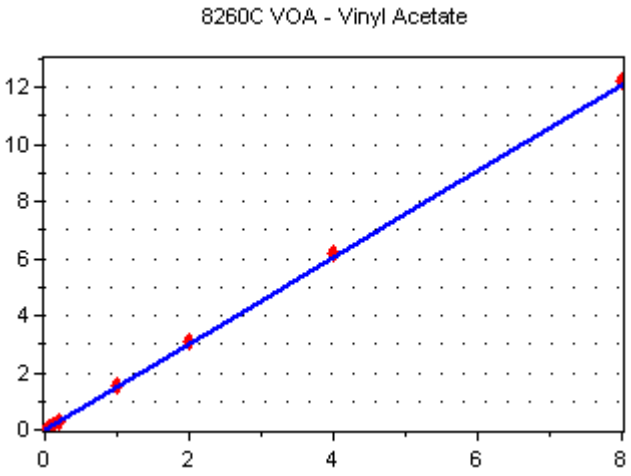
[Conc] = 0.6887343 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

Vinyl Acetate

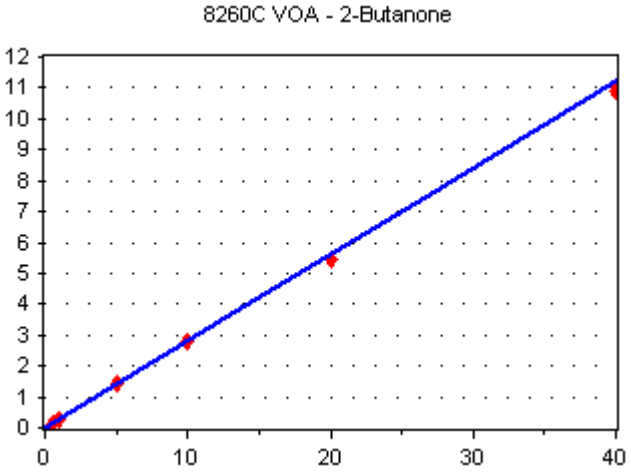


Average RF

RF RSD: 4.063481

[Conc] = 1.512167 * [Response]

2-Butanone



Average RF

RF RSD: 2.425506

[Conc] = 0.2805036 * [Response]

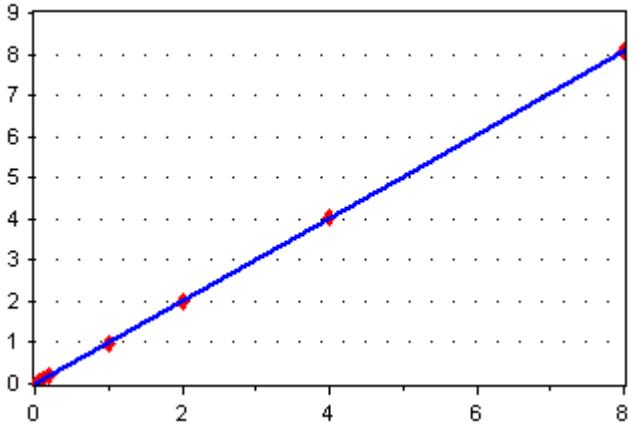
1,1,1-Trichloroethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - 1,1,1-Trichloroethane



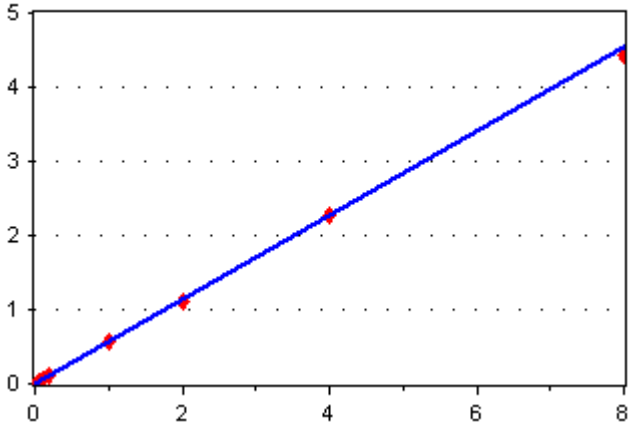
Average RF

RF RSD: 4.797428

[Conc] = 1.006514 * [Response]

Carbon tetrachloride

8260C VOA - Carbon tetrachloride



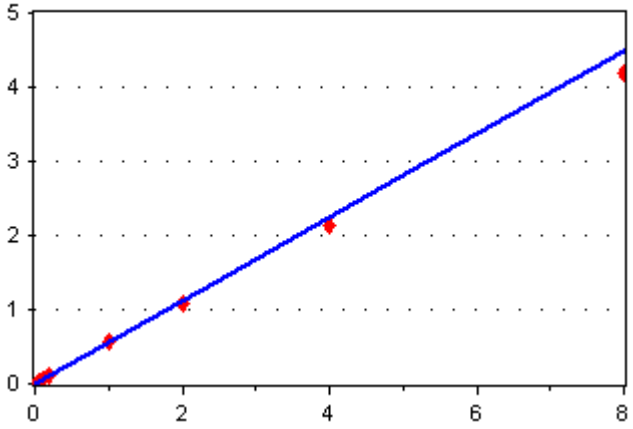
Average RF

RF RSD: 2.244469

[Conc] = 0.5687959 * [Response]

1,2-Dichloroethane

8260C VOA - 1,2-Dichloroethane



Average RF

RF RSD: 4.572287

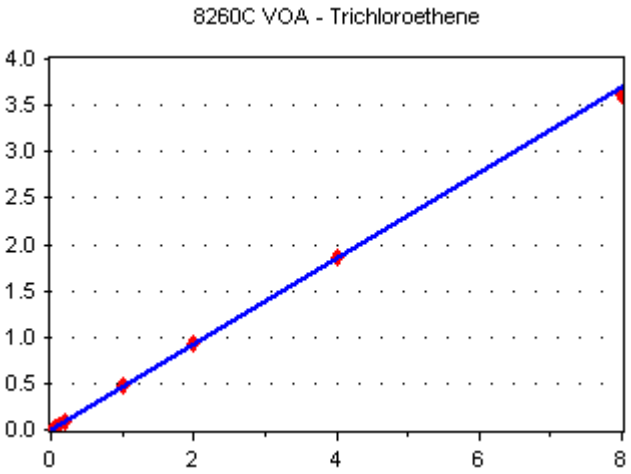
[Conc] = 0.5607074 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

Trichloroethene

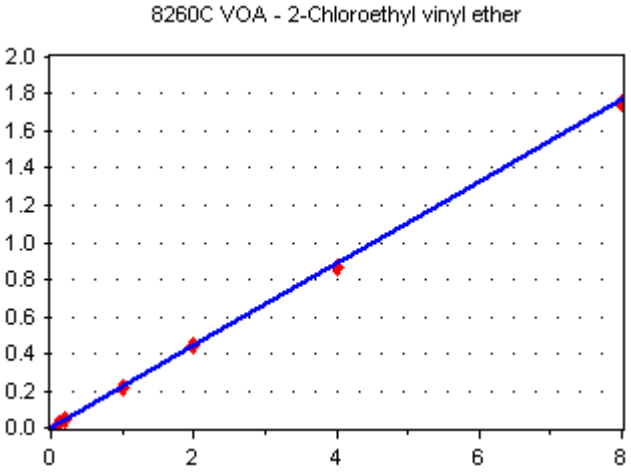


Average RF

RF RSD: 4.367003

[Conc] = 0.4621614 * [Response]

2-Chloroethyl vinyl ether



Average RF

RF RSD: 2.819434

[Conc] = 0.2209657 * [Response]

Toluene

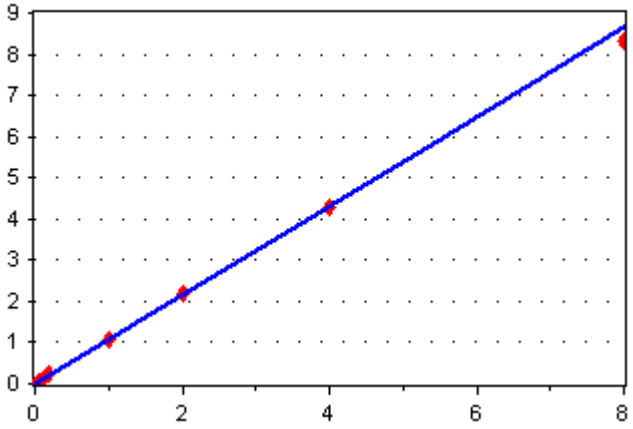
Calibration Report

Instrument: NT3 **Calibration Date:** 07-Nov-2017 08:29 By PKC

Calibration ID: AK00023 **Last Edit Date:** 08-Nov-2017 08:29 By PKC

8260C VOA

8260C VOA - Toluene



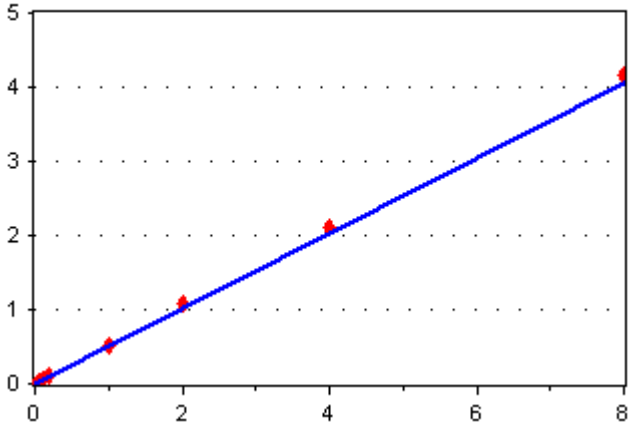
Average RF

RF RSD: 2.195586

[Conc] = 1.079567 * [Response]

trans-1,3-Dichloropropene

8260C VOA - trans-1,3-Dichloropropene



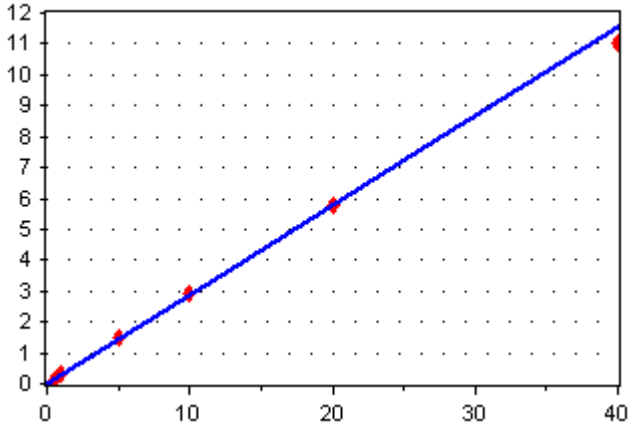
Average RF

RF RSD: 5.446183

[Conc] = 0.5052525 * [Response]

2-Hexanone

8260C VOA - 2-Hexanone



Average RF

RF RSD: 4.057726

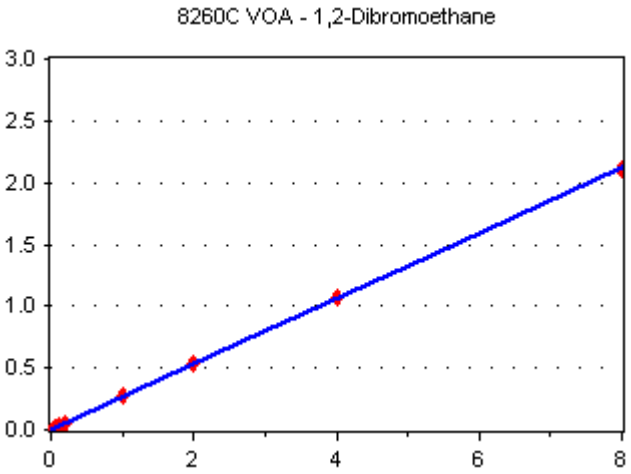
[Conc] = 0.2884545 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

1,2-Dibromoethane

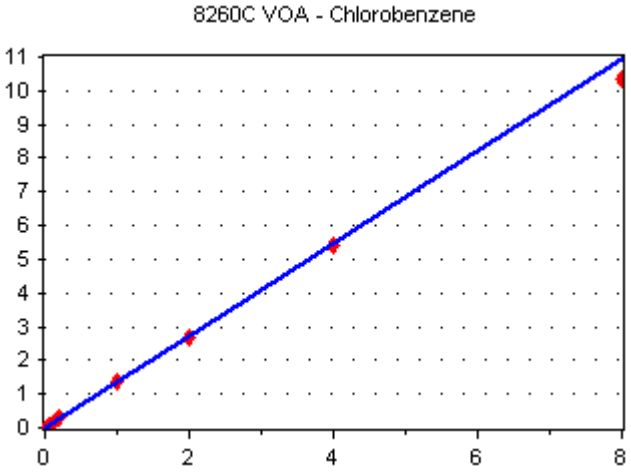


Average RF

RF RSD: 6.710197

[Conc] = 0.2647383 * [Response]

Chlorobenzene



Average RF

RF RSD: 3.094478

[Conc] = 1.370103 * [Response]

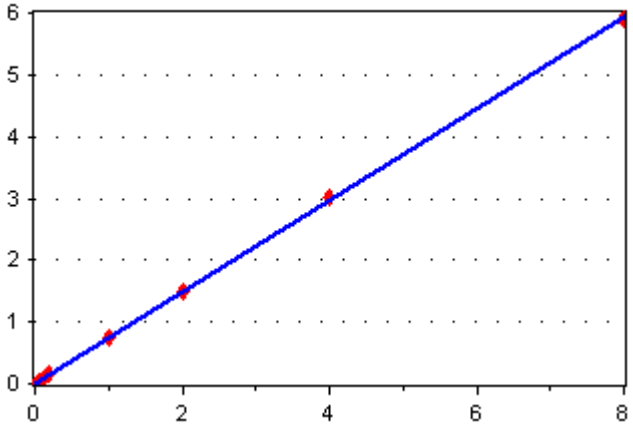
Ethylbenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - Ethylbenzene



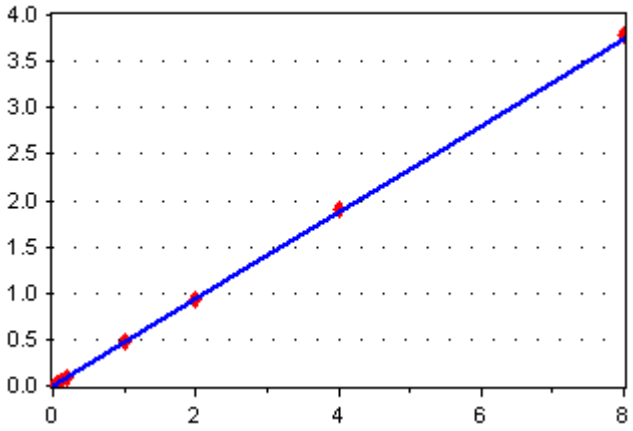
Average RF

RF RSD: 2.175029

[Conc] = 0.7415762 * [Response]

1,1,1,2-Tetrachloroethane

8260C VOA - 1,1,1,2-Tetrachloroethane



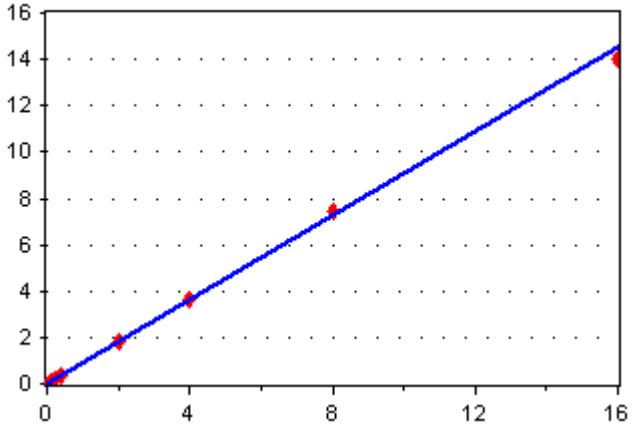
Average RF

RF RSD: 5.390908

[Conc] = 0.4666645 * [Response]

m,p-Xylene

8260C VOA - m,p-Xylene



Average RF

RF RSD: 3.003314

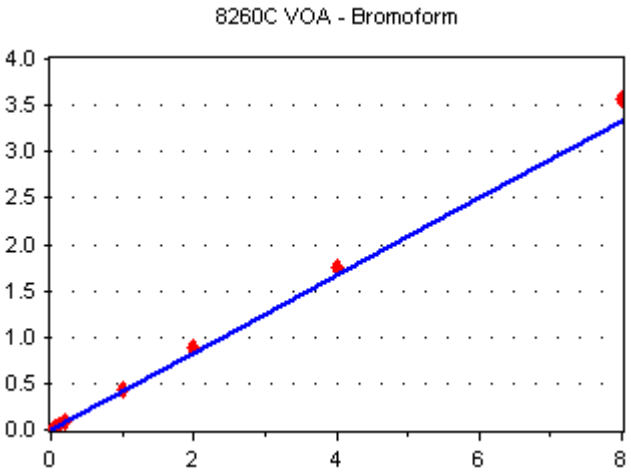
[Conc] = 0.909173 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

Bromoform

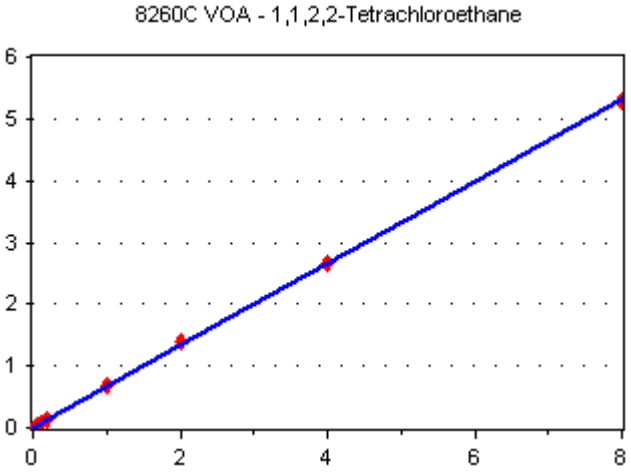


Average RF

RF RSD: 8.272292

[Conc] = 0.4158349 * [Response]

1,1,2,2-Tetrachloroethane



Average RF

RF RSD: 7.388106

[Conc] = 0.6632686 * [Response]

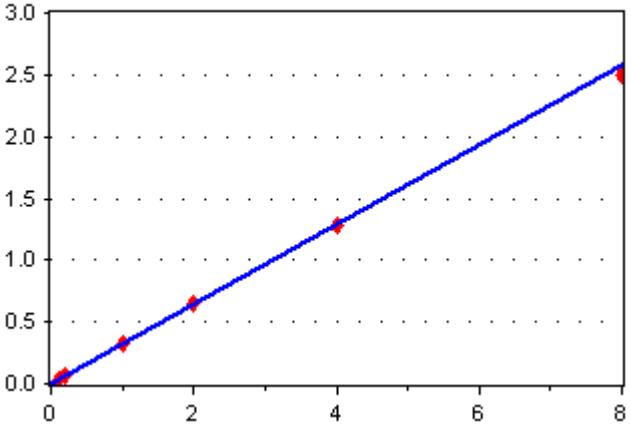
trans-1,4-Dichloro 2-Butene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - trans-1,4-Dichloro 2-Butene



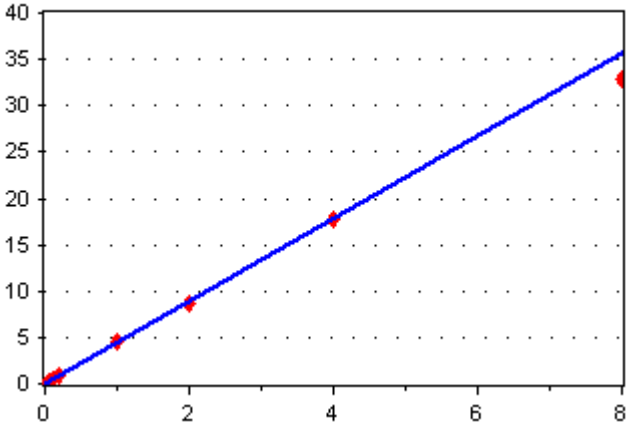
Average RF

RF RSD: 2.189787

[Conc] = 0.3217784 * [Response]

Isopropyl Benzene

8260C VOA - Isopropyl Benzene



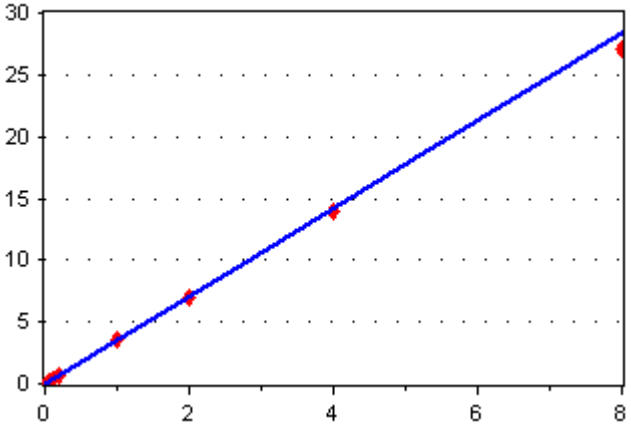
Average RF

RF RSD: 3.554428

[Conc] = 4.450937 * [Response]

2-Chlorotoluene

8260C VOA - 2-Chlorotoluene



Average RF

RF RSD: 2.543521

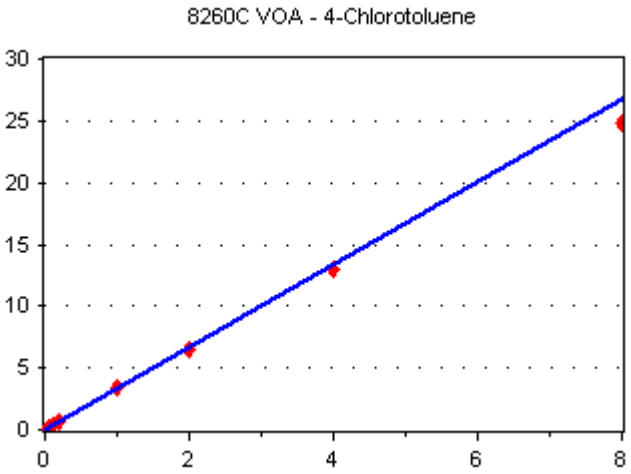
[Conc] = 3.54236 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

4-Chlorotoluene

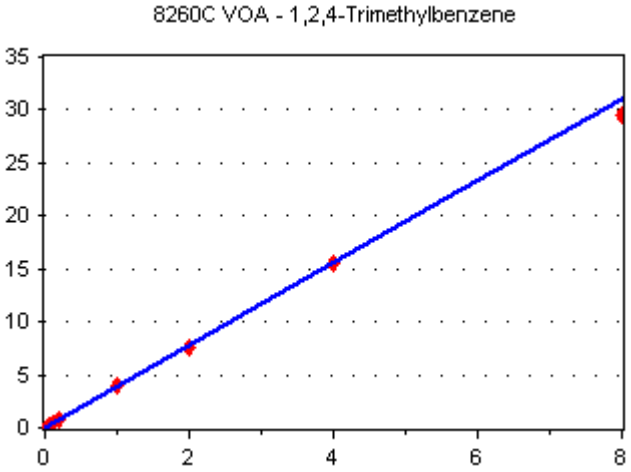


Average RF

RF RSD: 4.270012

[Conc] = 3.353723 * [Response]

1,2,4-Trimethylbenzene



Average RF

RF RSD: 3.427156

[Conc] = 3.887618 * [Response]

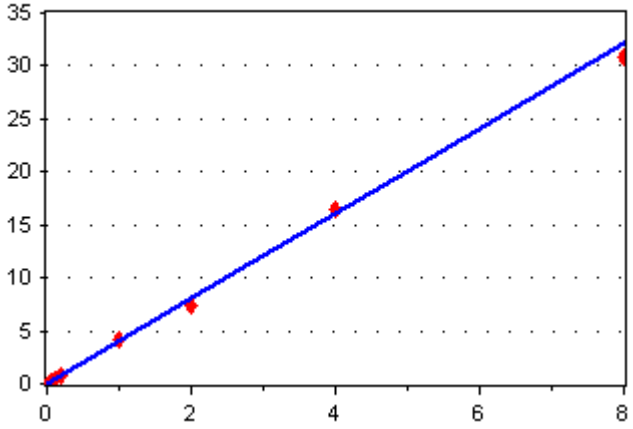
4-Isopropyl Toluene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - 4-Isopropyl Toluene



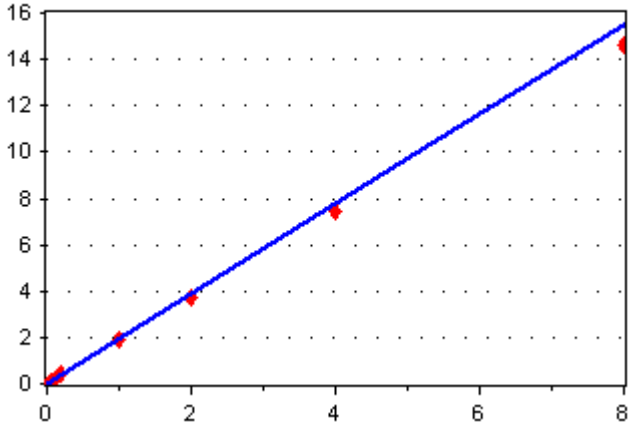
Average RF

RF RSD: 4.845394

[Conc] = 4.022387 * [Response]

1,2-Dichlorobenzene

8260C VOA - 1,2-Dichlorobenzene



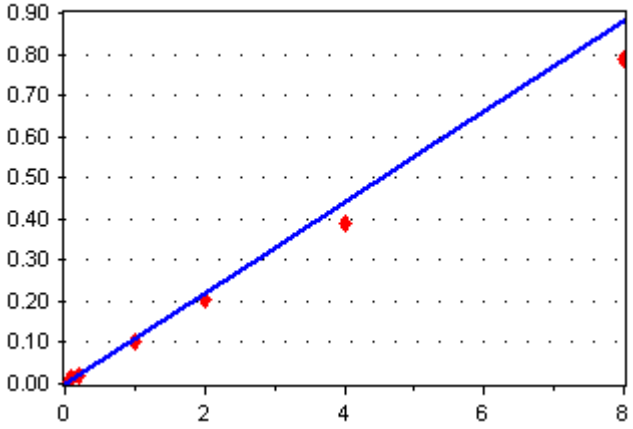
Average RF

RF RSD: 4.916545

[Conc] = 1.940409 * [Response]

1,2-Dibromo-3-chloropropane

8260C VOA - 1,2-Dibromo-3-chloropropane



Average RF

RF RSD: 14.15501

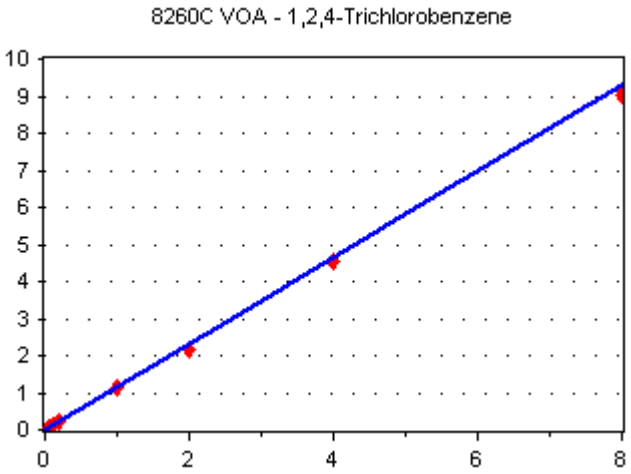
[Conc] = 0.1099248 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

1,2,4-Trichlorobenzene

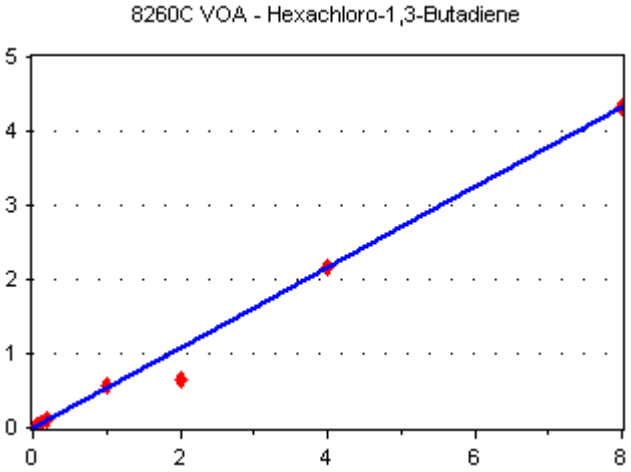


Average RF

RF RSD: 4.858798

[Conc] = 1.16188 * [Response]

Hexachloro-1,3-Butadiene



Average RF

RF RSD: 19.18541

[Conc] = 0.5416111 * [Response]

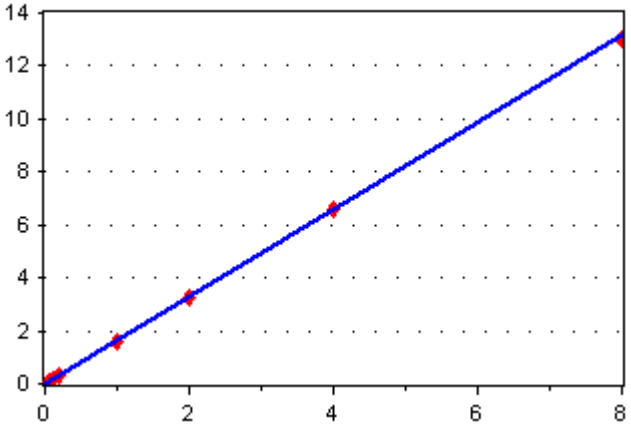
Naphthalene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - Naphthalene



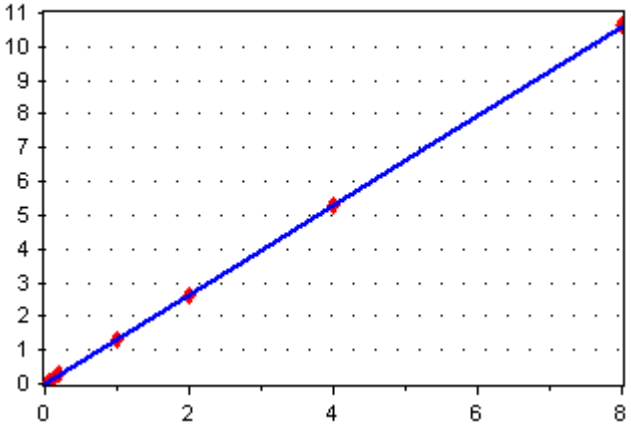
Average RF

RF RSD: 2.203534

[Conc] = 1.641945 * [Response]

Methyl tert-butyl Ether

8260C VOA - Methyl tert-butyl Ether



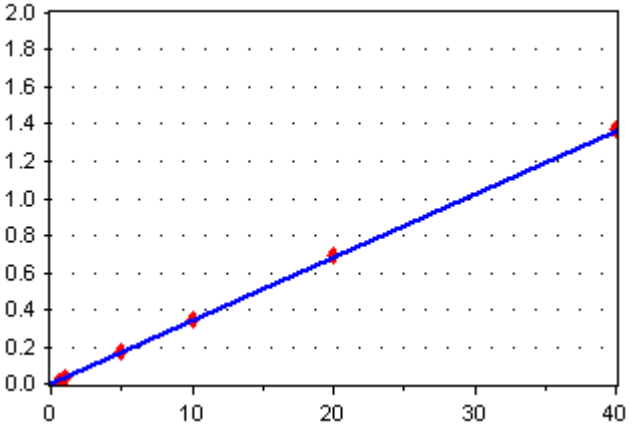
Average RF

RF RSD: 1.351435

[Conc] = 1.325743 * [Response]

2-Pentanone

8260C VOA - 2-Pentanone



Average RF

RF RSD: 5.024782

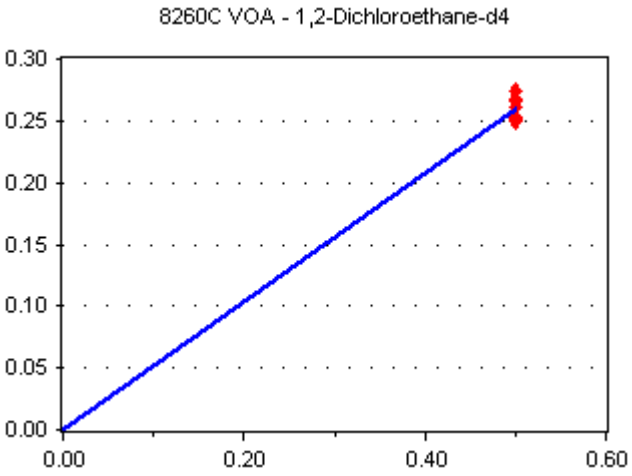
[Conc] = 3.402576E-02 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

1,2-Dichloroethane-d4

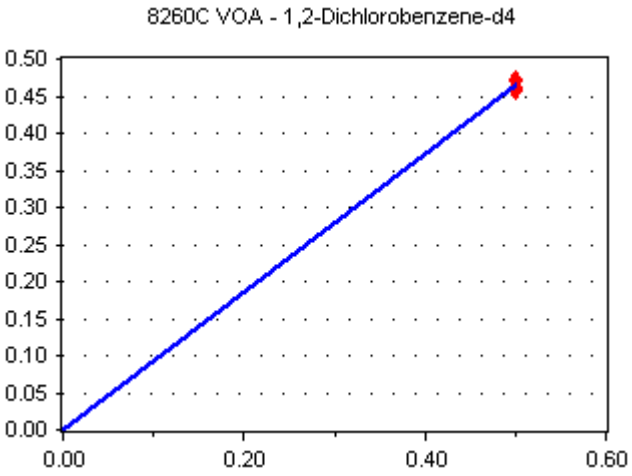


Average RF

RF RSD: 3.41766

[Conc] = 0.5194743 * [Response]

1,2-Dichlorobenzene-d4



Average RF

RF RSD: 1.418709

[Conc] = 0.9323901 * [Response]

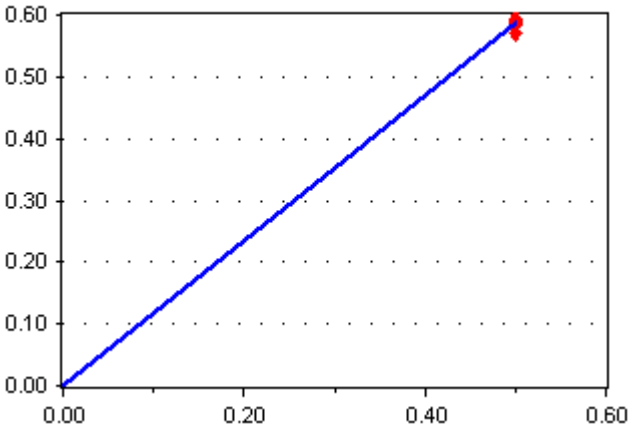
Toluene-d8

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - Toluene-d8



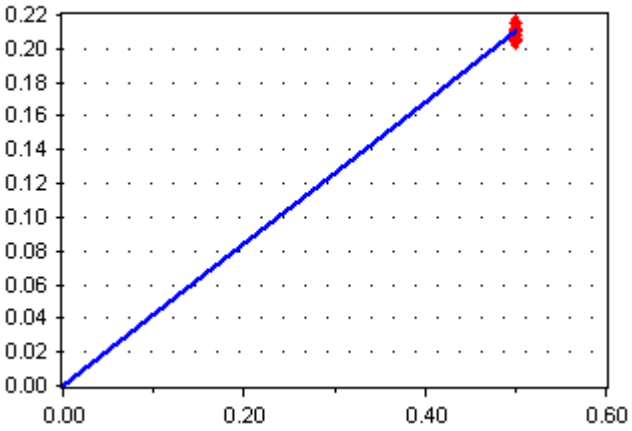
Average RF

RF RSD: 1.174111

[Conc] = 1.17246 * [Response]

4-Bromofluorobenzene

8260C VOA - 4-Bromofluorobenzene



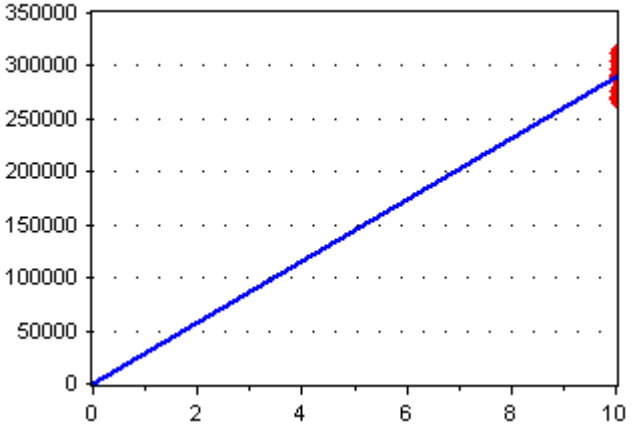
Average RF

RF RSD: 1.872363

[Conc] = 0.4205629 * [Response]

Chlorobenzene-d5

8260C VOA - Chlorobenzene-d5



Average RF

RF RSD: 5.503176

[Conc] = 28904.23 * [Response]

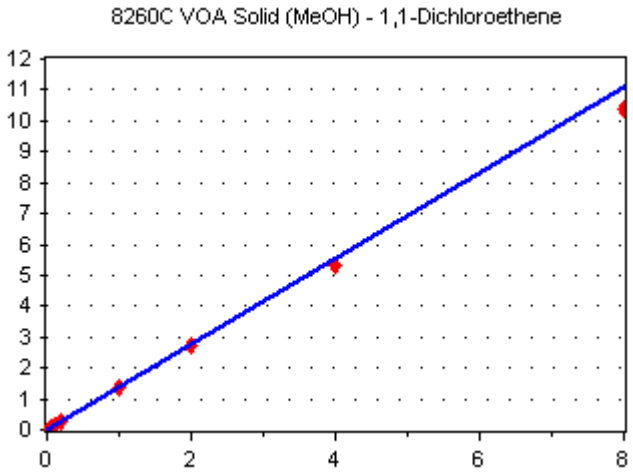
Calibration Report

Instrument: NT3 **Calibration Date:** 07-Nov-2017 08:29 By PKC

Calibration ID: AK00023 **Last Edit Date:** 08-Nov-2017 08:29 By PKC

8260C VOA Solid (MeOH)

1,1-Dichloroethene

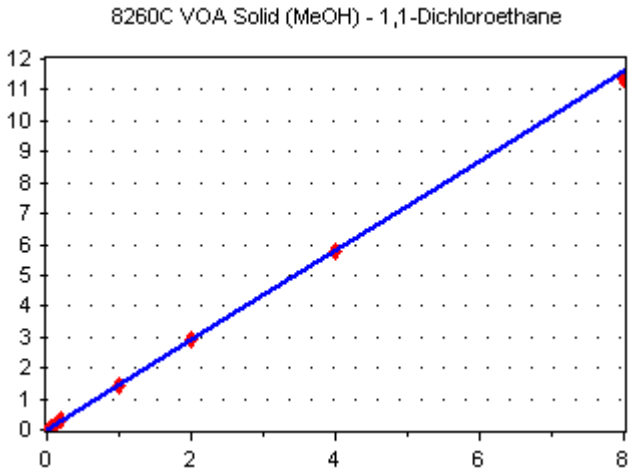


Average RF

RF RSD: 5.282519

[Conc] = 1.389707 * [Response]

1,1-Dichloroethane



Average RF

RF RSD: 5.754636

[Conc] = 1.447905 * [Response]

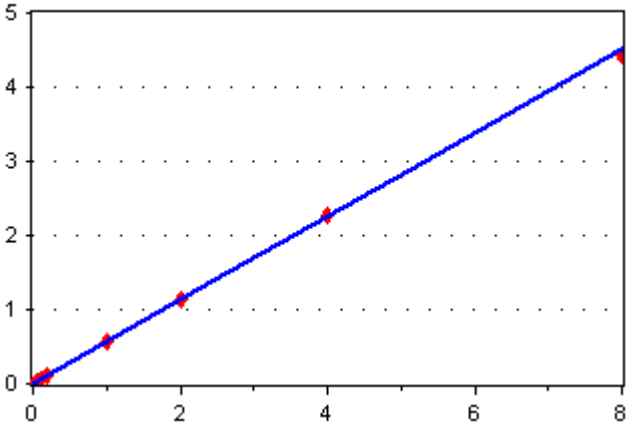
1,1-Dichloropropene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - 1,1-Dichloropropene



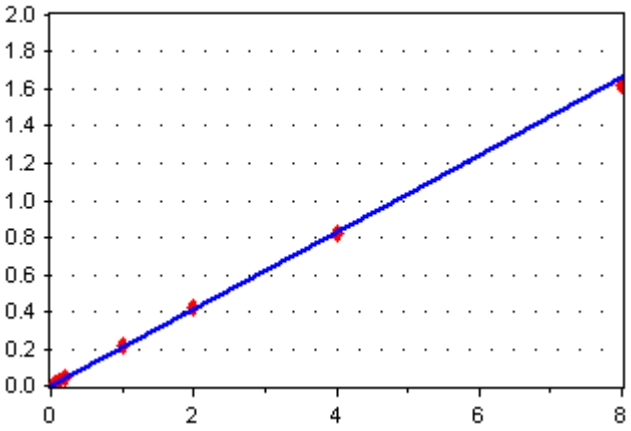
Average RF

RF RSD: 3.190752

[Conc] = 0.564523 * [Response]

1,2,3-Trichloropropane

8260C VOA Solid (MeOH) - 1,2,3-Trichloropropane



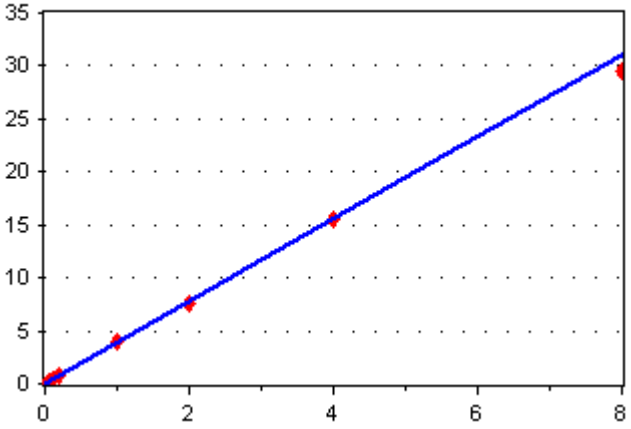
Average RF

RF RSD: 2.824324

[Conc] = 0.2076566 * [Response]

1,2,4-Trimethylbenzene

8260C VOA Solid (MeOH) - 1,2,4-Trimethylbenzene



Average RF

RF RSD: 3.427156

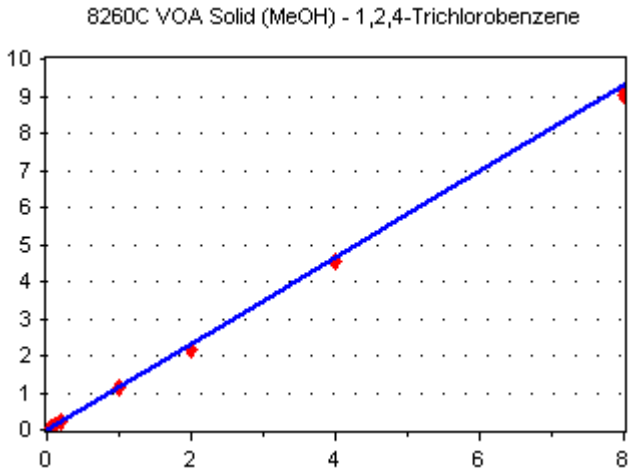
[Conc] = 3.887618 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

1,2,4-Trichlorobenzene

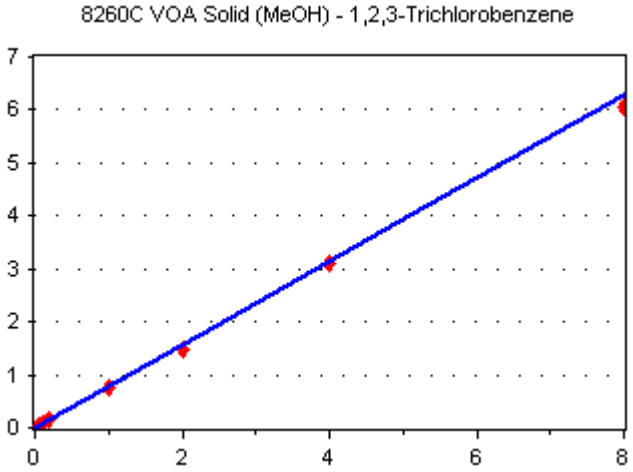


Average RF

RF RSD: 4.858798

[Conc] = 1.16188 * [Response]

1,2,3-Trichlorobenzene



Average RF

RF RSD: 6.320922

[Conc] = 0.7856392 * [Response]

624 VOC

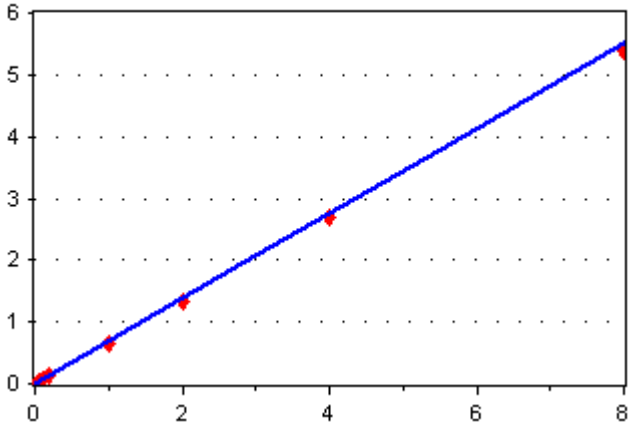
trans-1,2-Dichloroethene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - trans-1,2-Dichloroethene



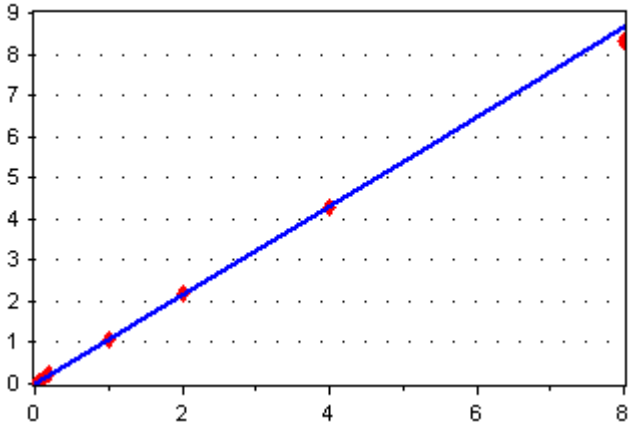
Average RF

RF RSD: 5.300671

[Conc] = 0.6887343 * [Response]

Toluene

624 VOC - Toluene



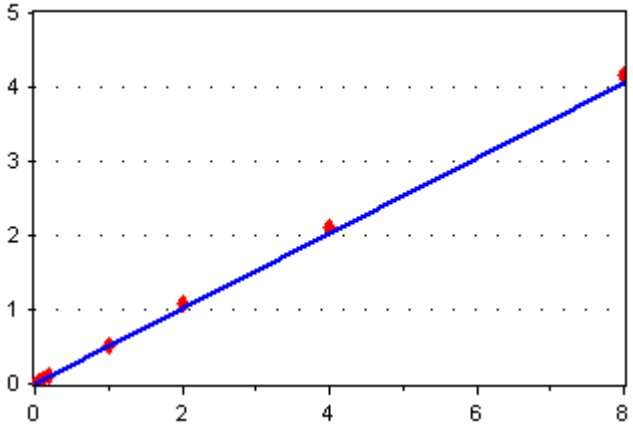
Average RF

RF RSD: 2.195586

[Conc] = 1.079567 * [Response]

trans-1,3-Dichloropropene

624 VOC - trans-1,3-Dichloropropene



Average RF

RF RSD: 5.446183

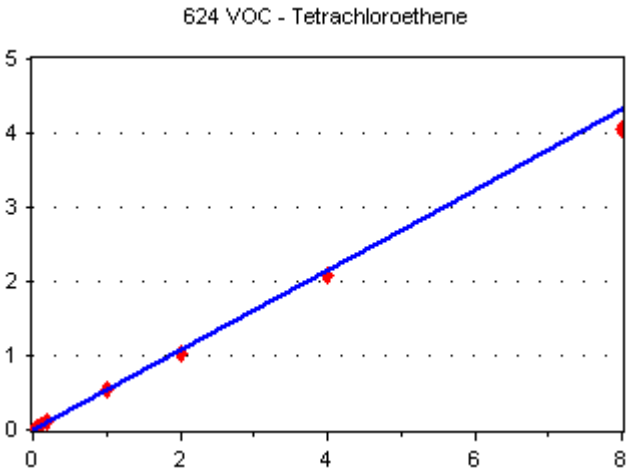
[Conc] = 0.5052525 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

Tetrachloroethene

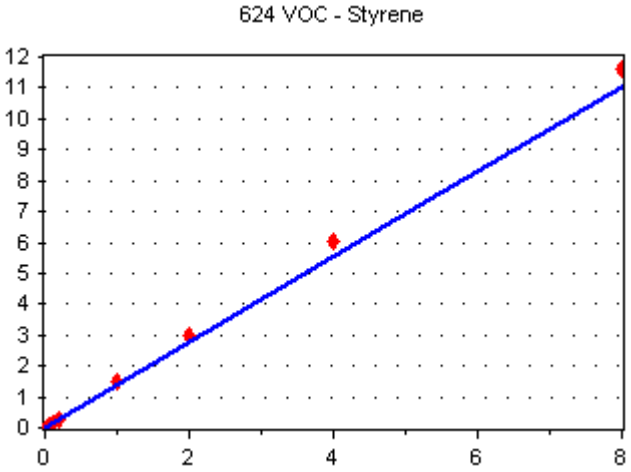


Average RF

RF RSD: 4.76736

[Conc] = 0.5389318 * [Response]

Styrene



Average RF

RF RSD: 10.094

[Conc] = 1.381043 * [Response]

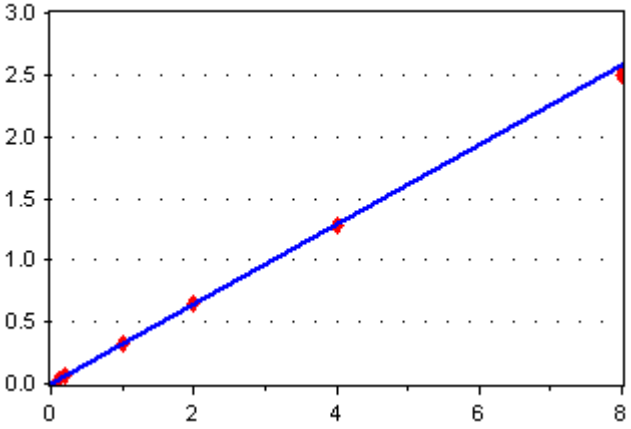
trans-1,4-Dichloro 2-Butene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

624 VOC

624 VOC - trans-1,4-Dichloro 2-Butene



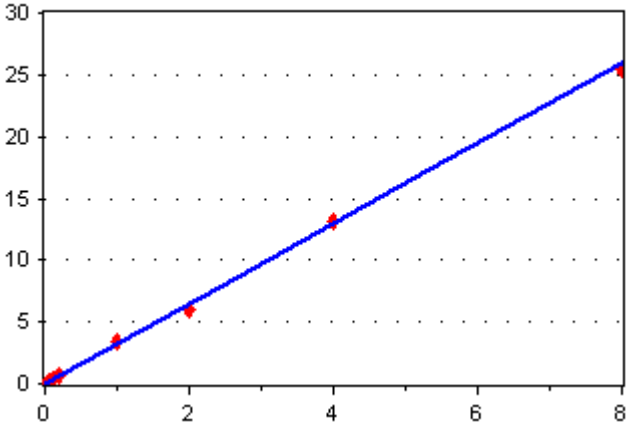
Average RF

RF RSD: 2.189787

[Conc] = 0.3217784 * [Response]

t-Butylbenzene

624 VOC - t-Butylbenzene



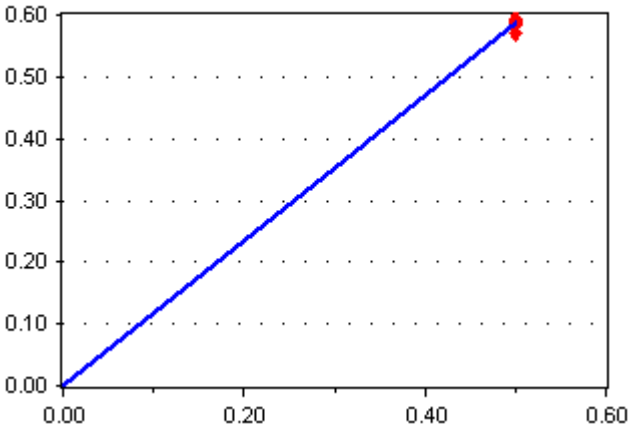
Average RF

RF RSD: 3.537539

[Conc] = 3.239598 * [Response]

Toluene-d8

624 VOC - Toluene-d8



Average RF

RF RSD: 1.174111

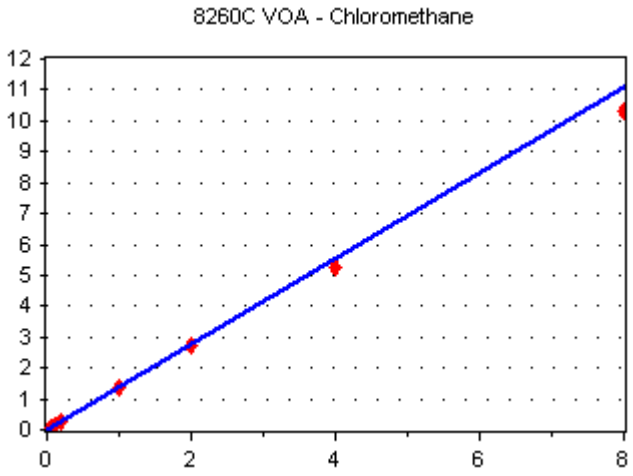
[Conc] = 1.17246 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

Chloromethane

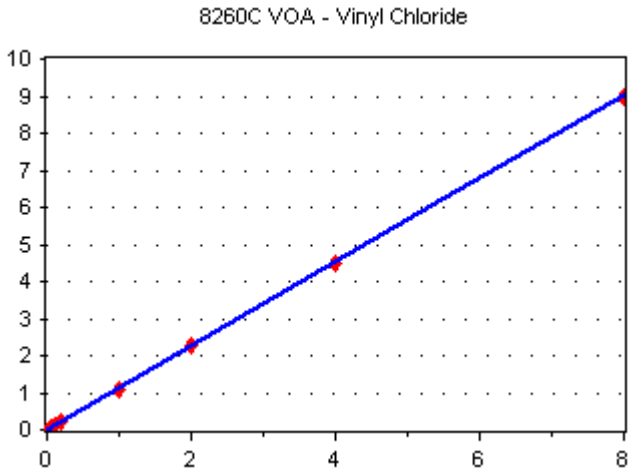


Average RF

RF RSD: 6.801404

[Conc] = 1.387441 * [Response]

Vinyl Chloride



Average RF

RF RSD: 3.519232

[Conc] = 1.131059 * [Response]

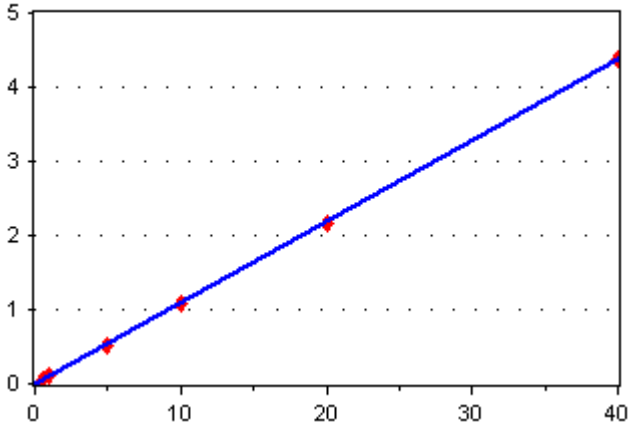
Acrolein

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - Acrolein



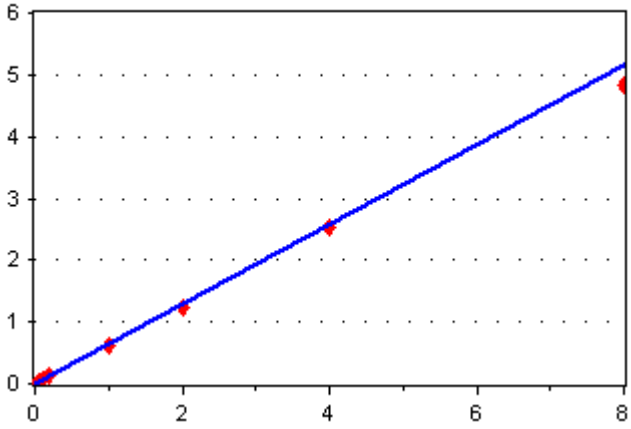
Average RF

RF RSD: 4.806169

[Conc] = 0.1091525 * [Response]

1,1,2-Trichloro-1,2,2-Trifluoroeth

8260C VOA - 1,1,2-Trichloro-1,2,2-Trifluoroethane



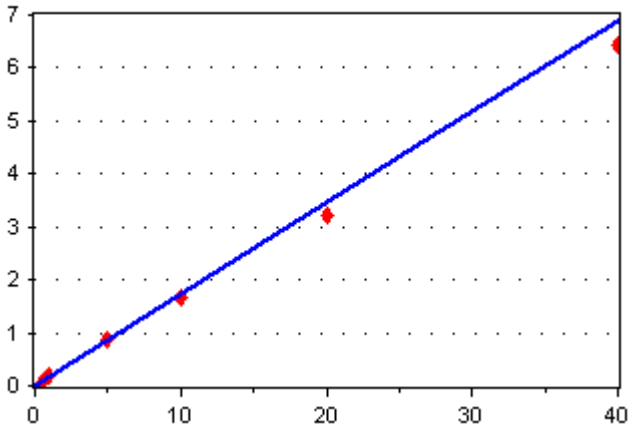
Average RF

RF RSD: 4.471673

[Conc] = 0.6449168 * [Response]

Acetone

8260C VOA - Acetone



Average RF

RF RSD: 6.520715

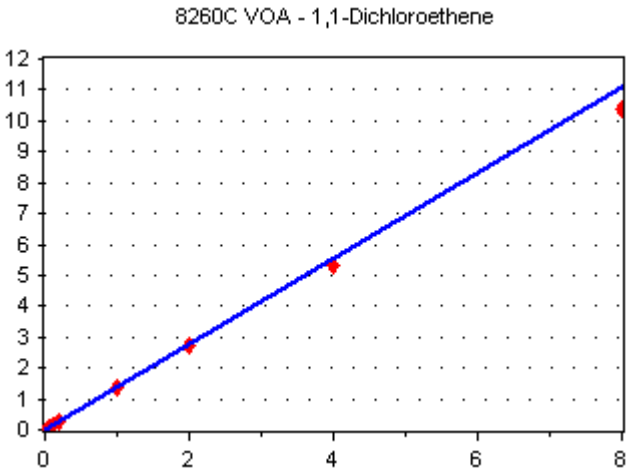
[Conc] = 0.1725437 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

1,1-Dichloroethene

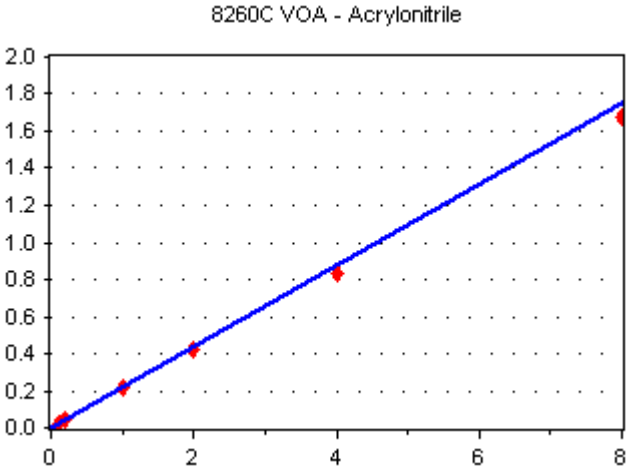


Average RF

RF RSD: 5.282519

[Conc] = 1.389707 * [Response]

Acrylonitrile



Average RF

RF RSD: 5.50449

[Conc] = 0.2186381 * [Response]

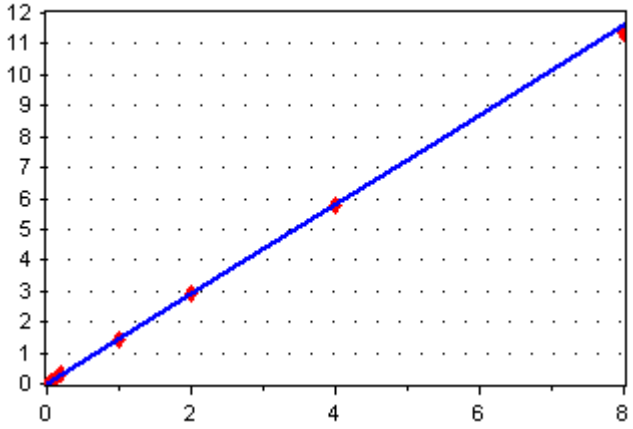
1,1-Dichloroethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - 1,1-Dichloroethane



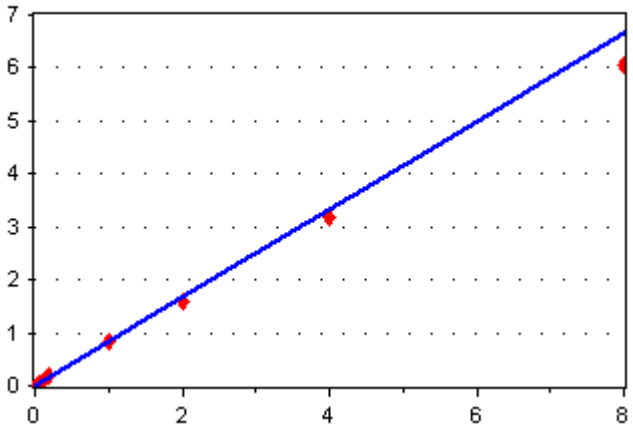
Average RF

RF RSD: 5.754636

[Conc] = 1.447905 * [Response]

2,2-Dichloropropane

8260C VOA - 2,2-Dichloropropane



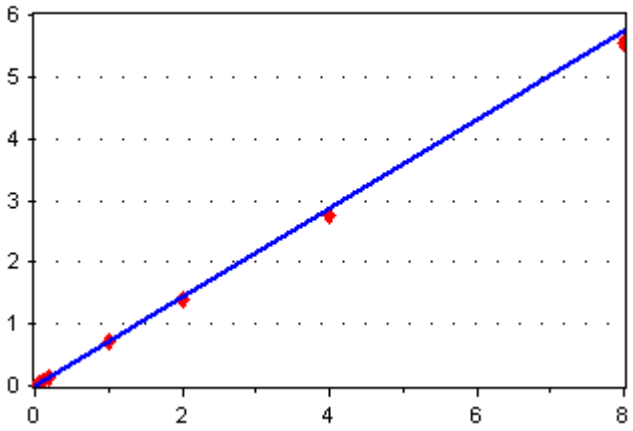
Average RF

RF RSD: 6.724053

[Conc] = 0.8333386 * [Response]

cis-1,2-Dichloroethene

8260C VOA - cis-1,2-Dichloroethene



Average RF

RF RSD: 5.137177

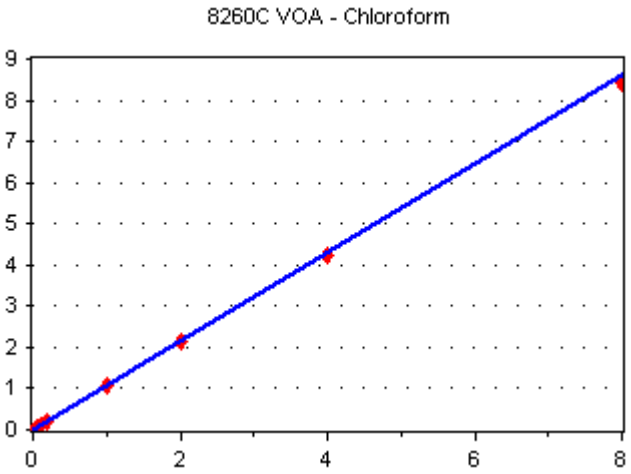
[Conc] = 0.7176638 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

Chloroform

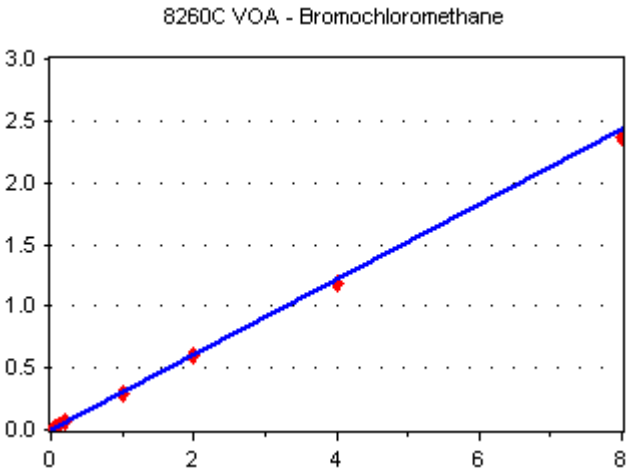


Average RF

RF RSD: 4.294404

[Conc] = 1.07512 * [Response]

Bromochloromethane



Average RF

RF RSD: 3.823448

[Conc] = 0.3033335 * [Response]

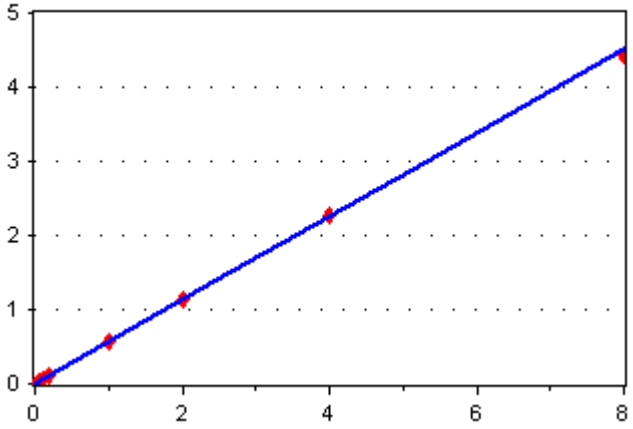
1,1-Dichloropropene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - 1,1-Dichloropropene



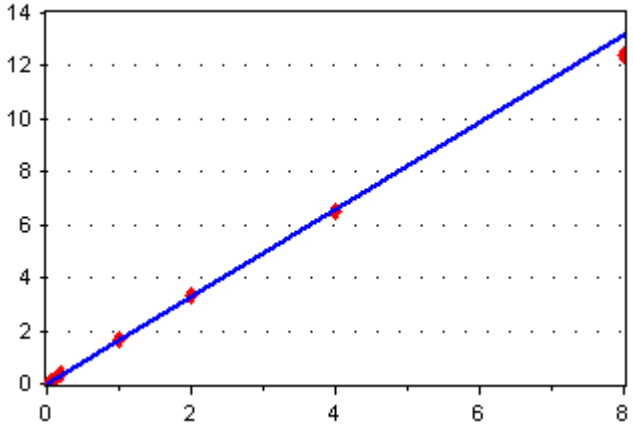
Average RF

RF RSD: 3.190752

[Conc] = 0.564523 * [Response]

Benzene

8260C VOA - Benzene



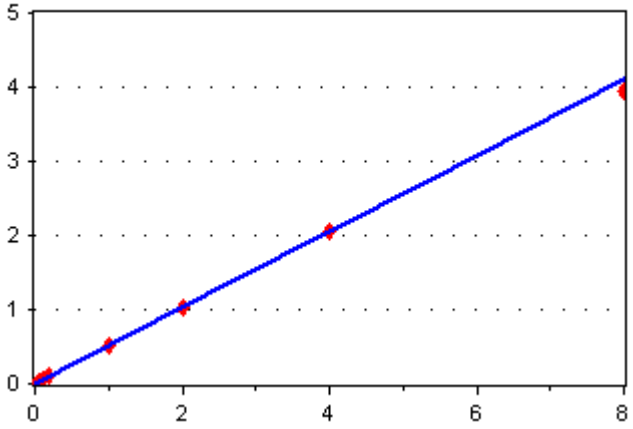
Average RF

RF RSD: 4.552444

[Conc] = 1.649944 * [Response]

1,2-Dichloropropane

8260C VOA - 1,2-Dichloropropane



Average RF

RF RSD: 1.954958

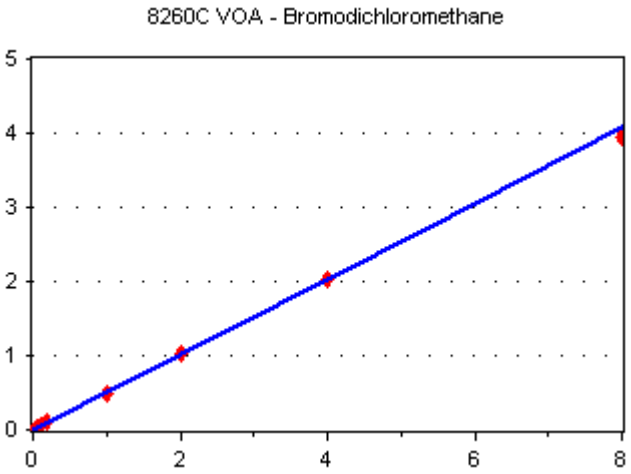
[Conc] = 0.5120427 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

Bromodichloromethane

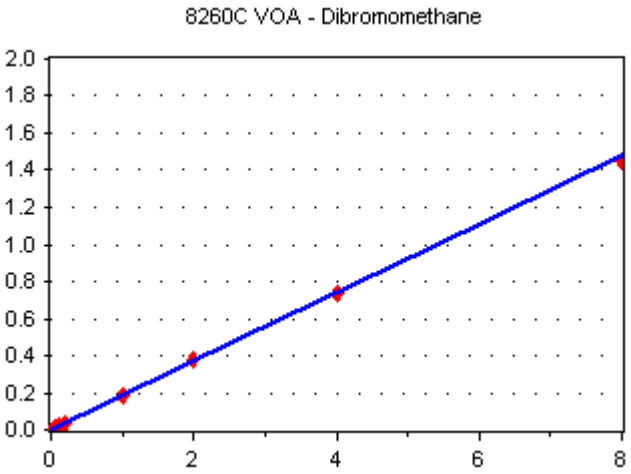


Average RF

RF RSD: 2.029064

[Conc] = 0.5084654 * [Response]

Dibromomethane



Average RF

RF RSD: 3.838062

[Conc] = 0.18464 * [Response]

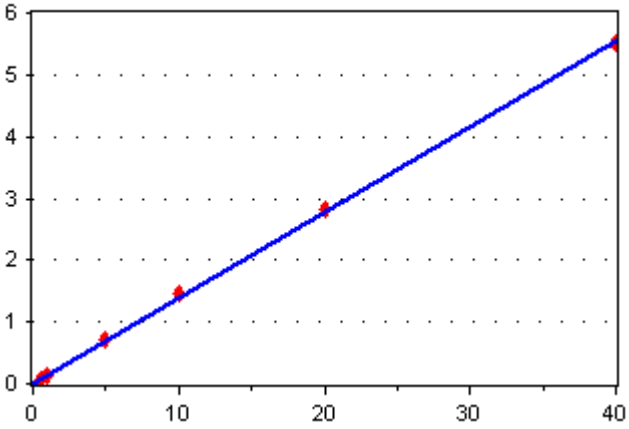
4-Methyl-2-Pentanone

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - 4-Methyl-2-Pentanone



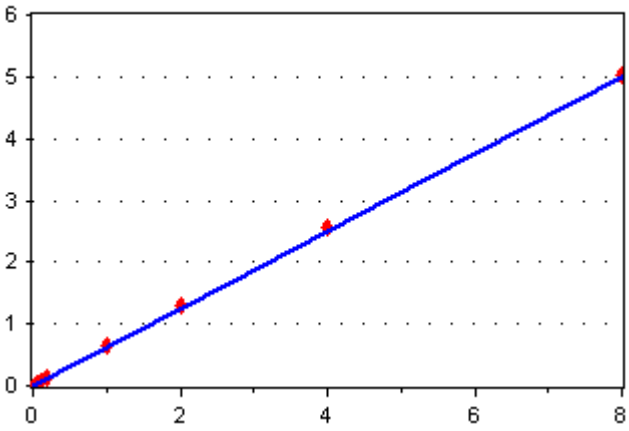
Average RF

RF RSD: 4.851356

[Conc] = 0.138547 * [Response]

cis-1,3-Dichloropropene

8260C VOA - cis-1,3-Dichloropropene



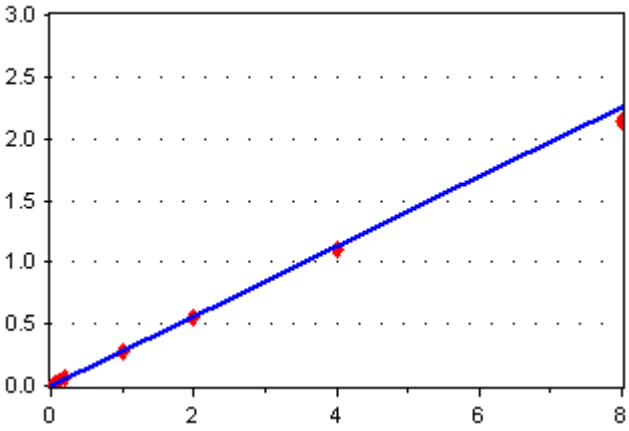
Average RF

RF RSD: 4.46843

[Conc] = 0.6260336 * [Response]

1,1,2-Trichloroethane

8260C VOA - 1,1,2-Trichloroethane



Average RF

RF RSD: 7.186771

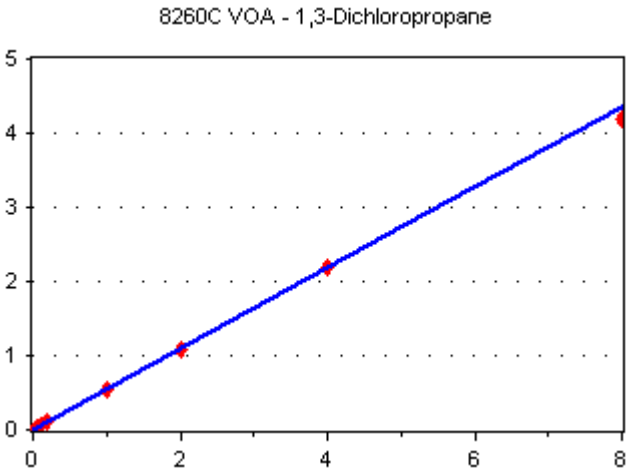
[Conc] = 0.2824512 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

1,3-Dichloropropane

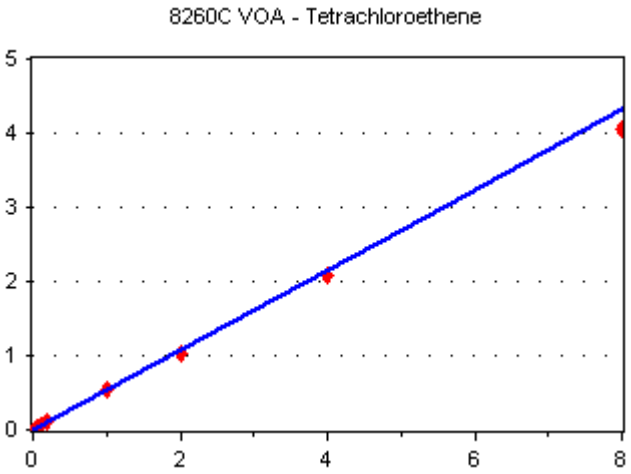


Average RF

RF RSD: 5.415805

[Conc] = 0.5455758 * [Response]

Tetrachloroethene



Average RF

RF RSD: 4.76736

[Conc] = 0.5389318 * [Response]

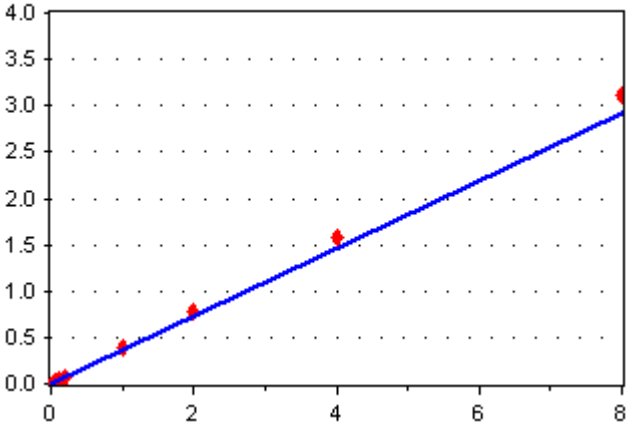
Dibromochloromethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - Dibromochloromethane



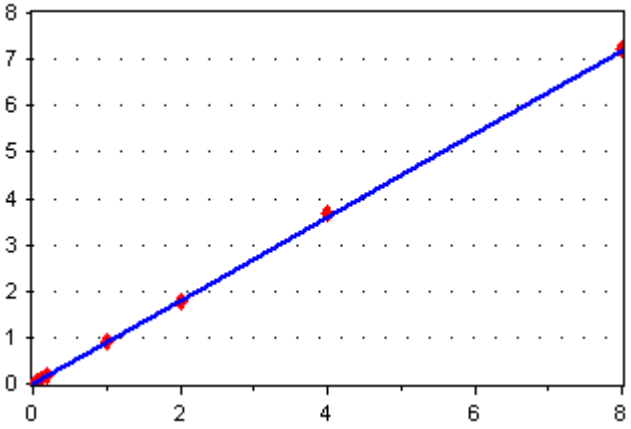
Average RF

RF RSD: 9.143215

[Conc] = 0.3658172 * [Response]

o-Xylene

8260C VOA - o-Xylene



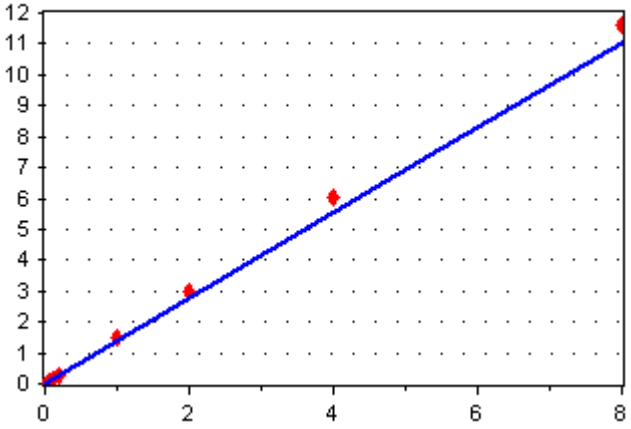
Average RF

RF RSD: 1.997315

[Conc] = 0.8974687 * [Response]

Styrene

8260C VOA - Styrene



Average RF

RF RSD: 10.094

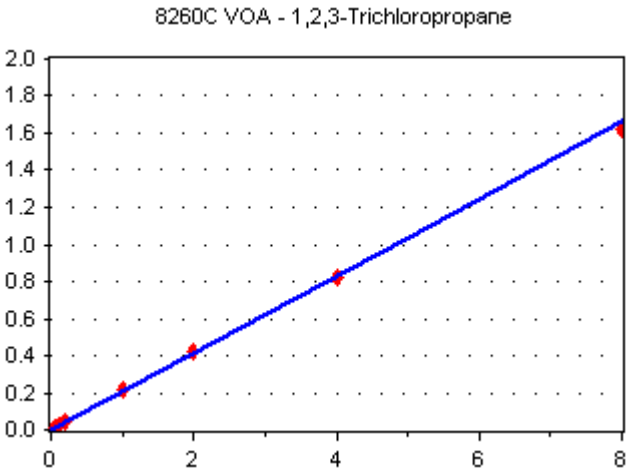
[Conc] = 1.381043 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

1,2,3-Trichloropropane

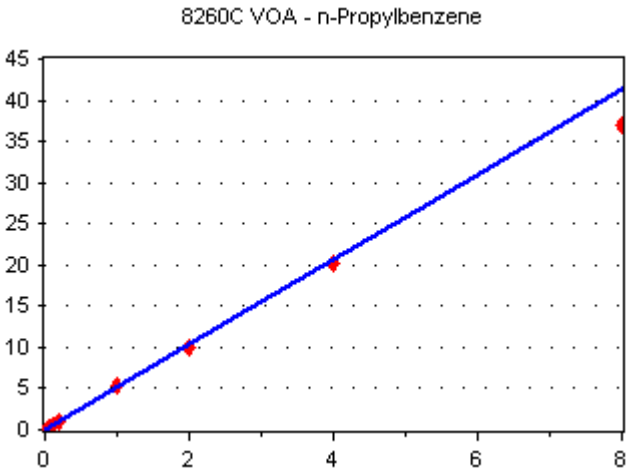


Average RF

RF RSD: 2.824324

[Conc] = 0.2076566 * [Response]

n-Propylbenzene



Average RF

RF RSD: 5.381233

[Conc] = 5.160252 * [Response]

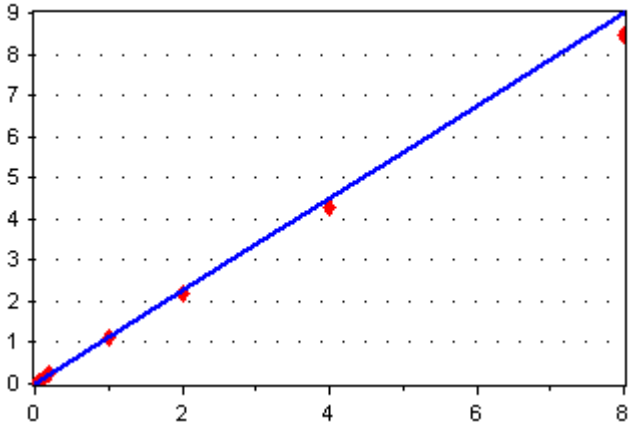
Bromobenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - Bromobenzene



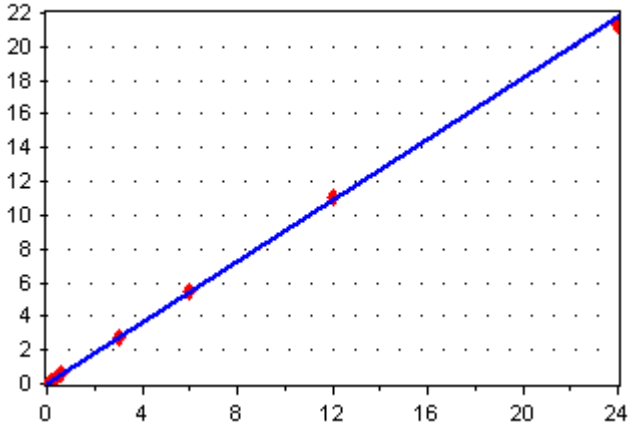
Average RF

RF RSD: 4.872522

[Conc] = 1.123633 * [Response]

Xylenes, total

8260C VOA - Xylenes, total



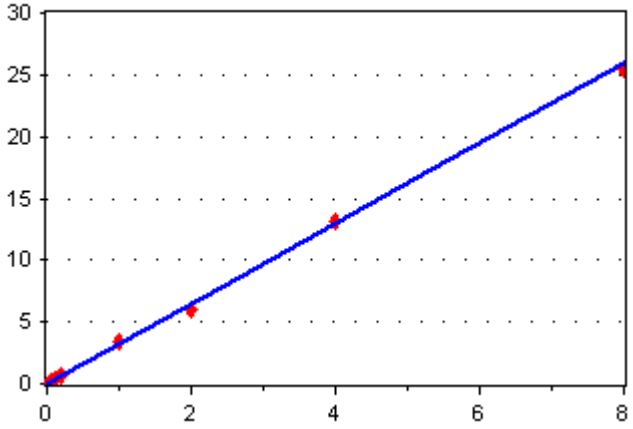
Average RF

RF RSD: 2.45697

[Conc] = 0.9052715 * [Response]

t-Butylbenzene

8260C VOA - t-Butylbenzene



Average RF

RF RSD: 3.537539

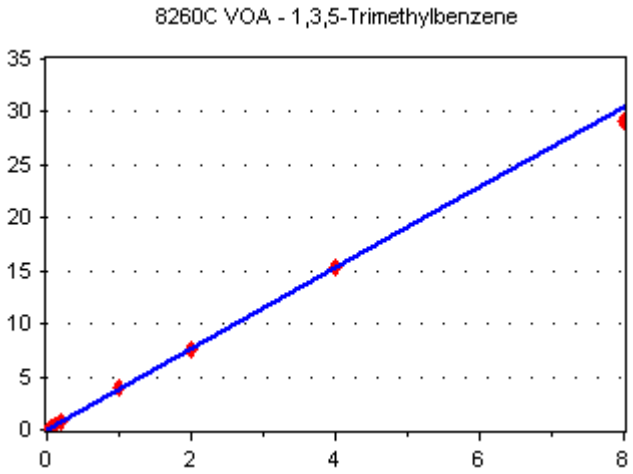
[Conc] = 3.239598 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

1,3,5-Trimethylbenzene

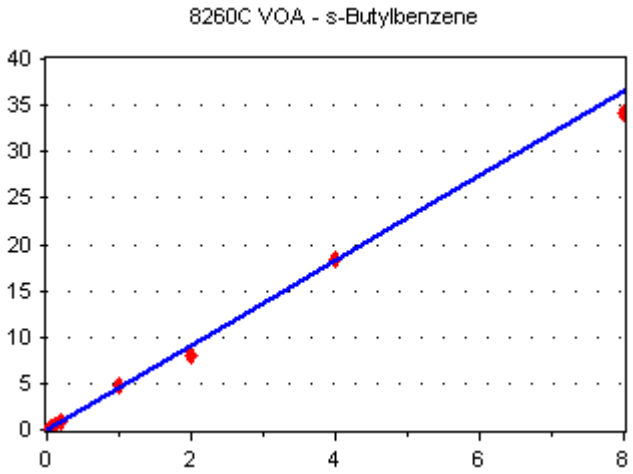


Average RF

RF RSD: 2.537154

[Conc] = 3.81812 * [Response]

s-Butylbenzene



Average RF

RF RSD: 6.146076

[Conc] = 4.580111 * [Response]

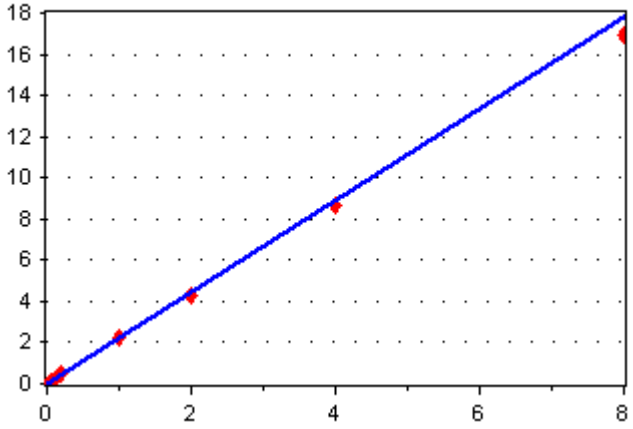
1,3-Dichlorobenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - 1,3-Dichlorobenzene



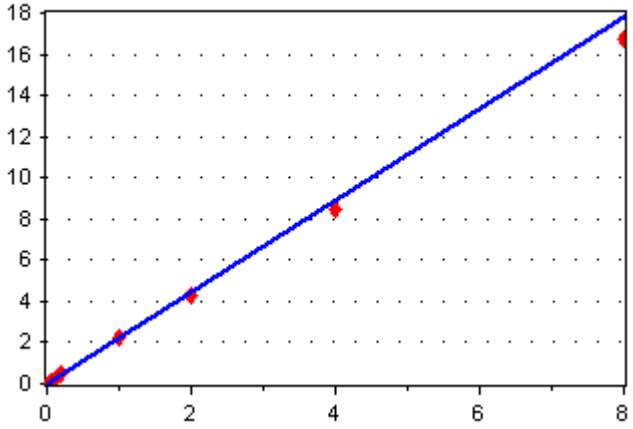
Average RF

RF RSD: 3.570234

[Conc] = 2.22923 * [Response]

1,4-Dichlorobenzene

8260C VOA - 1,4-Dichlorobenzene



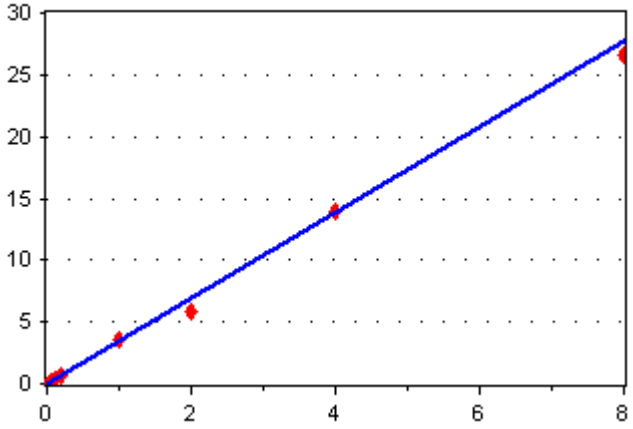
Average RF

RF RSD: 4.663286

[Conc] = 2.222757 * [Response]

n-Butylbenzene

8260C VOA - n-Butylbenzene



Average RF

RF RSD: 7.398521

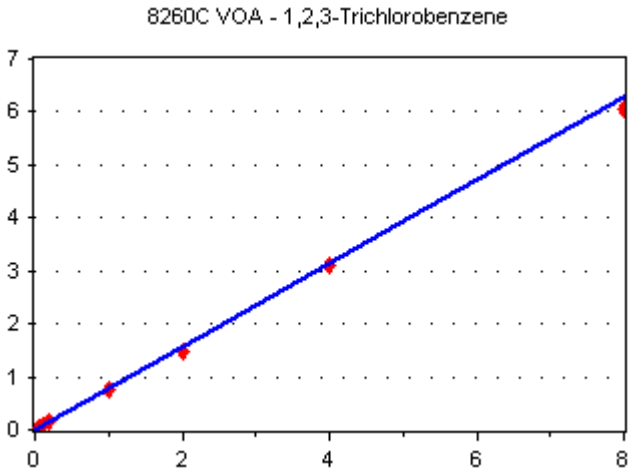
[Conc] = 3.465962 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

1,2,3-Trichlorobenzene

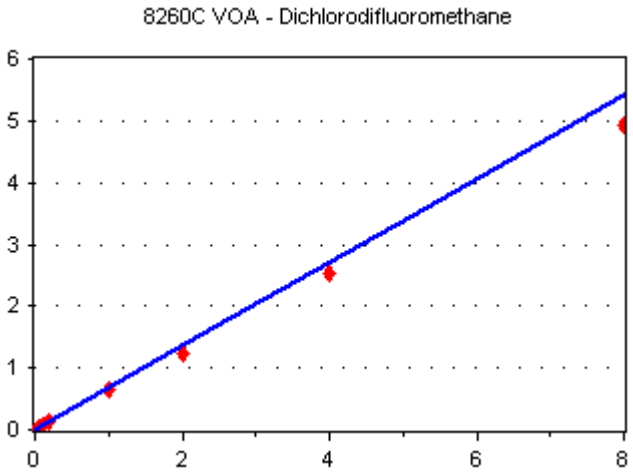


Average RF

RF RSD: 6.320922

[Conc] = 0.7856392 * [Response]

Dichlorodifluoromethane



Average RF

RF RSD: 9.837361

[Conc] = 0.6759334 * [Response]

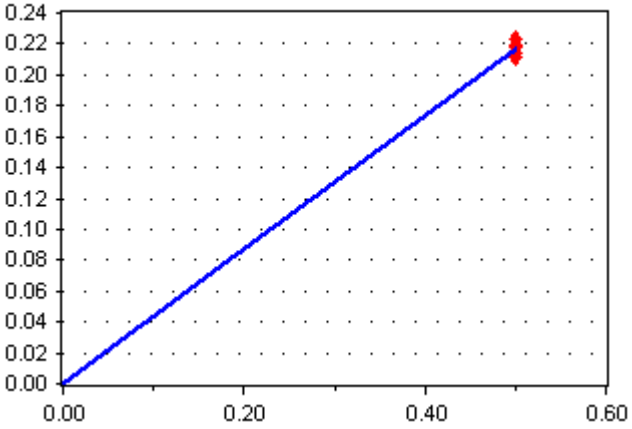
Dibromofluoromethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

8260C VOA - Dibromofluoromethane



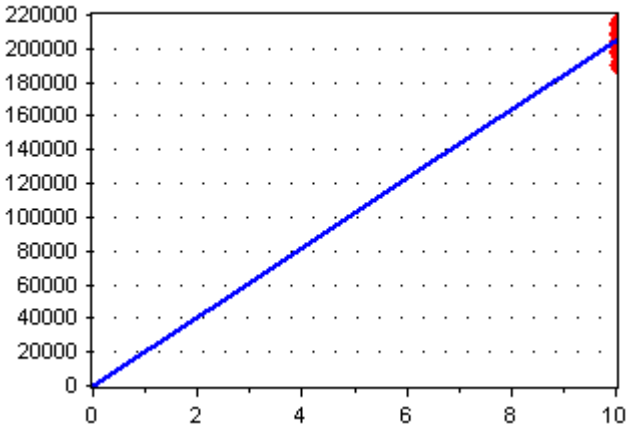
Average RF

RF RSD: 1.732171

[Conc] = 0.4345069 * [Response]

Pentafluorobenzene

8260C VOA - Pentafluorobenzene



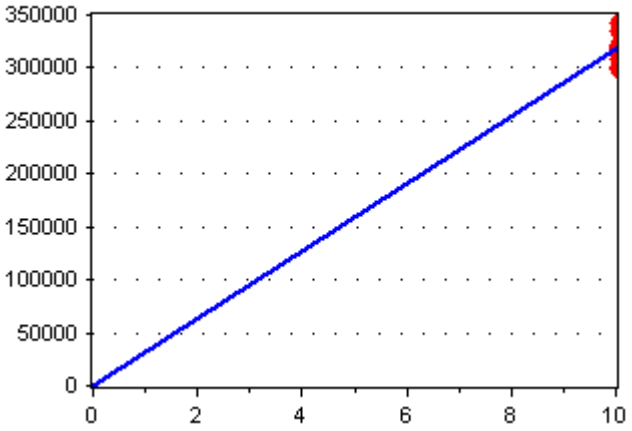
Average RF

RF RSD: 4.221646

[Conc] = 20455.4 * [Response]

1,4-Difluorobenzene

8260C VOA - 1,4-Difluorobenzene



Average RF

RF RSD: 4.897403

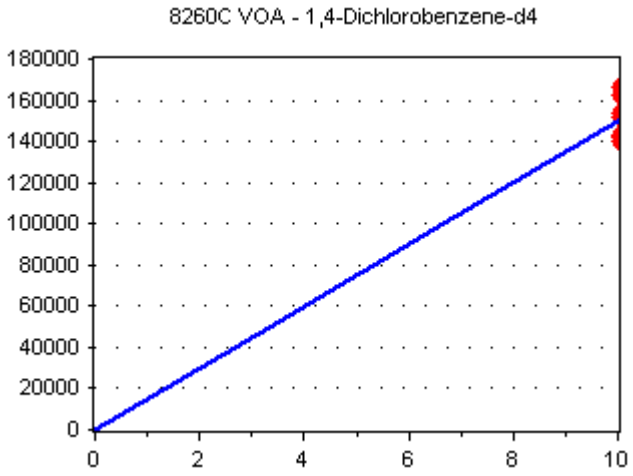
[Conc] = 31765.19 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA

1,4-Dichlorobenzene-d4



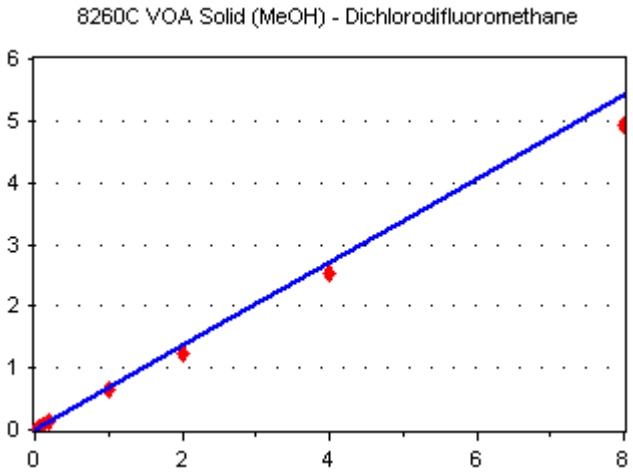
Average RF

RF RSD: 6.910365

[Conc] = 14986.71 * [Response]

8260C VOA Solid (MeOH)

Dichlorodifluoromethane



Average RF

RF RSD: 9.837361

[Conc] = 0.6759334 * [Response]

Chloromethane

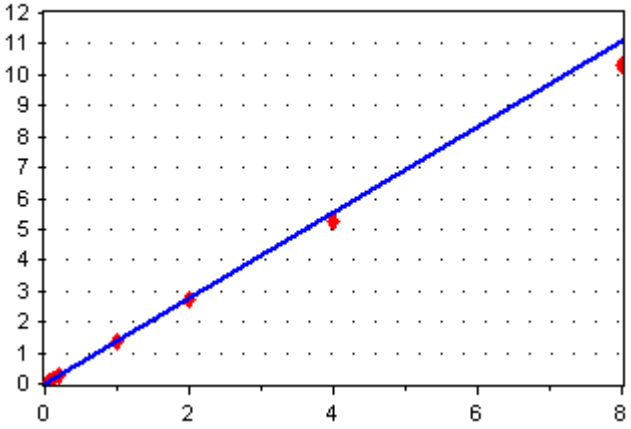
Calibration Report

Instrument: NT3 **Calibration Date:** 07-Nov-2017 08:29 By PKC

Calibration ID: AK00023 **Last Edit Date:** 08-Nov-2017 08:29 By PKC

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - Chloromethane



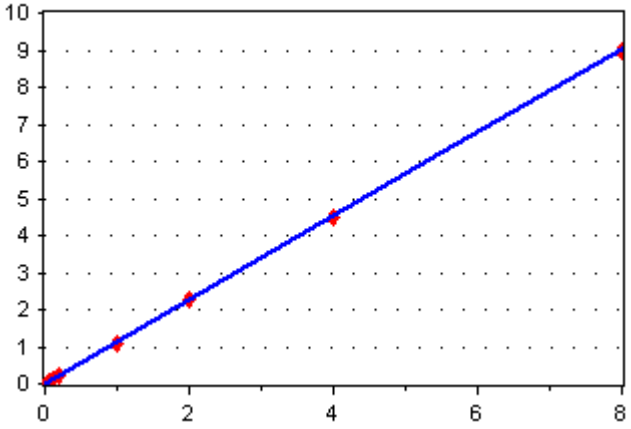
Average RF

RF RSD: 6.801404

[Conc] = 1.387441 * [Response]

Vinyl Chloride

8260C VOA Solid (MeOH) - Vinyl Chloride



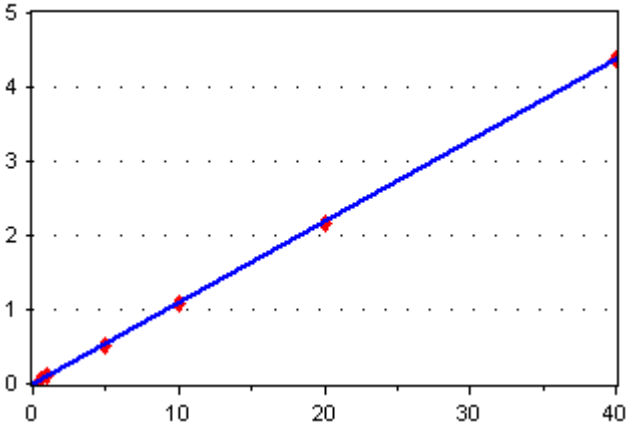
Average RF

RF RSD: 3.519232

[Conc] = 1.131059 * [Response]

Acrolein

8260C VOA Solid (MeOH) - Acrolein



Average RF

RF RSD: 4.806169

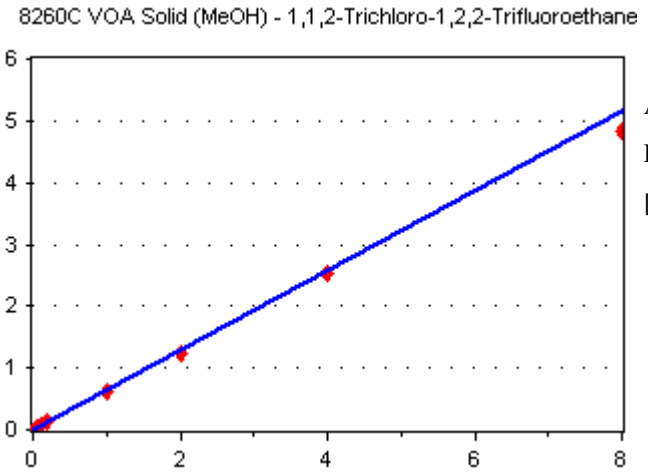
[Conc] = 0.1091525 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

1,1,2-Trichloro-1,2,2-Trifluoroeth

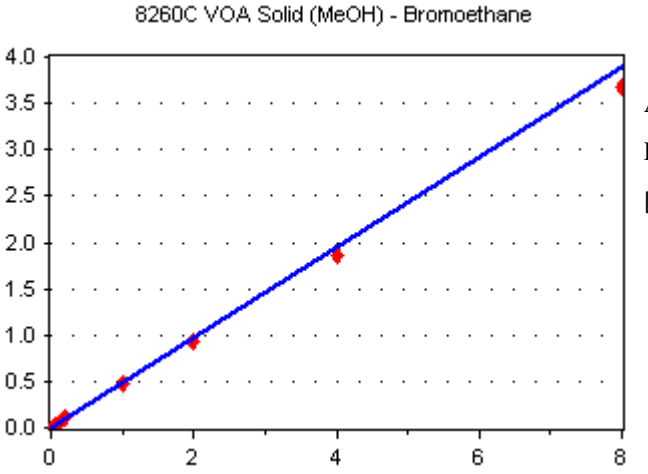


Average RF

RF RSD: 4.471673

[Conc] = 0.6449168 * [Response]

Bromoethane



Average RF

RF RSD: 7.995117

[Conc] = 0.4866247 * [Response]

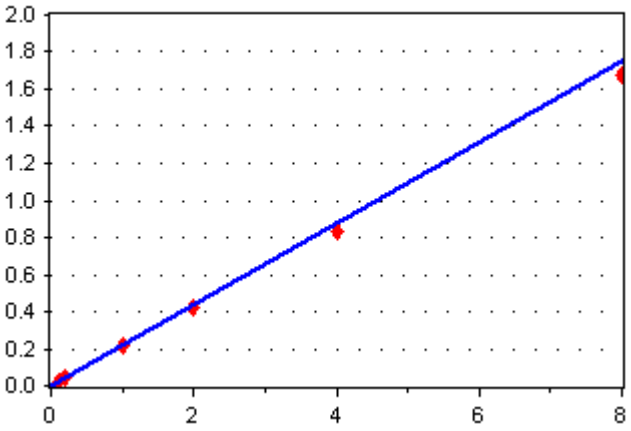
Acrylonitrile

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - Acrylonitrile



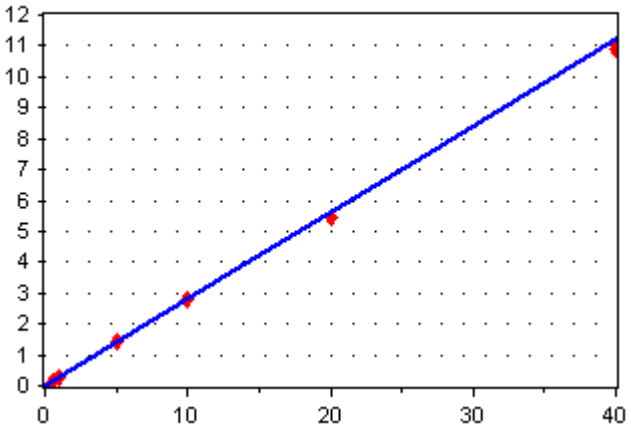
Average RF

RF RSD: 5.50449

[Conc] = 0.2186381 * [Response]

2-Butanone

8260C VOA Solid (MeOH) - 2-Butanone



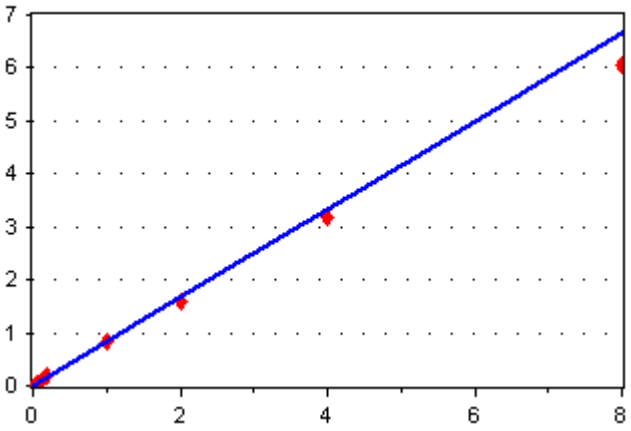
Average RF

RF RSD: 2.425506

[Conc] = 0.2805036 * [Response]

2,2-Dichloropropane

8260C VOA Solid (MeOH) - 2,2-Dichloropropane



Average RF

RF RSD: 6.724053

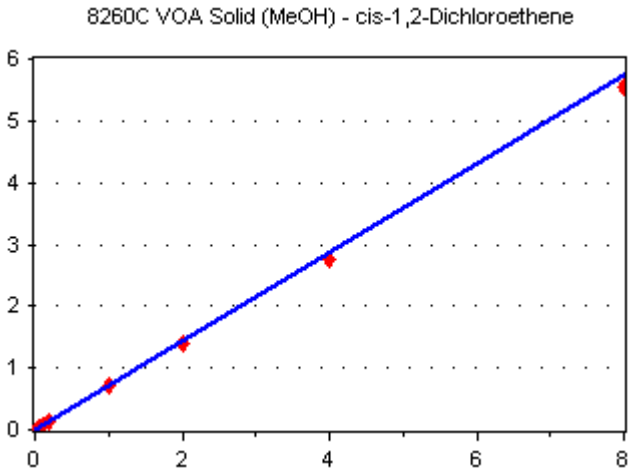
[Conc] = 0.8333386 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

cis-1,2-Dichloroethene

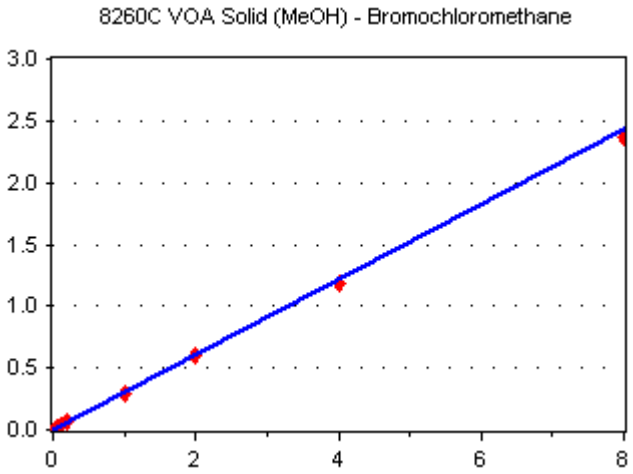


Average RF

RF RSD: 5.137177

[Conc] = 0.7176638 * [Response]

Bromochloromethane



Average RF

RF RSD: 3.823448

[Conc] = 0.3033335 * [Response]

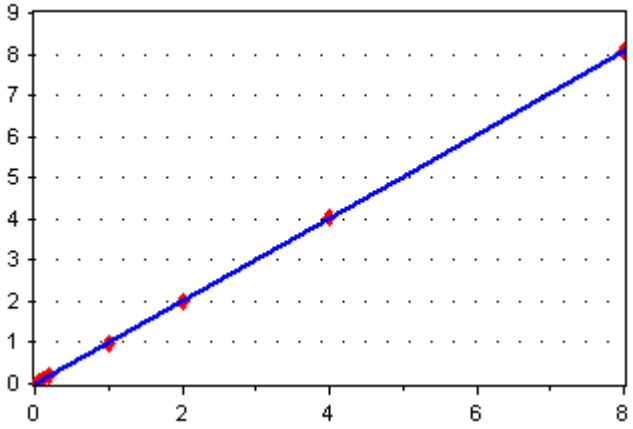
1,1,1-Trichloroethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - 1,1,1-Trichloroethane



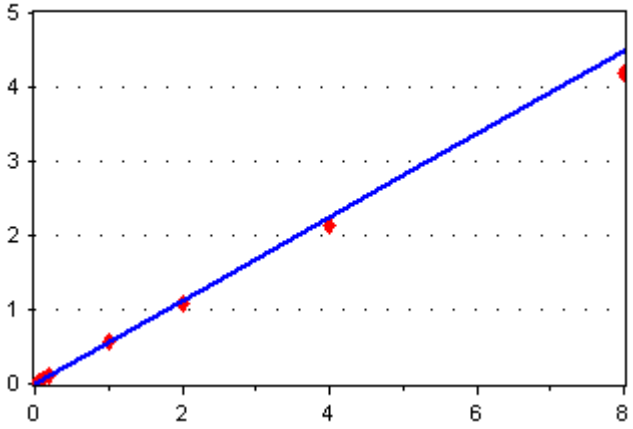
Average RF

RF RSD: 4.797428

[Conc] = 1.006514 * [Response]

1,2-Dichloroethane

8260C VOA Solid (MeOH) - 1,2-Dichloroethane



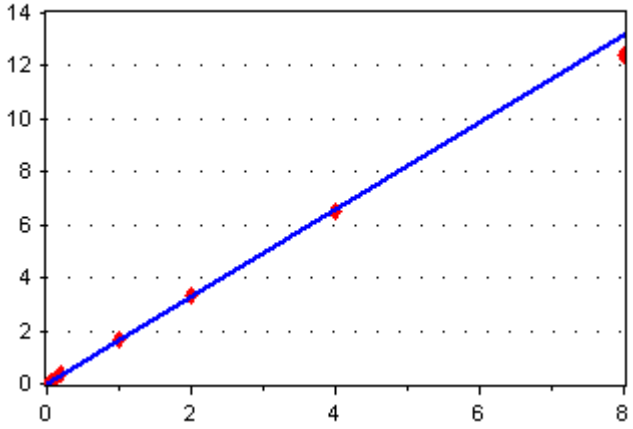
Average RF

RF RSD: 4.572287

[Conc] = 0.5607074 * [Response]

Benzene

8260C VOA Solid (MeOH) - Benzene



Average RF

RF RSD: 4.552444

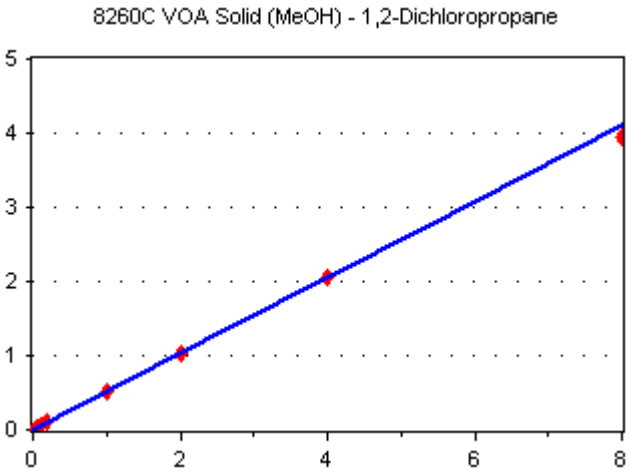
[Conc] = 1.649944 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

1,2-Dichloropropane

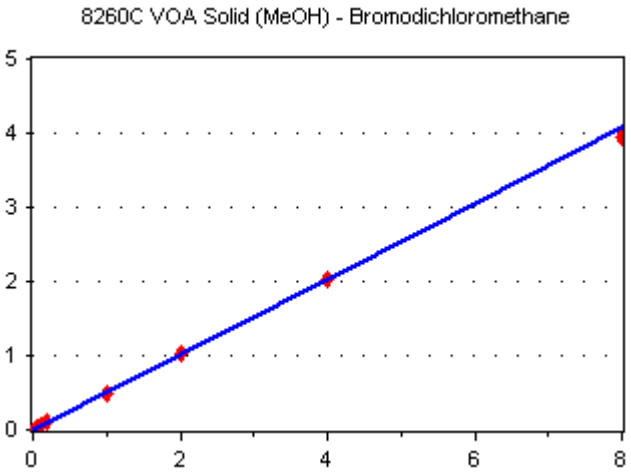


Average RF

RF RSD: 1.954958

[Conc] = 0.5120427 * [Response]

Bromodichloromethane



Average RF

RF RSD: 2.029064

[Conc] = 0.5084654 * [Response]

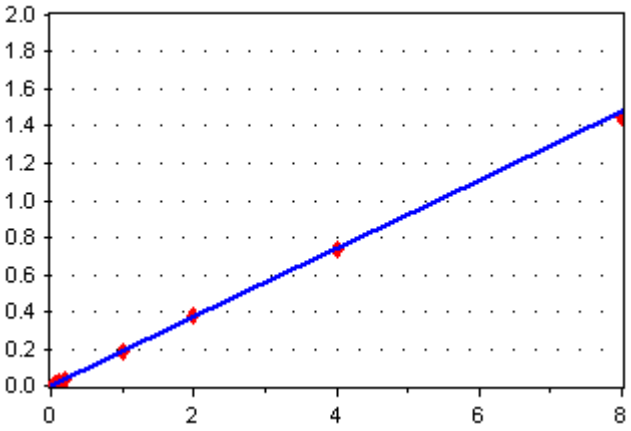
Dibromomethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - Dibromomethane



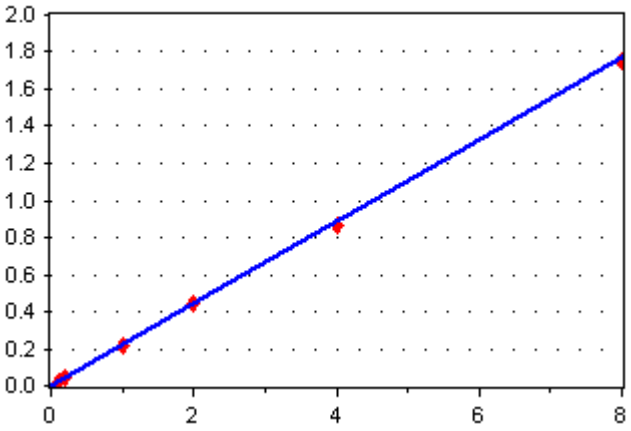
Average RF

RF RSD: 3.838062

[Conc] = 0.18464 * [Response]

2-Chloroethyl vinyl ether

8260C VOA Solid (MeOH) - 2-Chloroethyl vinyl ether



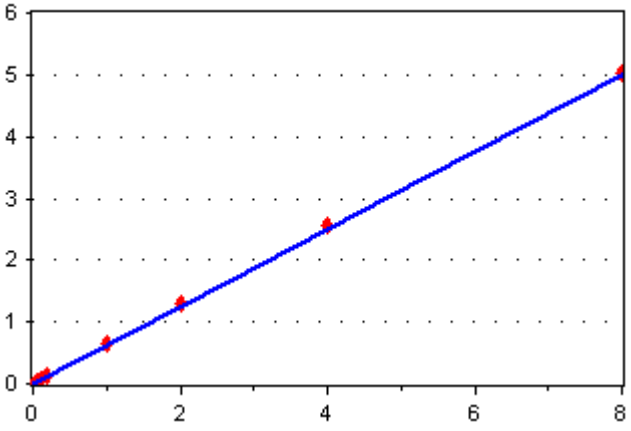
Average RF

RF RSD: 2.819434

[Conc] = 0.2209657 * [Response]

cis-1,3-Dichloropropene

8260C VOA Solid (MeOH) - cis-1,3-Dichloropropene



Average RF

RF RSD: 4.46843

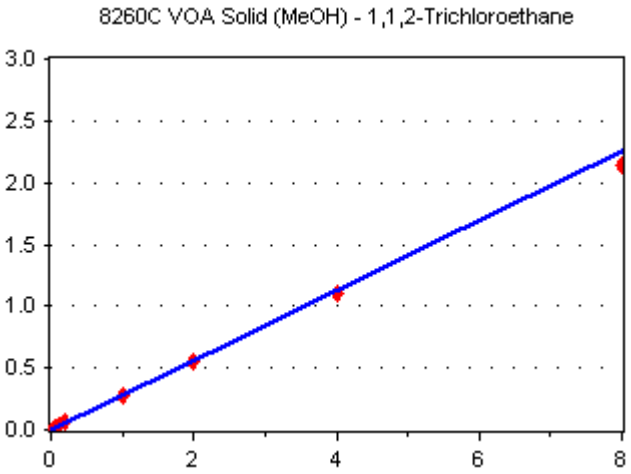
[Conc] = 0.6260336 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

1,1,2-Trichloroethane

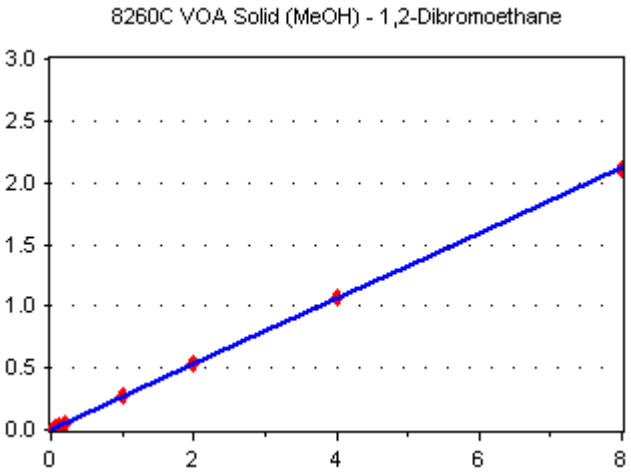


Average RF

RF RSD: 7.186771

[Conc] = 0.2824512 * [Response]

1,2-Dibromoethane



Average RF

RF RSD: 6.710197

[Conc] = 0.2647383 * [Response]

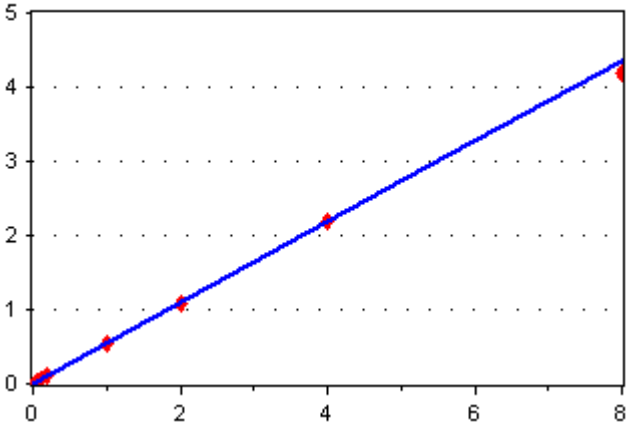
1,3-Dichloropropane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - 1,3-Dichloropropane



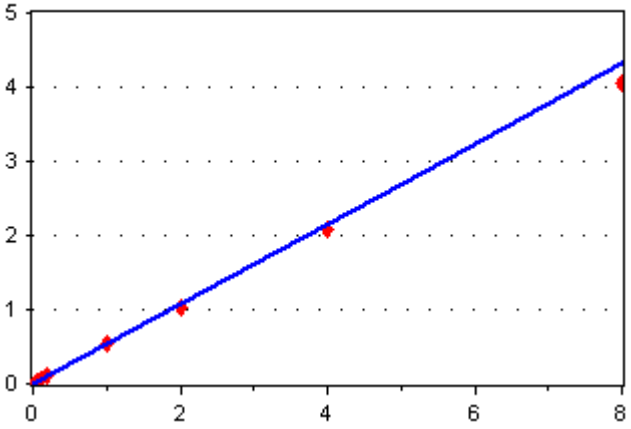
Average RF

RF RSD: 5.415805

[Conc] = 0.5455758 * [Response]

Tetrachloroethene

8260C VOA Solid (MeOH) - Tetrachloroethene



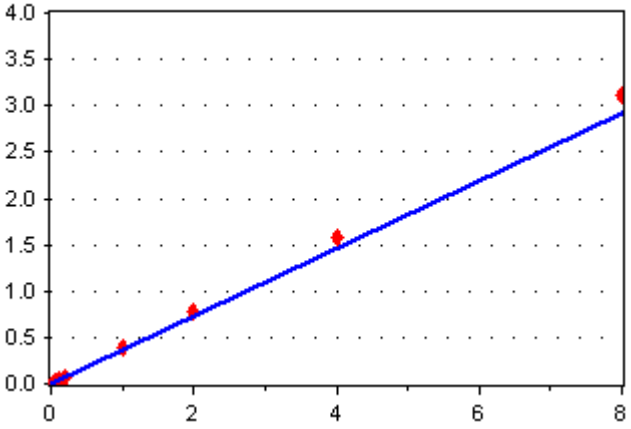
Average RF

RF RSD: 4.76736

[Conc] = 0.5389318 * [Response]

Dibromochloromethane

8260C VOA Solid (MeOH) - Dibromochloromethane



Average RF

RF RSD: 9.143215

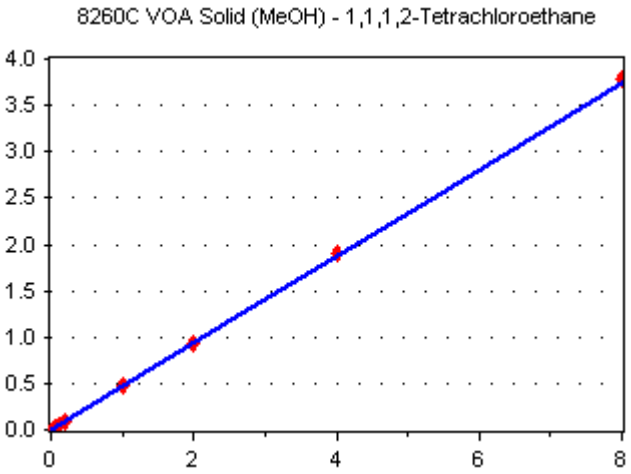
[Conc] = 0.3658172 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

1,1,1,2-Tetrachloroethane

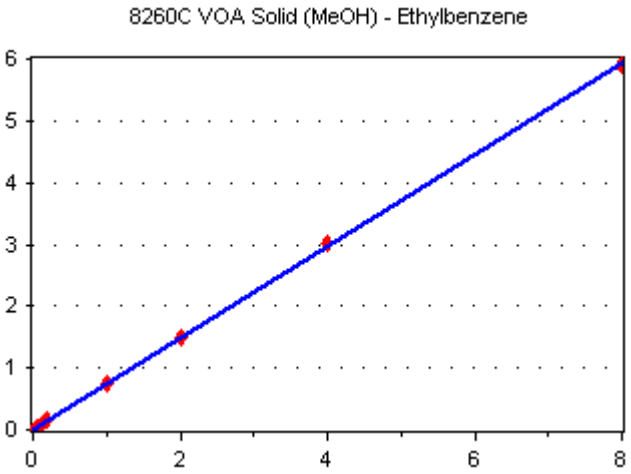


Average RF

RF RSD: 5.390908

[Conc] = 0.4666645 * [Response]

Ethylbenzene



Average RF

RF RSD: 2.175029

[Conc] = 0.7415762 * [Response]

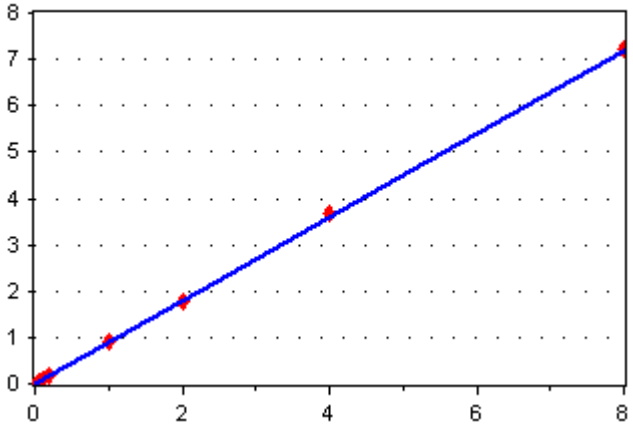
o-Xylene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - o-Xylene



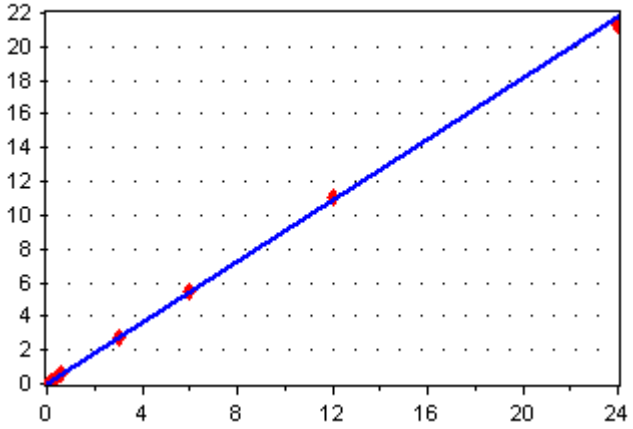
Average RF

RF RSD: 1.997315

[Conc] = 0.8974687 * [Response]

Xylenes, total

8260C VOA Solid (MeOH) - Xylenes, total



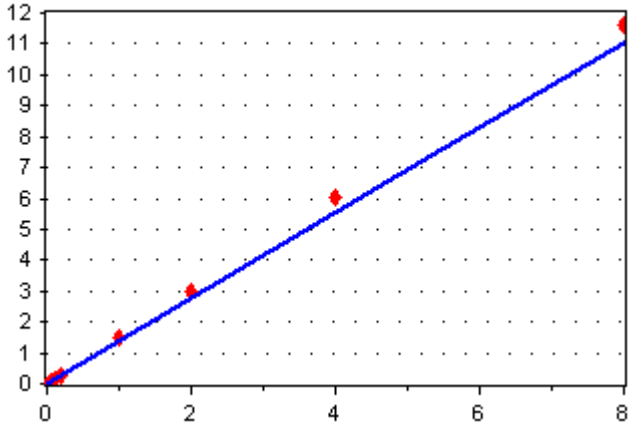
Average RF

RF RSD: 2.45697

[Conc] = 0.9052715 * [Response]

Styrene

8260C VOA Solid (MeOH) - Styrene



Average RF

RF RSD: 10.094

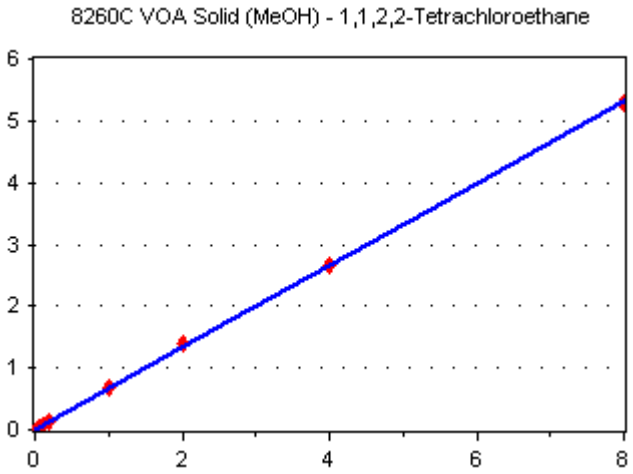
[Conc] = 1.381043 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

1,1,2,2-Tetrachloroethane

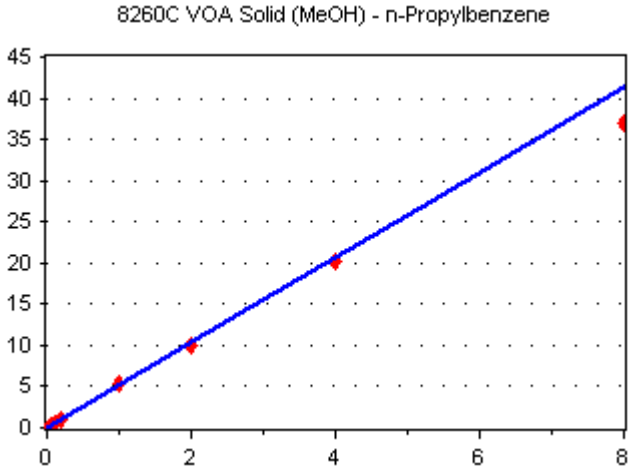


Average RF

RF RSD: 7.388106

[Conc] = 0.6632686 * [Response]

n-Propylbenzene



Average RF

RF RSD: 5.381233

[Conc] = 5.160252 * [Response]

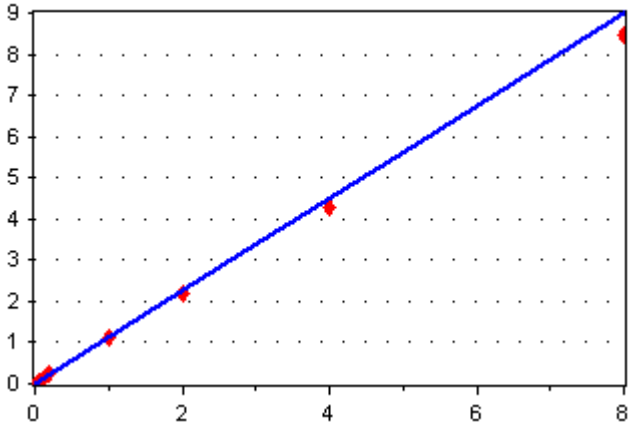
Bromobenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - Bromobenzene



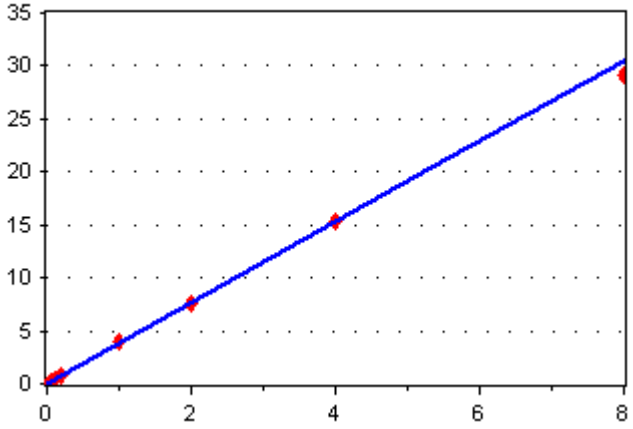
Average RF

RF RSD: 4.872522

[Conc] = 1.123633 * [Response]

1,3,5-Trimethylbenzene

8260C VOA Solid (MeOH) - 1,3,5-Trimethylbenzene



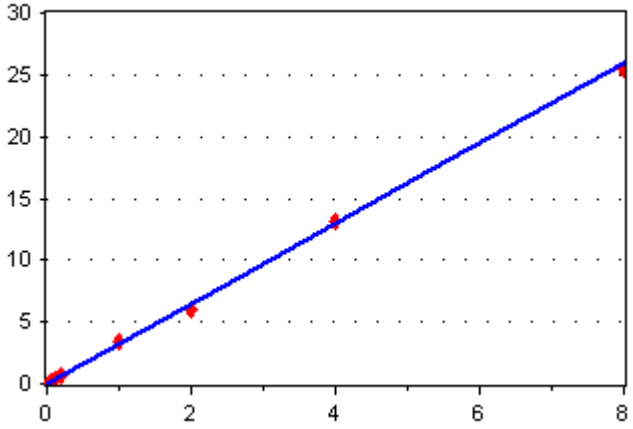
Average RF

RF RSD: 2.537154

[Conc] = 3.81812 * [Response]

t-Butylbenzene

8260C VOA Solid (MeOH) - t-Butylbenzene



Average RF

RF RSD: 3.537539

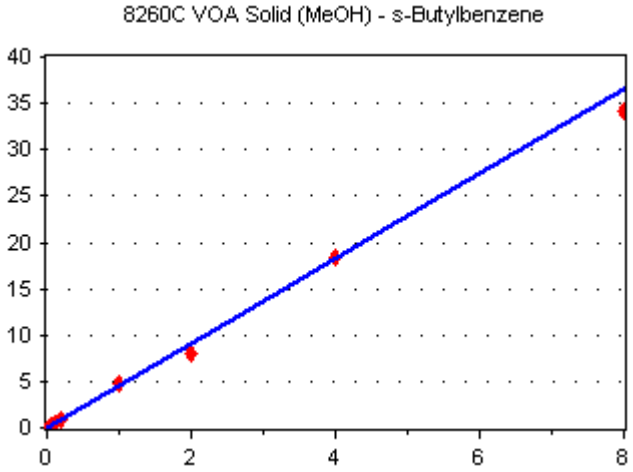
[Conc] = 3.239598 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

s-Butylbenzene

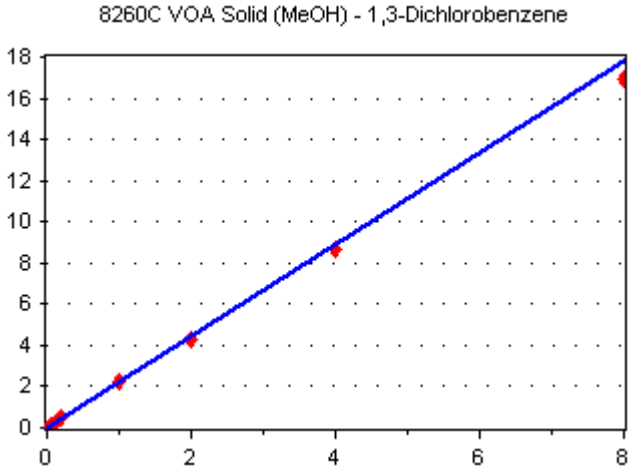


Average RF

RF RSD: 6.146076

[Conc] = 4.580111 * [Response]

1,3-Dichlorobenzene



Average RF

RF RSD: 3.570234

[Conc] = 2.22923 * [Response]

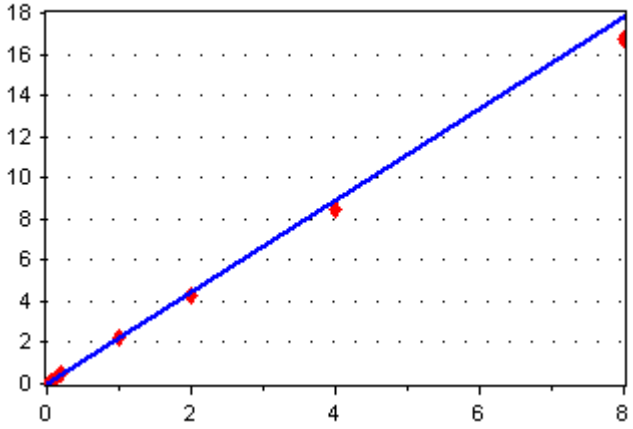
1,4-Dichlorobenzene

Calibration Report

Instrument: NT3
Calibration ID: AK00023
Calibration Date: 07-Nov-2017 08:29 By PKC
Last Edit Date: 08-Nov-2017 08:29 By PKC

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - 1,4-Dichlorobenzene



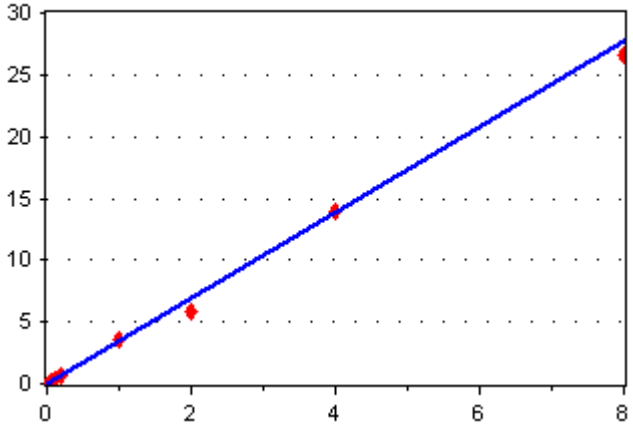
Average RF

RF RSD: 4.663286

[Conc] = 2.222757 * [Response]

n-Butylbenzene

8260C VOA Solid (MeOH) - n-Butylbenzene



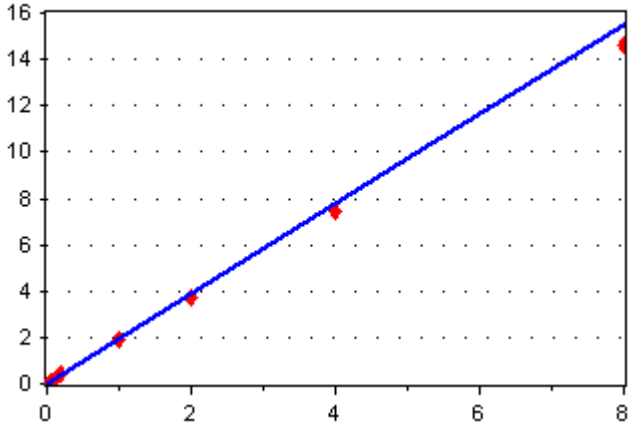
Average RF

RF RSD: 7.398521

[Conc] = 3.465962 * [Response]

1,2-Dichlorobenzene

8260C VOA Solid (MeOH) - 1,2-Dichlorobenzene



Average RF

RF RSD: 4.916545

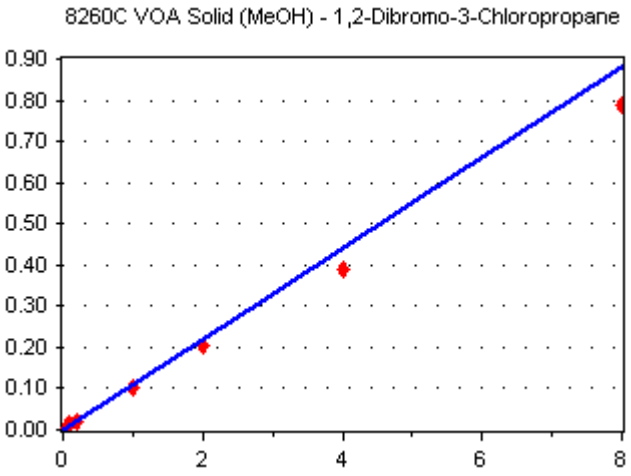
[Conc] = 1.940409 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

1,2-Dibromo-3-Chloropropane

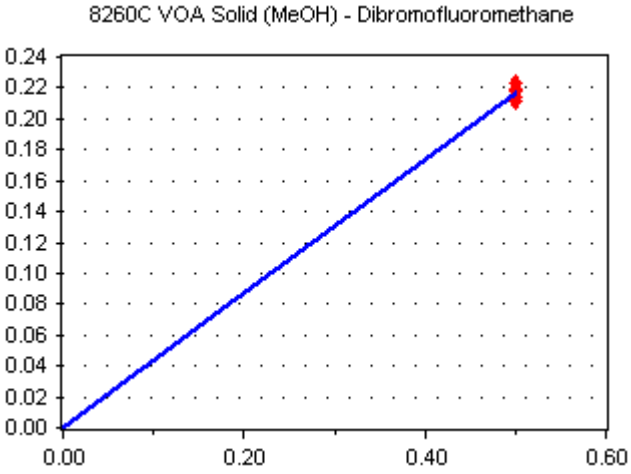


Average RF

RF RSD: 14.15501

[Conc] = 0.1099248 * [Response]

Dibromofluoromethane



Average RF

RF RSD: 1.732171

[Conc] = 0.4345069 * [Response]

1,2-Dichloroethane-d4

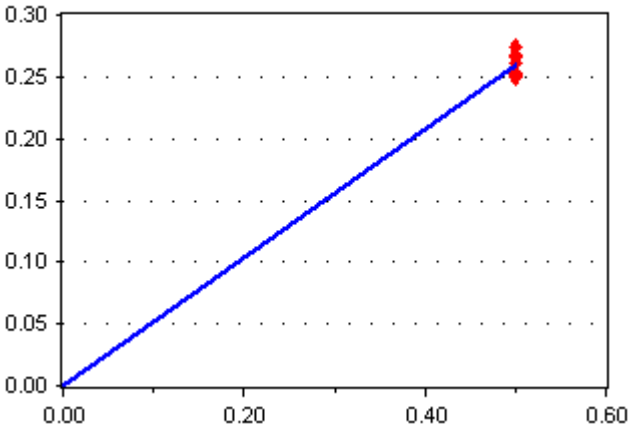
Calibration Report

Instrument: NT3 **Calibration Date:** 07-Nov-2017 08:29 By PKC

Calibration ID: AK00023 **Last Edit Date:** 08-Nov-2017 08:29 By PKC

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - 1,2-Dichloroethane-d4



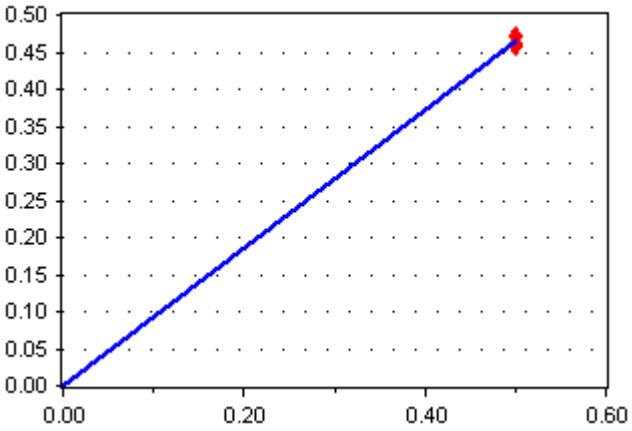
Average RF

RF RSD: 3.41766

[Conc] = 0.5194743 * [Response]

1,2-Dichlorobenzene-d4

8260C VOA Solid (MeOH) - 1,2-Dichlorobenzene-d4



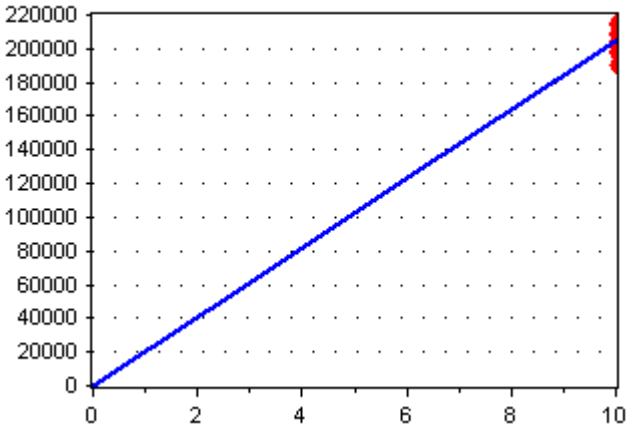
Average RF

RF RSD: 1.418709

[Conc] = 0.9323901 * [Response]

Pentafluorobenzene

8260C VOA Solid (MeOH) - Pentafluorobenzene



Average RF

RF RSD: 4.221646

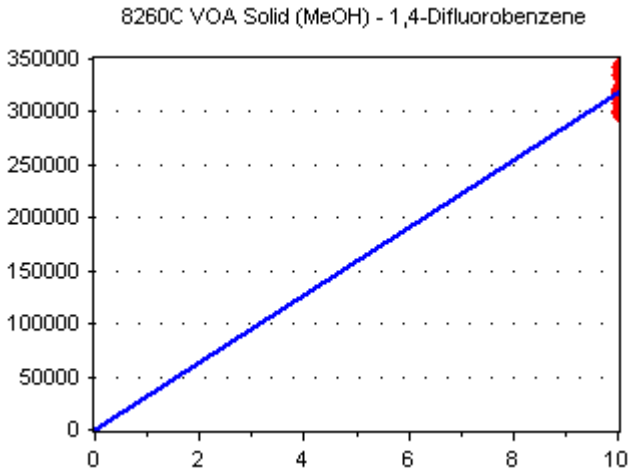
[Conc] = 20455.4 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

1,4-Difluorobenzene

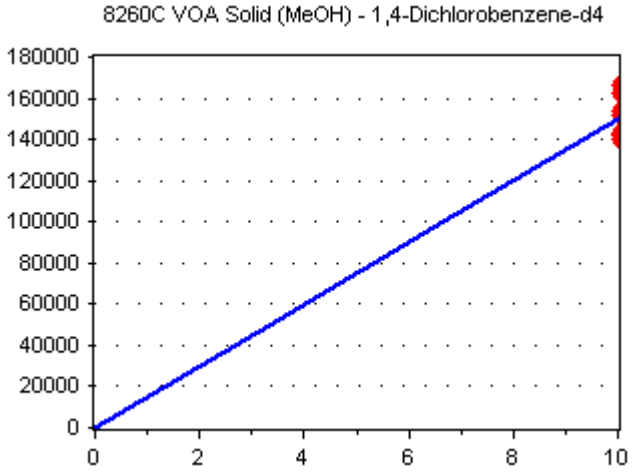


Average RF

RF RSD: 4.897403

[Conc] = 31765.19 * [Response]

1,4-Dichlorobenzene-d4



Average RF

RF RSD: 6.910365

[Conc] = 14986.71 * [Response]

TCLP 8260 VOA (incl ZHl

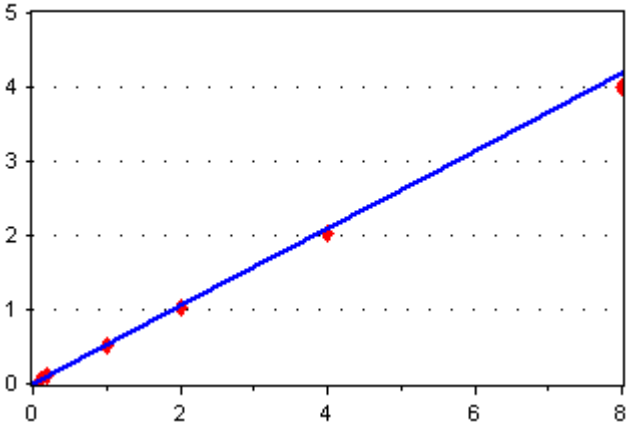
Bromomethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHl

TCLP 8260 VOA (incl ZHE) - Bromomethane



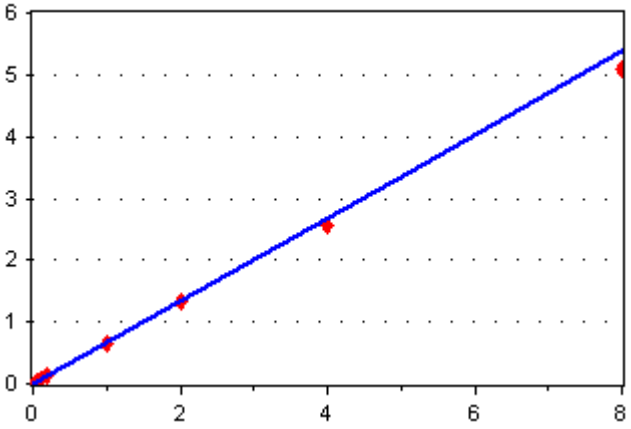
Average RF

RF RSD: 4.329187

[Conc] = 0.5226587 * [Response]

Chloroethane

TCLP 8260 VOA (incl ZHE) - Chloroethane



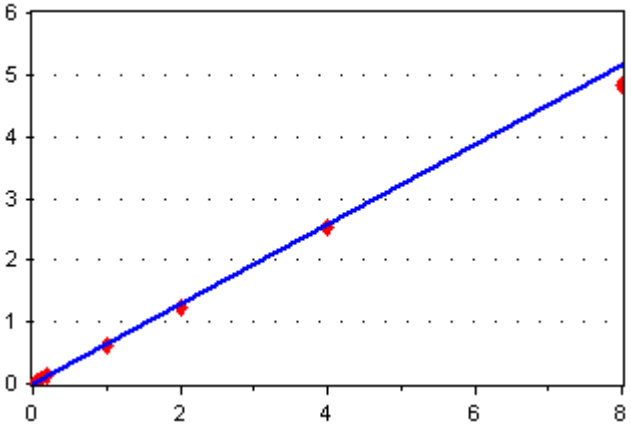
Average RF

RF RSD: 4.324667

[Conc] = 0.6711917 * [Response]

1,1,2-Trichloro-1,2,2-Trifluoroeth

TCLP 8260 VOA (incl ZHE) - 1,1,2-Trichloro-1,2,2-Trifluoroethane



Average RF

RF RSD: 4.471673

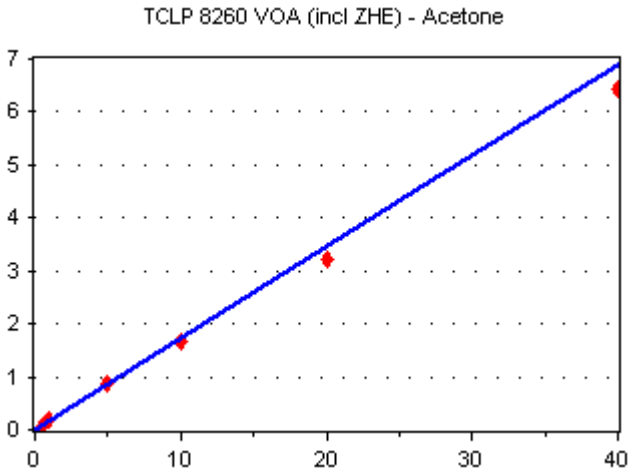
[Conc] = 0.6449168 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

Acetone

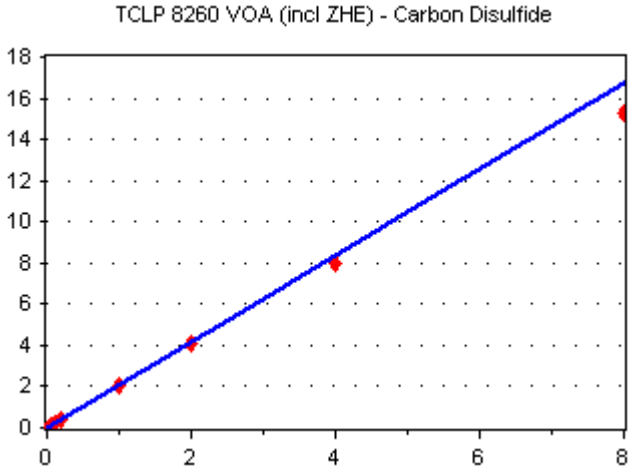


Average RF

RF RSD: 6.520715

[Conc] = 0.1725437 * [Response]

Carbon Disulfide



Average RF

RF RSD: 6.802613

[Conc] = 2.093059 * [Response]

Chloroform

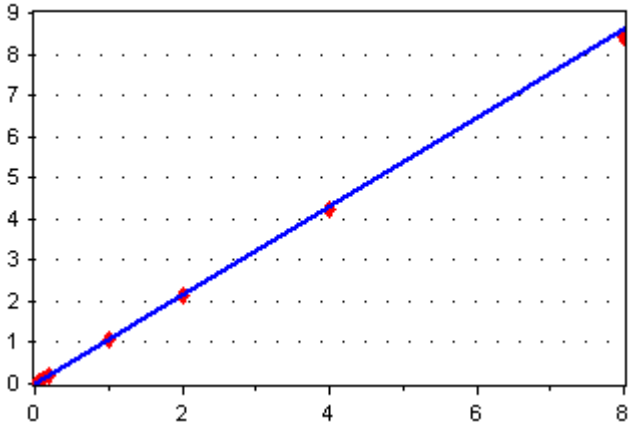
Calibration Report

Instrument: NT3 **Calibration Date:** 07-Nov-2017 08:29 By PKC

Calibration ID: AK00023 **Last Edit Date:** 08-Nov-2017 08:29 By PKC

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - Chloroform



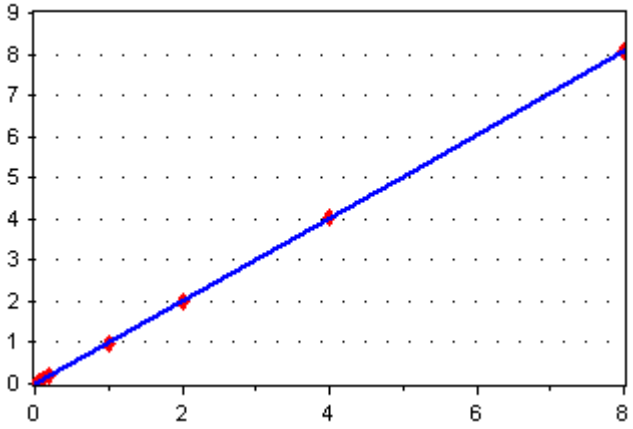
Average RF

RF RSD: 4.294404

[Conc] = 1.07512 * [Response]

1,1,1-Trichloroethane

TCLP 8260 VOA (incl ZHE) - 1,1,1-Trichloroethane



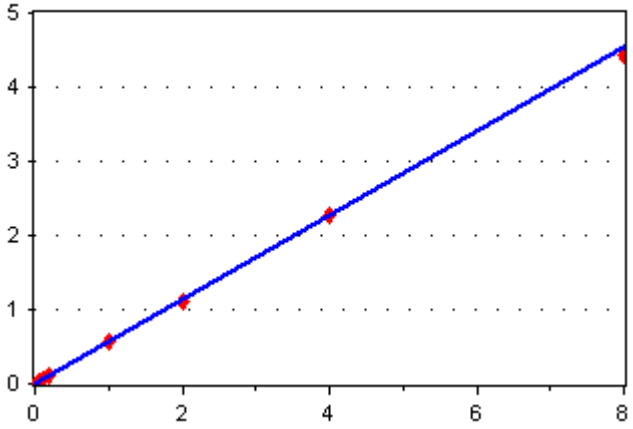
Average RF

RF RSD: 4.797428

[Conc] = 1.006514 * [Response]

Carbon tetrachloride

TCLP 8260 VOA (incl ZHE) - Carbon tetrachloride



Average RF

RF RSD: 2.244469

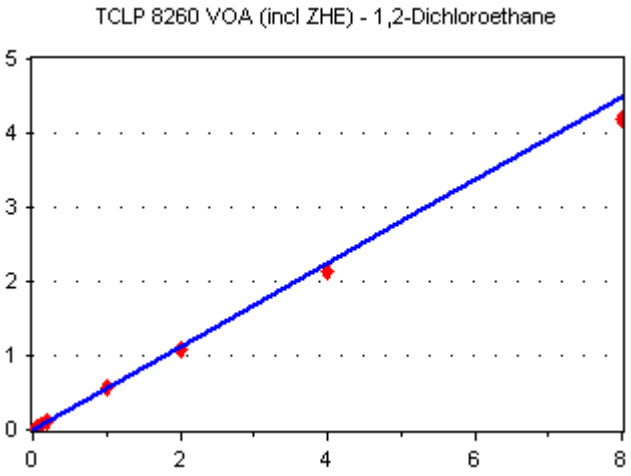
[Conc] = 0.5687959 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

1,2-Dichloroethane

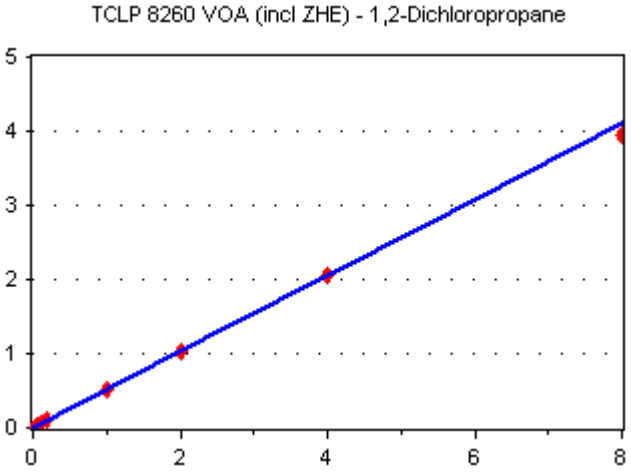


Average RF

RF RSD: 4.572287

[Conc] = 0.5607074 * [Response]

1,2-Dichloropropane



Average RF

RF RSD: 1.954958

[Conc] = 0.5120427 * [Response]

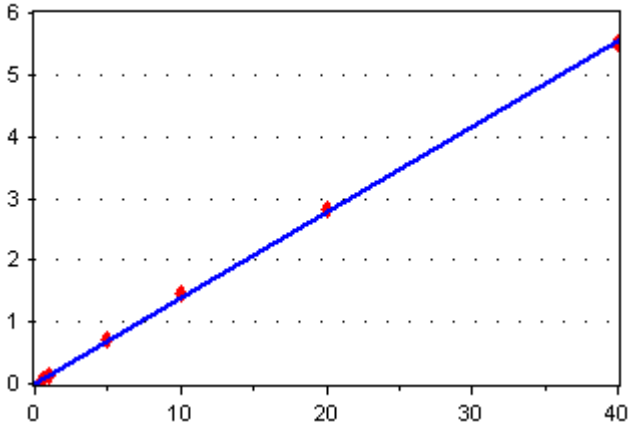
4-Methyl-2-Pentanone

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - 4-Methyl-2-Pentanone



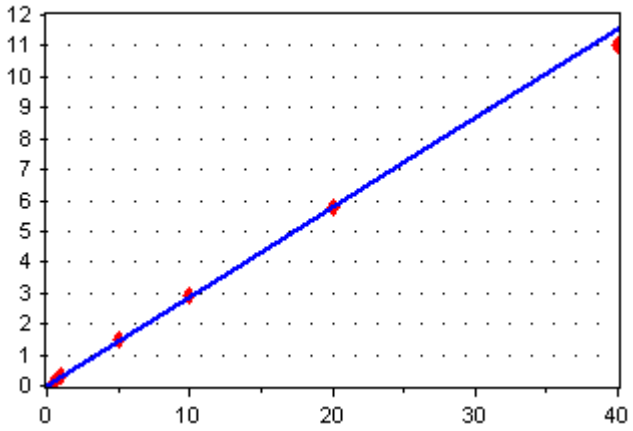
Average RF

RF RSD: 4.851356

[Conc] = 0.138547 * [Response]

2-Hexanone

TCLP 8260 VOA (incl ZHE) - 2-Hexanone



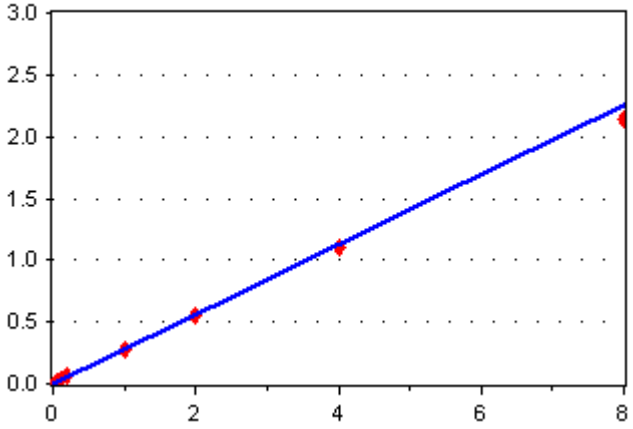
Average RF

RF RSD: 4.057726

[Conc] = 0.2884545 * [Response]

1,1,2-Trichloroethane

TCLP 8260 VOA (incl ZHE) - 1,1,2-Trichloroethane



Average RF

RF RSD: 7.186771

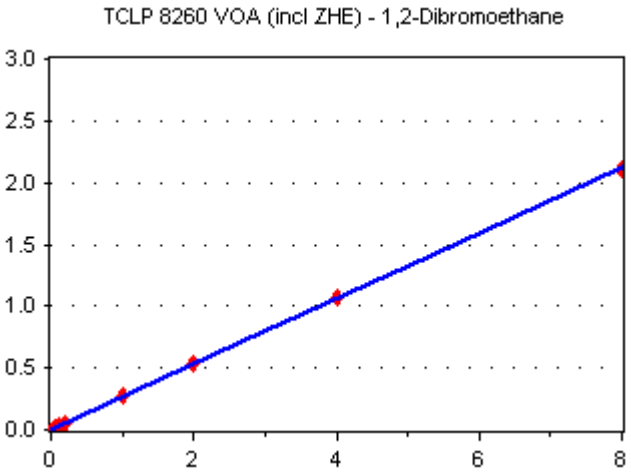
[Conc] = 0.2824512 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHl

1,2-Dibromoethane

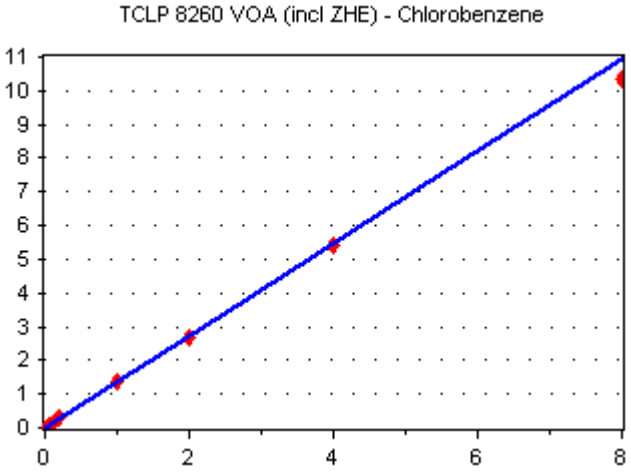


Average RF

RF RSD: 6.710197

[Conc] = 0.2647383 * [Response]

Chlorobenzene



Average RF

RF RSD: 3.094478

[Conc] = 1.370103 * [Response]

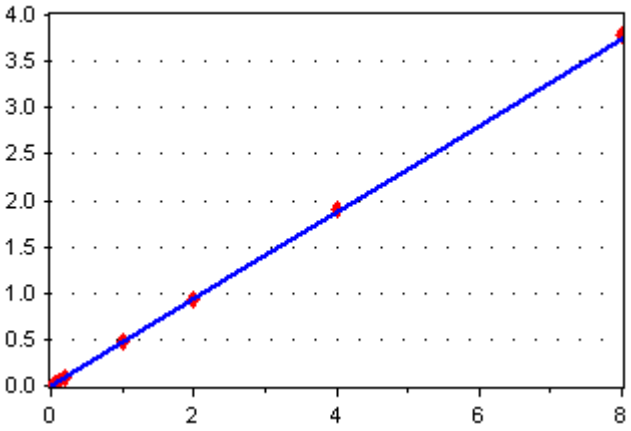
1,1,1,2-Tetrachloroethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - 1,1,1,2-Tetrachloroethane



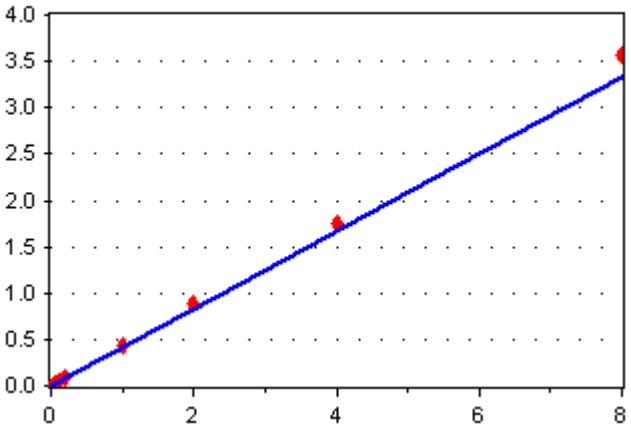
Average RF

RF RSD: 5.390908

[Conc] = 0.4666645 * [Response]

Bromoform

TCLP 8260 VOA (incl ZHE) - Bromoform



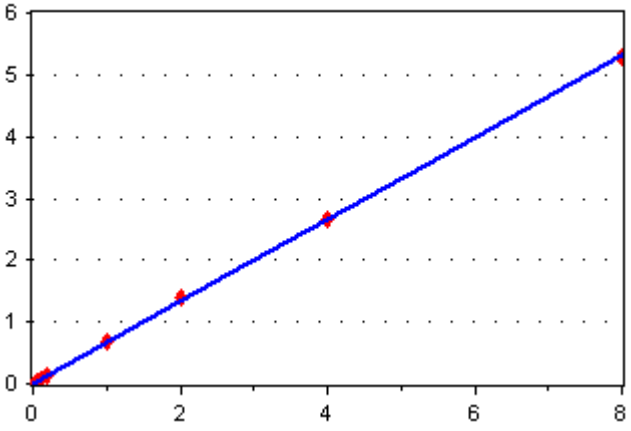
Average RF

RF RSD: 8.272292

[Conc] = 0.4158349 * [Response]

1,1,2,2-Tetrachloroethane

TCLP 8260 VOA (incl ZHE) - 1,1,2,2-Tetrachloroethane



Average RF

RF RSD: 7.388106

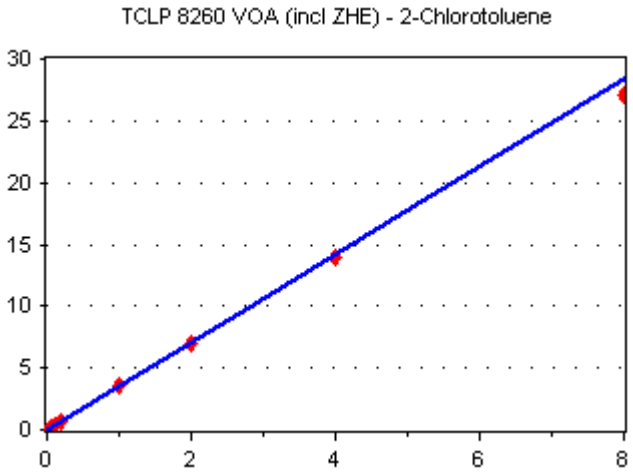
[Conc] = 0.6632686 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

2-Chlorotoluene

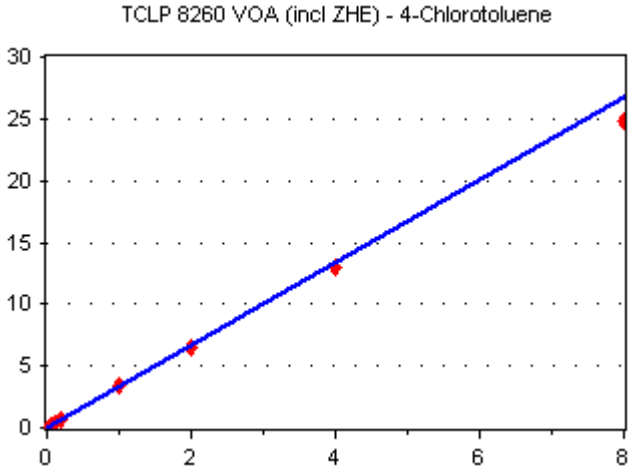


Average RF

RF RSD: 2.543521

[Conc] = 3.54236 * [Response]

4-Chlorotoluene



Average RF

RF RSD: 4.270012

[Conc] = 3.353723 * [Response]

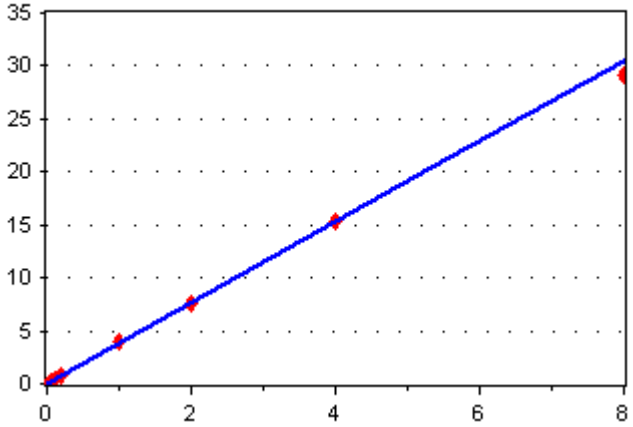
1,3,5-Trimethylbenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - 1,3,5-Trimethylbenzene



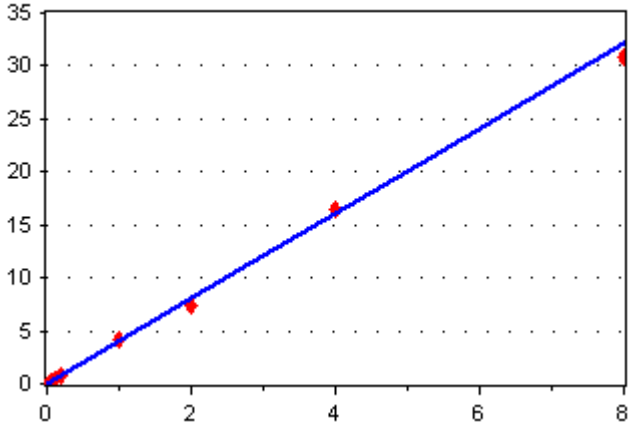
Average RF

RF RSD: 2.537154

[Conc] = 3.81812 * [Response]

4-Isopropyl Toluene

TCLP 8260 VOA (incl ZHE) - 4-Isopropyl Toluene



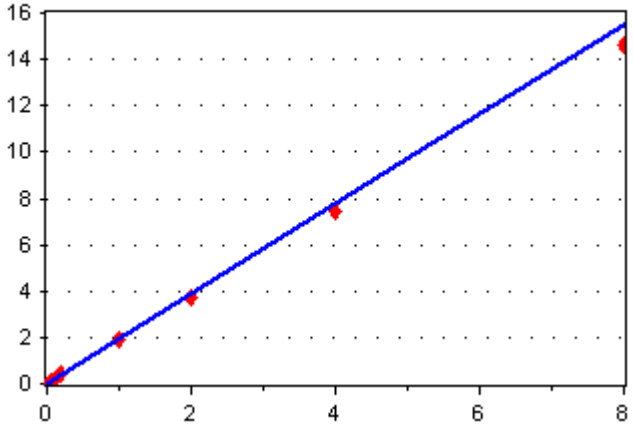
Average RF

RF RSD: 4.845394

[Conc] = 4.022387 * [Response]

1,2-Dichlorobenzene

TCLP 8260 VOA (incl ZHE) - 1,2-Dichlorobenzene



Average RF

RF RSD: 4.916545

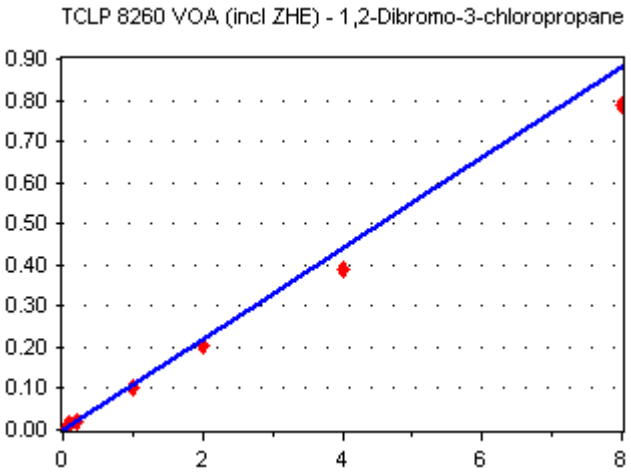
[Conc] = 1.940409 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

1,2-Dibromo-3-chloropropane

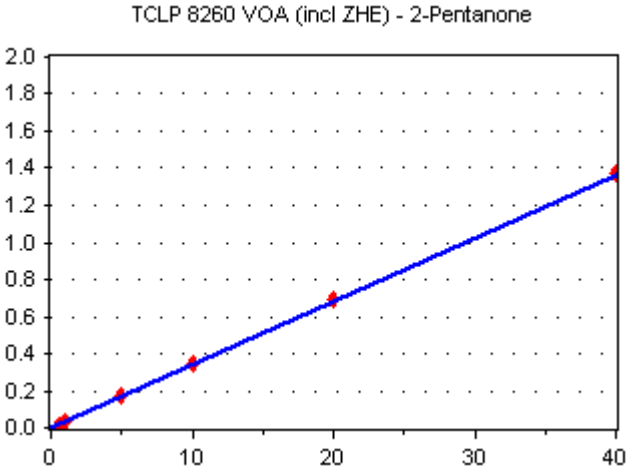


Average RF

RF RSD: 14.15501

[Conc] = 0.1099248 * [Response]

2-Pentanone



Average RF

RF RSD: 5.024782

[Conc] = 3.402576E-02 * [Response]

1,2-Dichloroethane-d4

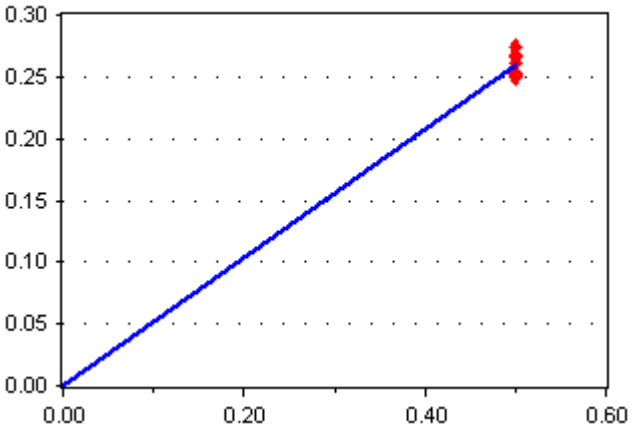
Calibration Report

Instrument: NT3 **Calibration Date:** 07-Nov-2017 08:29 By PKC

Calibration ID: AK00023 **Last Edit Date:** 08-Nov-2017 08:29 By PKC

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - 1,2-Dichloroethane-d4



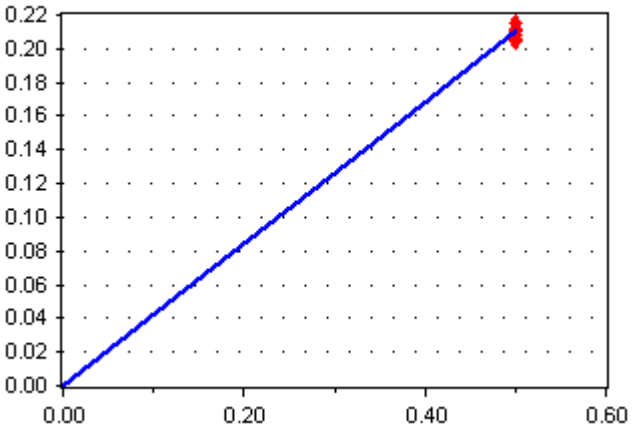
Average RF

RF RSD: 3.41766

[Conc] = 0.5194743 * [Response]

4-Bromofluorobenzene

TCLP 8260 VOA (incl ZHE) - 4-Bromofluorobenzene



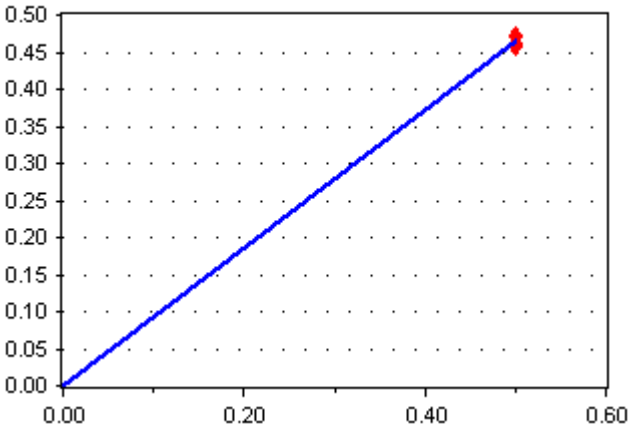
Average RF

RF RSD: 1.872363

[Conc] = 0.4205629 * [Response]

1,2-Dichlorobenzene-d4

TCLP 8260 VOA (incl ZHE) - 1,2-Dichlorobenzene-d4



Average RF

RF RSD: 1.418709

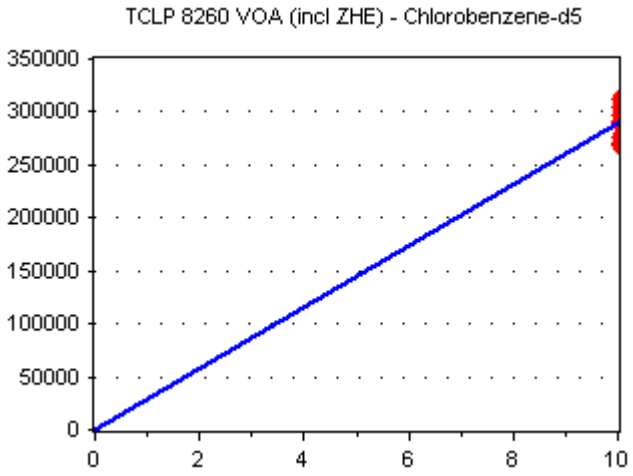
[Conc] = 0.9323901 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHl

Chlorobenzene-d5



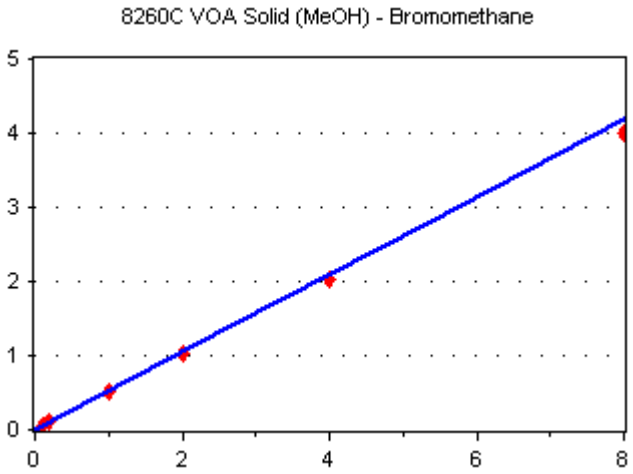
Average RF

RF RSD: 5.503176

[Conc] = 28904.23 * [Response]

8260C VOA Solid (MeOH)

Bromomethane



Average RF

RF RSD: 4.329187

[Conc] = 0.5226587 * [Response]

Chloroethane

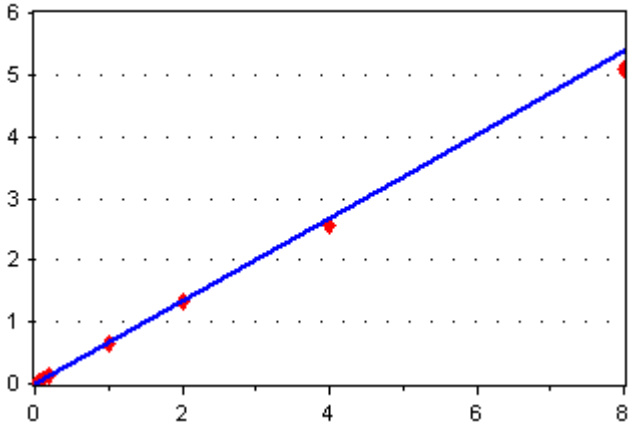
Calibration Report

Instrument: NT3 **Calibration Date:** 07-Nov-2017 08:29 By PKC

Calibration ID: AK00023 **Last Edit Date:** 08-Nov-2017 08:29 By PKC

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - Chloroethane



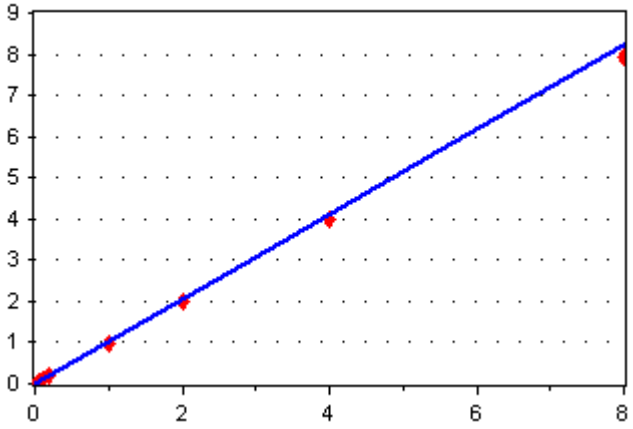
Average RF

RF RSD: 4.324667

[Conc] = 0.6711917 * [Response]

Trichlorofluoromethane

8260C VOA Solid (MeOH) - Trichlorofluoromethane



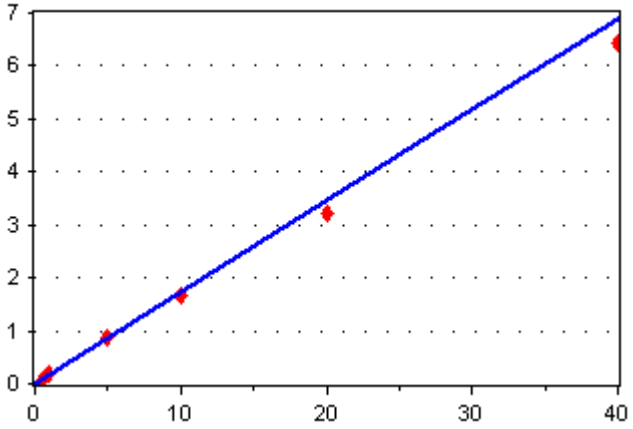
Average RF

RF RSD: 4.469536

[Conc] = 1.029077 * [Response]

Acetone

8260C VOA Solid (MeOH) - Acetone



Average RF

RF RSD: 6.520715

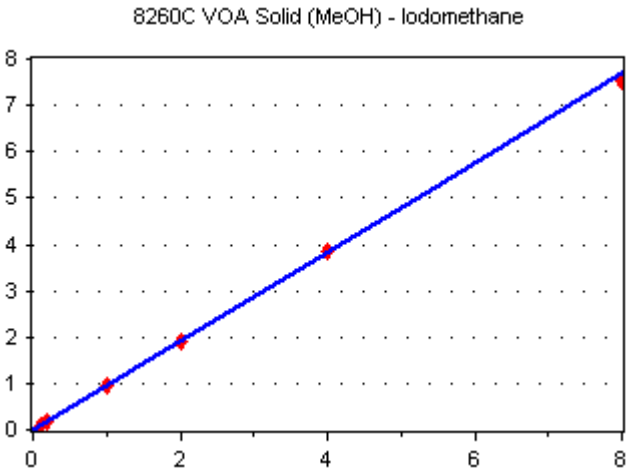
[Conc] = 0.1725437 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

Iodomethane

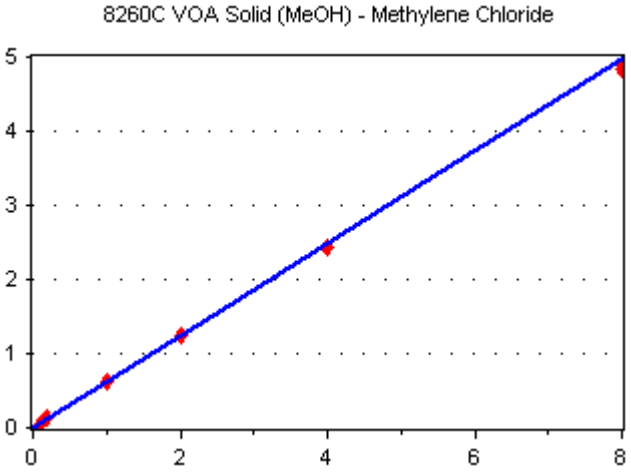


Average RF

RF RSD: 1.587856

[Conc] = 0.9599186 * [Response]

Methylene Chloride



Average RF

RF RSD: 2.979223

[Conc] = 0.6225891 * [Response]

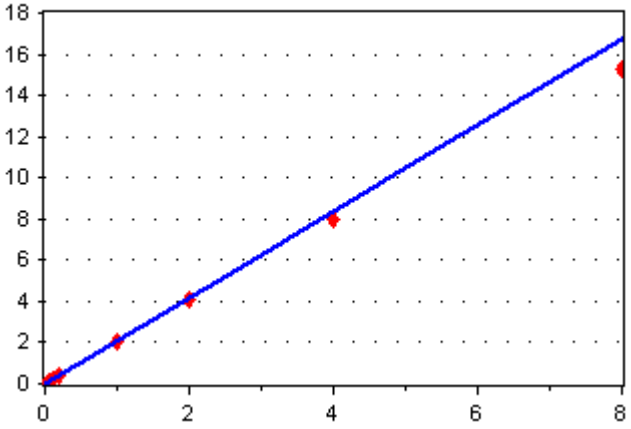
Carbon Disulfide

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - Carbon Disulfide



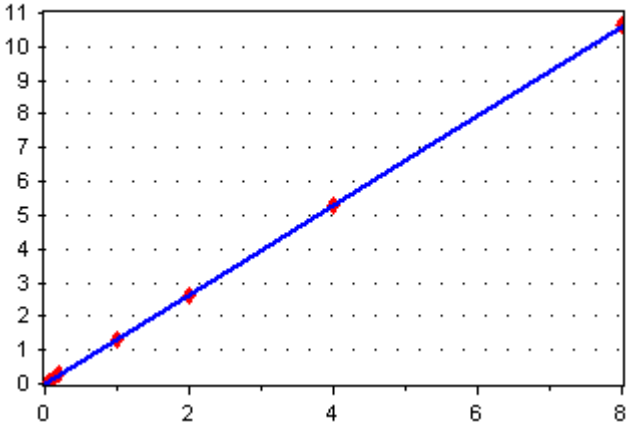
Average RF

RF RSD: 6.802613

[Conc] = 2.093059 * [Response]

Methyl tert-butyl Ether

8260C VOA Solid (MeOH) - Methyl tert-butyl Ether



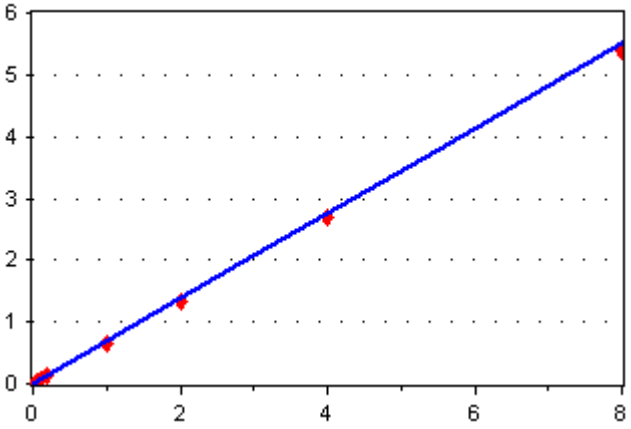
Average RF

RF RSD: 1.351435

[Conc] = 1.325743 * [Response]

trans-1,2-Dichloroethene

8260C VOA Solid (MeOH) - trans-1,2-Dichloroethene



Average RF

RF RSD: 5.300671

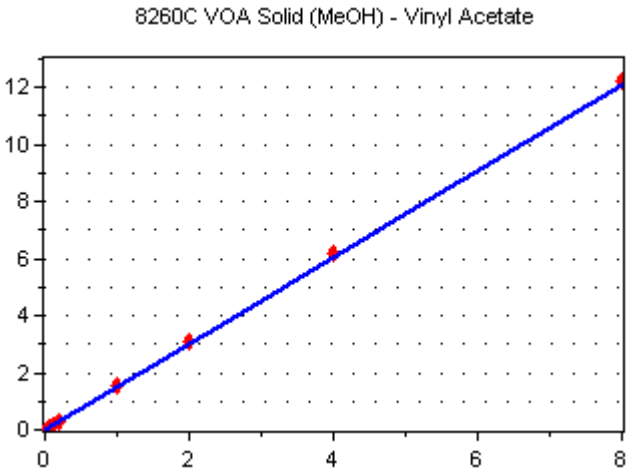
[Conc] = 0.6887343 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

Vinyl Acetate

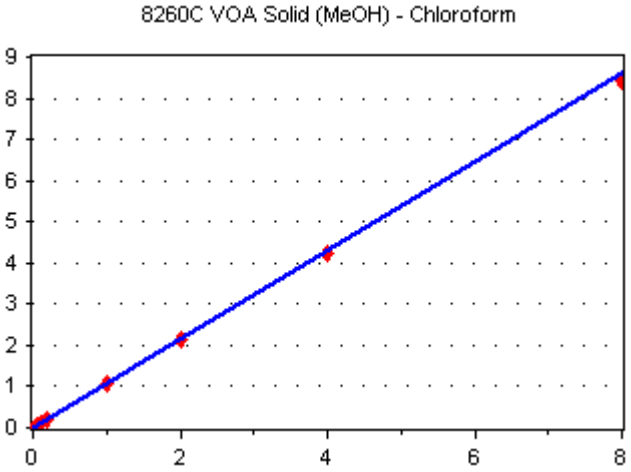


Average RF

RF RSD: 4.063481

[Conc] = 1.512167 * [Response]

Chloroform



Average RF

RF RSD: 4.294404

[Conc] = 1.07512 * [Response]

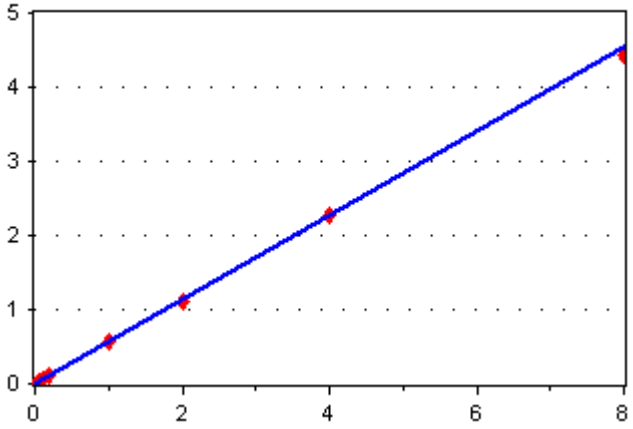
Carbon tetrachloride

Calibration Report

Instrument: NT3
Calibration ID: AK00023
Calibration Date: 07-Nov-2017 08:29 By PKC
Last Edit Date: 08-Nov-2017 08:29 By PKC

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - Carbon tetrachloride



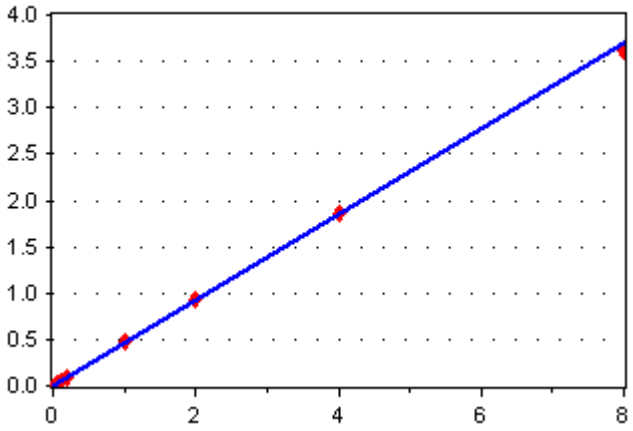
Average RF

RF RSD: 2.244469

[Conc] = 0.5687959 * [Response]

Trichloroethene

8260C VOA Solid (MeOH) - Trichloroethene



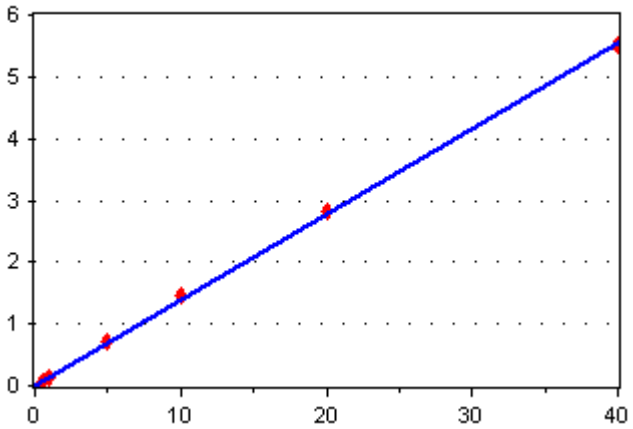
Average RF

RF RSD: 4.367003

[Conc] = 0.4621614 * [Response]

4-Methyl-2-Pentanone

8260C VOA Solid (MeOH) - 4-Methyl-2-Pentanone



Average RF

RF RSD: 4.851356

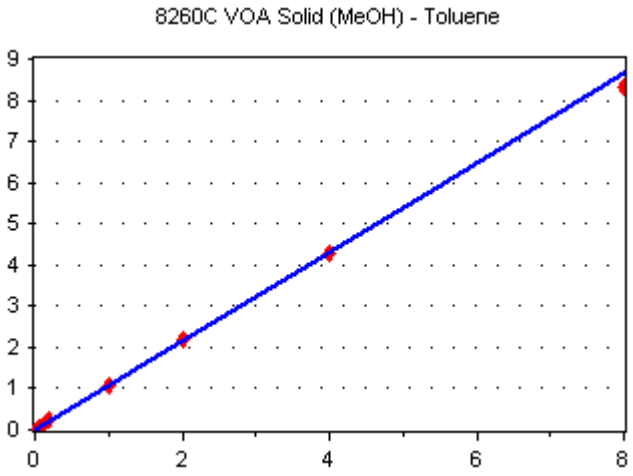
[Conc] = 0.138547 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

Toluene

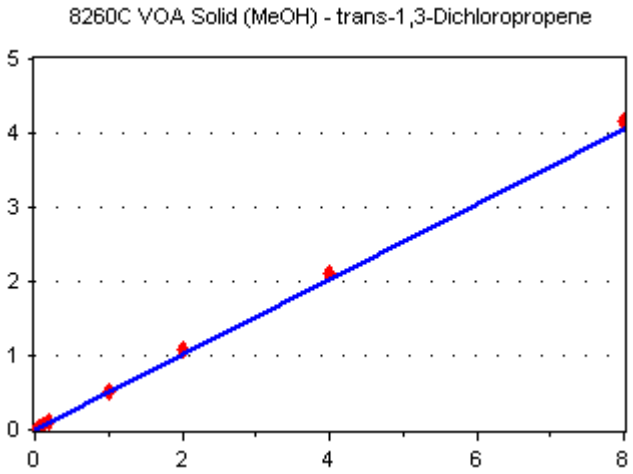


Average RF

RF RSD: 2.195586

[Conc] = 1.079567 * [Response]

trans-1,3-Dichloropropene



Average RF

RF RSD: 5.446183

[Conc] = 0.5052525 * [Response]

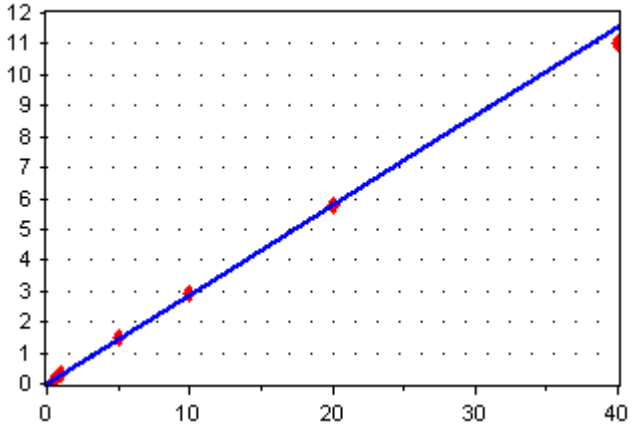
2-Hexanone

Calibration Report

Instrument: NT3
Calibration ID: AK00023
Calibration Date: 07-Nov-2017 08:29 By PKC
Last Edit Date: 08-Nov-2017 08:29 By PKC

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - 2-Hexanone



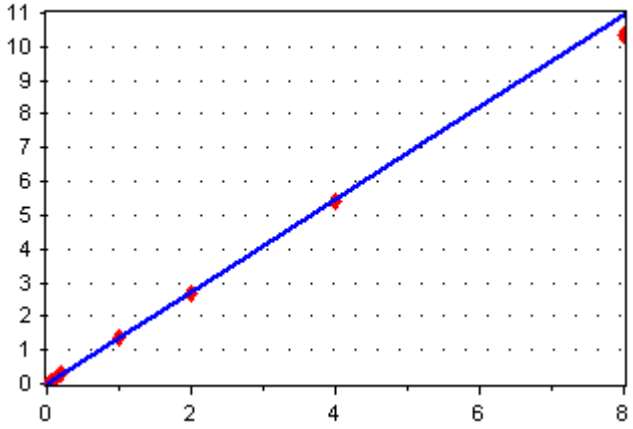
Average RF

RF RSD: 4.057726

[Conc] = 0.2884545 * [Response]

Chlorobenzene

8260C VOA Solid (MeOH) - Chlorobenzene



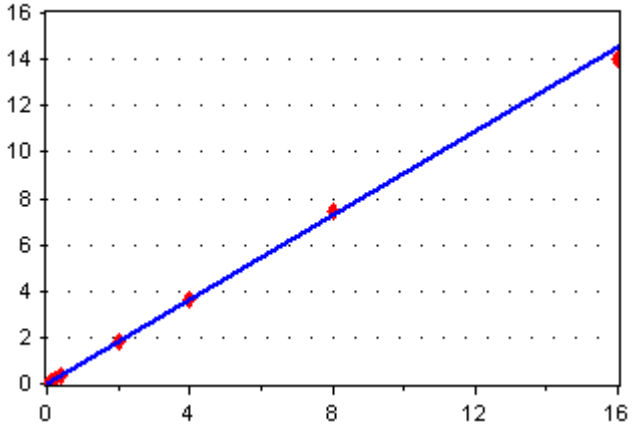
Average RF

RF RSD: 3.094478

[Conc] = 1.370103 * [Response]

m,p-Xylene

8260C VOA Solid (MeOH) - m,p-Xylene



Average RF

RF RSD: 3.003314

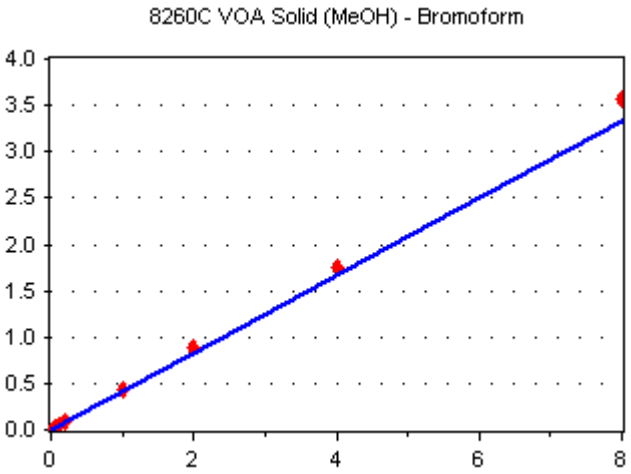
[Conc] = 0.909173 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

Bromoform

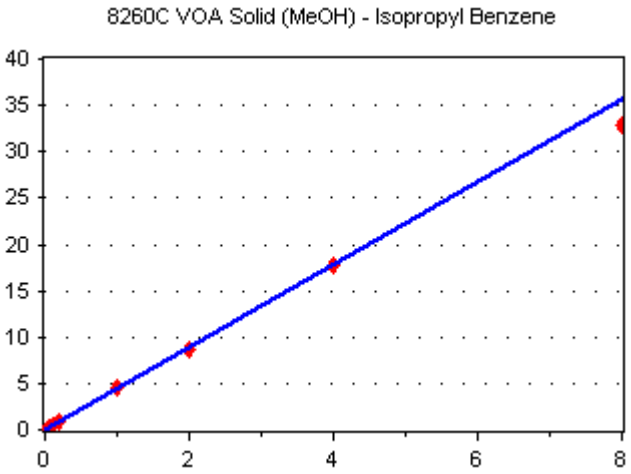


Average RF

RF RSD: 8.272292

[Conc] = 0.4158349 * [Response]

Isopropyl Benzene



Average RF

RF RSD: 3.554428

[Conc] = 4.450937 * [Response]

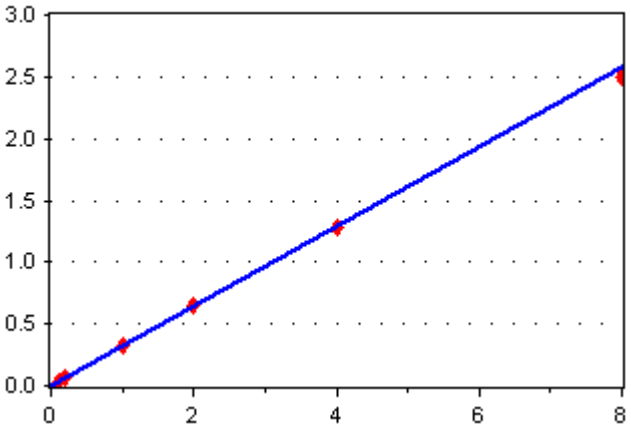
trans-1,4-Dichloro 2-Butene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - trans-1,4-Dichloro 2-Butene



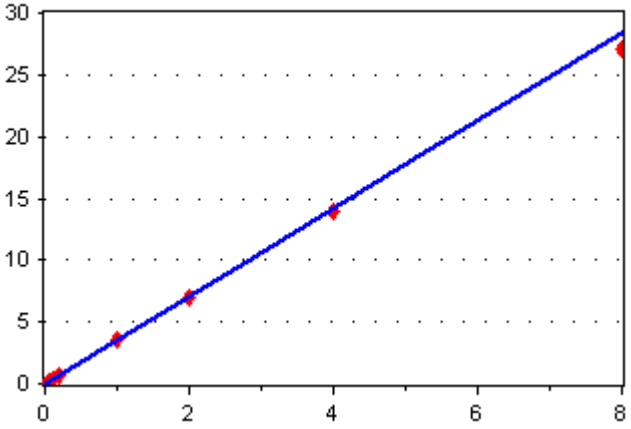
Average RF

RF RSD: 2.189787

[Conc] = 0.3217784 * [Response]

2-Chlorotoluene

8260C VOA Solid (MeOH) - 2-Chlorotoluene



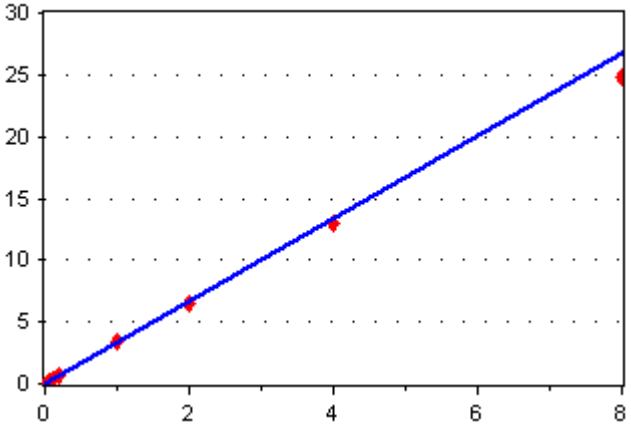
Average RF

RF RSD: 2.543521

[Conc] = 3.54236 * [Response]

4-Chlorotoluene

8260C VOA Solid (MeOH) - 4-Chlorotoluene



Average RF

RF RSD: 4.270012

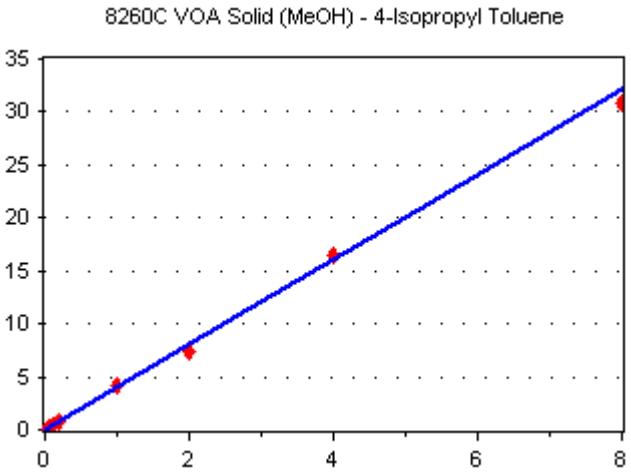
[Conc] = 3.353723 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

4-Isopropyl Toluene

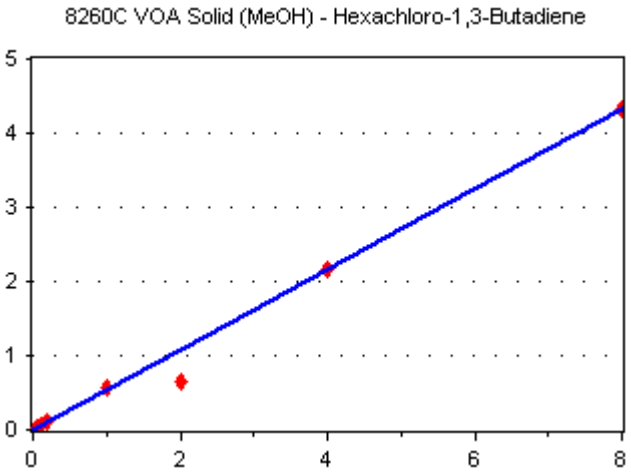


Average RF

RF RSD: 4.845394

[Conc] = 4.022387 * [Response]

Hexachloro-1,3-Butadiene



Average RF

RF RSD: 19.18541

[Conc] = 0.5416111 * [Response]

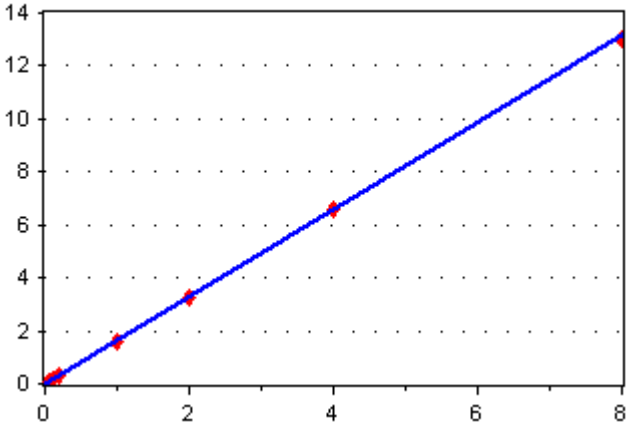
Naphthalene

Calibration Report

Instrument: NT3
Calibration ID: AK00023
Calibration Date: 07-Nov-2017 08:29 By PKC
Last Edit Date: 08-Nov-2017 08:29 By PKC

8260C VOA Solid (MeOH)

8260C VOA Solid (MeOH) - Naphthalene



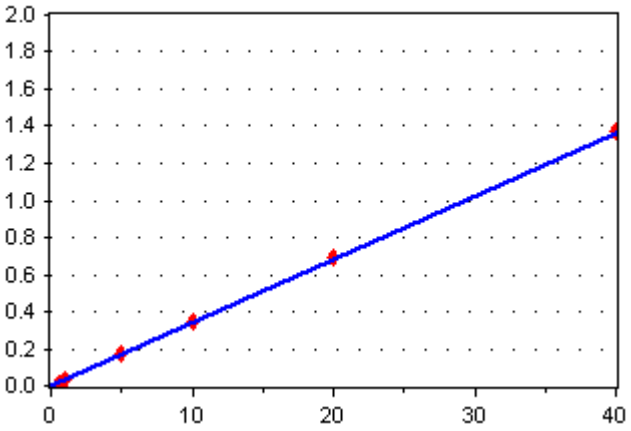
Average RF

RF RSD: 2.203534

[Conc] = 1.641945 * [Response]

2-Pentanone

8260C VOA Solid (MeOH) - 2-Pentanone



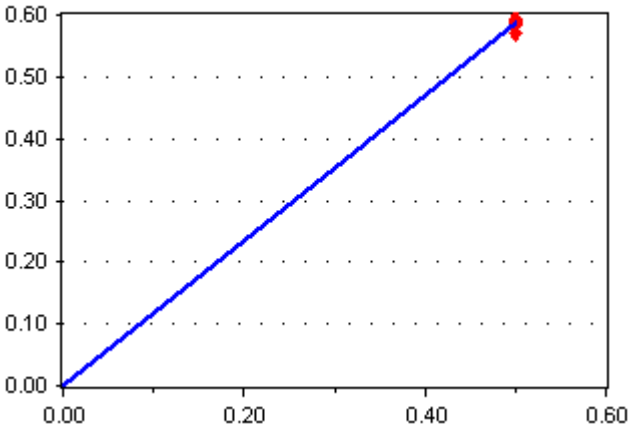
Average RF

RF RSD: 5.024782

[Conc] = 3.402576E-02 * [Response]

Toluene-d8

8260C VOA Solid (MeOH) - Toluene-d8



Average RF

RF RSD: 1.174111

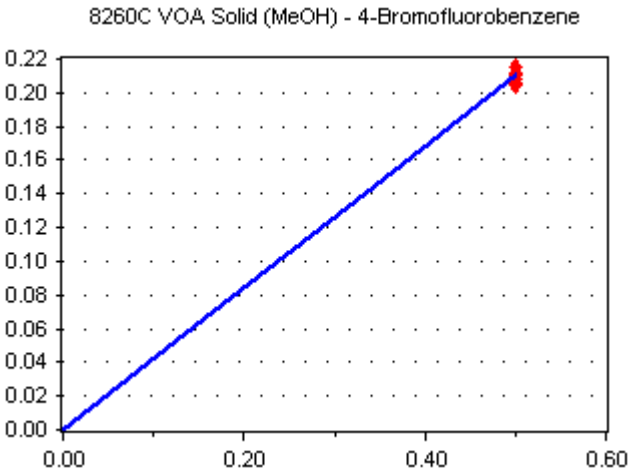
[Conc] = 1.17246 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

8260C VOA Solid (MeOH)

4-Bromofluorobenzene

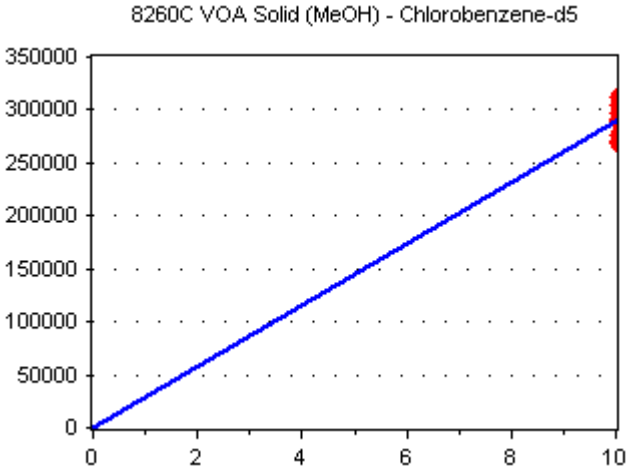


Average RF

RF RSD: 1.872363

[Conc] = 0.4205629 * [Response]

Chlorobenzene-d5



Average RF

RF RSD: 5.503176

[Conc] = 28904.23 * [Response]

TCLP 8260 VOA (incl ZHl

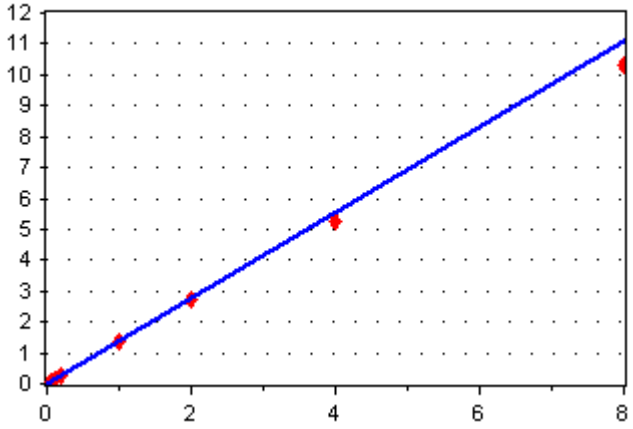
Chloromethane

Calibration Report

Instrument: NT3
Calibration Date: 07-Nov-2017 08:29 By PKC
Calibration ID: AK00023
Last Edit Date: 08-Nov-2017 08:29 By PKC

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - Chloromethane



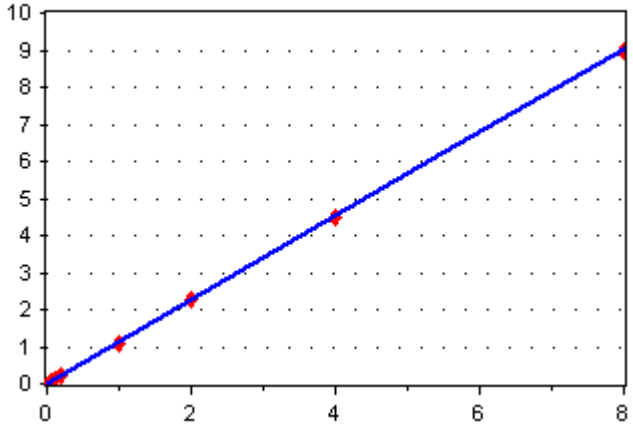
Average RF

RF RSD: 6.801404

[Conc] = 1.387441 * [Response]

Vinyl Chloride

TCLP 8260 VOA (incl ZHE) - Vinyl Chloride



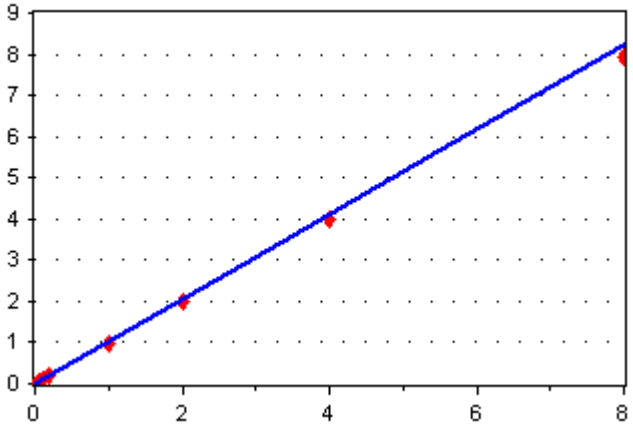
Average RF

RF RSD: 3.519232

[Conc] = 1.131059 * [Response]

Trichlorofluoromethane

TCLP 8260 VOA (incl ZHE) - Trichlorofluoromethane



Average RF

RF RSD: 4.469536

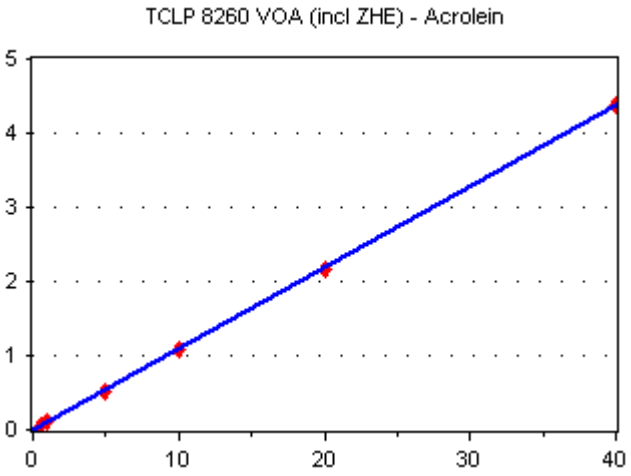
[Conc] = 1.029077 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

Acrolein

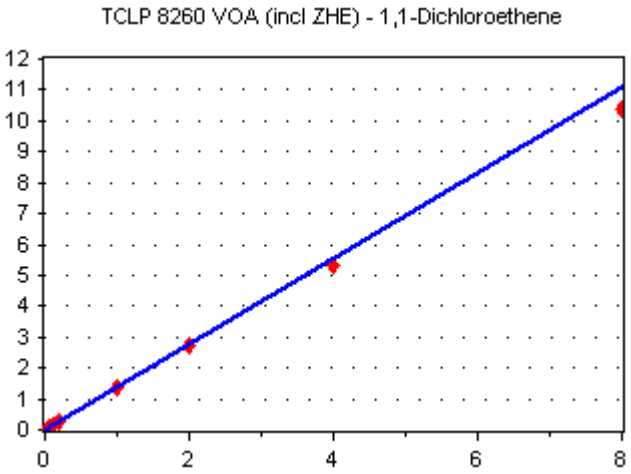


Average RF

RF RSD: 4.806169

[Conc] = 0.1091525 * [Response]

1,1-Dichloroethene



Average RF

RF RSD: 5.282519

[Conc] = 1.389707 * [Response]

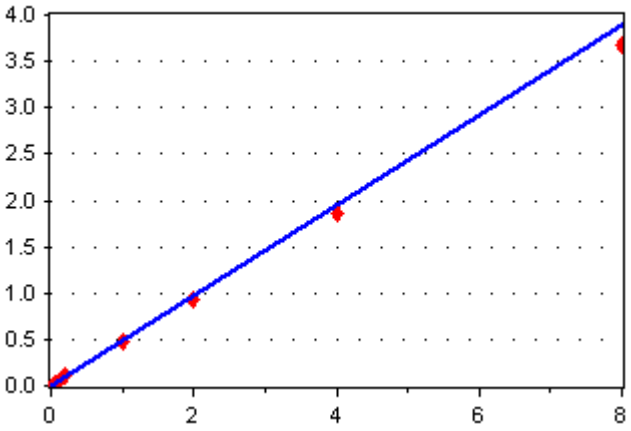
Bromoethane

Calibration Report

Instrument: NT3
Calibration ID: AK00023
Calibration Date: 07-Nov-2017 08:29 By PKC
Last Edit Date: 08-Nov-2017 08:29 By PKC

TCLP 8260 VOA (incl ZHE)

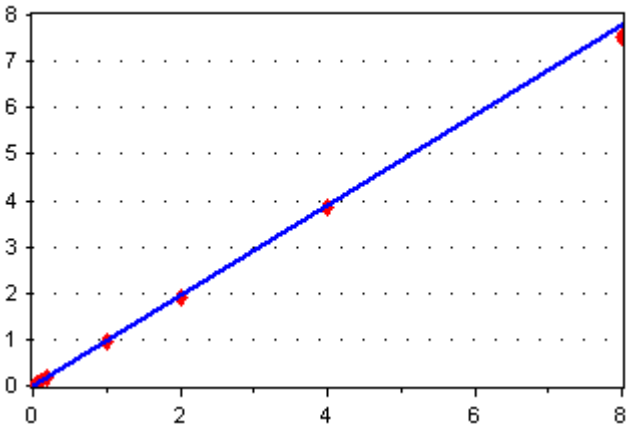
TCLP 8260 VOA (incl ZHE) - Bromoethane



Average RF
RF RSD: 7.995117
[Conc] = 0.4866247 * [Response]

Iodomethane

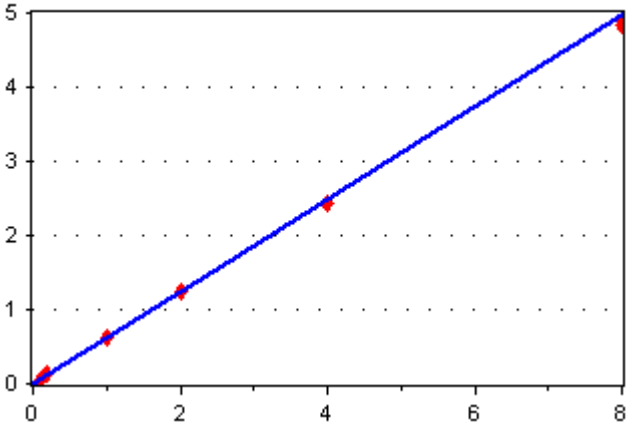
TCLP 8260 VOA (incl ZHE) - Iodomethane



Average RF
RF RSD: 4.206697
[Conc] = 0.9734293 * [Response]

Methylene Chloride

TCLP 8260 VOA (incl ZHE) - Methylene Chloride



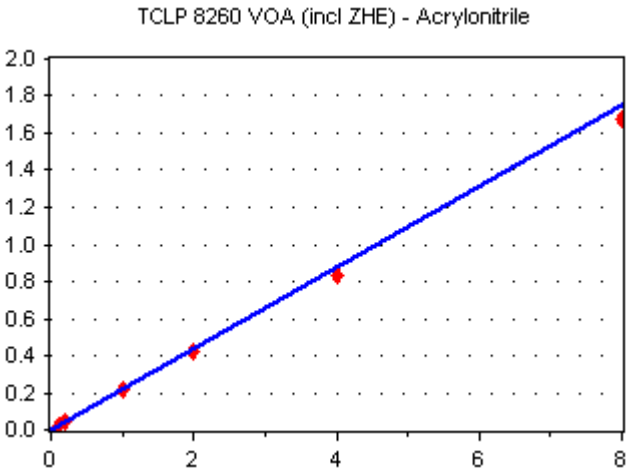
Average RF
RF RSD: 2.979223
[Conc] = 0.6225891 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

Acrylonitrile

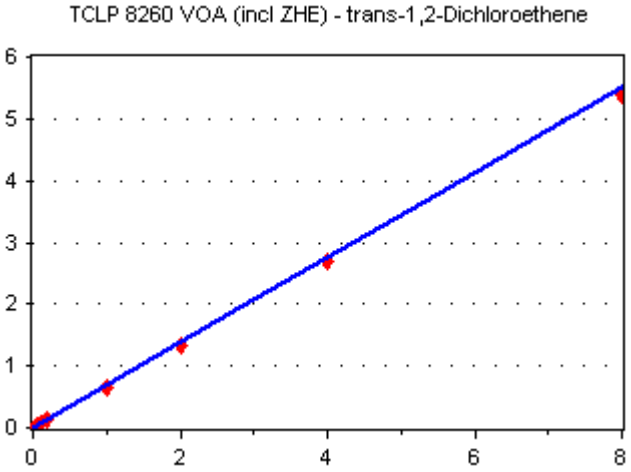


Average RF

RF RSD: 5.50449

[Conc] = 0.2186381 * [Response]

trans-1,2-Dichloroethene



Average RF

RF RSD: 5.300671

[Conc] = 0.6887343 * [Response]

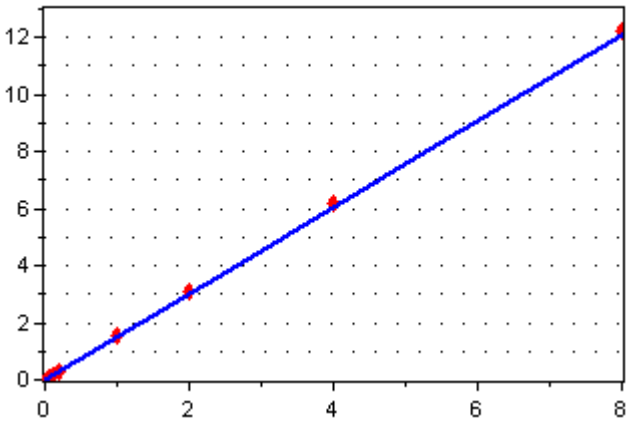
Vinyl Acetate

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - Vinyl Acetate



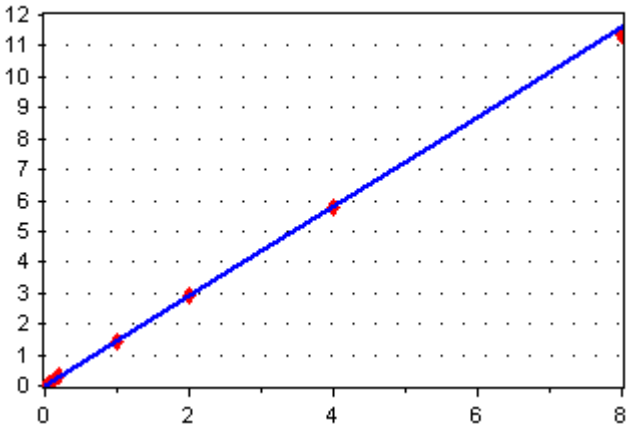
Average RF

RF RSD: 4.063481

[Conc] = 1.512167 * [Response]

1,1-Dichloroethane

TCLP 8260 VOA (incl ZHE) - 1,1-Dichloroethane



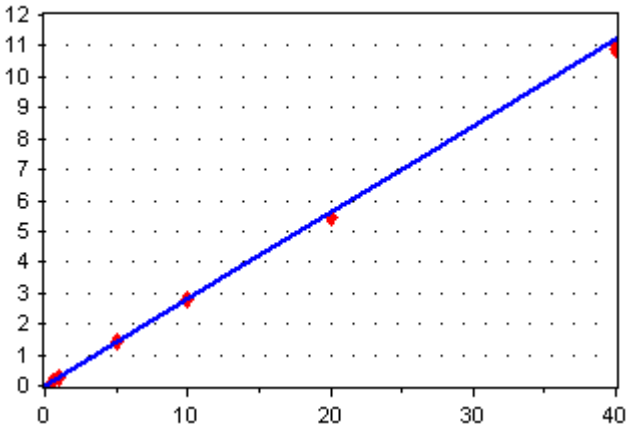
Average RF

RF RSD: 5.754636

[Conc] = 1.447905 * [Response]

2-Butanone

TCLP 8260 VOA (incl ZHE) - 2-Butanone



Average RF

RF RSD: 2.425506

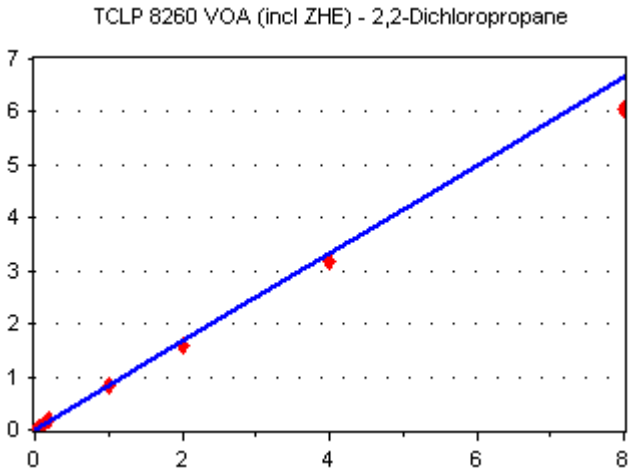
[Conc] = 0.2805036 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

2,2-Dichloropropane

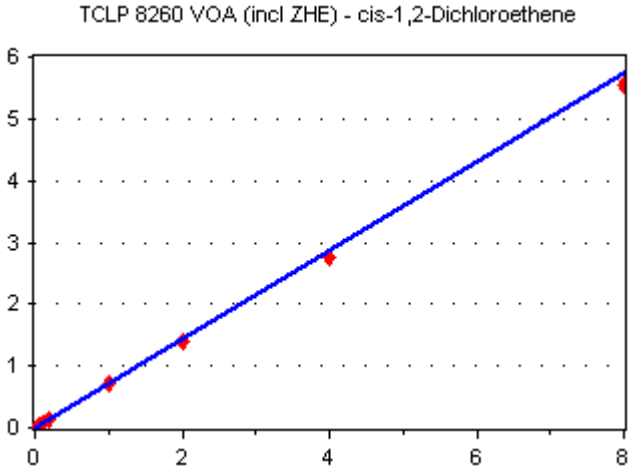


Average RF

RF RSD: 6.724053

[Conc] = 0.8333386 * [Response]

cis-1,2-Dichloroethene



Average RF

RF RSD: 5.137177

[Conc] = 0.7176638 * [Response]

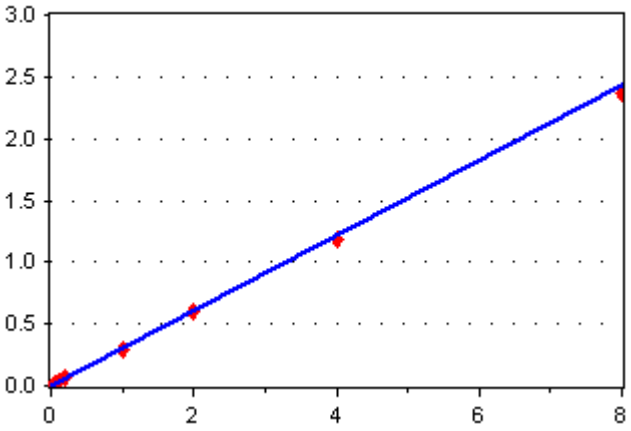
Bromochloromethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - Bromochloromethane



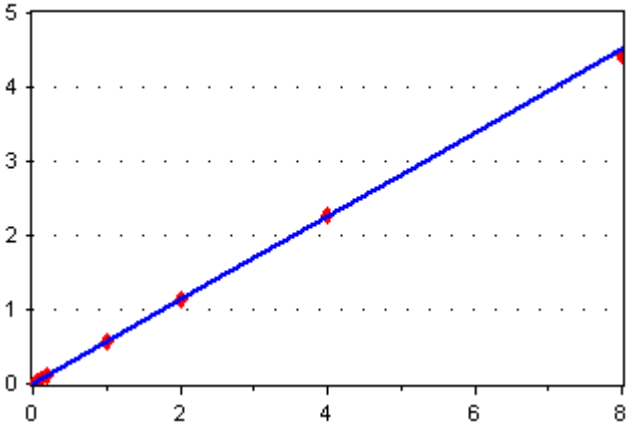
Average RF

RF RSD: 3.823448

[Conc] = 0.3033335 * [Response]

1,1-Dichloropropene

TCLP 8260 VOA (incl ZHE) - 1,1-Dichloropropene



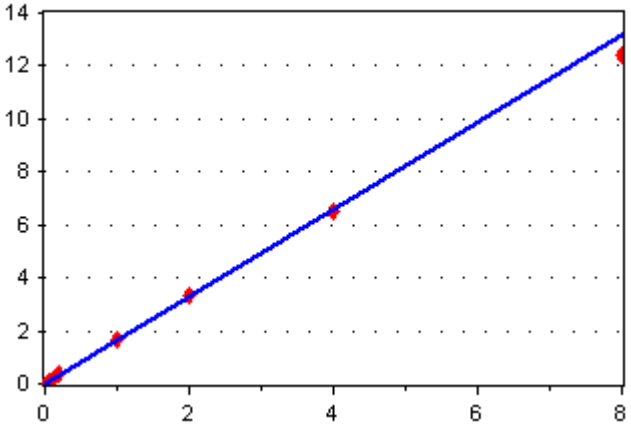
Average RF

RF RSD: 3.190752

[Conc] = 0.564523 * [Response]

Benzene

TCLP 8260 VOA (incl ZHE) - Benzene



Average RF

RF RSD: 4.552444

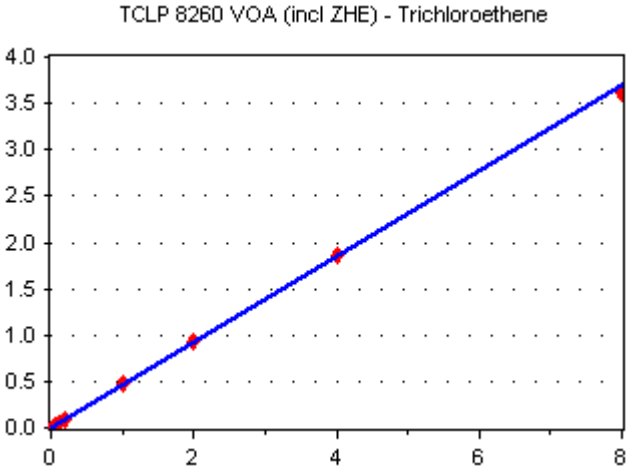
[Conc] = 1.649944 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

Trichloroethene

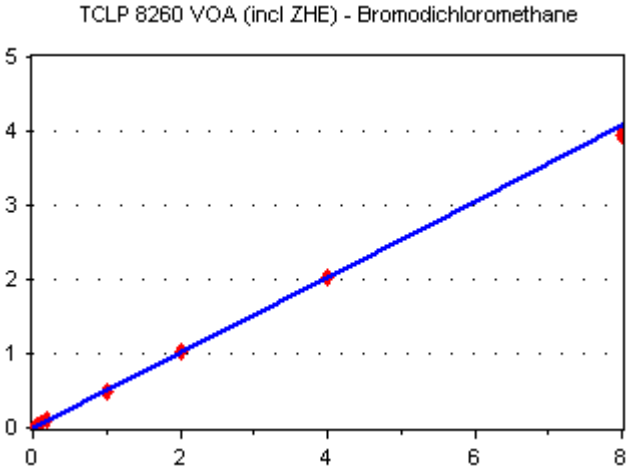


Average RF

RF RSD: 4.367003

[Conc] = 0.4621614 * [Response]

Bromodichloromethane



Average RF

RF RSD: 2.029064

[Conc] = 0.5084654 * [Response]

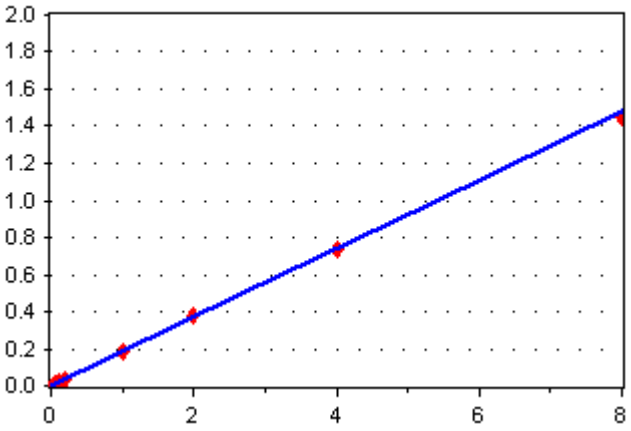
Dibromomethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHl

TCLP 8260 VOA (incl ZHE) - Dibromomethane



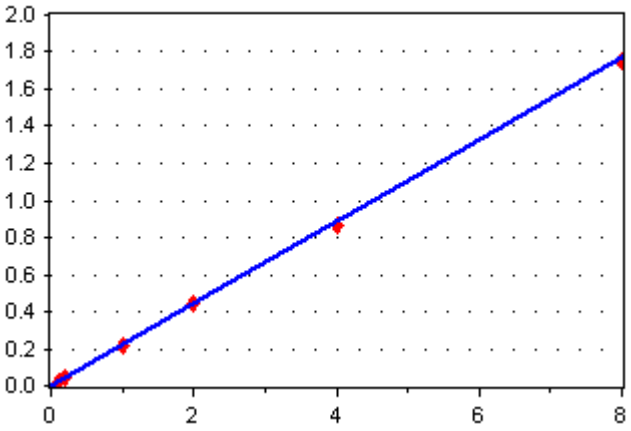
Average RF

RF RSD: 3.838062

[Conc] = 0.18464 * [Response]

2-Chloroethyl vinyl ether

TCLP 8260 VOA (incl ZHE) - 2-Chloroethyl vinyl ether



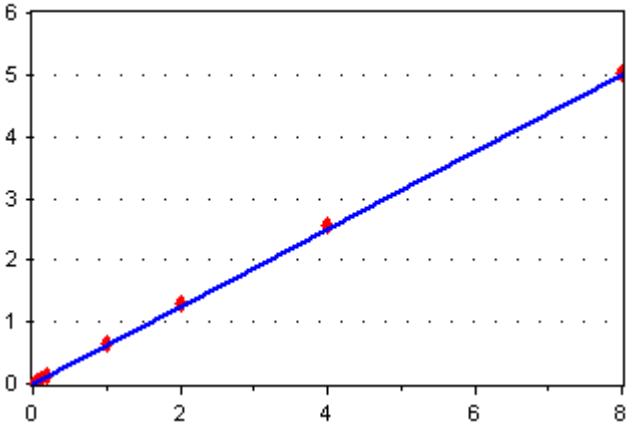
Average RF

RF RSD: 2.819434

[Conc] = 0.2209657 * [Response]

cis-1,3-Dichloropropene

TCLP 8260 VOA (incl ZHE) - cis-1,3-Dichloropropene



Average RF

RF RSD: 4.46843

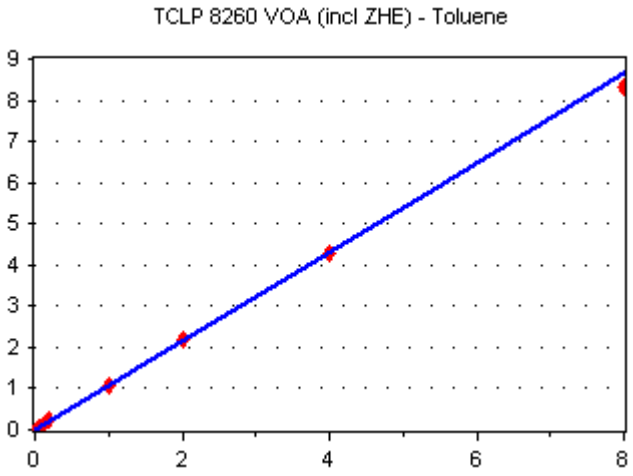
[Conc] = 0.6260336 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

Toluene

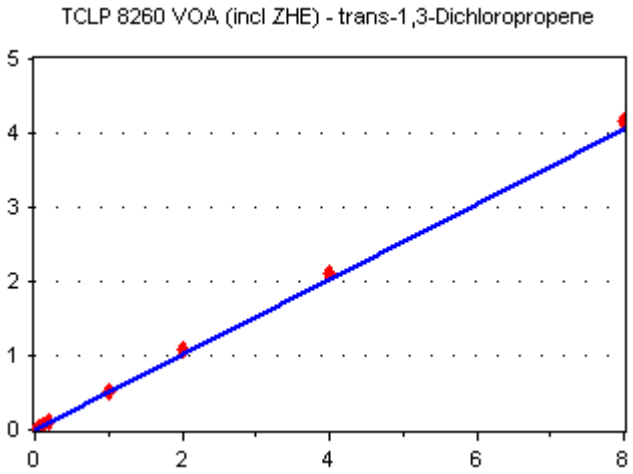


Average RF

RF RSD: 2.195586

[Conc] = 1.079567 * [Response]

trans-1,3-Dichloropropene



Average RF

RF RSD: 5.446183

[Conc] = 0.5052525 * [Response]

1,3-Dichloropropane

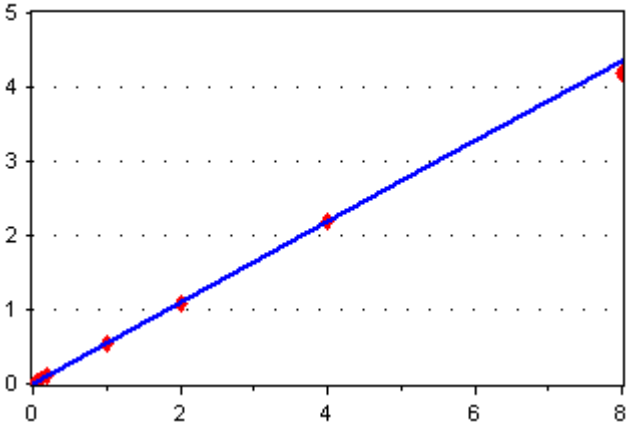
Calibration Report

Instrument: NT3 **Calibration Date:** 07-Nov-2017 08:29 By PKC

Calibration ID: AK00023 **Last Edit Date:** 08-Nov-2017 08:29 By PKC

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - 1,3-Dichloropropane



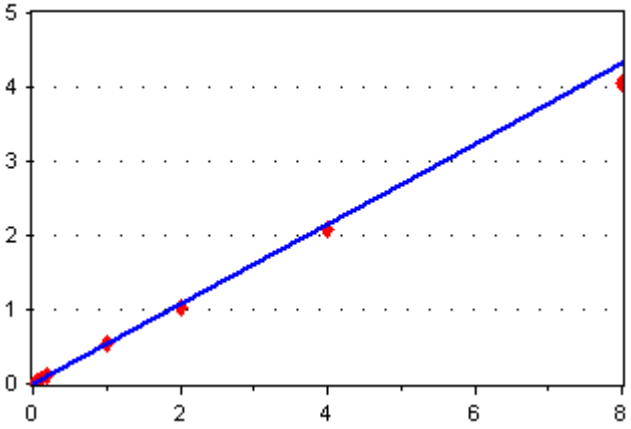
Average RF

RF RSD: 5.415805

[Conc] = 0.5455758 * [Response]

Tetrachloroethene

TCLP 8260 VOA (incl ZHE) - Tetrachloroethene



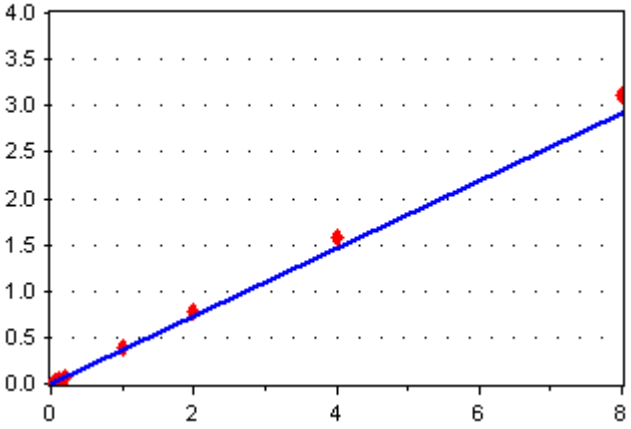
Average RF

RF RSD: 4.76736

[Conc] = 0.5389318 * [Response]

Dibromochloromethane

TCLP 8260 VOA (incl ZHE) - Dibromochloromethane



Average RF

RF RSD: 9.143215

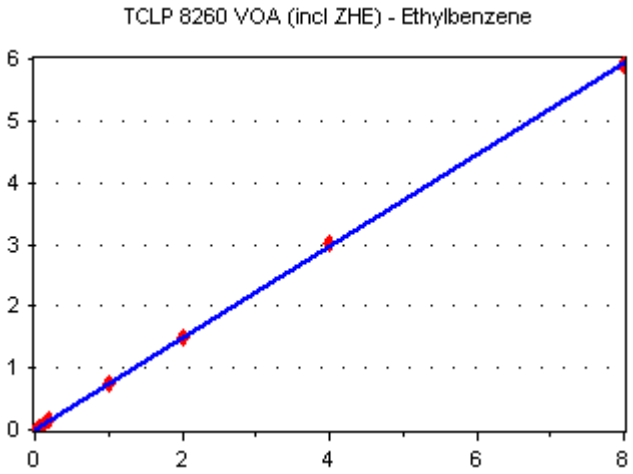
[Conc] = 0.3658172 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

Ethylbenzene

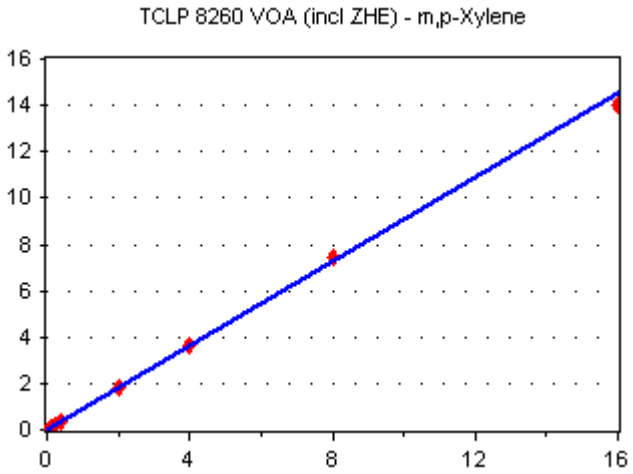


Average RF

RF RSD: 2.175029

[Conc] = 0.7415762 * [Response]

m,p-Xylene



Average RF

RF RSD: 3.003314

[Conc] = 0.909173 * [Response]

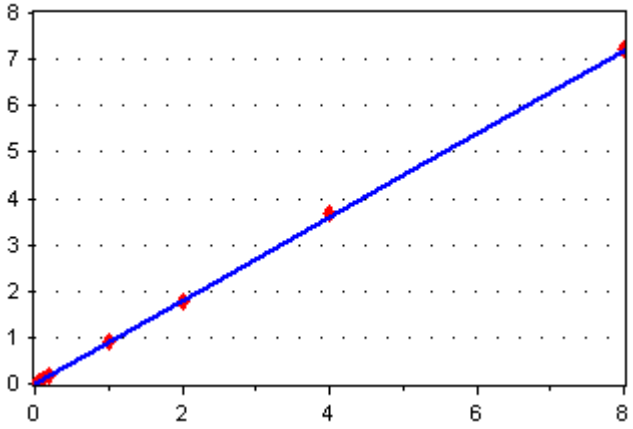
o-Xylene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHl

TCLP 8260 VOA (incl ZHE) - o-Xylene



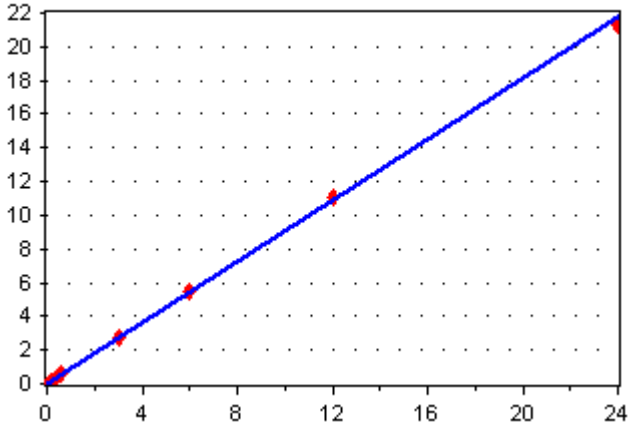
Average RF

RF RSD: 1.997315

[Conc] = 0.8974687 * [Response]

Xylenes, total

TCLP 8260 VOA (incl ZHE) - Xylenes, total



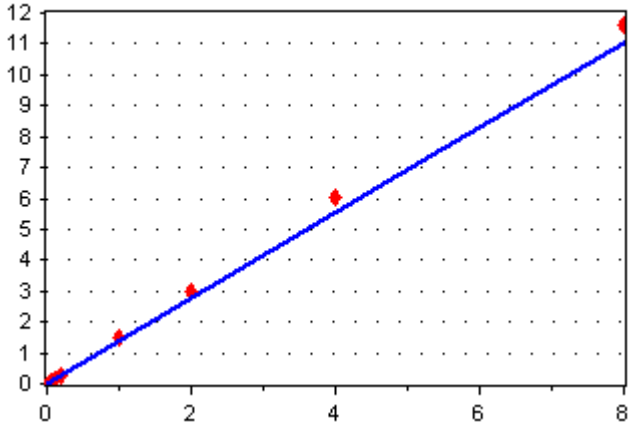
Average RF

RF RSD: 2.45697

[Conc] = 0.9052715 * [Response]

Styrene

TCLP 8260 VOA (incl ZHE) - Styrene



Average RF

RF RSD: 10.094

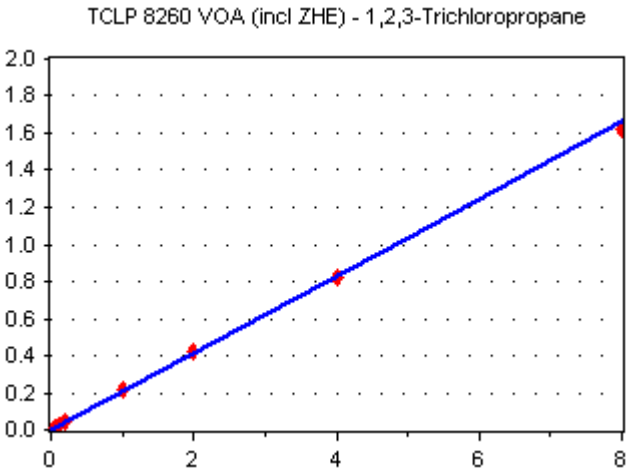
[Conc] = 1.381043 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

1,2,3-Trichloropropane

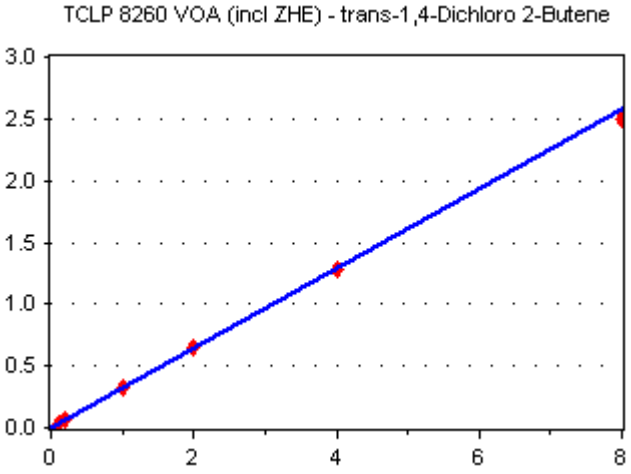


Average RF

RF RSD: 2.824324

[Conc] = 0.2076566 * [Response]

trans-1,4-Dichloro 2-Butene



Average RF

RF RSD: 2.189787

[Conc] = 0.3217784 * [Response]

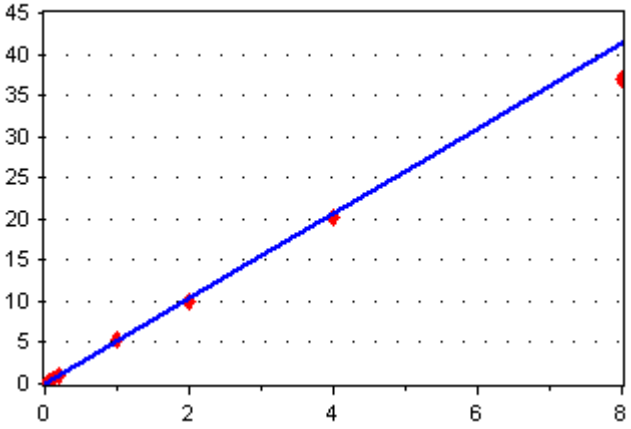
n-Propylbenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHl

TCLP 8260 VOA (incl ZHE) - n-Propylbenzene



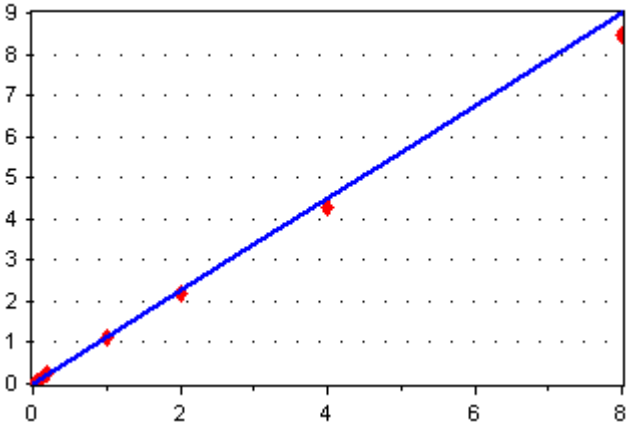
Average RF

RF RSD: 5.381233

[Conc] = 5.160252 * [Response]

Bromobenzene

TCLP 8260 VOA (incl ZHE) - Bromobenzene



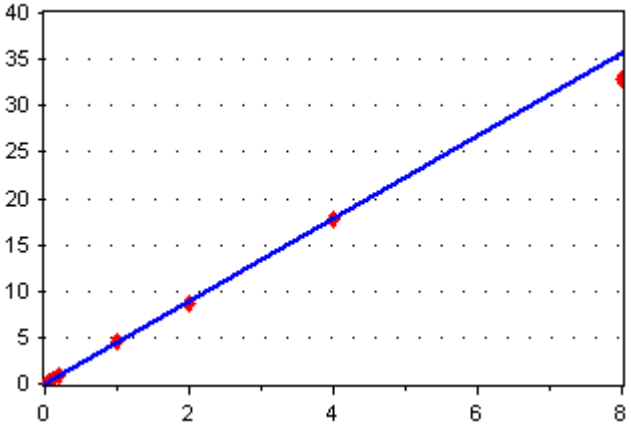
Average RF

RF RSD: 4.872522

[Conc] = 1.123633 * [Response]

Isopropyl Benzene

TCLP 8260 VOA (incl ZHE) - Isopropyl Benzene



Average RF

RF RSD: 3.554428

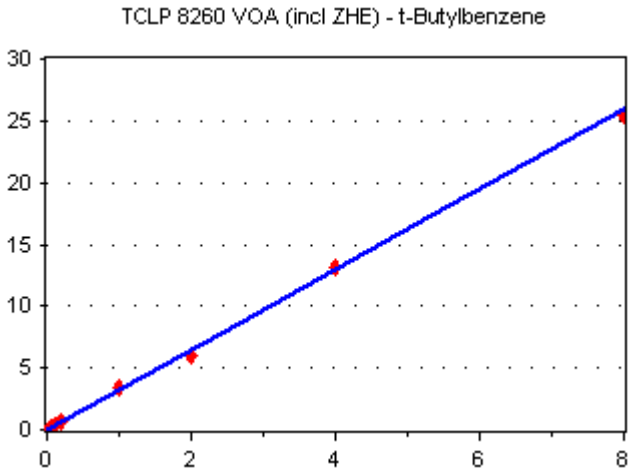
[Conc] = 4.450937 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

t-Butylbenzene

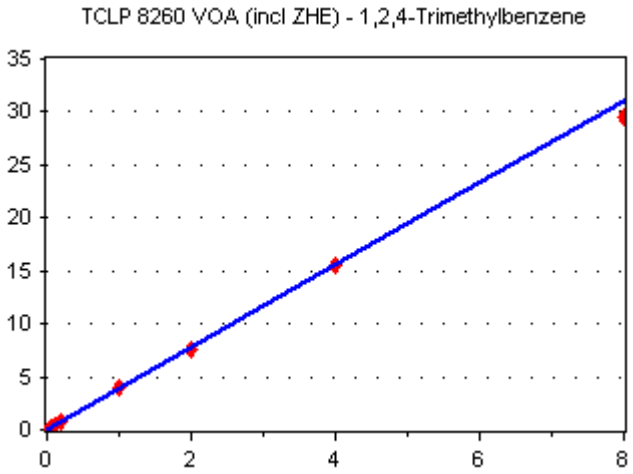


Average RF

RF RSD: 3.537539

[Conc] = 3.239598 * [Response]

1,2,4-Trimethylbenzene



Average RF

RF RSD: 3.427156

[Conc] = 3.887618 * [Response]

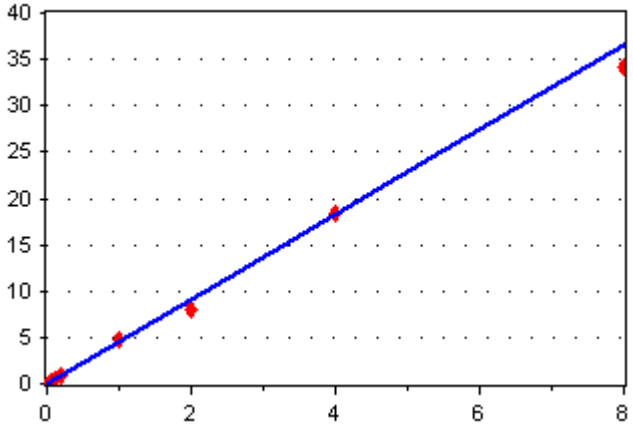
s-Butylbenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - s-Butylbenzene



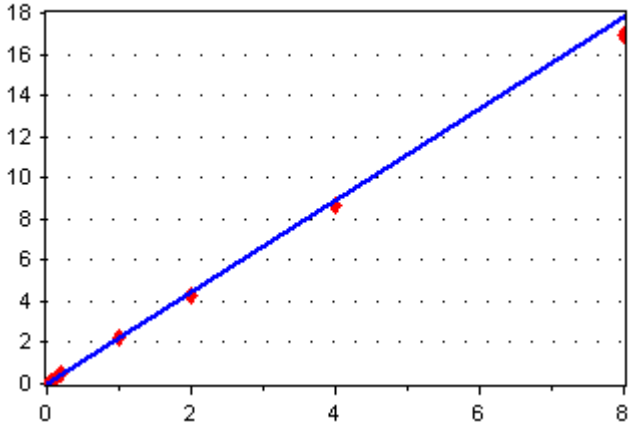
Average RF

RF RSD: 6.146076

[Conc] = 4.580111 * [Response]

1,3-Dichlorobenzene

TCLP 8260 VOA (incl ZHE) - 1,3-Dichlorobenzene



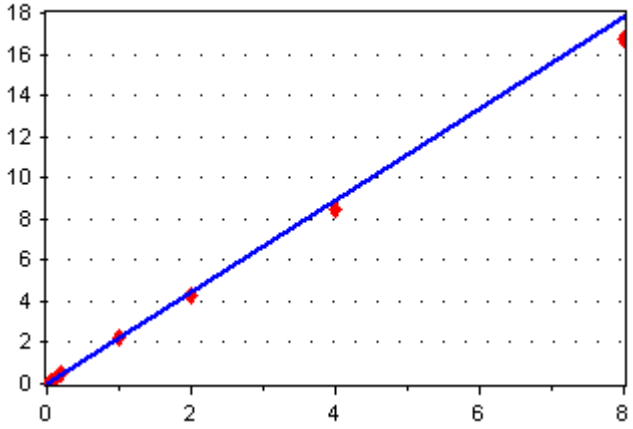
Average RF

RF RSD: 3.570234

[Conc] = 2.22923 * [Response]

1,4-Dichlorobenzene

TCLP 8260 VOA (incl ZHE) - 1,4-Dichlorobenzene



Average RF

RF RSD: 4.663286

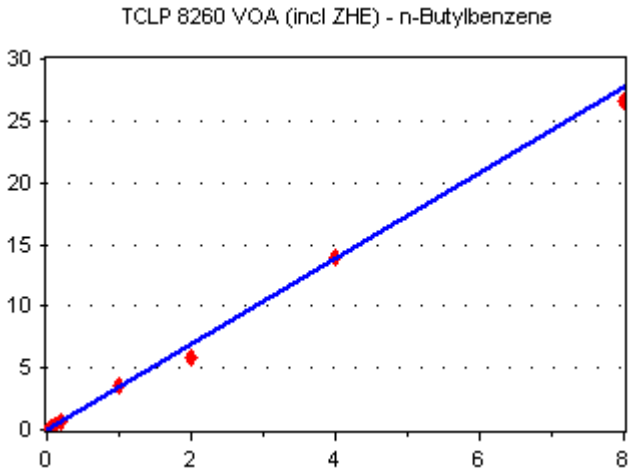
[Conc] = 2.222757 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

n-Butylbenzene

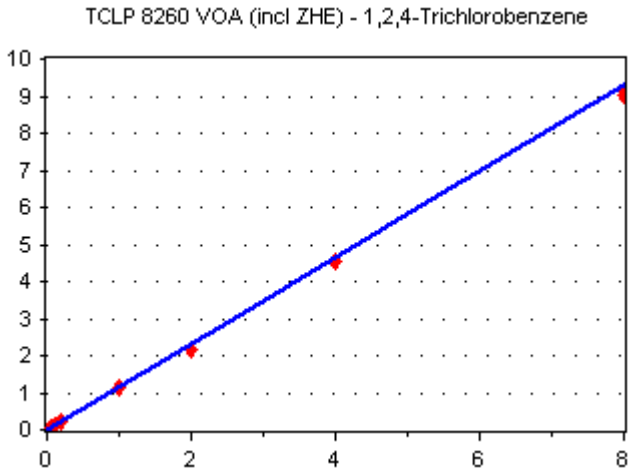


Average RF

RF RSD: 7.398521

[Conc] = 3.465962 * [Response]

1,2,4-Trichlorobenzene



Average RF

RF RSD: 4.858798

[Conc] = 1.16188 * [Response]

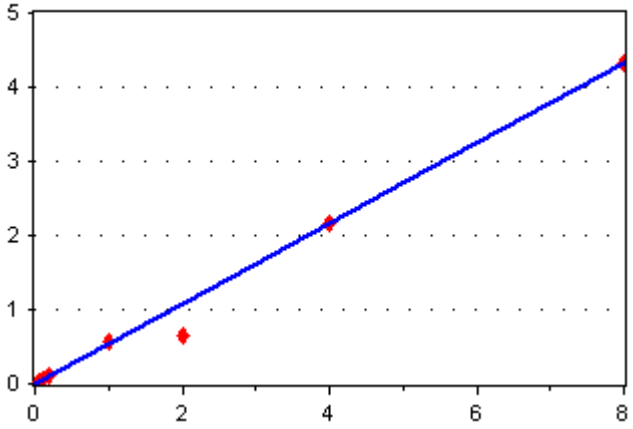
Hexachloro-1,3-Butadiene

Calibration Report

Instrument: NT3
Calibration ID: AK00023
Calibration Date: 07-Nov-2017 08:29 By PKC
Last Edit Date: 08-Nov-2017 08:29 By PKC

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - Hexachloro-1,3-Butadiene



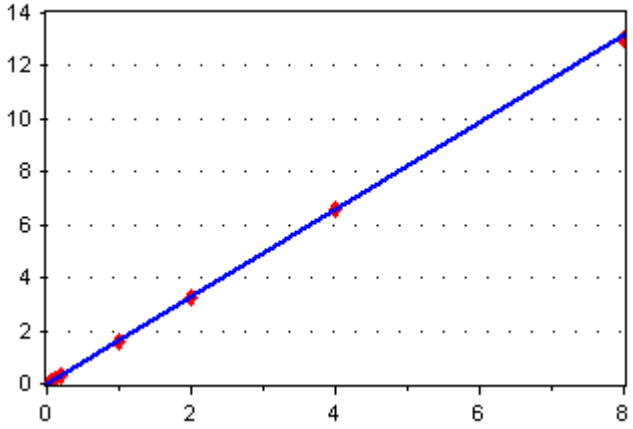
Average RF

RF RSD: 19.18541

[Conc] = 0.5416111 * [Response]

Naphthalene

TCLP 8260 VOA (incl ZHE) - Naphthalene



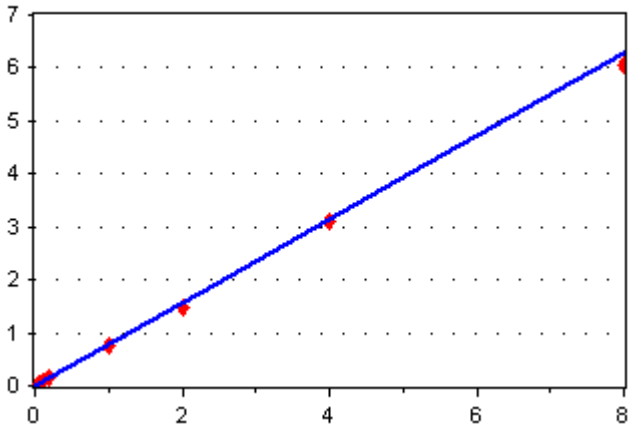
Average RF

RF RSD: 2.203534

[Conc] = 1.641945 * [Response]

1,2,3-Trichlorobenzene

TCLP 8260 VOA (incl ZHE) - 1,2,3-Trichlorobenzene



Average RF

RF RSD: 6.320922

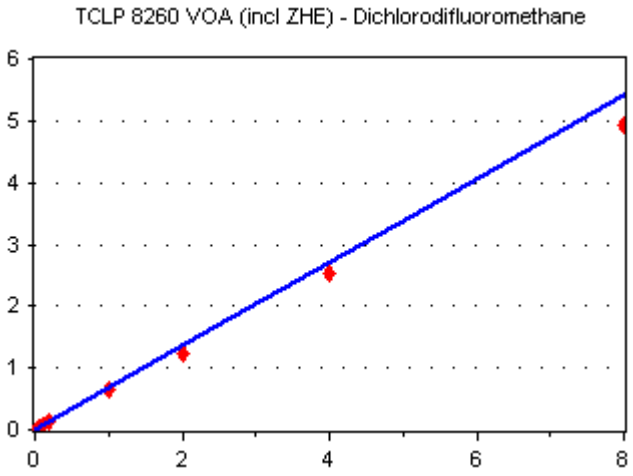
[Conc] = 0.7856392 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHl

Dichlorodifluoromethane

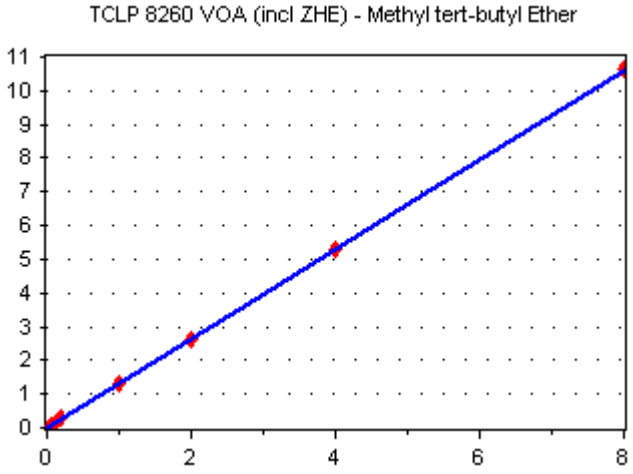


Average RF

RF RSD: 9.837361

[Conc] = 0.6759334 * [Response]

Methyl tert-butyl Ether



Average RF

RF RSD: 1.351435

[Conc] = 1.325743 * [Response]

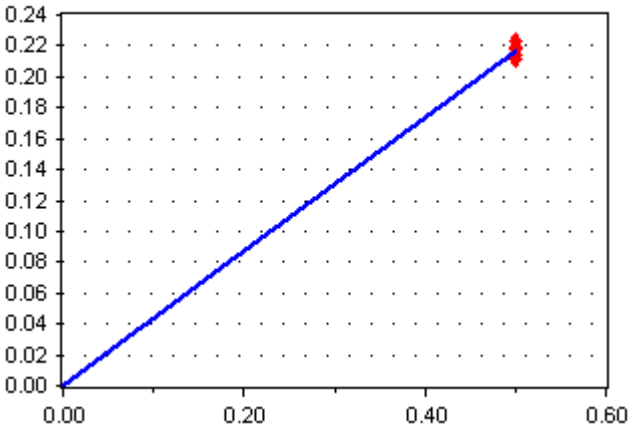
Dibromofluoromethane

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

TCLP 8260 VOA (incl ZHE) - Dibromofluoromethane



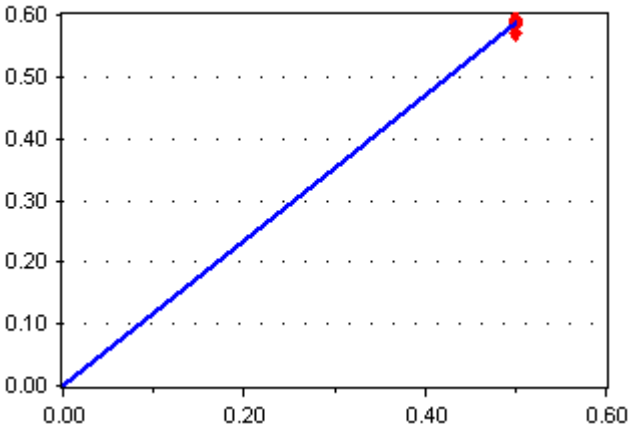
Average RF

RF RSD: 1.732171

[Conc] = 0.4345069 * [Response]

Toluene-d8

TCLP 8260 VOA (incl ZHE) - Toluene-d8



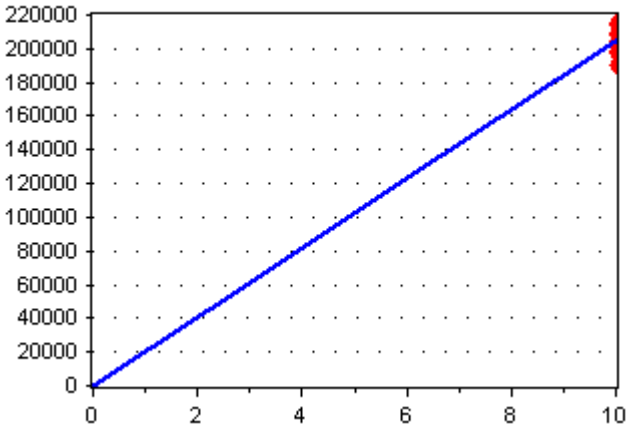
Average RF

RF RSD: 1.174111

[Conc] = 1.17246 * [Response]

Pentafluorobenzene

TCLP 8260 VOA (incl ZHE) - Pentafluorobenzene



Average RF

RF RSD: 4.221646

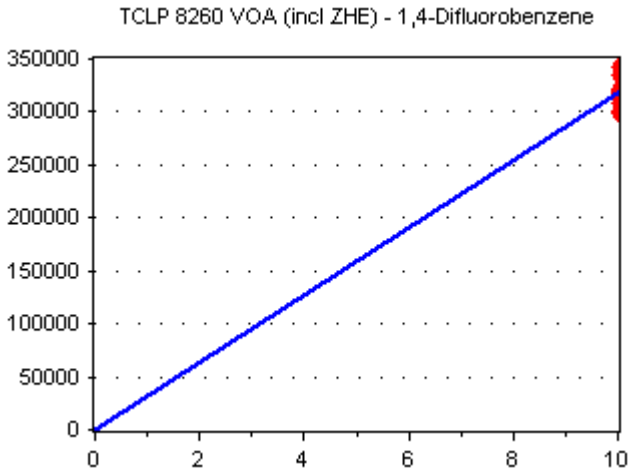
[Conc] = 20455.4 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**07-Nov-2017 08:29 By PKC**
Calibration ID:	**AK00023**	**Last Edit Date:**	**08-Nov-2017 08:29 By PKC**

TCLP 8260 VOA (incl ZHE)

1,4-Difluorobenzene

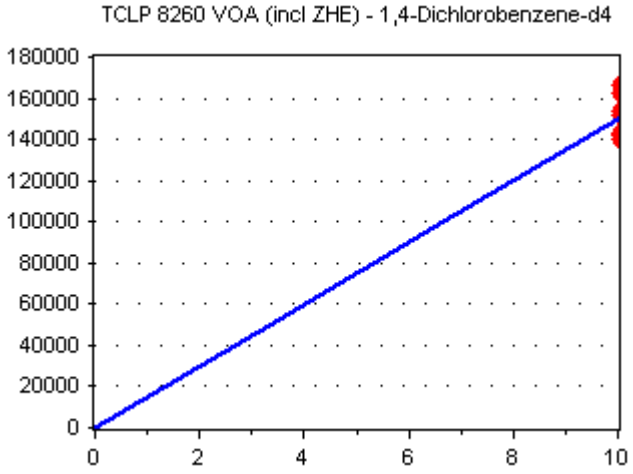


Average RF

RF RSD: 4.897403

[Conc] = 31765.19 * [Response]

1,4-Dichlorobenzene-d4



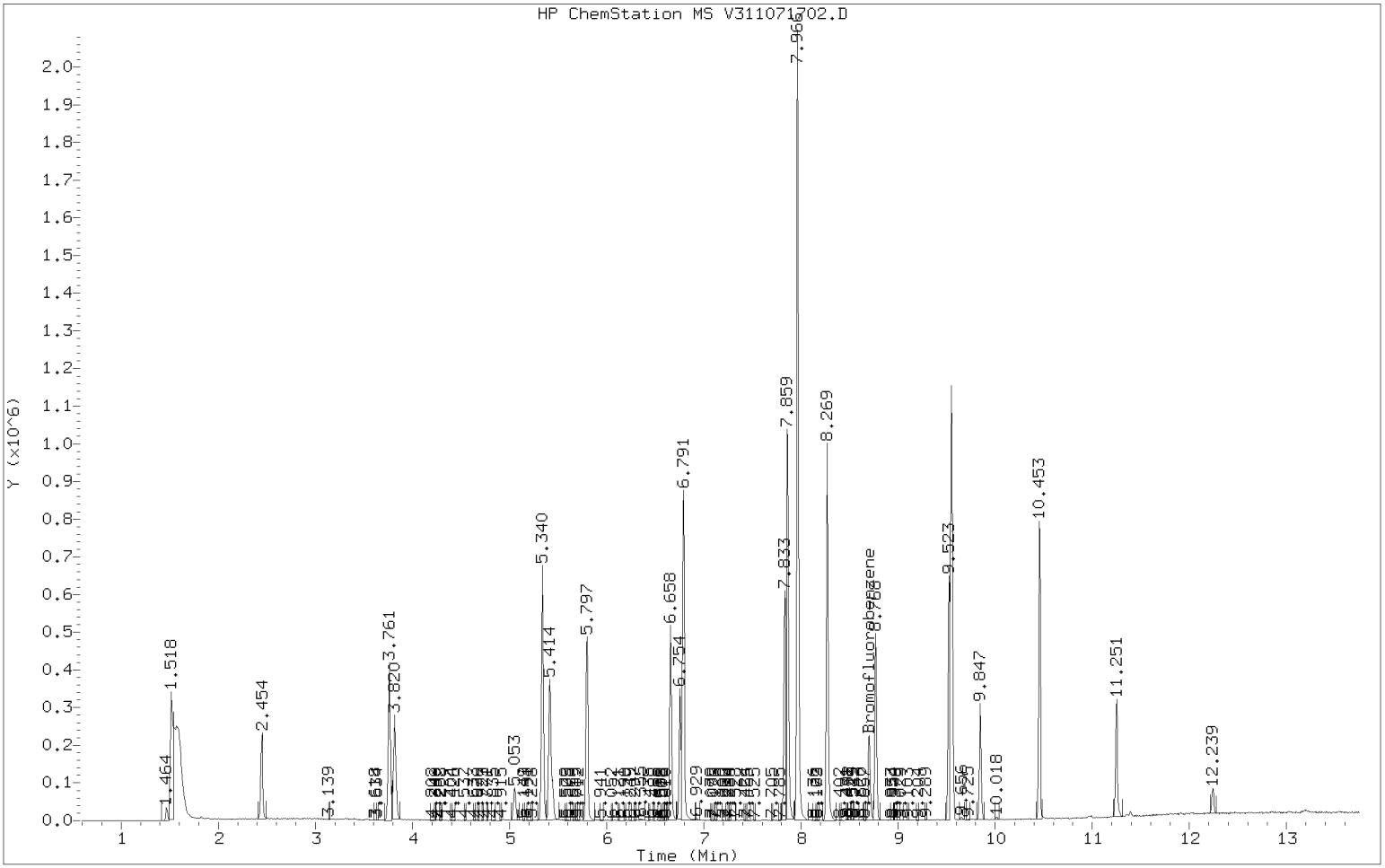
Average RF

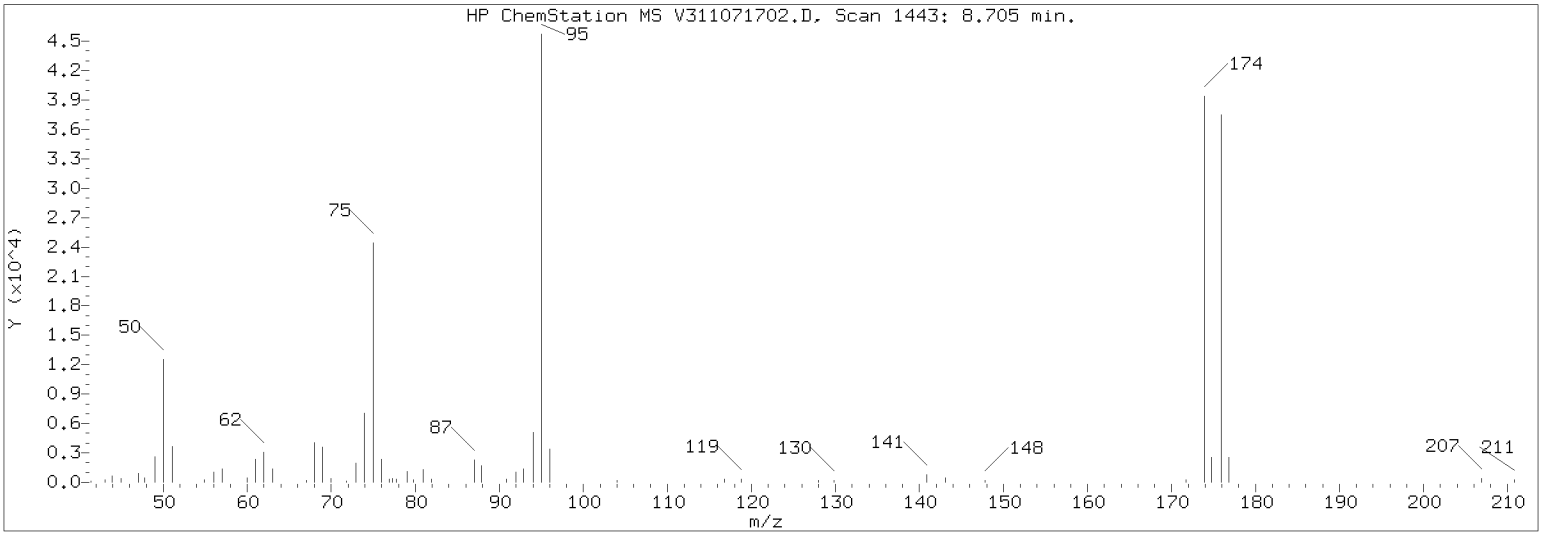
RF RSD: 6.910365

[Conc] = 14986.71 * [Response]

BFB TUNE GRAPHIC REPORT

Datafile Analyzed: /20171107.b/V311071702.D
Method Used: \20171107.b\bfb8260.m Inst: nt3
Injection Date: 07-NOV-2017 08:48 Operator: PC
Sample Info: SFK0116-TUN1 SFK0116-TUN1
Report Date: 11/07/2017 15:18





m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	28.69
75	30.00 - 60.00% of mass 95	49.27
96	5.00 - 9.00% of mass 95	7.56
173	Less than 2.00% of mass 174	0.32 (0.38)
174	50.00 - 100.00% of mass 95	83.98
175	5.00 - 9.00% of mass 174	6.31 (7.52)
176	95.00 - 101.00% of mass 174	84.19 (100.25)
177	5.00 - 9.00% of mass 176	5.61 (6.66)

Data File: V311071702.D
Spectrum: Avg. Scans 1442-1444 (8.70), Background Scan 1435
Location of Maximum: 95.00
Number of points: 67

m/z	Y	m/z	Y	m/z	Y	m/z	Y
41.00	116	63.00	1512	87.00	1771	130.00	68
42.00	60	65.00	75	88.00	1424	140.00	50
43.00	76	67.00	56	89.00	62	141.00	546
44.00	229	68.00	3733	91.00	296	143.00	441
45.00	512	69.00	3417	92.00	994	148.00	179
47.00	777	70.00	366	93.00	1430	155.00	64
48.00	608	72.00	245	94.00	4529	157.00	59
49.00	2410	73.00	1973	95.00	41552	159.00	53
50.00	11922	74.00	7185	96.00	3143	172.00	77
51.00	3454	75.00	20472	97.00	50	173.00	132
52.00	136	76.00	1985	104.00	265	174.00	34896
55.00	257	77.00	527	106.00	71	175.00	2624
56.00	871	78.00	118	116.00	86	176.00	34984
57.00	1570	79.00	1097	117.00	247	177.00	2329
60.00	506	80.00	226	119.00	158	207.00	7
61.00	2153	81.00	1207	128.00	124	211.00	89
62.00	2682	82.00	335	129.00	52		

Data File: \\target\share\chem1\nt3.i\20171107.b\W311071707.D

Date : 07-NOV-2017 11:33

Client ID:

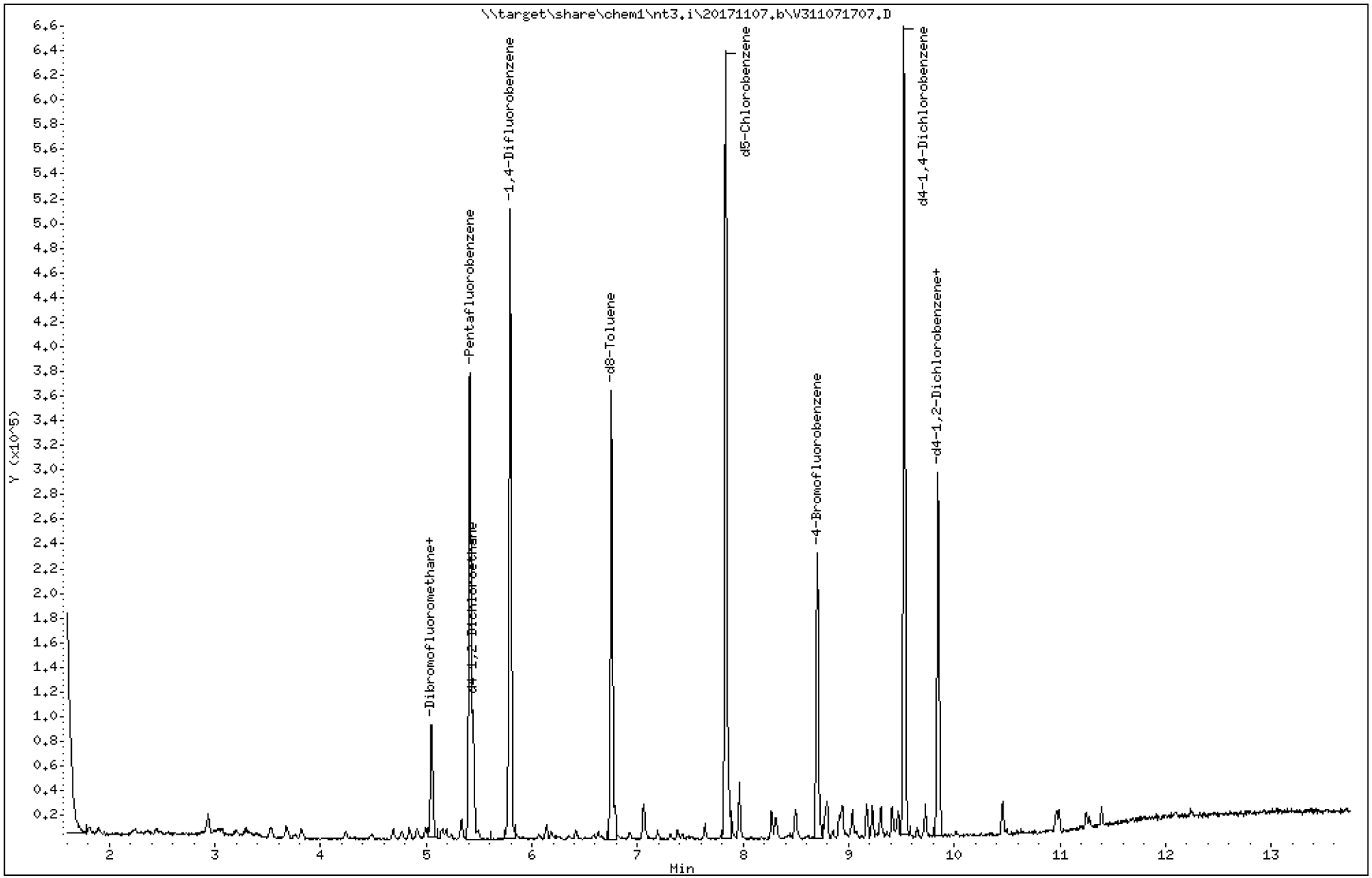
Instrument: nt3.i

Sample Info: SFK0116-CAL1

Operator: PC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20171107.b\V311071707.D
Lab Smp Id: SFK0116-CAL1
Inj Date : 07-NOV-2017 11:33
Operator : PC Inst ID: nt3.i
Smp Info : SFK0116-CAL1
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Meth Date : 07-Nov-2017 15:17 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 50 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	1 Dichlorodifluoromethane	85	1.656	1.667	(0.306)	2795	0.20000	0.2024(M)
	2 Chloromethane	50	1.810	1.811	(0.334)	5783	0.20000	0.2041
	3 Vinyl Chloride	62	1.890	1.907	(0.349)	4420	0.20000	0.1913
	4 Bromomethane	94	2.219	2.231	(0.410)	2307	0.20000	0.2161
	5 Chloroethane	64	2.363	2.364	(0.436)	2881	0.20000	0.2101(M)
	6 Trichlorofluoromethane	101	2.448	2.449	(0.452)	4254	0.20000	0.2024
	7 1,1-Dichloroethene	61	2.926	2.933	(0.541)	5940	0.20000	0.2092
	8 Carbon Disulfide	76	2.937	2.938	(0.542)	9353	0.20000	0.2188
	9 112Trichloro122Trifluoroethane	101	3.001	3.034	(0.554)	2752	0.20000	0.2089(M)
	10 Iodomethane	142	3.064	3.071	(0.566)	3915	0.20000	0.1997
	11 Bromoethane	108	3.197	3.204	(0.591)	1879	0.20000	0.1890
	12 Acrolein	56	3.314	3.321	(0.612)	2881	1.00000	1.292
	13 Methylene Chloride	84	3.532	3.528	(0.652)	2512	0.20000	0.1975
	14 Acetone	43	3.660	3.655	(0.676)	4080	1.00000	1.158
	15 Trans-1,2-Dichloroethene	96	3.676	3.687	(0.679)	2728	0.20000	0.1939
	17 Methyl tert butyl ether	73	3.814	3.815	(0.704)	5648	0.20000	0.2086
	18 1,1-Dichloroethane	63	4.239	4.240	(0.783)	5276	0.20000	0.1784
	19 Acrylonitrile	53	4.319	4.315	(0.798)	797	0.20000	0.1785(T)
	20 Vinyl Acetate	43	4.478	4.485	(0.827)	5613	0.20000	0.1817
	22 Cis-1,2-Dichloroethene	96	4.686	4.692	(0.866)	3159	0.20000	0.2155
	23 2,2-Dichloropropane	77	4.765	4.772	(0.880)	3447	0.20000	0.2025
	24 Bromochloromethane	128	4.856	4.846	(0.897)	1236	0.20000	0.1995(M)
	25 Chloroform	83	4.914	4.910	(0.908)	4093	0.20000	0.1864
	26 Carbon Tetrachloride	117	4.994	5.000	(0.862)	3534	0.20000	0.1960
$	27 Dibromofluoromethane	111	5.052	5.048	(0.933)	43720	5.00000	4.926
	28 1,1,1-Trichloroethane	97	5.052	5.053	(0.933)	3751	0.20000	0.1824
	30 1,1-Dichloropropene	75	5.143	5.149	(0.888)	3364	0.20000	0.1880
	29 2-Butanone	43	5.191	5.176	(0.959)	5977	1.00000	1.043
	31 Benzene	78	5.334	5.340	(0.921)	9726	0.20000	0.1860
*	32 Pentafluorobenzene	168	5.414	5.415	(1.000)	204267	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.440	5.447	(1.005)	51038	5.00000	4.810
	34 1,2-Dichloroethane	62	5.488	5.495	(0.948)	3714	0.20000	0.2090
	36 Trichloroethene	130	5.759	5.766	(0.994)	2680	0.20000	0.1829

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
*	37 1,4-Difluorobenzene	114	5.791	5.798	(1.000)	316990	10.0000	
	38 Dibromomethane	93	6.068	6.069	(1.048)	1069	0.20000	0.1826
	39 1,2-Dichloropropane	63	6.137	6.138	(1.060)	3187	0.20000	0.1963
	40 Bromodichloromethane	83	6.185	6.186	(1.068)	3238	0.20000	0.2009
	173 2-Pentanone	86	6.418	6.414	(1.108)	631	1.00000	0.5850
	41 2-Chloroethyl Vinyl Ether	63	6.578	6.590	(1.136)	1443	0.20000	0.2060(M)
	42 Cis 1,3-dichloropropene	75	6.626	6.627	(1.144)	3550	0.20000	0.1789
$	43 d8-Toluene	98	6.753	6.754	(1.166)	186025	5.00000	5.005
	44 Toluene	92	6.791	6.792	(1.173)	7021	0.20000	0.2052
	46 Tetrachloroethene	166	7.056	7.052	(0.901)	3269	0.20000	0.2082
	45 4-Methyl-2-Pentanone	58	7.056	7.057	(1.218)	3476	1.00000	0.7915(T)
	47 Trans 1,3-Dichloropropene	75	7.078	7.079	(1.222)	2889	0.20000	0.1804(T)
	48 1,1,2-Trichloroethane	97	7.195	7.190	(1.242)	2057	0.20000	0.2297
	49 Chlorodibromomethane	129	7.311	7.318	(0.933)	1686	0.20000	0.1582
	50 1,3-Dichloropropane	76	7.386	7.382	(0.943)	3525	0.20000	0.2218
	51 1,2-Dibromoethane	107	7.482	7.483	(1.292)	1409	0.20000	0.1679
	52 2-Hexanone	43	7.641	7.637	(0.976)	7184	1.00000	0.8549
*	53 d5-Chlorobenzene	117	7.832	7.833	(1.000)	291336	10.0000	
	54 Chlorobenzene	112	7.848	7.844	(1.002)	8011	0.20000	0.2007
	55 Ethyl Benzene	106	7.859	7.865	(1.003)	4175	0.20000	0.1932
	56 1,1,1,2-Tetrachloroethane	131	7.891	7.892	(1.007)	2364	0.20000	0.1739
	57 m,p-xylene	106	7.965	7.966	(1.017)	10026	0.40000	0.3785
	58 o-Xylene	106	8.268	8.269	(1.056)	5100	0.20000	0.1951
	59 Styrene	104	8.311	8.306	(1.061)	6417	0.20000	0.1595
	60 Bromoform	173	8.332	8.333	(0.875)	1228	0.20000	0.2066(T)
	61 Isopropyl Benzene	105	8.497	8.493	(0.892)	13053	0.20000	0.2052
$	62 4-Bromofluorobenzene	174	8.704	8.705	(1.111)	59586	5.00000	4.863
	63 Bromobenzene	156	8.779	8.780	(0.922)	3449	0.20000	0.2147
	64 N-Propyl Benzene	91	8.794	8.796	(0.924)	15676	0.20000	0.2125
	65 1,1,2,2-Tetrachloroethane	83	8.848	8.849	(0.929)	1584	0.20000	0.1671
	66 2-Chloro Toluene	91	8.911	8.912	(0.936)	10233	0.20000	0.2021
	67 1,3,5-Trimethyl Benzene	105	8.938	8.939	(0.939)	10965	0.20000	0.2009
	68 1,2,3-Trichloropropane	110	8.954	8.950	(0.940)	617	0.20000	0.2079(T)
	69 Trans-1,4-Dichloro 2-Butene	53	8.981	8.976	(0.943)	907	0.20000	0.1972
	70 4-Chloro Toluene	91	9.034	9.035	(0.949)	10106	0.20000	0.2108
	71 T-Butyl Benzene	119	9.172	9.173	(0.963)	9278	0.20000	0.2003
	72 1,2,4-Trimethylbenzene	105	9.225	9.226	(0.969)	11852	0.20000	0.2133
	73 S-Butyl Benzene	105	9.305	9.306	(0.977)	13698	0.20000	0.2092
	74 4-Isopropyl Toluene	119	9.406	9.412	(0.988)	11465	0.20000	0.1994
	75 1,3-Dichlorobenzene	146	9.470	9.471	(0.994)	6531	0.20000	0.2049
*	76 d4-1,4-Dichlorobenzene	152	9.523	9.524	(1.000)	142949	10.0000	
	77 1,4-Dichlorobenzene	146	9.539	9.534	(1.002)	6748	0.20000	0.2124
	78 N-Butyl Benzene	91	9.725	9.726	(1.021)	10892	0.20000	0.2198
$	79 d4-1,2-Dichlorobenzene	152	9.847	9.848	(1.034)	66242	5.00000	4.970
	80 1,2-Dichlorobenzene	146	9.852	9.853	(1.035)	5837	0.20000	0.2104
	81 1,2-Dibromo 3-Chloropropane	75	10.464	10.465	(1.099)	169	0.20000	0.1075
	83 Hexachloro 1,3-Butadiene	225	10.963	10.965	(1.151)	2216	0.20000	0.2862
	84 1,2,4-Trichlorobenzene	180	10.990	10.991	(1.154)	4223	0.20000	0.2543
	85 Naphthalene	128	11.245	11.251	(1.181)	8176	0.20000	0.3483
	86 1,2,3-Trichlorobenzene	180	11.394	11.395	(1.196)	3746	0.20000	0.3336

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311071707.D
Lab Smp Id: SFK0116-CAL1
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Misc Info: 16-

Calibration Date: 07-NOV-2017
Calibration Time: 13:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	204267	-2.18
37 1,4-Difluorobenze	319374	159687	638748	316990	-0.75
53 d5-Chlorobenzene	290356	145178	580712	291336	0.34
76 d4-1,4-Dichlorobe	151501	75751	303002	142949	-5.64

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.42	4.92	5.92	5.41	-0.02
37 1,4-Difluorobenze	5.80	5.30	6.30	5.79	-0.11
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	-0.01
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - V311071707.D

Lab ID: SFK0116-CAL1
nt3.i, 20171107.b\8260C110717.m,   07-NOV-2017 11:33

RT	CO-ELUTION COMPOUNDS
5.053	Dibromofluoromethane and 1,1,1-Trichloroethane

Quant Method: ICAL

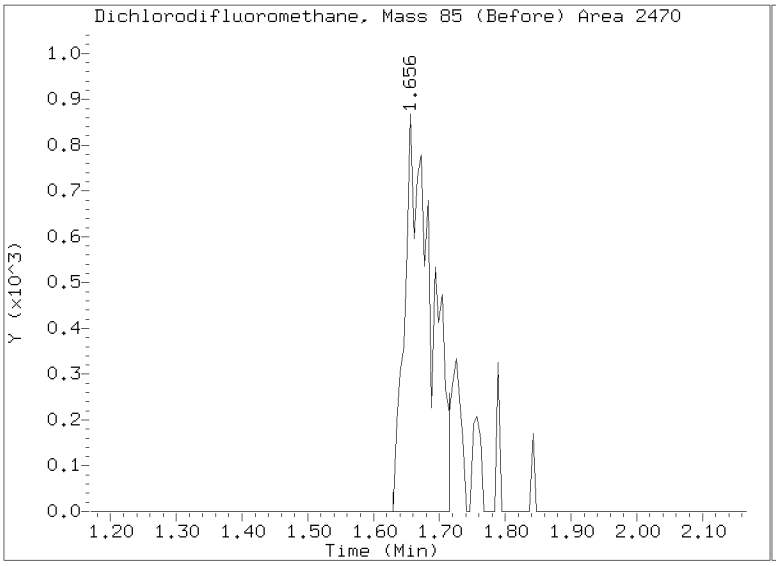
RRT CHECK

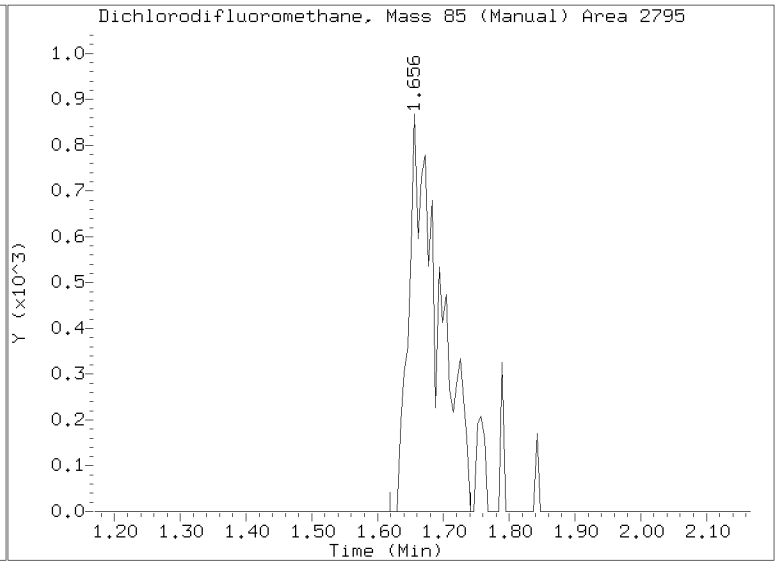
RRT	CCV RRT	DELTA	COMPOUND
NONE			

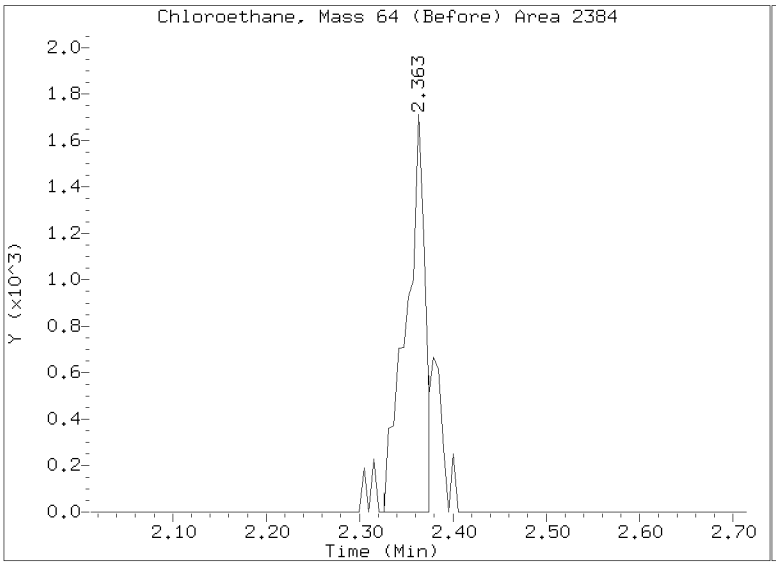
On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

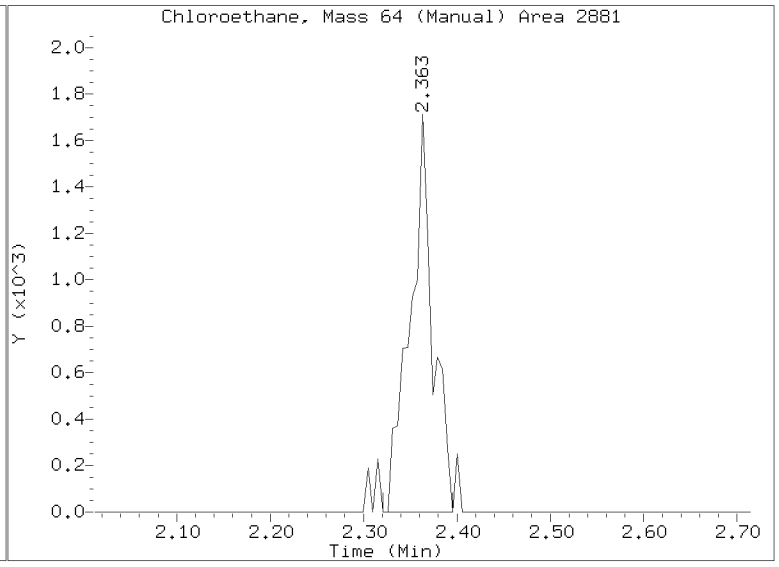
Quant Ion Manual Peak Adjustment Report

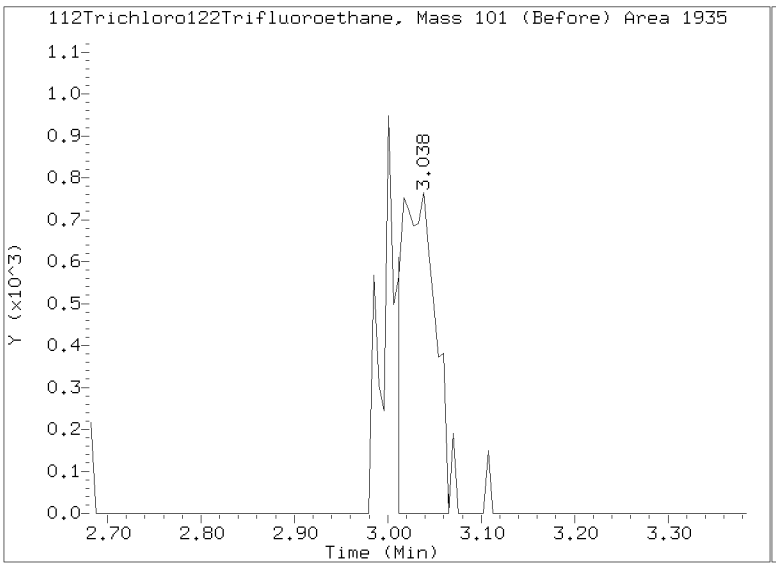
Datafile: //target/share/chem1/nt3.i/20171107.b/V311071707.D
Injection Date: 07-NOV-2017 11:33
Lab ID:SFK0116-CAL1 Client ID:
Report Date: 11/07/2017 15:17

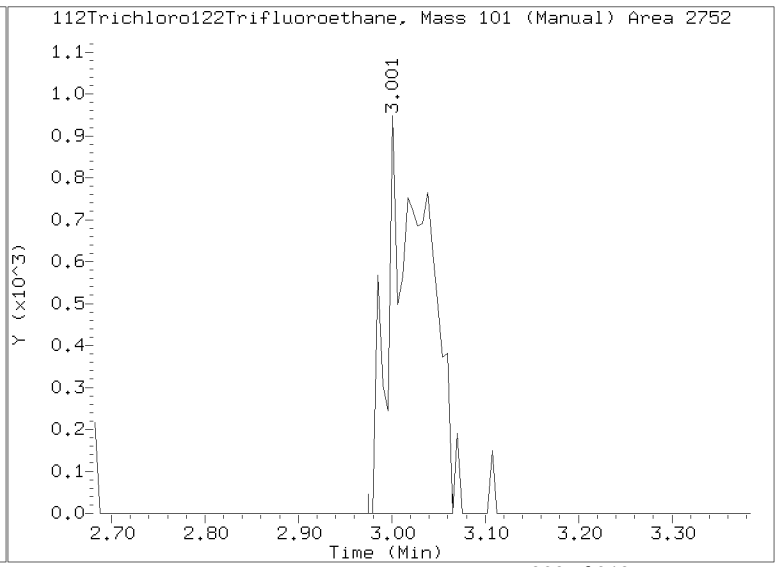






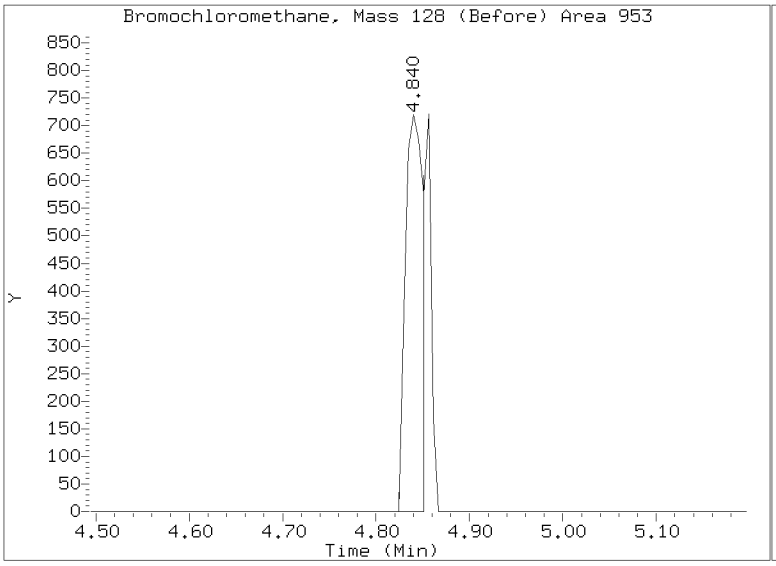


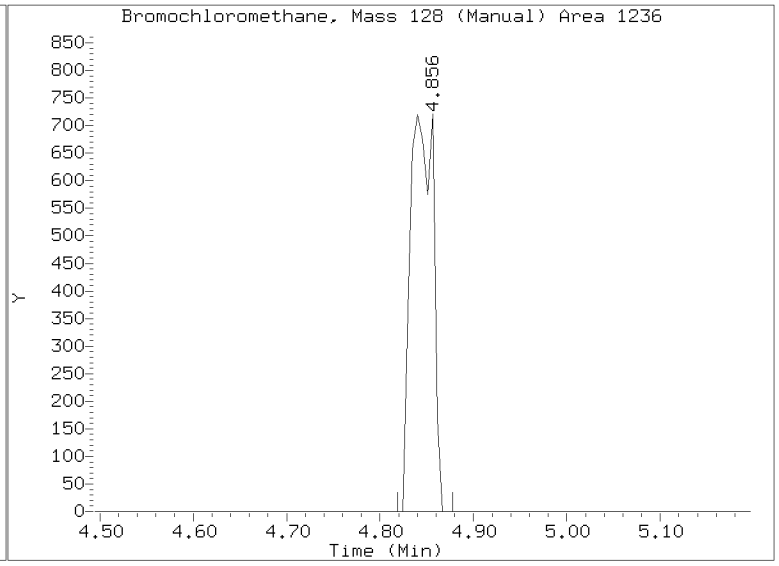


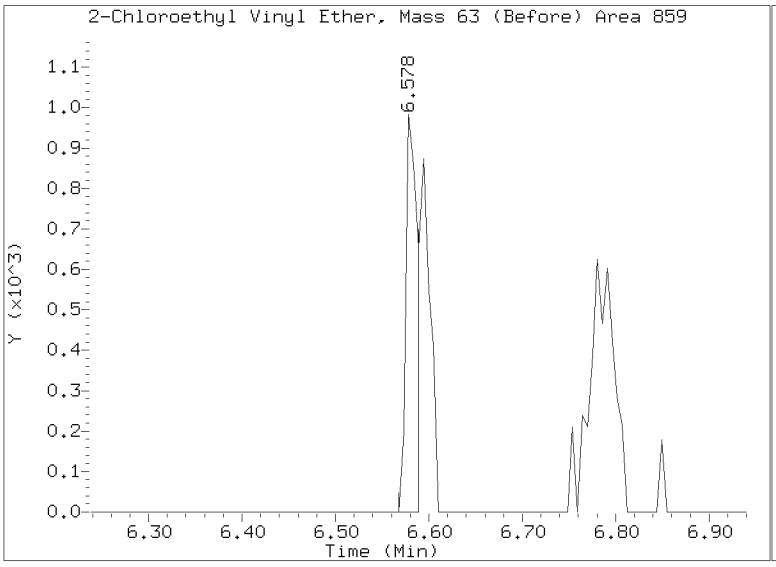


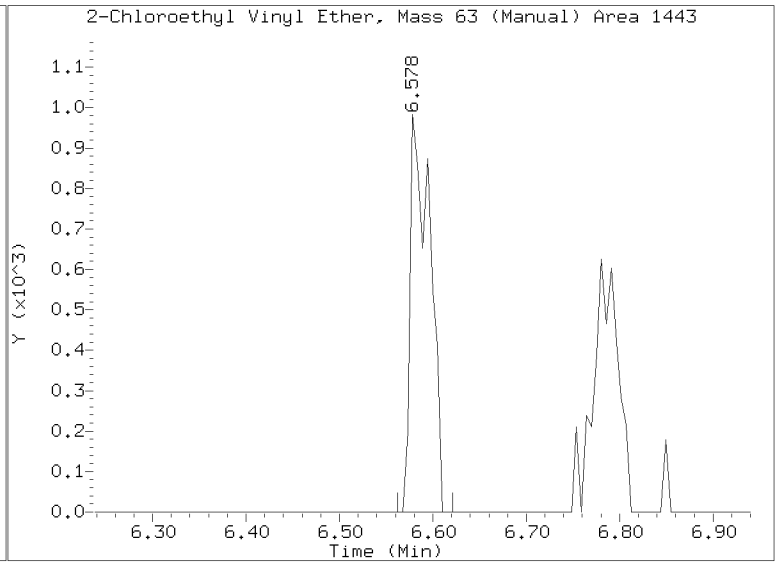
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20171107.b/V311071707.D
Injection Date: 07-NOV-2017 11:33
Lab ID:SFK0116-CAL1 Client ID:
Report Date: 11/07/2017 15:17









Data File: \\target\share\chem1\nt3.i\20171107.b\W311071708.D

Date : 07-NOV-2017 11:58

Client ID:

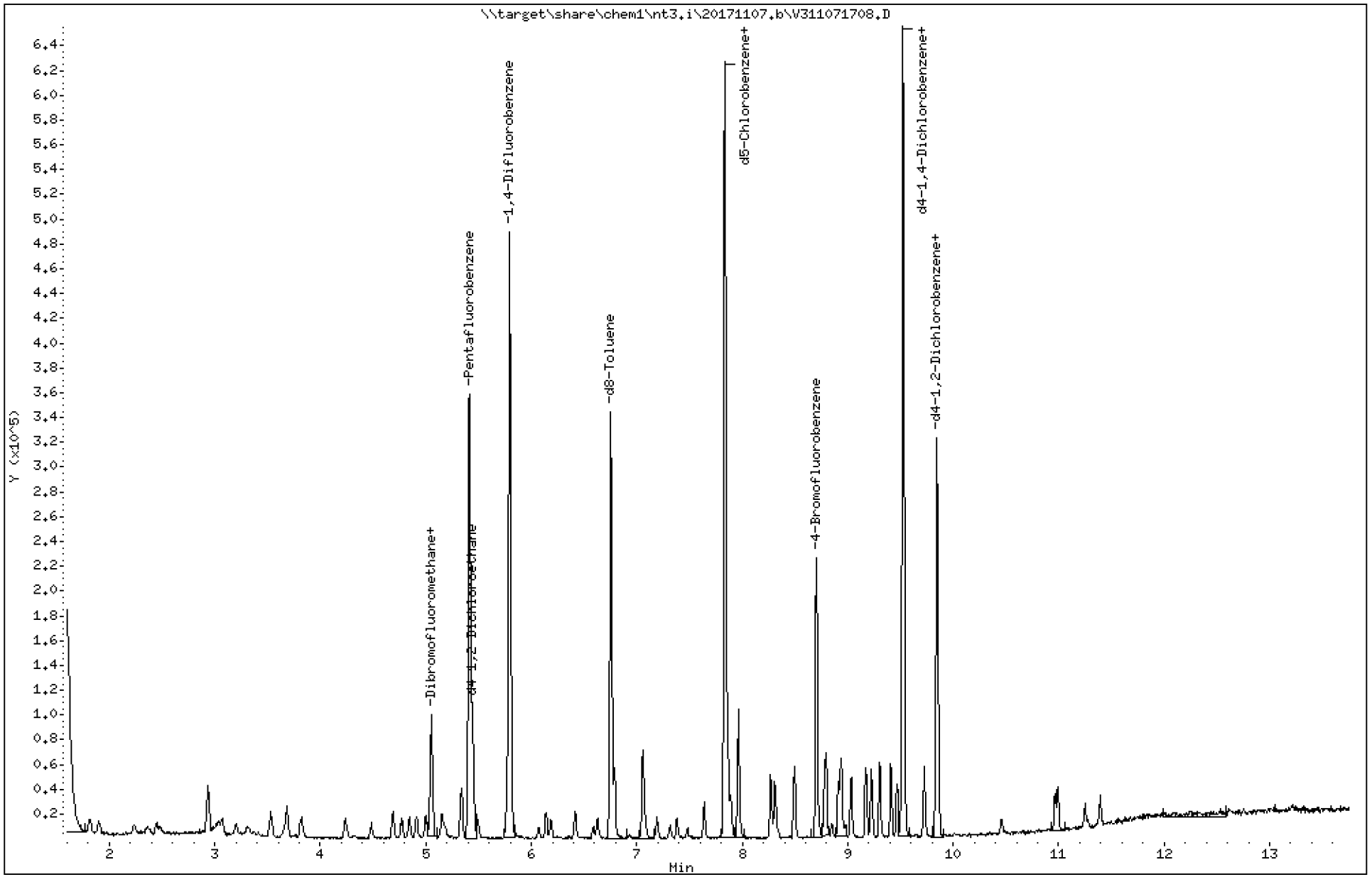
Sample Info: SFK0116-CAL2

Column phase: RTXVMS

Instrument: nt3.i

Operator: PC

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20171107.b\V311071708.D
Lab Smp Id: SFK0116-CAL2
Inj Date : 07-NOV-2017 11:58
Operator : PC Inst ID: nt3.i
Smp Info : SFK0116-CAL2
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Meth Date : 07-Nov-2017 15:17 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 11:33 Cal File: V311071707.D
Als bottle: 51 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	1 Dichlorodifluoromethane	85	1.673	1.667	(0.309)	7722	0.50000	0.6021(M)
	2 Chloromethane	50	1.816	1.811	(0.335)	14583	0.50000	0.5539
	3 Vinyl Chloride	62	1.896	1.907	(0.350)	11548	0.50000	0.5381
	4 Bromomethane	94	2.236	2.231	(0.413)	5394	0.50000	0.5439
	5 Chloroethane	64	2.359	2.364	(0.436)	6779	0.50000	0.5323(M)
	6 Trichlorofluoromethane	101	2.449	2.449	(0.452)	10719	0.50000	0.5489(M)
	7 1,1-Dichloroethene	61	2.933	2.933	(0.542)	14402	0.50000	0.5462
	8 Carbon Disulfide	76	2.938	2.938	(0.543)	21883	0.50000	0.5510
	9 112Trichloro122Trifluoroethane	101	3.034	3.034	(0.560)	6494	0.50000	0.5307
	10 Iodomethane	142	3.071	3.071	(0.567)	10148	0.50000	0.5571
	11 Bromoethane	108	3.198	3.204	(0.591)	5449	0.50000	0.5901
	12 Acrolein	56	3.321	3.321	(0.613)	5738	2.50000	2.770
	13 Methylene Chloride	84	3.533	3.528	(0.653)	6268	0.50000	0.5306
	14 Acetone	43	3.656	3.655	(0.675)	9896	2.50000	3.023
	15 Trans-1,2-Dichloroethene	96	3.682	3.687	(0.680)	7091	0.50000	0.5426
	17 Methyl tert butyl ether	73	3.820	3.815	(0.706)	12518	0.50000	0.4976
	18 1,1-Dichloroethane	63	4.235	4.240	(0.782)	15050	0.50000	0.5478
	19 Acrylonitrile	53	4.320	4.315	(0.798)	2133	0.50000	0.5141(T)
	20 Vinyl Acetate	43	4.485	4.485	(0.828)	14858	0.50000	0.5178
	22 Cis-1,2-Dichloroethene	96	4.687	4.692	(0.866)	7393	0.50000	0.5429
	23 2,2-Dichloropropane	77	4.772	4.772	(0.881)	8892	0.50000	0.5623
	24 Bromochloromethane	128	4.846	4.846	(0.895)	3135	0.50000	0.5447
	25 Chloroform	83	4.910	4.910	(0.907)	11077	0.50000	0.5430
	26 Carbon Tetrachloride	117	5.000	5.000	(0.862)	8802	0.50000	0.5191
$	27 Dibromofluoromethane	111	5.048	5.048	(0.932)	41599	5.00000	5.046
	28 1,1,1-Trichloroethane	97	5.059	5.053	(0.934)	10300	0.50000	0.5393
	30 1,1-Dichloropropene	75	5.149	5.149	(0.888)	8811	0.50000	0.5236
	29 2-Butanone	43	5.176	5.176	(0.956)	14607	2.50000	2.744(T)
	31 Benzene	78	5.335	5.340	(0.920)	25208	0.50000	0.5125
*	32 Pentafluorobenzene	168	5.415	5.415	(1.000)	189750	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.442	5.447	(1.005)	52010	5.00000	5.276
	34 1,2-Dichloroethane	62	5.495	5.495	(0.948)	8906	0.50000	0.5328
	36 Trichloroethene	130	5.766	5.766	(0.995)	7258	0.50000	0.5268

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
*	37 1,4-Difluorobenzene	114	5.798	5.798	(1.000)	298116	10.0000	
	38 Dibromomethane	93	6.069	6.069	(1.047)	2793	0.50000	0.5074
	39 1,2-Dichloropropane	63	6.138	6.138	(1.059)	7776	0.50000	0.5094
	40 Bromodichloromethane	83	6.186	6.186	(1.067)	7808	0.50000	0.5151
	173 2-Pentanone	86	6.420	6.414	(1.107)	2372	2.50000	2.338
	41 2-Chloroethyl Vinyl Ether	63	6.590	6.590	(1.137)	3038	0.50000	0.4612
	42 Cis 1,3-dichloropropene	75	6.627	6.627	(1.143)	9408	0.50000	0.5041
$	43 d8-Toluene	98	6.754	6.754	(1.165)	174348	5.00000	4.988
	44 Toluene	92	6.786	6.792	(1.171)	16410	0.50000	0.5099
	46 Tetrachloroethene	166	7.052	7.052	(0.900)	7853	0.50000	0.5419
	45 4-Methyl-2-Pentanone	58	7.057	7.057	(1.217)	9264	2.50000	2.243(T)
	47 Trans 1,3-Dichloropropene	75	7.084	7.079	(1.222)	7290	0.50000	0.4840(T)
	48 1,1,2-Trichloroethane	97	7.190	7.190	(1.240)	3944	0.50000	0.4684
	49 Chlorodibromomethane	129	7.318	7.318	(0.934)	4853	0.50000	0.4933
	50 1,3-Dichloropropane	76	7.382	7.382	(0.942)	6726	0.50000	0.4585
	51 1,2-Dibromoethane	107	7.483	7.483	(1.291)	4134	0.50000	0.5238
	52 2-Hexanone	43	7.637	7.637	(0.975)	19117	2.50000	2.465
*	53 d5-Chlorobenzene	117	7.833	7.833	(1.000)	268909	10.0000	
	54 Chlorobenzene	112	7.844	7.844	(1.001)	19266	0.50000	0.5229
	55 Ethyl Benzene	106	7.860	7.865	(1.003)	10148	0.50000	0.5089
	56 1,1,1,2-Tetrachloroethane	131	7.892	7.892	(1.007)	6393	0.50000	0.5094
	57 m,p-xylene	106	7.966	7.966	(1.017)	24690	1.00000	1.010
	58 o-Xylene	106	8.269	8.269	(1.056)	11962	0.50000	0.4957
	59 Styrene	104	8.307	8.306	(1.060)	18373	0.50000	0.4947
	60 Bromoform	173	8.333	8.333	(0.875)	2395	0.50000	0.4124
	61 Isopropyl Benzene	105	8.493	8.493	(0.892)	31507	0.50000	0.5068
$	62 4-Bromofluorobenzene	174	8.705	8.705	(1.111)	55434	5.00000	4.902
	63 Bromobenzene	156	8.785	8.780	(0.922)	8139	0.50000	0.5186
	64 N-Propyl Benzene	91	8.796	8.796	(0.924)	35963	0.50000	0.4990
	65 1,1,2,2-Tetrachloroethane	83	8.849	8.849	(0.929)	4503	0.50000	0.4861
	66 2-Chloro Toluene	91	8.907	8.912	(0.935)	25032	0.50000	0.5059
	67 1,3,5-Trimethyl Benzene	105	8.939	8.939	(0.939)	26441	0.50000	0.4958
	68 1,2,3-Trichloropropane	110	8.950	8.950	(0.940)	1440	0.50000	0.4965
	69 Trans-1,4-Dichloro 2-Butene	53	8.976	8.976	(0.943)	2207	0.50000	0.4911
	70 4-Chloro Toluene	91	9.035	9.035	(0.949)	23905	0.50000	0.5103
	71 T-Butyl Benzene	119	9.173	9.173	(0.963)	22610	0.50000	0.4997
	72 1,2,4-Trimethylbenzene	105	9.221	9.226	(0.968)	27017	0.50000	0.4976
	73 S-Butyl Benzene	105	9.306	9.306	(0.977)	33227	0.50000	0.5194
	74 4-Isopropyl Toluene	119	9.407	9.412	(0.988)	27381	0.50000	0.4874
	75 1,3-Dichlorobenzene	146	9.471	9.471	(0.994)	15533	0.50000	0.4989
*	76 d4-1,4-Dichlorobenzene	152	9.524	9.524	(1.000)	139668	10.0000	
	77 1,4-Dichlorobenzene	146	9.534	9.534	(1.001)	16057	0.50000	0.5172
	78 N-Butyl Benzene	91	9.726	9.726	(1.021)	24411	0.50000	0.5043
$	79 d4-1,2-Dichlorobenzene	152	9.848	9.848	(1.034)	64228	5.00000	4.932
	80 1,2-Dichlorobenzene	146	9.853	9.853	(1.035)	14652	0.50000	0.5406
	81 1,2-Dibromo 3-Chloropropane	75	10.459	10.465	(1.098)	942	0.50000	0.6136
	83 Hexachloro 1,3-Butadiene	225	10.964	10.965	(1.151)	4578	0.50000	0.6052
	84 1,2,4-Trichlorobenzene	180	10.991	10.991	(1.154)	8486	0.50000	0.5229
	85 Naphthalene	128	11.251	11.251	(1.181)	11327	0.50000	0.4939
	86 1,2,3-Trichlorobenzene	180	11.395	11.395	(1.196)	6125	0.50000	0.5582

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311071708.D
Lab Smp Id: SFK0116-CAL2
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Misc Info: 16-

Calibration Date: 07-NOV-2017
Calibration Time: 13:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	189750	-9.13
37 1,4-Difluorobenze	319374	159687	638748	298116	-6.66
53 d5-Chlorobenzene	290356	145178	580712	268909	-7.39
76 d4-1,4-Dichlorobe	151501	75751	303002	139668	-7.81

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.42	4.92	5.92	5.42	0.00
37 1,4-Difluorobenze	5.80	5.30	6.30	5.80	0.00
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	0.00
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - V311071708.D

Lab ID: SFK0116-CAL2
nt3.i, 20171107.b\8260C110717.m,   07-NOV-2017 11:58

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

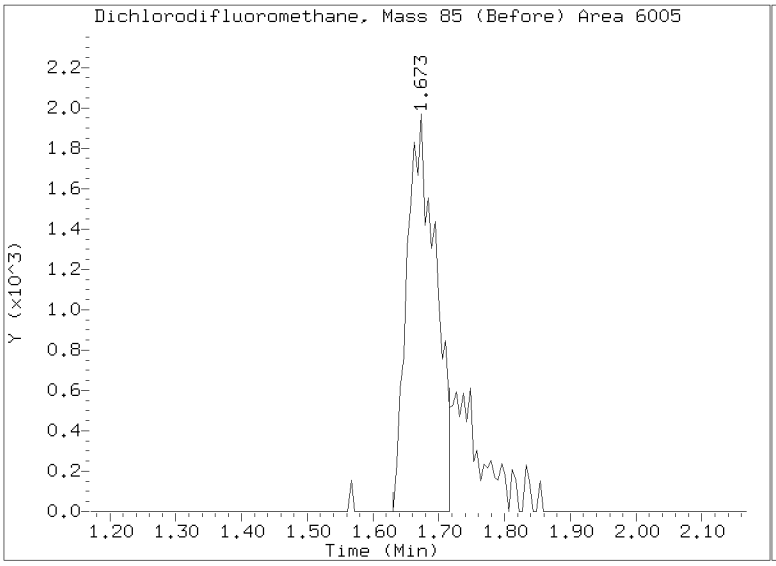
RRT	CCV RRT	DELTA	COMPOUND

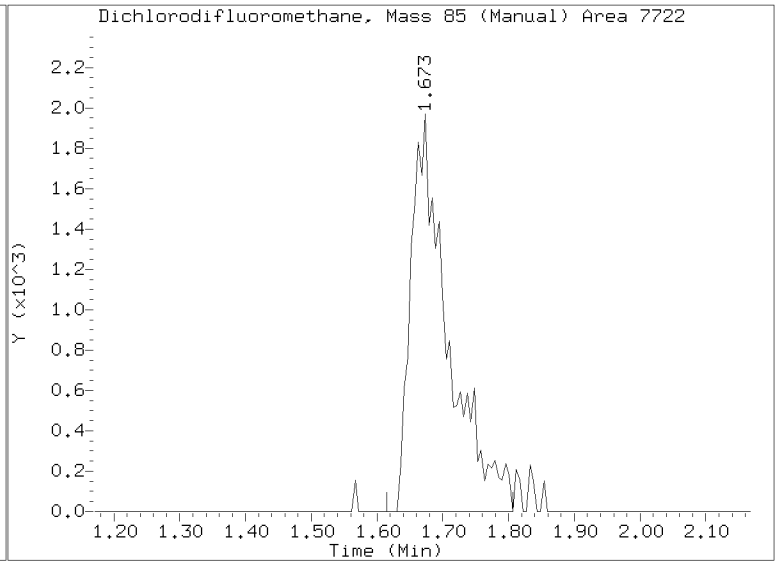
NONE

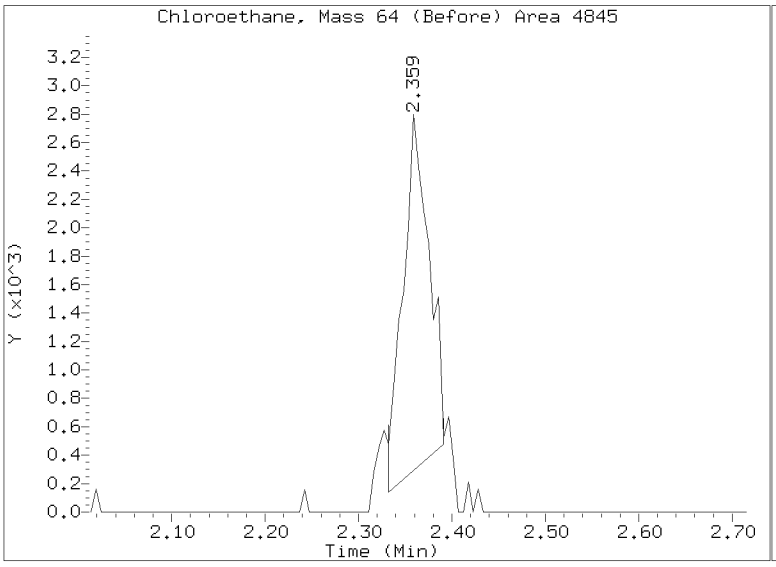
On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

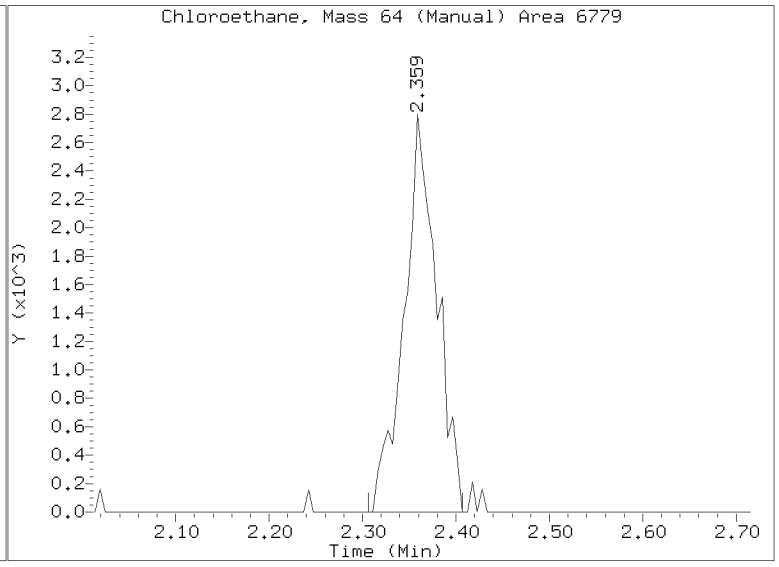
Quant Ion Manual Peak Adjustment Report

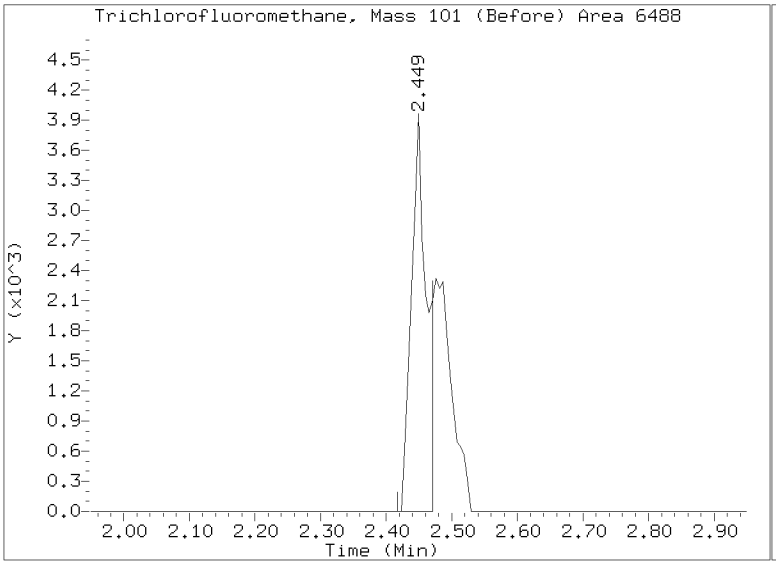
Datafile: //target/share/chem1/nt3.i/20171107.b/V311071708.D
Injection Date: 07-NOV-2017 11:58
Lab ID:SFK0116-CAL2 Client ID:
Report Date: 11/07/2017 15:17

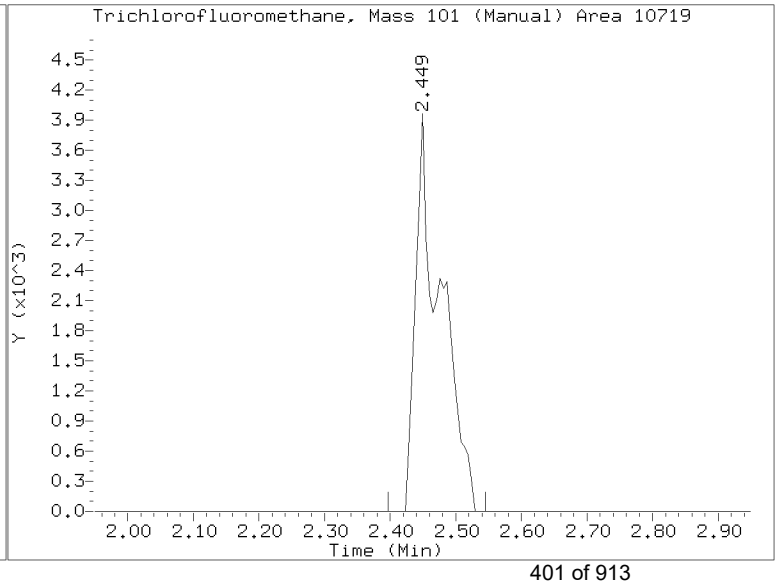












Data File: \\target\share\chem1\nt3.i\20171107.b\W311071709.D

Date : 07-NOV-2017 12:24

Client ID:

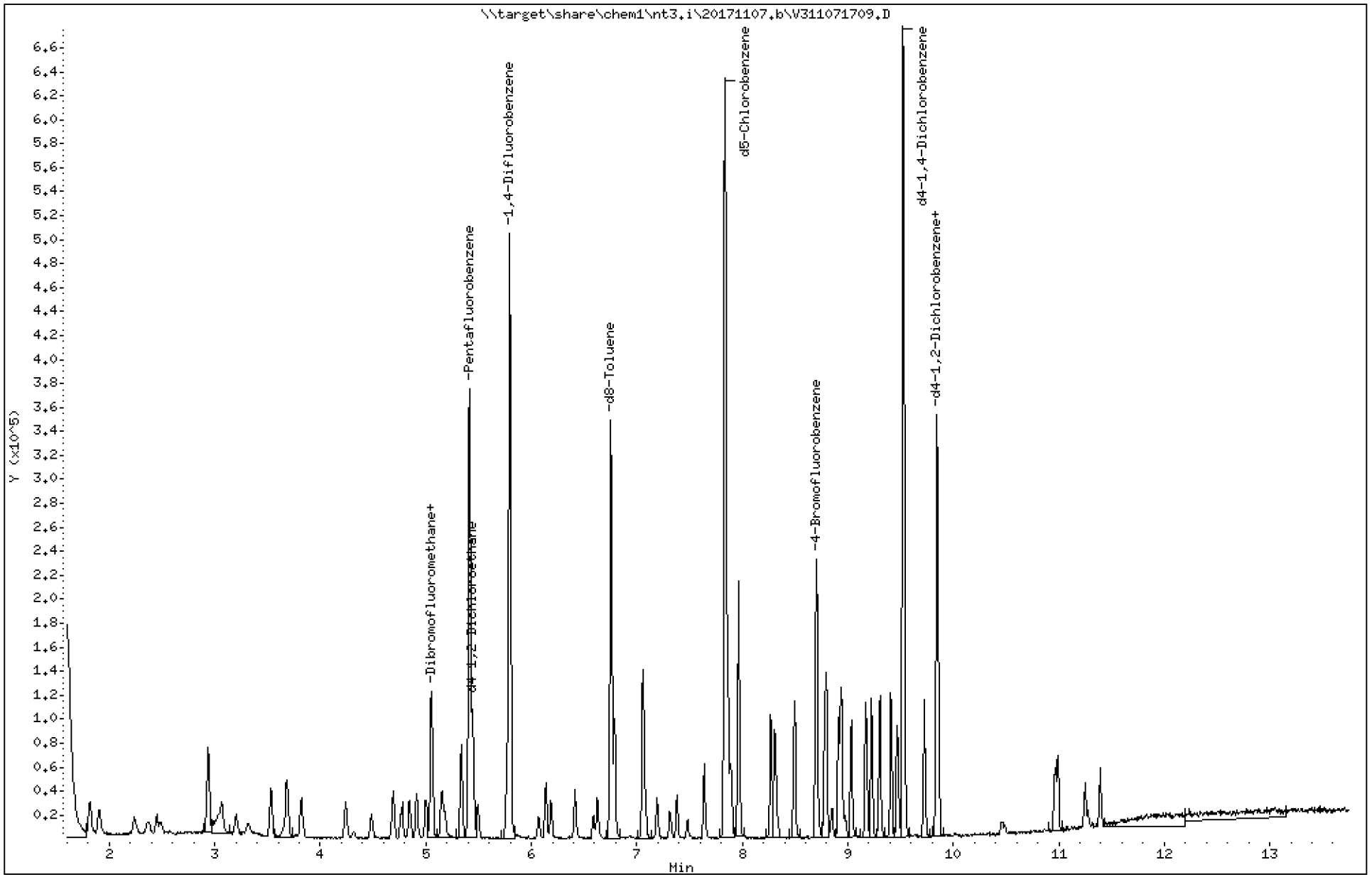
Sample Info: SFK0116-CAL3

Column phase: RTXVMS

Instrument: nt3.i

Operator: PC

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20171107.b\V311071709.D
Lab Smp Id: SFK0116-CAL3
Inj Date : 07-NOV-2017 12:24
Operator : PC Inst ID: nt3.i
Smp Info : SFK0116-CAL3
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Meth Date : 07-Nov-2017 15:17 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 11:58 Cal File: V311071708.D
Als bottle: 52 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	1 Dichlorodifluoromethane	85	1.667	1.667	(0.308)	13832	1.00000	1.029(M)
	2 Chloromethane	50	1.810	1.811	(0.334)	29734	1.00000	1.078
	3 Vinyl Chloride	62	1.906	1.907	(0.352)	22696	1.00000	1.009
	4 Bromomethane	94	2.236	2.231	(0.413)	11225	1.00000	1.080
	5 Chloroethane	64	2.363	2.364	(0.437)	13717	1.00000	1.028(M)
	6 Trichlorofluoromethane	101	2.448	2.449	(0.452)	20742	1.00000	1.013(M)
	7 1,1-Dichloroethene	61	2.932	2.933	(0.542)	28460	1.00000	1.030
	8 Carbon Disulfide	76	2.937	2.938	(0.543)	41952	1.00000	1.008
	9 112Trichloro122Trifluoroethane	101	3.044	3.034	(0.562)	13167	1.00000	1.027
	10 Iodomethane	142	3.070	3.071	(0.567)	19588	1.00000	1.026
	11 Bromoethane	108	3.198	3.204	(0.591)	9940	1.00000	1.027
	12 Acrolein	56	3.325	3.321	(0.614)	10762	5.00000	4.957(M)
	13 Methylene Chloride	84	3.533	3.528	(0.652)	12995	1.00000	1.049
	14 Acetone	43	3.649	3.655	(0.674)	18037	5.00000	5.256
	15 Trans-1,2-Dichloroethene	96	3.681	3.687	(0.680)	14791	1.00000	1.080
	17 Methyl tert butyl ether	73	3.820	3.815	(0.705)	25995	1.00000	0.9859
	18 1,1-Dichloroethane	63	4.239	4.240	(0.783)	28927	1.00000	1.005
	19 Acrylonitrile	53	4.319	4.315	(0.798)	4597	1.00000	1.057
	20 Vinyl Acetate	43	4.484	4.485	(0.828)	29548	1.00000	0.9825
	22 Cis-1,2-Dichloroethene	96	4.686	4.692	(0.866)	13796	1.00000	0.9666
	23 2,2-Dichloropropane	77	4.771	4.772	(0.881)	16506	1.00000	0.9959
	24 Bromochloromethane	128	4.845	4.846	(0.895)	6107	1.00000	1.012
	25 Chloroform	83	4.915	4.910	(0.908)	21541	1.00000	1.007
	26 Carbon Tetrachloride	117	5.005	5.000	(0.863)	17896	1.00000	1.022
$	27 Dibromofluoromethane	111	5.047	5.048	(0.932)	43274	5.00000	5.008
	28 1,1,1-Trichloroethane	97	5.058	5.053	(0.934)	20493	1.00000	1.024
	30 1,1-Dichloropropene	75	5.154	5.149	(0.889)	17844	1.00000	1.027
	29 2-Butanone	43	5.180	5.176	(0.957)	28840	5.00000	5.170(T)
	31 Benzene	78	5.340	5.340	(0.921)	53536	1.00000	1.054
*	32 Pentafluorobenzene	168	5.414	5.415	(1.000)	198886	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.441	5.447	(1.005)	53083	5.00000	5.138
	34 1,2-Dichloroethane	62	5.494	5.495	(0.948)	17391	1.00000	1.008
	36 Trichloroethene	130	5.765	5.766	(0.994)	14150	1.00000	0.9946

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/L)	ON-COL (ug/L)
*	37	1,4-Difluorobenzene	114	5.797	5.798	(1.000)	307818	10.0000	
	38	Dibromomethane	93	6.063	6.069	(1.046)	5846	1.00000	1.029
	39	1,2-Dichloropropane	63	6.137	6.138	(1.059)	16118	1.00000	1.023
	40	Bromodichloromethane	83	6.185	6.186	(1.067)	15817	1.00000	1.011
	173	2-Pentanone	86	6.414	6.414	(1.106)	4708	5.00000	4.495
	41	2-Chloroethyl Vinyl Ether	63	6.594	6.590	(1.138)	6678	1.00000	0.9818
	42	Cis 1,3-dichloropropene	75	6.626	6.627	(1.143)	19182	1.00000	0.9954
$	43	d8-Toluene	98	6.754	6.754	(1.165)	175781	5.00000	4.871
	44	Toluene	92	6.791	6.792	(1.171)	32553	1.00000	0.9796
	46	Tetrachloroethene	166	7.051	7.052	(0.900)	15258	1.00000	1.024
	45	4-Methyl-2-Pentanone	58	7.062	7.057	(1.218)	19395	5.00000	4.548(T)
	47	Trans 1,3-Dichloropropene	75	7.083	7.079	(1.222)	14844	1.00000	0.9544(T)
	48	1,1,2-Trichloroethane	97	7.195	7.190	(1.241)	8256	1.00000	0.9496
	49	Chlorodibromomethane	129	7.312	7.318	(0.933)	9870	1.00000	0.9754
	50	1,3-Dichloropropane	76	7.381	7.382	(0.942)	15157	1.00000	1.004
	51	1,2-Dibromoethane	107	7.477	7.483	(1.290)	8391	1.00000	1.030
	52	2-Hexanone	43	7.641	7.637	(0.976)	37772	5.00000	4.734
*	53	d5-Chlorobenzene	117	7.833	7.833	(1.000)	276598	10.0000	
	54	Chlorobenzene	112	7.849	7.844	(1.002)	39130	1.00000	1.033
	55	Ethyl Benzene	106	7.865	7.865	(1.004)	19894	1.00000	0.9699
	56	1,1,1,2-Tetrachloroethane	131	7.891	7.892	(1.007)	12955	1.00000	1.004
	57	m,p-xylene	106	7.966	7.966	(1.017)	50445	2.00000	2.006
	58	o-Xylene	106	8.269	8.269	(1.056)	24123	1.00000	0.9718
	59	Styrene	104	8.306	8.306	(1.060)	34646	1.00000	0.9070
	60	Bromoform	173	8.332	8.333	(0.875)	5497	1.00000	0.9430
	61	Isopropyl Benzene	105	8.497	8.493	(0.892)	63087	1.00000	1.011
$	62	4-Bromofluorobenzene	174	8.704	8.705	(1.111)	59536	5.00000	5.118
	63	Bromobenzene	156	8.779	8.780	(0.922)	16602	1.00000	1.054
	64	N-Propyl Benzene	91	8.795	8.796	(0.924)	74640	1.00000	1.032
	65	1,1,2,2-Tetrachloroethane	83	8.848	8.849	(0.929)	9974	1.00000	1.073
	66	2-Chloro Toluene	91	8.912	8.912	(0.936)	51229	1.00000	1.032
	67	1,3,5-Trimethyl Benzene	105	8.938	8.939	(0.939)	54155	1.00000	1.012
	68	1,2,3-Trichloropropane	110	8.954	8.950	(0.940)	2804	1.00000	0.9633
	69	Trans-1,4-Dichloro 2-Butene	53	8.976	8.976	(0.943)	4488	1.00000	0.9950
	70	4-Chloro Toluene	91	9.034	9.035	(0.949)	48918	1.00000	1.041
	71	T-Butyl Benzene	119	9.172	9.173	(0.963)	46604	1.00000	1.026
	72	1,2,4-Trimethylbenzene	105	9.225	9.226	(0.969)	54253	1.00000	0.9956
	73	S-Butyl Benzene	105	9.305	9.306	(0.977)	66344	1.00000	1.033
	74	4-Isopropyl Toluene	119	9.411	9.412	(0.988)	57656	1.00000	1.023
	75	1,3-Dichlorobenzene	146	9.470	9.471	(0.994)	32916	1.00000	1.053
*	76	d4-1,4-Dichlorobenzene	152	9.523	9.524	(1.000)	140175	10.0000	
	77	1,4-Dichlorobenzene	146	9.539	9.534	(1.002)	32622	1.00000	1.047
	78	N-Butyl Benzene	91	9.725	9.726	(1.021)	50033	1.00000	1.030
$	79	d4-1,2-Dichlorobenzene	152	9.847	9.848	(1.034)	65782	5.00000	5.033
	80	1,2-Dichlorobenzene	146	9.853	9.853	(1.035)	27769	1.00000	1.021
	81	1,2-Dibromo 3-Chloropropane	75	10.469	10.465	(1.099)	1820	1.00000	1.181
	83	Hexachloro 1,3-Butadiene	225	10.969	10.965	(1.152)	8136	1.00000	1.072
	84	1,2,4-Trichlorobenzene	180	10.990	10.991	(1.154)	17470	1.00000	1.073
	85	Naphthalene	128	11.251	11.251	(1.181)	23490	1.00000	1.021
	86	1,2,3-Trichlorobenzene	180	11.394	11.395	(1.196)	11023	1.00000	1.001

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311071709.D
Lab Smp Id: SFK0116-CAL3
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Misc Info: 16-

Calibration Date: 07-NOV-2017
Calibration Time: 13:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	198886	-4.76
37 1,4-Difluorobenze	319374	159687	638748	307818	-3.62
53 d5-Chlorobenzene	290356	145178	580712	276598	-4.74
76 d4-1,4-Dichlorobe	151501	75751	303002	140175	-7.48

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.42	4.92	5.92	5.41	-0.01
37 1,4-Difluorobenze	5.80	5.30	6.30	5.80	-0.01
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	-0.01
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - V311071709.D

Lab ID: SFK0116-CAL3
nt3.i, 20171107.b\8260C110717.m,   07-NOV-2017 12:24

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

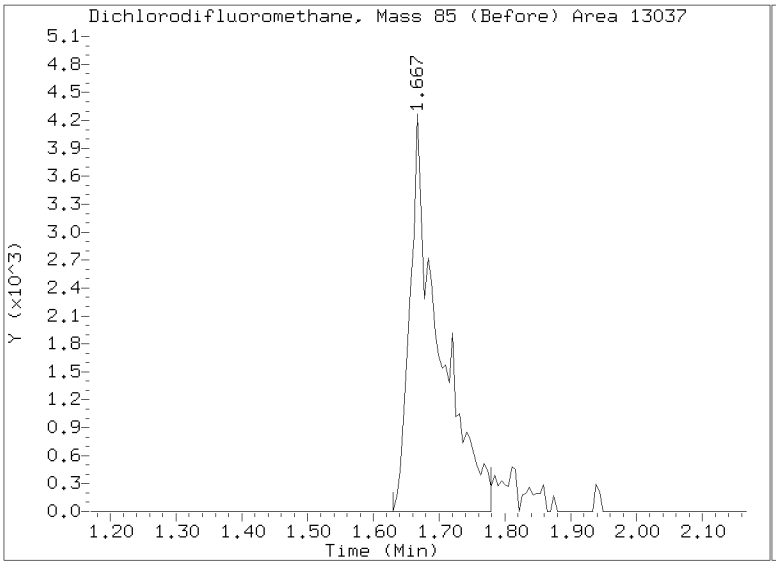
RRT	CCV RRT	DELTA	COMPOUND

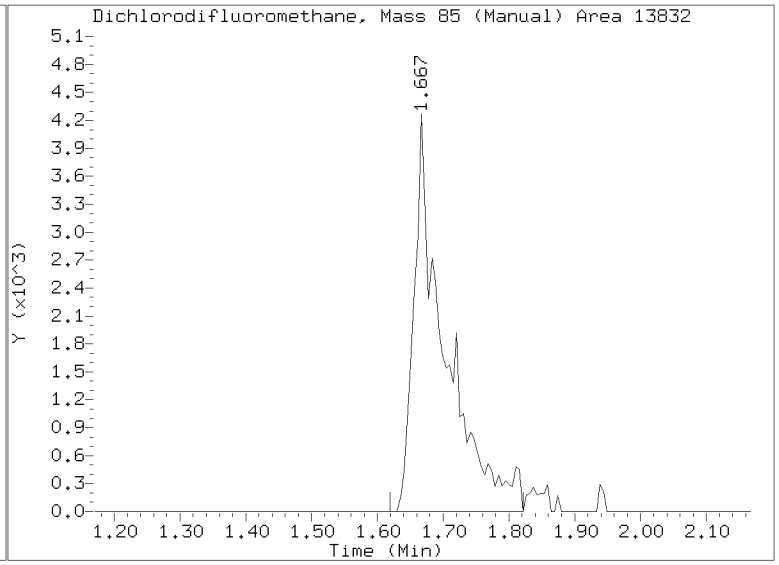
NONE

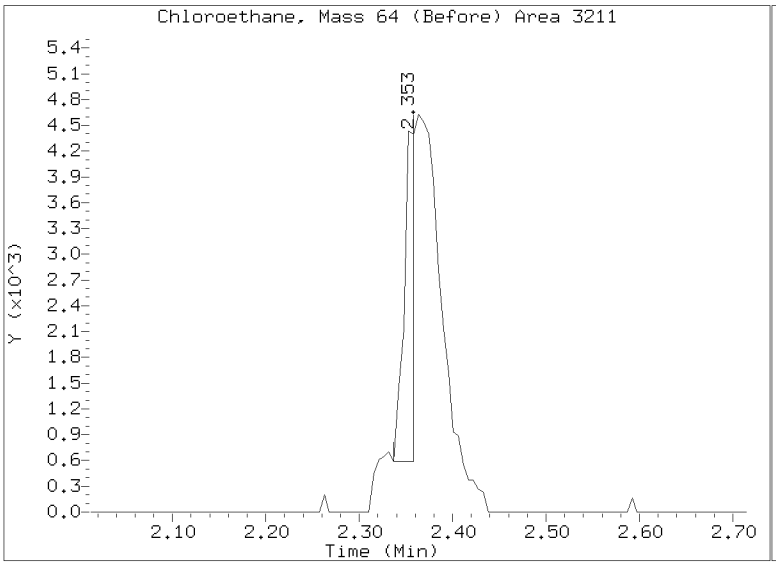
On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

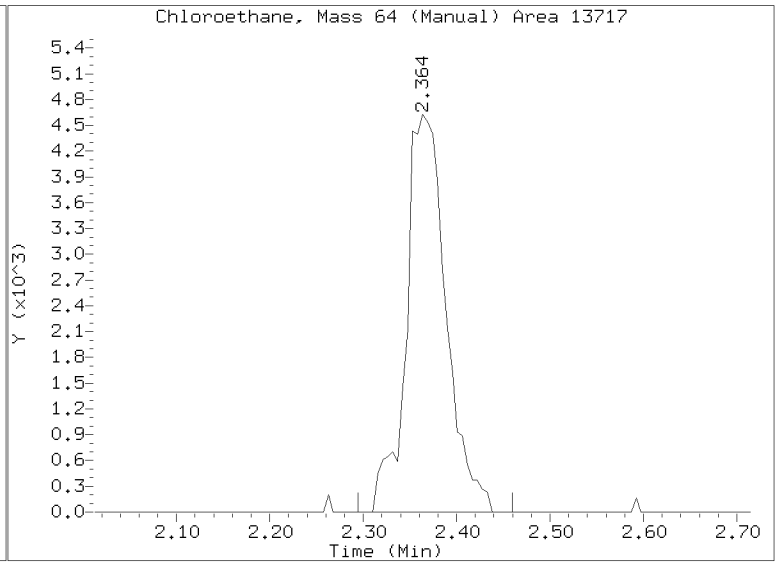
Quant Ion Manual Peak Adjustment Report

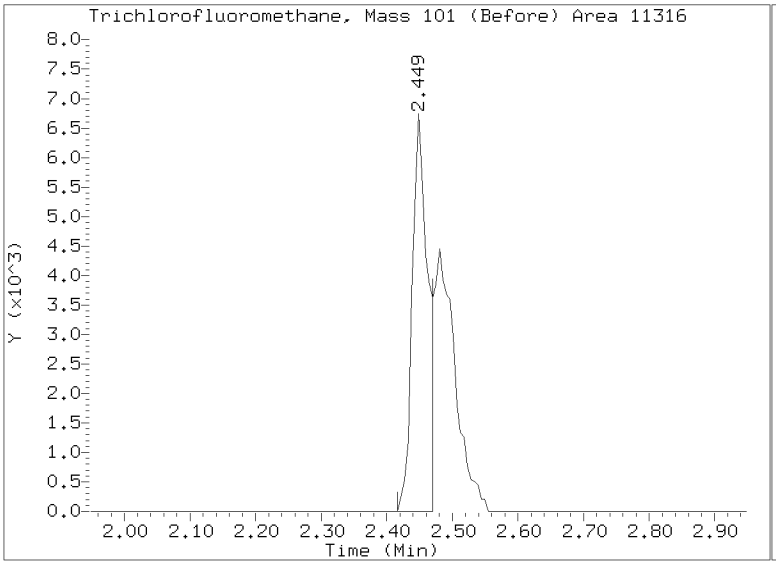
Datafile: //target/share/chem1/nt3.i/20171107.b/V311071709.D
Injection Date: 07-NOV-2017 12:24
Lab ID:SFK0116-CAL3 Client ID:
Report Date: 11/07/2017 15:17

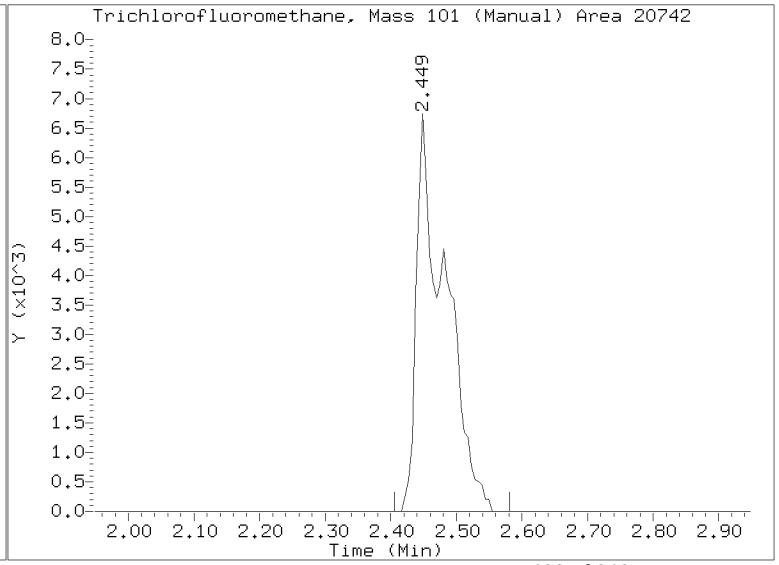






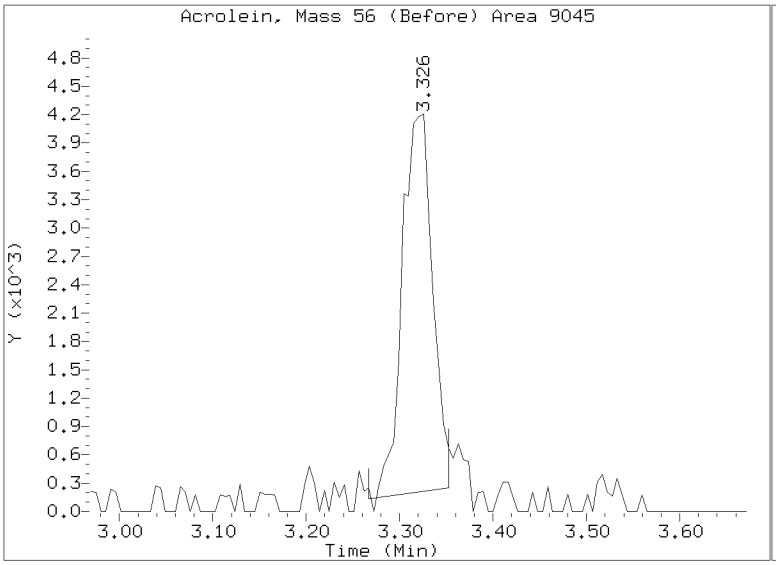


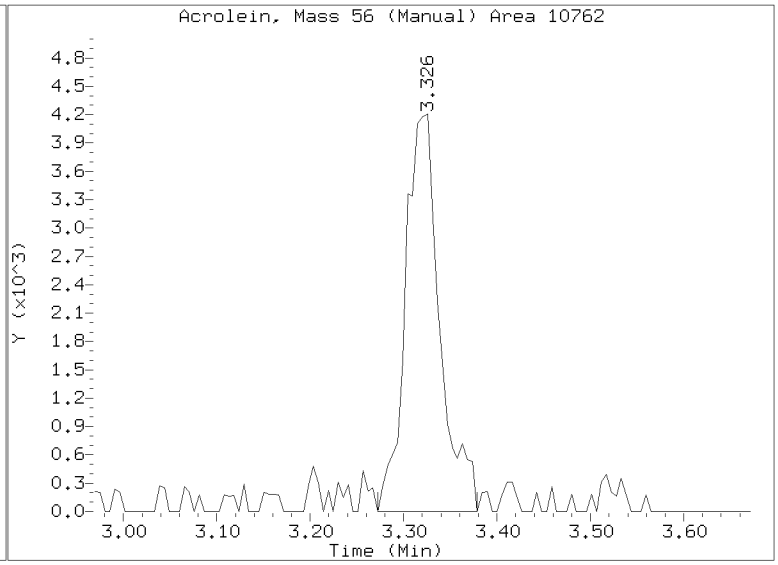




Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20171107.b/V311071709.D
Injection Date: 07-NOV-2017 12:24
Lab ID:SFK0116-CAL3 Client ID:
Report Date: 11/07/2017 15:17





Data File: \\target\share\chem1\nt3.i\20171107.b\W311071710.D

Date : 07-NOV-2017 12:49

Client ID:

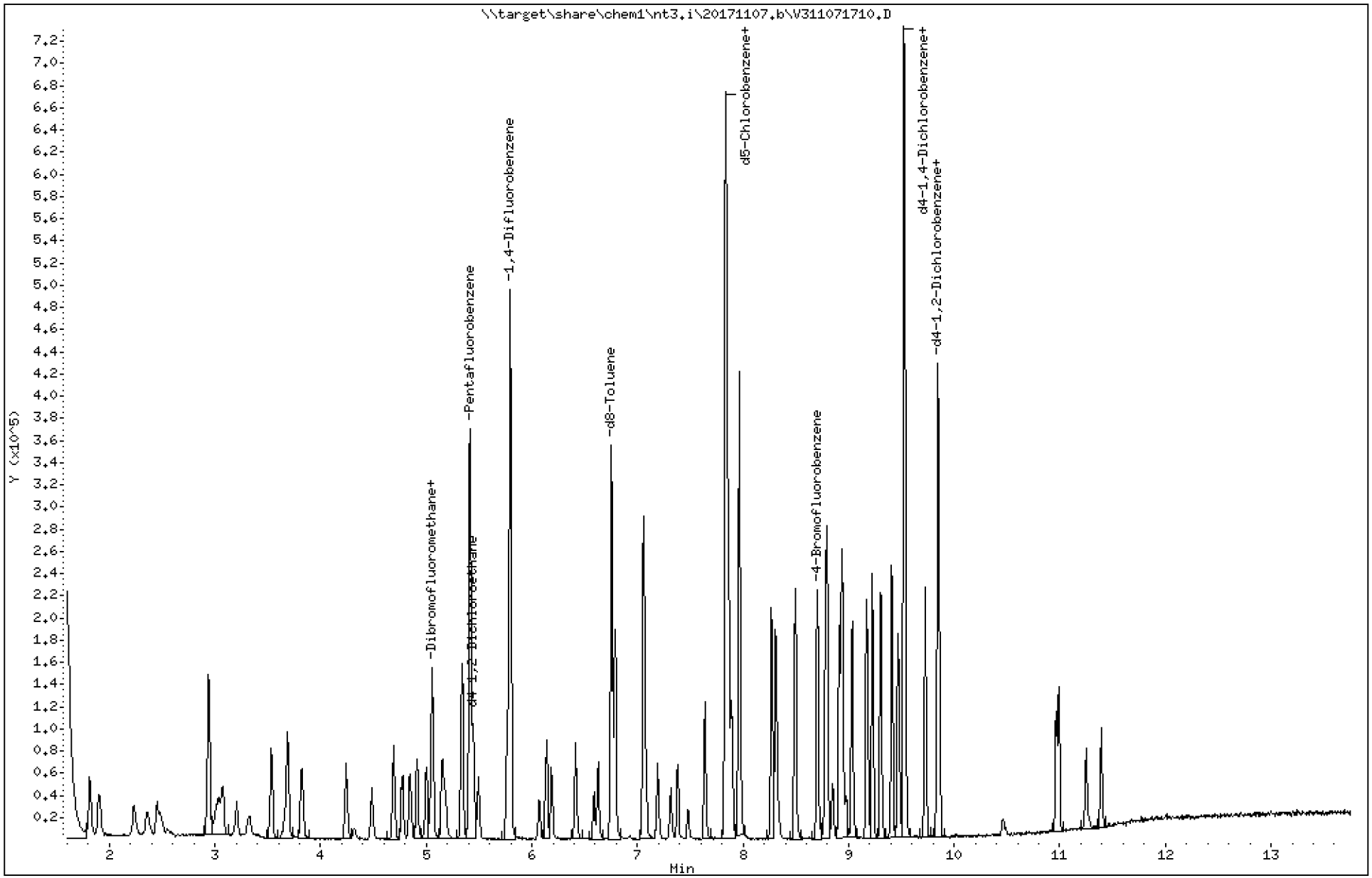
Sample Info: SFK0116-CAL4

Column phase: RTXVMS

Instrument: nt3.i

Operator: PC

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20171107.b\V311071710.D
Lab Smp Id: SFK0116-CAL4
Inj Date : 07-NOV-2017 12:49
Operator : PC Inst ID: nt3.i
Smp Info : SFK0116-CAL4
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Meth Date : 07-Nov-2017 15:17 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 12:24 Cal File: V311071709.D
Als bottle: 53 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	1 Dichlorodifluoromethane	85	1.667	1.667	(0.308)	28096	2.00000	2.103(M)
	2 Chloromethane	50	1.811	1.811	(0.334)	55215	2.00000	2.013
	3 Vinyl Chloride	62	1.901	1.907	(0.351)	44246	2.00000	1.979
	4 Bromomethane	94	2.231	2.231	(0.412)	20842	2.00000	2.017
	5 Chloroethane	64	2.364	2.364	(0.437)	26395	2.00000	1.989
	6 Trichlorofluoromethane	101	2.449	2.449	(0.452)	40793	2.00000	2.005
	7 1,1-Dichloroethene	61	2.938	2.933	(0.543)	54932	2.00000	1.999
	8 Carbon Disulfide	76	2.943	2.938	(0.544)	83524	2.00000	2.019
	9 112Trichloro122Trifluoroethane	101	3.039	3.034	(0.561)	26016	2.00000	2.041
	10 Iodomethane	142	3.071	3.071	(0.567)	38117	2.00000	2.009
	11 Bromoethane	108	3.203	3.204	(0.592)	19661	2.00000	2.044
	12 Acrolein	56	3.326	3.321	(0.614)	23524	10.0000	10.901
	13 Methylene Chloride	84	3.533	3.528	(0.653)	25165	2.00000	2.045
	14 Acetone	43	3.655	3.655	(0.675)	37362	10.0000	10.953
	15 Trans-1,2-Dichloroethene	96	3.687	3.687	(0.681)	27221	2.00000	1.999
	17 Methyl tert butyl ether	73	3.820	3.815	(0.706)	53709	2.00000	2.049
	18 1,1-Dichloroethane	63	4.240	4.240	(0.783)	59722	2.00000	2.086
	19 Acrylonitrile	53	4.314	4.315	(0.797)	9351	2.00000	2.163
	20 Vinyl Acetate	43	4.484	4.485	(0.828)	59898	2.00000	2.004
	22 Cis-1,2-Dichloroethene	96	4.692	4.692	(0.867)	28209	2.00000	1.988
	23 2,2-Dichloropropane	77	4.771	4.772	(0.881)	34794	2.00000	2.112
	24 Bromochloromethane	128	4.851	4.846	(0.896)	11674	2.00000	1.947
	25 Chloroform	83	4.915	4.910	(0.908)	43082	2.00000	2.027
	26 Carbon Tetrachloride	117	5.000	5.000	(0.863)	34562	2.00000	2.024
$	27 Dibromofluoromethane	111	5.053	5.048	(0.933)	43354	5.00000	5.047
	28 1,1,1-Trichloroethane	97	5.059	5.053	(0.934)	40431	2.00000	2.032
	30 1,1-Dichloropropene	75	5.149	5.149	(0.889)	34274	2.00000	2.022
	29 2-Butanone	43	5.175	5.176	(0.956)	56202	10.0000	10.135
	31 Benzene	78	5.340	5.340	(0.922)	103525	2.00000	2.089
*	32 Pentafluorobenzene	168	5.415	5.415	(1.000)	197696	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.441	5.447	(1.005)	52728	5.00000	5.134
	34 1,2-Dichloroethane	62	5.494	5.495	(0.949)	34724	2.00000	2.062
	36 Trichloroethene	130	5.765	5.766	(0.995)	29175	2.00000	2.102

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/L)	ON-COL (ug/L)
*	37	1,4-Difluorobenzene	114	5.792	5.798	(1.000)	300285	10.0000	
	38	Dibromomethane	93	6.074	6.069	(1.049)	11339	2.00000	2.045
	39	1,2-Dichloropropane	63	6.138	6.138	(1.060)	30973	2.00000	2.014
	40	Bromodichloromethane	83	6.185	6.186	(1.068)	31104	2.00000	2.037
	173	2-Pentanone	86	6.414	6.414	(1.107)	10492	10.0000	10.269
	41	2-Chloroethyl Vinyl Ether	63	6.589	6.590	(1.138)	14020	2.00000	2.113
	42	Cis 1,3-dichloropropene	75	6.627	6.627	(1.144)	38307	2.00000	2.038
$	43	d8-Toluene	98	6.754	6.754	(1.166)	176933	5.00000	5.025
	44	Toluene	92	6.791	6.792	(1.173)	66054	2.00000	2.038
	46	Tetrachloroethene	166	7.052	7.052	(1.000)	29300	2.00000	2.007
	45	4-Methyl-2-Pentanone	58	7.057	7.057	(1.218)	41590	10.0000	9.997
	47	Trans 1,3-Dichloropropene	75	7.084	7.079	(1.223)	30488	2.00000	2.009(T)
	48	1,1,2-Trichloroethane	97	7.190	7.190	(1.241)	18050	2.00000	2.128
	49	Chlorodibromomethane	129	7.312	7.318	(1.000)	20192	2.00000	2.038
	50	1,3-Dichloropropane	76	7.381	7.382	(1.000)	29975	2.00000	2.029
	51	1,2-Dibromoethane	107	7.482	7.483	(1.292)	16600	2.00000	2.088
	52	2-Hexanone	43	7.637	7.637	(1.000)	81148	10.0000	10.387
*	53	d5-Chlorobenzene	117	7.833	7.833	(1.000)	270828	10.0000	(M)
	54	Chlorobenzene	112	7.844	7.844	(1.000)	74889	2.00000	2.018
	55	Ethyl Benzene	106	7.860	7.865	(1.000)	41036	2.00000	2.043
	56	1,1,1,2-Tetrachloroethane	131	7.892	7.892	(1.000)	26141	2.00000	2.068
	57	m,p-xylene	106	7.966	7.966	(1.000)	101884	4.00000	4.138
	58	o-Xylene	106	8.269	8.269	(1.000)	49397	2.00000	2.032
	59	Styrene	104	8.306	8.306	(1.000)	76648	2.00000	2.049
	60	Bromoform	173	8.333	8.333	(0.875)	11578	2.00000	1.960
	61	Isopropyl Benzene	105	8.492	8.493	(0.892)	129697	2.00000	2.051
$	62	4-Bromofluorobenzene	174	8.705	8.705	(1.000)	56487	5.00000	4.959
	63	Bromobenzene	156	8.779	8.780	(0.922)	31611	2.00000	1.980
	64	N-Propyl Benzene	91	8.795	8.796	(0.924)	150601	2.00000	2.055
	65	1,1,2,2-Tetrachloroethane	83	8.848	8.849	(0.929)	19242	2.00000	2.042
	66	2-Chloro Toluene	91	8.912	8.912	(0.936)	102593	2.00000	2.039
	67	1,3,5-Trimethyl Benzene	105	8.939	8.939	(0.939)	109881	2.00000	2.026
	68	1,2,3-Trichloropropane	110	8.949	8.950	(0.940)	6063	2.00000	2.055
	69	Trans-1,4-Dichloro 2-Butene	53	8.976	8.976	(0.943)	9079	2.00000	1.986
	70	4-Chloro Toluene	91	9.034	9.035	(0.949)	96930	2.00000	2.035
	71	T-Butyl Benzene	119	9.173	9.173	(0.963)	93676	2.00000	2.036
	72	1,2,4-Trimethylbenzene	105	9.226	9.226	(0.969)	110252	2.00000	1.996
	73	S-Butyl Benzene	105	9.306	9.306	(0.977)	133874	2.00000	2.058
	74	4-Isopropyl Toluene	119	9.407	9.412	(0.988)	120146	2.00000	2.103
	75	1,3-Dichlorobenzene	146	9.470	9.471	(0.994)	65563	2.00000	2.070
*	76	d4-1,4-Dichlorobenzene	152	9.524	9.524	(1.000)	142052	10.0000	
	77	1,4-Dichlorobenzene	146	9.534	9.534	(1.001)	63966	2.00000	2.026
	78	N-Butyl Benzene	91	9.725	9.726	(1.021)	101157	2.00000	2.055
$	79	d4-1,2-Dichlorobenzene	152	9.848	9.848	(1.034)	65335	5.00000	4.933
	80	1,2-Dichlorobenzene	146	9.853	9.853	(1.035)	55447	2.00000	2.012
	81	1,2-Dibromo 3-Chloropropane	75	10.464	10.465	(1.099)	2974	2.00000	1.905
	83	Hexachloro 1,3-Butadiene	225	10.964	10.965	(1.151)	16712	2.00000	2.172
	84	1,2,4-Trichlorobenzene	180	10.991	10.991	(1.154)	33357	2.00000	2.021
	85	Naphthalene	128	11.251	11.251	(1.181)	48186	2.00000	2.066
	86	1,2,3-Trichlorobenzene	180	11.395	11.395	(1.196)	23400	2.00000	2.097

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311071710.D
Lab Smp Id: SFK0116-CAL4
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Misc Info: 16-

Calibration Date: 07-NOV-2017
Calibration Time: 13:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	197696	-5.33
37 1,4-Difluorobenze	319374	159687	638748	300285	-5.98
53 d5-Chlorobenzene	290356	145178	580712	270828	-6.73
76 d4-1,4-Dichlorobe	151501	75751	303002	142052	-6.24

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.42	4.92	5.92	5.42	-0.00
37 1,4-Difluorobenze	5.80	5.30	6.30	5.79	-0.10
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	-0.00
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - V311071710.D

Lab ID: SFK0116-CAL4
nt3.i, 20171107.b\8260C110717.m,   07-NOV-2017 12:49

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

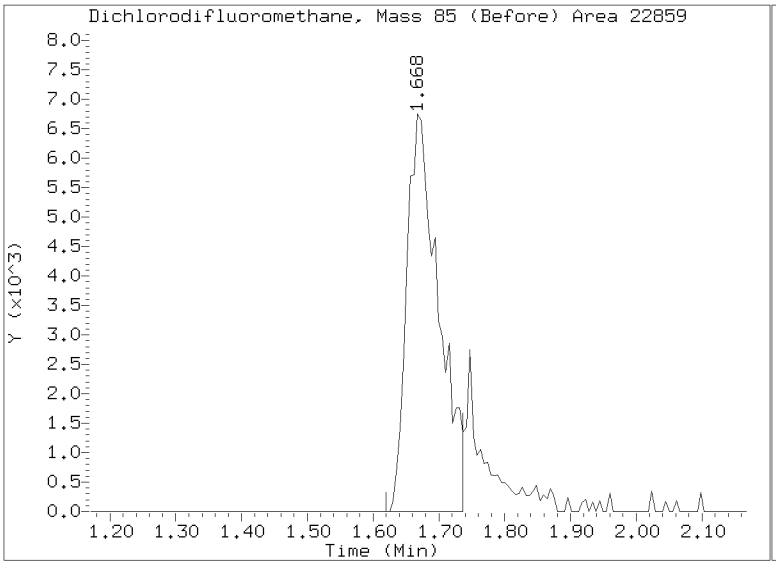
RRT	CCV RRT	DELTA	COMPOUND

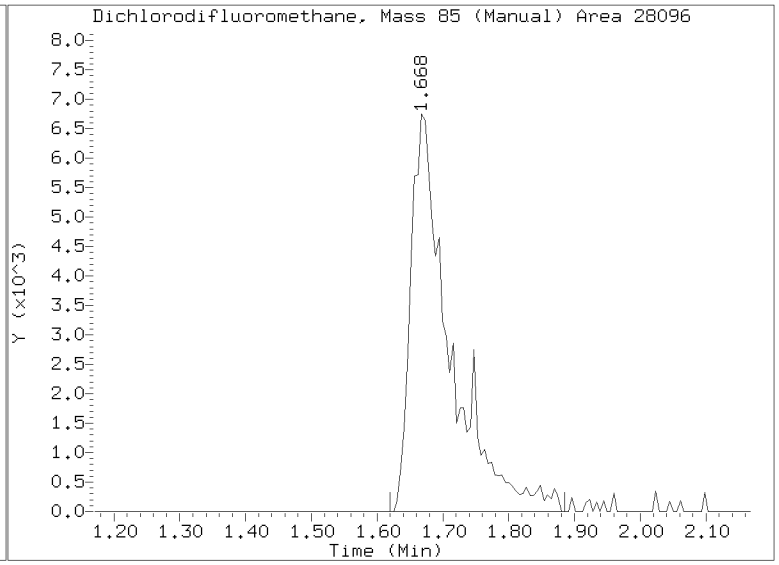
NONE

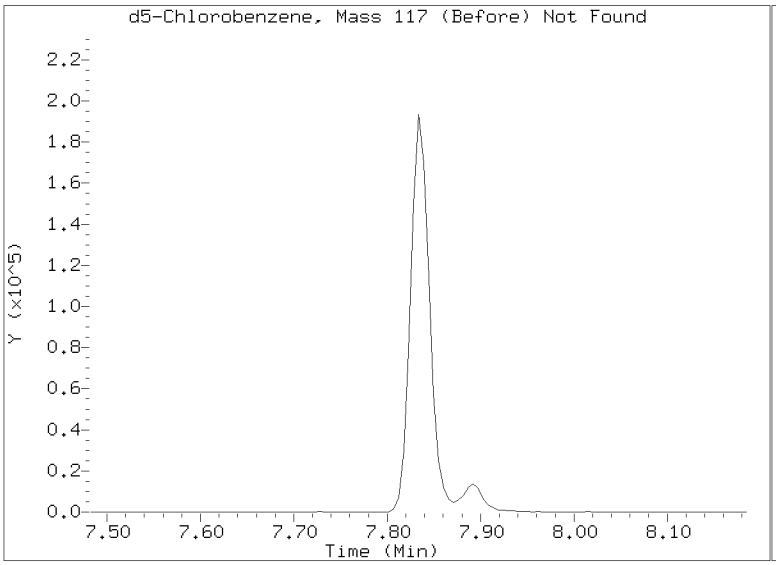
On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

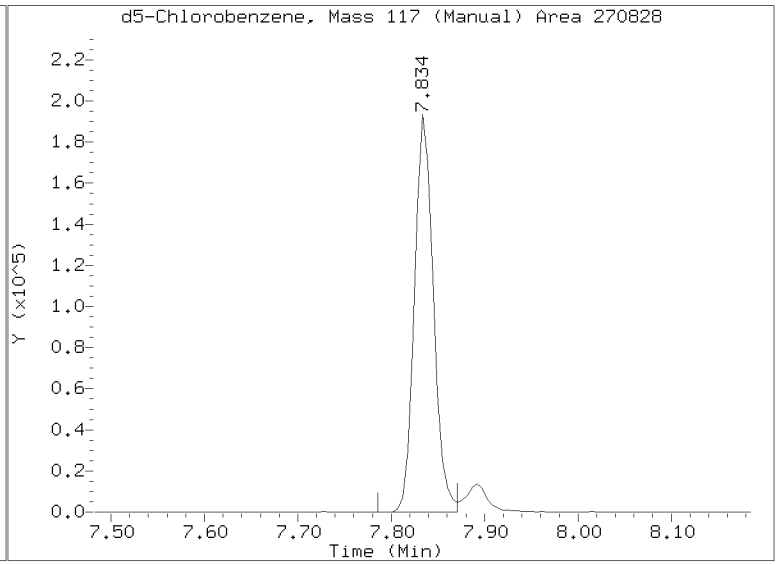
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20171107.b/V311071710.D
Injection Date: 07-NOV-2017 12:49
Lab ID:SFK0116-CAL4 Client ID:
Report Date: 11/07/2017 15:17









Data File: \\target\share\chem1\nt3.i\20171107.b\W311071711.D

Date : 07-NOV-2017 13:14

Client ID:

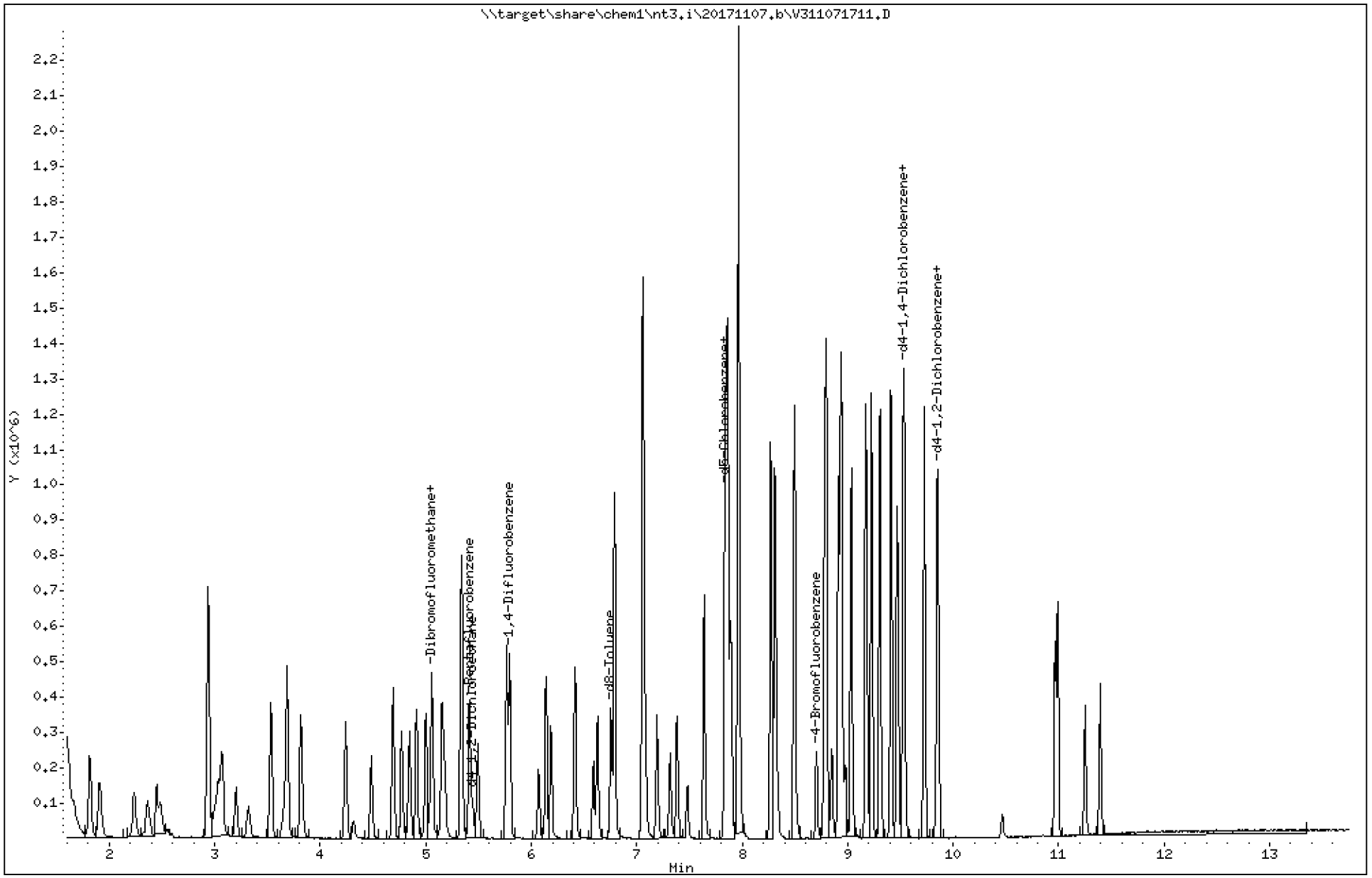
Sample Info: SFK0116-CAL5

Column phase: RTXVMS

Instrument: nt3.i

Operator: PC

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20171107.b\V311071711.D
Lab Smp Id: SFK0116-CAL5
Inj Date : 07-NOV-2017 13:14
Operator : PC Inst ID: nt3.i
Smp Info : SFK0116-CAL5
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Meth Date : 07-Nov-2017 15:17 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 12:49 Cal File: V311071710.D
Als bottle: 54 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	1 Dichlorodifluoromethane	85	1.667	1.667	(0.308)	132272	10.0000	9.371
	2 Chloromethane	50	1.811	1.811	(0.335)	278048	10.0000	9.597
	3 Vinyl Chloride	62	1.907	1.907	(0.352)	230348	10.0000	9.752
	4 Bromomethane	94	2.231	2.231	(0.412)	108443	10.0000	9.936
	5 Chloroethane	64	2.364	2.364	(0.437)	136280	10.0000	9.723
	6 Trichlorofluoromethane	101	2.449	2.449	(0.452)	206691	10.0000	9.618(M)
	7 1,1-Dichloroethene	61	2.933	2.933	(0.542)	280675	10.0000	9.672
	8 Carbon Disulfide	76	2.938	2.938	(0.543)	418594	10.0000	9.577
	9 112Trichloro122Trifluoroethane	101	3.034	3.034	(0.560)	131058	10.0000	9.731
	10 Iodomethane	142	3.071	3.071	(0.567)	198920	10.0000	9.923
	11 Bromoethane	108	3.204	3.204	(0.592)	98779	10.0000	9.720
	12 Acrolein	56	3.321	3.321	(0.613)	107792	50.0000	47.290
	13 Methylene Chloride	84	3.528	3.528	(0.652)	127449	10.0000	9.803
	14 Acetone	43	3.655	3.655	(0.675)	182219	50.0000	50.572
	15 Trans-1,2-Dichloroethene	96	3.687	3.687	(0.681)	136047	10.0000	9.459
	17 Methyl tert butyl ether	73	3.815	3.815	(0.705)	279206	10.0000	10.085
	18 1,1-Dichloroethane	63	4.240	4.240	(0.783)	298582	10.0000	9.875
	19 Acrylonitrile	53	4.315	4.315	(0.797)	44800	10.0000	9.812
	20 Vinyl Acetate	43	4.485	4.485	(0.828)	318022	10.0000	10.071
	22 Cis-1,2-Dichloroethene	96	4.692	4.692	(0.867)	146519	10.0000	9.777
	23 2,2-Dichloropropane	77	4.772	4.772	(0.881)	173468	10.0000	9.968
	24 Bromochloromethane	128	4.846	4.846	(0.895)	62561	10.0000	9.876
	25 Chloroform	83	4.910	4.910	(0.907)	222697	10.0000	9.919
	26 Carbon Tetrachloride	117	5.000	5.000	(0.862)	180980	10.0000	9.963
$	27 Dibromofluoromethane	111	5.048	5.048	(0.932)	44778	5.00000	4.935
	28 1,1,1-Trichloroethane	97	5.053	5.053	(0.933)	202613	10.0000	9.640
	30 1,1-Dichloropropene	75	5.149	5.149	(0.888)	178481	10.0000	9.899
	29 2-Butanone	43	5.176	5.176	(0.956)	296317	50.0000	50.586
	31 Benzene	78	5.340	5.340	(0.921)	535983	10.0000	10.171
*	32 Pentafluorobenzene	168	5.415	5.415	(1.000)	208826	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.447	5.447	(1.006)	52540	5.00000	4.843
	34 1,2-Dichloroethane	62	5.495	5.495	(0.948)	177150	10.0000	9.892
	36 Trichloroethene	130	5.766	5.766	(0.994)	148566	10.0000	10.065

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/L)	ON-COL (ug/L)
*	37	1,4-Difluorobenzene	114	5.798	5.798	(1.000)	319374	10.0000	
	38	Dibromomethane	93	6.069	6.069	(1.047)	60366	10.0000	10.237
	39	1,2-Dichloropropane	63	6.138	6.138	(1.059)	165494	10.0000	10.120
	40	Bromodichloromethane	83	6.186	6.186	(1.067)	158168	10.0000	9.740
	173	2-Pentanone	86	6.414	6.414	(1.106)	56072	50.0000	51.599
	41	2-Chloroethyl Vinyl Ether	63	6.590	6.590	(1.137)	69731	10.0000	9.881
	42	Cis 1,3-dichloropropene	75	6.627	6.627	(1.143)	203682	10.0000	10.187
$	43	d8-Toluene	98	6.754	6.754	(1.165)	187146	5.00000	4.998
	44	Toluene	92	6.792	6.792	(1.171)	344580	10.0000	9.994
	46	Tetrachloroethene	166	7.052	7.052	(0.900)	153590	10.0000	9.815
	45	4-Methyl-2-Pentanone	58	7.057	7.057	(1.217)	229651	50.0000	51.901
	47	Trans 1,3-Dichloropropene	75	7.079	7.079	(1.221)	167103	10.0000	10.356(T)
	48	1,1,2-Trichloroethane	97	7.190	7.190	(1.240)	89143	10.0000	9.882
	49	Chlorodibromomethane	129	7.318	7.318	(0.934)	110051	10.0000	10.361
	50	1,3-Dichloropropane	76	7.382	7.382	(0.942)	157952	10.0000	9.971
	51	1,2-Dibromoethane	107	7.483	7.483	(1.291)	85684	10.0000	10.134
	52	2-Hexanone	43	7.637	7.637	(0.975)	436694	50.0000	52.140
*	53	d5-Chlorobenzene	117	7.833	7.833	(1.000)	290356	10.0000	
	54	Chlorobenzene	112	7.844	7.844	(1.001)	393686	10.0000	9.896
	55	Ethyl Benzene	106	7.865	7.865	(1.004)	217701	10.0000	10.111
	56	1,1,1,2-Tetrachloroethane	131	7.892	7.892	(1.007)	140106	10.0000	10.340
	57	m,p-xylene	106	7.966	7.966	(1.017)	539093	20.0000	20.421
	58	o-Xylene	106	8.269	8.269	(1.056)	266038	10.0000	10.209
	59	Styrene	104	8.306	8.306	(1.060)	427428	10.0000	10.659
	60	Bromoform	173	8.333	8.333	(0.875)	65582	10.0000	10.410
	61	Isopropyl Benzene	105	8.493	8.493	(0.892)	694378	10.0000	10.297
$	62	4-Bromofluorobenzene	174	8.705	8.705	(1.111)	61322	5.00000	5.022
	63	Bromobenzene	156	8.780	8.780	(0.922)	166251	10.0000	9.766
	64	N-Propyl Benzene	91	8.796	8.796	(0.924)	814857	10.0000	10.423
	65	1,1,2,2-Tetrachloroethane	83	8.849	8.849	(0.929)	105257	10.0000	10.475
	66	2-Chloro Toluene	91	8.912	8.912	(0.936)	542187	10.0000	10.103
	67	1,3,5-Trimethyl Benzene	105	8.939	8.939	(0.939)	599991	10.0000	10.372
	68	1,2,3-Trichloropropane	110	8.950	8.950	(0.940)	32802	10.0000	10.427
	69	Trans-1,4-Dichloro 2-Butene	53	8.976	8.976	(0.943)	50307	10.0000	10.319
	70	4-Chloro Toluene	91	9.035	9.035	(0.949)	509488	10.0000	10.027
	71	T-Butyl Benzene	119	9.173	9.173	(0.963)	508363	10.0000	10.358
	72	1,2,4-Trimethylbenzene	105	9.226	9.226	(0.969)	602205	10.0000	10.225
	73	S-Butyl Benzene	105	9.306	9.306	(0.977)	721238	10.0000	10.394
	74	4-Isopropyl Toluene	119	9.412	9.412	(0.988)	642245	10.0000	10.539
	75	1,3-Dichlorobenzene	146	9.471	9.471	(0.994)	336498	10.0000	9.964
*	76	d4-1,4-Dichlorobenzene	152	9.524	9.524	(1.000)	151501	10.0000	
	77	1,4-Dichlorobenzene	146	9.534	9.534	(1.001)	335153	10.0000	9.953
	78	N-Butyl Benzene	91	9.726	9.726	(1.021)	541056	10.0000	10.304
$	79	d4-1,2-Dichlorobenzene	152	9.848	9.848	(1.034)	71743	5.00000	5.079
	80	1,2-Dichlorobenzene	146	9.853	9.853	(1.035)	287885	10.0000	9.793
	81	1,2-Dibromo 3-Chloropropane	75	10.465	10.465	(1.099)	15417	10.0000	9.257
	83	Hexachloro 1,3-Butadiene	225	10.964	10.964	(1.151)	84925	10.0000	10.350
	84	1,2,4-Trichlorobenzene	180	10.991	10.991	(1.154)	174447	10.0000	9.910
	85	Naphthalene	128	11.251	11.251	(1.181)	240523	10.0000	9.669
	86	1,2,3-Trichlorobenzene	180	11.395	11.395	(1.196)	112407	10.0000	9.444

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311071711.D
Lab Smp Id: SFK0116-CAL5
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Misc Info: 15-

Calibration Date: 07-NOV-2017
Calibration Time: 13:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	208826	0.00
37 1,4-Difluorobenze	319374	159687	638748	319374	0.00
53 d5-Chlorobenzene	290356	145178	580712	290356	0.00
76 d4-1,4-Dichlorobe	151501	75751	303002	151501	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.42	4.92	5.92	5.42	0.00
37 1,4-Difluorobenze	5.80	5.30	6.30	5.80	0.00
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	0.00
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - V311071711.D

Lab ID: SFK0116-CAL5
nt3.i, 20171107.b\8260C110717.m,   07-NOV-2017 13:14

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

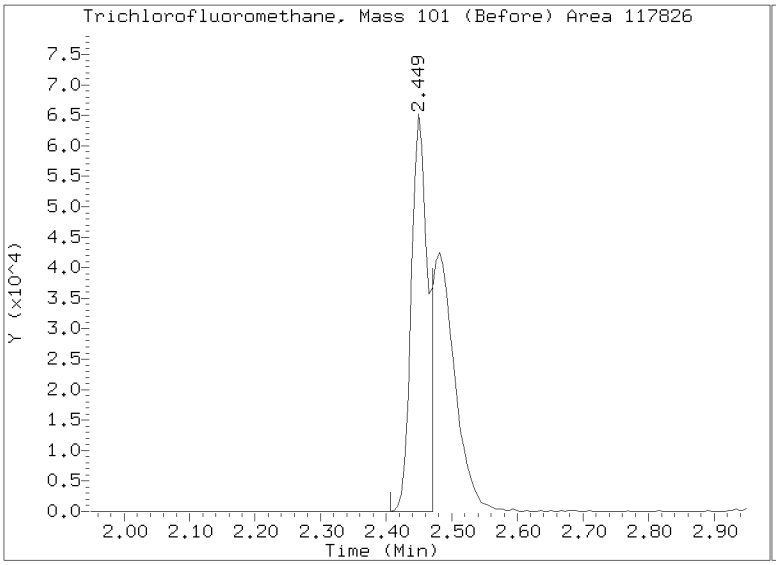
RRT	CCV RRT	DELTA	COMPOUND

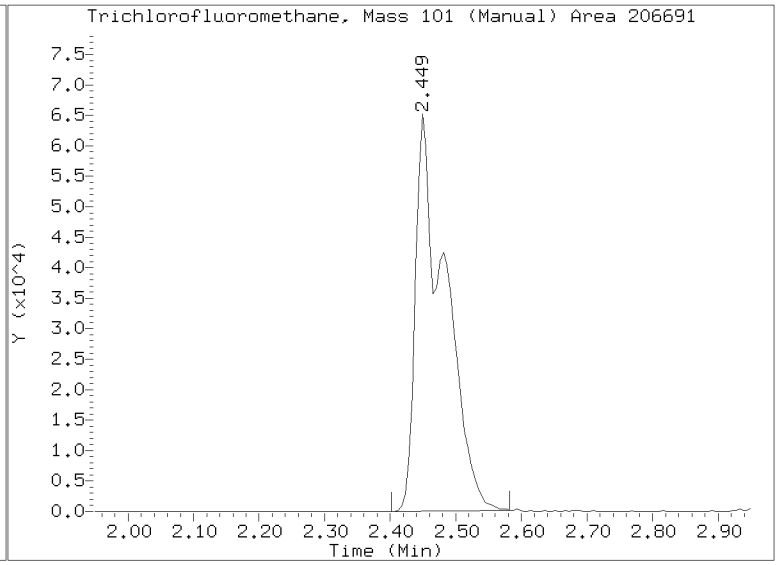
NONE

On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20171107.b/V311071711.D
Injection Date: 07-NOV-2017 13:14
Lab ID:SFK0116-CAL5 Client ID:
Report Date: 11/07/2017 15:17





Data File: \\target\share\chem1\nt3.i\20171107.b\V311071712.D

Date : 07-NOV-2017 13:40

Client ID:

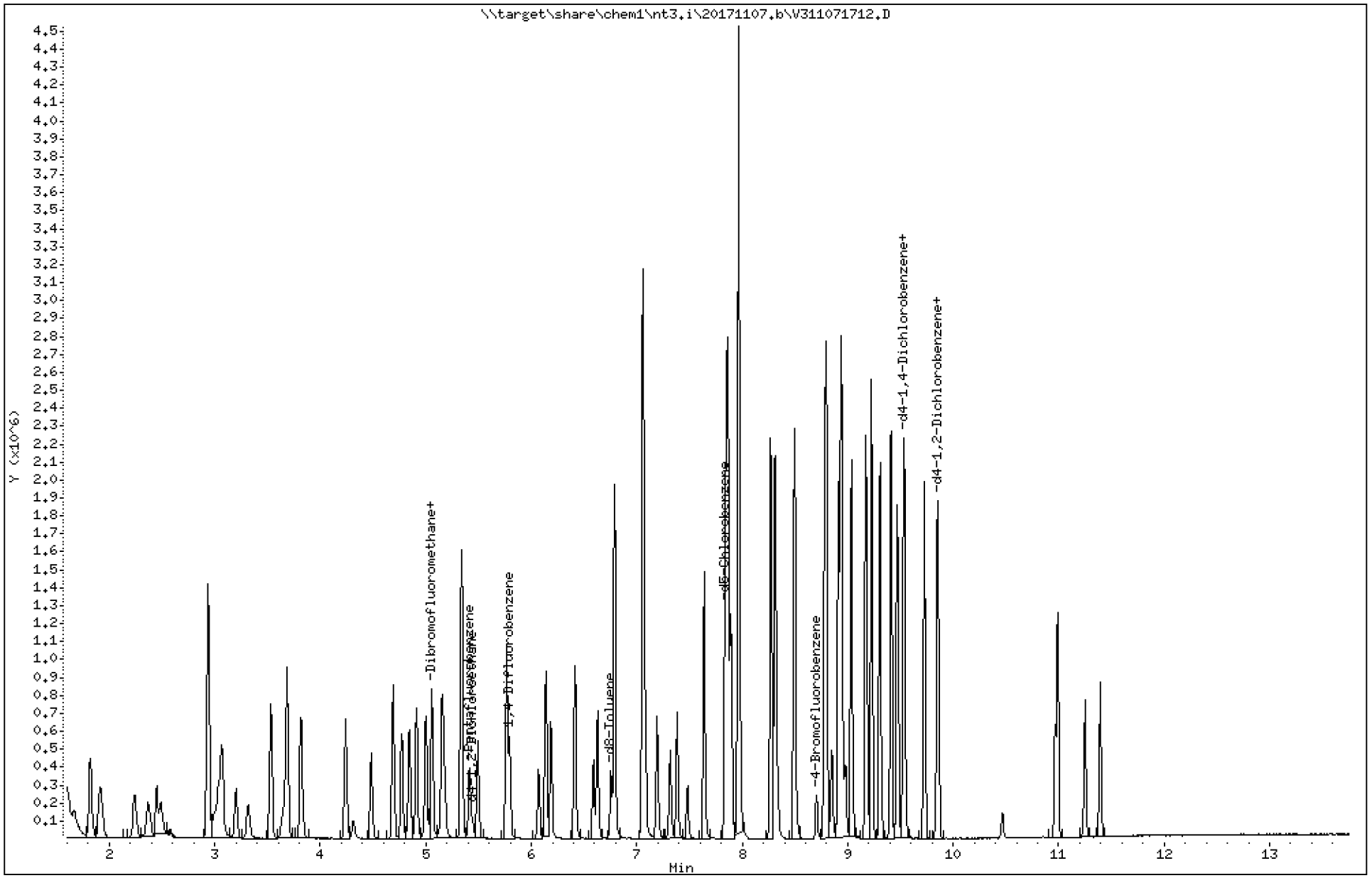
Instrument: nt3.i

Sample Info: SFK0116-CAL6

Operator: PC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20171107.b\V311071712.D
Lab Smp Id: SFK0116-CAL6
Inj Date : 07-NOV-2017 13:40
Operator : PC Inst ID: nt3.i
Smp Info : SFK0116-CAL6
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Meth Date : 07-Nov-2017 15:17 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 13:14 Cal File: V311071711.D
Als bottle: 55 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	1 Dichlorodifluoromethane	85	1.667	1.667	(0.308)	259342	20.0000	18.409
	2 Chloromethane	50	1.816	1.811	(0.335)	561448	20.0000	19.416
	3 Vinyl Chloride	62	1.912	1.907	(0.353)	475124	20.0000	20.155
	4 Bromomethane	94	2.236	2.231	(0.413)	215746	20.0000	19.805
	5 Chloroethane	64	2.369	2.364	(0.438)	275569	20.0000	19.699
	6 Trichlorofluoromethane	101	2.449	2.449	(0.452)	418754	20.0000	19.524(M)
	7 1,1-Dichloroethene	61	2.932	2.933	(0.542)	562292	20.0000	19.413
	8 Carbon Disulfide	76	2.938	2.938	(0.543)	844078	20.0000	19.349
	9 112Trichloro122Trifluoroethane	101	3.044	3.034	(0.562)	257147	20.0000	19.131
	10 Iodomethane	142	3.071	3.071	(0.567)	400888	20.0000	20.038
	11 Bromoethane	108	3.198	3.204	(0.591)	194412	20.0000	19.168
	12 Acrolein	56	3.315	3.321	(0.612)	223682	100.000	98.323
	13 Methylene Chloride	84	3.533	3.528	(0.653)	257750	20.0000	19.863
	14 Acetone	43	3.645	3.655	(0.673)	350440	100.000	97.448
	15 Trans-1,2-Dichloroethene	96	3.682	3.687	(0.680)	277727	20.0000	19.347
	17 Methyl tert butyl ether	73	3.815	3.815	(0.705)	545162	20.0000	19.730
	18 1,1-Dichloroethane	63	4.240	4.240	(0.783)	602239	20.0000	19.957
	19 Acrylonitrile	53	4.314	4.315	(0.797)	87968	20.0000	19.304
	20 Vinyl Acetate	43	4.479	4.485	(0.827)	650084	20.0000	20.627
	22 Cis-1,2-Dichloroethene	96	4.692	4.692	(0.867)	290107	20.0000	19.395
	23 2,2-Dichloropropane	77	4.772	4.772	(0.881)	330807	20.0000	19.046
	24 Bromochloromethane	128	4.846	4.846	(0.895)	124466	20.0000	19.687
	25 Chloroform	83	4.910	4.910	(0.907)	449155	20.0000	20.045
	26 Carbon Tetrachloride	117	5.000	5.000	(0.862)	358716	20.0000	19.601
$	27 Dibromofluoromethane	111	5.053	5.048	(0.933)	44107	5.00000	4.870
	28 1,1,1-Trichloroethane	97	5.053	5.053	(0.933)	417168	20.0000	19.886
	30 1,1-Dichloropropene	75	5.149	5.149	(0.888)	363306	20.0000	20.002
	29 2-Butanone	43	5.170	5.176	(0.955)	581451	100.000	99.456
	31 Benzene	78	5.340	5.340	(0.921)	1066183	20.0000	20.084
*	32 Pentafluorobenzene	168	5.415	5.415	(1.000)	208422	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.441	5.447	(1.005)	52823	5.00000	4.879
	34 1,2-Dichloroethane	62	5.495	5.495	(0.948)	351076	20.0000	19.460
	36 Trichloroethene	130	5.766	5.766	(0.995)	297482	20.0000	20.005

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/L)	ON-COL (ug/L)
*	37	1,4-Difluorobenzene	114	5.797	5.798	(1.000)	321753	10.0000	
	38	Dibromomethane	93	6.069	6.069	(1.047)	121085	20.0000	20.382
	39	1,2-Dichloropropane	63	6.138	6.138	(1.059)	326984	20.0000	19.847
	40	Bromodichloromethane	83	6.186	6.186	(1.067)	326338	20.0000	19.947
	173	2-Pentanone	86	6.414	6.414	(1.106)	110988	100.000	101.38
	41	2-Chloroethyl Vinyl Ether	63	6.590	6.590	(1.137)	141793	20.0000	19.944
	42	Cis 1,3-dichloropropene	75	6.627	6.627	(1.143)	418857	20.0000	20.794
$	43	d8-Toluene	98	6.754	6.754	(1.165)	191454	5.00000	5.075
	44	Toluene	92	6.791	6.792	(1.171)	697325	20.0000	20.075
	46	Tetrachloroethene	166	7.052	7.052	(0.900)	305306	20.0000	19.084
	45	4-Methyl-2-Pentanone	58	7.057	7.057	(1.217)	465289	100.000	104.38
	47	Trans 1,3-Dichloropropene	75	7.079	7.079	(1.221)	345788	20.0000	21.271(T)
	48	1,1,2-Trichloroethane	97	7.195	7.190	(1.241)	178842	20.0000	19.679
	49	Chlorodibromomethane	129	7.318	7.318	(0.934)	229457	20.0000	21.130
	50	1,3-Dichloropropane	76	7.382	7.382	(0.942)	323664	20.0000	19.985
	51	1,2-Dibromoethane	107	7.483	7.483	(1.291)	173986	20.0000	20.426
	52	2-Hexanone	43	7.637	7.637	(0.975)	870200	100.000	101.63
*	53	d5-Chlorobenzene	117	7.833	7.833	(1.000)	296852	10.0000	
	54	Chlorobenzene	112	7.849	7.844	(1.002)	802108	20.0000	19.721
	55	Ethyl Benzene	106	7.865	7.865	(1.004)	441279	20.0000	20.046
	56	1,1,1,2-Tetrachloroethane	131	7.892	7.892	(1.007)	279175	20.0000	20.153
	57	m,p-xylene	106	7.966	7.966	(1.017)	1080746	40.0000	40.044
	58	o-Xylene	106	8.269	8.269	(1.056)	530694	20.0000	19.920
	59	Styrene	104	8.312	8.306	(1.061)	878536	20.0000	21.430
	60	Bromoform	173	8.333	8.333	(0.875)	134915	20.0000	21.065
	61	Isopropyl Benzene	105	8.492	8.493	(0.892)	1336408	20.0000	19.494
$	62	4-Bromofluorobenzene	174	8.705	8.705	(1.111)	62342	5.00000	4.994
	63	Bromobenzene	156	8.779	8.780	(0.922)	336353	20.0000	19.435
	64	N-Propyl Benzene	91	8.795	8.796	(0.924)	1528479	20.0000	19.231
	65	1,1,2,2-Tetrachloroethane	83	8.849	8.849	(0.929)	214078	20.0000	20.955
	66	2-Chloro Toluene	91	8.912	8.912	(0.936)	1065592	20.0000	19.530
	67	1,3,5-Trimethyl Benzene	105	8.939	8.939	(0.939)	1155829	20.0000	19.654
	68	1,2,3-Trichloropropane	110	8.950	8.950	(0.940)	64507	20.0000	20.169
	69	Trans-1,4-Dichloro 2-Butene	53	8.981	8.976	(0.943)	101005	20.0000	20.380
	70	4-Chloro Toluene	91	9.035	9.035	(0.949)	1003048	20.0000	19.418
	71	T-Butyl Benzene	119	9.173	9.173	(0.963)	921585	20.0000	18.470
	72	1,2,4-Trimethylbenzene	105	9.226	9.226	(0.969)	1170490	20.0000	19.548
	73	S-Butyl Benzene	105	9.306	9.306	(0.977)	1238027	20.0000	17.550
	74	4-Isopropyl Toluene	119	9.412	9.412	(0.988)	1131597	20.0000	18.265
	75	1,3-Dichlorobenzene	146	9.470	9.471	(0.994)	666315	20.0000	19.406
*	76	d4-1,4-Dichlorobenzene	152	9.524	9.524	(1.000)	154023	10.0000	
	77	1,4-Dichlorobenzene	146	9.534	9.534	(1.001)	652244	20.0000	19.052
	78	N-Butyl Benzene	91	9.726	9.726	(1.021)	902481	20.0000	16.906
$	79	d4-1,2-Dichlorobenzene	152	9.848	9.848	(1.034)	72604	5.00000	5.056
	80	1,2-Dichlorobenzene	146	9.853	9.853	(1.035)	573184	20.0000	19.179
	81	1,2-Dibromo 3-Chloropropane	75	10.464	10.465	(1.099)	31348	20.0000	18.515
	83	Hexachloro 1,3-Butadiene	225	10.964	10.964	(1.151)	99519	20.0000	11.930
	84	1,2,4-Trichlorobenzene	180	10.991	10.991	(1.154)	331372	20.0000	18.517
	85	Naphthalene	128	11.251	11.251	(1.181)	502487	20.0000	19.869
	86	1,2,3-Trichlorobenzene	180	11.395	11.395	(1.196)	227721	20.0000	18.819

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311071712.D
Lab Smp Id: SFK0116-CAL6
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Misc Info: 16-

Calibration Date: 07-NOV-2017
Calibration Time: 13:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	208422	-0.19
37 1,4-Difluorobenze	319374	159687	638748	321753	0.74
53 d5-Chlorobenzene	290356	145178	580712	296852	2.24
76 d4-1,4-Dichlorobe	151501	75751	303002	154023	1.66

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.42	4.92	5.92	5.42	-0.00
37 1,4-Difluorobenze	5.80	5.30	6.30	5.80	-0.00
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	-0.00
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - V311071712.D

Lab ID: SFK0116-CAL6
nt3.i, 20171107.b\8260C110717.m,   07-NOV-2017 13:40

RT	CO-ELUTION COMPOUNDS
5.054	Dibromofluoromethane and 1,1,1-Trichloroethane

Quant Method: ICAL

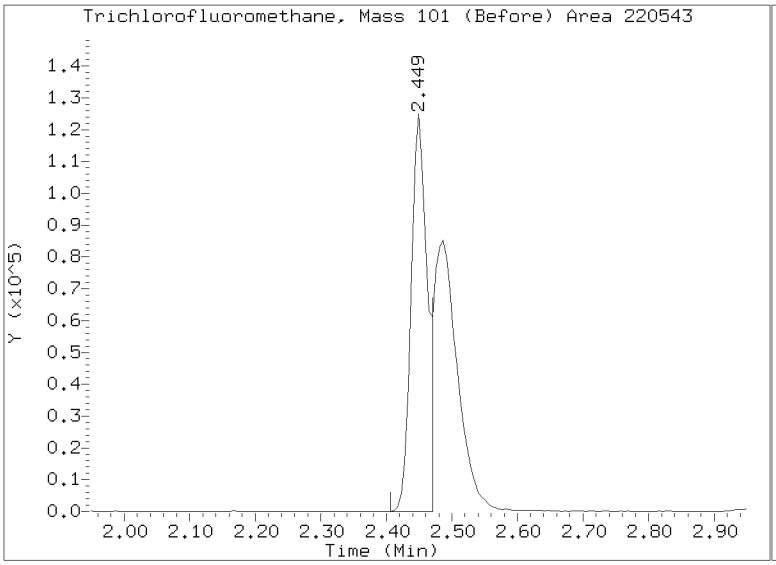
RRT CHECK

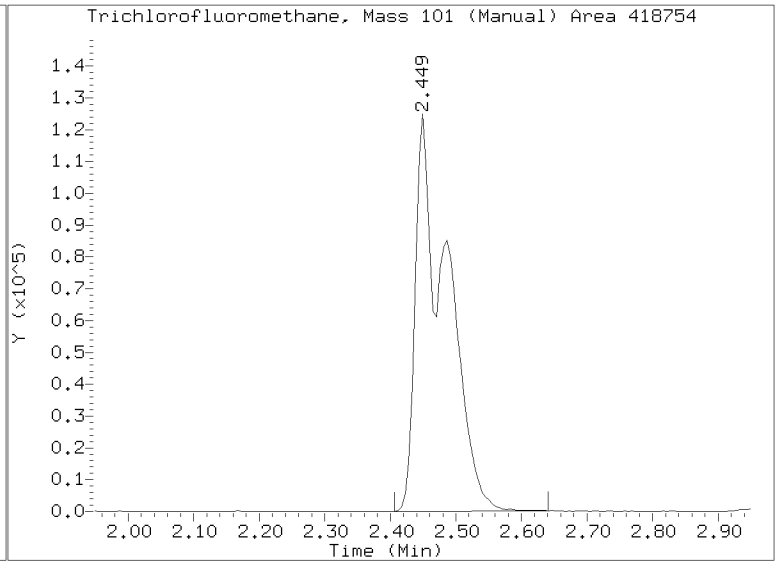
RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20171107.b/V311071712.D
Injection Date: 07-NOV-2017 13:40
Lab ID:SFK0116-CAL6 Client ID:
Report Date: 11/07/2017 15:17





Data File: \\target\share\chem1\nt3.i\20171107.b\V311071713.D

Date : 07-NOV-2017 14:05

Client ID:

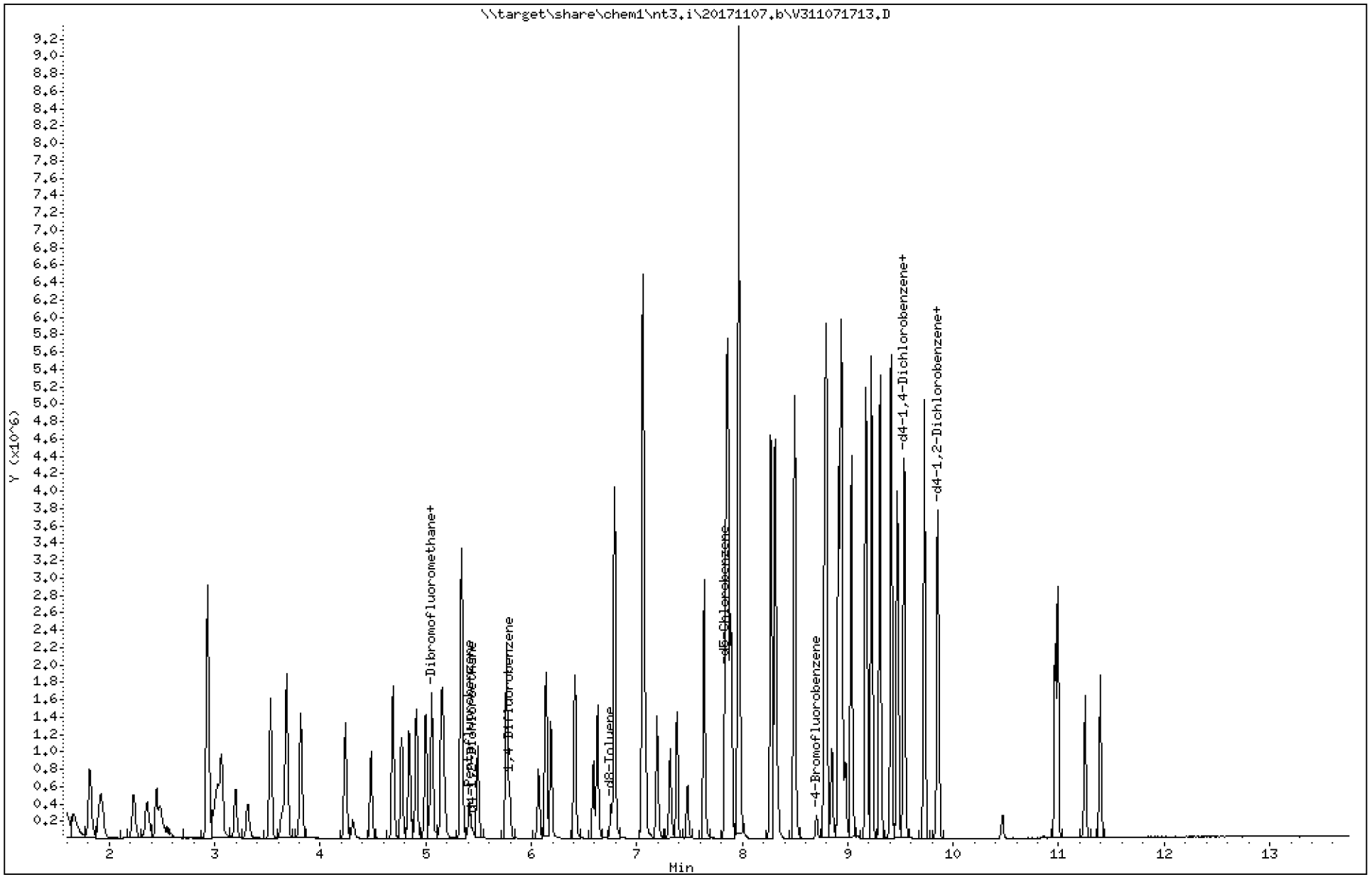
Instrument: nt3.i

Sample Info: SFK0116-CAL7

Operator: PC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20171107.b\V311071713.D
Lab Smp Id: SFK0116-CAL7
Inj Date : 07-NOV-2017 14:05
Operator : PC Inst ID: nt3.i
Smp Info : SFK0116-CAL7
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Meth Date : 07-Nov-2017 15:17 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 13:40 Cal File: V311071712.D
Als bottle: 56 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	1 Dichlorodifluoromethane	85	1.662	1.667	(0.307)	540527	40.0000	37.422
	2 Chloromethane	50	1.811	1.811	(0.334)	1121970	40.0000	37.842
	3 Vinyl Chloride	62	1.917	1.907	(0.354)	963183	40.0000	39.851
	4 Bromomethane	94	2.231	2.231	(0.412)	434823	40.0000	38.932
	5 Chloroethane	64	2.353	2.364	(0.435)	550554	40.0000	38.385
	6 Trichlorofluoromethane	101	2.449	2.449	(0.452)	854261	40.0000	38.847(M)
	7 1,1-Dichloroethene	61	2.927	2.933	(0.541)	1142999	40.0000	38.489
	8 Carbon Disulfide	76	2.932	2.938	(0.542)	1698630	40.0000	37.978
	9 112Trichloro122Trifluoroethane	101	3.028	3.034	(0.559)	541694	40.0000	39.306
	10 Iodomethane	142	3.065	3.071	(0.566)	818721	40.0000	39.913
	11 Bromoethane	108	3.198	3.204	(0.591)	396161	40.0000	38.097
	12 Acrolein	56	3.310	3.321	(0.611)	461120	200.000	197.69
	13 Methylene Chloride	84	3.528	3.528	(0.652)	522444	40.0000	39.269
	14 Acetone	43	3.639	3.655	(0.672)	689635	200.000	187.04
	15 Trans-1,2-Dichloroethene	96	3.682	3.687	(0.680)	575448	40.0000	39.099
	17 Methyl tert butyl ether	73	3.815	3.815	(0.705)	1129906	40.0000	39.884
	18 1,1-Dichloroethane	63	4.240	4.240	(0.783)	1234055	40.0000	39.885
	19 Acrylonitrile	53	4.309	4.315	(0.796)	178572	40.0000	38.221
	20 Vinyl Acetate	43	4.479	4.485	(0.827)	1319958	40.0000	40.848
	22 Cis-1,2-Dichloroethene	96	4.687	4.692	(0.866)	591150	40.0000	38.547
	23 2,2-Dichloropropane	77	4.772	4.772	(0.881)	678787	40.0000	38.117
	24 Bromochloromethane	128	4.846	4.846	(0.895)	253634	40.0000	39.129
	25 Chloroform	83	4.910	4.910	(0.907)	907619	40.0000	39.506
	26 Carbon Tetrachloride	117	5.000	5.000	(0.862)	758553	40.0000	39.858
$	27 Dibromofluoromethane	111	5.048	5.048	(0.932)	46642	5.00000	5.023
	28 1,1,1-Trichloroethane	97	5.053	5.053	(0.933)	867493	40.0000	40.333
	30 1,1-Dichloropropene	75	5.149	5.149	(0.888)	758321	40.0000	40.148
	29 2-Butanone	43	5.170	5.176	(0.955)	1167849	200.000	194.83
	31 Benzene	78	5.335	5.340	(0.920)	2172465	40.0000	39.352
*	32 Pentafluorobenzene	168	5.415	5.415	(1.000)	213692	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.441	5.447	(1.005)	54186	5.00000	4.881
	34 1,2-Dichloroethane	62	5.494	5.495	(0.948)	716924	40.0000	38.214
	36 Trichloroethene	130	5.766	5.766	(0.995)	619628	40.0000	40.070

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/L)	ON-COL (ug/L)
*	37	1,4-Difluorobenzene	114	5.797	5.798	(1.000)	334590	10.0000	
	38	Dibromomethane	93	6.069	6.069	(1.047)	245859	40.0000	39.797
	39	1,2-Dichloropropane	63	6.138	6.138	(1.059)	685471	40.0000	40.010
	40	Bromodichloromethane	83	6.185	6.186	(1.067)	675182	40.0000	39.687
	173	2-Pentanone	86	6.414	6.414	(1.106)	232438	200.000	204.17
	41	2-Chloroethyl Vinyl Ether	63	6.589	6.590	(1.137)	291161	40.0000	39.382
	42	Cis 1,3-dichloropropene	75	6.627	6.627	(1.143)	855671	40.0000	40.850
$	43	d8-Toluene	98	6.754	6.754	(1.165)	197279	5.00000	5.029
	44	Toluene	92	6.791	6.792	(1.171)	1431727	40.0000	39.637
	46	Tetrachloroethene	166	7.052	7.052	(0.900)	636347	40.0000	38.779
	45	4-Methyl-2-Pentanone	58	7.057	7.057	(1.217)	940256	200.000	202.83
	47	Trans 1,3-Dichloropropene	75	7.078	7.079	(1.221)	706083	40.0000	41.767(T)
	48	1,1,2-Trichloroethane	97	7.195	7.190	(1.241)	370237	40.0000	39.176
	49	Chlorodibromomethane	129	7.318	7.318	(0.934)	477819	40.0000	42.897
	50	1,3-Dichloropropane	76	7.381	7.382	(0.942)	663401	40.0000	39.935
	51	1,2-Dibromoethane	107	7.482	7.483	(1.291)	356370	40.0000	40.232
	52	2-Hexanone	43	7.637	7.637	(0.975)	1752860	200.000	199.57
*	53	d5-Chlorobenzene	117	7.833	7.833	(1.000)	304487	10.0000	
	54	Chlorobenzene	112	7.849	7.844	(1.002)	1648972	40.0000	39.527
	55	Ethyl Benzene	106	7.865	7.865	(1.004)	919141	40.0000	40.706
	56	1,1,1,2-Tetrachloroethane	131	7.892	7.892	(1.007)	579048	40.0000	40.751
	57	m,p-xylene	106	7.966	7.966	(1.017)	2259193	80.0000	81.609
	58	o-Xylene	106	8.274	8.269	(1.056)	1119213	40.0000	40.957
	59	Styrene	104	8.312	8.306	(1.061)	1842453	40.0000	43.815
	60	Bromoform	173	8.333	8.333	(0.875)	284608	40.0000	42.182
	61	Isopropyl Benzene	105	8.498	8.493	(0.892)	2873003	40.0000	39.782
$	62	4-Bromofluorobenzene	174	8.705	8.705	(1.111)	64200	5.00000	5.013
	63	Bromobenzene	156	8.779	8.780	(0.922)	696335	40.0000	38.194
	64	N-Propyl Benzene	91	8.795	8.796	(0.924)	3286251	40.0000	39.249
	65	1,1,2,2-Tetrachloroethane	83	8.849	8.849	(0.929)	432893	40.0000	40.224
	66	2-Chloro Toluene	91	8.912	8.912	(0.936)	2263477	40.0000	39.380
	67	1,3,5-Trimethyl Benzene	105	8.939	8.939	(0.939)	2497090	40.0000	40.307
	68	1,2,3-Trichloropropane	110	8.950	8.950	(0.940)	133445	40.0000	39.605
	69	Trans-1,4-Dichloro 2-Butene	53	8.981	8.976	(0.943)	206752	40.0000	39.599
	70	4-Chloro Toluene	91	9.035	9.035	(0.949)	2109165	40.0000	38.760
	71	T-Butyl Benzene	119	9.173	9.173	(0.963)	2134457	40.0000	40.606
	72	1,2,4-Trimethylbenzene	105	9.226	9.226	(0.969)	2516444	40.0000	39.893
	73	S-Butyl Benzene	105	9.306	9.306	(0.977)	2977202	40.0000	40.062
	74	4-Isopropyl Toluene	119	9.412	9.412	(0.988)	2679129	40.0000	41.049
	75	1,3-Dichlorobenzene	146	9.470	9.471	(0.994)	1408302	40.0000	38.935
*	76	d4-1,4-Dichlorobenzene	152	9.524	9.524	(1.000)	162257	10.0000	
	77	1,4-Dichlorobenzene	146	9.540	9.534	(1.002)	1379790	40.0000	38.258
	78	N-Butyl Benzene	91	9.726	9.726	(1.021)	2256365	40.0000	40.122
$	79	d4-1,2-Dichlorobenzene	152	9.848	9.848	(1.034)	74323	5.00000	4.913
	80	1,2-Dichlorobenzene	146	9.853	9.853	(1.035)	1208924	40.0000	38.397
	81	1,2-Dibromo 3-Chloropropane	75	10.464	10.465	(1.099)	63503	40.0000	35.604
	83	Hexachloro 1,3-Butadiene	225	10.964	10.964	(1.151)	351500	40.0000	39.998
	84	1,2,4-Trichlorobenzene	180	10.991	10.991	(1.154)	740056	40.0000	39.255
	85	Naphthalene	128	11.251	11.251	(1.181)	1072808	40.0000	40.268
	86	1,2,3-Trichlorobenzene	180	11.395	11.395	(1.196)	502030	40.0000	39.382

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311071713.D
Lab Smp Id: SFK0116-CAL7
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Misc Info: 16-

Calibration Date: 07-NOV-2017
Calibration Time: 13:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	213692	2.33
37 1,4-Difluorobenze	319374	159687	638748	334590	4.76
53 d5-Chlorobenzene	290356	145178	580712	304487	4.87
76 d4-1,4-Dichlorobe	151501	75751	303002	162257	7.10

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.42	4.92	5.92	5.42	-0.00
37 1,4-Difluorobenze	5.80	5.30	6.30	5.80	-0.00
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	-0.00
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - V311071713.D

Lab ID: SFK0116-CAL7
nt3.i, 20171107.b\8260C110717.m,   07-NOV-2017 14:05

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

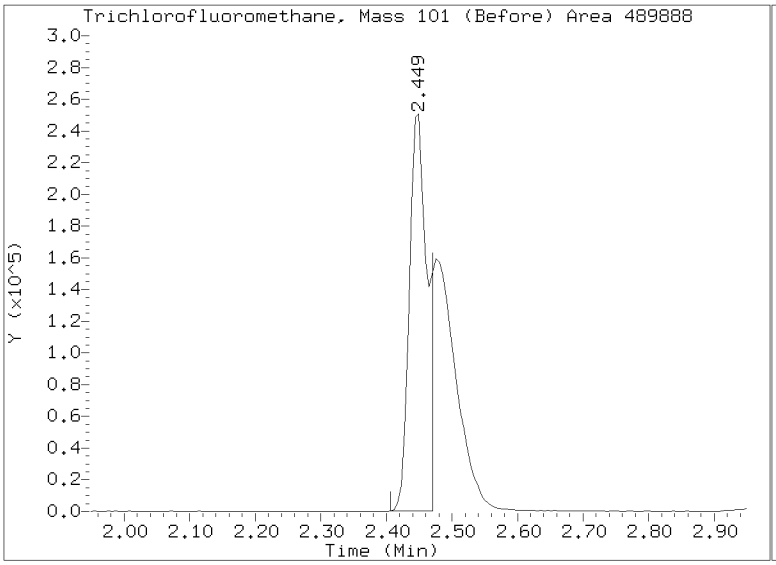
RRT	CCV RRT	DELTA	COMPOUND

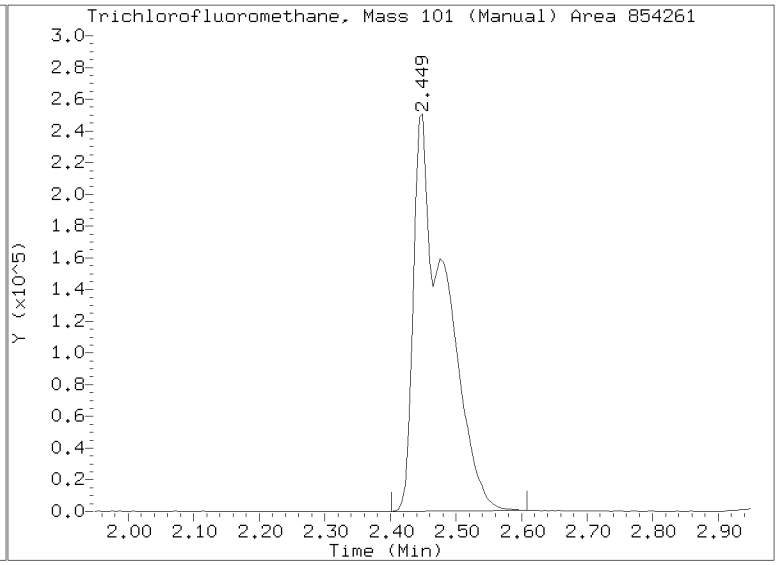
NONE

On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20171107.b/V311071713.D
Injection Date: 07-NOV-2017 14:05
Lab ID:SFK0116-CAL7 Client ID:
Report Date: 11/07/2017 15:17





Data File: \\target\share\chem1\nt3.i\20171107.b\V311071714.D

Date : 07-NOV-2017 14:30

Client ID:

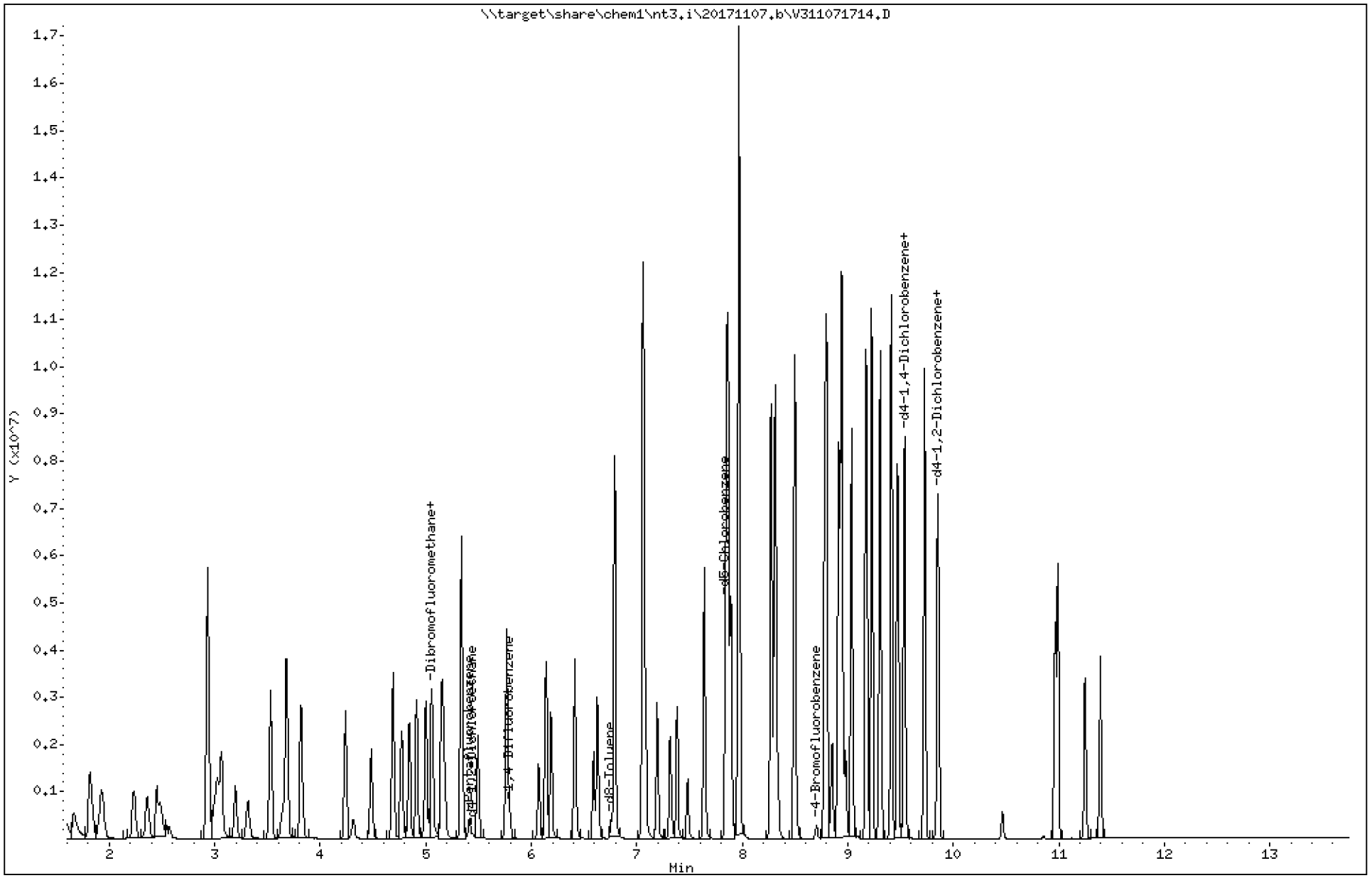
Instrument: nt3.i

Sample Info: SFK0116-CAL8

Operator: PC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20171107.b\V311071714.D
Lab Smp Id: SFK0116-CAL8
Inj Date : 07-NOV-2017 14:30
Operator : PC Inst ID: nt3.i
Smp Info : SFK0116-CAL8
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Meth Date : 07-Nov-2017 15:17 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 14:05 Cal File: V311071713.D
Als bottle: 57 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)	
	1 Dichlorodifluoromethane	85	1.666	1.667	(1.000)	1057978	80.0000	72.837	
	2 Chloromethane	50	1.815	1.811	(1.000)	2222056	80.0000	74.528	
	3 Vinyl Chloride	62	1.927	1.907	(1.000)	1924531	80.0000	79.180	
	4 Bromomethane	94	2.230	2.231	(1.000)	857620	80.0000	76.358	
	5 Chloroethane	64	2.357	2.364	(1.000)	1091262	80.0000	75.659	
	6 Trichlorofluoromethane	101	2.448	2.449	(0.452)	1707359	80.0000	77.207	(M)
	7 1,1-Dichloroethene	61	2.926	2.933	(1.000)	2226653	80.0000	74.560	
	8 Carbon Disulfide	76	2.932	2.938	(1.000)	3283730	80.0000	73.007	
	9 112Trichloro122Trifluoroethane	101	3.022	3.034	(0.558)	1036631	80.0000	74.799	(M)
	10 Iodomethane	142	3.064	3.071	(1.000)	1613385	80.0000	78.213	
	11 Bromoethane	108	3.197	3.204	(1.000)	788753	80.0000	75.427	
	12 Acrolein	56	3.314	3.321	(1.000)	939083	400.000	400.36	
	13 Methylene Chloride	84	3.527	3.528	(1.000)	1041506	80.0000	77.846	
	14 Acetone	43	3.644	3.655	(1.000)	1382844	400.000	372.95	
	15 Trans-1,2-Dichloroethene	96	3.681	3.687	(1.000)	1154578	80.0000	78.010	
	17 Methyl tert butyl ether	73	3.814	3.815	(1.000)	2284114	80.0000	80.174	
	18 1,1-Dichloroethane	63	4.239	4.240	(1.000)	2445119	80.0000	78.585	
	19 Acrylonitrile	53	4.308	4.315	(1.000)	360526	80.0000	76.734	
	20 Vinyl Acetate	43	4.478	4.485	(1.000)	2630445	80.0000	80.948	
	22 Cis-1,2-Dichloroethene	96	4.686	4.692	(1.000)	1190559	80.0000	77.198	
	23 2,2-Dichloropropane	77	4.771	4.772	(1.000)	1302110	80.0000	72.712	
	24 Bromochloromethane	128	4.845	4.846	(1.000)	509678	80.0000	78.190	
	25 Chloroform	83	4.909	4.910	(1.000)	1810421	80.0000	78.361	
	26 Carbon Tetrachloride	117	4.999	5.000	(0.862)	1518859	80.0000	78.013	
$	27 Dibromofluoromethane	111	5.052	5.048	(1.000)	48043	5.00000	5.145	
	28 1,1,1-Trichloroethane	97	5.058	5.053	(1.000)	1735401	80.0000	80.234	
	30 1,1-Dichloropropene	75	5.148	5.149	(0.888)	1517154	80.0000	78.515	
	29 2-Butanone	43	5.169	5.176	(1.000)	2344008	400.000	388.86	
	31 Benzene	78	5.339	5.340	(0.921)	4252596	80.0000	75.299	
*	32 Pentafluorobenzene	168	5.414	5.415	(1.000)	214893	10.0000		(M)
$	33 d4-1,2-Dichloroethane	65	5.446	5.447	(1.000)	56241	5.00000	5.038	
	34 1,2-Dichloroethane	62	5.494	5.495	(0.948)	1432878	80.0000	74.659	
	36 Trichloroethene	130	5.765	5.766	(0.994)	1236969	80.0000	78.194	

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/L)	ON-COL (ug/L)
*	37	1,4-Difluorobenzene	114	5.797	5.798	(1.000)	342289	10.0000	
	38	Dibromomethane	93	6.068	6.069	(1.047)	497073	80.0000	78.650
	39	1,2-Dichloropropane	63	6.137	6.138	(1.059)	1353101	80.0000	77.202
	40	Bromodichloromethane	83	6.185	6.186	(1.067)	1354244	80.0000	77.811
	173	2-Pentanone	86	6.413	6.414	(1.106)	469370	400.000	403.01
	41	2-Chloroethyl Vinyl Ether	63	6.589	6.590	(1.137)	600160	80.0000	79.350
	42	Cis 1,3-dichloropropene	75	6.626	6.627	(1.143)	1720072	80.0000	80.271
$	43	d8-Toluene	98	6.753	6.754	(1.165)	201013	5.00000	5.009
	44	Toluene	92	6.791	6.792	(1.171)	2843625	80.0000	76.954
	46	Tetrachloroethene	166	7.056	7.052	(0.900)	1272180	80.0000	75.424
	45	4-Methyl-2-Pentanone	58	7.062	7.057	(1.218)	1887128	400.000	397.93
	47	Trans 1,3-Dichloropropene	75	7.083	7.079	(1.222)	1421809	80.0000	82.213(T)
	48	1,1,2-Trichloroethane	97	7.195	7.190	(1.241)	734216	80.0000	75.943
	49	Chlorodibromomethane	129	7.317	7.318	(0.934)	973477	80.0000	85.027
	50	1,3-Dichloropropane	76	7.381	7.382	(0.942)	1312413	80.0000	76.862
	51	1,2-Dibromoethane	107	7.482	7.483	(1.291)	723969	80.0000	79.893
	52	2-Hexanone	43	7.636	7.637	(0.974)	3457710	400.000	383.01
*	53	d5-Chlorobenzene	117	7.838	7.833	(1.000)	312972	10.0000	
	54	Chlorobenzene	112	7.848	7.844	(1.001)	3242337	80.0000	75.614
	55	Ethyl Benzene	106	7.864	7.865	(1.003)	1844751	80.0000	79.483
	56	1,1,1,2-Tetrachloroethane	131	7.891	7.892	(1.007)	1184169	80.0000	81.078
	57	m,p-xylene	106	7.971	7.966	(1.017)	4389376	160.000	154.26
	58	o-Xylene	106	8.274	8.269	(1.056)	2257547	80.0000	80.373
	59	Styrene	104	8.311	8.306	(1.060)	3626262	80.0000	83.897
	60	Bromoform	173	8.332	8.333	(0.874)	592275	80.0000	85.640
	61	Isopropyl Benzene	105	8.497	8.493	(0.892)	5476567	80.0000	73.983
$	62	4-Bromofluorobenzene	174	8.704	8.705	(1.111)	67512	5.00000	5.129
	63	Bromobenzene	156	8.779	8.780	(0.921)	1407722	80.0000	75.330
	64	N-Propyl Benzene	91	8.794	8.796	(0.923)	6146522	80.0000	71.620
	65	1,1,2,2-Tetrachloroethane	83	8.853	8.849	(0.929)	880471	80.0000	79.818
	66	2-Chloro Toluene	91	8.911	8.912	(0.935)	4502294	80.0000	76.422
	67	1,3,5-Trimethyl Benzene	105	8.938	8.939	(0.938)	4833055	80.0000	76.111
	68	1,2,3-Trichloropropane	110	8.954	8.950	(0.940)	269321	80.0000	77.983
	69	Trans-1,4-Dichloro 2-Butene	53	8.981	8.976	(0.943)	415687	80.0000	77.676
	70	4-Chloro Toluene	91	9.034	9.035	(0.948)	4126473	80.0000	73.982
	71	T-Butyl Benzene	119	9.172	9.173	(0.963)	4225697	80.0000	78.430
	72	1,2,4-Trimethylbenzene	105	9.225	9.226	(0.968)	4901146	80.0000	75.804
	73	S-Butyl Benzene	105	9.305	9.306	(0.977)	5694291	80.0000	74.755
	74	4-Isopropyl Toluene	119	9.411	9.412	(0.988)	5142866	80.0000	76.877
	75	1,3-Dichlorobenzene	146	9.470	9.471	(0.994)	2814356	80.0000	75.910
*	76	d4-1,4-Dichlorobenzene	152	9.528	9.524	(1.000)	166312	10.0000	
	77	1,4-Dichlorobenzene	146	9.539	9.534	(1.001)	2778371	80.0000	75.158
	78	N-Butyl Benzene	91	9.725	9.726	(1.021)	4410533	80.0000	76.514
$	79	d4-1,2-Dichlorobenzene	152	9.847	9.848	(1.033)	78847	5.00000	5.085
	80	1,2-Dichlorobenzene	146	9.858	9.853	(1.035)	2431160	80.0000	75.335
	81	1,2-Dibromo 3-Chloropropane	75	10.464	10.465	(1.098)	131314	80.0000	71.828
	83	Hexachloro 1,3-Butadiene	225	10.969	10.964	(1.151)	720954	80.0000	80.038
	84	1,2,4-Trichlorobenzene	180	10.990	10.991	(1.153)	1503662	80.0000	77.815
	85	Naphthalene	128	11.250	11.251	(1.181)	2166102	80.0000	79.323
	86	1,2,3-Trichlorobenzene	180	11.394	11.395	(1.196)	1008075	80.0000	77.152

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311071714.D
Lab Smp Id: SFK0116-CAL8
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Misc Info: 16-

Calibration Date: 07-NOV-2017
Calibration Time: 13:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	214893	2.91
37 1,4-Difluorobenze	319374	159687	638748	342289	7.17
53 d5-Chlorobenzene	290356	145178	580712	312972	7.79
76 d4-1,4-Dichlorobe	151501	75751	303002	166312	9.78

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.42	4.92	5.92	5.41	-0.02
37 1,4-Difluorobenze	5.80	5.30	6.30	5.80	-0.02
53 d5-Chlorobenzene	7.83	7.33	8.33	7.84	0.05
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.53	0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - V311071714.D

Lab ID: SFK0116-CAL8
nt3.i, 20171107.b\8260C110717.m,   07-NOV-2017 14:30

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

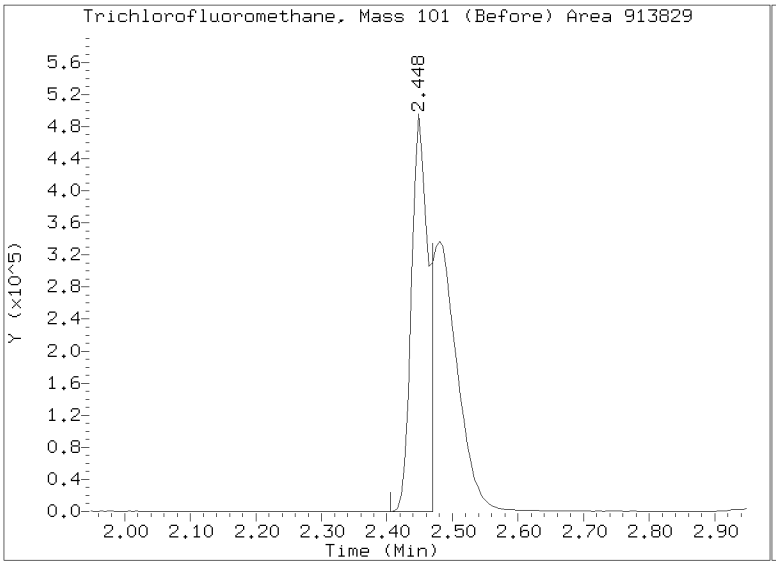
RRT	CCV RRT	DELTA	COMPOUND

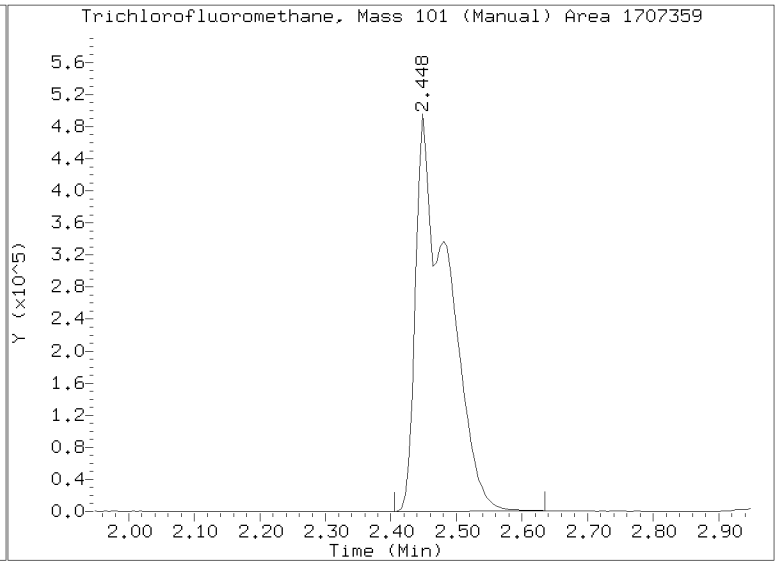
NONE

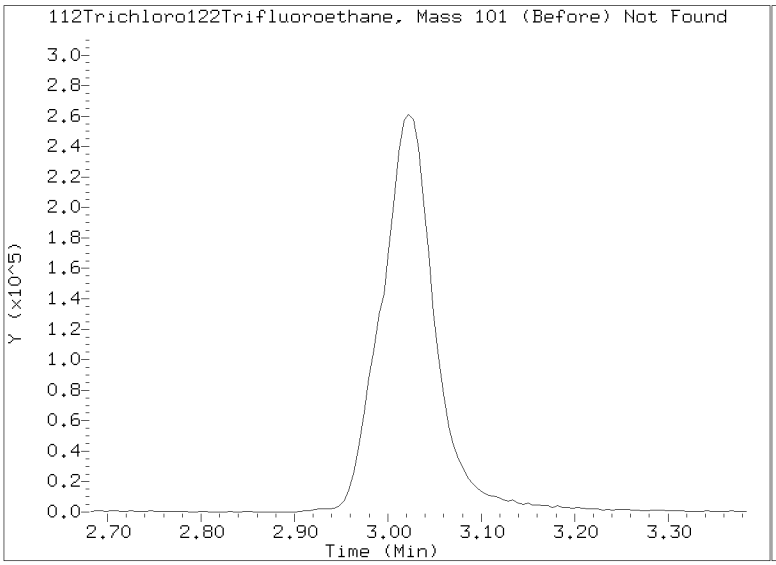
On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

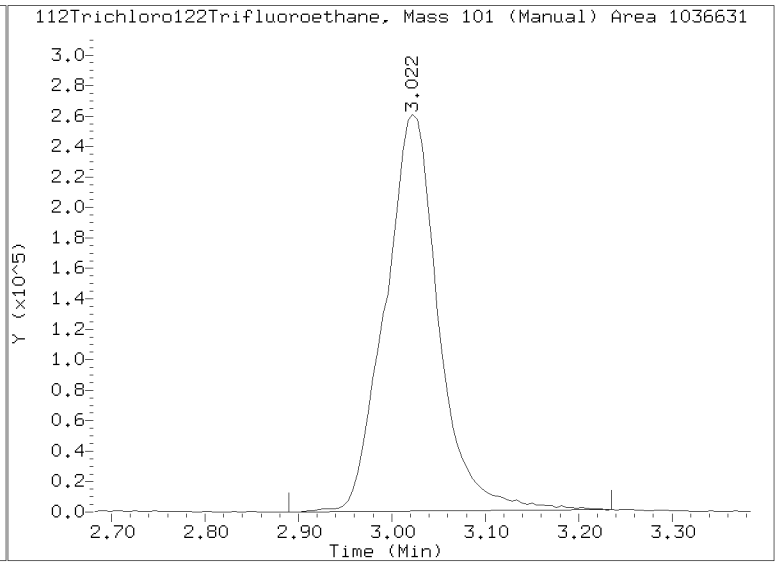
Quant Ion Manual Peak Adjustment Report

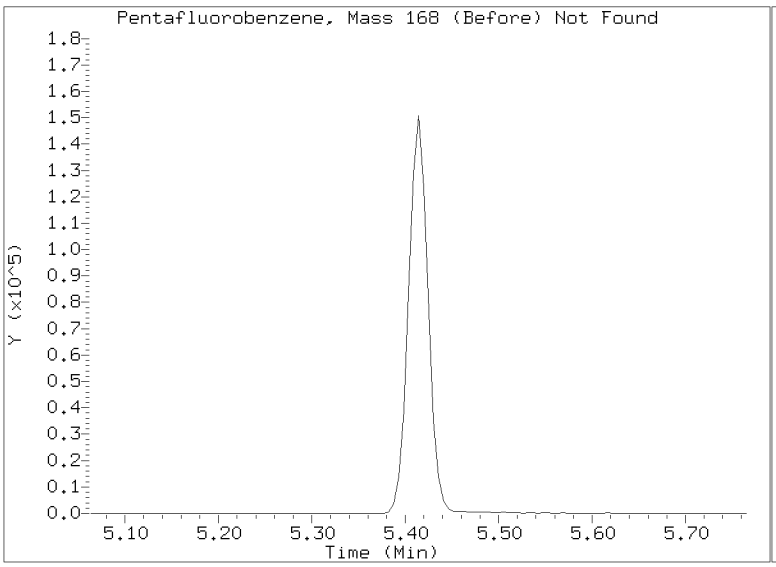
Datafile: //target/share/chem1/nt3.i/20171107.b/V311071714.D
Injection Date: 07-NOV-2017 14:30
Lab ID:SFK0116-CAL8 Client ID:
Report Date: 11/07/2017 15:17

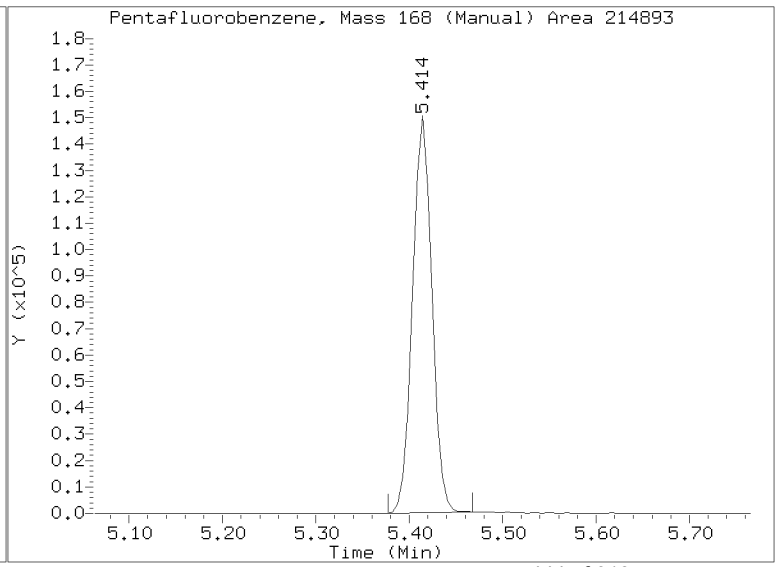












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

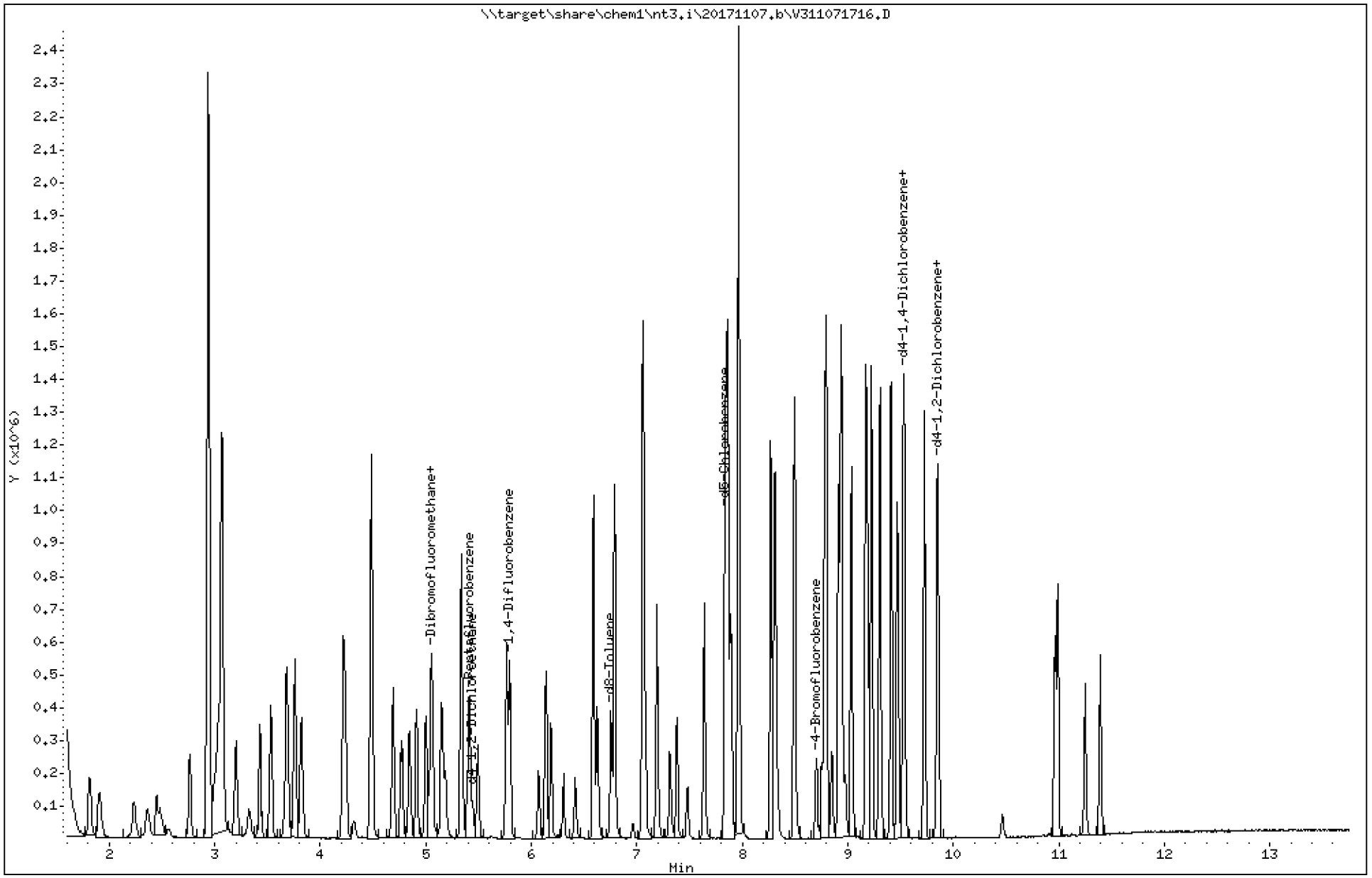
Sample Info: SFK0116-SCV1

Column phase: RTXVMS

Instrument: nt3.i

Operator: PC

Column diameter: 0.18



Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

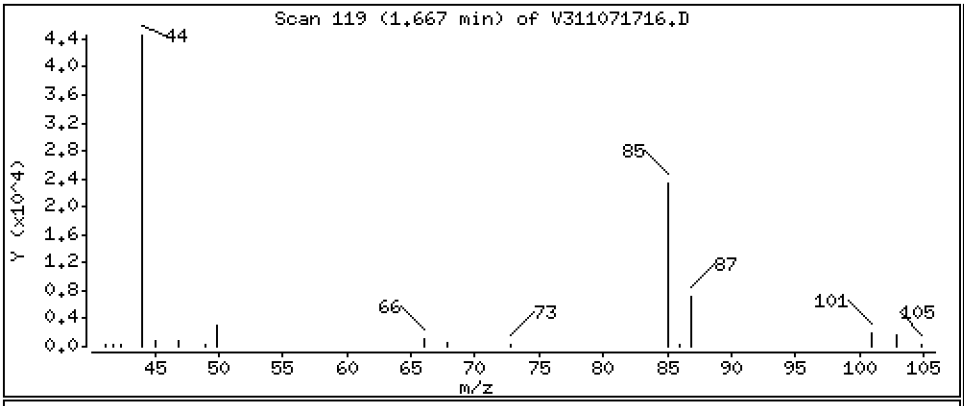
Operator: PC

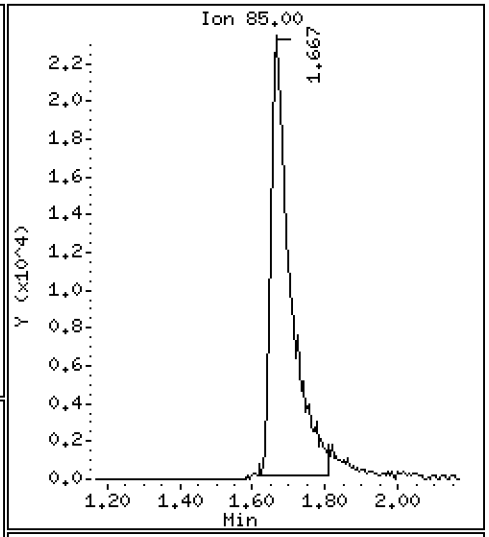
Column phase: RTXVMS

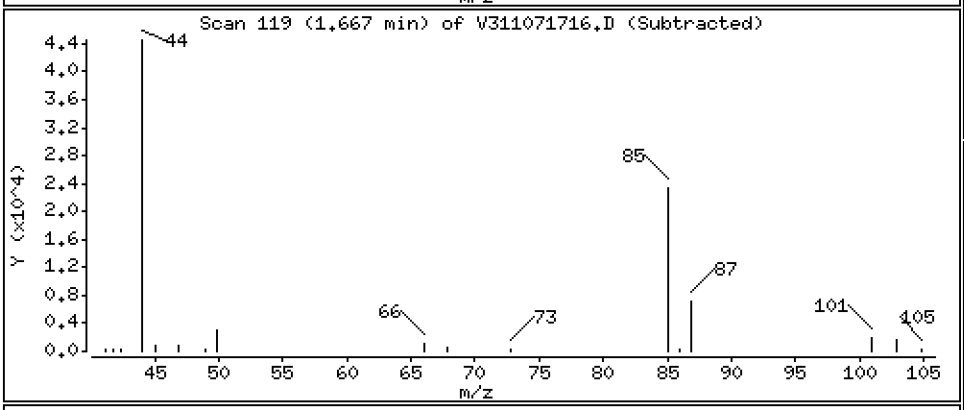
Column diameter: 0.18

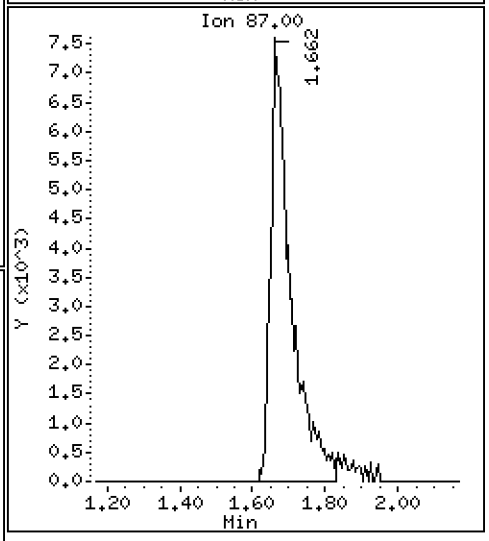
1 Dichlorodifluoromethane

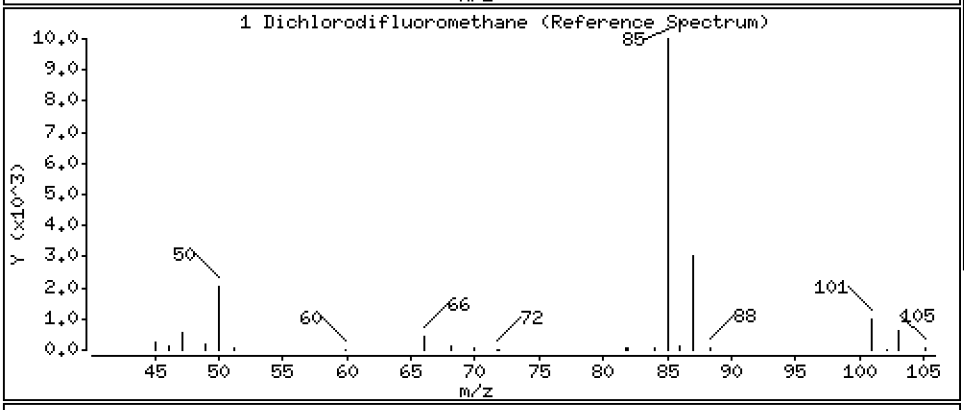
Concentration: 6.034 ug/L

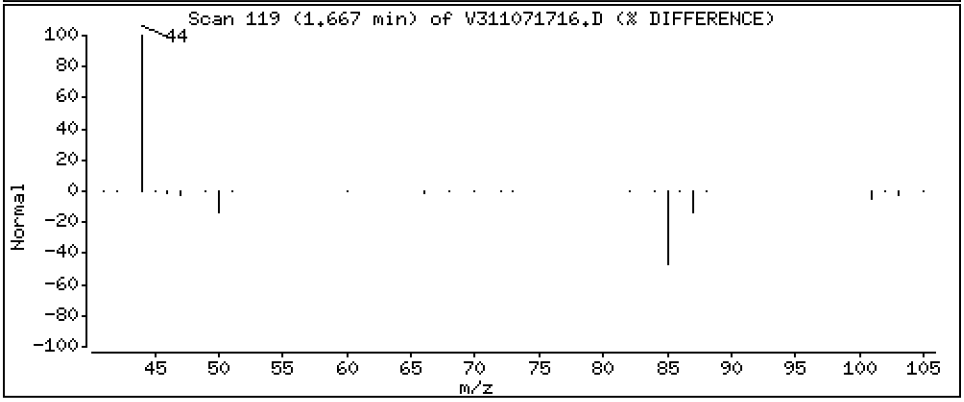












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

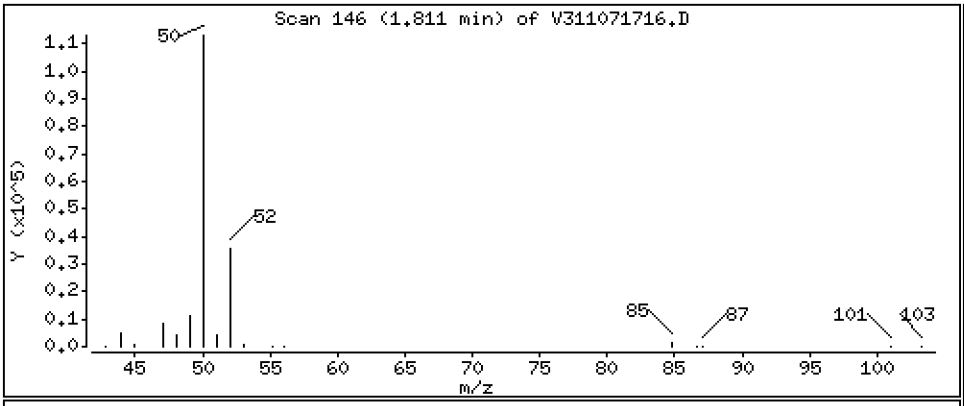
Operator: PC

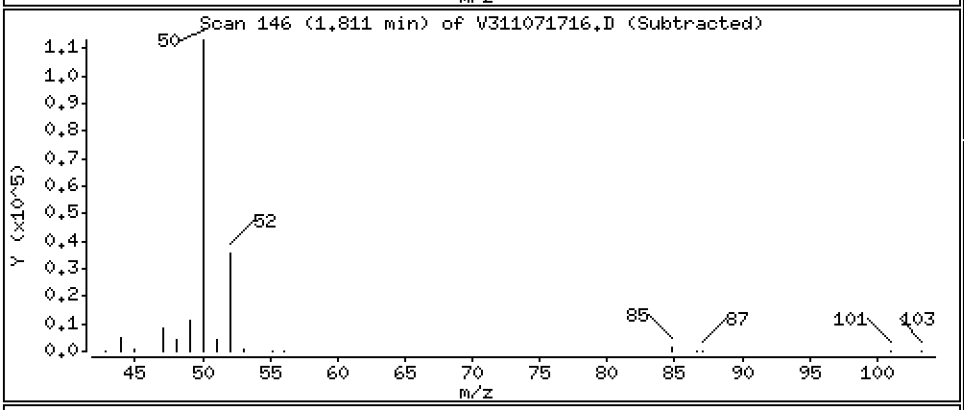
Column phase: RTXVMS

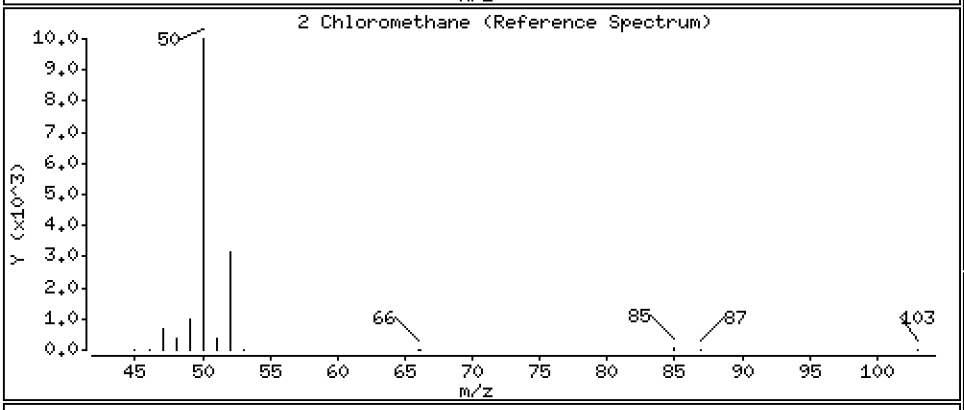
Column diameter: 0.18

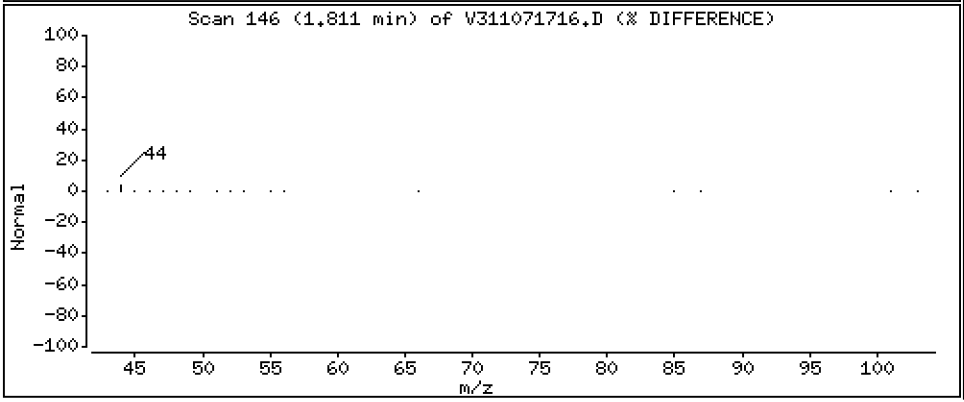
2 Chloromethane

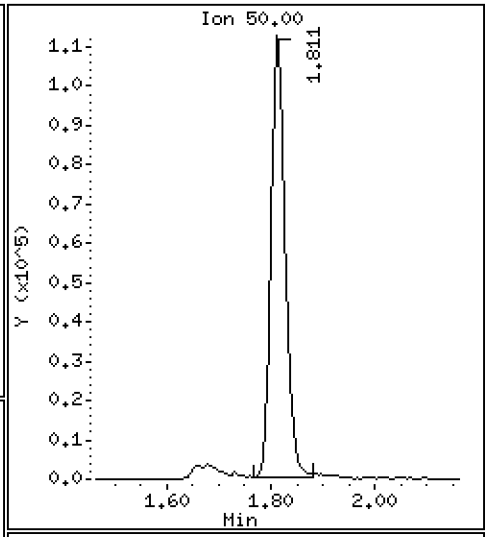
Concentration: 7.384 ug/L

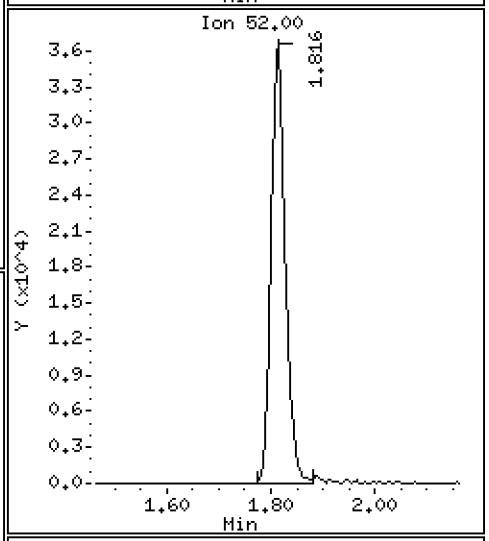


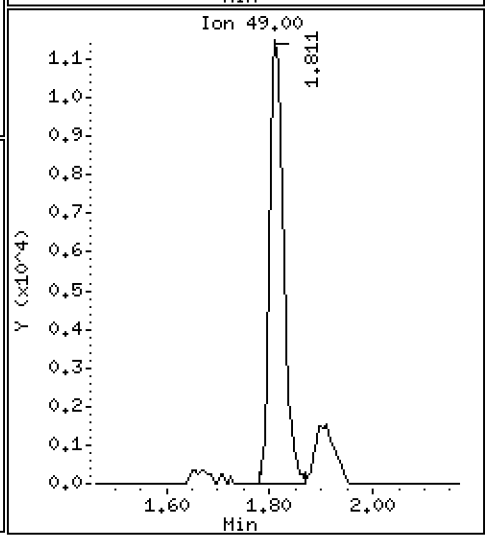












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

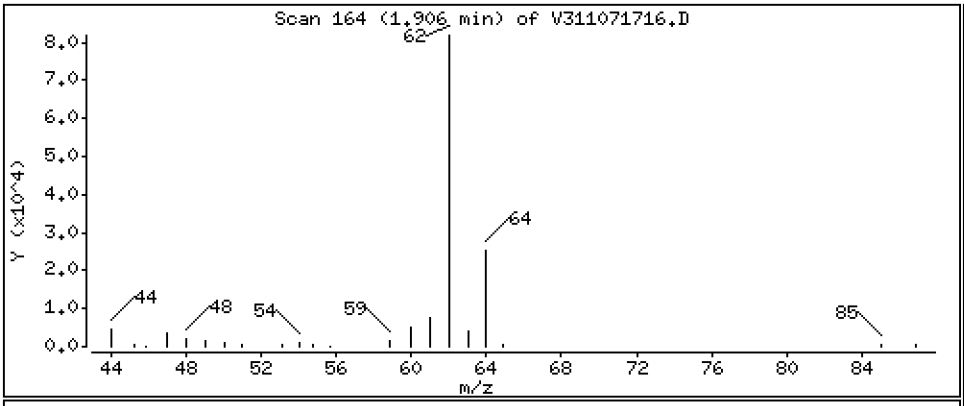
Operator: PC

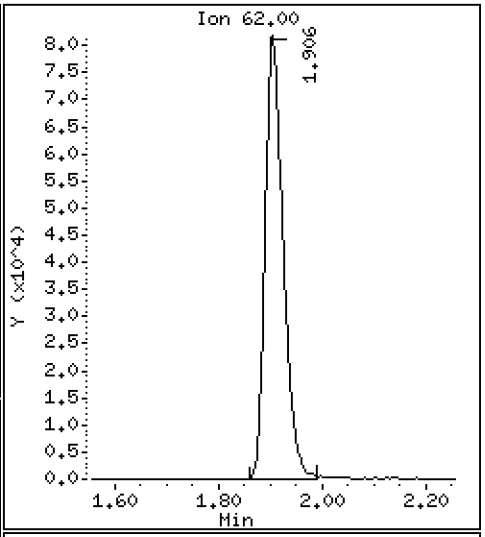
Column phase: RTXVMS

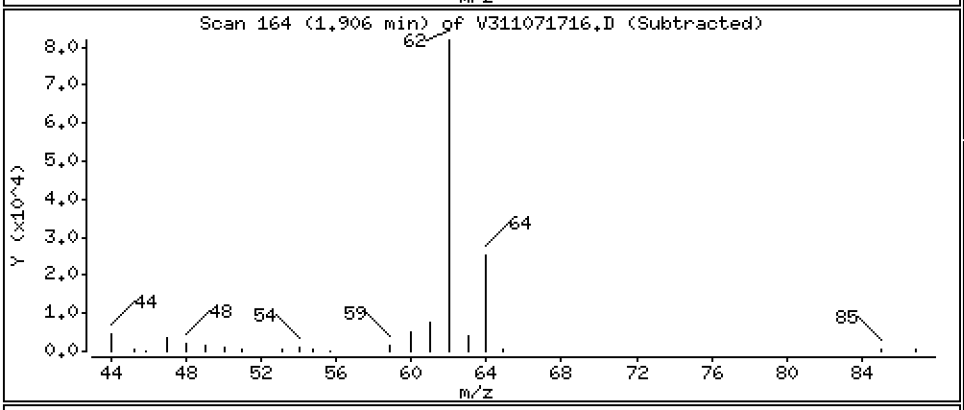
Column diameter: 0.18

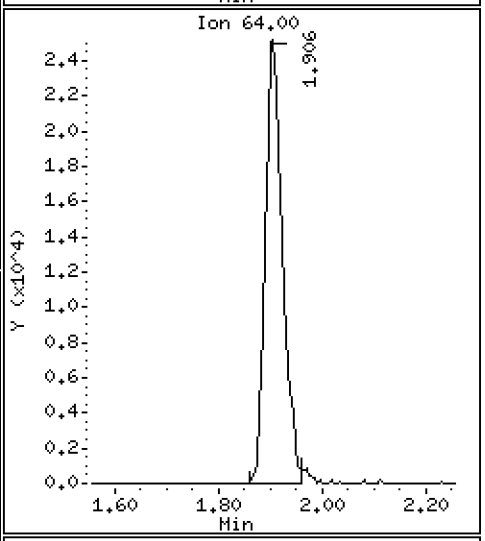
3 Vinyl Chloride

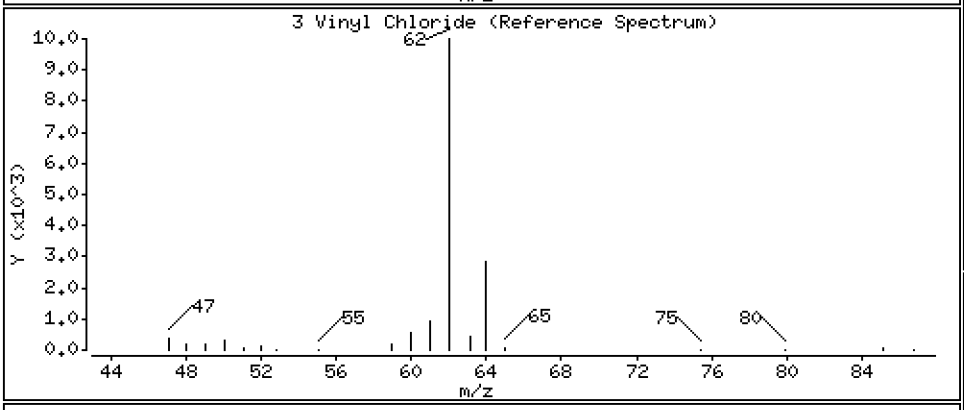
Concentration: 8.315 ug/L

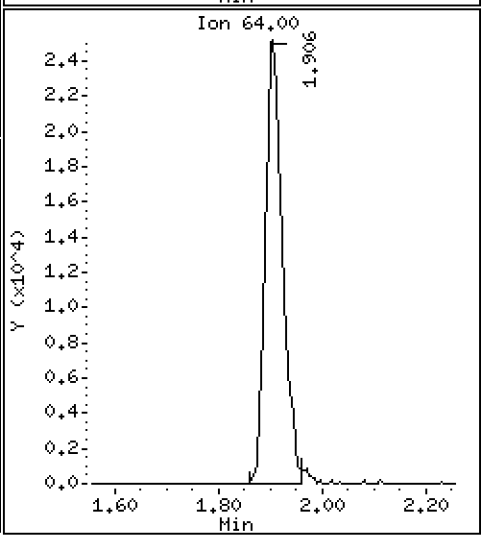


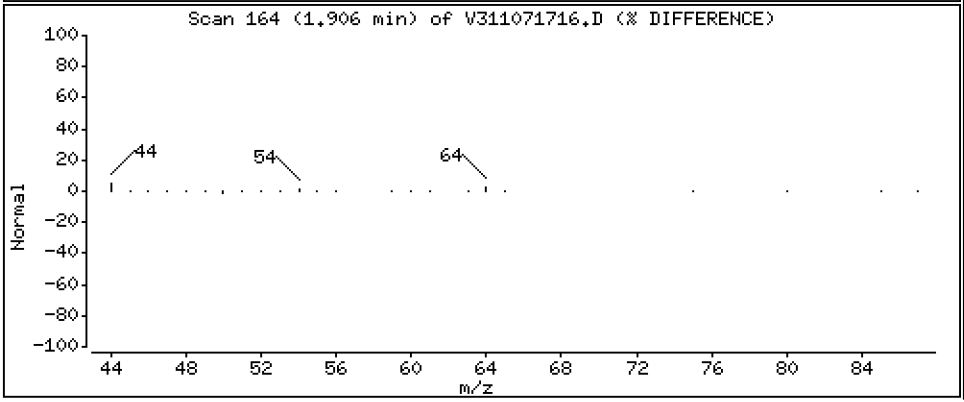












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

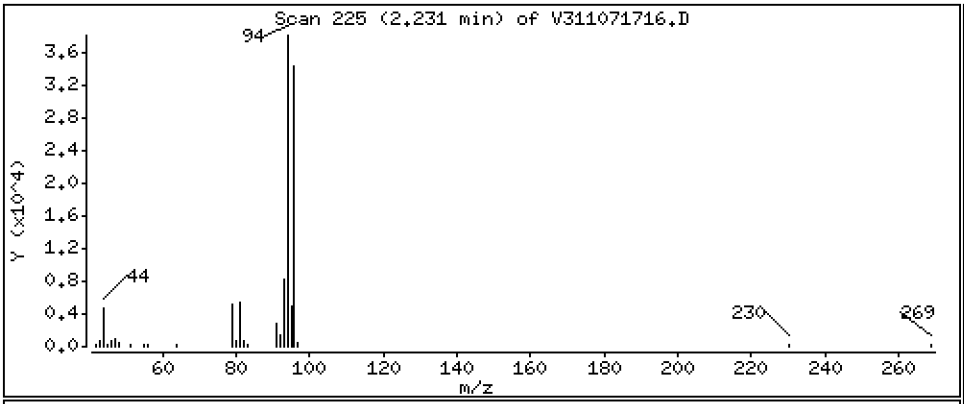
Operator: PC

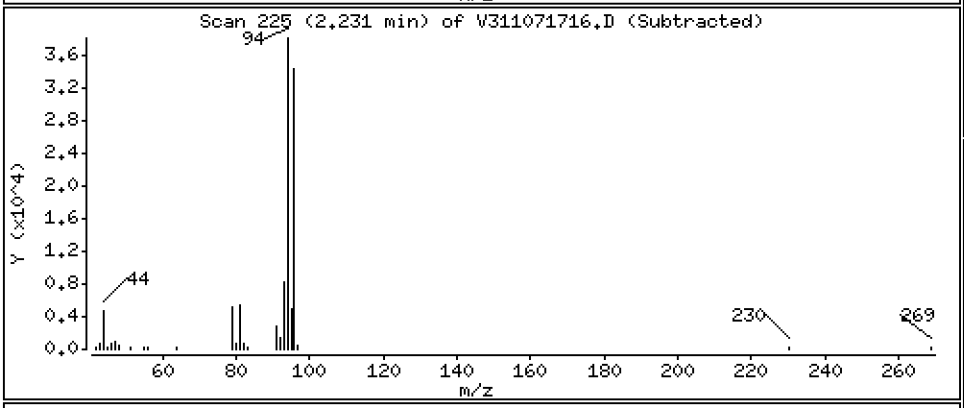
Column phase: RTXVMS

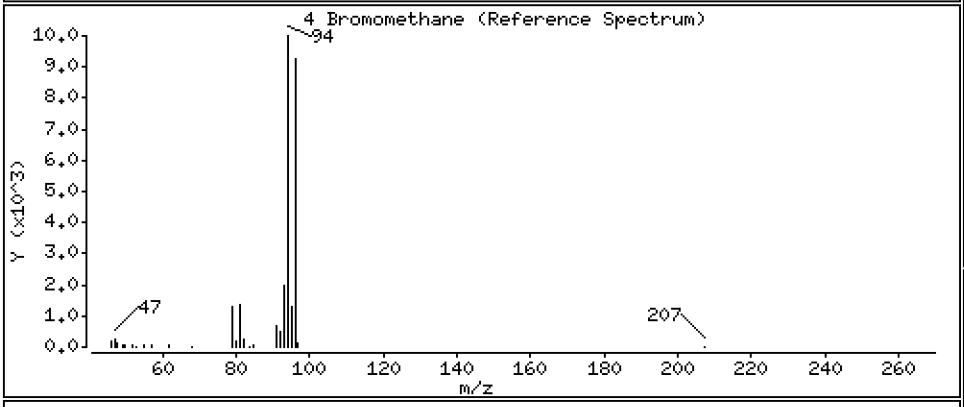
Column diameter: 0.18

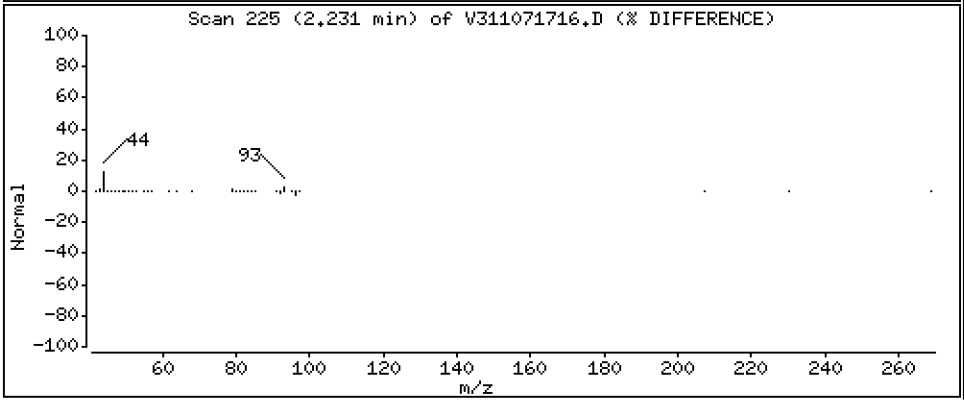
4 Bromomethane

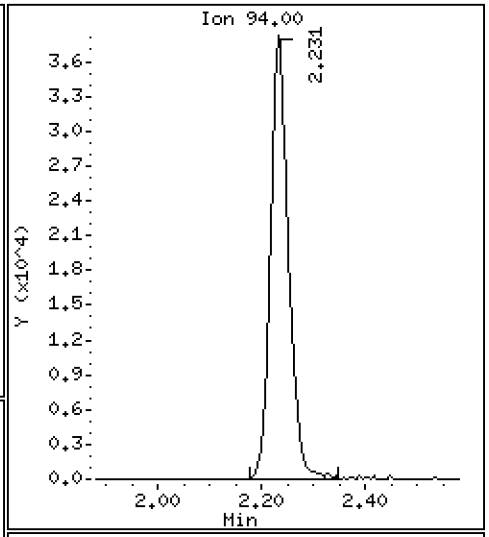
Concentration: 8.391 ug/L

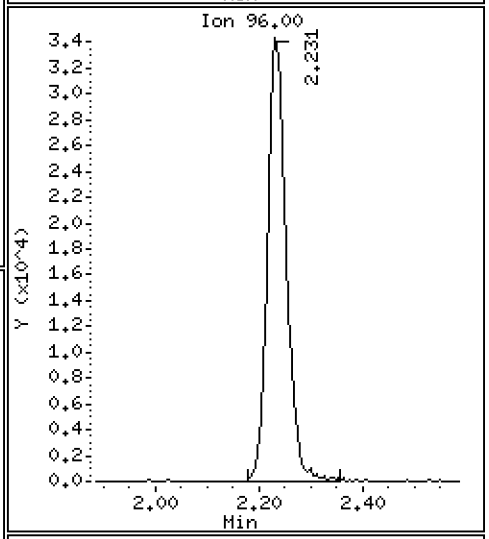


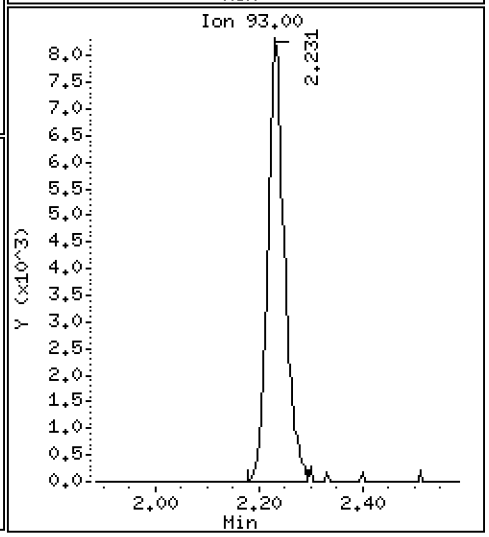












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

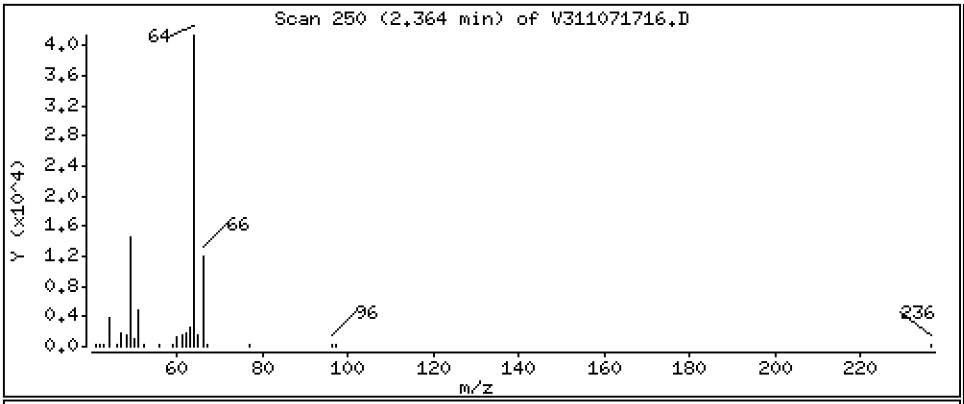
Operator: PC

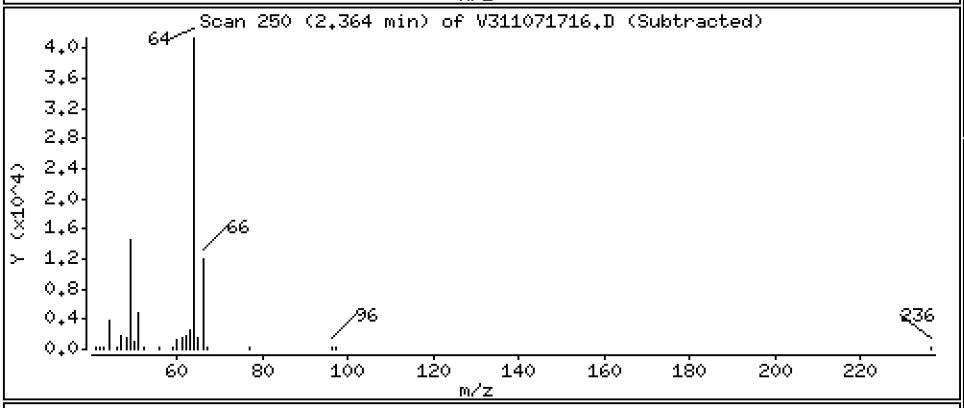
Column phase: RTXVMS

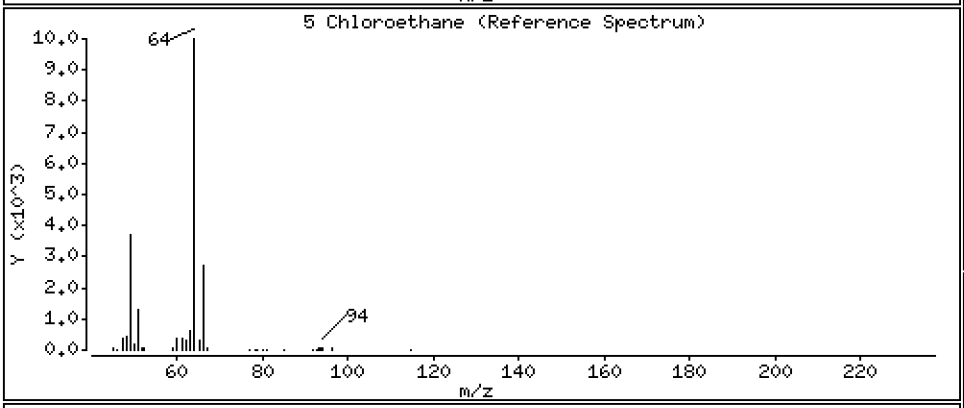
Column diameter: 0.18

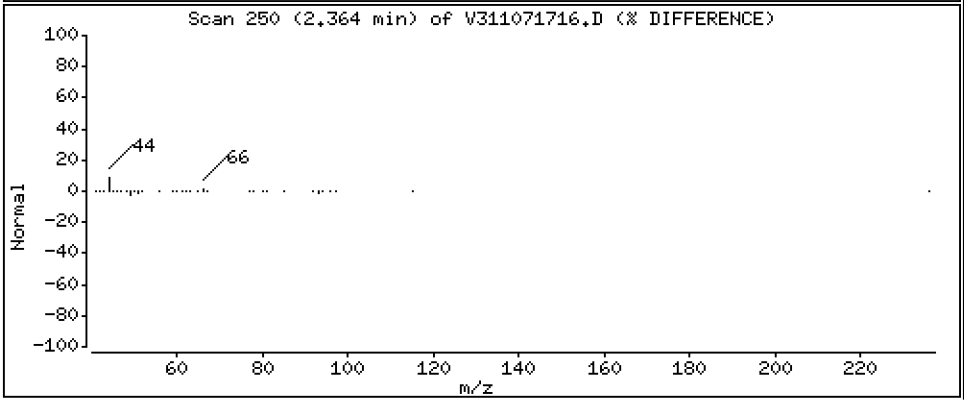
5 Chloroethane

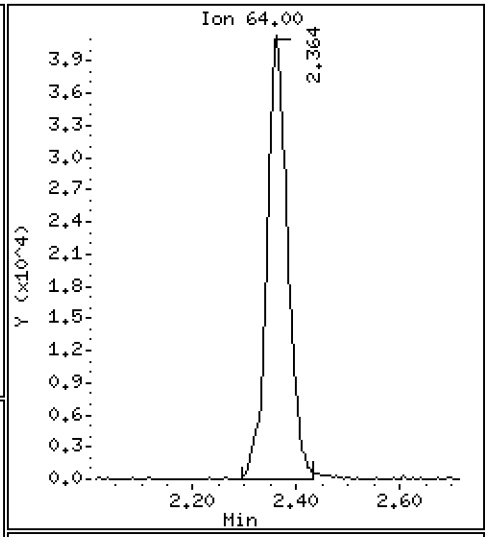
Concentration: 8.113 ug/L

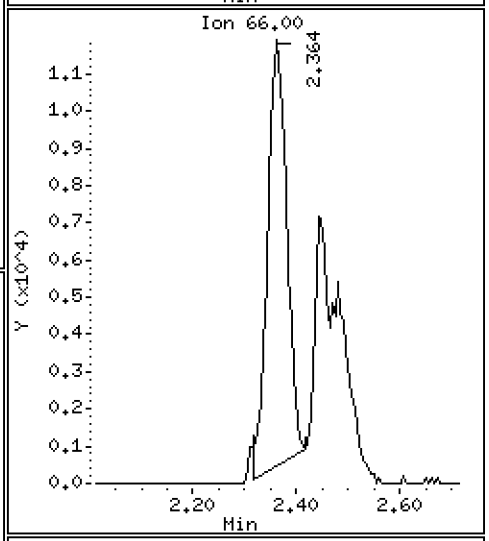


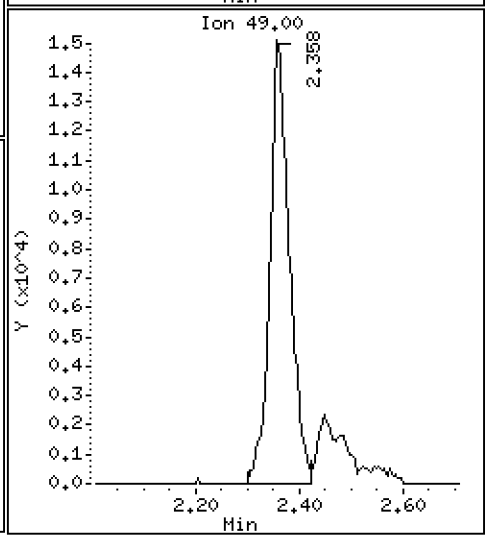












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

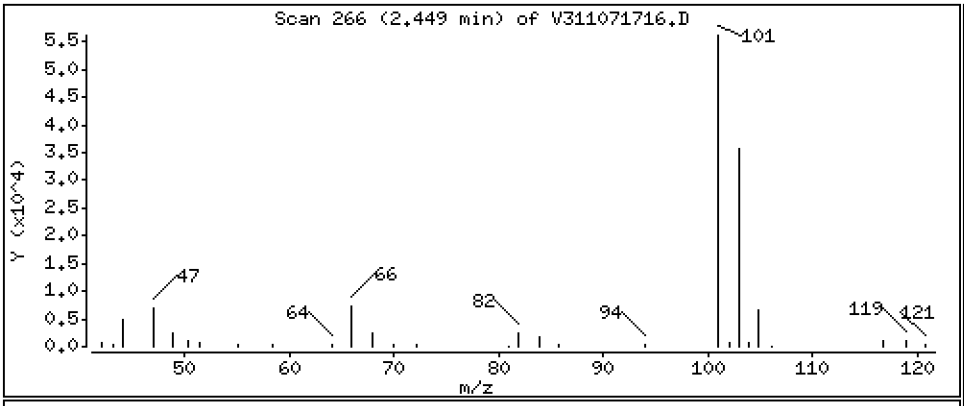
Operator: PC

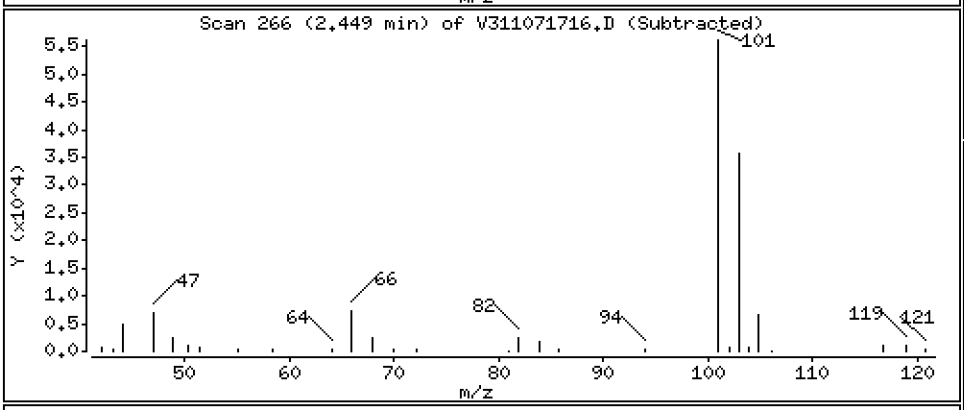
Column phase: RTXVMS

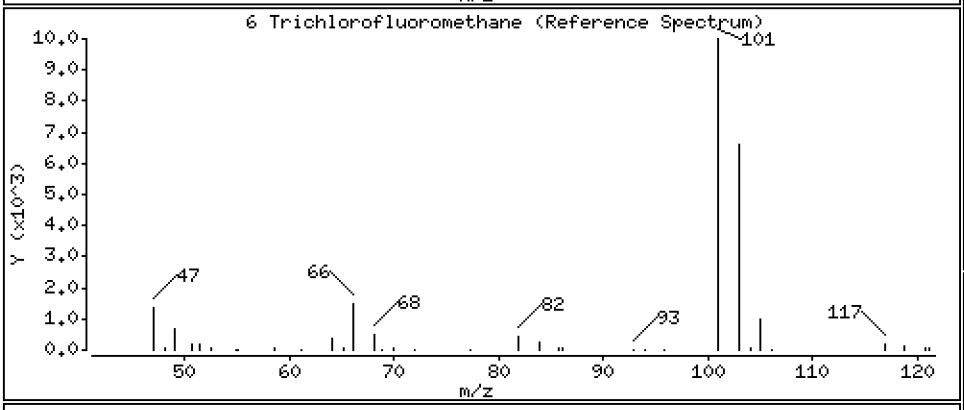
Column diameter: 0.18

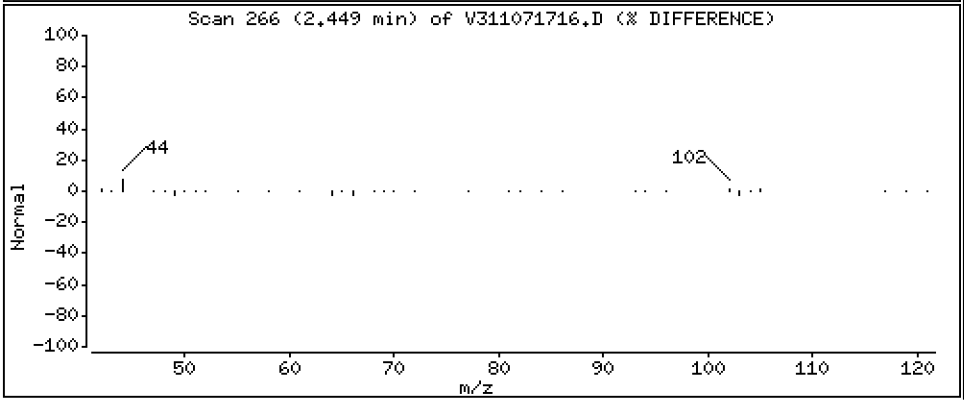
6 Trichlorofluoromethane

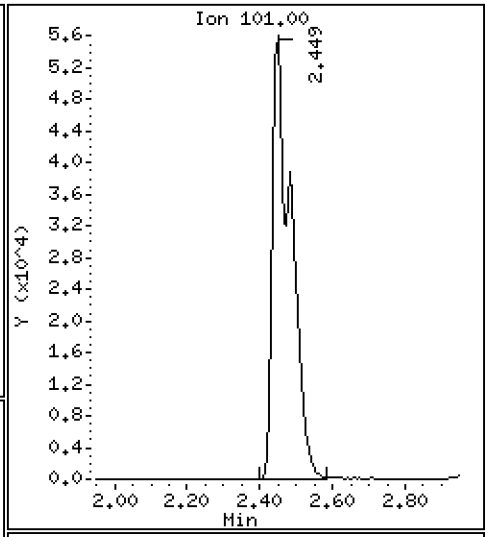
Concentration: 8.457 ug/L

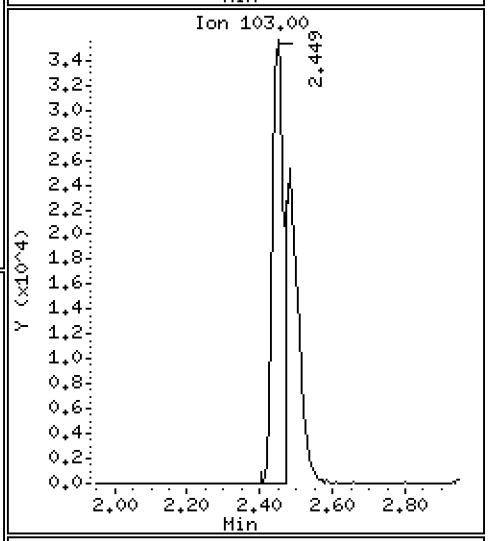


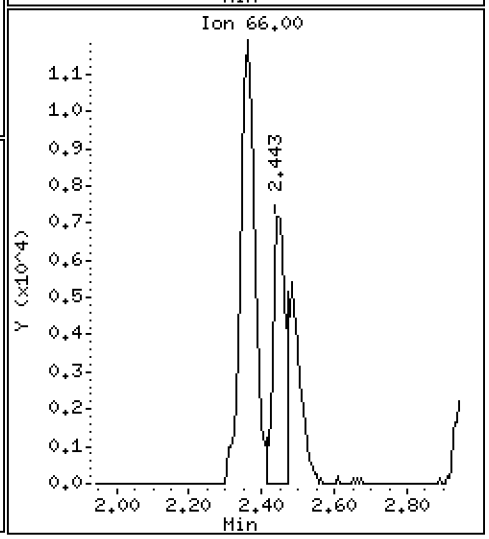












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

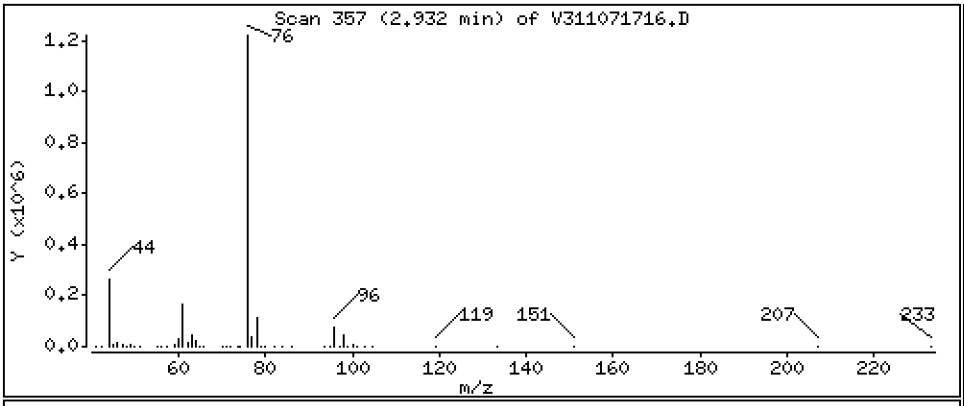
Operator: PC

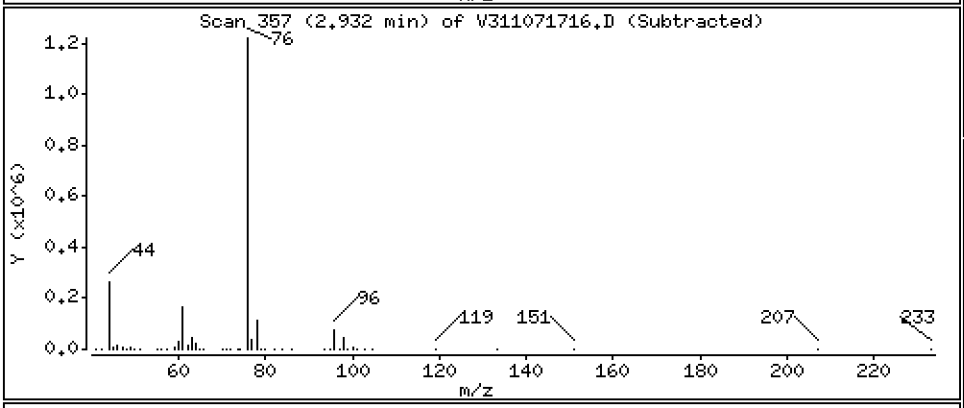
Column phase: RTXVMS

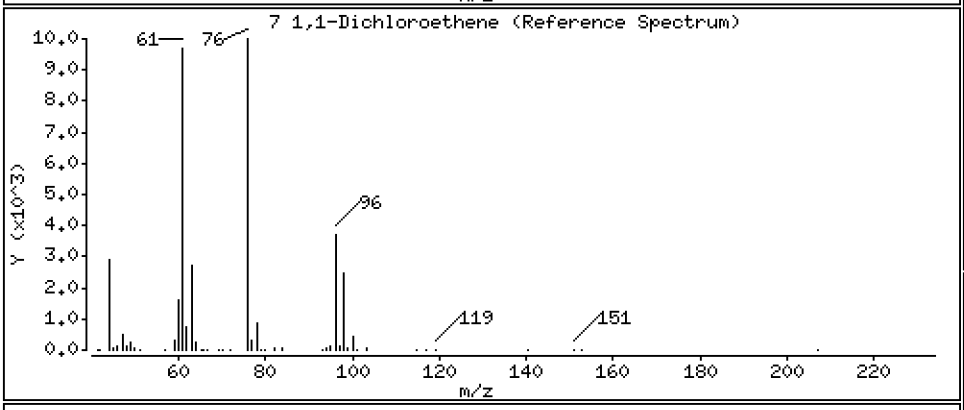
Column diameter: 0.18

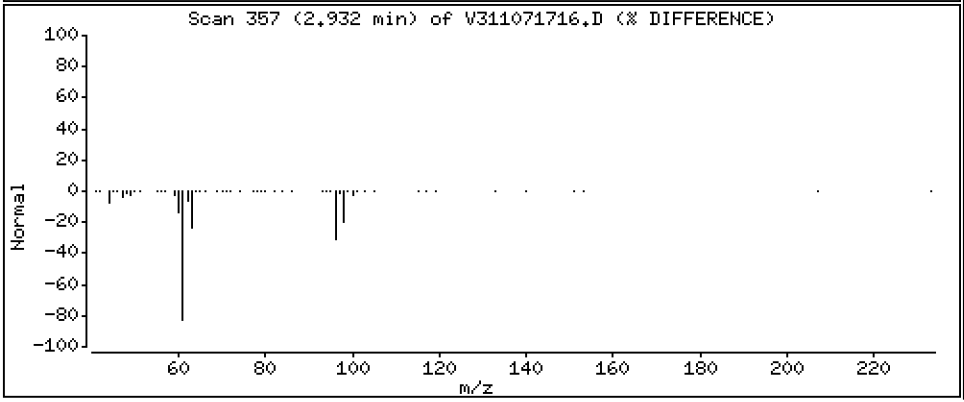
7 1,1-Dichloroethene

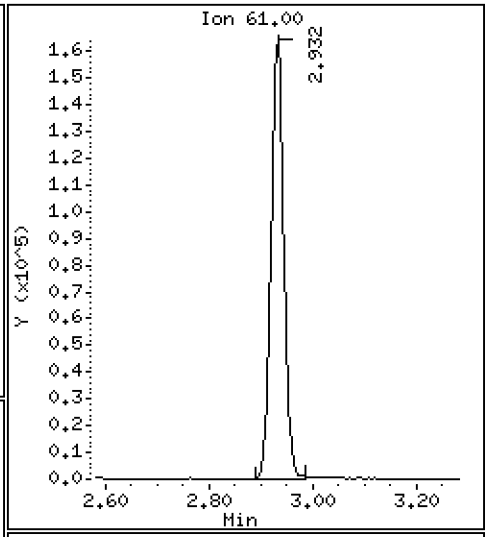
Concentration: 9.630 ug/L

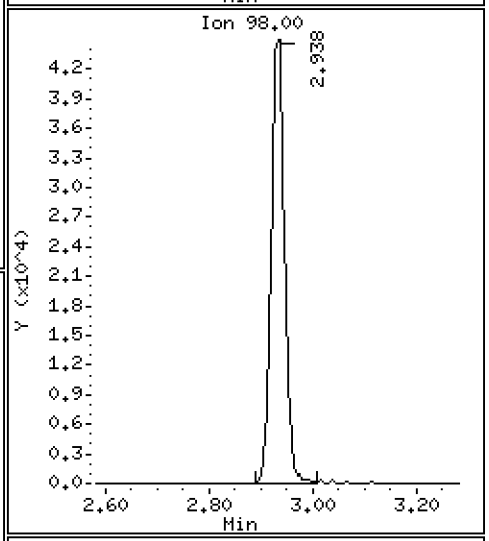


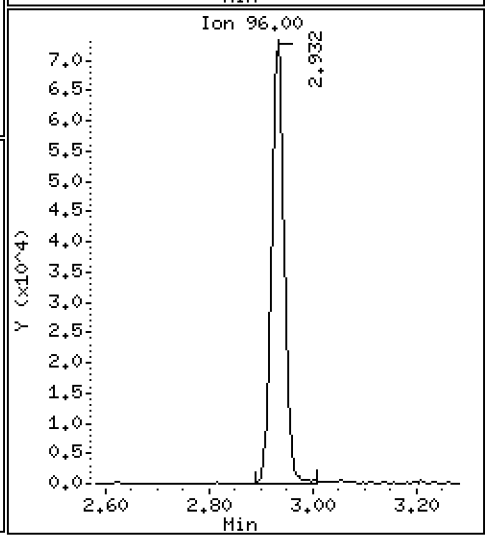












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

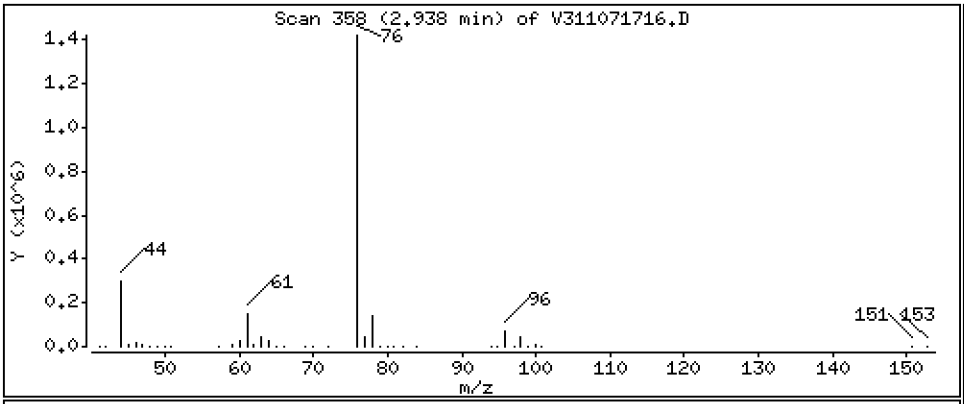
Operator: PC

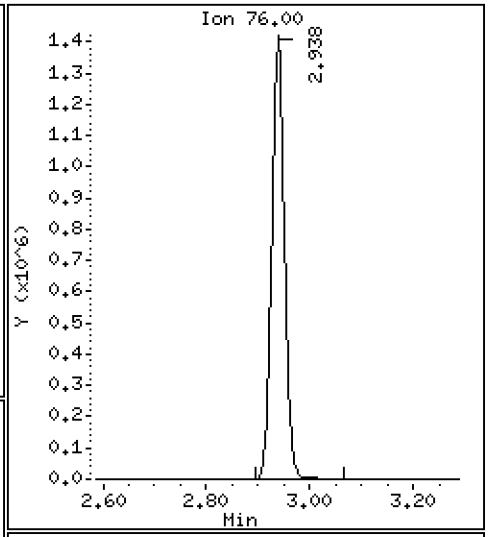
Column phase: RTXVMS

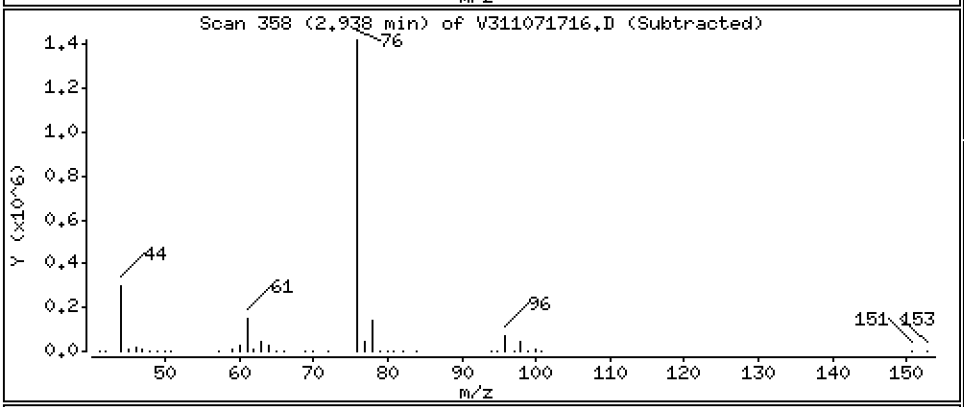
Column diameter: 0.18

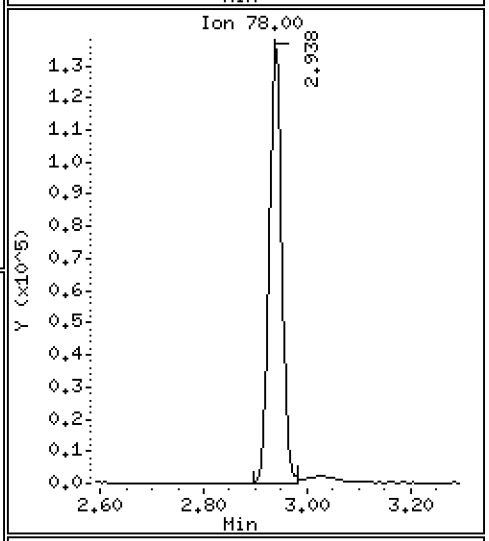
8 Carbon Disulfide

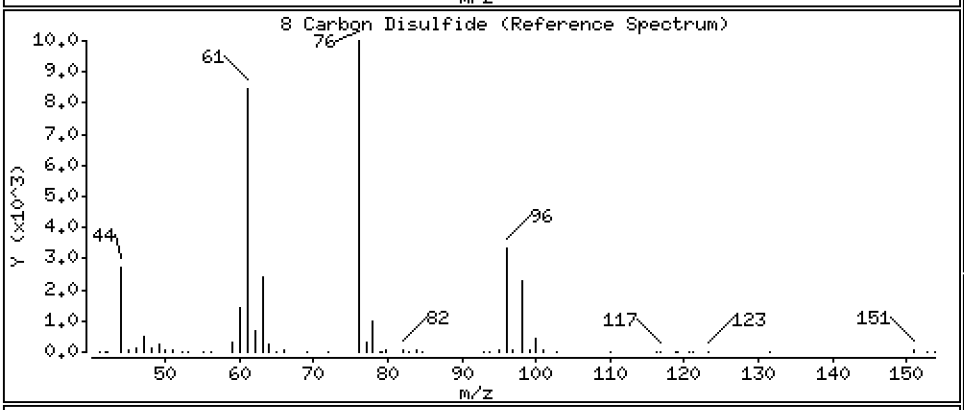
Concentration: 55.087 ug/L

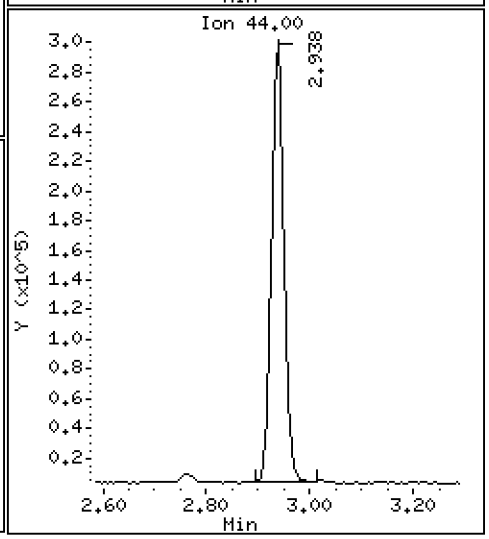


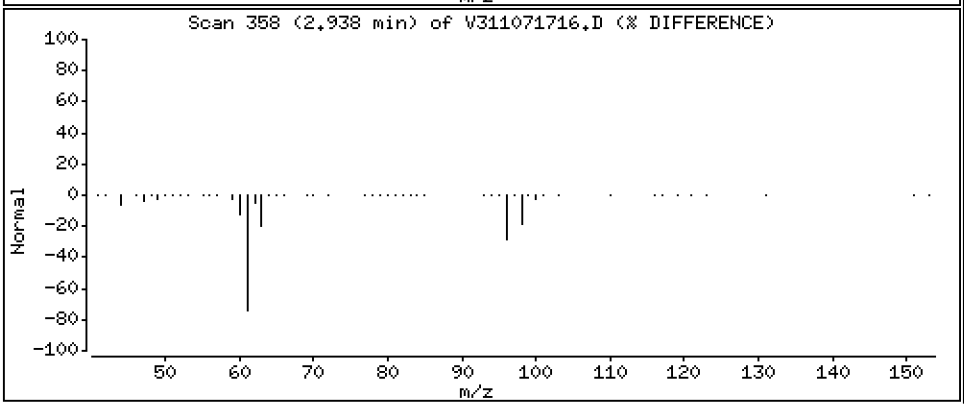












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

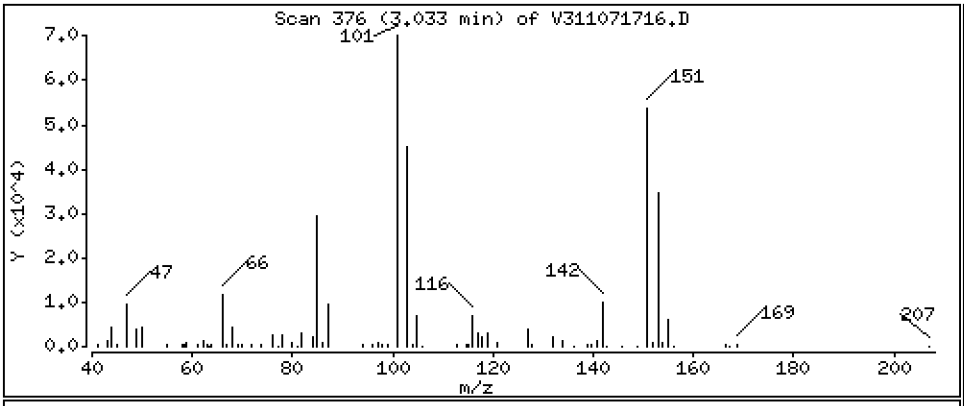
Operator: PC

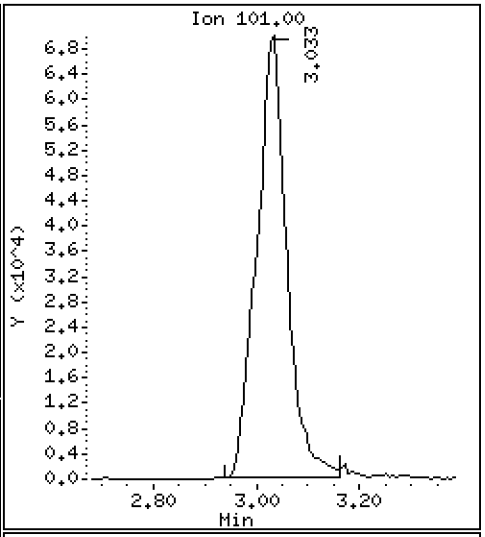
Column phase: RTXVMS

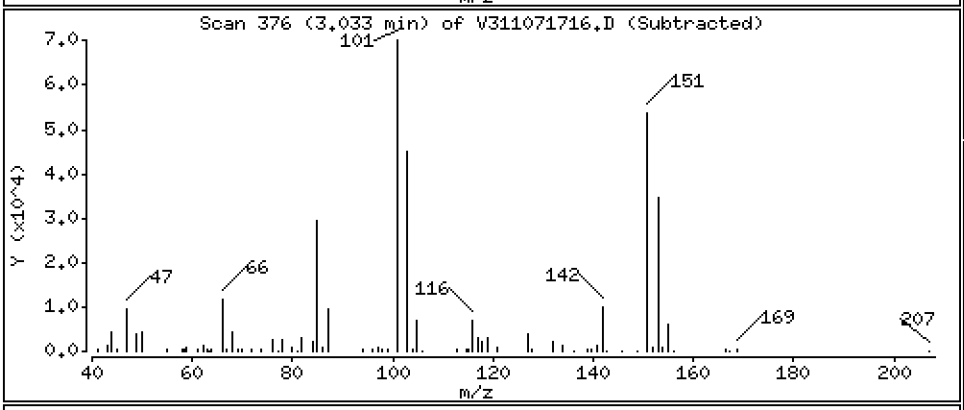
Column diameter: 0.18

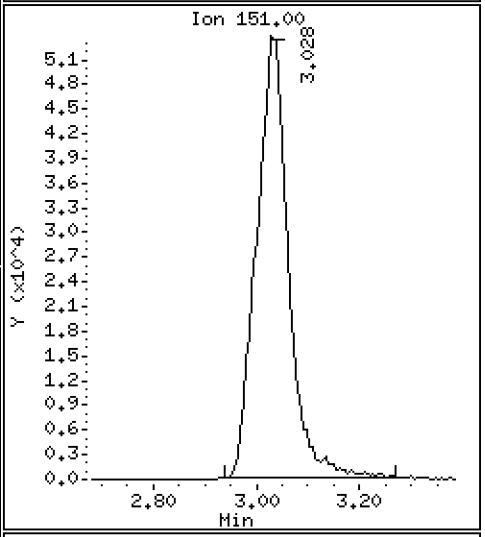
9 112Trichloro122Trifluoroethane

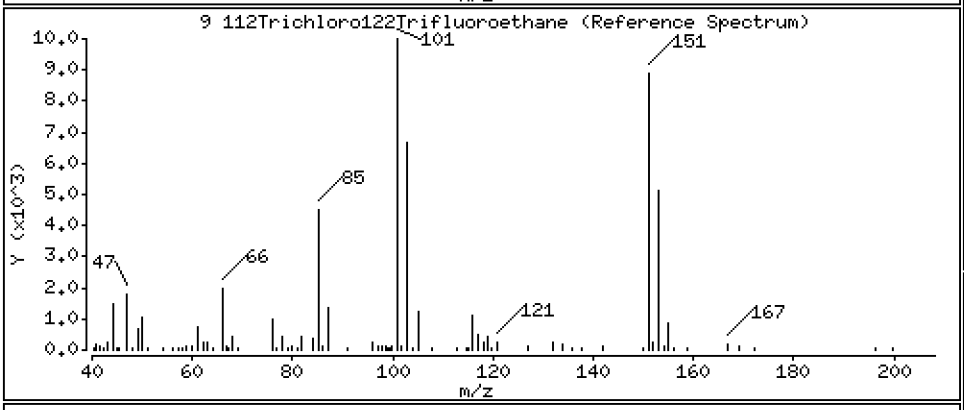
Concentration: 20.785 ug/L

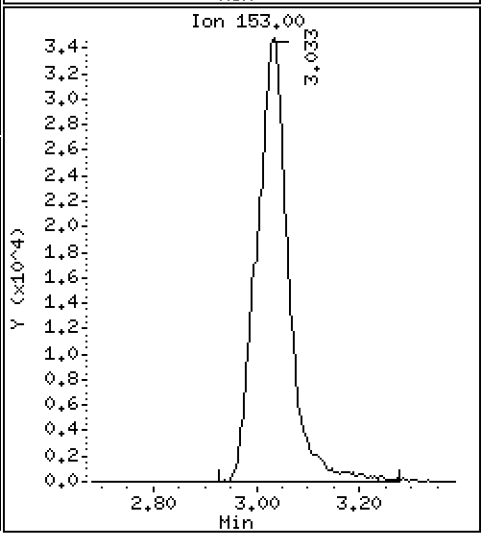


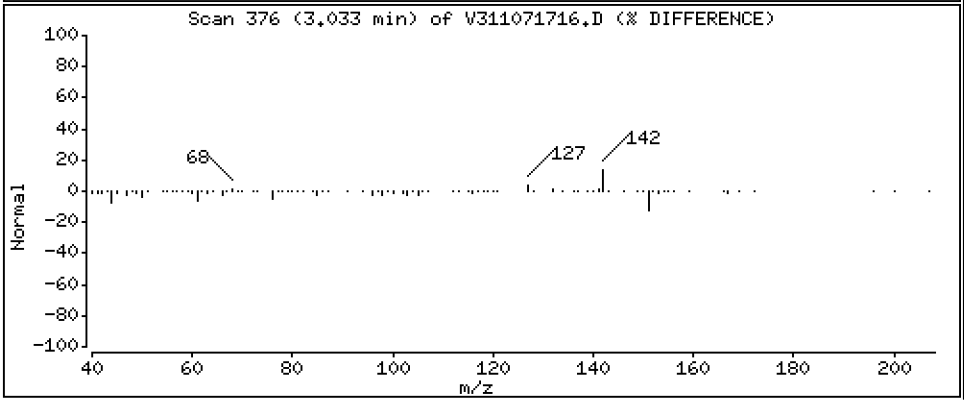












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

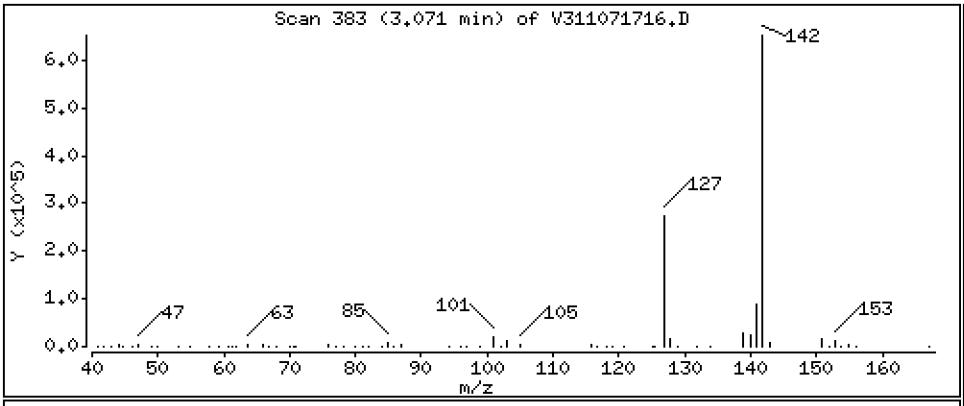
Operator: PC

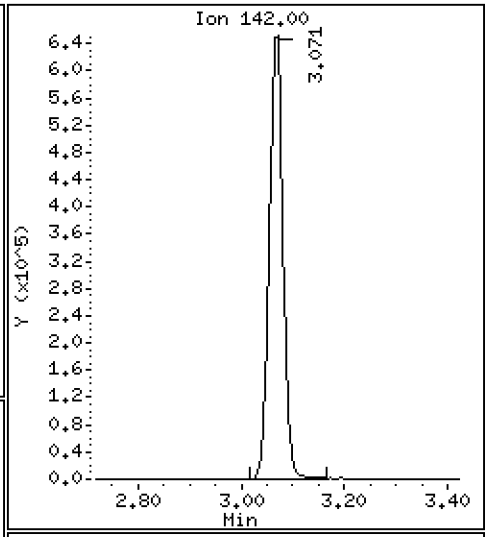
Column phase: RTXVMS

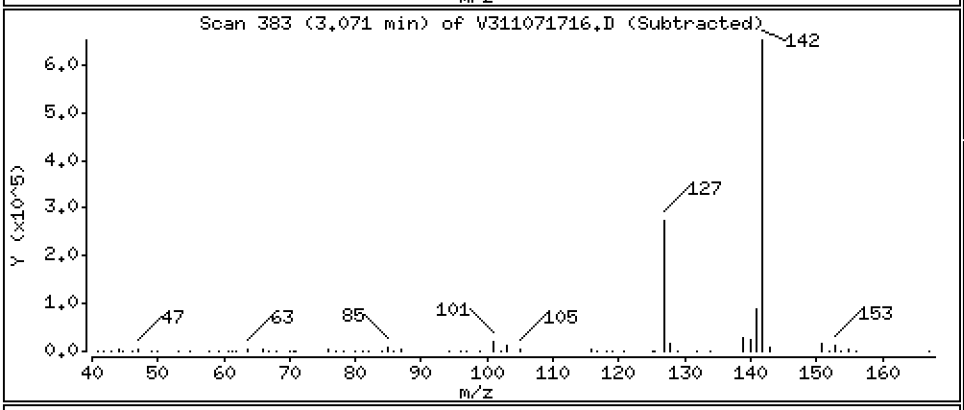
Column diameter: 0.18

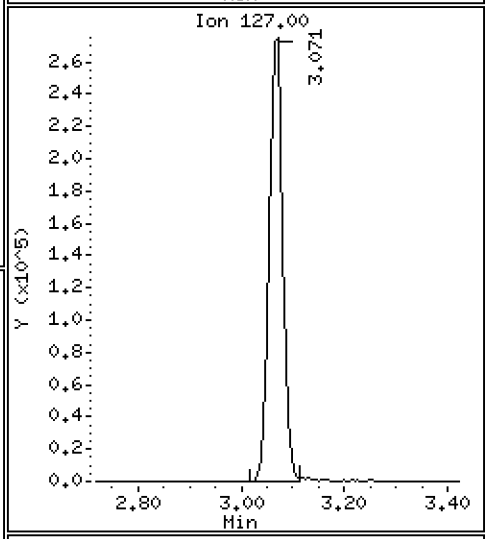
10 Iodomethane

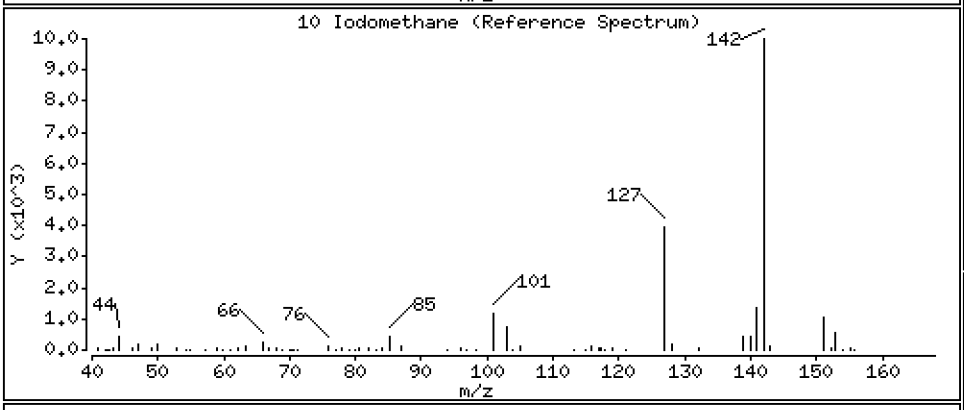
Concentration: 59.457 ug/L

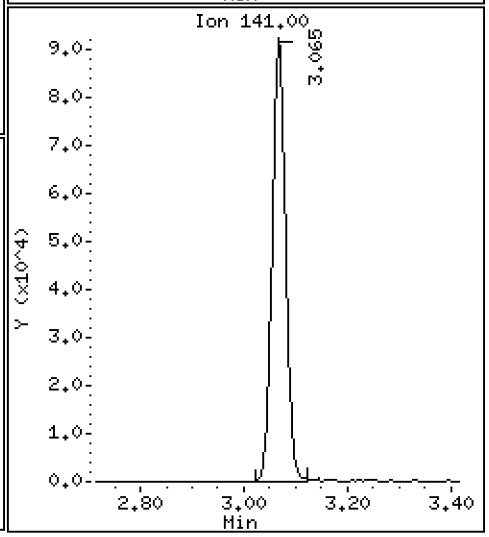


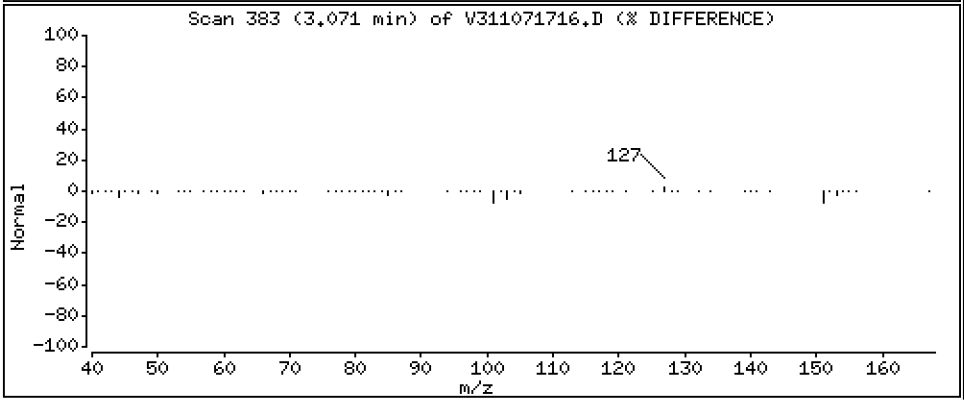












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

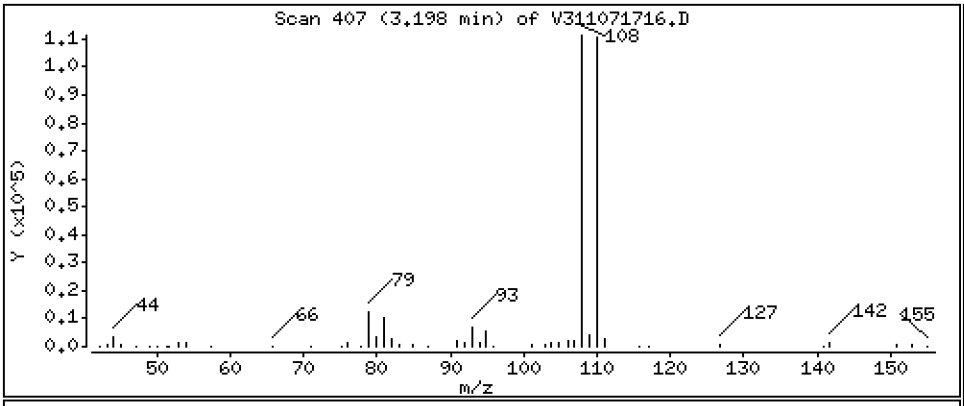
Operator: PC

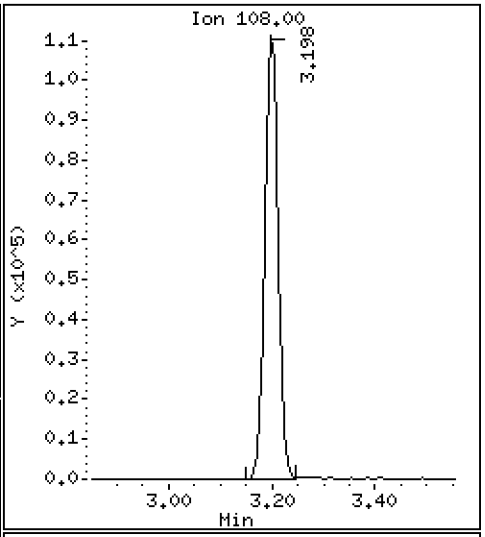
Column phase: RTXVMS

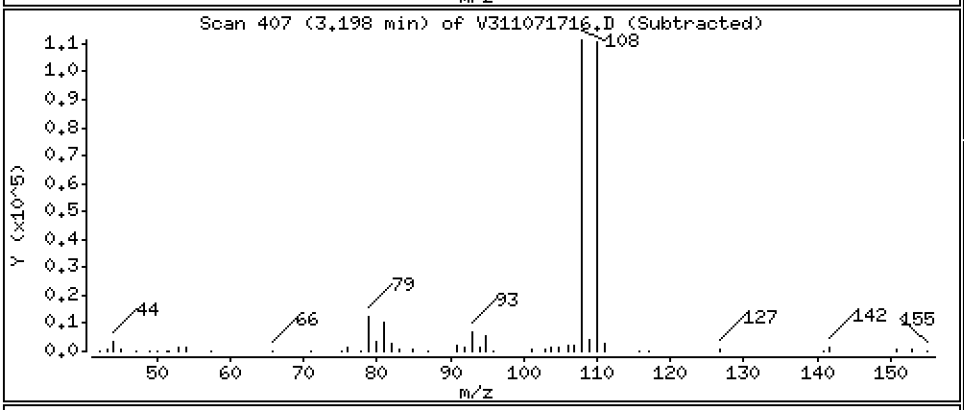
Column diameter: 0.18

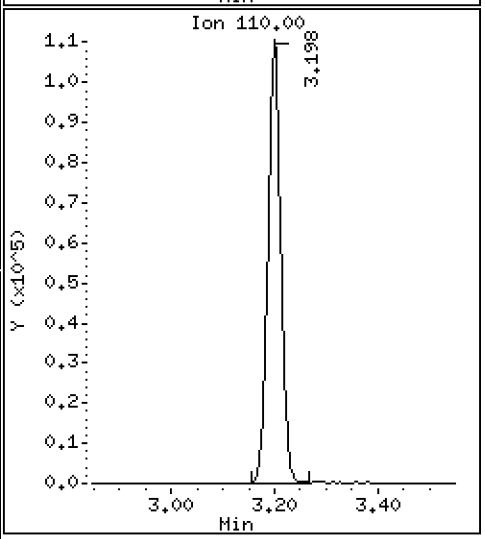
11 Bromoethane

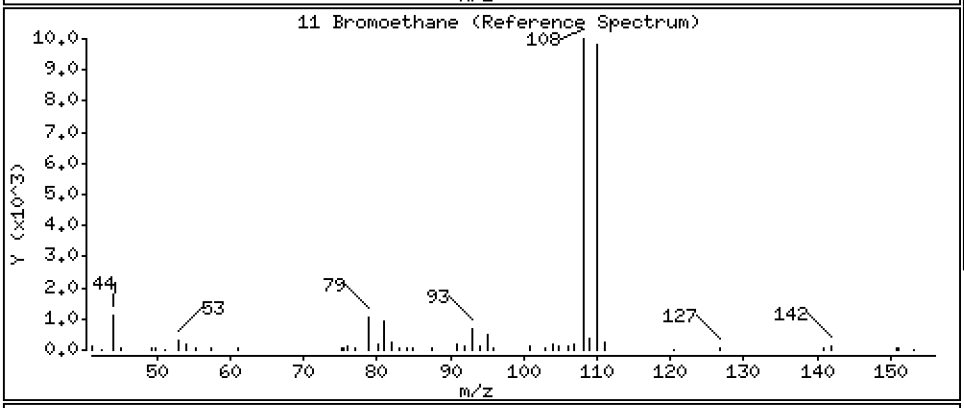
Concentration: 19.292 ug/L

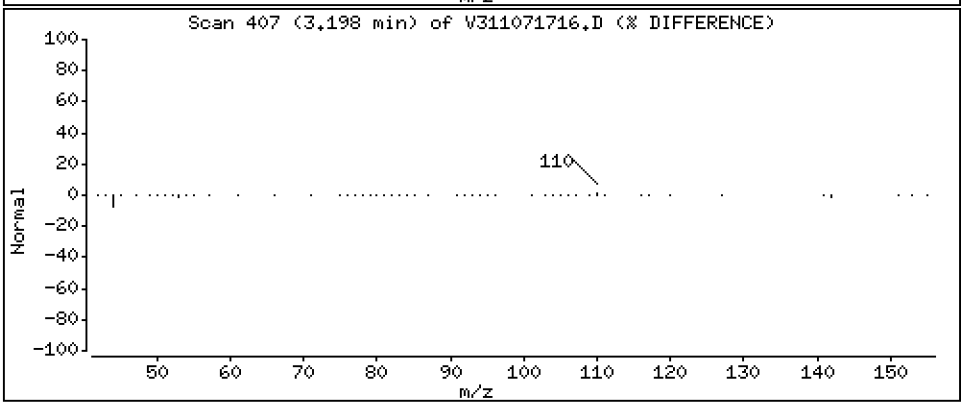












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

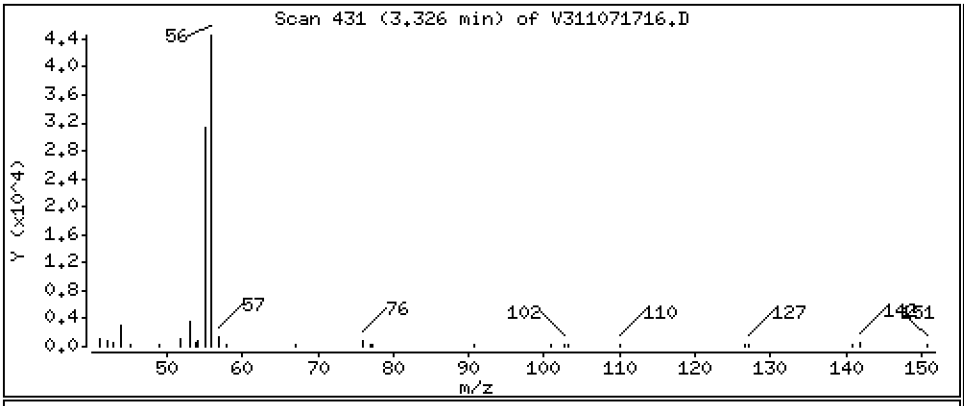
Operator: PC

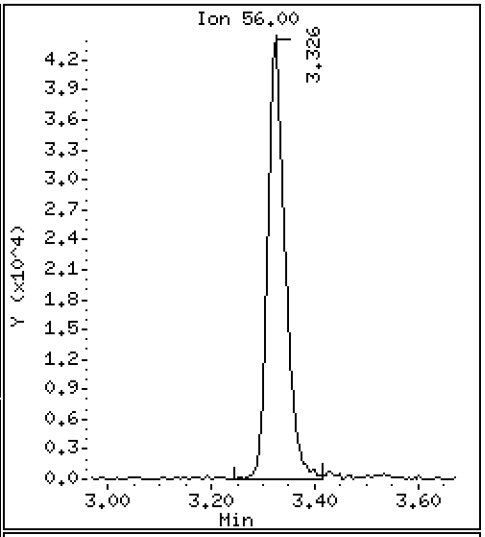
Column phase: RTXVMS

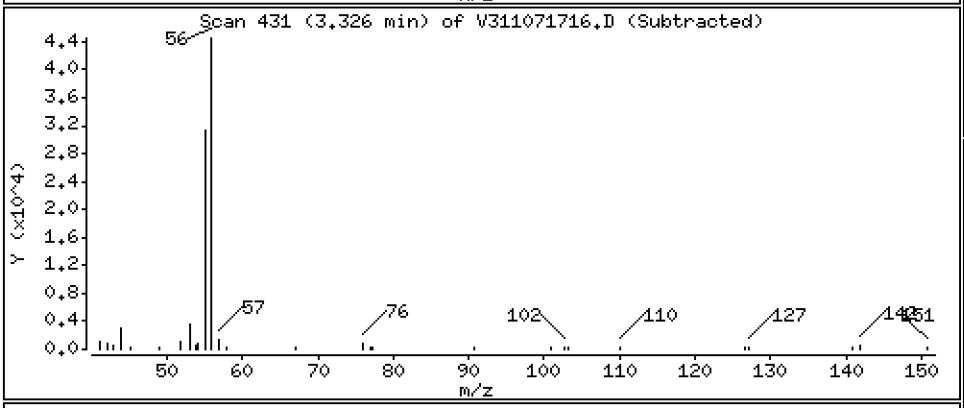
Column diameter: 0.18

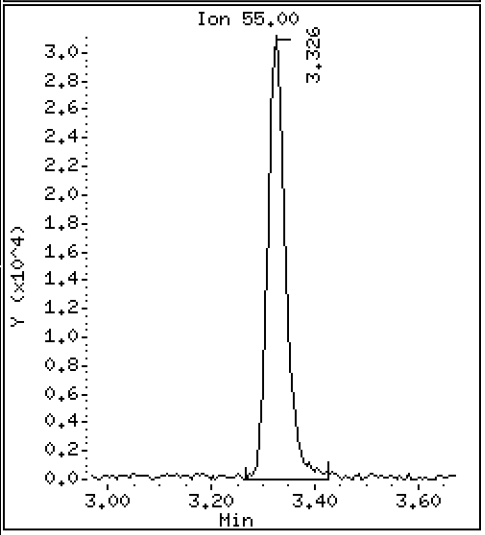
12 Acrolein

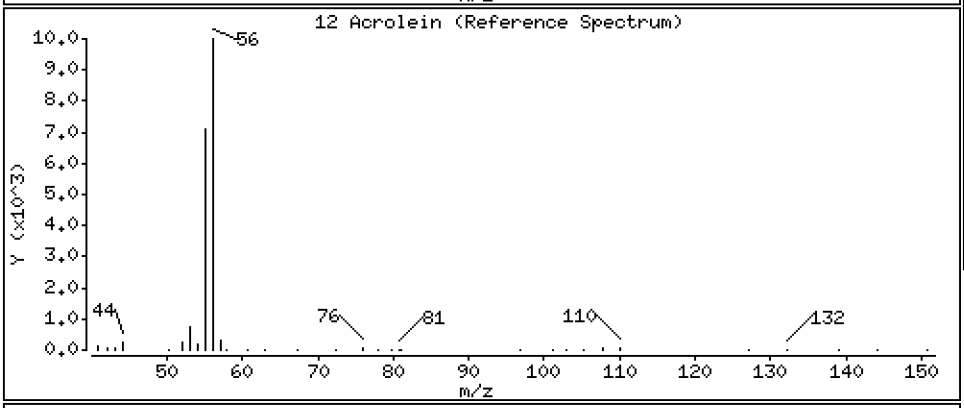
Concentration: 44.857 ug/L

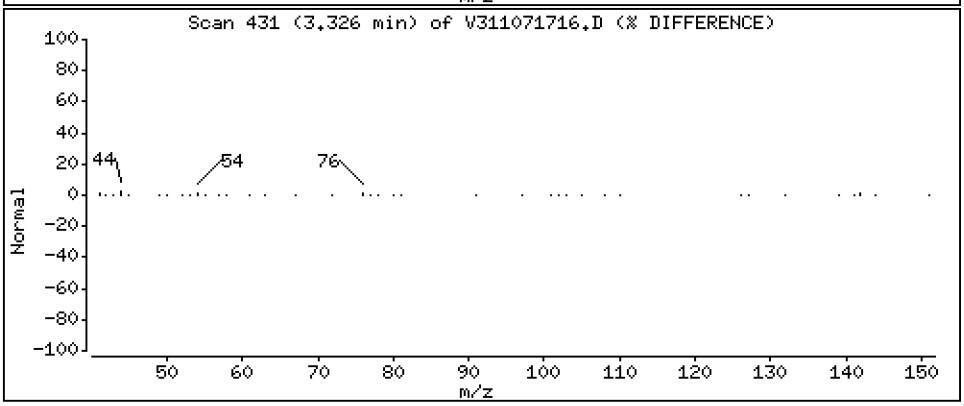












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

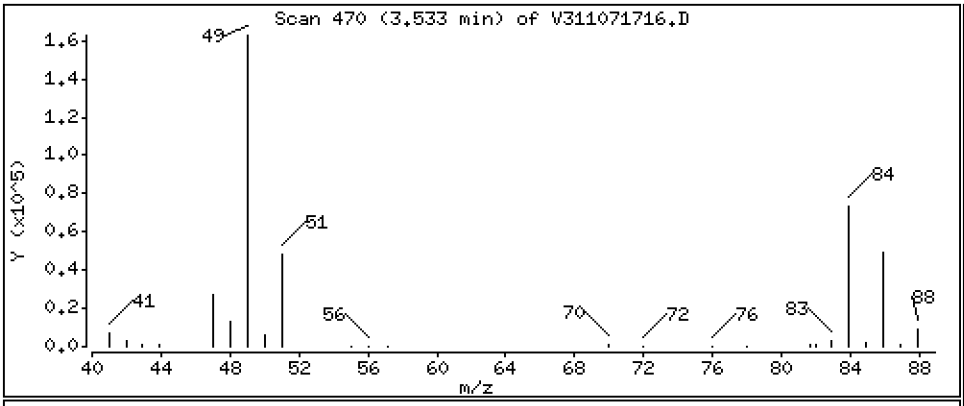
Operator: PC

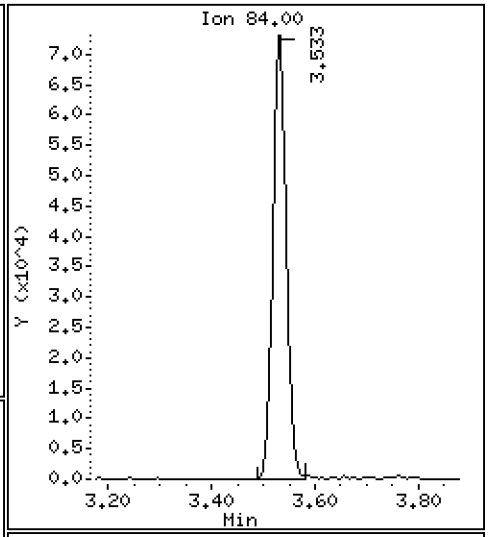
Column phase: RTXVMS

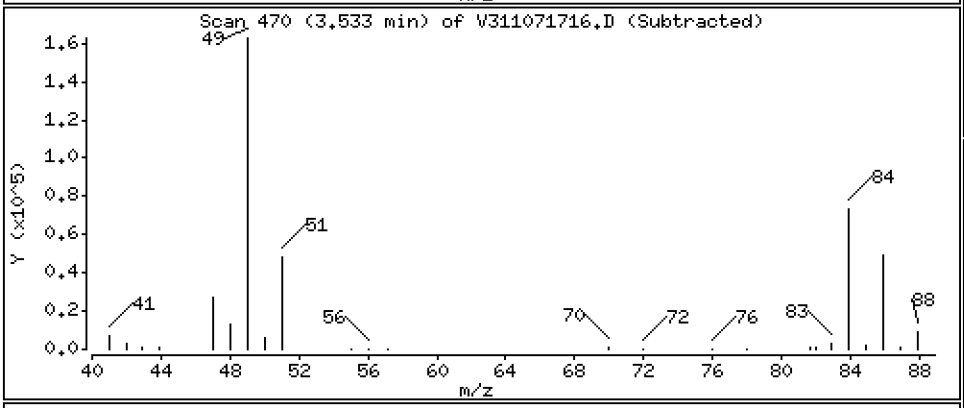
Column diameter: 0.18

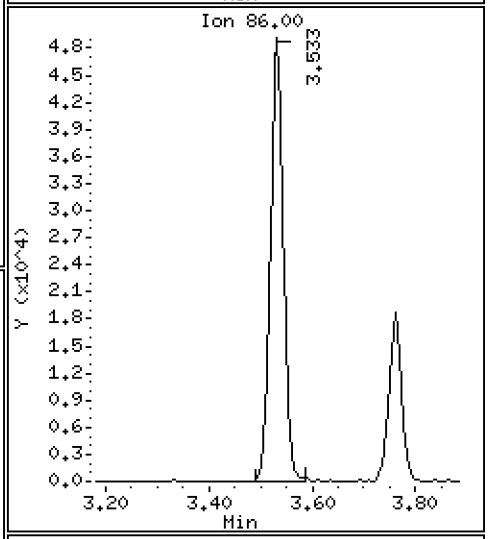
13 Methylene Chloride

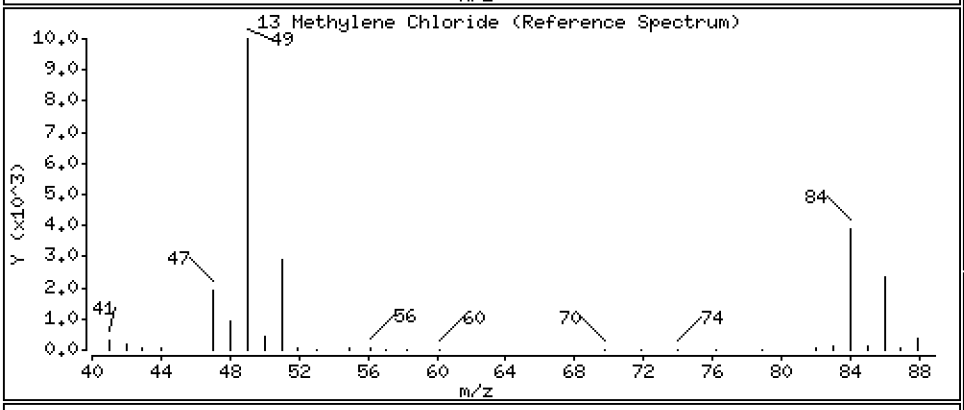
Concentration: 10.102 ug/L

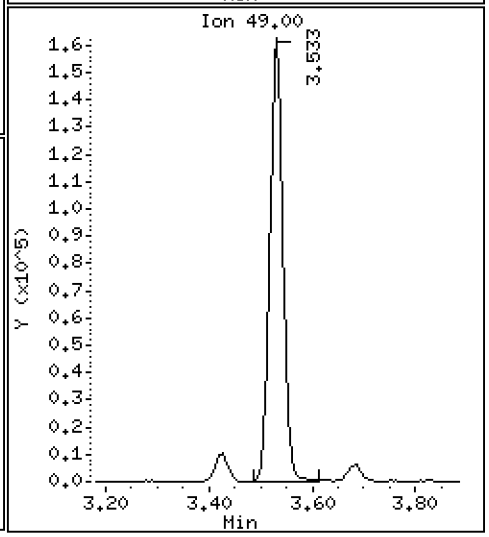


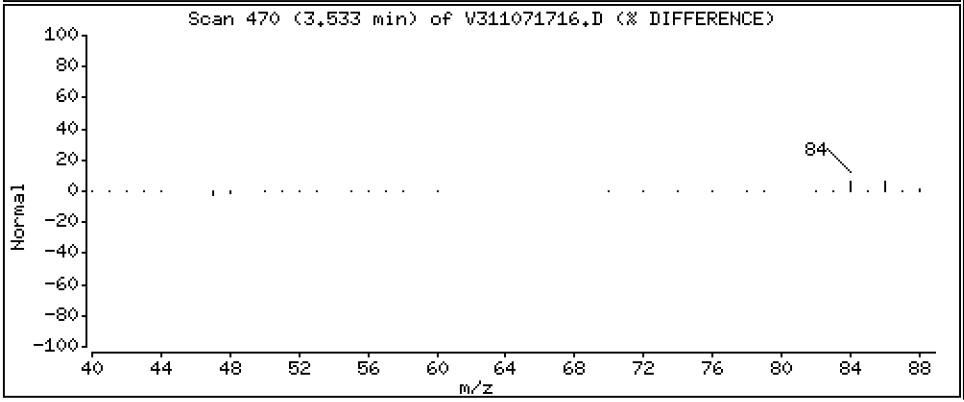












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

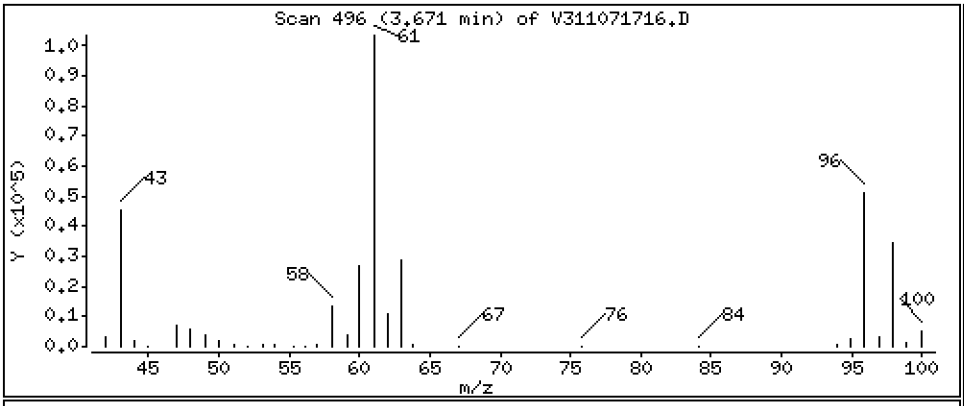
Operator: PC

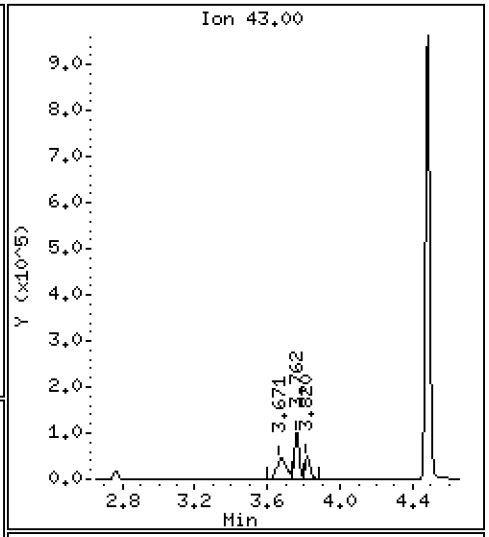
Column phase: RTXVMS

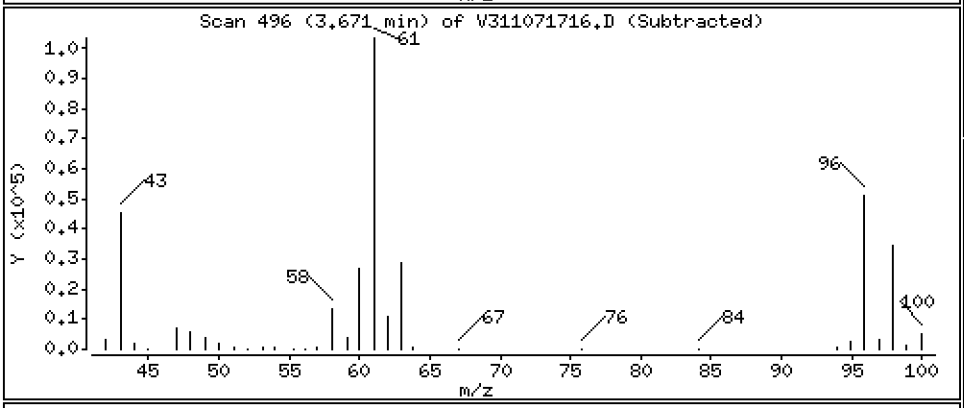
Column diameter: 0.18

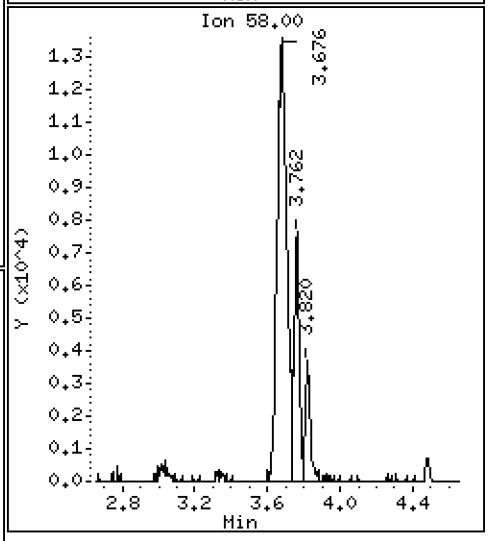
14 Acetone

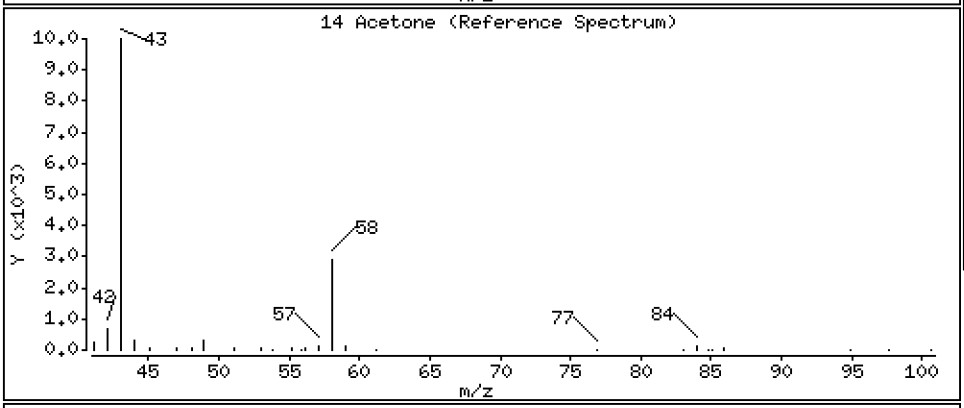
Concentration: 44.178 ug/L

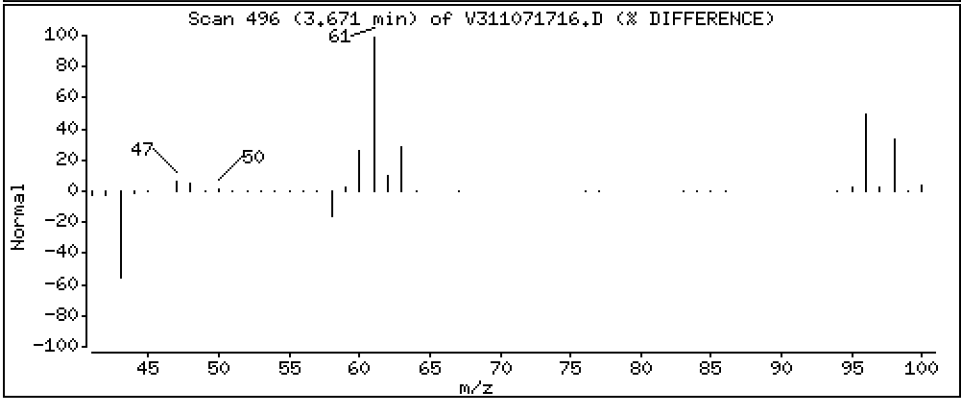












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

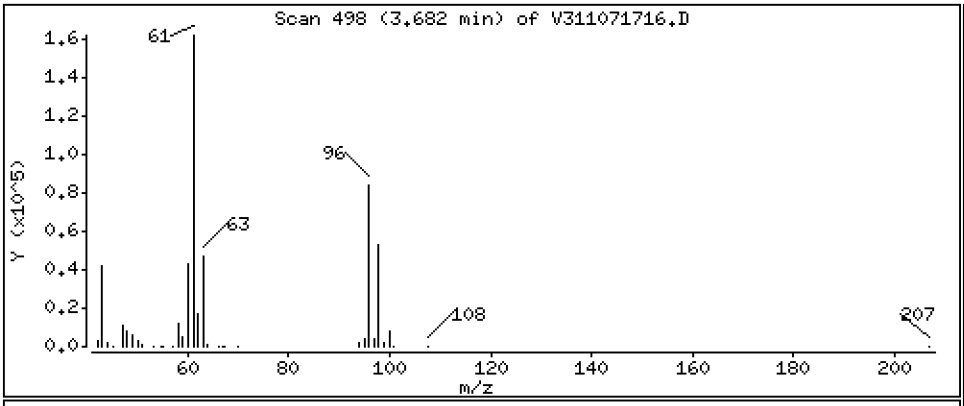
Operator: PC

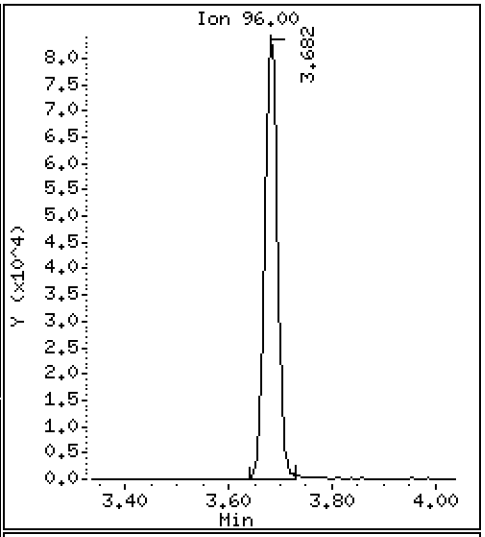
Column phase: RTXVMS

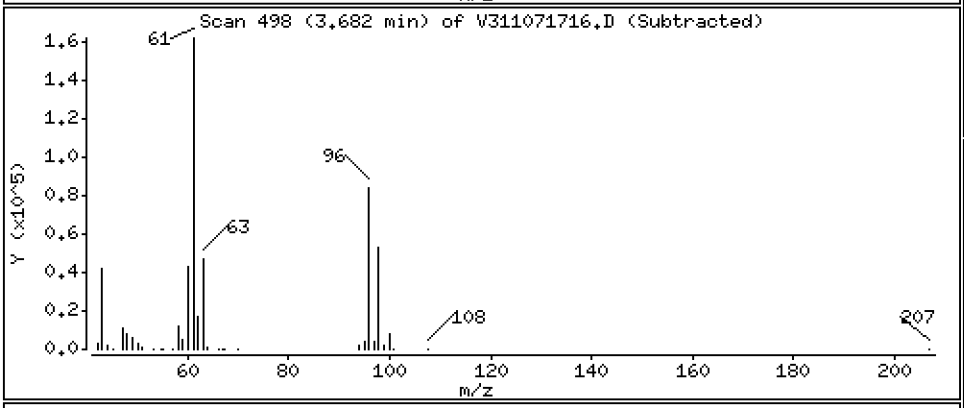
Column diameter: 0.18

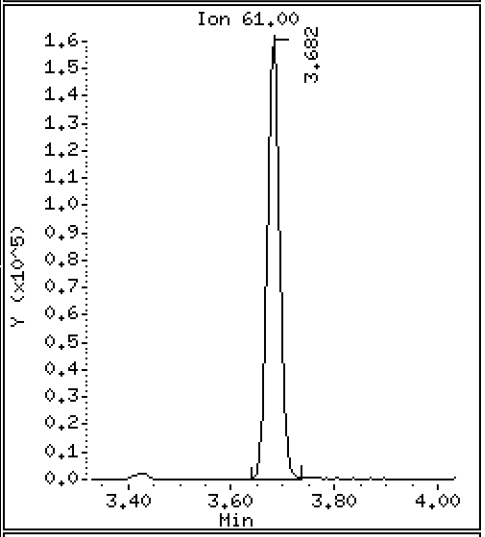
15 Trans-1,2-Dichloroethene

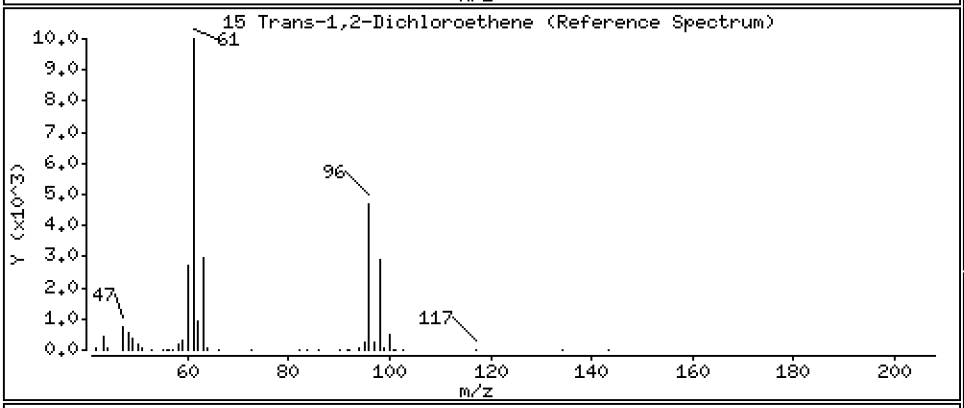
Concentration: 9.917 ug/L

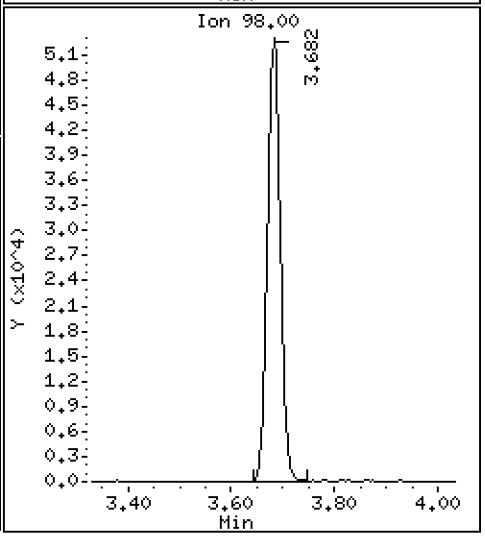


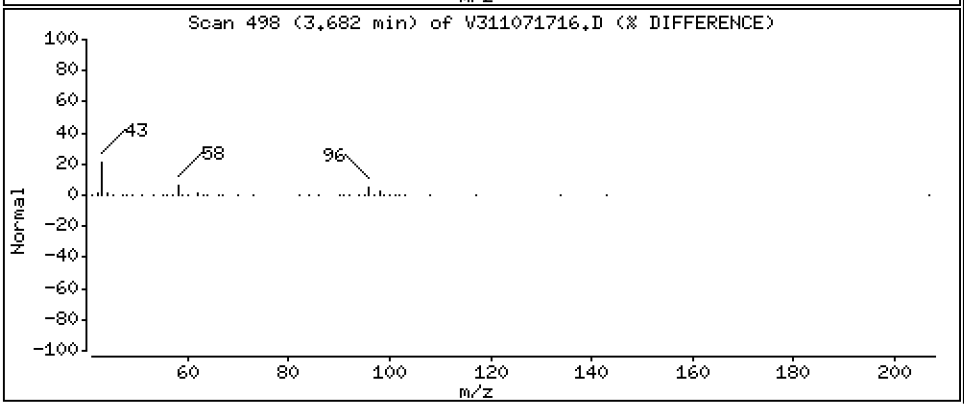












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

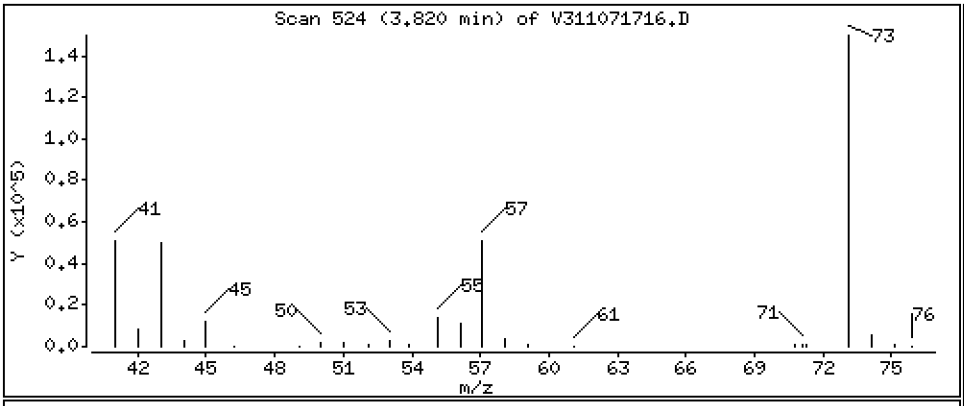
Operator: PC

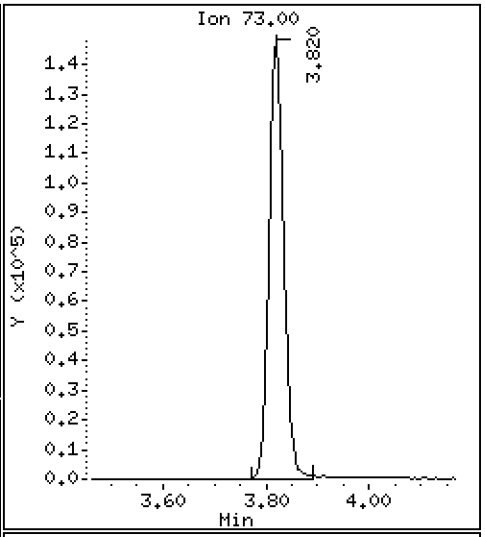
Column phase: RTXVMS

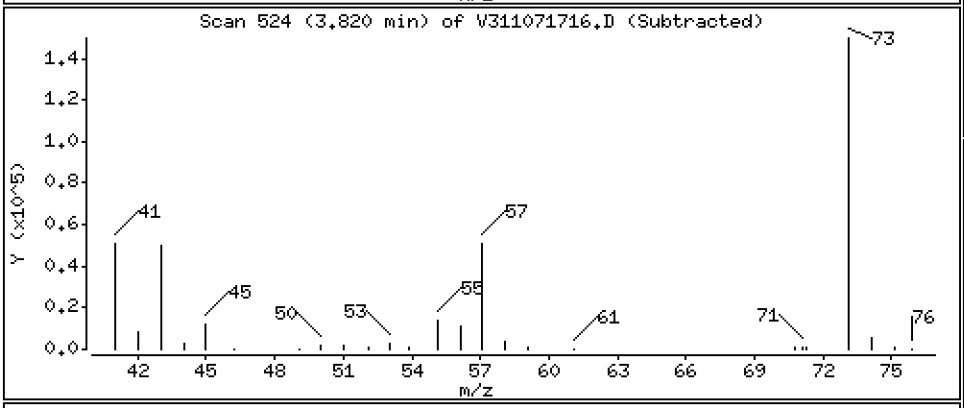
Column diameter: 0.18

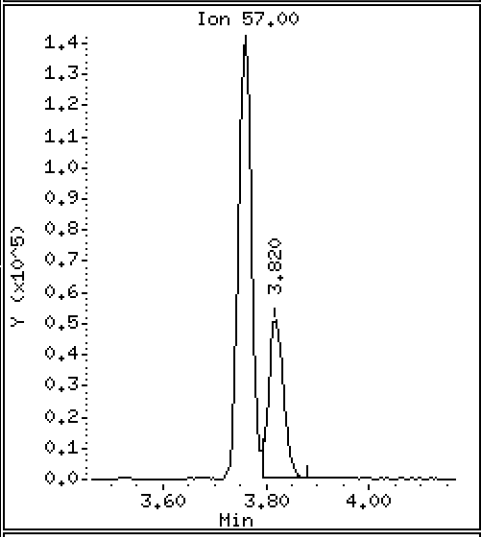
17 Methyl tert butyl ether

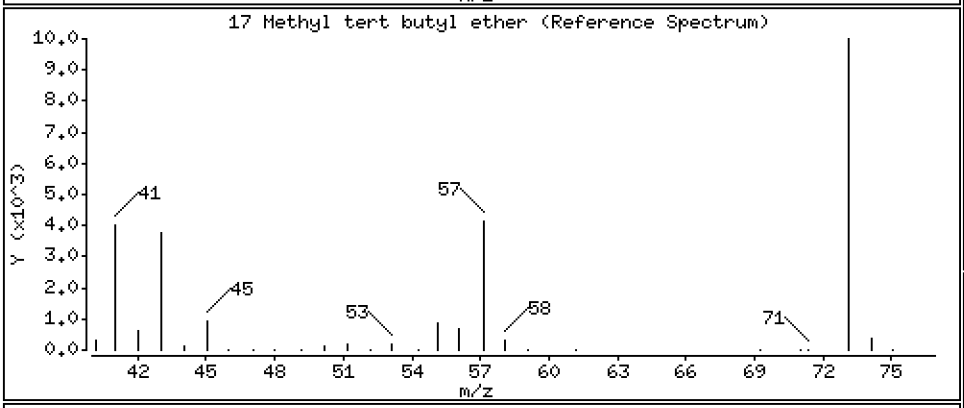
Concentration: 10.384 ug/L

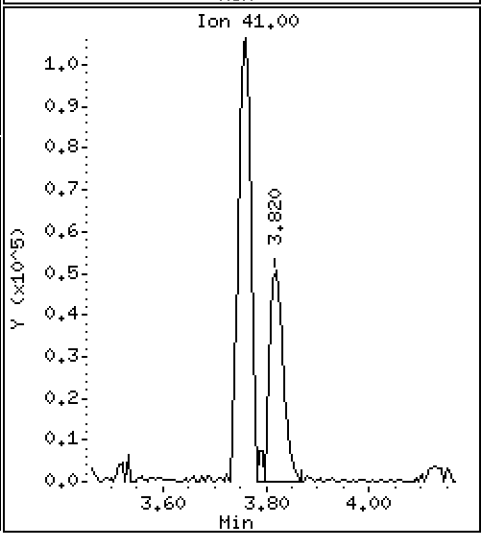


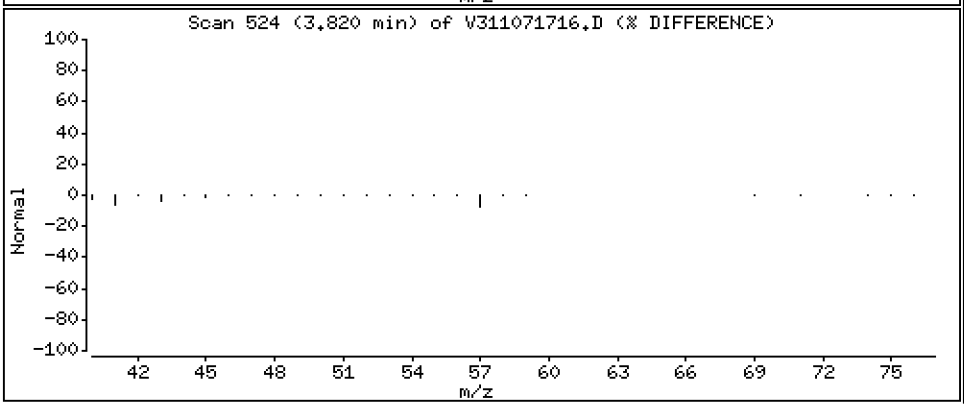












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

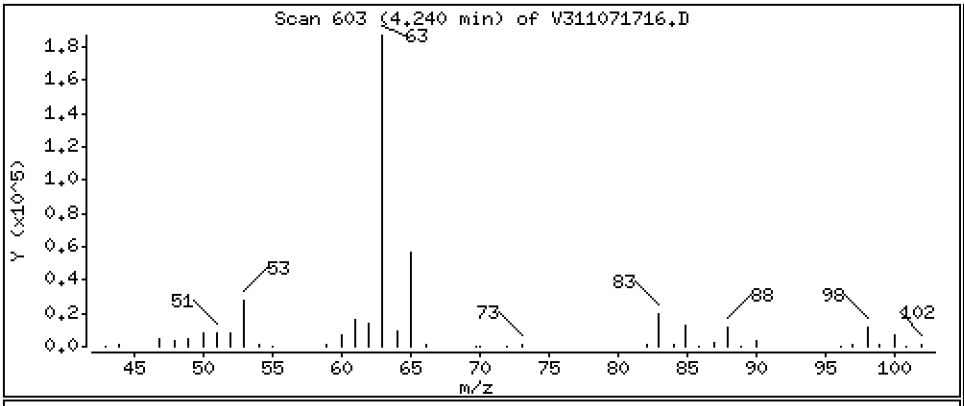
Operator: PC

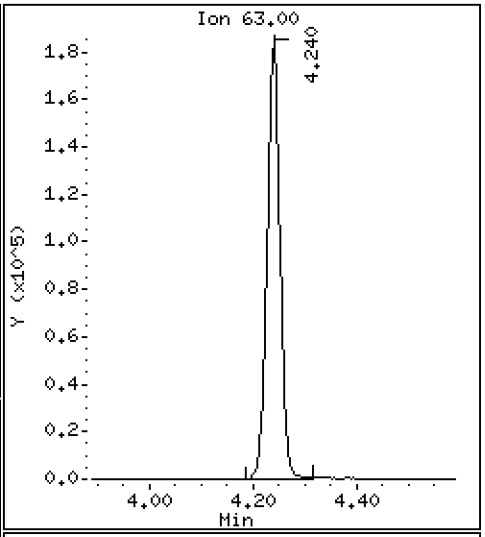
Column phase: RTXVMS

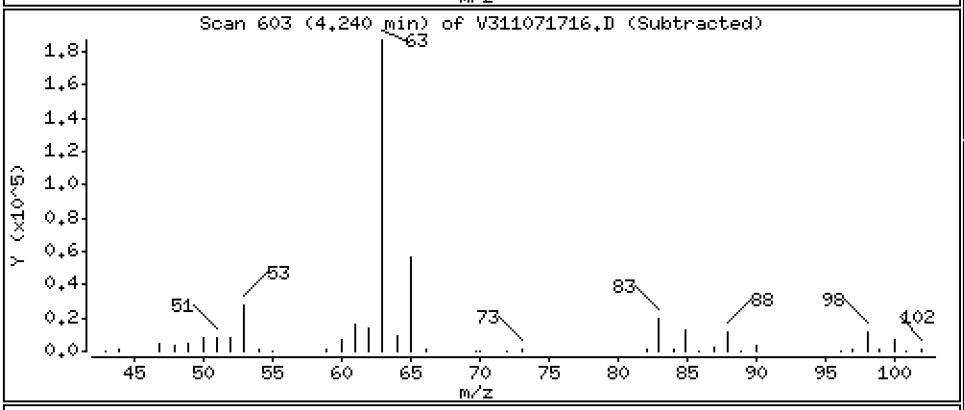
Column diameter: 0.18

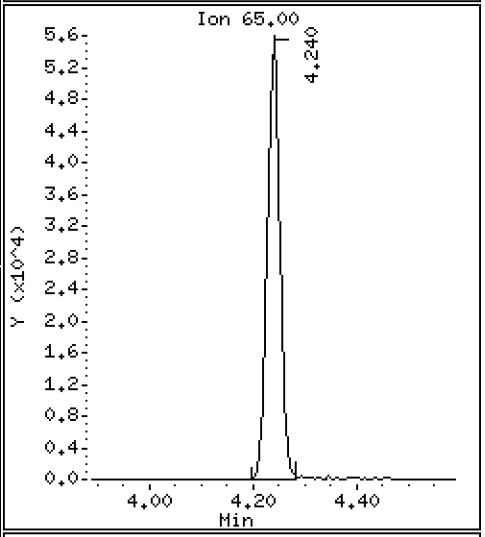
18 1,1-Dichloroethane

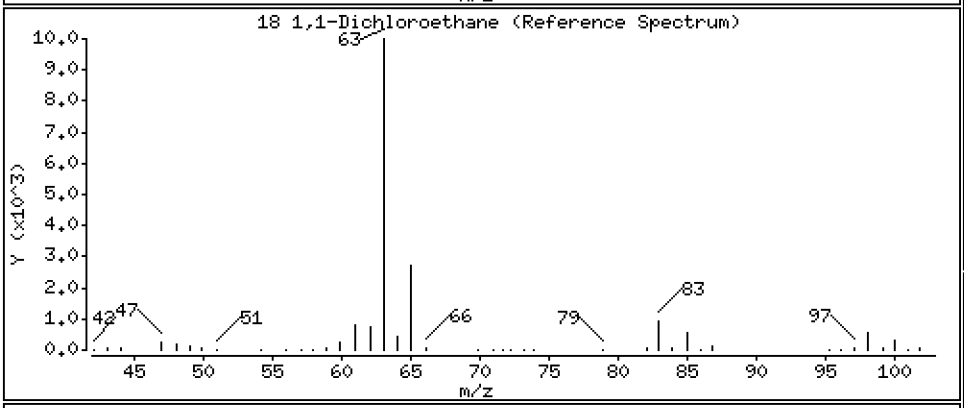
Concentration: 10.511 ug/L

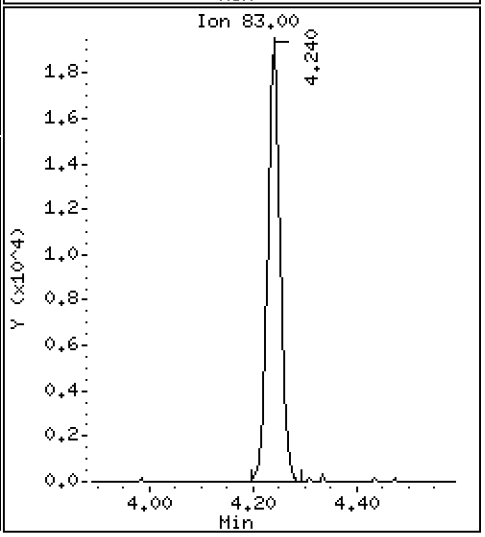


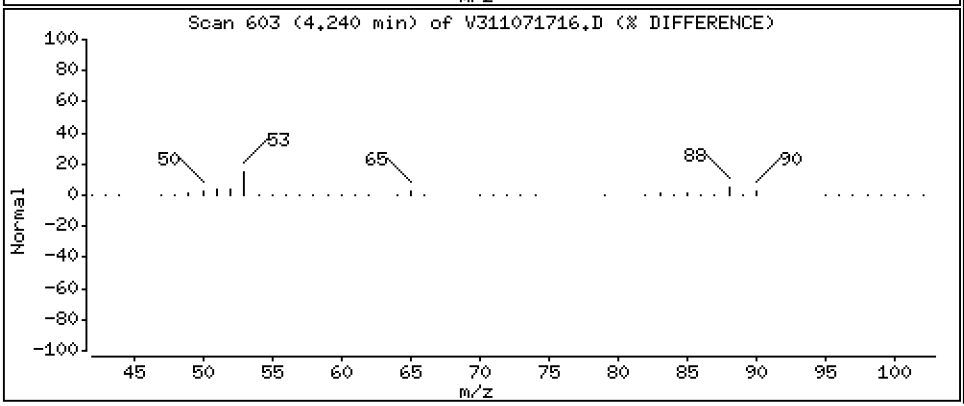












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

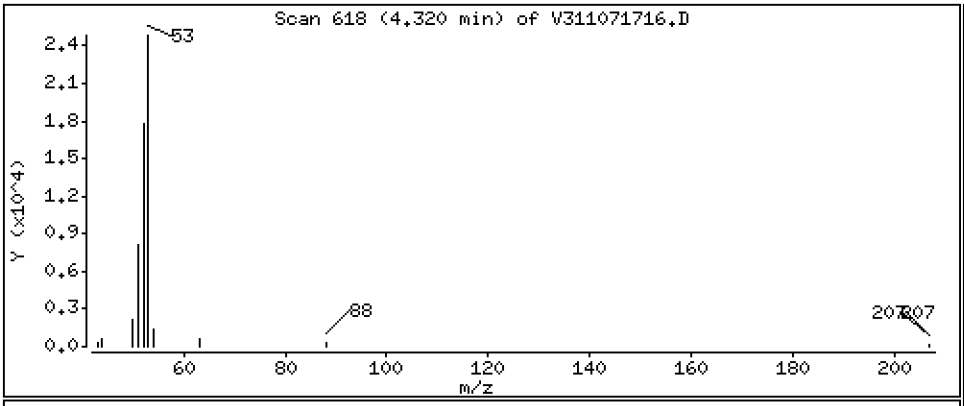
Operator: PC

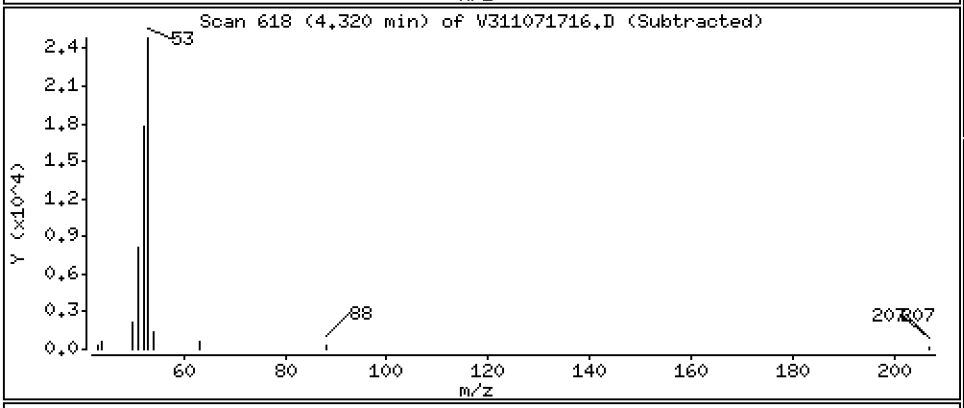
Column phase: RTXVMS

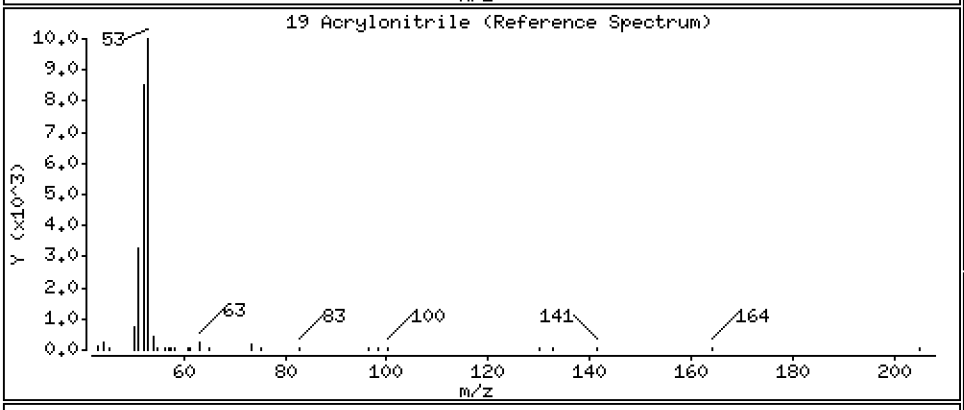
Column diameter: 0.18

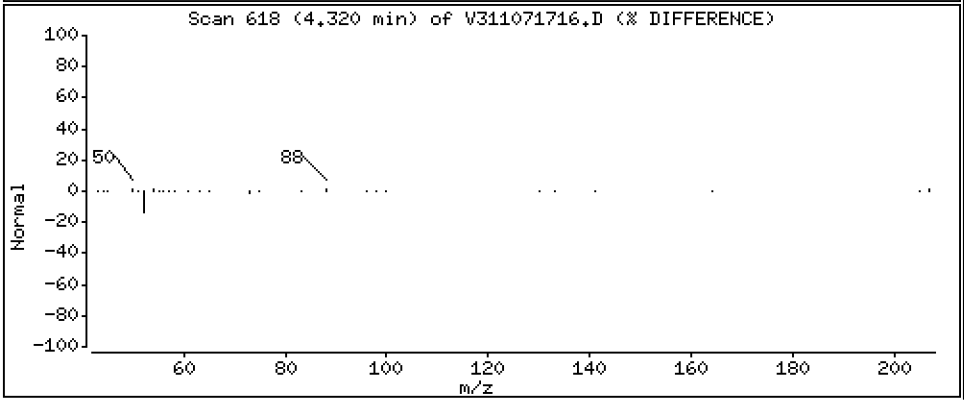
19 Acrylonitrile

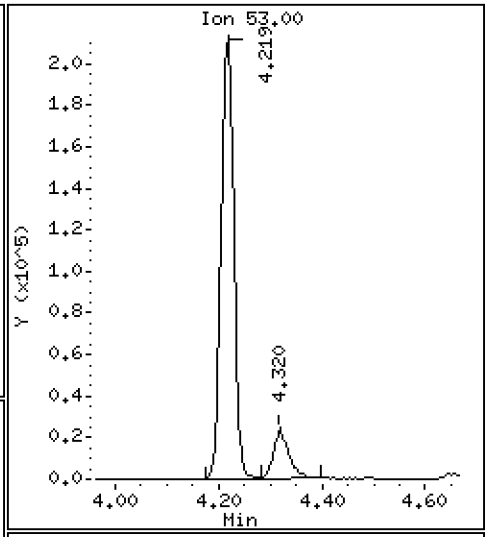
Concentration: 10.260 ug/L

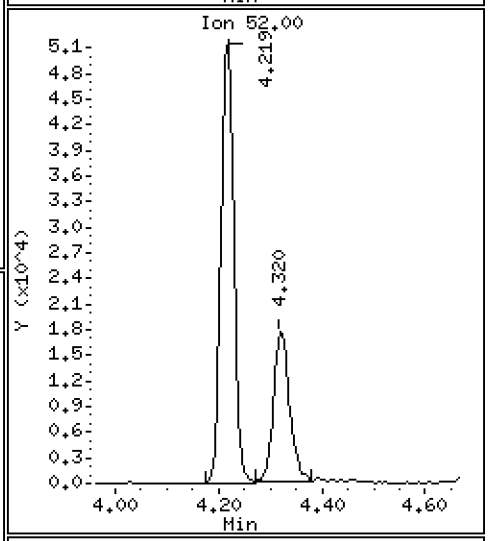


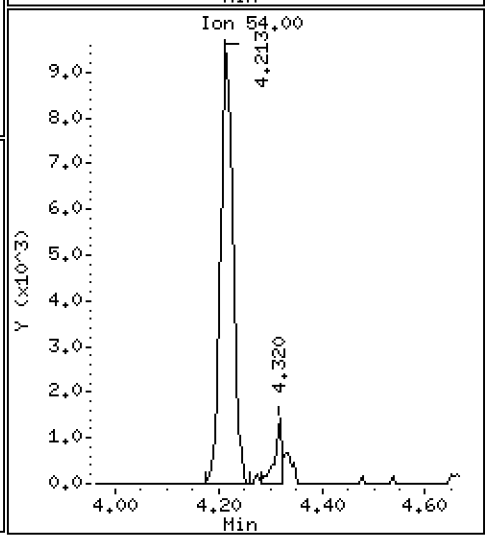












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

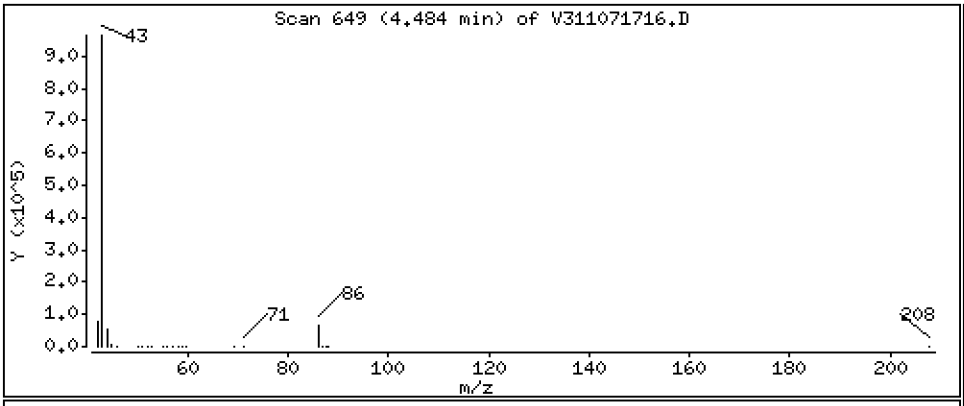
Operator: PC

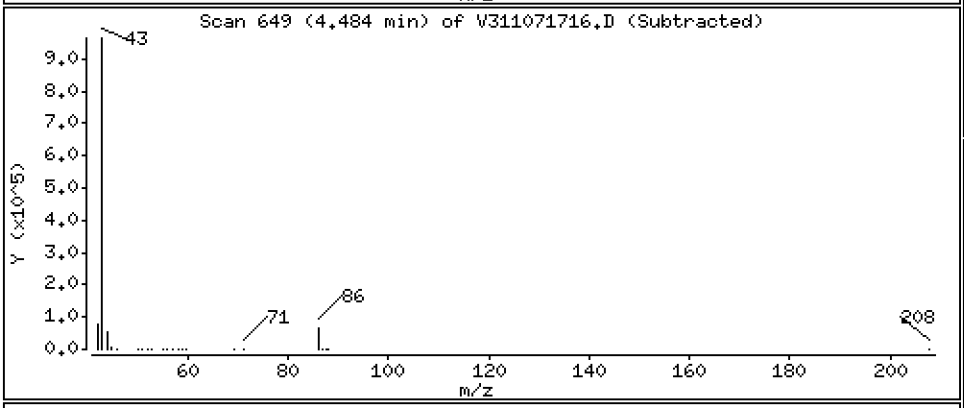
Column phase: RTXVMS

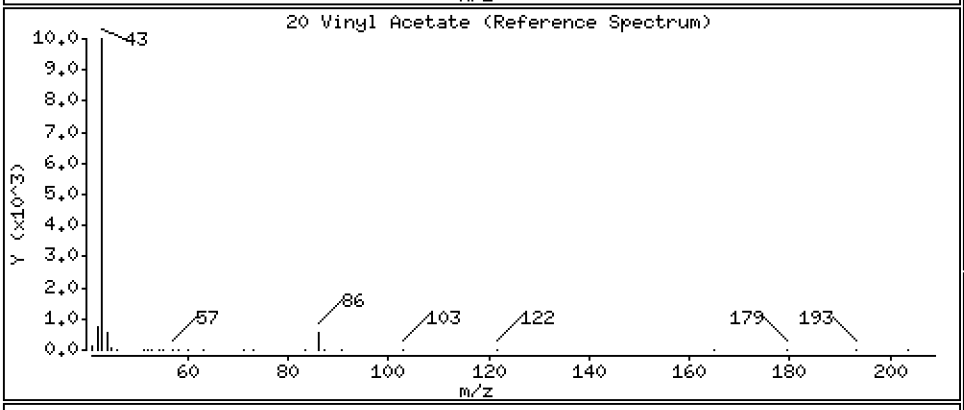
Column diameter: 0.18

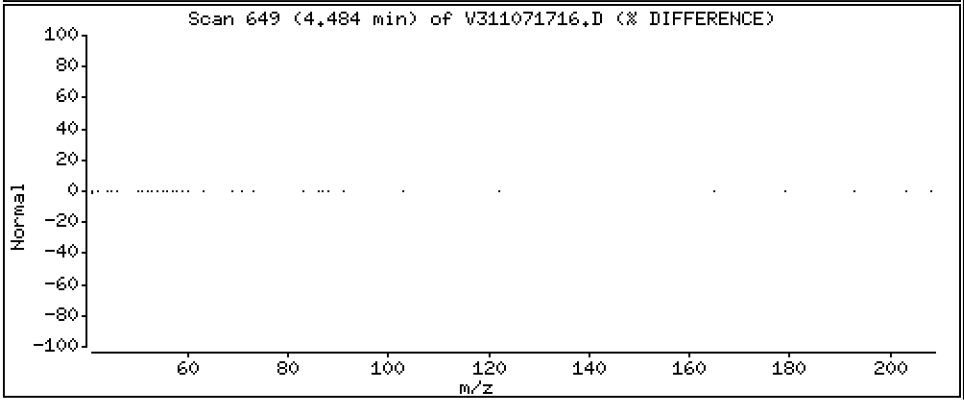
20 Vinyl Acetate

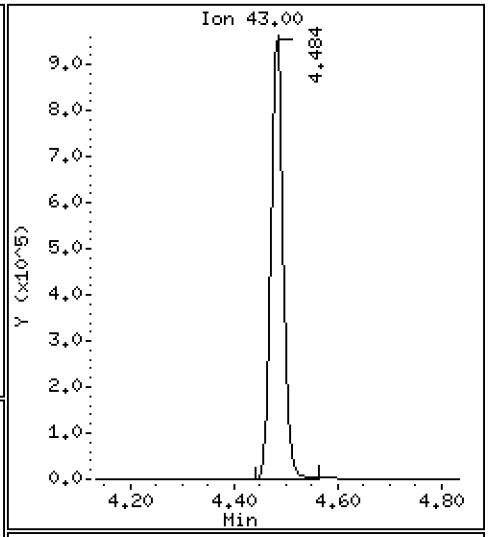
Concentration: 49.824 ug/L

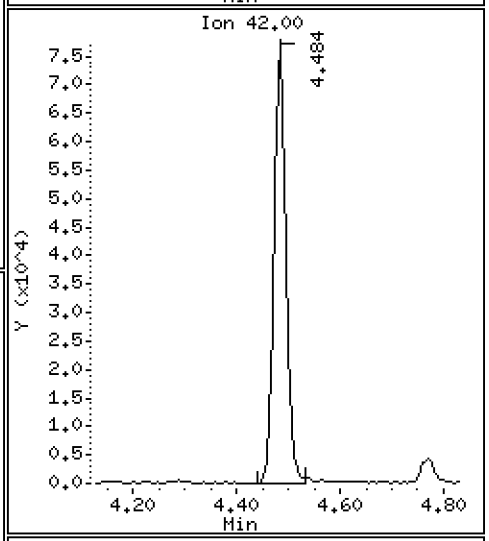


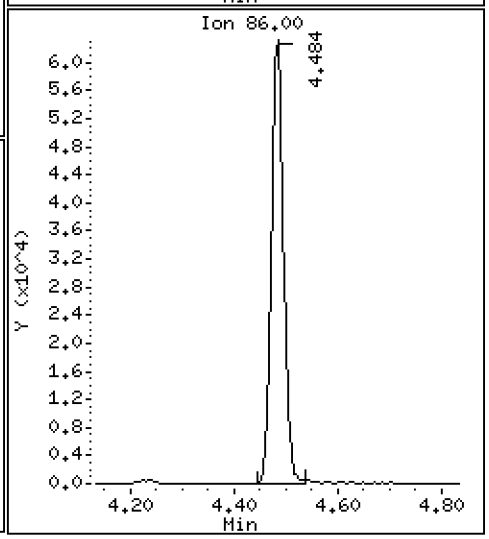












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

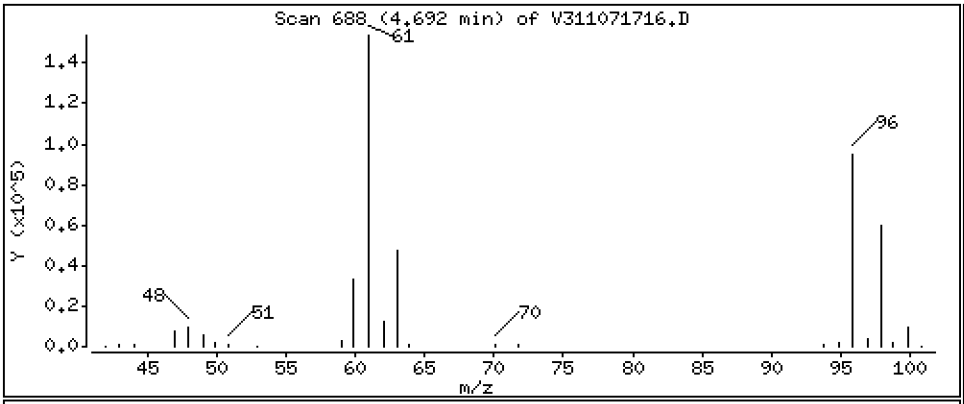
Operator: PC

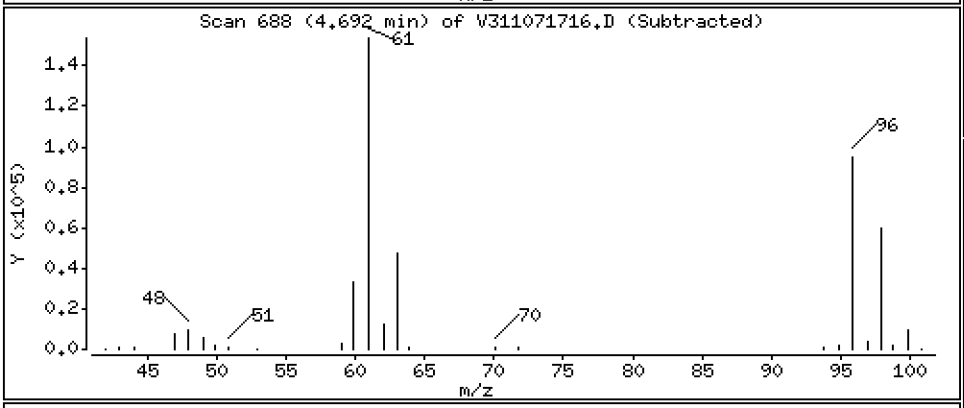
Column phase: RTXVMS

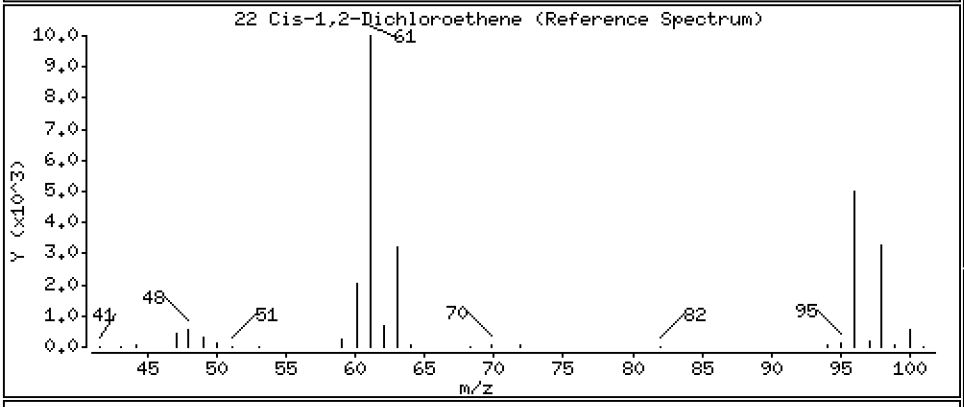
Column diameter: 0.18

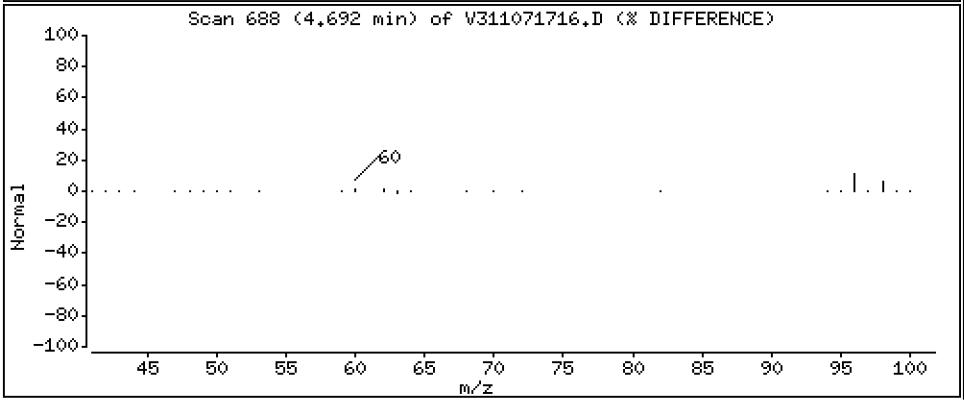
22 Cis-1,2-Dichloroethene

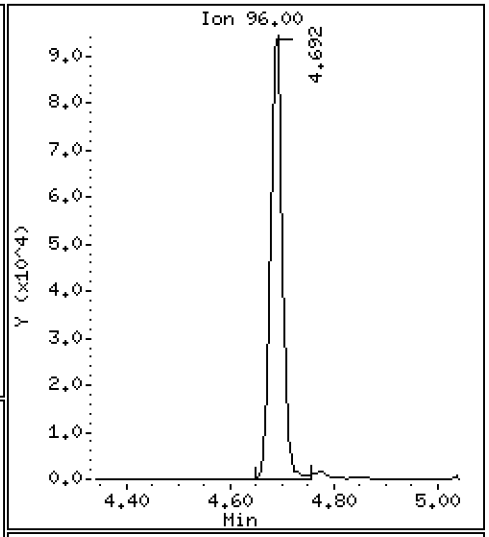
Concentration: 9.993 ug/L

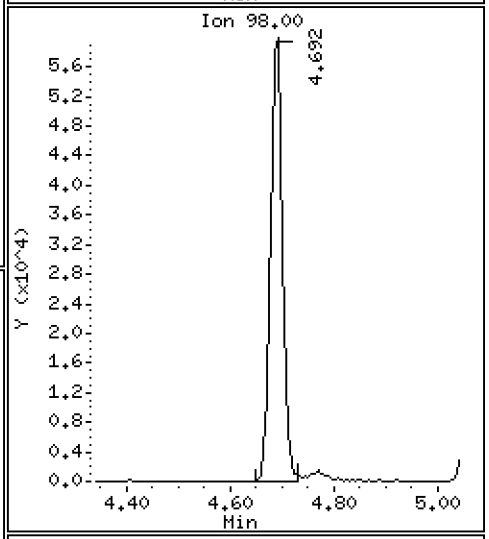


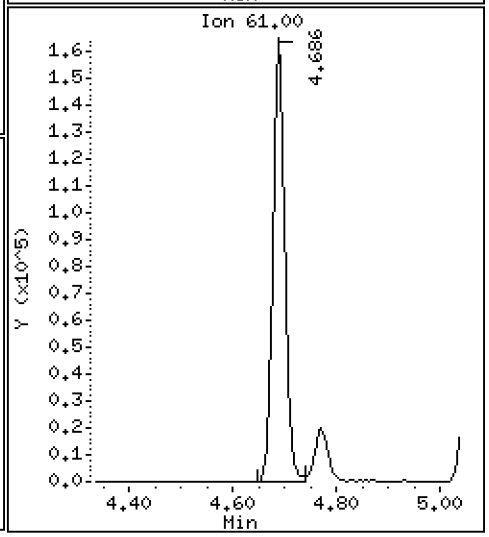












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

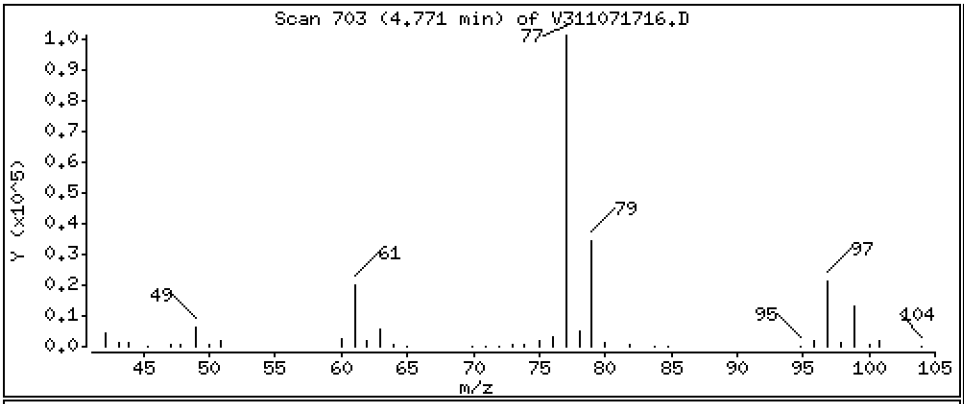
Operator: PC

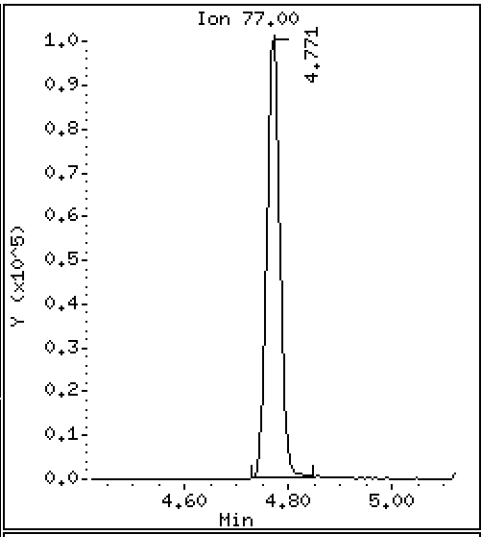
Column phase: RTXVMS

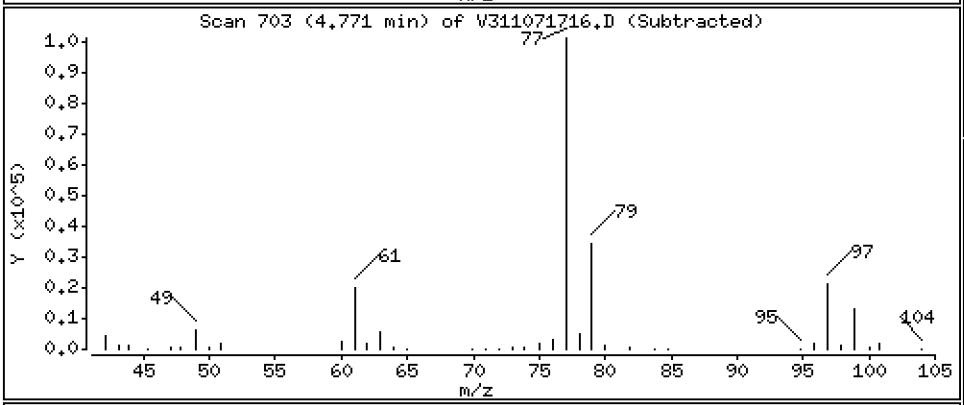
Column diameter: 0.18

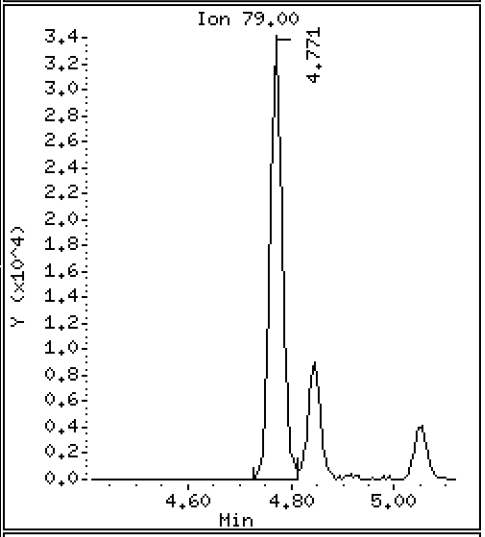
23 2,2-Dichloropropane

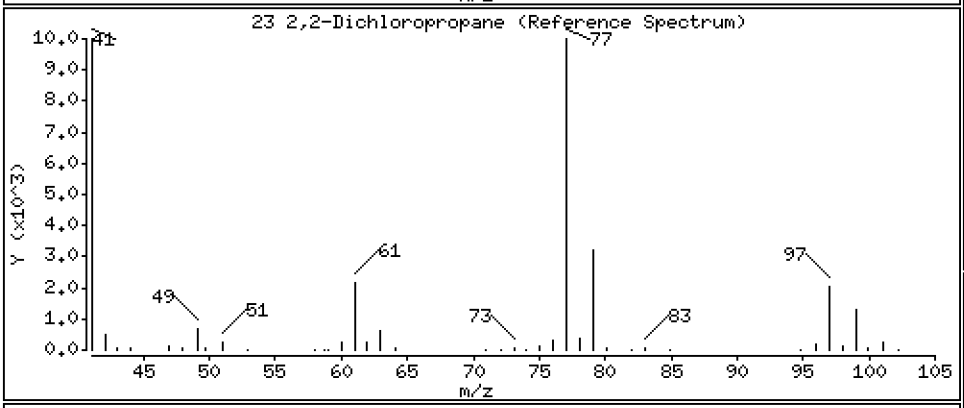
Concentration: 10.164 ug/L

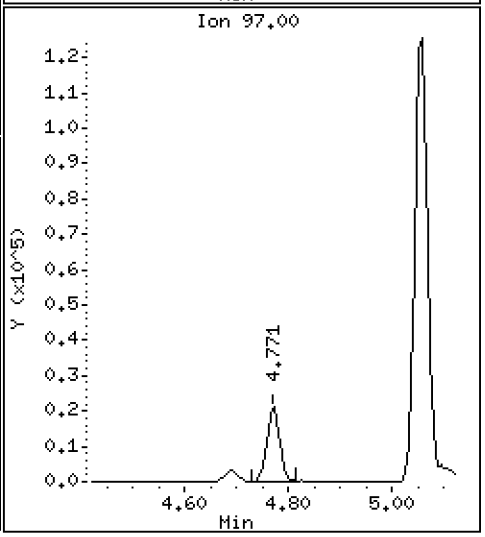


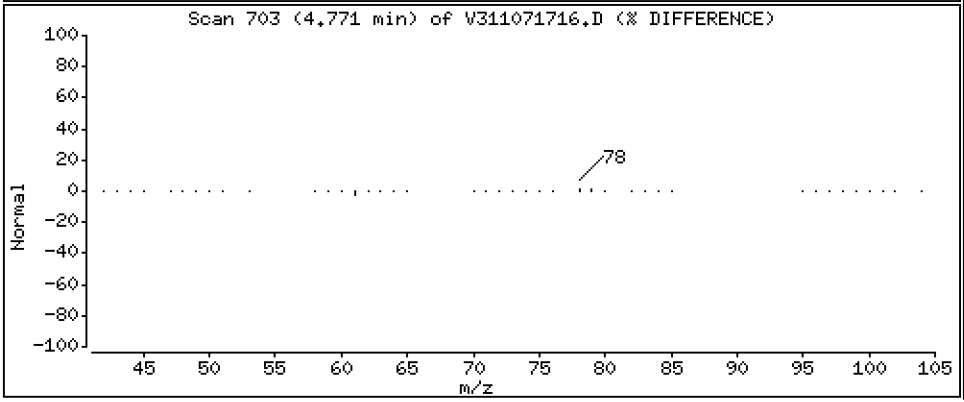












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

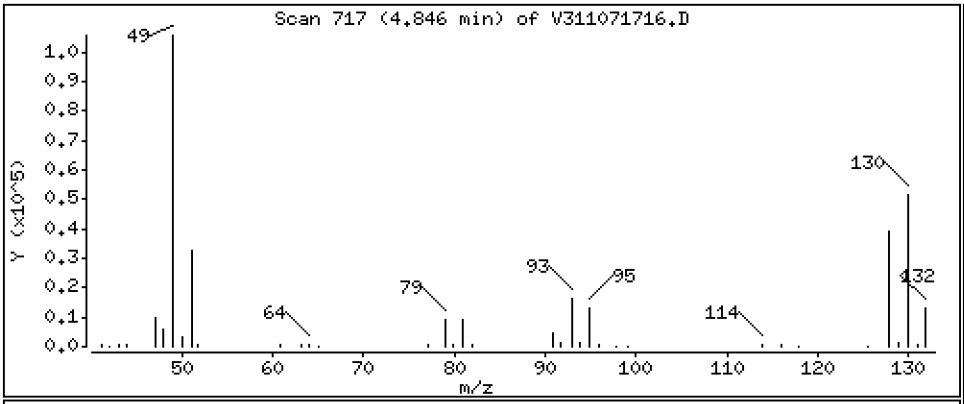
Operator: PC

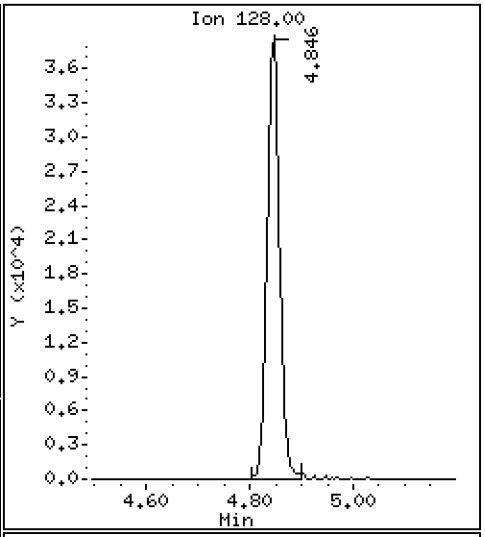
Column phase: RTXVMS

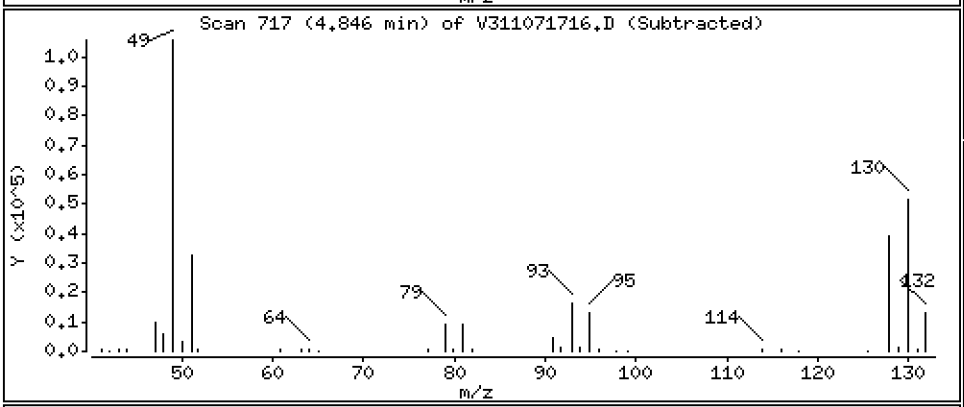
Column diameter: 0.18

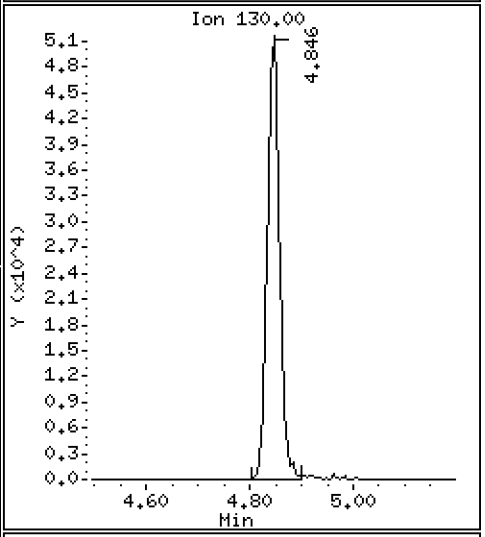
24 Bromochloromethane

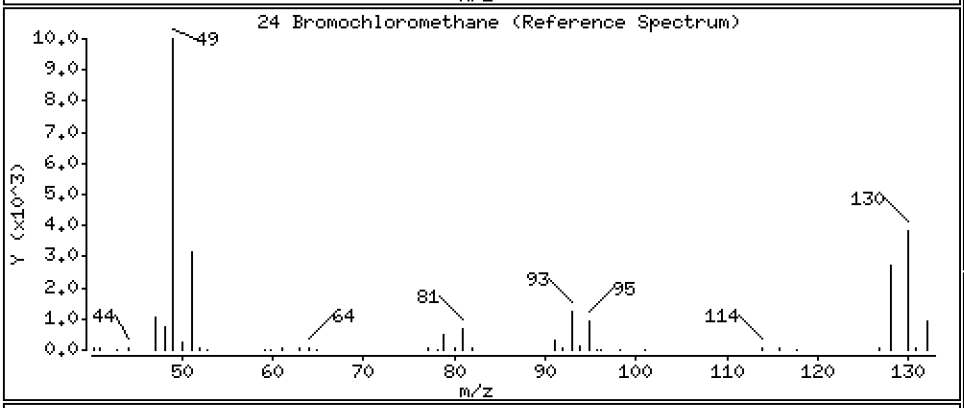
Concentration: 10.261 ug/L

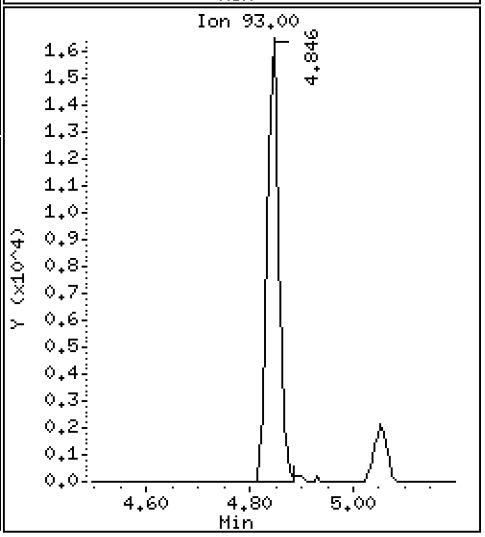


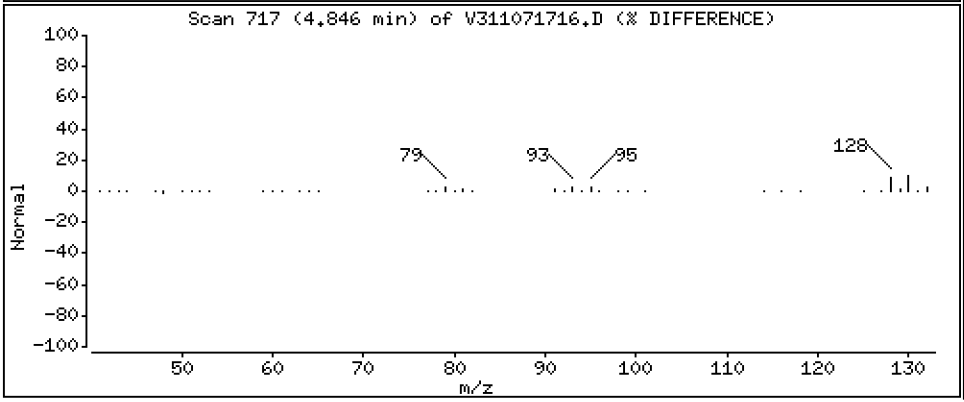












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

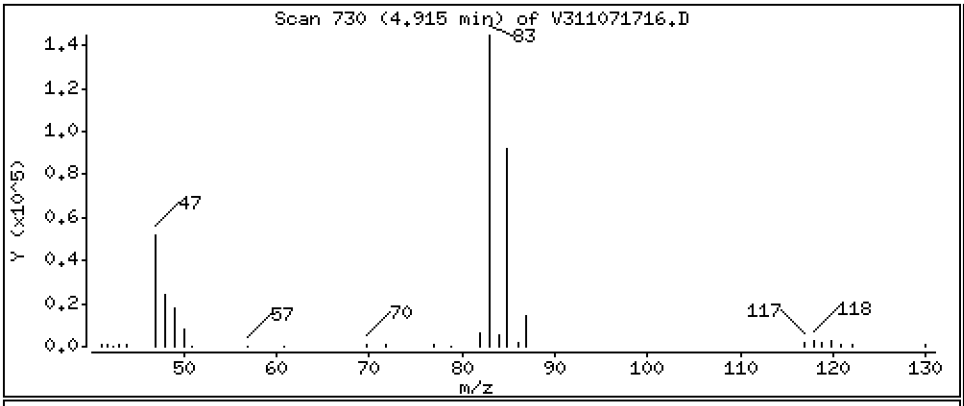
Operator: PC

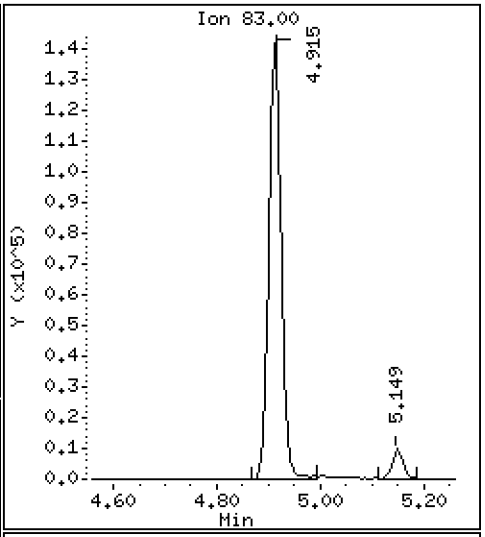
Column phase: RTXVMS

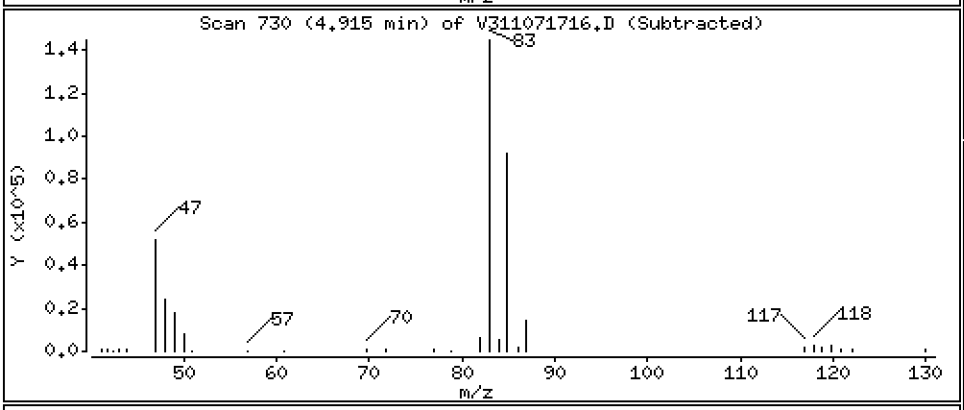
Column diameter: 0.18

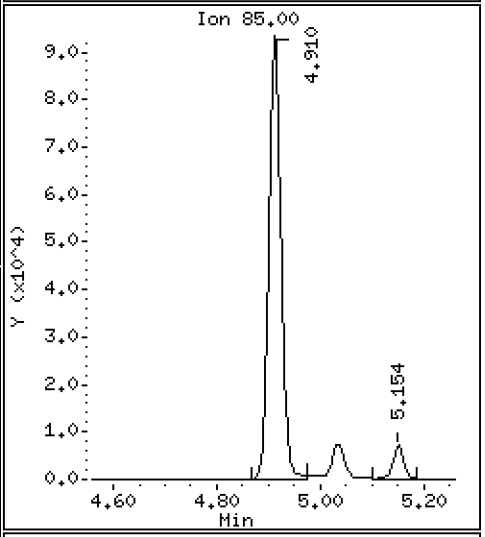
25 Chloroform

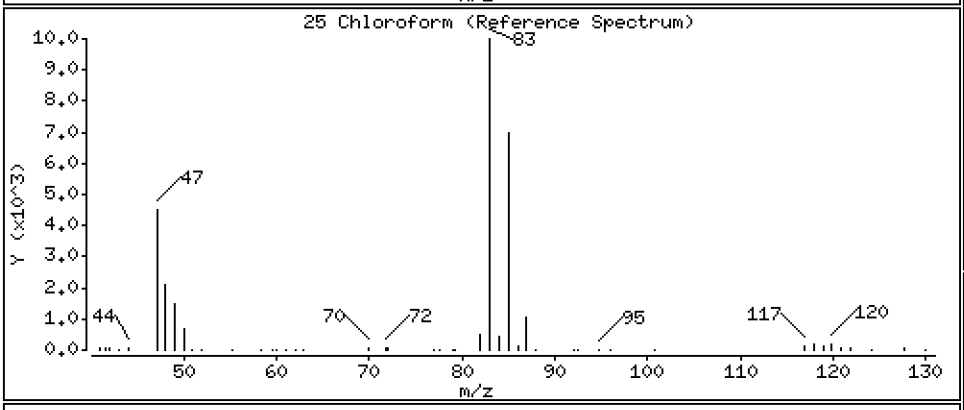
Concentration: 10.679 ug/L

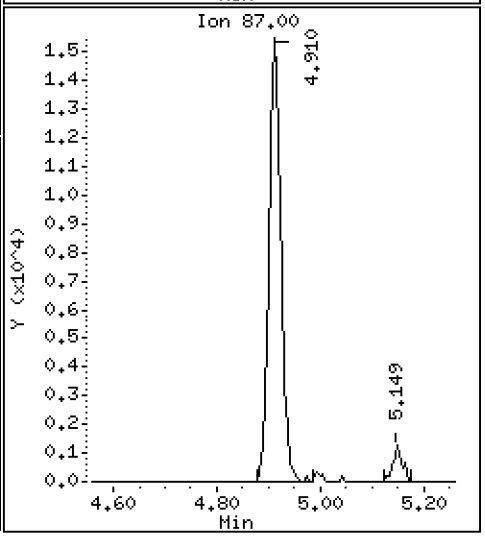


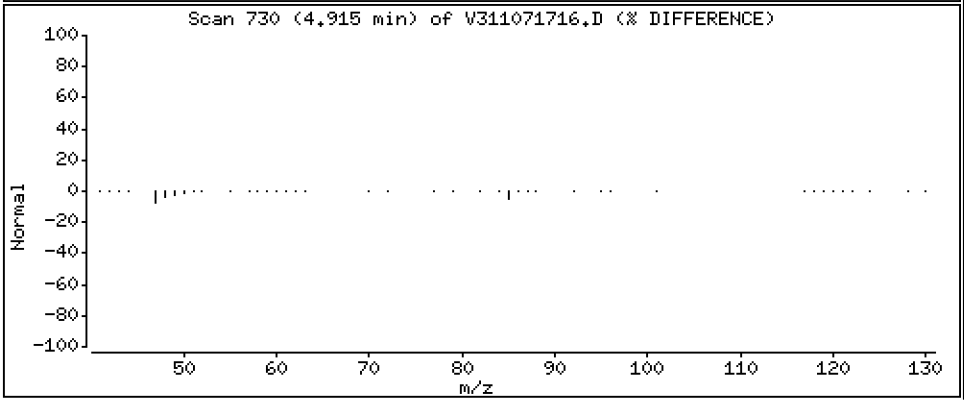












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

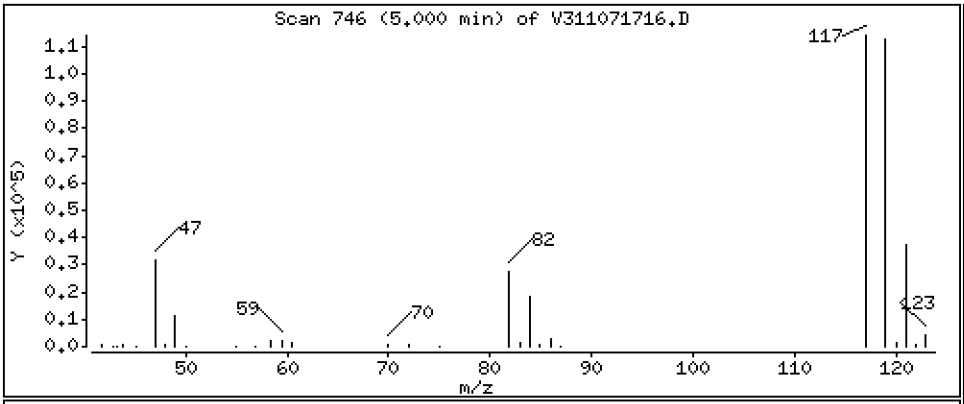
Operator: PC

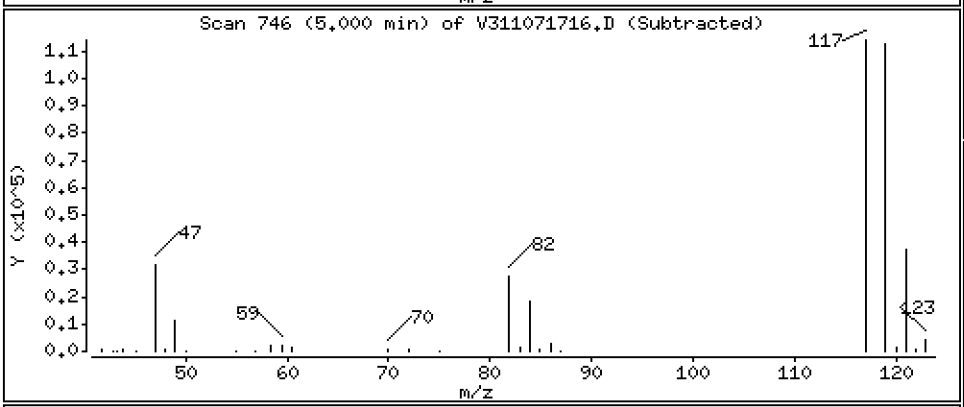
Column phase: RTXVMS

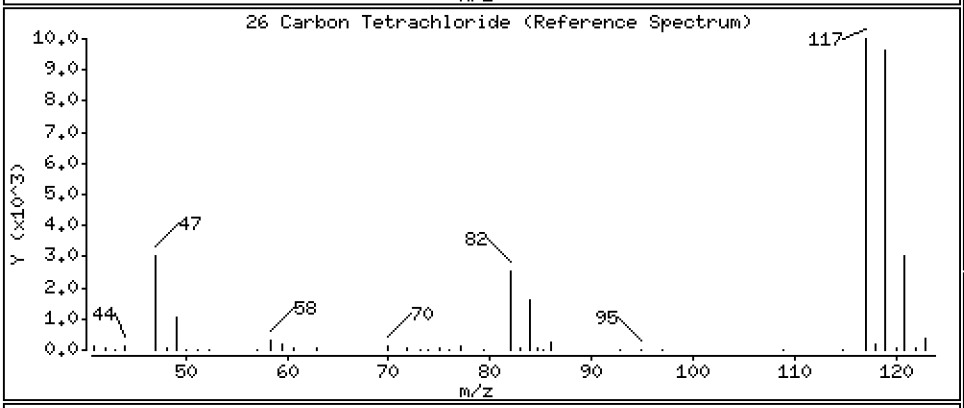
Column diameter: 0.18

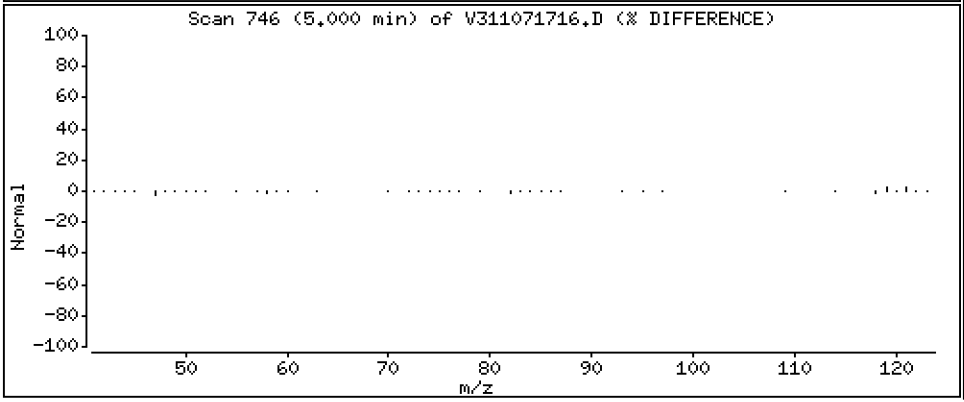
26 Carbon Tetrachloride

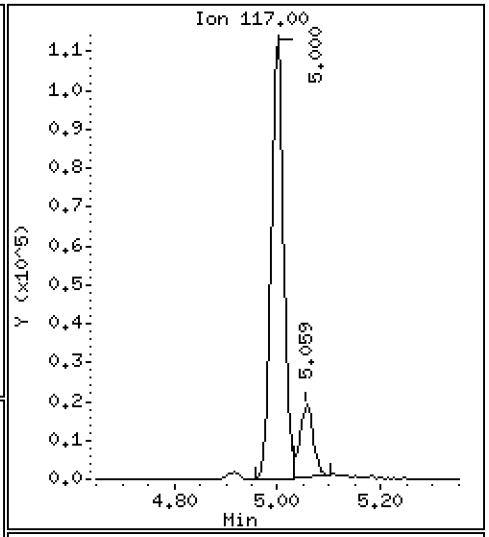
Concentration: 10.160 ug/L

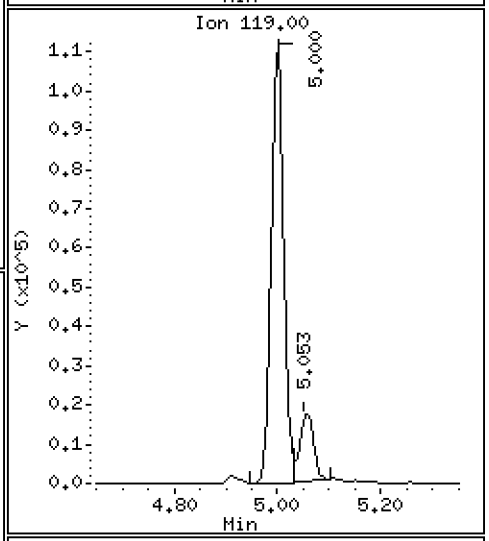


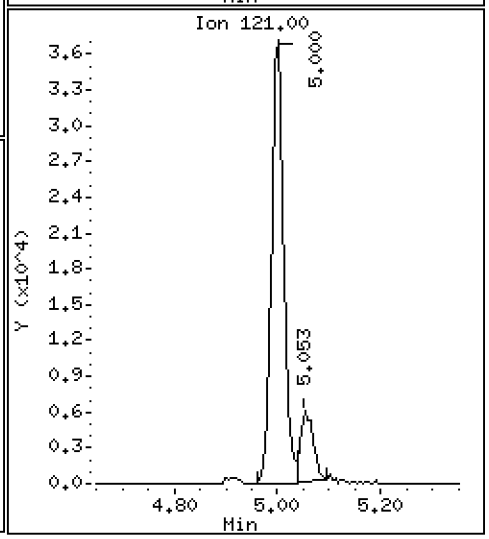












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

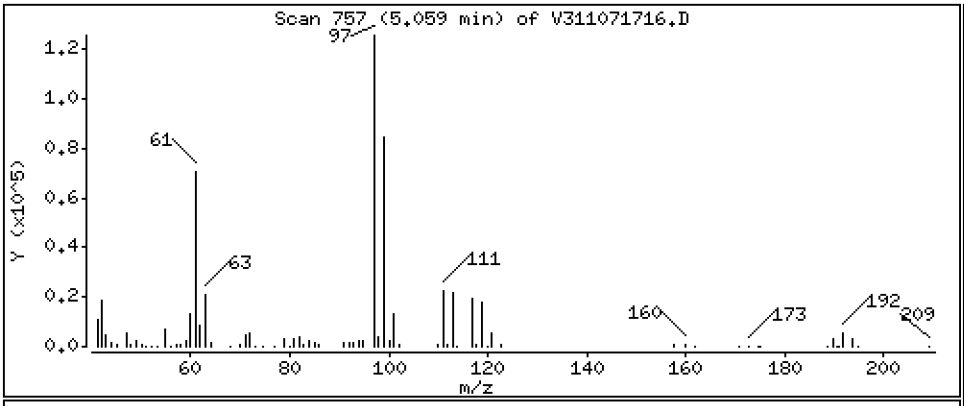
Operator: PC

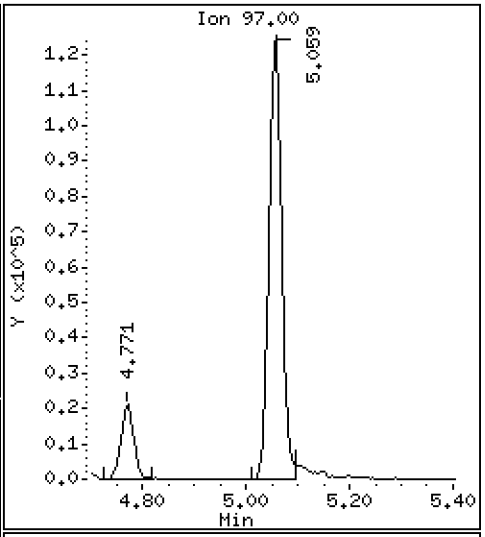
Column phase: RTXVMS

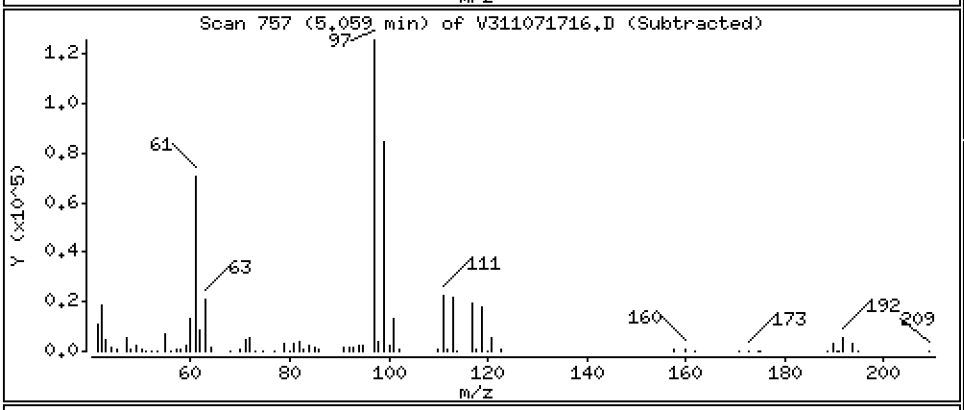
Column diameter: 0.18

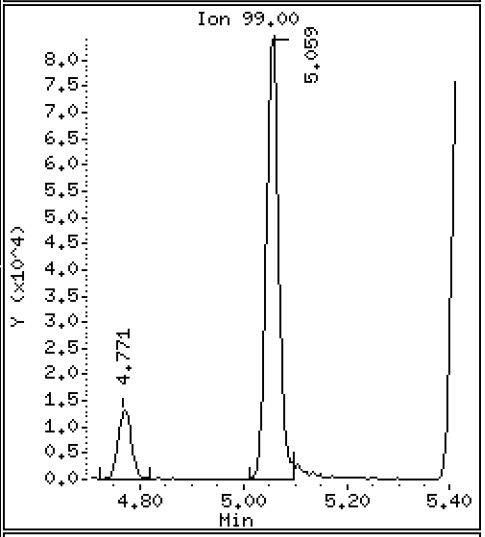
28 1,1,1-Trichloroethane

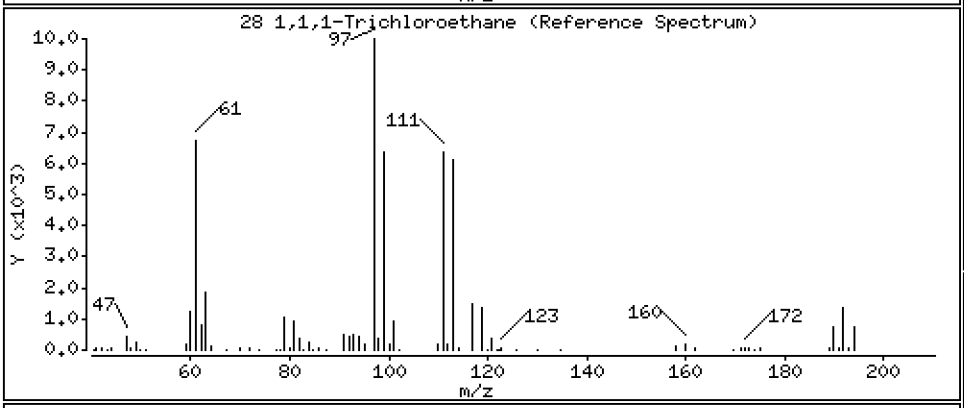
Concentration: 10.241 ug/L

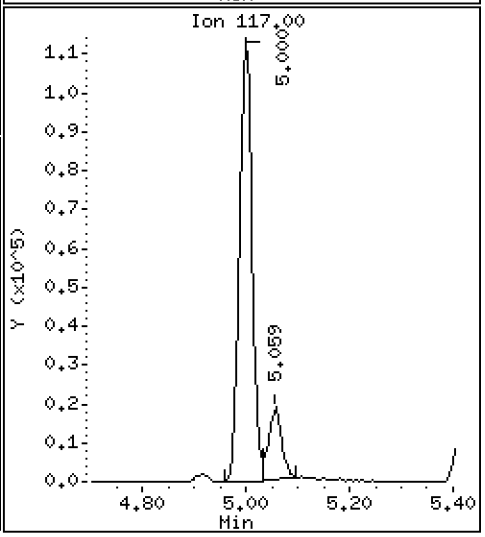


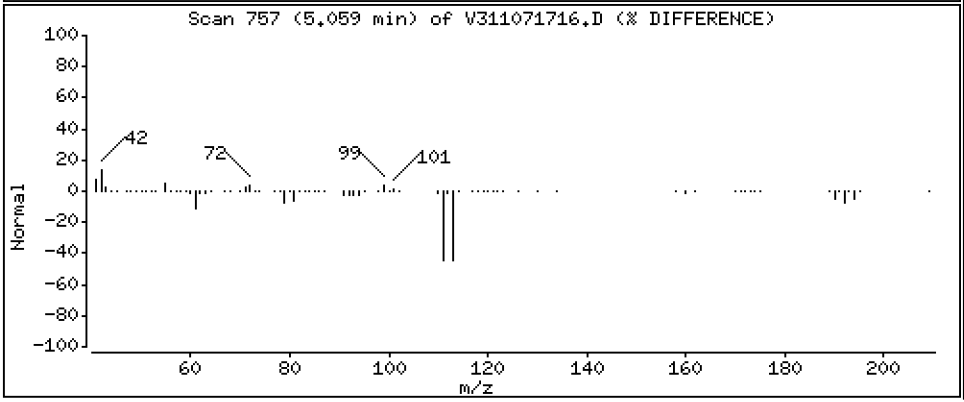












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

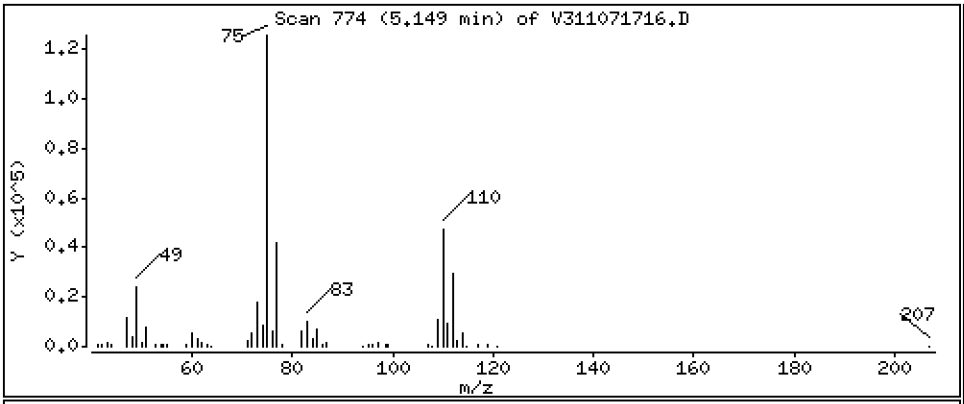
Operator: PC

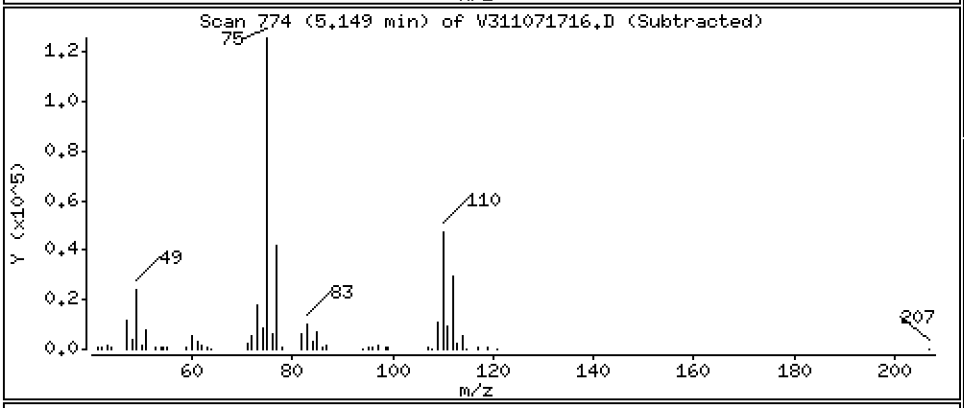
Column phase: RTXVMS

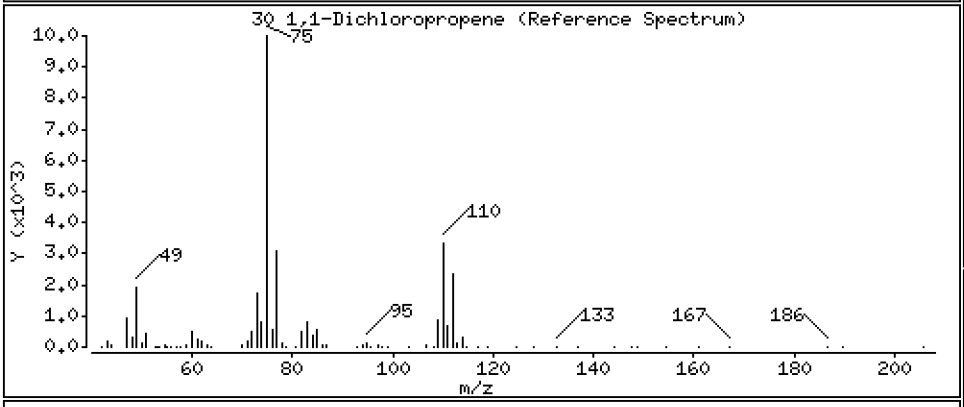
Column diameter: 0.18

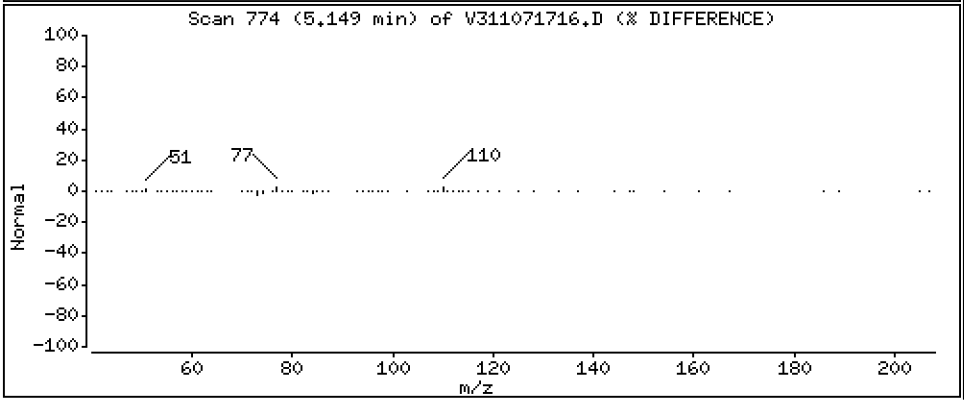
30 1,1-Dichloropropene

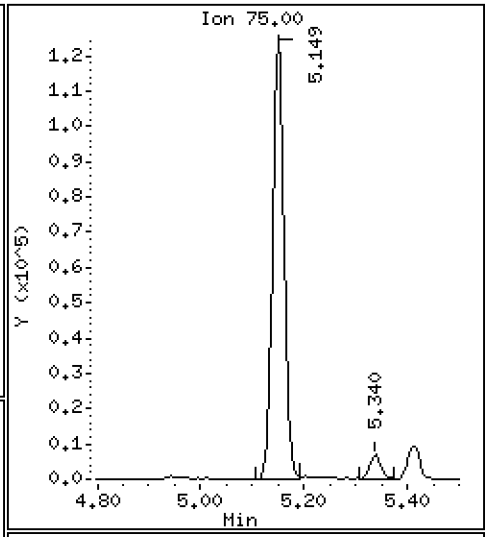
Concentration: 10.439 ug/L

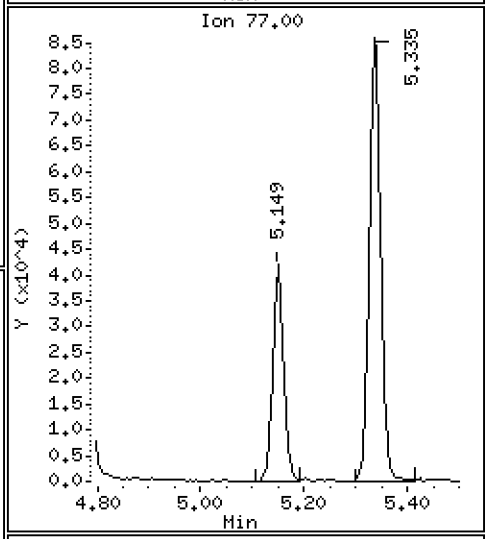


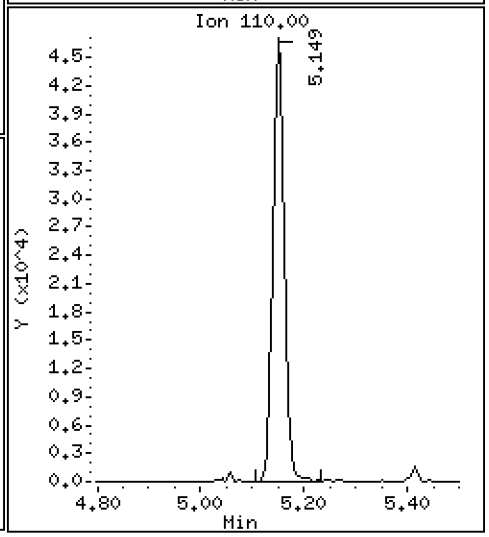












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

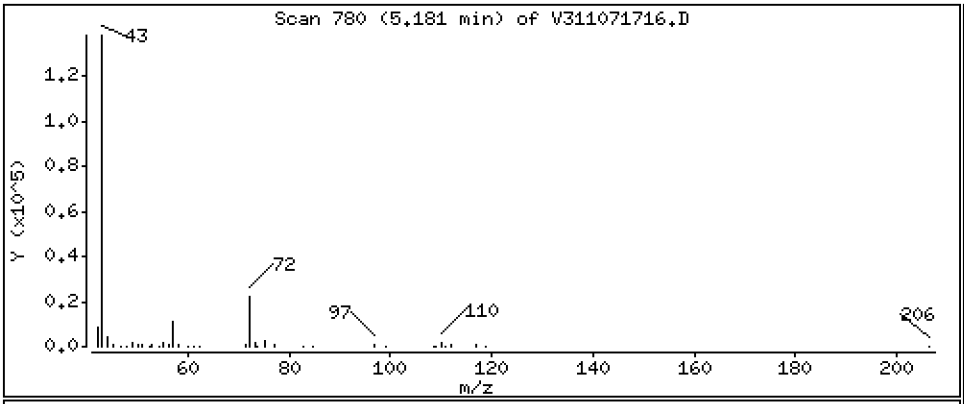
Operator: PC

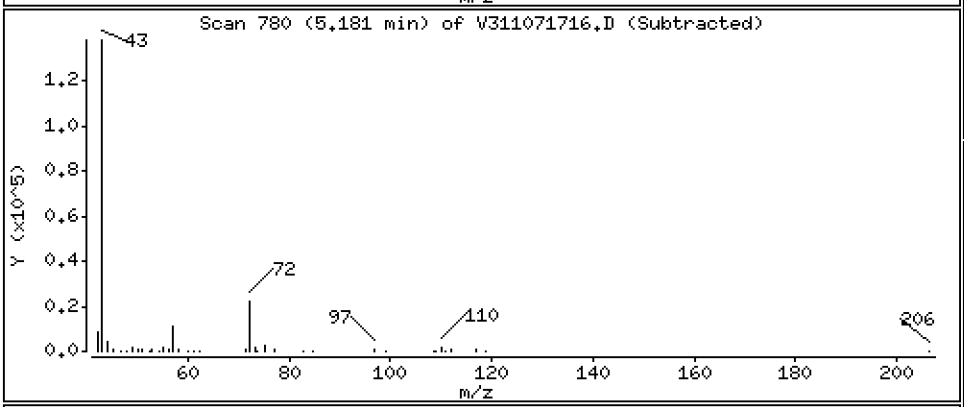
Column phase: RTXVMS

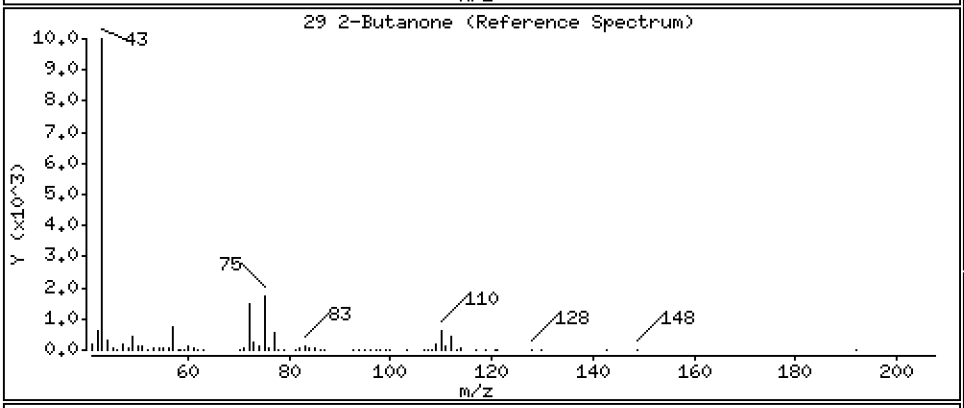
Column diameter: 0.18

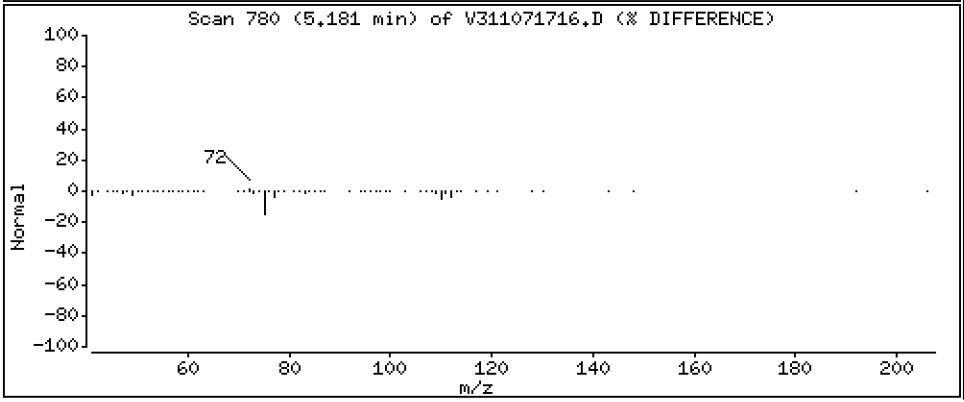
29 2-Butanone

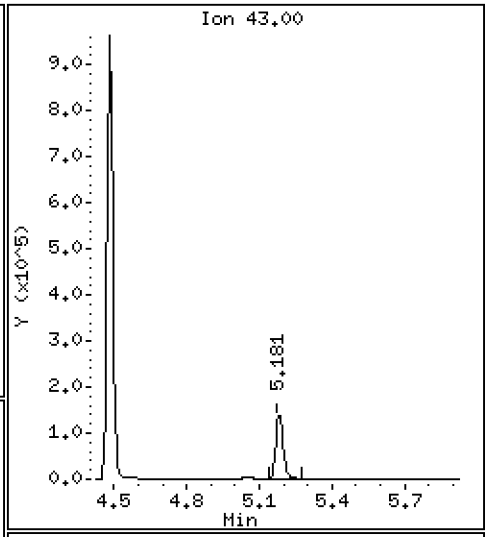
Concentration: 47.458 ug/L

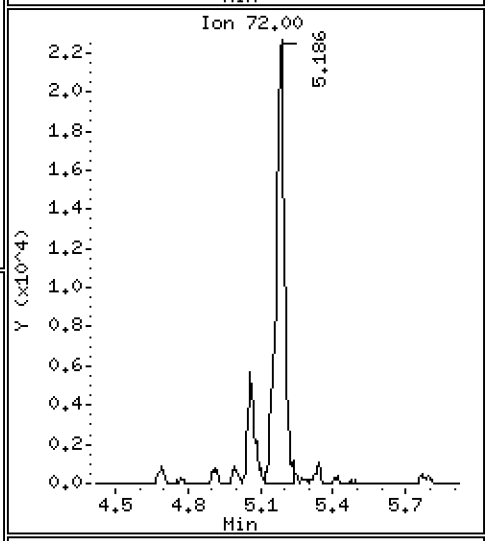


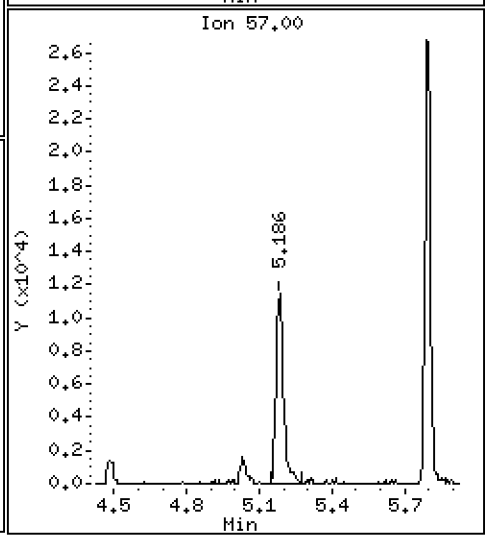












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

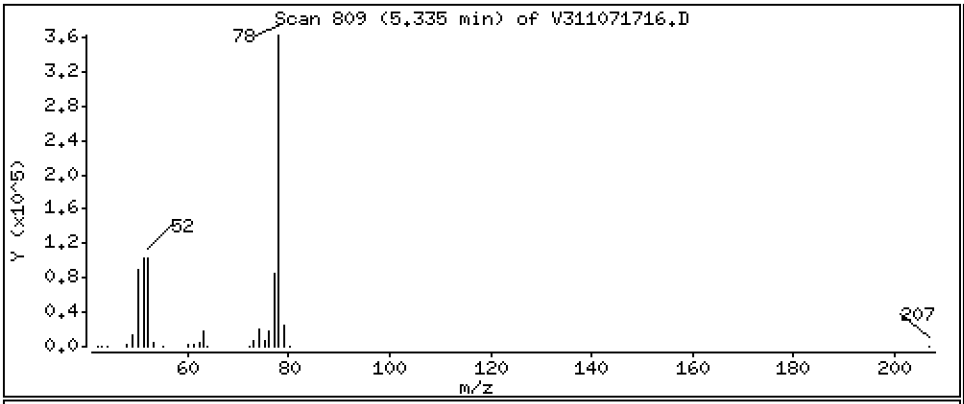
Operator: PC

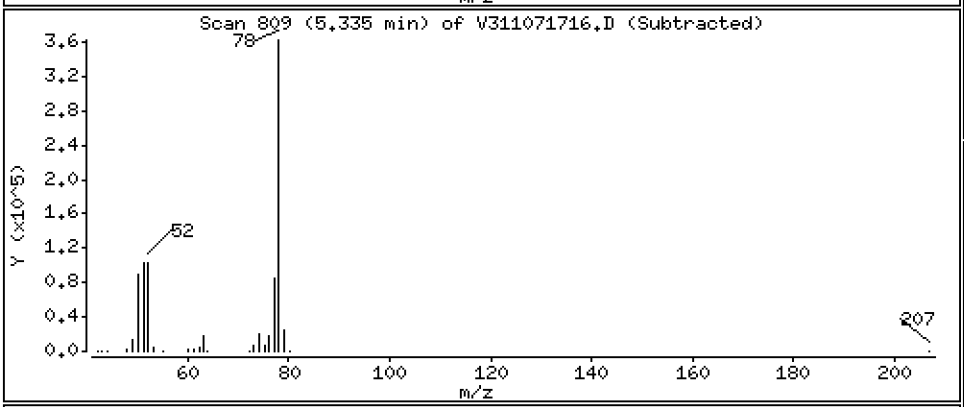
Column phase: RTXVMS

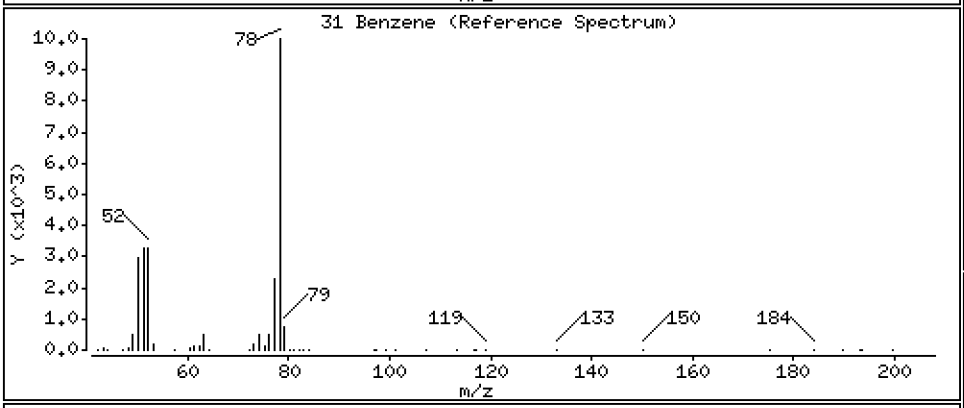
Column diameter: 0.18

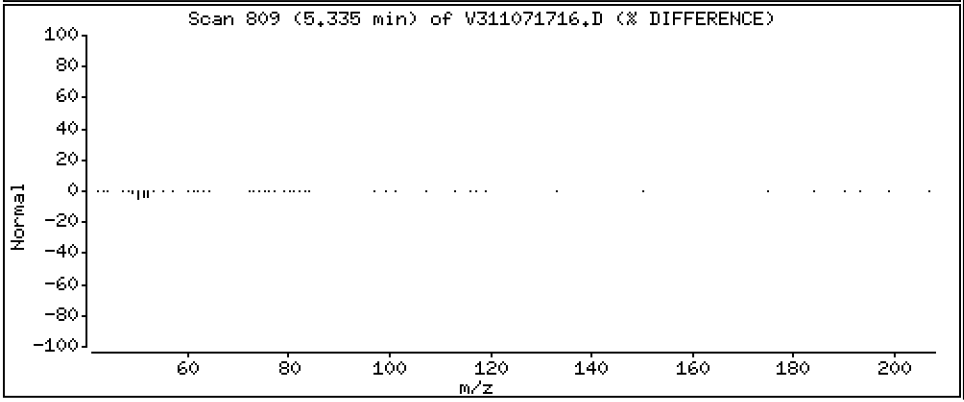
31 Benzene

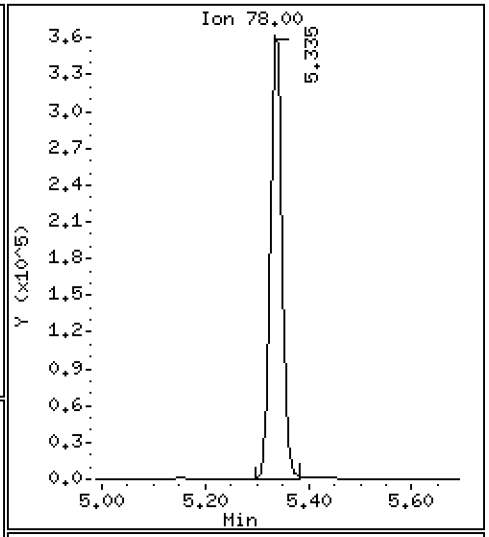
Concentration: 10.441 ug/L

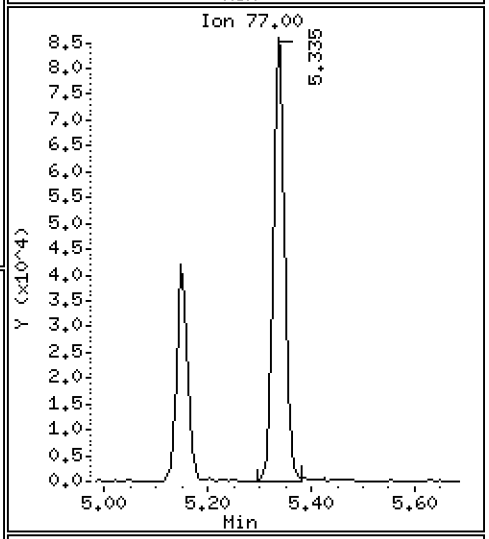


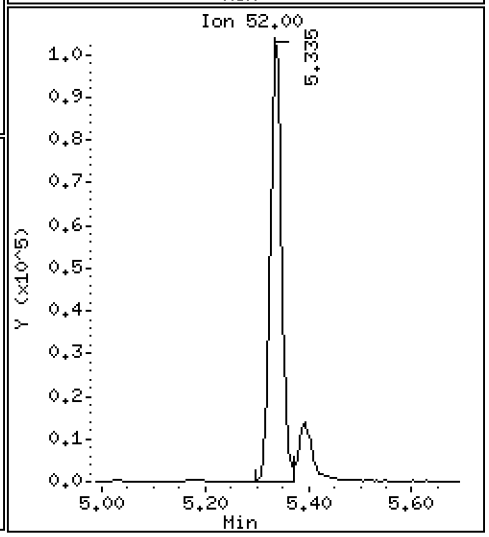












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

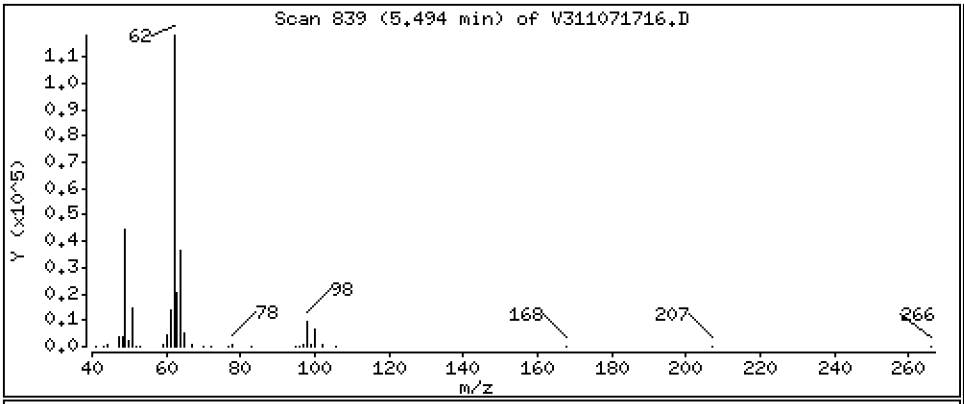
Operator: PC

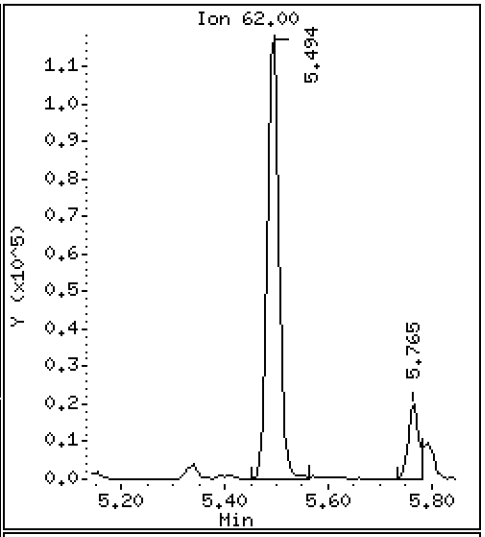
Column phase: RTXVMS

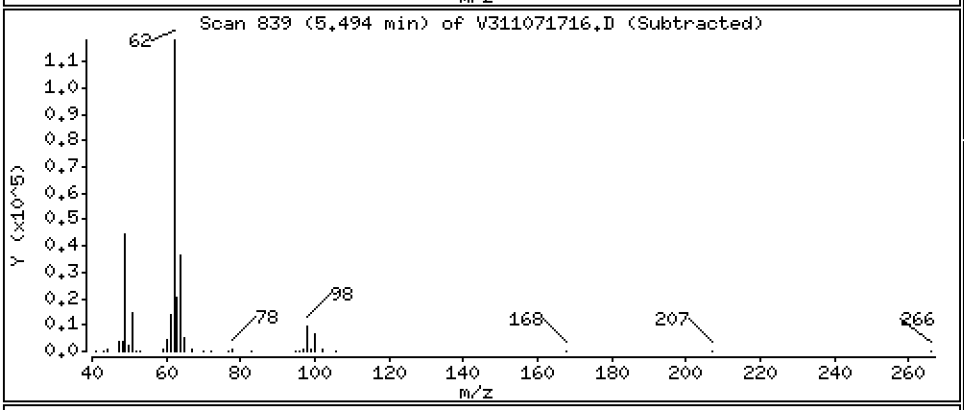
Column diameter: 0.18

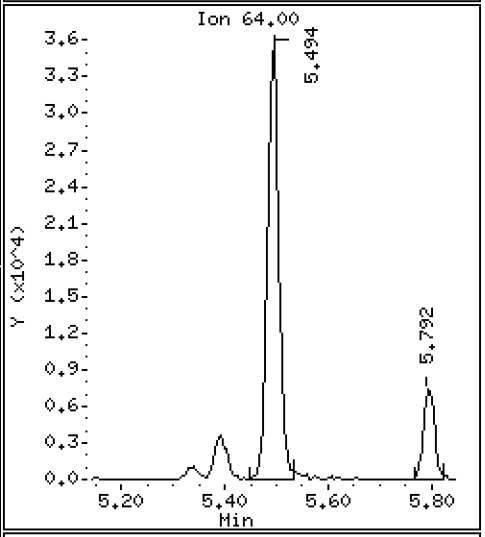
34 1,2-Dichloroethane

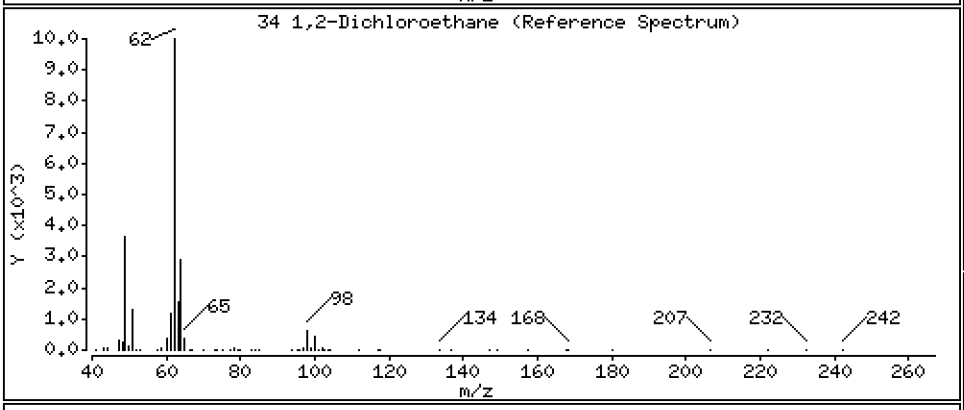
Concentration: 10.176 ug/L

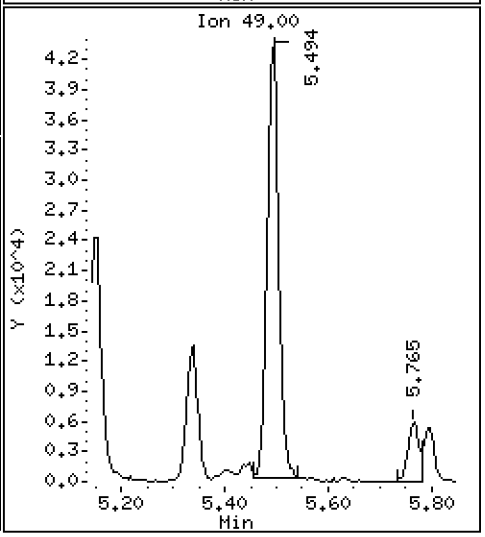


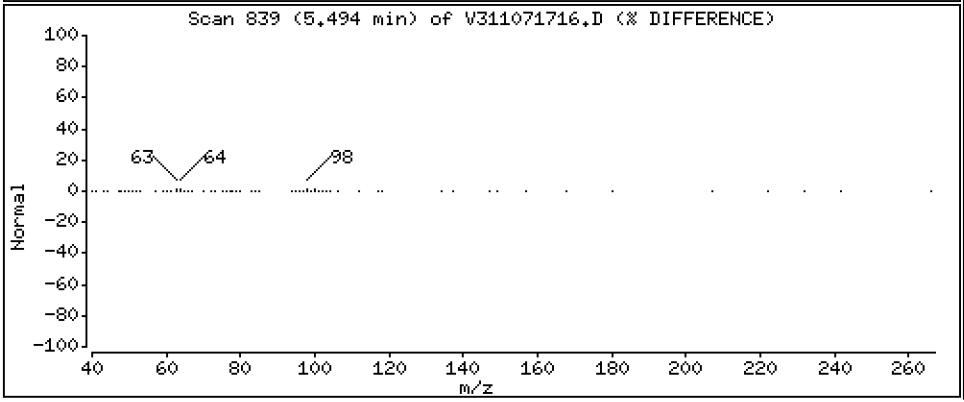












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

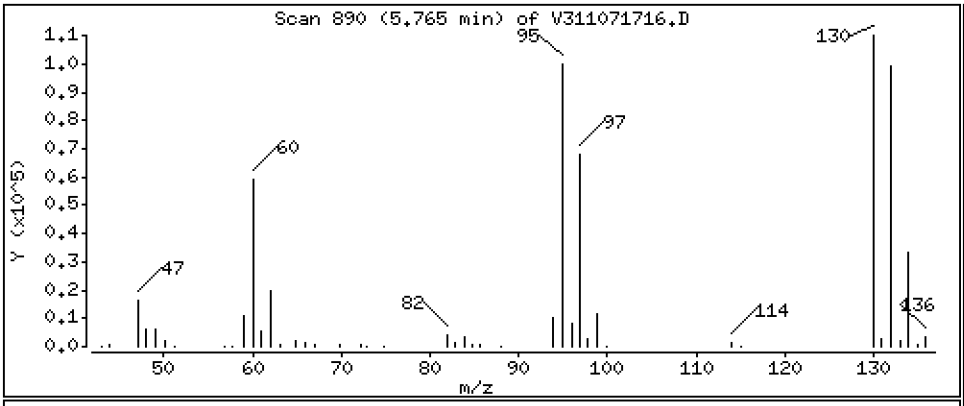
Operator: PC

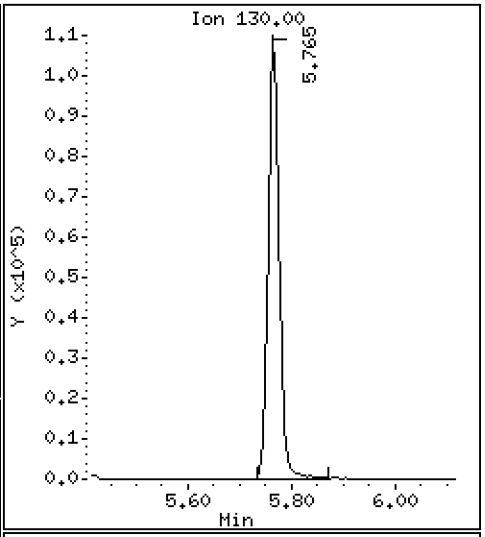
Column phase: RTXVMS

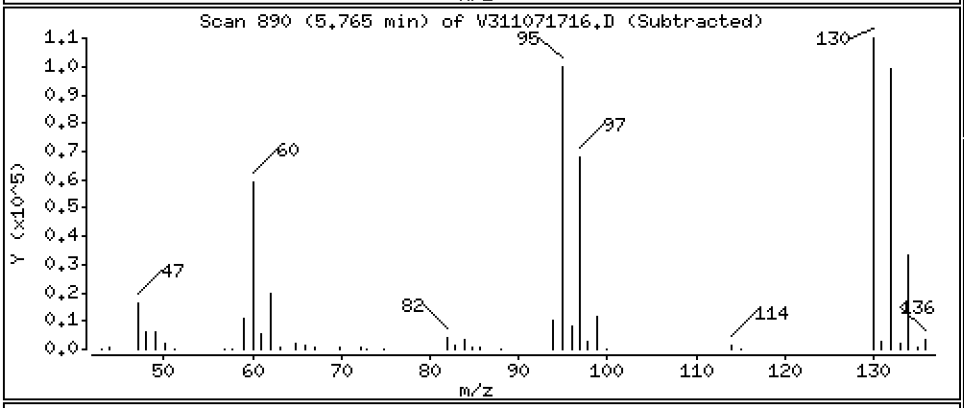
Column diameter: 0.18

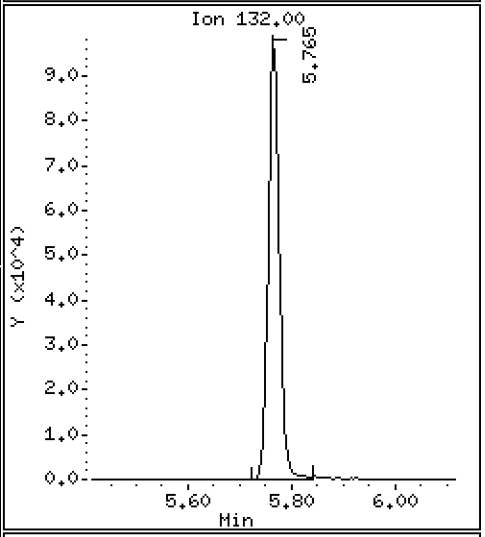
36 Trichloroethene

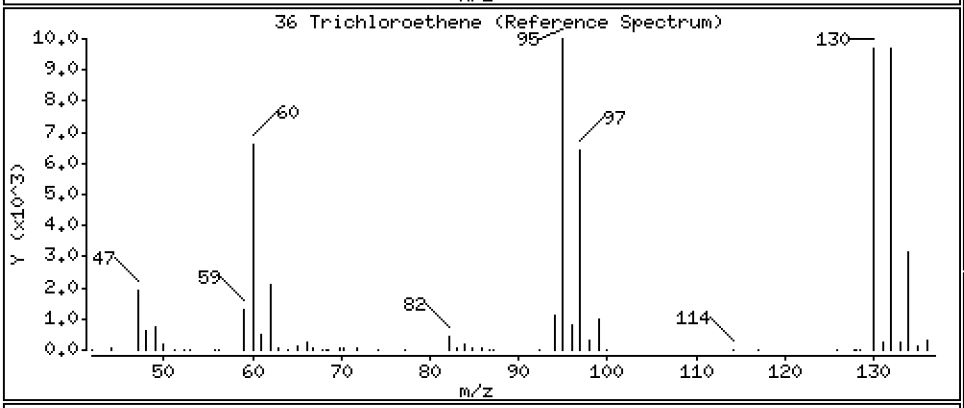
Concentration: 10.718 ug/L

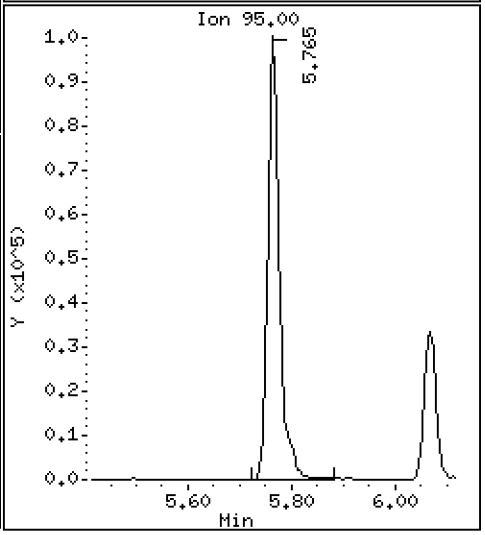


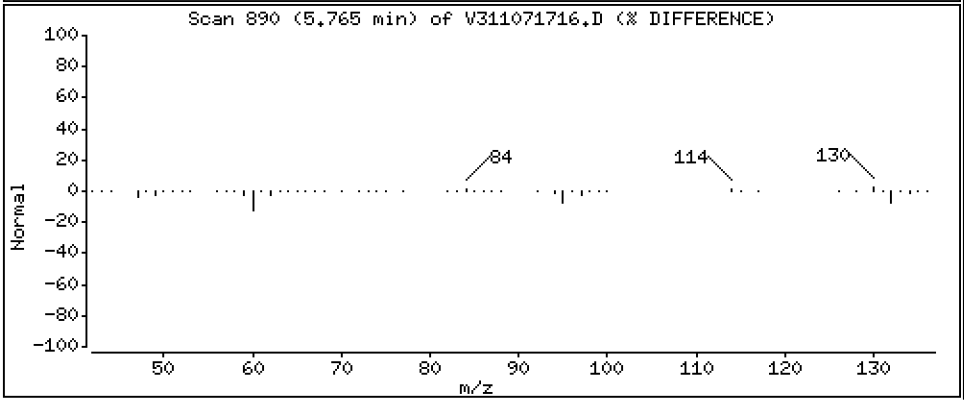












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

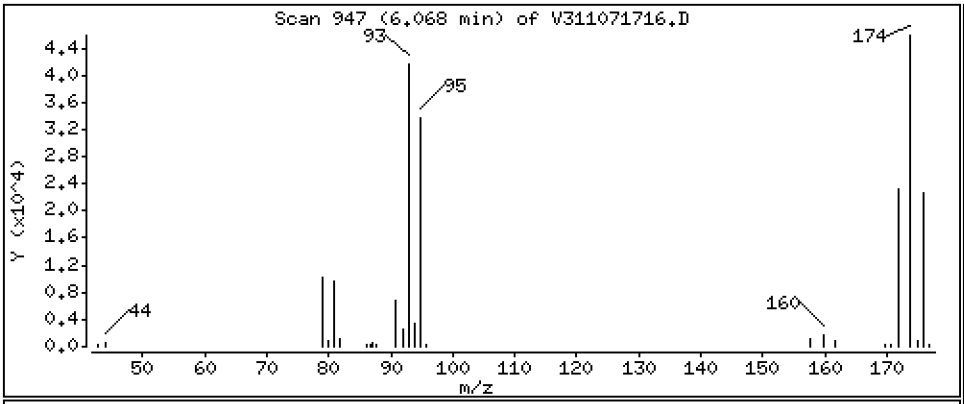
Operator: PC

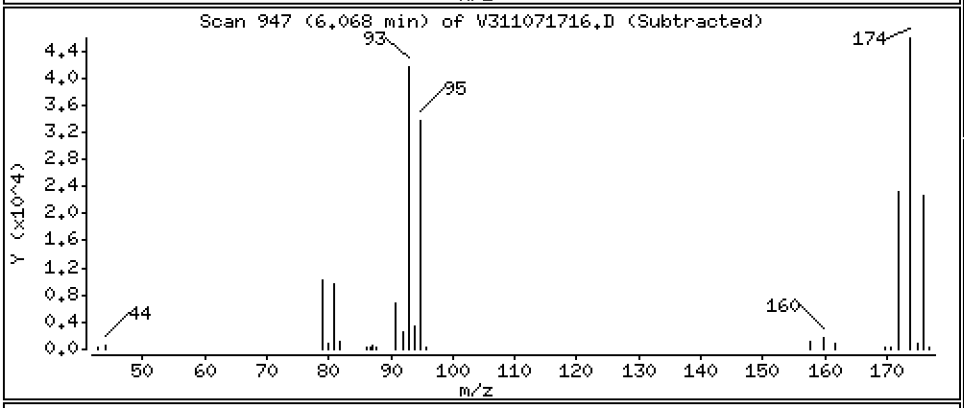
Column phase: RTXVMS

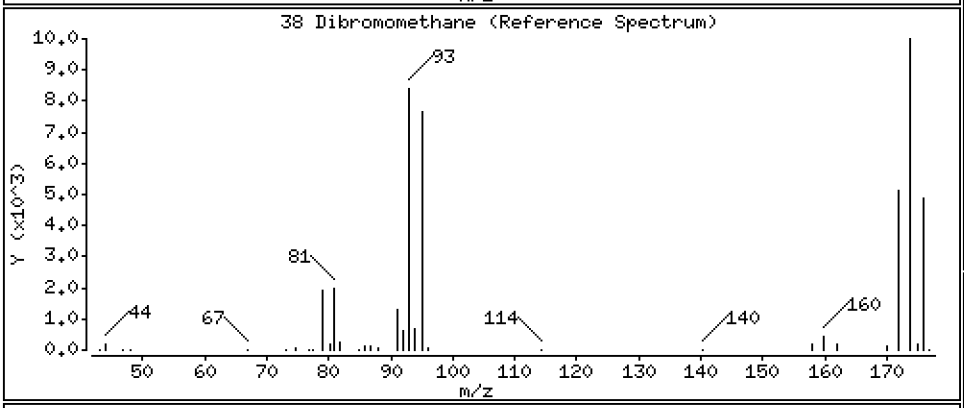
Column diameter: 0.18

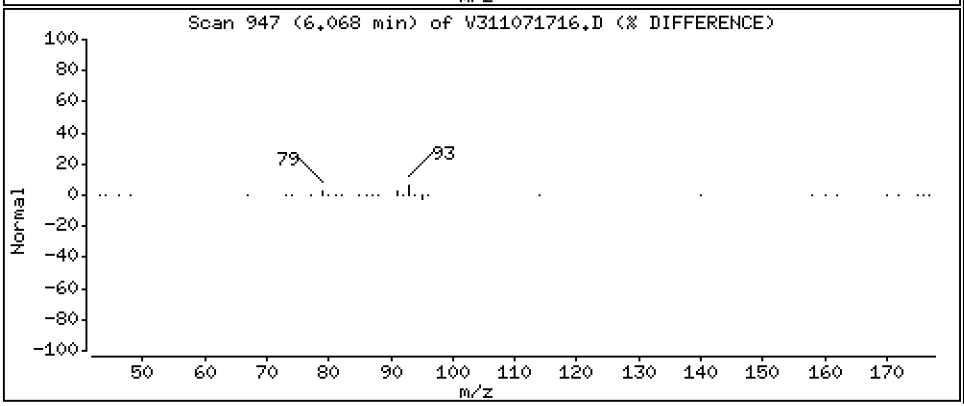
38 Dibromomethane

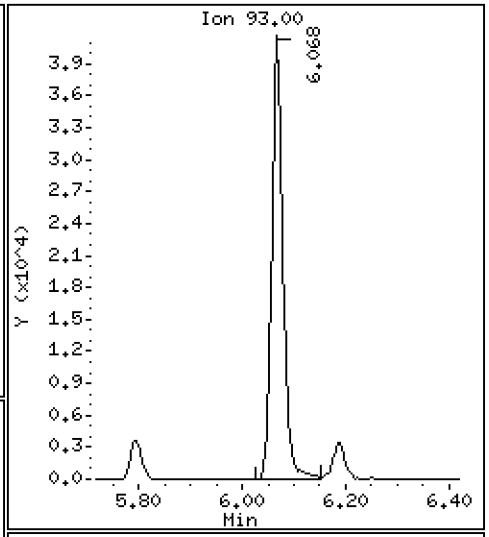
Concentration: 10.307 ug/L

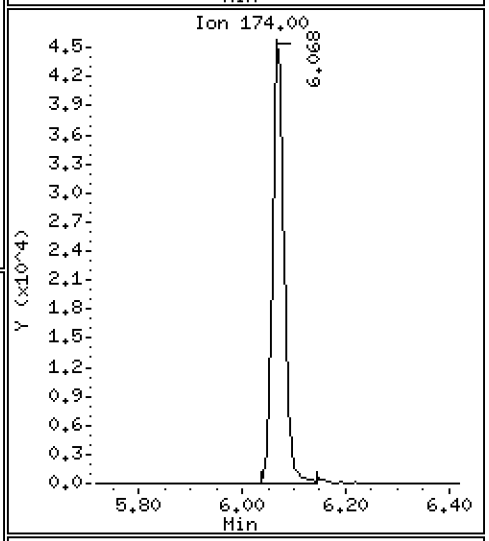


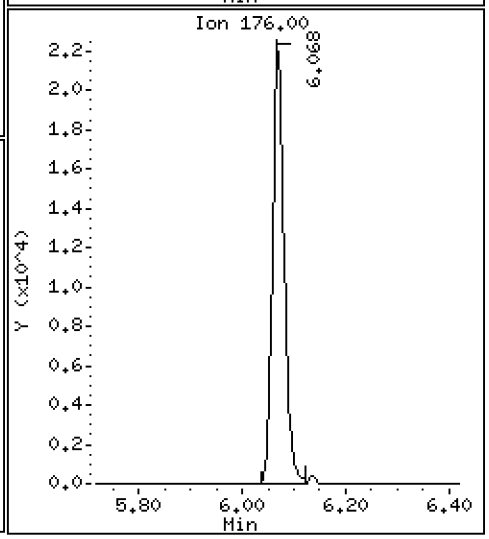












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

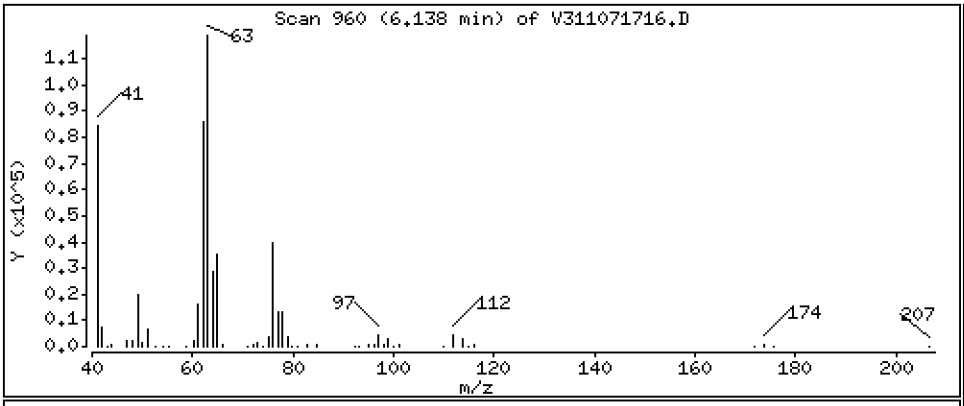
Operator: PC

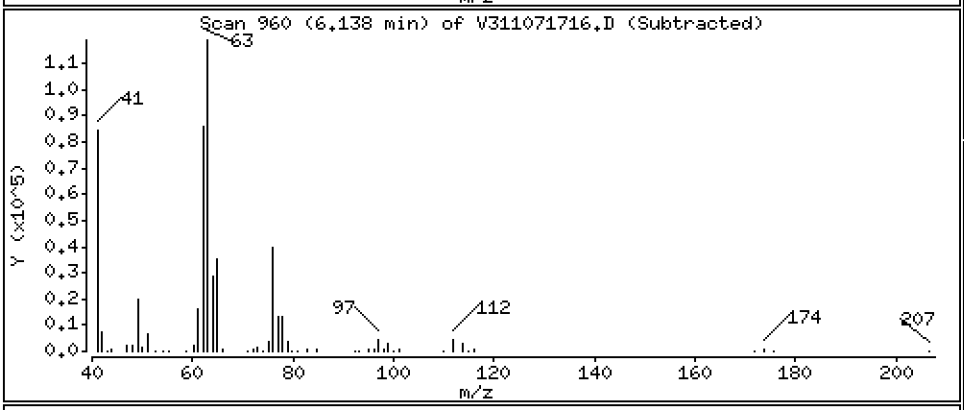
Column phase: RTXVMS

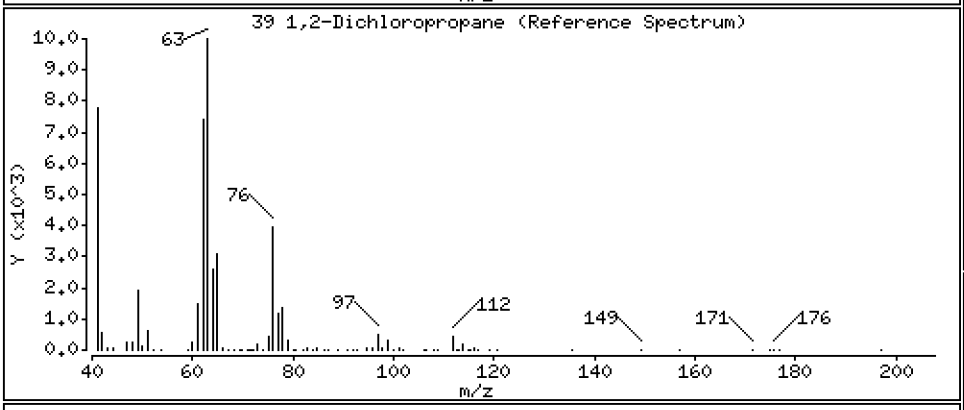
Column diameter: 0.18

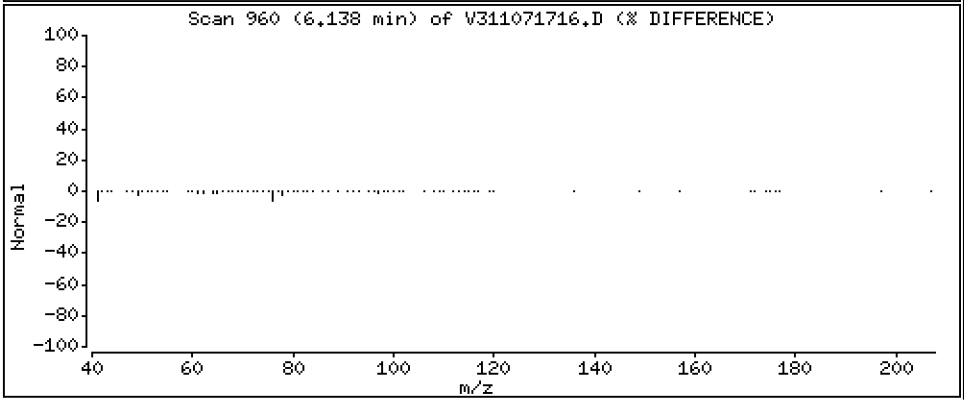
39 1,2-Dichloropropane

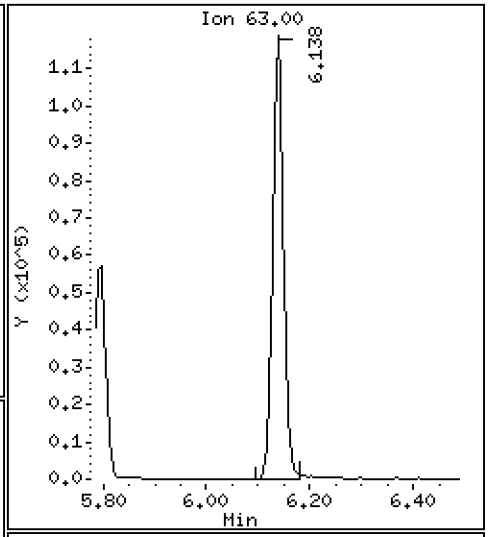
Concentration: 10.253 ug/L

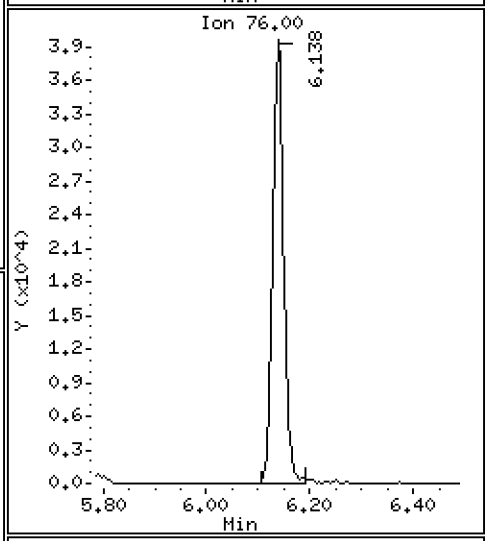


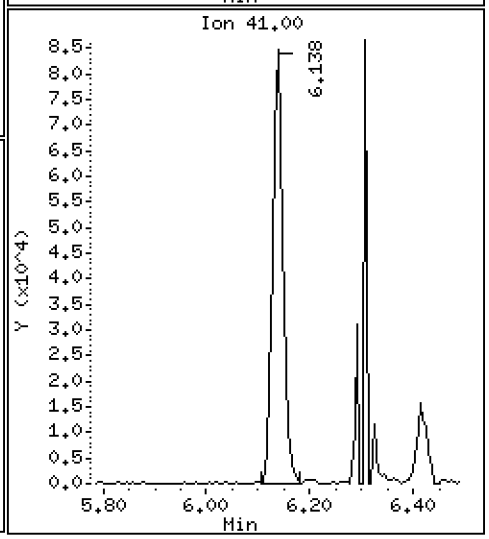












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

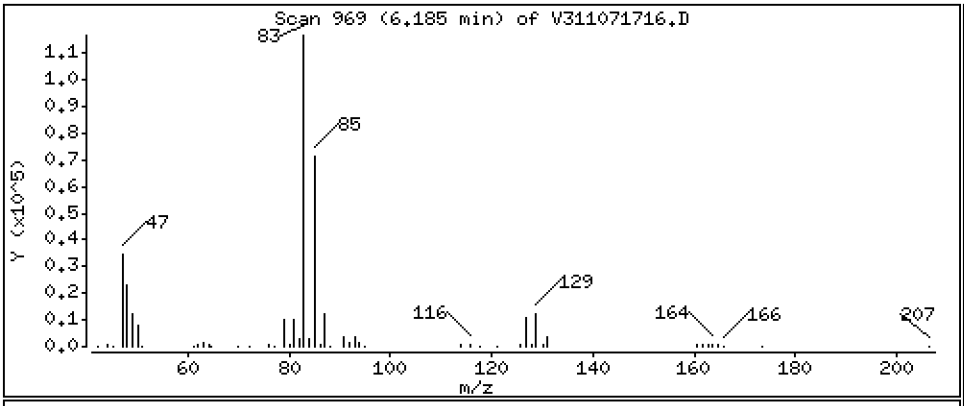
Operator: PC

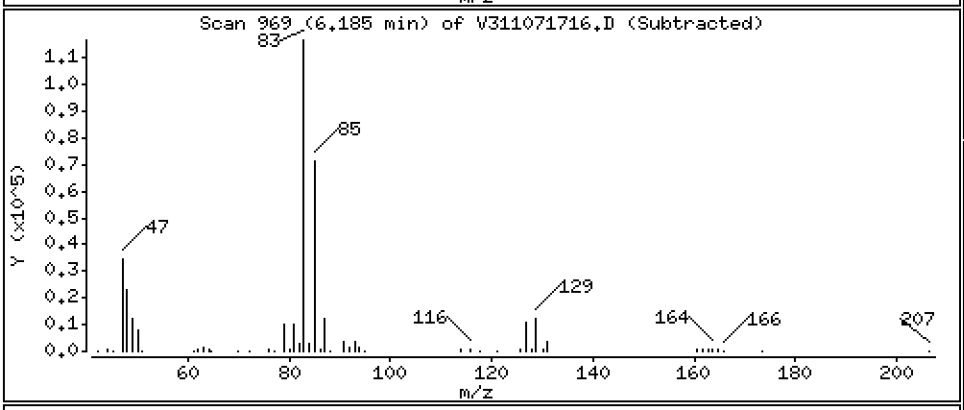
Column phase: RTXVMS

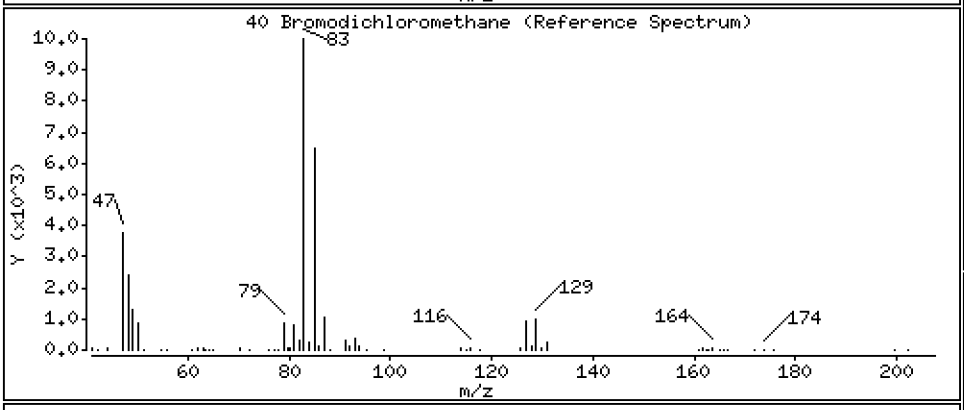
Column diameter: 0.18

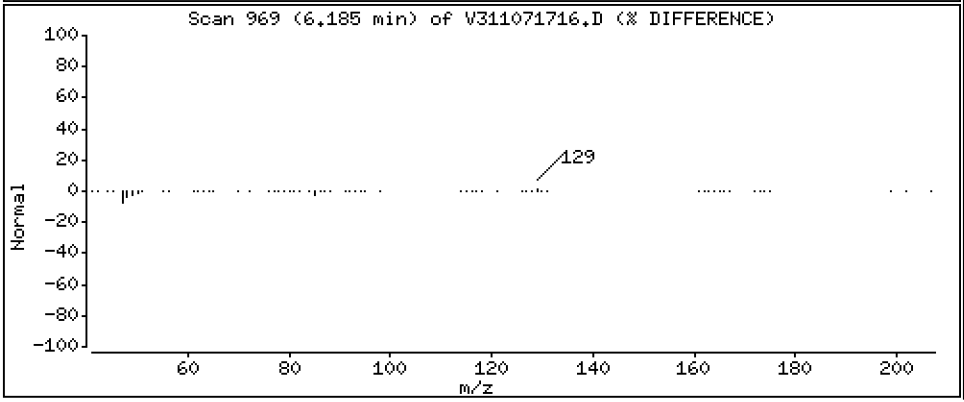
40 Bromodichloromethane

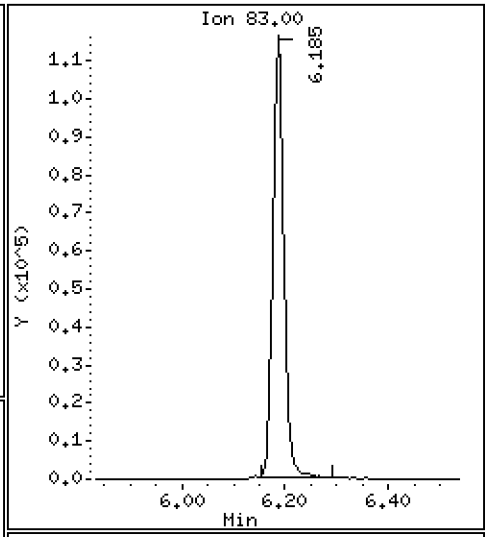
Concentration: 10.381 ug/L

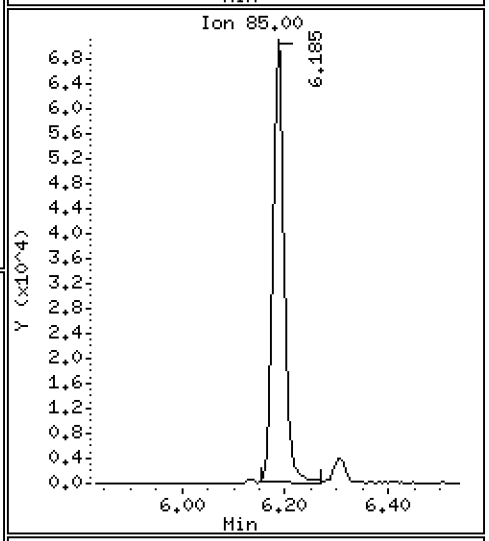


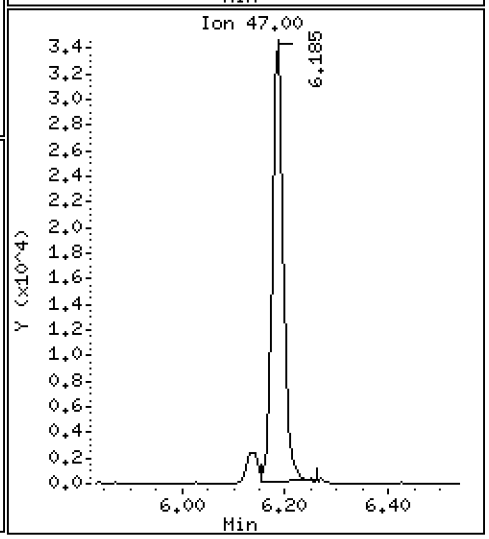












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

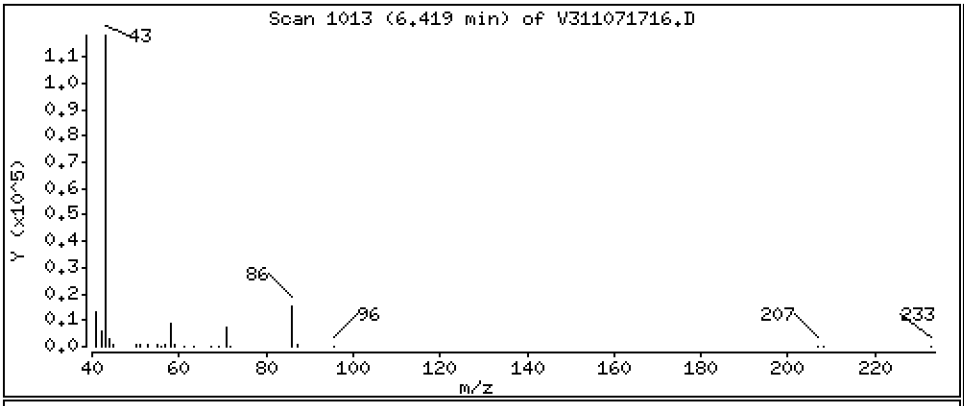
Operator: PC

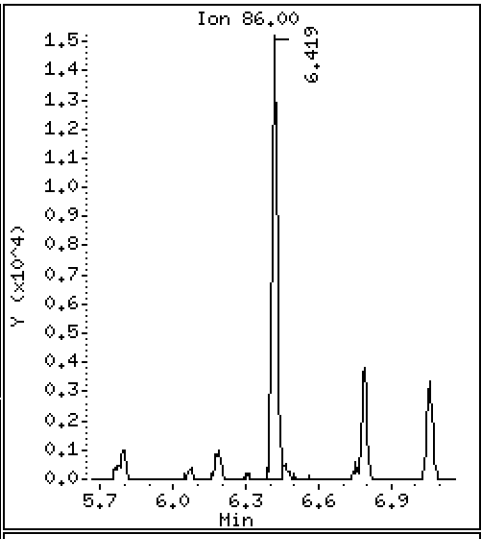
Column phase: RTXVMS

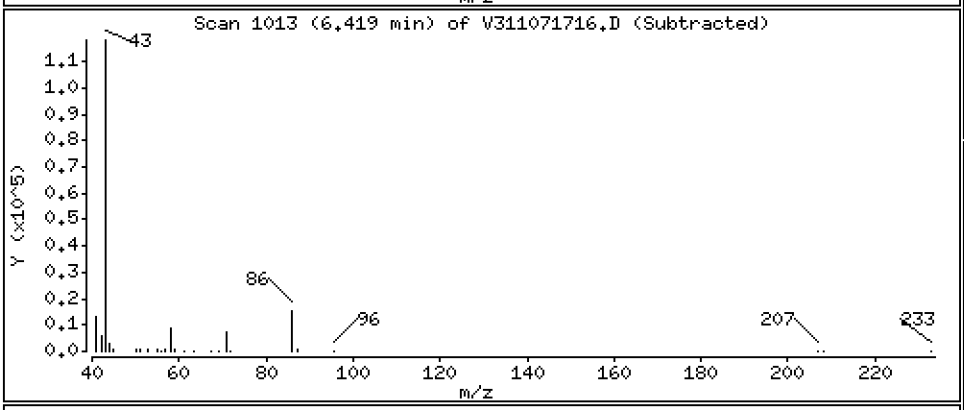
Column diameter: 0.18

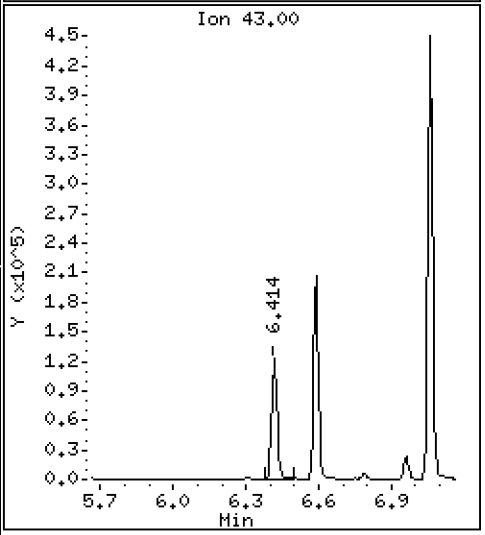
173 2-Pentanone

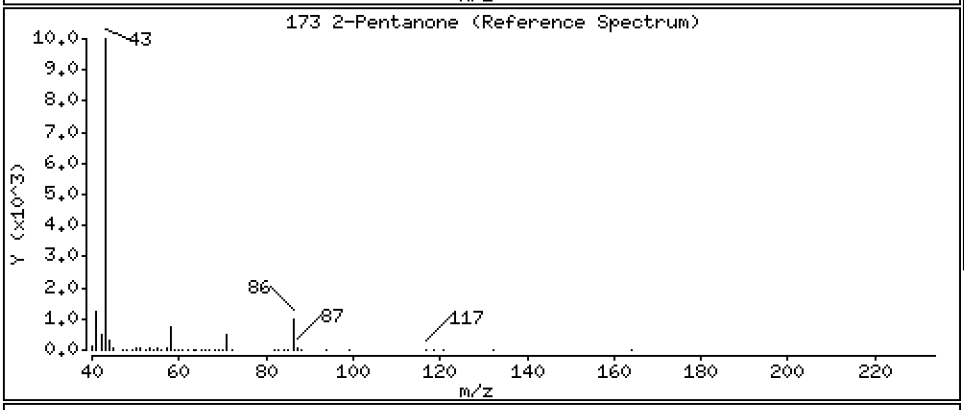
Concentration: 19.705 ug/L

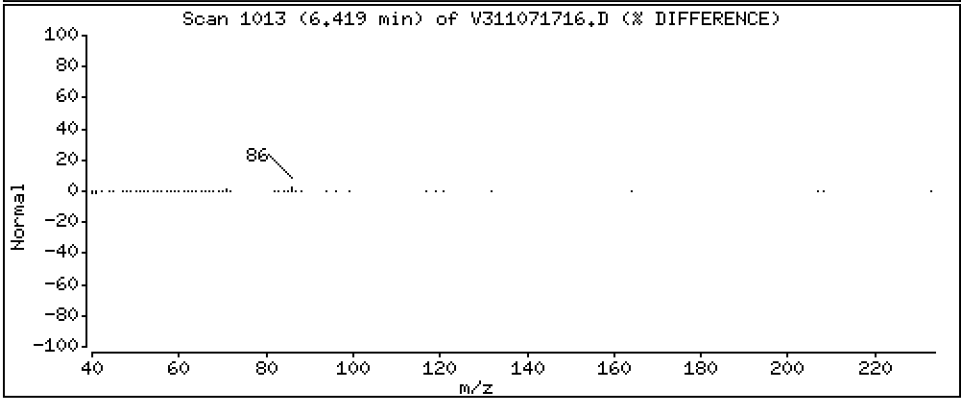












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

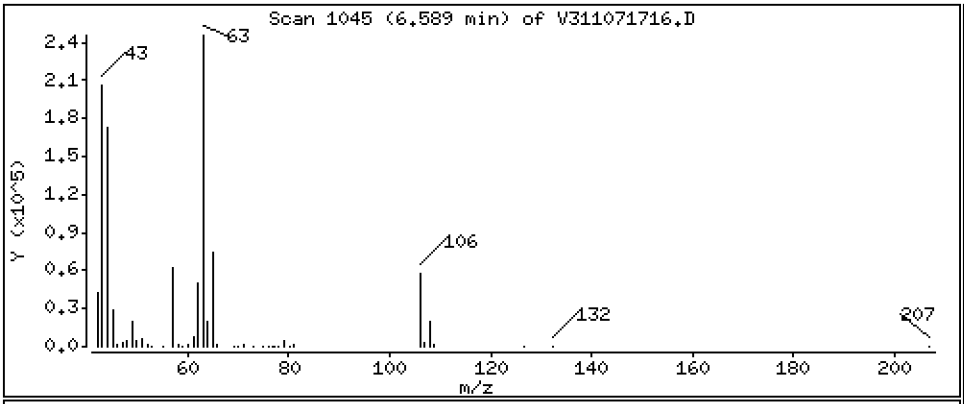
Operator: PC

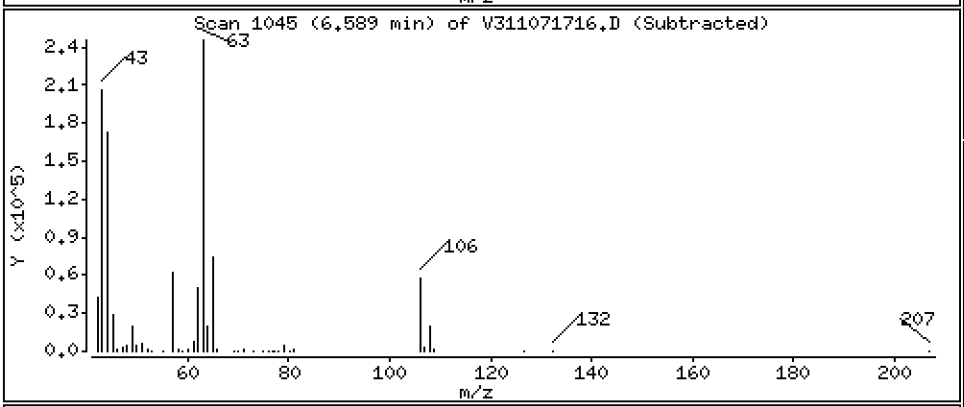
Column phase: RTXVMS

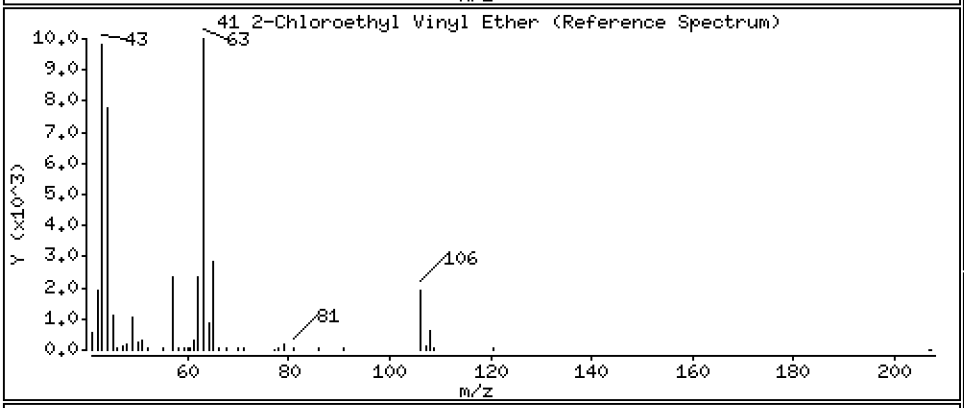
Column diameter: 0.18

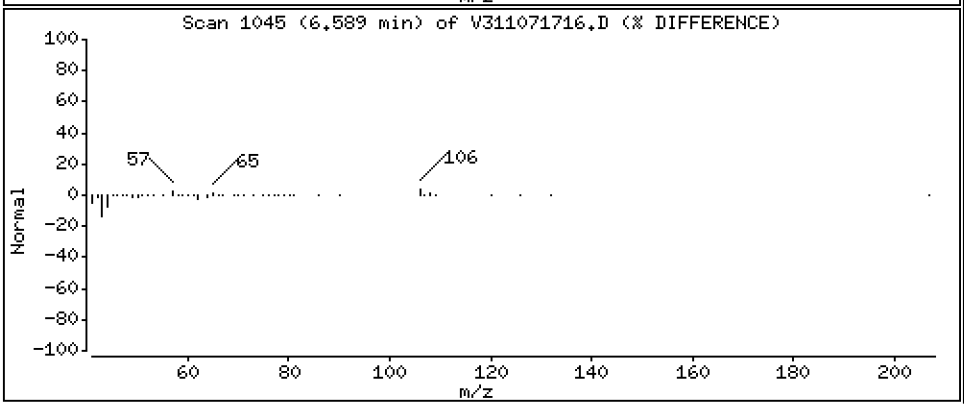
41 2-Chloroethyl Vinyl Ether

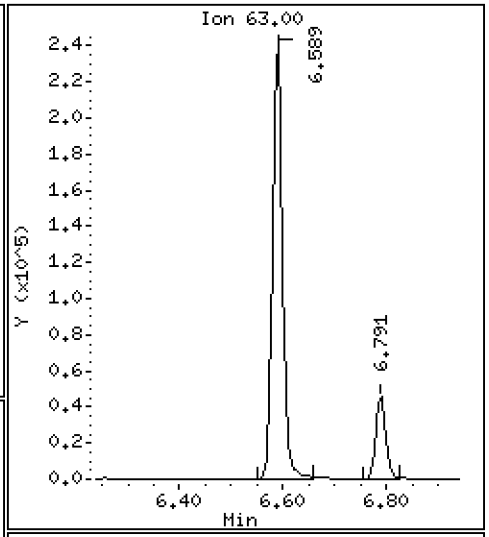
Concentration: 44.815 ug/L

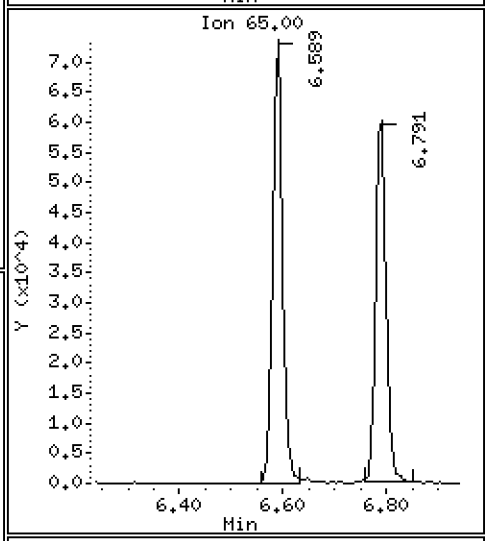


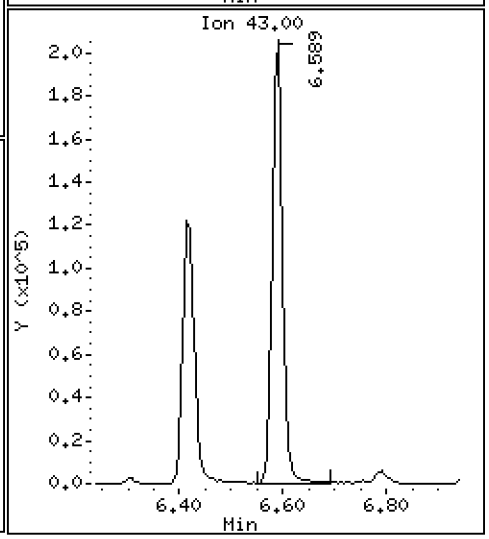












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

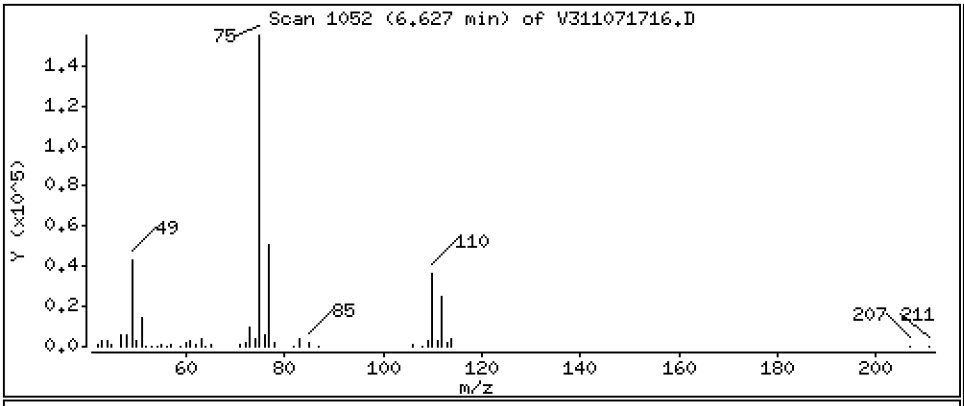
Operator: PC

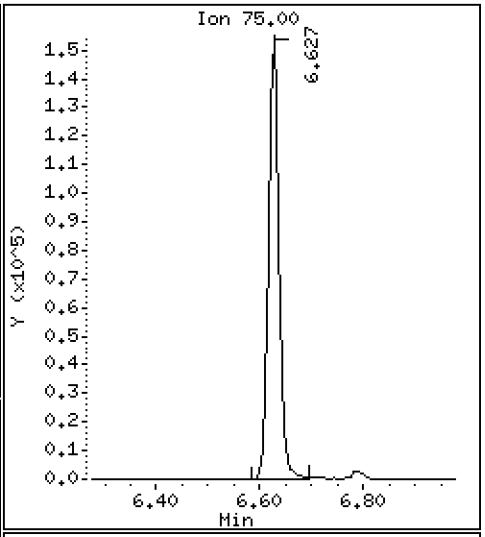
Column phase: RTXVMS

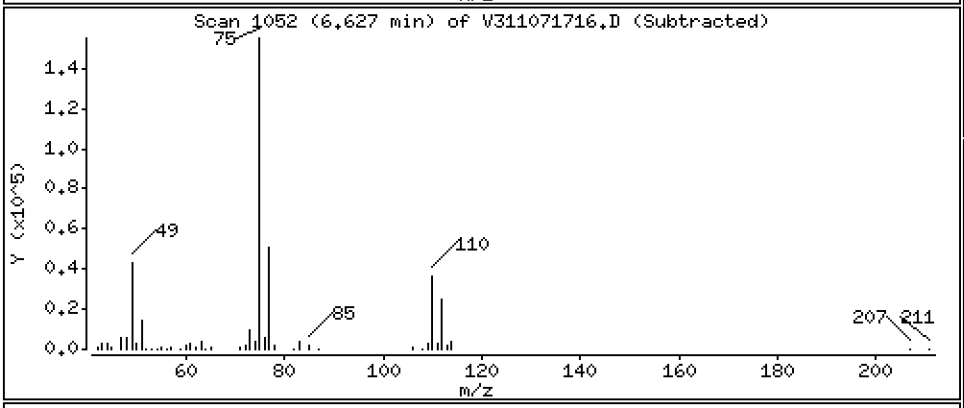
Column diameter: 0.18

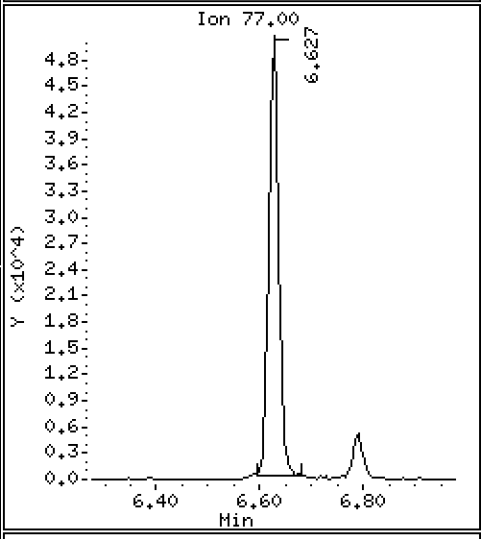
42 Cis 1,3-dichloropropene

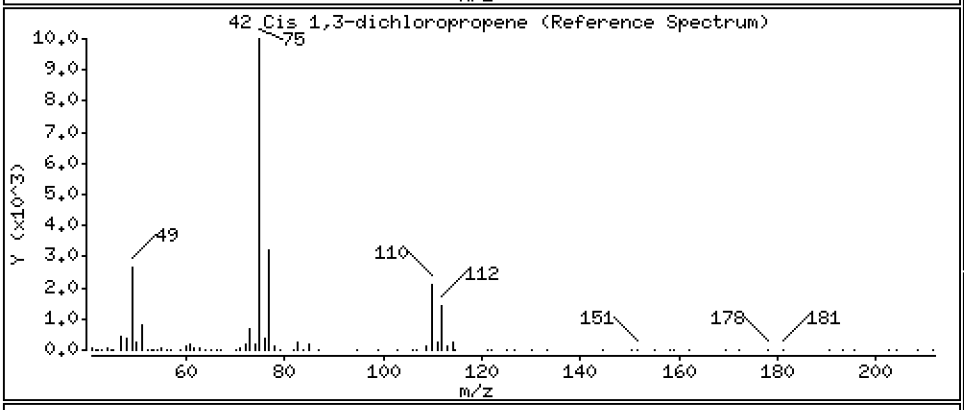
Concentration: 10.702 ug/L

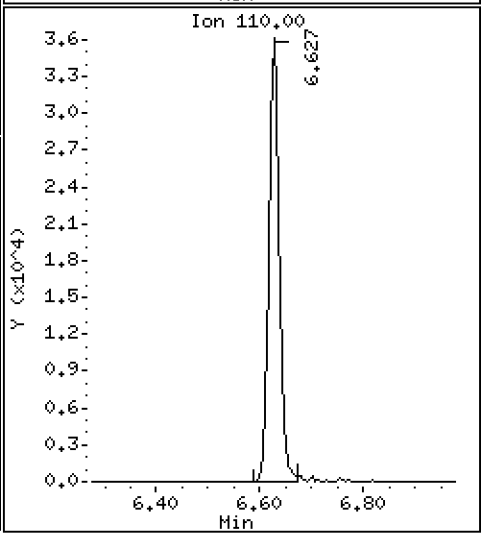


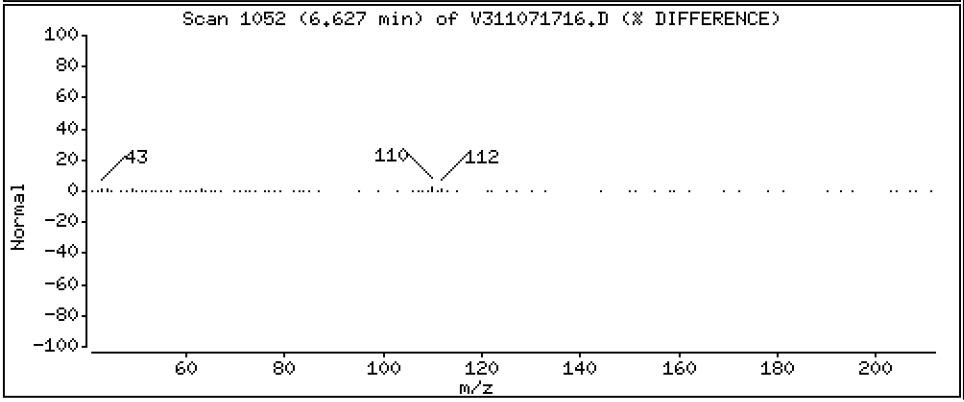












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

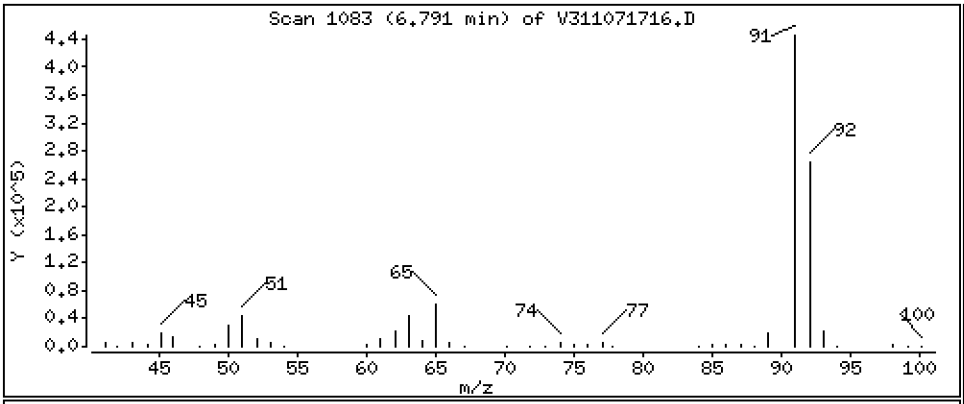
Operator: PC

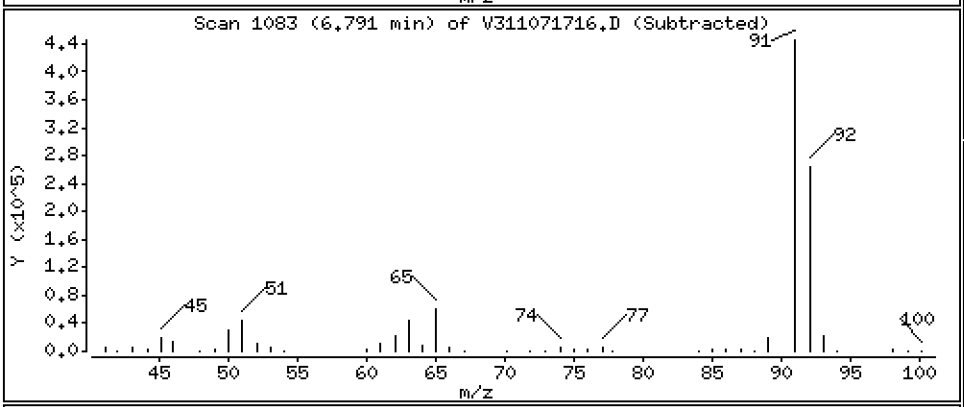
Column phase: RTXVMS

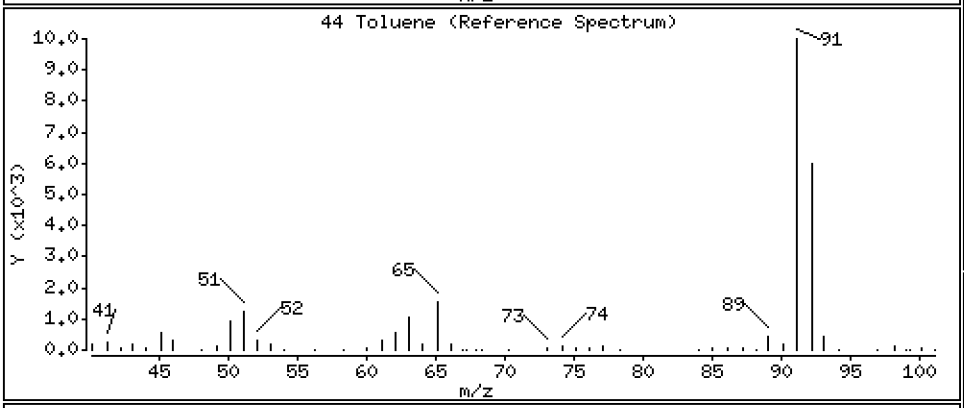
Column diameter: 0.18

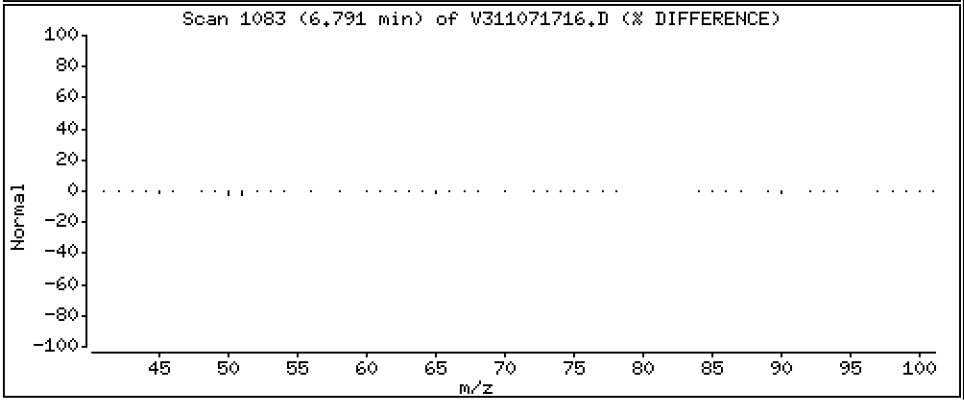
44 Toluene

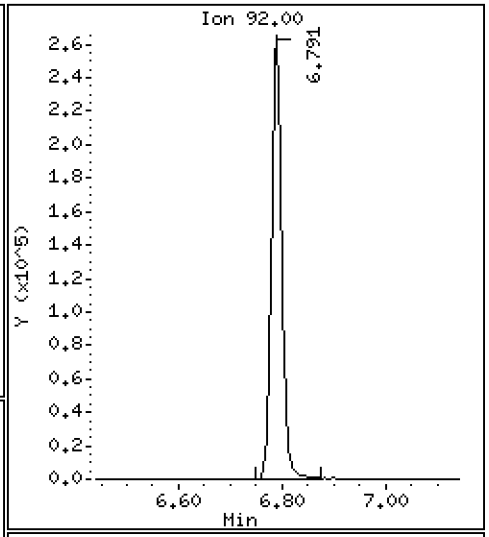
Concentration: 10.469 ug/L

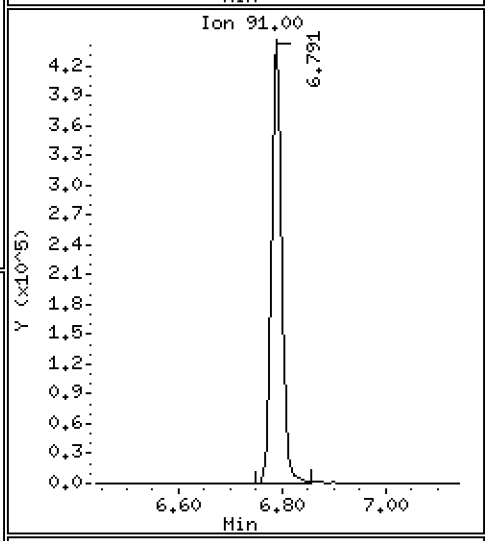


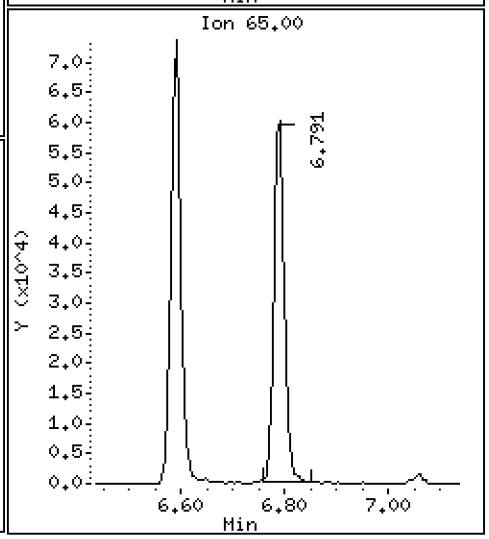












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

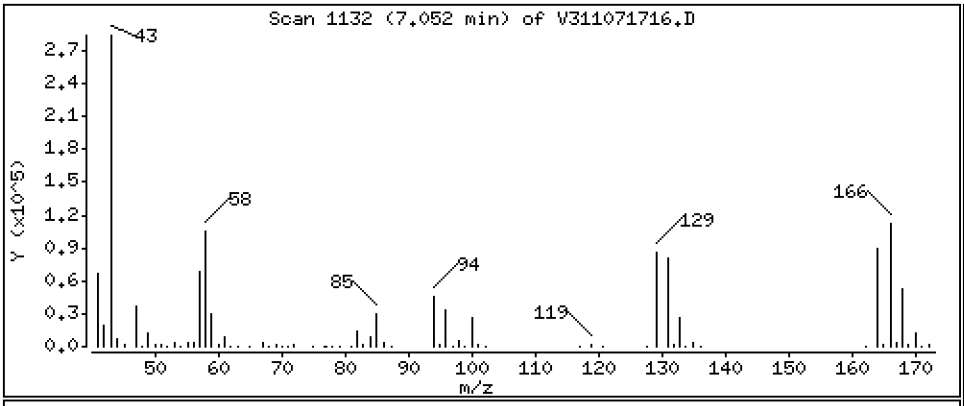
Operator: PC

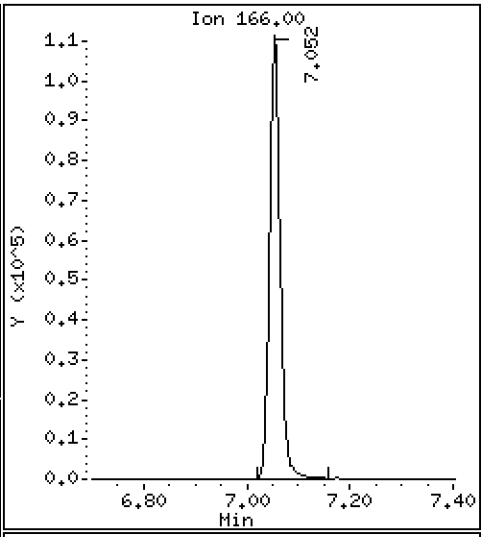
Column phase: RTXVMS

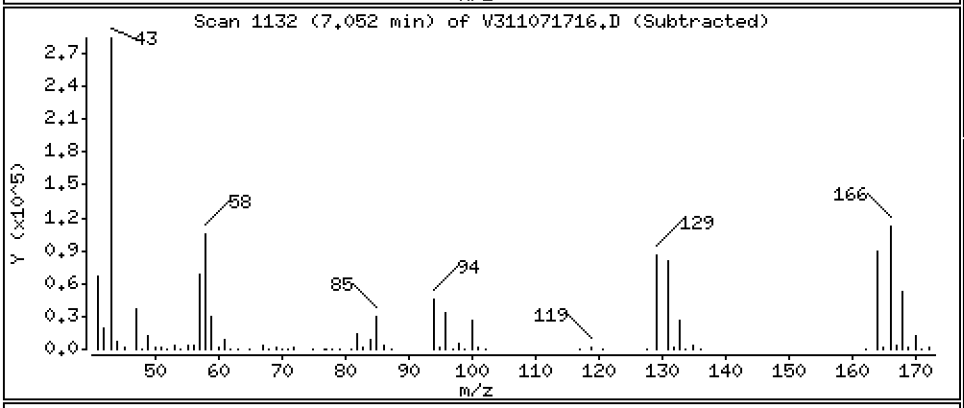
Column diameter: 0.18

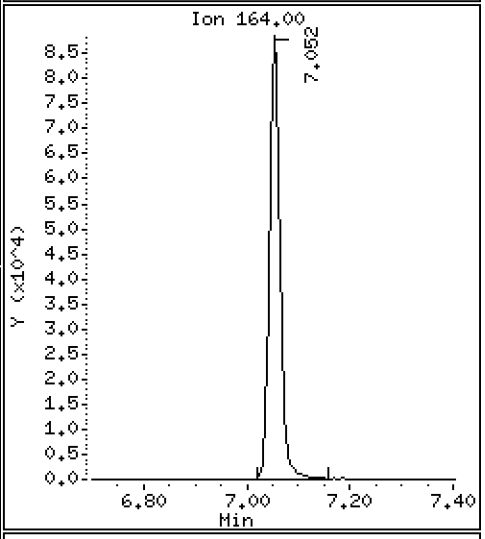
46 Tetrachloroethene

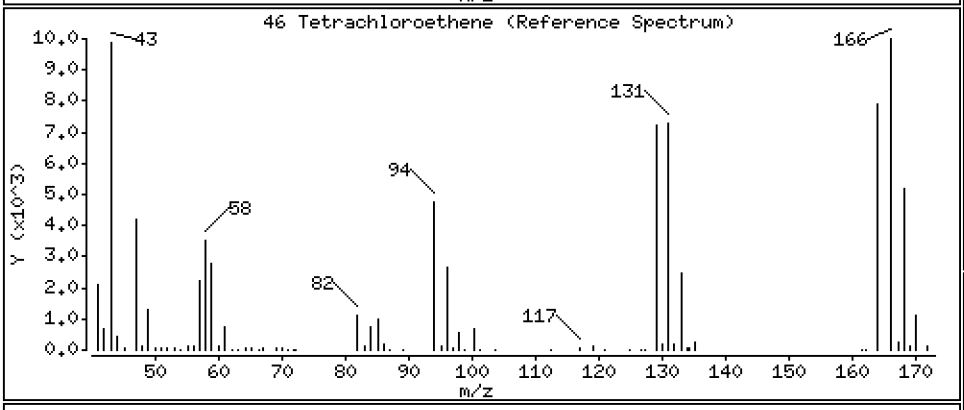
Concentration: 10.453 ug/L

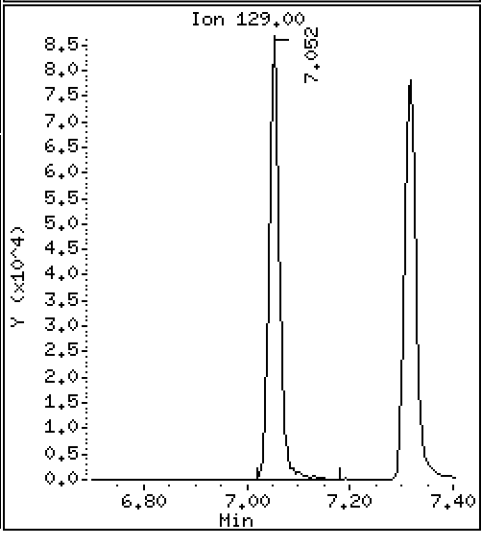


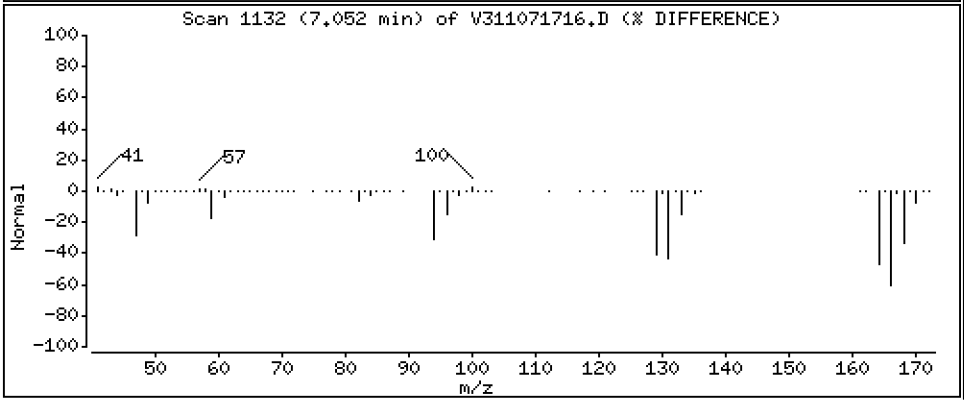












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

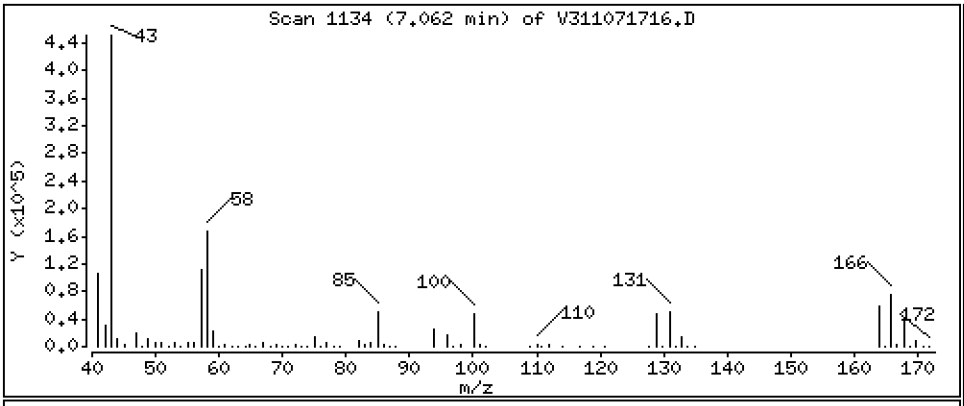
Operator: PC

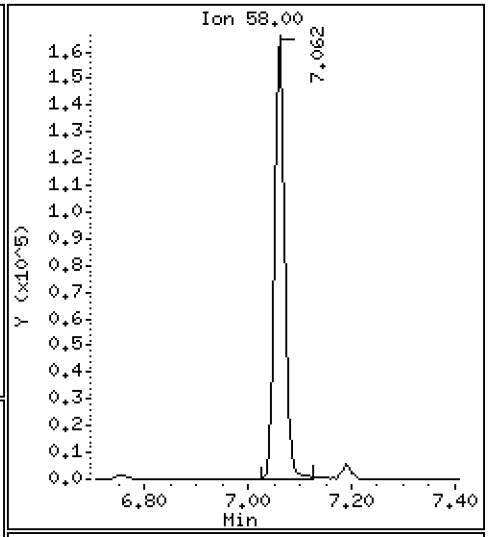
Column phase: RTXVMS

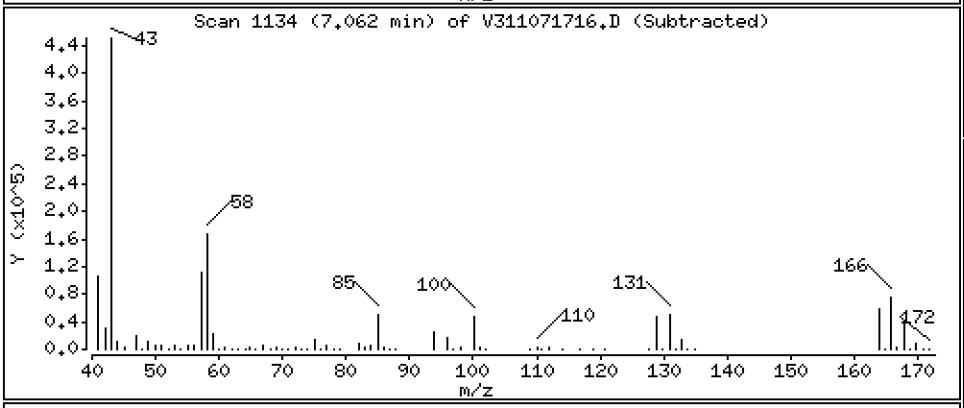
Column diameter: 0.18

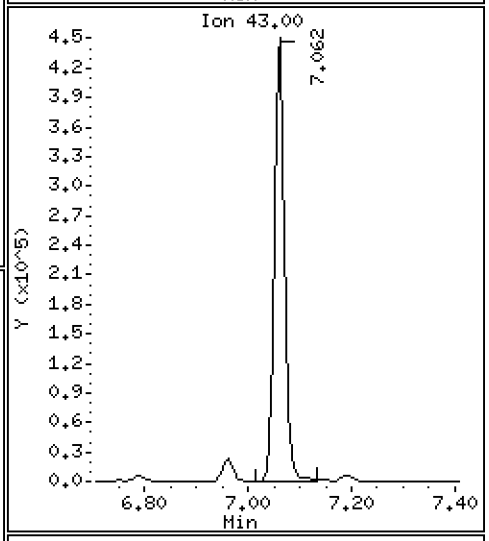
45 4-Methyl-2-Pentanone

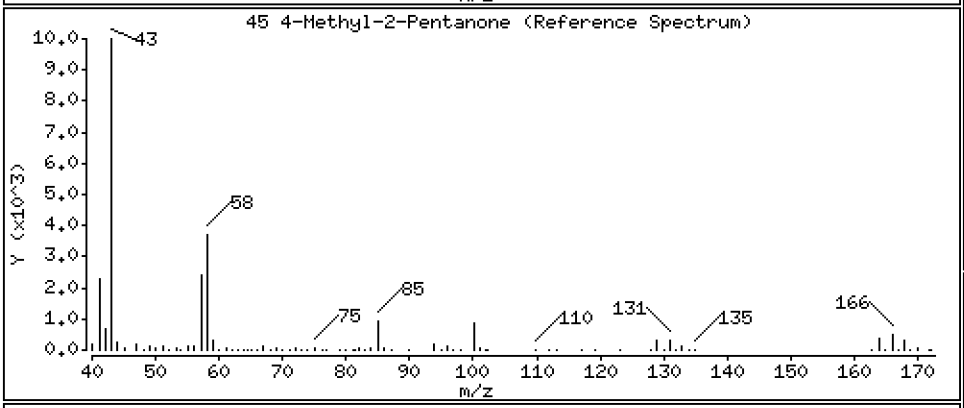
Concentration: 50.809 ug/L

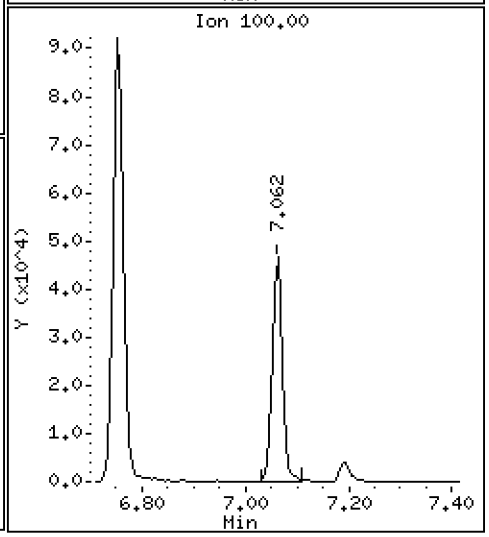


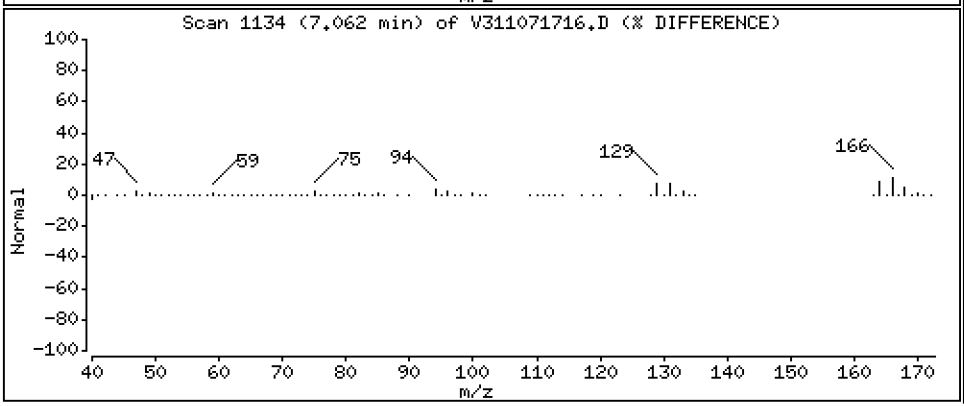












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

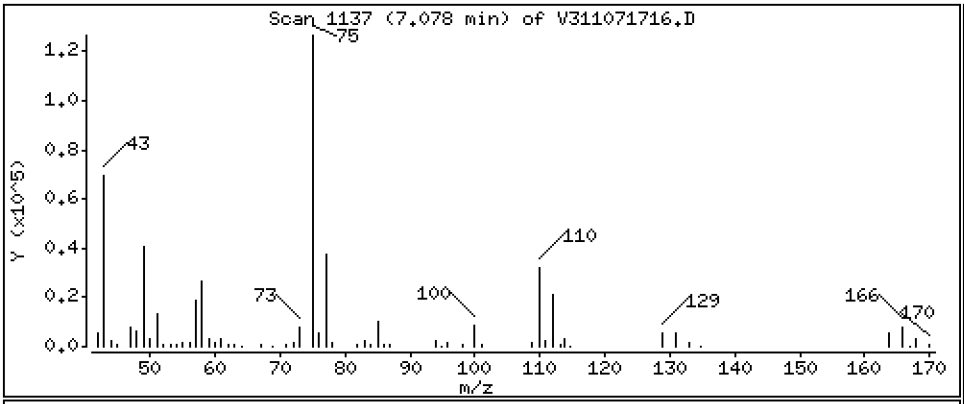
Operator: PC

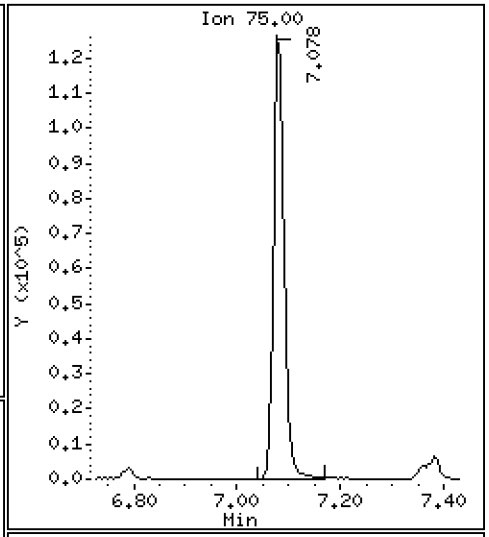
Column phase: RTXVMS

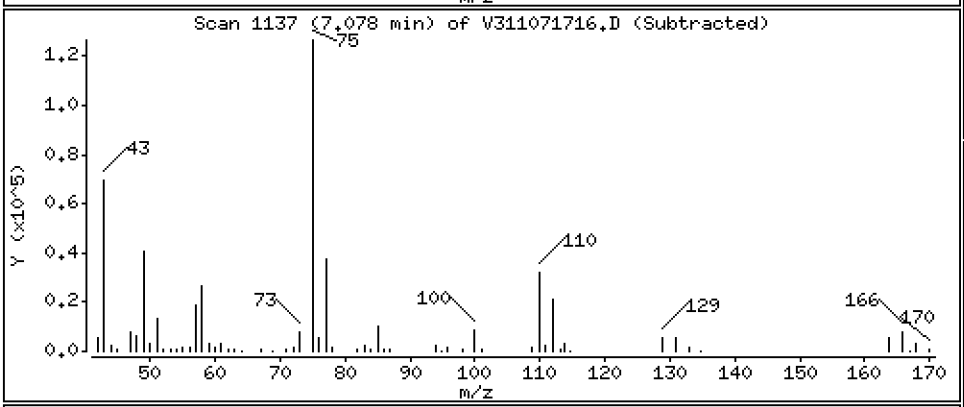
Column diameter: 0.18

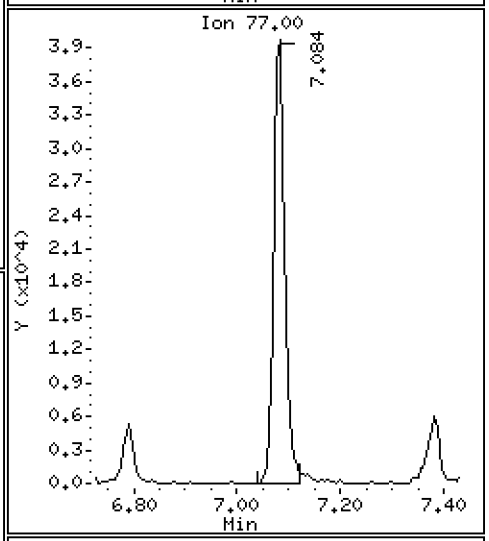
47 Trans 1,3-Dichloropropene

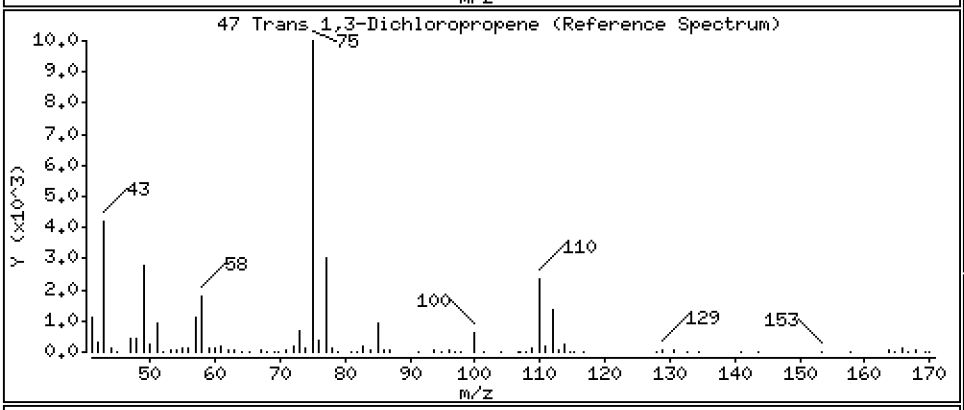
Concentration: 10.823 ug/L

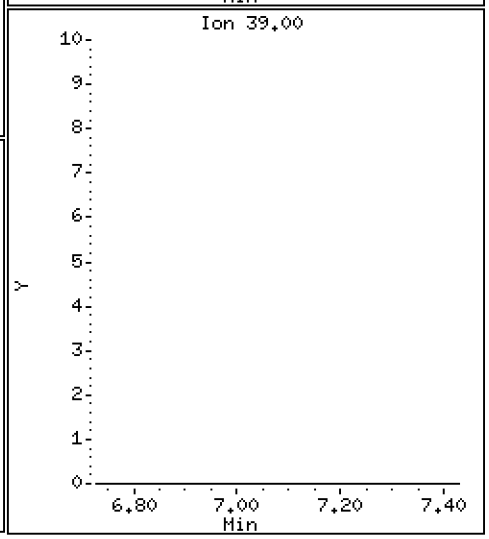


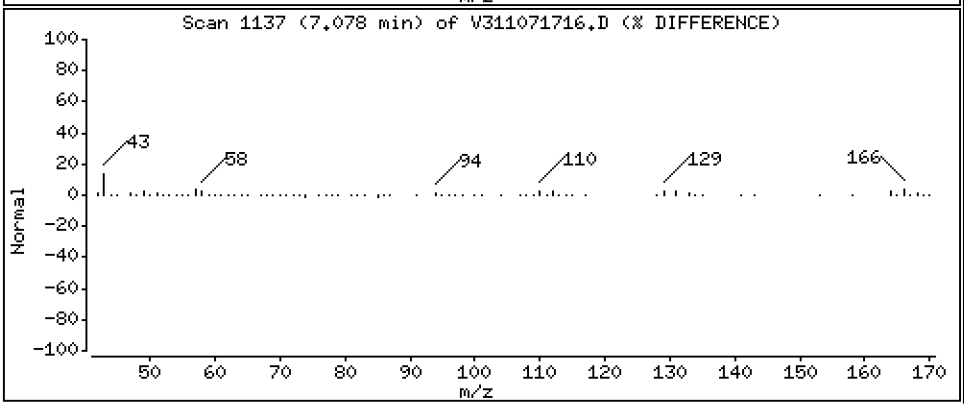












Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

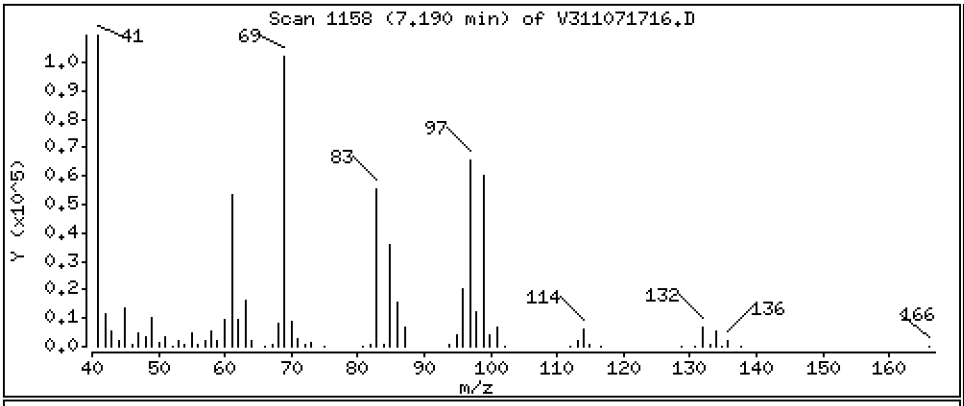
Operator: PC

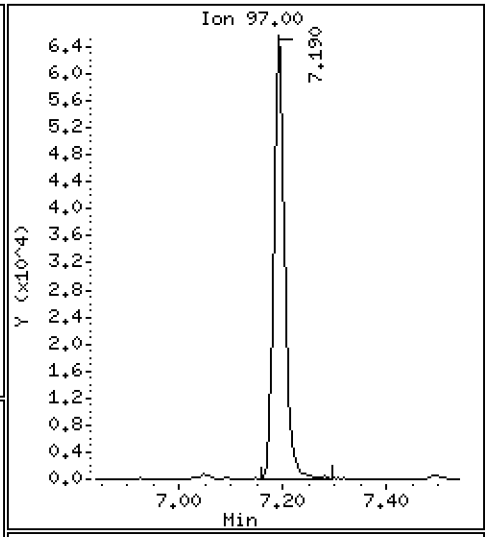
Column phase: RTXVMS

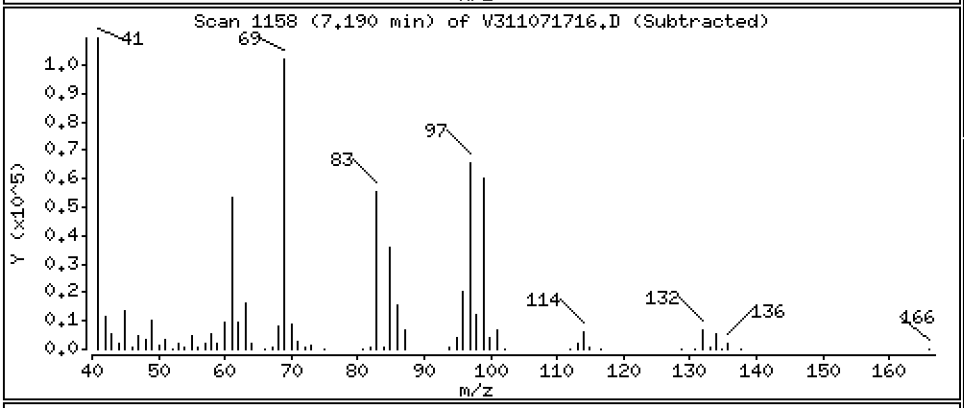
Column diameter: 0.18

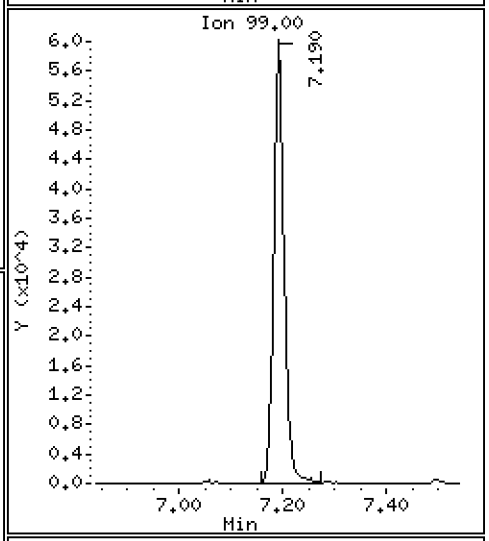
48 1,1,2-Trichloroethane

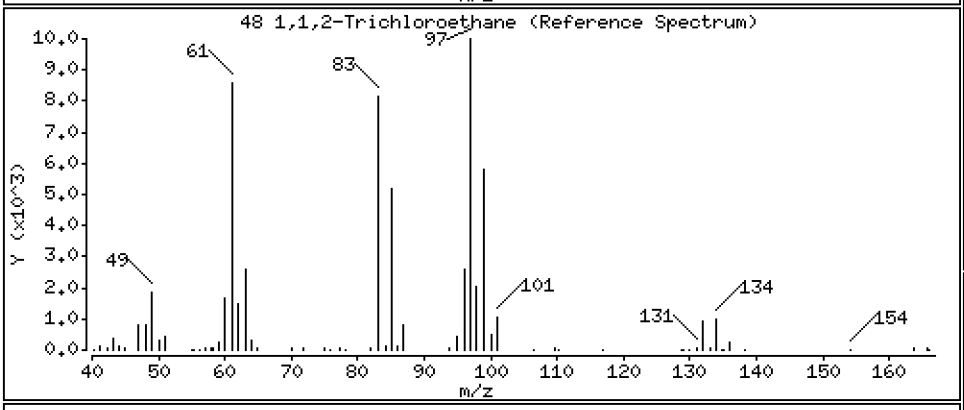
Concentration: 10.484 ug/L

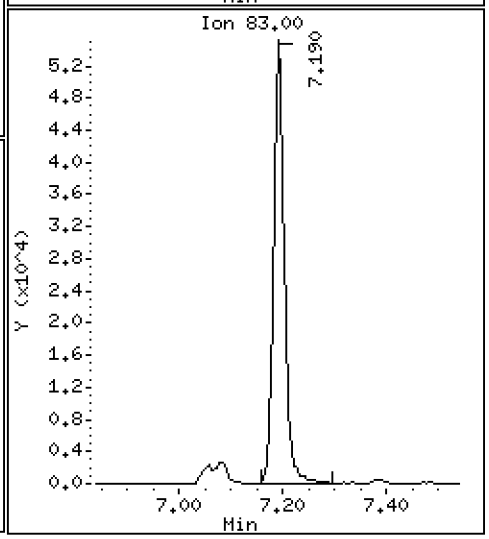


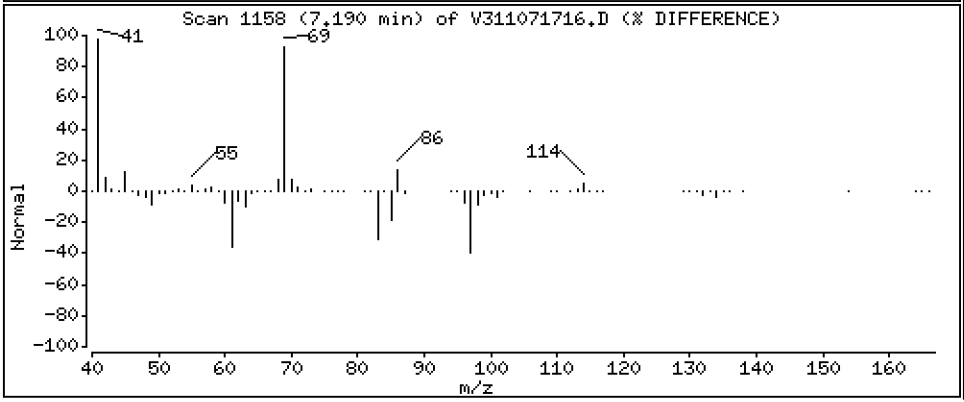












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

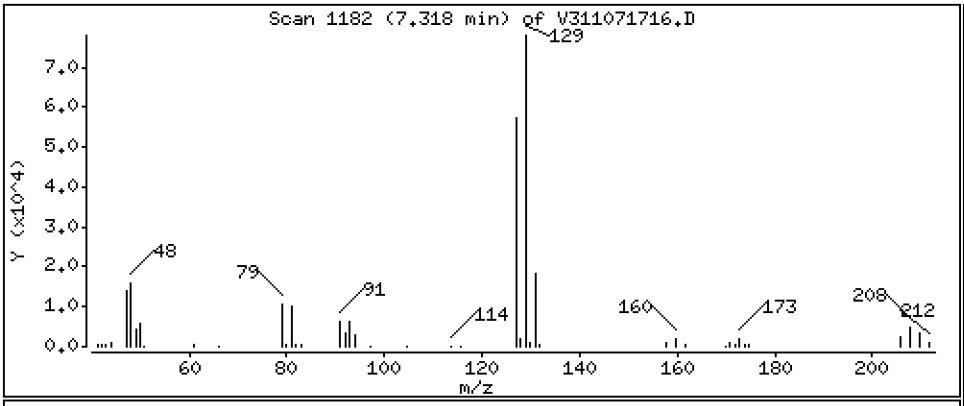
Operator: PC

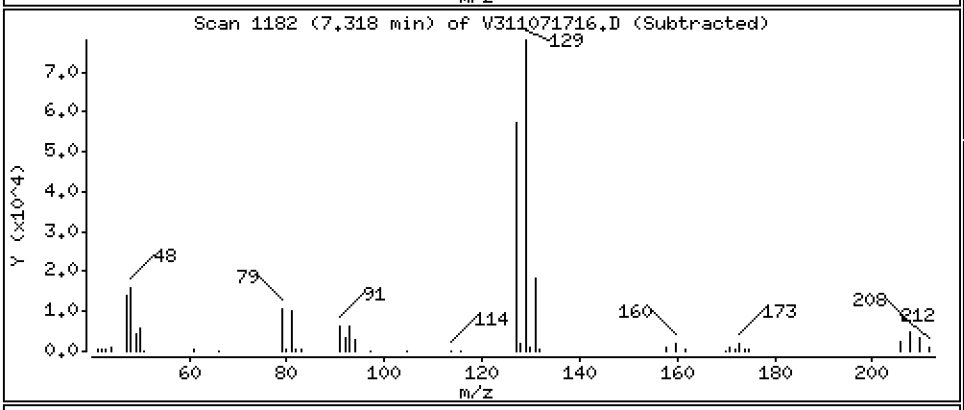
Column phase: RTXVMS

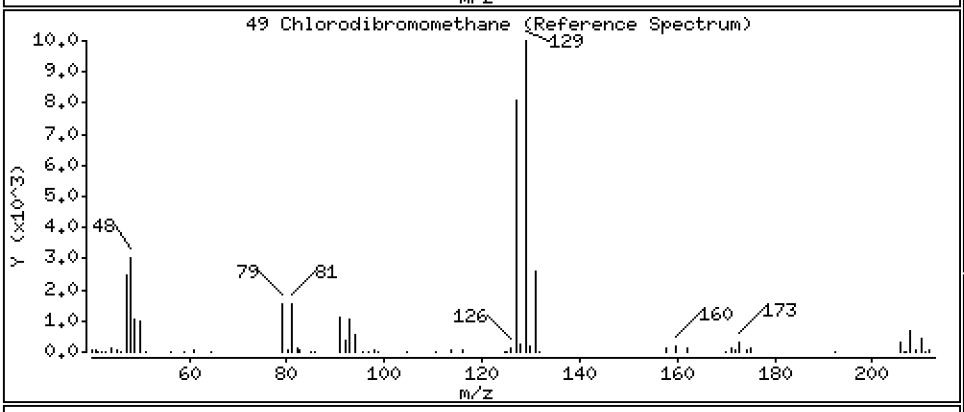
Column diameter: 0.18

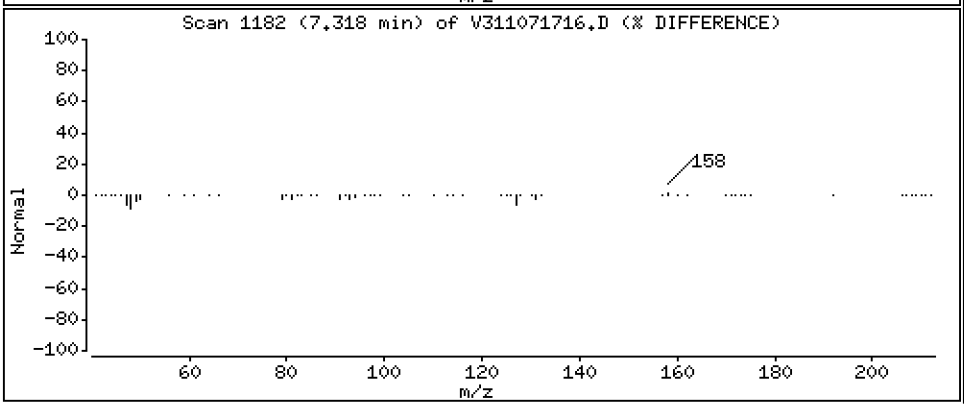
49 Chlorodibromomethane

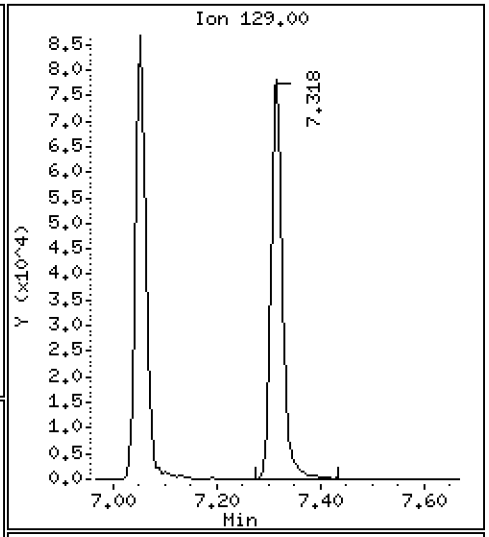
Concentration: 11.553 ug/L

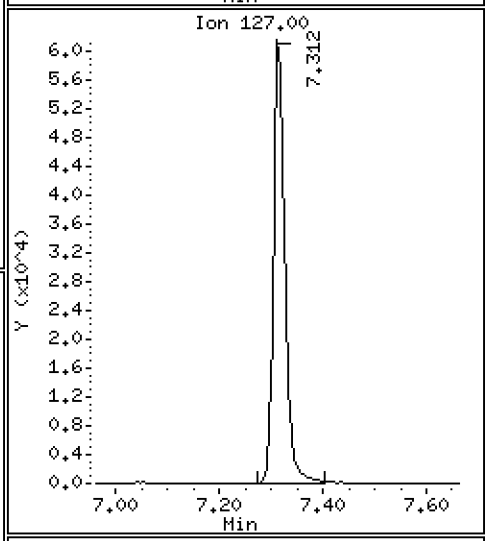


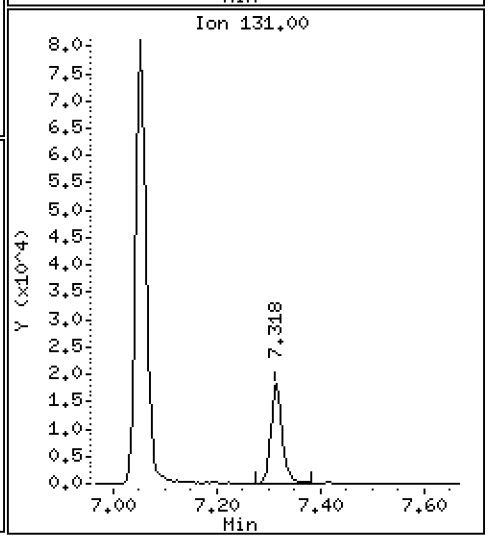












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

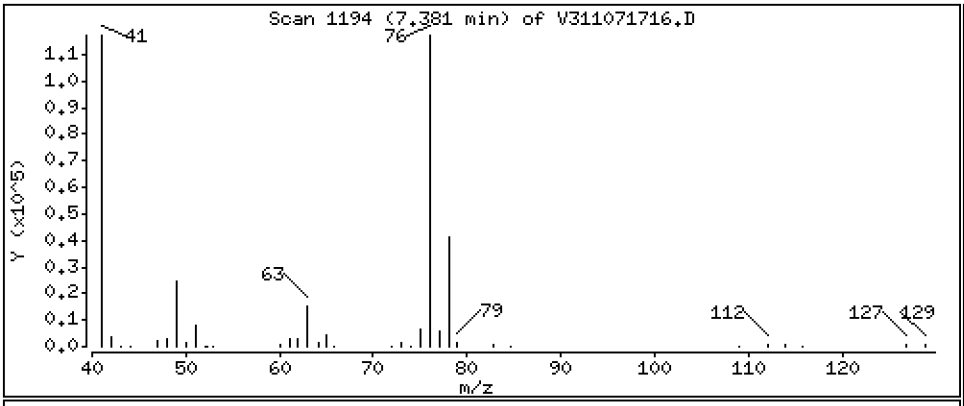
Operator: PC

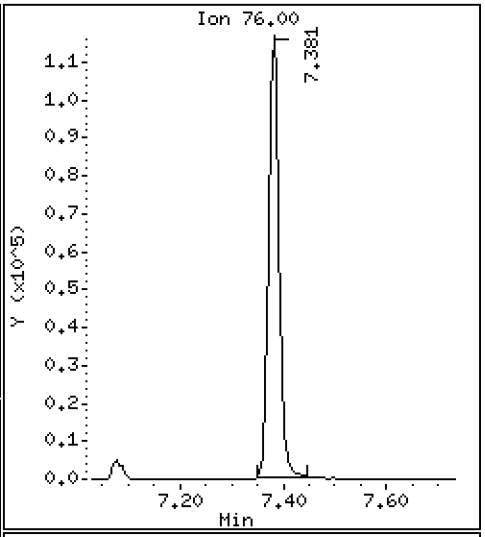
Column phase: RTXVMS

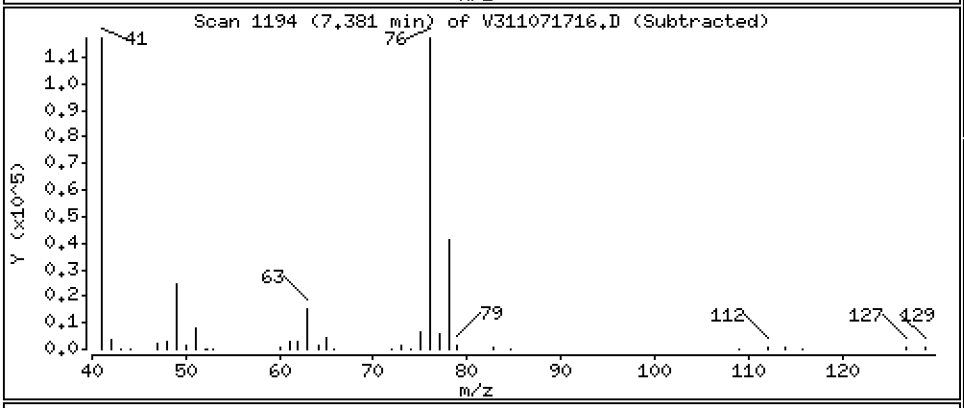
Column diameter: 0.18

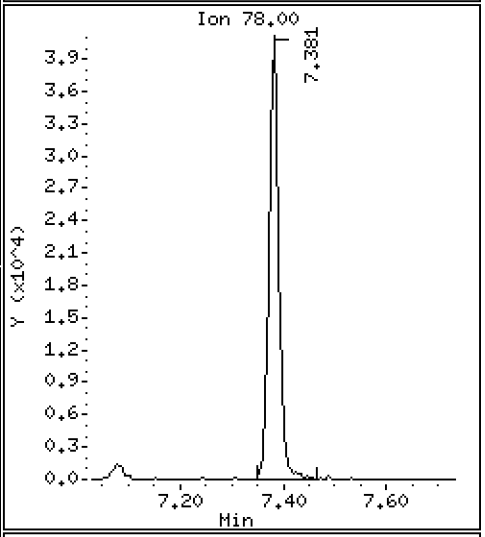
50 1,3-Dichloropropane

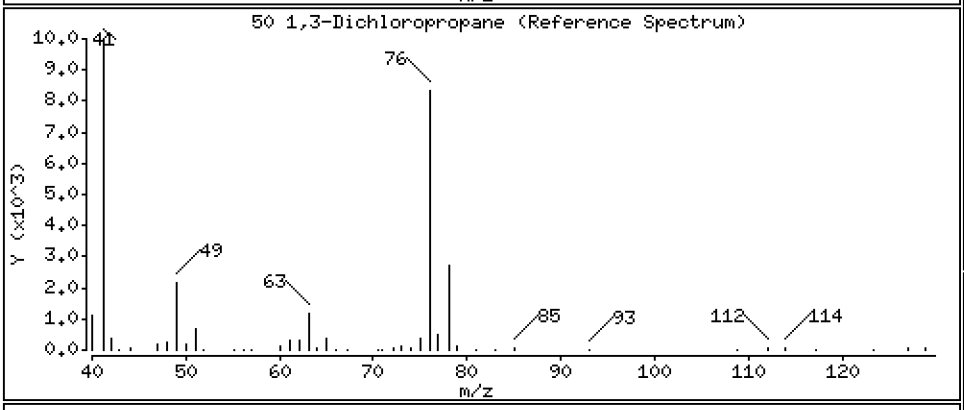
Concentration: 10.639 ug/L

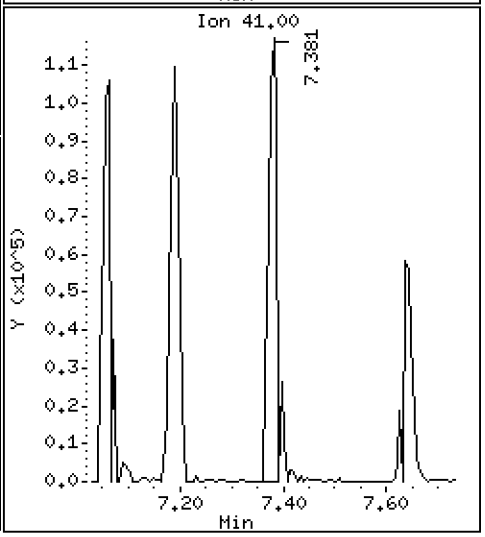


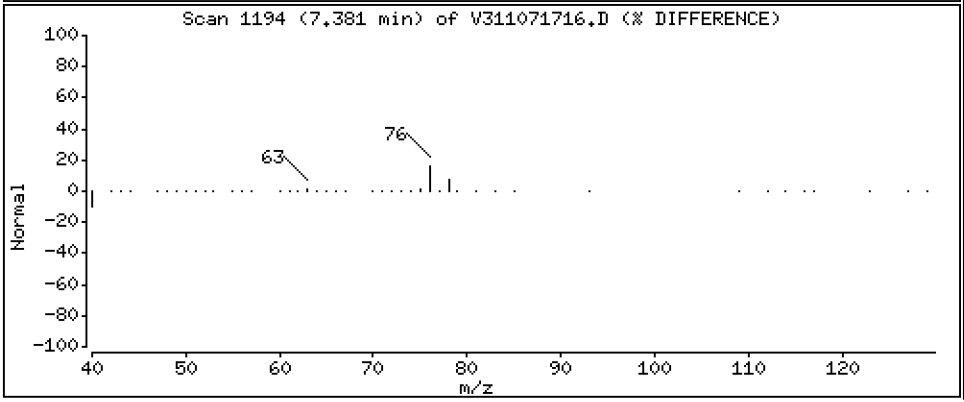












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

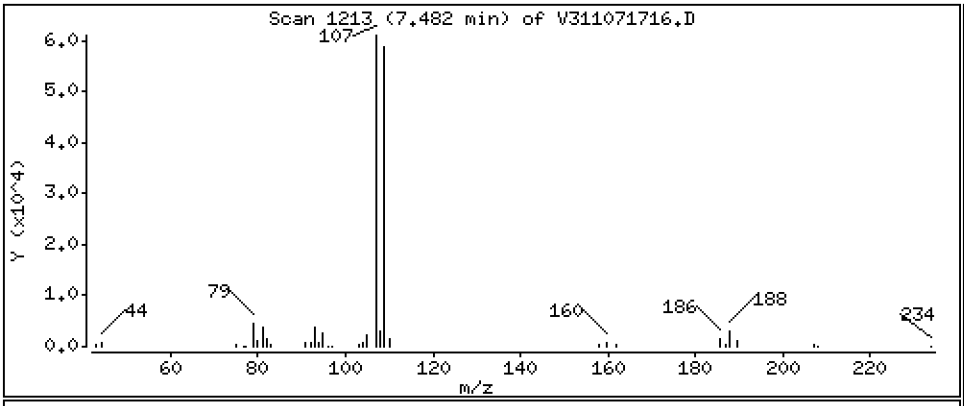
Operator: PC

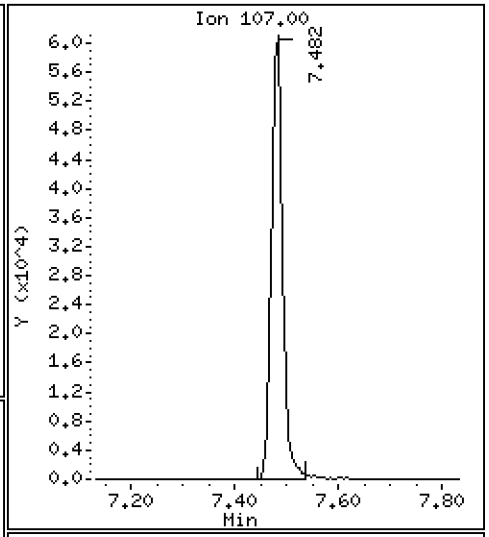
Column phase: RTXVMS

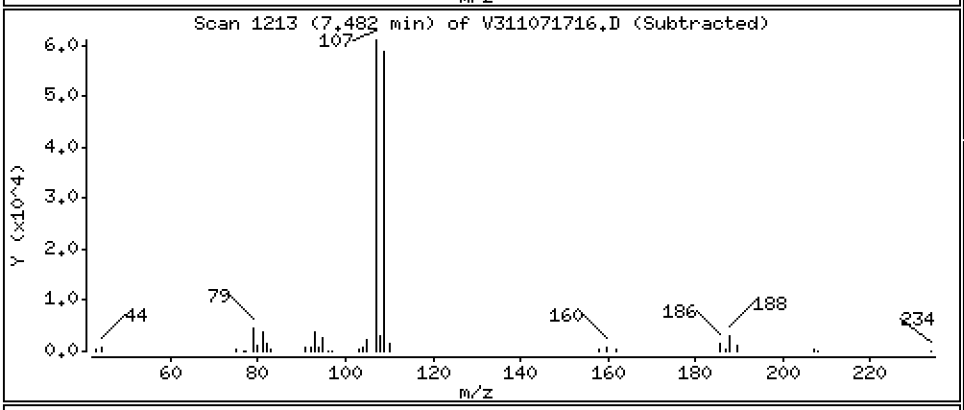
Column diameter: 0.18

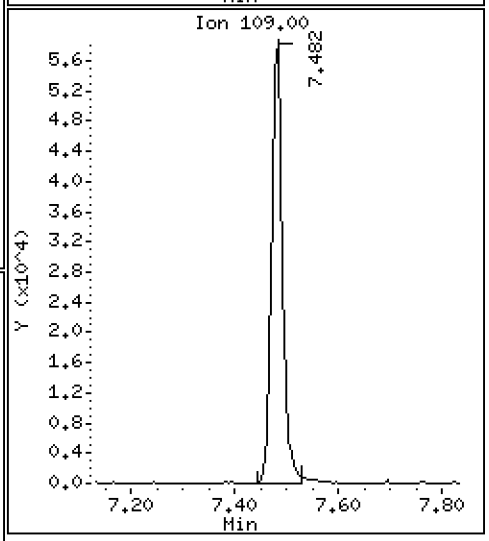
51 1,2-Dibromoethane

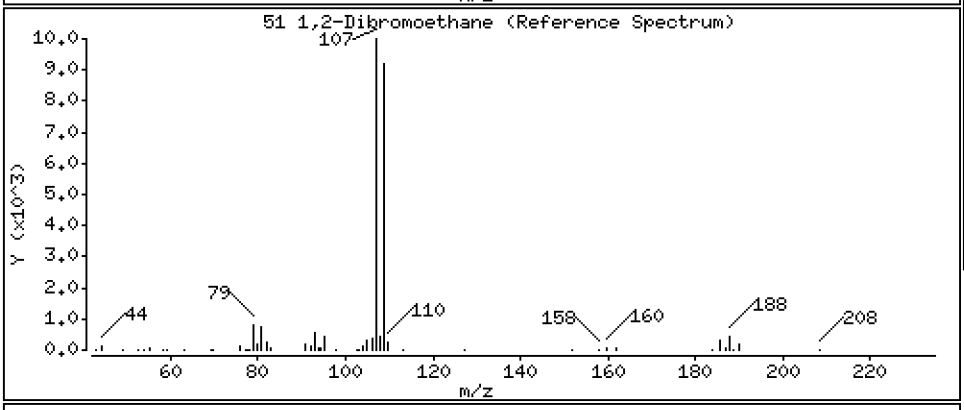
Concentration: 10.603 ug/L

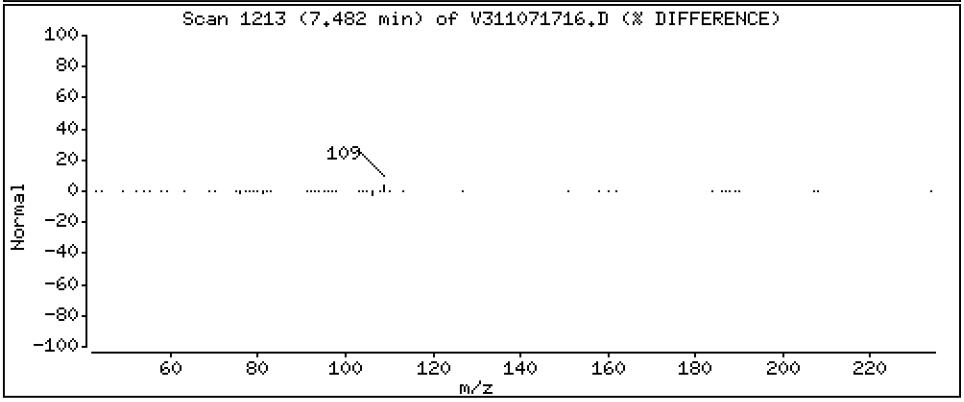












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

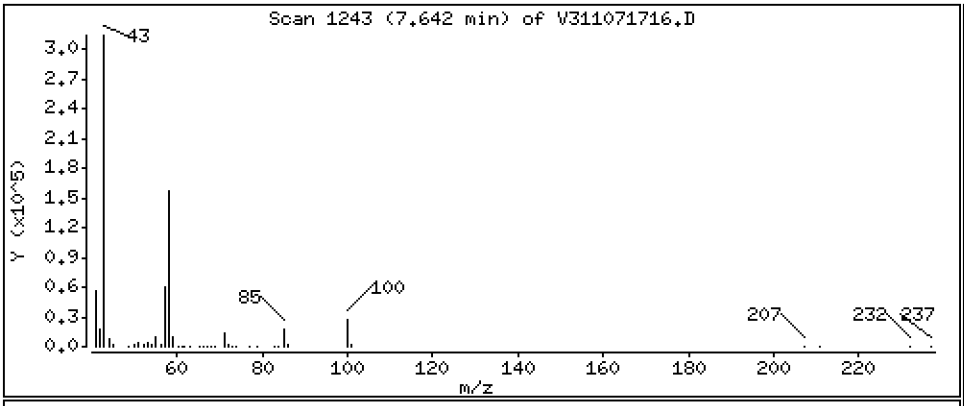
Operator: PC

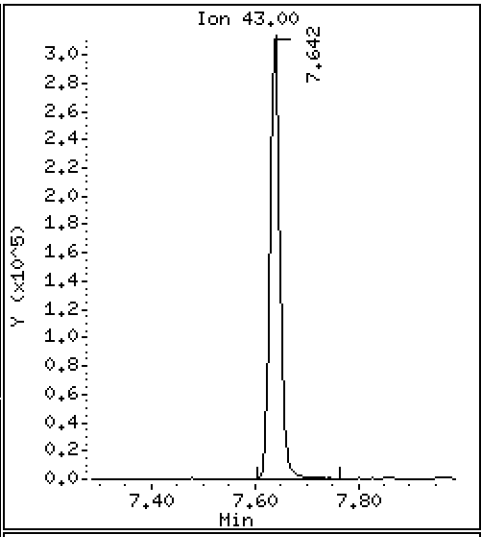
Column phase: RTXVMS

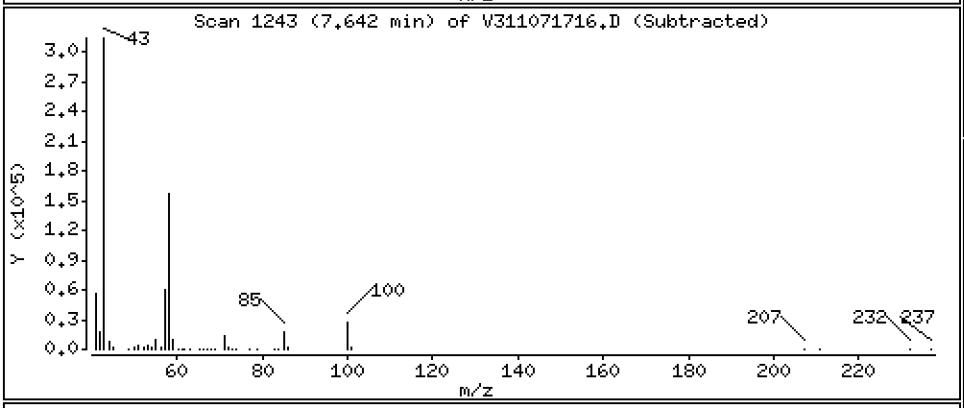
Column diameter: 0.18

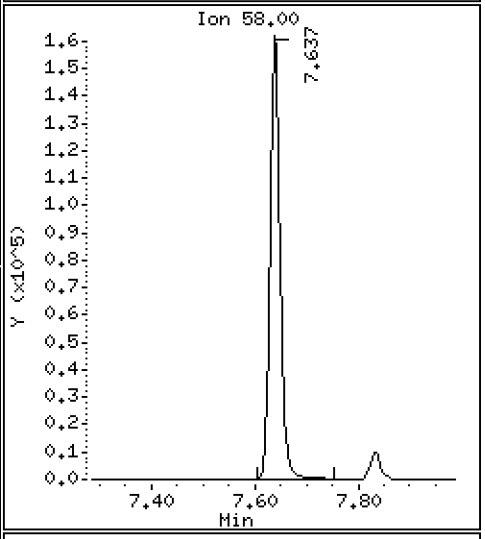
52 2-Hexanone

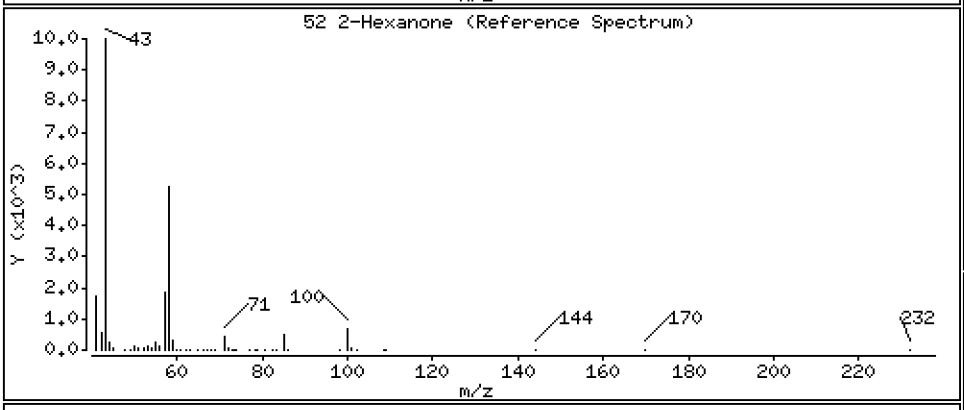
Concentration: 52.094 ug/L

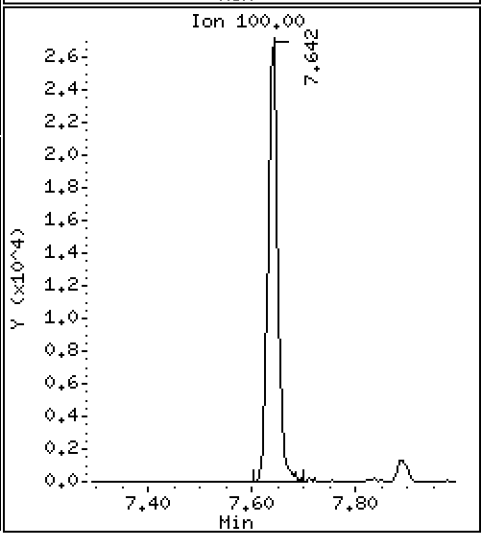


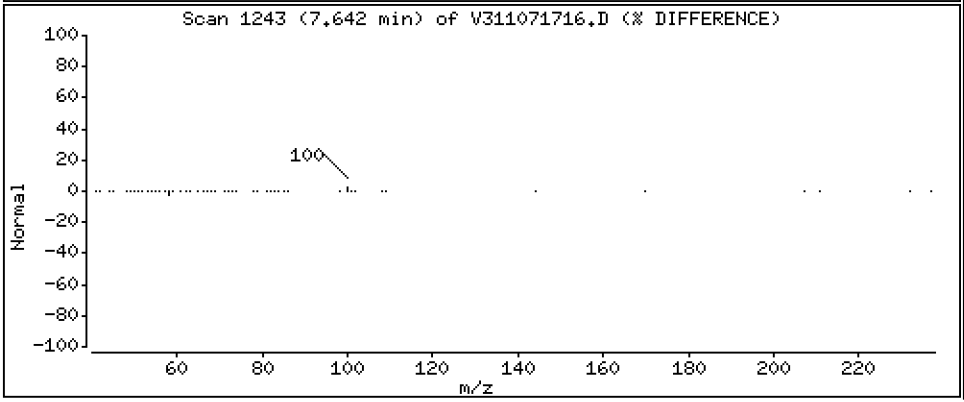












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

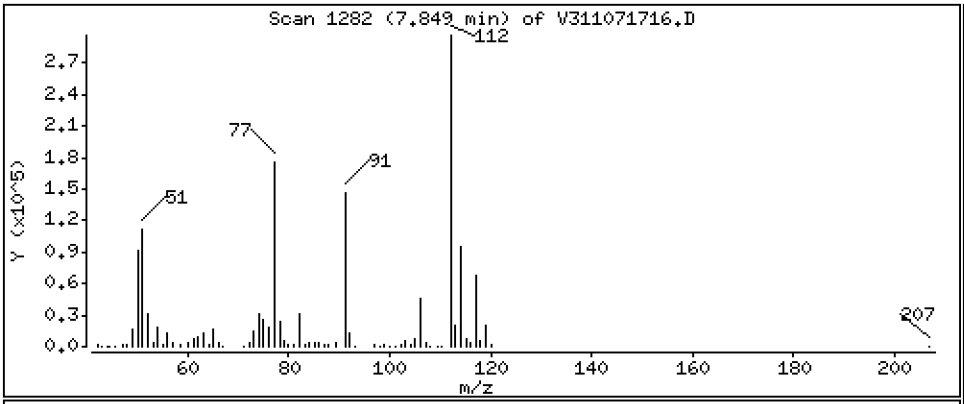
Operator: PC

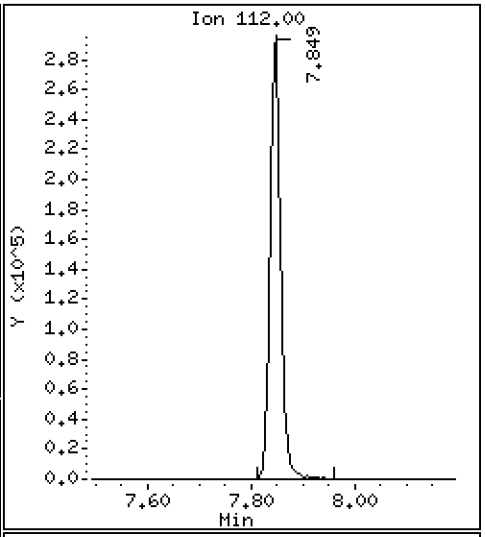
Column phase: RTXVMS

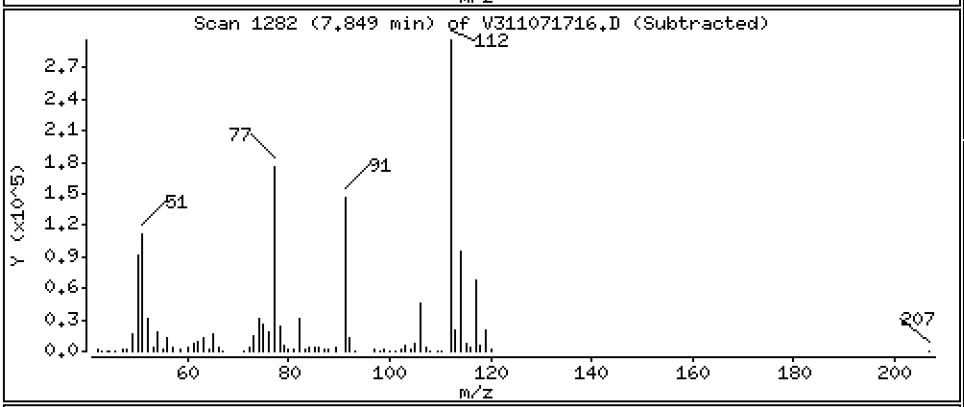
Column diameter: 0.18

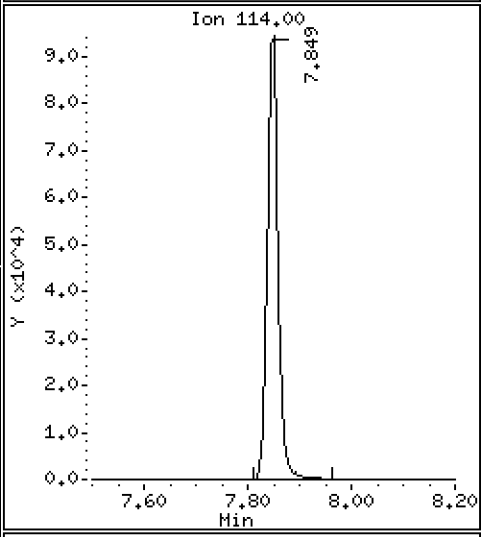
54 Chlorobenzene

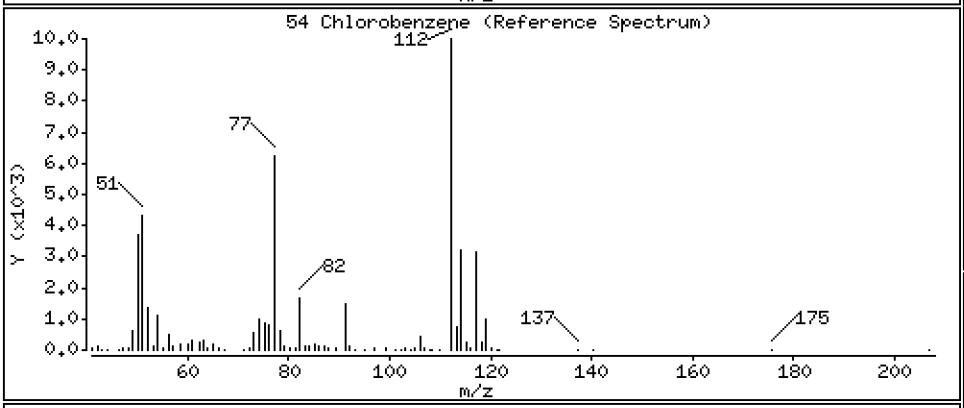
Concentration: 10.816 ug/L

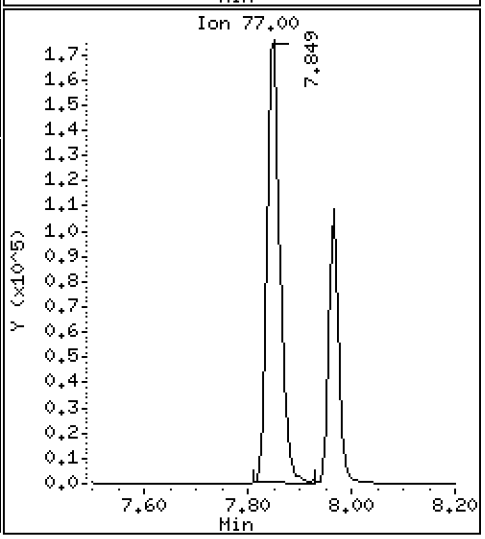


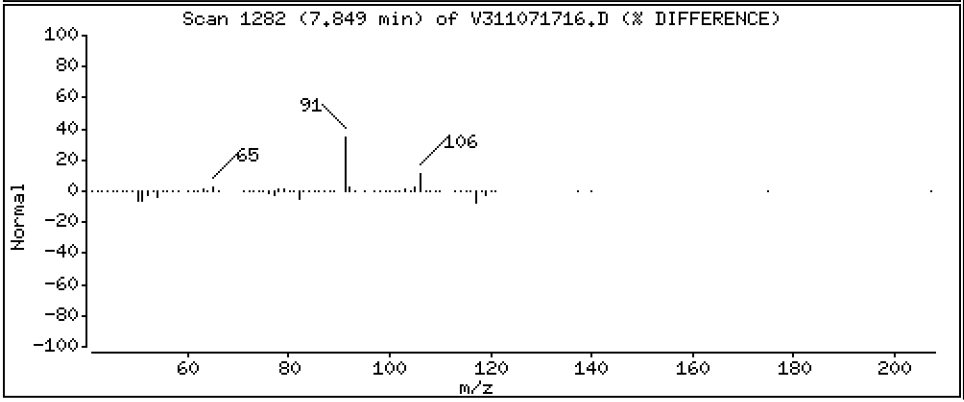












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

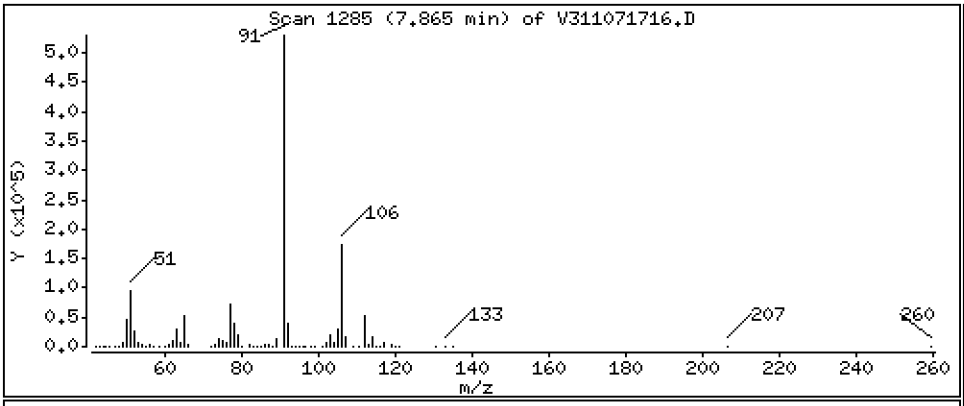
Operator: PC

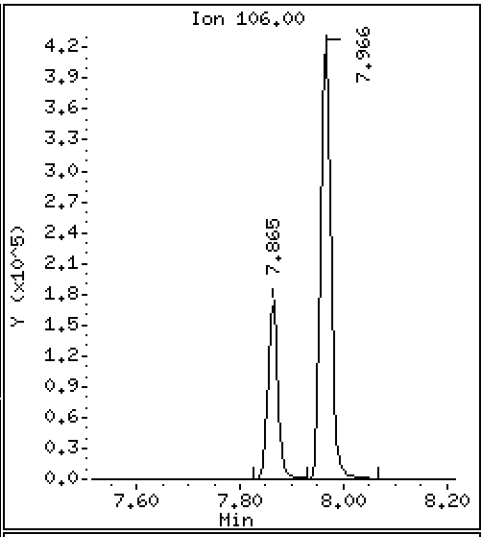
Column phase: RTXVMS

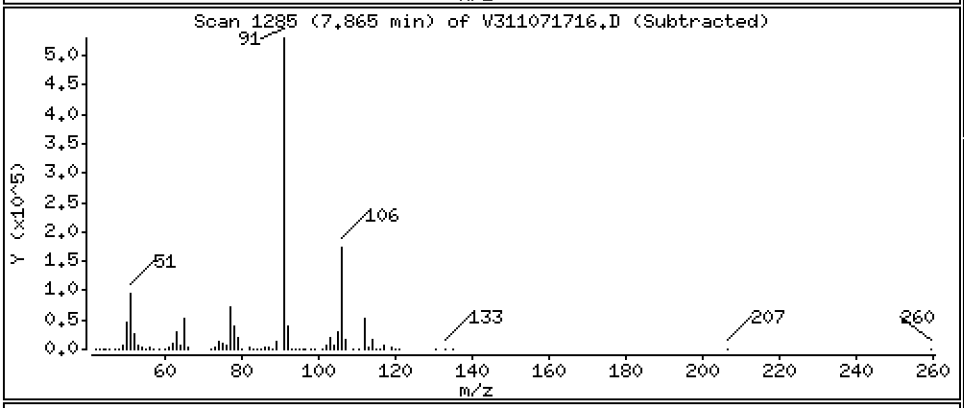
Column diameter: 0.18

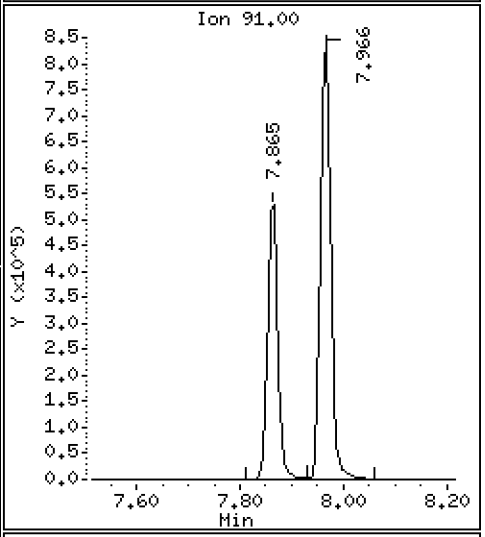
55 Ethyl Benzene

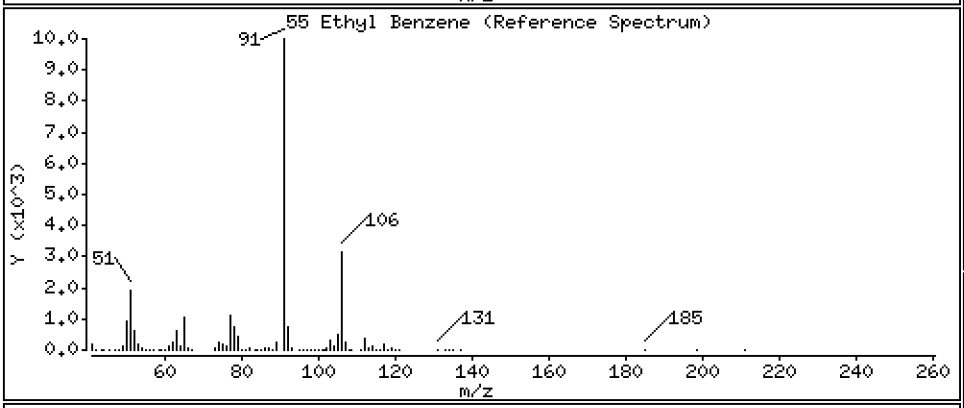
Concentration: 10.977 ug/L

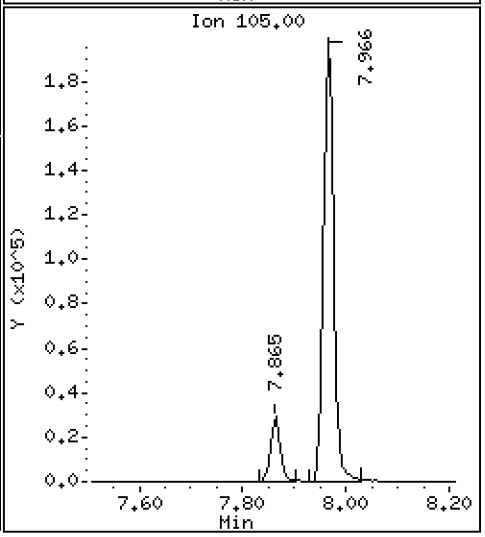


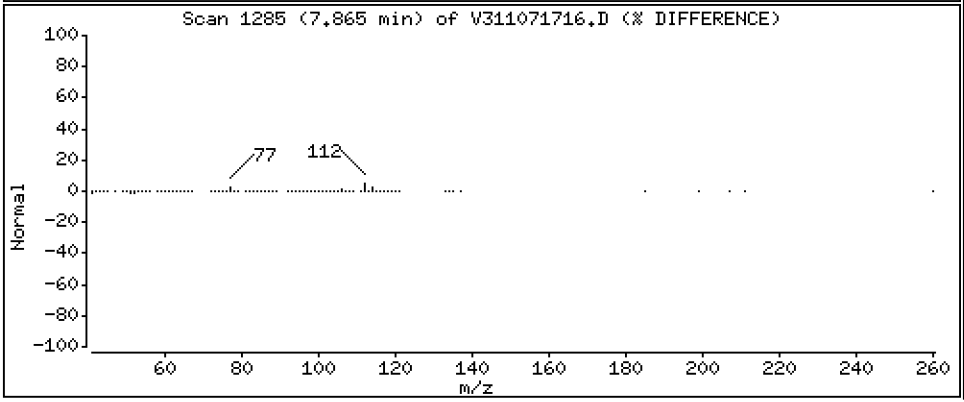












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

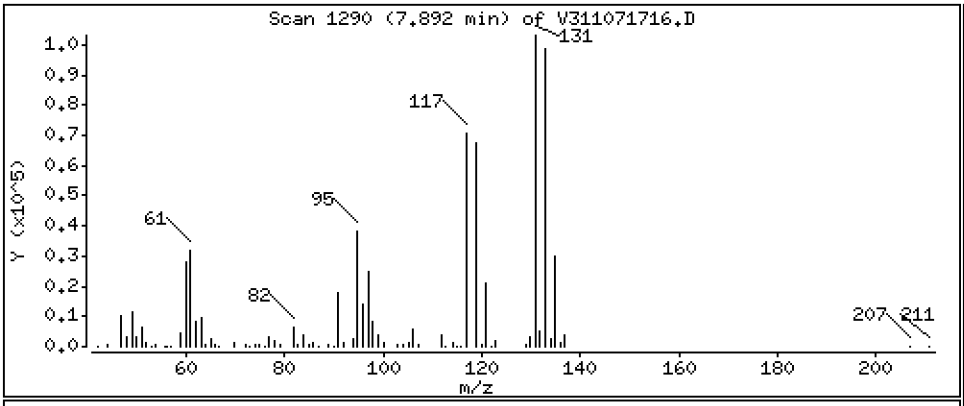
Operator: PC

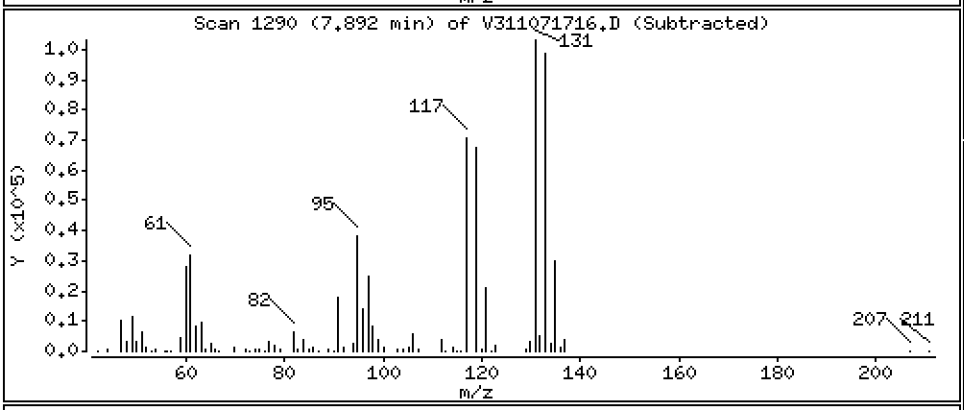
Column phase: RTXVMS

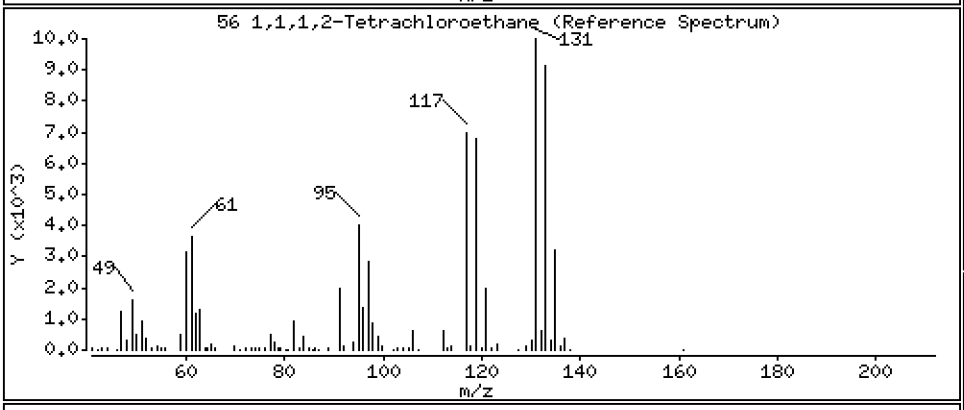
Column diameter: 0.18

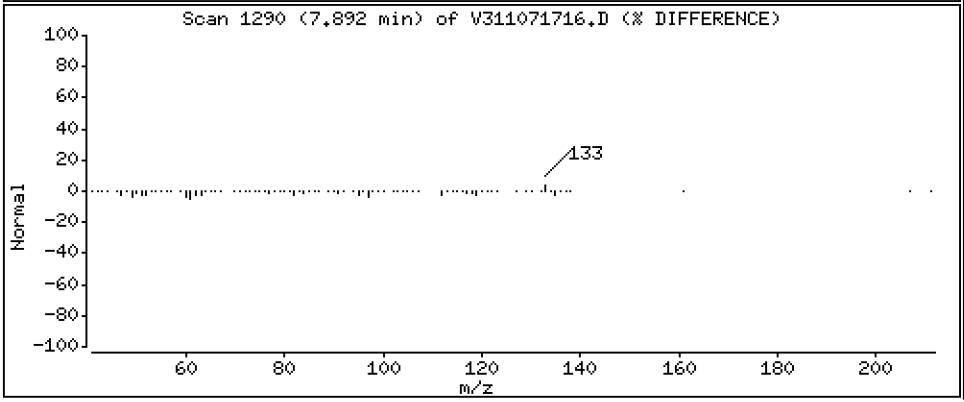
56 1,1,1,2-Tetrachloroethane

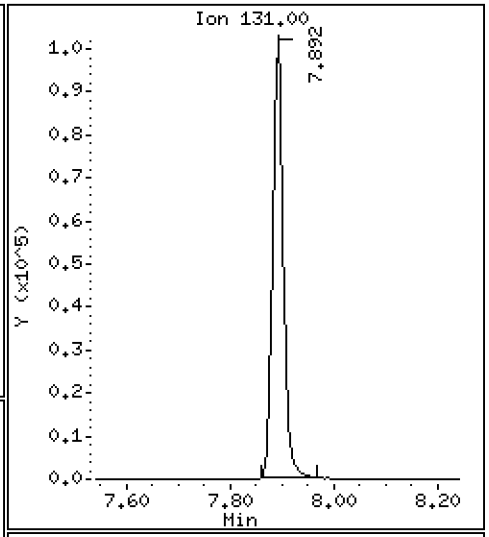
Concentration: 10.969 ug/L

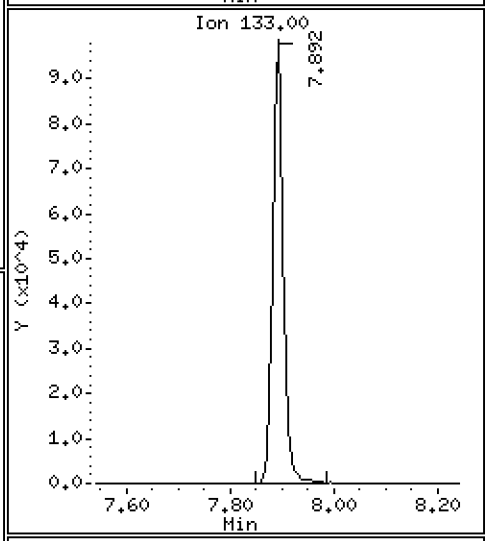


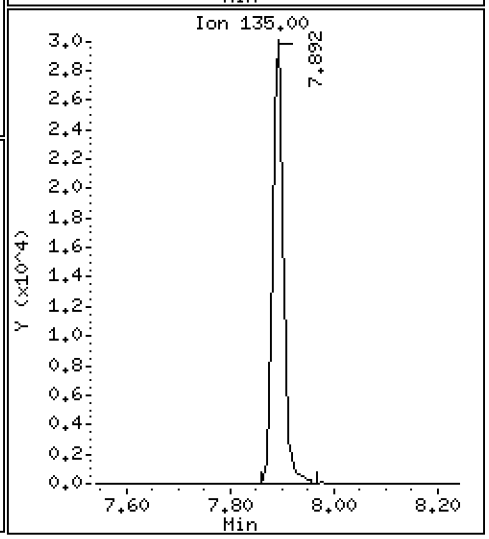












Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

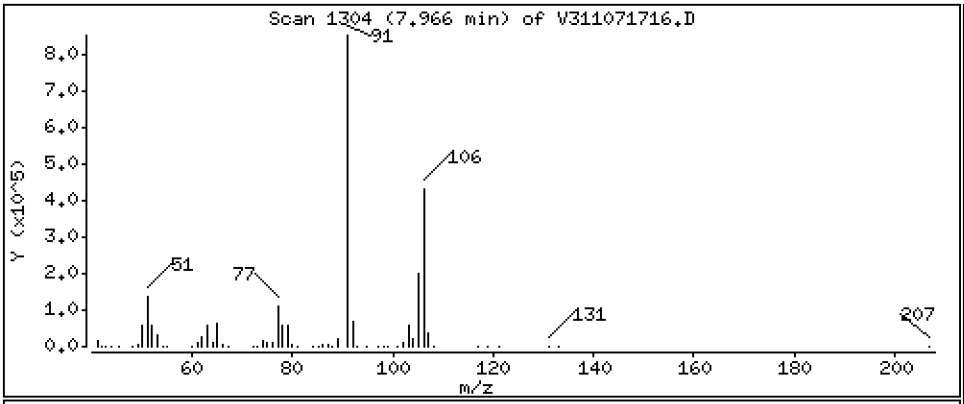
Operator: PC

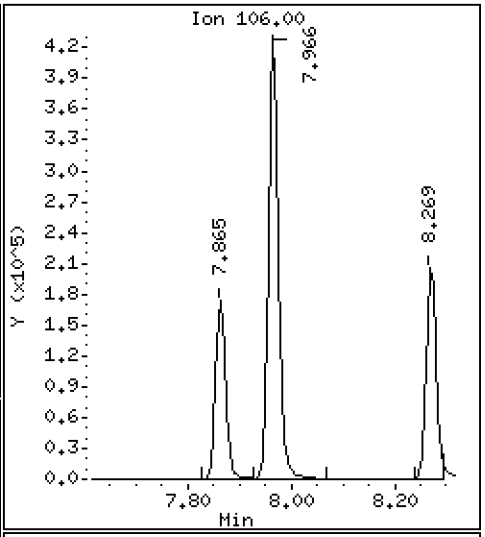
Column phase: RTXVMS

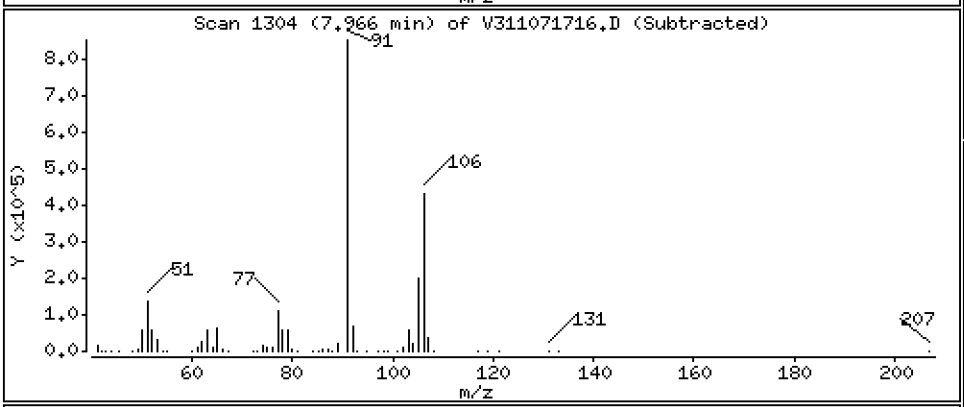
Column diameter: 0.18

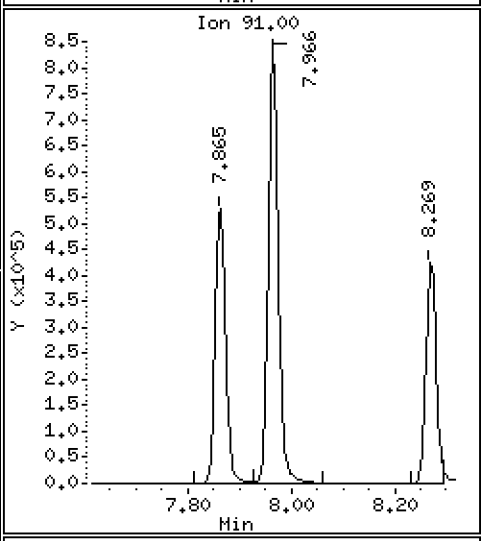
57 m,p-xylene

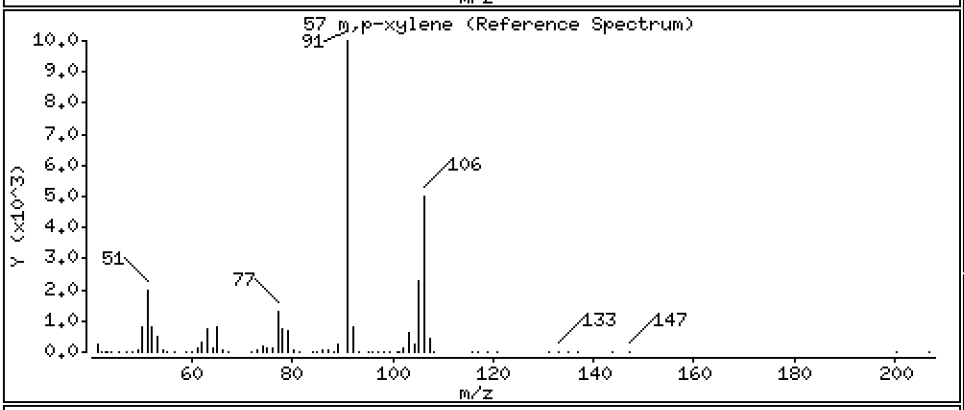
Concentration: 22.084 ug/L

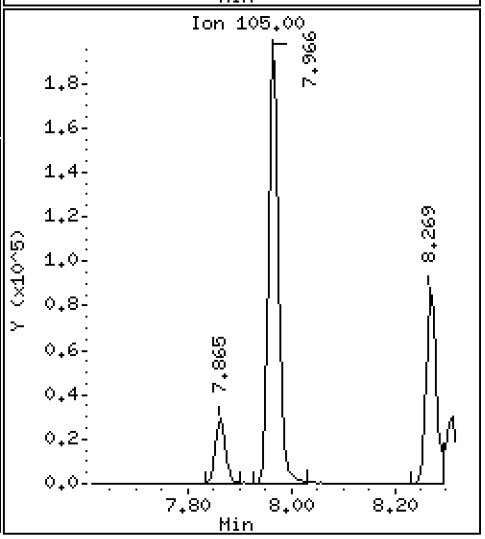


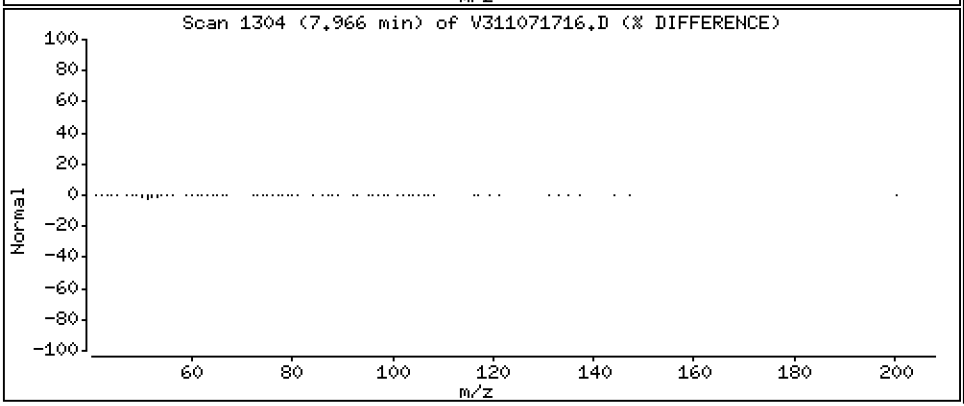












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

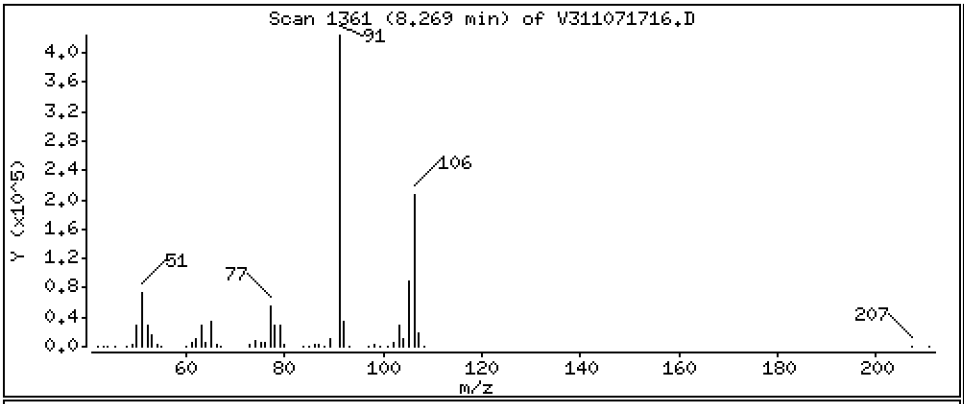
Operator: PC

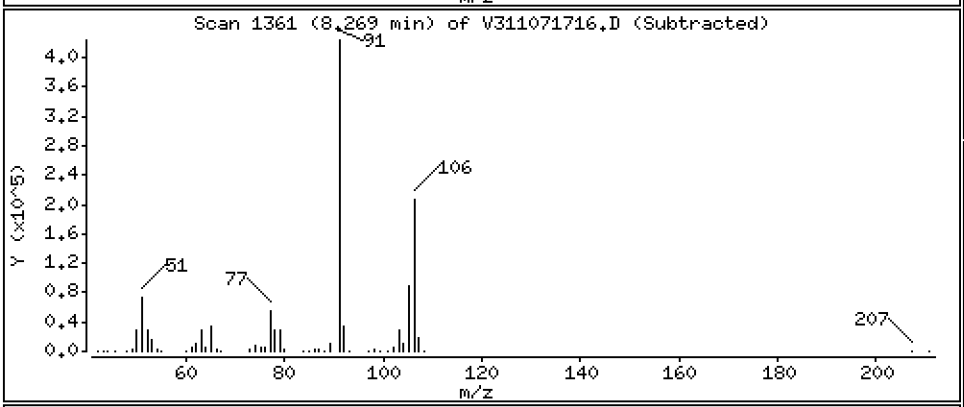
Column phase: RTXVMS

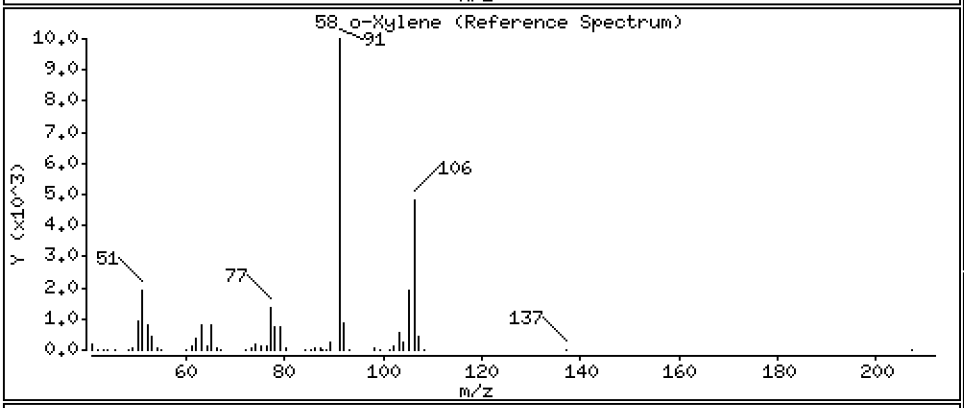
Column diameter: 0.18

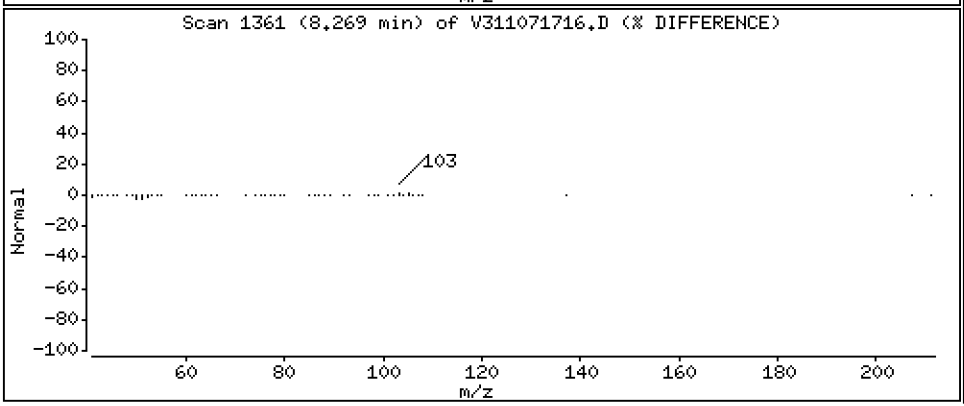
58 o-Xylene

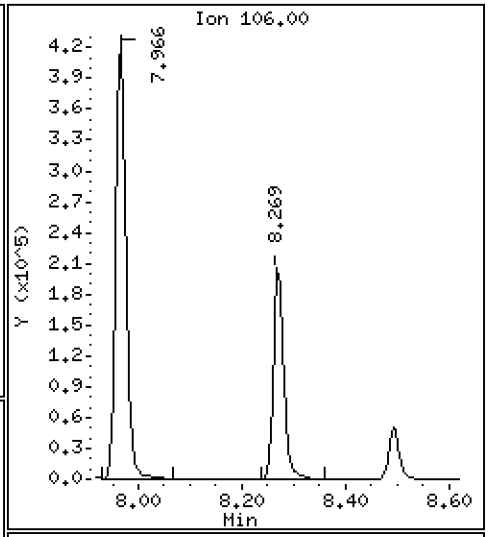
Concentration: 10.983 ug/L

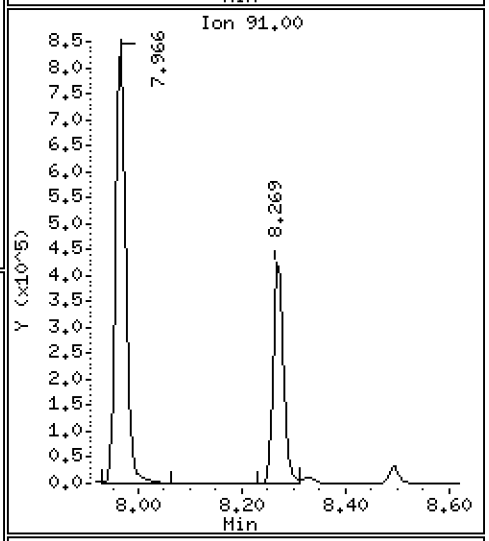


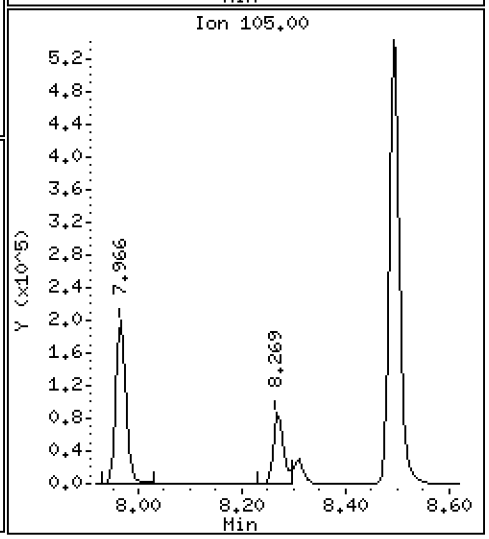












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

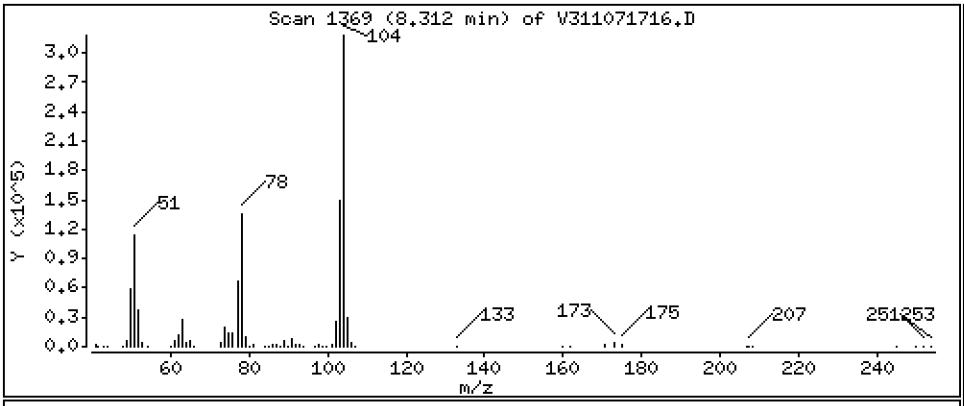
Operator: PC

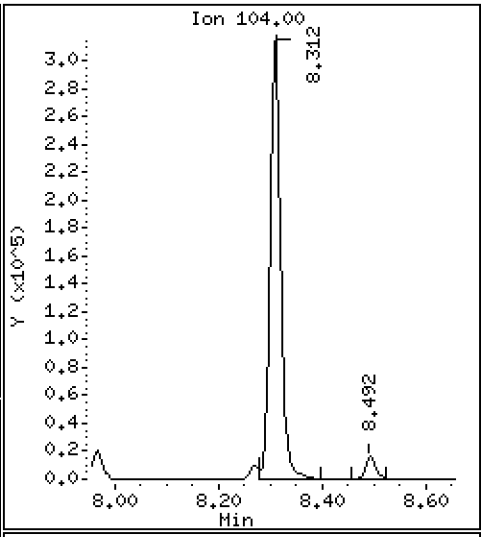
Column phase: RTXVMS

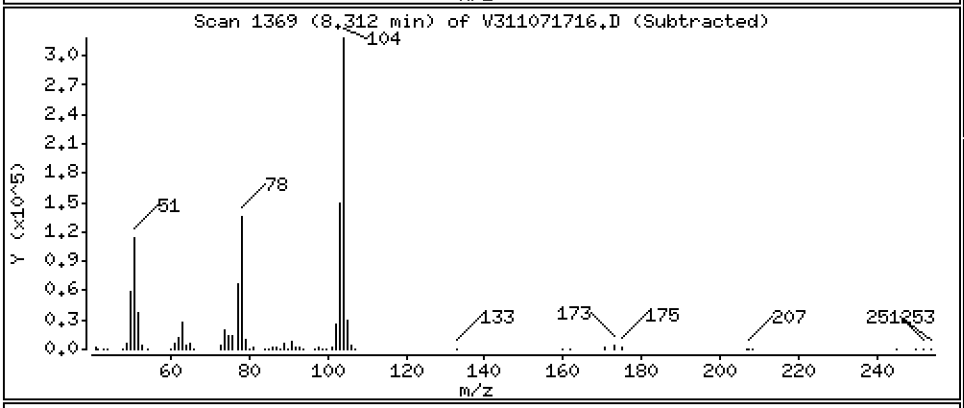
Column diameter: 0.18

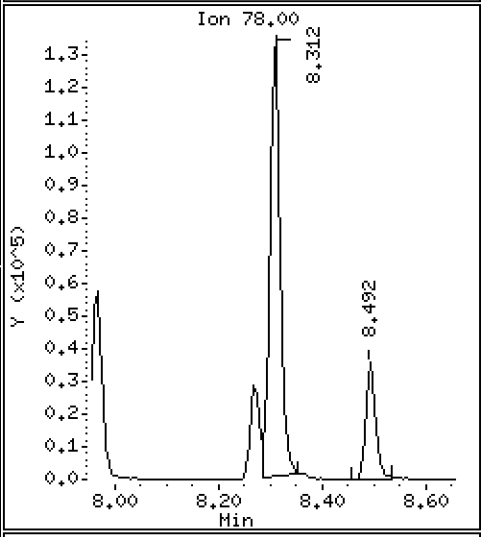
59 Styrene

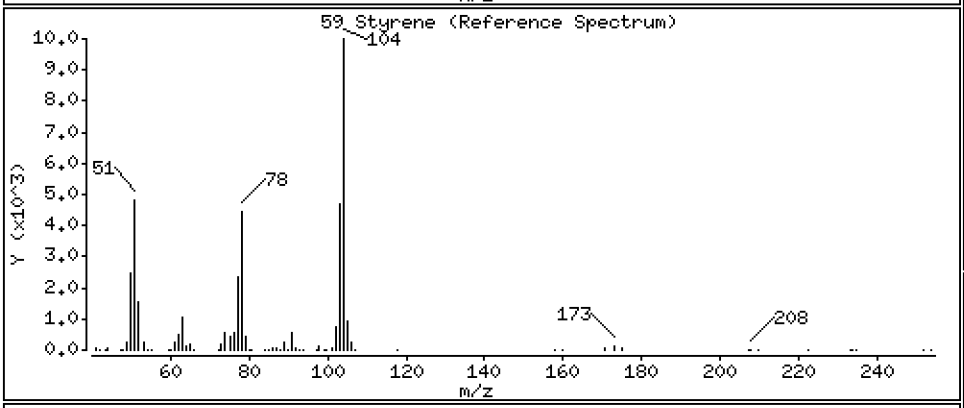
Concentration: 11.450 ug/L

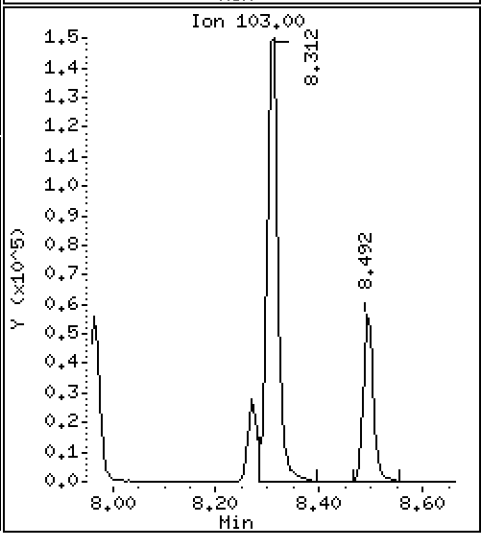


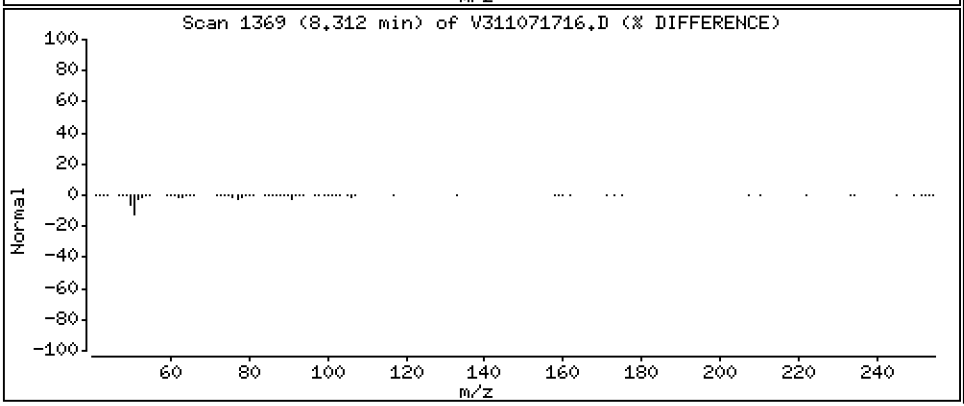












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

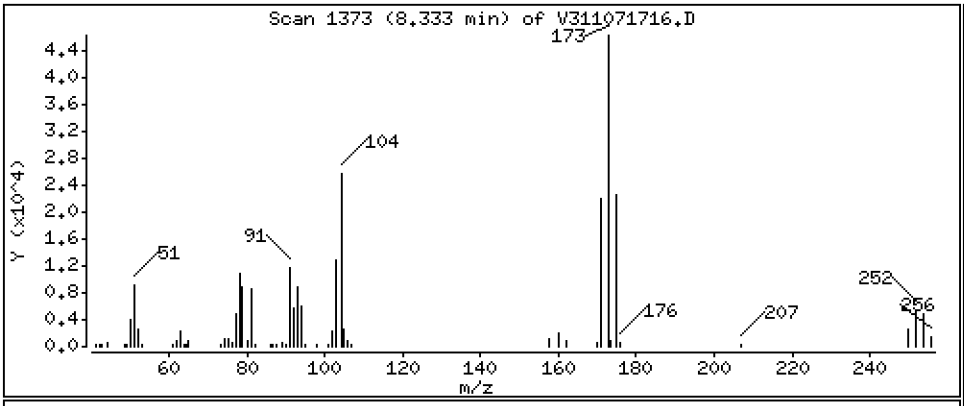
Operator: PC

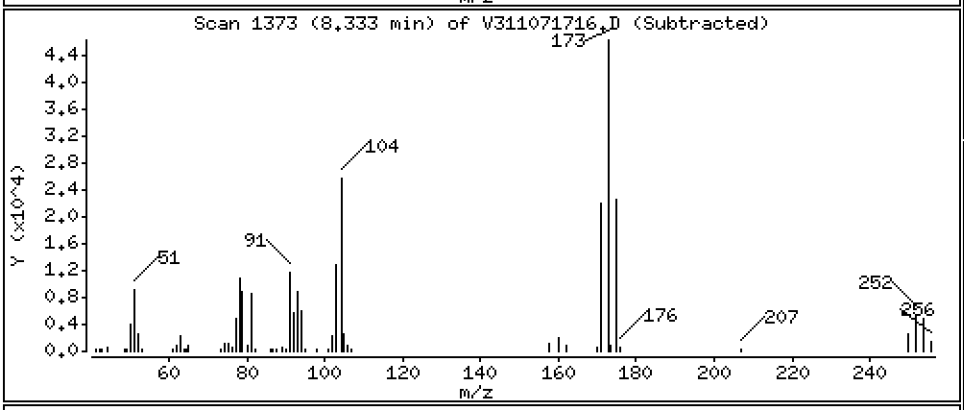
Column phase: RTXVMS

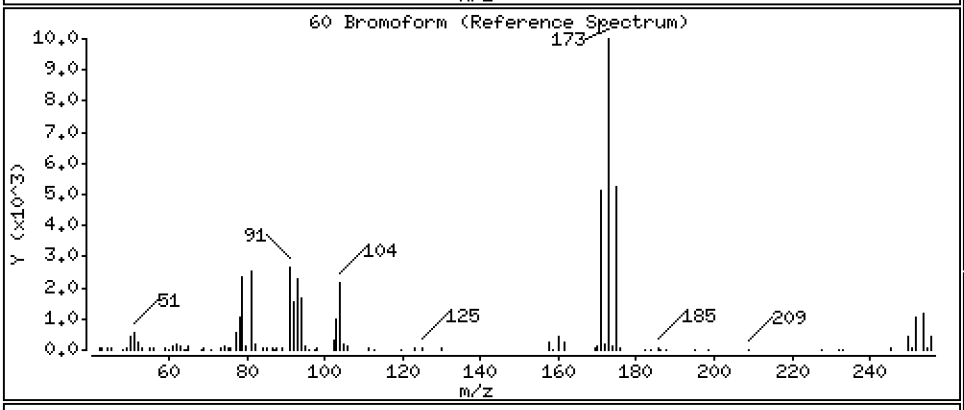
Column diameter: 0.18

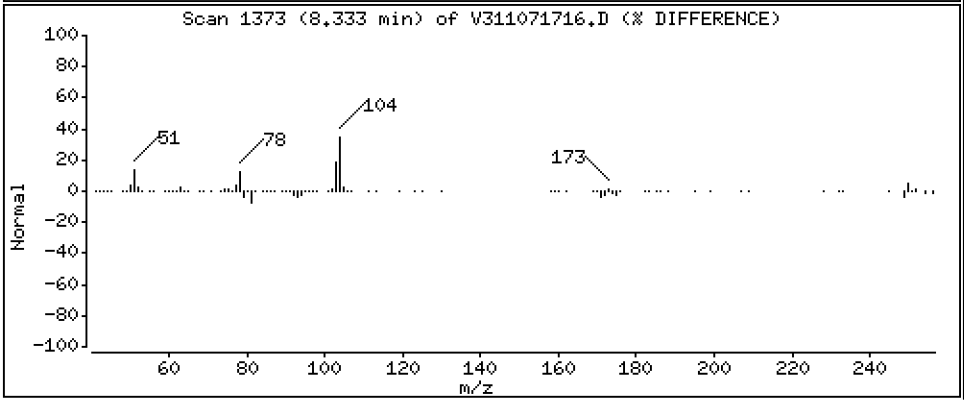
60 Bromoform

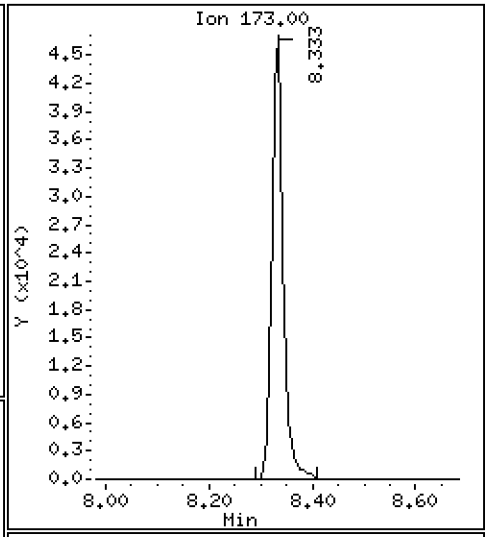
Concentration: 11.306 ug/L

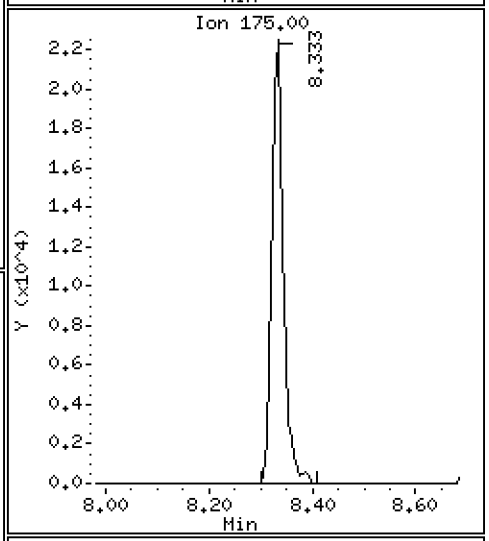


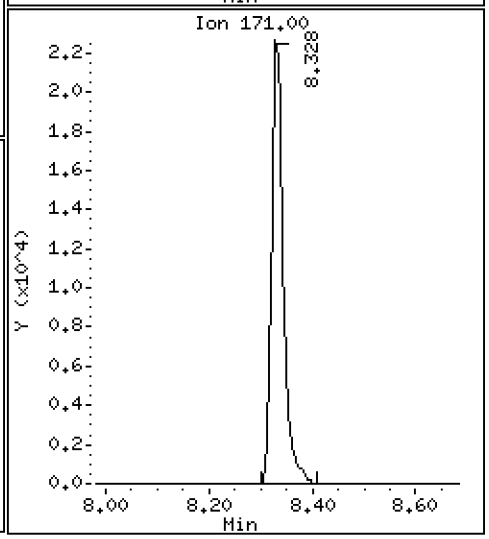












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

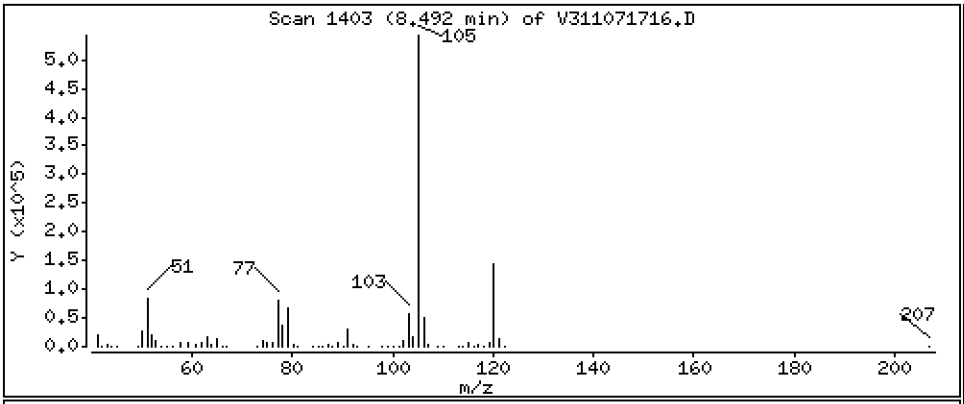
Operator: PC

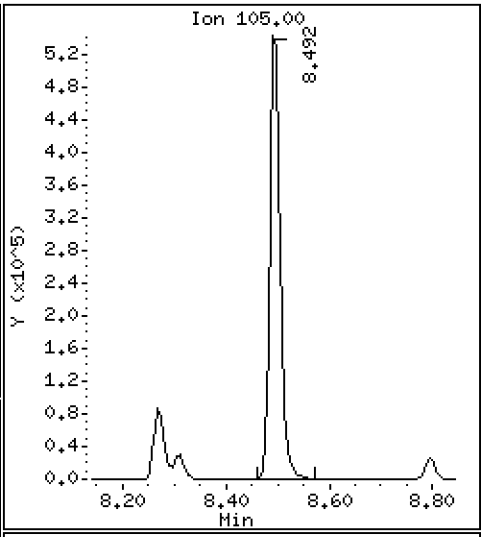
Column phase: RTXVMS

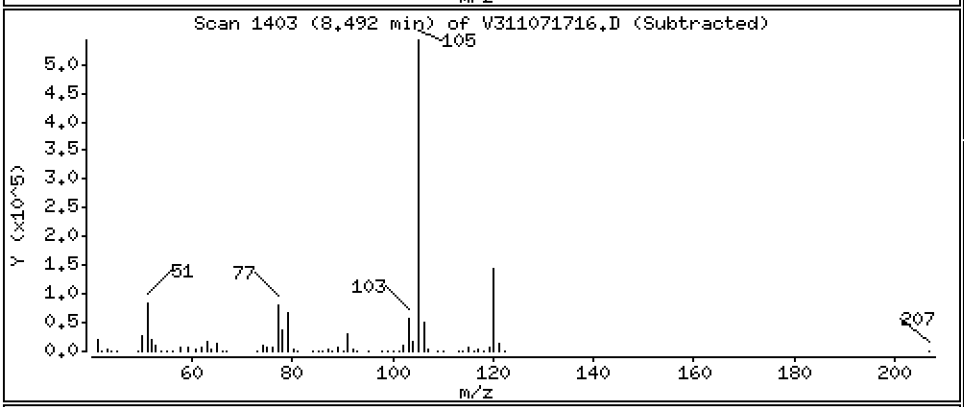
Column diameter: 0.18

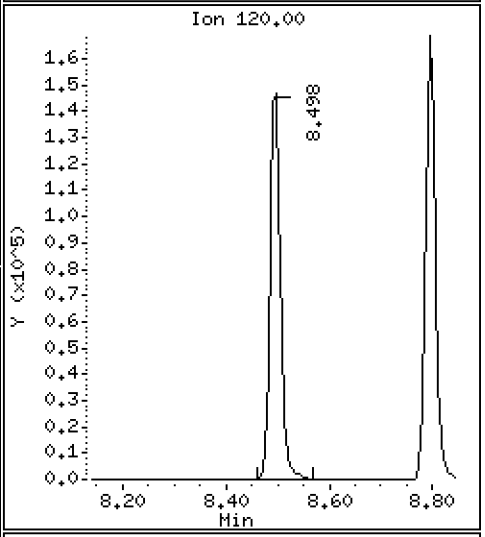
61 Isopropyl Benzene

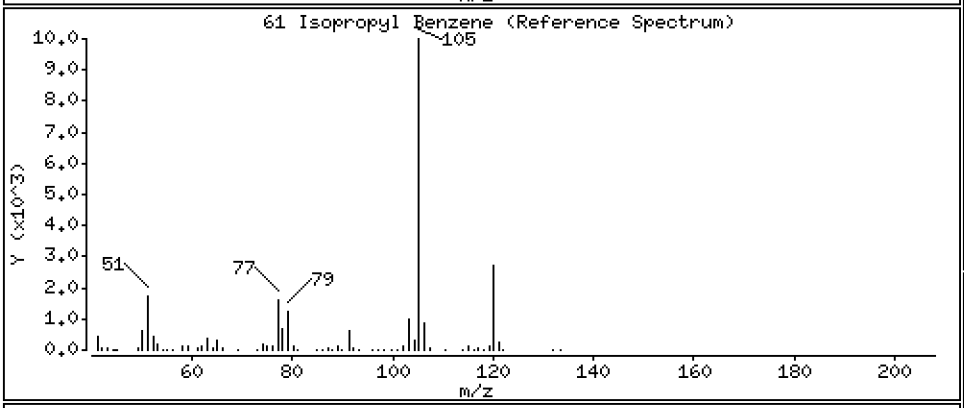
Concentration: 11.176 ug/L

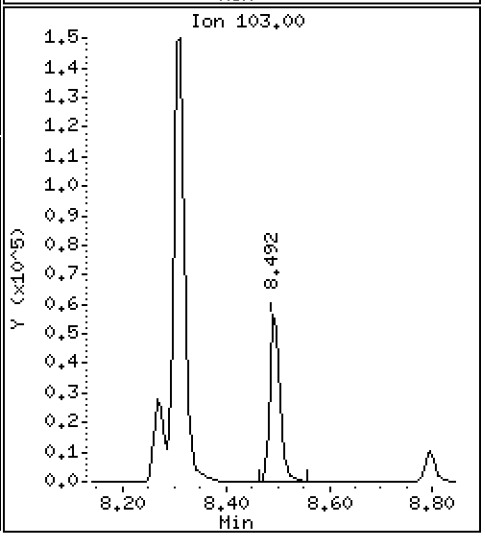


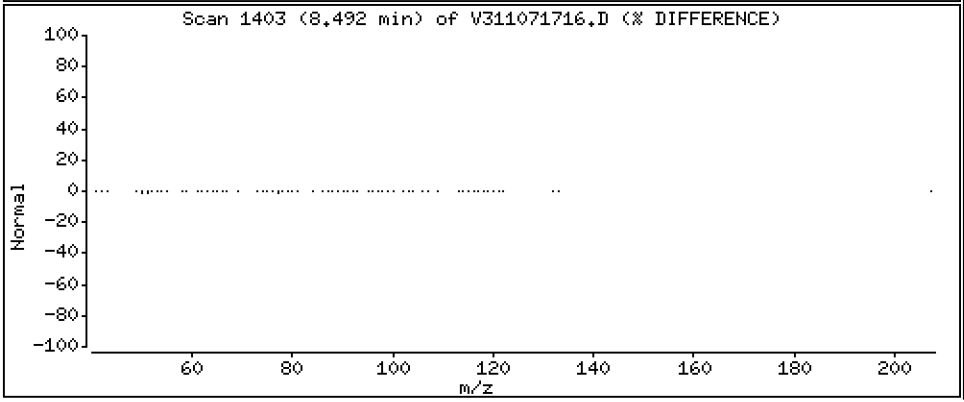












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

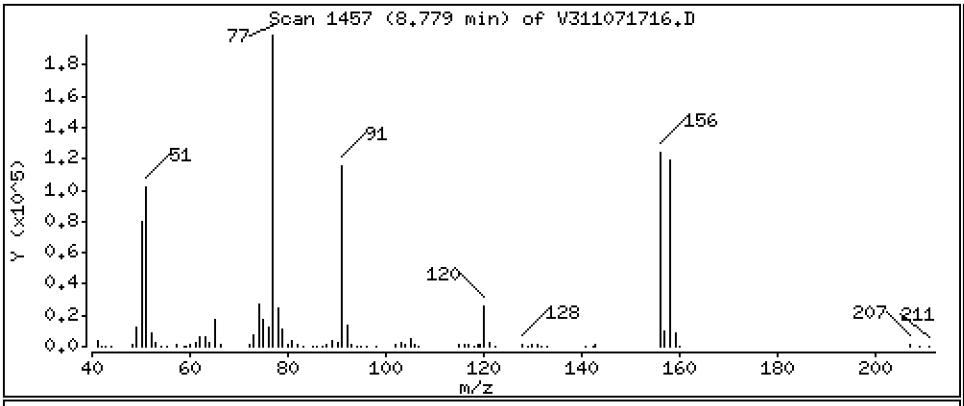
Operator: PC

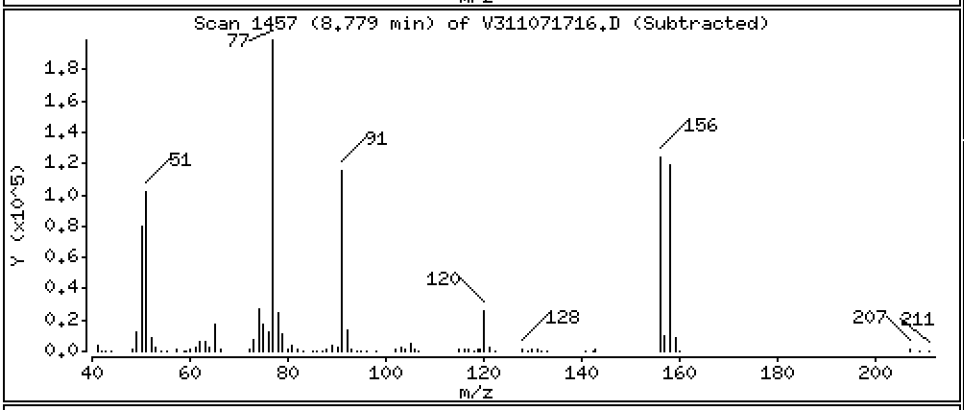
Column phase: RTXVMS

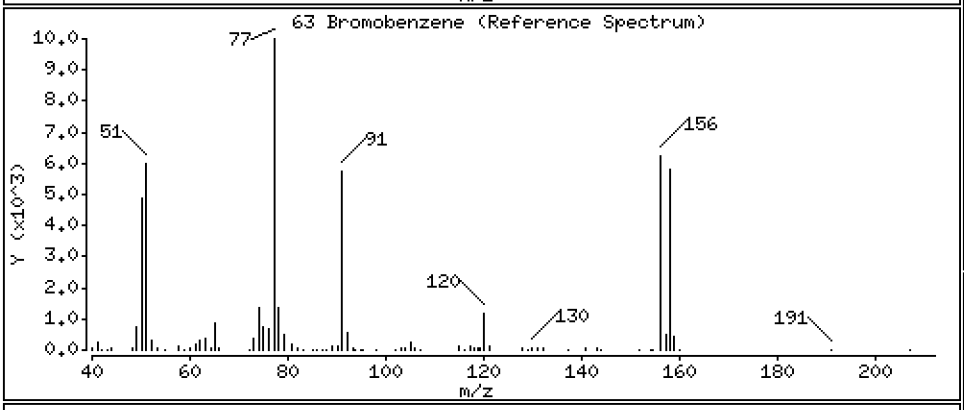
Column diameter: 0.18

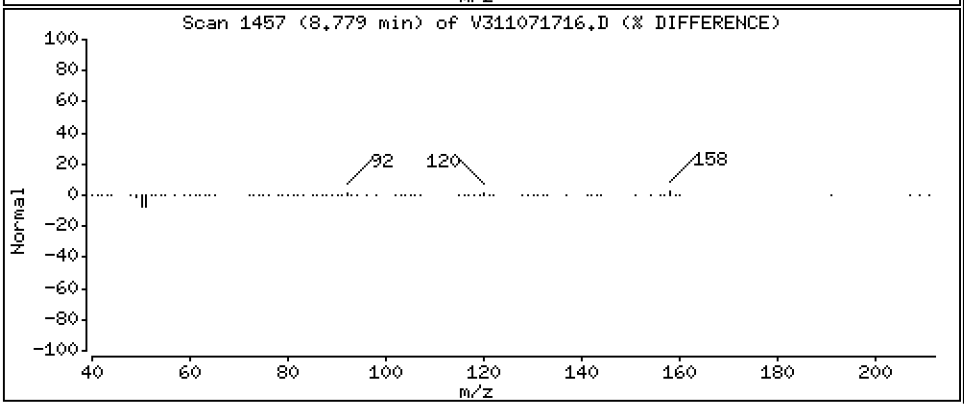
63 Bromobenzene

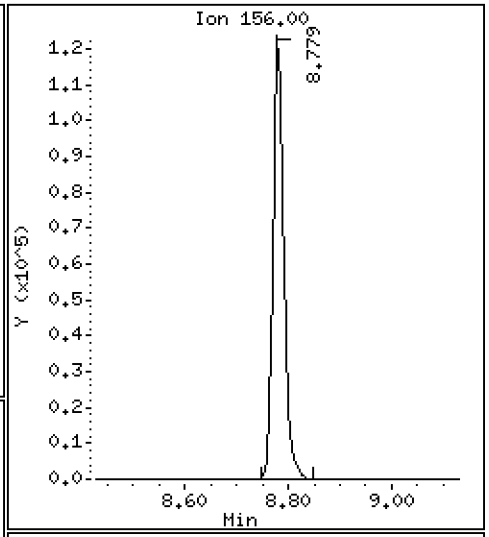
Concentration: 10.481 ug/L

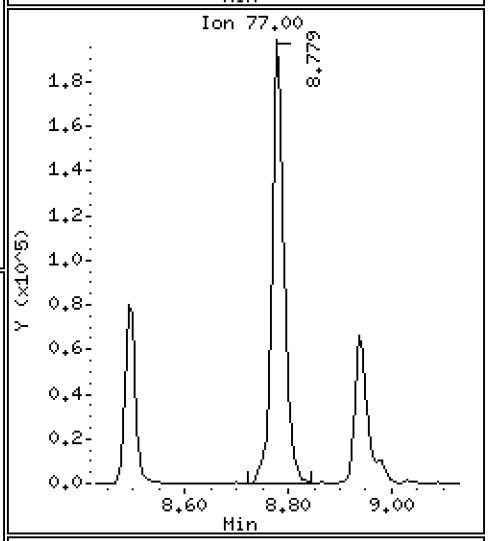


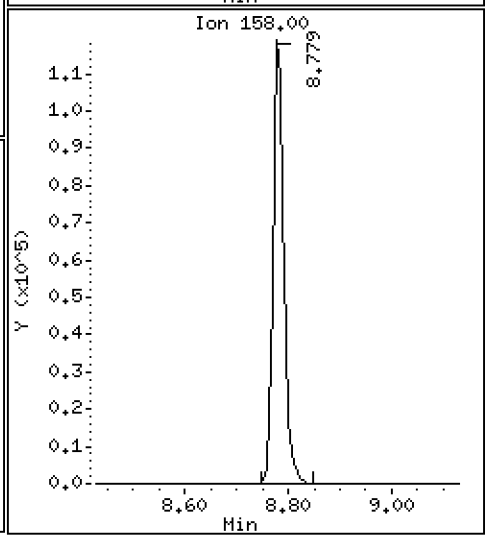












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

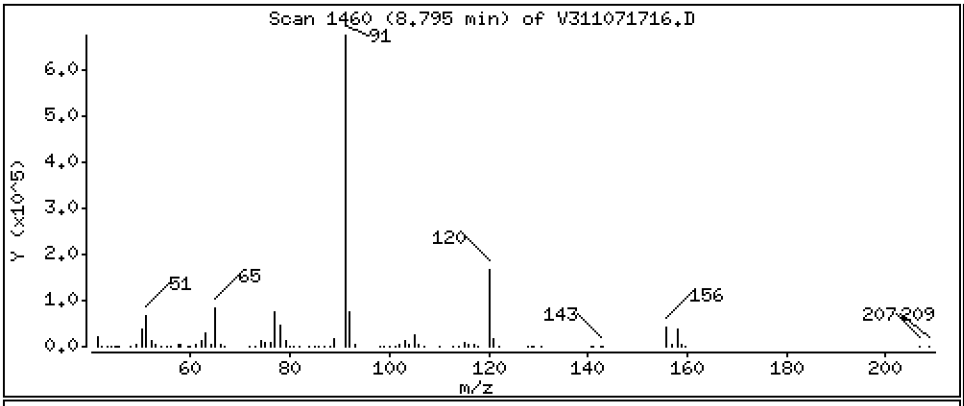
Operator: PC

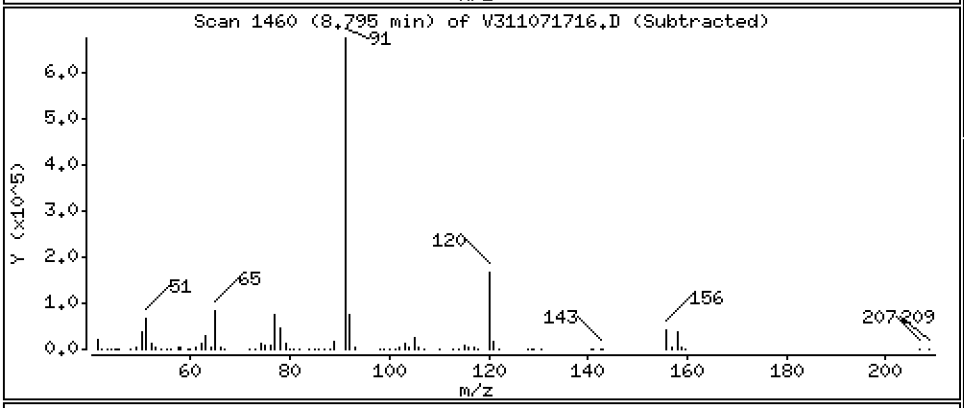
Column phase: RTXVMS

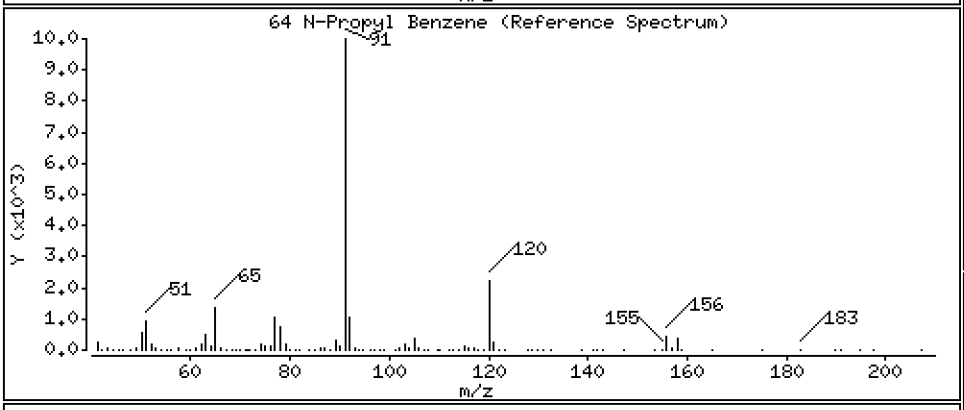
Column diameter: 0.18

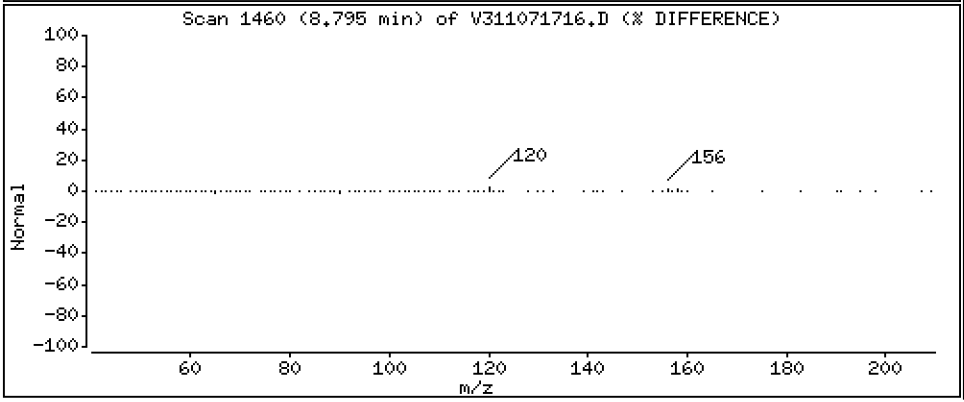
64 N-Propyl Benzene

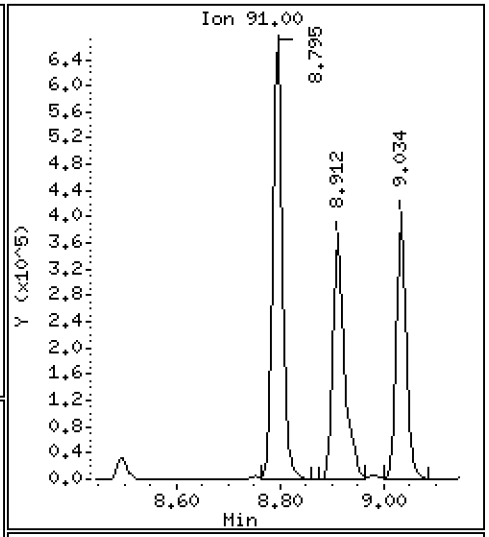
Concentration: 11.247 ug/L

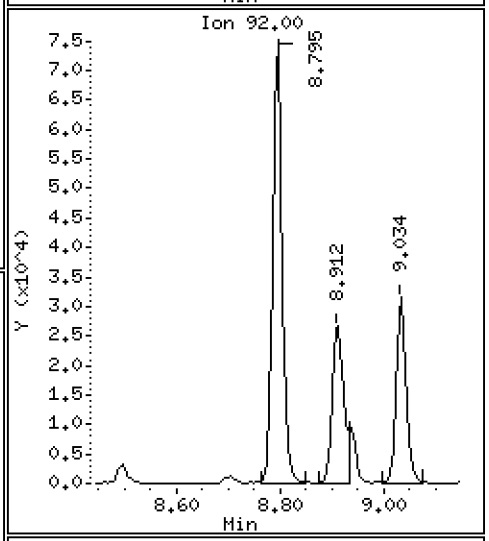


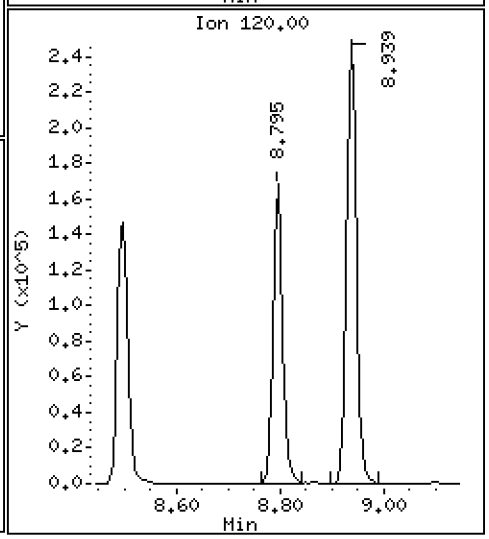












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

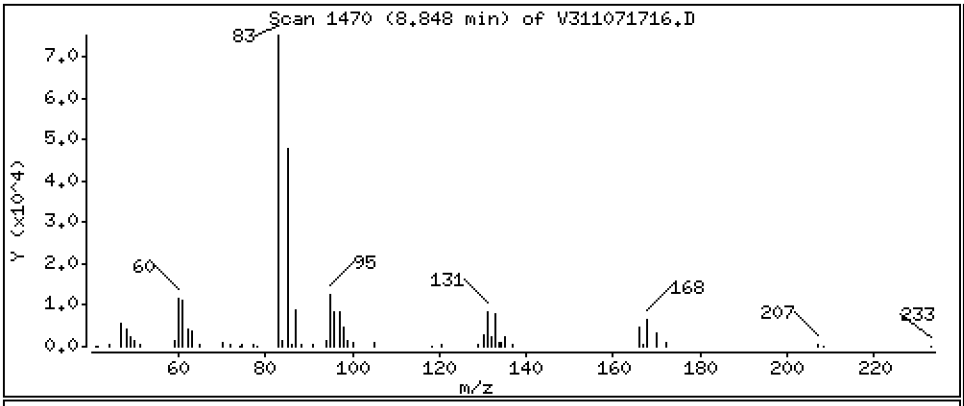
Operator: PC

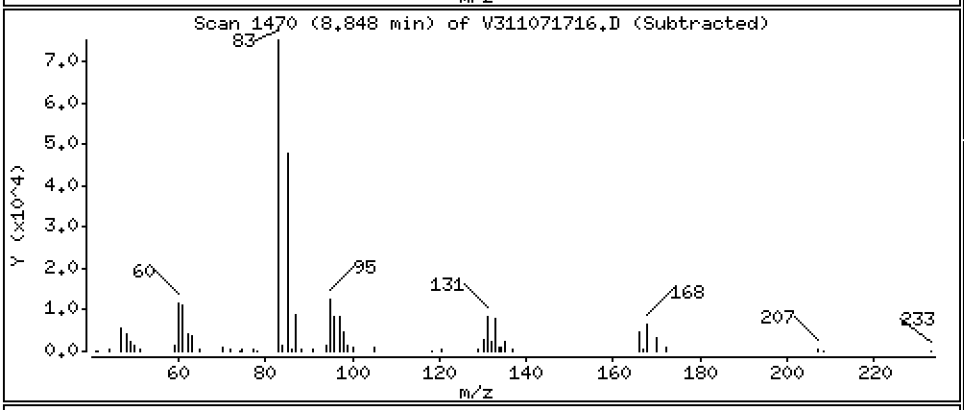
Column phase: RTXVMS

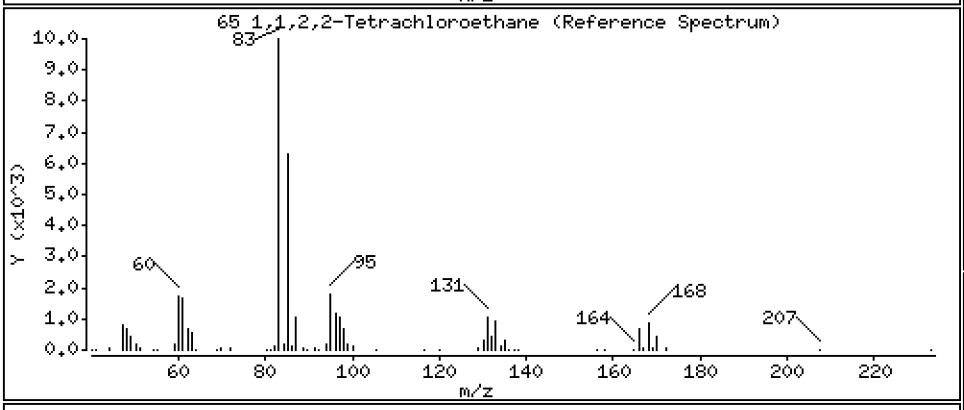
Column diameter: 0.18

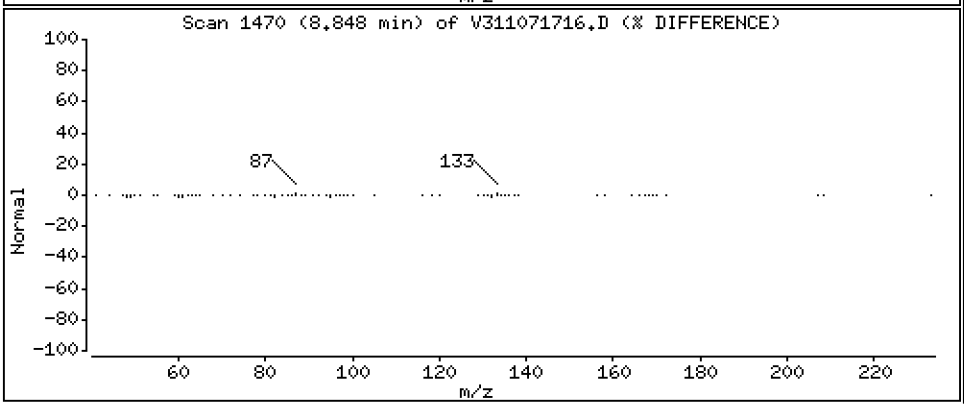
65 1,1,2,2-Tetrachloroethane

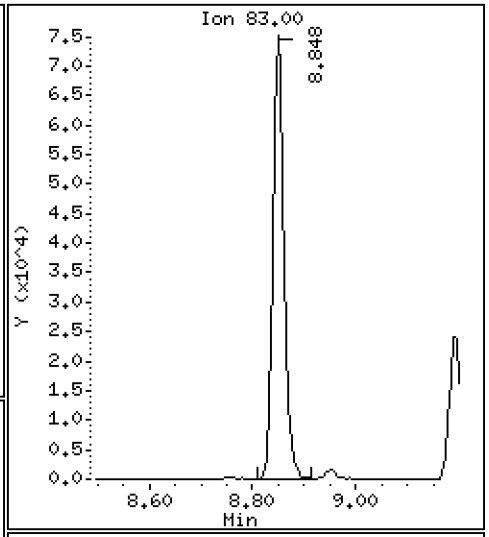
Concentration: 11.190 ug/L

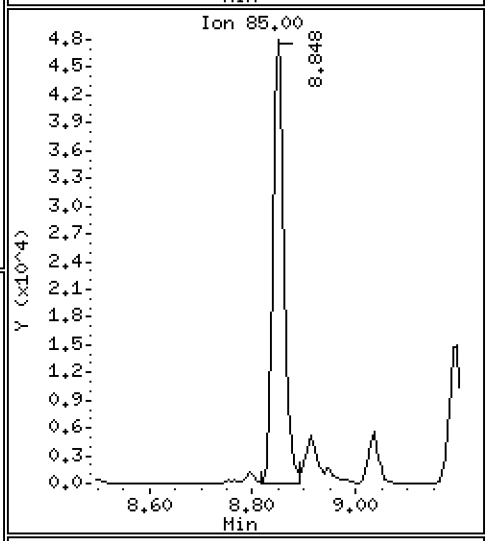


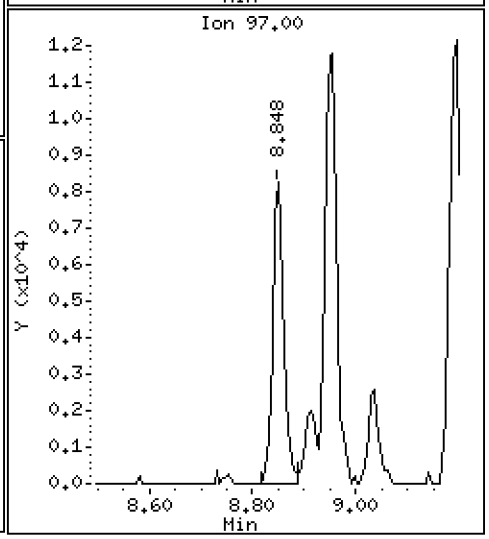












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

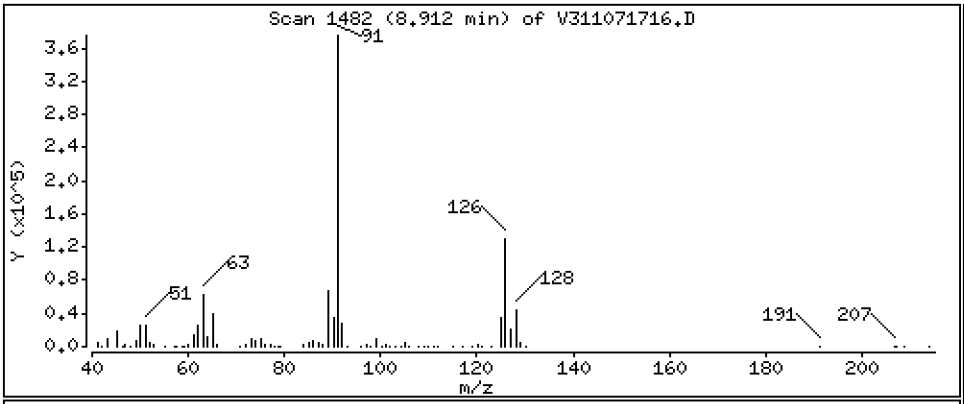
Operator: PC

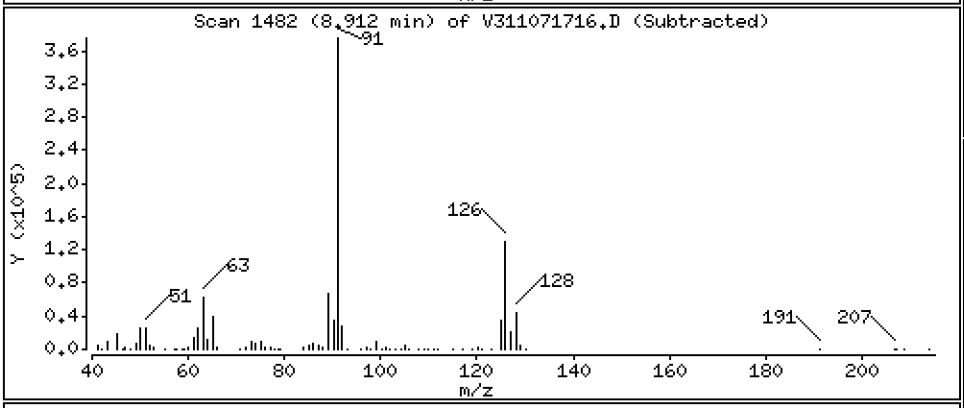
Column phase: RTXVMS

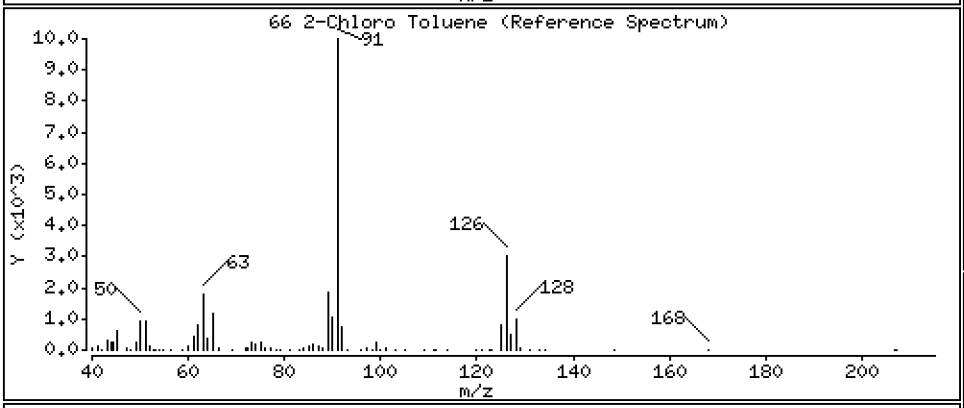
Column diameter: 0.18

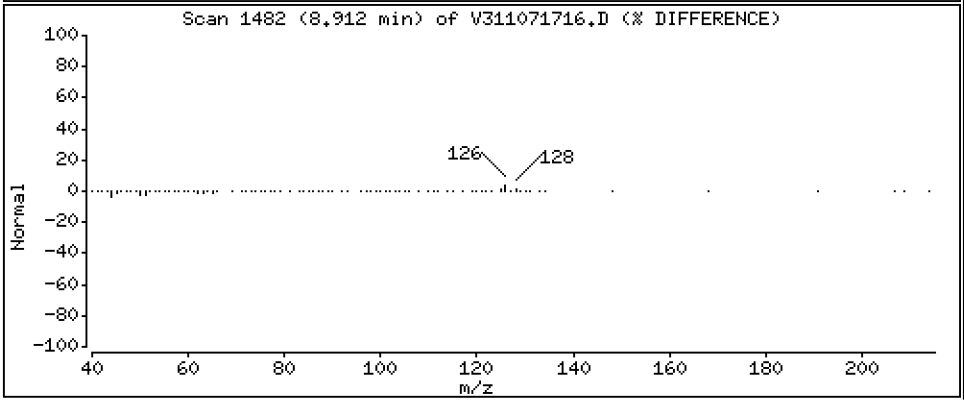
66 2-Chloro Toluene

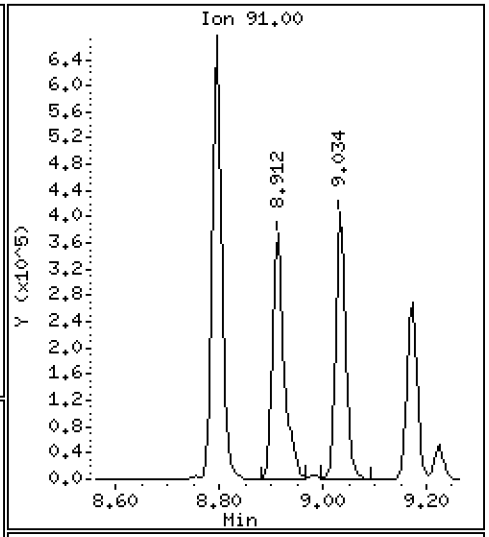
Concentration: 10.973 ug/L

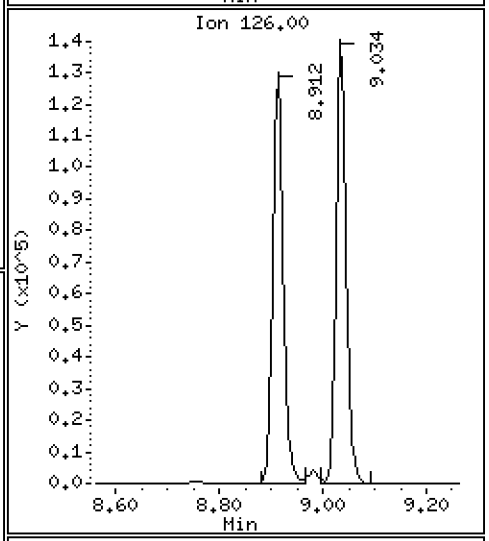


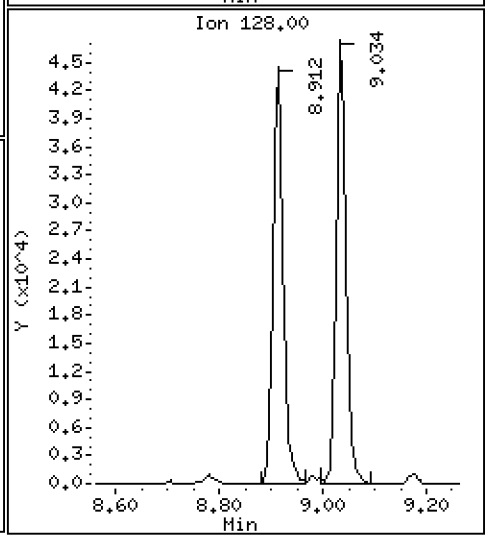












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

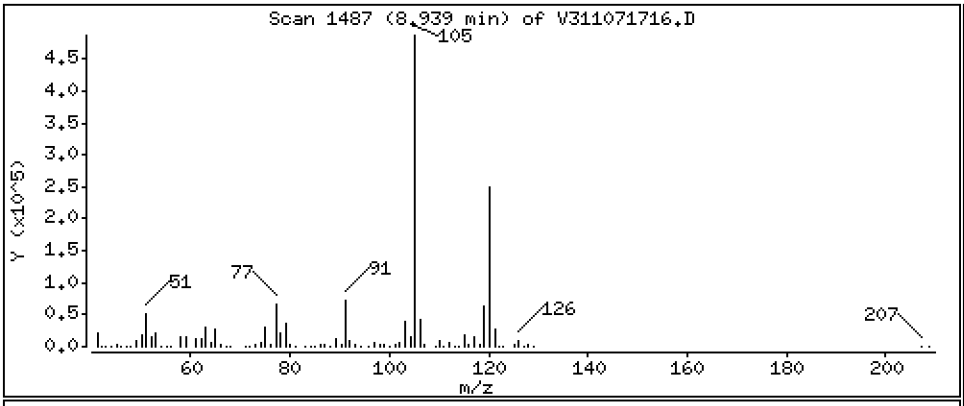
Operator: PC

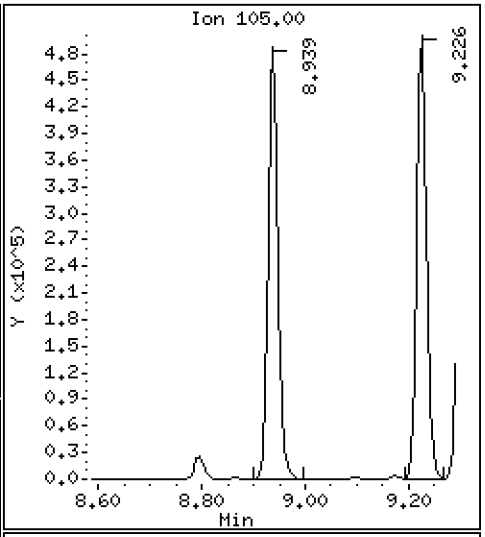
Column phase: RTXVMS

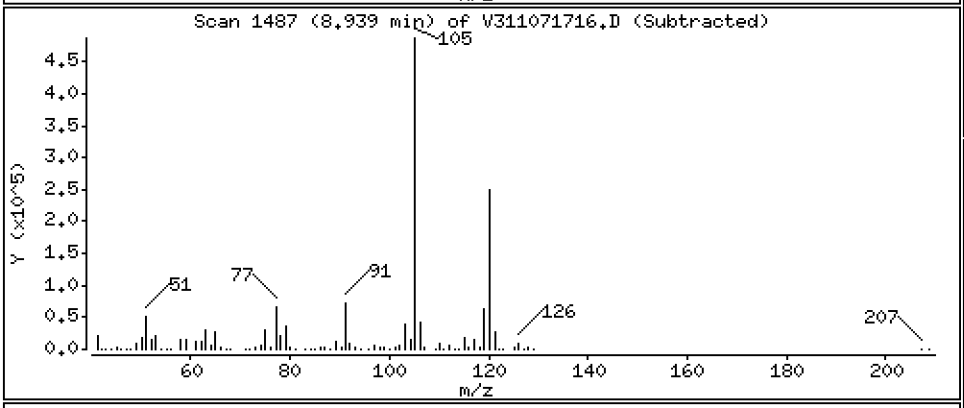
Column diameter: 0.18

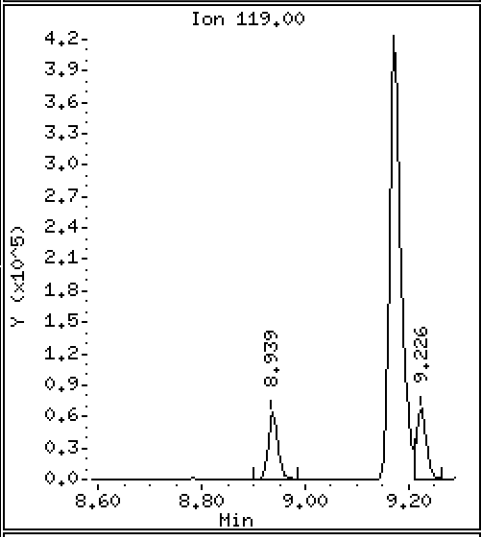
67 1,3,5-Trimethyl Benzene

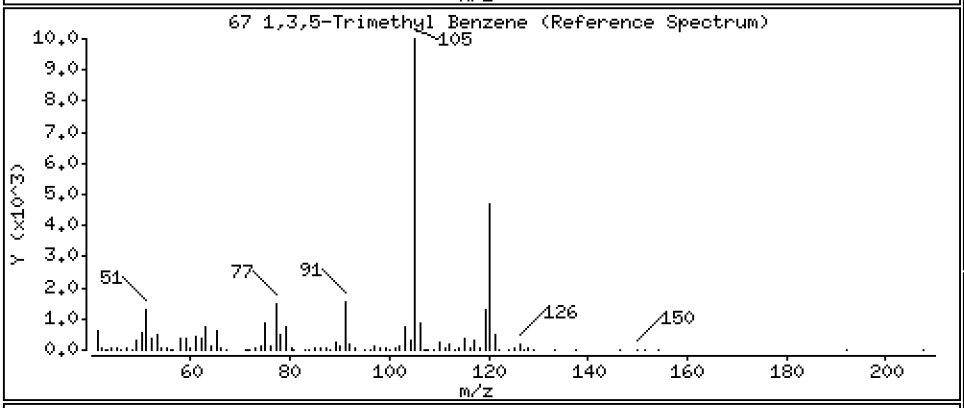
Concentration: 11.117 ug/L

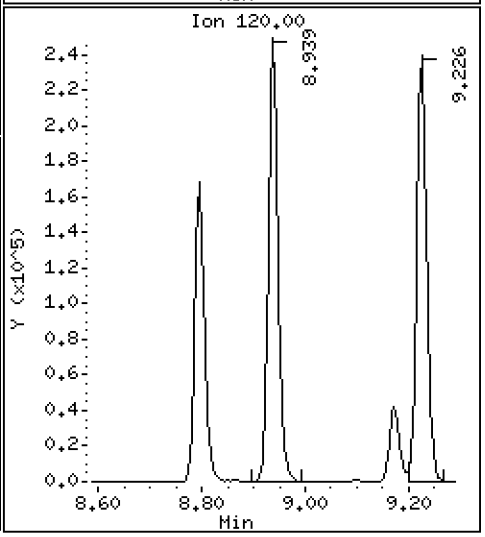


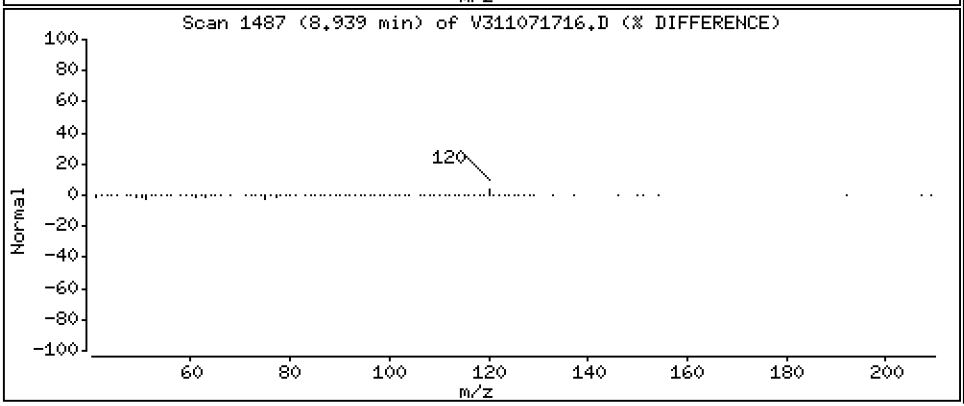












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

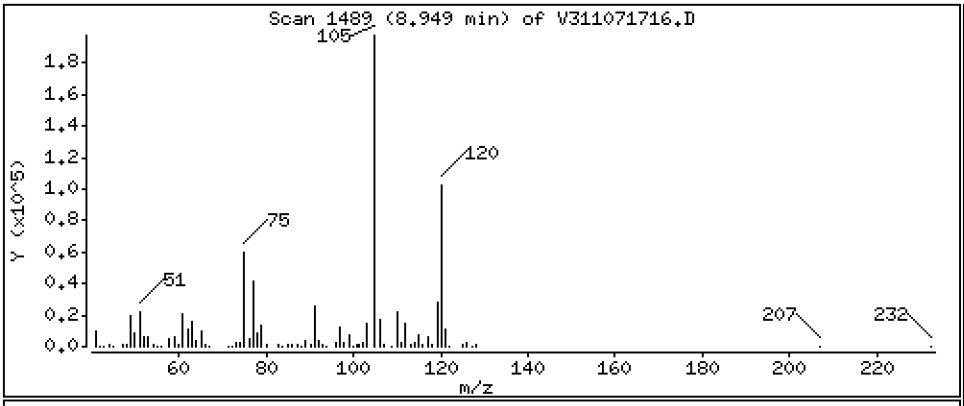
Operator: PC

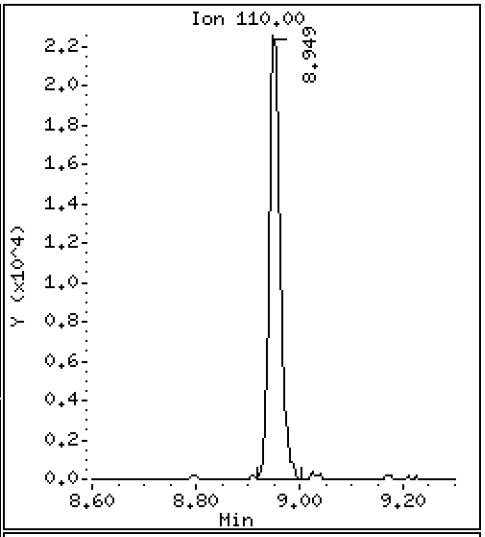
Column phase: RTXVMS

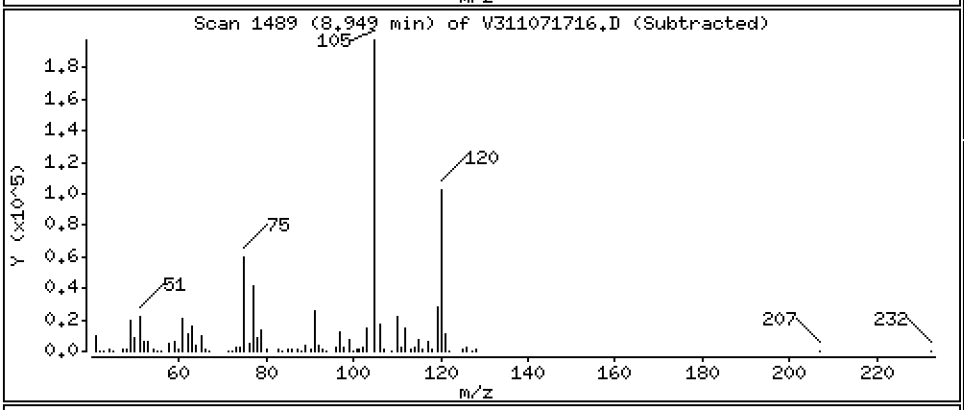
Column diameter: 0.18

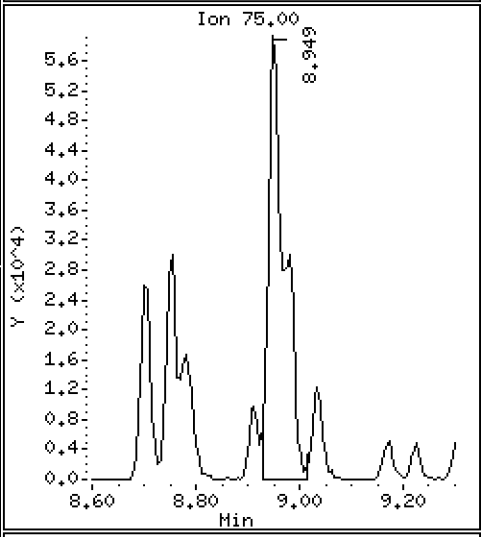
68 1,2,3-Trichloropropane

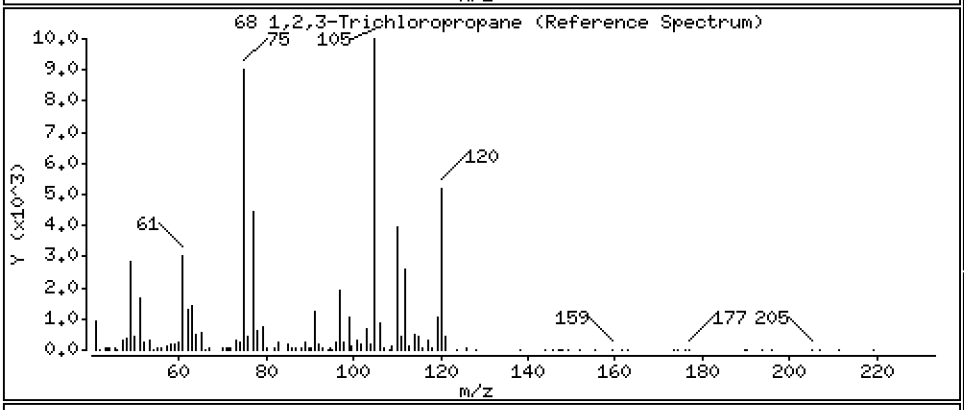
Concentration: 10.753 ug/L

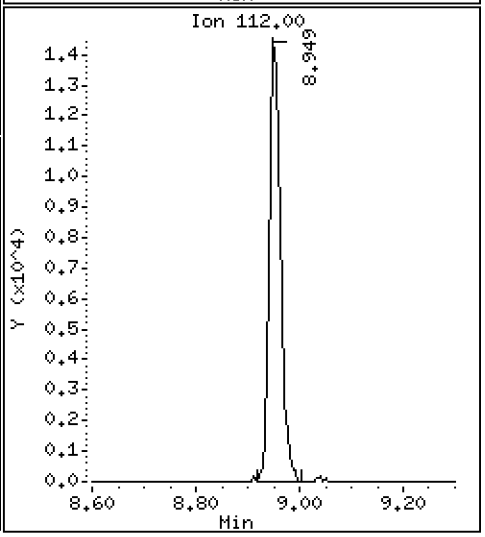


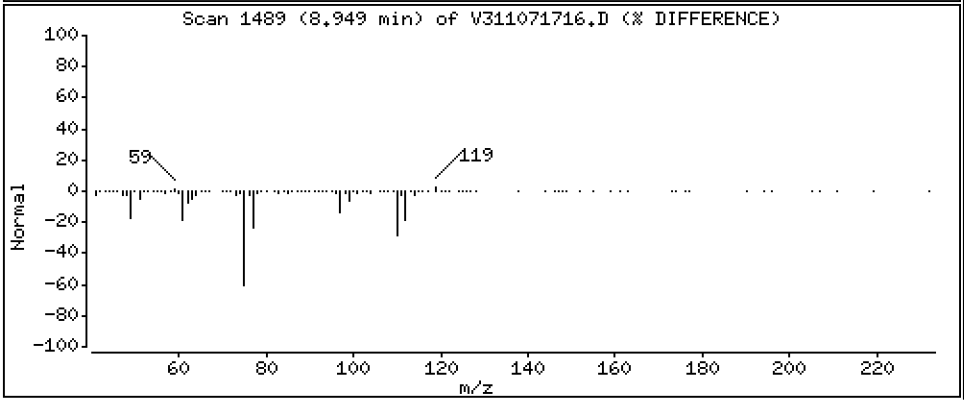












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

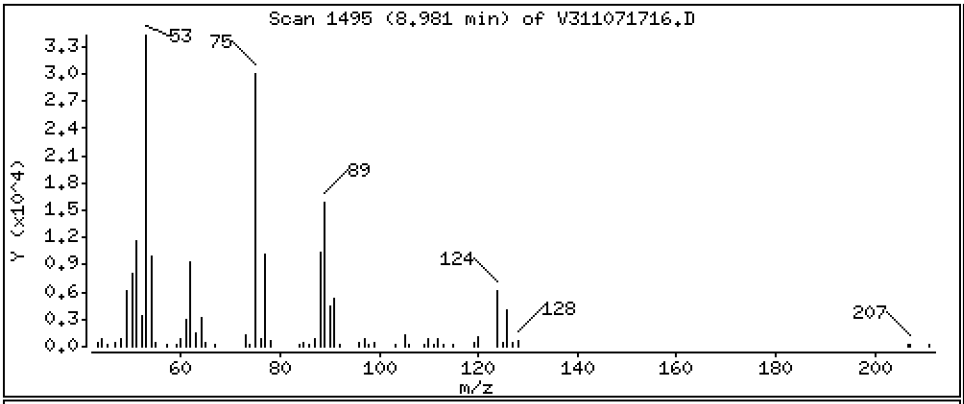
Operator: PC

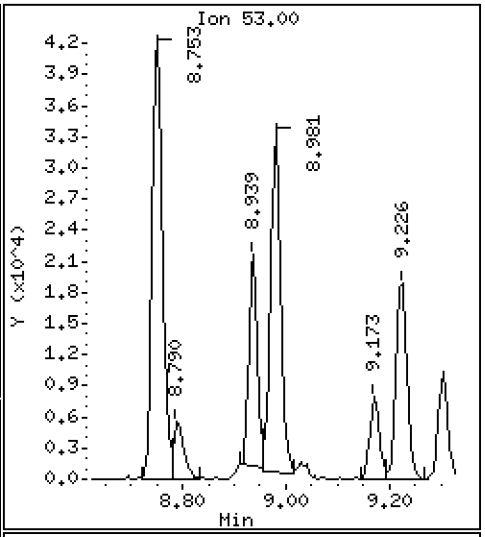
Column phase: RTXVMS

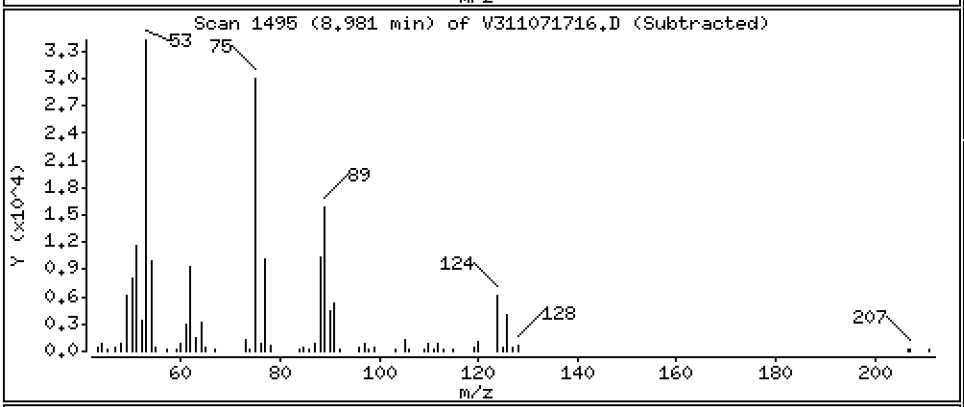
Column diameter: 0.18

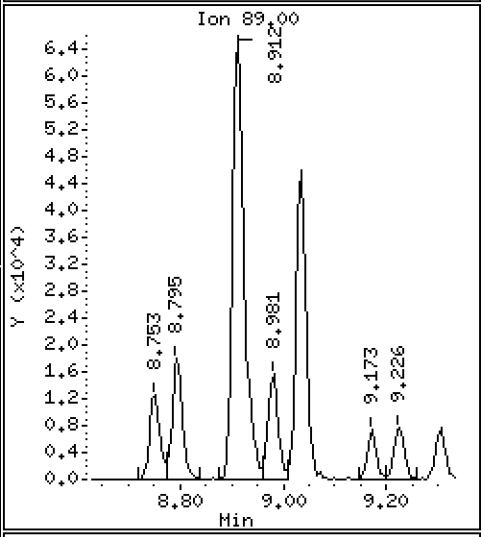
69 Trans-1,4-Dichloro 2-Butene

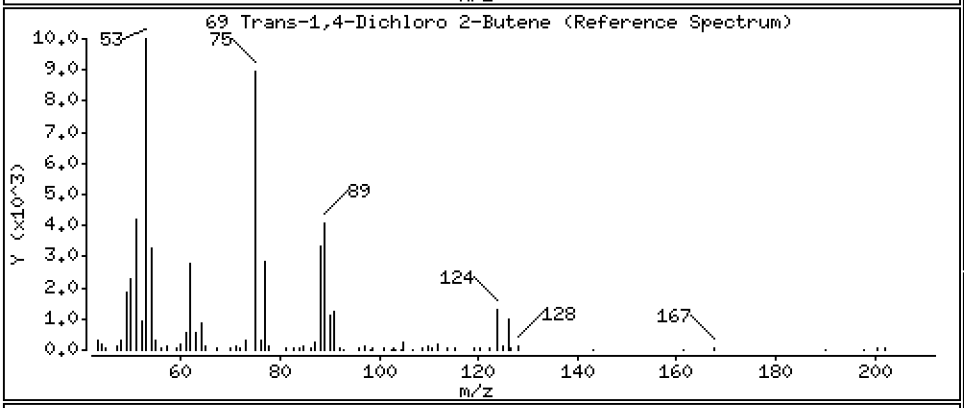
Concentration: 9.610 ug/L

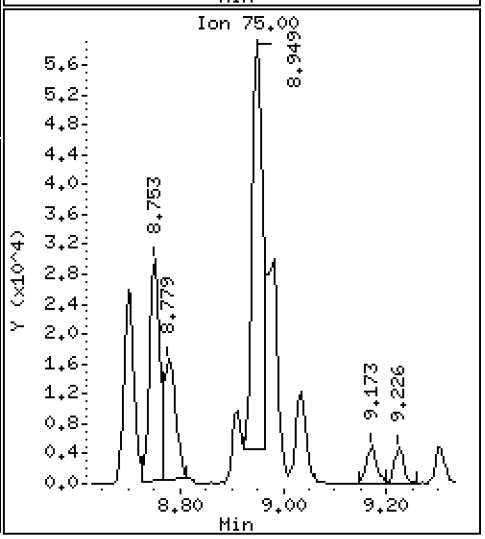


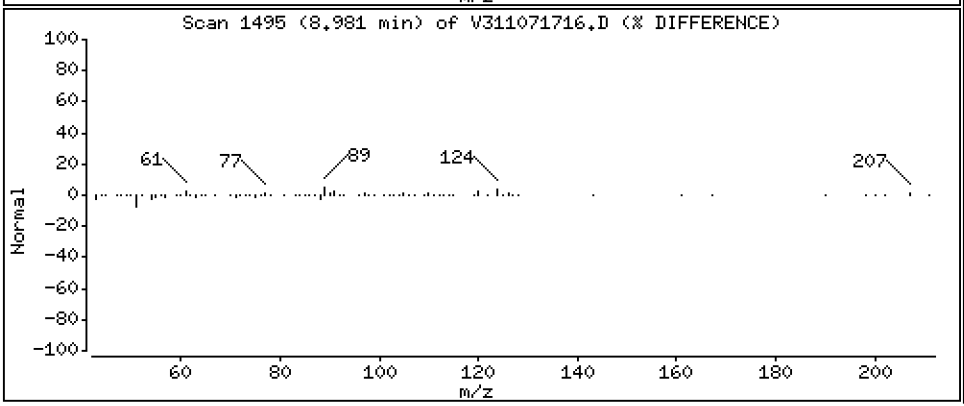












Date : 07-NOV-2017 15:21

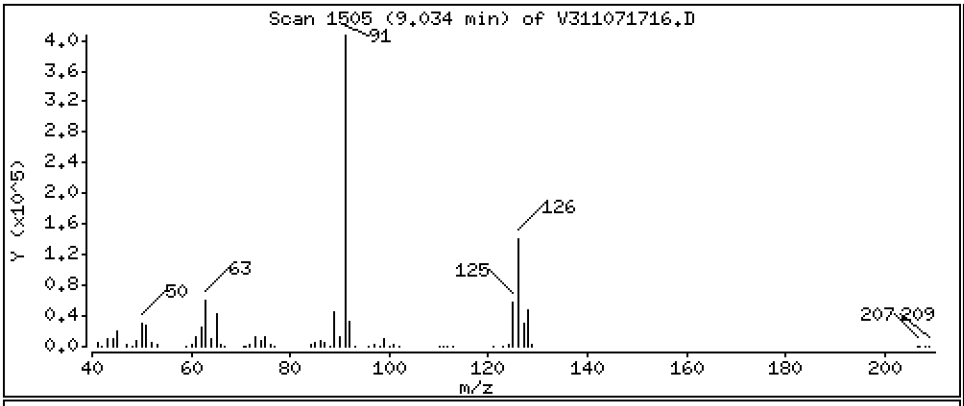
Client ID: Instrument: nt3.i

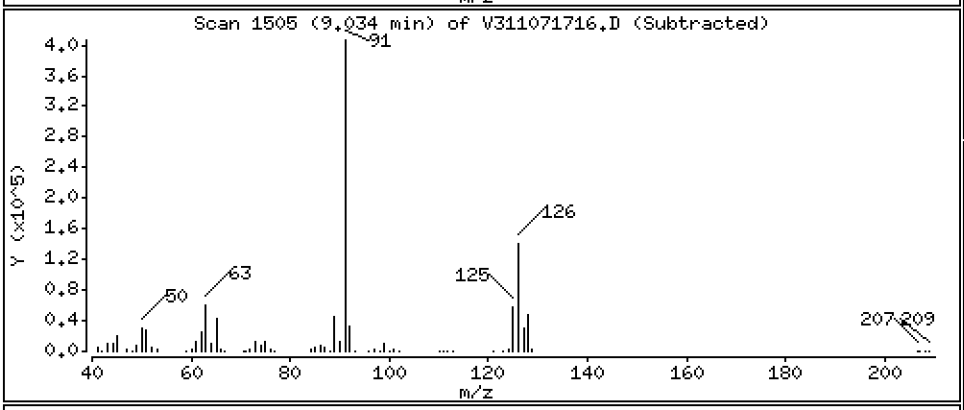
Sample Info: SFK0116-SCV1

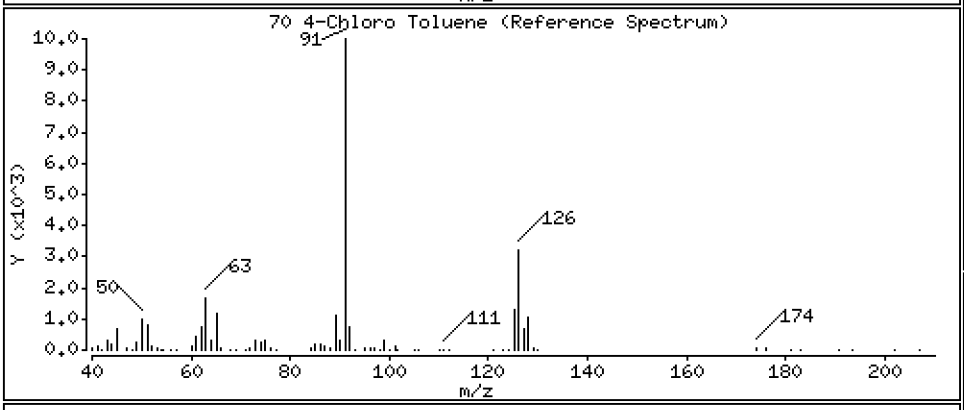
Operator: PC

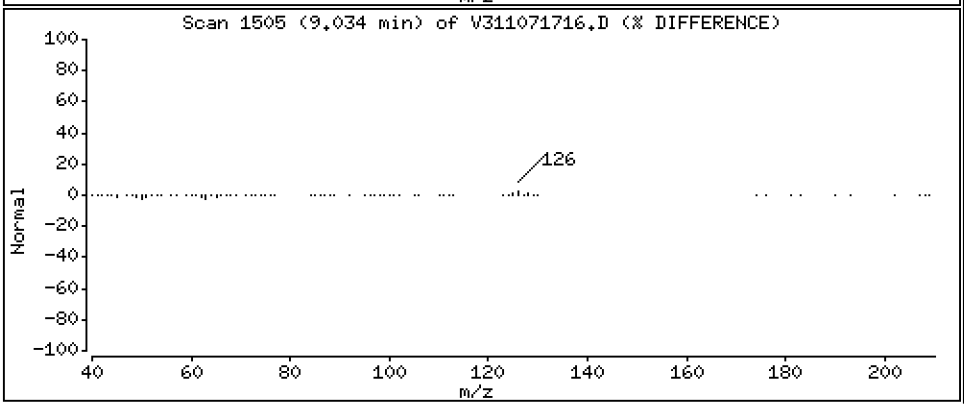
Column phase: RTXVMS Column diameter: 0.18

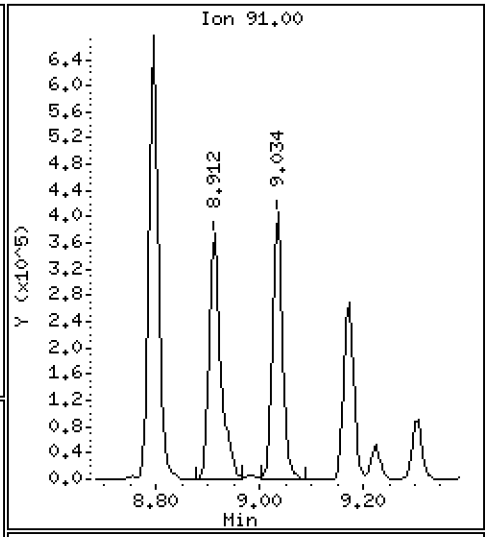
70 4-Chloro Toluene Concentration: 10.750 ug/L

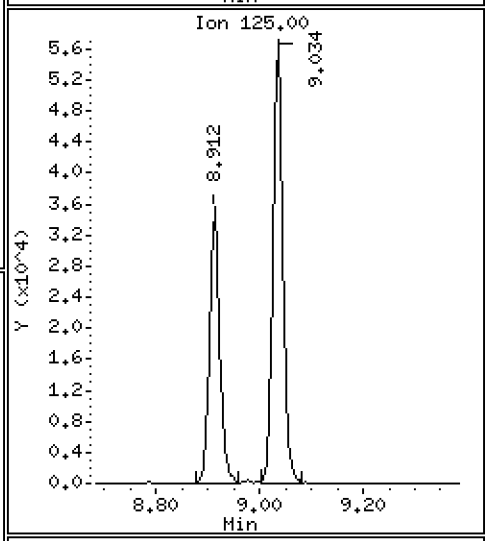


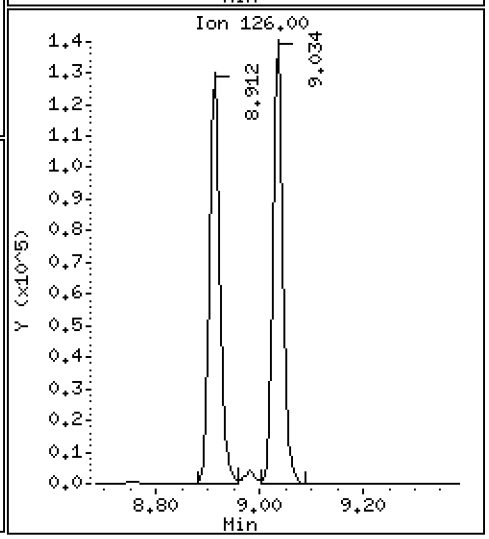












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

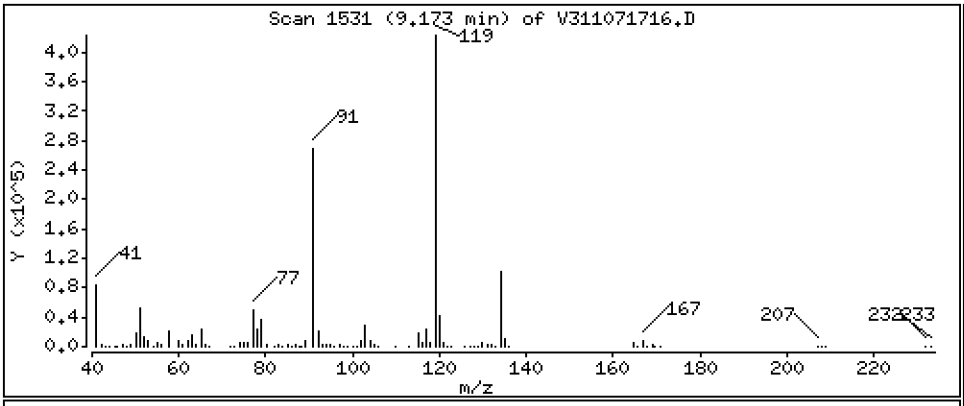
Operator: PC

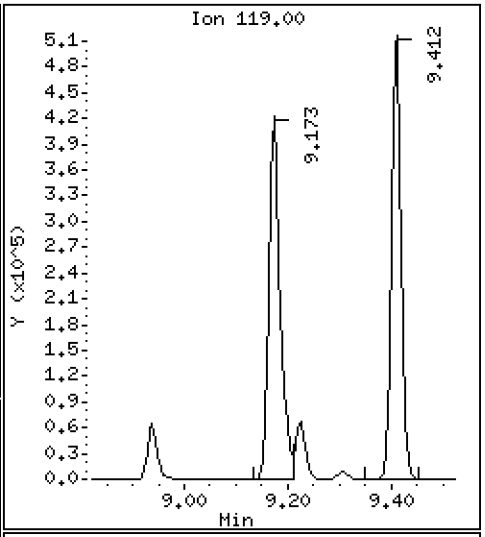
Column phase: RTXVMS

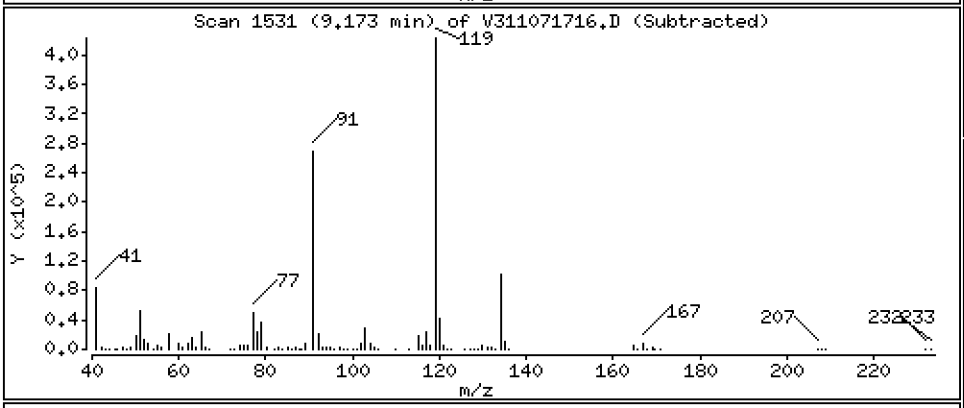
Column diameter: 0.18

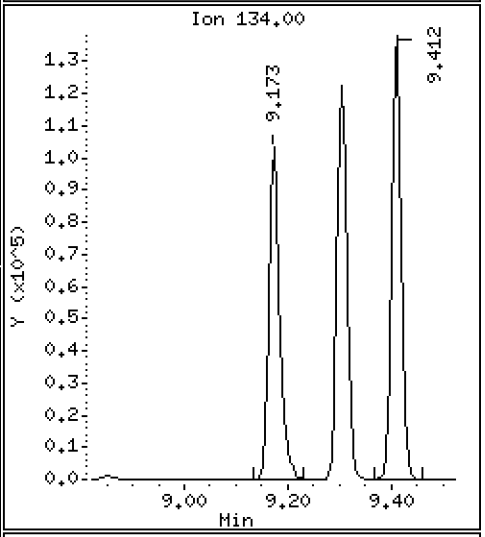
71 T-Butyl Benzene

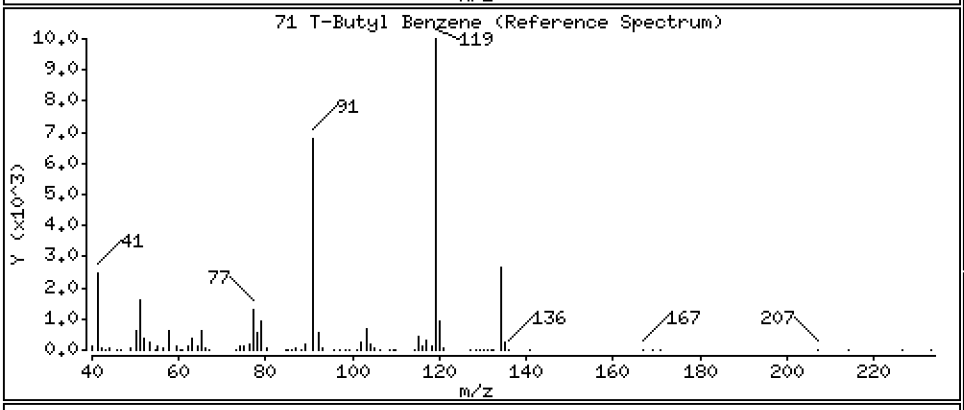
Concentration: 13.213 ug/L

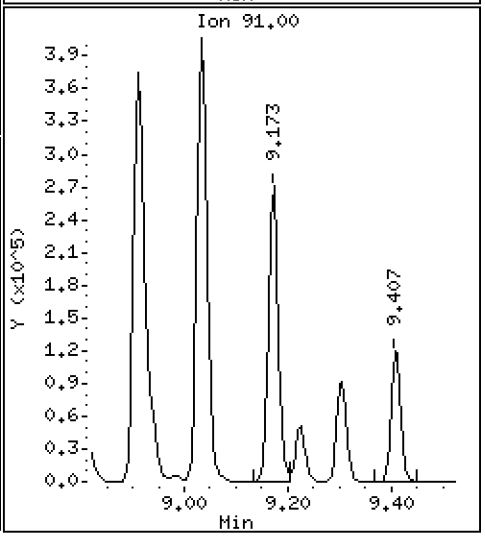


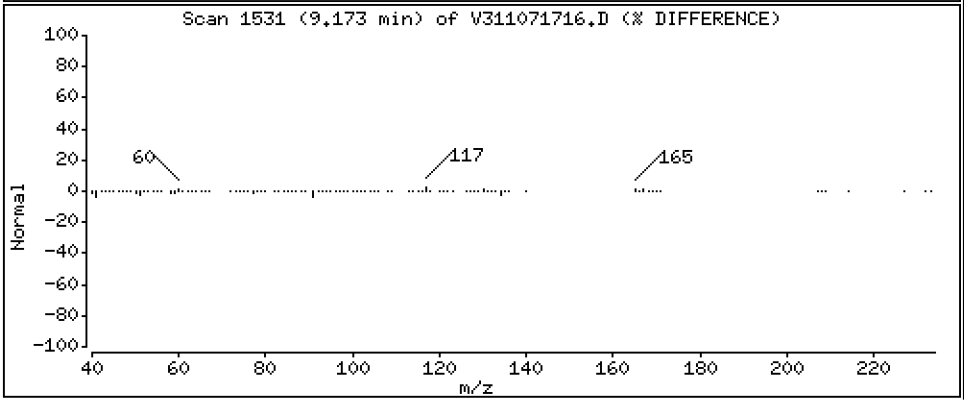












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

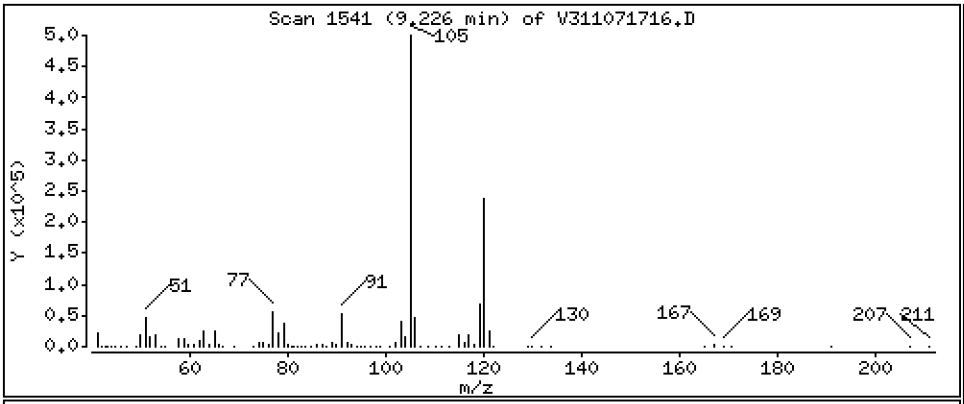
Operator: PC

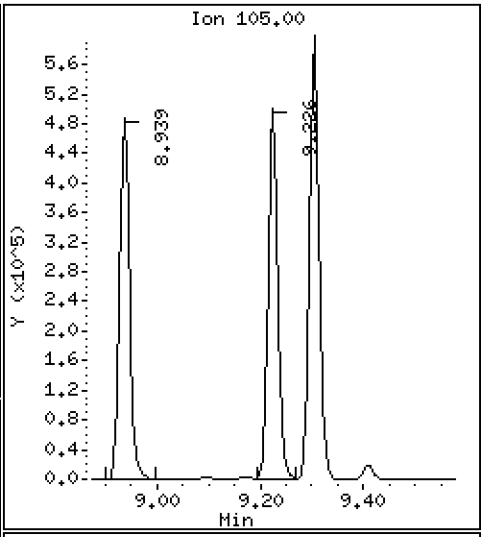
Column phase: RTXVMS

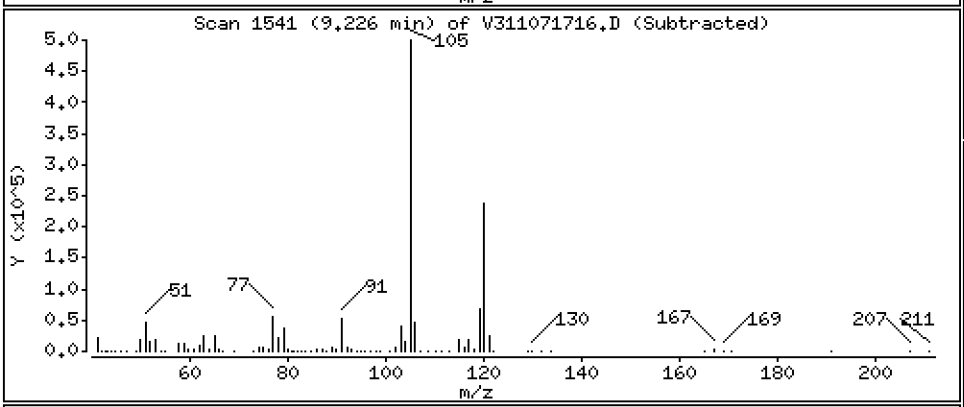
Column diameter: 0.18

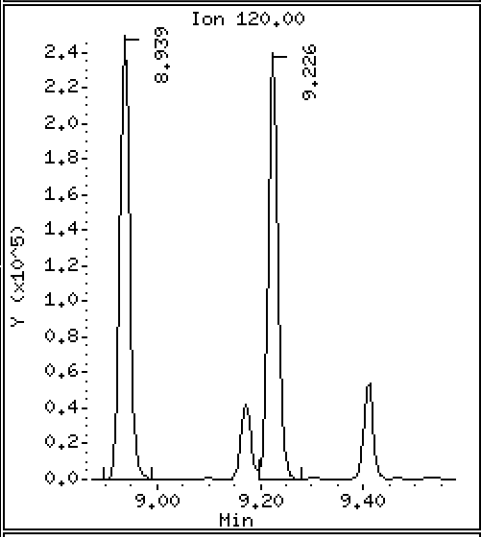
72 1,2,4-Trimethylbenzene

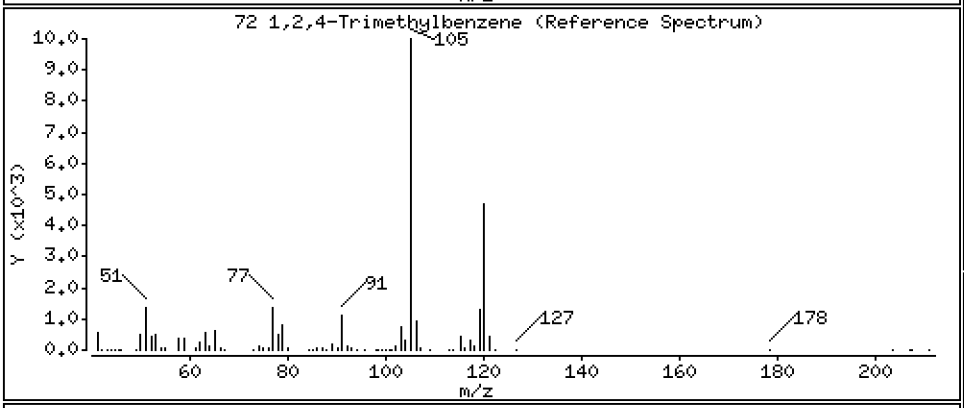
Concentration: 11.091 ug/L

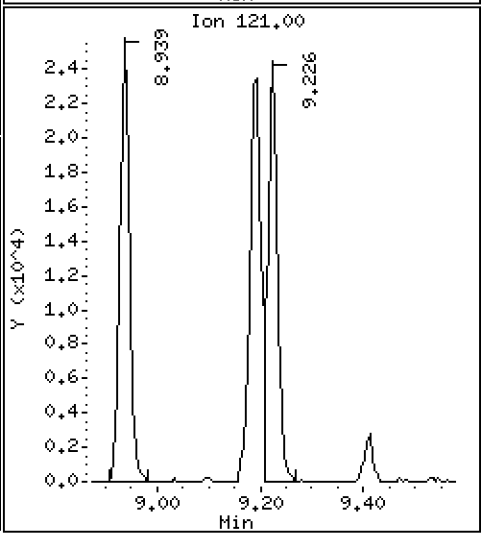


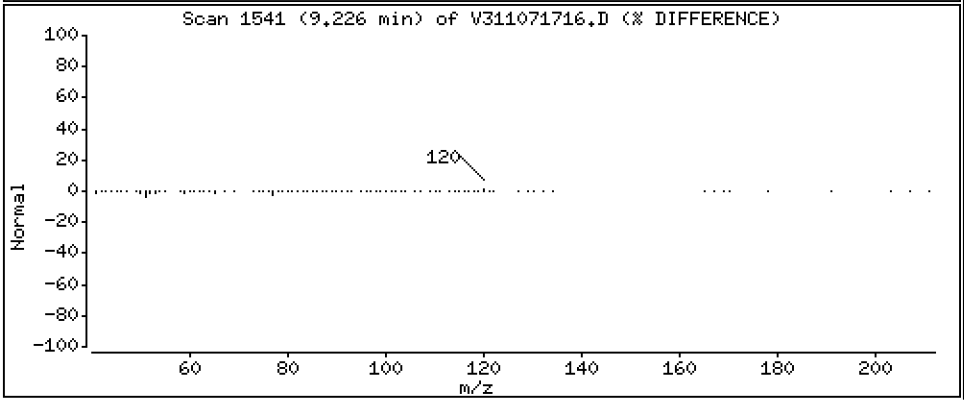












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

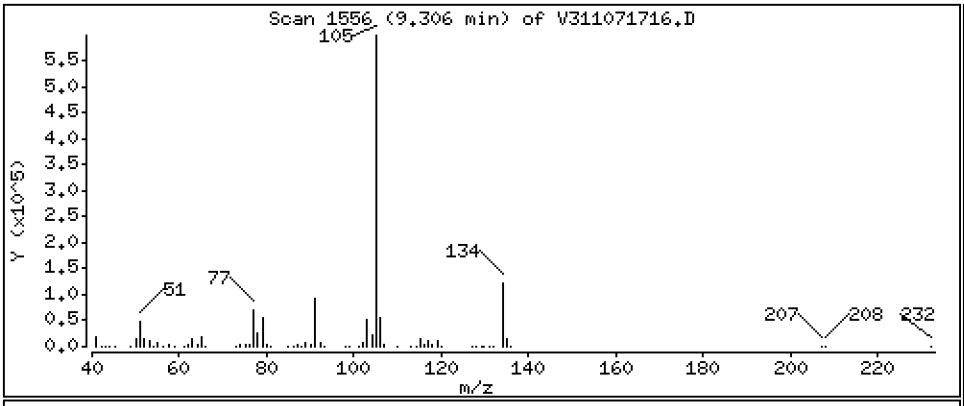
Operator: PC

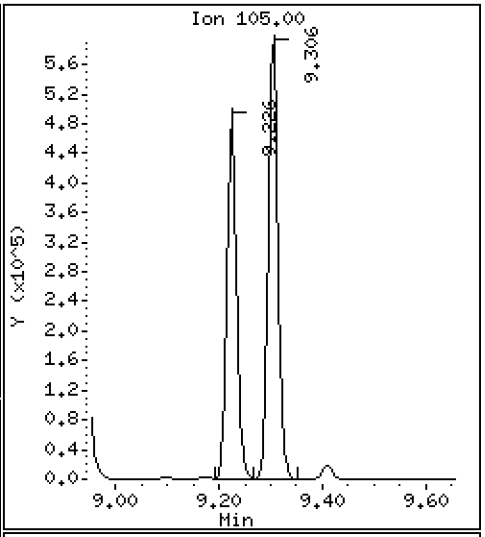
Column phase: RTXVMS

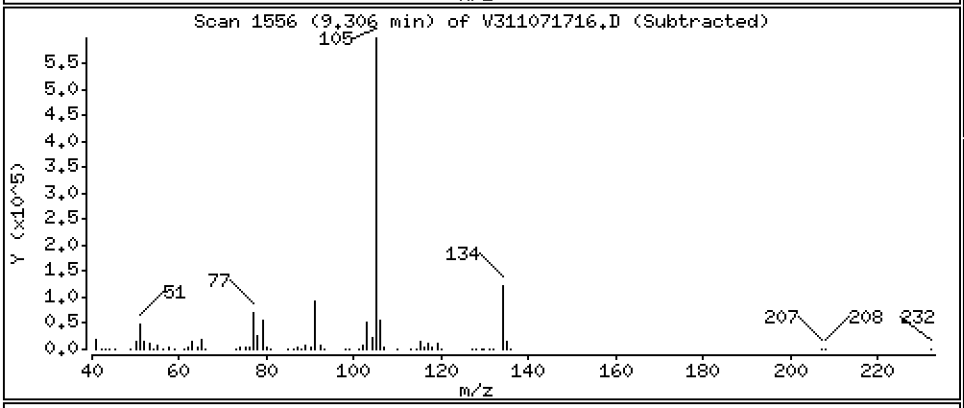
Column diameter: 0.18

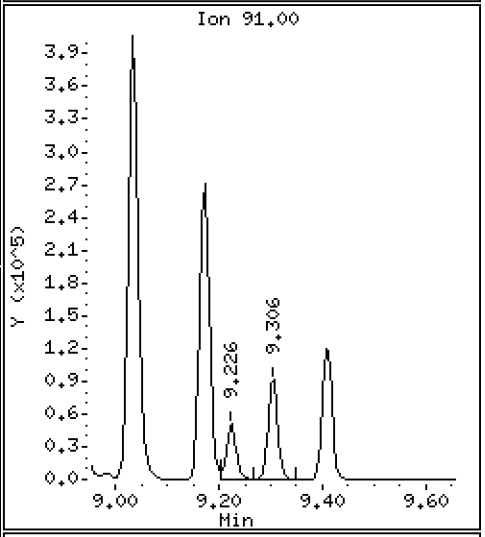
73 S-Butyl Benzene

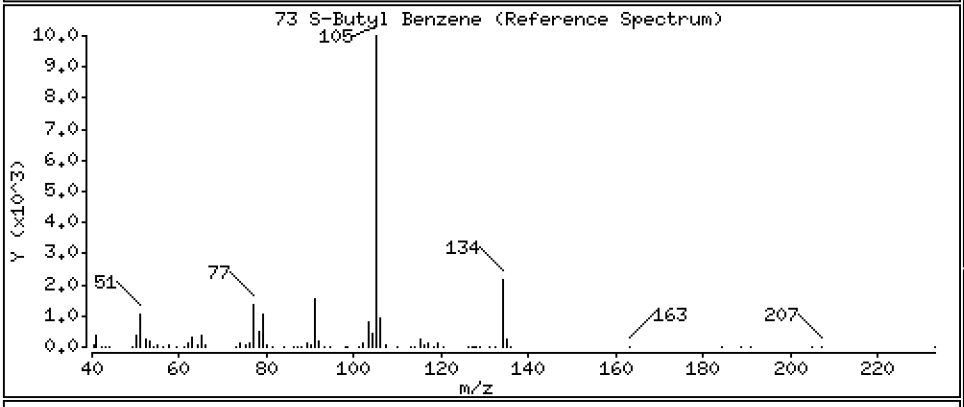
Concentration: 11.370 ug/L

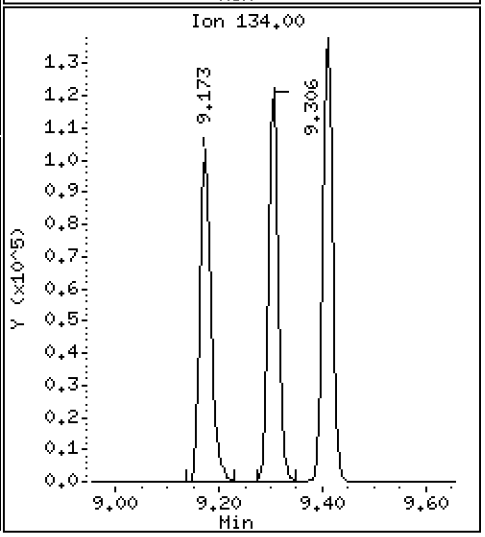


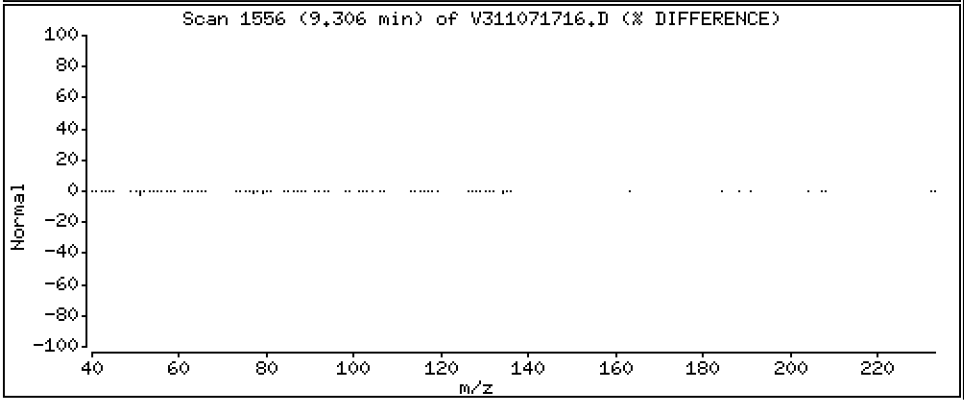












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

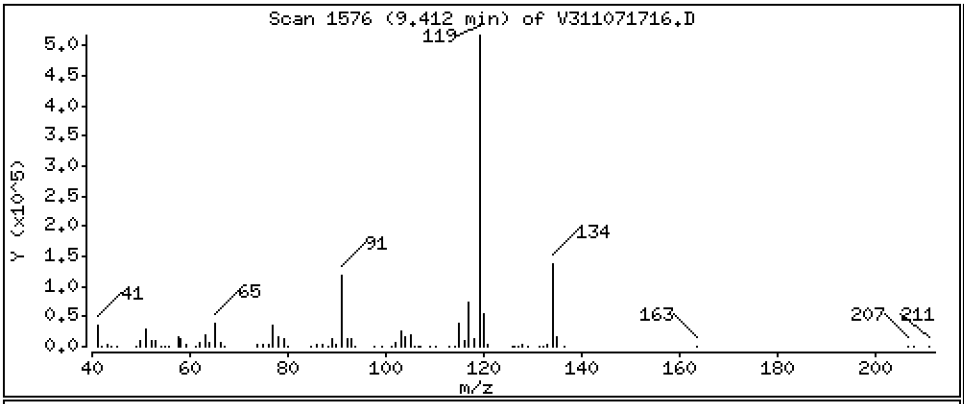
Operator: PC

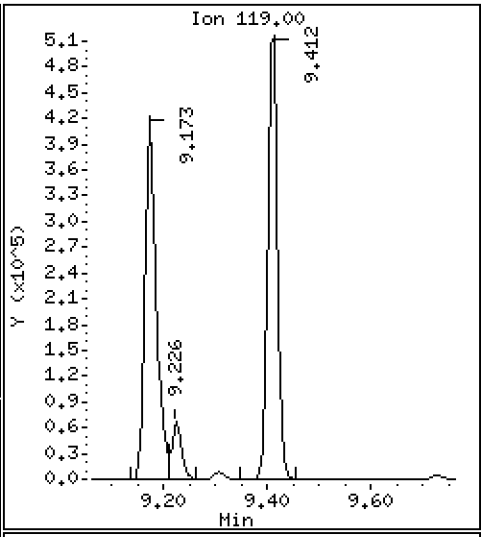
Column phase: RTXVMS

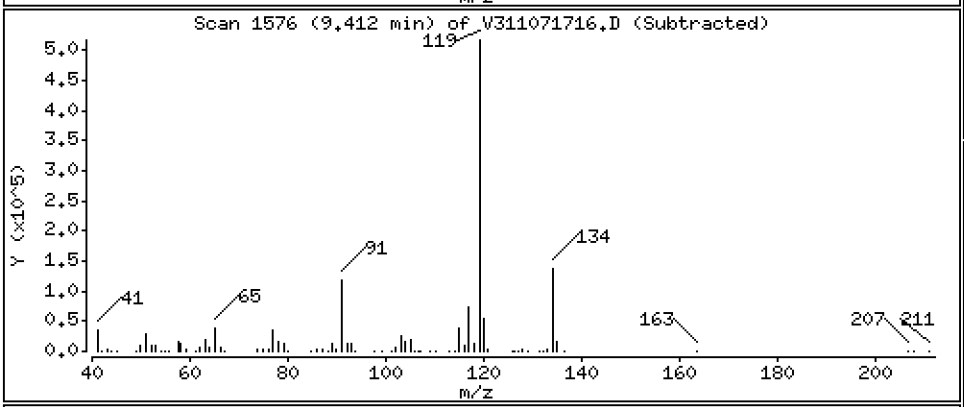
Column diameter: 0.18

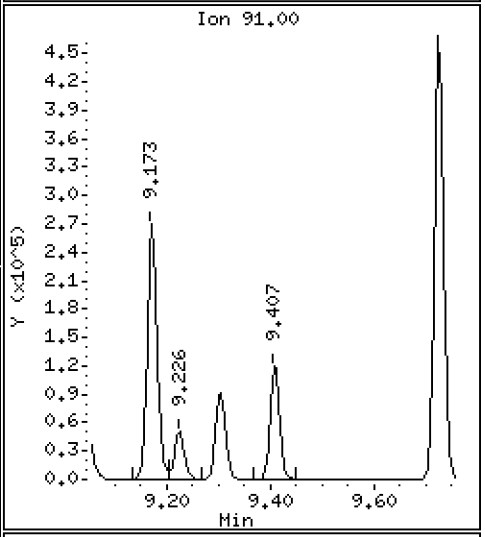
74 4-Isopropyl Toluene

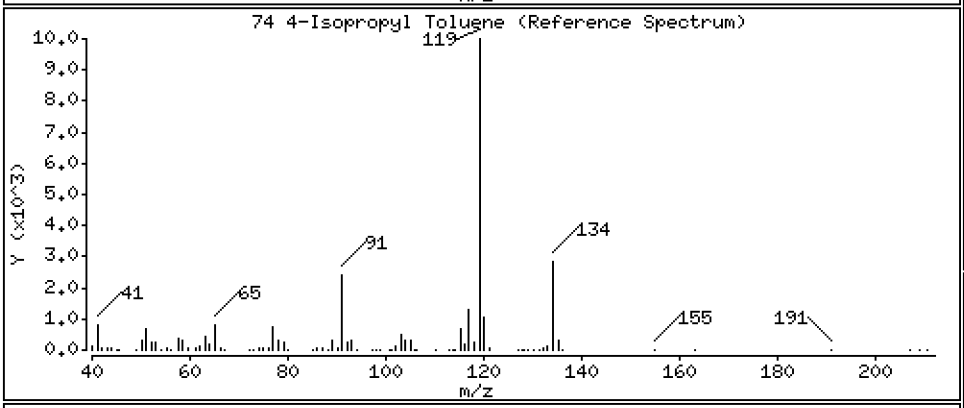
Concentration: 11.104 ug/L

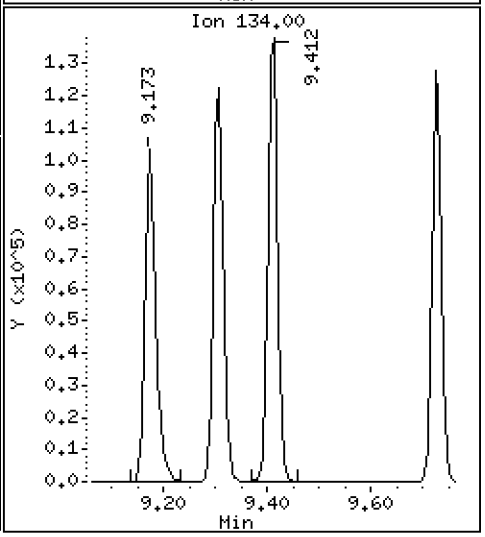


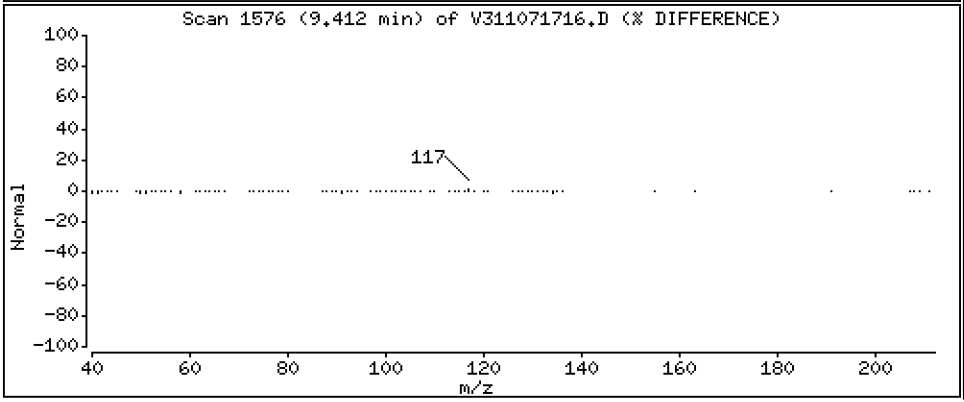












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

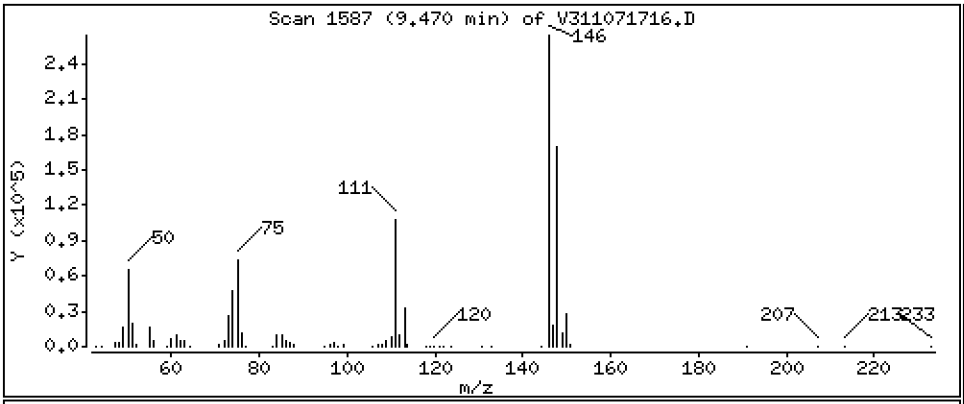
Operator: PC

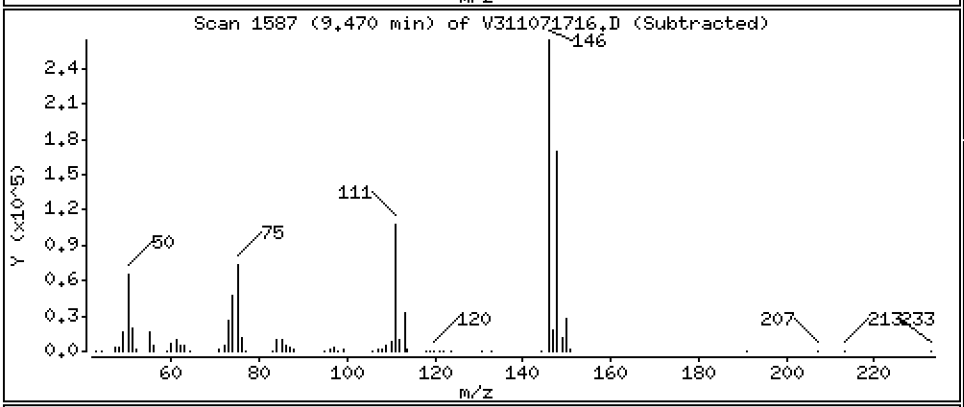
Column phase: RTXVMS

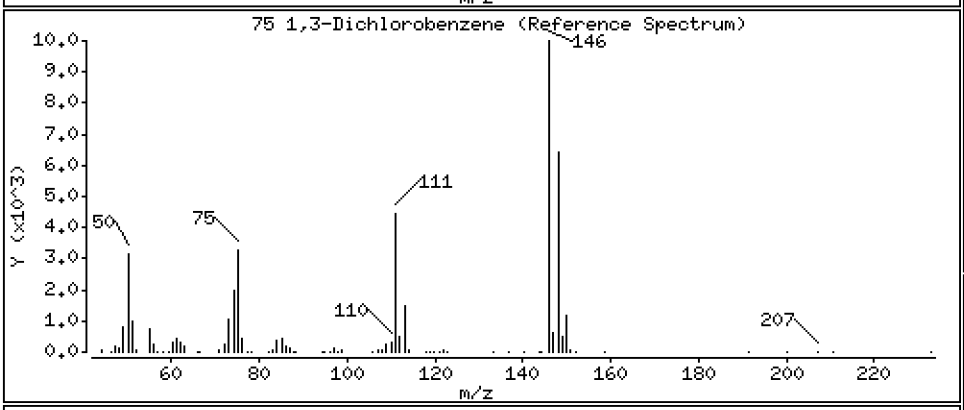
Column diameter: 0.18

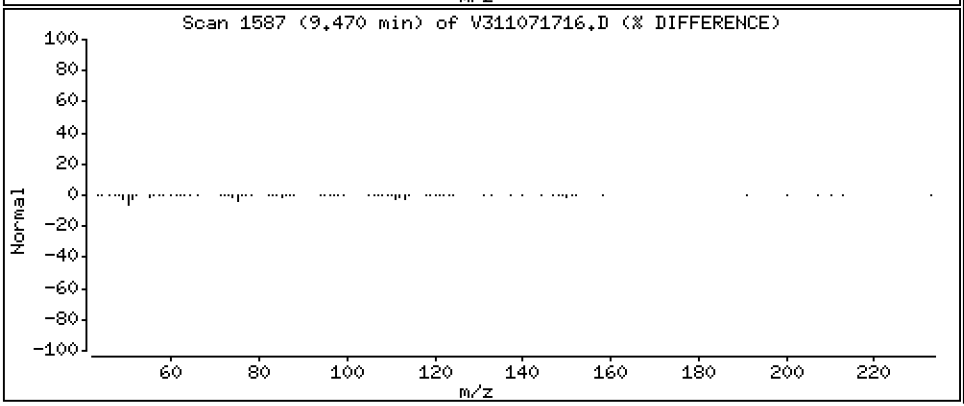
75 1,3-Dichlorobenzene

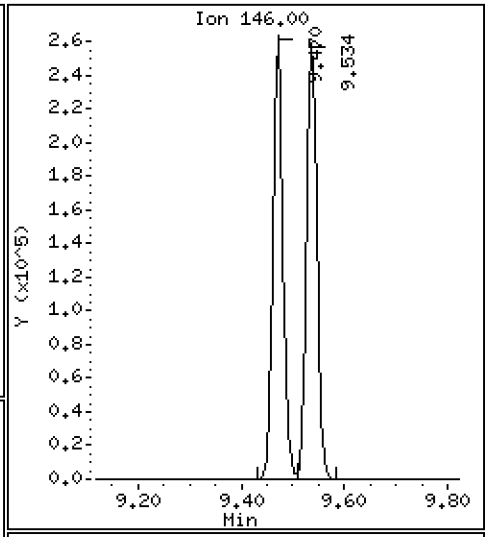
Concentration: 10.556 ug/L

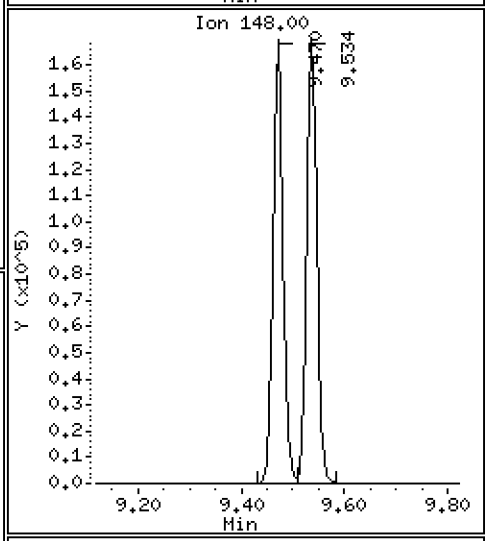


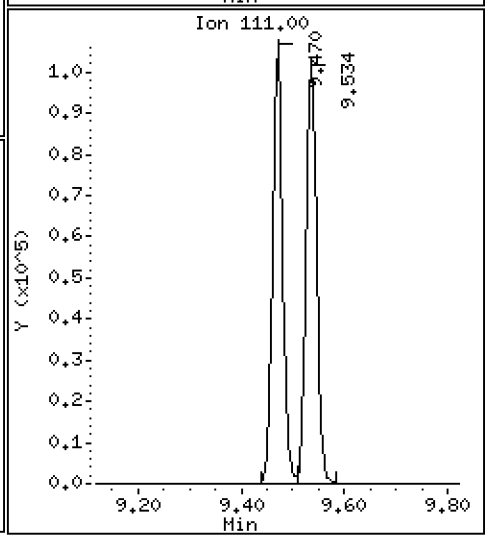












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

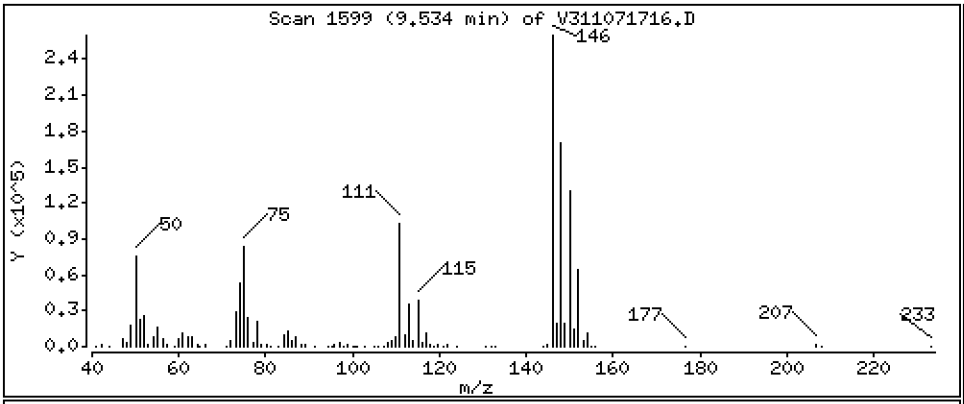
Operator: PC

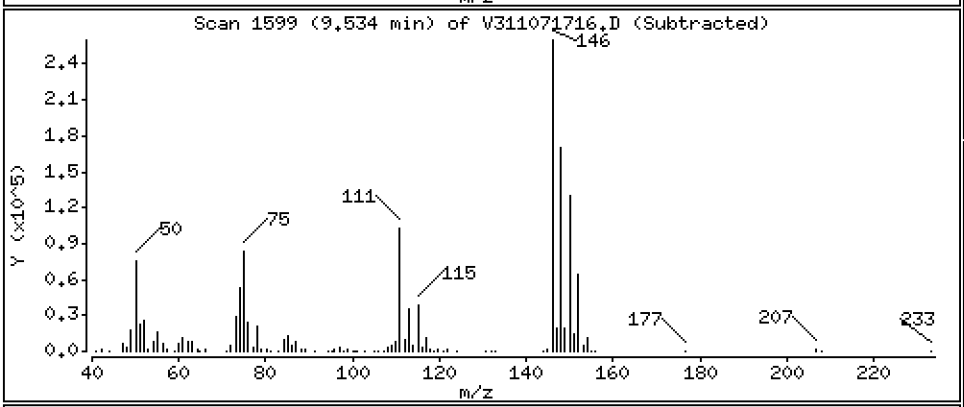
Column phase: RTXVMS

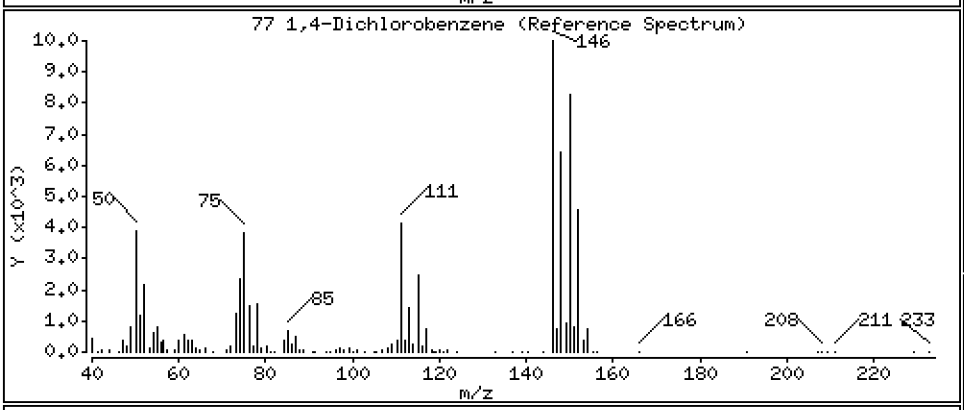
Column diameter: 0.18

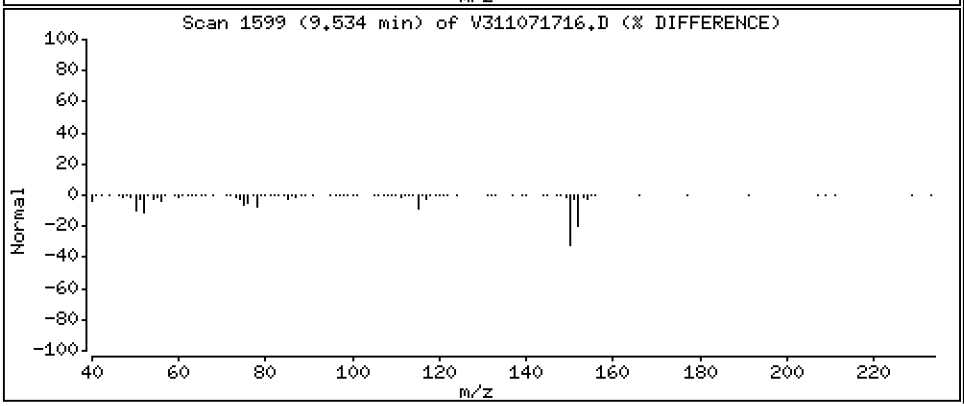
77 1,4-Dichlorobenzene

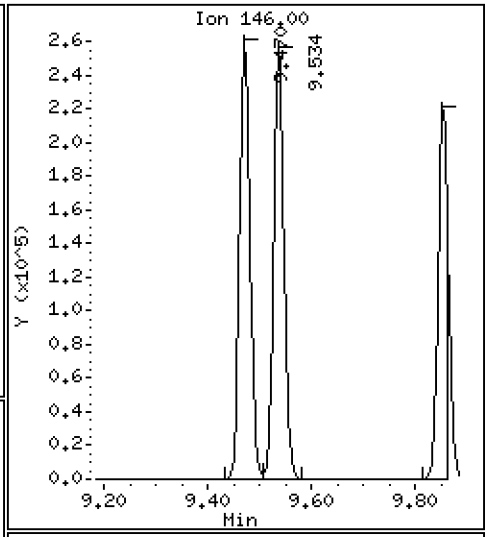
Concentration: 10.666 ug/L

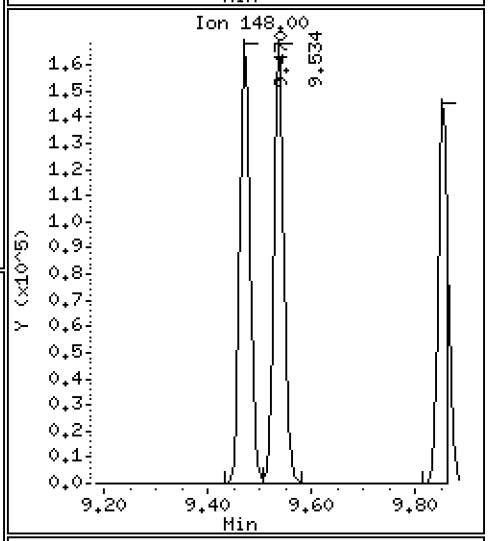


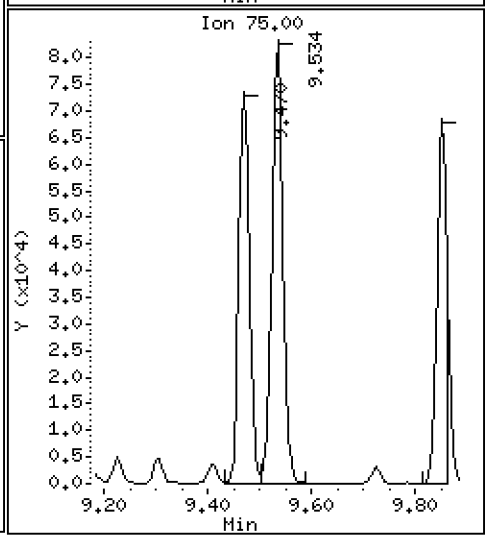












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

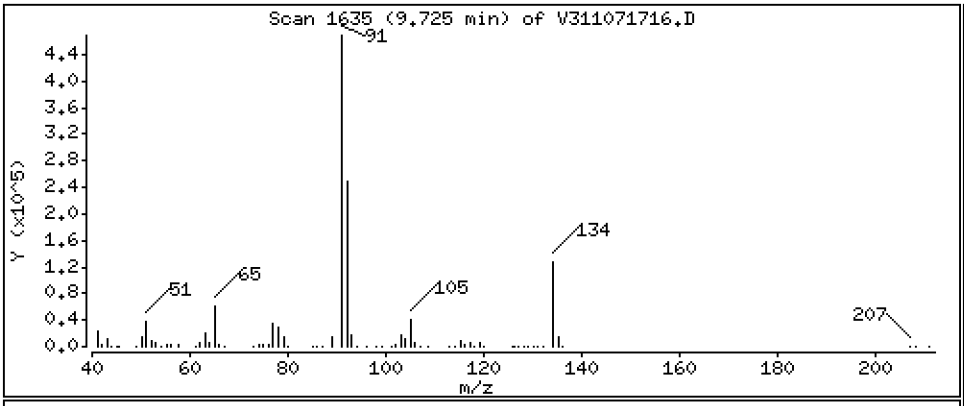
Operator: PC

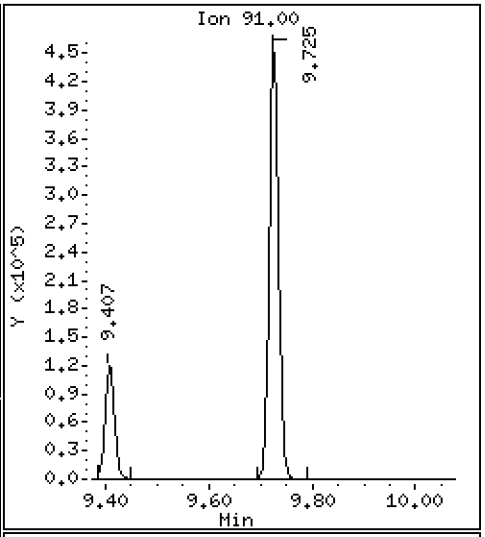
Column phase: RTXVMS

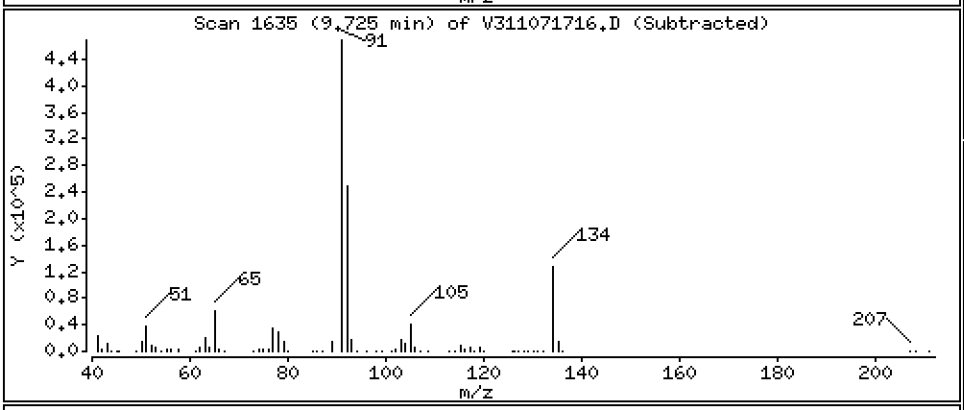
Column diameter: 0.18

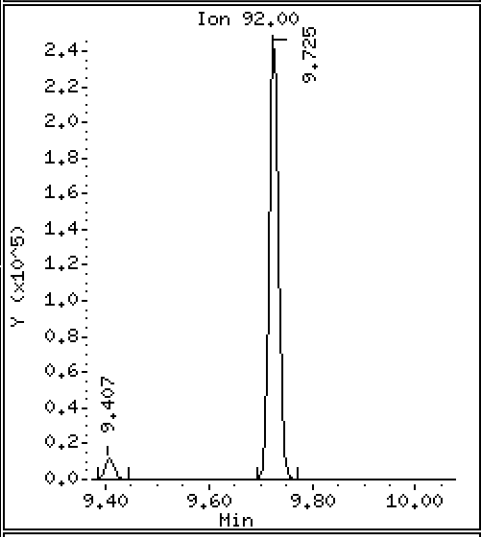
78 N-Butyl Benzene

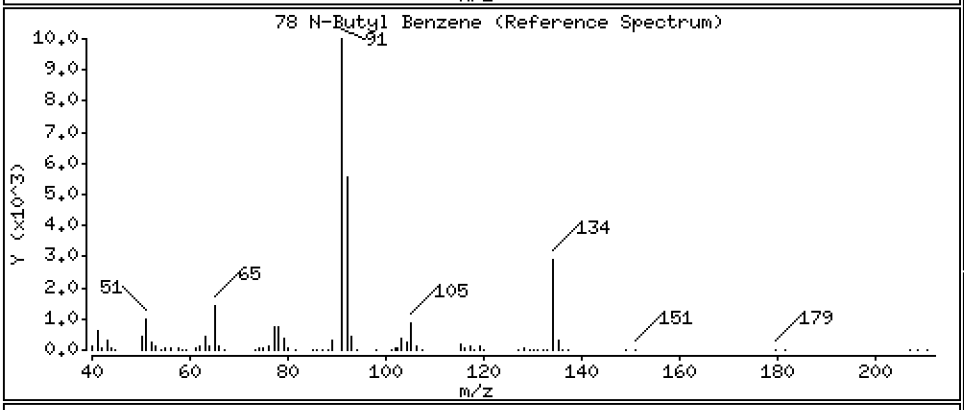
Concentration: 11.095 ug/L

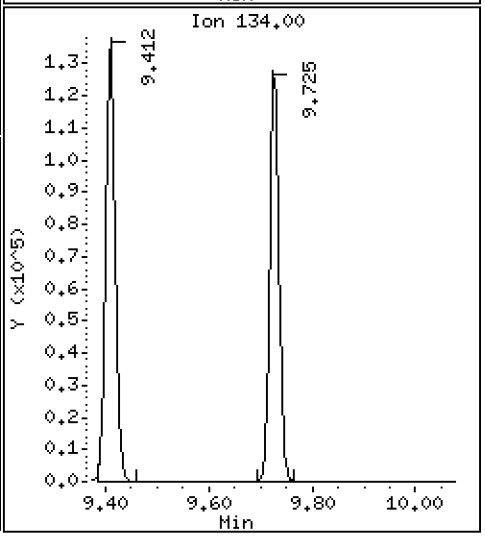


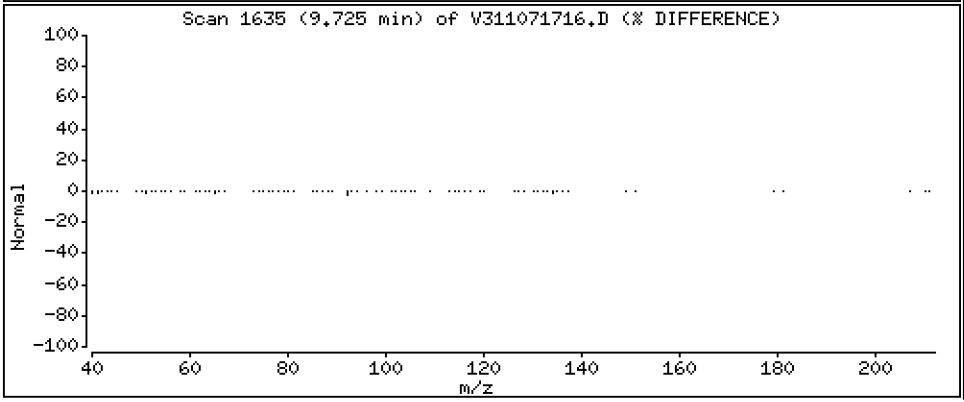












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

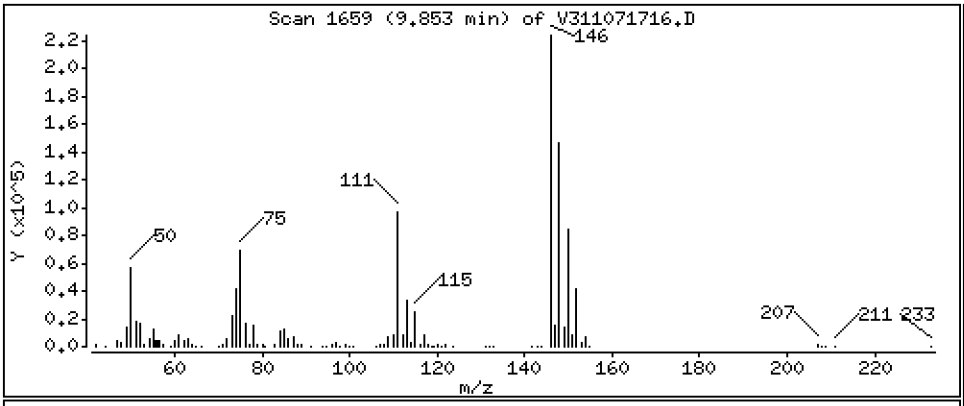
Operator: PC

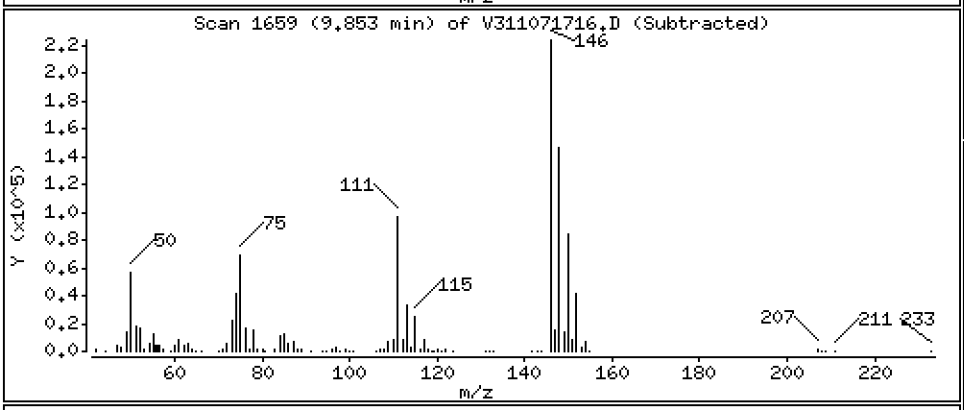
Column phase: RTXVMS

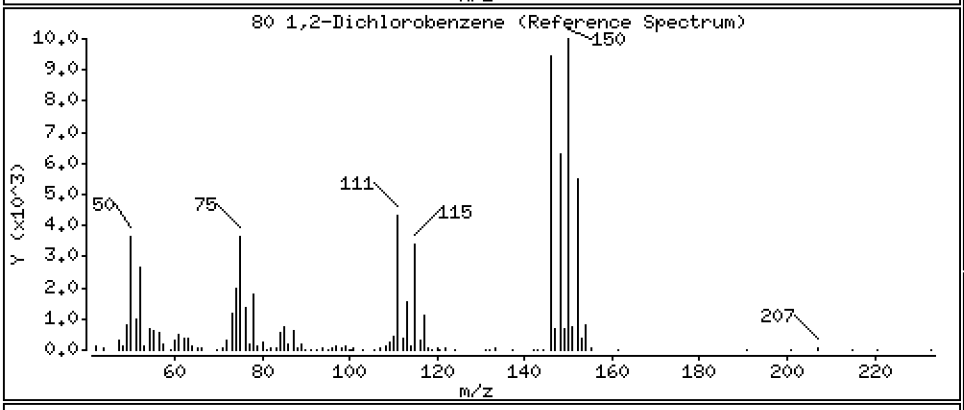
Column diameter: 0.18

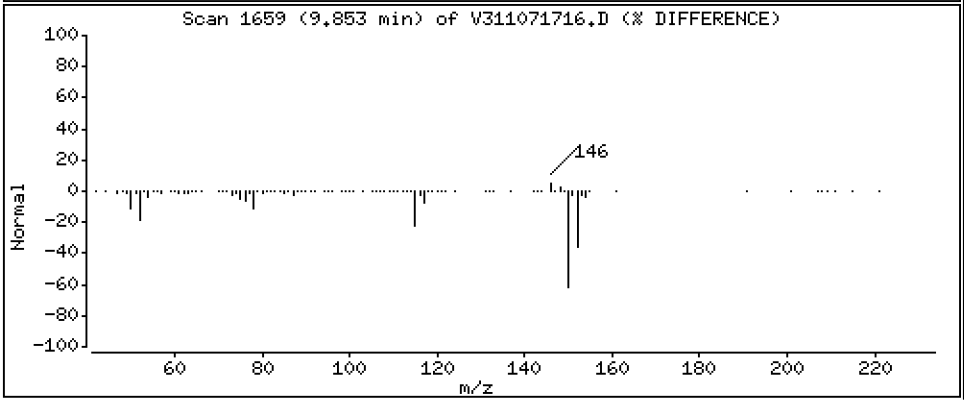
80 1,2-Dichlorobenzene

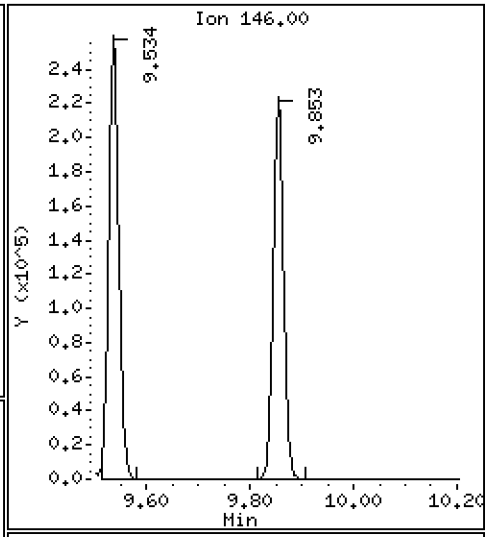
Concentration: 10.673 ug/L

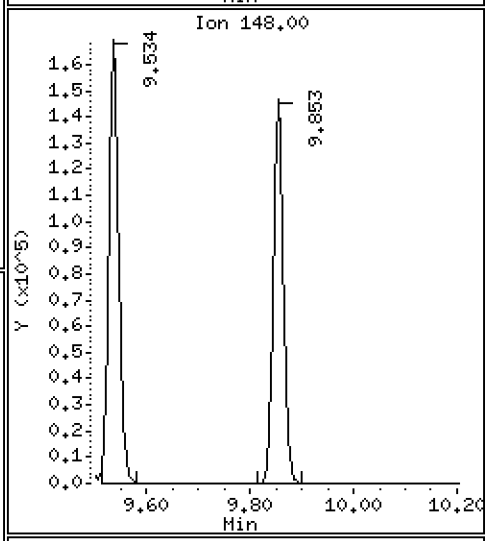


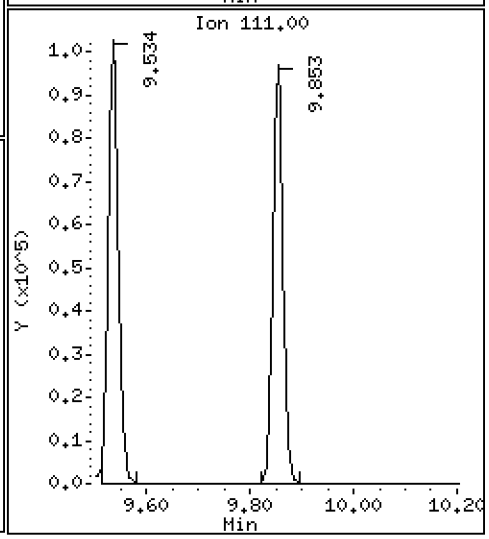












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

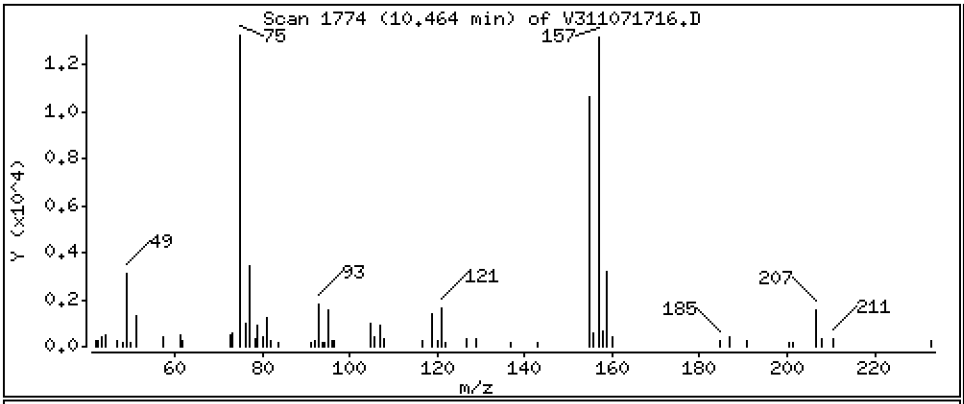
Operator: PC

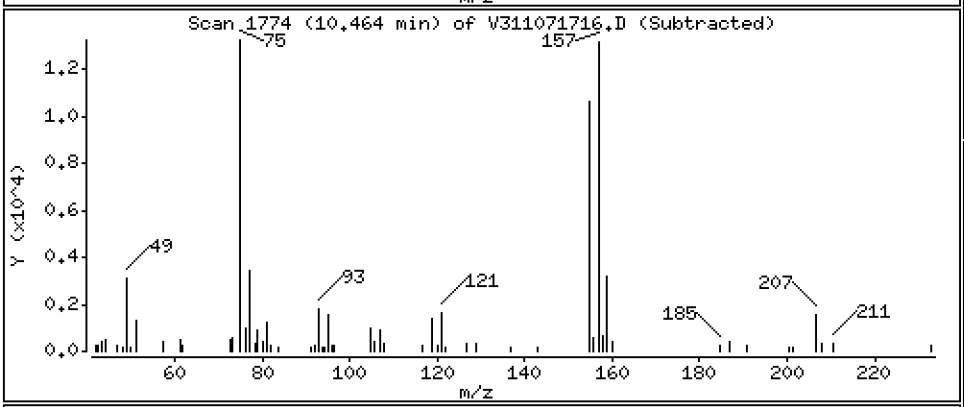
Column phase: RTXVMS

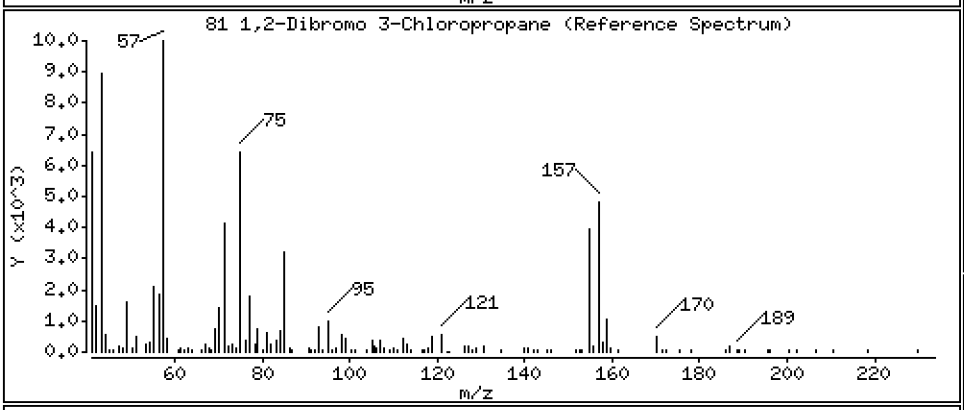
Column diameter: 0.18

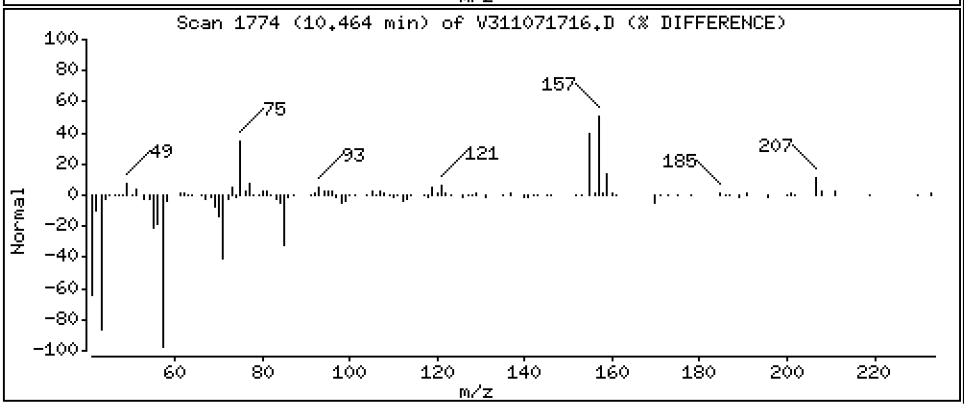
81 1,2-Dibromo 3-Chloropropane

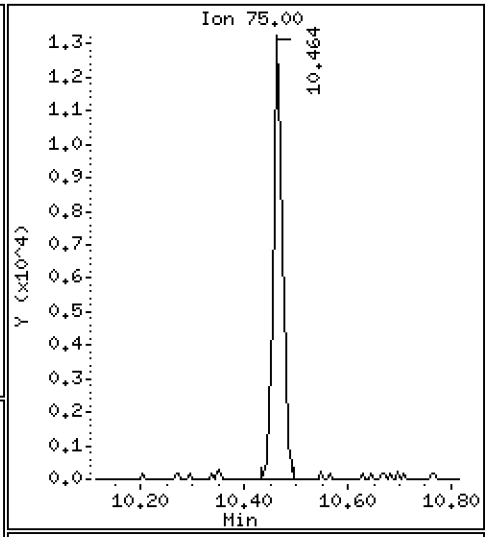
Concentration: 9.771 ug/L

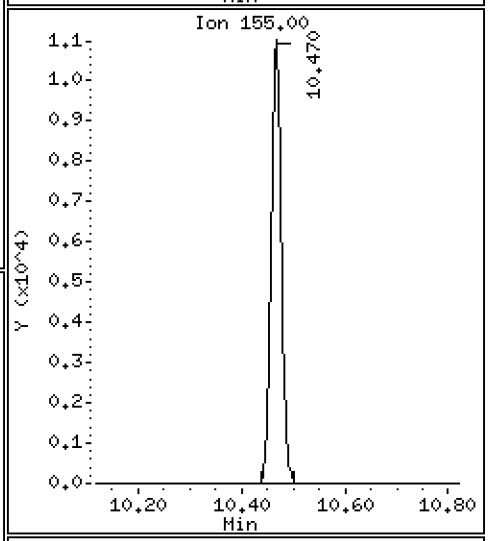


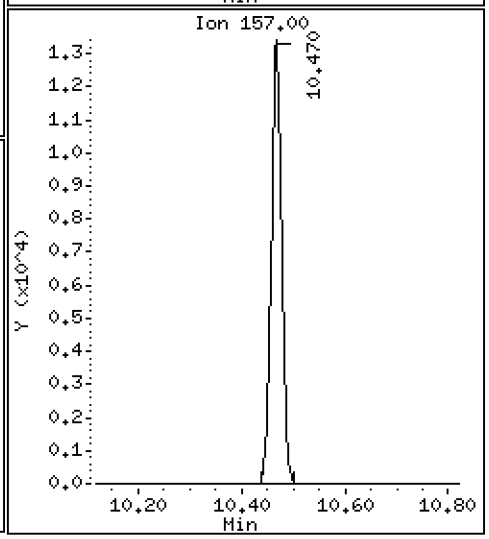












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

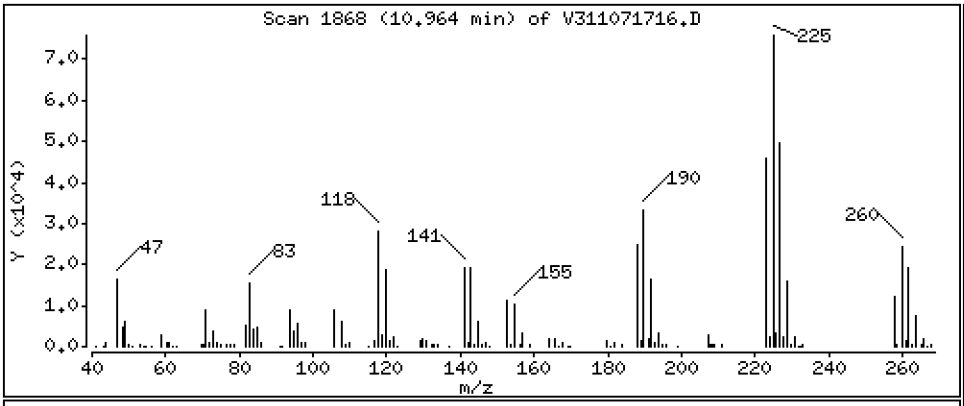
Operator: PC

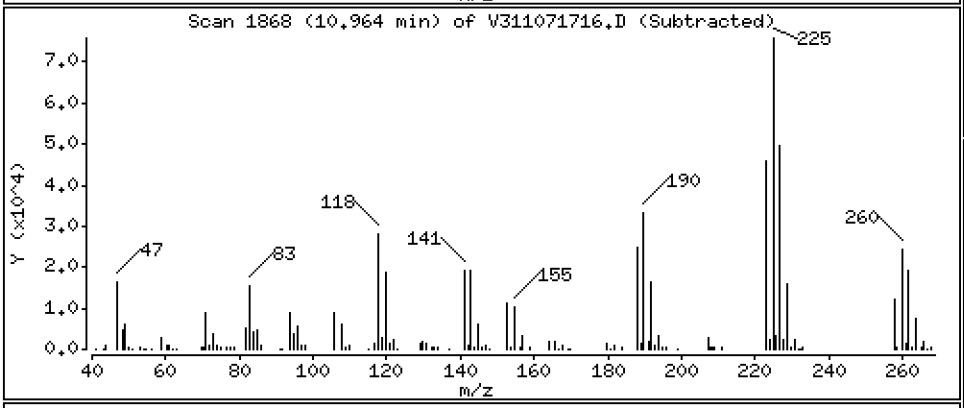
Column phase: RTXVMS

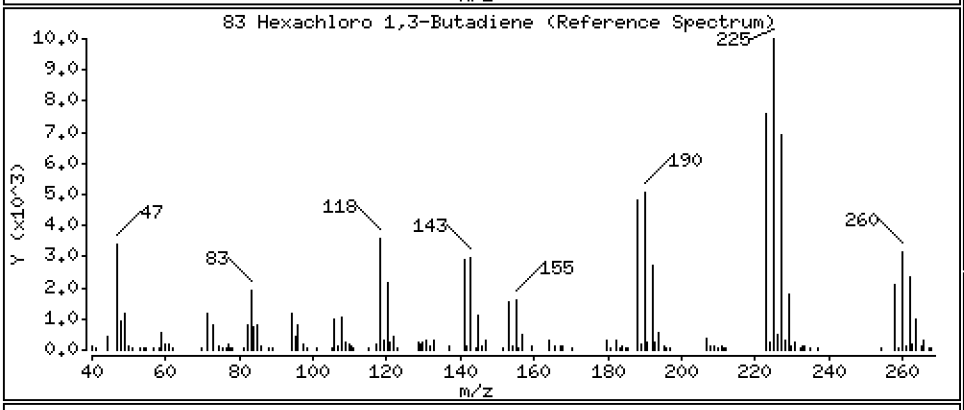
Column diameter: 0.18

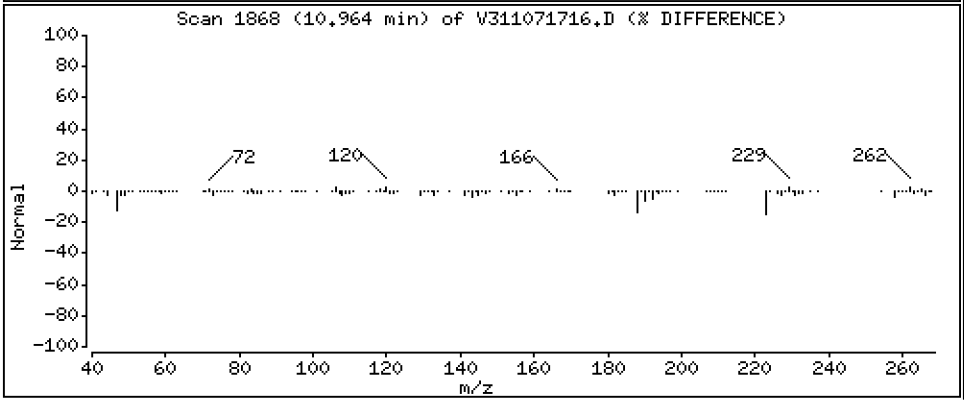
83 Hexachloro 1,3-Butadiene

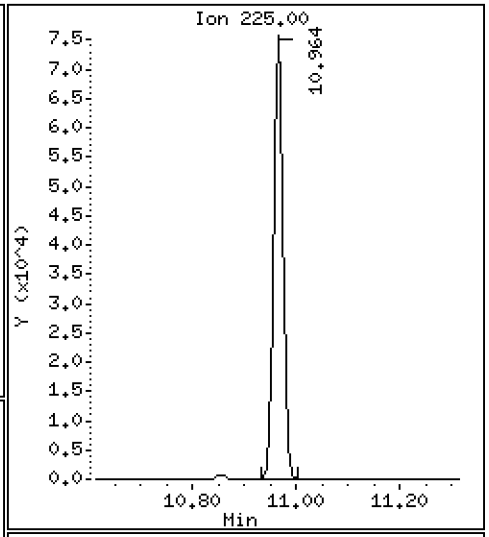
Concentration: 11.815 ug/L

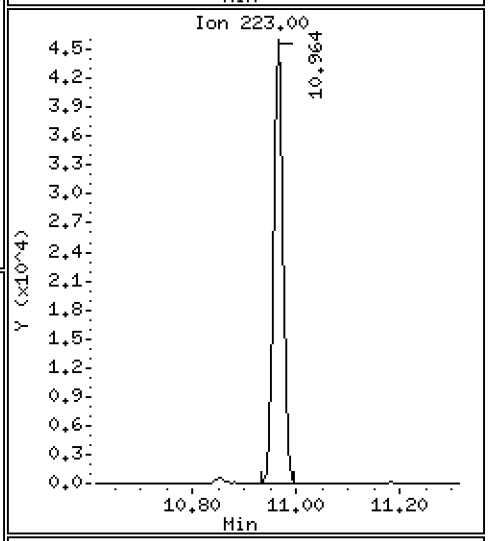


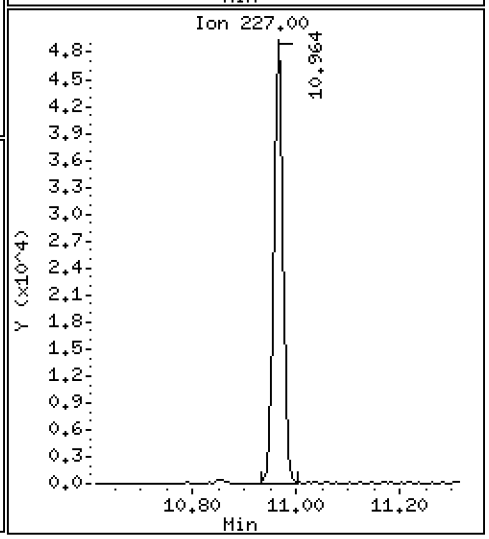












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

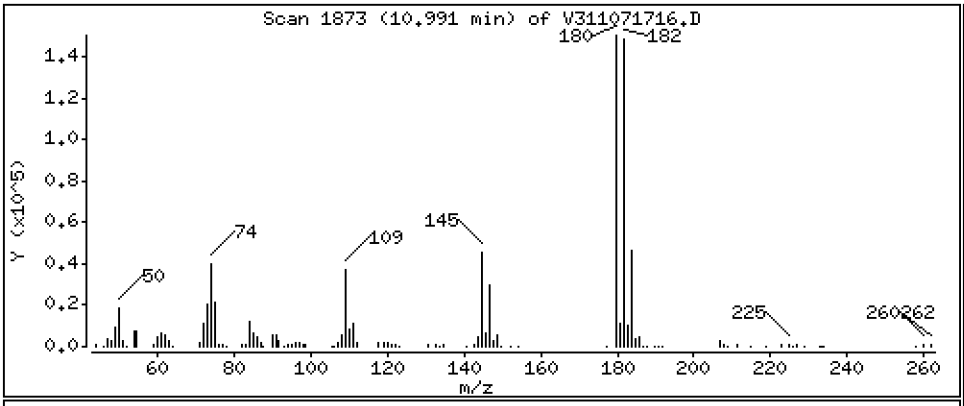
Operator: PC

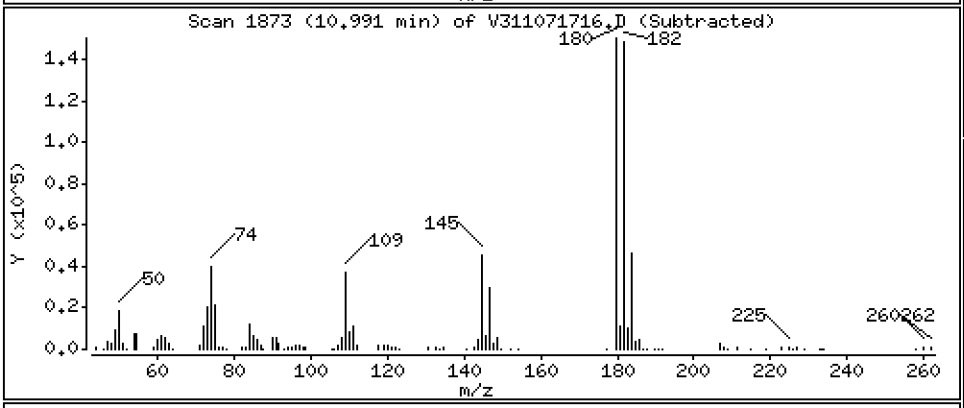
Column phase: RTXVMS

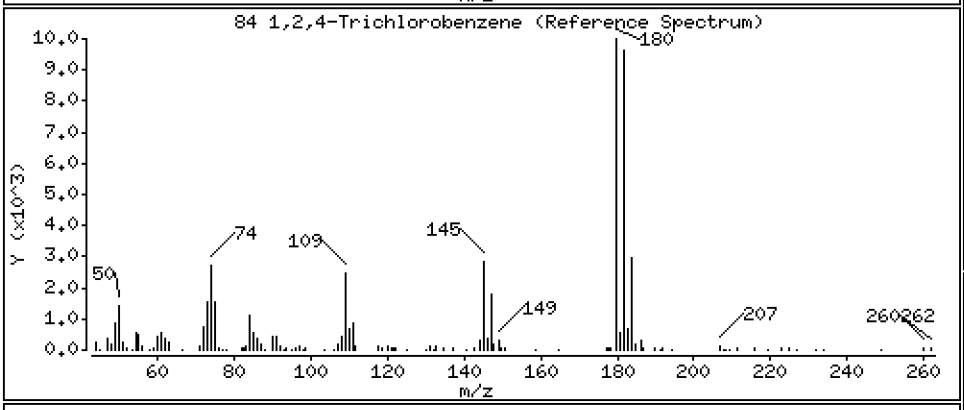
Column diameter: 0.18

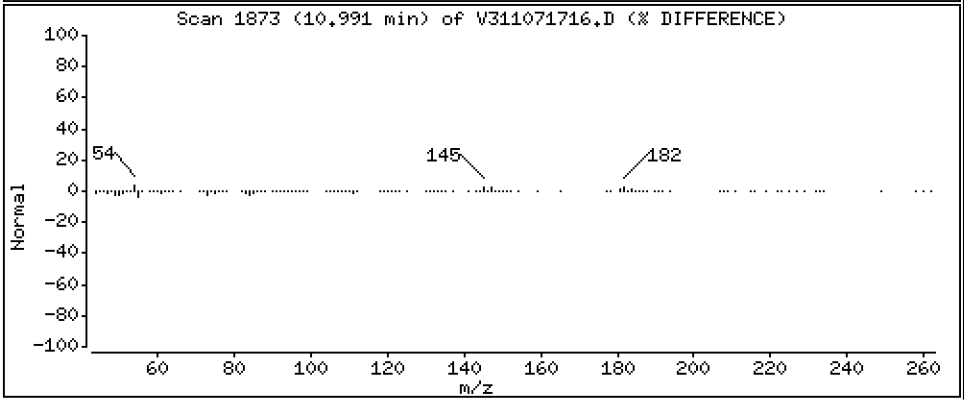
84 1,2,4-Trichlorobenzene

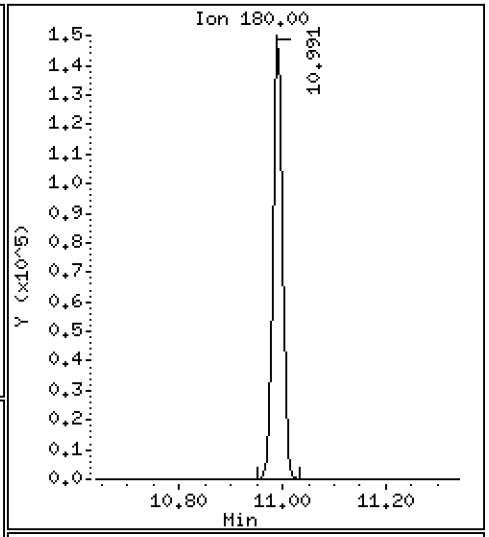
Concentration: 11.088 ug/L

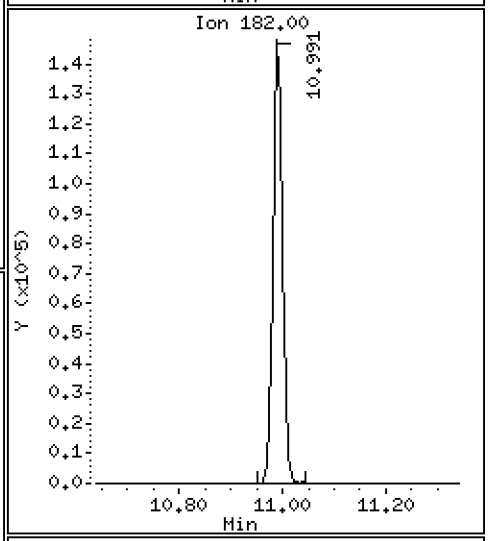


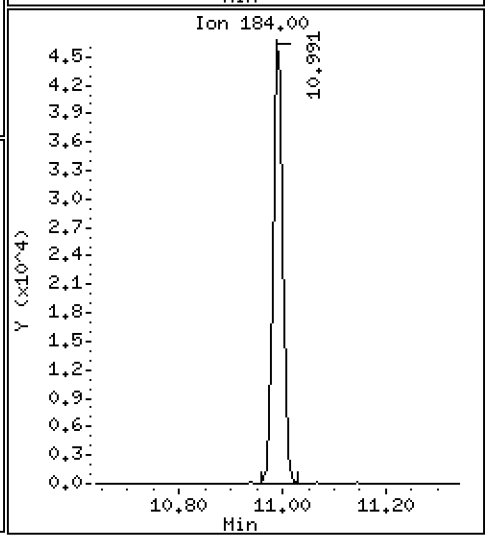












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

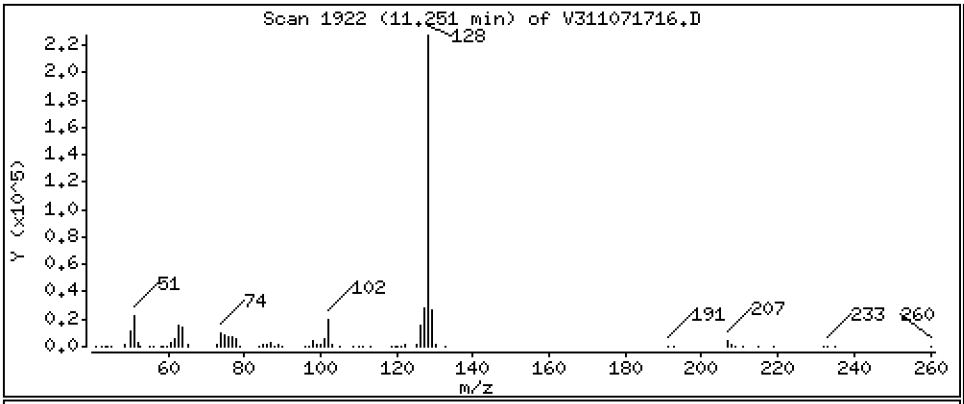
Operator: PC

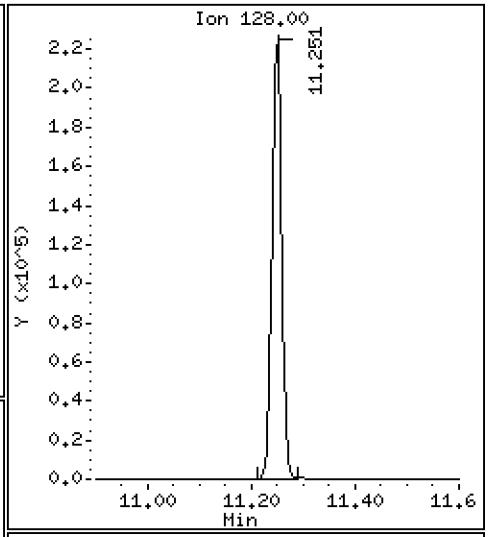
Column phase: RTXVMS

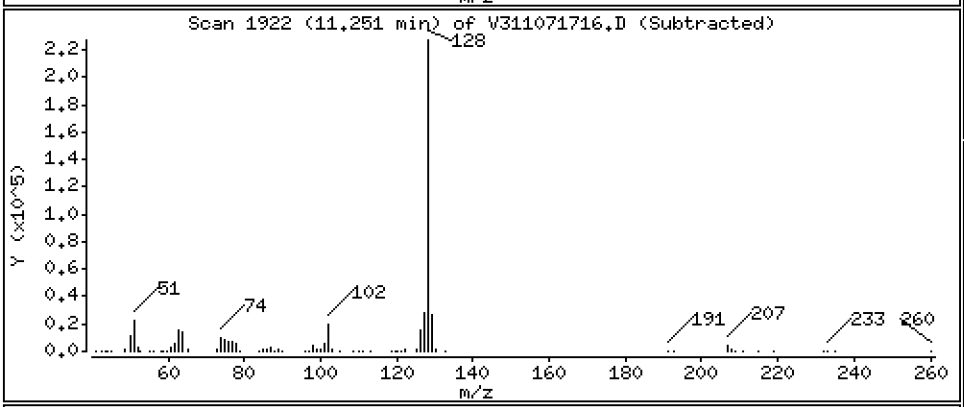
Column diameter: 0.18

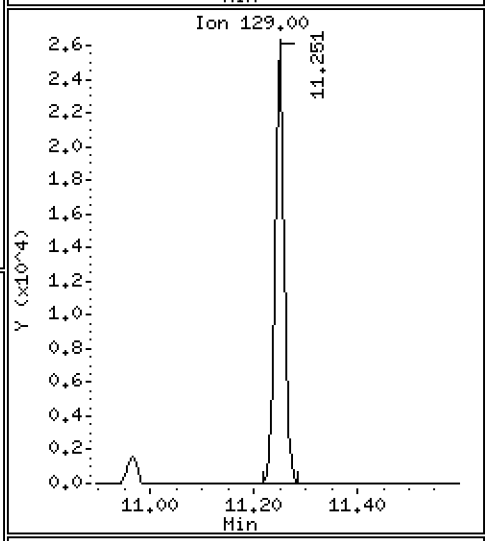
85 Naphthalene

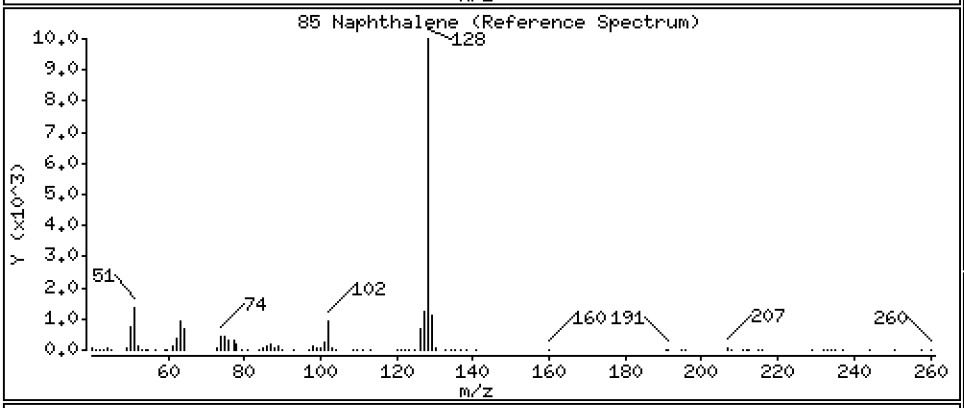
Concentration: 11.851 ug/L

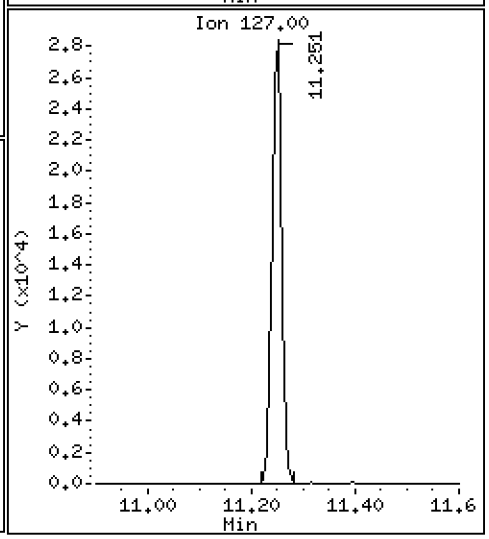


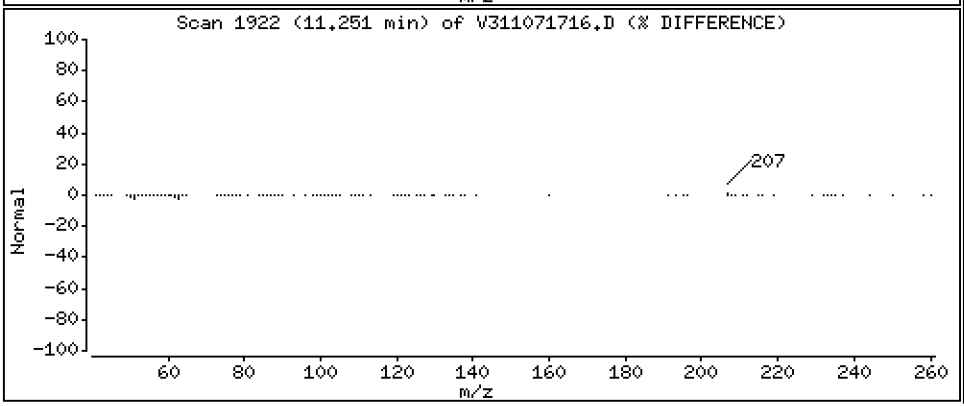












Data File: \\target\share\chem1\nt3.i\20171107.b\V311071716.D

Date : 07-NOV-2017 15:21

Client ID:

Instrument: nt3.i

Sample Info: SFK0116-SCV1

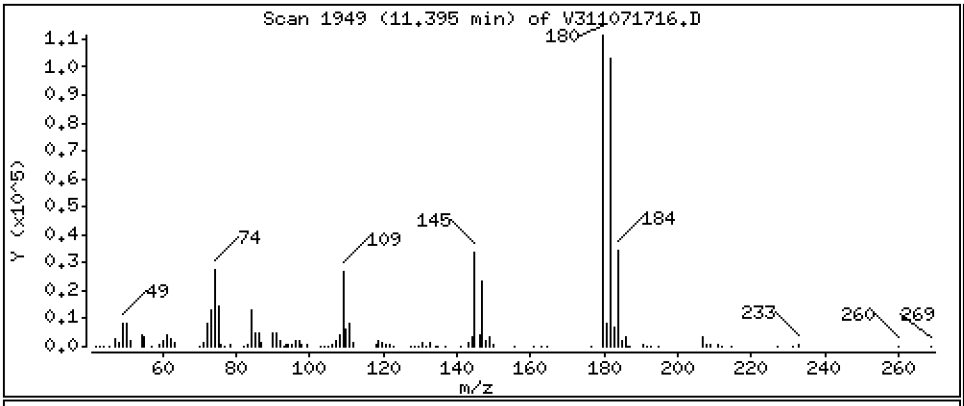
Operator: PC

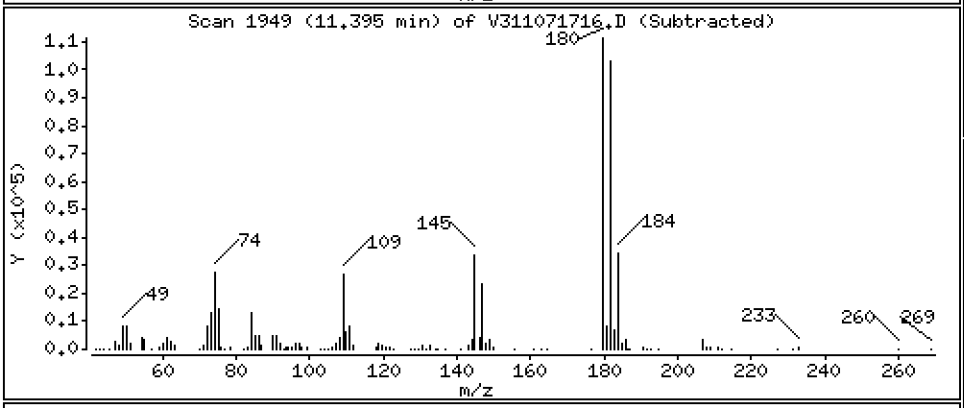
Column phase: RTXVMS

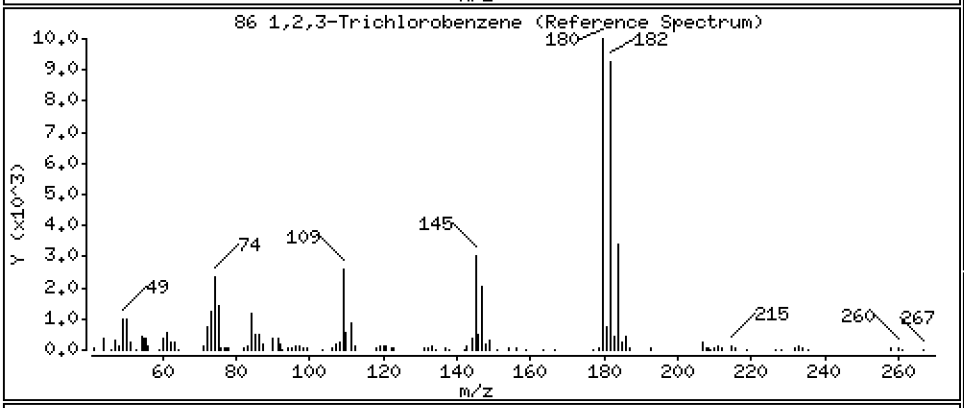
Column diameter: 0.18

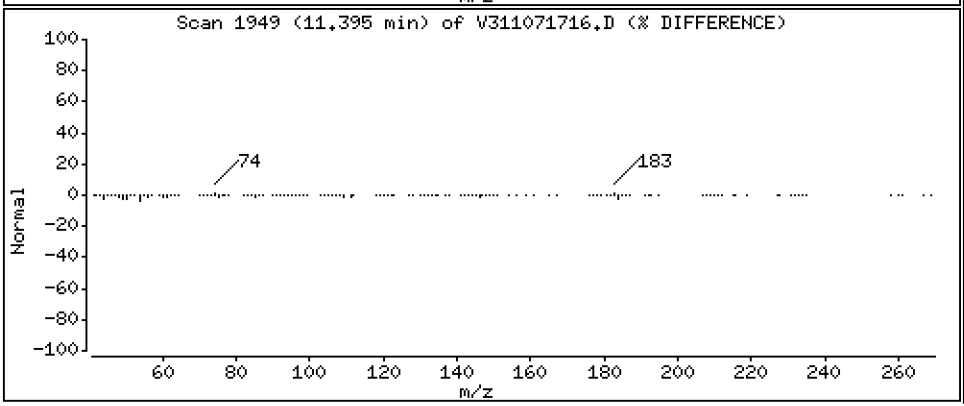
86 1,2,3-Trichlorobenzene

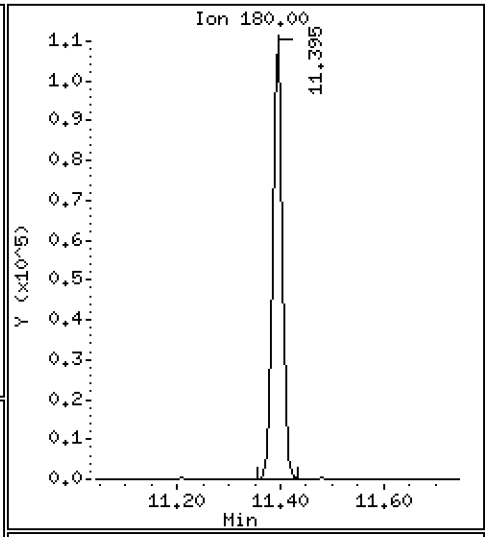
Concentration: 12.001 ug/L

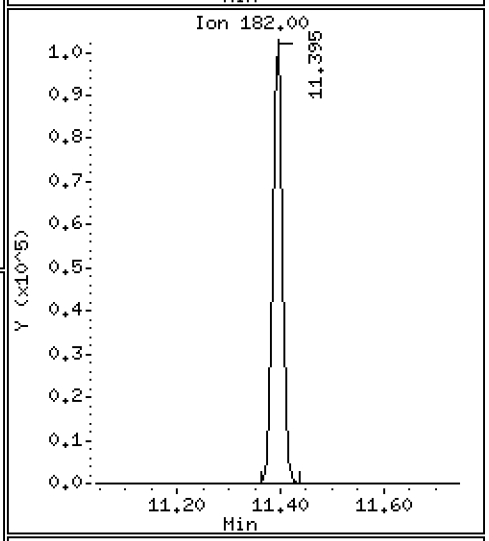


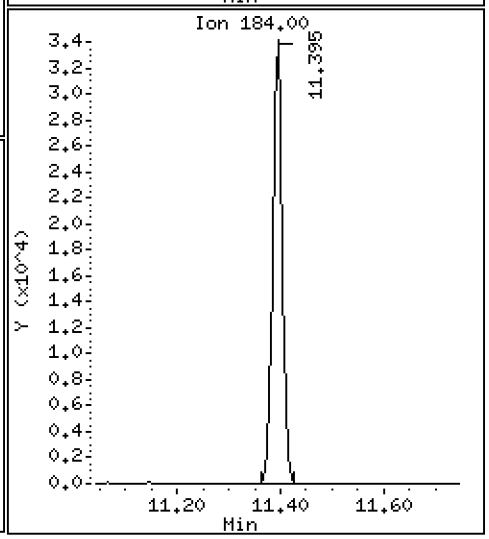












ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20171107.b\V311071716.D
Lab Smp Id: SFK0116-SCV1
Inj Date : 07-NOV-2017 15:21
Operator : PC Inst ID: nt3.i
Smp Info : SFK0116-SCV1
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Meth Date : 07-Nov-2017 15:17 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 50 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	1 Dichlorodifluoromethane	85	1.667	1.667	(0.308)	86618	6.03397	6.034(R)
	2 Chloromethane	50	1.810	1.811	(0.334)	217582	7.38426	7.384(R)
	3 Vinyl Chloride	62	1.906	1.907	(0.352)	199731	8.31493	8.315
	4 Bromomethane	94	2.230	2.231	(0.412)	93137	8.39079	8.391
	5 Chloroethane	64	2.363	2.364	(0.437)	115642	8.11274	8.113
	6 Trichlorofluoromethane	101	2.448	2.449	(0.452)	184822	8.45677	8.457(M)
	7 1,1-Dichloroethene	61	2.932	2.933	(0.542)	284221	9.63012	9.630
	8 Carbon Disulfide	76	2.937	2.938	(0.543)	2448686	55.0871	55.087
	9 112Trichloro122Trifluoroethane	101	3.033	3.034	(0.560)	284685	20.7855	20.785
	10 Iodomethane	142	3.070	3.071	(0.567)	1212096	59.4568	59.457
	11 Bromoethane	108	3.198	3.204	(0.591)	199379	19.2923	19.292
	12 Acrolein	56	3.325	3.321	(0.614)	103984	44.8571	44.857
	13 Methylene Chloride	84	3.532	3.528	(0.652)	133567	10.1017	10.102
	14 Acetone	43	3.671	3.655	(0.678)	161884	44.1777	44.178
	15 Trans-1,2-Dichloroethene	96	3.681	3.687	(0.680)	145060	9.91733	9.917
	17 Methyl tert butyl ether	73	3.819	3.815	(0.705)	292377	10.3844	10.384
	18 1,1-Dichloroethane	63	4.239	4.240	(0.783)	323207	10.5109	10.511
	19 Acrylonitrile	53	4.319	4.315	(0.798)	47639	10.2597	10.260
	20 Vinyl Acetate	43	4.484	4.485	(0.828)	1600084	49.8244	49.824
	22 Cis-1,2-Dichloroethene	96	4.691	4.692	(0.866)	152308	9.99310	9.993
	23 2,2-Dichloropropane	77	4.771	4.772	(0.881)	179890	10.1645	10.164
	24 Bromochloromethane	128	4.845	4.846	(0.895)	66102	10.2611	10.261
	25 Chloroform	83	4.914	4.910	(0.908)	243828	10.6789	10.679
	26 Carbon Tetrachloride	117	5.000	5.000	(0.862)	192217	10.1602	10.160
$	27 Dibromofluoromethane	111	5.053	5.048	(0.933)	47526	5.15031	5.150(R)
	28 1,1,1-Trichloroethane	97	5.058	5.053	(0.934)	218904	10.2408	10.241
	30 1,1-Dichloropropene	75	5.148	5.149	(0.888)	196006	10.4389	10.439
	29 2-Butanone	43	5.180	5.176	(0.957)	282717	47.4583	47.458
	31 Benzene	78	5.334	5.340	(0.920)	572994	10.4411	10.441
*	32 Pentafluorobenzene	168	5.414	5.415	(1.000)	212374	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.441	5.447	(1.005)	55183	5.00196	5.002(R)
	34 1,2-Dichloroethane	62	5.494	5.495	(0.948)	189772	10.1756	10.176
	36 Trichloroethene	130	5.765	5.766	(0.994)	164752	10.7177	10.718

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/L)	FINAL (ug/L)
*	37	1,4-Difluorobenzene	114	5.797	5.798	(1.000)	332609	10.0000	
	38	Dibromomethane	93	6.068	6.069	(1.047)	63299	10.3071	10.307
	39	1,2-Dichloropropane	63	6.137	6.138	(1.059)	174621	10.2531	10.253
	40	Bromodichloromethane	83	6.185	6.186	(1.067)	175556	10.3805	10.381
	173	2-Pentanone	86	6.419	6.414	(1.107)	22301	19.7053	19.705
	41	2-Chloroethyl Vinyl Ether	63	6.589	6.590	(1.137)	329371	44.8153	44.815(R)
	42	Cis 1,3-dichloropropene	75	6.626	6.627	(1.143)	222846	10.7022	10.702
$	43	d8-Toluene	98	6.754	6.754	(1.165)	192604	4.93893	4.939(R)
	44	Toluene	92	6.791	6.792	(1.171)	375924	10.4693	10.469
	46	Tetrachloroethene	166	7.051	7.052	(0.900)	164346	10.4530	10.453
	45	4-Methyl-2-Pentanone	58	7.062	7.057	(1.218)	234139	50.8092	50.809
	47	Trans 1,3-Dichloropropene	75	7.078	7.079	(1.221)	181881	10.8229	10.823
	48	1,1,2-Trichloroethane	97	7.190	7.190	(1.240)	98494	10.4841	10.484
	49	Chlorodibromomethane	129	7.317	7.318	(0.934)	123295	11.5531	11.553
	50	1,3-Dichloropropane	76	7.381	7.382	(0.942)	169325	10.6385	10.639
	51	1,2-Dibromoethane	107	7.482	7.483	(1.291)	93361	10.6027	10.603
	52	2-Hexanone	43	7.641	7.637	(0.976)	438378	52.0940	52.094
*	53	d5-Chlorobenzene	117	7.833	7.833	(1.000)	291732	10.0000	
	54	Chlorobenzene	112	7.849	7.844	(1.002)	432330	10.8163	10.816
	55	Ethyl Benzene	106	7.865	7.865	(1.004)	237483	10.9772	10.977
	56	1,1,1,2-Tetrachloroethane	131	7.891	7.892	(1.007)	149330	10.9688	10.969
	57	m,p-xylene	106	7.966	7.966	(1.017)	585755	22.0844	22.084
	58	o-Xylene	106	8.269	8.269	(1.056)	287565	10.9833	10.983
	59	Styrene	104	8.311	8.306	(1.061)	461316	11.4501	11.450
	60	Bromoform	173	8.332	8.333	(0.875)	71982	11.3061	11.306
	61	Isopropyl Benzene	105	8.492	8.493	(0.892)	761588	11.1758	11.176
$	62	4-Bromofluorobenzene	174	8.704	8.705	(1.111)	62463	5.09106	5.091(R)
	63	Bromobenzene	156	8.779	8.780	(0.922)	180303	10.4807	10.481
	64	N-Propyl Benzene	91	8.795	8.796	(0.924)	888555	11.2467	11.247
	65	1,1,2,2-Tetrachloroethane	83	8.848	8.849	(0.929)	113634	11.1900	11.190
	66	2-Chloro Toluene	91	8.912	8.912	(0.936)	595114	10.9728	10.973
	67	1,3,5-Trimethyl Benzene	105	8.938	8.939	(0.939)	649873	11.1170	11.117
	68	1,2,3-Trichloropropane	110	8.949	8.950	(0.940)	34186	10.7526	10.753
	69	Trans-1,4-Dichloro 2-Butene	53	8.981	8.976	(0.943)	47343	9.60969	9.610
	70	4-Chloro Toluene	91	9.034	9.035	(0.949)	551974	10.7498	10.750
	71	T-Butyl Benzene	119	9.172	9.173	(0.963)	655370	13.2131	13.213(R)
	72	1,2,4-Trimethylbenzene	105	9.225	9.226	(0.969)	660147	11.0909	11.091
	73	S-Butyl Benzene	105	9.305	9.306	(0.977)	797294	11.3698	11.370
	74	4-Isopropyl Toluene	119	9.411	9.412	(0.988)	683852	11.1042	11.104
	75	1,3-Dichlorobenzene	146	9.470	9.471	(0.994)	360275	10.5558	10.556
*	76	d4-1,4-Dichlorobenzene	152	9.523	9.524	(1.000)	153105	10.0000	
	77	1,4-Dichlorobenzene	146	9.534	9.534	(1.001)	362979	10.6660	10.666
	78	N-Butyl Benzene	91	9.725	9.726	(1.021)	588770	11.0951	11.095
$	79	d4-1,2-Dichlorobenzene	152	9.847	9.848	(1.034)	71411	5.00240	5.002(R)
	80	1,2-Dichlorobenzene	146	9.853	9.853	(1.035)	317066	10.6725	10.673
	81	1,2-Dibromo 3-Chloropropane	75	10.464	10.465	(1.099)	16444	9.77063	9.771
	83	Hexachloro 1,3-Butadiene	225	10.963	10.964	(1.151)	97970	11.8145	11.815
	84	1,2,4-Trichlorobenzene	180	10.990	10.991	(1.154)	197249	11.0883	11.088
	85	Naphthalene	128	11.251	11.251	(1.181)	297911	11.8506	11.851
	86	1,2,3-Trichlorobenzene	180	11.394	11.395	(1.196)	144354	12.0010	12.001(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311071716.D
Lab Smp Id: SFK0116-SCV1
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Misc Info: 16-

Calibration Date: 07-NOV-2017
Calibration Time: 13:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	212374	1.70
37 1,4-Difluorobenze	319374	159687	638748	332609	4.14
53 d5-Chlorobenzene	290356	145178	580712	291732	0.47
76 d4-1,4-Dichlorobe	151501	75751	303002	153105	1.06

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.42	4.92	5.92	5.41	-0.01
37 1,4-Difluorobenze	5.80	5.30	6.30	5.80	-0.01
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	-0.01
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930a
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: SFK0116-SCV1
Level: Operator: PC
Data Type: MS DATA SampleType: LCS
SpikeList File: o2siicv.spk Quant Type: ISTD
Sublist File: mdl.sub
Method File: \\target\share\chem1\nt3.i\20171107.b\8260C110717.m
Misc Info: 16-

SPIKE	COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
1	Dichlorodifluorome	10.000	6.034	60.34*	
2	Chloromethane	10.000	7.384	73.84*	
3	Vinyl Chloride	10.000	8.315	83.15	
4	Bromomethane	10.000	8.391	83.91	
5	Chloroethane	10.000	8.113	81.13	
6	Trichlorofluoromet	10.000	8.457	84.57	
7	1,1-Dichloroethene	10.000	9.630	96.30	
8	Carbon Disulfide	60.000	55.087	91.81	
9	112Trichloro122Tri	20.000	20.785	103.93	
10	Iodomethane	60.000	59.457	99.09	
11	Bromoethane	20.000	19.292	96.46	
12	Acrolein	50.000	44.857	89.71	
13	Methylene Chloride	10.000	10.102	101.02	
14	Acetone	50.000	44.178	88.36	
15	Trans-1,2-Dichloro	10.000	9.917	99.17	
16	n-hexane	10.000	0.0000	*	
17	Methyl tert butyl	10.000	10.384	103.84	
18	1,1-Dichloroethane	10.000	10.511	105.11	
19	Acrylonitrile	10.000	10.260	102.60	
20	Vinyl Acetate	50.000	49.824	99.65	
22	Cis-1,2-Dichloroet	10.000	9.993	99.93	
23	2,2-Dichloropropan	10.000	10.164	101.64	
24	Bromochloromethane	10.000	10.261	102.61	
25	Chloroform	10.000	10.679	106.79	
26	Carbon Tetrachlori	10.000	10.160	101.60	
28	1,1,1-Trichloroeth	10.000	10.241	102.41	
30	1,1-Dichloropropen	10.000	10.439	104.39	
29	2-Butanone	50.000	47.458	94.92	
31	Benzene	10.000	10.441	104.41	
34	1,2-Dichloroethane	10.000	10.176	101.76	
36	Trichloroethene	10.000	10.718	107.18	
38	Dibromomethane	10.000	10.307	103.07	
39	1,2-Dichloropropan	10.000	10.253	102.53	
40	Bromodichlorometha	10.000	10.381	103.81	
173	2-Pentanone	20.000	19.705	98.53	
42	Cis 1,3-dichloropr	10.000	10.702	107.02	
41	2-Chloroethyl Viny	60.000	44.815	74.69*	
44	Toluene	10.000	10.469	104.69	
45	4-Methyl-2-Pentano	50.000	50.809	101.62	
46	Tetrachloroethene	10.000	10.453	104.53	

SPIKE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
47 Trans 1,3-Dichloro	10.000	10.823	108.23	
48 1,1,2-Trichloroeth	10.000	10.484	104.84	
49 Chlorodibromometha	10.000	11.553	115.53	
50 1,3-Dichloropropan	10.000	10.639	106.39	
51 1,2-Dibromoethane	10.000	10.603	106.03	
52 2-Hexanone	50.000	52.094	104.19	
54 Chlorobenzene	10.000	10.816	108.16	
55 Ethyl Benzene	10.000	10.977	109.77	
56 1,1,1,2-Tetrachlor	10.000	10.969	109.69	
57 m,p-xylene	20.000	22.084	110.42	
58 o-Xylene	10.000	10.983	109.83	
59 Styrene	10.000	11.450	114.50	
60 Bromoform	10.000	11.306	113.06	
61 Isopropyl Benzene	10.000	11.176	111.76	
63 Bromobenzene	10.000	10.481	104.81	
64 N-Propyl Benzene	10.000	11.247	112.47	
65 1,1,2,2-Tetrachlor	10.000	11.190	111.90	
66 2-Chloro Toluene	10.000	10.973	109.73	
67 1,3,5-Trimethyl Be	10.000	11.117	111.17	
68 1,2,3-Trichloropro	10.000	10.753	107.53	
69 Trans-1,4-Dichloro	10.000	9.610	96.10	
70 4-Chloro Toluene	10.000	10.750	107.50	
71 T-Butyl Benzene	10.000	13.213	132.13*	
72 1,2,4-Trimethylben	10.000	11.091	110.91	
73 S-Butyl Benzene	10.000	11.370	113.70	
74 4-Isopropyl Toluen	10.000	11.104	111.04	
75 1,3-Dichlorobenzen	10.000	10.556	105.56	
77 1,4-Dichlorobenzen	10.000	10.666	106.66	
78 N-Butyl Benzene	10.000	11.095	110.95	
80 1,2-Dichlorobenzen	10.000	10.673	106.73	
81 1,2-Dibromo 3-Chlo	10.000	9.771	97.71	
83 Hexachloro 1,3-But	10.000	11.815	118.15	
84 1,2,4-Trichloroben	10.000	11.088	110.88	
85 Naphthalene	10.000	11.851	118.51	
86 1,2,3-Trichloroben	10.000	12.001	120.01*	

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.150	103.01	
$ 33 d4-1,2-Dichloroeth	5.000	5.002	100.04	
$ 43 d8-Toluene	5.000	4.939	98.78	
$ 62 4-Bromofluorobenze	5.000	5.091	101.82	
$ 79 d4-1,2-Dichloroben	5.000	5.002	100.05	

REVIEW SUMMARY FOR FILE - V311071716.D

Lab ID: SFK0116-SCV1
nt3.i, 20171107.b\8260C110717.m,   07-NOV-2017 15:21

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

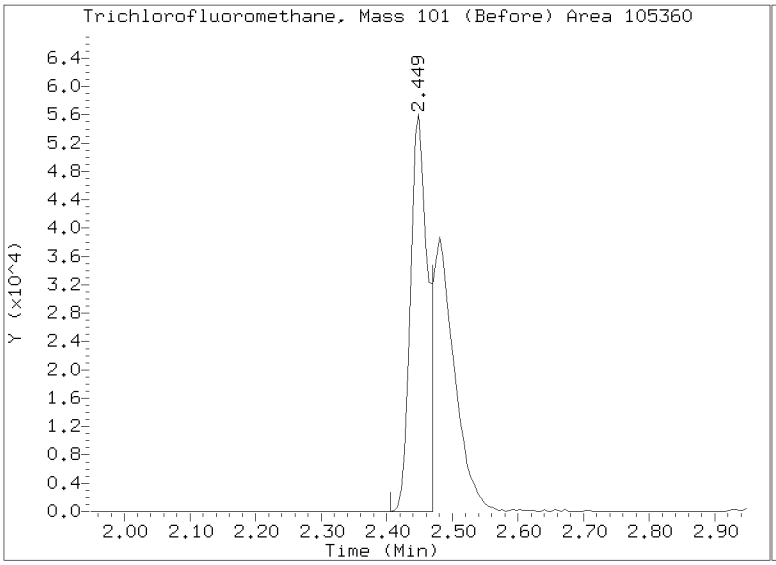
RRT	CCV RRT	DELTA	COMPOUND

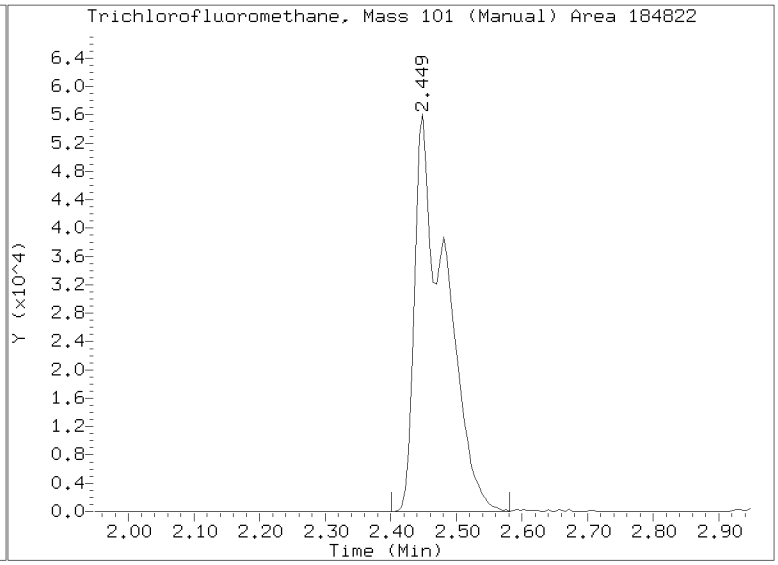
NONE

On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20171107.b/V311071716.D
Injection Date: 07-NOV-2017 15:21
Lab ID:SFK0116-SCV1 Client ID:
Report Date: 11/07/2017 16:18





INITIAL CALIBRATION CHECK

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	AK00023
Lab File ID:	V303271803.D	Calibration Date:	11/07/17 08:29
Sequence:	SGC0407	Injection Date:	03/27/18
Lab Sample ID:	SGC0407-ICV1	Injection Time:	09:15
Sequence Name:	VOA 10		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Benzene	A	10.000	10.4	1.6499440	1.7201760		4.3	20
Toluene	A	10.000	10.1	1.0795670	1.0947970		1.4	20
Ethylbenzene	A	10.000	9.90	0.7415762	0.7338350		-1.0	20
m,p-Xylene	A	20.000	20.3	0.9091730	0.9242612		1.7	20
o-Xylene	A	10.000	9.86	0.8974687	0.8847421		-1.4	20
Dibromofluoromethane	A	5.0000	4.92	0.4345069	0.4273920		-1.6	20
1,2-Dichloroethane-d4	A	5.0000	4.80	0.5194743	0.4988433		-4.0	20
Toluene-d8	A	5.0000	5.03	1.1724600	1.1785070		0.5	20
4-Bromofluorobenzene	A	5.0000	5.06	0.4205629	0.4256859		1.2	20
1,2-Dichlorobenzene-d4	A	5.0000	4.96	0.9323901	0.9255097		-0.7	20

* Values outside of QC limits

Data File: \\target\share\chem1\nt3.i\20180327.b\V303271803.D

Date : 27-MAR-2018 09:15

Client ID: VOA

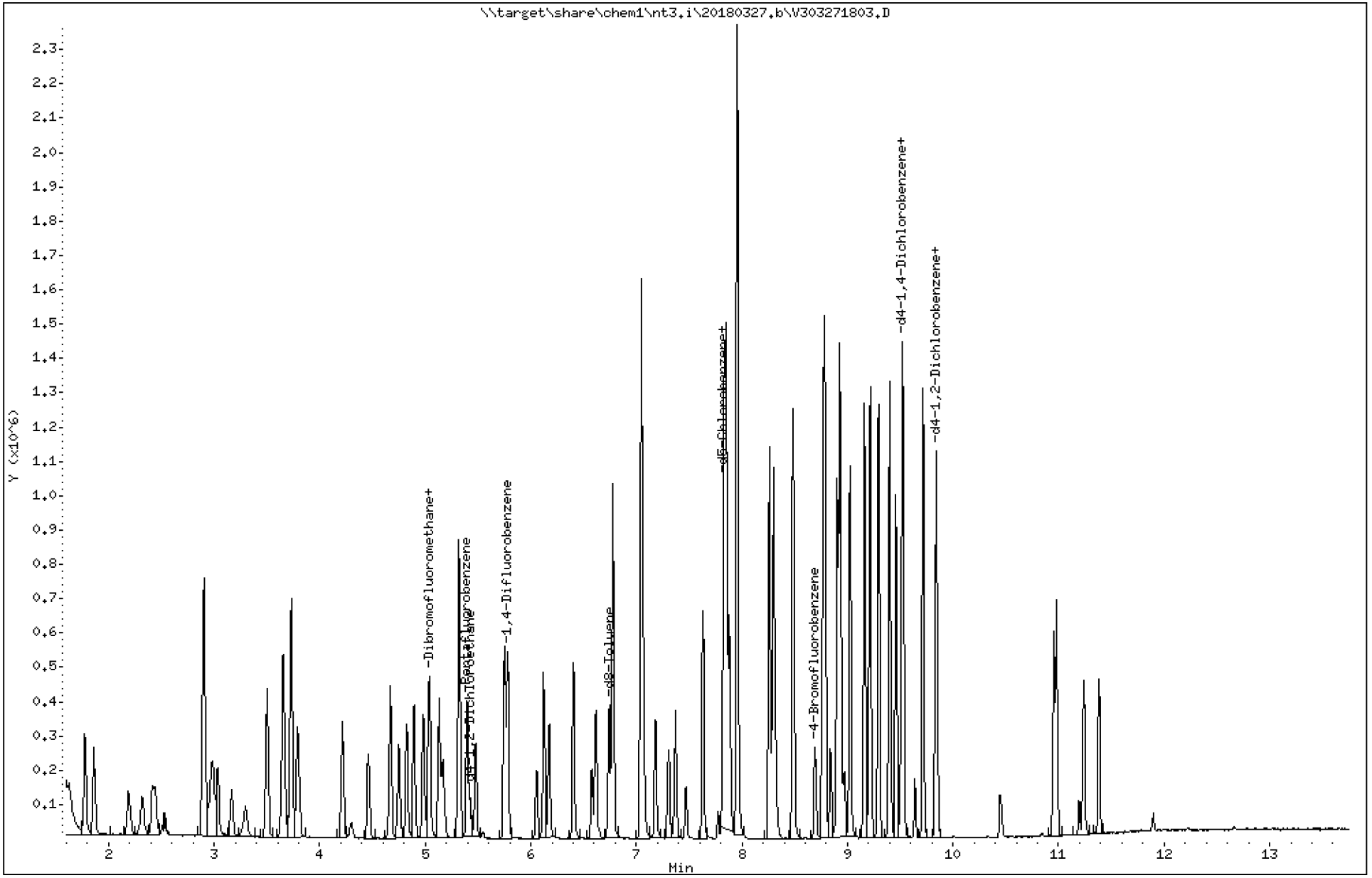
Instrument: nt3.i

Sample Info: SGC0407-ICV1

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327.b\V303271803.D
Lab Smp Id: SGC0407-ICV1 Client Smp ID: VOA
Inj Date : 27-MAR-2018 09:15
Operator : PKC Inst ID: nt3.i
Smp Info : SGC0407-ICV1
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Meth Date : 28-Mar-2018 09:42 nt3.i Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 50 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: mdl.sub
Target Version: 4.14
Processing Host: ORGDATA20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	1 Dichlorodifluoromethane	85	1.625	1.625	(0.301)	148223	10.0000	9.812
	2 Chloromethane	50	1.773	1.773	(0.329)	304289	10.0000	9.814
	3 Vinyl Chloride	62	1.858	1.858	(0.344)	248626	10.0000	9.836
	4 Bromomethane	94	2.188	2.188	(0.405)	98644	10.0000	8.445
	5 Chloroethane	64	2.316	2.316	(0.429)	127276	10.0000	8.485
	6 Trichlorofluoromethane	101	2.438	2.438	(0.452)	210438	10.0000	9.150(M)
	7 1,1-Dichloroethene	61	2.895	2.895	(0.536)	303967	10.0000	9.787
	8 Carbon Disulfide	76	2.906	2.906	(0.538)	445931	10.0000	9.533
	9 112Trichloro122Trifluoroethane	101	2.980	2.980	(0.552)	131226	10.0000	9.105
	10 Iodomethane	142	3.033	3.033	(0.562)	206322	10.0000	9.618
	11 Bromoethane	108	3.166	3.166	(0.587)	97299	10.0000	8.947
	12 Acrolein	56	3.294	3.294	(0.610)	115222	50.0000	47.235
	13 Methylene Chloride	84	3.501	3.501	(0.649)	139186	10.0000	10.004
	14 Acetone	43	3.655	3.655	(0.677)	179380	50.0000	46.519
	15 Trans-1,2-Dichloroethene	96	3.655	3.655	(0.677)	149366	10.0000	9.704
	17 Methyl tert butyl ether	73	3.793	3.793	(0.703)	279949	10.0000	9.449
	18 1,1-Dichloroethane	63	4.213	4.213	(0.780)	308924	10.0000	9.547
	19 Acrylonitrile	53	4.298	4.298	(0.796)	44538	10.0000	9.115
	20 Vinyl Acetate	43	4.458	4.458	(0.826)	339367	10.0000	10.042
	22 Cis-1,2-Dichloroethene	96	4.665	4.665	(0.864)	148981	10.0000	9.289
	23 2,2-Dichloropropane	77	4.750	4.750	(0.880)	156722	10.0000	8.415
	24 Bromochloromethane	128	4.825	4.825	(0.894)	62557	10.0000	9.228
	25 Chloroform	83	4.894	4.894	(0.906)	232102	10.0000	9.660
	26 Carbon Tetrachloride	117	4.979	4.979	(0.861)	189211	10.0000	10.222
$	27 Dibromofluoromethane	111	5.032	5.032	(0.932)	47757	5.00000	4.918
	28 1,1,1-Trichloroethane	97	5.037	5.037	(0.933)	209043	10.0000	9.293
	30 1,1-Dichloropropene	75	5.133	5.133	(0.888)	193496	10.0000	10.533
	29 2-Butanone	43	5.165	5.165	(0.957)	318211	50.0000	50.762
	31 Benzene	78	5.319	5.319	(0.920)	559783	10.0000	10.426
*	32 Pentafluorobenzene	168	5.399	5.399	(1.000)	223481	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.425	5.425	(1.005)	55741	5.00000	4.801
	34 1,2-Dichloroethane	62	5.478	5.478	(0.948)	176542	10.0000	9.675
	36 Trichloroethene	130	5.749	5.749	(0.994)	148405	10.0000	9.868

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
*	37 1,4-Difluorobenzene	114	5.781	5.781	(1.000)	325422	10.0000	
	38 Dibromomethane	93	6.052	6.052	(1.047)	60339	10.0000	10.042
	39 1,2-Dichloropropane	63	6.121	6.121	(1.059)	167357	10.0000	10.044
	40 Bromodichloromethane	83	6.175	6.175	(1.068)	164528	10.0000	9.943
	173 2-Pentanone	86	6.403	6.403	(1.108)	53726	50.0000	48.521
	41 2-Chloroethyl Vinyl Ether	63	6.579	6.579	(1.138)	63222	10.0000	8.792
	42 Cis 1,3-dichloropropene	75	6.616	6.616	(1.144)	210690	10.0000	10.342
$	43 d8-Toluene	98	6.743	6.743	(1.166)	191756	5.00000	5.026
	44 Toluene	92	6.775	6.775	(1.172)	356271	10.0000	10.141
	46 Tetrachloroethene	166	7.041	7.041	(0.900)	165442	10.0000	10.124
	45 4-Methyl-2-Pentanone	58	7.046	7.046	(1.219)	218770	50.0000	48.523
	47 Trans 1,3-Dichloropropene	75	7.068	7.068	(1.222)	177660	10.0000	10.805(T)
	48 1,1,2-Trichloroethane	97	7.185	7.185	(1.243)	89927	10.0000	9.784
	49 Chlorodibromomethane	129	7.307	7.307	(0.934)	114510	10.0000	10.323
	50 1,3-Dichloropropane	76	7.371	7.371	(0.942)	159722	10.0000	9.655
	51 1,2-Dibromoethane	107	7.472	7.472	(1.292)	86548	10.0000	10.046
	52 2-Hexanone	43	7.626	7.626	(0.975)	460471	50.0000	52.644
*	53 d5-Chlorobenzene	117	7.822	7.822	(1.000)	303233	10.0000	
	54 Chlorobenzene	112	7.833	7.833	(1.001)	406894	10.0000	9.794
	55 Ethyl Benzene	106	7.854	7.854	(1.004)	222523	10.0000	9.896
	56 1,1,1,2-Tetrachloroethane	131	7.881	7.881	(1.007)	145326	10.0000	10.270
	57 m,p-xylene	106	7.955	7.955	(1.017)	560533	20.0000	20.332
	58 o-Xylene	106	8.258	8.258	(1.056)	268283	10.0000	9.858
	59 Styrene	104	8.301	8.301	(1.061)	435040	10.0000	10.388
	60 Bromoform	173	8.322	8.322	(0.875)	72829	10.0000	10.231
	61 Isopropyl Benzene	105	8.487	8.487	(0.892)	701681	10.0000	9.209
$	62 4-Bromofluorobenzene	174	8.694	8.694	(1.111)	64541	5.00000	5.061
	63 Bromobenzene	156	8.769	8.769	(0.922)	179872	10.0000	9.351
	64 N-Propyl Benzene	91	8.785	8.785	(0.923)	827541	10.0000	9.368
	65 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.929)	106780	10.0000	9.404
	66 2-Chloro Toluene	91	8.901	8.901	(0.936)	547649	10.0000	9.031
	67 1,3,5-Trimethyl Benzene	105	8.928	8.928	(0.939)	600381	10.0000	9.185
	68 1,2,3-Trichloropropane	110	8.939	8.939	(0.940)	32422	10.0000	9.120
	69 Trans-1,4-Dichloro 2-Butene	53	8.971	8.971	(0.943)	48017	10.0000	8.717
	70 4-Chloro Toluene	91	9.024	9.024	(0.949)	517977	10.0000	9.022
	71 T-Butyl Benzene	119	9.162	9.162	(0.963)	500611	10.0000	9.027
	72 1,2,4-Trimethylbenzene	105	9.215	9.215	(0.969)	609506	10.0000	9.158
	73 S-Butyl Benzene	105	9.295	9.295	(0.977)	731877	10.0000	9.334
	74 4-Isopropyl Toluene	119	9.401	9.401	(0.988)	641417	10.0000	9.315
	75 1,3-Dichlorobenzene	146	9.460	9.460	(0.994)	361587	10.0000	9.475
*	76 d4-1,4-Dichlorobenzene	152	9.513	9.513	(1.000)	171190	10.0000	
	77 1,4-Dichlorobenzene	146	9.529	9.529	(1.002)	359954	10.0000	9.460
	78 N-Butyl Benzene	91	9.715	9.715	(1.021)	559685	10.0000	9.433
$	79 d4-1,2-Dichlorobenzene	152	9.837	9.837	(1.034)	79219	5.00000	4.963
	80 1,2-Dichlorobenzene	146	9.842	9.842	(1.035)	308267	10.0000	9.280
	81 1,2-Dibromo 3-Chloropropane	75	10.459	10.459	(1.099)	15601	10.0000	8.290
	83 Hexachloro 1,3-Butadiene	225	10.953	10.953	(1.151)	92487	10.0000	9.975
	84 1,2,4-Trichlorobenzene	180	10.980	10.980	(1.154)	179096	10.0000	9.004
	85 Naphthalene	128	11.240	11.240	(1.182)	287489	10.0000	10.228
	86 1,2,3-Trichlorobenzene	180	11.384	11.384	(1.197)	120559	10.0000	8.964

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271803.D
Lab Smp Id: SGC0407-ICV1
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327.b\8260C110717.m
Misc Info: 16-

Calibration Date: 26-MAR-2018
Calibration Time: 20:56
Client Smp ID: VOA
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	223481	7.02
37 1,4-Difluorobenze	319374	159687	638748	325422	1.89
53 d5-Chlorobenzene	290356	145178	580712	303233	4.43
76 d4-1,4-Dichlorobe	151501	75751	303002	171190	13.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.42	4.92	5.92	5.40	-0.30
37 1,4-Difluorobenze	5.80	5.30	6.30	5.78	-0.28
53 d5-Chlorobenzene	7.83	7.33	8.33	7.82	-0.14
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.51	-0.11

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - V303271803.D

Lab ID: SGC0407-ICV1
nt3.i, 20180327.b\8260C110717.m,   27-MAR-2018 09:15

RT	CO-ELUTION COMPOUNDS
3.656	Acetone and Trans-1,2-Dichloroethene
3.656	Trans-1,2-Dichloroethene and Acetone

Quant Method: ICAL

RRT CHECK

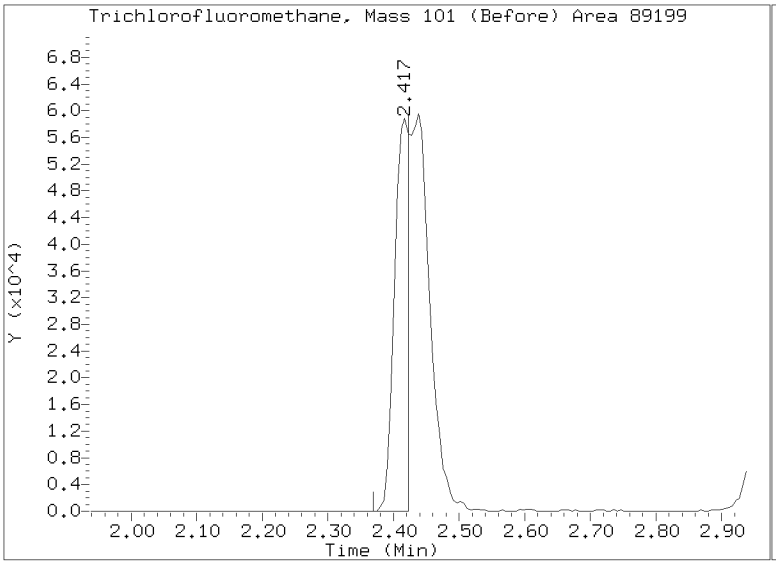
RRT	CCV RRT	DELTA	COMPOUND
NONE			

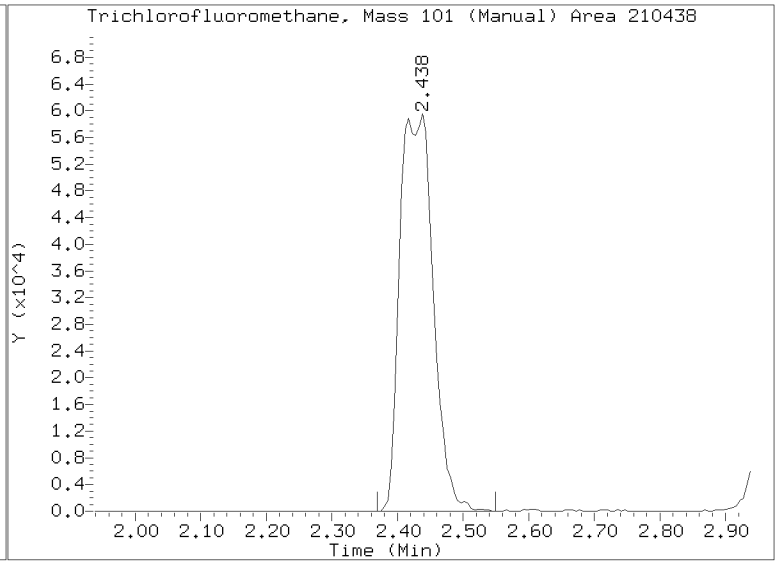
On Column LOD for nt3.i, 8260C110717.m, mdl.sub = 0.0200

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem1/nt3.i/20180327.b/V303271803.D
Injection Date: 27-MAR-2018 09:15
Lab ID:SGC0407-ICV1 Client ID:VOA
Report Date: 03/28/2018 09:42





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20180327.b

Instrument: nt3.i Date: 27-MAR-2018 Method: 8260C110717.m

INITIAL CAL: 07-NOV-2017

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: V303271803.D 27-MAR-2018 09:15

Compound	%D
NO Q-FLAGS	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SFK0116	Instrument:	NT3
		Calibration:	AK00023

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SFK0116-TUN1	V311071702.D	NA	11/07/17 08:48
8260C 0.2	SFK0116-CAL1	V311071707.D	NA	11/07/17 11:33
8260C 0.5	SFK0116-CAL2	V311071708.D	NA	11/07/17 11:58
8260C 1.0	SFK0116-CAL3	V311071709.D	NA	11/07/17 12:24
8260C 2.0	SFK0116-CAL4	V311071710.D	NA	11/07/17 12:49
8260C 10	SFK0116-CAL5	V311071711.D	NA	11/07/17 13:14
8260C 20	SFK0116-CAL6	V311071712.D	NA	11/07/17 13:40
8260C 40	SFK0116-CAL7	V311071713.D	NA	11/07/17 14:05
8260C 80	SFK0116-CAL8	V311071714.D	NA	11/07/17 14:30
8260C SCV 10	SFK0116-SCV1	V311071716.D	NA	11/07/17 15:21

Printed: 11/30/2017 11:58:13AM

ANALYSIS SEQUENCE

SFK0116

Instrument: NT3
Element Column ID: 1300725 RTXV
Calibration ID: AK00023
Tune File: bfb.u
EM Voltage: 1988

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SFK0116-TUN1	MS Tune	QC		1	F009789	F009420	
SFK0116-CAL1	8260C 0.2	QC		2	F010278	F009420	
SFK0116-CAL2	8260C 0.5	QC		3	F010279	F009420	
SFK0116-CAL3	8260C 1.0	QC		4	F010280	F009420	
SFK0116-CAL4	8260C 2.0	QC		5	F010281	F009420	
SFK0116-CAL5	8260C 10	QC		6	F010282	F009420	
SFK0116-CAL6	8260C 20	QC		7	F010283	F009420	
SFK0116-CAL7	8260C 40	QC		8	F010284	F009420	
SFK0116-CAL8	8260C 80	QC		9	F010285	F009420	
SFK0116-SCV1	8260C SCV 10	QC		10	F010286	F009420	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGC0407	Instrument:	NT3
		Calibration:	AK00023

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGC0407-TUN1	V303271802.D	NA	03/27/18 08:39
VOA 10	SGC0407-ICV1	V303271803.D	NA	03/27/18 09:15
LCS	BGC0717-BS1	V303271803LCS.D	Water	03/27/18 09:15
LCS Dup	BGC0717-BSD1	V303271804.D	Water	03/27/18 09:40
Blank	BGC0717-BLK1	V303271808.D	Water	03/27/18 11:22
ZZZZZ	18C0313-01	V303271809.D	Water	03/27/18 11:47
ZZZZZ	18C0346-13	V303271810.D	Water	03/27/18 12:12
ZZZZZ	18C0346-01	V303271814.D	Water	03/27/18 13:53
ZZZZZ	18C0346-03	V303271815.D	Water	03/27/18 14:19
ZZZZZ	18C0346-05	V303271816.D	Water	03/27/18 14:44
ZZZZZ	18C0346-07	V303271817.D	Water	03/27/18 15:09
ZZZZZ	18C0346-09	V303271818.D	Water	03/27/18 15:34
ZZZZZ	18C0346-11	V303271819.D	Water	03/27/18 16:00
ZZZZZ	18C0415-01	V303271820.D	Water	03/27/18 16:25
Trip Blank	18C0424-03	V303271822.D	Water	03/27/18 17:15
MW-4-180326	18C0424-01	V303271823.D	Water	03/27/18 17:41
ZZZZZ	18C0439-01	V303271826.D	Water	03/27/18 18:56
CCV	SGC0407-CCV1	V303271828.D	NA	03/27/18 19:47

SVCA Area Z Remediation
18C0424

Analysis	Matrix	Method
8260C VOA	Water	EPA 8260C

Checklist: Analyst Checklist-VOA(rev2)

#	Checklist Item	Response	Analyst Initials	Date
1	Samples have no Bubbles/Headspace of note for all Workorders	NO	LH	03/28/2018
	Comments: *EXCEPTION REPORT REQUIRED* *PB: 18C0346-05, -13, 18C0424-03* *HS: 18C0427-01*			
2	PH <=2 / 5035 Preserved for all Workorders	YES	LH	03/28/2018
3	BFB abundance and time criteria met	YES	LH	03/28/2018
4	Detail all ICV/CCV failures for all affected Workorders	NA	LH	03/28/2018
	Comments: *No Q flags.*			
5	Narrate all Internal Standard areas not within 50-200% for all affected Workorders	NA	LH	03/28/2018
6	Retention times within windows and coelution summary checked for all Workorders	YES	LH	03/28/2018
7	Manual Integrations were applied as per SOP 1021s	YES	LH	03/28/2018
	Comments: *ICV1/BS1, BSD1, CCV1: Manually integrated trichlorofluoromethane to include the whole peak.* *18C0346-01: Manually integrated methylene chloride to include the whole peak.* *18C0346-05: Manually integrated chloromethane, methylene chloride, and acetone to include the whole peak.* *18C0346-07: Manually integrated chloroethane and cis-1,2-dichloroethene to include the whole peak.* *18C0346-09: Manually integrated chloroethane, methylene chloride, and 1,1-dichloroethane to include the whole peak.* *18C0346-11: Manually integrated dichlorodifluoromethane and chloromethane to include the whole peak.* *18C0424-01: Manually integrated acetone to include the whole peak.*			
8	Narrate any Workorders where the Project specific requirements have not been met	NA	LH	03/28/2018
9	Trip Blank, Field Blank and (or) Holding Blank are below MRL for all Analytes	YES	LH	03/28/2018
10	Sample dilution factors have been correctly applied to the following Workorders	YES	LH	03/28/2018
11	Extraction basis, sample prep, and total solids are correctly entered.	YES	LH	03/28/2018
12	AUTOCHECK: Blank checked for exceedence of criteria	YES *	LH	03/28/2018
13	AUTOCHECK: Check blank spike recovery	YES *	LH	03/28/2018
14	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	YES *	LH	03/28/2018
15	AUTOCHECK: Compounds in method designated as blank spike compounds are present	YES *	LH	03/28/2018
16	AUTOCHECK: Check %RPD between sample and sample duplicate	NA *	LH	03/28/2018
17	AUTOCHECK: Matrix spike recoveries within limits	NA *	LH	03/28/2018

* = Indicates Automated Response from Element DataSyst

SVCA Area Z Remediation
18C0424

Analysis	Matrix	Method
8260C VOA	Water	EPA 8260C

Checklist: Analyst Checklist-VOA(rev2)

#	Checklist Item	Response	Analyst Initials	Date
18	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NA *	LH	03/28/2018
19	AUTOCHECK: List of compounds listed as spiked are present	NA *	LH	03/28/2018
20	AUTOCHECK: Check Surrogate recoveries	YES *	LH	03/28/2018
21	AUTOCHECK: Checks Surrogate spike list against Analysis	YES *	LH	03/28/2018
22	Data locked, checklist completed and status is Analyzed (REVIEWER)	YES	BB	03/28/2018
23	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES	BB	03/28/2018
24	List of samples in this sequence that will require additional runs-verify reshot created (ANALYST)	YES	LH	03/28/2018
	Comments: *18C0415-01 will be reanalyzed at dilution.*			
25	List of samples in this sequence that are re-analysis or dilutions of samples (ANALYST)	NA	LH	03/28/2018
26	Additional Notes (ANALYST and REVIEWER)	YES	LH	03/28/2018
	Comments: *There was insufficient sample volume for MS/MSD analyses on sample 18C0346-05.*			

* = Indicates Automated Response from Element DataSyst

Printed: 3/28/2018 10:16:33AM

ANALYSIS SEQUENCE

SGC0407

Instrument: NT3 Element Column ID: 1300725 RTXM
Calibration ID: AK00023 Tune File: bfb.u
EM Voltage: 2106

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGC0407-TUN1	MS Tune	QC		1	G002083	F011918	
SGC0407-ICV1	VOA 10	QC		2	G002483	F011918	
BGC0717-BS1	LCS	QC		3		F011918	
BGC0717-BSD1	LCS Dup	QC		4		F011918	
BGC0717-BLK1	Blank	QC		5		F011918	
18C0313-01	Storage Blank	8260C VOA	A	6		F011918	
18C0346-13	Trip Blank	8260C VOA	A	7		F011918	
18C0346-01	MW-1-3/18	8260C VOA	G	8		F011918	
18C0346-03	MW-3-3/18	8260C VOA	H	9		F011918	
18C0346-05	MW-9-3/18	8260C VOA	H	10		F011918	
18C0346-07	MW-10-3/18	8260C VOA	G	11		F011918	
18C0346-09	MW-6-3/18	8260C VOA	G	12		F011918	
18C0346-11	MW-8-3/18	8260C VOA	G	13		F011918	
18C0415-01	n WWTP Untreated Batch #18-	8260C VOA	C	14		F011918	Do not over dilute
18C0424-03	Trip Blank	8260C VOA	A	15		F011918	
18C0424-01	MW-4-180326	8260C VOA	E	16		F011918	
18C0427-01	1	624 VOC	H	17		F011918	Use Version
18C0439-01	n WWTP Batch #18-027-R, Go/	8260C VOA	C	18		F011918	Use Go No Go List
SGC0407-CCV1	CCV	QC		19	G002483	F011918	

542 of 913

Security Status Report

Date: 28-Mar-2018 10:05

V303271802.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271803.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271803LCS.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271804.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271807.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271808.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271809.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271810.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271814.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271815.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271816.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271817.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271818.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271819.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271820.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271821.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271822.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271823.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271824.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271825.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271826.D	Data Locked	lanih, 28-Mar-2018 10:05
V303271828.D	Data Locked	lanih, 28-Mar-2018 10:05

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20180327.b

	Time	Filename	LabID	ClientID	Vial#	pH	DF									
1	0814	V303271801.D	RINSE				1									
2	0839	V303271802.D	SGC0407-TUN1				1									
3	0915	V303271803.D	SGC0407-ICV1	VOA			1	5.40	223481	5.78	325422	7.82	303233	9.51	171190	
4	0915	V303271803LCS.D	BGC0717-BS1	VOA			1	5.40	223481	5.78	325422	7.82	303233	9.51	171190	
5	0940	V303271804.D	BGC0717-BSD1	VOA			1	5.40	221778	5.78	326250	7.83	307072	9.52	169932	
6	1005	V303271805.D	SGC0408-ICV1	GAS			1	5.40	224624	5.78	336860	7.82	315107	9.51	169123	
7	1031	V303271806.D	BGC0716-BSD1	GAS			1	5.40	221035	5.78	330844	7.82	307909	9.51	167231	
8	1056	V303271807.D	LOD0.1	0.1			1	5.40	214457	5.78	316681	7.82	309318	9.51	168424	
9	1122	V303271808.D	BGC0717-BLK1				1	5.40	206539	5.78	307456	7.82	289501	9.51	152124	
10	1147	V303271809.D	18C0313-01				1	5.40	200734	5.78	298449	7.82	280138	9.52	147019	
11	1212	V303271810.D	18C0346-13	PB			1	5.40	201636	5.78	295400	7.82	277638	9.52	144974	
12	1237	V303271811.D	18C0314-01	GAS only			1	5.40	207689	5.78	303948	7.82	281109	9.51	149722	
13	1303	V303271812.D	18C0314-02	GAS only			1	5.40	206459	5.78	302349	7.82	276943	9.52	147691	
14	1328	V303271813.D	18C0335-03	GAS only			1	5.40	206411	5.78	301144	7.83	286908	9.52	148063	
15	1353	V303271814.D	18C0346-01				1	5.40	198088	5.78	292588	7.82	274216	9.52	141396	
16	1419	V303271815.D	18C0346-03				1	5.40	194283	5.78	286053	7.82	266948	9.51	143454	
17	1444	V303271816.D	18C0346-05	PB			1	5.40	190836	5.78	276667	7.83	264185	9.52	138881	
18	1509	V303271817.D	18C0346-07				1	5.40	191082	5.78	281230	7.82	263005	9.52	140587	
19	1534	V303271818.D	18C0346-09				1	5.40	192179	5.78	284484	7.82	268592	9.52	137204	
20	1600	V303271819.D	18C0346-11				1	5.40	175355	5.78	260105	7.82	246452	9.51	129554	
21	1625	V303271820.D	18C0415-01	200X, needs 500X			1	5.40	182481	5.78	263398	7.83	251766	9.52	133598	
22	1650	V303271821.D	18C0420-01	500X, over-diluted			1	5.40	182537	5.78	263317	7.83	253159	9.52	129709	

23	1715	V303271822.D	18C0424-03	PB	1	5.40	179337	5.78	271958	7.82	256546	9.52	133490
24	1741	V303271823.D	18C0424-01		1	5.40	182756	5.78	267350	7.82	253318	9.51	135680
25	1806	V303271824.D	18C0427-01	HS	1	5.40	183009	5.78	272864	7.82	254972	9.52	135927
26	1831	V303271825.D	18C0433-01	200X, over-diluted	1	5.40	180867	5.78	260728	7.82	247796	9.51	129816
27	1856	V303271826.D	18C0439-01	200X	1	5.40	182658	5.78	265154	7.82	252830	9.52	133222
28	1921	V303271827.D	SGC0408-CCV1	GAS	1	5.40	191654	5.78	288070	7.82	264063	9.51	145223
29	1947	V303271828.D	SGC0407-CCV1	VOA	1	5.40	192265	5.78	283980	7.82	273936	9.51	154593

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20180327.b

ARI Job No.: RINS Method: bfb8260.m Instrument: nt3.i Date: 27-MAR-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0814	V303271801.D	RINSE		1	NO MANUAL INTEGRATION
0839	V303271802.D	SGC0407-TUN1		1	NO MANUAL INTEGRATION
0915	V303271803.D	SGC0407-ICV1	VOA	1	Trichlorofluoromethane,
0915	V303271803LCS.D	BGC0717-BS1	VOA	1	Trichlorofluoromethane,
0940	V303271804.D	BGC0717-BSD1	VOA	1	Trichlorofluoromethane,
1005	V303271805.D	SGC0408-ICV1	GAS	1	NO MANUAL INTEGRATION
1031	V303271806.D	BGC0716-BSD1	GAS	1	NO MANUAL INTEGRATION
1056	V303271807.D	LOD0.1	0.1	1	Dichlorodifluoromethane, Chloromethane, Chloroethane, Iodomethane, Bromoethane, Bromochloromethane, 1,1,1-Trichloroethane, 1,2-Dichloroethane, 1,2-Dichloropropane, 2-Pentanone, Bromoform, 1,2-Dibromo 3-Chloropropane, 1,2,3-Trichloropropane,
1122	V303271808.D	BGC0717-BLK1		1	NO MANUAL INTEGRATION
1147	V303271809.D	18C0313-01		1	NO MANUAL INTEGRATION
1212	V303271810.D	18C0346-13	PB	1	NO MANUAL INTEGRATION
1237	V303271811.D	18C0314-01	GAS only	1	NO MANUAL INTEGRATION
1303	V303271812.D	18C0314-02	GAS only	1	NO MANUAL INTEGRATION
1328	V303271813.D	18C0335-03	GAS only	1	NO MANUAL INTEGRATION
1353	V303271814.D	18C0346-01		1	Methylene Chloride,
1419	V303271815.D	18C0346-03		1	NO MANUAL INTEGRATION
1444	V303271816.D	18C0346-05	PB	1	Chloromethane, Methylene Chloride, Acetone,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20180327.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1509	V303271817.D	18C0346-07		1	Chloroethane, Cis-1,2-Dichloroethene,
1534	V303271818.D	18C0346-09		1	Chloroethane, Methylene Chloride, 1,1-Dichloroethane,
1600	V303271819.D	18C0346-11		1	Dichlorodifluoromethane, Chloromethane,
1625	V303271820.D	18C0415-01	200X, need	1	NO MANUAL INTEGRATION
1650	V303271821.D	18C0420-01	500X, over	1	NO MANUAL INTEGRATION
1715	V303271822.D	18C0424-03	PB	1	NO MANUAL INTEGRATION
1741	V303271823.D	18C0424-01		1	Acetone,
1806	V303271824.D	18C0427-01	HS	1	NO MANUAL INTEGRATION
1831	V303271825.D	18C0433-01	200X, over	1	2-Butanone,
1856	V303271826.D	18C0439-01	200X	1	NO MANUAL INTEGRATION
1921	V303271827.D	SGC0408-CCV1	GAS	1	NO MANUAL INTEGRATION
1947	V303271828.D	SGC0407-CCV1	VOA	1	Trichlorofluoromethane,

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SFK0116	Instrument:	NT3
Calibration:	AK00023	Calibration Date:	11/07/2017

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
SFK0116-SCV1 (Water)	Lab File ID: V311071716.D		Analyzed: 11/07/17 15:21	
1,2-Dichloroethane-d4	5.0000	100	80 - 120	
1,2-Dichlorobenzene-d4	5.0000	100	80 - 120	
Toluene-d8	5.0000	98.8	80 - 120	
4-Bromofluorobenzene	5.0000	102	80 - 120	
Dibromofluoromethane	5.0000	103	80 - 120	

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG/WO: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGC0407
Instrument: NT3
Calibration: AK00023
Calibration Date: 11/07/2017

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
BGC0717-BS1 (Water)	Lab File ID: V303271803LCS.D		Analyzed: 03/27/18 09:15	
1,2-Dichloroethane-d4	5.0000	96.0	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	99.3	80 - 120	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	101	80 - 120	
Dibromofluoromethane	5.0000	98.4	80 - 120	
SGC0407-ICV1 (Water)	Lab File ID: V303271803.D		Analyzed: 03/27/18 09:15	
1,2-Dichloroethane-d4	5.0000	96.0	80 - 120	
1,2-Dichlorobenzene-d4	5.0000	99.3	80 - 120	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	101	80 - 120	
Dibromofluoromethane	5.0000	98.4	80 - 120	
BGC0717-BSD1 (Water)	Lab File ID: V303271804.D		Analyzed: 03/27/18 09:40	
1,2-Dichloroethane-d4	5.0000	97.6	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	99.6	80 - 120	
Toluene-d8	5.0000	102	80 - 120	
4-Bromofluorobenzene	5.0000	103	80 - 120	
Dibromofluoromethane	5.0000	99.9	80 - 120	
BGC0717-BLK1 (Water)	Lab File ID: V303271808.D		Analyzed: 03/27/18 11:22	
1,2-Dichloroethane-d4	5.0000	103	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	103	80 - 120	
Toluene-d8	5.0000	97.1	80 - 120	
4-Bromofluorobenzene	5.0000	96.2	80 - 120	
18C0424-03 (Water)	Lab File ID: V303271822.D		Analyzed: 03/27/18 17:15	
1,2-Dichloroethane-d4	5.0000	104	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	99.5	80 - 120	
Toluene-d8	5.0000	97.7	80 - 120	
4-Bromofluorobenzene	5.0000	94.4	80 - 120	

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGC0407	Instrument:	NT3
Calibration:	AK00023	Calibration Date:	11/07/2017

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
18C0424-01 (Water)	Lab File ID: V303271823.D		Analyzed: 03/27/18 17:41	
1,2-Dichloroethane-d4	5.0000	105	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	102	80 - 120	
Toluene-d8	5.0000	99.2	80 - 120	
4-Bromofluorobenzene	5.0000	97.5	80 - 120	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SFK0116	Instrument:	NT3
		Calibration:	AK00023

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SFK0116-SCV1)		(Water)		Lab File ID: V311071716.D				Analyzed: 11/07/17 15:21	
Pentafluorobenzene	212374	5.414	208826	5.415	102	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	291732	7.833	290356	7.833	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	332609	5.797	319374	5.798	104	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	153105	9.523	151501	9.524	101	50 - 200	0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGC0407
Instrument: NT3
Calibration: AK00023

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BGC0717-BS1)		(Water)		Lab File ID: V303271803LCS.D			Analyzed: 03/27/18 09:15		
Pentafluorobenzene	223481	5.399	208826	5.415	107	50 - 200	0.0160	+/-0.50	
Chlorobenzene-d5	303233	7.822	290356	7.833	104	50 - 200	0.0110	+/-0.50	
1,4-Difluorobenzene	325422	5.781	319374	5.798	102	50 - 200	0.0170	+/-0.50	
1,4-Dichlorobenzene-d4	171190	9.513	151501	9.524	113	50 - 200	0.0110	+/-0.50	
Initial Cal Check (SGC0407-ICV1)		(Water)		Lab File ID: V303271803.D			Analyzed: 03/27/18 09:15		
Pentafluorobenzene	223481	5.399	208826	5.415	107	50 - 200	0.0160	+/-0.50	
Chlorobenzene-d5	303233	7.822	290356	7.833	104	50 - 200	0.0110	+/-0.50	
1,4-Difluorobenzene	325422	5.781	319374	5.798	102	50 - 200	0.0170	+/-0.50	
1,4-Dichlorobenzene-d4	171190	9.513	151501	9.524	113	50 - 200	0.0110	+/-0.50	
LCS Dup (BGC0717-BSD1)		(Water)		Lab File ID: V303271804.D			Analyzed: 03/27/18 09:40		
Pentafluorobenzene	221778	5.398	208826	5.415	106	50 - 200	0.0170	+/-0.50	
Chlorobenzene-d5	307072	7.827	290356	7.833	106	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	326250	5.781	319374	5.798	102	50 - 200	0.0170	+/-0.50	
1,4-Dichlorobenzene-d4	169932	9.518	151501	9.524	112	50 - 200	0.0060	+/-0.50	
Blank (BGC0717-BLK1)		(Water)		Lab File ID: V303271808.D			Analyzed: 03/27/18 11:22		
Pentafluorobenzene	206539	5.398	208826	5.415	99	50 - 200	0.0170	+/-0.50	
Chlorobenzene-d5	289501	7.822	290356	7.833	100	50 - 200	0.0110	+/-0.50	
1,4-Difluorobenzene	307456	5.78	319374	5.798	96	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	152124	9.512	151501	9.524	100	50 - 200	0.0120	+/-0.50	
Trip Blank (18C0424-03)		(Water)		Lab File ID: V303271822.D			Analyzed: 03/27/18 17:15		
Pentafluorobenzene	179337	5.398	208826	5.415	86	50 - 200	0.0170	+/-0.50	
Chlorobenzene-d5	256546	7.822	290356	7.833	88	50 - 200	0.0110	+/-0.50	
1,4-Difluorobenzene	271958	5.78	319374	5.798	85	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	133490	9.517	151501	9.524	88	50 - 200	0.0070	+/-0.50	
MW-4-180326 (18C0424-01)		(Water)		Lab File ID: V303271823.D			Analyzed: 03/27/18 17:41		
Pentafluorobenzene	182756	5.399	208826	5.415	88	50 - 200	0.0160	+/-0.50	
Chlorobenzene-d5	253318	7.823	290356	7.833	87	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	267350	5.781	319374	5.798	84	50 - 200	0.0170	+/-0.50	
1,4-Dichlorobenzene-d4	135680	9.513	151501	9.524	90	50 - 200	0.0110	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGC0407
Instrument: NT3
Calibration: AK00023

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (SGC0407-CCV1)		(Water)		Lab File ID: V303271828.D				Analyzed: 03/27/18 19:47	
Pentafluorobenzene	192265	5.399	208826	5.415	92	50 - 200	0.0160	+/-0.50	
Chlorobenzene-d5	273936	7.823	290356	7.833	94	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	283980	5.781	319374	5.798	89	50 - 200	0.0170	+/-0.50	
1,4-Dichlorobenzene-d4	154593	9.513	151501	9.524	102	50 - 200	0.0110	+/-0.50	

HOLDING TIME SUMMARY

Analysis: EPA 8260C

Laboratory: Analytical Resources, Inc. SDG: 18C0424

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-180326 18C0424-01	03/26/18 11:42	03/27/18 08:27	03/27/18 10:48	0	14	03/27/18 17:41	1	14	
Trip Blank 18C0424-03	03/26/18 11:42	03/27/18 08:27	03/27/18 10:48	0	14	03/27/18 17:15	1	14	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: NT3

Analyte	MDL	RL	Units
Benzene	0.03	0.20	ug/L
Toluene	0.04	0.20	ug/L
Ethylbenzene	0.04	0.20	ug/L
m,p-Xylene	0.05	0.40	ug/L
o-Xylene	0.03	0.20	ug/L

MW-4-180326

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPHg

Gasoline Range Organics (GC/MS)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Groundwater	Laboratory ID:	18C0424-01	SDG:	18C0424
Sampled:	03/26/18 11:42	Prepared:	03/27/18 10:48	File ID:	V303271823G.D
% Solids:		Preparation:	EPA 5030 (Purge a	Analyzed:	03/27/18 17:41
Batch:	BGC0717	Sequence:	SGC0408	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BA00063

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	4.96	99.2	80 - 120	
4-Bromofluorobenzene	5.0000	4.87	97.5	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180327s.b\V303271823G.D

Date : 27-MAR-2018 17:41

Client ID:

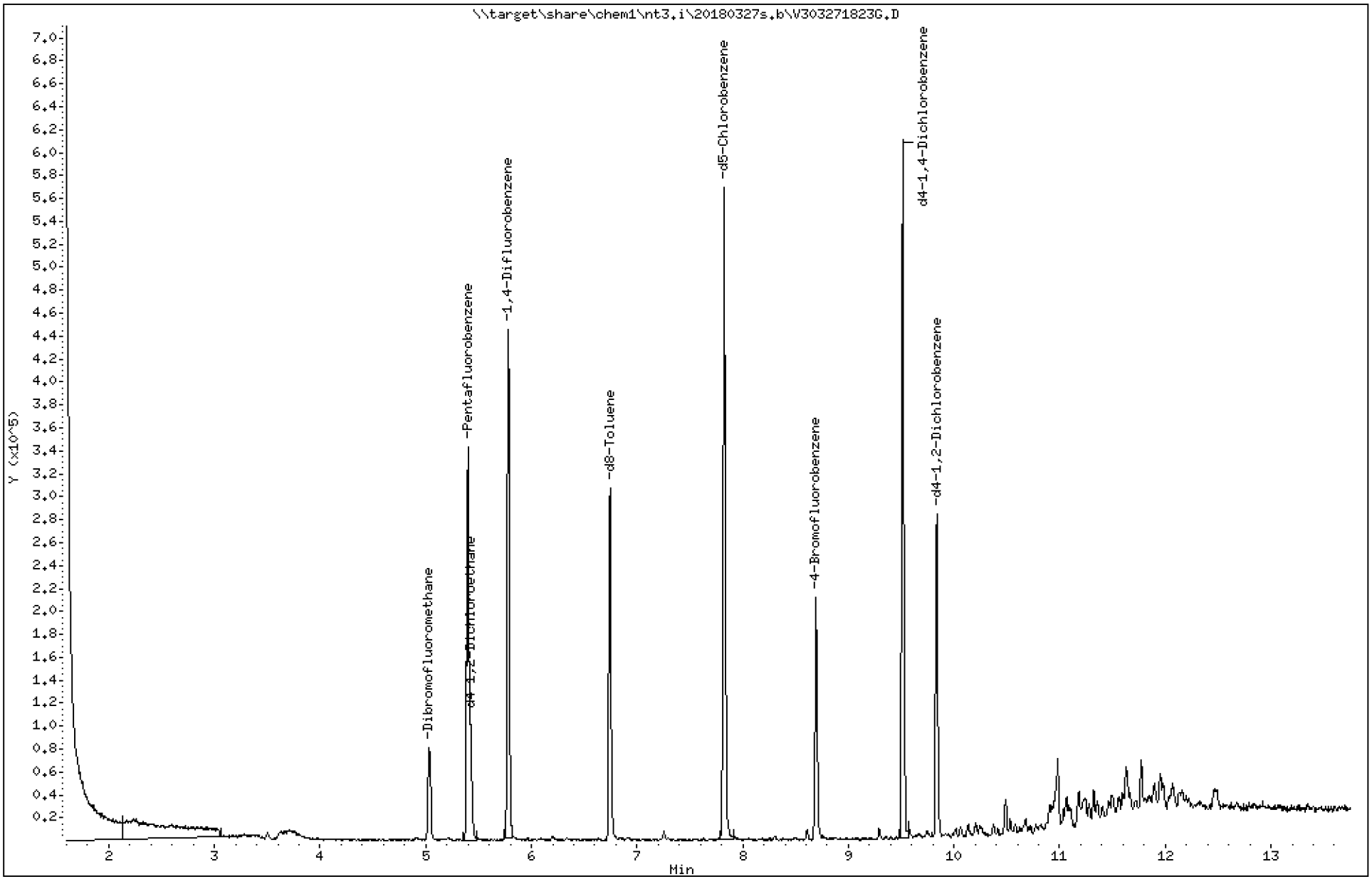
Instrument: nt3.i

Sample Info: 18C0424-01

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327s.b\V303271823G.D
Lab Smp Id: 18C0424-01
Inj Date : 27-MAR-2018 17:41
Operator : PKC   Inst ID: nt3.i
Smp Info : 18C0424-01
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Meth Date : 27-Mar-2018 10:13 paul   Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30   Cal File: V311071714.D
Als bottle: 52
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA20

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.032	5.032	(0.932)	40627	5.11619	5.116(R)
* 32 Pentafluorobenzene	168	5.399	5.399	(1.000)	182756	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.425	5.425	(1.005)	49637	5.22841	5.228(R)
* 37 1,4-Difluorobenzene	114	5.781	5.781	(1.000)	267350	10.0000	
$ 43 d8-Toluene	98	6.744	6.743	(1.166)	155534	4.96189	4.962(R)
* 53 d5-Chlorobenzene	117	7.823	7.822	(1.000)	253318	10.0000	
$ 62 4-Bromofluorobenzene	174	8.694	8.694	(1.111)	51929	4.87431	4.874(R)
* 76 d4-1,4-Dichlorobenzene	152	9.513	9.513	(1.000)	135680	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.837	9.837	(1.034)	64316	5.08400	5.084(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271823G.D
Lab Smp Id: 18C0424-01
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	182756	-12.48
37 1,4-Difluorobenze	319374	159687	638748	267350	-16.29
53 d5-Chlorobenzene	290356	145178	580712	253318	-12.76
76 d4-1,4-Dichlorobe	151501	75751	303002	135680	-10.44

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	0.00
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	0.00
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	0.00
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20150930a
Sample Matrix: NONE
Fraction: VOA
Lab Smp Id: 18C0424-01
Level:
Operator: PKC
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.116	102.32	
$ 33 d4-1,2-Dichloroeth	5.000	5.228	104.57	
$ 43 d8-Toluene	5.000	4.962	99.24	
$ 62 4-Bromofluorobenze	5.000	4.874	97.49	
$ 79 d4-1,2-Dichloroben	5.000	5.084	101.68	

REVIEW SUMMARY FOR FILE - V303271823G.D

Lab ID: 18C0424-01
nt3.i, 20180327s.b\8260C110717.m,   27-MAR-2018 17:41

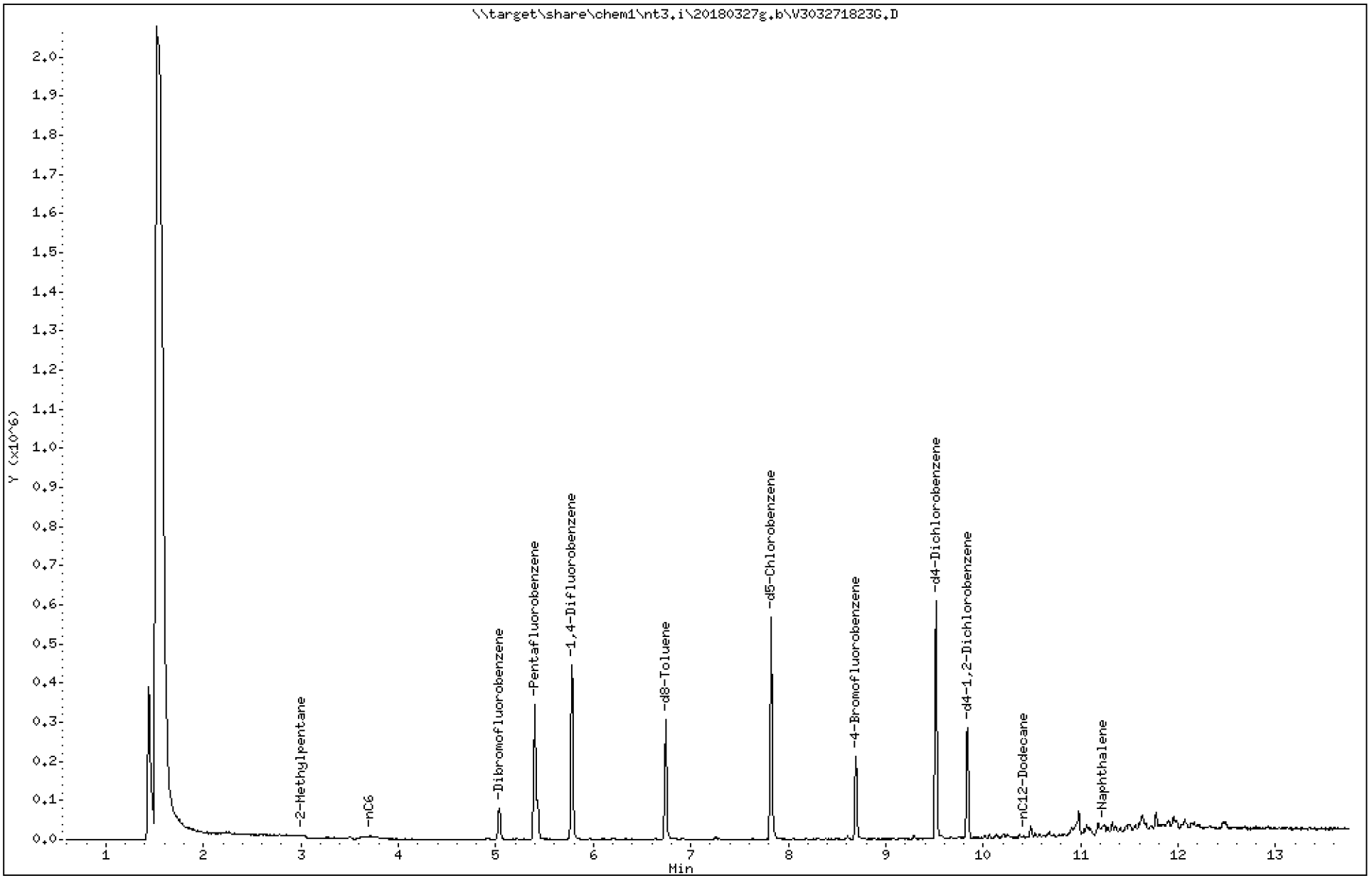
RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180327g.b\V303271823G.D
Date : 27-MAR-2018 17:41
Client ID:
Sample Info: 18C0424-01

Instrument: nt3.i

Operator: PKC
Column diameter: 0.18

Column phase: RTXVMS



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180327g.b/V303271823G.D
Method: \20180327g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-MAR-2018 17:41

ARI ID: 18C0424-01
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.68 to 10.55)	31991220	215361	0.007
8015C 2MP-TMB	(2.88 to 9.51)	70557112	121284	0.002
AK101 nC6-nC10	(3.63 to 8.66)	48812322	65885	0.001
NWTPHG Tol-Nap	(6.68 to 11.34)	34228300	623655	0.018
mod8015 nC7-nC12	(5.20 to 10.55)	52022420	232531	0.004

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.823	849761	d5-Chlorobenzene
6.744	469495	d8-Toluene
9.513	880909	d4-Dichlorobenzene
8.695	317633	4-Bromofluorobenzene
9.838	416354	d4-1,2-Dichlorobenzene

Trip Blank

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPHg

Gasoline Range Organics (GC/MS)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18C0424-03	SDG:	18C0424
Sampled:	03/26/18 11:42	Prepared:	03/27/18 10:48	File ID:	V303271822G.D
% Solids:		Preparation:	EPA 5030 (Purge a	Analyzed:	03/27/18 17:15
Batch:	BGC0717	Sequence:	SGC0408	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BA00063

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	4.88	97.7	80 - 120	
4-Bromofluorobenzene	5.0000	4.72	94.4	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180327s.b\V303271822G.D

Date : 27-MAR-2018 17:15

Client ID: PB

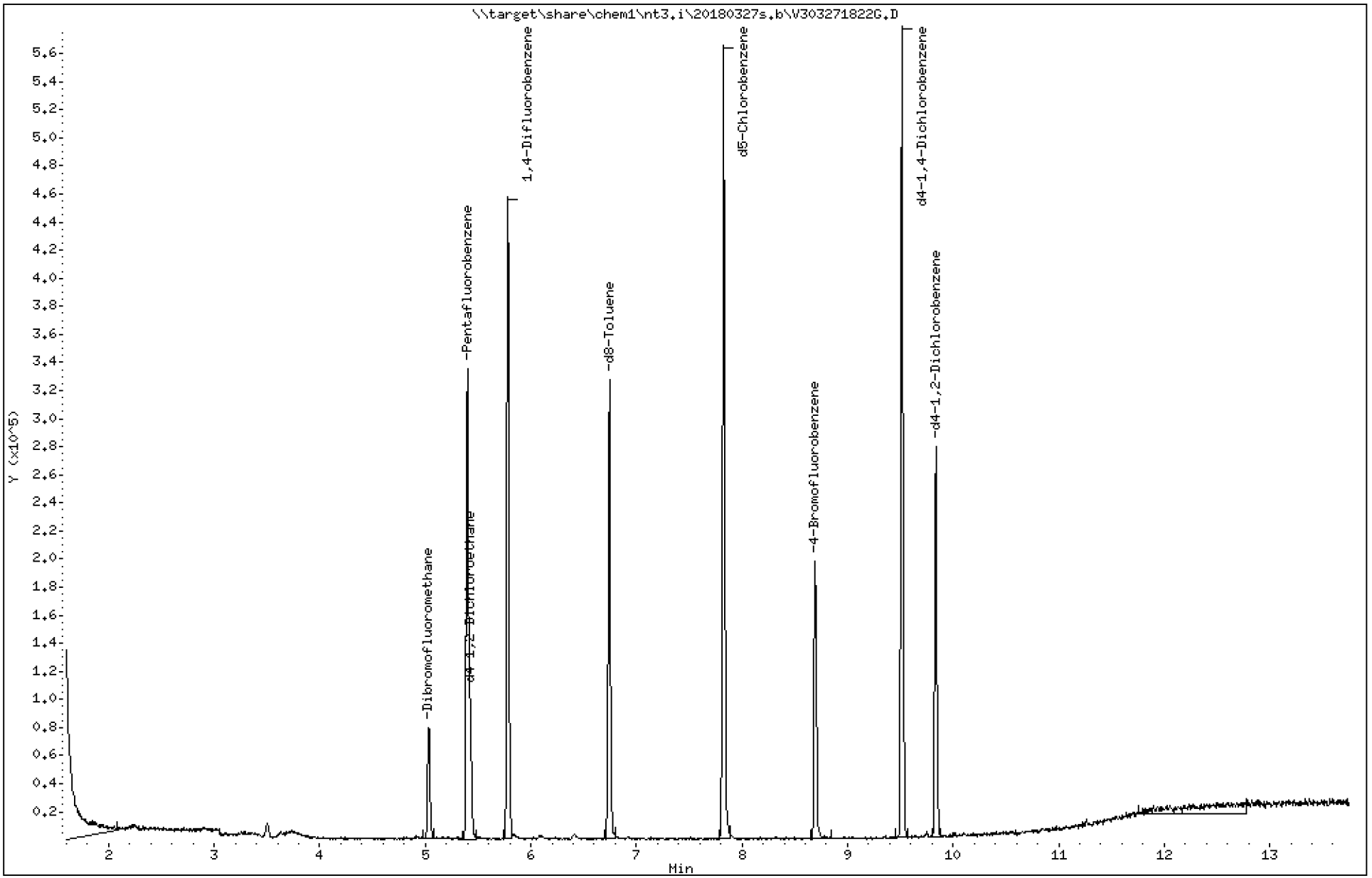
Sample Info: 18C0424-03

Instrument: nt3.i

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327s.b\V303271822G.D
Lab Smp Id: 18C0424-03 Client Smp ID: PB
Inj Date : 27-MAR-2018 17:15
Operator : PKC Inst ID: nt3.i
Smp Info : 18C0424-03
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Meth Date : 27-Mar-2018 10:13 paul Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 51
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA20

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.031	5.032	(0.932)	41052	5.26827	5.268(R)
* 32 Pentafluorobenzene	168	5.398	5.399	(1.000)	179337	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.424	5.425	(1.005)	48326	5.18737	5.187(R)
* 37 1,4-Difluorobenzene	114	5.780	5.781	(1.000)	271958	10.0000	
$ 43 d8-Toluene	98	6.743	6.743	(1.166)	155758	4.88484	4.885(R)
* 53 d5-Chlorobenzene	117	7.822	7.822	(1.000)	256546	10.0000	
$ 62 4-Bromofluorobenzene	174	8.693	8.694	(1.111)	50906	4.71816	4.718(R)
* 76 d4-1,4-Dichlorobenzene	152	9.517	9.513	(1.000)	133490	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.836	9.837	(1.034)	61921	4.97498	4.975(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271822G.D
Lab Smp Id: 18C0424-03
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Client Smp ID: PB
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	179337	-14.12
37 1,4-Difluorobenze	319374	159687	638748	271958	-14.85
53 d5-Chlorobenzene	290356	145178	580712	256546	-11.64
76 d4-1,4-Dichlorobe	151501	75751	303002	133490	-11.89

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	-0.02
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	-0.01
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	-0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.52	0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20150930a
Sample Matrix: NONE
Fraction: VOA
Lab Smp Id: 18C0424-03
Client Smp ID: PB
Level:
Operator: PKC
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.268	105.37	
$ 33 d4-1,2-Dichloroeth	5.000	5.187	103.75	
$ 43 d8-Toluene	5.000	4.885	97.70	
$ 62 4-Bromofluorobenze	5.000	4.718	94.36	
$ 79 d4-1,2-Dichloroben	5.000	4.975	99.50	

REVIEW SUMMARY FOR FILE - V303271822G.D

Lab ID: 18C0424-03
nt3.i, 20180327s.b\8260C110717.m,   27-MAR-2018 17:15

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180327g.b\V303271822G.D

Date : 27-MAR-2018 17:15

Client ID:

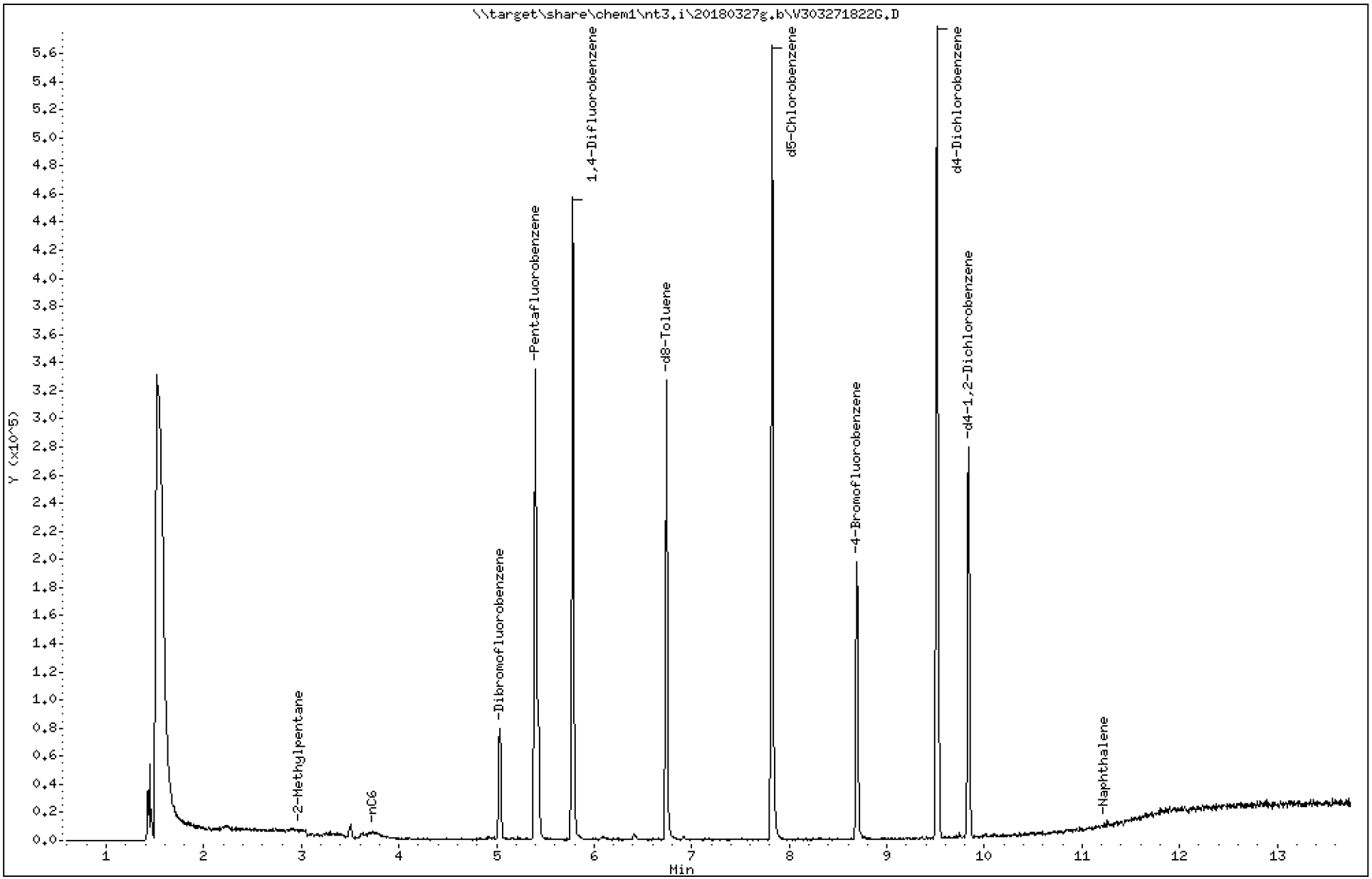
Sample Info: 18C0424-03

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180327g.b/V303271822G.D
Method: \20180327g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-MAR-2018 17:15

ARI ID: 18C0424-03
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.68 to 10.55)	31991220	10515	0.000
8015C 2MP-TMB	(2.88 to 9.51)	70557112	51358	0.001
AK101 nC6-nC10	(3.63 to 8.66)	48812322	16873	0.000
NWTPHG Tol-Nap	(6.68 to 11.34)	34228300	22282	0.001
mod8015 nC7-nC12	(5.20 to 10.55)	52022420	17316	0.000

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.822	851485	d5-Chlorobenzene
6.743	468561	d8-Toluene
9.518	866523	d4-Dichlorobenzene
8.694	309398	4-Bromofluorobenzene
9.837	411092	d4-1,2-Dichlorobenzene

PREPARATION BATCH SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc. SDG: 18C0424

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGC0717 Batch Matrix: Water Preparation: EPA 5030 (Purge and Trap)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180326	18C0424-01	V303271823G.D	03/27/18 10:48	
Trip Blank	18C0424-03	V303271822G.D	03/27/18 10:48	PB
Blank	BGC0717-BLK2	V303271808G.D	03/27/18 11:22	
LCS	BGC0717-BS2	V303271805LCSG.D	03/27/18 10:05	
LCS Dup	BGC0717-BSD2	V303271806G.D	03/27/18 10:31	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BENCH SHEET

BGC0717

Printed: 3/28/2018 10:35:24AM

Matrix: Water **Prepared using: Volatiles - EPA 5030 (Purge and Trap)** **Surrogate used: F011916**

Lab Number	Analysis	Prepared	Initial (mL)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	pH	Extraction Comments
18C0313-01 A	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-01 G	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-03 H	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-05 H	8260C VOA	27-Mar-2018 10:48	10	10				1	2	PB
18C0346-07 G	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-09 G	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-11 G	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0346-13 A	8260C VOA	27-Mar-2018 10:48	10	10				1	2	PB
18C0415-01 C	8260C VOA	27-Mar-2018 10:48	0.05	10				1	2	Do not over dilute
18C0424-01 E	8260C VOA	27-Mar-2018 10:48	10	10				1	2	
18C0424-01 E	8260C Gas (NWTPH)	27-Mar-2018 10:48	10	10				1	2	
18C0424-03 A	8260C VOA	27-Mar-2018 10:48	10	10				1	2	PB
18C0424-03 A	8260C Gas (NWTPH)	27-Mar-2018 10:48	10	10				1	2	PB
18C0427-01 H	624 VOC	27-Mar-2018 10:48	10	10				1	2	Use Version, HS
18C0439-01 C	8260C VOA	27-Mar-2018 10:48	0.05	10				1	2	Use Go No Go List
BGC0717-BLK1	QC	27-Mar-2018 11:22	10	10				1		
BGC0717-BLK2	QC	27-Mar-2018 11:22	10	10				1		
BGC0717-BS1	QC	27-Mar-2018 09:15	10	10	G002467		5	1		
BGC0717-BS2	QC	27-Mar-2018 10:05	10	10	G001199		2	1		
BGC0717-BSD1	QC	27-Mar-2018 09:40	10	10	G002467		5	1		
BGC0717-BSD2	QC	27-Mar-2018 10:31	10	10	G001199		2	1		

573 of 913

Spiking Witnessed By Date

Preparation Reviewed By Date

Extracts Received By Date

Analytical Resources, Incorporated

Form I
METHOD BLANK DATA SHEET
NWTPHg

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18C0424
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGC0717-BLK2	File ID:	V303271808G.D
Sampled:	N/A	Prepared:	03/27/18 11:22	Analyzed:	03/27/18 11:22
Solids:		Preparation:	EPA 5030 (Purge and Trap)	Initial/Final:	10 mL / 10 ml
Batch:	BGC0717	Sequence:	SGC0408	Calibration:	BA00063
Instrument:	NT3	Column:	RTX-VMS		

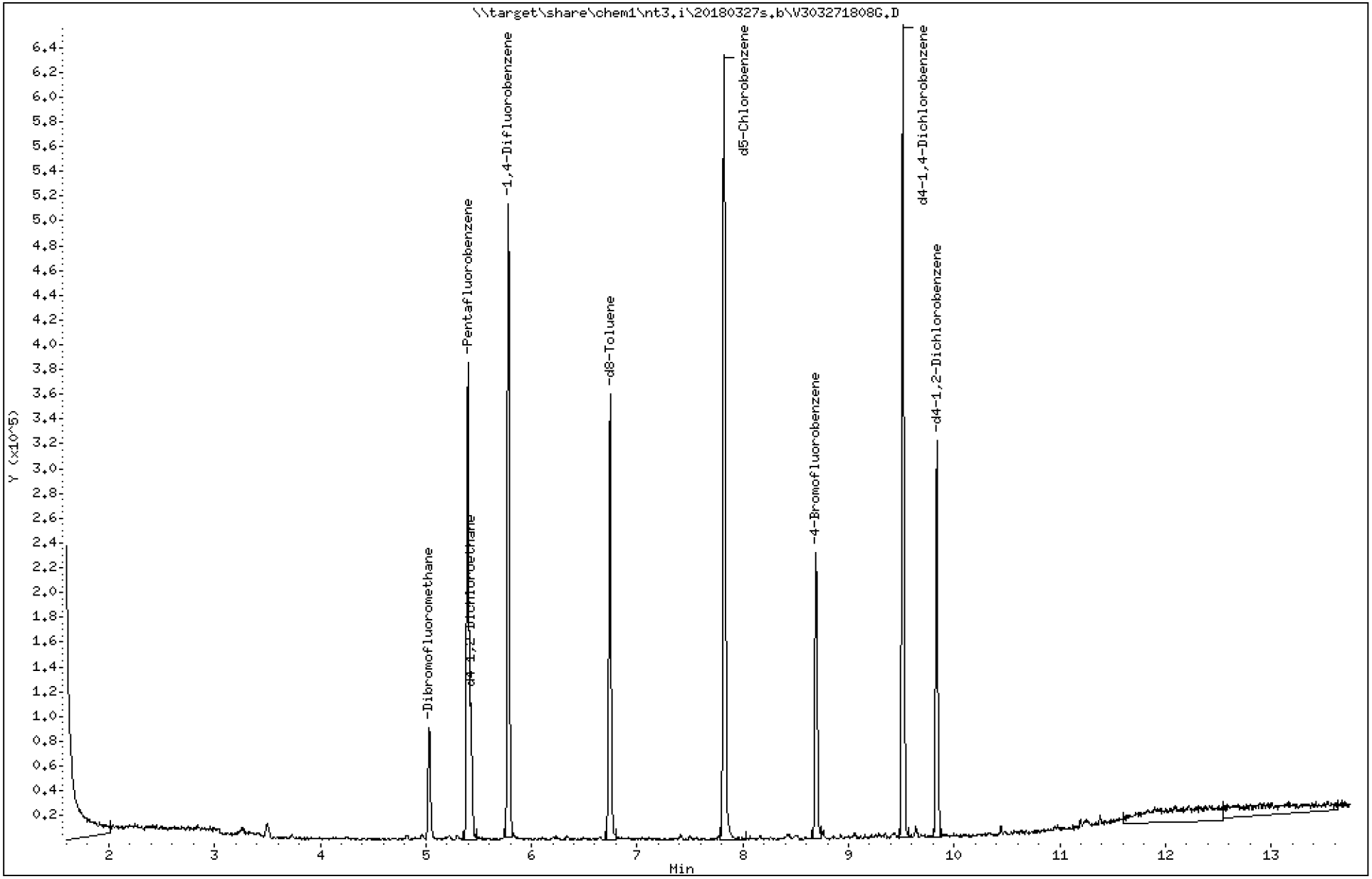
CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	4.86	97.1	80 - 120	
4-Bromofluorobenzene	5.0000	4.81	96.2	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180327s.b\V303271808G.D
Date : 27-MAR-2018 11:22
Client ID:
Sample Info: BGC0717-BLK2

Instrument: nt3.i
Operator: PKC
Column diameter: 0.18

Column phase: RTXVMS



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327s.b\V303271808G.D
Lab Smp Id: BGC0717-BLK2
Inj Date : 27-MAR-2018 11:22
Operator : PKC   Inst ID: nt3.i
Smp Info : BGC0717-BLK2
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Meth Date : 27-Mar-2018 10:13 paul   Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30   Cal File: V311071714.D
Als bottle: 50
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA20

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.031	5.032	(0.932)	45503	5.07039	5.070(R)
* 32 Pentafluorobenzene	168	5.398	5.399	(1.000)	206539	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.424	5.425	(1.005)	55261	5.15054	5.151(R)
* 37 1,4-Difluorobenzene	114	5.780	5.781	(1.000)	307456	10.0000	
$ 43 d8-Toluene	98	6.742	6.743	(1.166)	175075	4.85672	4.857(R)
* 53 d5-Chlorobenzene	117	7.822	7.822	(1.000)	289501	10.0000	
$ 62 4-Bromofluorobenzene	174	8.693	8.694	(1.111)	58564	4.81005	4.810(R)
* 76 d4-1,4-Dichlorobenzene	152	9.512	9.513	(1.000)	152124	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.836	9.837	(1.034)	72851	5.13618	5.136(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271808G.D
Lab Smp Id: BGC0717-BLK2
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	206539	-1.10
37 1,4-Difluorobenze	319374	159687	638748	307456	-3.73
53 d5-Chlorobenzene	290356	145178	580712	289501	-0.29
76 d4-1,4-Dichlorobe	151501	75751	303002	152124	0.41

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	-0.02
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	-0.02
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	-0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20150930a
Sample Matrix: NONE
Fraction: VOA
Lab Smp Id: BGC0717-BLK2
Level:
Operator: PKC
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.070	101.41	
$ 33 d4-1,2-Dichloroeth	5.000	5.151	103.01	
$ 43 d8-Toluene	5.000	4.857	97.13	
$ 62 4-Bromofluorobenze	5.000	4.810	96.20	
$ 79 d4-1,2-Dichloroben	5.000	5.136	102.72	

REVIEW SUMMARY FOR FILE - V303271808G.D

Lab ID: BGC0717-BLK2
nt3.i, 20180327s.b\8260C110717.m,   27-MAR-2018 11:22

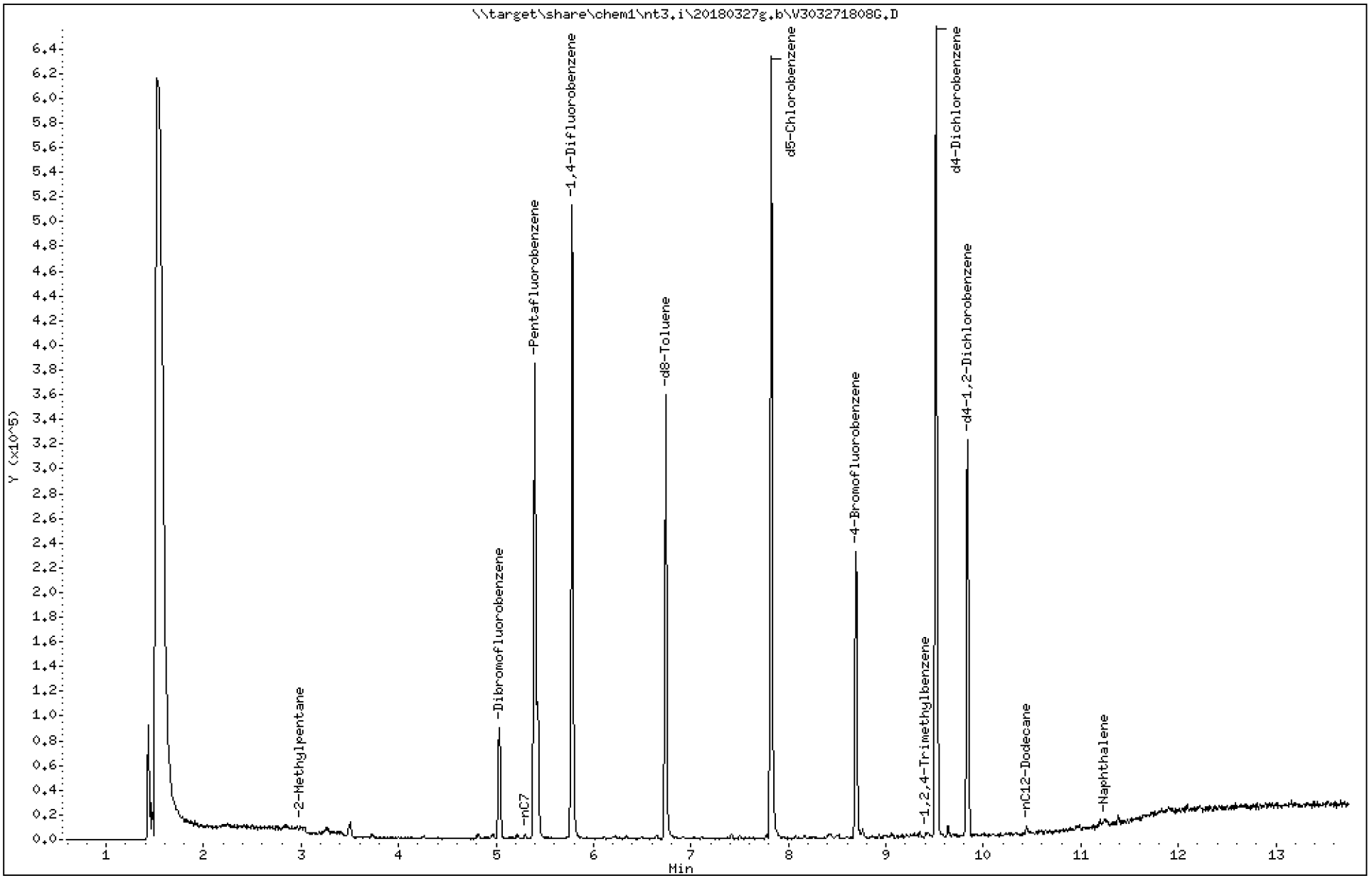
RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180327g.b\V303271808G.D
Date : 27-MAR-2018 11:22
Client ID:
Sample Info: BGC0717-BLK2

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC
Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180327g.b/V303271808G.D
Method: \20180327g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-MAR-2018 11:22

ARI ID: BGC0717-BLK2
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.68 to 10.55)	31991220	103050	0.003
8015C 2MP-TMB	(2.88 to 9.51)	70557112	156036	0.002
AK101 nC6-nC10	(3.63 to 8.66)	48812322	65995	0.001
NWTPHG Tol-Nap	(6.68 to 11.34)	34228300	144950	0.004
mod8015 nC7-nC12	(5.20 to 10.55)	52022420	122235	0.002

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.822	975972	d5-Chlorobenzene
6.743	520774	d8-Toluene
9.512	987400	d4-Dichlorobenzene
8.694	357007	4-Bromofluorobenzene
9.837	462478	d4-1,2-Dichlorobenzene

LCS / LCS DUPLICATE RECOVERY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	03/27/18 10:05
Batch:	BGC0717	Laboratory ID:	BGC0717-BS2
Preparation:	EPA 5030 (Purge and Trap)	Sequence Name:	LCS
Initial/Final:	10 mL / 10 ml		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Gasoline Range Organics (Tol-Nap)	1000	1020		102	72 - 128

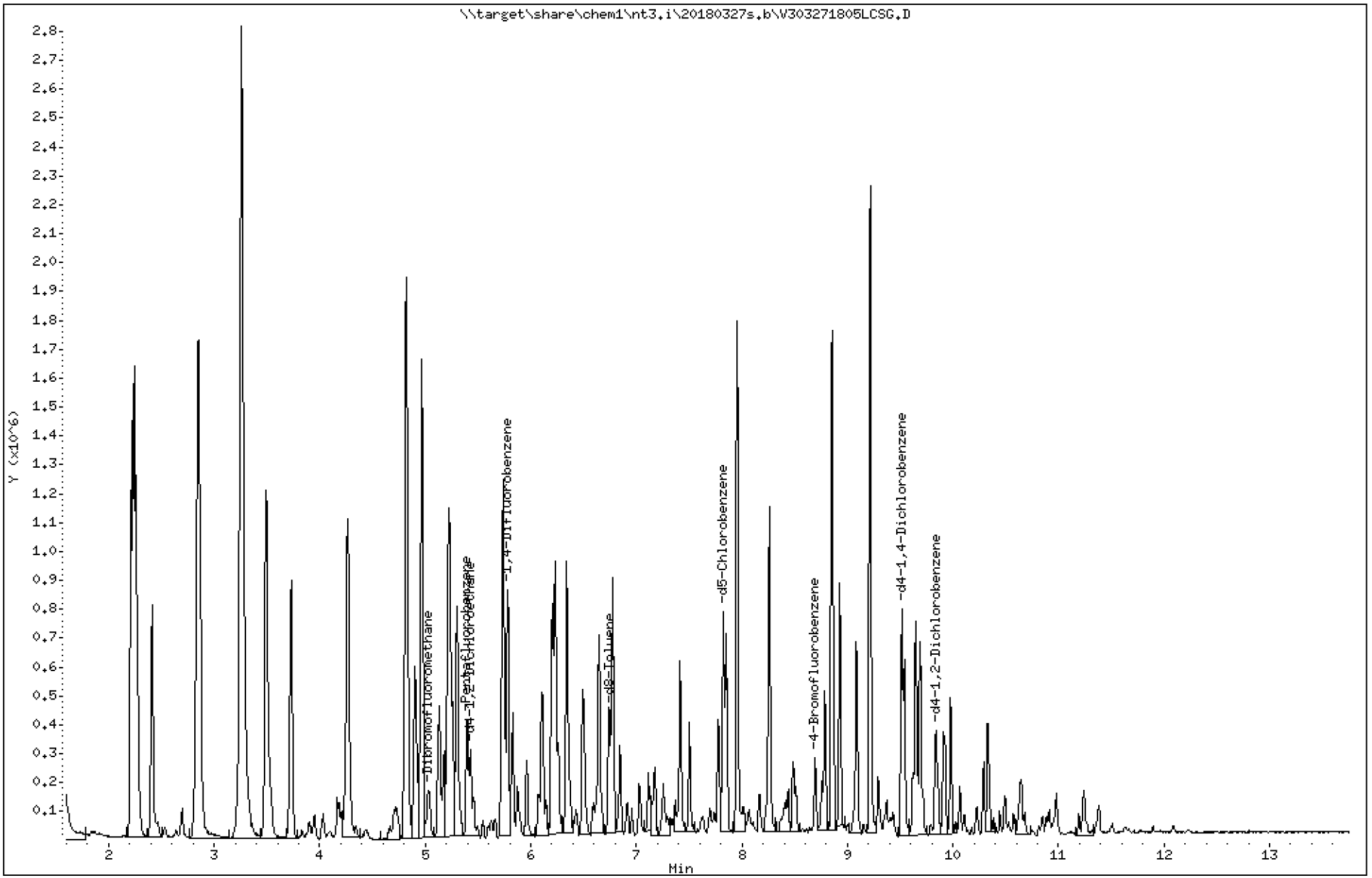
* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Gasoline Range Organics (Tol-Nap)	1000	983		98.3	3.94	30	72 - 128

* Indicates values outside of QC limits

Data File: \\target\share\chem1\nt3.i\20180327s.b\V303271805LCSG.D
Date : 27-MAR-2018 10:05
Client ID: GAS
Sample Info: BGC0717-BS2

Instrument: nt3.i
Operator: PKC
Column phase: RTXVMS
Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327s.b\V303271805LCSG.D
Lab Smp Id: BGC0717-BS2 Client Smp ID: GAS
Inj Date : 27-MAR-2018 10:05
Operator : PKC Inst ID: nt3.i
Smp Info : BGC0717-BS2
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Meth Date : 27-Mar-2018 10:13 paul Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 50
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA20

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.033	5.032	(0.932)	46690	4.78378	4.784(R)
* 32 Pentafluorobenzene	168	5.399	5.399	(1.000)	224624	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.426	5.425	(1.005)	58928	5.05012	5.050(R)
* 37 1,4-Difluorobenzene	114	5.782	5.781	(1.000)	336860	10.0000	
$ 43 d8-Toluene	98	6.744	6.743	(1.166)	198350	5.02209	5.022(R)
* 53 d5-Chlorobenzene	117	7.823	7.822	(1.000)	315107	10.0000	
$ 62 4-Bromofluorobenzene	174	8.695	8.694	(1.111)	67329	5.08058	5.081(R)
* 76 d4-1,4-Dichlorobenzene	152	9.513	9.513	(1.000)	169123	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.838	9.837	(1.034)	78317	4.96656	4.967(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271805LCSG.D
Lab Smp Id: BGC0717-BS2
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Client Smp ID: GAS
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	224624	7.57
37 1,4-Difluorobenze	319374	159687	638748	336860	5.48
53 d5-Chlorobenzene	290356	145178	580712	315107	8.52
76 d4-1,4-Dichlorobe	151501	75751	303002	169123	11.63

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	0.01
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	0.01
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Report Date: 29-Mar-2018 06:53

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930a
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: BGC0717-BS2 Client Smp ID: GAS
Level: Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.784	95.68	
$ 33 d4-1,2-Dichloroeth	5.000	5.050	101.00	
$ 43 d8-Toluene	5.000	5.022	100.44	
$ 62 4-Bromofluorobenze	5.000	5.081	101.61	
$ 79 d4-1,2-Dichloroben	5.000	4.967	99.33	

REVIEW SUMMARY FOR FILE - V303271805LCSG.D

Lab ID: BGC0717-BS2
nt3.i, 20180327s.b\8260C110717.m,   27-MAR-2018 10:05

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180327g.b\V303271805LCSG.D

Date : 27-MAR-2018 10:05

Client ID:

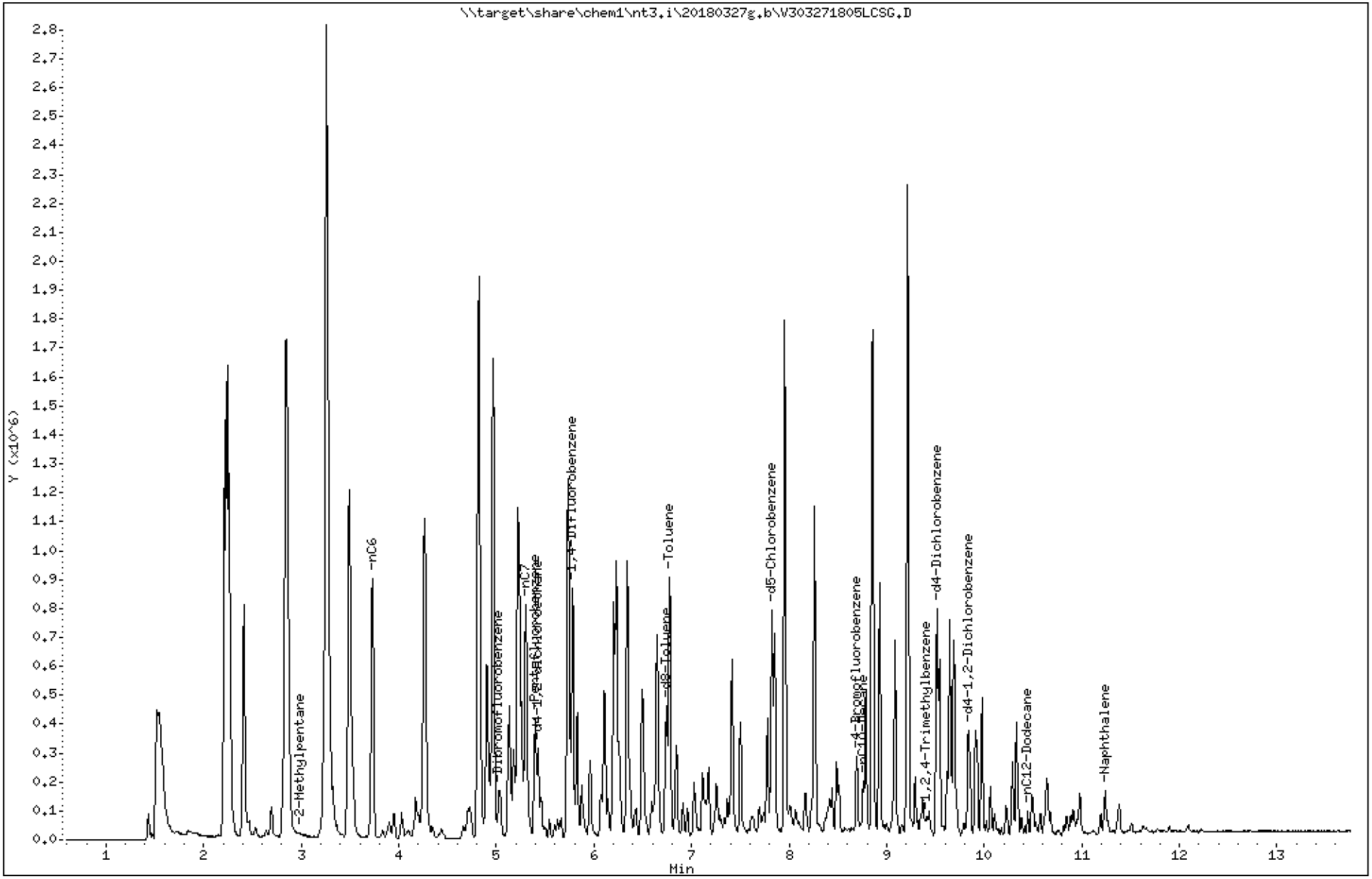
Instrument: nt3.i

Sample Info: BGC0717-BS2

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180327g.b/V303271805LCSG.D
Method: \20180327g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-MAR-2018 10:05

ARI ID: BGC0717-BS2
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.68 to 10.55)	31991220	33119607	1.035
8015C 2MP-TMB	(2.88 to 9.51)	70557112	69587918	0.986 M
AK101 nC6-nC10	(3.63 to 8.66)	48812322	48763856	0.999 M
NWTPHG Tol-Nap	(6.68 to 11.34)	34228300	34995732	1.022
mod8015 nC7-nC12	(5.20 to 10.55)	52022420	51420298	0.988 M

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

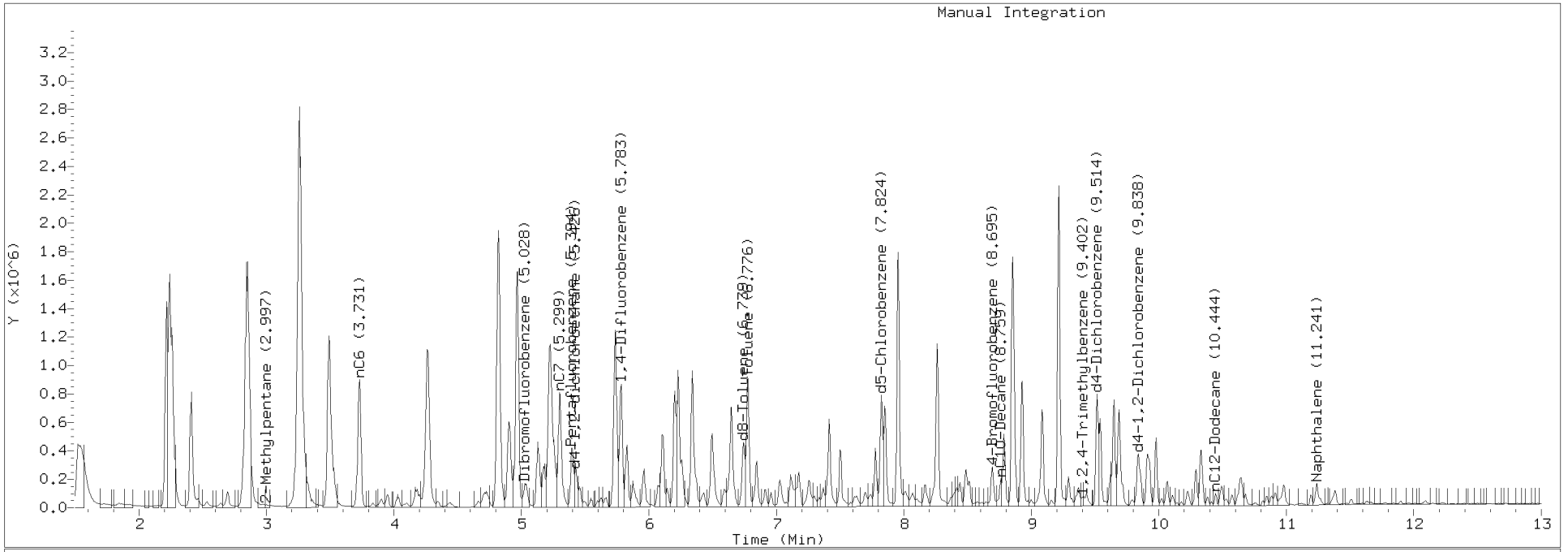
NW Gas Range Subtracted Peaks

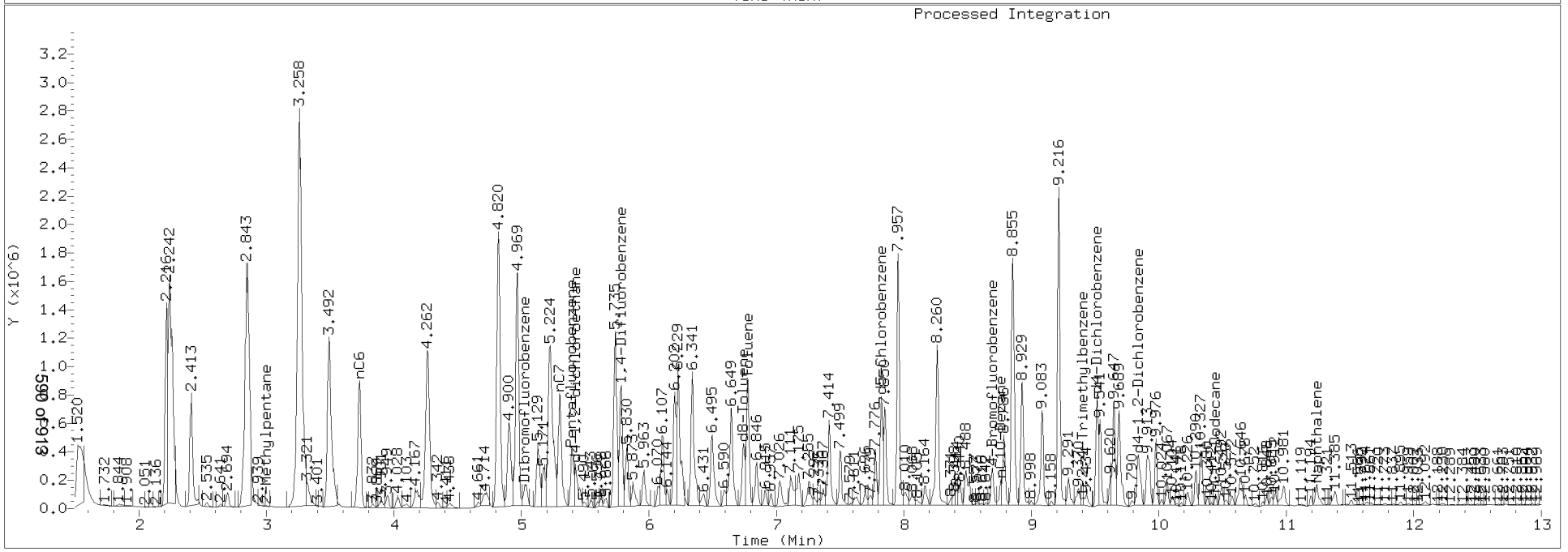
7.824	1256253	d5-Chlorobenzene
6.739	763159	d8-Toluene
9.514	1150467	d4-Dichlorobenzene
8.695	460589	4-Bromofluorobenzene
9.838	766583	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180327g.b/V303271805LCSG.D Injection: 27-MAR-2018 10:05

Lab ID:BGC0717-BS2





Data File: \\target\share\chem1\nt3.i\20180327s.b\V303271806G.D

Date : 27-MAR-2018 10:31

Client ID: GAS

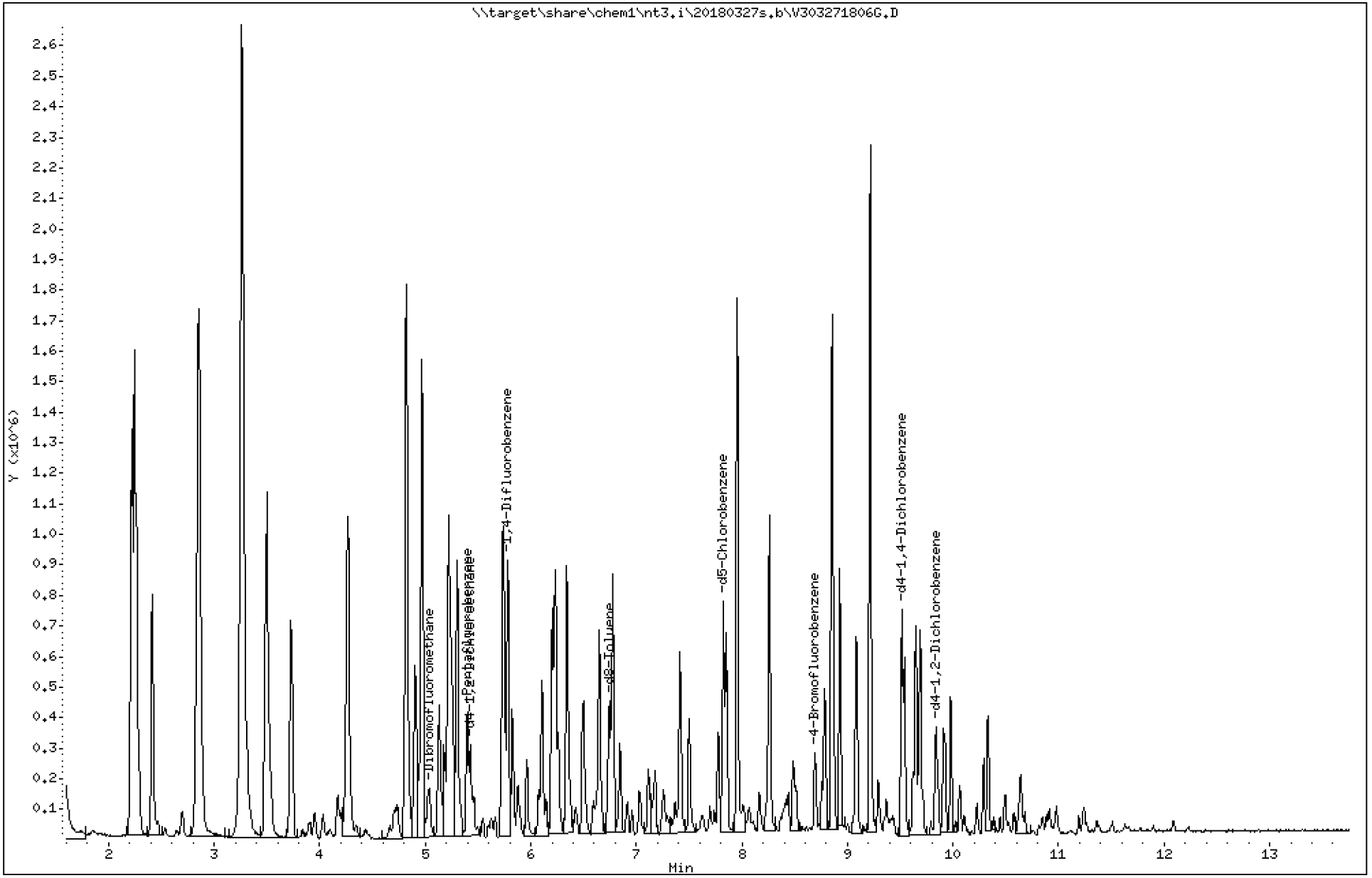
Instrument: nt3.i

Sample Info: BGC0717-BSD2

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327s.b\V303271806G.D
Lab Smp Id: BGC0717-BSD2 Client Smp ID: GAS
Inj Date : 27-MAR-2018 10:31
Operator : PKC Inst ID: nt3.i
Smp Info : BGC0717-BSD2
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Meth Date : 27-Mar-2018 10:13 paul Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 50
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA20

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.032	5.032	(0.932)	47074	4.90144	4.901(R)
* 32 Pentafluorobenzene	168	5.399	5.399	(1.000)	221035	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.425	5.425	(1.005)	59702	5.19953	5.200(R)
* 37 1,4-Difluorobenzene	114	5.781	5.781	(1.000)	330844	10.0000	
$ 43 d8-Toluene	98	6.743	6.743	(1.166)	195757	5.04657	5.047(R)
* 53 d5-Chlorobenzene	117	7.822	7.822	(1.000)	307909	10.0000	
$ 62 4-Bromofluorobenzene	174	8.694	8.694	(1.111)	66142	5.10768	5.108(R)
* 76 d4-1,4-Dichlorobenzene	152	9.513	9.513	(1.000)	167231	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.837	9.837	(1.034)	77752	4.98652	4.987(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271806G.D
Lab Smp Id: BGC0717-BSD2
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Client Smp ID: GAS
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	221035	5.85
37 1,4-Difluorobenze	319374	159687	638748	330844	3.59
53 d5-Chlorobenzene	290356	145178	580712	307909	6.05
76 d4-1,4-Dichlorobe	151501	75751	303002	167231	10.38

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	0.00
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	0.00
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	0.00
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20150930a
Sample Matrix: NONE
Fraction: VOA
Lab Smp Id: BGC0717-BSD2
Client Smp ID: GAS
Level:
Operator: PKC
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.901	98.03	
$ 33 d4-1,2-Dichloroeth	5.000	5.200	103.99	
$ 43 d8-Toluene	5.000	5.047	100.93	
$ 62 4-Bromofluorobenze	5.000	5.108	102.15	
$ 79 d4-1,2-Dichloroben	5.000	4.987	99.73	

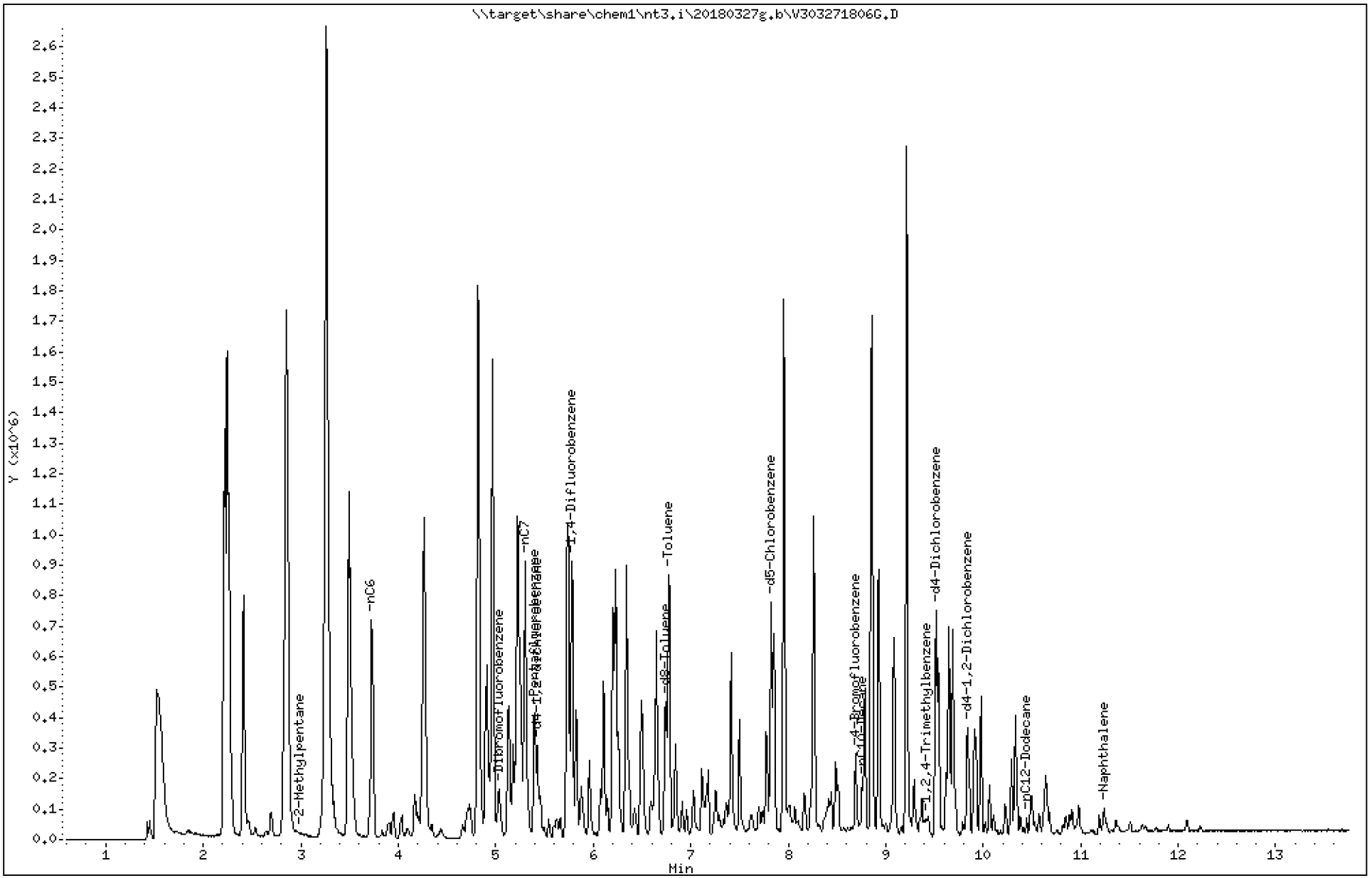
REVIEW SUMMARY FOR FILE - V303271806G.D

Lab ID: BGC0717-BSD2
nt3.i, 20180327s.b\8260C110717.m,   27-MAR-2018 10:31

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180327g.b\V303271806G.D
Date : 27-MAR-2018 10:31
Client ID:
Sample Info: BGC0717-BSD2

Instrument: nt3.i
Operator: PKC
Column phase: RTXVMS
Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180327g.b/V303271806G.D
Method: \20180327g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-MAR-2018 10:31

ARI ID: BGC0717-BSD2
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)	
WAGas Tol-C12	(6.68 to 10.55)	31991220	31917116	0.998	
8015C 2MP-TMB	(2.88 to 9.51)	70557112	66506227	0.943	M
AK101 nC6-nC10	(3.63 to 8.66)	48812322	46499801	0.953	
NWTPHG Tol-Nap	(6.68 to 11.34)	34228300	33644885	0.983	M
mod8015 nC7-nC12	(5.20 to 10.55)	52022420	49182580	0.945	

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

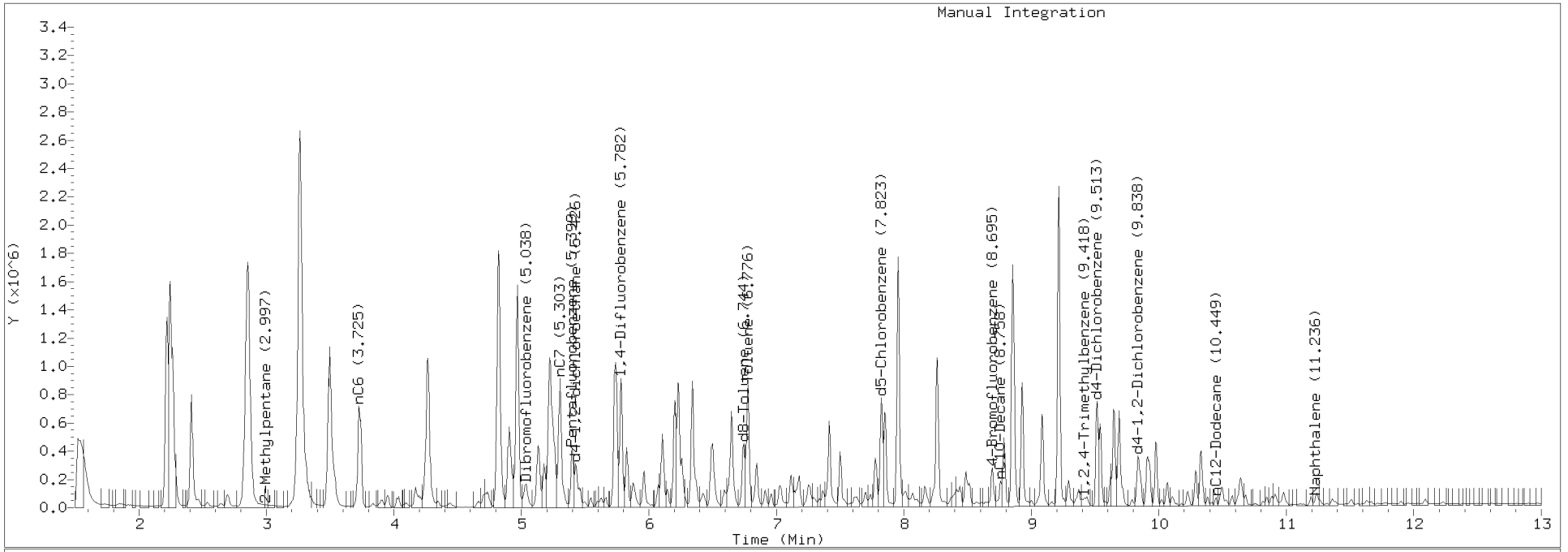
NW Gas Range Subtracted Peaks

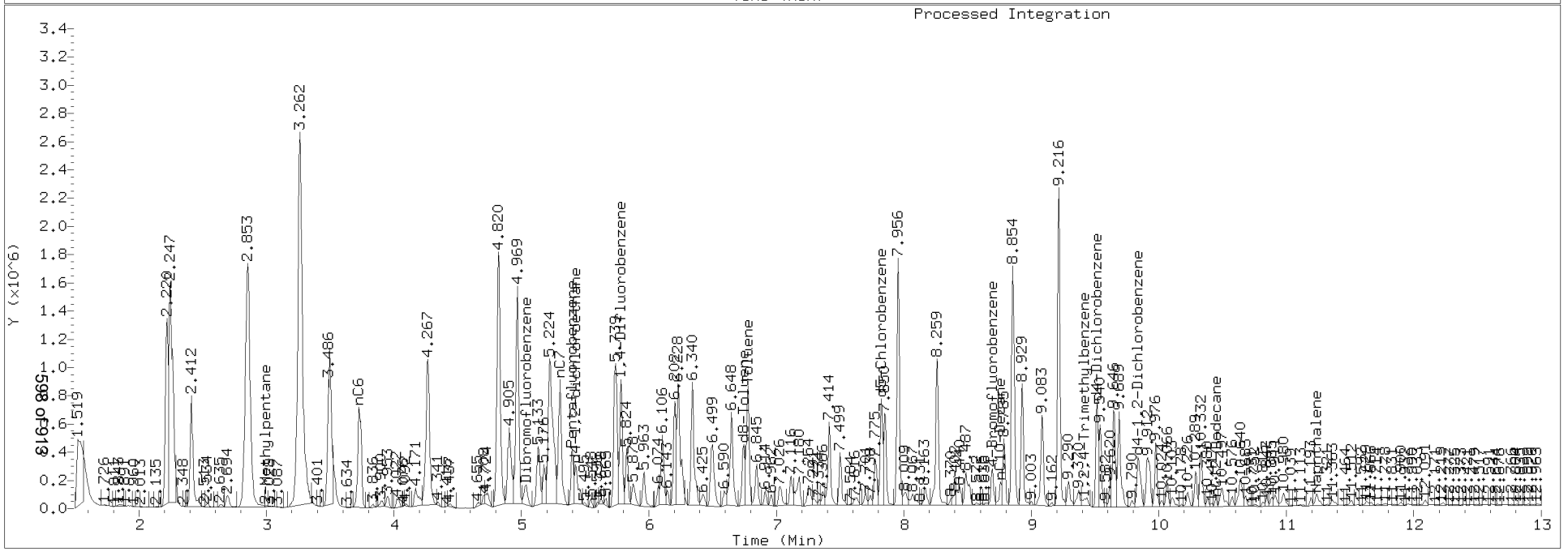
7.823	1166629	d5-Chlorobenzene
6.744	742243	d8-Toluene
9.513	1092174	d4-Dichlorobenzene
8.695	441594	4-Bromofluorobenzene
9.838	720656	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180327g.b/V303271806G.D Injection: 27-MAR-2018 10:31

Lab ID:BGC0717-BSD2





MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

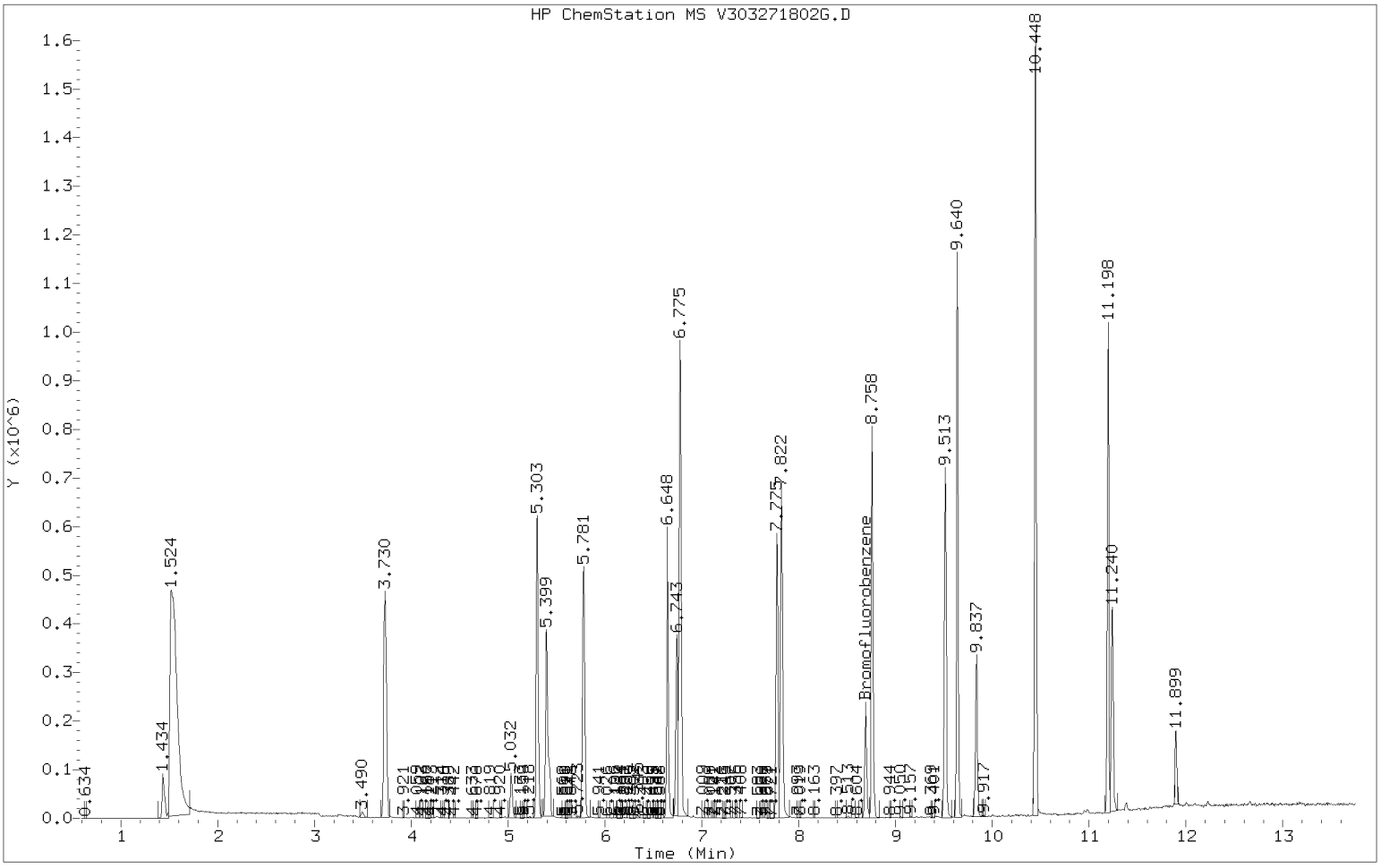
Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V303271802G.D	Injection Date:	03/27/18
Instrument ID:	NT3	Injection Time:	08:39
Sequence:	SGC0408	Lab Sample ID:	SGC0408-TUN1

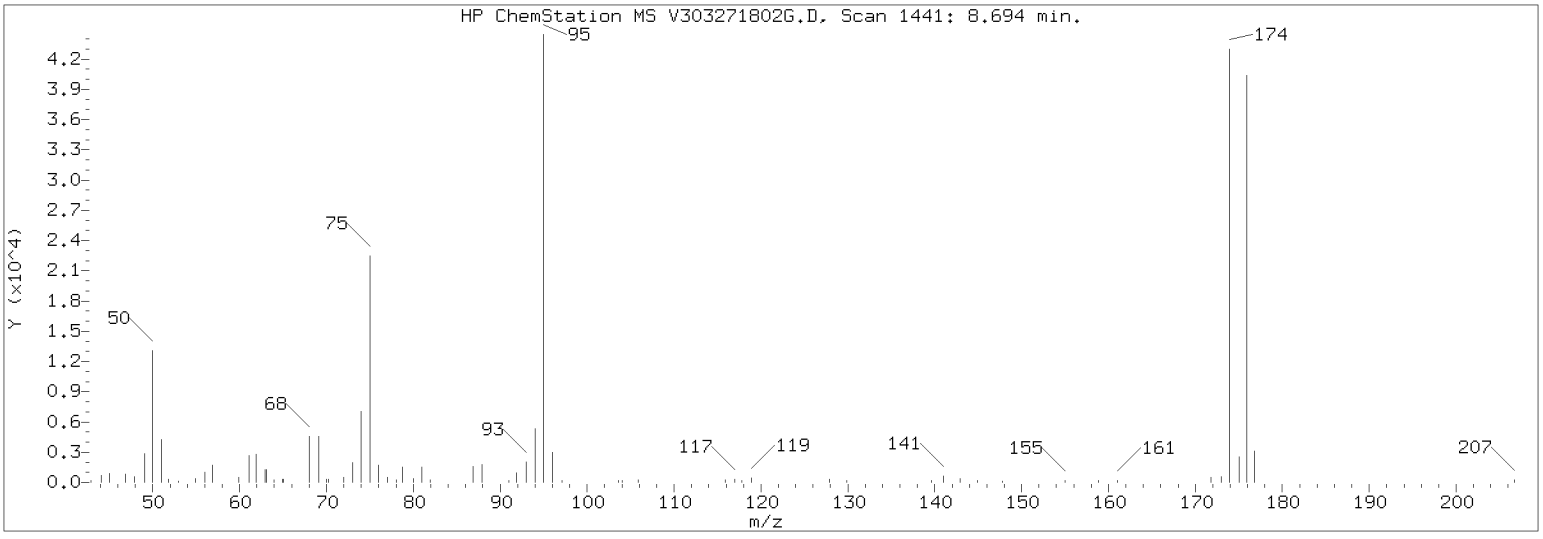
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	29.9	PASS
75	30 - 80% of 95	49.6	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.15	PASS
173	Less than 2% of 174	0.497	PASS
174	50 - 120% of 95	93.9	PASS
175	5 - 9% of 174	6.32	PASS
176	95 - 101% of 174	95.3	PASS
177	5 - 9% of 176	7.15	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGC0408-TUN1	V303271802G.D	03/27/2018	8:39
Initial Cal Check	SGC0408-ICV1	V303271805G.D	03/27/2018	10:05
LCS	BGC0717-BS2	V303271805LCSG.D	03/27/2018	10:05
LCS	BGC0716-BS1	V303271805LCSSG.D	03/27/2018	10:05
LCS Dup	BGC0717-BSD2	V303271806G.D	03/27/2018	10:31
LCS Dup	BGC0716-BSD1	V303271806LCSDSG.D	03/27/2018	10:31
Blank	BGC0717-BLK2	V303271808G.D	03/27/2018	11:22
Blank	BGC0716-BLK1	V303271808MBSG.D	03/27/2018	11:22
ZZZZZ	18C0314-01	V303271811G.D	03/27/2018	12:37
ZZZZZ	18C0314-02	V303271812G.D	03/27/2018	13:03
ZZZZZ	18C0335-03	V303271813G.D	03/27/2018	13:28
Trip Blank	18C0424-03	V303271822G.D	03/27/2018	17:15
MW-4-180326	18C0424-01	V303271823G.D	03/27/2018	17:41
Calibration Check	SGC0408-CCV1	V303271827G.D	03/27/2018	19:21

BFB TUNE GRAPHIC REPORT

Datafile Analyzed: /20180327s.b/V303271802G.D
Method Used: \20180327s.b\bfb8260.m Inst: nt3
Injection Date: 27-MAR-2018 08:39 Operator: PKC
Sample Info: SGC0408-TUN1 SGC0408-TUN1
Report Date: 03/29/2018 06:53





m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	29.90
75	30.00 - 60.00% of mass 95	49.62
96	5.00 - 9.00% of mass 95	7.15
173	Less than 2.00% of mass 174	0.47 (0.50)
174	50.00 - 100.00% of mass 95	93.89
175	5.00 - 9.00% of mass 174	5.93 (6.32)
176	95.00 - 101.00% of mass 174	89.43 (95.26)
177	5.00 - 9.00% of mass 176	6.40 (7.15)

Data File: V303271802G.D
Spectrum: Avg. Scans 1440-1442 (8.69), Background Scan 1433
Location of Maximum: 95.00
Number of points: 75

m/z	Y	m/z	Y	m/z	Y	m/z	Y
41.00	84	64.00	240	88.00	1643	141.00	557
43.00	60	65.00	365	91.00	198	143.00	371
44.00	403	66.00	57	92.00	1058	145.00	130
45.00	645	67.00	54	93.00	1916	148.00	52
47.00	1399	68.00	4050	94.00	4660	155.00	152
48.00	496	69.00	3954	95.00	40952	157.00	118
49.00	2602	70.00	474	96.00	2928	159.00	59
50.00	12246	72.00	419	97.00	71	161.00	59
51.00	3725	73.00	1873	103.00	132	171.00	76
52.00	157	74.00	6468	104.00	215	172.00	642
53.00	50	75.00	20320	106.00	259	173.00	191
55.00	160	76.00	1493	107.00	60	174.00	38448
56.00	1071	77.00	226	116.00	204	175.00	2430
57.00	1309	78.00	311	117.00	275	176.00	36624
58.00	69	79.00	1235	118.00	224	177.00	2620
60.00	475	80.00	469	119.00	258	181.00	63
61.00	2409	81.00	1117	128.00	154	207.00	51
62.00	2518	82.00	274	130.00	133	251.00	69
63.00	1959	87.00	1560	139.00	65		

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

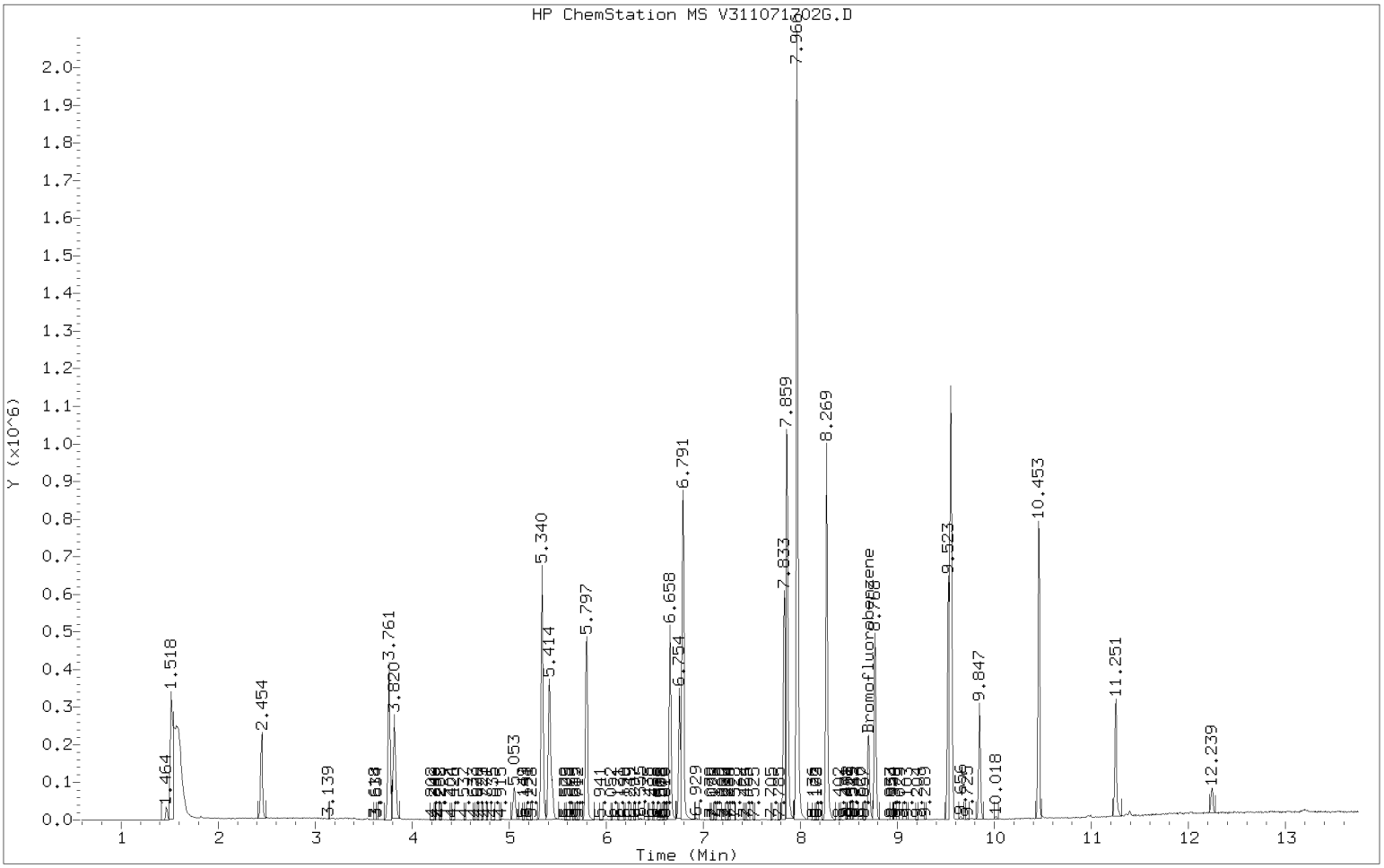
Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V311071702G.D	Injection Date:	11/07/17
Instrument ID:	NT3	Injection Time:	08:48
Sequence:	SFK0117	Lab Sample ID:	SFK0117-TUN1

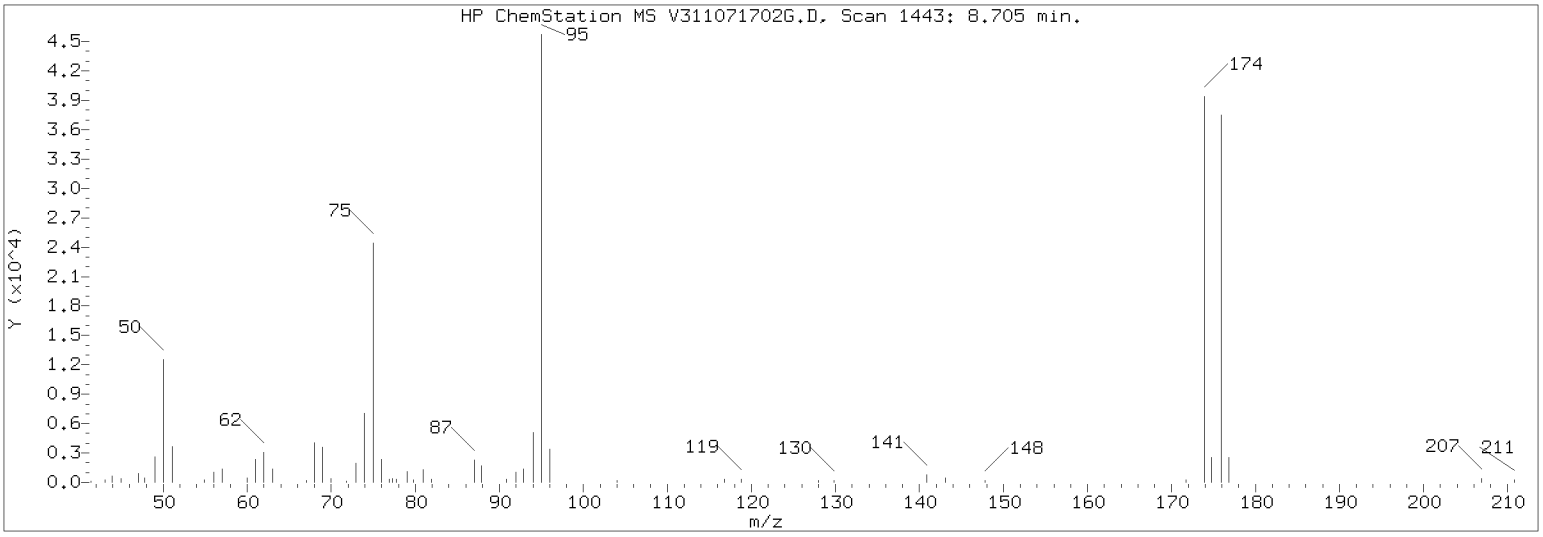
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	28.7	PASS
75	30 - 80% of 95	49.3	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.56	PASS
173	Less than 2% of 174	0.378	PASS
174	50 - 120% of 95	84	PASS
175	5 - 9% of 174	7.52	PASS
176	95 - 101% of 174	100	PASS
177	5 - 9% of 176	6.66	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Cal Standard	SFK0117-CAL9	V311071717G.D	11/07/2017	15:46
Cal Standard	SFK0117-CALA	V311071718G.D	11/07/2017	16:11
Cal Standard	SFK0117-CALB	V311071719G.D	11/07/2017	16:36
Cal Standard	SFK0117-CALC	V311071720G.D	11/07/2017	17:02
Cal Standard	SFK0117-CALD	V311071721G.D	11/07/2017	17:27
Cal Standard	SFK0117-CALE	V311071722G.D	11/07/2017	17:53
Secondary Cal Check	SFK0117-SCV2	V311071724G.D	11/07/2017	18:43

BFB TUNE GRAPHIC REPORT

Datafile Analyzed: /20171107s.b/V311071702G.D
Method Used: \20171107s.b\bfb8260.m Inst: nt3
Injection Date: 07-NOV-2017 08:48 Operator: PC
Sample Info: SFK0117-TUN1 SFK0117-TUN1
Report Date: 11/08/2017 09:39





m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	28.69
75	30.00 - 60.00% of mass 95	49.27
96	5.00 - 9.00% of mass 95	7.56
173	Less than 2.00% of mass 174	0.32 (0.38)
174	50.00 - 100.00% of mass 95	83.98
175	5.00 - 9.00% of mass 174	6.31 (7.52)
176	95.00 - 101.00% of mass 174	84.19 (100.25)
177	5.00 - 9.00% of mass 176	5.61 (6.66)

Data File: V311071702G.D
Spectrum: Avg. Scans 1442-1444 (8.70), Background Scan 1435
Location of Maximum: 95.00
Number of points: 67

m/z	Y	m/z	Y	m/z	Y	m/z	Y
41.00	116	63.00	1512	87.00	1771	130.00	68
42.00	60	65.00	75	88.00	1424	140.00	50
43.00	76	67.00	56	89.00	62	141.00	546
44.00	229	68.00	3733	91.00	296	143.00	441
45.00	512	69.00	3417	92.00	994	148.00	179
47.00	777	70.00	366	93.00	1430	155.00	64
48.00	608	72.00	245	94.00	4529	157.00	59
49.00	2410	73.00	1973	95.00	41552	159.00	53
50.00	11922	74.00	7185	96.00	3143	172.00	77
51.00	3454	75.00	20472	97.00	50	173.00	132
52.00	136	76.00	1985	104.00	265	174.00	34896
55.00	257	77.00	527	106.00	71	175.00	2624
56.00	871	78.00	118	116.00	86	176.00	34984
57.00	1570	79.00	1097	117.00	247	177.00	2329
60.00	506	80.00	226	119.00	158	207.00	7
61.00	2153	81.00	1207	128.00	124	211.00	89
62.00	2682	82.00	335	129.00	52		

Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20171107g.b/V311071702G.D
Method: \20171107g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 07-NOV-2017
Injection Date: 07-NOV-2017 08:48
ARI ID: SFK0117-TUN1
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PC

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.69 to 10.55)	32621148	10555627	0.324
8015C 2MP-TMB	(2.90 to 9.48)	70557112	10910366	0.155 M
AK101 nC6-nC10	(3.66 to 8.67)	46639461	10287504	0.221 M
NWTPHG Tol-Nap	(6.69 to 11.35)	34727855	11035641	0.318

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

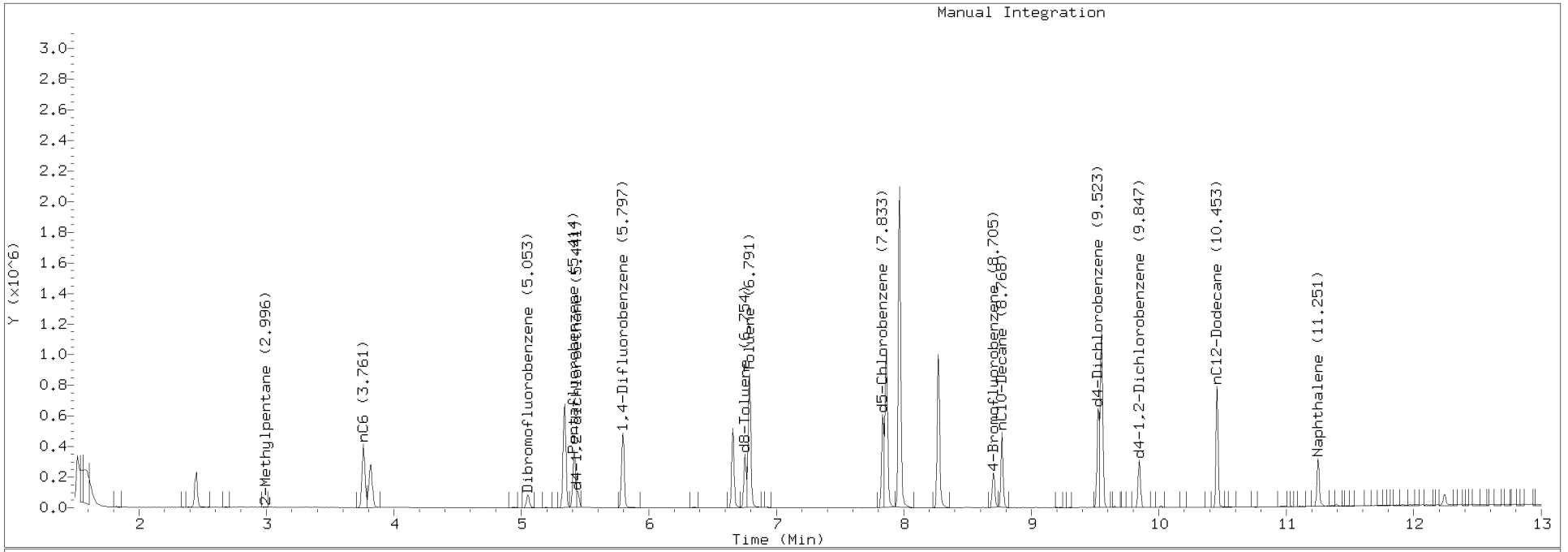
NW Gas Range Subtracted Peaks

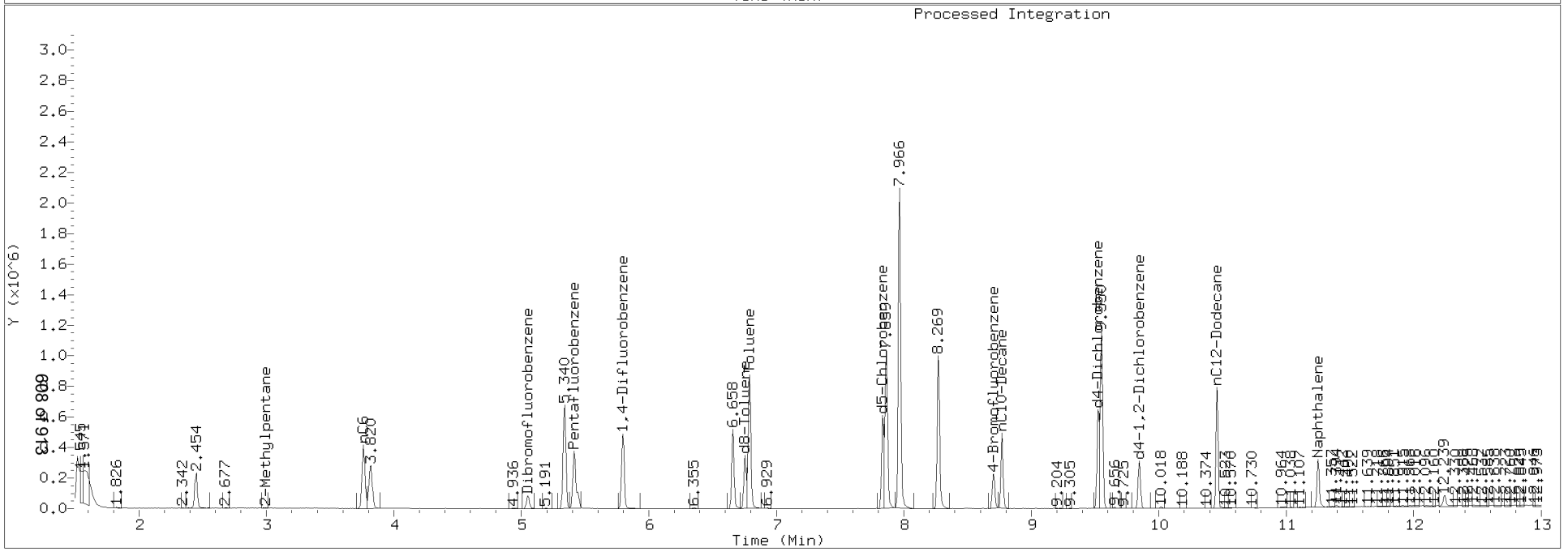
6.754	505384	d8-Toluene
8.705	334118	4-Bromofluorobenzene
9.523	804005	d4-Dichlorobenzene
7.833	741474	d5-Chlorobenzene
9.847	452665	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20171107g.b/V311071702G.D Injection: 07-NOV-2017 08:48

Lab ID:SFK0117-TUN1





MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

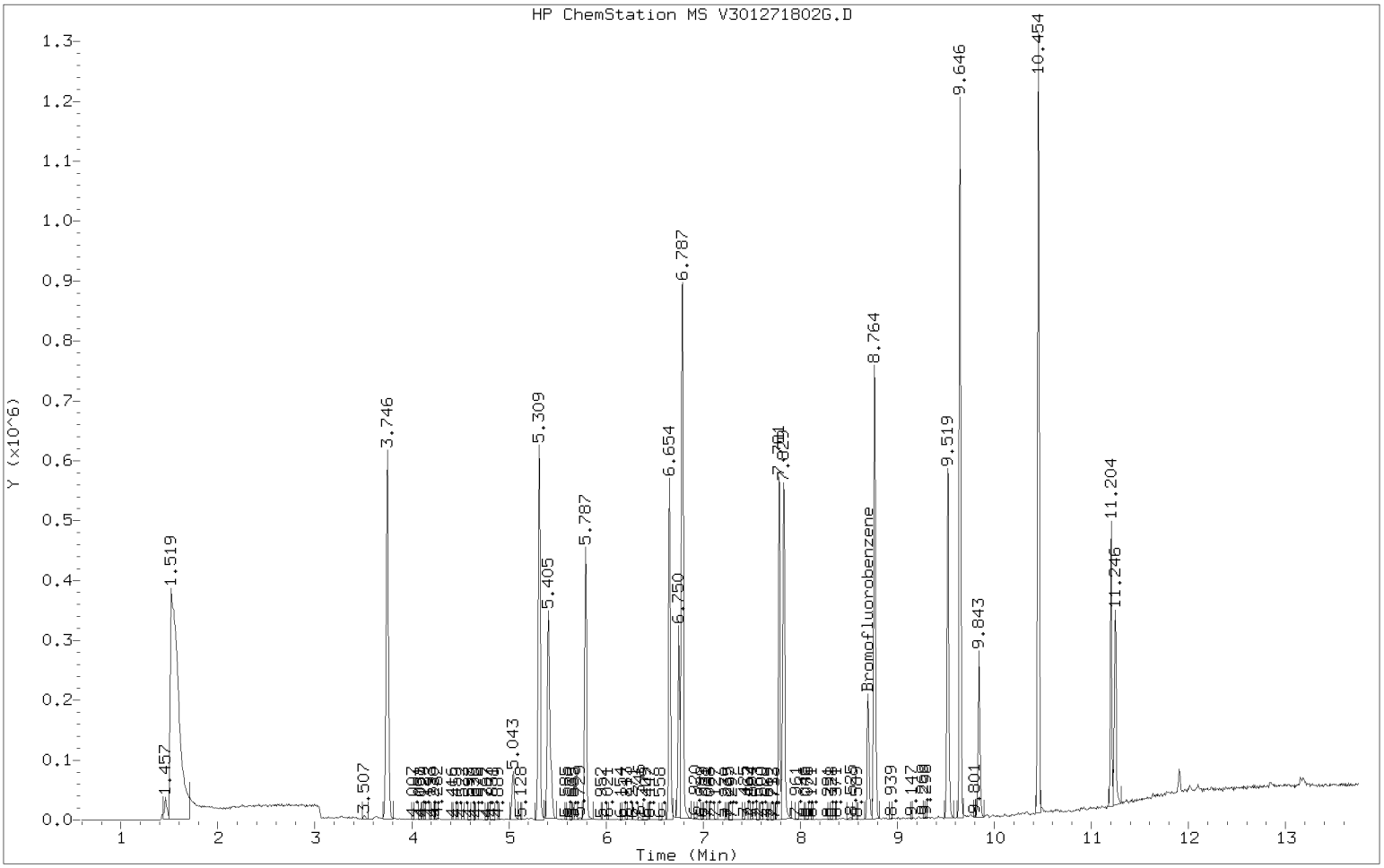
Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V301271802G.D	Injection Date:	01/27/18
Instrument ID:	NT3	Injection Time:	11:09
Sequence:	SGA0305	Lab Sample ID:	SGA0305-TUN1

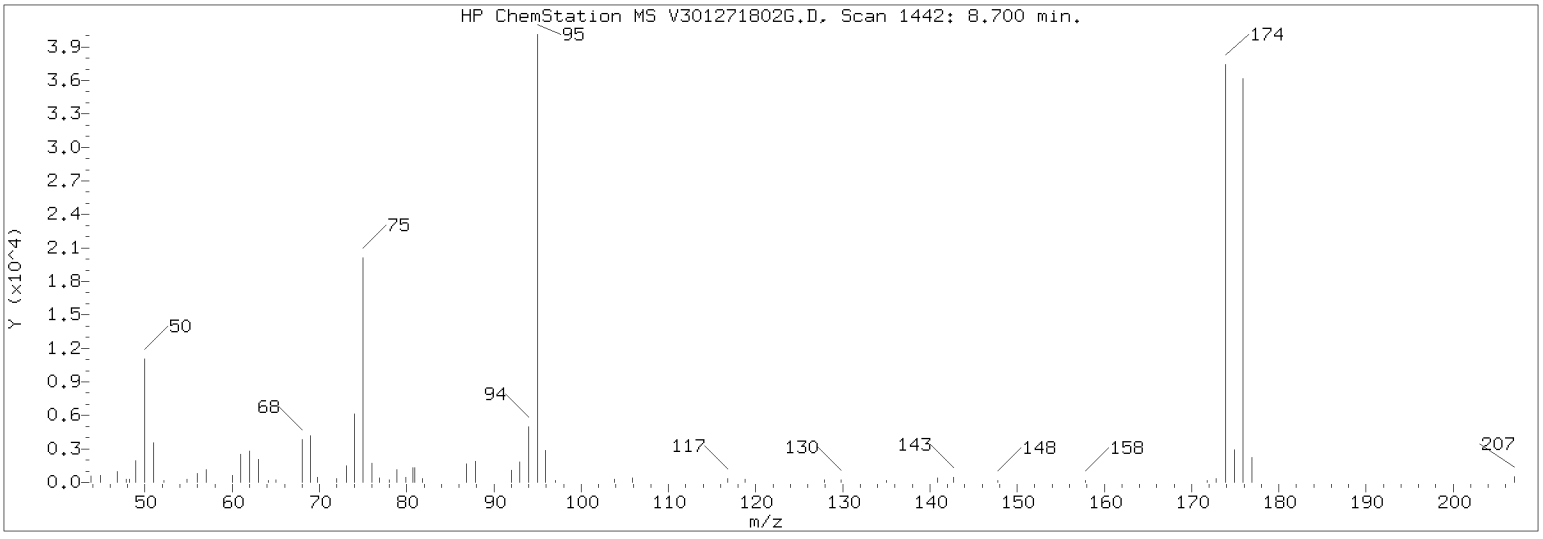
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	30	PASS
75	30 - 80% of 95	50.3	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.81	PASS
173	Less than 2% of 174	0.644	PASS
174	50 - 120% of 95	90.1	PASS
175	5 - 9% of 174	8.28	PASS
176	95 - 101% of 174	98.7	PASS
177	5 - 9% of 176	6.37	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGA0305-TUN1	V301271802G.D	01/27/2018	11:09
Cal Standard	SGA0305-CAL1	V301271803G.D	01/27/2018	11:59
Cal Standard	SGA0305-CAL2	V301271804G.D	01/27/2018	12:24
Cal Standard	SGA0305-CAL3	V301271805G.D	01/27/2018	12:49
Cal Standard	SGA0305-CAL4	V301271806G.D	01/27/2018	13:15
Cal Standard	SGA0305-CAL5	V301271807G.D	01/27/2018	13:40
Cal Standard	SGA0305-CAL6	V301271808G.D	01/27/2018	14:05
Secondary Cal Check	SGA0305-SCV1	V301271810G.D	01/27/2018	14:55

BFB TUNE GRAPHIC REPORT

Datafile Analyzed: /20180127s.b/V301271802G.D
Method Used: \20180127s.b\bfb8260.m Inst: nt3
Injection Date: 27-JAN-2018 11:09 Operator: PKC
Sample Info: SGA0305-TUN1 SGA0305-TUN1
Report Date: 01/29/2018 13:54





m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	30.02
75	30.00 - 60.00% of mass 95	50.26
96	5.00 - 9.00% of mass 95	6.81
173	Less than 2.00% of mass 174	0.58 (0.64)
174	50.00 - 100.00% of mass 95	90.08
175	5.00 - 9.00% of mass 174	7.46 (8.28)
176	95.00 - 101.00% of mass 174	88.92 (98.71)
177	5.00 - 9.00% of mass 176	5.67 (6.37)

Data File: V301271802G.D
Spectrum: Avg. Scans 1441-1443 (8.70), Background Scan 1434
Location of Maximum: 95.00
Number of points: 69

m/z	Y	m/z	Y	m/z	Y	m/z	Y
42.00	84	64.00	199	91.00	146	135.00	53
44.00	234	65.00	270	92.00	1123	141.00	494
45.00	409	68.00	3073	93.00	1565	143.00	501
46.00	67	69.00	3555	94.00	4260	145.00	51
47.00	972	70.00	360	95.00	35880	148.00	113
48.00	423	72.00	209	96.00	2445	158.00	51
49.00	2127	73.00	1519	97.00	55	161.00	62
50.00	10770	74.00	5797	104.00	100	172.00	226
51.00	3256	75.00	18032	105.00	68	173.00	208
52.00	174	76.00	1405	106.00	130	174.00	32320
55.00	308	77.00	334	107.00	53	175.00	2677
56.00	676	78.00	147	116.00	77	176.00	31904
57.00	1170	79.00	1098	117.00	309	177.00	2033
58.00	59	80.00	369	118.00	57	207.00	267
60.00	711	81.00	1706	119.00	192	211.00	59
61.00	2089	82.00	312	128.00	161		
62.00	1956	87.00	1193	129.00	52		
63.00	1604	88.00	1409	130.00	216		

Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180127g.b/V301271802G.D
Method: \20180127g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-JAN-2018 11:09
ARI ID: SGA0305-TUN1
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)	
WAGas Tol-C12	(6.69 to 10.55)	31991220	5974108	0.187	
8015C 2MP-TMB	(2.88 to 9.53)	70557112	5921282	0.084	M
AK101 nC6-nC10	(3.65 to 8.66)	48812322	4852804	0.099	M
NWTPHG Tol-Nap	(6.69 to 11.35)	34228300	7028035	0.205	
mod8015 nC7-nC12	(5.21 to 10.55)	52022420	7656888	0.147	M

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

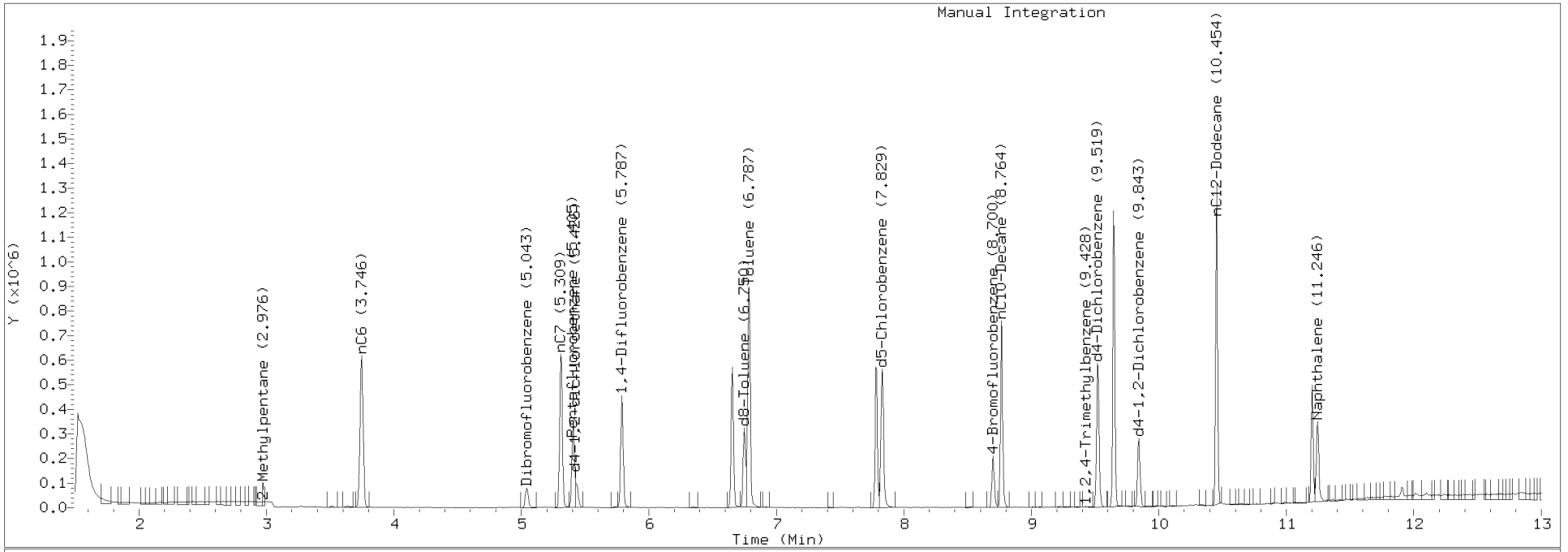
NW Gas Range Subtracted Peaks

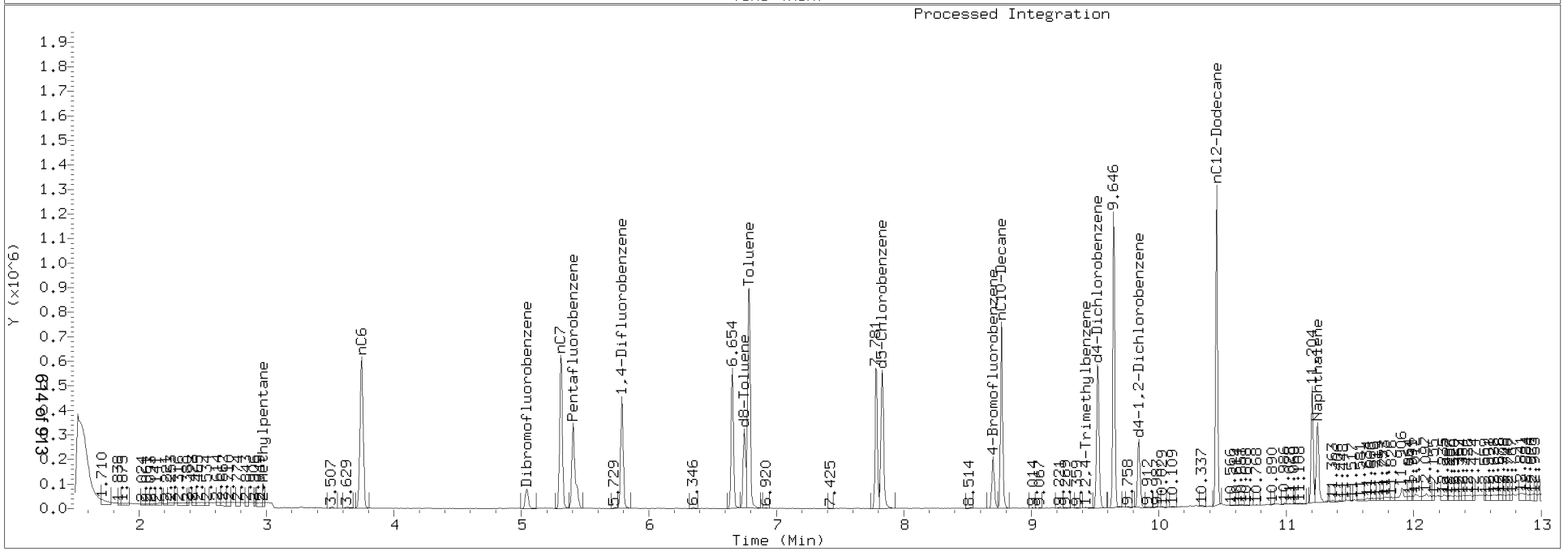
7.829	865987	d5-Chlorobenzene
6.750	454935	d8-Toluene
9.519	867218	d4-Dichlorobenzene
8.700	306403	4-Bromofluorobenzene
9.843	404410	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180127g.b/V301271802G.D Injection: 27-JAN-2018 11:09

Lab ID:SGA0305-TUN1





INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BA00063	Instrument:	NT3
Calibration Date:	01/27/2018 14:18	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)	100	40450.82	250	29216.08	500	30043.32	1000	33925.44	2500	37505.86		

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BA00063	Instrument:	NT3
Calibration Date:	01/27/2018 14:18	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BA00063	Instrument:	NT3
Calibration Date:	01/27/2018 14:18	Column (1):	RTX-VMS

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Toluene-d8	5	1.179228	5	1.174522								
4-Bromofluorobenzene	5	0.4216929	5	0.4314252								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BA00063	Instrument:	NT3
Calibration Date:	01/27/2018 14:18	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Gasoline Range Organics (Tol-Nap)	34228.3	14.0			RSD (15)	
Toluene-d8	1.176875	0.3			RSD (15)	
4-Bromofluorobenzene	0.4265591	1.6			RSD (15)	

Printed: 1/29/2018 2:46:17PM

ANALYSIS SEQUENCE

SGA0305

Instrument: NT3 Element Column ID: 1300725 RTXV
Calibration ID: BA00063 Tune File: bfb.u
EM Voltage: 1988

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGA0305-TUN1	MS Tune	QC		1	F009789	F011918	
SGA0305-CAL1	Gas 0.1	QC		2	G000766	F011918	
SGA0305-CAL2	Gas 0.25	QC		3	G000767	F011918	
SGA0305-CAL3	Gas 0.5	QC		4	G000768	F011918	
SGA0305-CAL4	Gas 1.0	QC		5	G000769	F011918	
SGA0305-CAL5	Gas 2.5	QC		6	G000770	F011918	
SGA0305-CAL6	Gas 5.0	QC		7	G000771	F011918	
SGA0305-SCV1	Gas SCV 1	QC		8	G000772	F011918	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20180127.b

	Time	Filename	LabID	ClientID	Vial#	pH	DF							
1	1044	V301271801.D	RINSE				1							
2	1109	V301271802.D	SGA0-TUN1				1							
3	1159	V301271803.D	SGA0-CAL1				1	5.40	188093	5.79	276243	7.83	253884	9.52	138141
4	1224	V301271804.D	SGA0-CAL2				1	5.41	187960	5.79	278201	7.83	252969	9.52	135646
5	1249	V301271805.D	SGA0-CAL3				1	5.41	192274	5.79	288983	7.83	259181	9.52	142656
6	1315	V301271806.D	SGA0-CAL4				1	5.40	196599	5.79	299021	7.83	265408	9.52	144782
7	1340	V301271807.D	SGA0-CAL5				1	5.41	197602	5.79	309463	7.83	275503	9.52	152409
8	1405	V301271808.D	SGA0-CAL6				1	5.41	205369	5.79	321893	7.83	282988	9.52	153827
9	1430	V301271809.D	RINSE				1	5.41	202444	5.79	299073	7.83	277805	9.52	151668
10	1455	V301271810.D	SGA0-SCV1				1	5.40	212081	5.79	319095	7.83	287301	9.52	155942

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20180127g.b

ARI Job No.: SGA0 Method: NWTPHG.m Instrument: nt3.i Date: 27-JAN-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1109	V301271802G.D	SGA0305-TUN1		1	Pentafluorobenzene, d4-1,2-dichloroethane,
1159	V301271803G.D	SGA0305-CAL1		1	nC6, Pentafluoroberzene, d4-1,2-dichloroethane,
1224	V301271804G.D	SGA0305-CAL2		1	Pentafluorobenzene, d4-1,2-dichloroethane,
1249	V301271805G.D	SGA0305-CAL3		1	d5-Chlorobenzene, Pentafluorobenzene, d4-1,2-dichloroethane,
1315	V301271806G.D	SGA0305-CAL4		1	NO MANUAL INTEGRATION
1340	V301271807G.D	SGA0305-CAL5		1	NO MANUAL INTEGRATION
1405	V301271808G.D	SGA0305-CAL6		1	d4-Dichlorobenzene,
1455	V301271810G.D	SGA0305-SCV1		1	NO MANUAL INTEGRATION

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem1\nt3.i\20180127g.b\NWTPHG.m
Batch File: \\target\share\chem1\nt3.i\20180127g.b
Inst ID: nt3.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	V301271803G	V301271804G	V301271805G	V301271806G	V301271807G	V301271808G	V301271810G
INJ.DATE:	27-JAN-2018	27-JAN-2018	27-JAN-2018	27-JAN-2018	27-JAN-2018	27-JAN-2018	27-JAN-2018
INJ.TIME:	11:59	12:24	12:49	13:15	13:40	14:05	14:55

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
5 2-Methylpentane	2.996	+++++	3.003	+++++	3.024	+++++	+++++	2.976	2.926-3.026	3.008	0.015
3 AK101	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.805	1.065-6.545	+++++	+++++
7 nC6	3.746	3.746	3.747	3.746	3.747	3.745	3.746	3.746	3.696-3.796	3.746	0.001
$ 10 Dibromofluorobenzene	5.043	5.043	5.044	5.043	5.044	5.042	5.037	5.043	4.993-5.093	5.042	0.002
46 nC7	5.309	5.309	5.309	5.309	5.310	5.313	5.314	5.309	5.239-5.379	5.310	0.002
37 Benzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.331	5.281-5.381	+++++	+++++
$ 29 Pentafluorobenzene	5.404	5.405	5.405	5.404	5.405	5.409	5.404	5.405	5.355-5.455	5.405	0.002
$ 30 d4-1,2-dichloroethane	5.431	5.431	5.437	5.436	5.437	5.436	5.436	5.426	5.376-5.476	5.435	0.003
$ 31 1,4-Difluorobenzene	5.787	5.787	5.788	5.792	5.788	5.792	5.792	5.787	5.737-5.837	5.789	0.003
4 8015GAS	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.351	3.011-9.691	+++++	+++++
45 8015mod	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.012	0.942-1.082	+++++	+++++
38 n-Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.660	6.610-6.710	+++++	+++++
$ 32 d8-Toluene	6.749	6.749	6.750	6.749	6.750	6.743	6.749	6.750	6.700-6.800	6.749	0.002
12 Toluene	6.781	6.781	6.782	6.781	6.782	6.786	6.786	6.787	6.737-6.837	6.783	0.002
39 n-Nonane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.800	7.750-7.850	+++++	+++++
$ 33 d5-Chlorobenzene	7.828	7.828	7.829	7.828	7.829	7.828	7.828	7.829	7.779-7.879	7.828	0.001
40 Ethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.861	7.811-7.911	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem1\nt3.i\20180127g.b\NWTPHG.m
Batch File: \\target\share\chem1\nt3.i\20180127g.b
Inst ID: nt3.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
41 m,p-xylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.962	7.912-8.012	+++++	+++++
42 o-xylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.270	8.220-8.320	+++++	+++++
2 WAGAS	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.381	7.291-11.471	+++++	+++++
$ 34 4-Bromofluorobenzene	8.700	8.700	8.701	8.700	8.701	8.699	8.700	8.700	8.650-8.750	8.700	0.001
17 nC10-Decane	8.769	8.769	8.765	8.764	8.770	8.769	8.790	8.764	8.714-8.814	8.771	0.009
20 1,2,4-Trimethylbenzene	9.439	9.439	9.429	9.428	9.424	9.438	9.439	9.428	9.379-9.479	9.434	0.006
$ 35 d4-Dichlorobenzene	9.524	9.519	9.519	9.524	9.519	9.529	9.518	9.519	9.469-9.569	9.522	0.004
1 NWTPHG	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.652	7.122-12.182	+++++	+++++
43 n-Undecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.819	9.769-9.869	+++++	+++++
$ 36 d4-1,2-Dichlorobenzene	9.843	9.843	9.844	9.843	9.860	9.864	9.843	9.843	9.793-9.893	9.848	0.009
22 nC12-Dodecane	10.454	10.454	10.450	10.454	10.450	10.454	10.454	10.454	10.404-10.504	10.453	0.002
44 n-Tridecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.199	11.149-11.249	+++++	+++++
24 Naphthalene	11.246	11.246	11.247	11.246	11.247	11.246	11.246	11.246	11.196-11.296	11.246	0.001

6a
8260 GAS INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: 20151005

Instrument: NT3.I Project:

Calibration Date: 27-JAN-2018 SDG No.: 20151005

Gas Range	RF1 0.1	RF2 0.25	RF3 0.5	RF4 1.0	RF5 2.5	RF6 5	Ave RF	%RSD
WA Gas	35555998	27529589	28518482	32385328	35966720	*********	31991220	12.2
AK Gas	47555395	43535785	45802926	47815437	50807632	57356758	48812322	9.9
NW Gas	40450816	29216080	30043316	33925443	37505859	*********	34228300	14.0
8015Mod	54424700	44490800	46068424	50419237	54779441	61951893	52022420	12.4

<- Indicates %RSD outside limits
Surrogate areas are not included in RF calculation.
Surrogate calibration is from BETX curve files.

Quant Ranges : WA Gas Toluene - nC12
AK Gas nC6 - nC10
NW Gas Toluene - Naphthalene
Cal Gas nC6 - nC12
8015 Mod nC7 - nC12

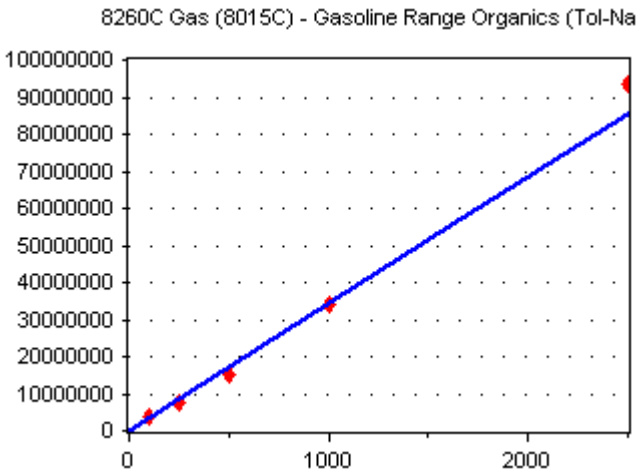
Gas Cal. Files	Analysis Time
V301271803G.D	27-JAN-2018 11:59
V301271804G.D	27-JAN-2018 12:24
V301271805G.D	27-JAN-2018 12:49
V301271806G.D	27-JAN-2018 13:15
V301271807G.D	27-JAN-2018 13:40
V301271808G.D	27-JAN-2018 14:05

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (8015C)

Gasoline Range Organics (Tol-Na

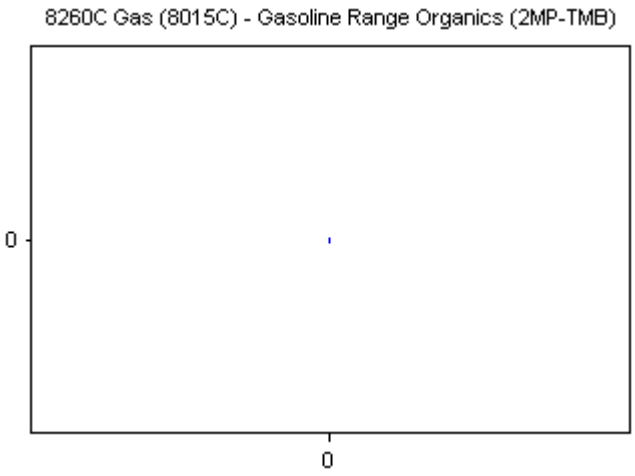


Average RF

RF RSD: 14.02579

[Conc] = 34228.3 * [Response]

Gasoline Range Organics (2MP-T



Average RF

RF RSD:

[Conc] = * [Response]

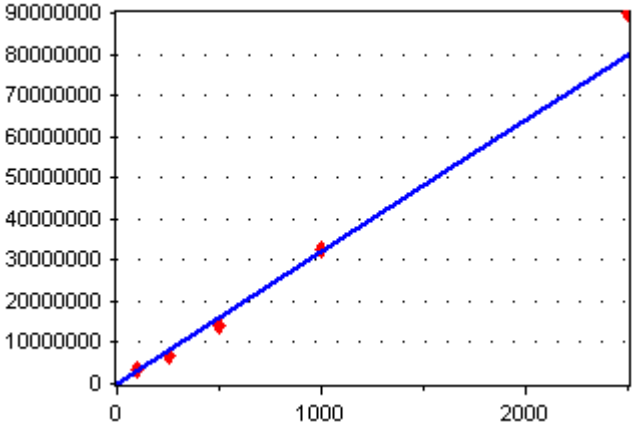
Gasoline Range Organics (Tol-C1

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (8015C)

8260C Gas (8015C) - Gasoline Range Organics (Tol-C1



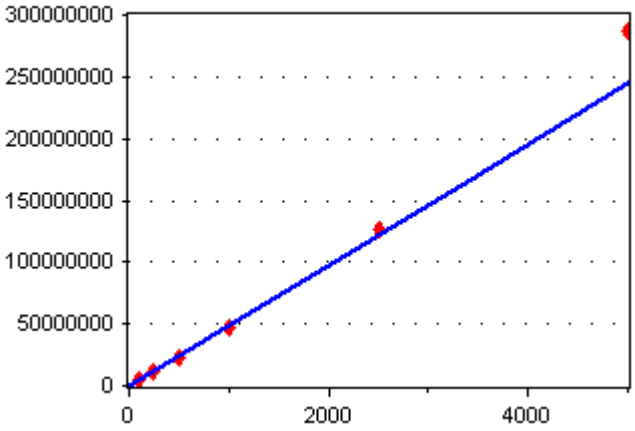
Average RF

RF RSD: 12.17015

[Conc] = 31991.22 * [Response]

Gasoline Range Organics (C6-C1(

8260C Gas (8015C) - Gasoline Range Organics (C6-C1(



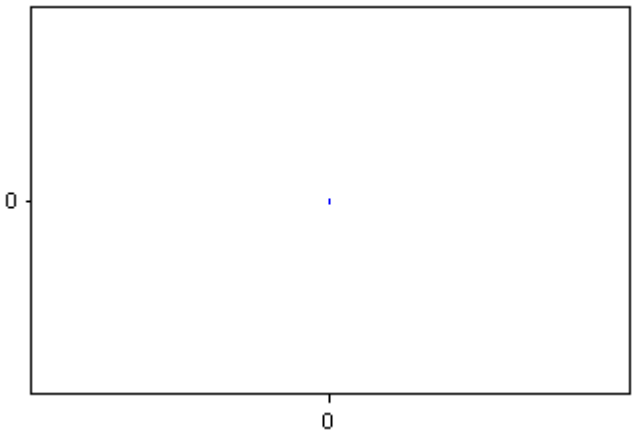
Average RF

RF RSD: 9.887236

[Conc] = 48812.33 * [Response]

Gasoline Range Organics (C5-C1

8260C Gas (8015C) - Gasoline Range Organics (C5-C12)



Average RF

RF RSD:

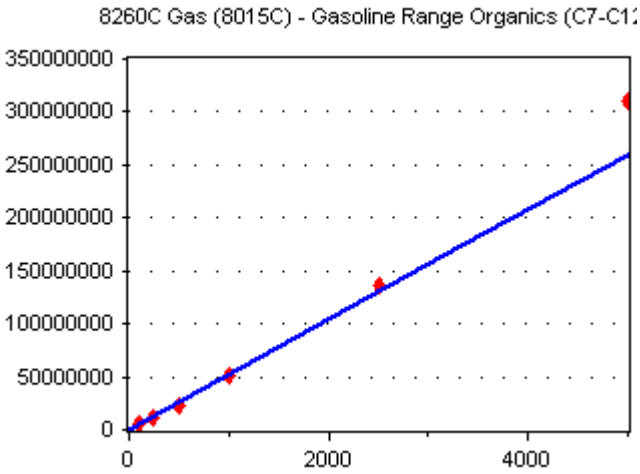
[Conc] = * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (8015C)

Gasoline Range Organics (C7-C1

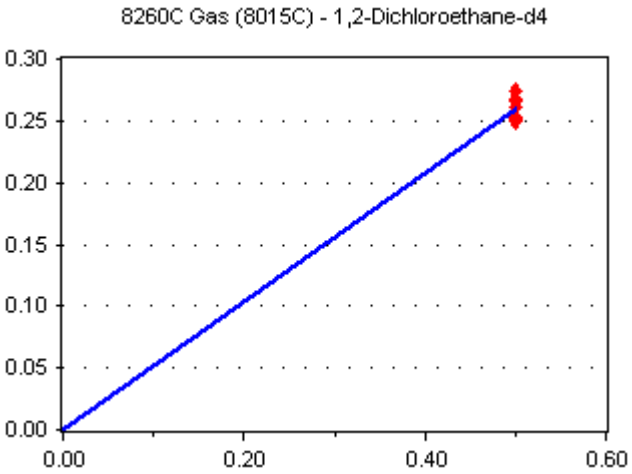


Average RF

RF RSD: 12.35969

[Conc] = 52022.42 * [Response]

1,2-Dichloroethane-d4



Average RF

RF RSD: 3.417663

[Conc] = 0.5194743 * [Response]

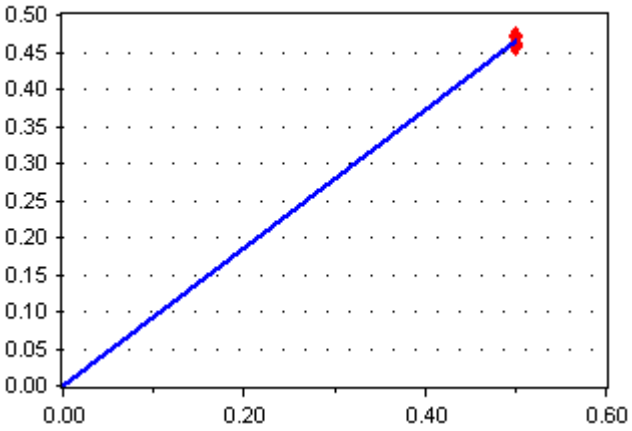
1,2-Dichlorobenzene-d4

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (8015C)

8260C Gas (8015C) - 1,2-Dichlorobenzene-d4



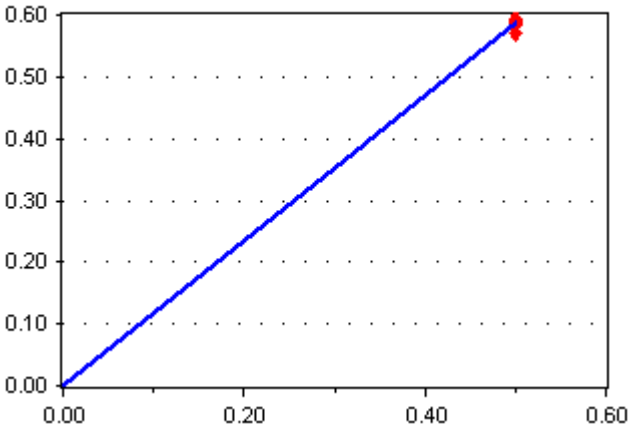
Average RF

RF RSD: 1.418743

[Conc] = 0.9323901 * [Response]

Toluene-d8

8260C Gas (8015C) - Toluene-d8



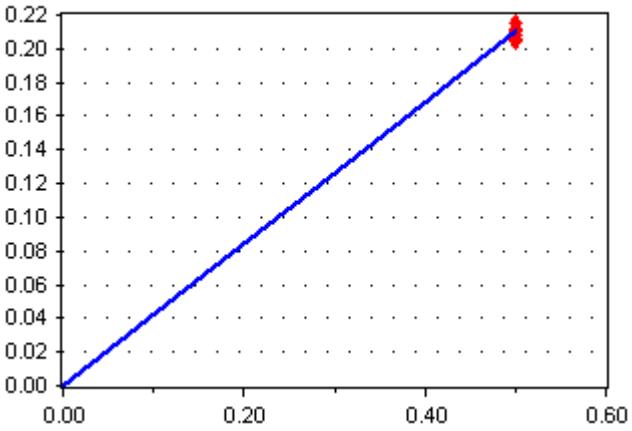
Average RF

RF RSD: 1.174111

[Conc] = 1.17246 * [Response]

4-Bromofluorobenzene

8260C Gas (8015C) - 4-Bromofluorobenzene



Average RF

RF RSD: 1.872363

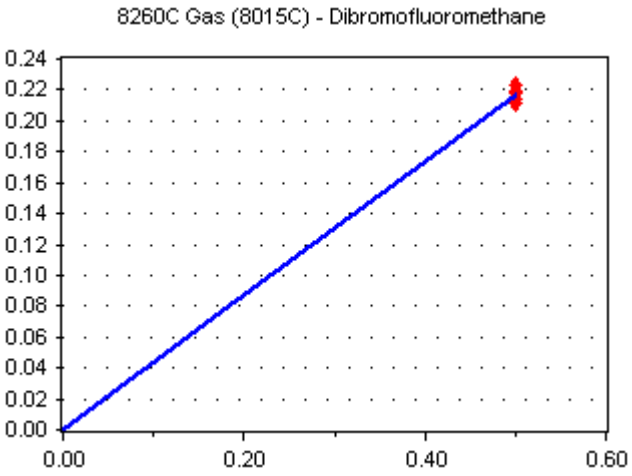
[Conc] = 0.4205629 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (8015C)

Dibromofluoromethane

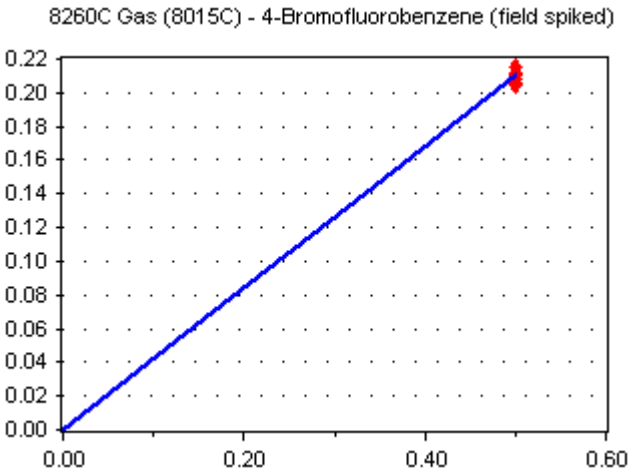


Average RF

RF RSD: 1.732171

[Conc] = 0.4345069 * [Response]

4-Bromofluorobenzene (field spik



Average RF

RF RSD: 1.872363

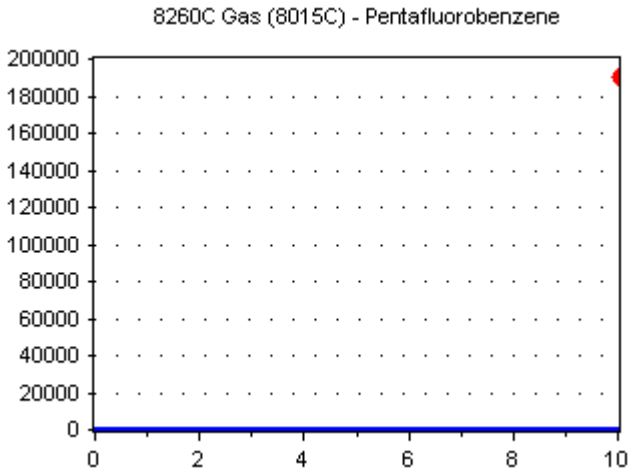
[Conc] = 0.4205629 * [Response]

Pentafluorobenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (8015C)

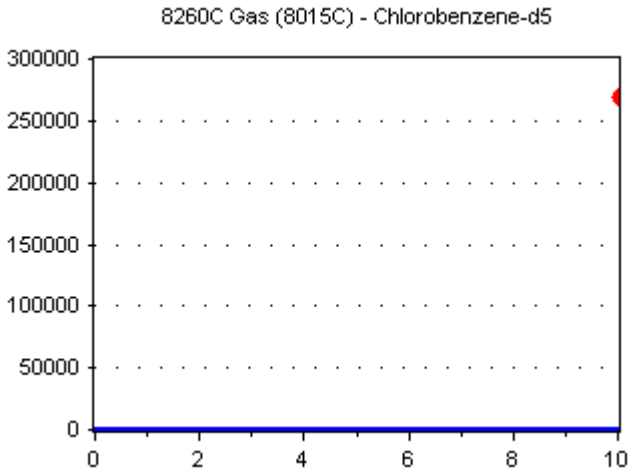


Average RF

RF RSD:

[Conc] = * [Response]

Chlorobenzene-d5

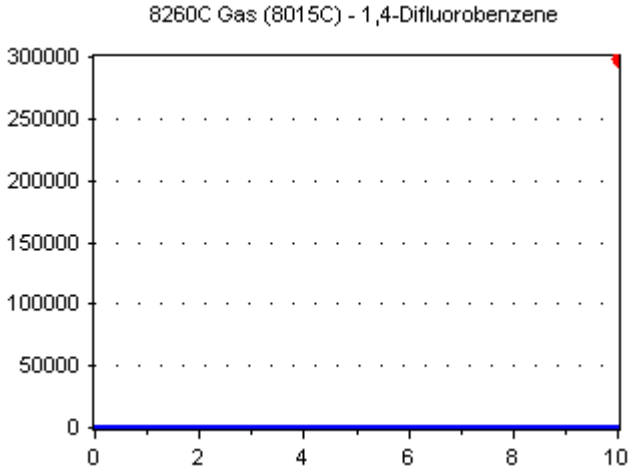


Average RF

RF RSD:

[Conc] = * [Response]

1,4-Difluorobenzene



Average RF

RF RSD:

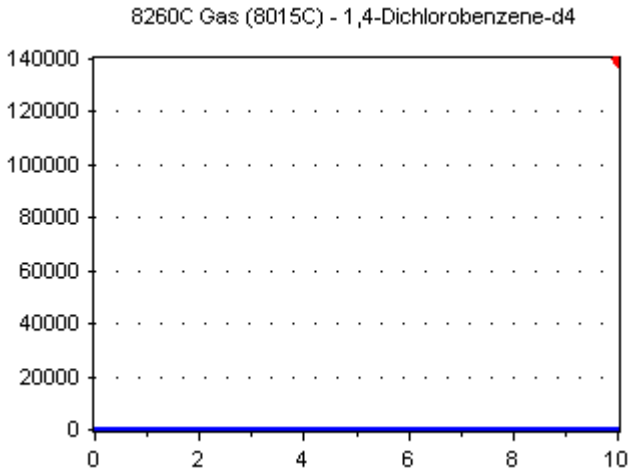
[Conc] = * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (8015C)

1,4-Dichlorobenzene-d4



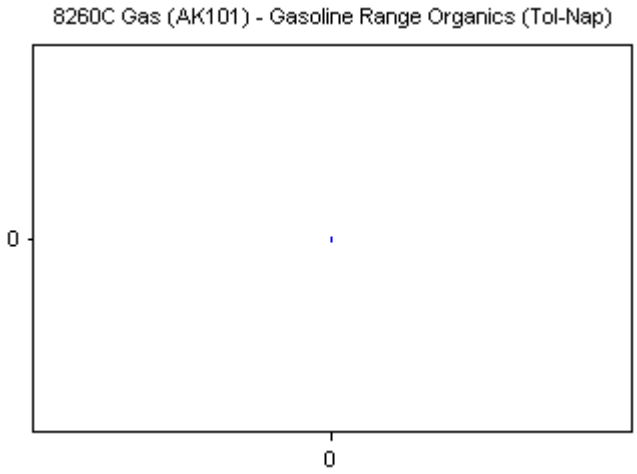
Average RF

RF RSD:

[Conc] = * [Response]

8260C Gas (AK101)

Gasoline Range Organics (Tol-Na



Average RF

RF RSD:

[Conc] = * [Response]

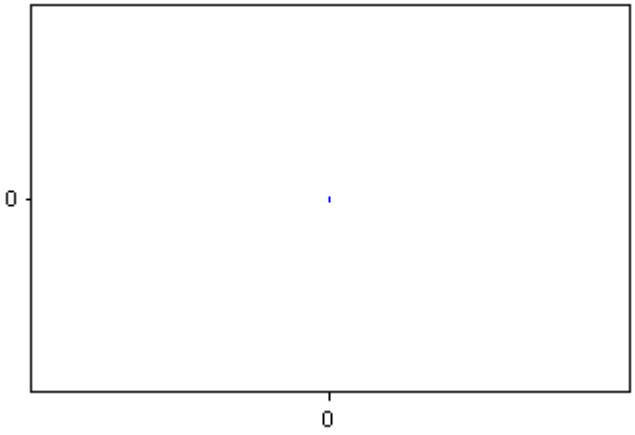
Gasoline Range Organics (2MP-T

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (AK101)

8260C Gas (AK101) - Gasoline Range Organics (2MP-TMB)



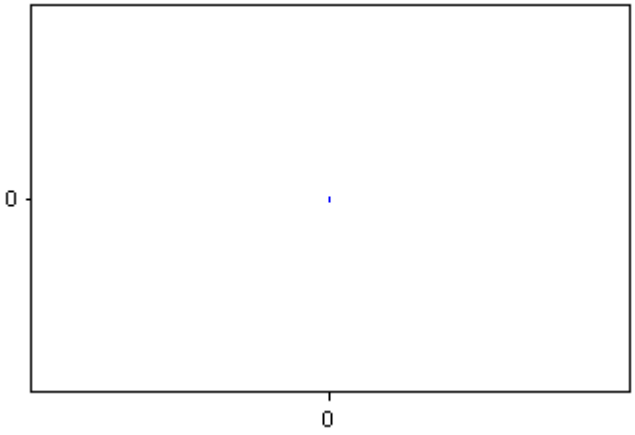
Average RF

RF RSD:

[Conc] = * [Response]

Gasoline Range Organics (Tol-C1

8260C Gas (AK101) - Gasoline Range Organics (Tol-C12)



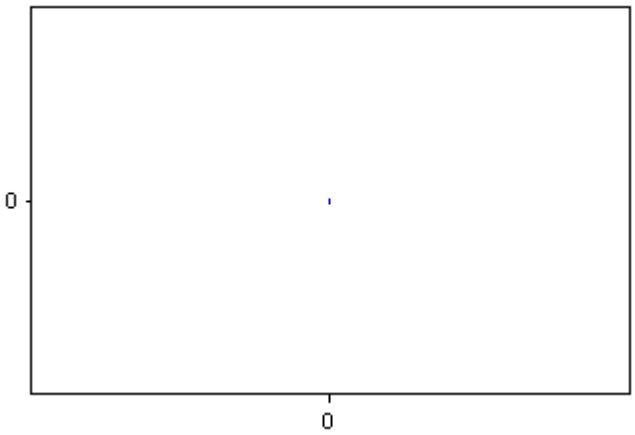
Average RF

RF RSD:

[Conc] = * [Response]

Gasoline Range Organics (C6-C1(

8260C Gas (AK101) - Gasoline Range Organics (C6-C10)



Average RF

RF RSD:

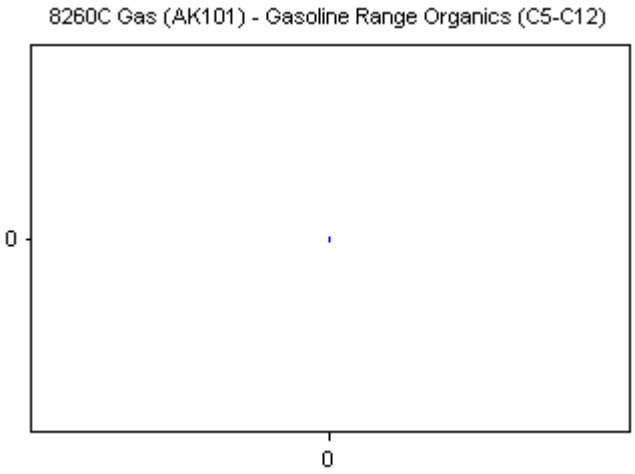
[Conc] = * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (AK101)

Gasoline Range Organics (C5-C1

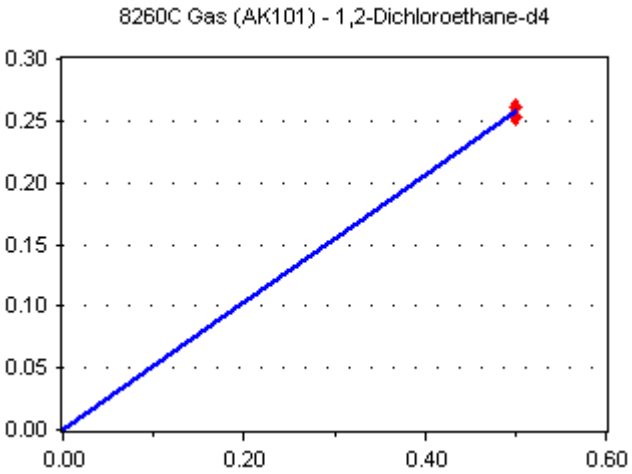


Average RF

RF RSD:

[Conc] = * [Response]

1,2-Dichloroethane-d4



Average RF

RF RSD: 2.235505

[Conc] = 0.5152869 * [Response]

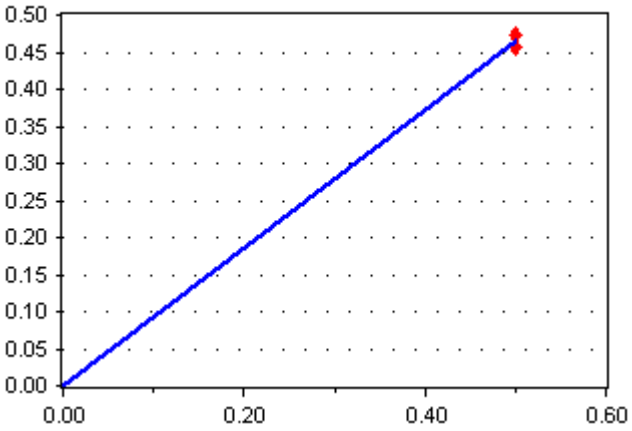
1,2-Dichlorobenzene-d4

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (AK101)

8260C Gas (AK101) - 1,2-Dichlorobenzene-d4



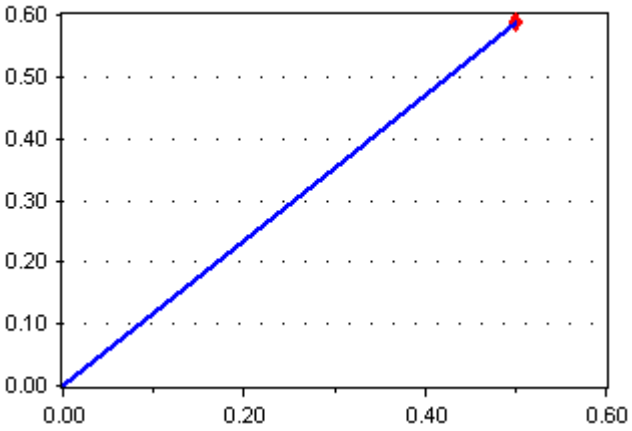
Average RF

RF RSD: 2.432493

[Conc] = 0.9321482 * [Response]

Toluene-d8

8260C Gas (AK101) - Toluene-d8



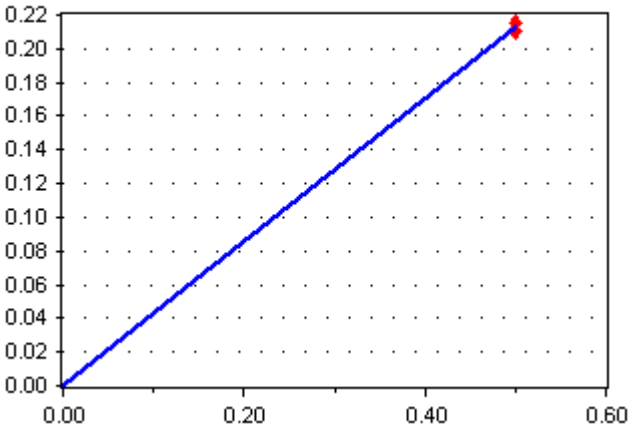
Average RF

RF RSD: 0.2825532

[Conc] = 1.176875 * [Response]

4-Bromofluorobenzene

8260C Gas (AK101) - 4-Bromofluorobenzene



Average RF

RF RSD: 1.613547

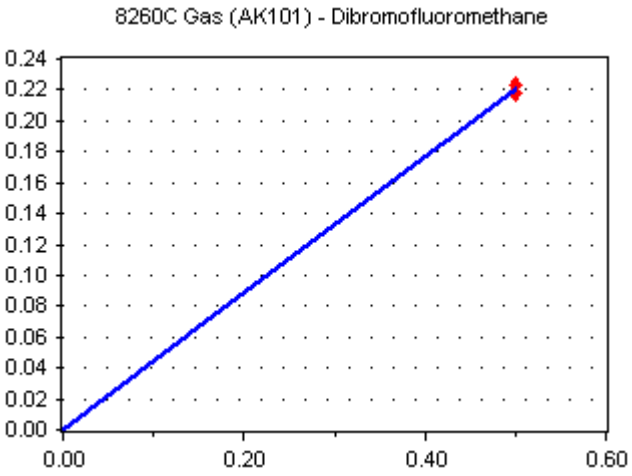
[Conc] = 0.4265591 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (AK101)

Dibromofluoromethane

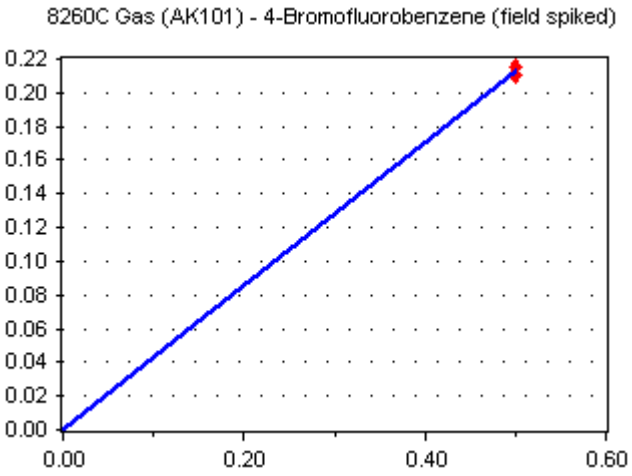


Average RF

RF RSD: 1.696167

[Conc] = 0.4418345 * [Response]

4-Bromofluorobenzene (field spik



Average RF

RF RSD: 1.613547

[Conc] = 0.4265591 * [Response]

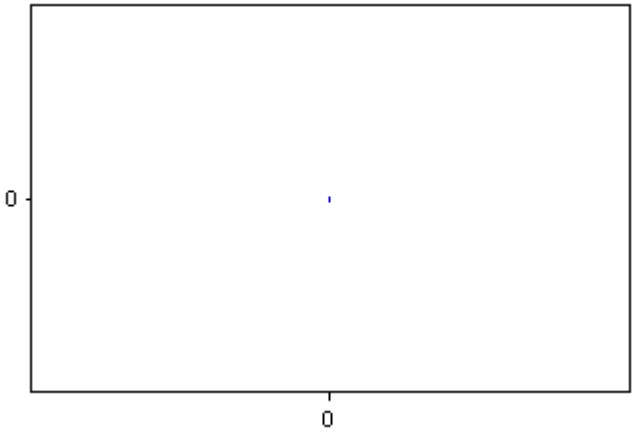
Pentafluorobenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (AK101)

8260C Gas (AK101) - Pentafluorobenzene



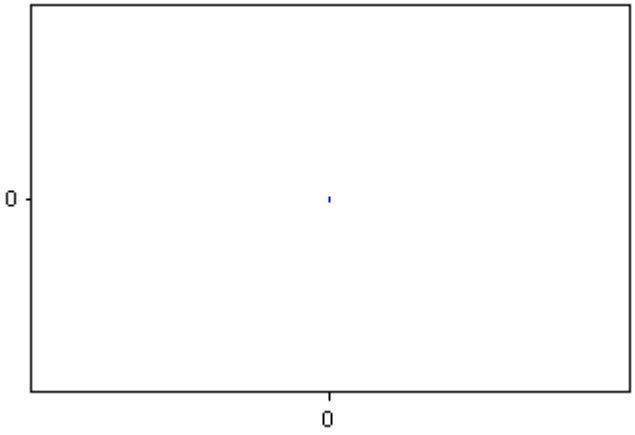
Average RF

RF RSD:

[Conc] = * [Response]

Chlorobenzene-d5

8260C Gas (AK101) - Chlorobenzene-d5



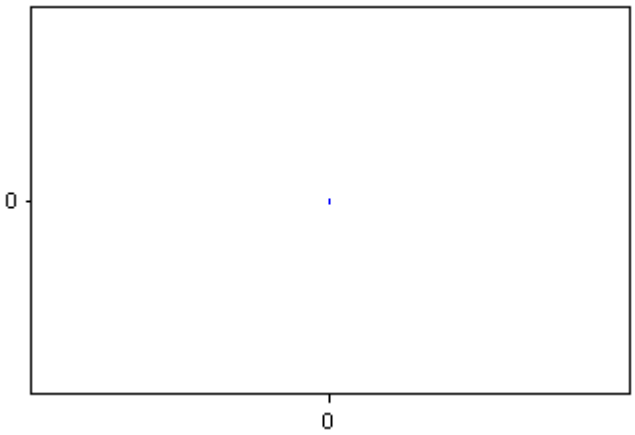
Average RF

RF RSD:

[Conc] = * [Response]

1,4-Difluorobenzene

8260C Gas (AK101) - 1,4-Difluorobenzene



Average RF

RF RSD:

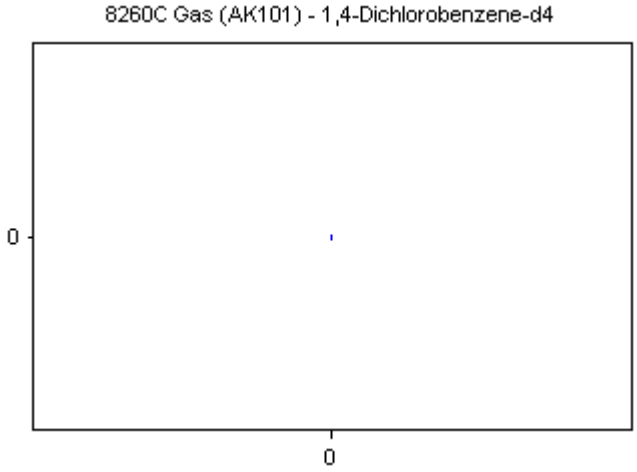
[Conc] = * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (AK101)

1,4-Dichlorobenzene-d4



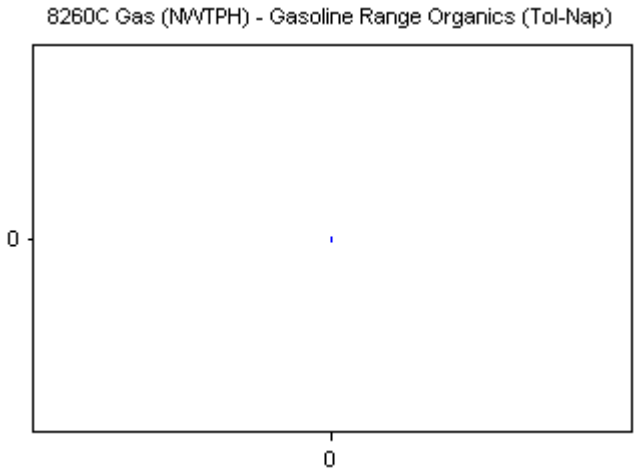
Average RF

RF RSD:

[Conc] = * [Response]

8260C Gas (NWTPH)

Gasoline Range Organics (Tol-Na



Average RF

RF RSD:

[Conc] = * [Response]

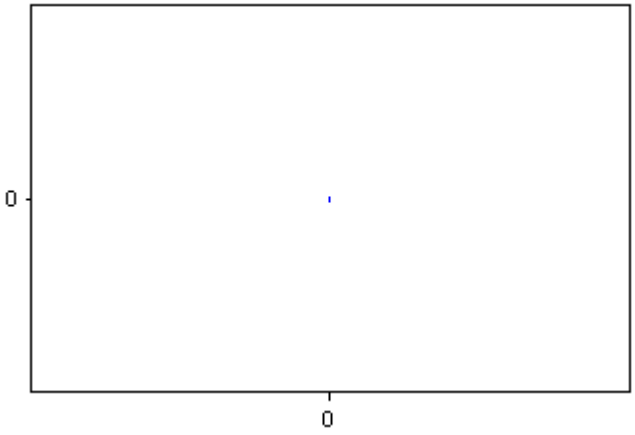
Gasoline Range Organics (2MP-T

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (NWTPH)

8260C Gas (NWTPH) - Gasoline Range Organics (2MP-TMB)



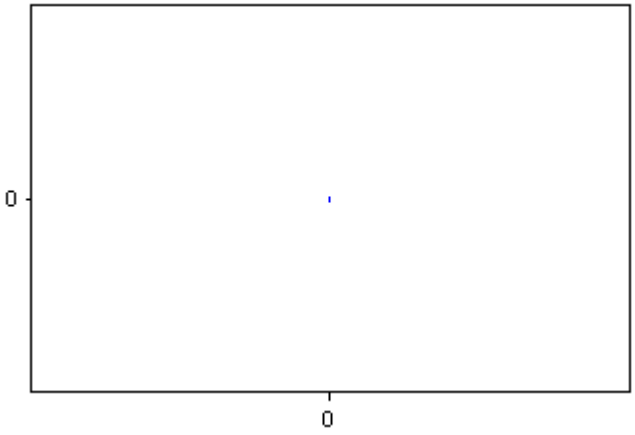
Average RF

RF RSD:

[Conc] = * [Response]

Gasoline Range Organics (Tol-C1

8260C Gas (NWTPH) - Gasoline Range Organics (Tol-C12)



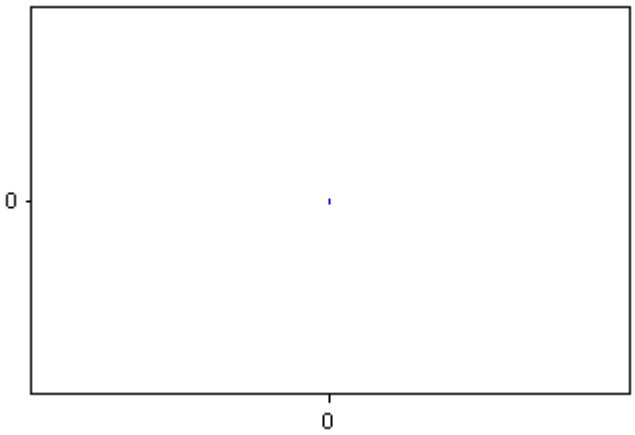
Average RF

RF RSD:

[Conc] = * [Response]

Gasoline Range Organics (C6-C1(

8260C Gas (NWTPH) - Gasoline Range Organics (C6-C10)



Average RF

RF RSD:

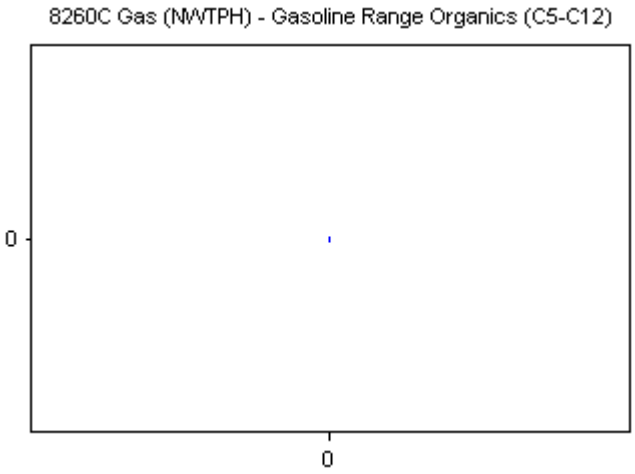
[Conc] = * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (NWTPH)

Gasoline Range Organics (C5-C1

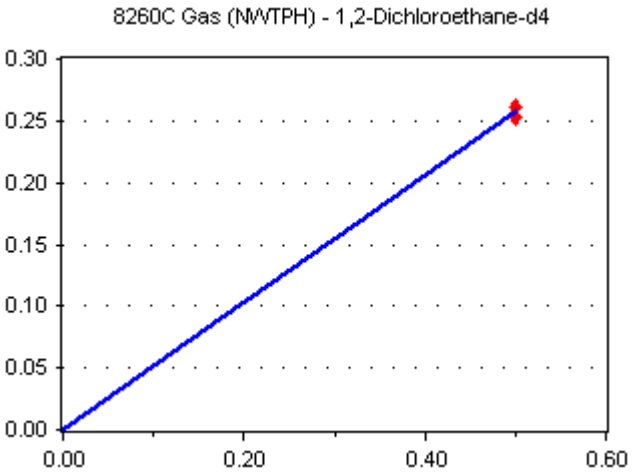


Average RF

RF RSD:

[Conc] = * [Response]

1,2-Dichloroethane-d4



Average RF

RF RSD: 2.235505

[Conc] = 0.5152869 * [Response]

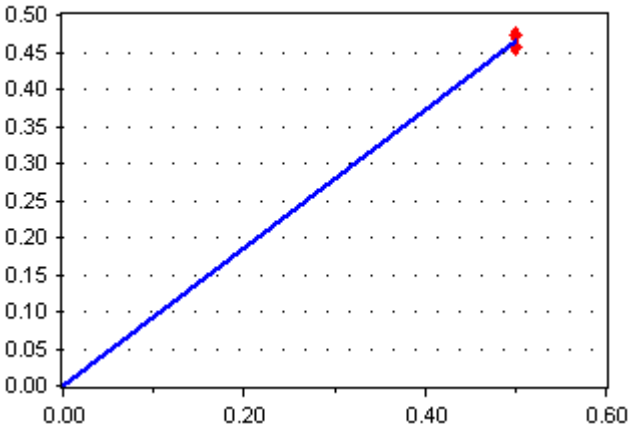
1,2-Dichlorobenzene-d4

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (NWTPH)

8260C Gas (NWTPH) - 1,2-Dichlorobenzene-d4



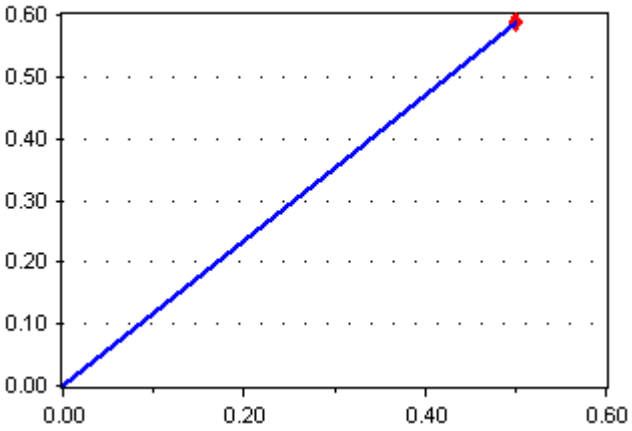
Average RF

RF RSD: 2.432493

[Conc] = 0.9321482 * [Response]

Toluene-d8

8260C Gas (NWTPH) - Toluene-d8



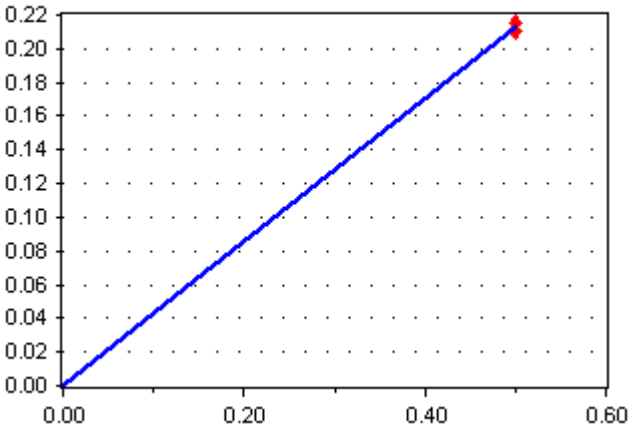
Average RF

RF RSD: 0.2825532

[Conc] = 1.176875 * [Response]

4-Bromofluorobenzene

8260C Gas (NWTPH) - 4-Bromofluorobenzene



Average RF

RF RSD: 1.613547

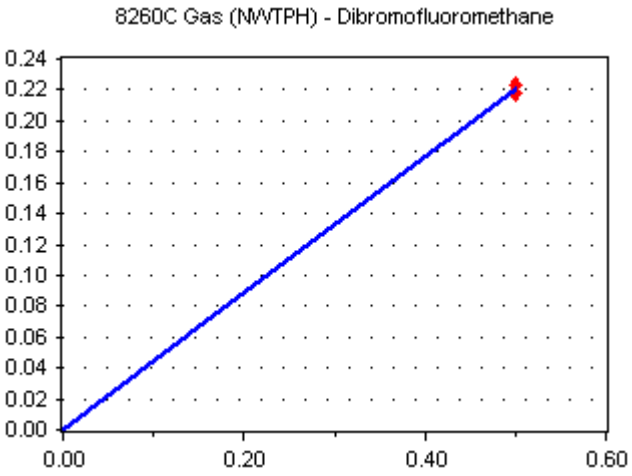
[Conc] = 0.4265591 * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (NWTPH)

Dibromofluoromethane

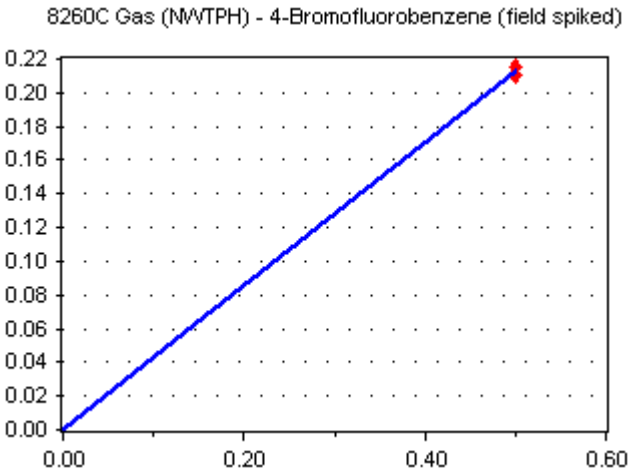


Average RF

RF RSD: 1.696167

[Conc] = 0.4418345 * [Response]

4-Bromofluorobenzene (field spik



Average RF

RF RSD: 1.613547

[Conc] = 0.4265591 * [Response]

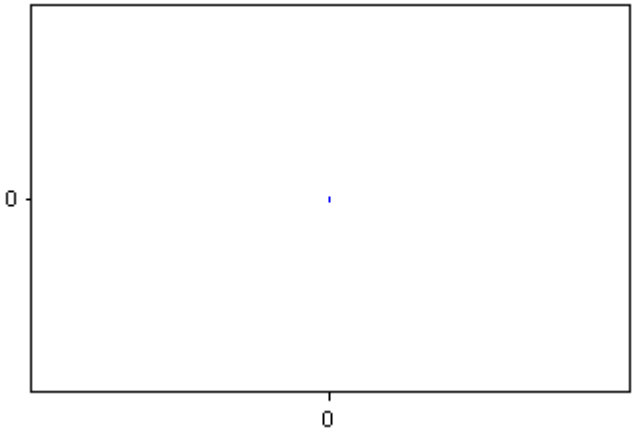
Pentafluorobenzene

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (NWTPH)

8260C Gas (NWTPH) - Pentafluorobenzene



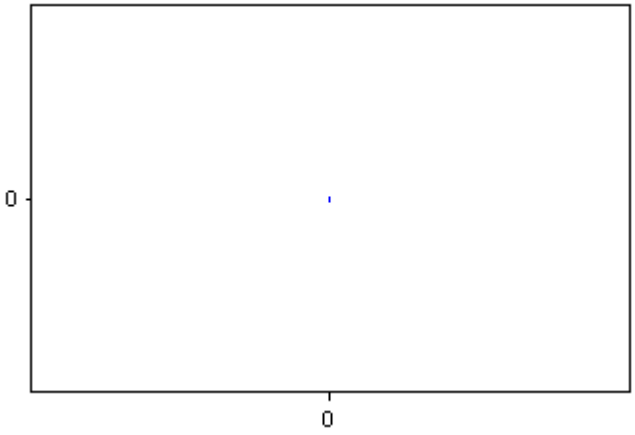
Average RF

RF RSD:

[Conc] = * [Response]

Chlorobenzene-d5

8260C Gas (NWTPH) - Chlorobenzene-d5



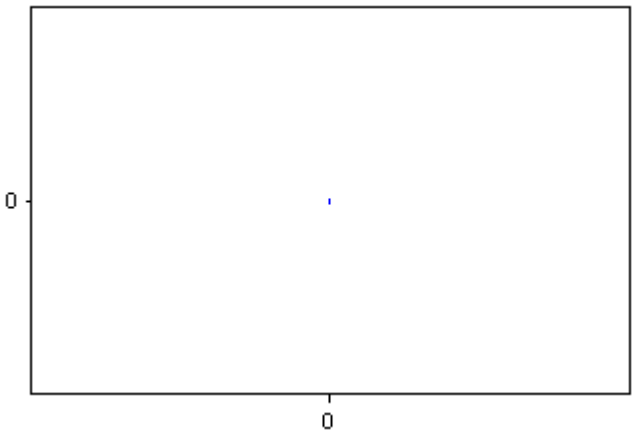
Average RF

RF RSD:

[Conc] = * [Response]

1,4-Difluorobenzene

8260C Gas (NWTPH) - 1,4-Difluorobenzene



Average RF

RF RSD:

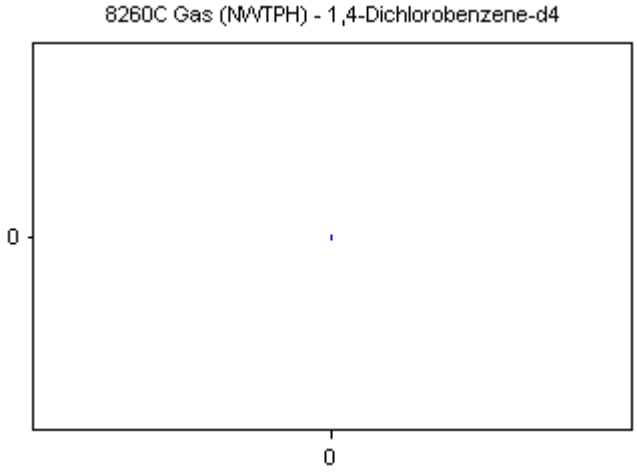
[Conc] = * [Response]

Calibration Report

Instrument:	**NT3**	**Calibration Date:**	**27-Jan-2018 14:18 By PKC**
Calibration ID:	**BA00063**	**Last Edit Date:**	**29-Jan-2018 14:36 By PKC**

8260C Gas (NWTPH)

1,4-Dichlorobenzene-d4



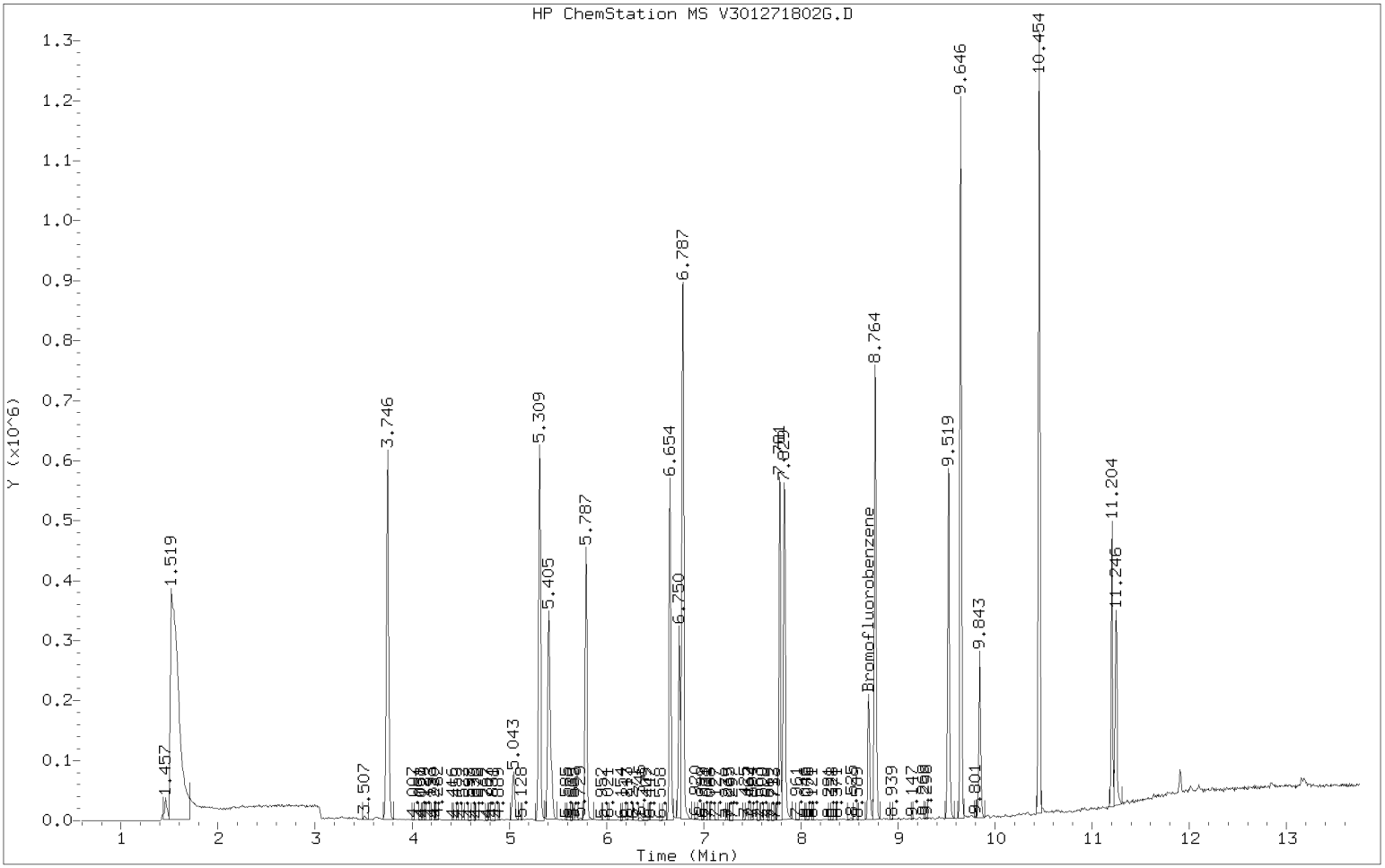
Average RF

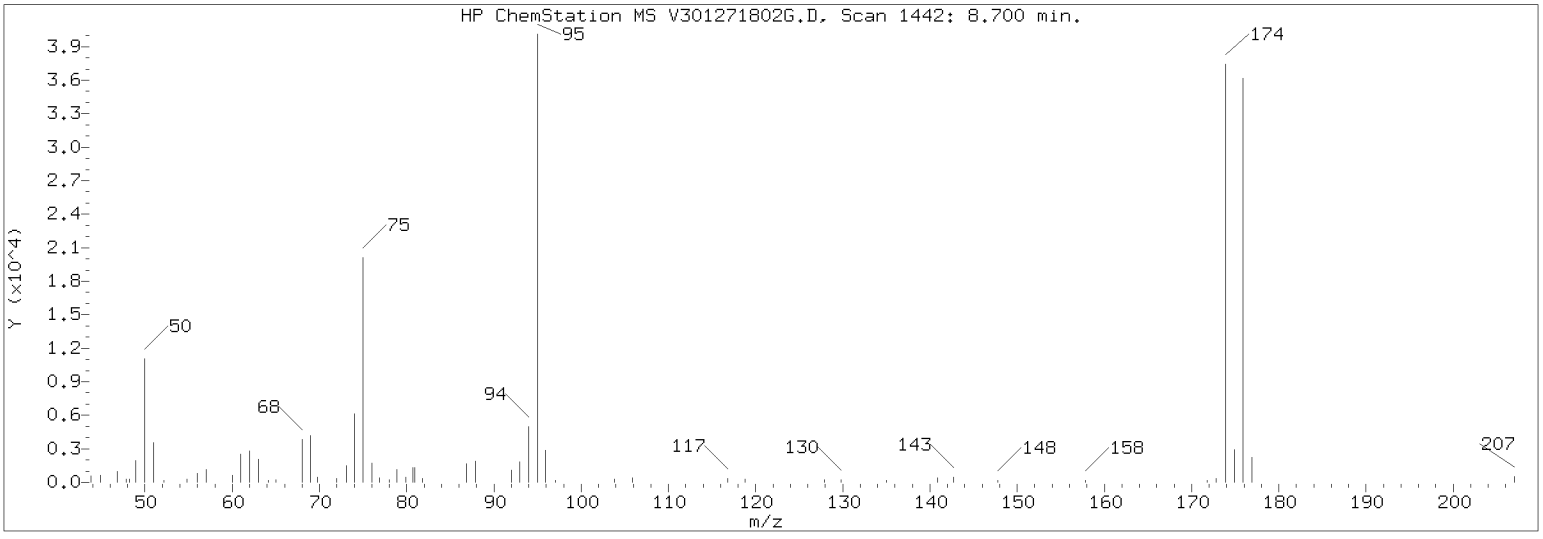
RF RSD:

[Conc] = * [Response]

BFB TUNE GRAPHIC REPORT

Datafile Analyzed: /20180127s.b/V301271802G.D
Method Used: \20180127s.b\bfb8260.m Inst: nt3
Injection Date: 27-JAN-2018 11:09 Operator: PKC
Sample Info: SGA0305-TUN1 SGA0305-TUN1
Report Date: 01/29/2018 13:54





m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	30.02
75	30.00 - 60.00% of mass 95	50.26
96	5.00 - 9.00% of mass 95	6.81
173	Less than 2.00% of mass 174	0.58 (0.64)
174	50.00 - 100.00% of mass 95	90.08
175	5.00 - 9.00% of mass 174	7.46 (8.28)
176	95.00 - 101.00% of mass 174	88.92 (98.71)
177	5.00 - 9.00% of mass 176	5.67 (6.37)

Data File: V301271802G.D
Spectrum: Avg. Scans 1441-1443 (8.70), Background Scan 1434
Location of Maximum: 95.00
Number of points: 69

m/z	Y	m/z	Y	m/z	Y	m/z	Y
42.00	84	64.00	199	91.00	146	135.00	53
44.00	234	65.00	270	92.00	1123	141.00	494
45.00	409	68.00	3073	93.00	1565	143.00	501
46.00	67	69.00	3555	94.00	4260	145.00	51
47.00	972	70.00	360	95.00	35880	148.00	113
48.00	423	72.00	209	96.00	2445	158.00	51
49.00	2127	73.00	1519	97.00	55	161.00	62
50.00	10770	74.00	5797	104.00	100	172.00	226
51.00	3256	75.00	18032	105.00	68	173.00	208
52.00	174	76.00	1405	106.00	130	174.00	32320
55.00	308	77.00	334	107.00	53	175.00	2677
56.00	676	78.00	147	116.00	77	176.00	31904
57.00	1170	79.00	1098	117.00	309	177.00	2033
58.00	59	80.00	369	118.00	57	207.00	267
60.00	711	81.00	1706	119.00	192	211.00	59
61.00	2089	82.00	312	128.00	161		
62.00	1956	87.00	1193	129.00	52		
63.00	1604	88.00	1409	130.00	216		

Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180127g.b/V301271802G.D
Method: \20180127g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-JAN-2018 11:09
ARI ID: SGA0305-TUN1
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.69 to 10.55)	31991220	5974108	0.187
8015C 2MP-TMB	(2.88 to 9.53)	70557112	5921282	0.084 M
AK101 nC6-nC10	(3.65 to 8.66)	48812322	4852804	0.099 M
NWTPHG Tol-Nap	(6.69 to 11.35)	34228300	7028035	0.205
mod8015 nC7-nC12	(5.21 to 10.55)	52022420	7656888	0.147 M

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

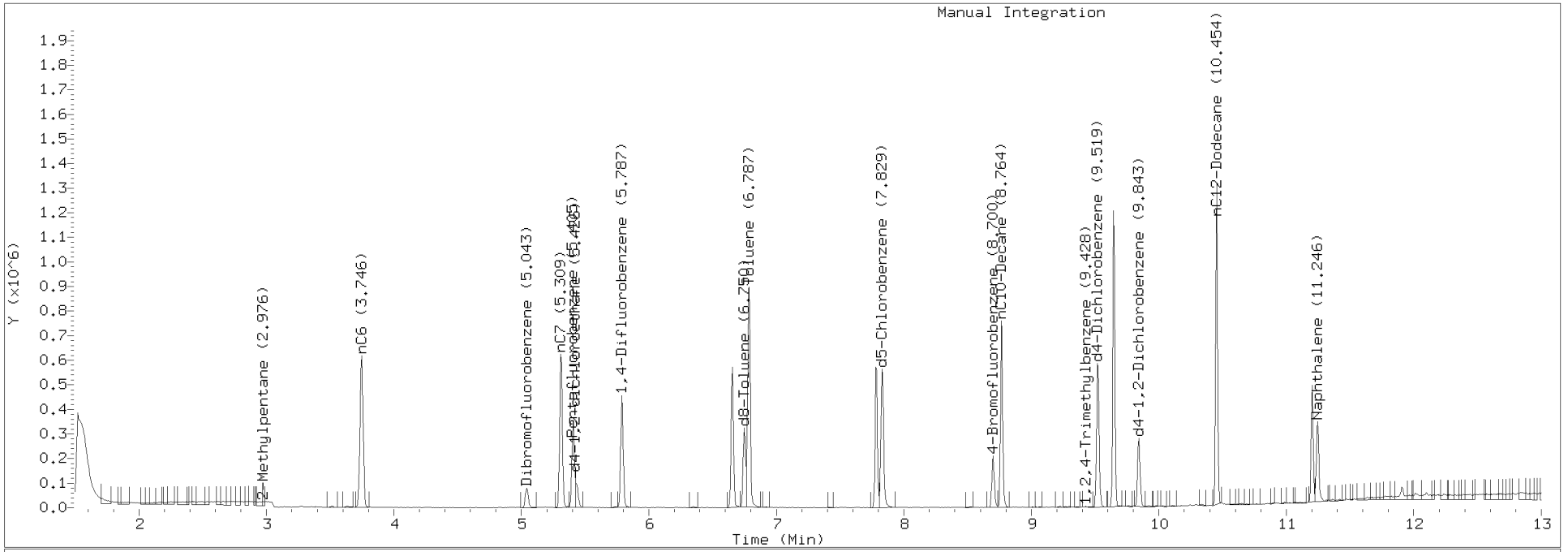
NW Gas Range Subtracted Peaks

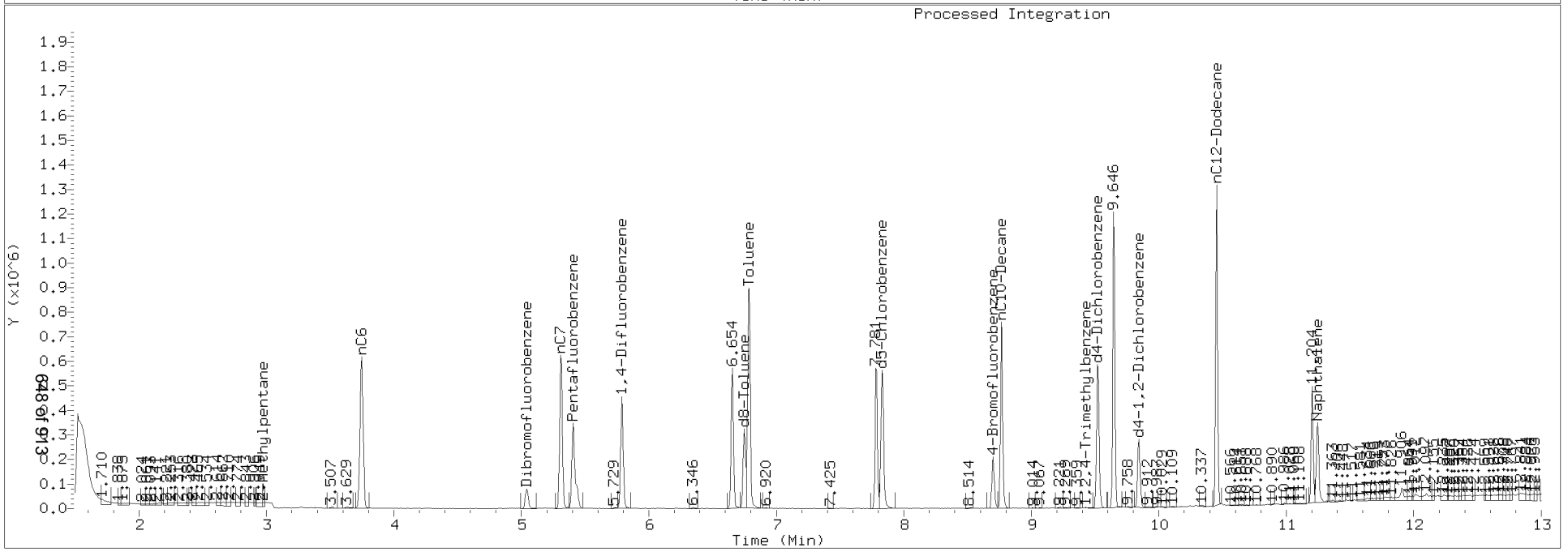
7.829	865987	d5-Chlorobenzene
6.750	454935	d8-Toluene
9.519	867218	d4-Dichlorobenzene
8.700	306403	4-Bromofluorobenzene
9.843	404410	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180127g.b/V301271802G.D Injection: 27-JAN-2018 11:09

Lab ID:SGA0305-TUN1





Data File: \\target\share\chem1\nt3.i\20180127s.b\V301271803G.D

Date : 27-JAN-2018 11:59

Client ID:

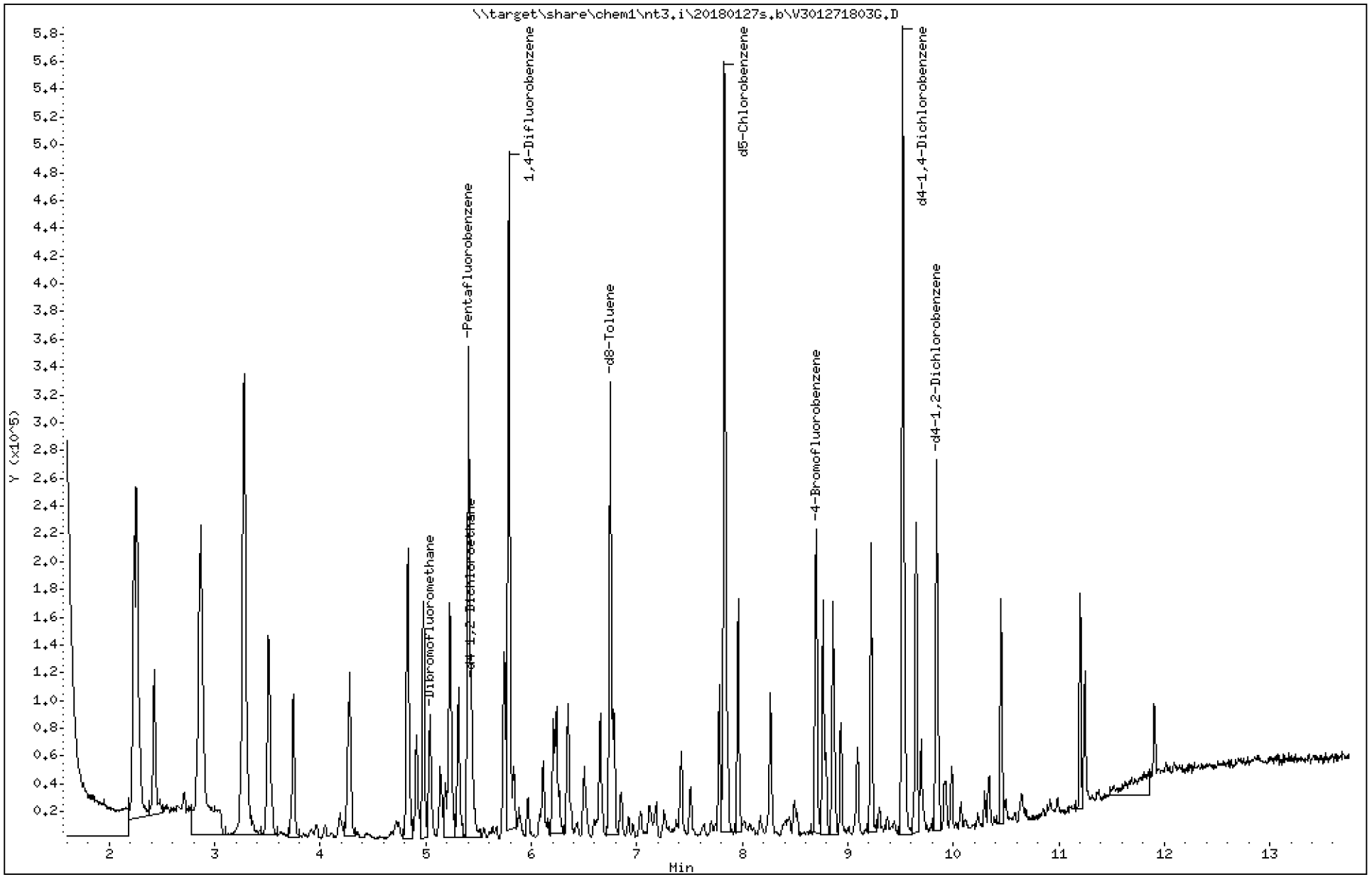
Instrument: nt3.i

Sample Info: SGA0305-CAL1

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180127s.b\V301271803G.D
Lab Smp Id: SGA0305-CAL1
Inj Date : 27-JAN-2018 11:59
Operator : PKC   Inst ID: nt3.i
Smp Info : SGA0305-CAL1
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Meth Date : 26-Jan-2018 10:01 paul   Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30   Cal File: V311071714.D
Als bottle: 50
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Concentration Formula: Amt * DF * Pv / Sa * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Pv	10.000	Purge Volume (mL)
Sa	10.000	Sample Amount (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.037	5.031	(0.932)	39093	4.78332	4.783
* 32 Pentafluorobenzene	168	5.404	5.403	(1.000)	188093	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.430	5.430	(1.005)	44256	4.52935	4.529
* 37 1,4-Difluorobenzene	114	5.786	5.786	(1.000)	276243	10.0000	
$ 43 d8-Toluene	98	6.749	6.748	(1.166)	161411	4.98361	4.984
* 53 d5-Chlorobenzene	117	7.828	7.827	(1.000)	253884	10.0000	
$ 62 4-Bromofluorobenzene	174	8.699	8.699	(1.111)	53973	5.05487	5.055
* 76 d4-1,4-Dichlorobenzene	152	9.523	9.523	(1.000)	138141	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.842	9.842	(1.033)	61073	4.74164	4.742

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V301271803G.D
Lab Smp Id: SGA0305-CAL1
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

Calibration Date: 26-JAN-2018
Calibration Time: 09:25
Level: LOW
Sample Type: WATER

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	188093	-9.93
37 1,4-Difluorobenze	319374	159687	638748	276243	-13.50
53 d5-Chlorobenzene	290356	145178	580712	253884	-12.56
76 d4-1,4-Dichlorobe	151501	75751	303002	138141	-8.82

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	0.00
37 1,4-Difluorobenze	5.79	5.29	6.29	5.79	0.00
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	0.00
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20151005
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: SGA0305-CAL1
Level: LOW Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.783	95.67	80-120
$ 33 d4-1,2-Dichloroeth	5.000	4.529	90.59	80-128
$ 43 d8-Toluene	5.000	4.984	99.67	80-120
$ 62 4-Bromofluorobenze	5.000	5.055	101.10	80-120
$ 79 d4-1,2-Dichloroben	5.000	4.742	94.83	80-120

REVIEW SUMMARY FOR FILE - V301271803G.D

Lab ID: SGA0305-CAL1
nt3.i, 20180127s.b\8260C110717.m,   27-JAN-2018 11:59

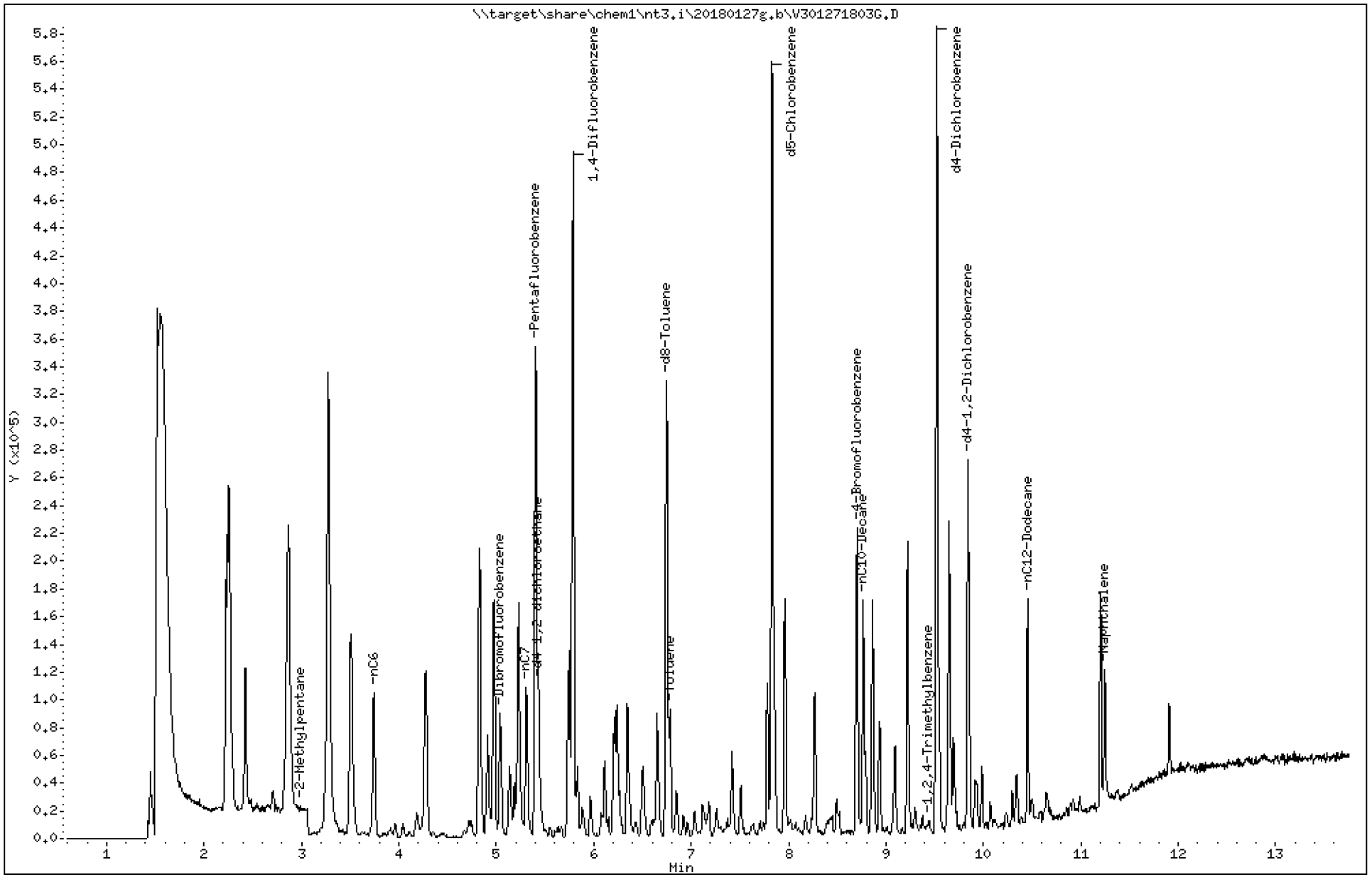
RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180127g.b\V301271803G.D
Date : 27-JAN-2018 11:59
Client ID:
Sample Info: SGA0305-CAL1

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC
Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180127g.b/V301271803G.D
Method: \20180127g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-JAN-2018 11:59

ARI ID: SGA0305-CAL1
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.69 to 10.55)	31991220	3555600	0.111
8015C 2MP-TMB	(2.88 to 9.53)	70557112	7103813	0.101 M
AK101 nC6-nC10	(3.65 to 8.66)	48812322	4755540	0.097 M
NWTPHG Tol-Nap	(6.69 to 11.35)	34228300	4045082	0.118
mod8015 nC7-nC12	(5.21 to 10.55)	52022420	5442470	0.105 M

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

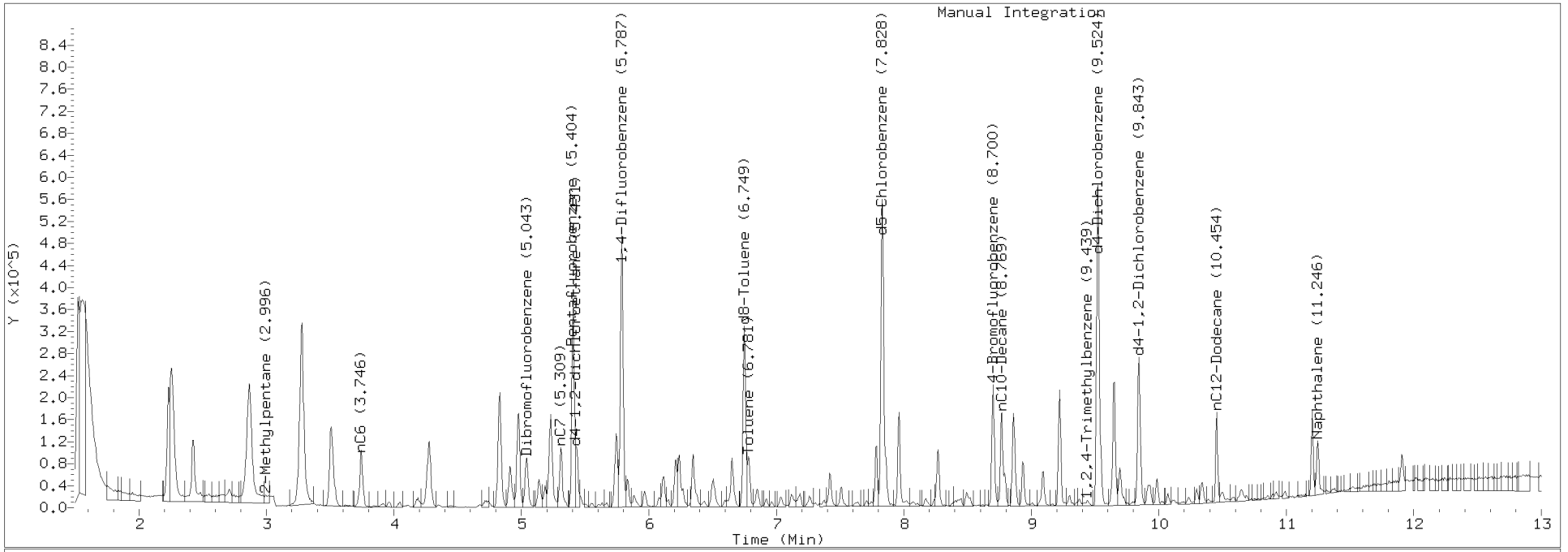
NW Gas Range Subtracted Peaks

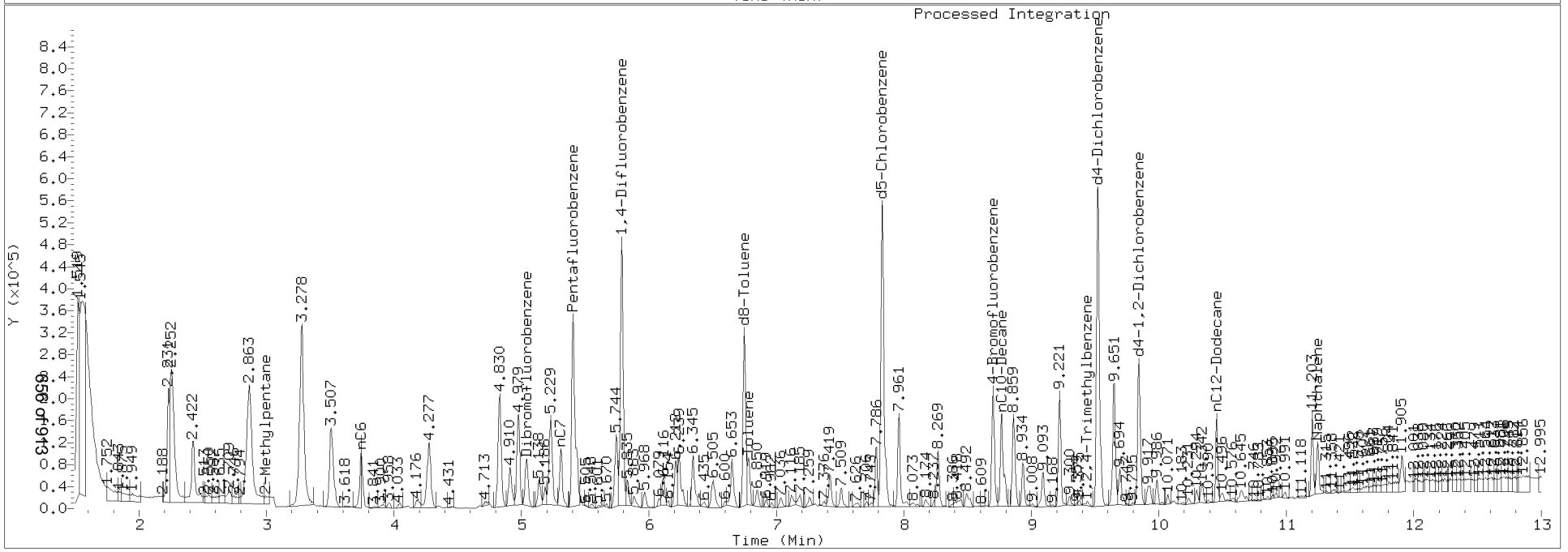
7.828	925912	d5-Chlorobenzene
6.749	489691	d8-Toluene
9.524	927961	d4-Dichlorobenzene
8.700	310532	4-Bromofluorobenzene
9.843	414382	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180127g.b/V301271803G.D Injection: 27-JAN-2018 11:59

Lab ID:SGA0305-CAL1





Data File: \\target\share\chem1\nt3.i\20180127s.b\V301271804G.D

Date : 27-JAN-2018 12:24

Client ID:

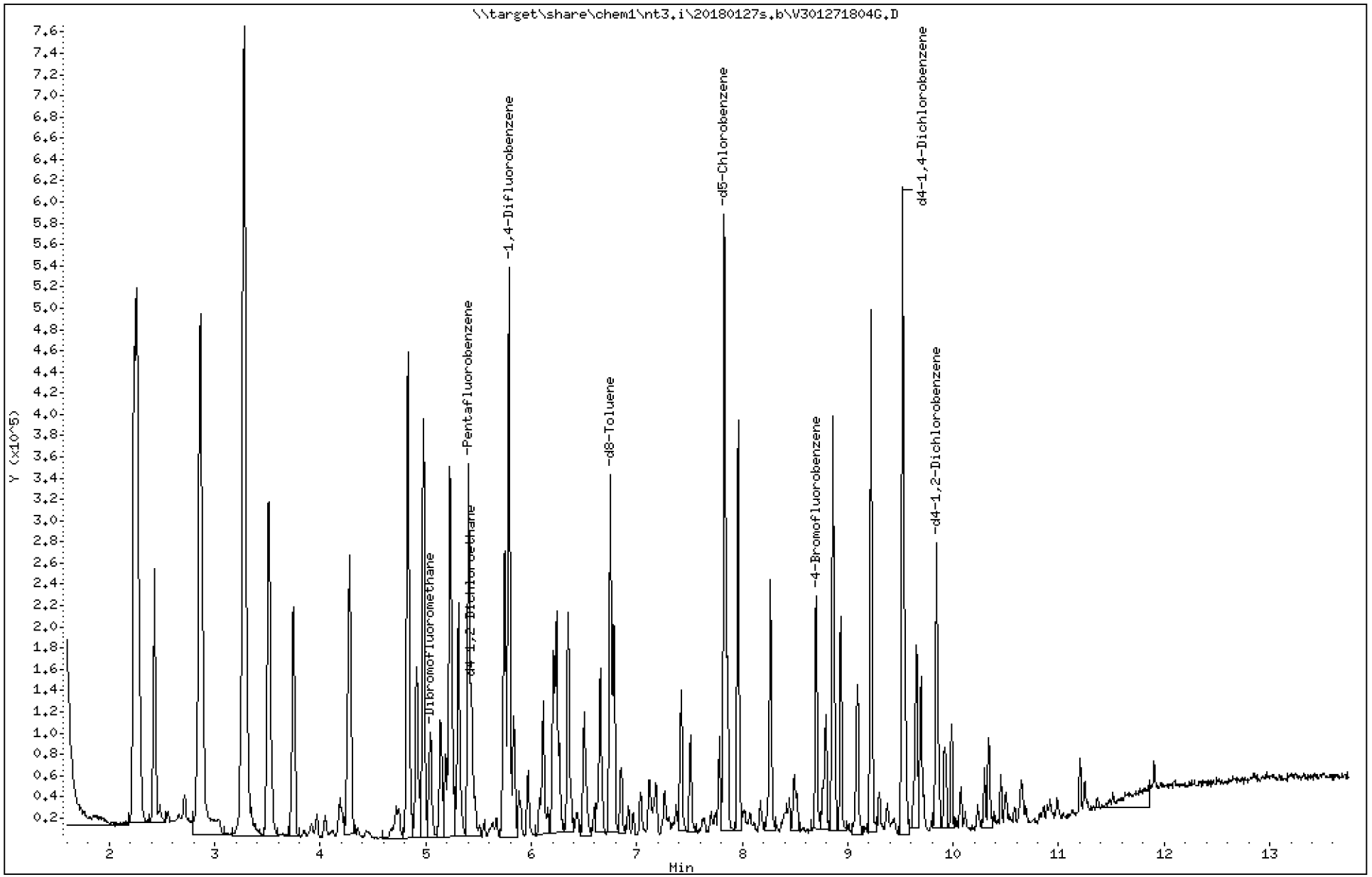
Sample Info: SGA0305-CAL2

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180127s.b\V301271804G.D
Lab Smp Id: SGA0305-CAL2
Inj Date : 27-JAN-2018 12:24
Operator : PKC   Inst ID: nt3.i
Smp Info : SGA0305-CAL2
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Meth Date : 26-Jan-2018 10:01 paul   Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30   Cal File: V311071714.D
Als bottle: 51
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Concentration Formula: Amt * DF * Pv / Sa * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Pv	10.000	Purge Volume (mL)
Sa	10.000	Sample Amount (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.043	5.031	(0.932)	40842	5.00086	5.001
* 32 Pentafluorobenzene	168	5.409	5.403	(1.000)	187960	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.436	5.430	(1.005)	47756	4.89101	4.891
* 37 1,4-Difluorobenzene	114	5.787	5.786	(1.000)	278201	10.0000	
$ 43 d8-Toluene	98	6.749	6.748	(1.166)	165444	5.07218	5.072
* 53 d5-Chlorobenzene	117	7.828	7.827	(1.000)	252969	10.0000	
$ 62 4-Bromofluorobenzene	174	8.700	8.699	(1.111)	54099	5.08500	5.085
* 76 d4-1,4-Dichlorobenzene	152	9.518	9.523	(1.000)	135646	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.842	9.842	(1.034)	63814	5.04558	5.046

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V301271804G.D
Lab Smp Id: SGA0305-CAL2
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

Calibration Date: 26-JAN-2018
Calibration Time: 09:25
Level: LOW
Sample Type: WATER

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	187960	-9.99
37 1,4-Difluorobenze	319374	159687	638748	278201	-12.89
53 d5-Chlorobenzene	290356	145178	580712	252969	-12.88
76 d4-1,4-Dichlorobe	151501	75751	303002	135646	-10.47

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.41	0.11
37 1,4-Difluorobenze	5.79	5.29	6.29	5.79	0.01
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	0.01
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20151005
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: SGA0305-CAL2
Level: LOW Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.001	100.02	80-120
$ 33 d4-1,2-Dichloroeth	5.000	4.891	97.82	80-128
$ 43 d8-Toluene	5.000	5.072	101.44	80-120
$ 62 4-Bromofluorobenze	5.000	5.085	101.70	80-120
$ 79 d4-1,2-Dichloroben	5.000	5.046	100.91	80-120

REVIEW SUMMARY FOR FILE - V301271804G.D

Lab ID: SGA0305-CAL2
nt3.i, 20180127s.b\8260C110717.m,   27-JAN-2018 12:24

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180127g.b\V301271804G.D

Date : 27-JAN-2018 12:24

Client ID:

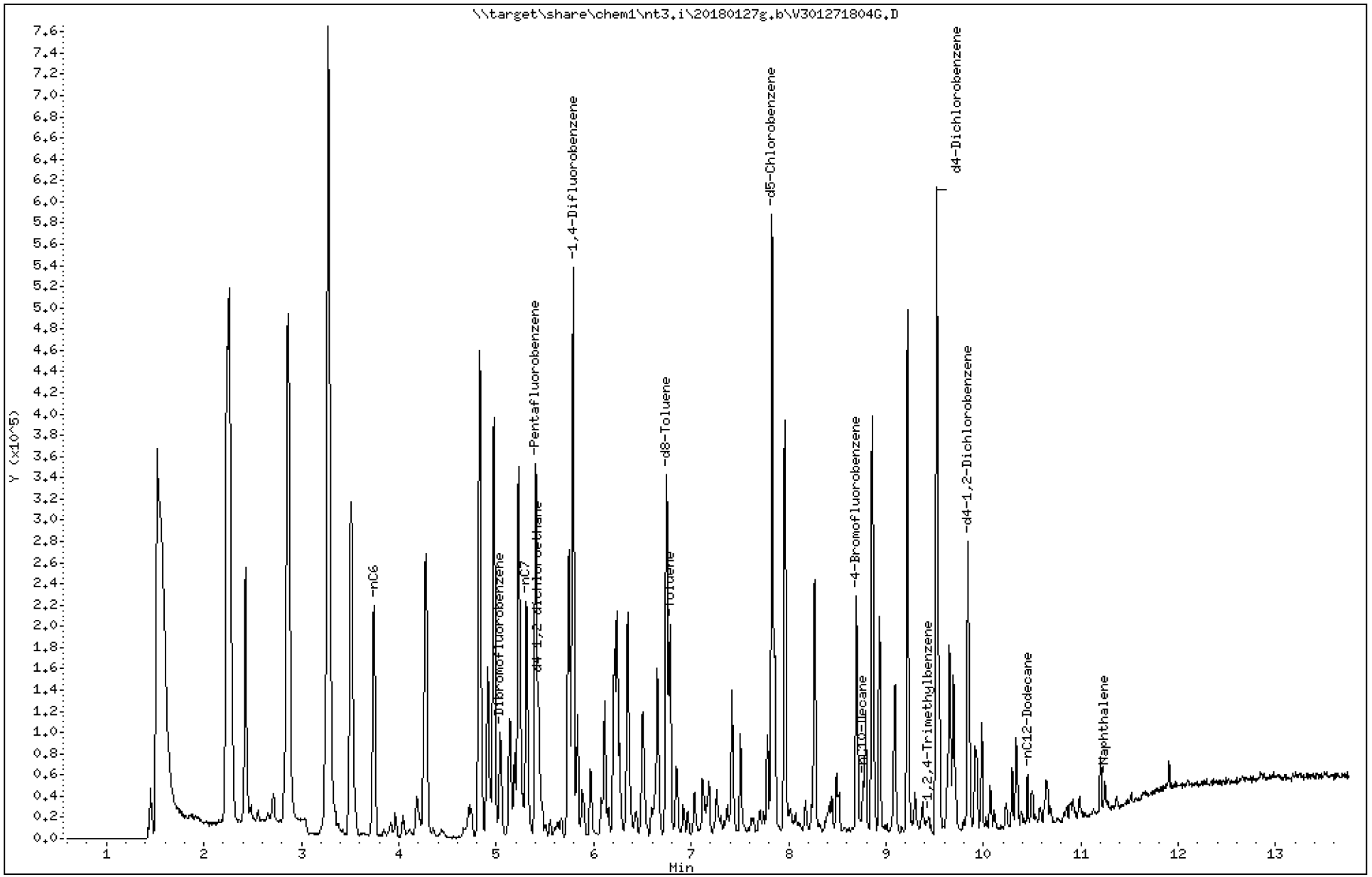
Sample Info: SGA0305-CAL2

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180127g.b/V301271804G.D
Method: \20180127g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-JAN-2018 12:24

ARI ID: SGA0305-CAL2
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)	
WAGas Tol-C12	(6.69 to 10.55)	31991220	6882397	0.215	
8015C 2MP-TMB	(2.88 to 9.53)	70557112	15777969	0.224	M
AK101 nC6-nC10	(3.65 to 8.66)	48812322	10883946	0.223	M
NWTPHG Tol-Nap	(6.69 to 11.35)	34228300	7304020	0.213	
mod8015 nC7-nC12	(5.21 to 10.55)	52022420	11122700	0.214	M

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

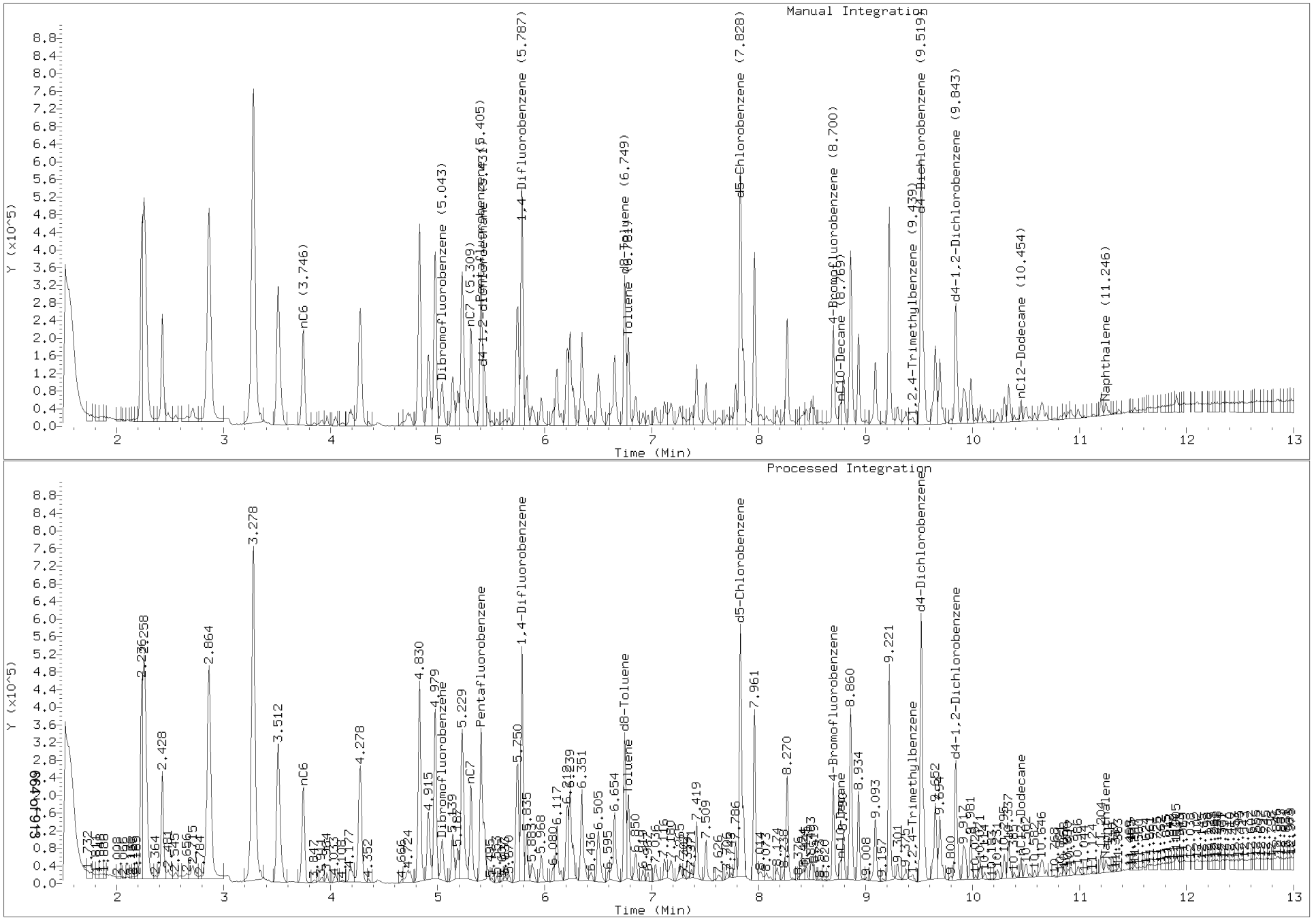
NW Gas Range Subtracted Peaks

7.828	1071033	d5-Chlorobenzene
6.749	556120	d8-Toluene
9.519	1047336	d4-Dichlorobenzene
8.700	347296	4-Bromofluorobenzene
9.843	454184	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180127g.b/V301271804G.D Injection: 27-JAN-2018 12:24

Lab ID:SGA0305-CAL2



Data File: \\target\share\chem1\nt3.i\20180127s.b\V301271805G.D

Date : 27-JAN-2018 12:49

Client ID:

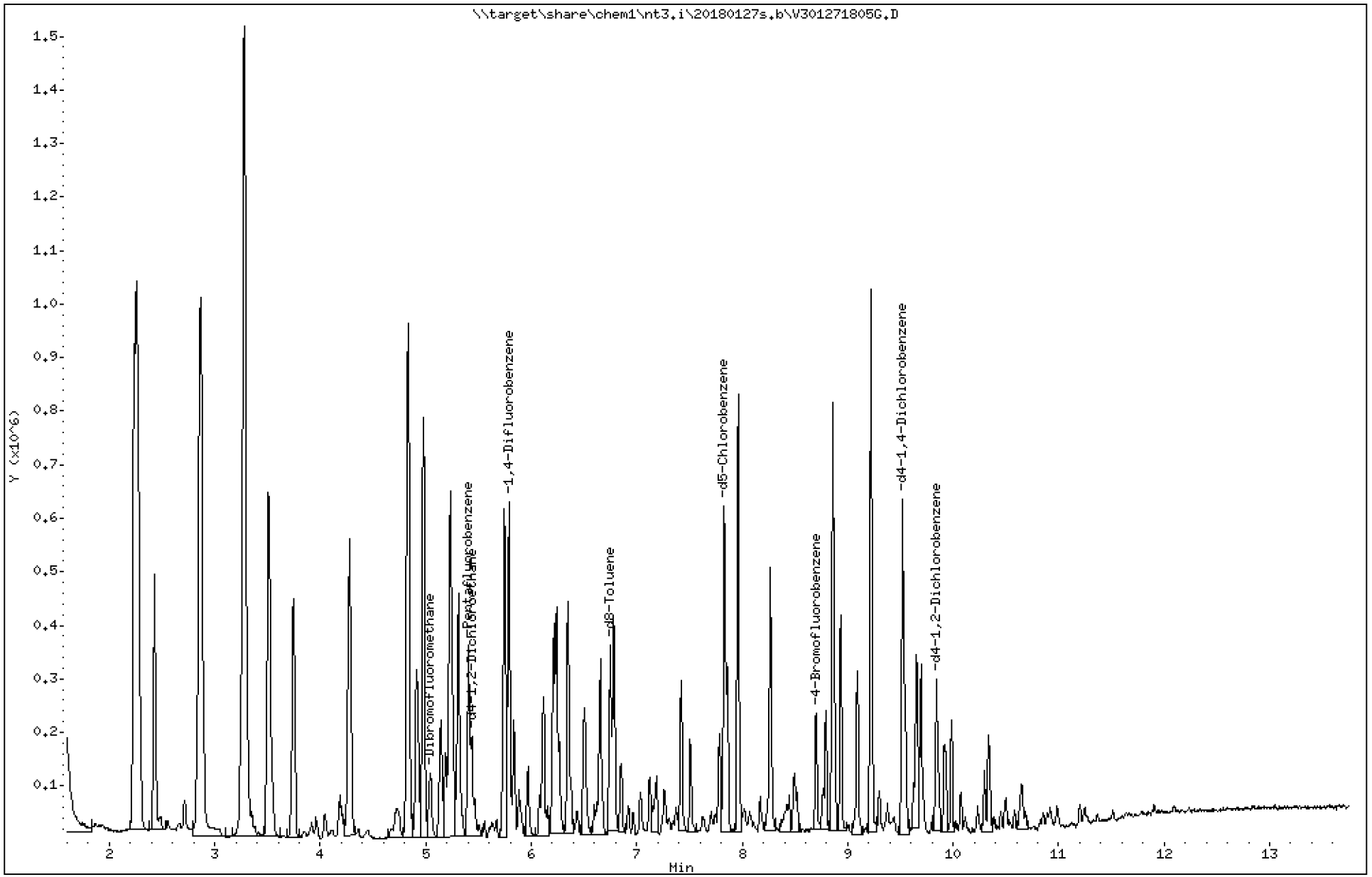
Sample Info: SGA0305-CAL3

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180127s.b\V301271805G.D
Lab Smp Id: SGA0305-CAL3
Inj Date : 27-JAN-2018 12:49
Operator : PKC   Inst ID: nt3.i
Smp Info : SGA0305-CAL3
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Meth Date : 26-Jan-2018 10:01 paul   Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30   Cal File: V311071714.D
Als bottle: 52
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Concentration Formula: Amt * DF * Pv / Sa * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Pv	10.000	Purge Volume (mL)
Sa	10.000	Sample Amount (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.043	5.031	(0.933)	40533	4.85167	4.852
* 32 Pentafluorobenzene	168	5.405	5.403	(1.000)	192274	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.437	5.430	(1.006)	52141	5.22029	5.220
* 37 1,4-Difluorobenzene	114	5.787	5.786	(1.000)	288983	10.0000	
$ 43 d8-Toluene	98	6.749	6.748	(1.166)	167574	4.94580	4.946
* 53 d5-Chlorobenzene	117	7.828	7.827	(1.000)	259181	10.0000	
$ 62 4-Bromofluorobenzene	174	8.700	8.699	(1.111)	56269	5.16220	5.162
* 76 d4-1,4-Dichlorobenzene	152	9.519	9.523	(1.000)	142656	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.843	9.842	(1.034)	65057	4.89110	4.891

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V301271805G.D
Lab Smp Id: SGA0305-CAL3
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

Calibration Date: 26-JAN-2018
Calibration Time: 09:25
Level: LOW
Sample Type: WATER

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	192274	-7.93
37 1,4-Difluorobenze	319374	159687	638748	288983	-9.52
53 d5-Chlorobenzene	290356	145178	580712	259181	-10.74
76 d4-1,4-Dichlorobe	151501	75751	303002	142656	-5.84

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.41	0.02
37 1,4-Difluorobenze	5.79	5.29	6.29	5.79	0.02
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	0.02
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20151005
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: SGA0305-CAL3
Level: LOW Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.852	97.03	80-120
$ 33 d4-1,2-Dichloroeth	5.000	5.220	104.41	80-128
$ 43 d8-Toluene	5.000	4.946	98.92	80-120
$ 62 4-Bromofluorobenze	5.000	5.162	103.24	80-120
$ 79 d4-1,2-Dichloroben	5.000	4.891	97.82	80-120

REVIEW SUMMARY FOR FILE - V301271805G.D

Lab ID: SGA0305-CAL3
nt3.i, 20180127s.b\8260C110717.m,   27-JAN-2018 12:49

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180127g.b\V301271805G.D

Date : 27-JAN-2018 12:49

Client ID:

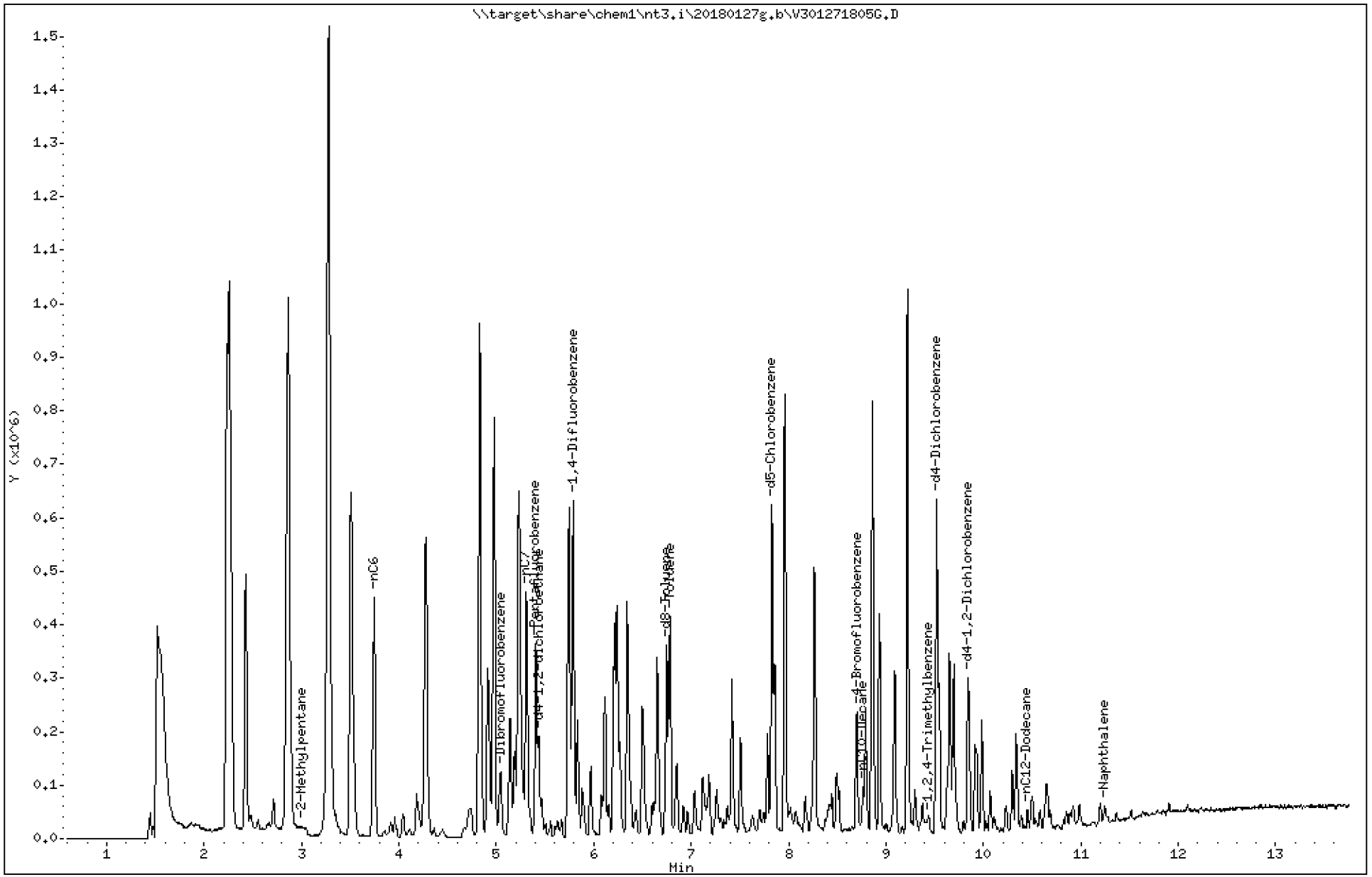
Sample Info: SGA0305-CAL3

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180127g.b/V301271805G.D
Method: \20180127g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-JAN-2018 12:49

ARI ID: SGA0305-CAL3
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.69 to 10.55)	31991220	14259241	0.446 M
8015C 2MP-TMB	(2.88 to 9.53)	70557112	32851642	0.466 M
AK101 nC6-nC10	(3.65 to 8.66)	48812322	22901463	0.469 M
NWTPHG Tol-Nap	(6.69 to 11.35)	34228300	15021658	0.439 M
mod8015 nC7-nC12	(5.21 to 10.55)	52022420	23034212	0.443 M

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

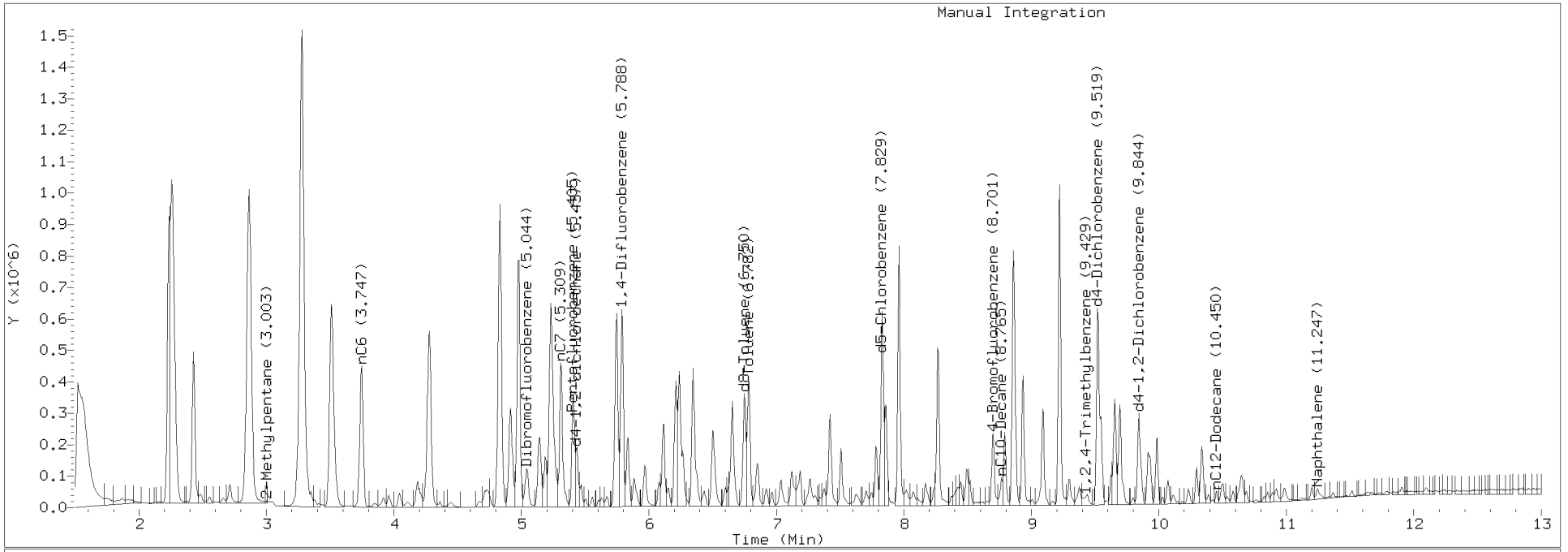
NW Gas Range Subtracted Peaks

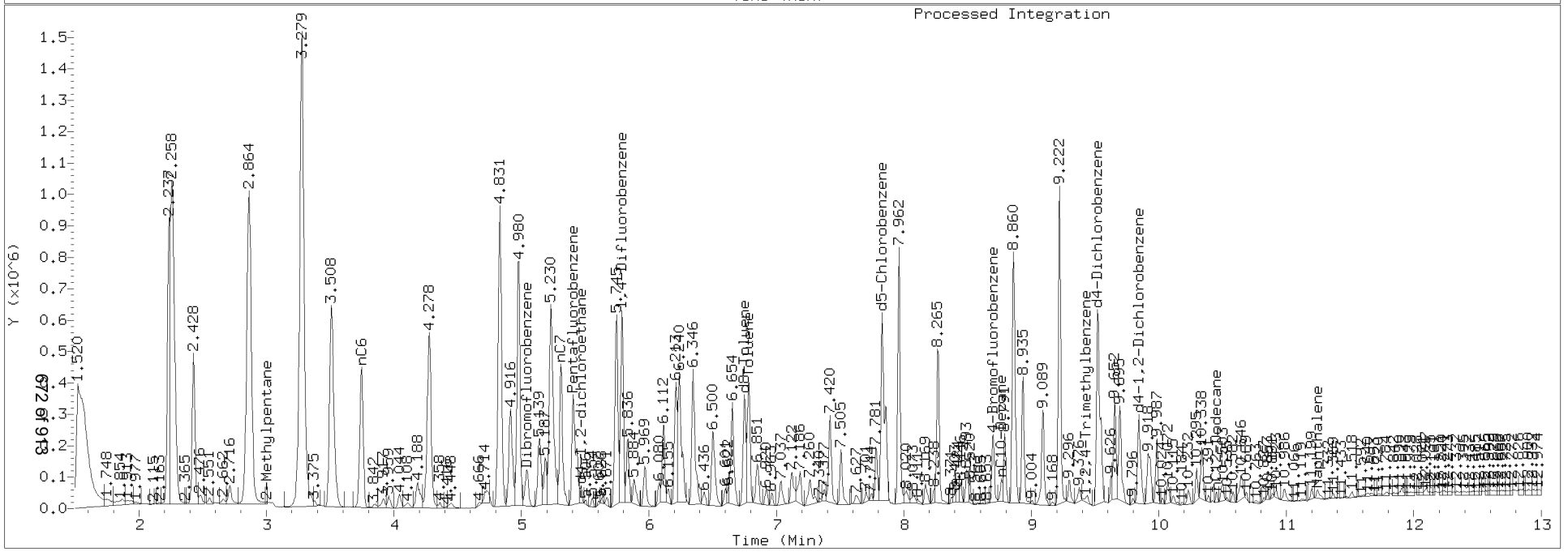
7.829	978547	d5-Chlorobenzene
6.750	587417	d8-Toluene
9.519	1214848	d4-Dichlorobenzene
8.701	352618	4-Bromofluorobenzene
9.844	507436	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180127g.b/V301271805G.D Injection: 27-JAN-2018 12:49

Lab ID:SGA0305-CAL3





Data File: \\target\share\chem1\nt3.i\20180127s.b\V301271806G.D

Date : 27-JAN-2018 13:15

Client ID:

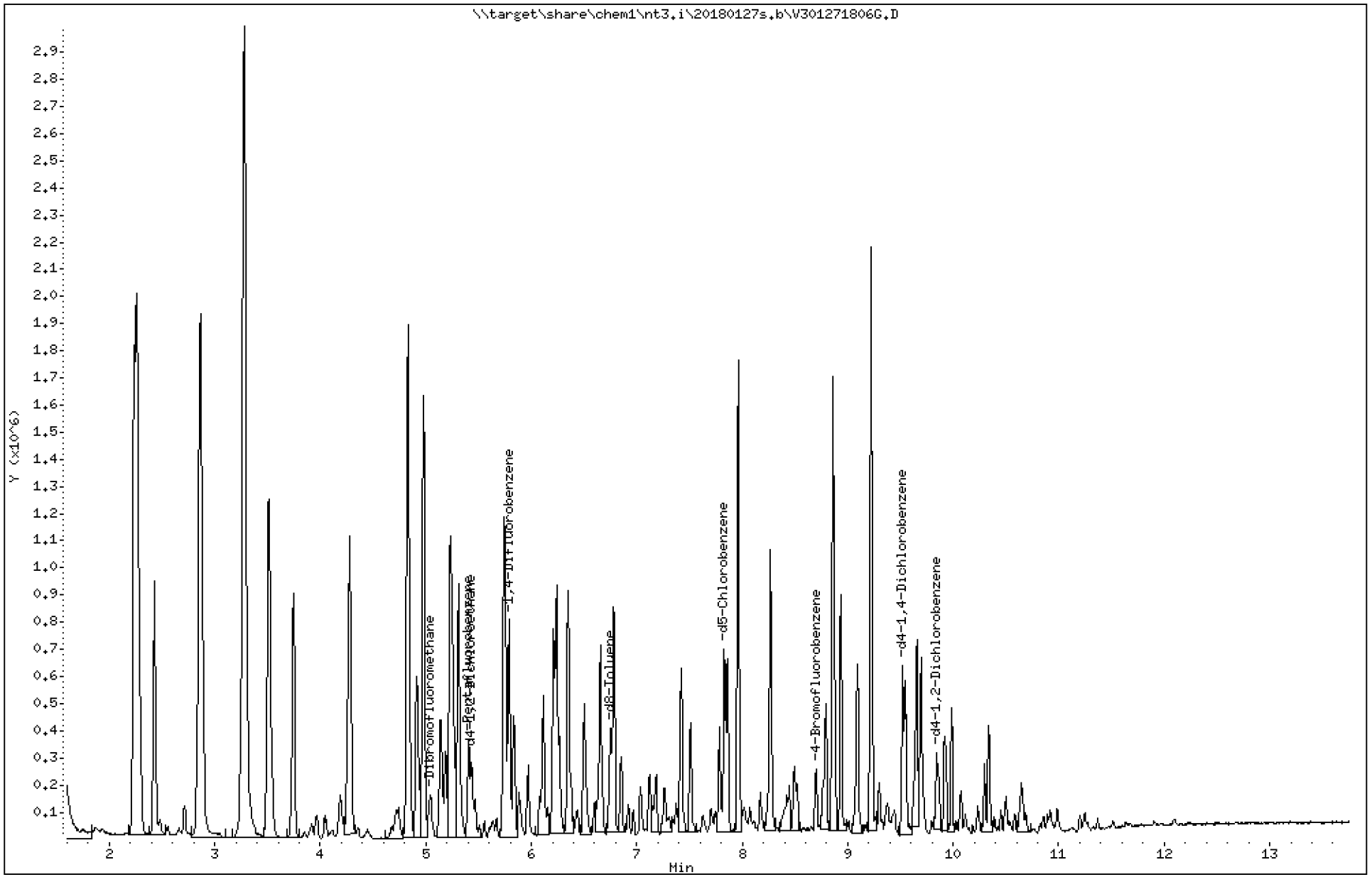
Instrument: nt3.i

Sample Info: SGA0305-CAL4

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180127s.b\V301271806G.D
Lab Smp Id: SGA0305-CAL4
Inj Date : 27-JAN-2018 13:15
Operator : PKC   Inst ID: nt3.i
Smp Info : SGA0305-CAL4
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Meth Date : 26-Jan-2018 10:01 paul   Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30   Cal File: V311071714.D
Als bottle: 53
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Concentration Formula: Amt * DF * Pv / Sa * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Pv	10.000	Purge Volume (mL)
Sa	10.000	Sample Amount (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.042	5.031	(0.933)	40929	4.79130	4.791
* 32 Pentafluorobenzene	168	5.404	5.403	(1.000)	196599	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.436	5.430	(1.006)	52107	5.10212	5.102
* 37 1,4-Difluorobenzene	114	5.787	5.786	(1.000)	299021	10.0000	
$ 43 d8-Toluene	98	6.749	6.748	(1.166)	172394	4.91725	4.917
* 53 d5-Chlorobenzene	117	7.828	7.827	(1.000)	265408	10.0000	
$ 62 4-Bromofluorobenzene	174	8.699	8.699	(1.111)	57404	5.14277	5.143
* 76 d4-1,4-Dichlorobenzene	152	9.523	9.523	(1.000)	144782	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.842	9.842	(1.033)	66897	4.95558	4.956

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V301271806G.D
Lab Smp Id: SGA0305-CAL4
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

Calibration Date: 26-JAN-2018
Calibration Time: 09:25
Level: LOW
Sample Type: WATER

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	196599	-5.86
37 1,4-Difluorobenze	319374	159687	638748	299021	-6.37
53 d5-Chlorobenzene	290356	145178	580712	265408	-8.59
76 d4-1,4-Dichlorobe	151501	75751	303002	144782	-4.43

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	0.01
37 1,4-Difluorobenze	5.79	5.29	6.29	5.79	0.01
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	0.01
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20151005
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: SGA0305-CAL4
Level: LOW Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.791	95.83	80-120
$ 33 d4-1,2-Dichloroeth	5.000	5.102	102.04	80-128
$ 43 d8-Toluene	5.000	4.917	98.35	80-120
$ 62 4-Bromofluorobenze	5.000	5.143	102.86	80-120
$ 79 d4-1,2-Dichloroben	5.000	4.956	99.11	80-120

REVIEW SUMMARY FOR FILE - V301271806G.D

Lab ID: SGA0305-CAL4
nt3.i, 20180127s.b\8260C110717.m,   27-JAN-2018 13:15

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180127g.b\V301271806G.D

Date : 27-JAN-2018 13:15

Client ID:

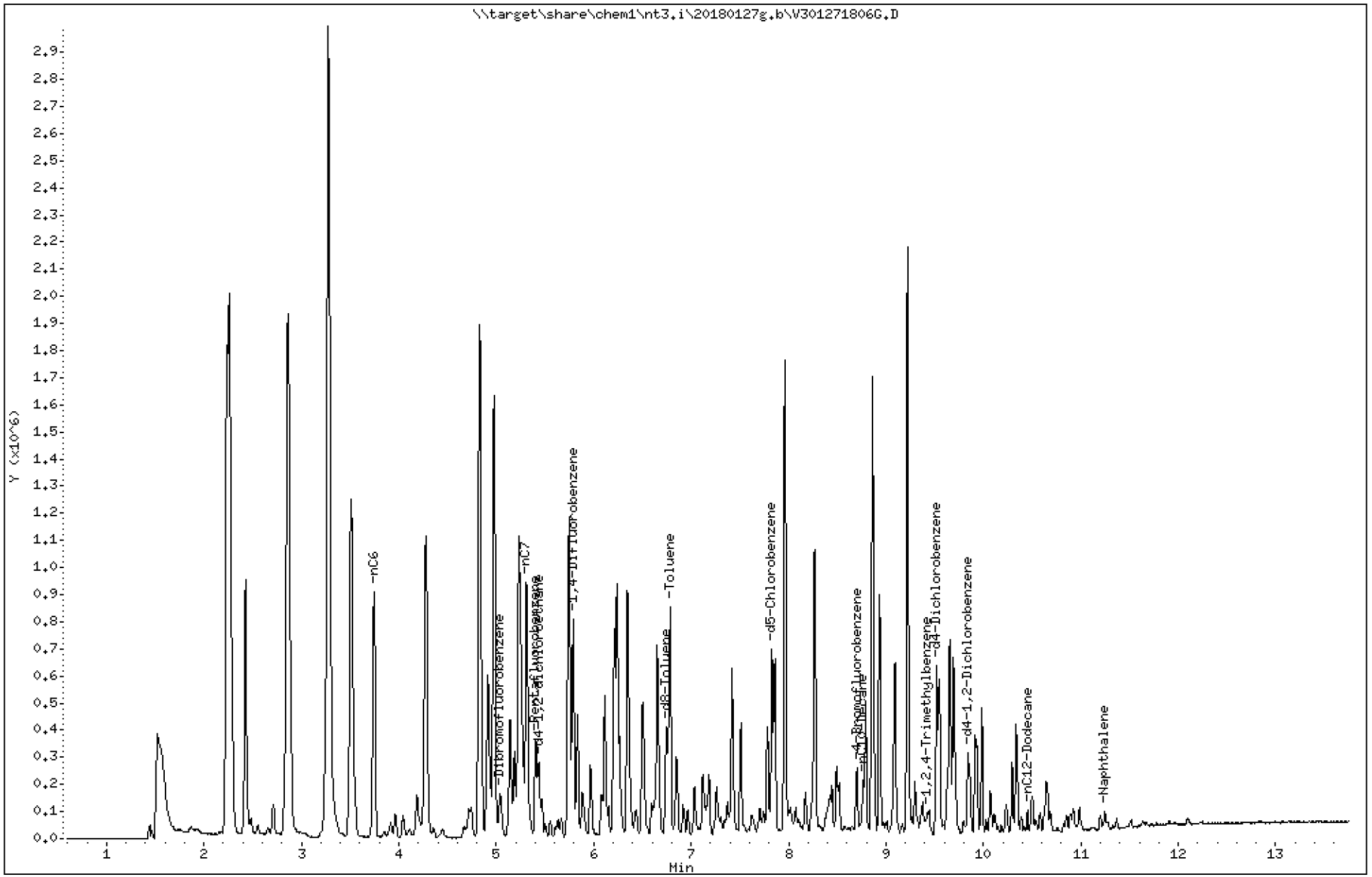
Instrument: nt3.i

Sample Info: SGA0305-CAL4

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180127g.b/V301271806G.D
Method: \20180127g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-JAN-2018 13:15

ARI ID: SGA0305-CAL4
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.69 to 10.55)	31991220	32385328	1.012
8015C 2MP-TMB	(2.88 to 9.53)	70557112	68901934	0.977
AK101 nC6-nC10	(3.65 to 8.66)	48812322	47815437	0.980
NWTPHG Tol-Nap	(6.69 to 11.35)	34228300	33925443	0.991
mod8015 nC7-nC12	(5.21 to 10.55)	52022420	50419237	0.969

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.828	1033014	d5-Chlorobenzene
6.749	630058	d8-Toluene
9.524	909754	d4-Dichlorobenzene
8.700	360860	4-Bromofluorobenzene
9.843	665493	d4-1,2-Dichlorobenzene

Data File: \\target\share\chem1\nt3.i\20180127s.b\V301271807G.D

Date : 27-JAN-2018 13:40

Client ID:

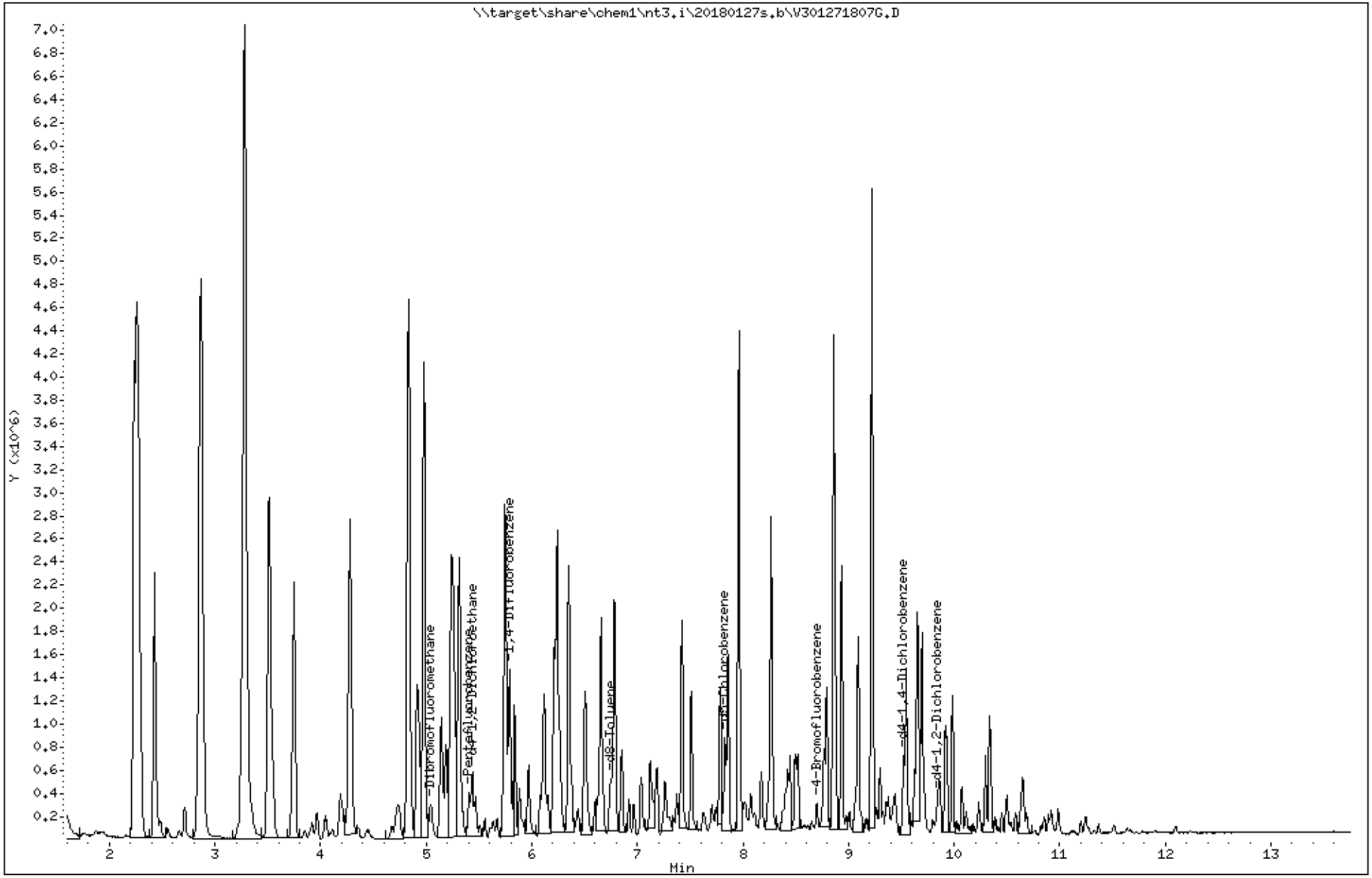
Instrument: nt3.i

Sample Info: SGA0305-CAL5

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180127s.b\V301271807G.D
Lab Smp Id: SGA0305-CAL5
Inj Date : 27-JAN-2018 13:40
Operator : PKC   Inst ID: nt3.i
Smp Info : SGA0305-CAL5
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Meth Date : 26-Jan-2018 10:01 paul   Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30   Cal File: V311071714.D
Als bottle: 54
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Concentration Formula: Amt * DF * Pv / Sa * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Pv	10.000	Purge Volume (mL)
Sa	10.000	Sample Amount (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.043	5.031	(0.933)	40844	4.75708	4.757
* 32 Pentafluorobenzene	168	5.405	5.403	(1.000)	197602	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.437	5.430	(1.006)	62216	6.06103	6.061
* 37 1,4-Difluorobenzene	114	5.788	5.786	(1.000)	309463	10.0000	
$ 43 d8-Toluene	98	6.750	6.748	(1.166)	187820	5.17649	5.176
* 53 d5-Chlorobenzene	117	7.829	7.827	(1.000)	275503	10.0000	
$ 62 4-Bromofluorobenzene	174	8.700	8.699	(1.111)	61615	5.31777	5.318
* 76 d4-1,4-Dichlorobenzene	152	9.519	9.523	(1.000)	152409	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.843	9.842	(1.034)	71180	5.00898	5.009

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V301271807G.D
Lab Smp Id: SGA0305-CAL5
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

Calibration Date: 26-JAN-2018
Calibration Time: 09:25
Level: LOW
Sample Type: WATER

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	197602	-5.37
37 1,4-Difluorobenze	319374	159687	638748	309463	-3.10
53 d5-Chlorobenzene	290356	145178	580712	275503	-5.12
76 d4-1,4-Dichlorobe	151501	75751	303002	152409	0.60

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.41	0.03
37 1,4-Difluorobenze	5.79	5.29	6.29	5.79	0.02
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	0.02
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20151005
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: SGA0305-CAL5
Level: LOW Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.757	95.14	80-120
$ 33 d4-1,2-Dichloroeth	5.000	6.061	121.22	80-128
$ 43 d8-Toluene	5.000	5.176	103.53	80-120
$ 62 4-Bromofluorobenze	5.000	5.318	106.36	80-120
$ 79 d4-1,2-Dichloroben	5.000	5.009	100.18	80-120

REVIEW SUMMARY FOR FILE - V301271807G.D

Lab ID: SGA0305-CAL5
nt3.i, 20180127s.b\8260C110717.m,   27-JAN-2018 13:40

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180127g.b\V301271807G.D

Date : 27-JAN-2018 13:40

Client ID:

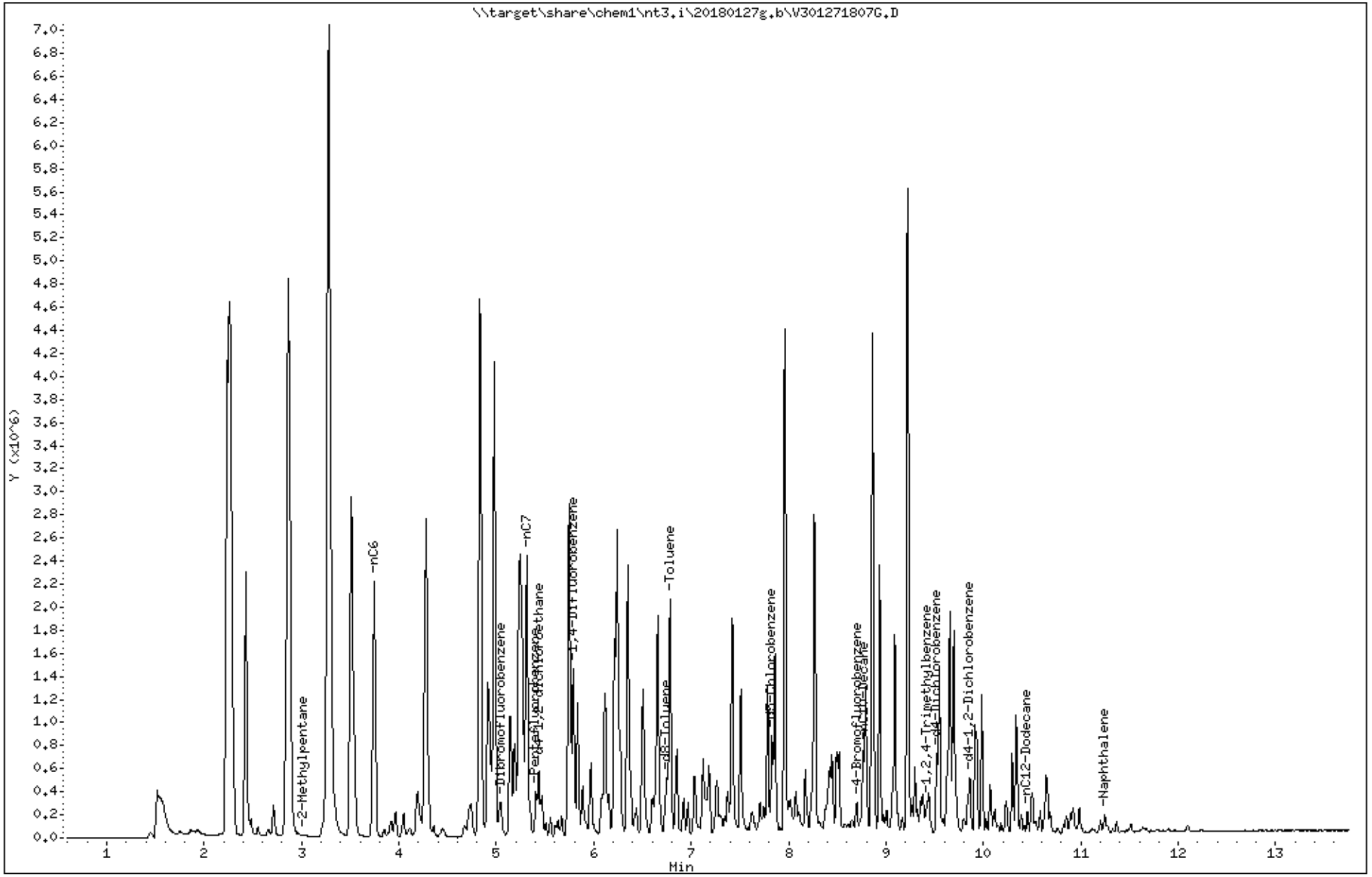
Instrument: nt3.i

Sample Info: SGA0305-CAL5

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180127g.b/V301271807G.D
Method: \20180127g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-JAN-2018 13:40
ARI ID: SGA0305-CAL5
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.69 to 10.55)	31991220	89916801	2.811
8015C 2MP-TMB	(2.88 to 9.53)	70557112	181302554	2.570
AK101 nC6-nC10	(3.65 to 8.66)	48812322	127019081	2.602
NWTPHG Tol-Nap	(6.69 to 11.35)	34228300	93764647	2.739
mod8015 nC7-nC12	(5.21 to 10.55)	52022420	136948603	2.632

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.829	1264766	d5-Chlorobenzene
6.750	841815	d8-Toluene
9.519	950486	d4-Dichlorobenzene
8.701	481185	4-Bromofluorobenzene
9.860	1120430	d4-1,2-Dichlorobenzene

Data File: \\target\share\chem1\nt3.i\20180127s.b\V301271808G.D

Date : 27-JAN-2018 14:05

Client ID:

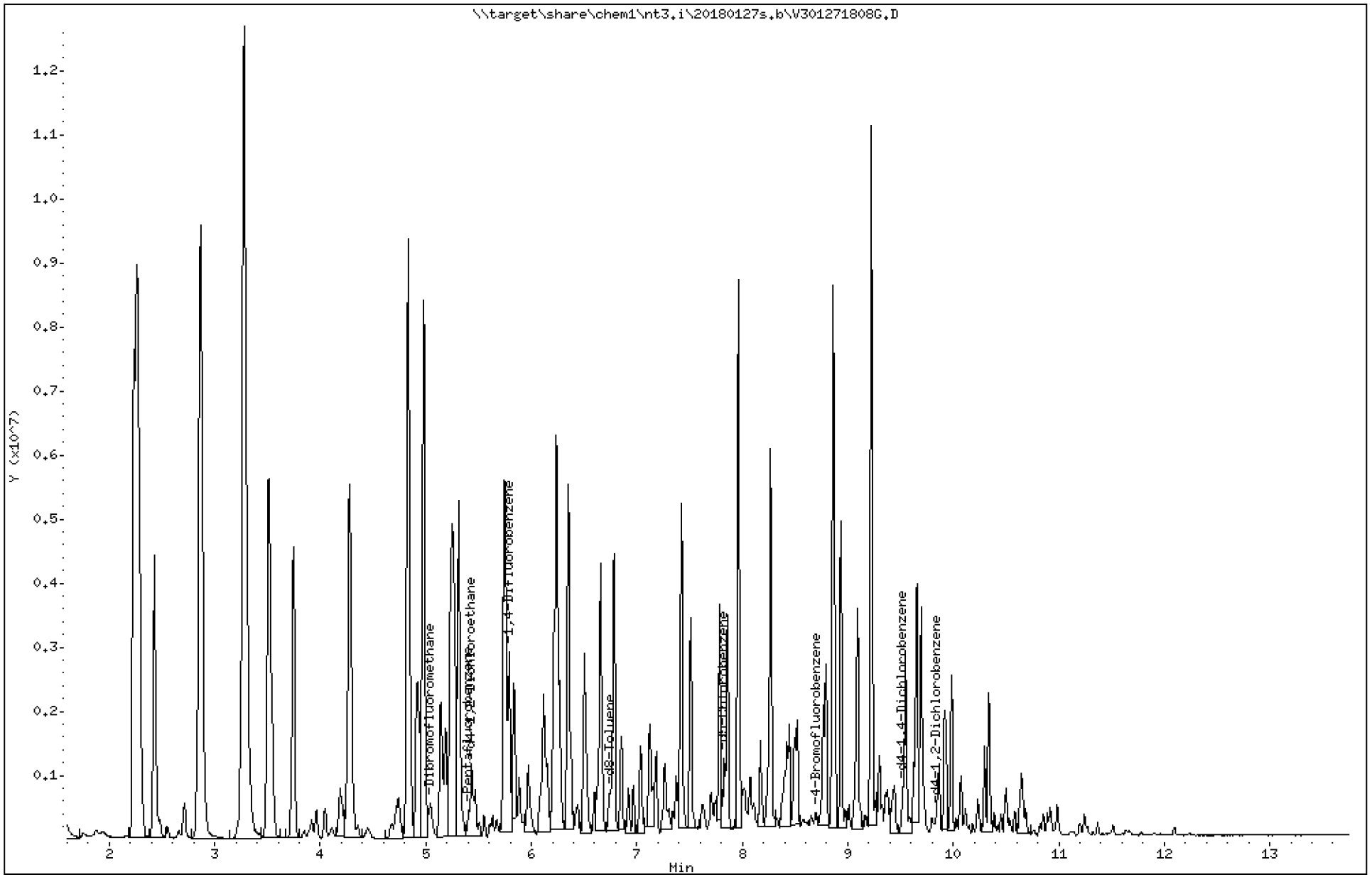
Sample Info: SGA0305-CAL6

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180127s.b\V301271808G.D
Lab Smp Id: SGA0305-CAL6
Inj Date : 27-JAN-2018 14:05
Operator : PKC   Inst ID: nt3.i
Smp Info : SGA0305-CAL6
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Meth Date : 26-Jan-2018 10:01 paul   Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30   Cal File: V311071714.D
Als bottle: 55
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Concentration Formula: Amt * DF * Pv / Sa * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Pv	10.000	Purge Volume (mL)
Sa	10.000	Sample Amount (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.042	5.031	(0.932)	41029	4.59790	4.598
* 32 Pentafluorobenzene	168	5.409	5.403	(1.000)	205369	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.435	5.430	(1.005)	72517	6.79737	6.797(R)
* 37 1,4-Difluorobenzene	114	5.791	5.786	(1.000)	321893	10.0000	
$ 43 d8-Toluene	98	6.748	6.748	(1.165)	197670	5.23759	5.238
* 53 d5-Chlorobenzene	117	7.827	7.827	(1.000)	282988	10.0000	
$ 62 4-Bromofluorobenzene	174	8.699	8.699	(1.111)	63057	5.29827	5.298
* 76 d4-1,4-Dichlorobenzene	152	9.523	9.523	(1.000)	153827	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.842	9.842	(1.033)	71995	5.01963	5.020

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V301271808G.D
Lab Smp Id: SGA0305-CAL6
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

Calibration Date: 26-JAN-2018
Calibration Time: 09:25
Level: LOW
Sample Type: WATER

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	205369	-1.66
37 1,4-Difluorobenze	319374	159687	638748	321893	0.79
53 d5-Chlorobenzene	290356	145178	580712	282988	-2.54
76 d4-1,4-Dichlorobe	151501	75751	303002	153827	1.54

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.41	0.10
37 1,4-Difluorobenze	5.79	5.29	6.29	5.79	0.09
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	-0.00
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20151005
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: SGA0305-CAL6
Level: LOW Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.598	91.96	80-120
$ 33 d4-1,2-Dichloroeth	5.000	6.797	135.95*	80-128
$ 43 d8-Toluene	5.000	5.238	104.75	80-120
$ 62 4-Bromofluorobenze	5.000	5.298	105.97	80-120
$ 79 d4-1,2-Dichloroben	5.000	5.020	100.39	80-120

REVIEW SUMMARY FOR FILE - V301271808G.D

Lab ID: SGA0305-CAL6
nt3.i, 20180127s.b\8260C110717.m,   27-JAN-2018 14:05

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180127g.b\V301271808G.D

Date : 27-JAN-2018 14:05

Client ID:

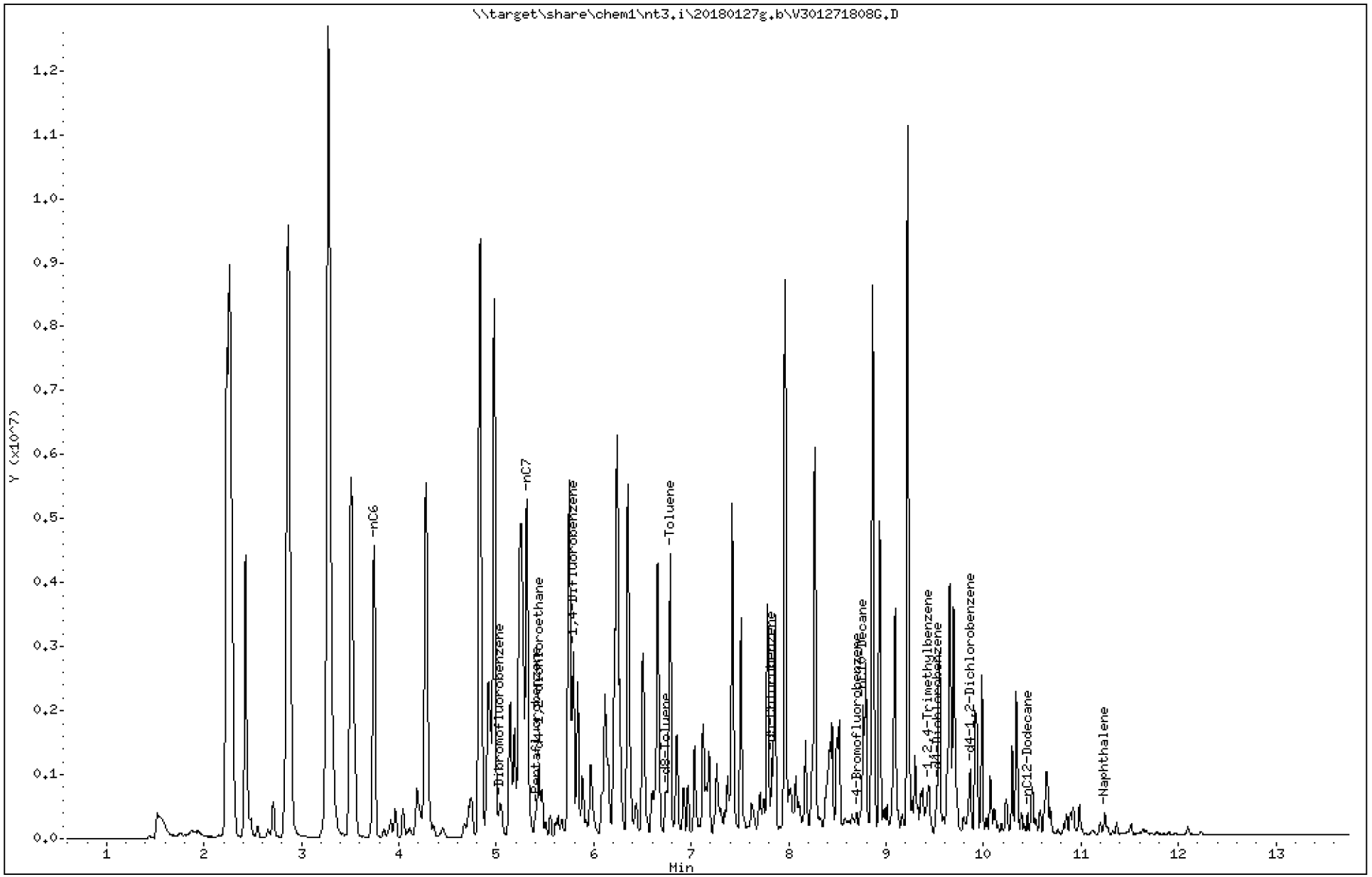
Instrument: nt3.i

Sample Info: SGA0305-CAL6

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180127g.b/V3012718O8G.D
Method: \20180127g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-JAN-2018 14:05

ARI ID: SGA0305-CAL6
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.69 to 10.55)	31991220	205156323	6.413 M
8015C 2MP-TMB	(2.88 to 9.53)	70557112	401191834	5.686
AK101 nC6-nC10	(3.65 to 8.66)	48812322	286783790	5.875
NWTPHG Tol-Nap	(6.69 to 11.35)	34228300	213272934	6.231 M
mod8015 nC7-nC12	(5.21 to 10.55)	52022420	309759463	5.954 M

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

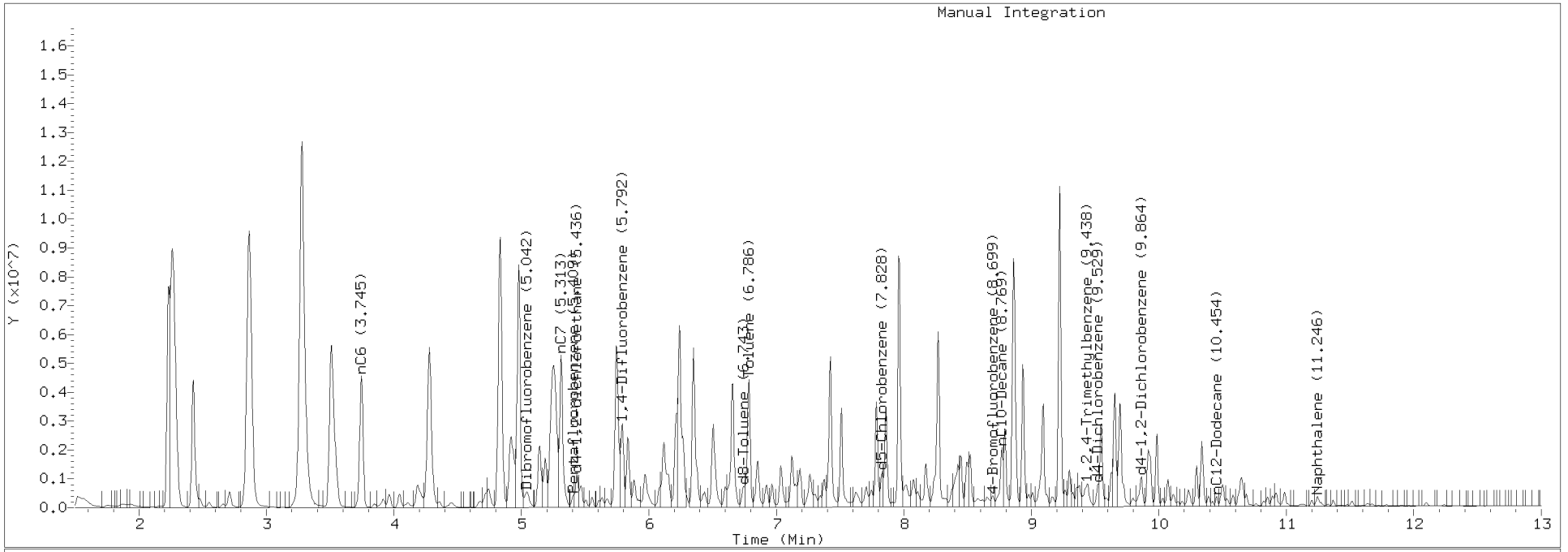
NW Gas Range Subtracted Peaks

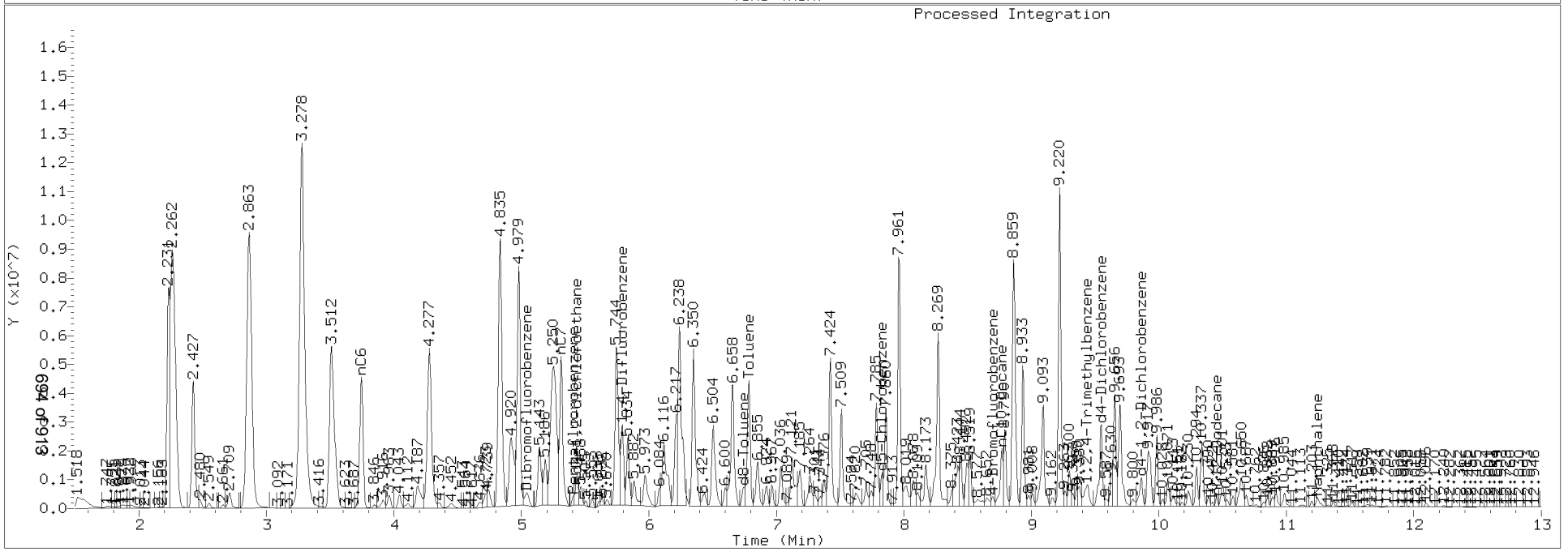
7.828	1795139	d5-Chlorobenzene
6.743	1322601	d8-Toluene
9.529	1120343	d4-Dichlorobenzene
8.699	627860	4-Bromofluorobenzene
9.864	2011379	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180127g.b/V301271808G.D Injection: 27-JAN-2018 14:05

Lab ID:SGA0305-CAL6





Data File: \\target\share\chem1\nt3.i\20180127s.b\V301271810G.D

Date : 27-JAN-2018 14:55

Client ID:

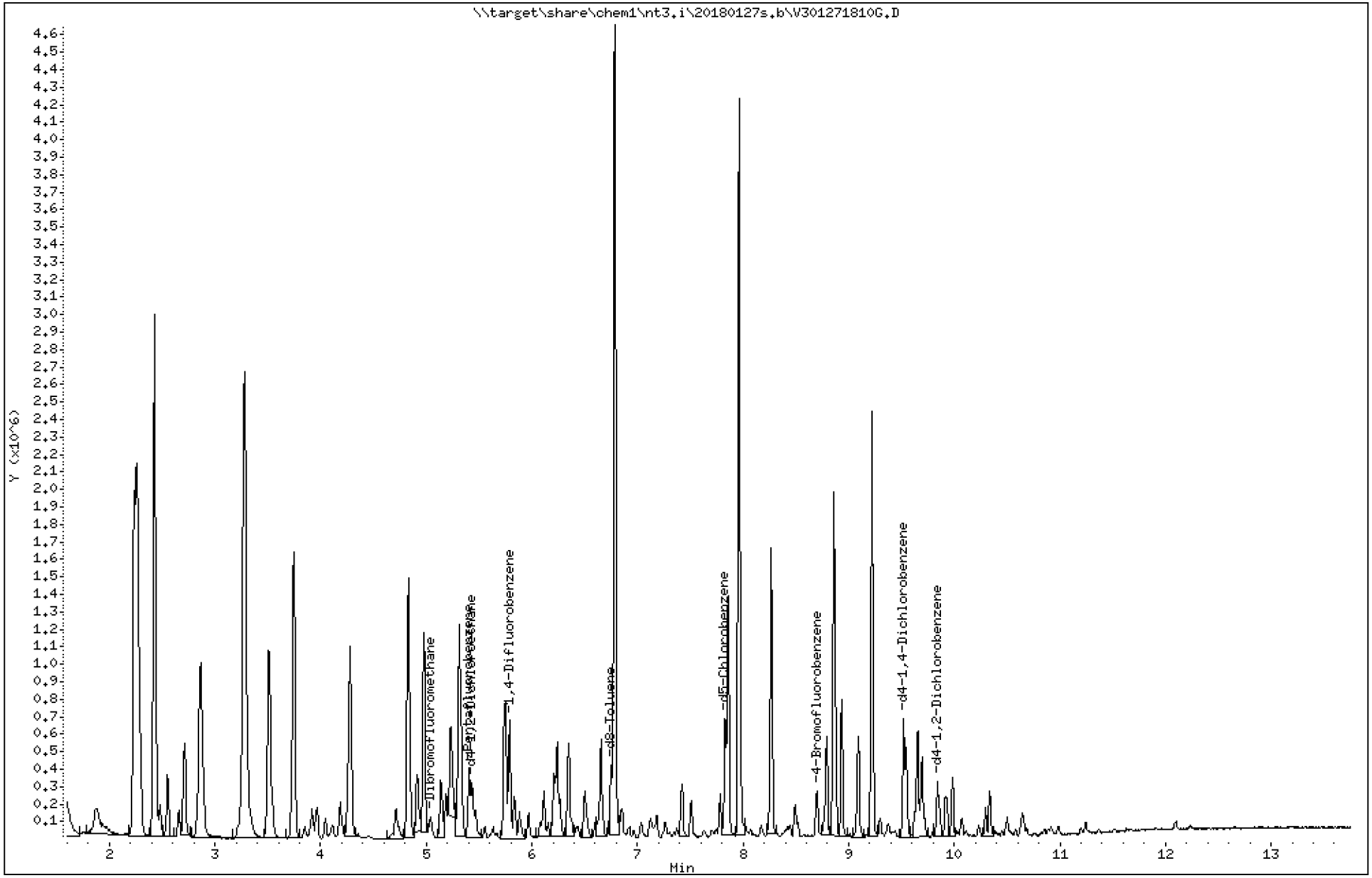
Instrument: nt3.i

Sample Info: SGA0305-SCV1

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180127s.b\V301271810G.D
Lab Smp Id: SGA0305-SCV1
Inj Date : 27-JAN-2018 14:55
Operator : PKC   Inst ID: nt3.i
Smp Info : SGA0305-SCV1
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Meth Date : 26-Jan-2018 10:01 paul   Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30   Cal File: V311071714.D
Als bottle: 50
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Concentration Formula: Amt * DF * Pv / Sa * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Pv	10.000	Purge Volume (mL)
Sa	10.000	Sample Amount (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.042	5.031	(0.933)	43641	4.73583	4.736
* 32 Pentafluorobenzene	168	5.404	5.403	(1.000)	212081	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.436	5.430	(1.006)	58317	5.29333	5.293
* 37 1,4-Difluorobenzene	114	5.786	5.786	(1.000)	319095	10.0000	
$ 43 d8-Toluene	98	6.748	6.748	(1.166)	186073	4.97354	4.974
* 53 d5-Chlorobenzene	117	7.828	7.827	(1.000)	287301	10.0000	
$ 62 4-Bromofluorobenzene	174	8.699	8.699	(1.111)	67379	5.57643	5.576
* 76 d4-1,4-Dichlorobenzene	152	9.518	9.523	(1.000)	155942	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.842	9.842	(1.034)	70680	4.86111	4.861

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V301271810G.D
Lab Smp Id: SGA0305-SCV1
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

Calibration Date: 26-JAN-2018
Calibration Time: 09:25
Level: LOW
Sample Type: WATER

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	212081	1.56
37 1,4-Difluorobenze	319374	159687	638748	319095	-0.09
53 d5-Chlorobenzene	290356	145178	580712	287301	-1.05
76 d4-1,4-Dichlorobe	151501	75751	303002	155942	2.93

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	0.00
37 1,4-Difluorobenze	5.79	5.29	6.29	5.79	0.00
53 d5-Chlorobenzene	7.83	7.33	8.33	7.83	0.00
76 d4-1,4-Dichlorobe	9.52	9.02	10.02	9.52	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20151005
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: SGA0305-SCV1
Level: LOW Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180127s.b\8260C110717.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.736	94.72	80-120
$ 33 d4-1,2-Dichloroeth	5.000	5.293	105.87	80-128
$ 43 d8-Toluene	5.000	4.974	99.47	80-120
$ 62 4-Bromofluorobenze	5.000	5.576	111.53	80-120
$ 79 d4-1,2-Dichloroben	5.000	4.861	97.22	80-120

REVIEW SUMMARY FOR FILE - V301271810G.D

Lab ID: SGA0305-SCV1
nt3.i, 20180127s.b\8260C110717.m,   27-JAN-2018 14:55

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180127g.b\V301271810G.D

Date : 27-JAN-2018 14:55

Client ID:

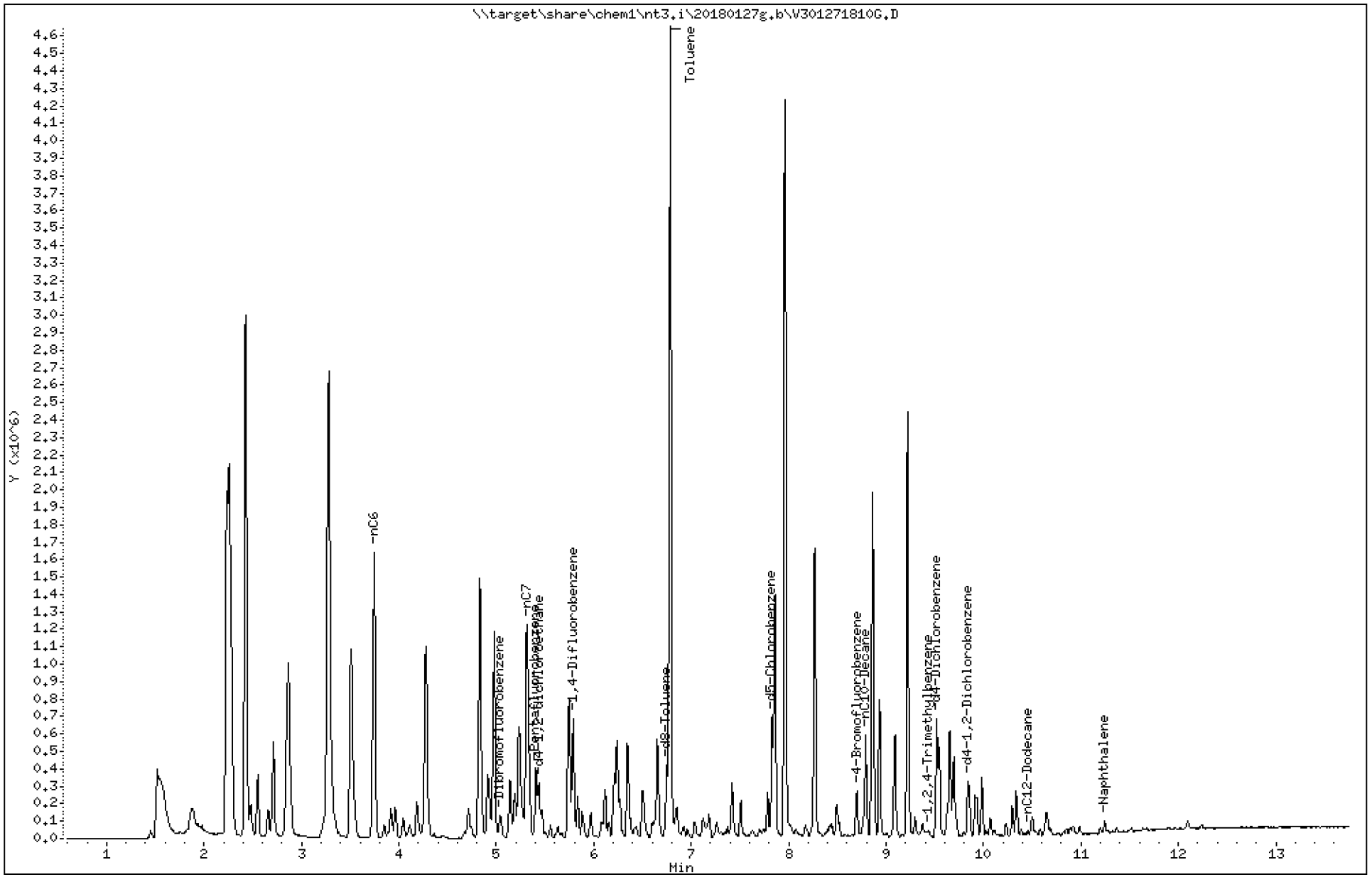
Instrument: nt3.i

Sample Info: SGA0305-SCV1

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180127g.b/V301271810G.D
Method: \20180127g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-JAN-2018 14:55

ARI ID: SGA0305-SCV1
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.69 to 10.55)	31991220	36919415	1.154
8015C 2MP-TMB	(2.88 to 9.53)	70557112	67992508	0.964
AK101 nC6-nC10	(3.65 to 8.66)	48812322	48600380	0.996
NWTPHG Tol-Nap	(6.69 to 11.35)	34228300	37947097	1.109
mod8015 nC7-nC12	(5.21 to 10.55)	52022420	49622630	0.954

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.828	914030	d5-Chlorobenzene
6.749	643944	d8-Toluene
9.518	970183	d4-Dichlorobenzene
8.700	407345	4-Bromofluorobenzene
9.843	603589	d4-1,2-Dichlorobenzene

INITIAL CALIBRATION CHECK

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BA00063
Lab File ID:	V303271805G.D	Calibration Date:	01/27/18 14:18
Sequence:	SGC0408	Injection Date:	03/27/18
Lab Sample ID:	SGC0408-ICV1	Injection Time:	10:05
Sequence Name:	ICV		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Gasoline Range Organics (Tol-Nap)	A	1000.0	1020	34228.3000	34995.7300		2.2	20
Toluene-d8	A	5.0000	5.02	1.1768750	1.1776410		0.4	
4-Bromofluorobenzene	A	5.0000	5.08	0.4265591	0.4273406		1.6	

* Values outside of QC limits

Data File: \\target\share\chem1\nt3.i\20180327s.b\V303271805G.D

Date : 27-MAR-2018 10:05

Client ID: GAS

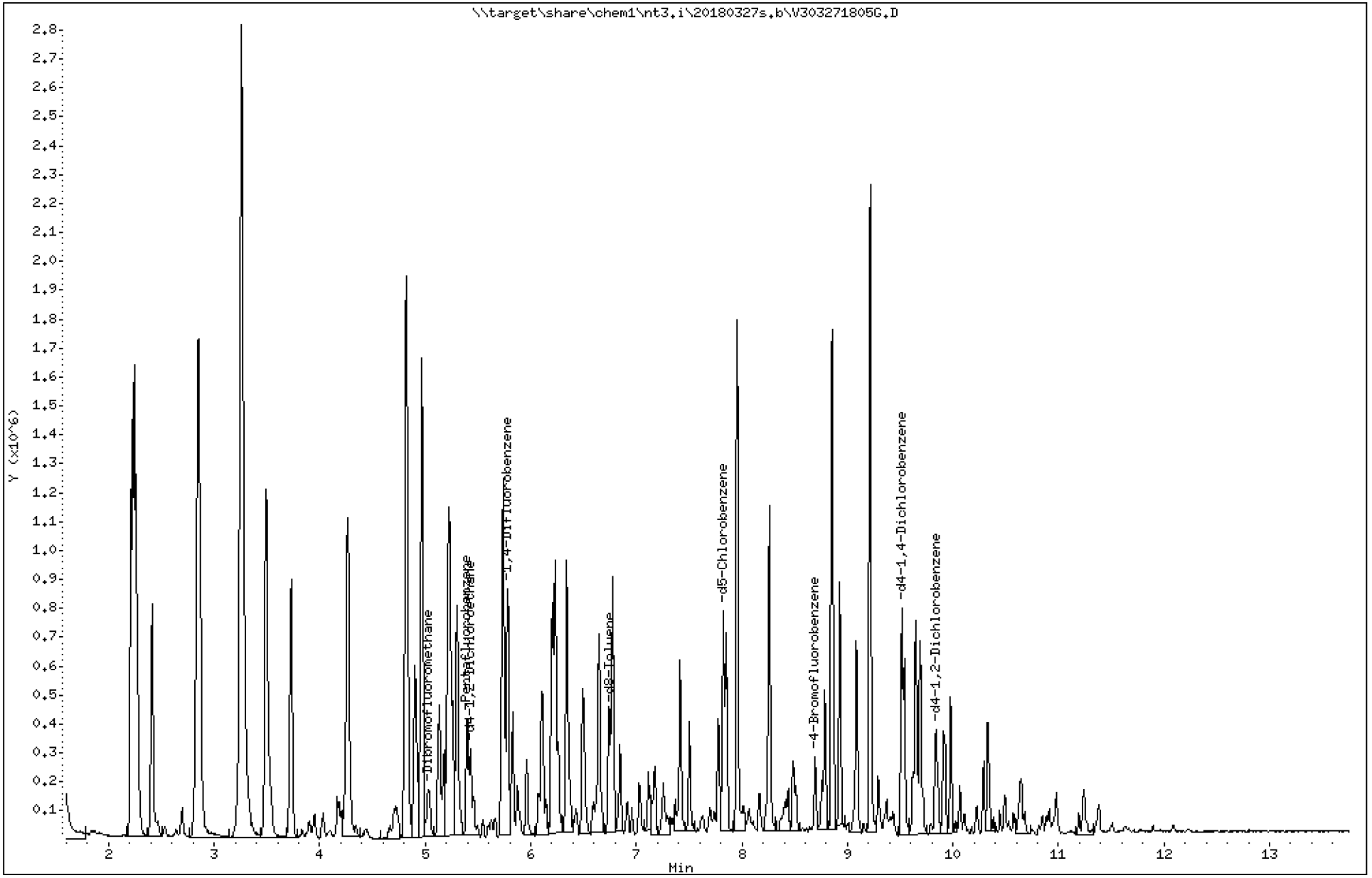
Instrument: nt3.i

Sample Info: SGC0408-ICV1

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180327s.b\V303271805G.D
Lab Smp Id: SGC0408-ICV1 Client Smp ID: GAS
Inj Date : 27-MAR-2018 10:05
Operator : PKC Inst ID: nt3.i
Smp Info : SGC0408-ICV1
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Meth Date : 27-Mar-2018 10:13 paul Quant Type: ISTD
Cal Date : 07-NOV-2017 14:30 Cal File: V311071714.D
Als bottle: 50
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA20

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.033	5.032	(0.932)	46690	4.78378	4.784(R)
* 32 Pentafluorobenzene	168	5.399	5.399	(1.000)	224624	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.426	5.425	(1.005)	58928	5.05012	5.050(R)
* 37 1,4-Difluorobenzene	114	5.782	5.781	(1.000)	336860	10.0000	
$ 43 d8-Toluene	98	6.744	6.743	(1.166)	198350	5.02209	5.022(R)
* 53 d5-Chlorobenzene	117	7.823	7.822	(1.000)	315107	10.0000	
$ 62 4-Bromofluorobenzene	174	8.695	8.694	(1.111)	67329	5.08058	5.081(R)
* 76 d4-1,4-Dichlorobenzene	152	9.513	9.513	(1.000)	169123	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.838	9.837	(1.034)	78317	4.96656	4.967(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V303271805G.D
Lab Smp Id: SGC0408-ICV1
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

Calibration Date: 27-MAR-2018
Calibration Time: 09:15
Client Smp ID: GAS
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	208826	104413	417652	224624	7.57
37 1,4-Difluorobenze	319374	159687	638748	336860	5.48
53 d5-Chlorobenzene	290356	145178	580712	315107	8.52
76 d4-1,4-Dichlorobe	151501	75751	303002	169123	11.63

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	0.01
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	0.01
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20150930a
Sample Matrix: NONE
Fraction: VOA
Lab Smp Id: SGC0408-ICV1
Client Smp ID: GAS
Level:
Operator: PKC
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180327s.b\8260C110717.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.784	95.68	
$ 33 d4-1,2-Dichloroeth	5.000	5.050	101.00	
$ 43 d8-Toluene	5.000	5.022	100.44	
$ 62 4-Bromofluorobenze	5.000	5.081	101.61	
$ 79 d4-1,2-Dichloroben	5.000	4.967	99.33	

REVIEW SUMMARY FOR FILE - V303271805G.D

Lab ID: SGC0408-ICV1
nt3.i, 20180327s.b\8260C110717.m,   27-MAR-2018 10:05

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180327g.b\V303271805G.D

Date : 27-MAR-2018 10:05

Client ID:

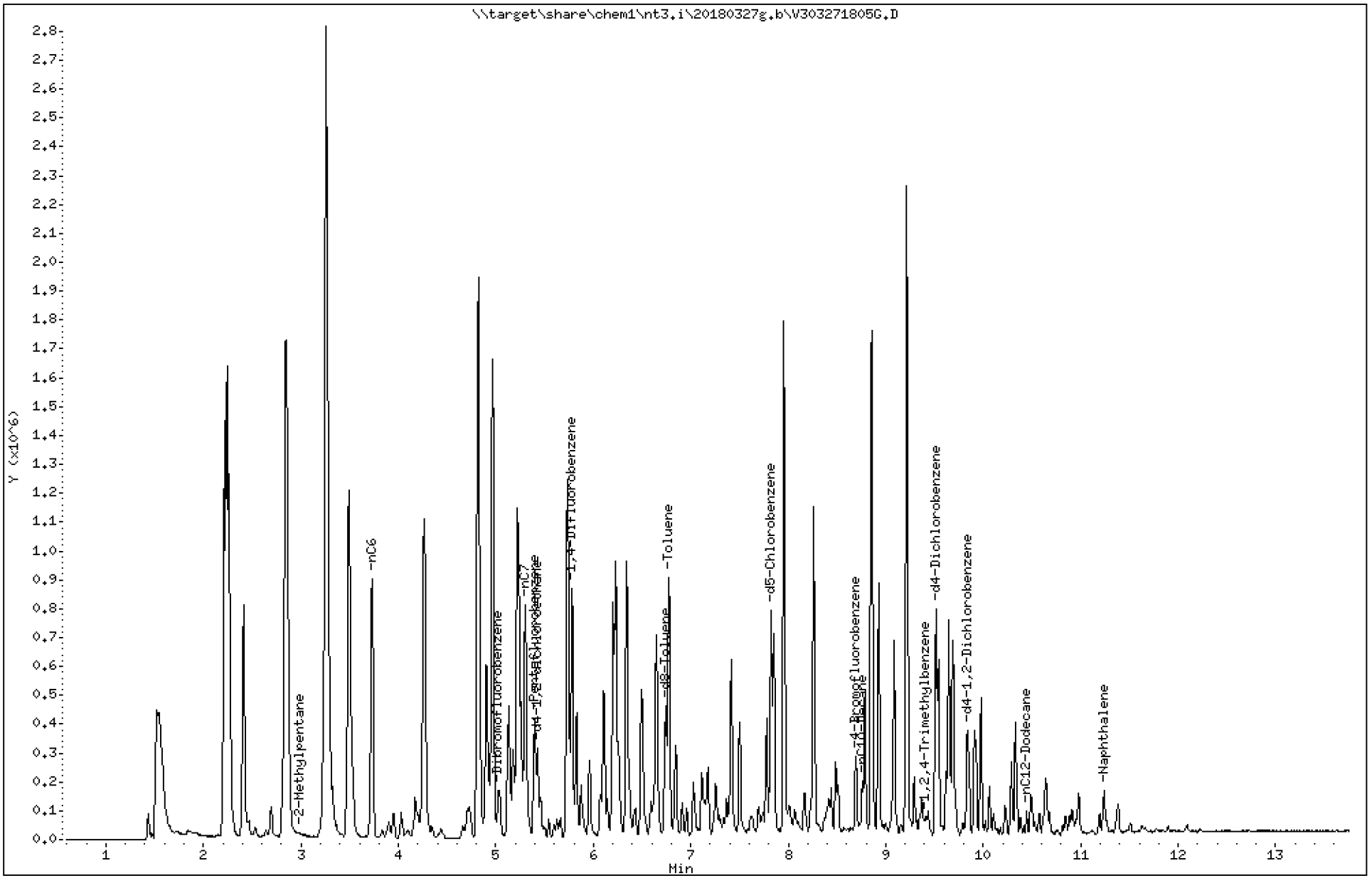
Instrument: nt3.i

Sample Info: SGC0408-ICV1

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180327g.b/V303271805G.D
Method: \20180327g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 27-JAN-2018
Injection Date: 27-MAR-2018 10:05

ARI ID: SGC0408-ICV1
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.68 to 10.55)	31991220	33119607	1.035
8015C 2MP-TMB	(2.88 to 9.51)	70557112	69587918	0.986 M
AK101 nC6-nC10	(3.63 to 8.66)	48812322	48763856	0.999 M
NWTPHG Tol-Nap	(6.68 to 11.34)	34228300	34995732	1.022
mod8015 nC7-nC12	(5.20 to 10.55)	52022420	51420298	0.988 M

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

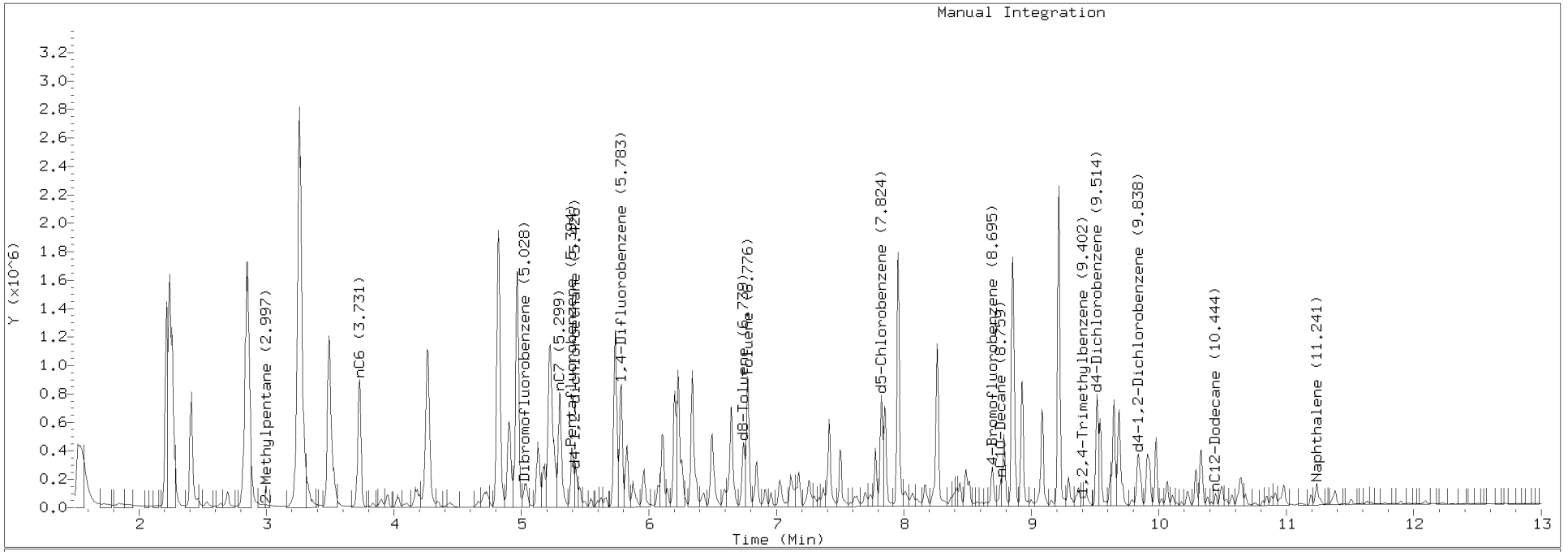
NW Gas Range Subtracted Peaks

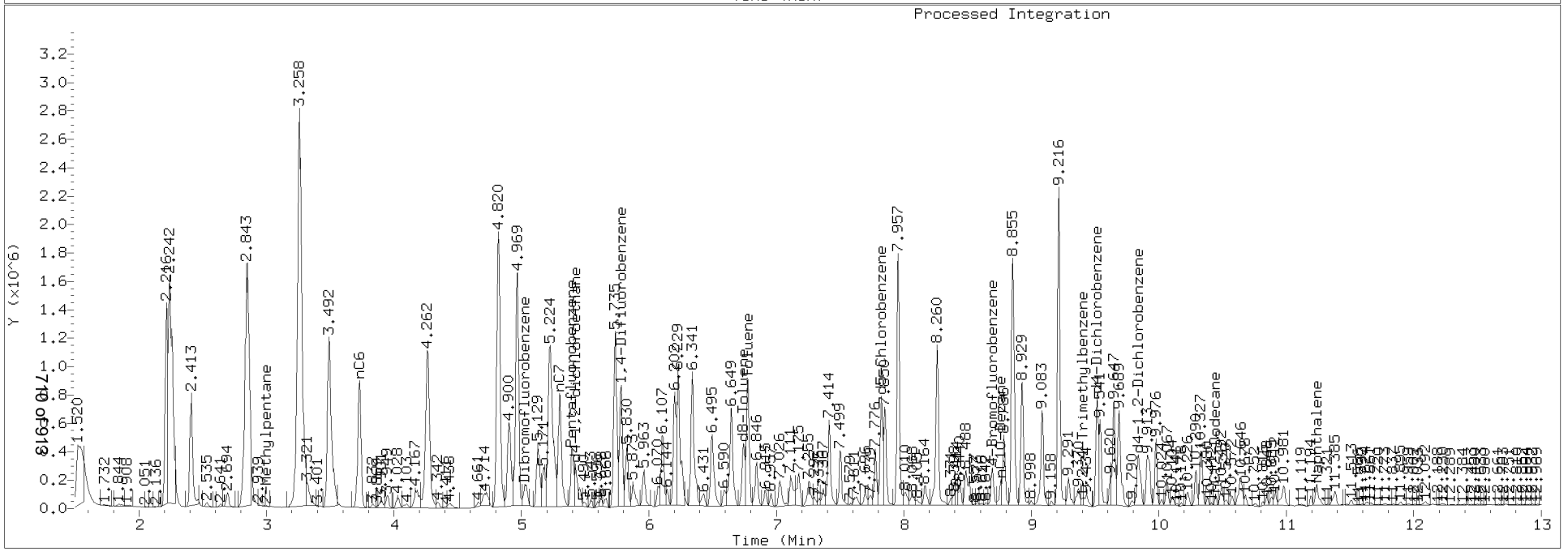
7.824	1256253	d5-Chlorobenzene
6.739	763159	d8-Toluene
9.514	1150467	d4-Dichlorobenzene
8.695	460589	4-Bromofluorobenzene
9.838	766583	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180327g.b/V303271805G.D Injection: 27-MAR-2018 10:05

Lab ID:SGC0408-ICV1





Analytical Resources, Incorporated

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGC0408	Instrument:	NT3
		Calibration:	BA00063

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
BFB	SGC0408-TUN1	V303271802G.D	NA	03/27/18 08:39
ICV	SGC0408-ICV1	V303271805G.D	NA	03/27/18 10:05
LCS	BGC0717-BS2	V303271805LCSG.D	Water	03/27/18 10:05
ZZZZZ	BGC0716-BS1	V303271805LCSSG.D	Solid	03/27/18 10:05
LCS Dup	BGC0717-BSD2	V303271806G.D	Water	03/27/18 10:31
ZZZZZ	BGC0716-BSD1	V303271806LCSDSG.D	Solid	03/27/18 10:31
Blank	BGC0717-BLK2	V303271808G.D	Water	03/27/18 11:22
ZZZZZ	BGC0716-BLK1	V303271808MBSG.D	Solid	03/27/18 11:22
ZZZZZ	18C0314-01	V303271811G.D	Solid	03/27/18 12:37
ZZZZZ	18C0314-02	V303271812G.D	Solid	03/27/18 13:03
ZZZZZ	18C0335-03	V303271813G.D	Solid	03/27/18 13:28
Trip Blank	18C0424-03	V303271822G.D	Water	03/27/18 17:15
MW-4-180326	18C0424-01	V303271823G.D	Water	03/27/18 17:41
CCV	SGC0408-CCV1	V303271827G.D	NA	03/27/18 19:21

SVCA Area Z Remediation
18C0424

Analysis	Matrix	Method
8260C Gas (NWTPH)	Water	NWTPHg

Checklist: Analyst Checklist-VOA(rev2)

#	Checklist Item	Response		Analyst Initials	Date
1	Samples have no Bubbles/Headspace of note for all Workorders	NA		LH	03/29/2018
2	PH <=2 / 5035 Preserved for all Workorders	YES		LH	03/29/2018
3	BFB abundance and time criteria met	YES		LH	03/29/2018
4	Detail all ICV/CCV failures for all affected Workorders	NA		LH	03/29/2018
5	Narrate all Internal Standard areas not within 50-200% for all affected Workorders	NA		LH	03/29/2018
6	Retention times within windows and coelution summary checked for all Workorders	YES		LH	03/29/2018
7	Manual Integrations were applied as per SOP 1021s	YES		LH	03/29/2018
	Comments: *Manual integrations were performed to split off improper peak inclusions and to correct baseline irregularity.*				
8	Narrate any Workorders where the Project specific requirements have not been met	NA		LH	03/29/2018
9	Trip Blank, Field Blank and (or) Holding Blank are below MRL for all Analytes	YES		LH	03/29/2018
10	Sample dilution factors have been correctly applied to the following Workorders	YES		LH	03/29/2018
11	Extraction basis, sample prep, and total solids are correctly entered.	YES		LH	03/29/2018
	Comments: *Total solids for 18C0335-03 were copied from the 8260C BTEX run in batch BGC0653.*				
12	AUTOCHECK: Blank checked for exceedence of criteria	YES	*	LH	03/29/2018
13	AUTOCHECK: Check blank spike recovery	YES	*	LH	03/29/2018
14	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	YES	*	LH	03/29/2018
15	AUTOCHECK: Compounds in method designated as blank spike compounds are present	YES	*	LH	03/29/2018
16	AUTOCHECK: Check %RPD between sample and sample duplicate	NA	*	LH	03/29/2018
17	AUTOCHECK: Matrix spike recoveries within limits	NA	*	LH	03/29/2018
18	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NA	*	LH	03/29/2018
19	AUTOCHECK: List of compounds listed as spiked are present	NA	*	LH	03/29/2018
20	AUTOCHECK: Check Surrogate recoveries	YES	*	LH	03/29/2018
21	AUTOCHECK: Checks Surrogate spike list against Analysis	YES	*	LH	03/29/2018
22	Data locked, checklist completed and status is Analyzed (REVIEWER)	YES		BB	03/29/2018

* = Indicates Automated Response from Element DataSyst

SVCA Area Z Remediation
18C0424

Analysis	Matrix	Method
8260C Gas (NWTPH)	Water	NWTPHg

Checklist: Analyst Checklist-VOA(rev2)

#	Checklist Item	Response	Analyst Initials	Date
23	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES	BB	03/29/2018
24	List of samples in this sequence that will require additional runs-verify reshot created (ANALYST)	NA	LH	03/29/2018
25	List of samples in this sequence that are re-analysis or dilutions of samples (ANALYST)	NA	LH	03/29/2018
26	Additional Notes (ANALYST and REVIEWER)	NA	BB	03/29/2018

Printed: 3/29/2018 7:37:55AM

ANALYSIS SEQUENCE

SGC0408

Instrument: NT3
Element Column ID: 1300725 RTXV
Calibration ID: BA00063
Tune File: bfb.u
EM Voltage: 2106

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGC0408-TUN1	BFB	QC		1	G002083	F011918	
SGC0408-ICV1	ICV	QC		2	G001777	F011918	
BGC0717-BS2	LCS	QC		3		F011918	
BGC0716-BS1	LCS	QC		4		F011918	
BGC0717-BSD2	LCS Dup	QC		5		F011918	
BGC0716-BSD1	LCS Dup	QC		6		F011918	
BGC0717-BLK2	Blank	QC		7		F011918	
BGC0716-BLK1	Blank	QC		8		F011918	
18C0314-01	GMB23-(4-5)-031918-S	8260C Gas (NWTPH)	D	9		F011918	
18C0314-02	GMB23-(16-17)-031918-S	8260C Gas (NWTPH)	F	10		F011918	
18C0335-03	FS-20-4-5	8260C Gas (NWTPH)	D	11		F011918	
18C0424-03	Trip Blank	8260C Gas (NWTPH)	A	12		F011918	
18C0424-01	MW-4-180326	8260C Gas (NWTPH)	E	13		F011918	
SGC0408-CCV1	CCV	QC		14	G001777	F011918	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20180327.b

	Time	Filename	LabID	ClientID	Vial#	pH	DF								
1	0814	V303271801.D	RINSE				1								
2	0839	V303271802.D	SGC0407-TUN1				1								
3	0915	V303271803.D	SGC0407-ICV1	VOA			1	5.40	223481	5.78	325422	7.82	303233	9.51	171190
4	0915	V303271803LCS.D	BGC0717-BS1	VOA			1	5.40	223481	5.78	325422	7.82	303233	9.51	171190
5	0940	V303271804.D	BGC0717-BSD1	VOA			1	5.40	221778	5.78	326250	7.83	307072	9.52	169932
6	1005	V303271805.D	SGC0408-ICV1	GAS			1	5.40	224624	5.78	336860	7.82	315107	9.51	169123
7	1031	V303271806.D	BGC0716-BSD1	GAS			1	5.40	221035	5.78	330844	7.82	307909	9.51	167231
8	1056	V303271807.D	LOD0.1	0.1			1	5.40	214457	5.78	316681	7.82	309318	9.51	168424
9	1122	V303271808.D	BGC0717-BLK1				1	5.40	206539	5.78	307456	7.82	289501	9.51	152124
10	1147	V303271809.D	18C0313-01				1	5.40	200734	5.78	298449	7.82	280138	9.52	147019
11	1212	V303271810.D	18C0346-13	PB			1	5.40	201636	5.78	295400	7.82	277638	9.52	144974
12	1237	V303271811.D	18C0314-01	GAS only			1	5.40	207689	5.78	303948	7.82	281109	9.51	149722
13	1303	V303271812.D	18C0314-02	GAS only			1	5.40	206459	5.78	302349	7.82	276943	9.52	147691
14	1328	V303271813.D	18C0335-03	GAS only			1	5.40	206411	5.78	301144	7.83	286908	9.52	148063
15	1353	V303271814.D	18C0346-01				1	5.40	198088	5.78	292588	7.82	274216	9.52	141396
16	1419	V303271815.D	18C0346-03				1	5.40	194283	5.78	286053	7.82	266948	9.51	143454
17	1444	V303271816.D	18C0346-05	PB			1	5.40	190836	5.78	276667	7.83	264185	9.52	138881
18	1509	V303271817.D	18C0346-07				1	5.40	191082	5.78	281230	7.82	263005	9.52	140587
19	1534	V303271818.D	18C0346-09				1	5.40	192179	5.78	284484	7.82	268592	9.52	137204
20	1600	V303271819.D	18C0346-11				1	5.40	175355	5.78	260105	7.82	246452	9.51	129554
21	1625	V303271820.D	18C0415-01	200X, needs 500X			1	5.40	182481	5.78	263398	7.83	251766	9.52	133598
22	1650	V303271821.D	18C0420-01	500X, over-diluted			1	5.40	182537	5.78	263317	7.83	253159	9.52	129709

23	1715	V303271822.D	18C0424-03	PB	1	5.40	179337	5.78	271958	7.82	256546	9.52	133490
24	1741	V303271823.D	18C0424-01		1	5.40	182756	5.78	267350	7.82	253318	9.51	135680
25	1806	V303271824.D	18C0427-01	HS	1	5.40	183009	5.78	272864	7.82	254972	9.52	135927
26	1831	V303271825.D	18C0433-01	200X, over-diluted	1	5.40	180867	5.78	260728	7.82	247796	9.51	129816
27	1856	V303271826.D	18C0439-01	200X	1	5.40	182658	5.78	265154	7.82	252830	9.52	133222
28	1921	V303271827.D	SGC0408-CCV1	GAS	1	5.40	191654	5.78	288070	7.82	264063	9.51	145223
29	1947	V303271828.D	SGC0407-CCV1	VOA	1	5.40	192265	5.78	283980	7.82	273936	9.51	154593

Security Status Report

Date: 29-Mar-2018 07:41

V303271802G.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271805G.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271805LCSG.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271805LCSSG.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271806G.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271806LCSDSG.d	Data Locked	lanih, 29-Mar-2018 07:39
V303271808G.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271808MBSG.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271811G.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271812G.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271813G.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271822G.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271823G.D	Data Locked	lanih, 29-Mar-2018 07:39
V303271827G.D	Data Locked	lanih, 29-Mar-2018 07:39

Security Status Report

Date: 29-Mar-2018 07:40

V303271802G.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271805G.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271805LCSG.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271805LCSSG.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271806G.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271806LCSDSG.d	Data Locked	lanih, 29-Mar-2018 07:40
V303271808G.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271808MBSG.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271811G.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271812G.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271813G.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271822G.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271823G.D	Data Locked	lanih, 29-Mar-2018 07:40
V303271827G.D	Data Locked	lanih, 29-Mar-2018 07:40

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20180327g.b

ARI Job No.: SGC0 Method: NWTPHG.m Instrument: nt3.i Date: 27-MAR-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0839	V303271802G.D	SGC0-TUN1		1	Pentafluorobenzene, d4-1,2-dichloroethane,
1005	V303271805G.D	SGC0408-ICV1		1	d4-1,2-dichloroethane,
1005	V303271805LCSG.D	BGC0717-BS2		1	d4-1,2-dichloroethane,
1005	V303271805LCSSG.D	BGC0716-BS1		1	d4-1,2-dichloroethane,
1031	V303271806G.D	BGC0717-BSD2		1	2-Methylpentane, nC6, nC12-Dodecane, 1,2,4-Trimethylbenzene, nC10-Decane, Toluene, Naphthalene, nC7, d5-Chlorobenzene, d8-Toluene, Pentafluorobenzene, Dibromofluorobenzene, d4-Dichlorobenzene, 4-Bromofluorobenzene, d4-1,2-dichloroethane, 1,4-Difluorobenzene, d4-1,2-Dichlorobenzene,
1031	V303271806LCSDSG.d	BGC0716-BSD1		1	2-Methylpentane, nC6, nC12-Dodecane, 1,2,4-Trimethylbenzene, nC10-Decane, Toluene, Naphthalene, nC7, d5-Chlorobenzene, d8-Toluene, Pentafluorobenzene, Dibromofluorobenzene, d4-Dichlorobenzene, 4-Bromofluorobenzene, d4-1,2-dichloroethane, 1,4-Difluorobenzene, d4-1,2-Dichlorobenzene,
1122	V303271808G.D	BGC0717-BLK2		1	NO MANUAL INTEGRATION
1122	V303271808MBSG.D	BGC0716-BLK1		1	NO MANUAL INTEGRATION
1237	V303271811G.D	18C0314-01		1	NO MANUAL INTEGRATION
1303	V303271812G.D	18C0314-02		1	NO MANUAL INTEGRATION
1328	V303271813G.D	18C0335-03		1	NO MANUAL INTEGRATION
1715	V303271822G.D	18C0424-03		1	NO MANUAL INTEGRATION
1741	V303271823G.D	18C0424-01		1	NO MANUAL INTEGRATION
1921	V303271827G.D	SGC0408-CCV1		1	2-Methylpentane, nC6, nC12-Dodecane, 1,2,4-Trimethylbenzene, nC10-Decane, Toluene, Naphthalene, nC7, d5-Chlorobenzene, d8-Toluene, Pentafluorobenzene, Dibromofluorobenzene, d4-Dichlorobenzene, 4-Bromofluorobenzene, d4-1,2-dichloroethane, 1,4-Difluorobenzene, d4-1,2-Dichlorobenzene,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem1\nt3.i\20180327s.b

ARI Job No.: SGC0 Method: bfb8260.m Instrument: nt3.i Date: 27-MAR-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0839	V303271802G.D	SGC0408-TUN1		1	NO MANUAL INTEGRATION
1005	V303271805G.D	SGC0408-ICV1	GAS	1	NO MANUAL INTEGRATION
1005	V303271805LCSG.D	BGC0717-BS2	GAS	1	NO MANUAL INTEGRATION
1005	V303271805LCSSG.D	BGC0716-BS1	GAS	1	NO MANUAL INTEGRATION
1031	V303271806G.D	BGC0717-BSD2	GAS	1	NO MANUAL INTEGRATION
1031	V303271806LCSDSG.d	BGC0716-BSD1	GAS	1	NO MANUAL INTEGRATION
1122	V303271808G.D	BGC0717-BLK2		1	NO MANUAL INTEGRATION
1122	V303271808MBSG.D	BGC0716-BLK1		1	NO MANUAL INTEGRATION
1237	V303271811G.D	18C0314-01 GAS only		1	NO MANUAL INTEGRATION
1303	V303271812G.D	18C0314-02 GAS only		1	NO MANUAL INTEGRATION
1328	V303271813G.D	18C0335-03 GAS only		1	NO MANUAL INTEGRATION
1715	V303271822G.D	18C0424-03 PB		1	NO MANUAL INTEGRATION
1741	V303271823G.D	18C0424-01		1	NO MANUAL INTEGRATION
1921	V303271827G.D	SGC0408-CCV1	GAS	1	NO MANUAL INTEGRATION

Analytical Resources, Incorporated

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGA0305	Instrument:	NT3
		Calibration:	BA00063

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGA0305-TUN1	V301271802G.D	NA	01/27/18 11:09
Gas 0.1	SGA0305-CAL1	V301271803G.D	NA	01/27/18 11:59
Gas 0.25	SGA0305-CAL2	V301271804G.D	NA	01/27/18 12:24
Gas 0.5	SGA0305-CAL3	V301271805G.D	NA	01/27/18 12:49
Gas 1.0	SGA0305-CAL4	V301271806G.D	NA	01/27/18 13:15
Gas 2.5	SGA0305-CAL5	V301271807G.D	NA	01/27/18 13:40
Gas 5.0	SGA0305-CAL6	V301271808G.D	NA	01/27/18 14:05
Gas SCV 1	SGA0305-SCV1	V301271810G.D	NA	01/27/18 14:55

Printed: 2/14/2018 2:23:33PM

ANALYSIS SEQUENCE

SGA0305

Instrument: NT3 Element Column ID: 1300725 RTXV
Calibration ID: BA00063 Tune File: bfb.u
EM Voltage: 1988

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGA0305-TUN1	MS Tune	QC		1	F009789	F011918	
SGA0305-CAL1	Gas 0.1	QC		2	G000766	F011918	
SGA0305-CAL2	Gas 0.25	QC		3	G000767	F011918	
SGA0305-CAL3	Gas 0.5	QC		4	G000768	F011918	
SGA0305-CAL4	Gas 1.0	QC		5	G000769	F011918	
SGA0305-CAL5	Gas 2.5	QC		6	G000770	F011918	
SGA0305-CAL6	Gas 5.0	QC		7	G000771	F011918	
SGA0305-SCV1	Gas SCV 1	QC		8	G000772	F011918	

Analytical Resources, Incorporated

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SFK0117	Instrument:	NT3
		Calibration:	AK00026

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Gas 0.1	SFK0117-CAL9	V311071717G.D	NA	11/07/17 15:46
Gas 0.25	SFK0117-CALA	V311071718G.D	NA	11/07/17 16:11
Gas 0.5	SFK0117-CALB	V311071719G.D	NA	11/07/17 16:36
Gas 1.0	SFK0117-CALC	V311071720G.D	NA	11/07/17 17:02
Gas 2.5	SFK0117-CALD	V311071721G.D	NA	11/07/17 17:27
Gas 5.0	SFK0117-CALE	V311071722G.D	NA	11/07/17 17:53
Gas SCV 1	SFK0117-SCV2	V311071724G.D	NA	11/07/17 18:43

Printed: 11/30/2017 11:57:52AM

ANALYSIS SEQUENCE

SFK0117

Instrument: NT3
Element Column ID: 1300725 RTXV
Calibration ID: AK00026
Tune File: bfb.u
EM Voltage: 1988

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SFK0117-TUN1	MS Tune	QC		1	F009789	F009420	
SFK0117-CAL1	8260C 0.2	QC		2	F010278	F009420	
SFK0117-CAL2	8260C 0.5	QC		3	F010279	F009420	
SFK0117-CAL3	8260C 1.0	QC		4	F010280	F009420	
SFK0117-CAL4	8260C 2.0	QC		5	F010281	F009420	
SFK0117-CAL5	8260C 10	QC		6	F010282	F009420	
SFK0117-CAL6	8260C 20	QC		7	F010283	F009420	
SFK0117-CAL7	8260C 40	QC		8	F010284	F009420	
SFK0117-CAL8	8260C 80	QC		9	F010285	F009420	
SFK0117-SCV1	8260C SCV 10	QC		10	F010286	F009420	
SFK0117-CAL9	Gas 0.1	QC		11	F009940	F009420	
SFK0117-CALA	Gas 0.25	QC		12	F009941	F009420	
SFK0117-CALB	Gas 0.5	QC		13	F009942	F009420	
SFK0117-CALC	Gas 1.0	QC		14	F009943	F009420	
SFK0117-CALD	Gas 2.5	QC		15	F009944	F009420	
SFK0117-CALE	Gas 5.0	QC		16	F009945	F009420	
SFK0117-SCV2	Gas SCV 1	QC		17	F009947	F009420	

SURROGATE RECOVERY SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGC0408	Instrument:	NT3
Calibration:	BA00063	Calibration Date:	01/27/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
BGC0717-BS2 (Water)	Lab File ID: V303271805LCSG.D		Analyzed: 03/27/18 10:05	
Toluene-d8	5.0000	100	80 - 120	
4-Bromofluorobenzene	5.0000	102	80 - 120	
SGC0408-ICV1 (Water)	Lab File ID: V303271805G.D		Analyzed: 03/27/18 10:05	
Toluene-d8	5.0000	100	0 - 200	
4-Bromofluorobenzene	5.0000	102	0 - 200	
BGC0717-BSD2 (Water)	Lab File ID: V303271806G.D		Analyzed: 03/27/18 10:31	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	102	80 - 120	
BGC0717-BLK2 (Water)	Lab File ID: V303271808G.D		Analyzed: 03/27/18 11:22	
Toluene-d8	5.0000	97.1	80 - 120	
4-Bromofluorobenzene	5.0000	96.2	80 - 120	
18C0424-03 (Water)	Lab File ID: V303271822G.D		Analyzed: 03/27/18 17:15	
Toluene-d8	5.0000	97.7	80 - 120	
4-Bromofluorobenzene	5.0000	94.4	80 - 120	
18C0424-01 (Water)	Lab File ID: V303271823G.D		Analyzed: 03/27/18 17:41	
Toluene-d8	5.0000	99.2	80 - 120	
4-Bromofluorobenzene	5.0000	97.5	80 - 120	

SURROGATE RECOVERY SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGA0305	Instrument:	NT3
Calibration:	BA00063	Calibration Date:	01/27/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
SGA0305-SCV1 (Solid)	Lab File ID: V301271810G.D		Analyzed: 01/27/18 14:55	
Toluene-d8	5.0000	99.5	0 - 200	
4-Bromofluorobenzene	5.0000	112	0 - 200	

INTERNAL STANDARD AREA AND RT SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGC0408
Instrument: NT3
Calibration: BA00063

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BGC0717-BS2)		(Water)	Lab File ID: V303271805LCSG.D					Analyzed: 03/27/18 10:05	
Pentafluorobenzene	224624	5.399	208826	5.415	108	50 - 200	0.0160	+/-0.50	
Chlorobenzene-d5	315107	7.823	290356	7.833	109	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	336860	5.782	319374	5.798	105	50 - 200	0.0160	+/-0.50	
1,4-Dichlorobenzene-d4	169123	9.513	151501	9.524	112	50 - 200	0.0110	+/-0.50	
Initial Cal Check (SGC0408-ICV1)		(Water)	Lab File ID: V303271805G.D					Analyzed: 03/27/18 10:05	
Pentafluorobenzene	224624	5.399	208826	5.415	108	50 - 200	0.0160	+/-0.50	
Chlorobenzene-d5	315107	7.823	290356	7.833	109	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	336860	5.782	319374	5.798	105	50 - 200	0.0160	+/-0.50	
1,4-Dichlorobenzene-d4	169123	9.513	151501	9.524	112	50 - 200	0.0110	+/-0.50	
LCS Dup (BGC0717-BSD2)		(Water)	Lab File ID: V303271806G.D					Analyzed: 03/27/18 10:31	
Pentafluorobenzene	221035	5.399	208826	5.415	106	50 - 200	0.0160	+/-0.50	
Chlorobenzene-d5	307909	7.822	290356	7.833	106	50 - 200	0.0110	+/-0.50	
1,4-Difluorobenzene	330844	5.781	319374	5.798	104	50 - 200	0.0170	+/-0.50	
1,4-Dichlorobenzene-d4	167231	9.513	151501	9.524	110	50 - 200	0.0110	+/-0.50	
Blank (BGC0717-BLK2)		(Water)	Lab File ID: V303271808G.D					Analyzed: 03/27/18 11:22	
Pentafluorobenzene	206539	5.398	208826	5.415	99	50 - 200	0.0170	+/-0.50	
Chlorobenzene-d5	289501	7.822	290356	7.833	100	50 - 200	0.0110	+/-0.50	
1,4-Difluorobenzene	307456	5.78	319374	5.798	96	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	152124	9.512	151501	9.524	100	50 - 200	0.0120	+/-0.50	
Trip Blank (18C0424-03)		(Water)	Lab File ID: V303271822G.D					Analyzed: 03/27/18 17:15	
Pentafluorobenzene	179337	5.398	208826	5.415	86	50 - 200	0.0170	+/-0.50	
Chlorobenzene-d5	256546	7.822	290356	7.833	88	50 - 200	0.0110	+/-0.50	
1,4-Difluorobenzene	271958	5.78	319374	5.798	85	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	133490	9.517	151501	9.524	88	50 - 200	0.0070	+/-0.50	
MW-4-180326 (18C0424-01)		(Water)	Lab File ID: V303271823G.D					Analyzed: 03/27/18 17:41	
Pentafluorobenzene	182756	5.399	208826	5.415	88	50 - 200	0.0160	+/-0.50	
Chlorobenzene-d5	253318	7.823	290356	7.833	87	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	267350	5.781	319374	5.798	84	50 - 200	0.0170	+/-0.50	
1,4-Dichlorobenzene-d4	135680	9.513	151501	9.524	90	50 - 200	0.0110	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGA0305
Instrument: NT3
Calibration: BA00063

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SGA0305-SCV1)		(Solid)	Lab File ID: V301271810G.D					Analyzed: 01/27/18 14:55	
Pentafluorobenzene	212081	5.404	208826	5.415	102	50 - 200	0.0110	+/-0.50	
Chlorobenzene-d5	287301	7.828	290356	7.833	99	50 - 200	0.0050	+/-0.50	
1,4-Difluorobenzene	319095	5.786	319374	5.798	100	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	155942	9.518	151501	9.524	103	50 - 200	0.0060	+/-0.50	

Analytical Resources, Incorporated

HOLDING TIME SUMMARY

Analysis: NWTPHg

Laboratory: Analytical Resources, Inc. SDG: 18C0424

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-180326 18C0424-01	03/26/18 11:42	03/27/18 08:27	03/27/18 10:48	0	14	03/27/18 17:41	1	14	
Trip Blank 18C0424-03	03/26/18 11:42	03/27/18 08:27	03/27/18 10:48	0	14	03/27/18 17:15	1	14	

* Indicates hold time exceedance.

Analytical Resources, Incorporated

METHOD DETECTION AND REPORTING LIMITS

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Solid
Instrument: NT3

Analyte	MDL	RL	Units
Gasoline Range Organics (Tol-Nap)	2500	5000	ug/kg

Analytical Resources, Incorporated

METHOD DETECTION AND REPORTING LIMITS

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: NT3

Analyte	MDL	RL	Units
Gasoline Range Organics (Tol-Nap)	13.6	100	ug/L

MW-4-180326

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPH-Dx

TPH (Extractables)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Groundwater	Laboratory ID:	18C0424-01	SDG:	18C0424
Sampled:	03/26/18 11:42	Prepared:	04/02/18 10:12	File ID:	418D0416.D
% Solids:		Preparation:	EPA 3510C SepF	Analyzed:	04/04/18 16:41
Batch:	BGC0815	Sequence:	SGD0044	Initial/Final:	500 mL / 1 mL
Instrument:	FID4	Column:	RTX-1	Calibration:	BC00067

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.45000	0.392	87.2	50 - 150	

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0416.D

Date : 04-APR-2018 16:41

Client ID:

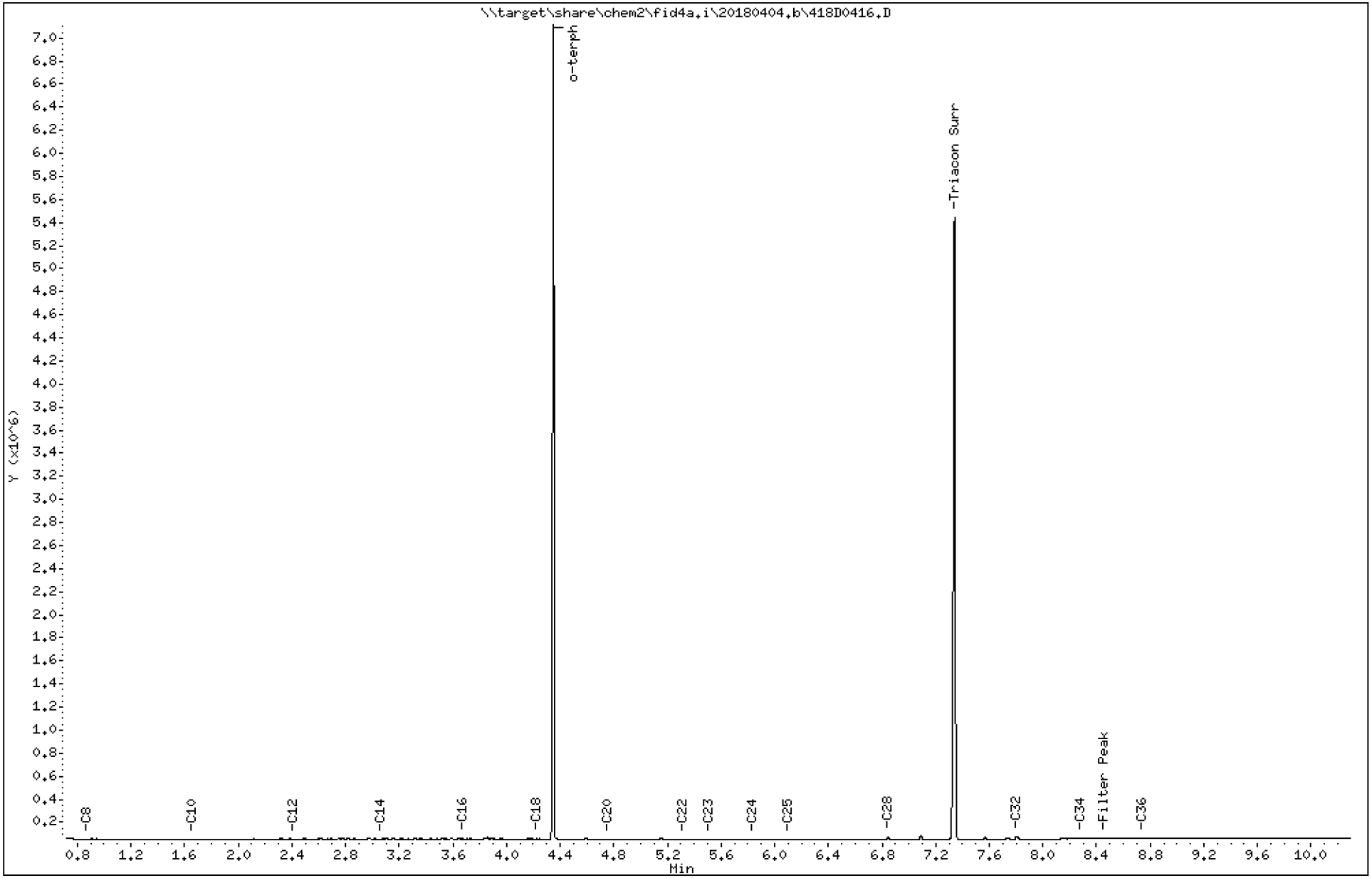
Sample Info: 18C0424-01

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0416.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: 18C0424-01
Client ID:
Injection: 04-APR-2018 16:41
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.868	-0.015	5139	7886	WATPHD	(C12-C24)	830416	49.0
C10	1.655	0.002	2436	2088	WATPHM	(C24-C38)	234576	12.0
C12	2.415	0.013	3822	4138	AK102	(C10-C25)	923619	46.4
C14	3.063	-0.004	5430	7304	AK103	(C25-C36)	225629	13.7
C16	3.671	0.008	9009	10125	OR.DIES	(C10-C28)	967355	48.5
C18	4.229	0.016	6336	6369				
C20	4.757	-0.012	4621	8134				
C22	5.316	-0.001	4222	3035				
C24	5.838	-0.006	3192	5730				
C25	6.098	0.003	5824	8326				
C26	----							
C28	6.843	-0.002	20187	21300				
C32	7.804	-0.002	25284	37827				
C34	8.283	0.020	6627	4887				
Filter Peak	8.452	-0.042	7371	2906	BUNKERC	(C10-C38)	1154384	205.3
C36	8.743	0.021	9147	5424				
C38	----							
C40	----							
o-terph	4.350	-0.002	7060997	4934742				
Triacon Surr	7.341	-0.003	5389628	5575848	NAS DIES	(C10-C24)	919807	46.3

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	4934742	196.1	M
Triacontane	5575848	188.1	

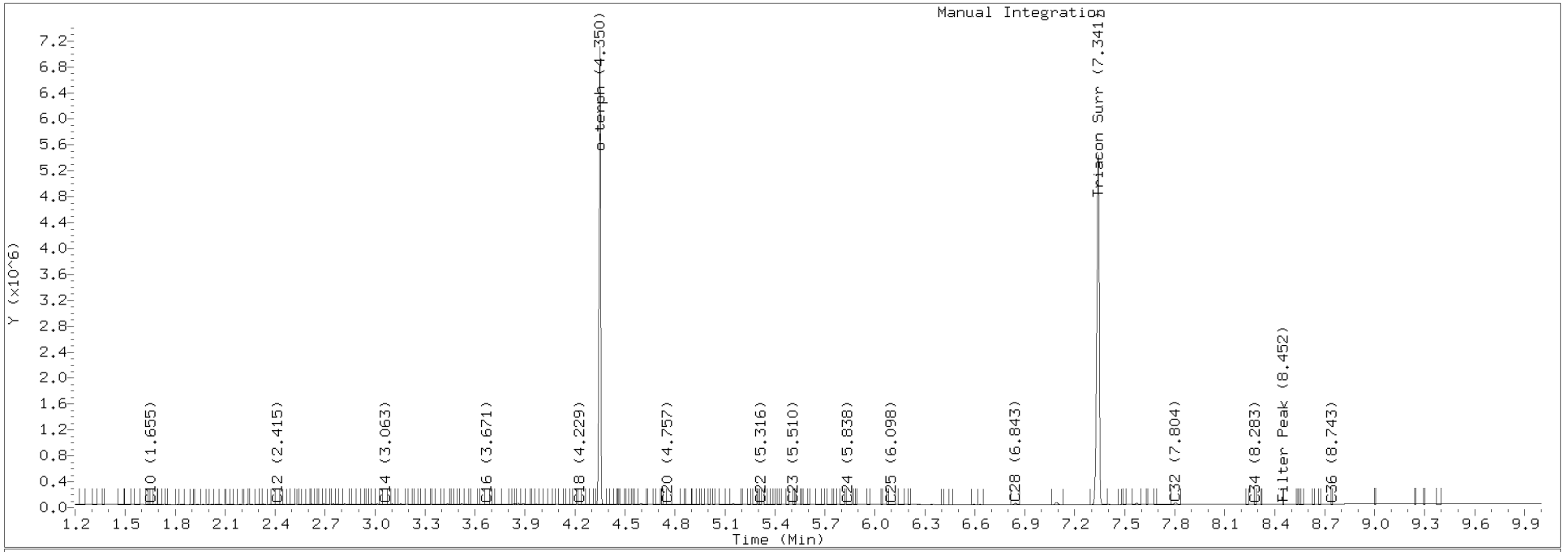
M Indicates the peak was manually integrated

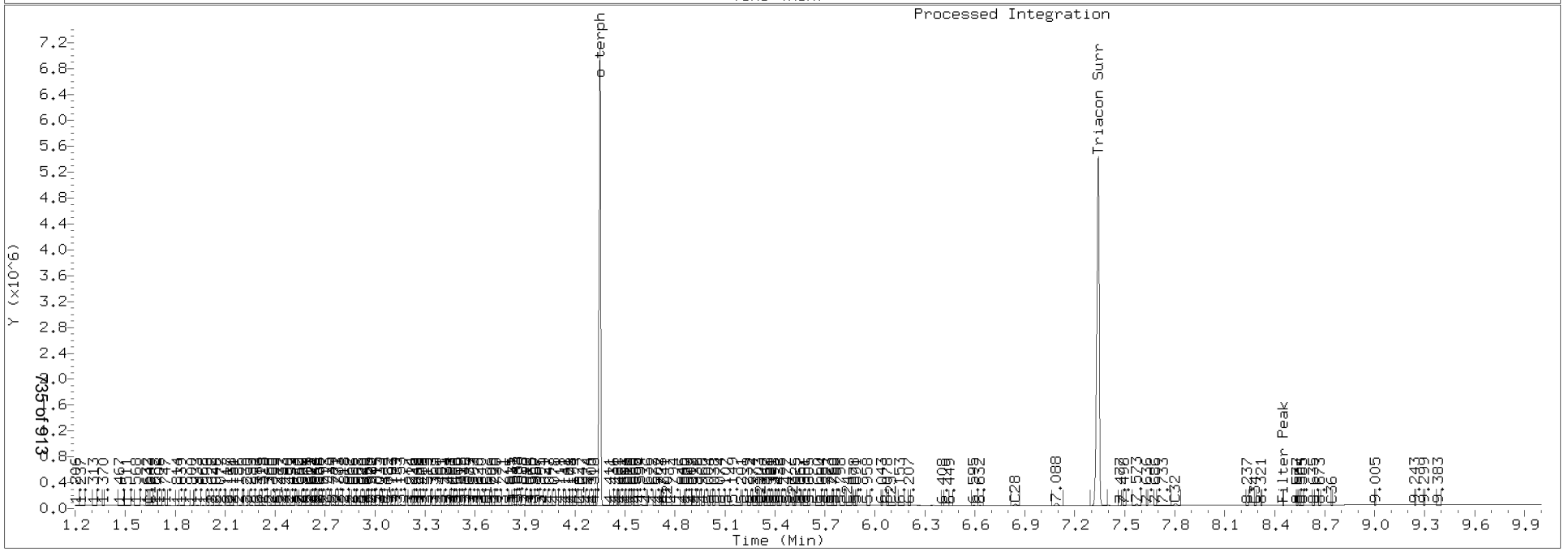
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0416.D Injection: 04-APR-2018 16:41

Lab ID:18C0424-01





MW-4-180326

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPH-Dx

TPH (Extractables)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Groundwater	Laboratory ID:	18C0424-02	SDG:	18C0424
Sampled:	03/26/18 11:42	Prepared:	04/02/18 11:55	File ID:	418D0433.D
% Solids:		Preparation:	EPA 3510C SepF	Analyzed:	04/04/18 22:35
Batch:	BGC0819	Sequence:	SGD0044	Initial/Final:	500 mL / 1 mL
Instrument:	FID4	Column:	RTX-1	Calibration:	BC00067

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.119		0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.45000	0.346	76.8	50 - 150	

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0433.D

Date : 04-APR-2018 22:35

Client ID:

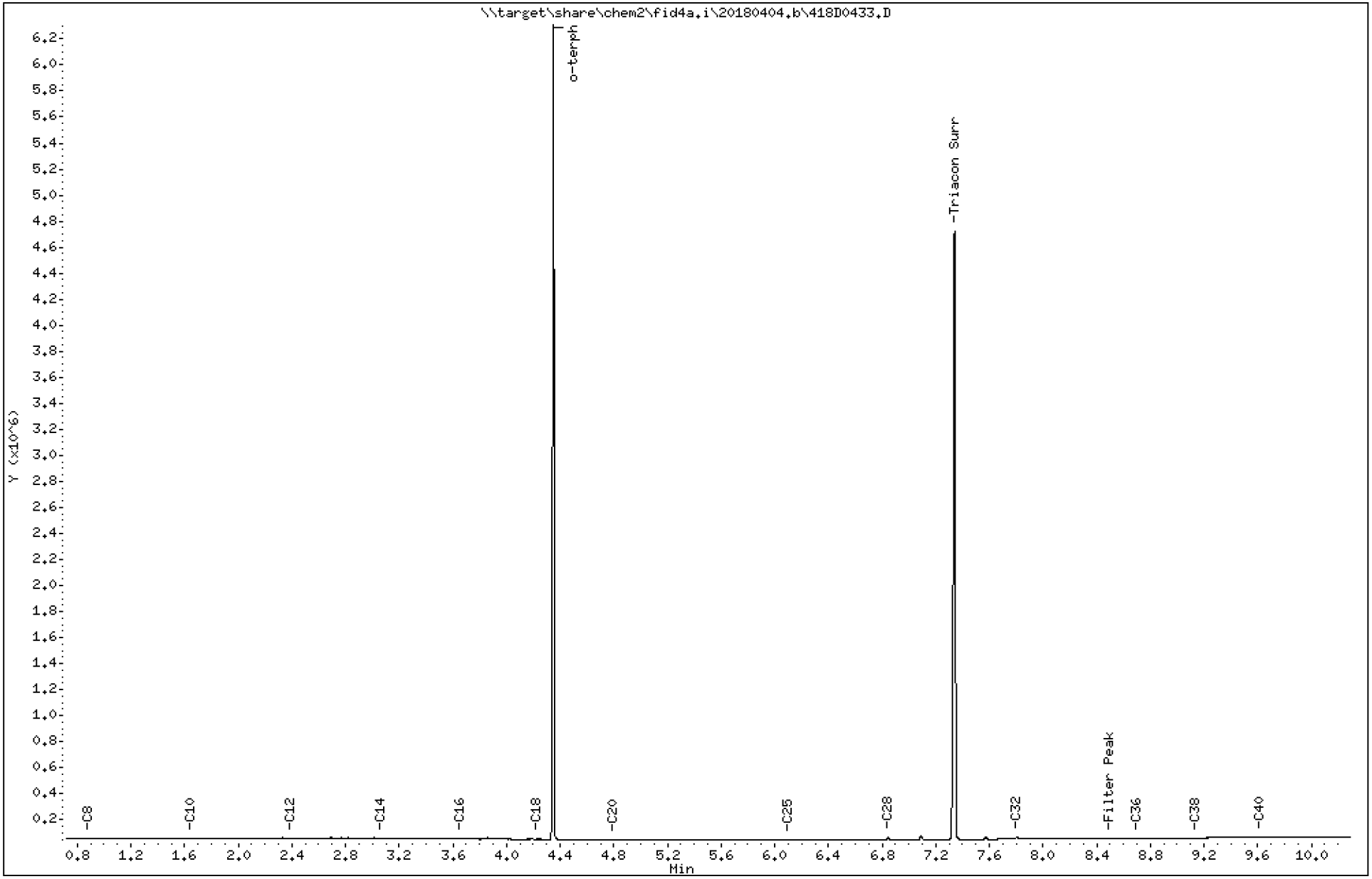
Sample Info: 18C0424-02

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0433.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: 18C0424-02
Client ID:
Injection: 04-APR-2018 22:35
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.881	-0.002	8747	13943	WATPHD	(C12-C24)	1007777	59.5
C10	1.645	-0.008	9003	6672	WATPHM	(C24-C38)	268741	13.8
C12	2.388	-0.013	15092	16733	AK102	(C10-C25)	1363700	68.5
C14	3.062	-0.005	10848	10998	AK103	(C25-C36)	232260	14.1
C16	3.655	-0.007	9419	10114	OR.DIES	(C10-C28)	1391649	69.7
C18	4.228	0.014	5649	5273				
C20	4.794	0.026	2241	1387				
C22	----							
C24	----							
C25	6.099	0.003	867	1066				
C26	----							
C28	6.843	-0.002	17300	24014				
C32	7.808	0.002	25510	48130				
C34	----							
Filter Peak	8.496	0.003	11398	10102	BUNKERC	(C10-C38)	1632441	290.3
C36	8.702	-0.021	12405	8021				
C38	9.141	-0.037	15173	14331				
C40	9.620	-0.014	17976	7172				
o-terph	4.350	-0.002	6264063	4350448				
Triacon Surr	7.339	-0.005	4679413	4949635	NAS DIES	(C10-C24)	1363700	68.6

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount
o-Terphenyl	4350448	172.9
Triacontane	4949635	167.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18C0424

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGC0815 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180326	18C0424-01	418D0416.D	04/02/18 10:12	
Blank	BGC0815-BLK1	418D0414.D	04/02/18 10:12	
LCS	BGC0815-BS1	418D0415.D	04/02/18 10:12	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGC0815

Prepared using: EPA 3510C SepF

TPH NW (Extractables) low level in Water (Version:)
TPH NW (Extractables) low level in Water

Matrix: Water **Date Prepared:** 4/2/18 **Balance ID:** N/A **Set Up By:** CCT 3/30/18

The following standards may be missing from this batch!

Designator	Description
QLS 18	QLS Spike

Analysis: TPH NW (Extractables) low level

Lab Number & Container	Initial (mL) Actual	Acid/Silica Clean (1:1) (1mL) Y / N	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
18C0424-01 A	(500.00) 500	(1:1) Y / N	1	1.0	
18C0445-01 C	(500.00)	(1:1) Y / N	1	1.0	
18C0445-02 C	(500.00)	(1:1) Y / N	1	1.0	
18C0457-01 A	(500.00)	(1:1) Y / N	1	1.0	
18C0457-02 A	(500.00)	(1:1) Y / N	1	1.0	
18C0457-03 A	(500.00)	(1:1) Y / N	1	1.0	
18C0457-04 A	(500.00)	(1:1) Y / N	1	1.0	
18C0457-05 A	(500.00)	(1:1) Y / N	1	1.0	
18C0457-06 A	(500.00)	(1:1) Y / N	1	1.0	
18C0457-07 A	(500.00)	(1:1) Y / N	1	1.0	
18C0474-01 C	(500.00) ↓	(1:1) Y / N	1	1.0	

Batch QC

Lab Number	Initial (mL) Actual	Acid/Silica Clean (1:1) (1mL) Y / N	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BGC0815-BLK1	(500.00) 500	(1:1) Y / N	1	1.0	
BGC0815-BS1	(500.00)	(1:1) Y / N	1	1.0	
BGC0815-MS1	(500.00)	(1:1) Y / N	1	1.0	Use 18C0457-04 B
BGC0815-MSD1	(500.00) ↓	(1:1) Y / N	1	1.0	Use 18C0457-04 C

BH 4/2/18
Client ID verified By Date

SP 4/4/18
Preparation Reviewed By Date

4/2/18 10:12
Extraction Date and Time

Printed: 3/30/2018 12:18:39PM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGC0815

Prepared using: EPA 3510C SepF

TPH NW (Extractables) low level in Water (Version:)
TPH NW (Extractables) low level in Water

Prep Steps

KD 80-85°C
1 (2) 3 4 5 6
BH 4/3/18
Analyst/Date

TurboVap
(1) (2) 3 4 5
SC 4/4/18
Analyst/Date

Vialing
SC 4/4/18
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
Separatory Funnel Analyst: BH Date: 4/2/18	
1:1 Sulfuric Acid/DI H2O	GDD1989
Methylene Chloride	GDD2596
Anhydrous Sodium Sulfate	GDD2451
KD Analyst: BH Date: 4/3/18	
Methylene Chloride	GDD2596
Vialing Analyst: SC Date: 4/4/18	
Methylene Chloride	GDD2596
Concentrated Sulfuric Acid	N/A
0% Silica Gel	N/A

Surrogates & Spike Standards Used

Type		Standard ID	Vol uL	Analyst	Witness
Surrogate 2250µg/mL	P	G002176 Exp: 09/10/2018	100µL		BH
Spike 15000µg/mL	II	G002399 Exp: 09/15/2018	100µL		BH

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: TPHD

Element Batch: BGL0815 Work Order(s): 18L0424, 18L0445, 18L0457, 18L0474

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☒ Turbid/Color= 424-01/457-05/474-01: light yellow	BH 4/2/18
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☒ Oily, obvious fuel/sulfur odors=457-05/06: diesel smell	BH 4/2/18
☑ Other (Details)= 474-01 Sep funnel malfunction, 20% loss, filter bt shake	RM 4/2/18
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGC0815

Prepared using: EPA 3510C SepF

TPH NW (Extractables) low level in Water (Version:)
TPH NW (Extractables) low level in Water

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Add Surr/Spk. 2. Acidify with 1 pipet of 1:1 Sulfuric Acid. 3. Check pH. 4. Extract 2X with 30mL DCM. 5. KD at 80°. 6. TurboVap. 7. Acid/Silica Clean-ups? Y / N 8. Vial in DCM. Archive: Y / N Archive everything except 18C0424	

PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18C0424

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGC0819 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180326	18C0424-02	418D0433.D	04/02/18 11:55	
Blank	BGC0819-BLK1	418D0431.D	04/02/18 11:55	
LCS	BGC0819-BS1	418D0432.D	04/02/18 11:55	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGC0819

Prepared using: EPA 3510C SepF

TPH NW (Extractables) low level in Water (Version:Acid Silica Cleanups)

Matrix: Water **Date Prepared:** 4/2/18 **Balance ID:** N/A **Set Up By:** CCT 3/30/18

The following standards may be missing from this batch!

Designator	Description
QLS 18	QLS Spike

Analysis: TPH NW (Extractables) low level

Lab Number & Container	Initial (mL) Actual	Acid/Silica Clean (1:1) (1mL) Y/N	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
18C0424-02 A	(500.00) 500	(1:1) Y/N	1	10	

Batch QC

Lab Number	Initial (mL) Actual	Acid/Silica Clean (1:1) (1mL) Y/N	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BGC0819-BLK1	(500.00) 500	(1:1) Y/N	1	10	
BGC0819-BS1	(500.00) 500	(1:1) Y/N	1	10	

BH 4/2/18
Client ID verified By Date

SP 4/4/18
Preparation Reviewed By Date

4/2/18 11:55
Extraction Date and Time

Printed: 3/30/2018 12:49:50PM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGC0819

Prepared using: EPA 3510C SepF

TPH NW (Extractables) low level in Water (Version:Acid Silica Cleanups)

Prep Steps

KD 80-85°C

1 (2) 3 4 5 6

Analyst/Date: [illegible] 04/02/18

TurboVap

(1) 2 3 4 5

Analyst/Date: SR 4/4/18

Vialing

Analyst/Date: SR 4/4/18

Reagents Used

Station/Reagent	Standard ID
Separatory Funnel Analyst: BH Date: 4/2/18	
1:1 Sulfuric Acid/DI H2O	GBD1989
Methylene Chloride	GBQ2596
Anhydrous Sodium Sulfate	GBD2451
KD Analyst: [illegible] Date: 04/02/18	
Methylene Chloride	GBQ2596
Vialing Analyst: SR Date: 4/4/18	
Methylene Chloride	GBQ2596
Concentrated Sulfuric Acid	GBQ1626
0% Silica Gel	FBQ0425

Surrogates & Spike Standards Used

Type	Standard ID	Vol uL	Analyst	Witness
Surrogate 2250µg/mL	P G002176 Exp: 09/10/2018	100µL	[illegible]	BH
Spike 15000µg/mL	11 G002399 Exp: 09/15/2018	100µL	[illegible]	BH

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: TPHD 1/S

Element Batch: BGC0819 Work Order(s): 18C0424

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☒ Turbid/Color= 424-02: light yellow	4/2/18 BH BH 4/2/18
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☑ Emulsions (%)= 100% emulsion 1st shake.	4/2/18
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

ORGANICS PREPARATION BENCH SHEET

Batch: BGC0819

Prepared using: EPA 3510C SepF

TPH NW (Extractables) low level in Water (Version:Acid Silica Cleanups)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Add Surr/Spk. 2. Acidify with 1 pipet of 1:1 Sulfuric Acid. 3. Check pH. 4. Extract 2X with 30mL DCM. 5. KD at 80°. 6. TurboVap. 7. Acid/Silica Clean-up? Y / N 8. Vial in DCM. Archive: Y / N	

Analytical Resources, Incorporated

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Cleanup Batch:	CGD0029	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	NWTPH-Dx

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
MW-4-180326	18C0424-02	418D0433.D	04/04/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGD0029

Matrix: Water **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup** **Printed: 4/4/2018 2:42:37PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18C0424-02	A	MW-4-180326	A 01	1	1	TPH NW (Extractables) low level	4/4/2018	SDP	
BGC0819-BLK1	-	Blank	-	1	1	-	4/4/2018	SDP	
BGC0819-BS1	-	LCS	-	1	1	-	4/4/2018	SDP	

750 of 913

Cleanup Reviewed By Date

Analytical Resources, Incorporated

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Cleanup Batch:	CGD0028	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665A Sulfuric Acid Cleanup	Analysis:	NWTPH-Dx

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
MW-4-180326	18C0424-02	418D0433.D	04/04/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGD0028

Matrix: Water **Cleanup using: Organics - EPA 3665A Sulfuric Acid Cleanup** **Printed: 4/4/2018 2:41:48PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18C0424-02	A	MW-4-180326	A 01	1	1	TPH NW (Extractables) low level	4/4/2018	SDP	
BGC0819-BLK1	-	Blank	-	1	1	-	4/4/2018	SDP	
BGC0819-BS1	-	LCS	-	1	1	-	4/4/2018	SDP	

752 of 913

Cleanup Reviewed By Date

Analytical Resources, Incorporated

Form I
METHOD BLANK DATA SHEET
NWTPH-Dx

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18C0424
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGC0819-BLK1	File ID:	418D0431.D
Sampled:	N/A	Prepared:	04/02/18 11:55	Analyzed:	04/04/18 21:52
Solids:		Preparation:	EPA 3510C SepF	Initial/Final:	500 mL / 1 mL
Batch:	BGC0819	Sequence:	SGD0044	Calibration:	BC00067
Instrument:	FID4	Column:	RTX-1		

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.45000	0.368	81.8	50 - 150	

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0431.D

Date : 04-APR-2018 21:52

Client ID:

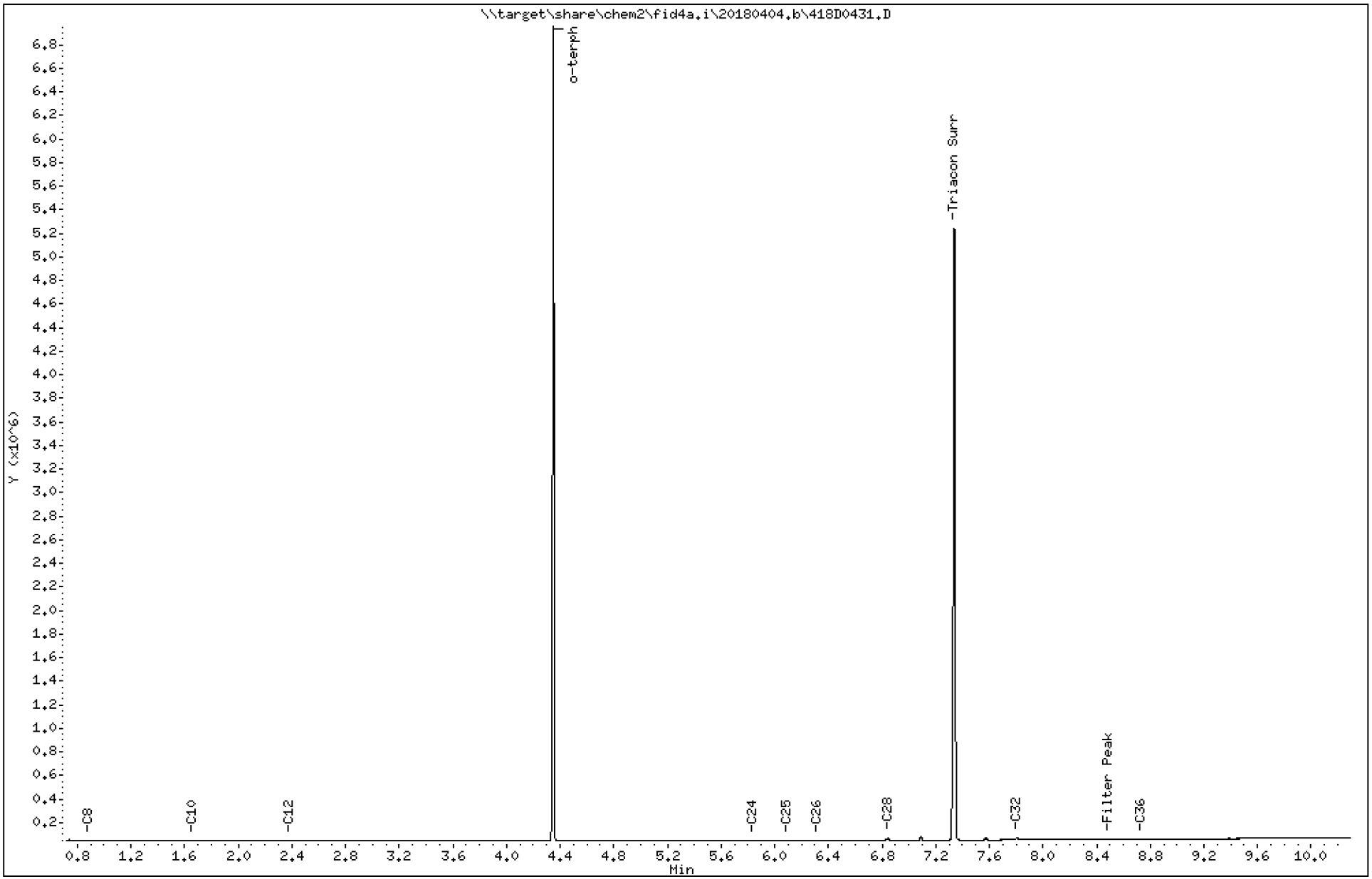
Instrument: fid4a.i

Sample Info: BGC0819-BLK1

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0431.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: BGC0819-BLK1
Client ID:
Injection: 04-APR-2018 21:52
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.882	-0.001	3777	5355	WATPHD	(C12-C24)	31100	1.8
C10	1.654	0.001	4331	6381	WATPHM	(C24-C38)	318993	16.4
C12	2.381	-0.021	4448	6595	AK102	(C10-C25)	85099	4.3
C14	----				AK103	(C25-C36)	280193	17.0
C16	----				OR.DIES	(C10-C28)	133499	6.7
C18	----							
C20	----							
C22	----							
C24	5.841	-0.003	1874	1511				
C25	6.096	0.001	2886	6612				
C26	6.319	-0.028	1987	1855				
C28	6.844	-0.001	20372	27815				
C32	7.806	-0.000	27448	52053				
C34	----							
Filter Peak	8.489	-0.004	11489	15368	BUNKERC	(C10-C38)	404091	71.9
C36	8.732	0.010	12984	8385				
C38	----							
C40	----							
o-terph	4.350	-0.002	6911995	4629863				
Triacon Surr	7.340	-0.004	5196962	5071960	NAS DIES	(C10-C24)	85099	4.3

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount
o-Terphenyl	4629863	184.0
Triacontane	5071960	171.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

Analytical Resources, Incorporated

Form I
METHOD BLANK DATA SHEET
NWTPH-Dx

Blank

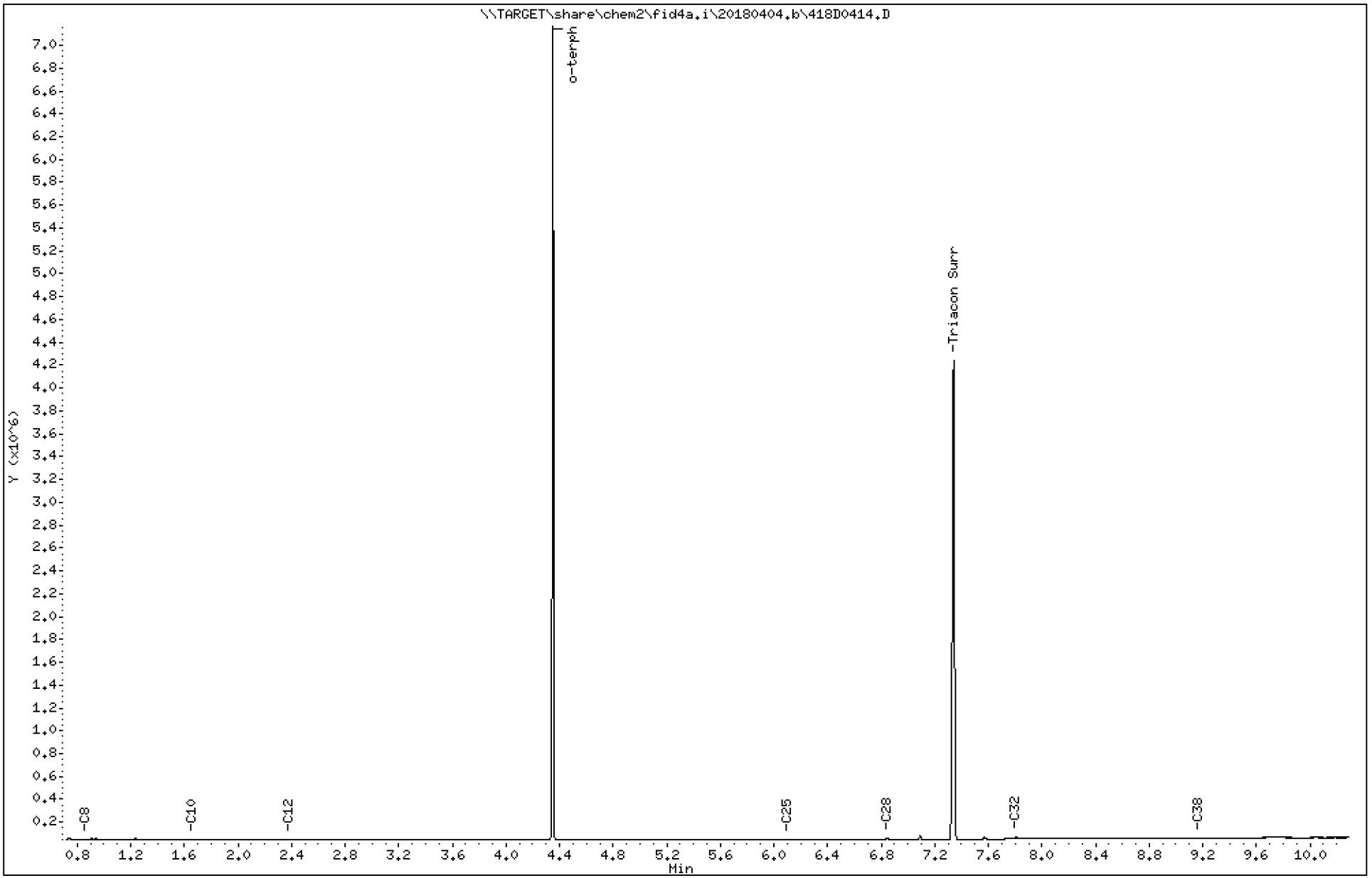
Laboratory:	Analytical Resources, Inc.			SDG:	18C0424
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGC0815-BLK1	File ID:	418D0414.D
Sampled:	N/A	Prepared:	04/02/18 10:12	Analyzed:	04/04/18 15:58
Solids:		Preparation:	EPA 3510C SepF	Initial/Final:	500 mL / 1 mL
Batch:	BGC0815	Sequence:	SGD0044	Calibration:	BC00067
Instrument:	FID4	Column:	RTX-1		

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.45000	0.365	81.2	50 - 150	

Data File: \\TARGET\share\chem2\fid4a.i\20180404.b\418D0414.D
Date : 04-APR-2018 15:58
Client ID:
Sample Info: BGC0815-BLK1

Instrument: fid4a.i
Operator: MDL
Column phase: RTX-1
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0414.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: BGC0815-BLK1
Client ID:
Injection: 04-APR-2018 15:58
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.866	-0.017	5178	9810	WATPHD	(C12-C24)	14219	0.8
C10	1.655	0.001	5266	7150	WATPHM	(C24-C38)	212901	10.9
C12	2.382	-0.019	4462	3512	AK102	(C10-C25)	66623	3.3
C14	----				AK103	(C25-C36)	159749	9.7
C16	----				OR.DIES	(C10-C28)	91913	4.6
C18	----							
C20	----							
C22	----							
C24	----							
C25	6.101	0.005	1790	1919				
C26	----							
C28	6.844	-0.001	17169	19816				
C32	7.806	-0.000	23431	41007				
C34	----							
Filter Peak	----				BUNKERC	(C10-C38)	279524	49.7
C36	----							
C38	9.170	-0.009	15158	12019				
C40	----							
o-terph	4.351	-0.001	7120344	4594743				
Triacon Surr	7.341	-0.004	4191049	4586199	NAS DIES	(C10-C24)	66623	3.4

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount
o-Terphenyl	4594743	182.6
Triacontane	4586199	154.7

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	04/04/18 22:14
Batch:	BGC0819	Laboratory ID:	BGC0819-BS1
Preparation:	EPA 3510C SepF	Sequence Name:	LCS
Initial/Final:	500 mL / 1 mL		

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	3.00	2.31		76.9	56 - 120

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0432.D

Date : 04-APR-2018 22:14

Client ID:

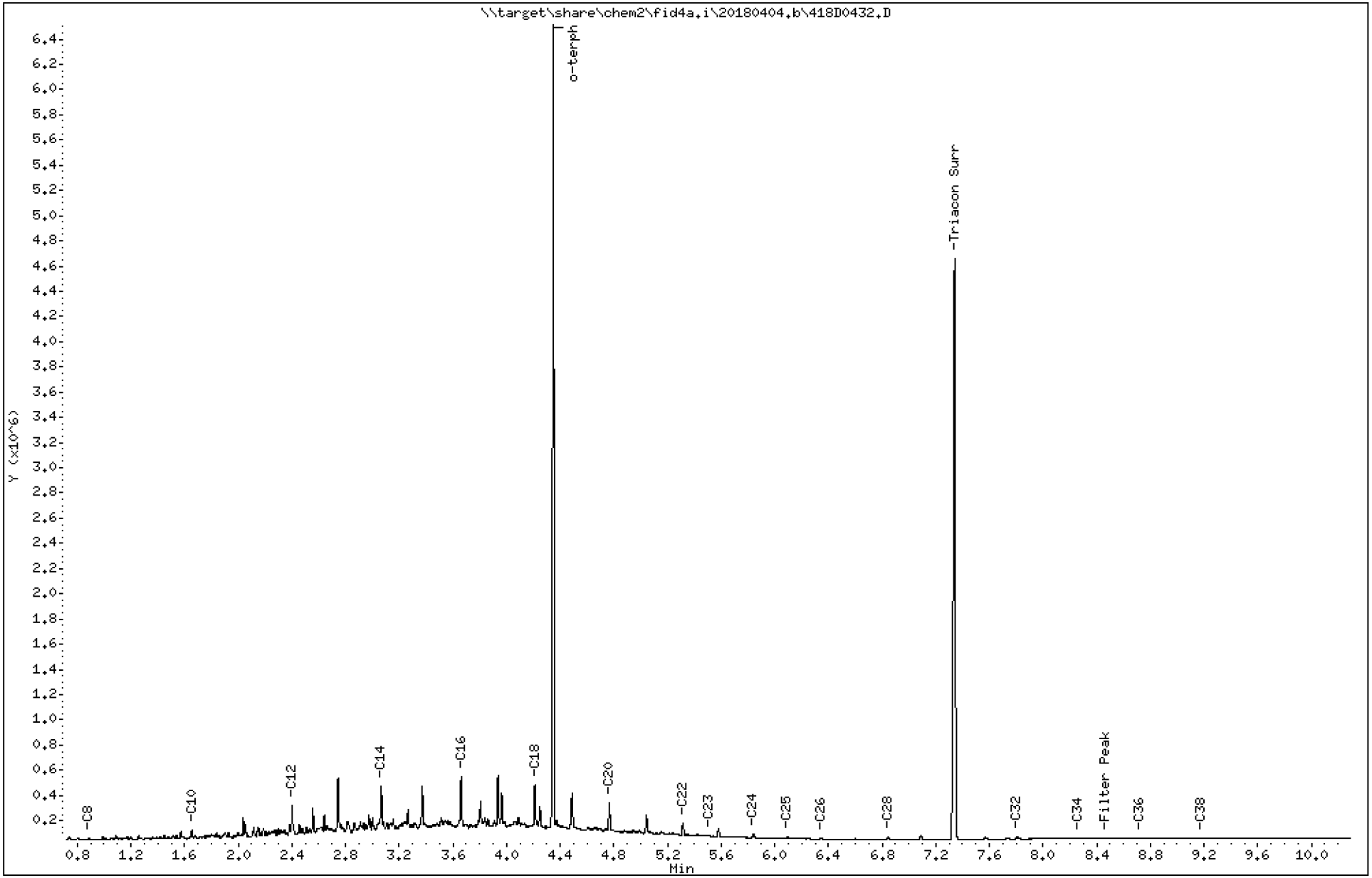
Sample Info: BGC0819-BS1

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0432.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: BGC0819-BS1
Client ID:
Injection: 04-APR-2018 22:14
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.888	0.004	9357	10869	WATPHD	(C12-C24)	19559374	1154.0
C10	1.653	0.000	71083	50894	WATPHM	(C24-C38)	453599	23.3
C12	2.401	-0.001	275605	168842	AK102	(C10-C25)	21829545	1097.2
C14	3.066	-0.001	417676	343781	AK103	(C25-C36)	333491	20.2
C16	3.662	-0.001	503132	566964	OR.DIES	(C10-C28)	21983208	1101.7
C18	4.211	-0.002	432416	534937				
C20	4.767	-0.002	292579	310215				
C22	5.314	-0.002	133355	153973				
C24	5.841	-0.002	47727	62305				
C25	6.093	-0.002	25534	37585				
C26	6.345	-0.002	11582	17212				
C28	6.843	-0.002	17069	20482				
C32	7.806	0.000	21492	37027				
C34	8.262	-0.002	7628	5233				
Filter Peak	8.460	-0.033	9076	12591	BUNKERC	(C10-C38)	22206072	3948.8
C36	8.720	-0.002	10117	10980				
C38	9.180	0.002	12170	11423				
C40	----							
o-terph	4.349	-0.002	6354731	4145956				
Triacon Surr	7.340	-0.004	4610894	4723989	NAS DIES	(C10-C24)	21752474	1094.5

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	4145956	164.7	M
Triacontane	4723989	159.3	

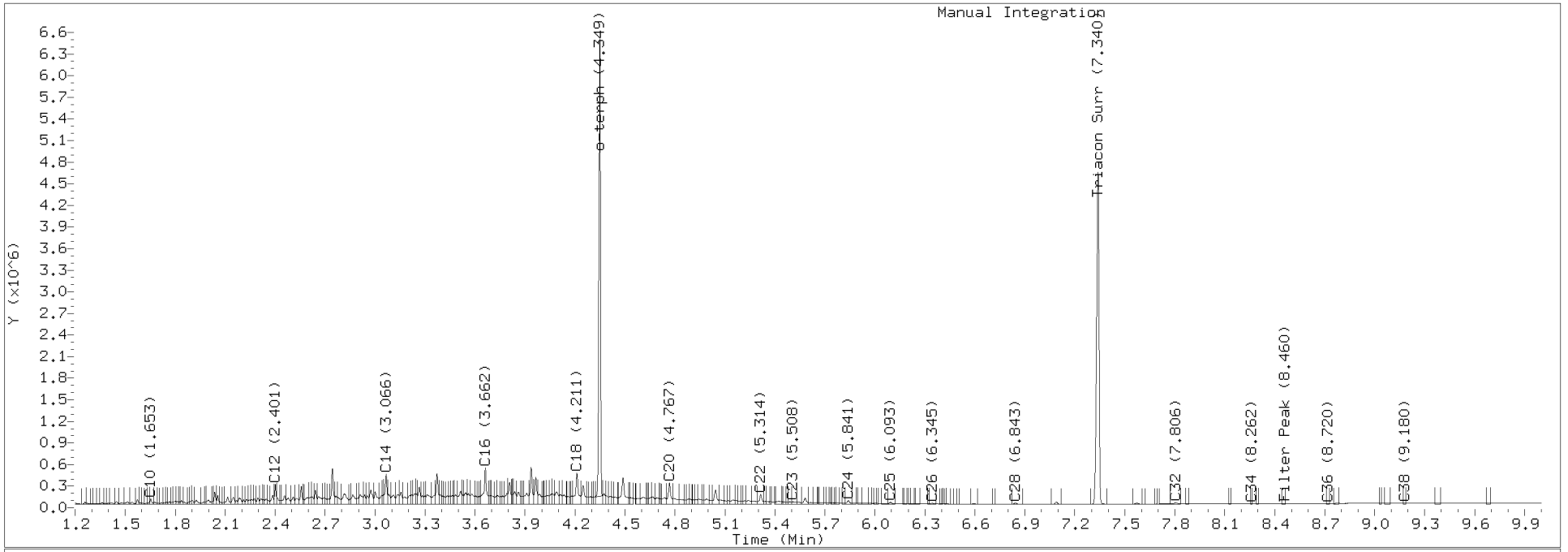
M Indicates the peak was manually integrated

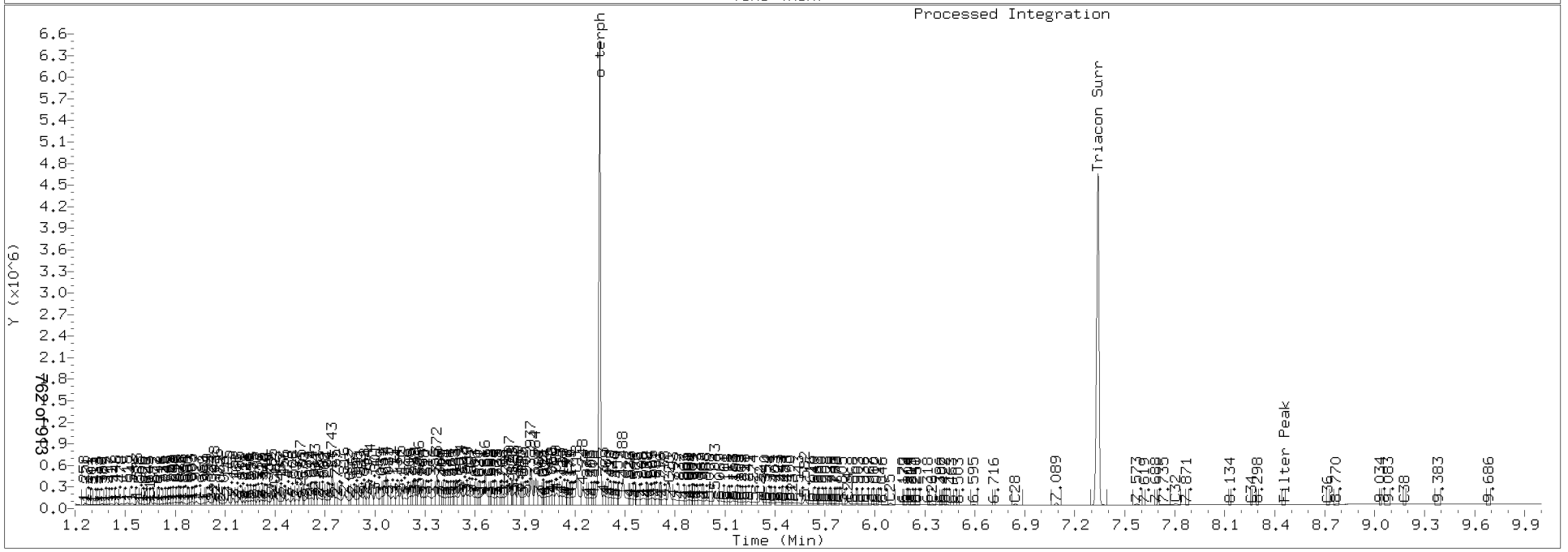
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0432.D Injection: 04-APR-2018 22:14

Lab ID:BGC0819-BS1





LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	04/04/18 16:20
Batch:	BGC0815	Laboratory ID:	BGC0815-BS1
Preparation:	EPA 3510C SepF	Sequence Name:	LCS
Initial/Final:	500 mL / 1 mL		

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	3.00	2.82		94.1	56 - 120

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0415.D

Date : 04-APR-2018 16:20

Client ID:

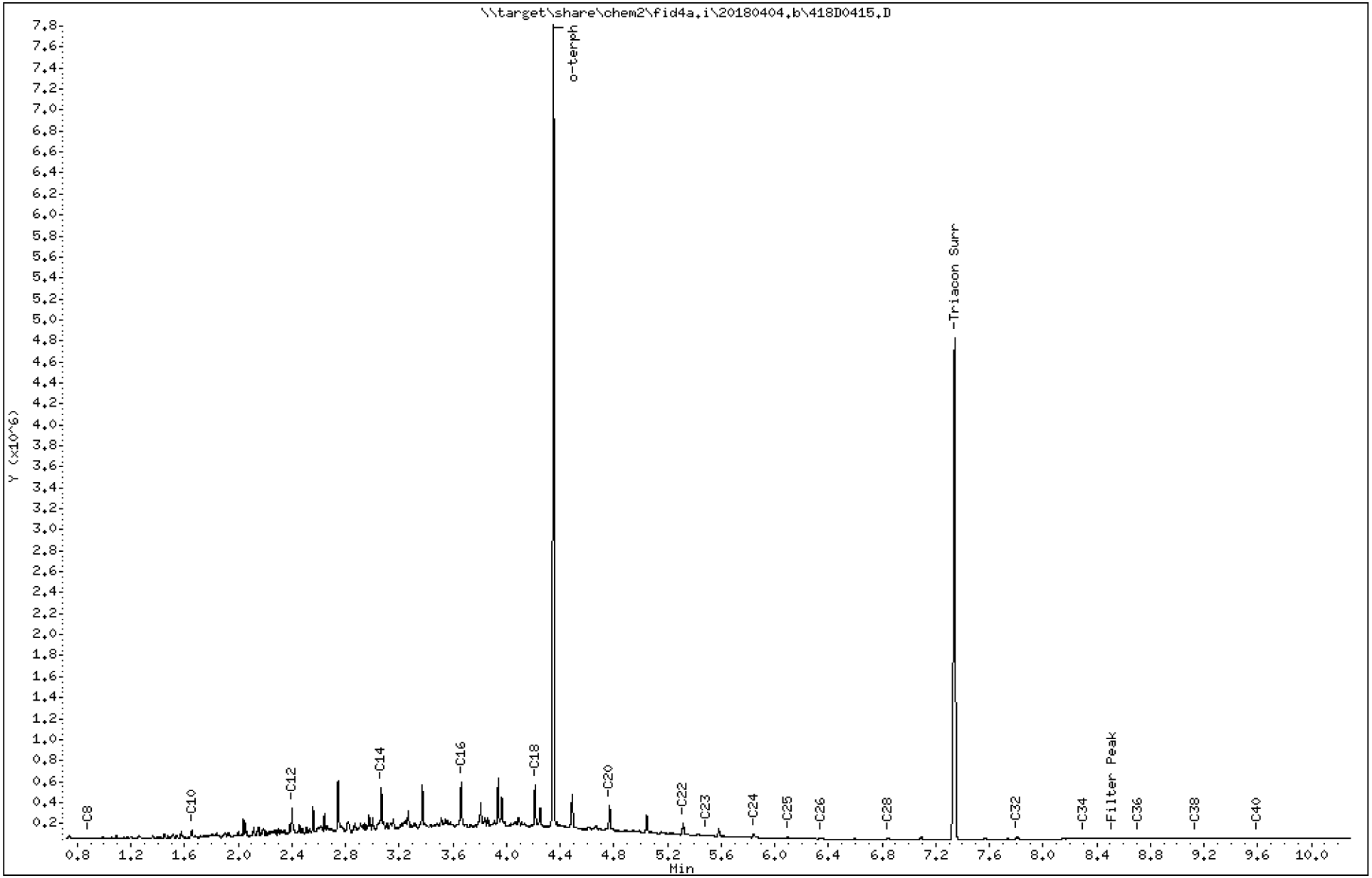
Instrument: fid4a.i

Sample Info: BGC0815-BS1

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0415.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: BGC0815-BS1
Client ID:
Injection: 04-APR-2018 16:20
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.888	0.005	17182	21731	WATPHD	(C12-C24)	23917794	1411.2
C10	1.655	0.001	91501	66553	WATPHM	(C24-C38)	503296	25.8
C12	2.401	-0.000	301325	202534	AK102	(C10-C25)	26825682	1348.4
C14	3.067	0.000	494735	403144	AK103	(C25-C36)	356194	21.6
C16	3.662	-0.000	547105	662382	OR.DIES	(C10-C28)	27055534	1356.0
C18	4.213	-0.000	524001	548439				
C20	4.768	-0.000	323761	407172				
C22	5.317	0.000	161922	227533				
C24	5.842	-0.001	54989	74485				
C25	6.096	0.000	30955	47998				
C26	6.345	-0.001	14306	29169				
C28	6.846	0.001	19379	22594				
C32	7.807	0.001	22723	33684				
C34	8.304	0.040	7143	2480				
Filter Peak	8.514	0.020	8542	4248	BUNKERC	(C10-C38)	27200186	4836.9
C36	8.714	-0.009	10115	9927				
C38	9.139	-0.040	12629	6279				
C40	9.596	-0.038	15392	5359				
o-terph	4.351	-0.000	7626011	5161486				
Triacon Surr	7.340	-0.004	4783168	4801714	NAS DIES	(C10-C24)	26696890	1343.3

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	5161486	205.1	M
Triacontane	4801714	162.0	

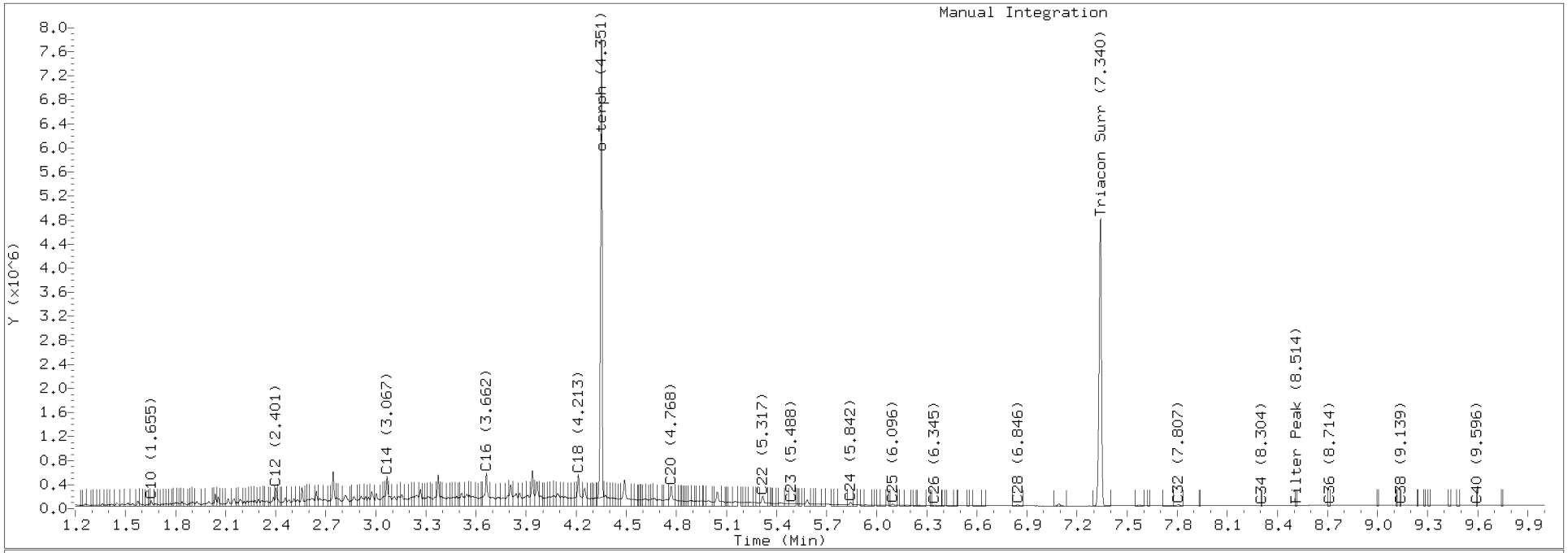
M Indicates the peak was manually integrated

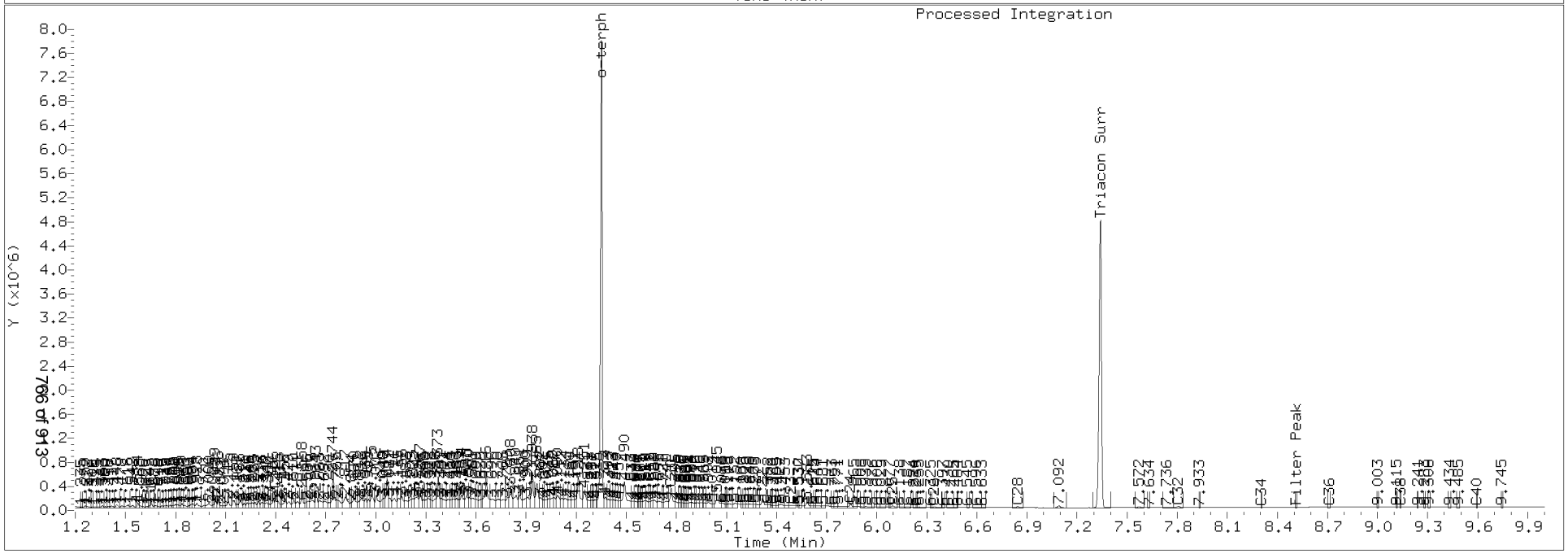
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0415.D Injection: 04-APR-2018 16:20

Lab ID:BGC0815-BS1





INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BC00067	Instrument:	FID4
Calibration Date:	03/27/2018 15:31	Column (1):	RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)	50	21089.68	100	15492.66	250	14177.5	500	17224.78	1000	16364.48	2500	17347.12
o-Terphenyl	9	29967.67	18	25280.11	45	23405.67	90	25034.7	180	23200.24	450	24107.67

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BC00067	Instrument:	FID4
Calibration Date:	03/27/2018 15:31	Column (1):	RTX-1

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Motor Oil Range Organics (C24-C38)	100	13260.15	250	24375.63	500	20067.88	1000	18850.14	2500	20941.59	5000	19499.82

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BC00067	Instrument:	FID4
Calibration Date:	03/27/2018 15:31	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	16949.37	13.8			RSD (20)	
Motor Oil Range Organics (C24-C38)	19499.2	18.6			RSD (20)	
o-Terphenyl	25166.01	9.9			RSD (20)	

Printed: 3/28/2018 3:37:49PM

ANALYSIS SEQUENCE

SGC0396

Instrument: FID4 Element Column ID:
Calibration ID: BC00067

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGC0396-IBL1	Retention Time Std	QC		1	F011826		
SGC0396-IBL2	Instrument Blank	QC		2	F011834		
SGC0396-CAL1	Diesel 50	QC		3	G002337		
SGC0396-CAL2	Diesel 100	QC		4	G002336		
SGC0396-CAL3	Diesel 250	QC		5	G002335		
SGC0396-CAL4	Diesel 500	QC		6	G002334		
SGC0396-CAL5	Diesel 1000	QC		7	G002333		
SGC0396-CAL6	Diesel 2500	QC		8	G002332		
SGC0396-CAL7	MOIL 100	QC		9	G000264		
SGC0396-CAL8	Moil 250	QC		10	G000263		
SGC0396-CAL9	Moil 500	QC		11	G000262		
SGC0396-CALA	Moil 1000	QC		12	G000261		
SGC0396-CALB	Moil 2500	QC		13	G000260		
SGC0396-CALC	Moil 5000	QC		14	G000259		
SGC0396-SCV1	DIES SCV 500	QC		15	F011649		
SGC0396-SCV2	Moil SCV 1000	QC		16	G002331		

Security Status Report

Date: 28-Mar-2018 15:18

418C2714.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2715.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2718.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2719.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2720.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2721.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2722.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2723.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2724.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2725.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2726.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2727.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2728.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2729.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2730.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2731.D	Data Locked	maxl, 28-Mar-2018 15:18

GC LOG SUMMARY FOR DATABATCH - \\TARGET\share\chem2\fid4a.i\20180327.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	27-MAR-2018 10:13	418C2701.D	1	RINSE	
2	27-MAR-2018 10:33	418C2702.D	1	RINSE	
3	27-MAR-2018 10:55	418C2703.D	1	RT	
4	27-MAR-2018 11:13	418C2704.D	1	RT	
5	27-MAR-2018 11:33	418C2705.D	1	IB	
6	27-MAR-2018 11:53	418C2706.D	1	D500	
7	27-MAR-2018 12:15	418C2707.D	1	D500	
8	27-MAR-2018 12:36	418C2708.D	1	D500	
9	27-MAR-2018 12:56	418C2709.D	1	M1000	
10	27-MAR-2018 13:17	418C2710.D	1	M1000	
11	27-MAR-2018 13:38	418C2711.D	1	M1000	
12	27-MAR-2018 14:17	418C2712.D	1	RINMSE	
13	27-MAR-2018 14:38	418C2713.D	1	RINMSE	
14	27-MAR-2018 14:59	418C2714.D	1	RT	
15	27-MAR-2018 15:20	418C2715.D	1	IB	
16	27-MAR-2018 15:40	418C2716.D	1	D500	
17	27-MAR-2018 16:00	418C2717.D	1	M1000	
18	27-MAR-2018 17:18	418C2718.D	1	SEQ-CAL1	
19	27-MAR-2018 17:39	418C2719.D	1	SEQ-CAL2	
20	27-MAR-2018 18:00	418C2720.D	1	SEQ-CAL3	
21	27-MAR-2018 18:21	418C2721.D	1	SEQ-CAL4	
22	27-MAR-2018 18:42	418C2722.D	1	SEQ-CAL5	
23	27-MAR-2018 19:03	418C2723.D	1	SEQ-CAL6	
24	27-MAR-2018 19:23	418C2724.D	1	SEQ-CAL7	
25	27-MAR-2018 19:44	418C2725.D	1	SEQ-CAL8	
26	27-MAR-2018 20:04	418C2726.D	1	SEQ-CAL9	
27	27-MAR-2018 20:25	418C2727.D	1	SEQ-CALA	
28	27-MAR-2018 20:47	418C2728.D	1	SEQ-CALB	
29	27-MAR-2018 21:07	418C2729.D	1	SEQ-CALC	
30	27-MAR-2018 21:28	418C2730.D	1	SEQ-SCV1	
31	27-MAR-2018 21:48	418C2731.D	1	SEQ-SCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\TARGET\share\chem2\fid4a.i\20180327.b

ARI Job No.: SEQ- Method: FID4TPH.m Instrument: fid4a.i Date: 27-MAR-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1459	418C2714.D	SEQ-IBL1		1	C40,
1520	418C2715.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1718	418C2718.D	SEQ-CAL1		1	Filter Peak, o-terph,
1739	418C2719.D	SEQ-CAL2		1	Filter Peak, o-terph,
1800	418C2720.D	SEQ-CAL3		1	Filter Peak, o-terph,
1821	418C2721.D	SEQ-CAL4		1	Filter Peak, o-terph,
1842	418C2722.D	SEQ-CAL5		1	Filter Peak, o-terph,
1903	418C2723.D	SEQ-CAL6		1	Filter Peak, o-terph,
1923	418C2724.D	SEQ-CAL7		1	Triacon Surr,
1944	418C2725.D	SEQ-CAL8		1	Triacon Surr,
2004	418C2726.D	SEQ-CAL9		1	Triacon Surr,
2025	418C2727.D	SEQ-CALA		1	Triacon Surr,
2047	418C2728.D	SEQ-CALB		1	Triacon Surr,
2107	418C2729.D	SEQ-CALC		1	Triacon Surr,
2128	418C2730.D	SEQ-SCV1		1	o-terph,
2148	418C2731.D	SEQ-SCV2		1	Triacon Surr,

6a
DIESEL INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: SDGa03796

Instrument: FID4A.I Project:

Calibration Date: 27-MAR-2018 SDG No.: SDGa03796

Diesel Range	RF1 50	RF2 100	RF3 250	RF4 500	RF5 1000	RF6 2500	Ave RF	%RSD
WA Diesel	21090	15493	14177	17225	16364	17347	16949	13.8
AK Diesel	25970	17660	16300	20119	19251	20072	19895	16.7
OR Diesel	25970	17753	16346	20146	19295	20208	19953	16.6
Cal Diesel	25970	17660	16287	20104	19222	20000	19874	16.8
o-Terph	29968	25280	23406	25035	23200	24108	25166	9.9

<- Indicates %RSD outside limits
Surrogate areas are not included in Diesel RF calculation.

Quant Ranges : WA Diesel C12-C24 (2.402-5.842)
AK Diesel C10-C25 (1.654-6.095)
OR Diesel C10-C28 (1.654-6.845)
Cal Diesel C10-C24 (1.654-5.842)

Calibration Files	Analysis Time
418C2718.D	27-MAR-2018 17:18
418C2719.D	27-MAR-2018 17:39
418C2720.D	27-MAR-2018 18:00
418C2721.D	27-MAR-2018 18:21
418C2722.D	27-MAR-2018 18:42
418C2723.D	27-MAR-2018 19:03

6a

NW MOTOR OIL RANGE INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: SDGa03796

Instrument: FID4A.I Project:

Calibration Date: 27-MAR-2018 SDG No.: SDGa03796

Product Range	RF1 100	RF2 250	RF3 500	RF4 1000	RF5 2500	RF6 5000	Ave RF	%RSD
WA M.Oil C24-C38	13260	24376	20068	18850	20942	19500	19499	18.6
Triac Surr	27596	30445	28333	29503	31870	30133	29647	5.2

<- Indicates %RSD outside limits
Surrogate areas are not included in Motor Oil RF calculation.

Calibration Files	Analysis Time
418C2724.D	27-MAR-2018 19:23
418C2725.D	27-MAR-2018 19:44
418C2726.D	27-MAR-2018 20:04
418C2727.D	27-MAR-2018 20:25
418C2728.D	27-MAR-2018 20:47
418C2729.D	27-MAR-2018 21:07

TPH ANALYTICAL SEQUENCE

Lab Name: ARI Client:

SDG No.: SDGA03796 Project:

Instrument ID: FID4A GC Column: RTX-1

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 4.35 TRIAC: 7.34

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01		SEQ-IBL1	03/27/18	1459	4.35	7.34
02		SEQ-IBL2	03/27/18	1520	4.35	7.34
03		SEQ-CAL1	03/27/18	1718	4.36	7.35
04		SEQ-CAL2	03/27/18	1739	4.35	
05		SEQ-CAL3	03/27/18	1800	4.35	
06		SEQ-CAL4	03/27/18	1821	4.35	
07		SEQ-CAL5	03/27/18	1842	4.35	7.33
08		SEQ-CAL6	03/27/18	1903	4.36	7.33
09		SEQ-CAL7	03/27/18	1923		7.33
10		SEQ-CAL8	03/27/18	1944		7.33
11		SEQ-CAL9	03/27/18	2004		7.34
12		SEQ-CALA	03/27/18	2025	4.35	7.34
13		SEQ-CALB	03/27/18	2047	4.35	7.34
14		SEQ-CALC	03/27/18	2107	4.35	7.35
15		SEQ-SCV1	03/27/18	2128	4.35	7.33
16		SEQ-SCV2	03/27/18	2148	4.34	7.34

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2714.D

Date : 27-MAR-2018 14:59

Client ID:

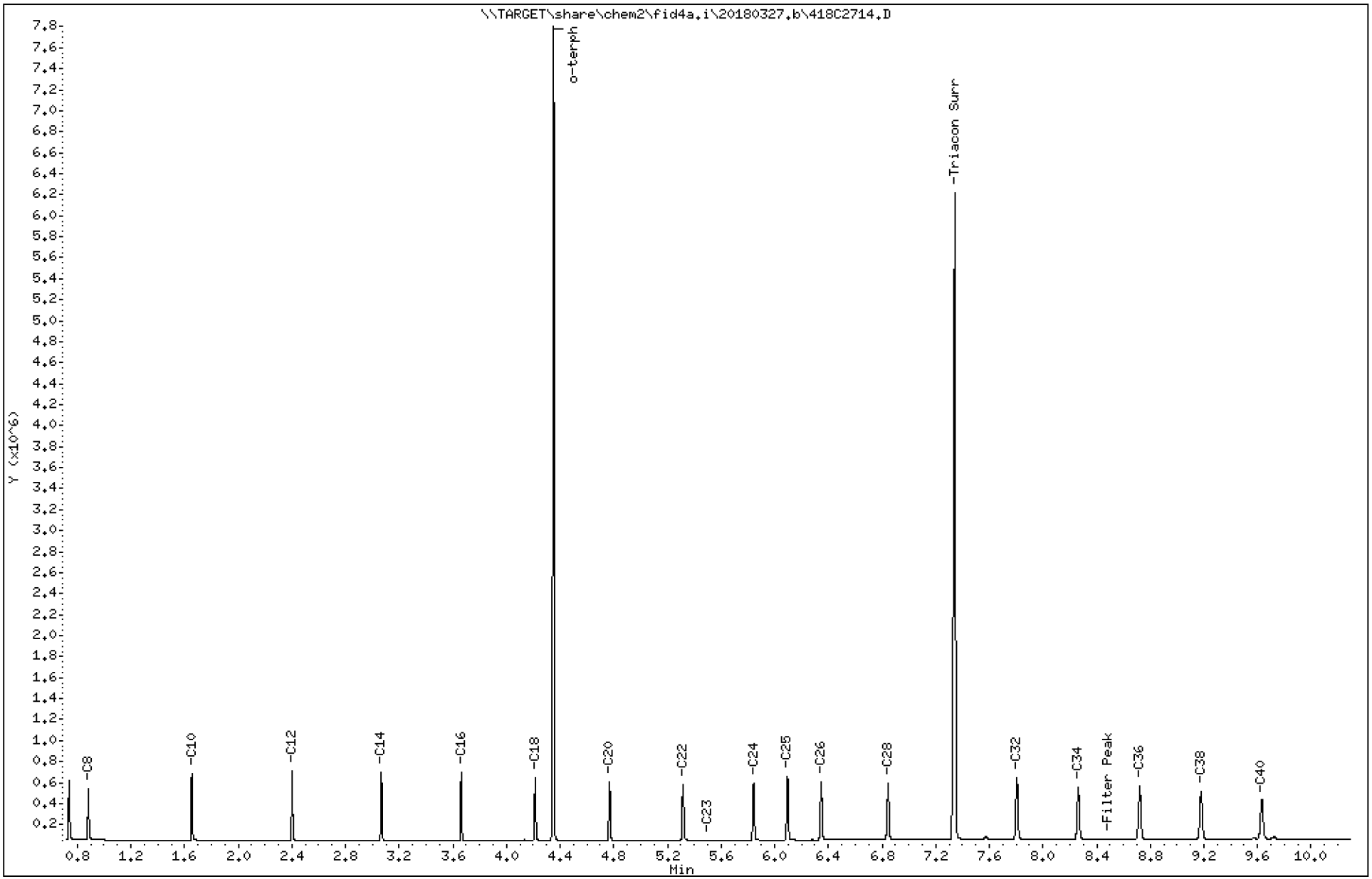
Instrument: fid4a.i

Sample Info: SEQ-IBL1

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2714.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-IBL1
Client ID:
Injection: 27-MAR-2018 14:59
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.883	0.000	494714	354503	WATPHD	(C12-C24)	2610365	154.0
C10	1.654	0.000	633808	357323	WATPHM	(C24-C38)	4843423	248.4
C12	2.402	0.000	660569	366410	AK102	(C10-C25)	3336291	167.7
C14	3.067	0.000	648383	376757	AK103	(C25-C36)	4114677	249.2
C16	3.662	0.000	654138	390511	OR.DIES	(C10-C28)	5039502	252.6
C18	4.214	0.000	594345	400167				
C20	4.768	0.000	555550	433035	JET-A	(C10-C18)	1902855	103.2
C22	5.316	0.000	529498	465125				
C24	5.842	0.000	546647	499517				
C25	6.095	0.000	615025	539991				
C26	6.347	0.000	562435	528794				
C28	6.845	0.000	550637	583749				
C32	7.805	0.000	595794	705305				
C34	8.263	0.000	508603	676276				
Filter Peak	8.492	0.000	16503	24237	BUNKERC	(C10-C38)	8179714	1472.6
C36	8.722	0.000	515129	682199				
C38	9.179	0.000	463552	689991				
C40	9.629	0.000	383935	282078				
o-terph	4.352	0.000	7758225	5041872				
Triacon Surr	7.343	0.000	6175643	6349045	NAS DIES	(C10-C24)	3336291	167.9

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount
o-Terphenyl	5041872	200.3
Triacontane	6349045	214.2

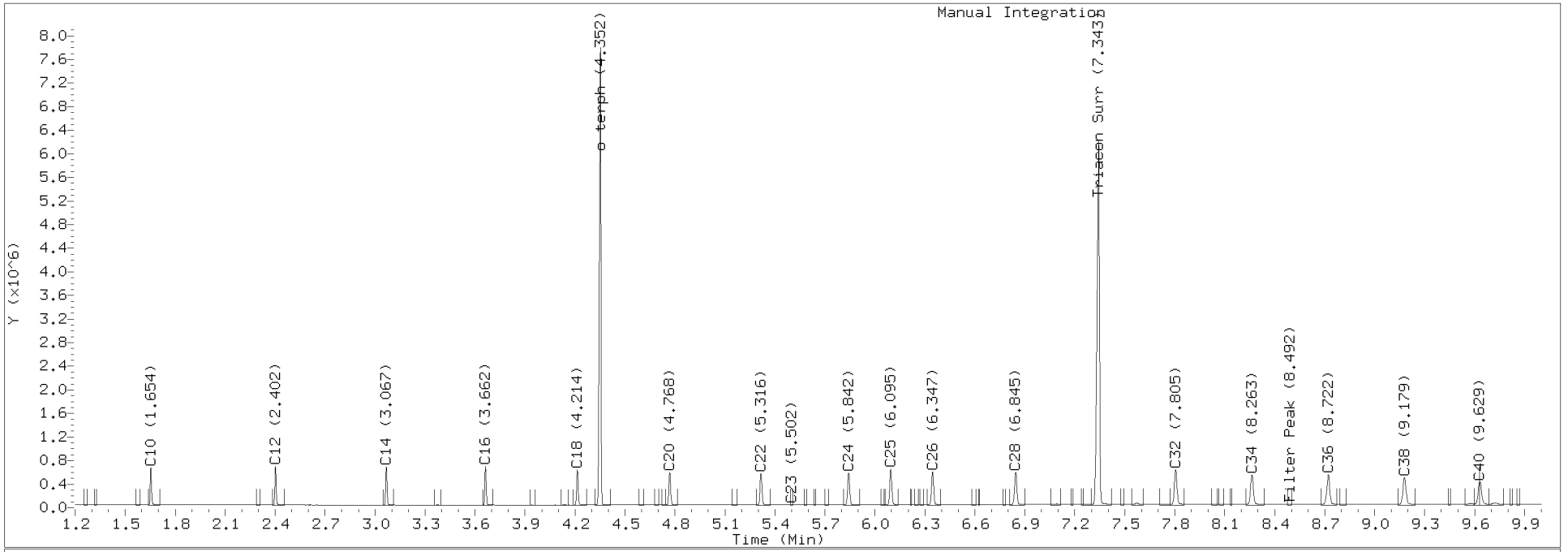
M Indicates the peak was manually integrated

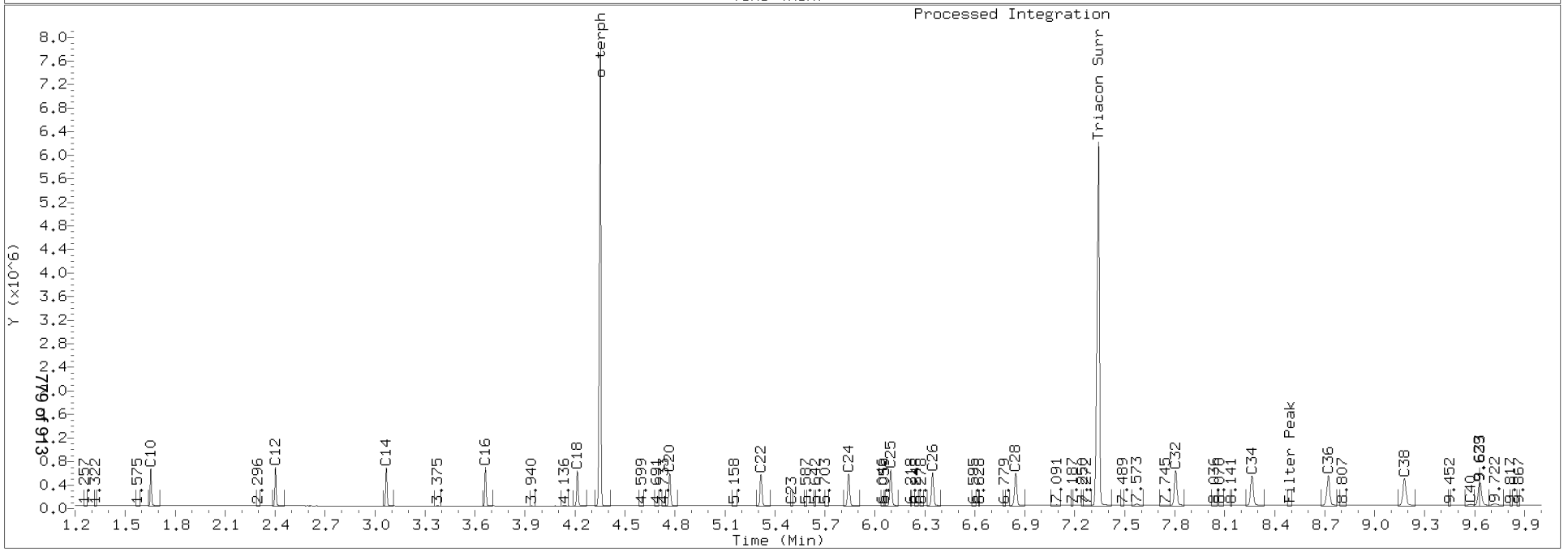
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2714.D Injection: 27-MAR-2018 14:59

Lab ID:SEQ-IBL1





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2715.D

Date : 27-MAR-2018 15:20

Client ID:

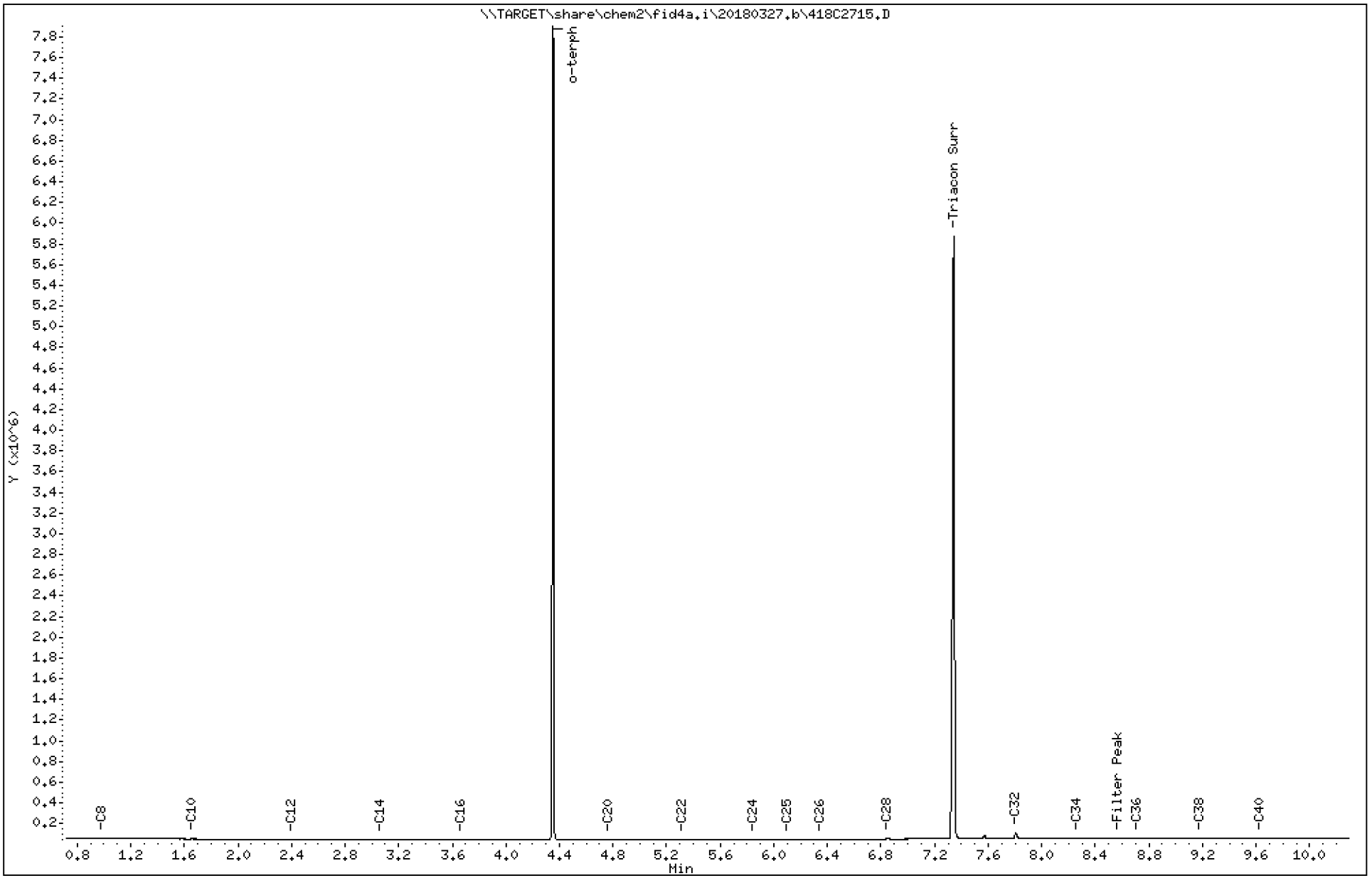
Sample Info: SEQ-IBL2

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2715.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-IBL2
Client ID:
Injection: 27-MAR-2018 15:20
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.980	0.097	10758	12761	WATPHD	(C12-C24)	14624	0.9
C10	1.657	0.003	7436	12157	WATPHM	(C24-C38)	527392	27.0
C12	2.405	0.003	4161	5475	AK102	(C10-C25)	32257	1.6
C14	3.068	0.001	2378	2354	AK103	(C25-C36)	461111	27.9
C16	3.664	0.002	1584	1549	OR.DIES	(C10-C28)	77122	3.9
C18	----							
C20	4.771	0.003	1682	1686	JET-A	(C10-C18)	23507	1.3
C22	5.318	0.003	1575	2422				
C24	5.843	0.001	2185	2717				
C25	6.098	0.003	3047	4633				
C26	6.346	-0.001	4024	5012				
C28	6.844	-0.001	9573	20116				
C32	7.806	0.001	65122	125162				
C34	8.264	0.001	14336	25493				
Filter Peak	8.564	0.073	13986	13926	BUNKERC	(C10-C38)	559649	100.8
C36	8.715	-0.007	14941	29380				
C38	9.179	0.000	15989	21960				
C40	9.630	0.001	17112	25878				
o-terph	4.353	0.001	7858669	5815380				
Triacon Surr	7.342	-0.002	5831007	6224550	NAS DIES	(C10-C24)	32257	1.6

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount
o-Terphenyl	5815380	231.1
Triacontane	6224550	210.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2718.D

Date : 27-MAR-2018 17:18

Client ID:

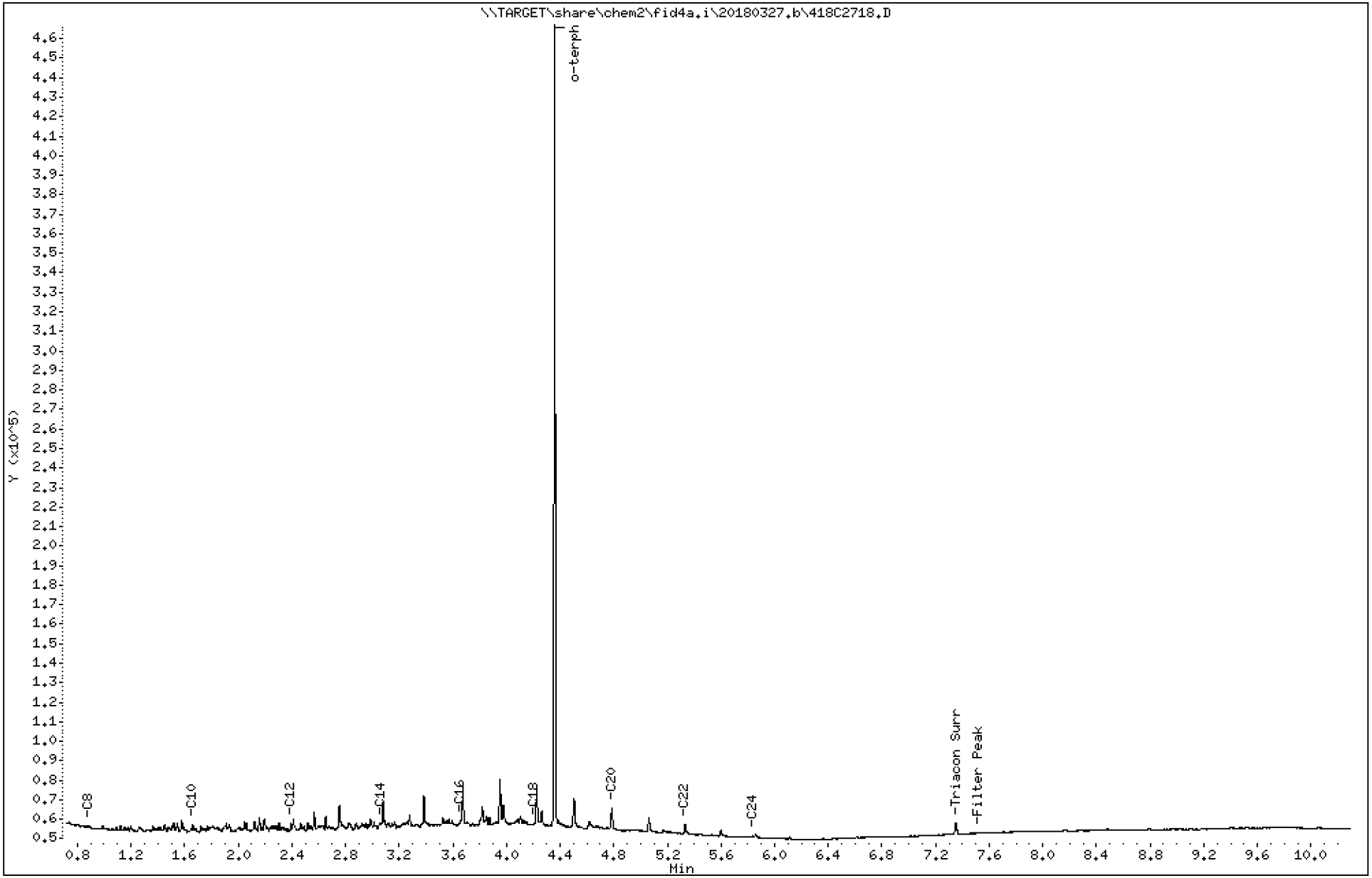
Sample Info: SEQ-CAL1

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2718.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CAL1
Client ID:
Injection: 27-MAR-2018 17:18
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.887	0.004	6624	10652	WATPHD	(C12-C24)	1054484	62.2
C10	1.661	0.007	7546	7951	WATPHM	(C24-C38)	5379	0.3
C12	2.396	-0.007	7768	6186	AK102	(C10-C25)	1298498	65.3
C14	3.061	-0.007	8273	5818	AK103	(C25-C36)	5379	0.3
C16	3.659	-0.003	9408	6884	OR.DIES	(C10-C28)	1298498	65.1
C18	4.208	-0.006	8113	3914				
C20	4.785	0.017	15899	20592	JET-A	(C10-C18)	1045486	56.7
C22	5.332	0.017	7534	10380				
C24	5.836	-0.006	1618	1769				
C25	----							
C26	----							
C32	----							
C34	----							
Filter Peak	7.516	-0.976	3475	5378	BUNKERC	(C10-C38)	1303877	234.7
C36	----							
C38	----							
C40	----							
o-terph	4.360	0.007	409216	269709				
Triacon Surr	7.351	0.008	7821	12371	NAS DIES	(C10-C24)	1298498	65.3

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	269709	10.7	M
Triacontane	12371	0.4	

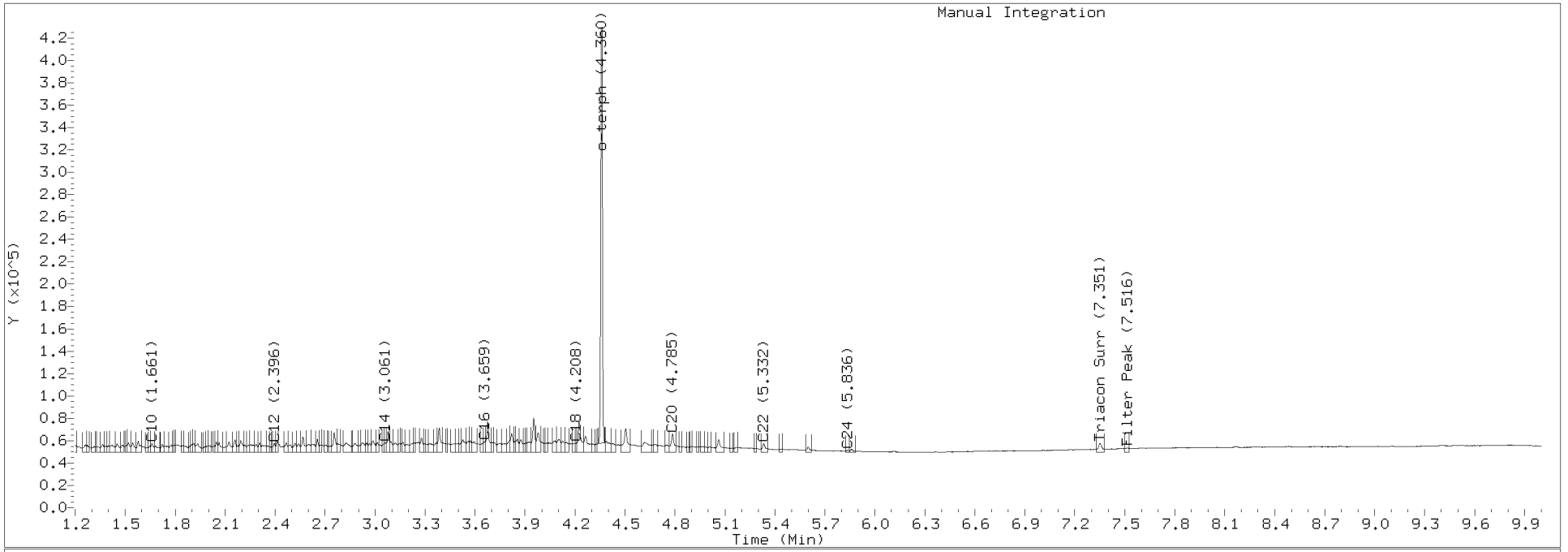
M Indicates the peak was manually integrated

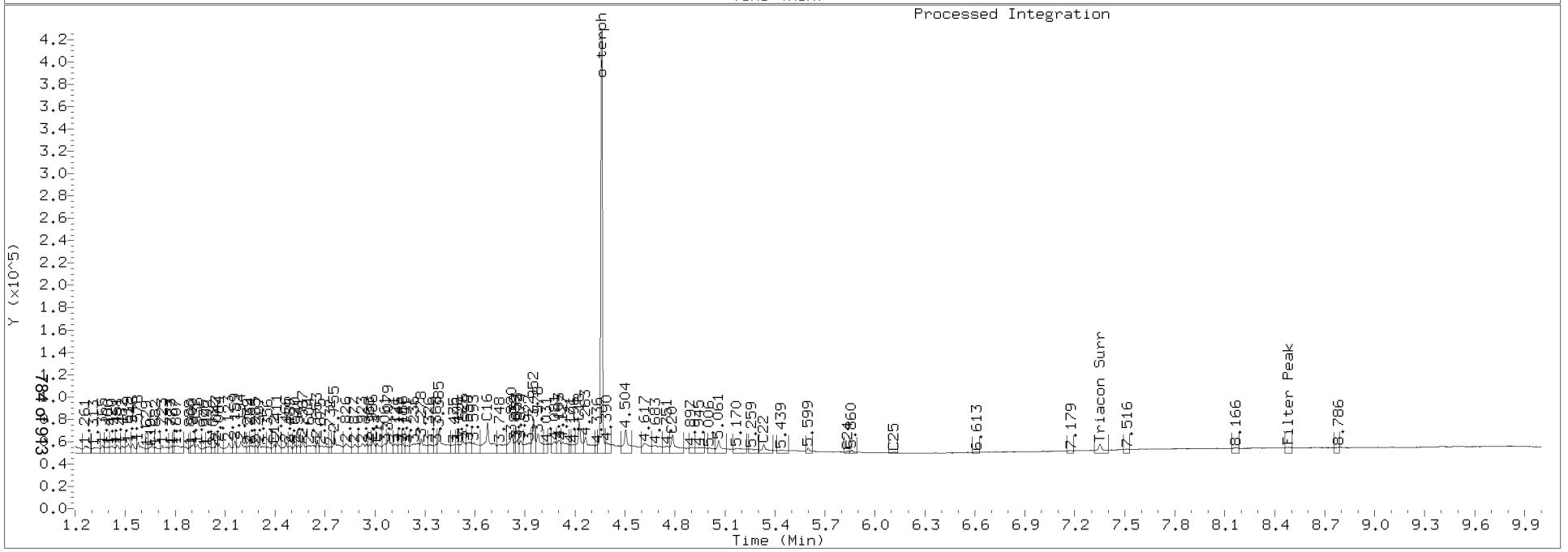
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2718.D Injection: 27-MAR-2018 17:18

Lab ID:SEQ-CAL1





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2719.D

Date : 27-MAR-2018 17:39

Client ID:

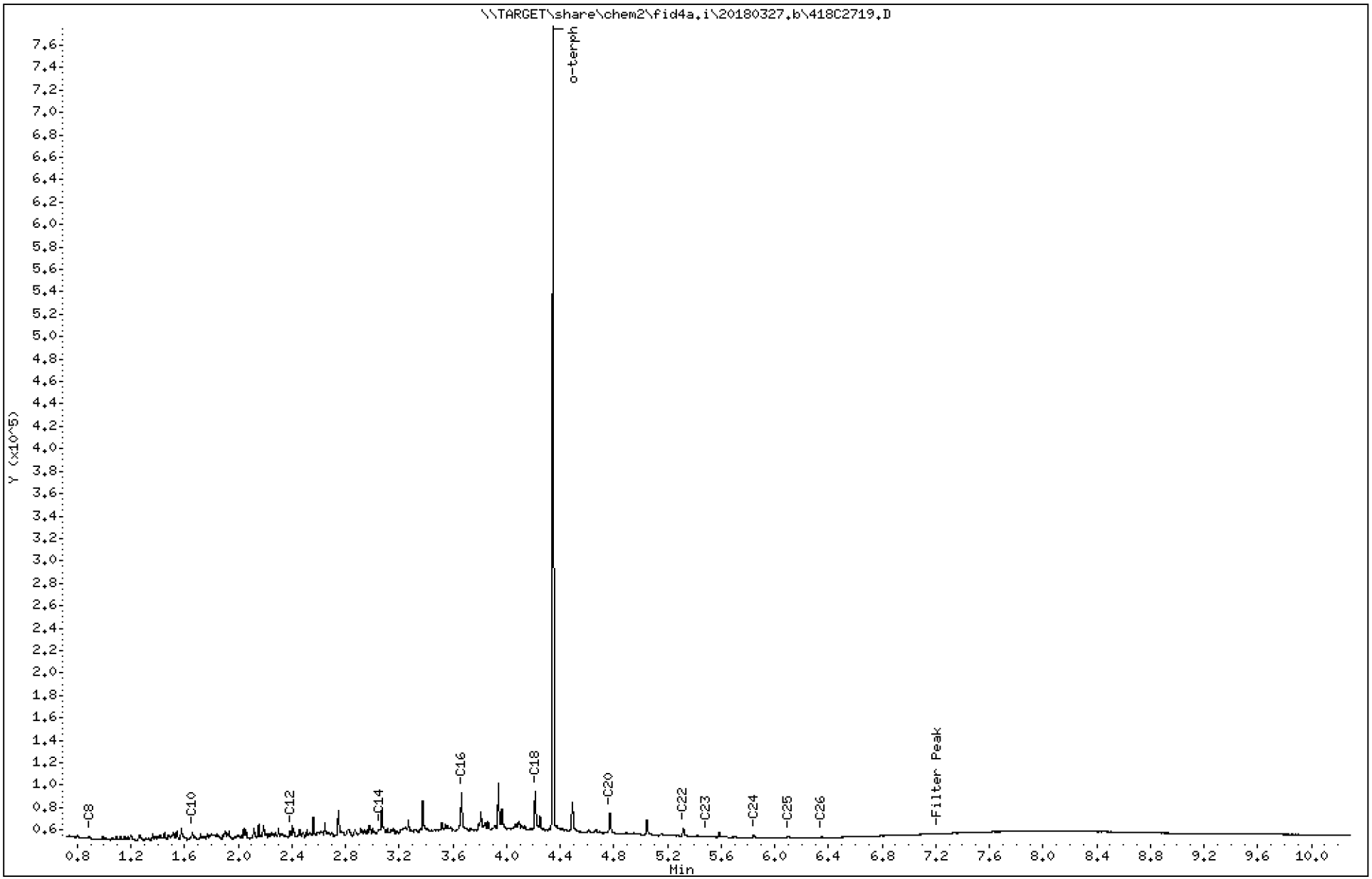
Sample Info: SEQ-CAL2

Instrument: fid4a.i

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2719.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CAL2
Client ID:
Injection: 27-MAR-2018 17:39
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.890	0.006	3370	4119	WATPHD	(C12-C24)	1549266	91.4
C10	1.657	0.003	7114	5723	WATPHM	(C24-C38)	12932	0.7
C12	2.389	-0.014	9129	8456	AK102	(C10-C25)	1765968	88.8
C14	3.052	-0.015	9967	7051	AK103	(C25-C36)	12932	0.8
C16	3.665	0.002	42556	49786	OR.DIES	(C10-C28)	1775287	89.0
C18	4.215	0.001	44341	57034				
C20	4.770	0.002	23935	33970	JET-A	(C10-C18)	1359593	73.8
C22	5.319	0.003	11265	19113				
C24	5.843	0.001	5085	8265				
C25	6.098	0.003	3839	5944				
C26	6.350	0.004	3120	3374				
C32	----							
C34	----							
Filter Peak	7.208	-1.284	6144	3612	BUNKERC	(C10-C38)	1778900	320.3
C36	----							
C38	----							
C40	----							
o-terph	4.347	-0.005	715238	455042				
Triacon Surr	----				NAS DIES	(C10-C24)	1765968	88.9

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	455042	18.1	M
Triacontane	0	0.0	

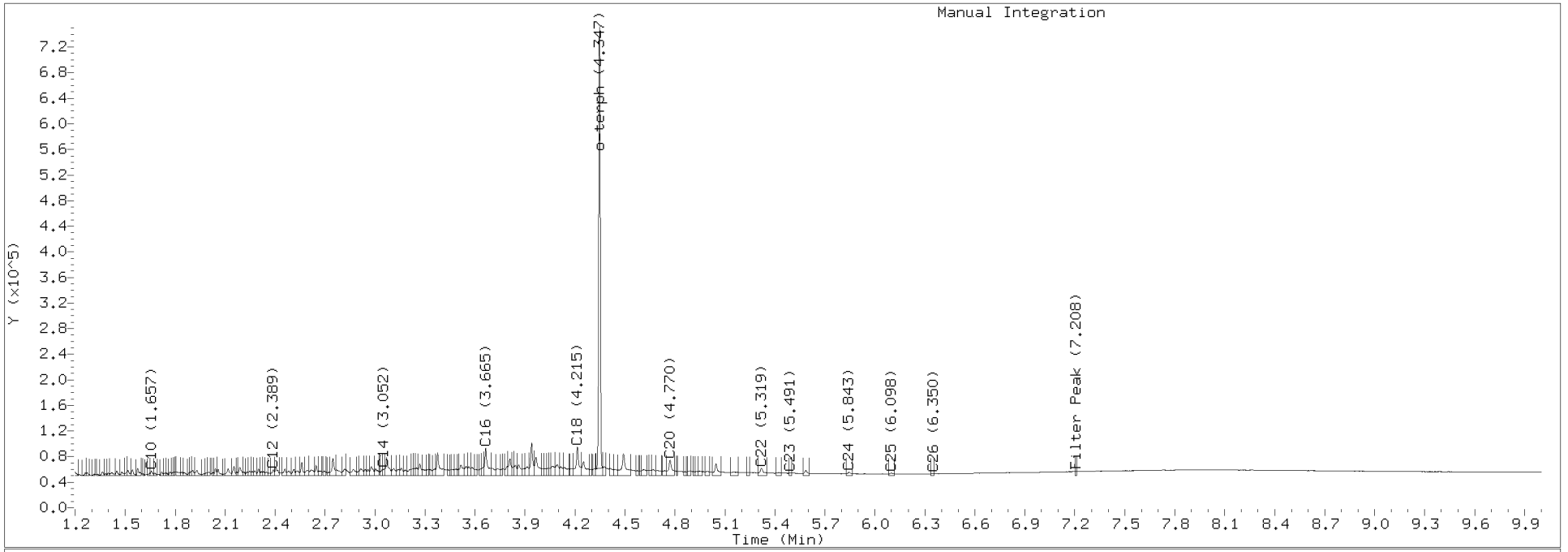
M Indicates the peak was manually integrated

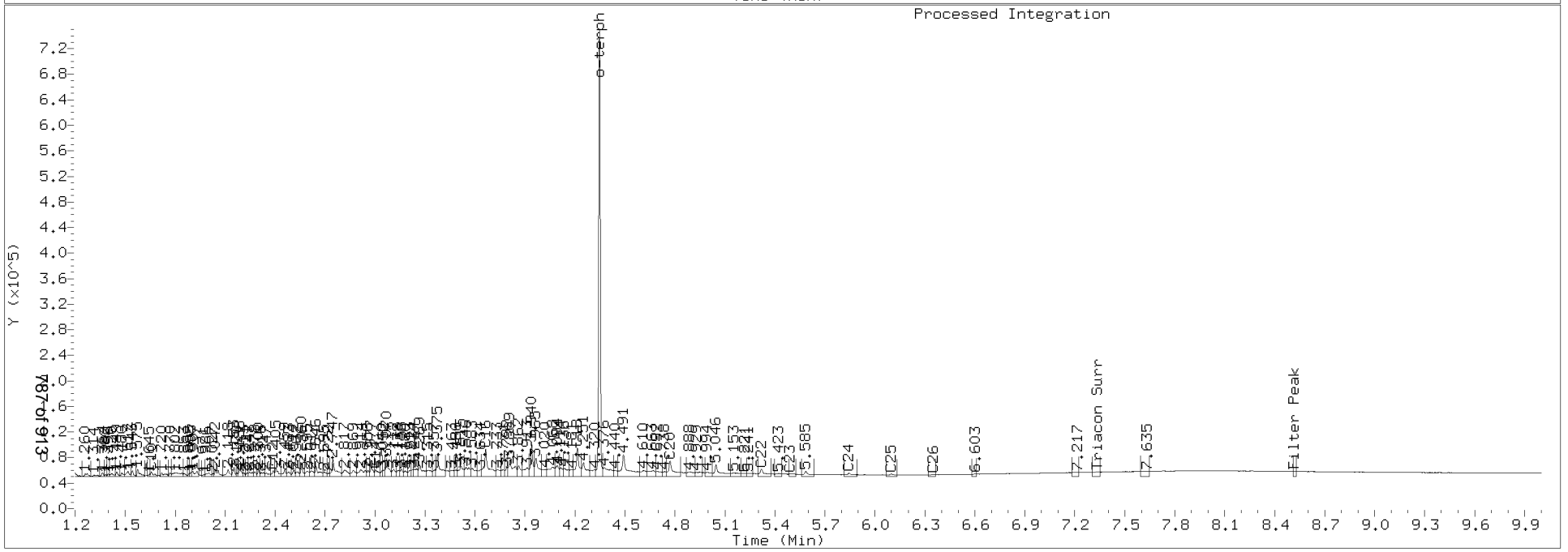
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2719.D Injection: 27-MAR-2018 17:39

Lab ID:SEQ-CAL2





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2720.D

Date : 27-MAR-2018 18:00

Client ID:

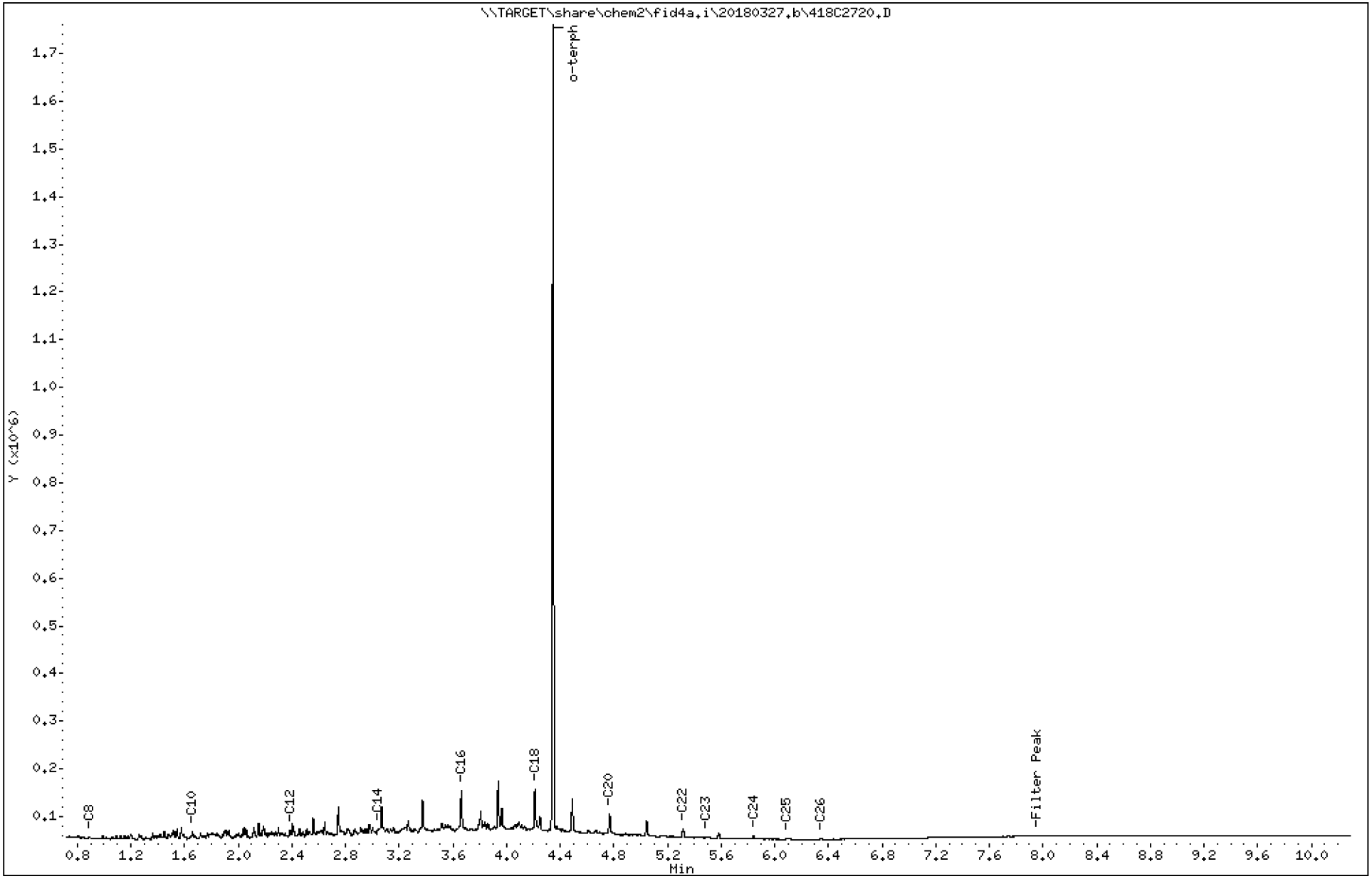
Sample Info: SEQ-CAL3

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2720.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CAL3
Client ID:
Injection: 27-MAR-2018 18:00
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.890	0.007	6427	8062	WATPHD	(C12-C24)	3544375	209.1
C10	1.658	0.004	18033	14242	WATPHM	(C24-C38)	23483	1.2
C12	2.388	-0.014	21505	20040	AK102	(C10-C25)	4075121	204.8
C14	3.049	-0.019	22733	14020	AK103	(C25-C36)	20232	1.2
C16	3.664	0.001	104148	122956	OR.DIES	(C10-C28)	4086458	204.8
C18	4.213	-0.001	107204	116902				
C20	4.770	0.001	55839	72653	JET-A	(C10-C18)	3116202	169.1
C22	5.317	0.001	23639	29744				
C24	5.842	-0.000	8218	9929				
C25	6.096	0.001	3991	4941				
C26	6.347	0.001	2433	4013				
C32	----							
C34	----							
Filter Peak	7.953	-0.539	7984	5149	BUNKERC	(C10-C38)	4095353	737.3
C36	----							
C38	----							
C40	----							
o-terph	4.347	-0.005	1686690	1053255				
Triacon Surr	----				NAS DIES	(C10-C24)	4071870	204.9

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	1053255	41.9	M
Triacontane	0	0.0	

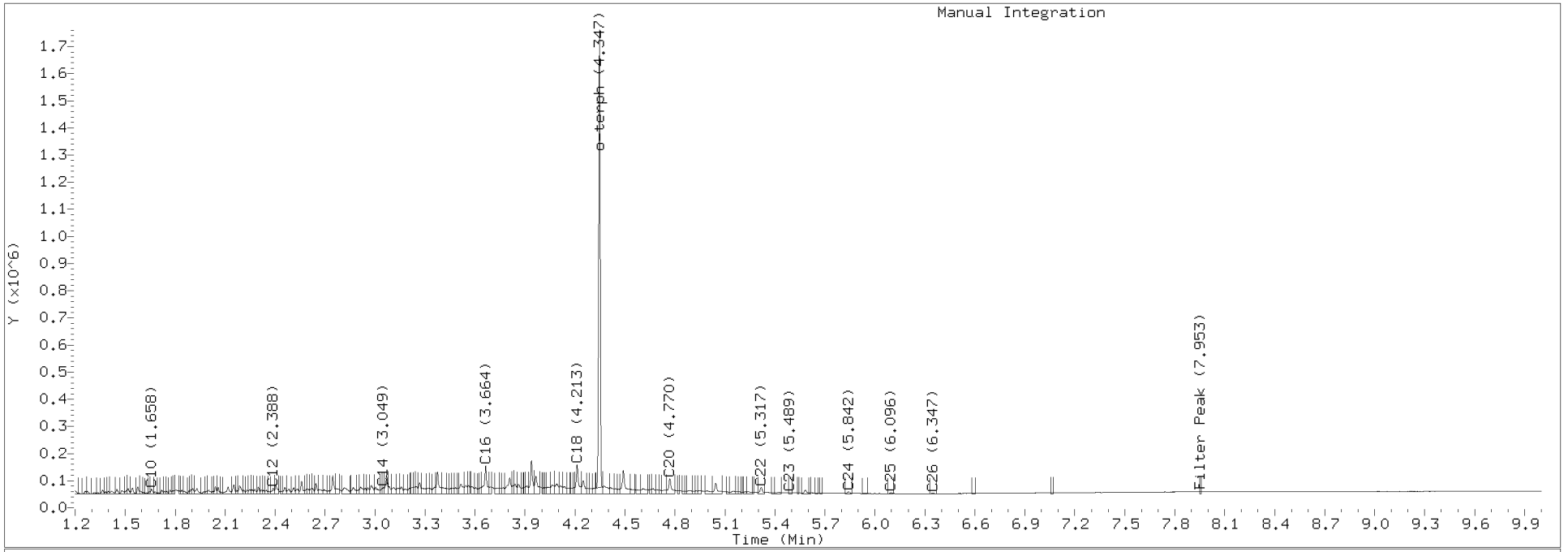
M Indicates the peak was manually integrated

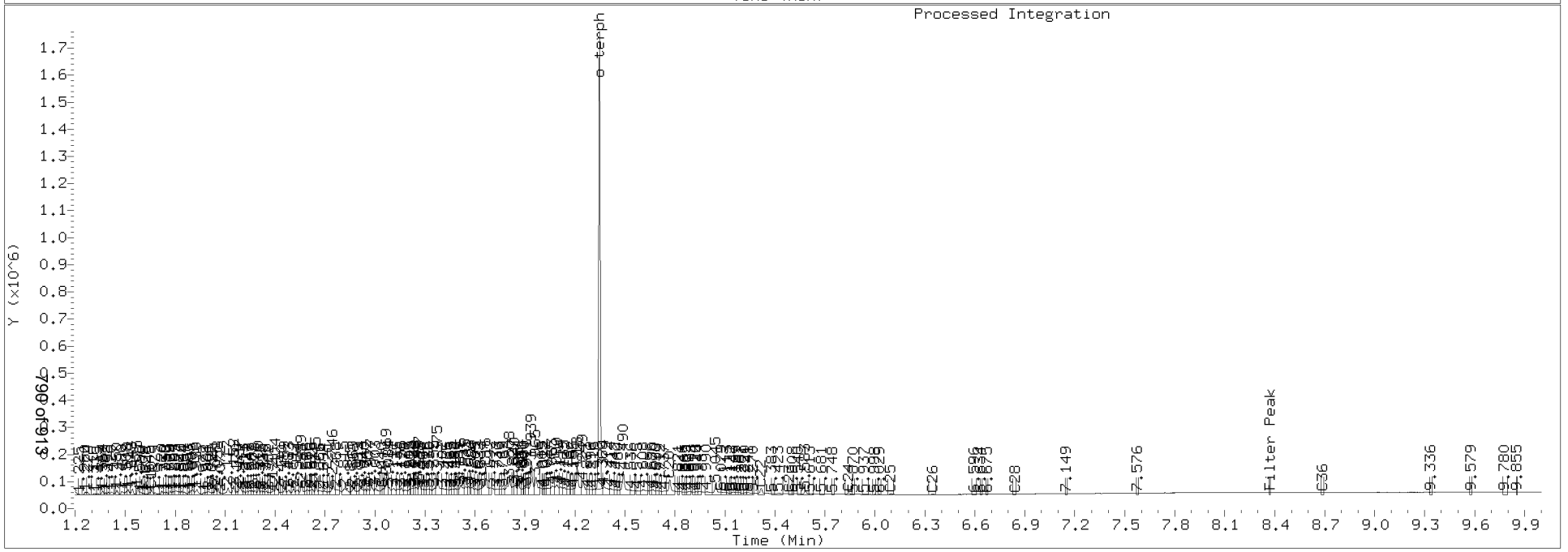
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2720.D Injection: 27-MAR-2018 18:00

Lab ID:SEQ-CAL3





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2721.D

Date : 27-MAR-2018 18:21

Client ID:

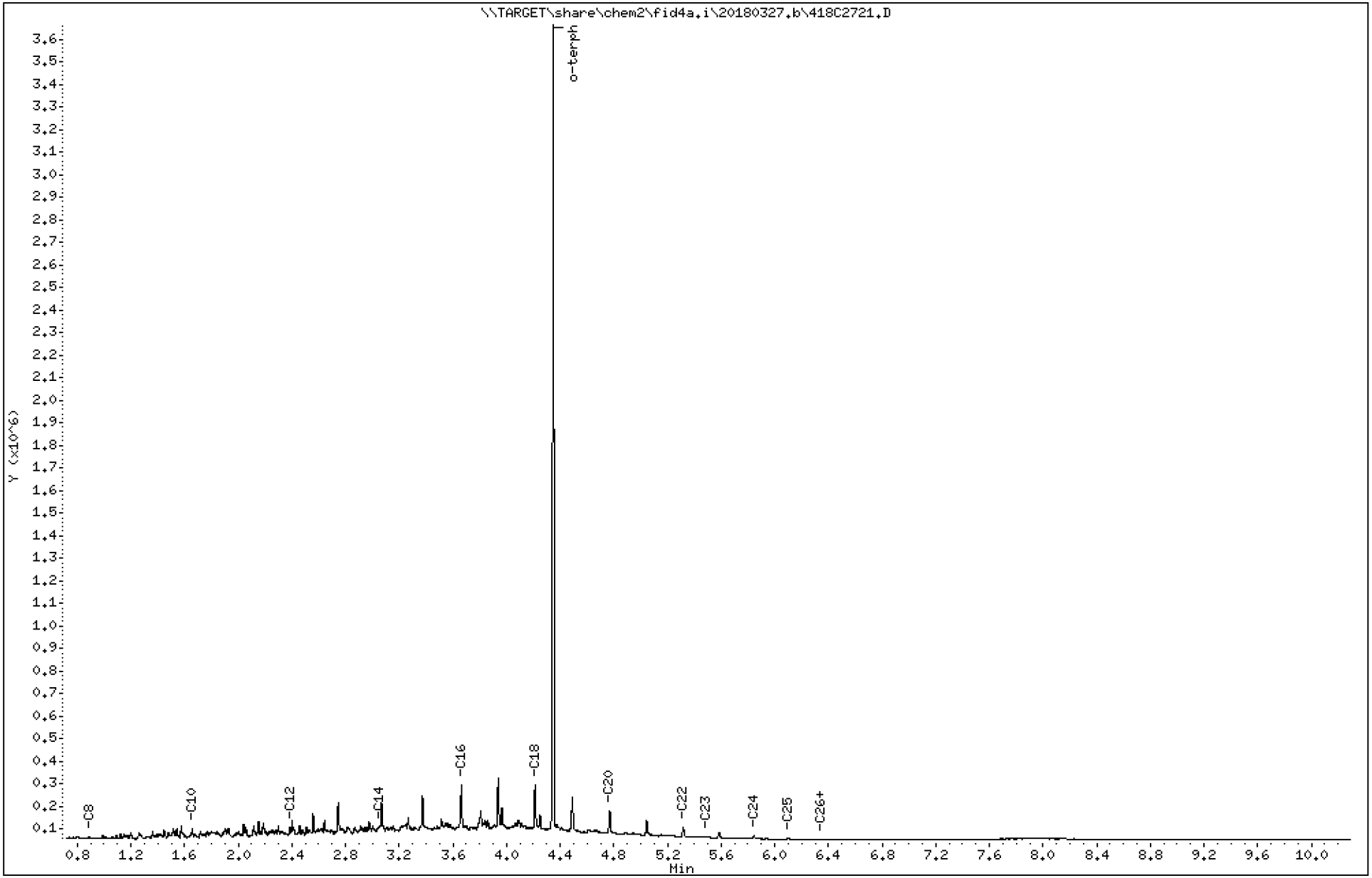
Sample Info: SEQ-CAL4

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2721.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CAL4
Client ID:
Injection: 27-MAR-2018 18:21
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.889	0.006	12627	14419	WATPHD	(C12-C24)	8612392	508.1
C10	1.656	0.002	45432	37495	WATPHM	(C24-C38)	20889	1.1
C12	2.388	-0.015	54606	53209	AK102	(C10-C25)	10059482	505.6
C14	3.050	-0.017	56658	34981	AK103	(C25-C36)	13514	0.8
C16	3.663	0.000	241647	258845	OR.DIES	(C10-C28)	10072996	504.8
C18	4.213	-0.001	239512	240250				
C20	4.769	0.001	124670	153546	JET-A	(C10-C18)	7744601	420.2
C22	5.317	0.001	56848	70789				
C24	5.844	0.001	17363	22145				
C25	6.097	0.002	7623	9039				
C26	6.349	0.002	2888	3185				
C32	----							
C34	----							
Filter Peak	6.349	-2.143	2888	3185	BUNKERC	(C10-C38)	10072996	1813.4
C36	----							
C38	----							
C40	----							
o-terph	4.349	-0.004	3555945	2253123				
Triacon Surr	----				NAS DIES	(C10-C24)	10052107	505.8

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	2253123	89.5	M
Triacontane	0	0.0	

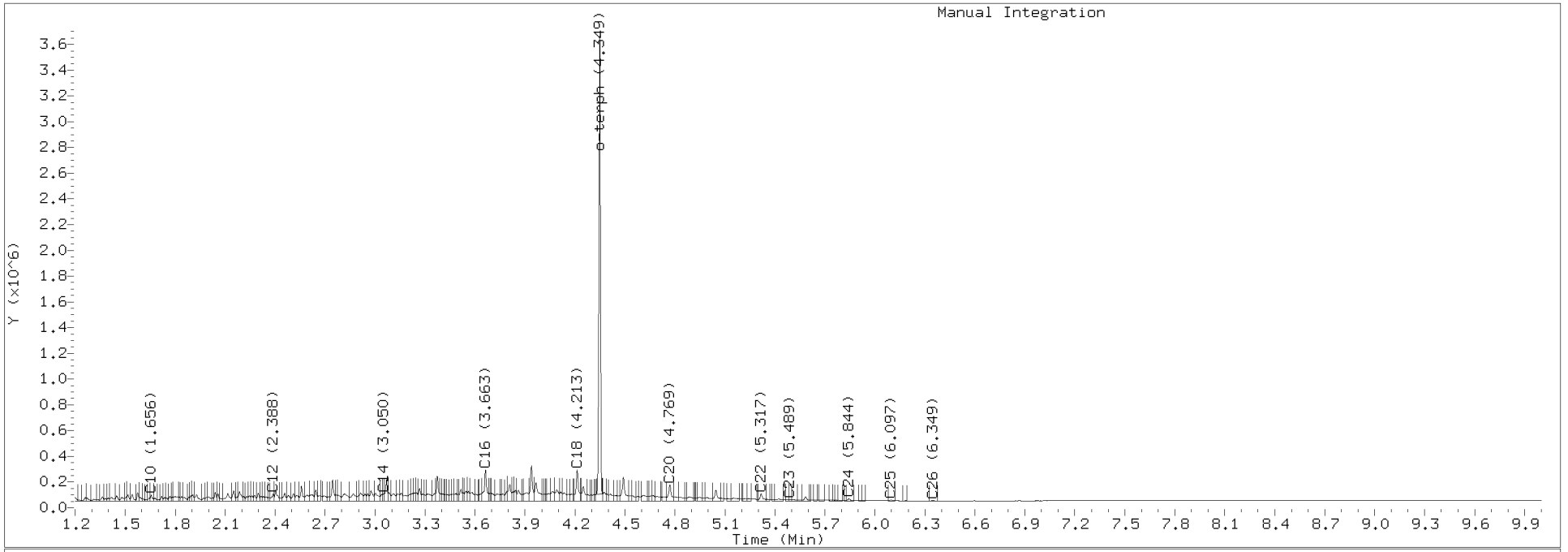
M Indicates the peak was manually integrated

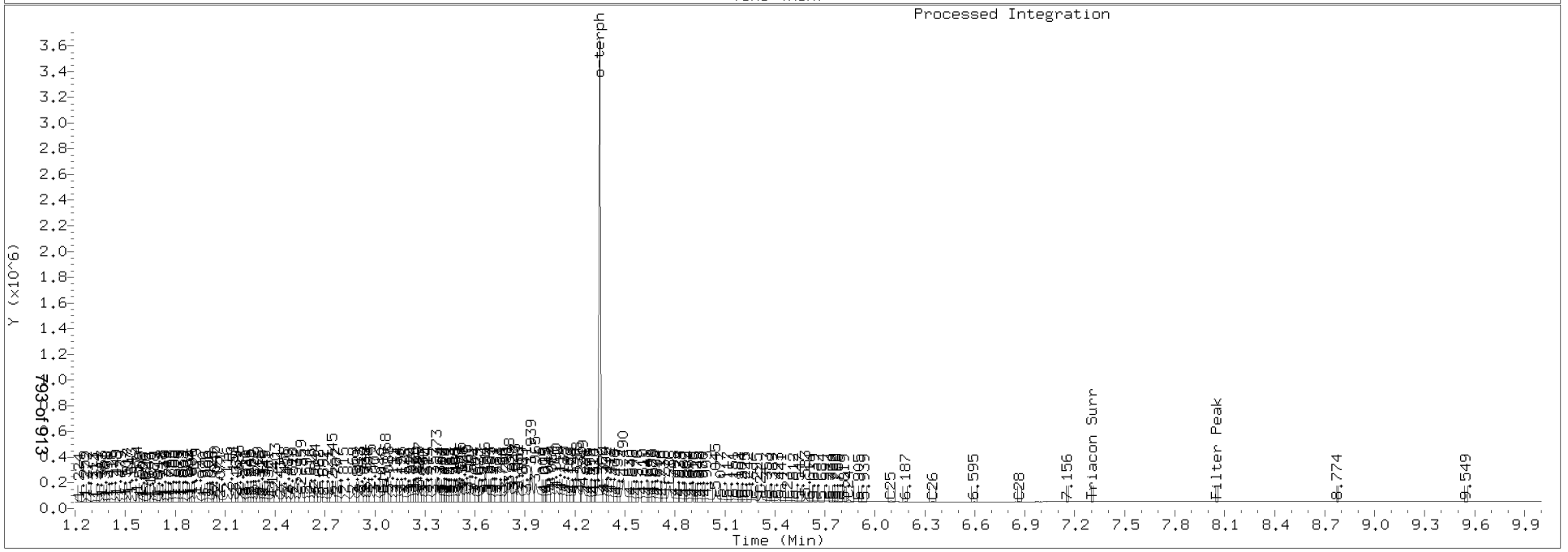
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2721.D Injection: 27-MAR-2018 18:21

Lab ID:SEQ-CAL4





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2722.D

Date : 27-MAR-2018 18:42

Client ID:

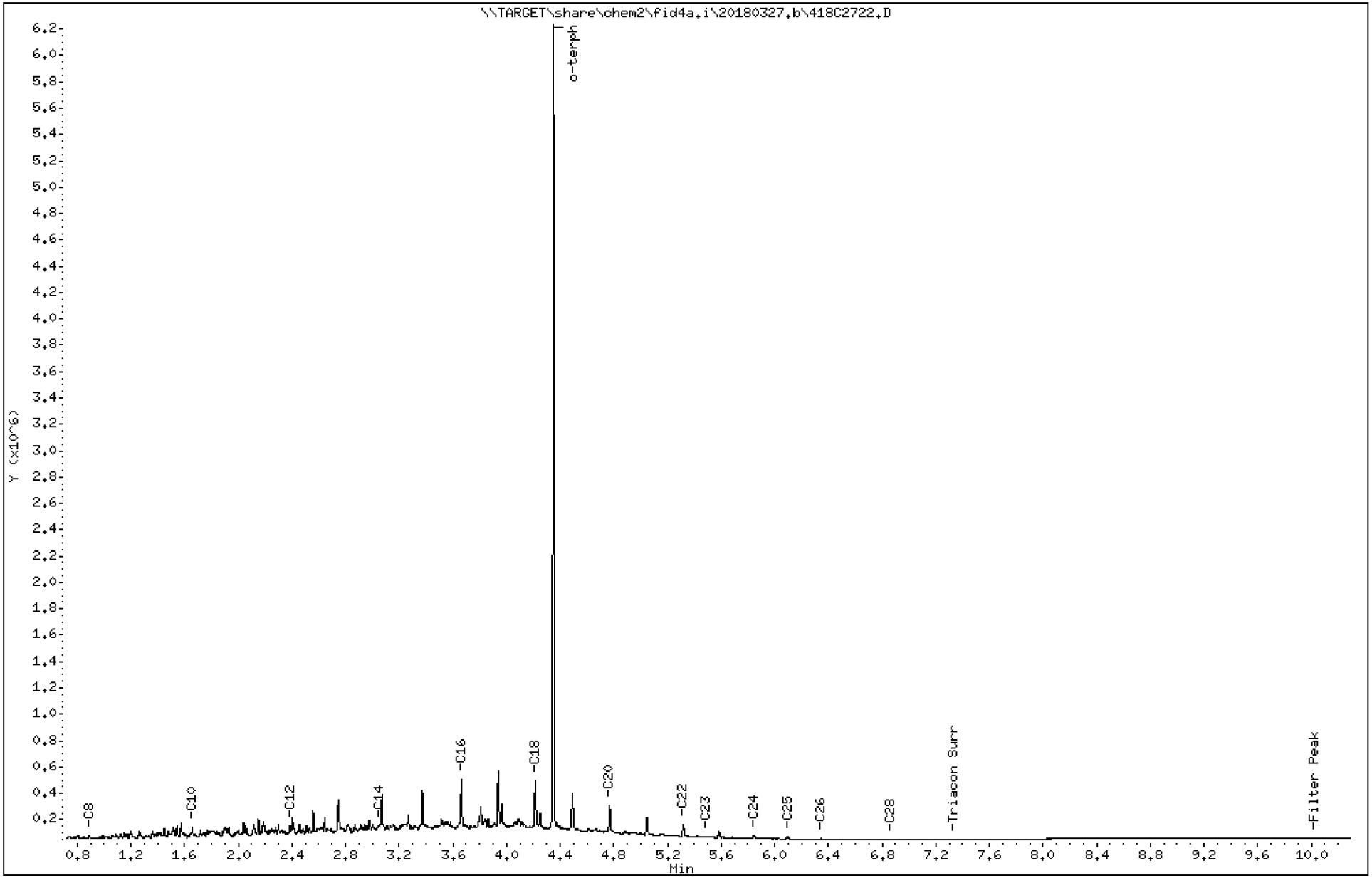
Sample Info: SEQ-CAL5

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2722.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CAL5
Client ID:
Injection: 27-MAR-2018 18:42
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.889	0.006	26725	31980	WATPHD	(C12-C24)	16364482	965.5
C10	1.656	0.002	92907	76469	WATPHM	(C24-C38)	74206	3.8
C12	2.388	-0.015	106180	100985	AK102	(C10-C25)	19250715	967.6
C14	3.049	-0.018	105541	66166	AK103	(C25-C36)	45745	2.8
C16	3.663	0.000	452384	434695	OR.DIES	(C10-C28)	19294705	967.0
C18	4.214	0.000	449689	479465				
C20	4.768	0.000	254851	344399	JET-A	(C10-C18)	14774167	801.6
C22	5.318	0.002	112200	141437				
C24	5.843	0.001	34425	48919				
C25	6.096	0.001	16922	27106				
C26	6.346	-0.001	6906	7973				
C28	6.865	0.020	1456	1575				
C32	----							
C34	----							
Filter Peak	10.020	1.529	9701	4335	BUNKERC	(C10-C38)	19296459	3473.9
C36	----							
C38	----							
C40	----							
o-terph	4.351	-0.001	6082190	4176044				
Triacon Surr	7.329	-0.014	2468	1955	NAS DIES	(C10-C24)	19222253	967.2

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	4176044	165.9	M
Triacontane	1955	0.1	

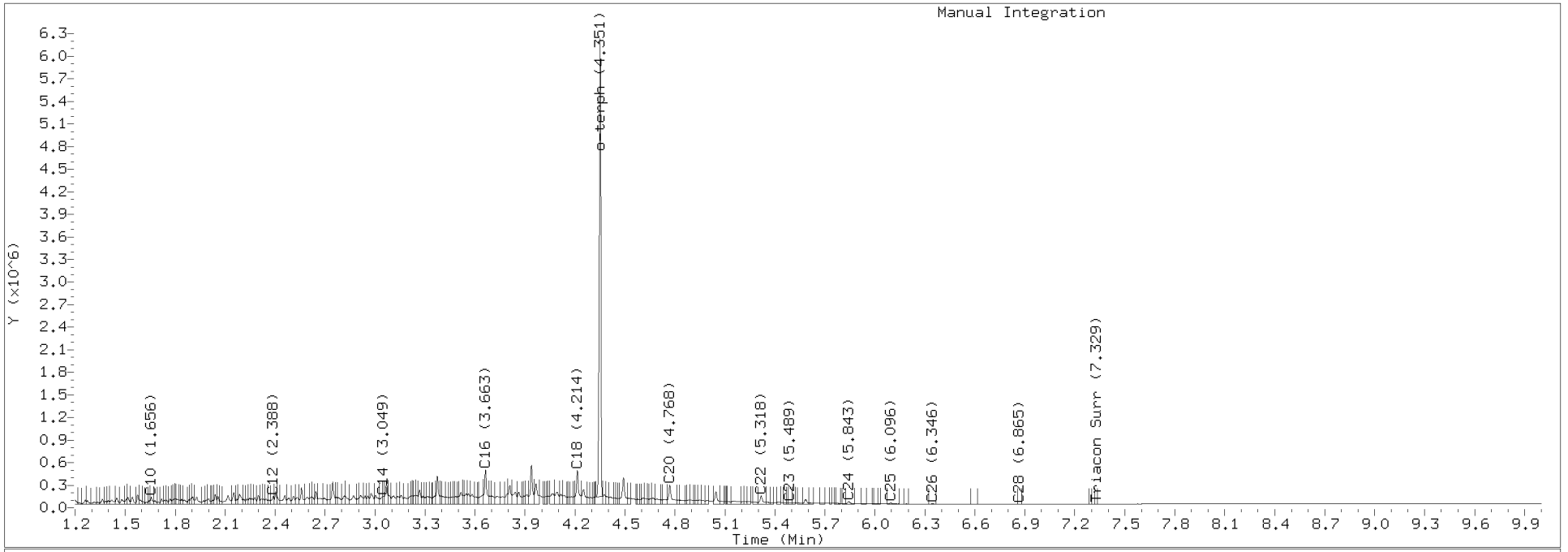
M Indicates the peak was manually integrated

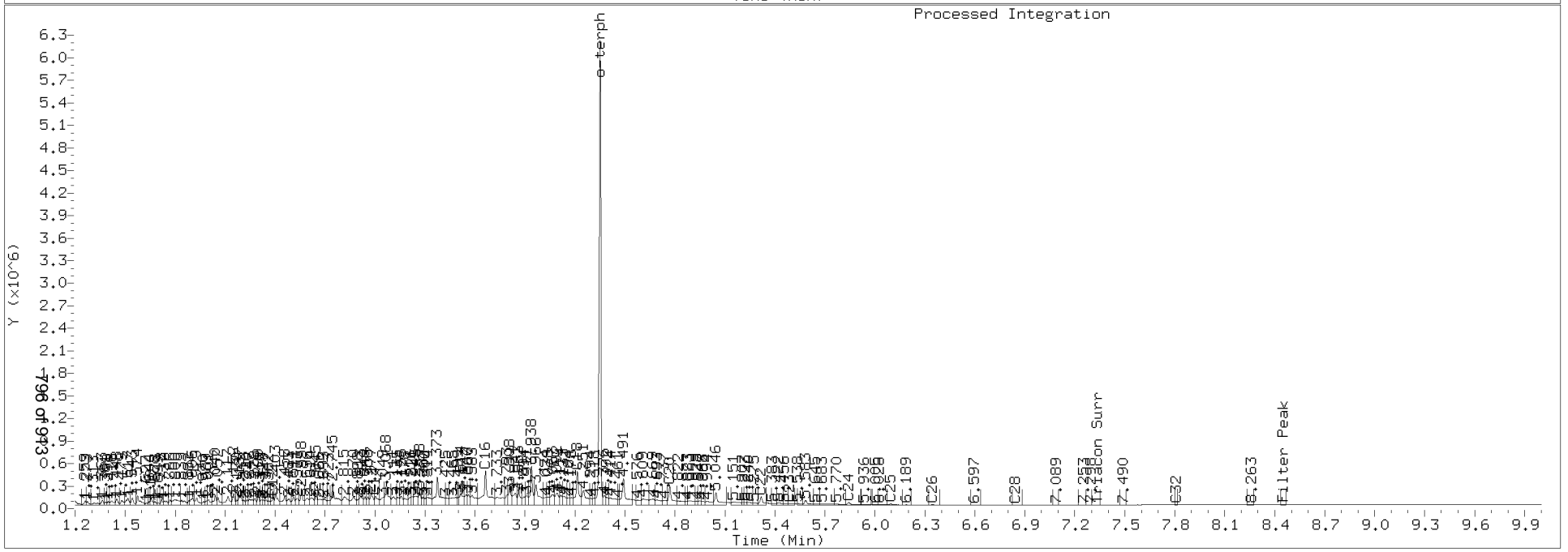
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2722.D Injection: 27-MAR-2018 18:42

Lab ID:SEQ-CAL5





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2723.D

Date : 27-MAR-2018 19:03

Client ID:

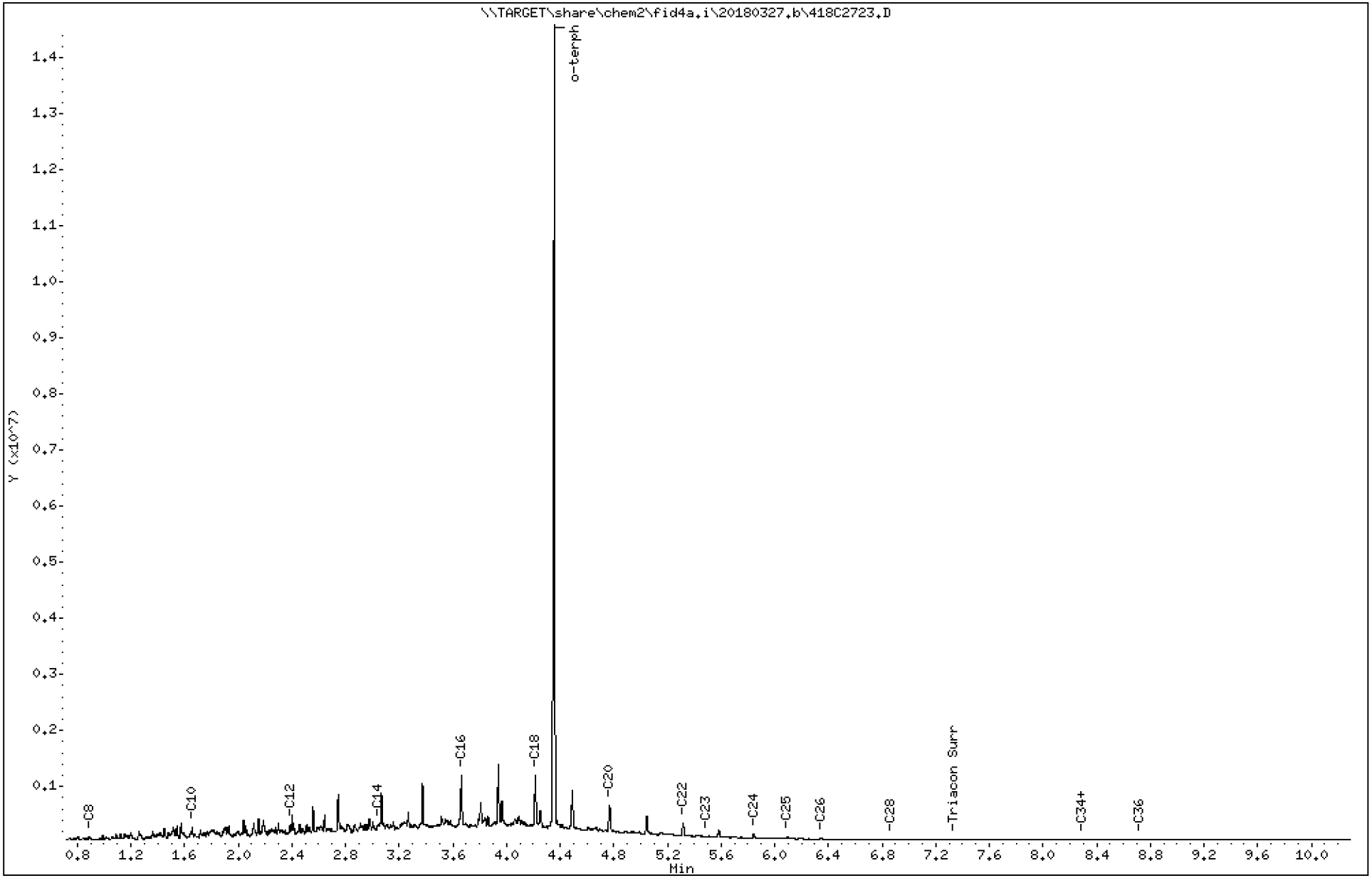
Sample Info: SEQ-CAL6

Instrument: fid4a.i

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2723.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CAL6
Client ID:
Injection: 27-MAR-2018 19:03
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.889	0.006	42155	38358	WATPHD	(C12-C24)	43367798	2558.7
C10	1.656	0.002	230394	180009	WATPHM	(C24-C38)	545898	28.0
C12	2.388	-0.014	257669	248764	AK102	(C10-C25)	50179976	2522.2
C14	3.048	-0.019	266319	140724	AK103	(C25-C36)	366093	22.2
C16	3.663	0.001	1157797	1591211	OR.DIES	(C10-C28)	50520466	2532.0
C18	4.215	0.001	1154006	1381365				
C20	4.769	0.001	620786	700080	JET-A	(C10-C18)	37121851	2014.1
C22	5.316	0.000	284988	322454				
C24	5.843	0.000	97902	125201				
C25	6.095	0.000	50836	84426				
C26	6.344	-0.002	23079	37874				
C28	6.865	0.020	6528	10676				
C32	----							
C34	8.295	0.032	6885	4418				
Filter Peak	8.295	-0.196	6885	4418	BUNKERC	(C10-C38)	50546069	9099.7
C36	8.717	-0.005	7360	4348				
C38	----							
C40	----							
o-terph	4.358	0.005	14242137	10848447				
Triacon Surr	7.333	-0.010	4955	9701	NAS DIES	(C10-C24)	50000171	2515.9

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	10848447	431.1	M
Triacontane	9701	0.3	

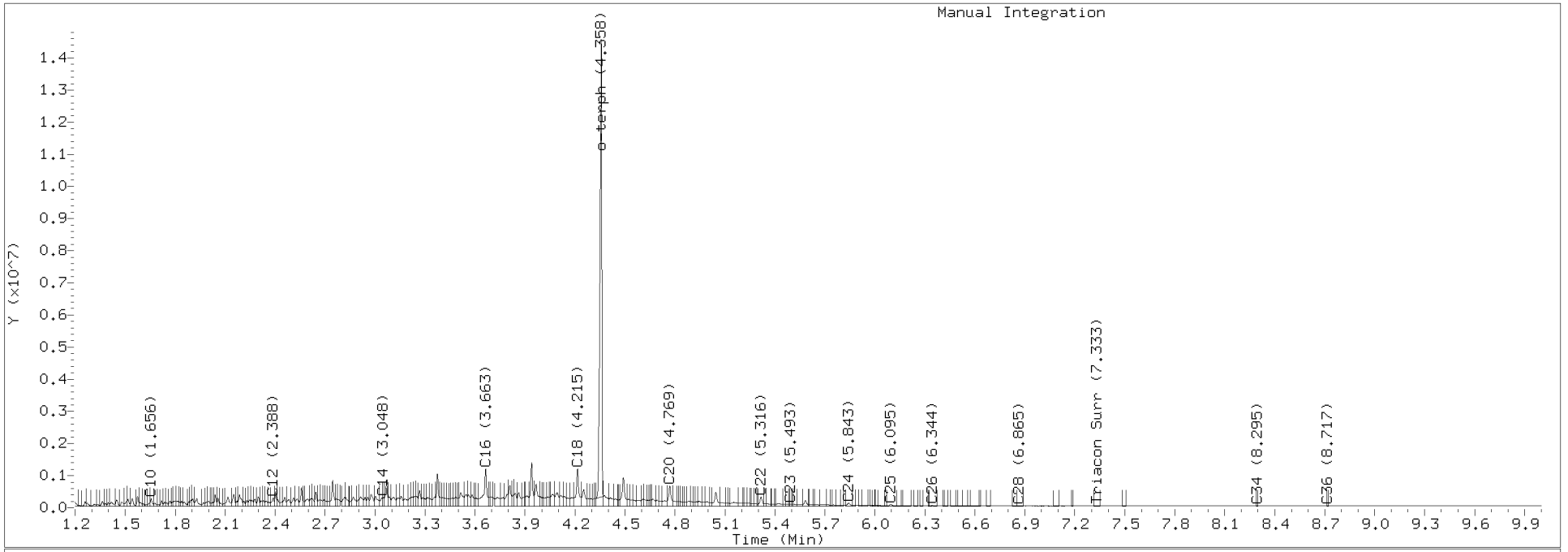
M Indicates the peak was manually integrated

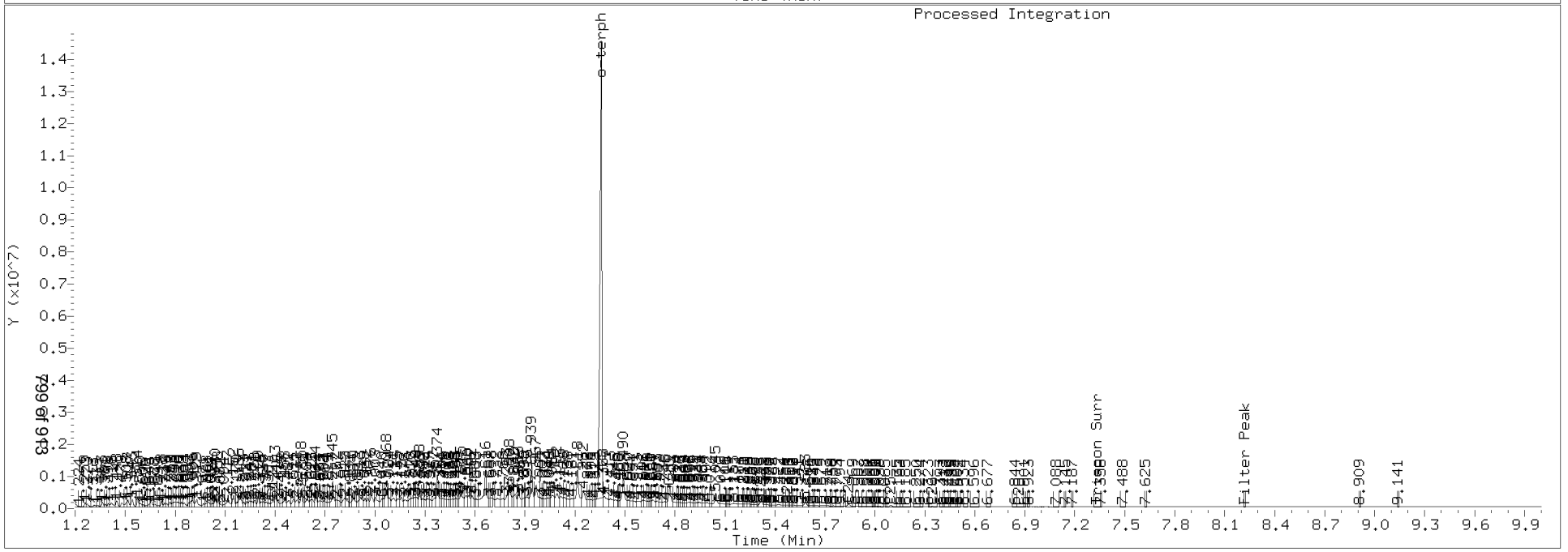
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2723.D Injection: 27-MAR-2018 19:03

Lab ID:SEQ-CAL6





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2724.D

Date : 27-MAR-2018 19:23

Client ID:

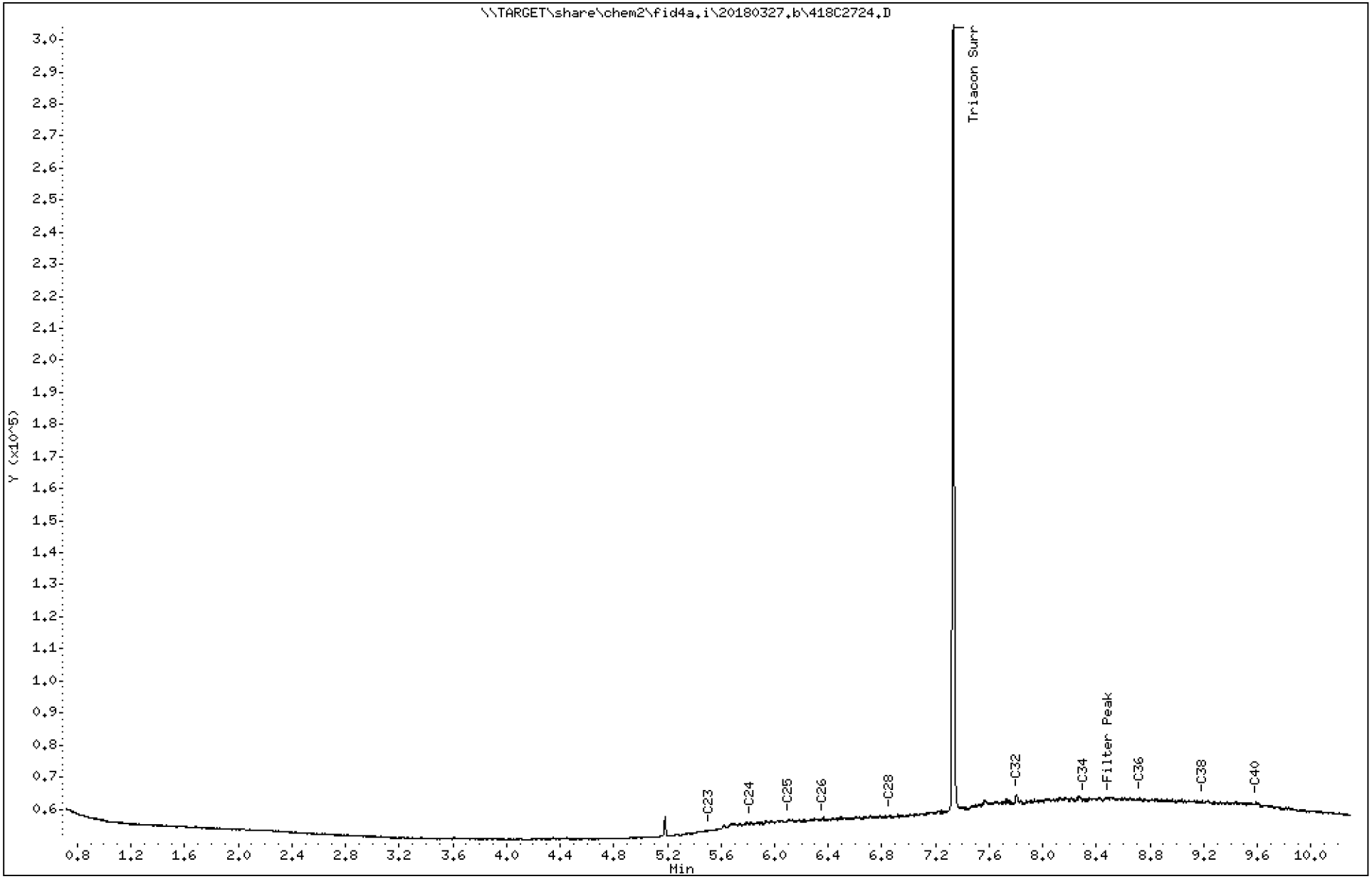
Sample Info: SEQ-CAL7

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2724.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CAL7
Client ID:
Injection: 27-MAR-2018 19:23
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	63510	3.7
C10	----				WATPHM	(C24-C38)	1326015	68.0
C12	----				AK102	(C10-C25)	89066	4.5
C14	----				AK103	(C25-C36)	1091671	66.1
C16	----				OR.DIES	(C10-C28)	300407	15.1
C18	----							
C20	----				JET-A	(C10-C18)	0	0.0
C22	----							
C24	5.821	-0.022	5346	7560				
C25	6.102	0.008	6294	12869				
C26	6.354	0.008	6455	2829				
C28	6.860	0.015	7389	8944				
C32	7.802	-0.002	14046	28448				
C34	8.307	0.043	12732	17319				
Filter Peak	8.491	-0.001	12811	6959	BUNKERC	(C10-C38)	1389525	250.2
C36	8.720	-0.002	13153	20669				
C38	9.190	0.011	12150	10491				
C40	9.592	-0.037	11670	23543				
o-terph	----							
Triacon Surr	7.331	-0.012	244571	248365	NAS DIES	(C10-C24)	63510	3.2

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	0	0.0	
Triacontane	248365	8.4	M

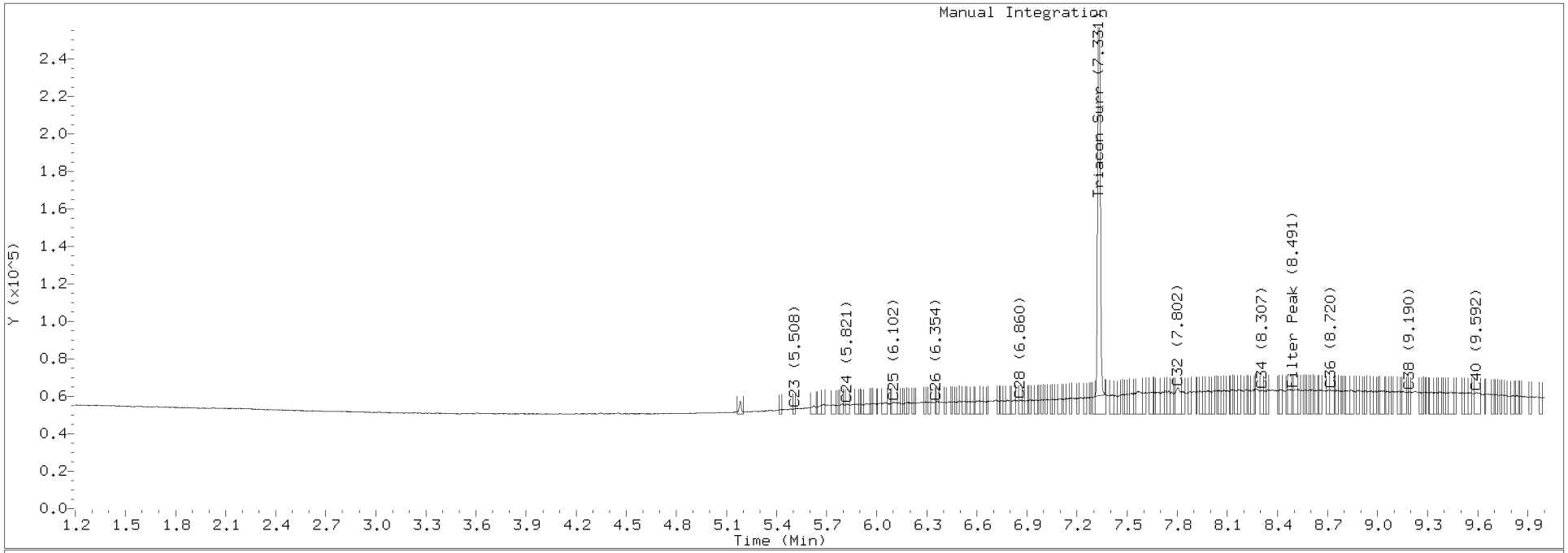
M Indicates the peak was manually integrated

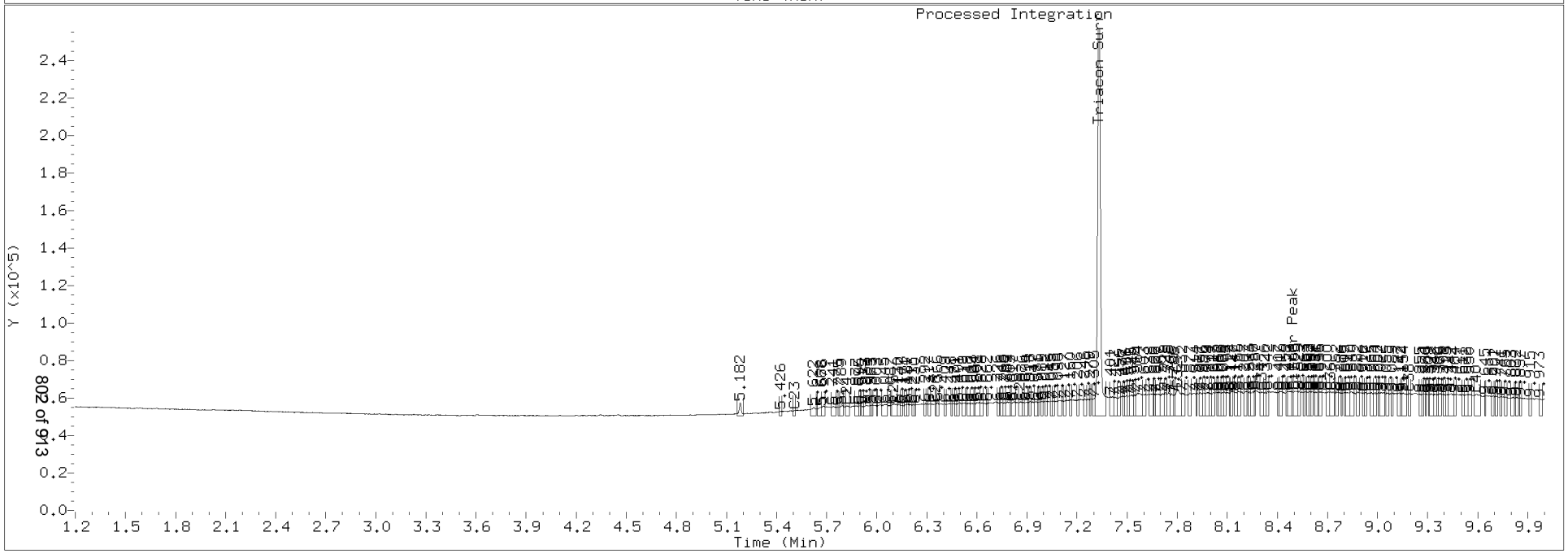
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2724.D Injection: 27-MAR-2018 19:23

Lab ID:SEQ-CAL7





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2725.D

Date : 27-MAR-2018 19:44

Client ID:

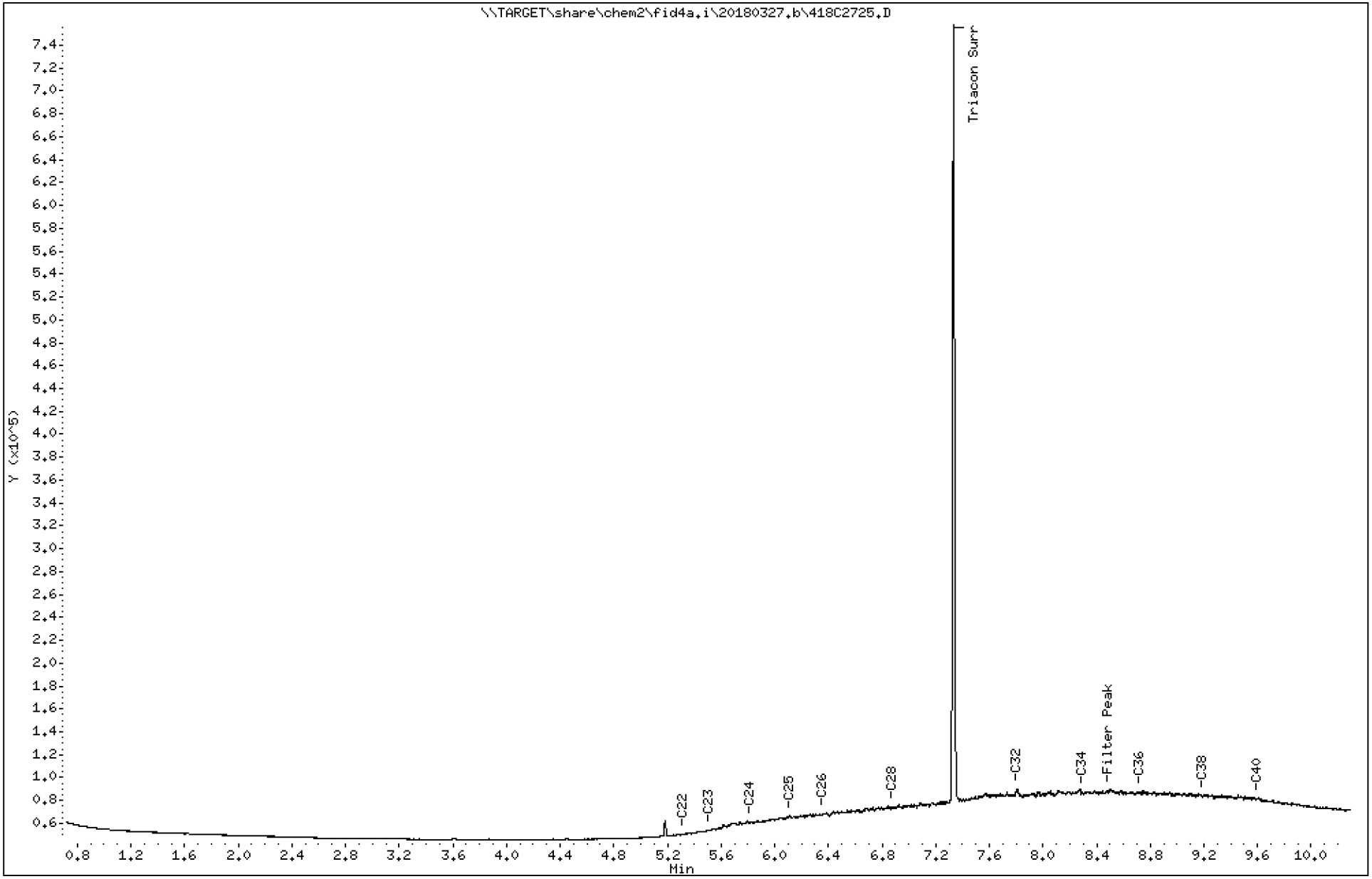
Sample Info: SEQ-CAL8

Instrument: fid4a.i

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2725.D ARI ID: SEQ-CAL8
Method: 20180327.b\FID4TPH.m Client ID:
Instrument: fid4a.i, MDL Injection: 27-MAR-2018 19:44
Report Date: 03/28/2018 Dilution Factor: 1
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	321112	18.9
C10	----				WATPHM	(C24-C38)	6093908	312.5
C12	----				AK102	(C10-C25)	470732	23.7
C14	----				AK103	(C25-C36)	4980578	301.6
C16	----				OR.DIES	(C10-C28)	1631457	81.8
C18	----							
C20	----				JET-A	(C10-C18)	1579	0.1
C22	5.319	0.003	4832	4384				
C24	5.816	-0.026	15637	14319				
C25	6.107	0.012	19838	6873				
C26	6.361	0.015	23084	26920				
C28	6.871	0.027	28122	26538				
C32	7.804	-0.001	44604	94901				
C34	8.296	0.033	41761	40771				
Filter Peak	8.488	-0.003	42586	18901	BUNKERC	(C10-C38)	6415019	1154.9
C36	8.724	0.002	42117	47067				
C38	9.188	0.009	38206	20864				
C40	9.598	-0.031	36342	37274				
o-terph	----							
Triacon Surr	7.334	-0.009	677380	685016	NAS DIES	(C10-C24)	321112	16.2

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	0	0.0	
Triacontane	685016	23.1	M

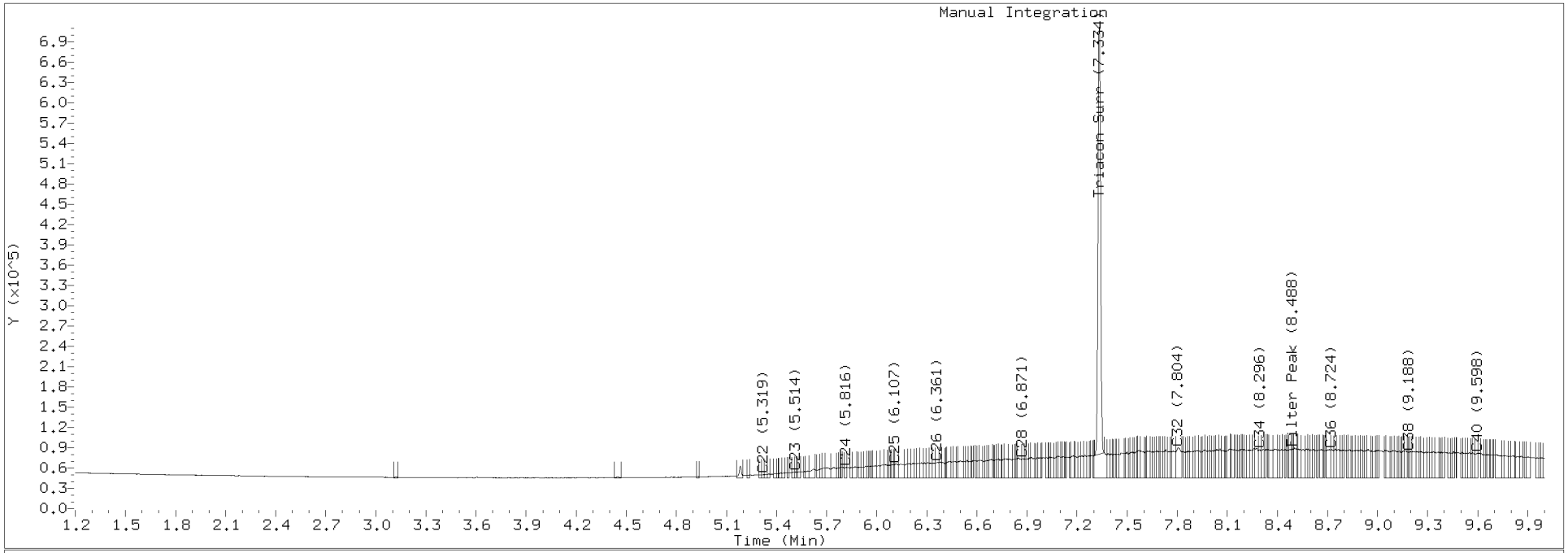
M Indicates the peak was manually integrated

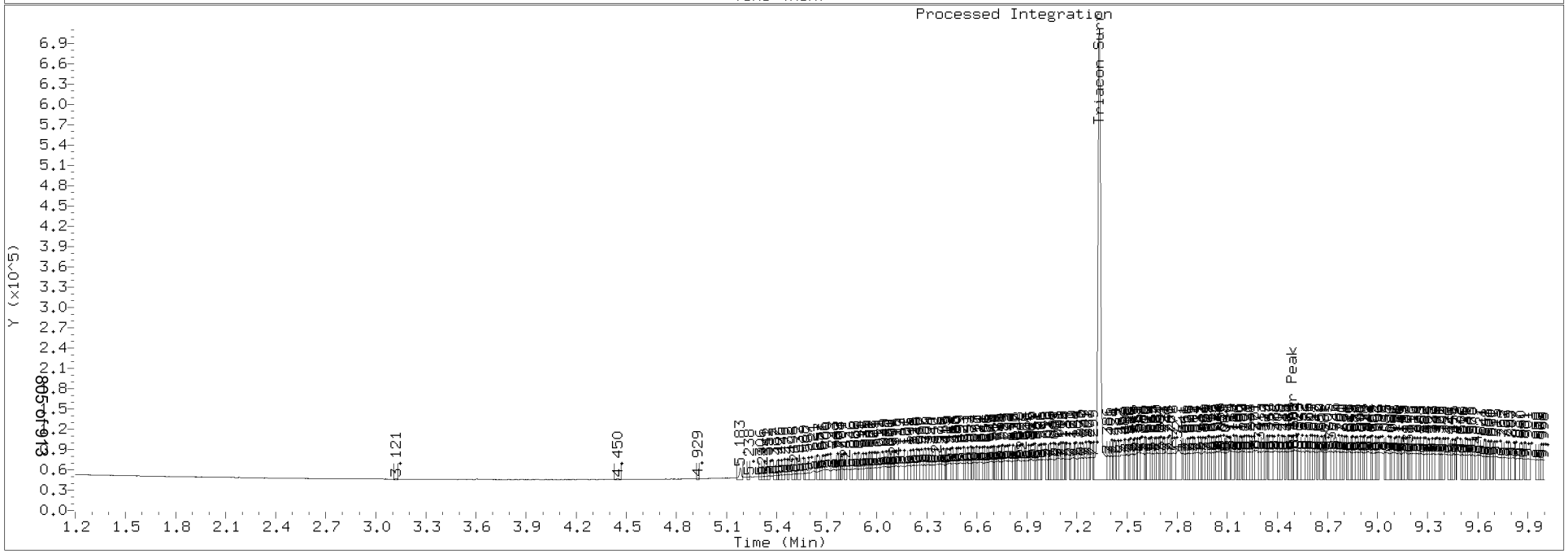
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2725.D Injection: 27-MAR-2018 19:44

Lab ID:SEQ-CAL8





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2726.D

Date : 27-MAR-2018 20:04

Client ID:

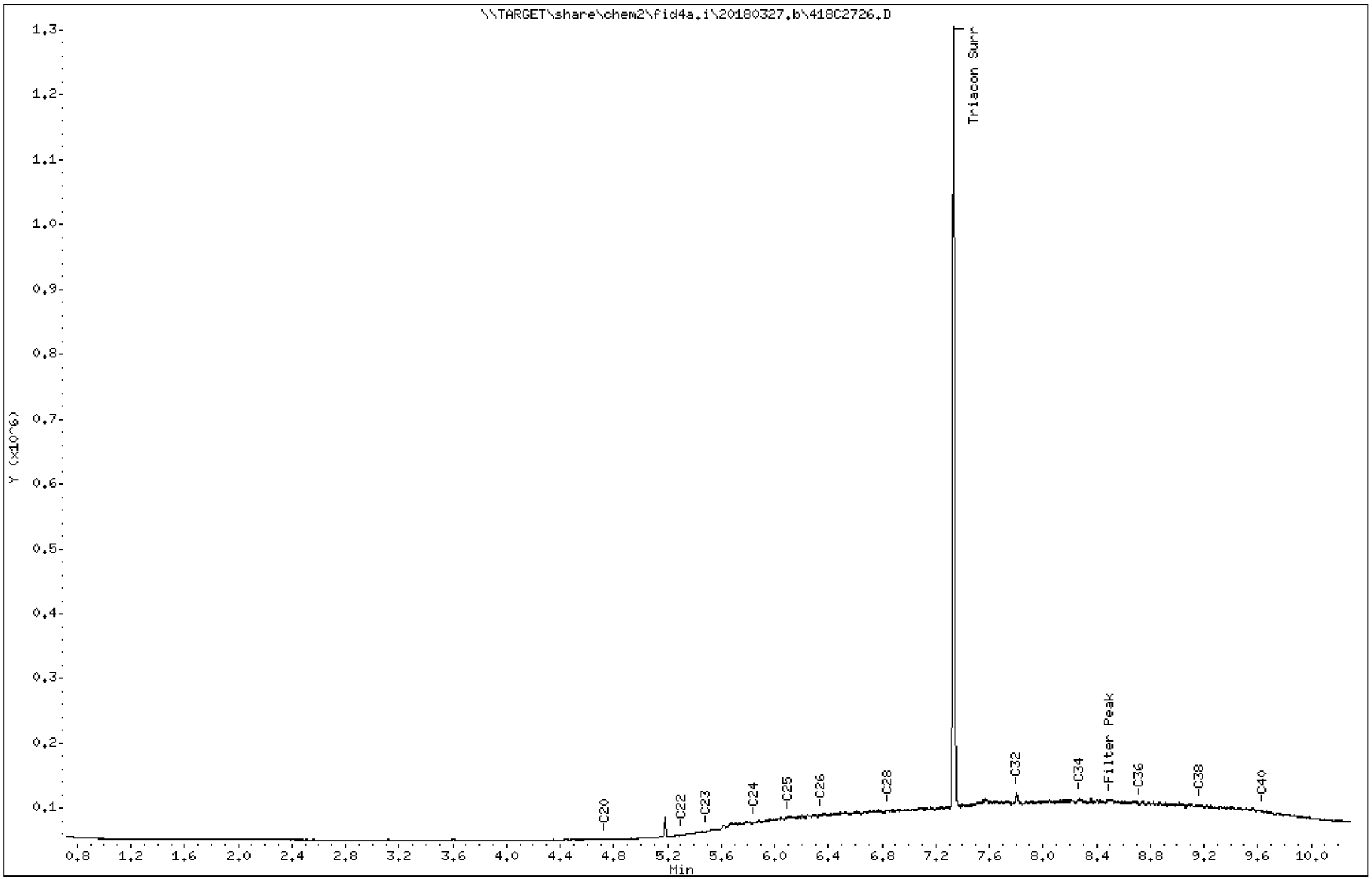
Sample Info: SEQ-CAL9

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2726.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CAL9
Client ID:
Injection: 27-MAR-2018 20:04
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	756768	44.6
C10	----				WATPHM	(C24-C38)	10033941	514.6
C12	----				AK102	(C10-C25)	1015422	51.0
C14	----				AK103	(C25-C36)	8293458	502.2
C16	----				OR.DIES	(C10-C28)	3033821	152.0
C18	----							
C20	4.734	-0.034	1881	1665	JET-A	(C10-C18)	2420	0.1
C22	5.310	-0.006	8446	5396				
C24	5.843	0.001	27681	12229				
C25	6.098	0.003	36248	17629				
C26	6.349	0.003	39292	36400				
C28	6.843	-0.001	46810	50720				
C32	7.803	-0.001	72655	145123				
C34	8.271	0.008	64832	84427				
Filter Peak	8.495	0.004	62965	59300	BUNKERC	(C10-C38)	10790708	1942.6
C36	8.718	-0.003	57095	28068				
C38	9.173	-0.006	55104	64034				
C40	9.635	0.006	45871	44710				
o-terph	----							
Triacon Surr	7.335	-0.008	1204870	1274975	NAS DIES	(C10-C24)	756768	38.1

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	0	0.0	
Triacontane	1274975	43.0	M

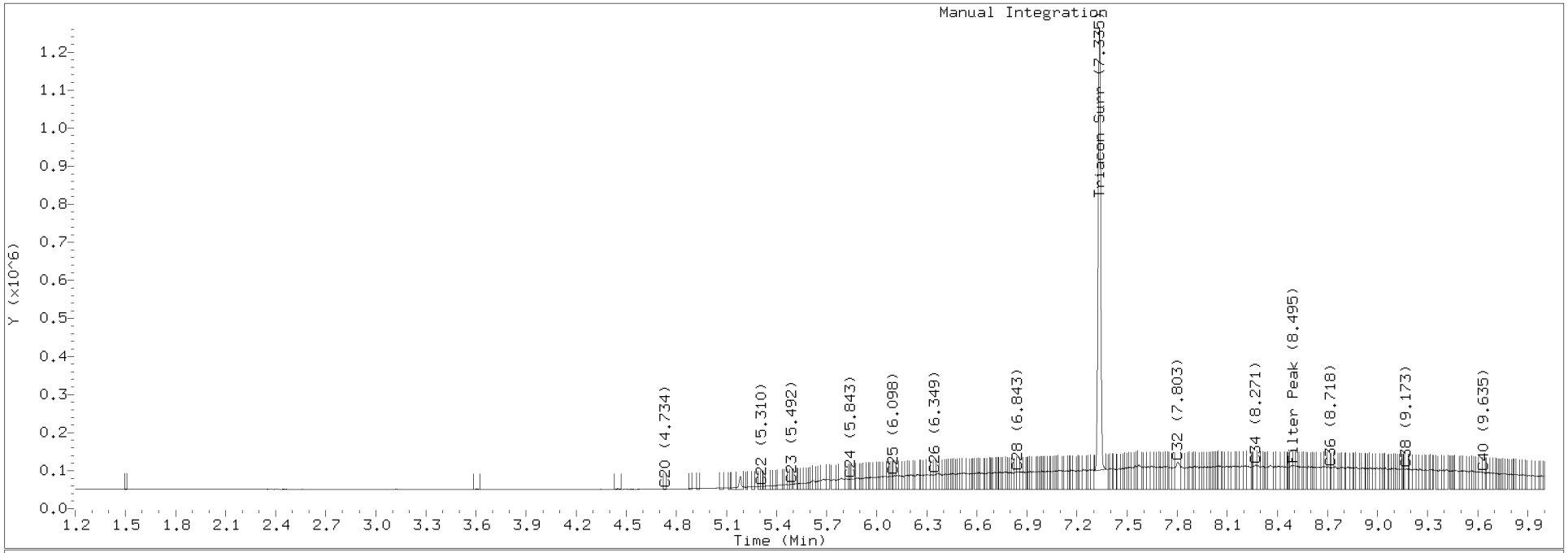
M Indicates the peak was manually integrated

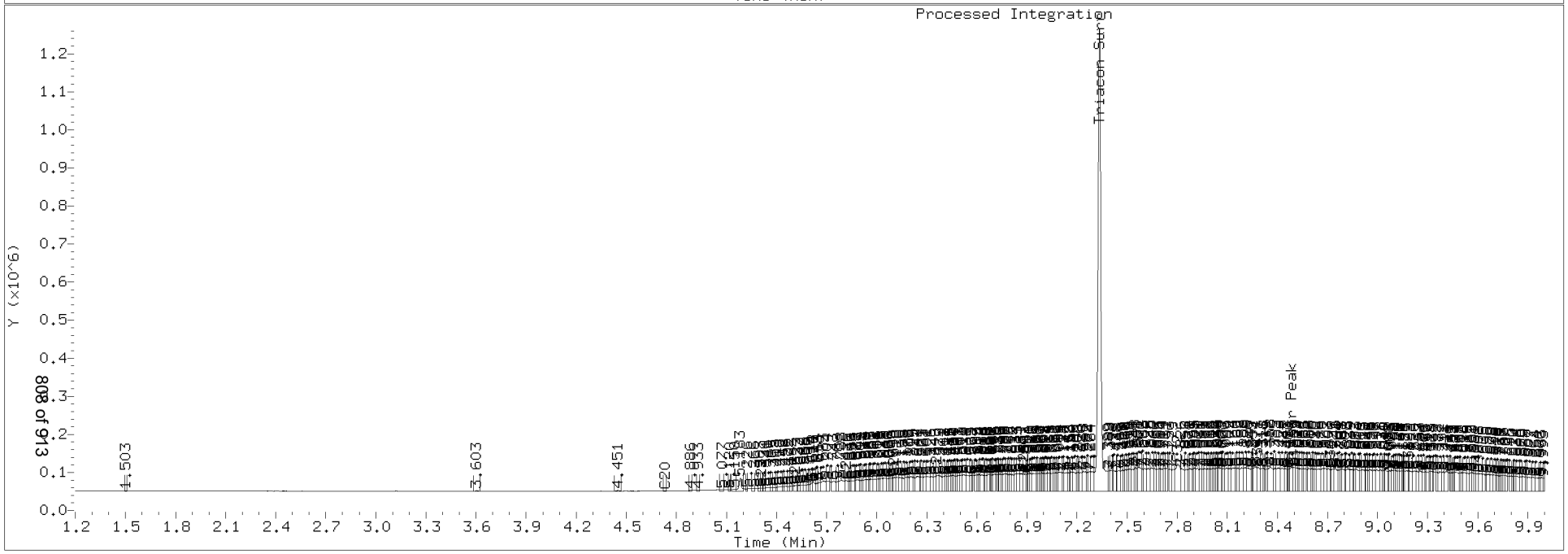
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2726.D Injection: 27-MAR-2018 20:04

Lab ID:SEQ-CAL9





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2727.D

Date : 27-MAR-2018 20:25

Client ID:

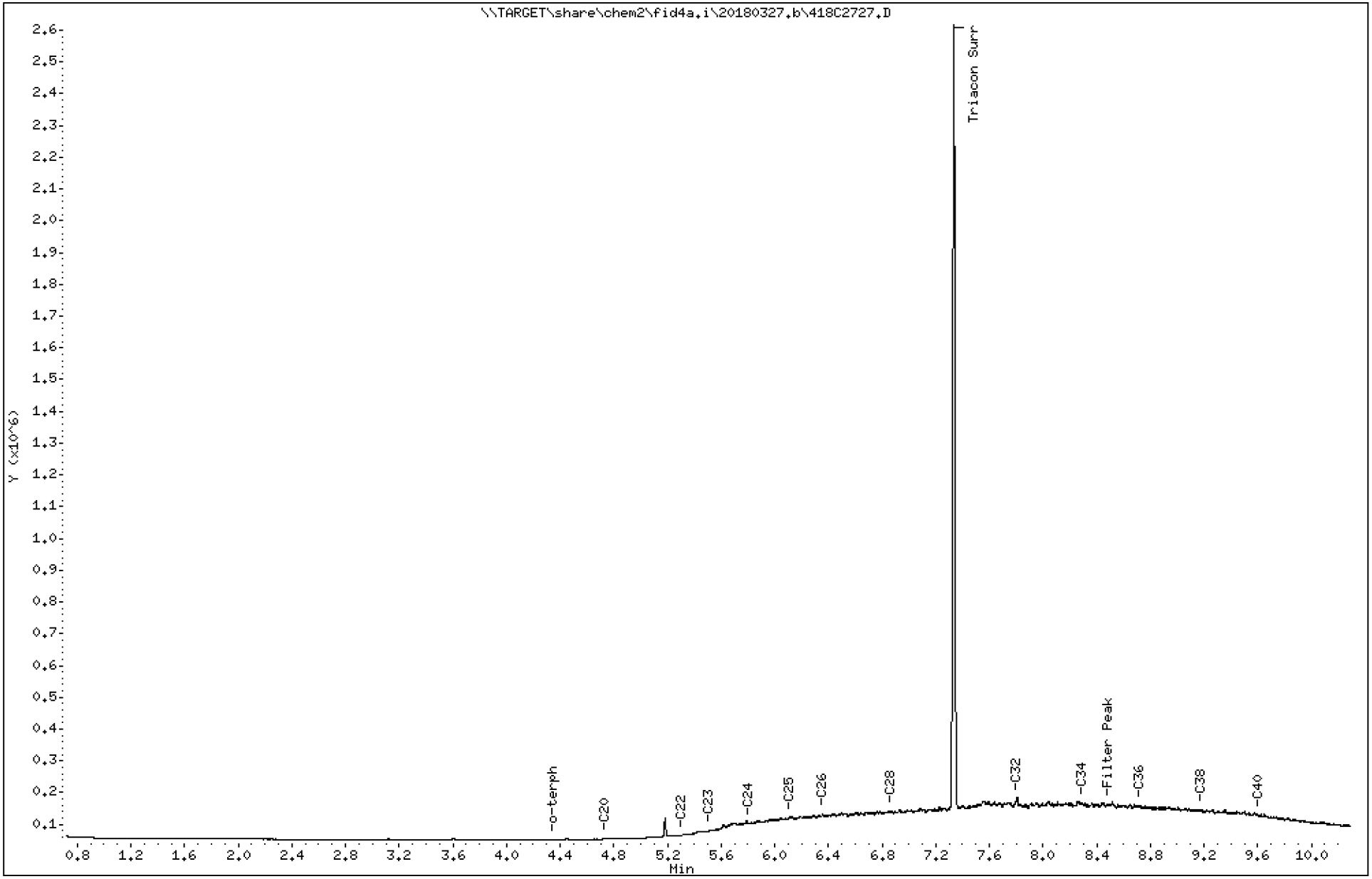
Sample Info: SEQ-CALA

Instrument: fid4a.i

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2727.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CALA
Client ID:
Injection: 27-MAR-2018 20:25
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	1495701	88.2
C10	----				WATPHM	(C24-C38)	18850135	966.7
C12	----				AK102	(C10-C25)	2041471	102.6
C14	----				AK103	(C25-C36)	15646505	947.5
C16	----				OR.DIES	(C10-C28)	5885839	295.0
C18	----							
C20	4.735	-0.033	3377	3933	JET-A	(C10-C18)	11270	0.6
C22	5.304	-0.012	14808	19507				
C24	5.809	-0.033	51982	20415				
C25	6.108	0.013	69646	20645				
C26	6.357	0.010	79581	84095				
C28	6.869	0.025	88192	108087				
C32	7.801	-0.004	130182	56168				
C34	8.293	0.030	117684	101238				
Filter Peak	8.482	-0.010	112585	55514	BUNKERC	(C10-C38)	20345836	3662.8
C36	8.721	-0.000	105611	52179				
C38	9.180	0.001	93586	73315				
C40	9.604	-0.025	78015	41935				
o-terph	4.347	-0.005	1537	1925				
Triacon Surr	7.335	-0.008	2461856	2655244	NAS DIES	(C10-C24)	1495701	75.3

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	1925	0.1	
Triacontane	2655244	89.6	M

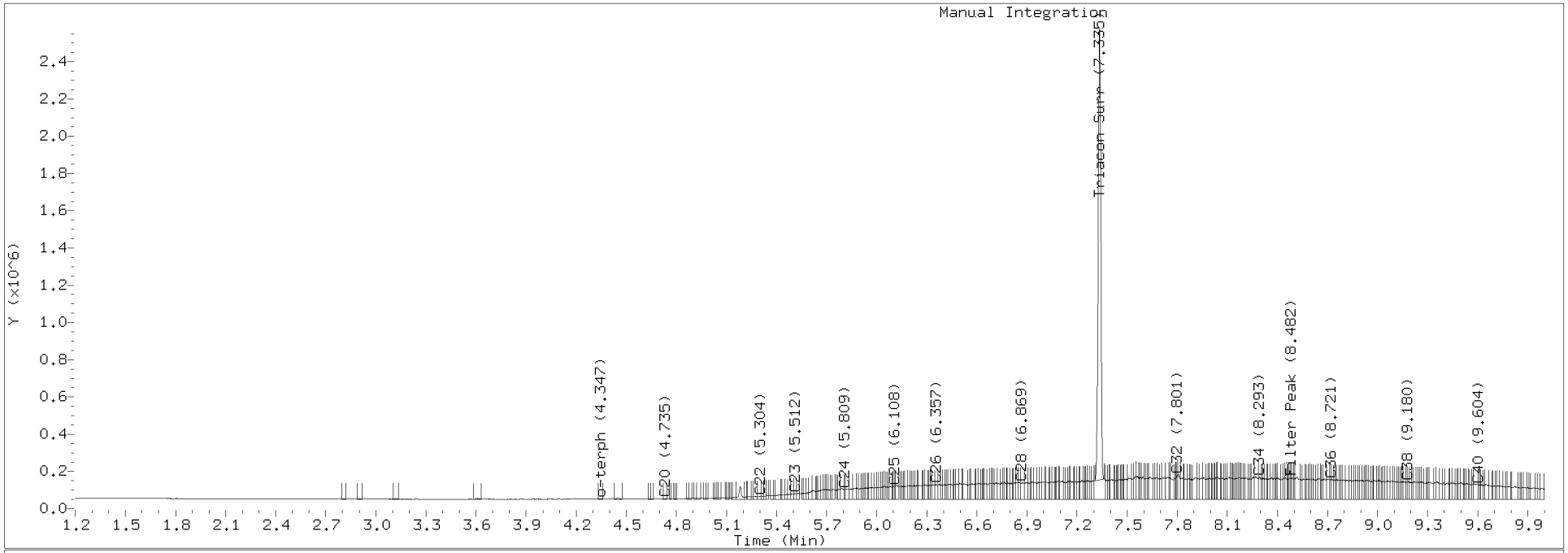
M Indicates the peak was manually integrated

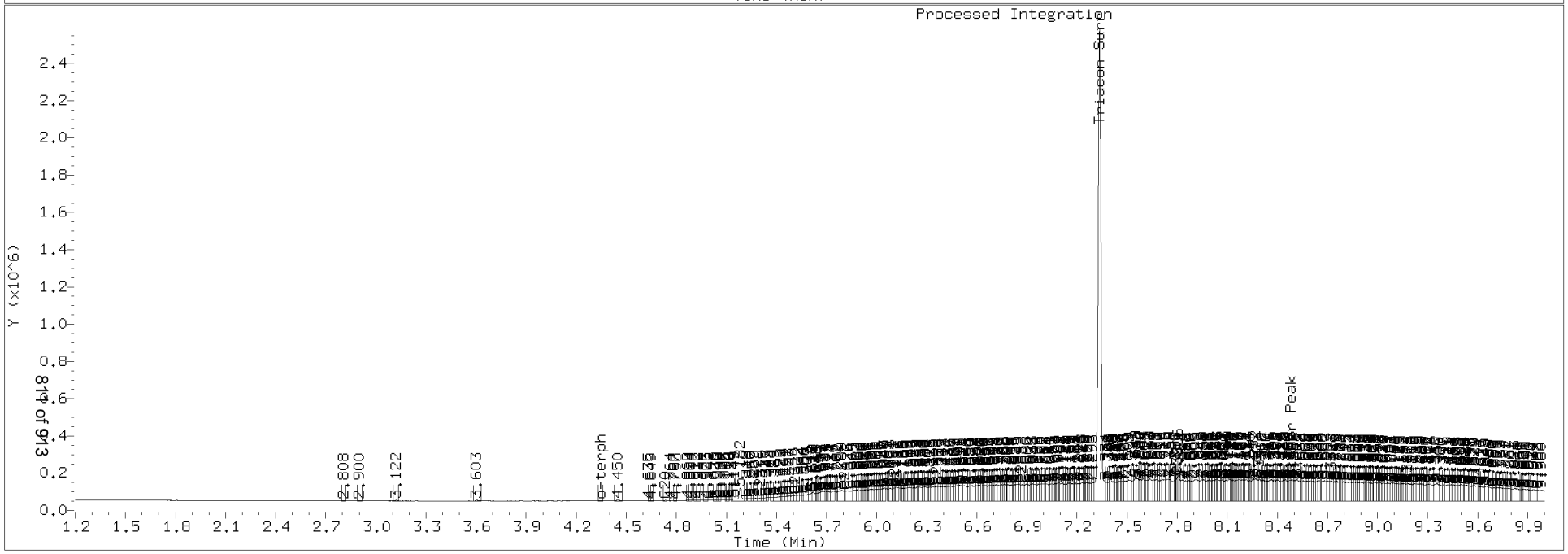
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2727.D Injection: 27-MAR-2018 20:25

Lab ID:SEQ-CALA





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2728.D

Date : 27-MAR-2018 20:47

Client ID:

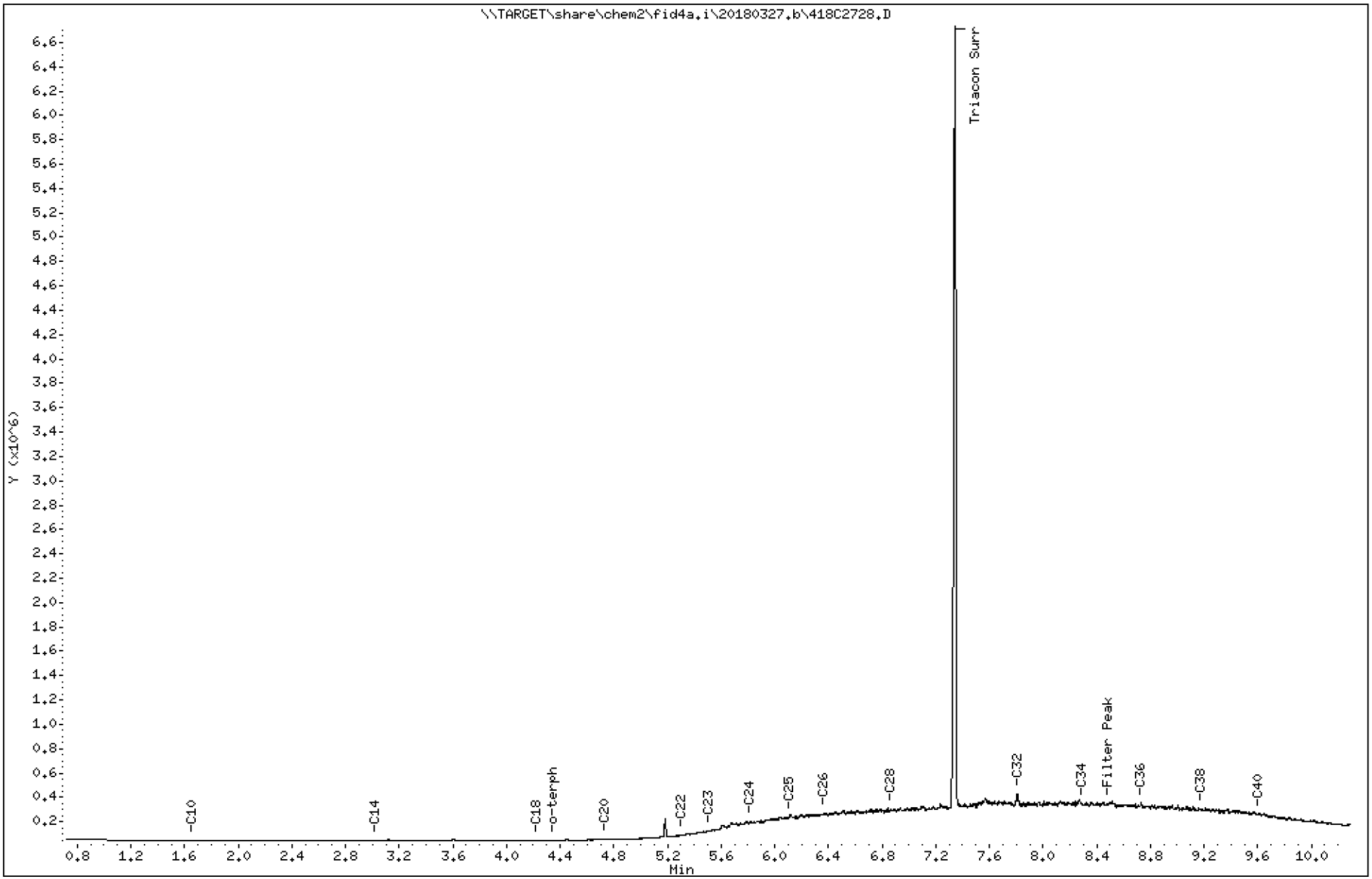
Sample Info: SEQ-CALB

Instrument: fid4a.i

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2728.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CALB
Client ID:
Injection: 27-MAR-2018 20:47
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	4353534	256.9
C10	1.658	0.004	3778	4143	WATPHM	(C24-C38)	52353968	2685.0
C12	----				AK102	(C10-C25)	6101408	306.7
C14	3.021	-0.046	2436	1705	AK103	(C25-C36)	43434129	2630.1
C16	----				OR.DIES	(C10-C28)	17153954	859.7
C18	4.225	0.011	2994	5179				
C20	4.737	-0.031	9631	16106	JET-A	(C10-C18)	50530	2.7
C22	5.305	-0.011	43672	29351				
C24	5.820	-0.022	153470	231424				
C25	6.106	0.011	193046	205659				
C26	6.362	0.016	218771	150755				
C28	6.862	0.017	256253	382668				
C32	7.809	0.004	376712	814503				
C34	8.289	0.026	306087	194258				
Filter Peak	8.487	-0.004	306173	194409	BUNKERC	(C10-C38)	56711646	10209.7
C36	8.729	0.007	300284	200373				
C38	9.180	0.001	260087	128210				
C40	9.604	-0.025	213477	74349				
o-terph	4.345	-0.007	3881	6016				
Triacon Surr	7.345	0.001	6399061	7170786	NAS DIES	(C10-C24)	4357678	219.3

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	6016	0.2	
Triacontane	7170786	241.9	M

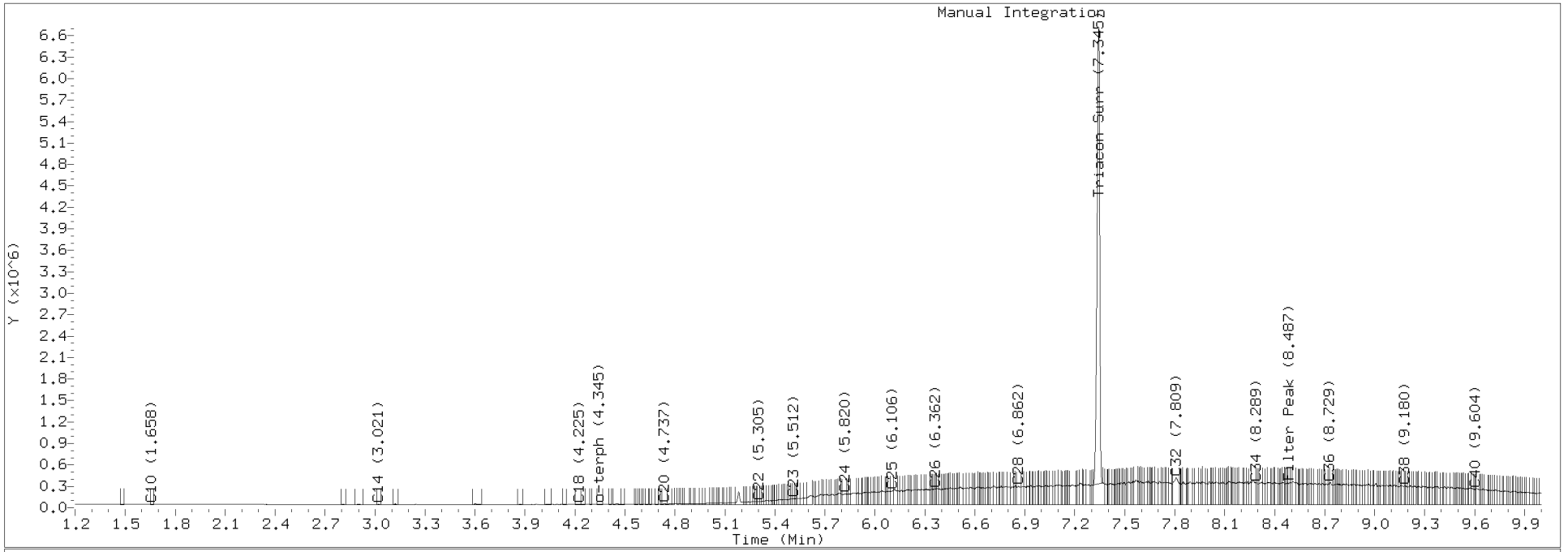
M Indicates the peak was manually integrated

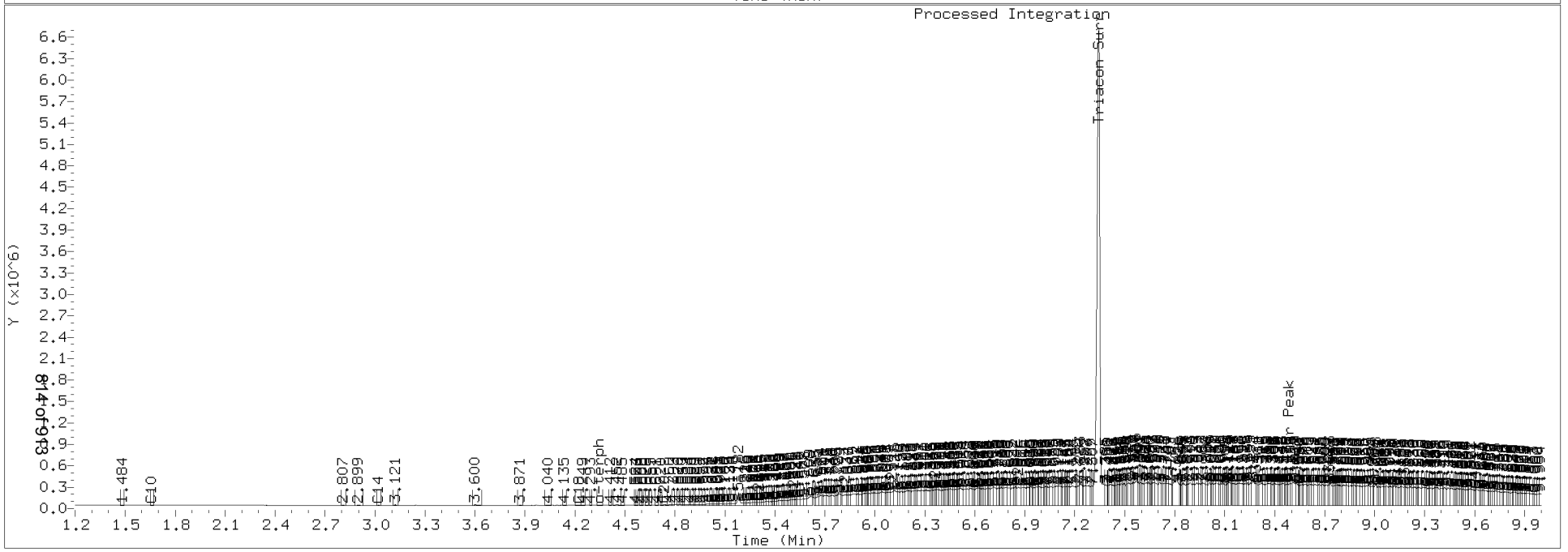
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2728.D Injection: 27-MAR-2018 20:47

Lab ID:SEQ-CALB

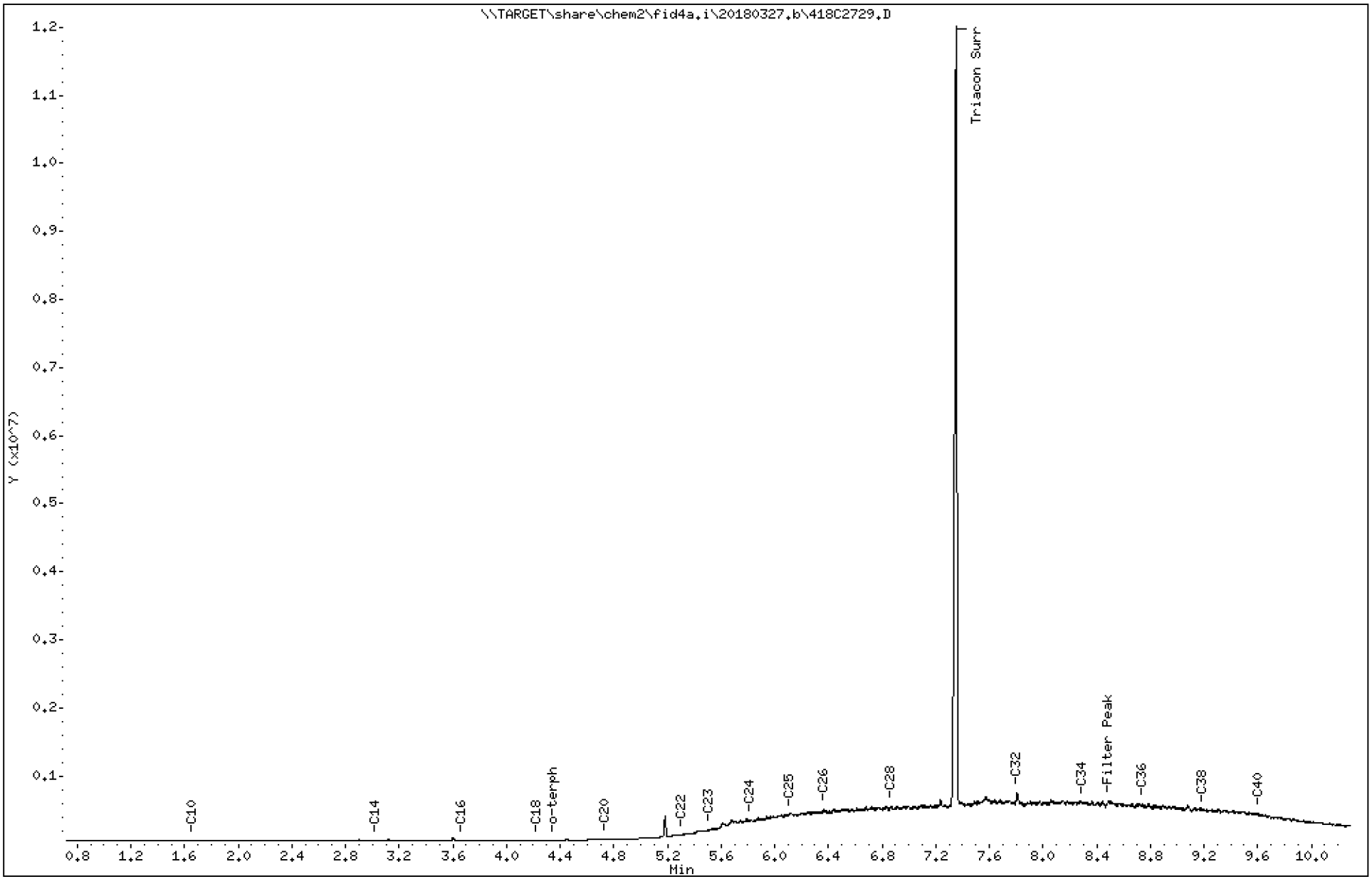




Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2729.D
Date : 27-MAR-2018 21:07
Client ID:
Sample Info: SEQ-CALC

Instrument: fid4a.i
Operator: MDL
Column diameter: 0.25

Column phase: RTX-1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2729.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-CALC
Client ID:
Injection: 27-MAR-2018 21:07
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	9238797	545.1
C10	1.656	0.002	2270	2870	WATPHM	(C24-C38)	97499119	5000.2
C12	----				AK102	(C10-C25)	12399703	623.3
C14	3.022	-0.045	5630	3679	AK103	(C25-C36)	81576300	4939.8
C16	3.665	0.002	2573	3793	OR.DIES	(C10-C28)	34218546	1715.0
C18	4.226	0.012	5820	5875				
C20	4.735	-0.033	18095	31749	JET-A	(C10-C18)	134908	7.3
C22	5.305	-0.011	83445	44526				
C24	5.820	-0.023	299687	176493				
C25	6.109	0.014	385160	188659				
C26	6.365	0.018	453277	624010				
C28	6.865	0.020	500544	316233				
C32	7.805	0.000	693193	975900				
C34	8.295	0.032	568228	277777				
Filter Peak	8.485	-0.007	576067	750264	BUNKERC	(C10-C38)	106742804	19216.6
C36	8.740	0.019	541874	595465				
C38	9.184	0.005	446377	132574				
C40	9.604	-0.025	396870	229889				
o-terph	4.345	-0.007	7509	14602				
Triacon Surr	7.352	0.009	11424587	13560023	NAS DIES	(C10-C24)	9243685	465.1

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	14602	0.6	
Triacontane	13560023	457.4	M

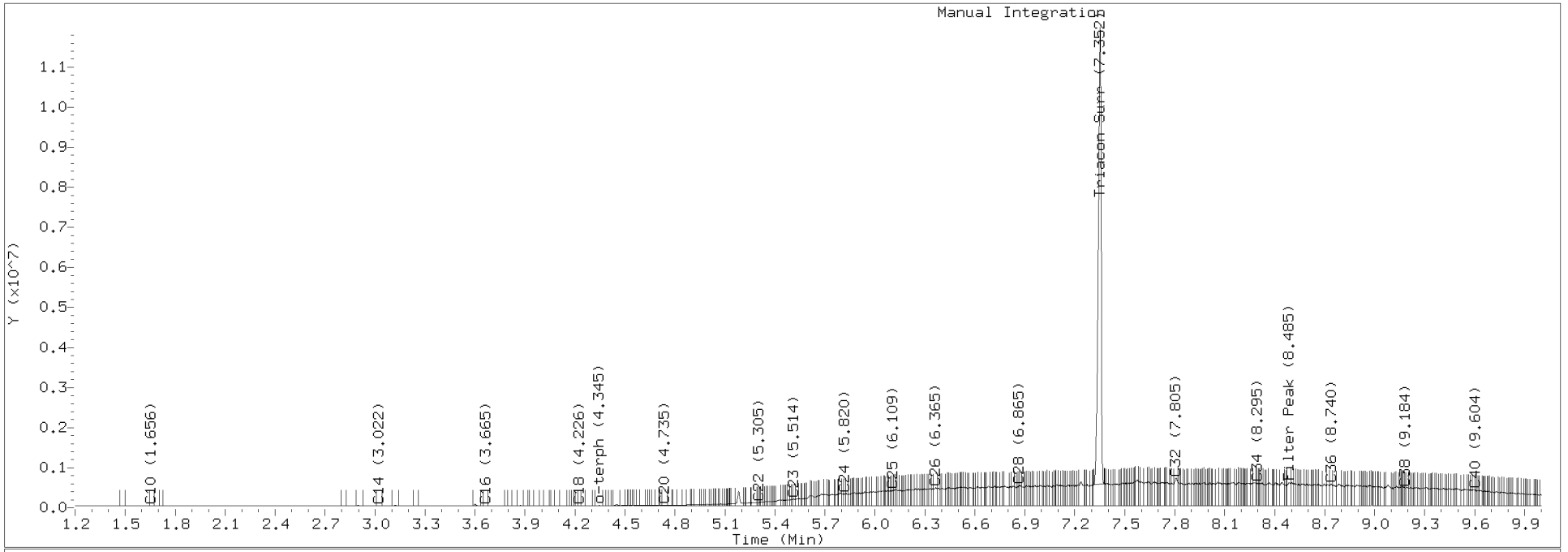
M Indicates the peak was manually integrated

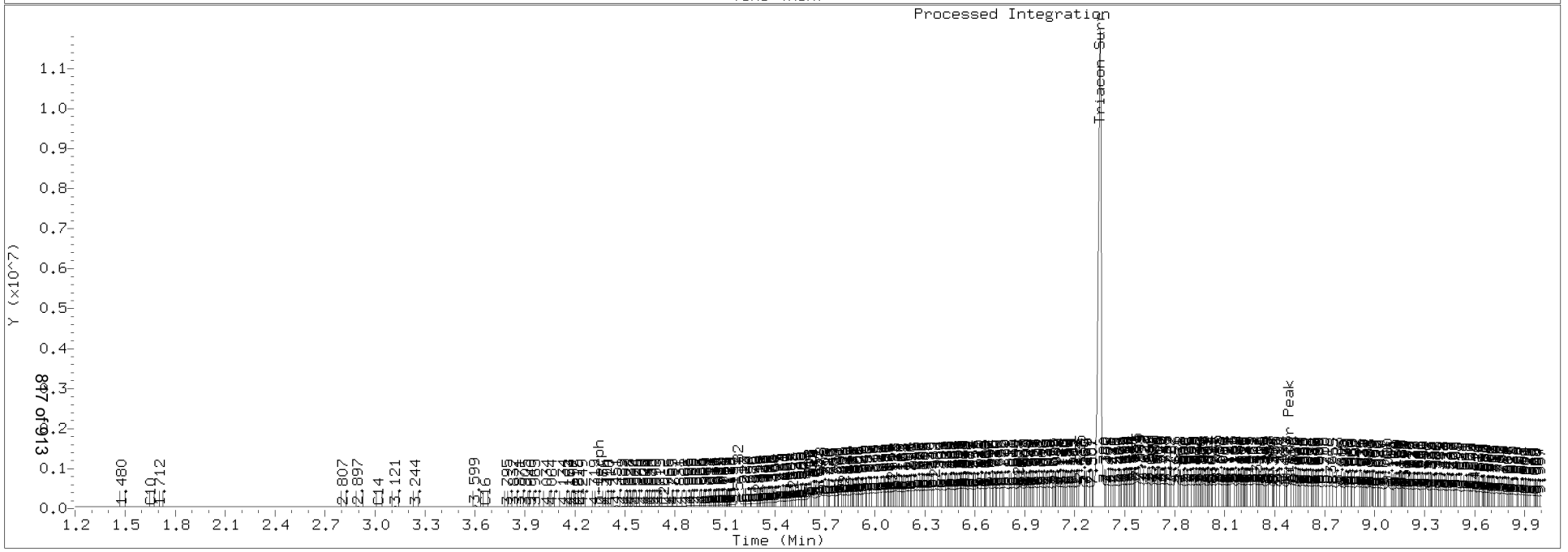
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2729.D Injection: 27-MAR-2018 21:07

Lab ID:SEQ-CALC





Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2730.D

Date : 27-MAR-2018 21:28

Client ID:

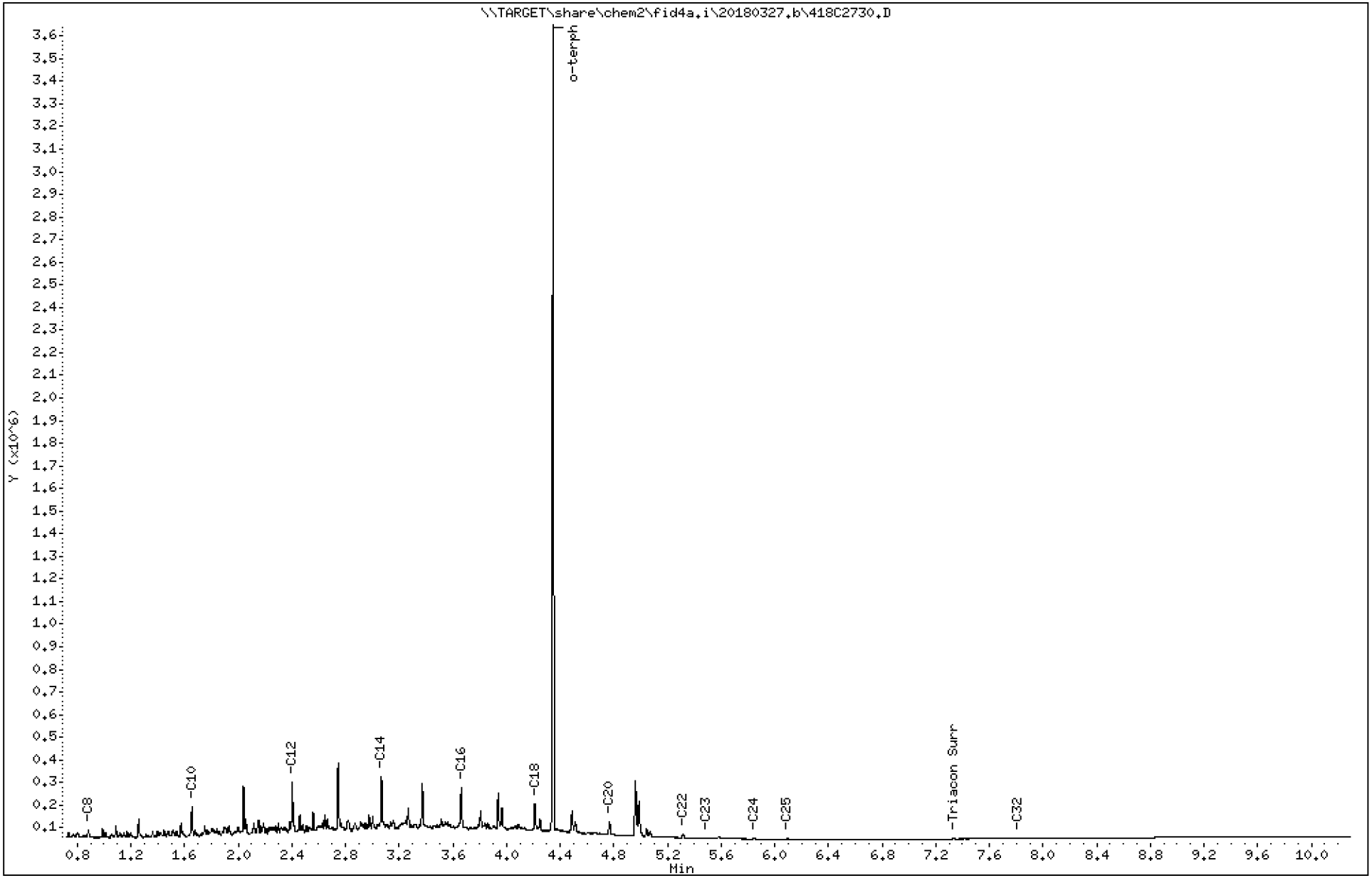
Sample Info: SEQ-SCV1

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2730.D ARI ID: SEQ-SCV1
Method: 20180327.b\FID4TPH.m Client ID:
Instrument: fid4a.i, MDL Injection: 27-MAR-2018 21:28
Report Date: 03/28/2018 Dilution Factor: 1
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.882	-0.001	43147	41618	WATPHD	(C12-C24)	9025332	532.5
C10	1.655	0.001	146823	109953	WATPHM	(C24-C38)	12716	0.7
C12	2.403	0.001	254036	194606	AK102	(C10-C25)	11194705	562.7
C14	3.068	0.001	278740	244058	AK103	(C25-C36)	12716	0.8
C16	3.662	-0.000	231856	241267	OR.DIES	(C10-C28)	11200338	561.3
C18	4.212	-0.002	158833	203599				
C20	4.768	-0.000	80475	107949	JET-A	(C10-C18)	9255686	502.2
C22	5.316	0.001	25881	32743				
C24	5.842	-0.000	6301	7219				
C25	6.095	0.001	3171	3352				
C26	----							
C32	7.810	0.006	5221	3770				
C34	----							
Filter Peak	----				BUNKERC	(C10-C38)	11207421	2017.6

Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2731.D

Date : 27-MAR-2018 21:48

Client ID:

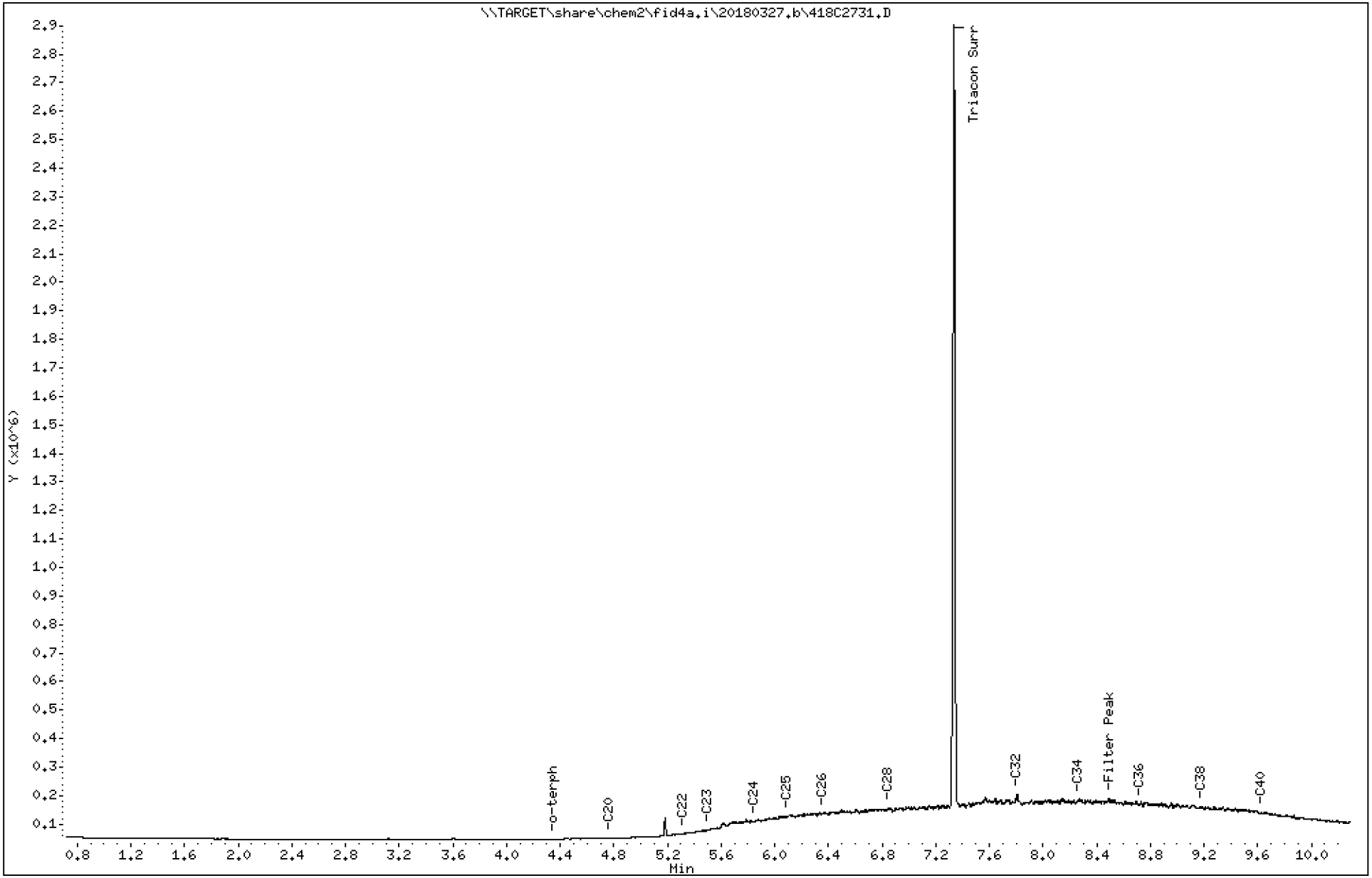
Sample Info: SEQ-SCV2

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2731.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-SCV2
Client ID:
Injection: 27-MAR-2018 21:48
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	1875659	110.7
C10	----				WATPHM	(C24-C38)	22642263	1161.2
C12	----				AK102	(C10-C25)	2493321	125.3
C14	----				AK103	(C25-C36)	18972884	1148.9
C16	----				OR.DIES	(C10-C28)	7329479	367.3
C18	----							
C20	4.769	0.001	5232	4879	JET-A	(C10-C18)	16598	0.9
C22	5.316	-0.000	20055	16221				
C24	5.850	0.007	63607	43900				
C25	6.090	-0.005	80660	39543				
C26	6.354	0.007	92162	72292				
C28	6.846	0.001	108382	42426				
C32	7.808	0.003	159583	336347				
C34	8.261	-0.002	140342	122157				
Filter Peak	8.491	-0.000	142828	135900	BUNKERC	(C10-C38)	24522098	4414.6
C36	8.721	-0.000	126631	62402				
C38	9.176	-0.003	116147	80175				
C40	9.629	-0.000	94890	70177				
o-terph	4.345	-0.008	2343	2886				
Triacon Surr	7.337	-0.006	2737871	2852465	NAS DIES	(C10-C24)	1879836	94.6

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	2886	0.1	
Triacontane	2852465	96.2	M

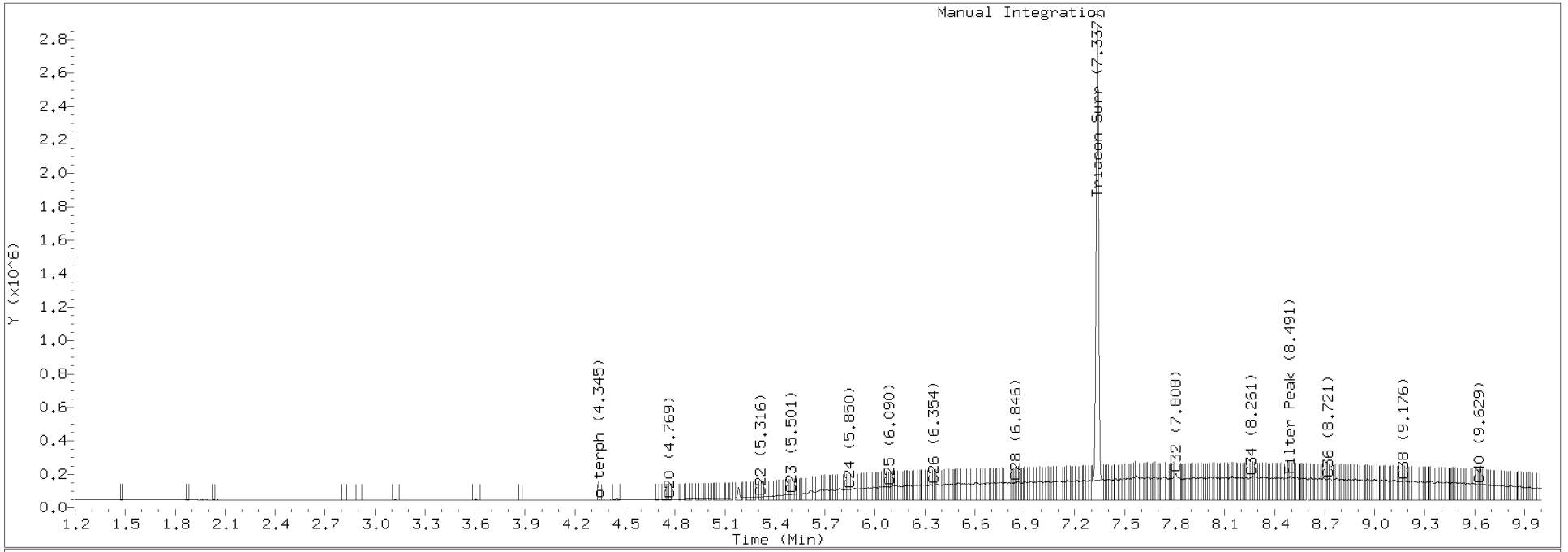
M Indicates the peak was manually integrated

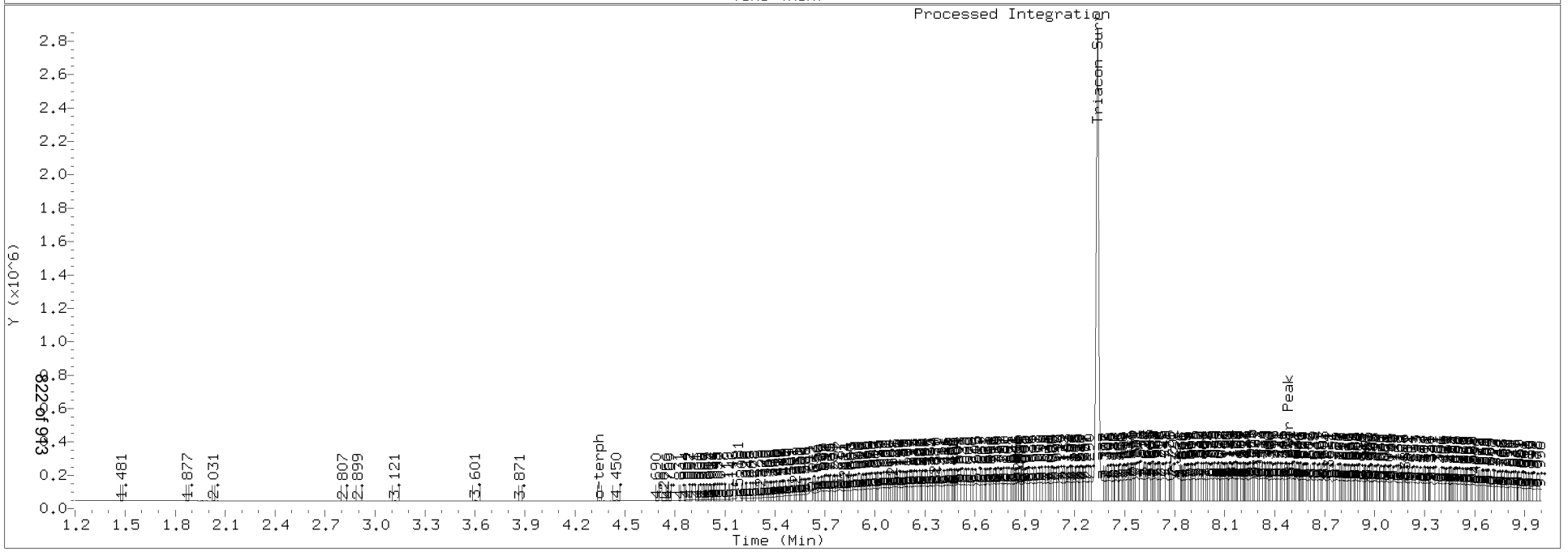
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2731.D Injection: 27-MAR-2018 21:48

Lab ID:SEQ-SCV2





Printed: 4/2/2018 12:38:52PM

ANALYSIS SEQUENCE

SGC0447

Instrument: FID4 Element Column ID: F002859
Calibration ID: BC00067

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGC0447-IBL1	Retention Time Std	QC		1	F011826		
SGC0447-IBL2	Instrument Blank	QC		2	F011834		
SGC0447-CAL1	A/S Bunker C 250	QC		3	G002184		
SGC0447-CAL2	A/S Bunker C 500	QC		4	G002183		
SGC0447-CAL3	A/S Bunker C 1000	QC		5	G002182		
SGC0447-CAL4	A/S Bunker C 2500	QC		6	G002181		
SGC0447-CAL5	A/S Bunker C 5000	QC		7	G002180		
SGC0447-CAL6	A/S Bunker C 10000	QC		8	G002169		

GC LOG SUMMARY FOR DATABATCH - \\TARGET\share\chem2\fid4a.i\20180330.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	30-MAR-2018 11:28	418C3000.D	1	RINSE	
2	30-MAR-2018 11:49	418C3001.D	1	SGC0447-IBL1	
3	30-MAR-2018 12:09	418C3002.D	1	SGC0447-IBL2	
4	30-MAR-2018 12:29	418C3003.D	1	SGC0447-CAL1	
5	30-MAR-2018 12:52	418C3004.D	1	SGC0447-CAL2	
6	30-MAR-2018 13:13	418C3005.D	1	SGC0447-CAL3	
7	30-MAR-2018 13:33	418C3006.D	1	SGC0447-CAL4	
8	30-MAR-2018 13:54	418C3007.D	1	SGC0447-CAL5	
9	30-MAR-2018 14:16	418C3008.D	1	SGC0447-CAL6	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\TARGET\share\chem2\fid4a.i\20180330.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 30-MAR-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1128	418C3000.D	RINSE		1	NO MANUAL INTEGRATION
1149	418C3001.D	SGC0447-IBL1		1	NO MANUAL INTEGRATION
1209	418C3002.D	SGC0447-IBL2		1	NO MANUAL INTEGRATION
1229	418C3003.D	SGC0447-CAL1		1	o-terph,
1252	418C3004.D	SGC0447-CAL2		1	o-terph,
1313	418C3005.D	SGC0447-CAL3		1	o-terph,
1333	418C3006.D	SGC0447-CAL4		1	o-terph,
1354	418C3007.D	SGC0447-CAL5		1	o-terph,
1416	418C3008.D	SGC0447-CAL6		1	o-terph,

Security Status Report

Date: 02-Apr-2018 12:38

418C3000.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3001.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3002.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3003.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3004.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3005.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3006.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3007.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3008.D	Data Locked	maxl, 02-Apr-2018 12:38
FID4TPH.m	Method Locked	maxl, 02-Apr-2018 12:38

Data File: \\TARGET\share\chem2\fid4a.i\20180330.b\418C3001.D

Date : 30-MAR-2018 11:49

Client ID:

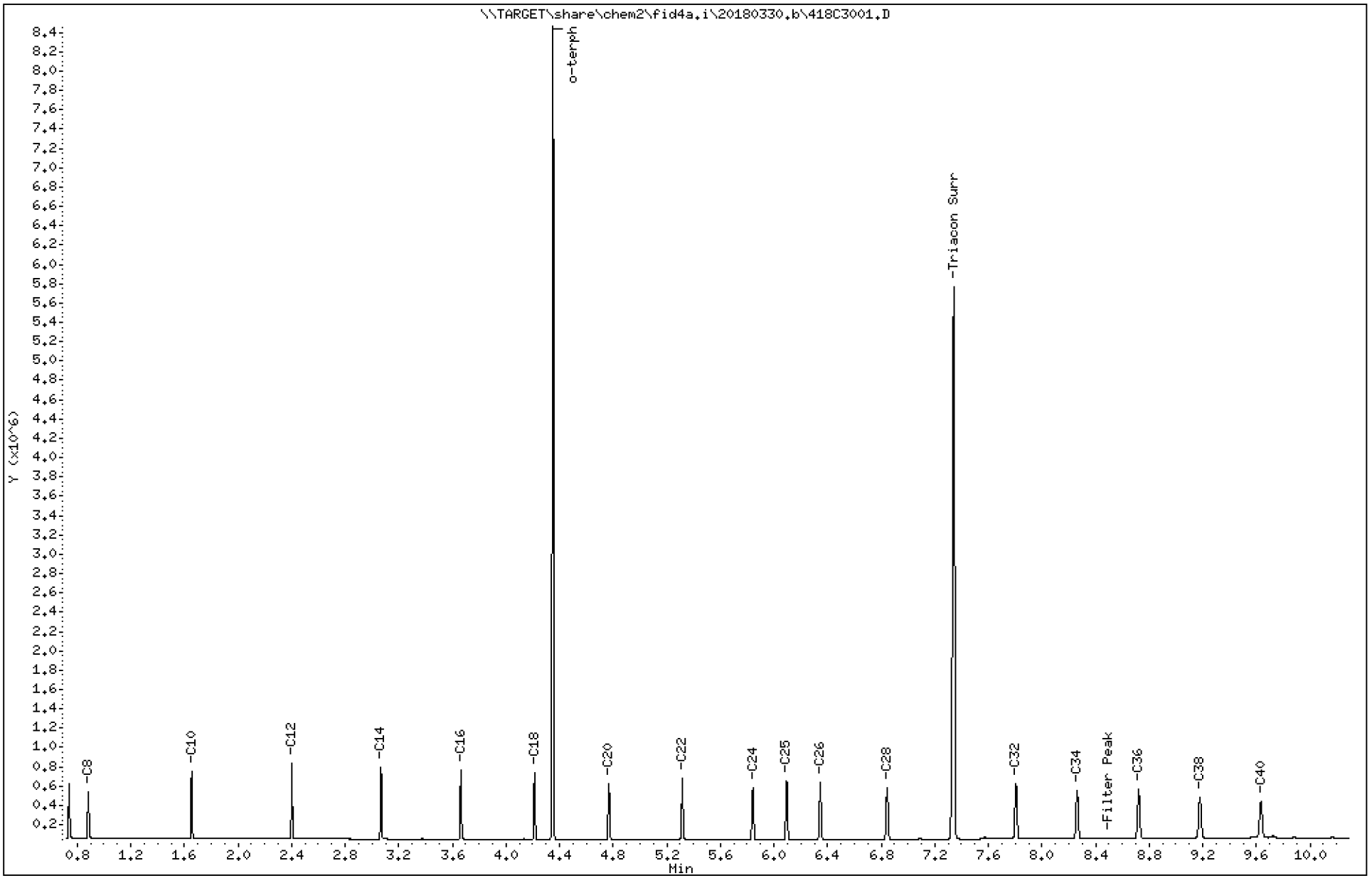
Sample Info: SGC0447-IBL1

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180330.b/418C3001.D
Method: 20180330.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/02/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGC0447-IBL1
Client ID:
Injection: 30-MAR-2018 11:49
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.884	0.000	496248	382599	WATPHD	(C12-C24)	2869418	169.3
C10	1.654	0.000	711447	420937	WATPHM	(C24-C38)	4625300	237.2
C12	2.402	0.000	797077	447614	AK102	(C10-C25)	3740960	188.0
C14	3.068	0.000	742437	461507	AK103	(C25-C36)	3856856	233.6
C16	3.663	0.000	722688	458376	OR.DIES	(C10-C28)	5353620	268.3
C18	4.213	0.000	686775	454442				
C20	4.767	0.000	581075	465301				
C22	5.316	0.000	636858	476456				
C24	5.843	0.000	539643	494304				
C25	6.095	0.000	612463	537789				
C26	6.346	0.000	597478	518442				
C28	6.845	0.000	536908	553492				
C32	7.806	0.000	575002	671196				
C34	8.261	0.000	503188	628562				
Filter Peak	8.491	0.000	14829	39090	BUNKERC	(C10-C38)	8366260	1487.8
C36	8.722	0.000	516615	655959				
C38	9.180	0.000	441439	673127				
C40	9.634	0.000	388639	649487				
o-terph	4.351	0.000	8420229	5804615				
Triacon Surr	7.343	0.000	5722775	6284432	NAS DIES	(C10-C24)	3740960	188.2

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.85)

Surrogate	Area	Amount
o-Terphenyl	5804615	230.7
Triacontane	6284432	212.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

Data File: \\TARGET\share\chem2\fid4a.i\20180330.b\418C3002.D

Date : 30-MAR-2018 12:09

Client ID:

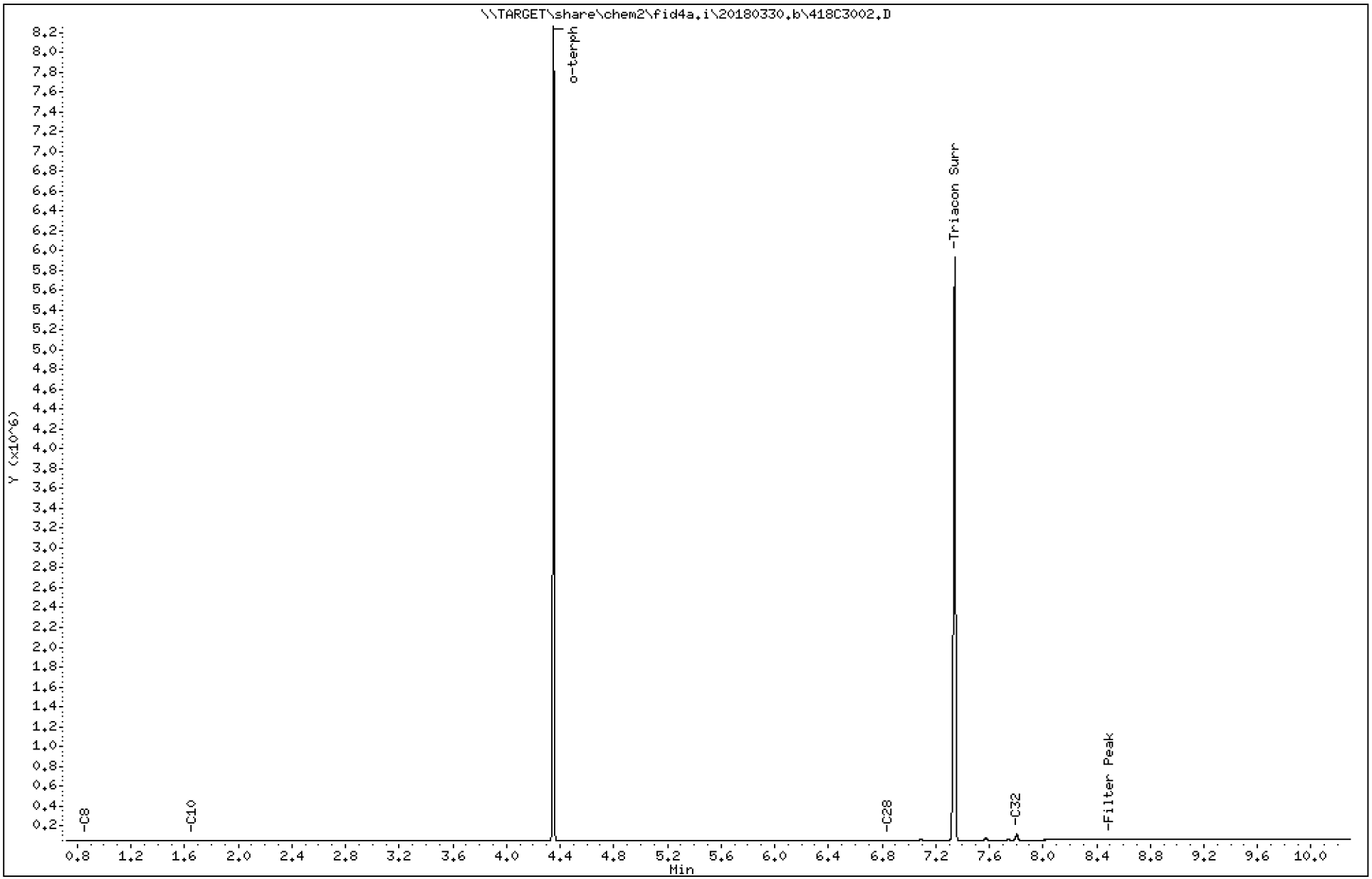
Sample Info: SGC0447-IBL2

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180330.b/418C3002.D
Method: 20180330.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/02/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGC0447-IBL2
Client ID:
Injection: 30-MAR-2018 12:09
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.867	-0.016	4789	3020	WATPHD	(C12-C24)	3814	0.2
C10	1.656	0.002	5038	6670	WATPHM	(C24-C38)	260369	13.4
C12	----				AK102	(C10-C25)	21615	1.1
C14	----				AK103	(C25-C36)	232262	14.1
C16	----				OR.DIES	(C10-C28)	26874	1.3
C18	----							
C20	----							
C22	----							
C24	----							
C25	----							
C26	----							
C28	6.845	-0.001	4112	5258				
C32	7.804	-0.002	62648	80584				
C34	----							
Filter Peak	8.499	0.008	9767	12911	BUNKERC	(C10-C38)	281984	50.1
C36	----							
C38	----							
C40	----							
o-terph	4.352	0.001	8216371	5664753				
Triacon Surr	7.342	-0.001	5879863	6399490	NAS DIES	(C10-C24)	21615	1.1

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.85)

Surrogate	Area	Amount
o-Terphenyl	5664753	225.1
Triacontane	6399490	215.9

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

Data File: \\TARGET\share\chem2\fid4a.i\20180330.b\418C3003.D

Date : 30-MAR-2018 12:29

Client ID:

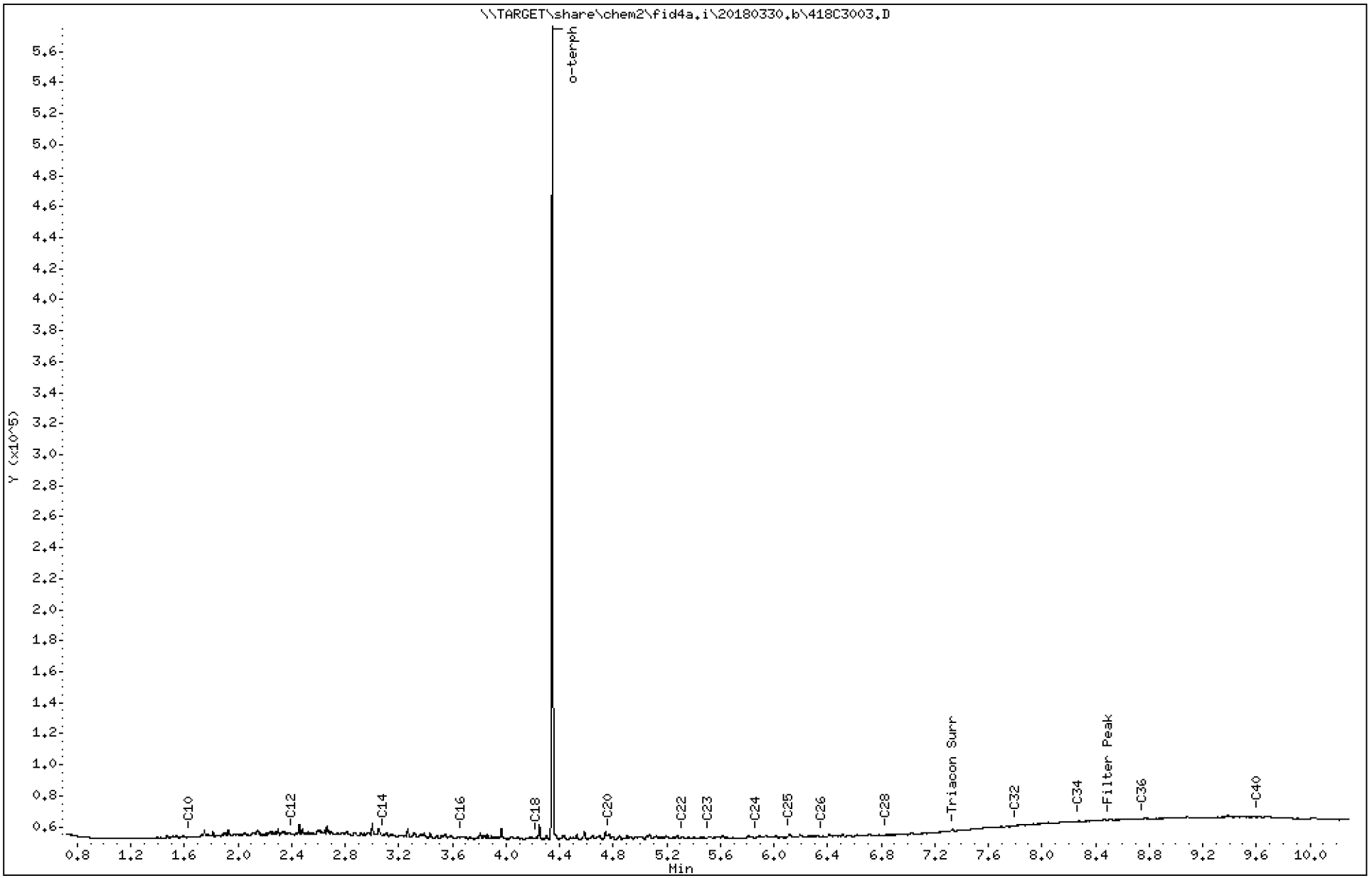
Sample Info: SGC0447-CAL1

Instrument: fid4a.i

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180330.b/418C3003.D
Method: 20180330.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/02/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGC0447-CAL1
Client ID:
Injection: 30-MAR-2018 12:29
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	363557	21.5
C10	1.632	-0.021	1862	1918	WATPHM	(C24-C38)	579717	29.7
C12	2.400	-0.002	3719	5182	AK102	(C10-C25)	526524	26.5
C14	3.085	0.017	3898	3543	AK103	(C25-C36)	454505	27.5
C16	3.667	0.005	2077	3750	OR.DIES	(C10-C28)	606156	30.4
C18	4.222	0.009	1260	1294				
C20	4.771	0.004	3489	3170				
C22	5.316	-0.000	1750	2663				
C24	5.871	0.028	1533	1471				
C25	6.112	0.018	3722	7585				
C26	6.357	0.011	2164	2660				
C28	6.837	-0.009	3125	1671				
C32	7.802	-0.005	8919	2640				
C34	8.269	0.008	11886	4714				
Filter Peak	8.492	0.000	12761	5062	BUNKERC	(C10-C38)	1097622	195.2
C36	8.748	0.026	13563	12068				
C38	----							
C40	9.608	-0.025	14759	12434				
o-terph	4.346	-0.005	523222	334207				
Triacon Surr	7.331	-0.012	6582	8779	NAS DIES	(C10-C24)	517905	26.1

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.85)

Surrogate	Area	Amount	
o-Terphenyl	334207	13.3	M
Triacontane	8779	0.3	

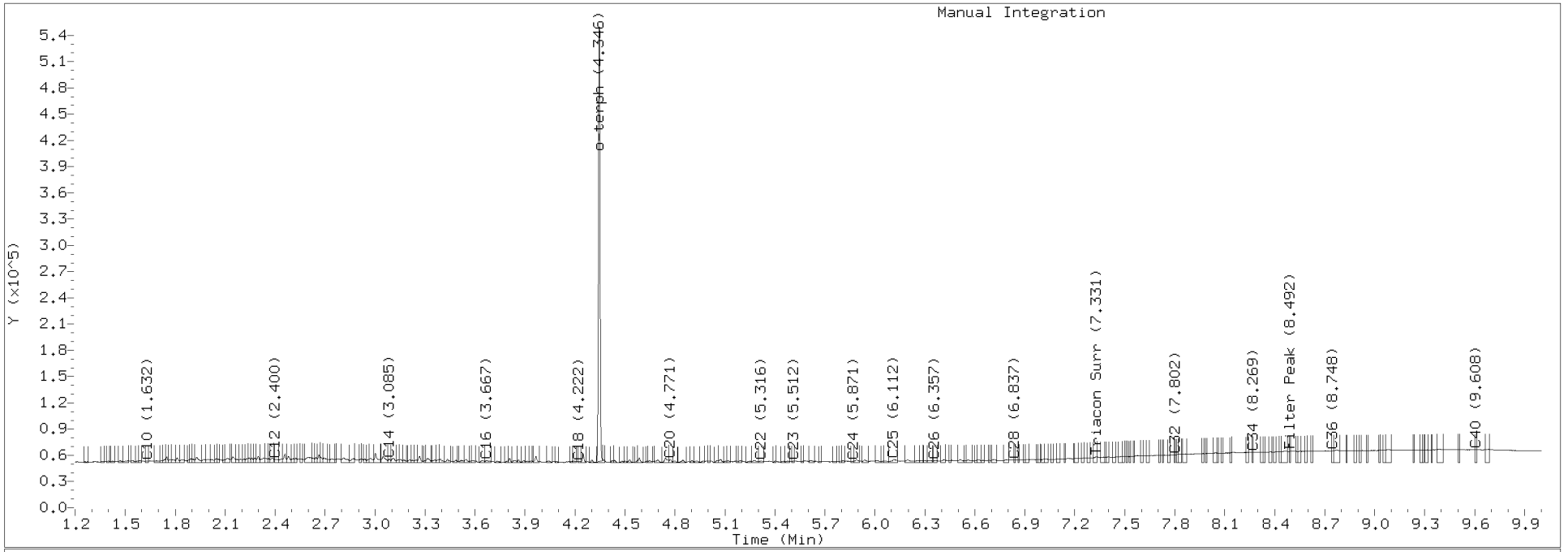
M Indicates the peak was manually integrated

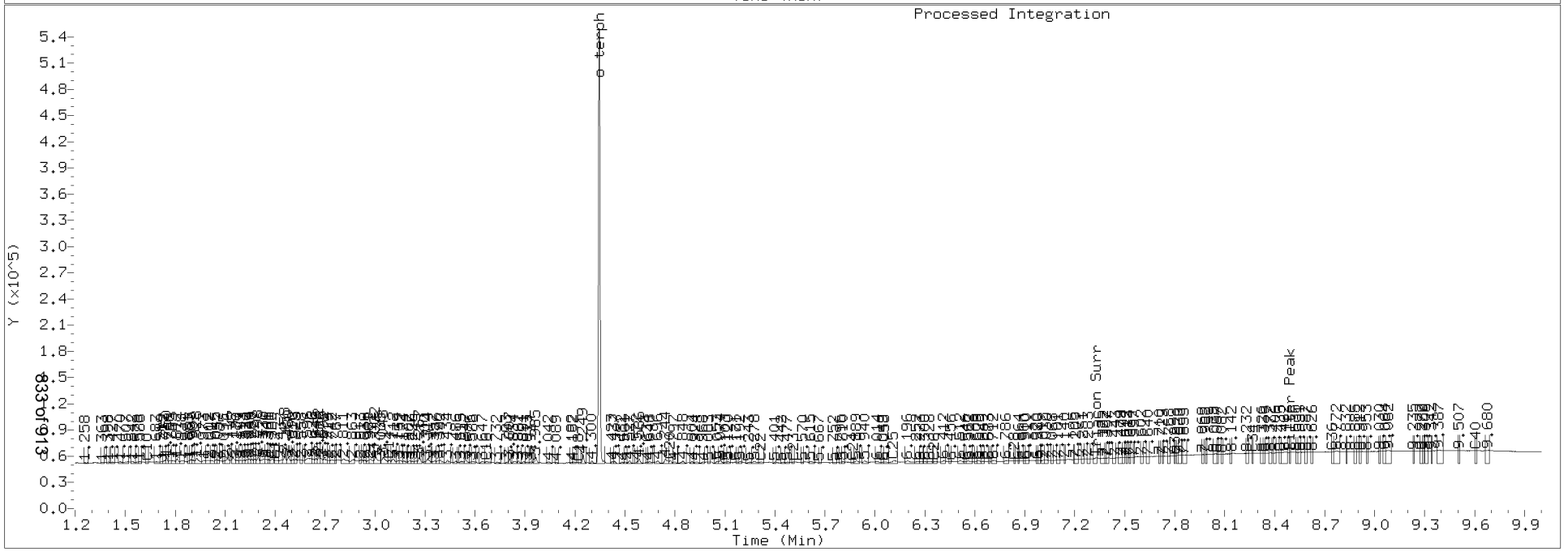
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180330.b/418C3003.D Injection: 30-MAR-2018 12:29

Lab ID:SGC0447-CAL1





Data File: \\TARGET\share\chem2\fid4a.i\20180330.b\418C3004.D

Date : 30-MAR-2018 12:52

Client ID:

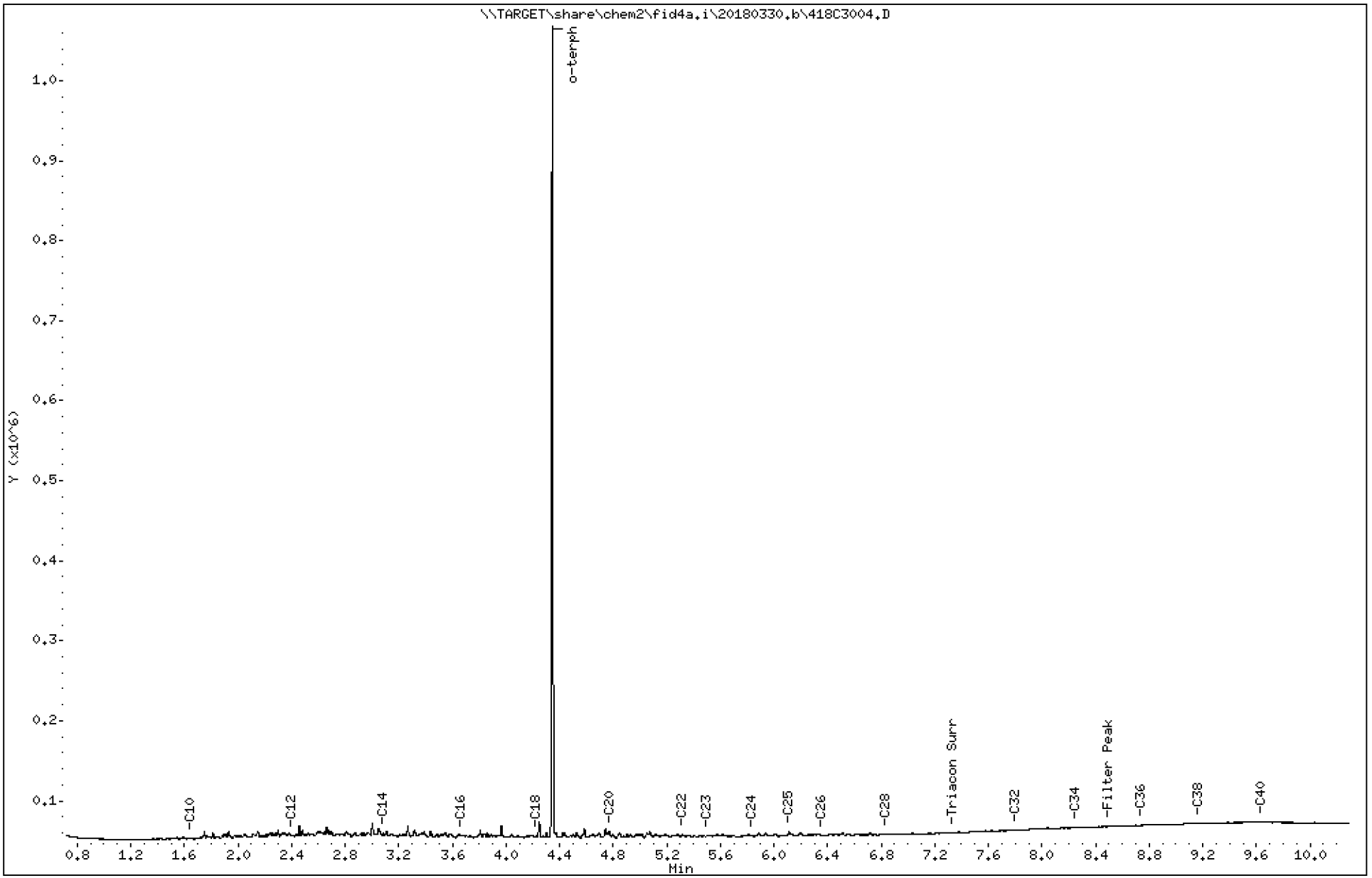
Sample Info: SGC0447-CAL2

Instrument: fid4a.i

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180330.b/418C3004.D
Method: 20180330.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/02/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGC0447-CAL2
Client ID:
Injection: 30-MAR-2018 12:52
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	1116893	65.9
C10	1.648	-0.006	2205	3189	WATPHM	(C24-C38)	1566180	80.3
C12	2.401	-0.001	5270	3289	AK102	(C10-C25)	1366366	68.7
C14	3.085	0.017	8012	7556	AK103	(C25-C36)	1247473	75.5
C16	3.667	0.004	5789	8491	OR.DIES	(C10-C28)	1628490	81.6
C18	4.228	0.015	4914	4730				
C20	4.771	0.004	9419	8961				
C22	5.316	-0.001	6365	10389				
C24	5.836	-0.007	5427	8952				
C25	6.113	0.019	9663	20765				
C26	6.353	0.007	5791	6327				
C28	6.836	-0.009	7094	9055				
C32	7.808	0.002	12240	17545				
C34	8.256	-0.005	15132	11220				
Filter Peak	8.491	0.000	16565	8959	BUNKERC	(C10-C38)	2904034	516.4
C36	8.737	0.015	18145	22363				
C38	9.166	-0.013	20459	34360				
C40	9.633	-0.001	22035	25099				
o-terph	4.346	-0.005	1011363	688374				
Triacon Surr	7.333	-0.010	8890	15278	NAS DIES	(C10-C24)	1337854	67.3

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.85)

Surrogate	Area	Amount	
o-Terphenyl	688374	27.4	M
Triacontane	15278	0.5	

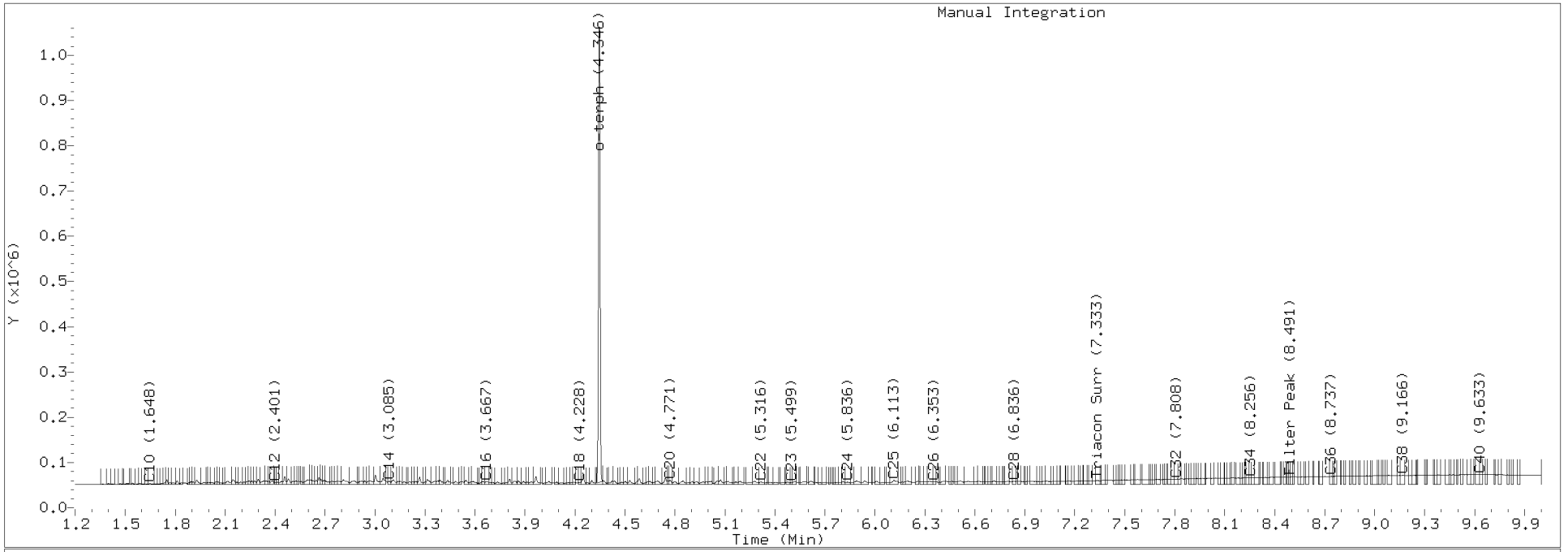
M Indicates the peak was manually integrated

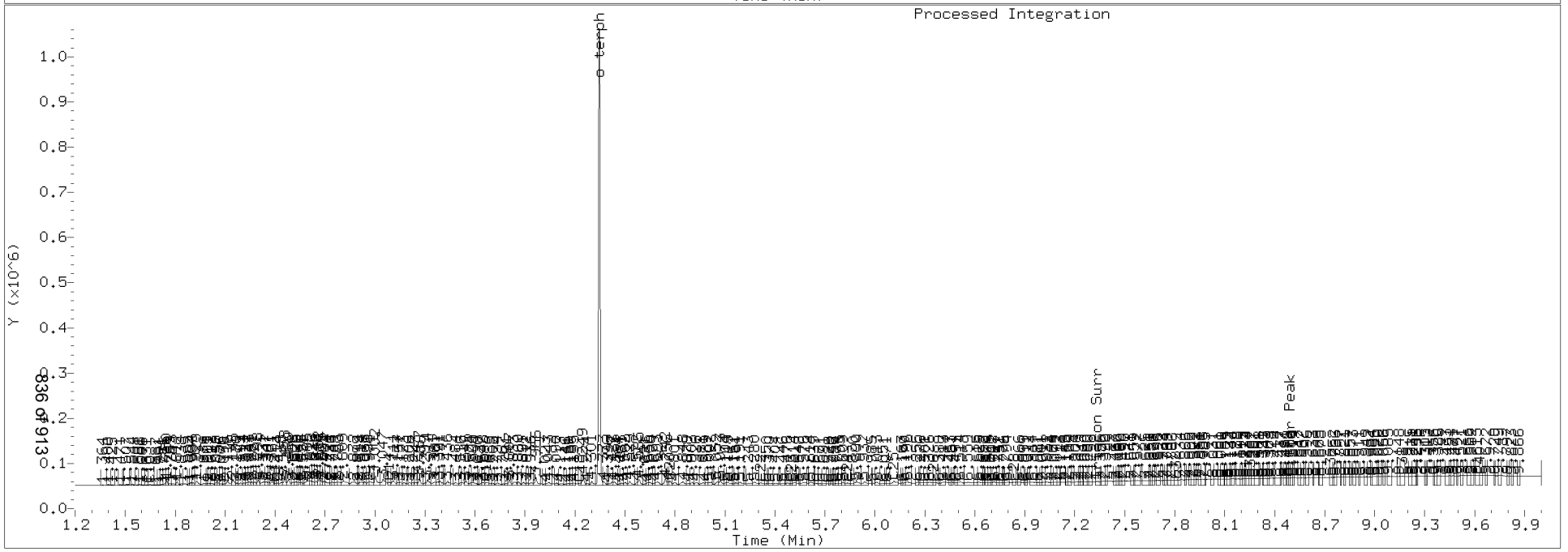
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180330.b/418C3004.D Injection: 30-MAR-2018 12:52

Lab ID:SGC0447-CAL2





Data File: \\TARGET\share\chem2\fid4a.i\20180330.b\418C3005.D

Date : 30-MAR-2018 13:13

Client ID:

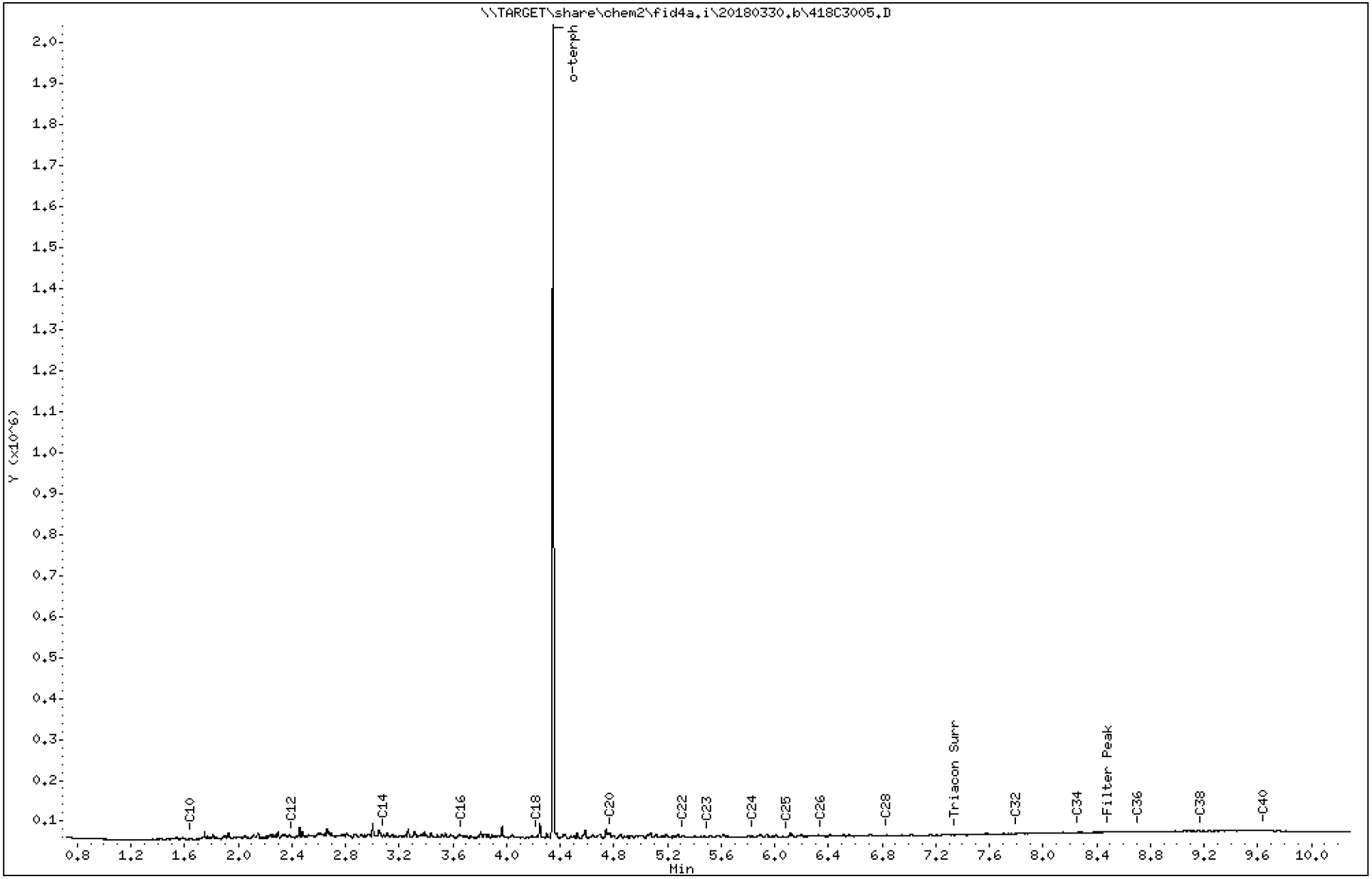
Sample Info: SGC0447-CAL3

Instrument: fid4a.i

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180330.b/418C3005.D
Method: 20180330.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/02/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGC0447-CAL3
Client ID:
Injection: 30-MAR-2018 13:13
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	1919296	113.2
C10	1.648	-0.005	3431	4453	WATPHM	(C24-C38)	2500973	128.3
C12	2.399	-0.003	7583	4452	AK102	(C10-C25)	2310187	116.1
C14	3.085	0.017	13697	11784	AK103	(C25-C36)	1936947	117.3
C16	3.667	0.004	10661	11954	OR.DIES	(C10-C28)	2789949	139.8
C18	4.230	0.017	8380	9594				
C20	4.772	0.005	17867	15898				
C22	5.316	-0.000	10082	19137				
C24	5.833	-0.009	9181	12972				
C25	6.088	-0.006	7181	7636				
C26	6.349	0.003	9313	8109				
C28	6.838	-0.007	11780	12627				
C32	7.808	0.001	15658	19293				
C34	8.265	0.004	18516	21076				
Filter Peak	8.488	-0.003	19164	17929	BUNKERC	(C10-C38)	4749112	844.5
C36	8.713	-0.009	20339	19150				
C38	9.174	-0.005	21391	7446				
C40	9.644	0.011	22664	17775				
o-terph	4.347	-0.004	1979011	1303415				
Triacon Surr	7.347	0.004	12274	12638	NAS DIES	(C10-C24)	2248139	113.1

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.85)

Surrogate	Area	Amount	
o-Terphenyl	1303415	51.8	M
Triacontane	12638	0.4	

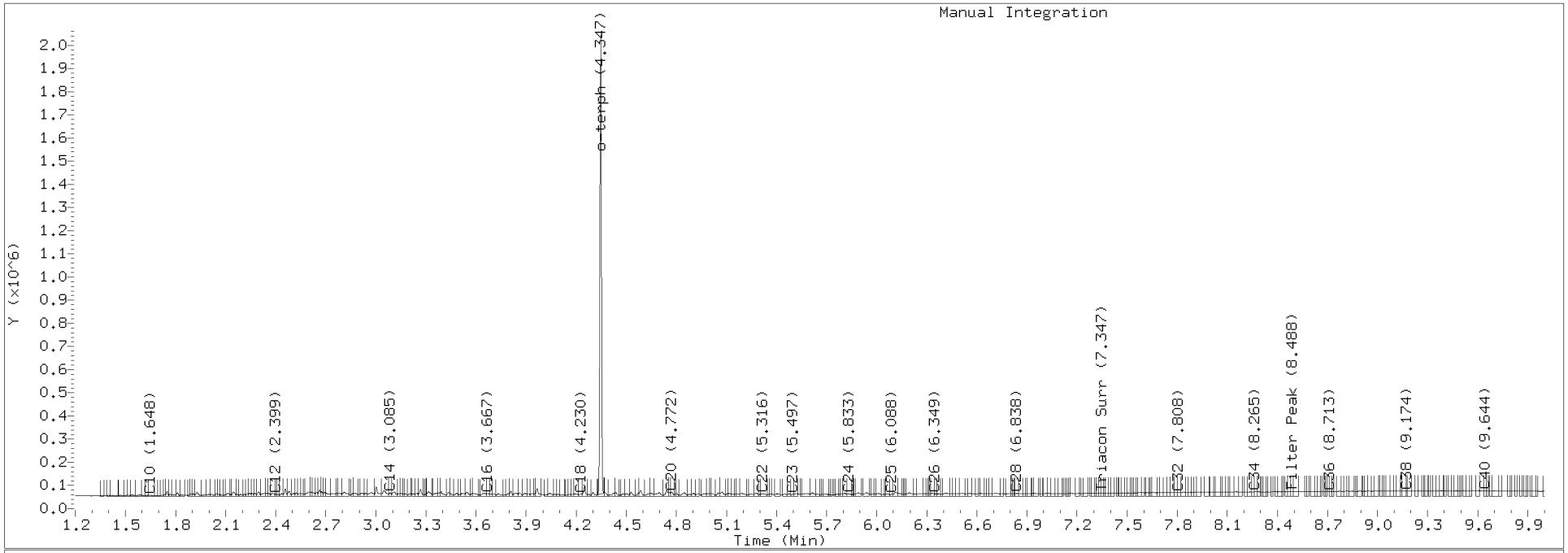
M Indicates the peak was manually integrated

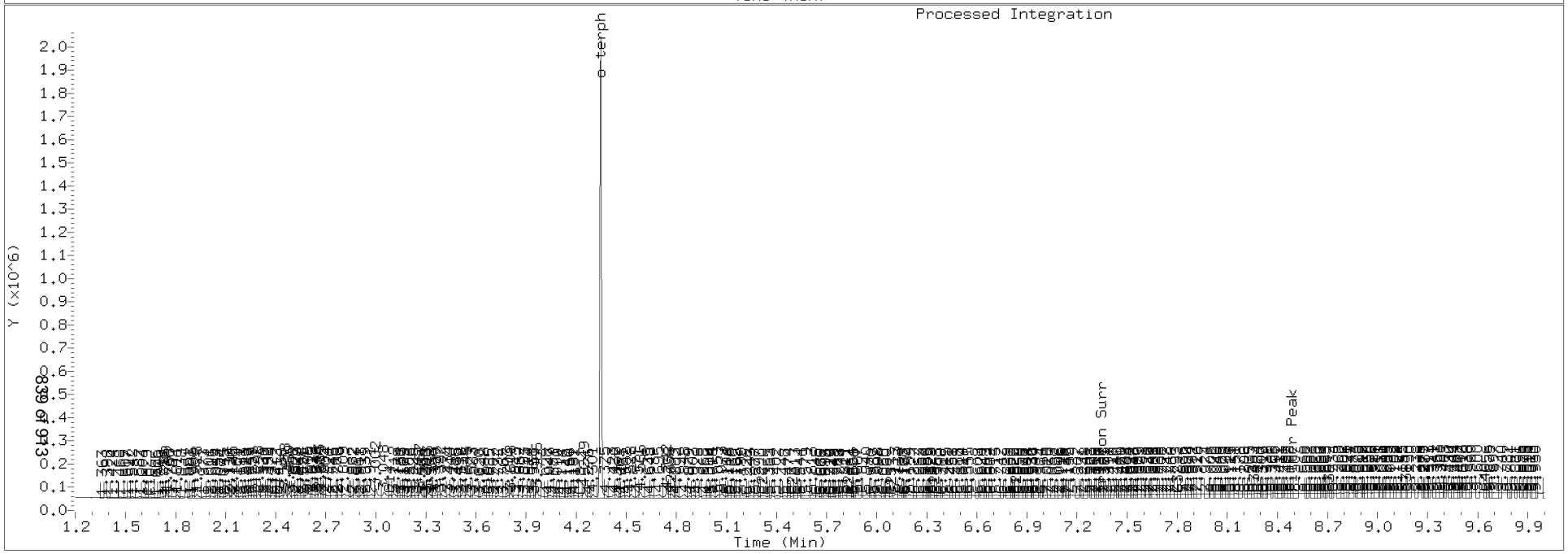
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180330.b/418C3005.D Injection: 30-MAR-2018 13:13

Lab ID:SGC0447-CAL3





Data File: \\TARGET\share\chem2\fid4a.i\20180330.b\418C3006.D

Date : 30-MAR-2018 13:33

Client ID:

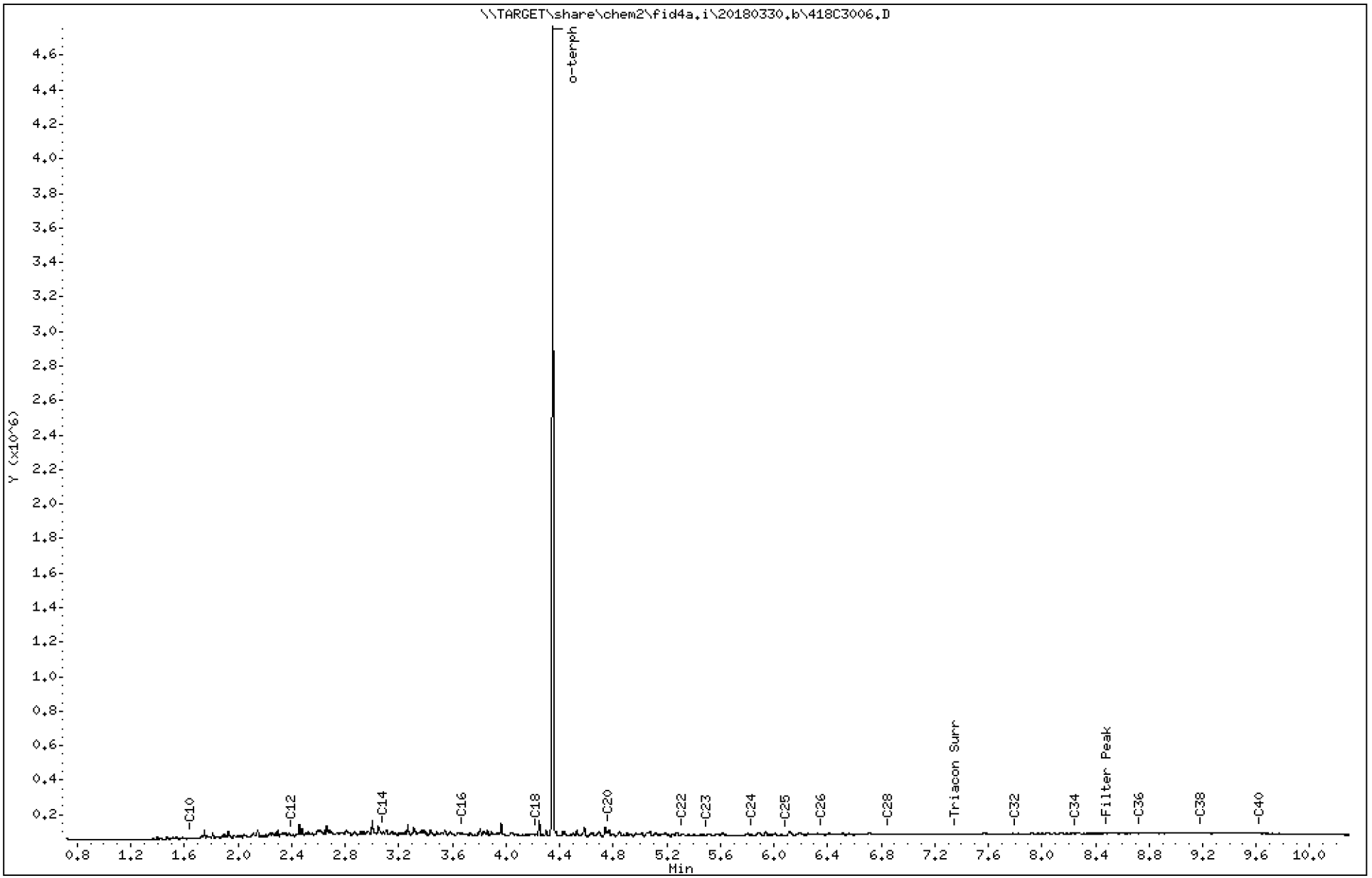
Sample Info: SGC0447-CAL4

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180330.b/418C3006.D
Method: 20180330.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/02/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGC0447-CAL4
Client ID:
Injection: 30-MAR-2018 13:33
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	6985384	412.1
C10	1.648	-0.006	11193	16690	WATPHM	(C24-C38)	6396908	328.1
C12	2.401	-0.001	27236	15361	AK102	(C10-C25)	8343072	419.4
C14	3.086	0.018	47912	43206	AK103	(C25-C36)	5203307	315.1
C16	3.672	0.009	42144	52387	OR.DIES	(C10-C28)	9889587	495.6
C18	4.228	0.015	32423	39466				
C20	4.771	0.004	56886	49380				
C22	5.316	-0.001	34461	68535				
C24	5.836	-0.007	30632	48222				
C25	6.096	0.002	25800	11268				
C26	6.356	0.009	30727	34730				
C28	6.854	0.009	33589	48938				
C32	7.801	-0.005	35223	29001				
C34	8.248	-0.013	34902	12082				
Filter Peak	8.491	-0.001	36452	16237	BUNKERC	(C10-C38)	14490247	2576.8
C36	8.731	0.009	37181	23822				
C38	9.187	0.008	38501	37566				
C40	9.629	-0.005	36842	34428				
o-terph	4.349	-0.002	4680192	3211813				
Triacon Surr	7.352	0.009	32124	38764	NAS DIES	(C10-C24)	8093339	407.2

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.85)

Surrogate	Area	Amount	
o-Terphenyl	3211813	127.6	M
Triacontane	38764	1.3	

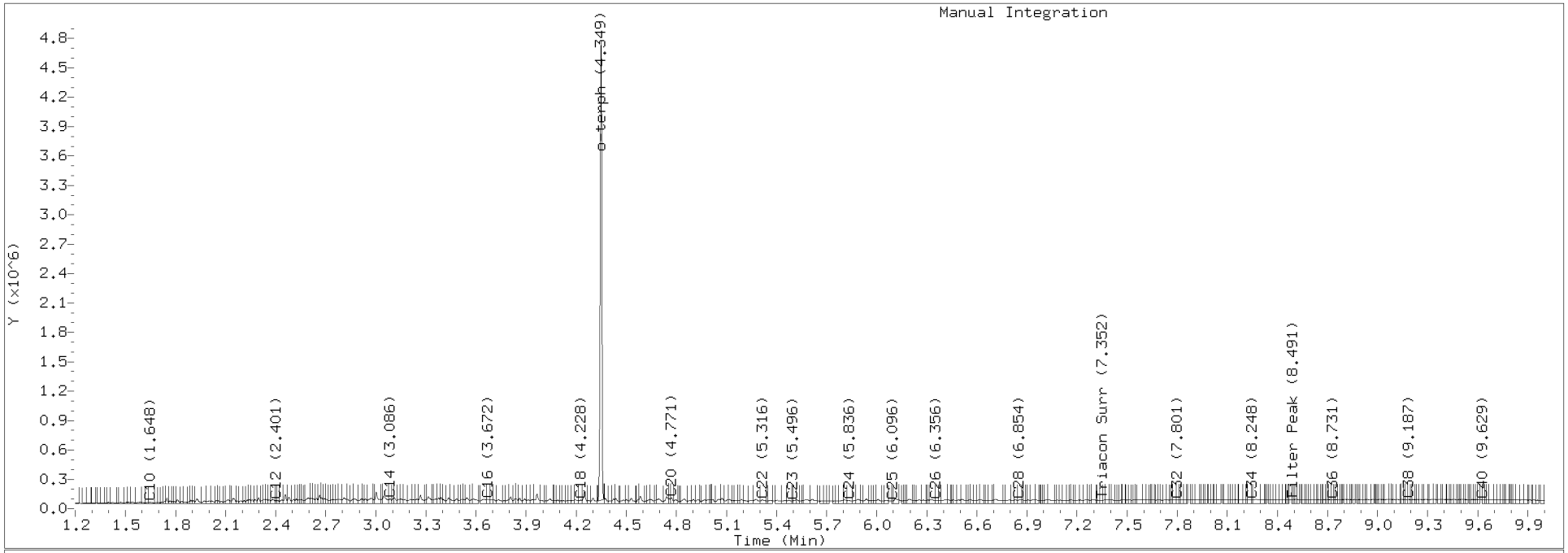
M Indicates the peak was manually integrated

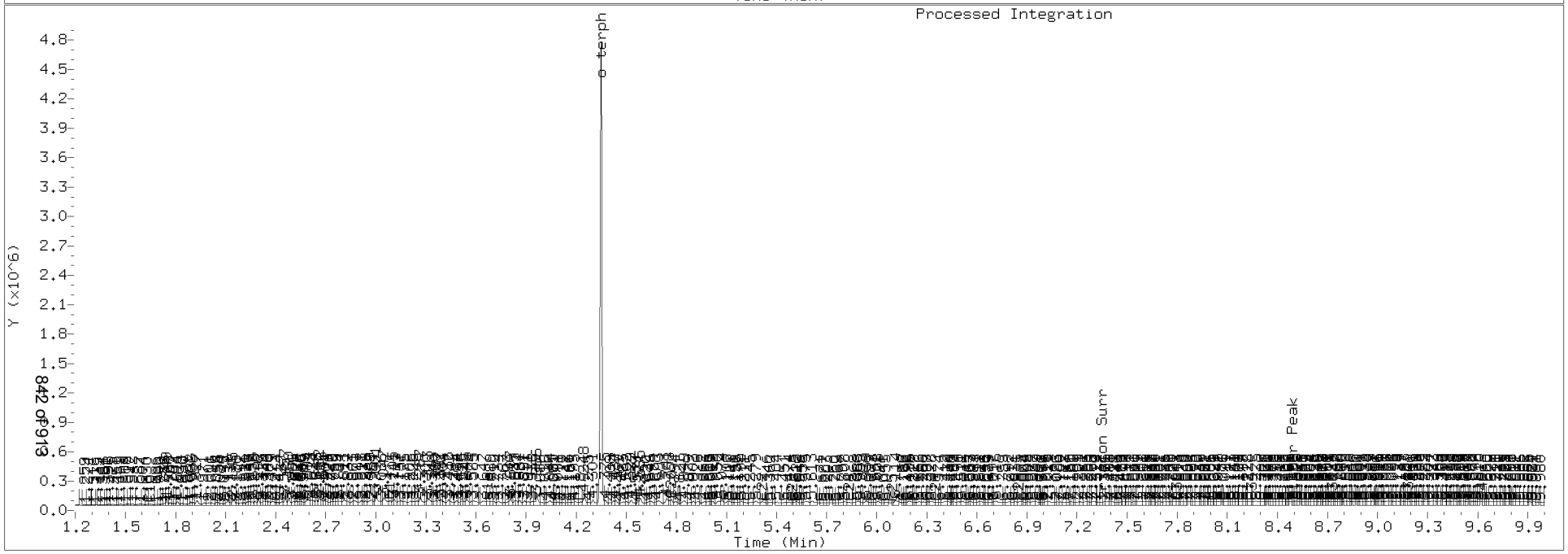
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180330.b/418C3006.D Injection: 30-MAR-2018 13:33

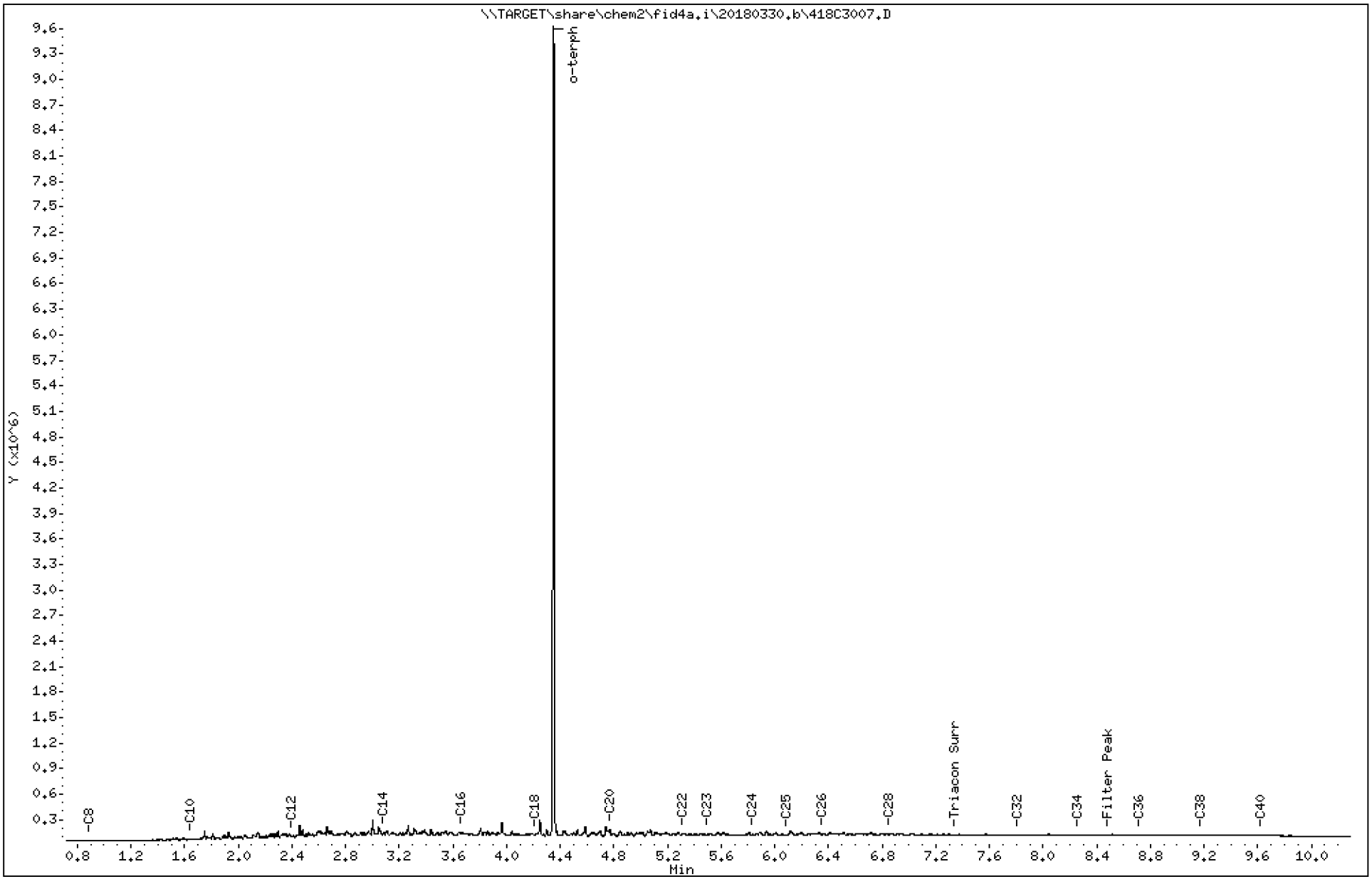
Lab ID:SGC0447-CAL4





Data File: \\TARGET\share\chem2\fid4a.i\20180330.b\418C3007.D
Date : 30-MAR-2018 13:54
Client ID:
Sample Info: SGC0447-CAL5

Instrument: fid4a.i
Operator: MDL
Column phase: RTX-1
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180330.b/418C3007.D
Method: 20180330.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/02/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGC0447-CAL5
Client ID:
Injection: 30-MAR-2018 13:54
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.889	0.006	2027	2193	WATPHD	(C12-C24)	16742220	987.8
C10	1.650	-0.004	21575	32288	WATPHM	(C24-C38)	13478871	691.3
C12	2.401	-0.001	54989	30605	AK102	(C10-C25)	19489294	979.6
C14	3.084	0.017	101115	94753	AK103	(C25-C36)	11118096	673.3
C16	3.666	0.003	89723	88608	OR.DIES	(C10-C28)	23209523	1163.2
C18	4.214	0.002	71282	28419				
C20	4.772	0.005	126165	130871				
C22	5.314	-0.002	86084	199894				
C24	5.833	-0.010	74052	81926				
C25	6.092	-0.003	66356	25900				
C26	6.360	0.014	76832	55139				
C28	6.857	0.011	78252	64025				
C32	7.809	0.002	71515	85595				
C34	8.259	-0.002	69334	47778				
Filter Peak	8.485	-0.006	68174	49717	BUNKERC	(C10-C38)	32382685	5758.5
C36	8.724	0.002	65862	54861				
C38	9.179	-0.001	65807	45543				
C40	9.624	-0.009	64293	123972				
o-terph	4.353	0.002	9486986	6628989				
Triacon Surr	7.344	0.002	69681	47498	NAS DIES	(C10-C24)	18903813	951.2

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.85)

Surrogate	Area	Amount	
o-Terphenyl	6628989	263.4	M
Triacontane	47498	1.6	

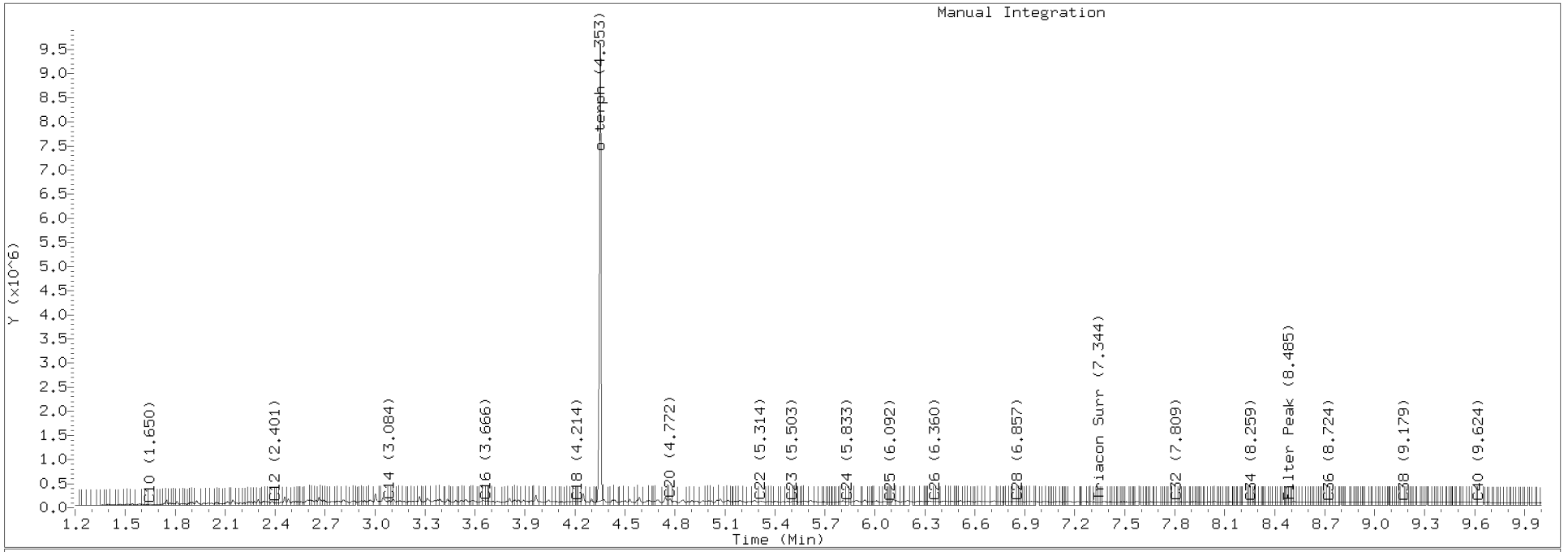
M Indicates the peak was manually integrated

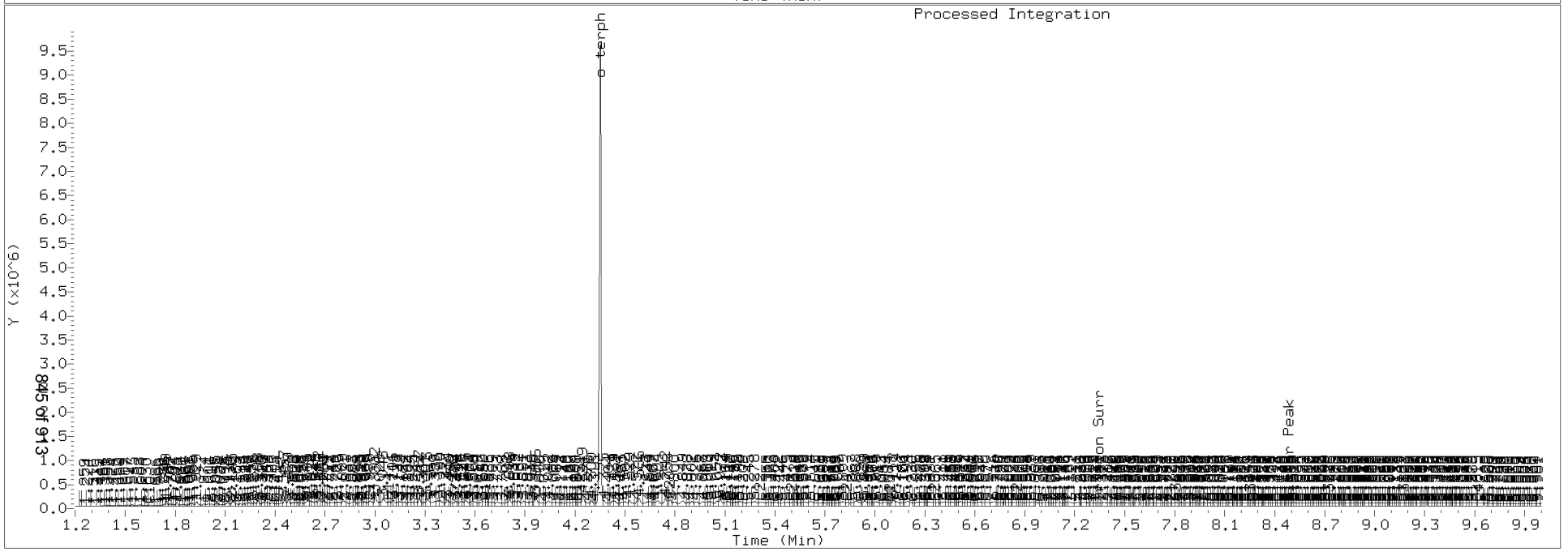
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180330.b/418C3007.D   Injection: 30-MAR-2018 13:54

Lab ID:SGC0447-CAL5

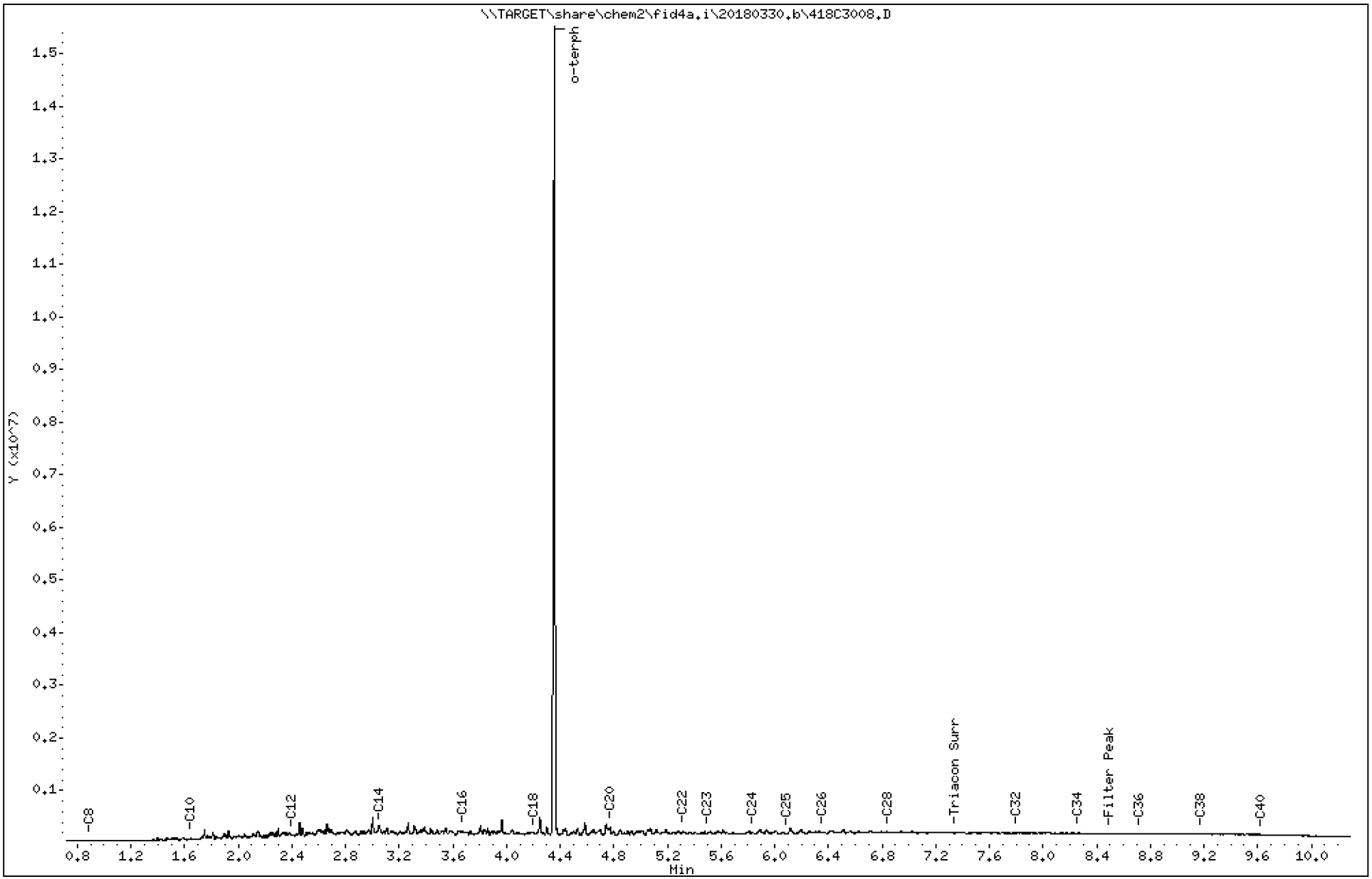




Data File: \\TARGET\share\chem2\fid4a.i\20180330.b\418C3008.D
Date : 30-MAR-2018 14:16
Client ID:
Sample Info: SGC0447-CAL6

Instrument: fid4a.i
Operator: MDL
Column diameter: 0.25

Column phase: RTX-1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180330.b/418C3008.D
Method: 20180330.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/02/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGC0447-CAL6
Client ID:
Injection: 30-MAR-2018 14:16
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.889	0.005	2364	2962	WATPHD	(C12-C24)	32948882	1944.0
C10	1.646	-0.008	41663	62179	WATPHM	(C24-C38)	28072021	1439.7
C12	2.400	-0.003	106055	54912	AK102	(C10-C25)	38235025	1921.8
C14	3.056	-0.012	236754	231161	AK103	(C25-C36)	23624130	1430.6
C16	3.674	0.011	187690	204593	OR.DIES	(C10-C28)	46316117	2321.3
C18	4.208	-0.005	142736	105058				
C20	4.772	0.005	247497	229546				
C22	5.315	-0.001	174468	304531				
C24	5.837	-0.006	153688	266463				
C25	6.090	-0.004	138292	74376				
C26	6.355	0.008	151711	52322				
C28	6.847	0.002	158527	70894				
C32	7.808	0.002	146594	64668				
C34	8.267	0.006	147480	191285				
Filter Peak	8.492	0.001	136146	86131	BUNKERC	(C10-C38)	65202466	11594.8
C36	8.725	0.003	128105	44161				
C38	9.175	-0.005	126719	67643				
C40	9.627	-0.007	116743	114849				
o-terph	4.358	0.007	15290874	12613704				
Triacon Surr	7.344	0.001	148006	64695	NAS DIES	(C10-C24)	37130445	1868.3

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.85)

Surrogate	Area	Amount	
o-Terphenyl	12613704	501.2	M
Triacontane	64695	2.2	

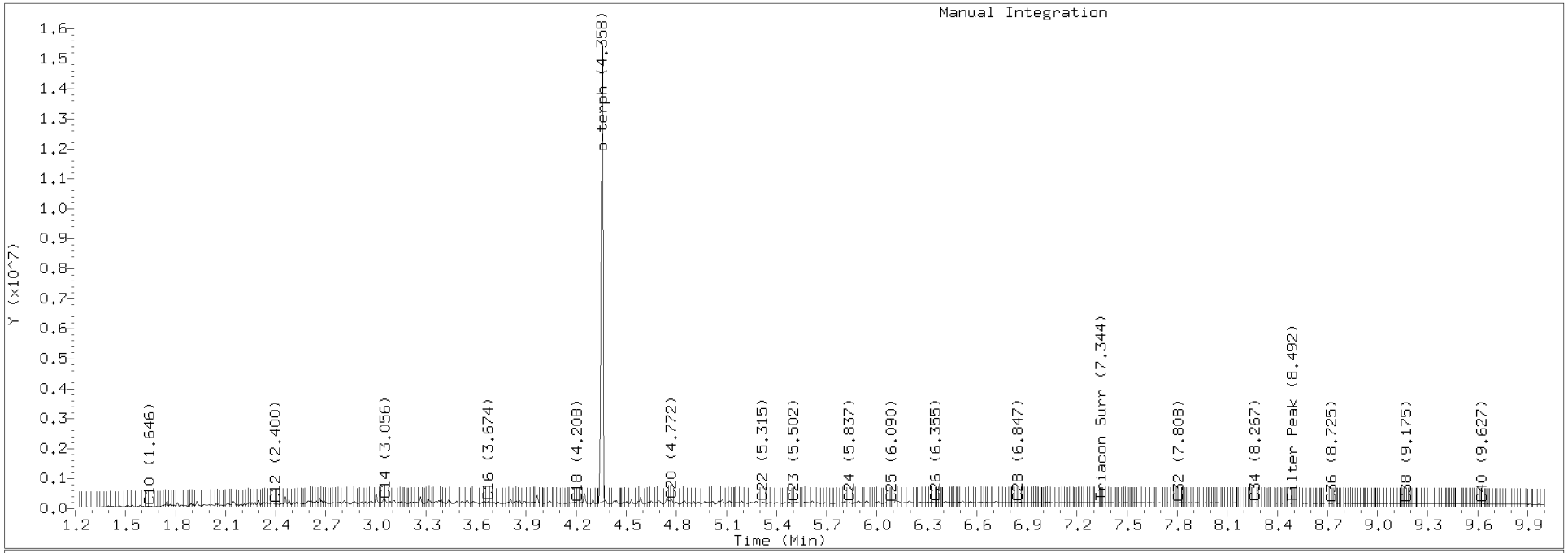
M Indicates the peak was manually integrated

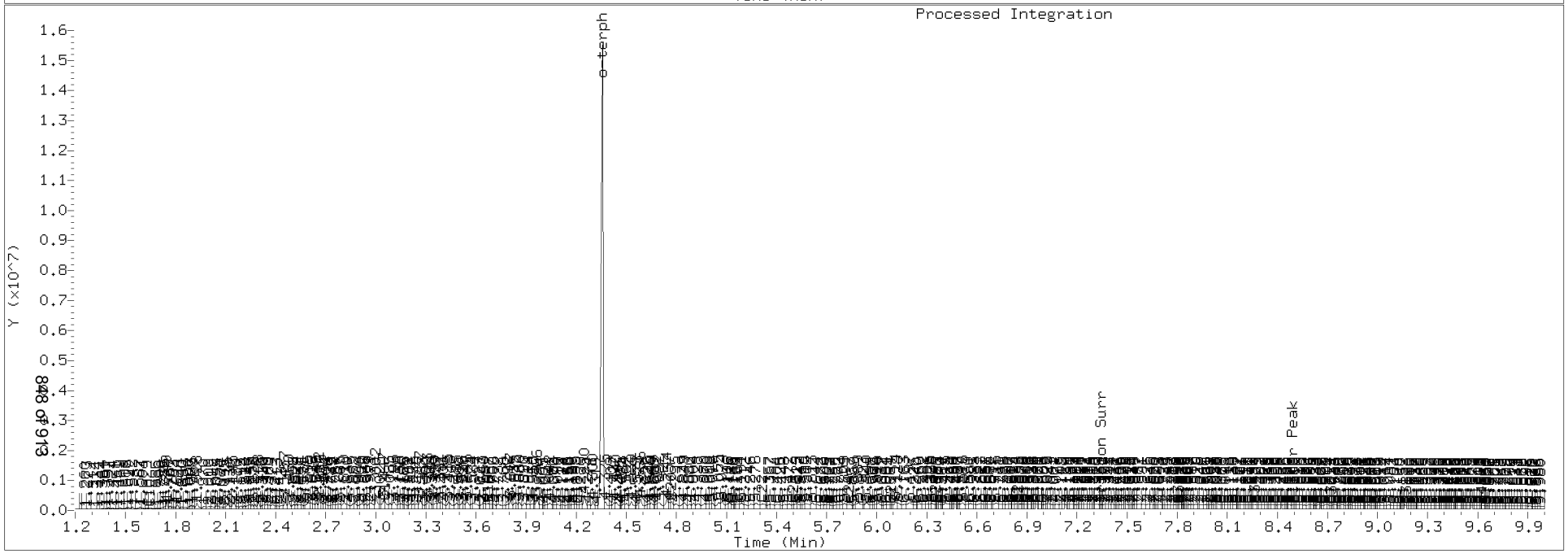
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180330.b/418C3008.D Injection: 30-MAR-2018 14:16

Lab ID:SGC0447-CAL6





Analytical Resources, Incorporated

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Calibration: BC00067
Laboratory ID: SGC0396-SCV1
Sequence: SGC0396
Sequence Name: DIES SCV 500
Standard ID: F011649

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Diesel Range Organics (C12-C24)	500.00	522	4.5	30.00
o-Terphenyl	90.000	90.3	0.3	

* Indicates values outside of QC limits

Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2730.D

Date : 27-MAR-2018 21:28

Client ID:

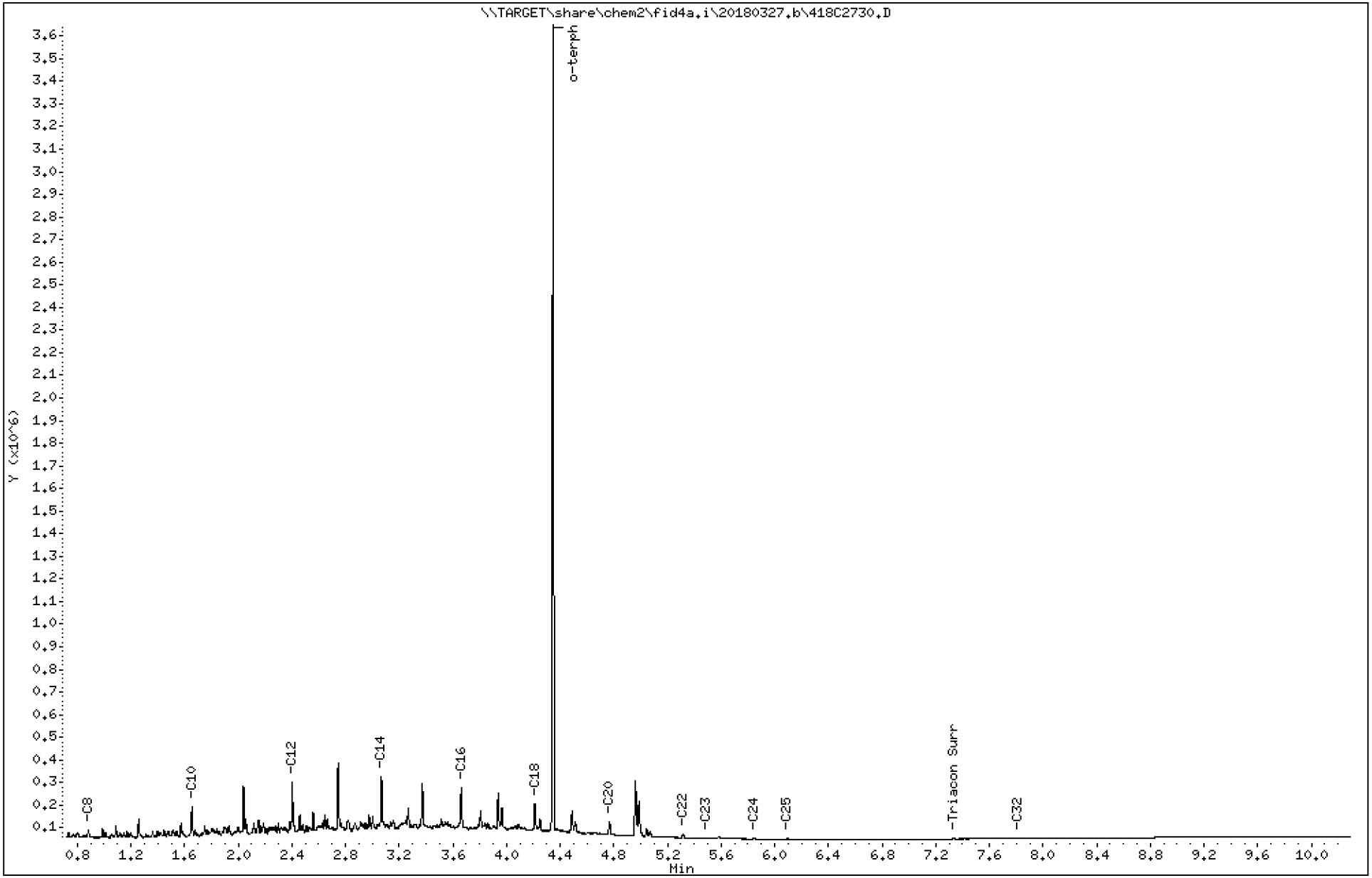
Sample Info: SEQ-SCV1

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2730.D ARI ID: SEQ-SCV1
Method: 20180327.b\FID4TPH.m Client ID:
Instrument: fid4a.i, MDL Injection: 27-MAR-2018 21:28
Report Date: 03/28/2018 Dilution Factor: 1
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.882	-0.001	43147	41618	WATPHD	(C12-C24)	9025332	532.5
C10	1.655	0.001	146823	109953	WATPHM	(C24-C38)	12716	0.7
C12	2.403	0.001	254036	194606	AK102	(C10-C25)	11194705	562.7
C14	3.068	0.001	278740	244058	AK103	(C25-C36)	12716	0.8
C16	3.662	-0.000	231856	241267	OR.DIES	(C10-C28)	11200338	561.3
C18	4.212	-0.002	158833	203599				
C20	4.768	-0.000	80475	107949	JET-A	(C10-C18)	9255686	502.2
C22	5.316	0.001	25881	32743				
C24	5.842	-0.000	6301	7219				
C25	6.095	0.001	3171	3352				
C26	----							
C32	7.810	0.006	5221	3770				
C34	----							
Filter Peak	----				BUNKERC	(C10-C38)	11207421	2017.6

Analytical Resources, Incorporated

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

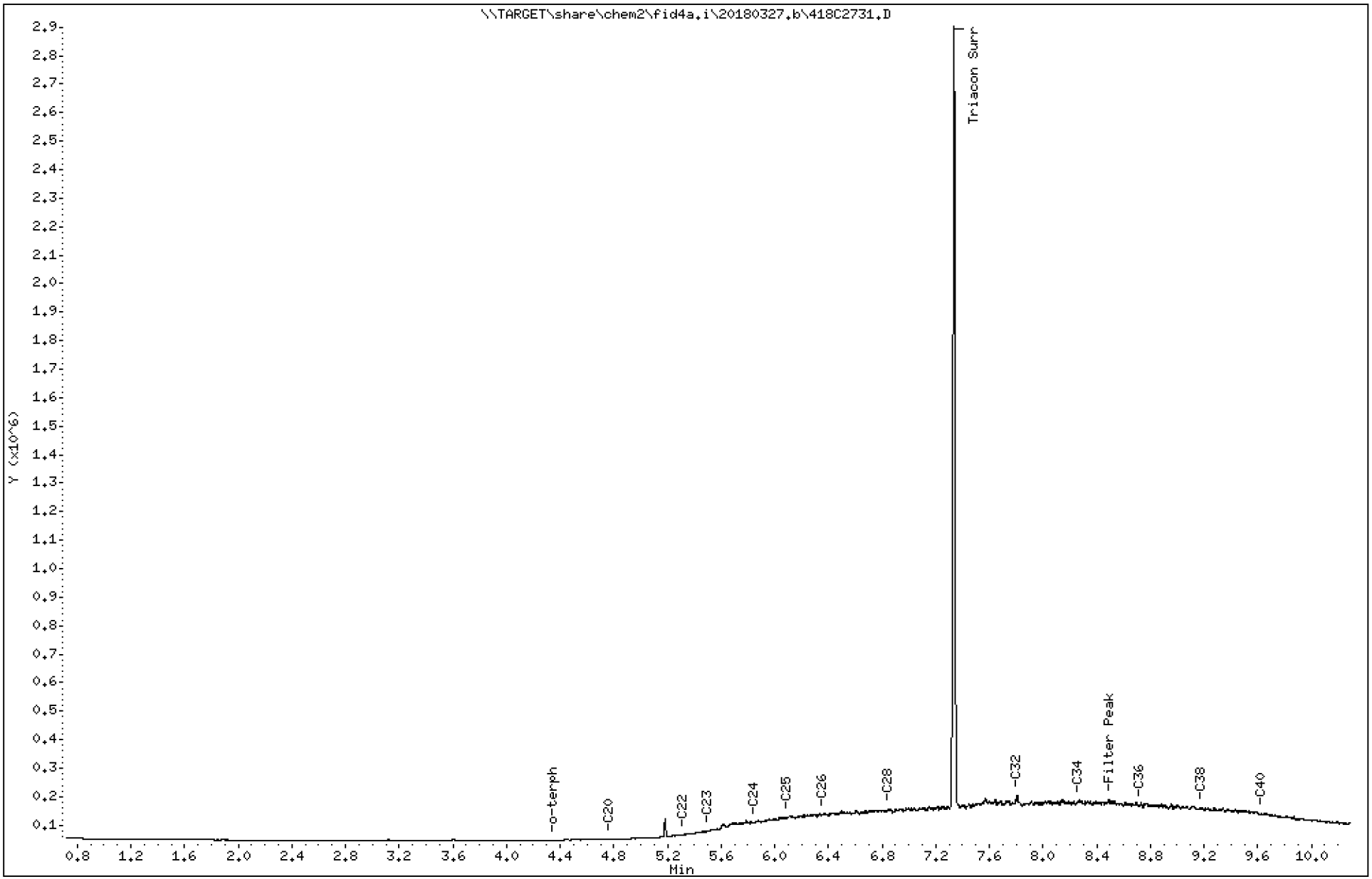
Laboratory: Analytical Resources, Inc.
SDG: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Calibration: BC00067
Laboratory ID: SGC0396-SCV2
Sequence: SGC0396
Sequence Name: Moil SCV 1000
Standard ID: G002331

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Motor Oil Range Organics (C24-C38)	1000.0	1160	16.1	30.00

* Indicates values outside of QC limits

Data File: \\TARGET\share\chem2\fid4a.i\20180327.b\418C2731.D
Date : 27-MAR-2018 21:48
Client ID:
Sample Info: SEQ-SCV2

Instrument: fid4a.i
Operator: MDL
Column phase: RTX-1
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180327.b/418C2731.D
Method: 20180327.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 03/28/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SEQ-SCV2
Client ID:
Injection: 27-MAR-2018 21:48
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	1875659	110.7
C10	----				WATPHM	(C24-C38)	22642263	1161.2
C12	----				AK102	(C10-C25)	2493321	125.3
C14	----				AK103	(C25-C36)	18972884	1148.9
C16	----				OR.DIES	(C10-C28)	7329479	367.3
C18	----							
C20	4.769	0.001	5232	4879	JET-A	(C10-C18)	16598	0.9
C22	5.316	-0.000	20055	16221				
C24	5.850	0.007	63607	43900				
C25	6.090	-0.005	80660	39543				
C26	6.354	0.007	92162	72292				
C28	6.846	0.001	108382	42426				
C32	7.808	0.003	159583	336347				
C34	8.261	-0.002	140342	122157				
Filter Peak	8.491	-0.000	142828	135900	BUNKERC	(C10-C38)	24522098	4414.6
C36	8.721	-0.000	126631	62402				
C38	9.176	-0.003	116147	80175				
C40	9.629	-0.000	94890	70177				
o-terph	4.345	-0.008	2343	2886				
Triacon Surr	7.337	-0.006	2737871	2852465	NAS DIES	(C10-C24)	1879836	94.6

Range Times: NW Diesel(2.402 - 5.842) AK102(1.65 - 6.09) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.09 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	2886	0.1	
Triacontane	2852465	96.2	M

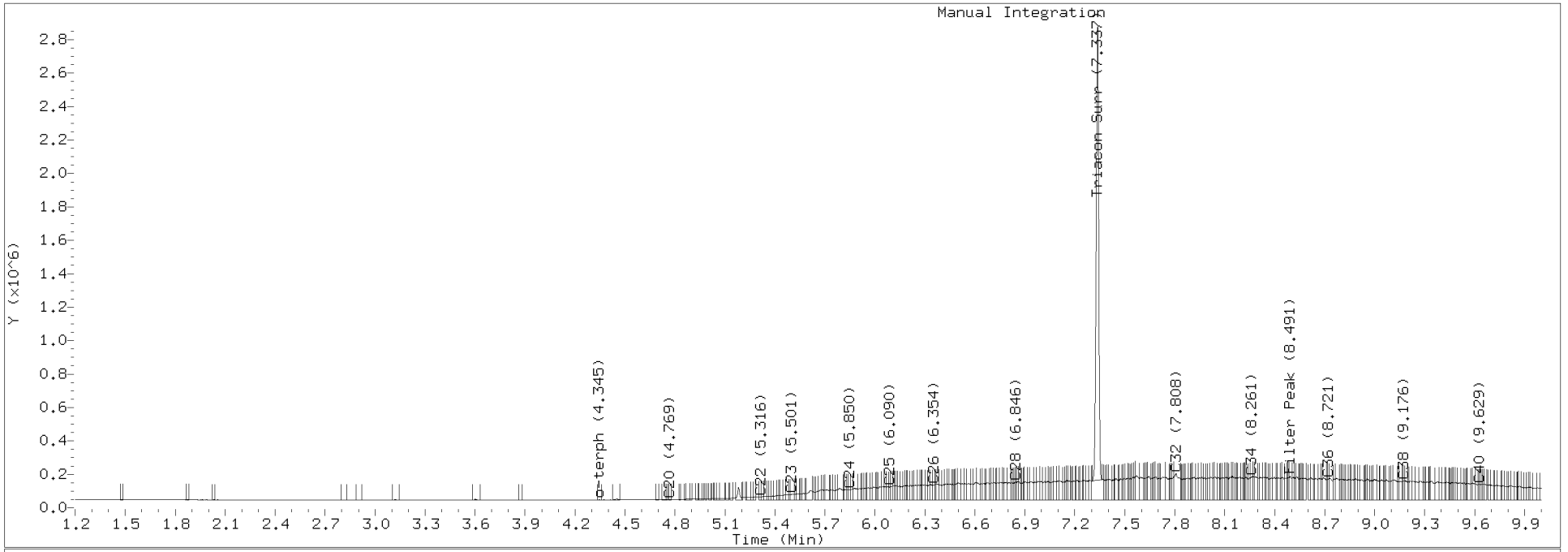
M Indicates the peak was manually integrated

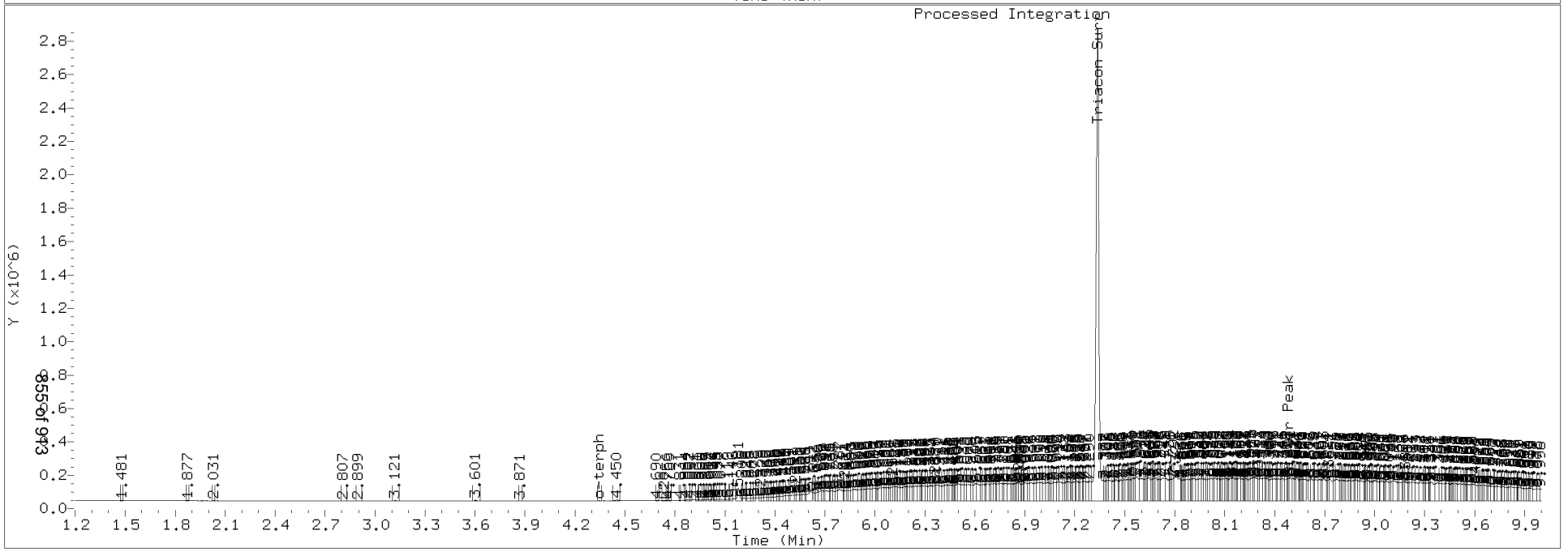
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
JetA	18430.6	12-FEB-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5554.7	14-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180327.b/418C2731.D Injection: 27-MAR-2018 21:48

Lab ID:SEQ-SCV2





INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID4	Calibration:	BC00067
Lab File ID:	418D0404.D	Calibration Date:	03/27/18 15:31
Sequence:	SGD0044	Injection Date:	04/04/18
Lab Sample ID:	SGD0044-ICV1	Injection Time:	12:21
Sequence Name:	Diesel CCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	556	16949.3700	18855.4000		11.2	15
o-Terphenyl	A	90.000	90.0	25166.0100	25162.2900		0.0	15

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0404.D

Date : 04-APR-2018 12:21

Client ID:

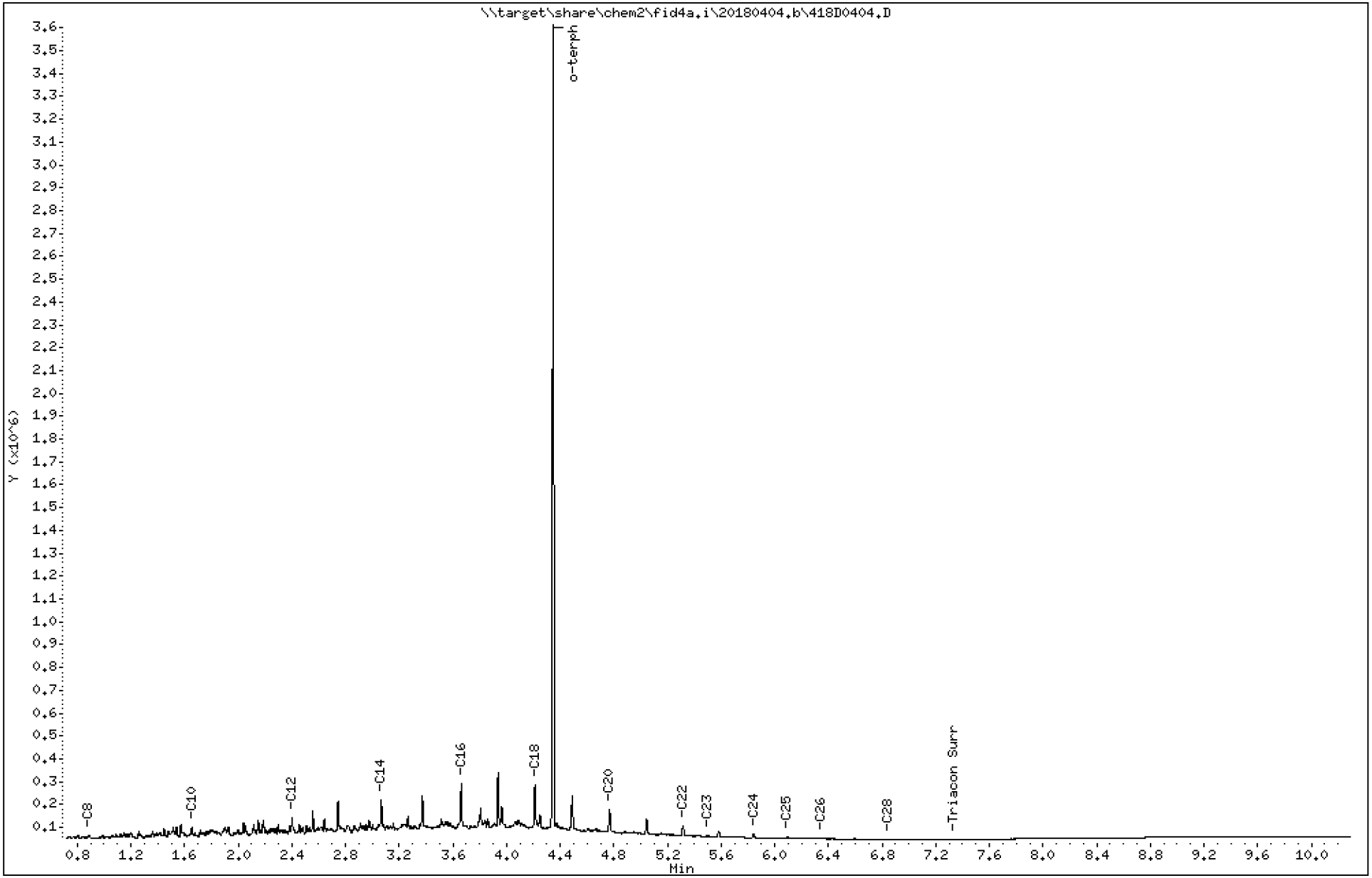
Sample Info: SGD0044-ICV1

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0404.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGD0044-ICV1
Client ID:
Injection: 04-APR-2018 12:21
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.888	0.004	14896	19442	WATPHD	(C12-C24)	9427700	556.2
C10	1.654	0.001	54646	45047	WATPHM	(C24-C38)	98687	5.1
C12	2.401	-0.001	96786	65323	AK102	(C10-C25)	11188037	562.4
C14	3.067	0.000	172353	148117	AK103	(C25-C36)	53840	3.3
C16	3.662	-0.001	242717	326618	OR.DIES	(C10-C28)	11236250	563.1
C18	4.212	-0.002	239538	268569				
C20	4.768	-0.001	129038	153191				
C22	5.317	0.000	59220	80402				
C24	5.842	-0.002	23159	32861				
C25	6.094	-0.002	11783	19470				
C26	6.344	-0.002	6552	9832				
C28	6.845	0.000	1331	1678				
C32	----							
C34	----							
Filter Peak	----				BUNKERC	(C10-C38)	11251327	2000.8 M
C36	----							
C38	----							
C40	----							
o-terph	4.348	-0.004	3510117	2264606				
Triacon Surr	7.334	-0.010	1560	1798	NAS DIES	(C10-C24)	11152641	561.2

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	2264606	90.0	M
Triacontane	1798	0.1	

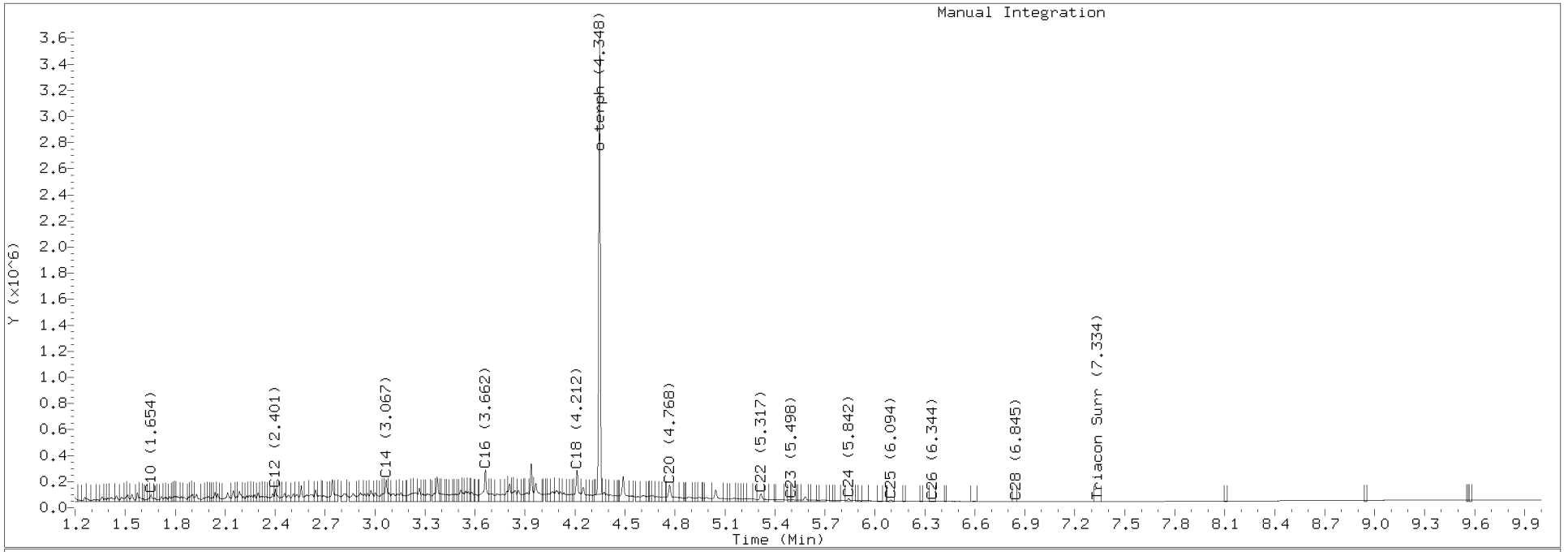
M Indicates the peak was manually integrated

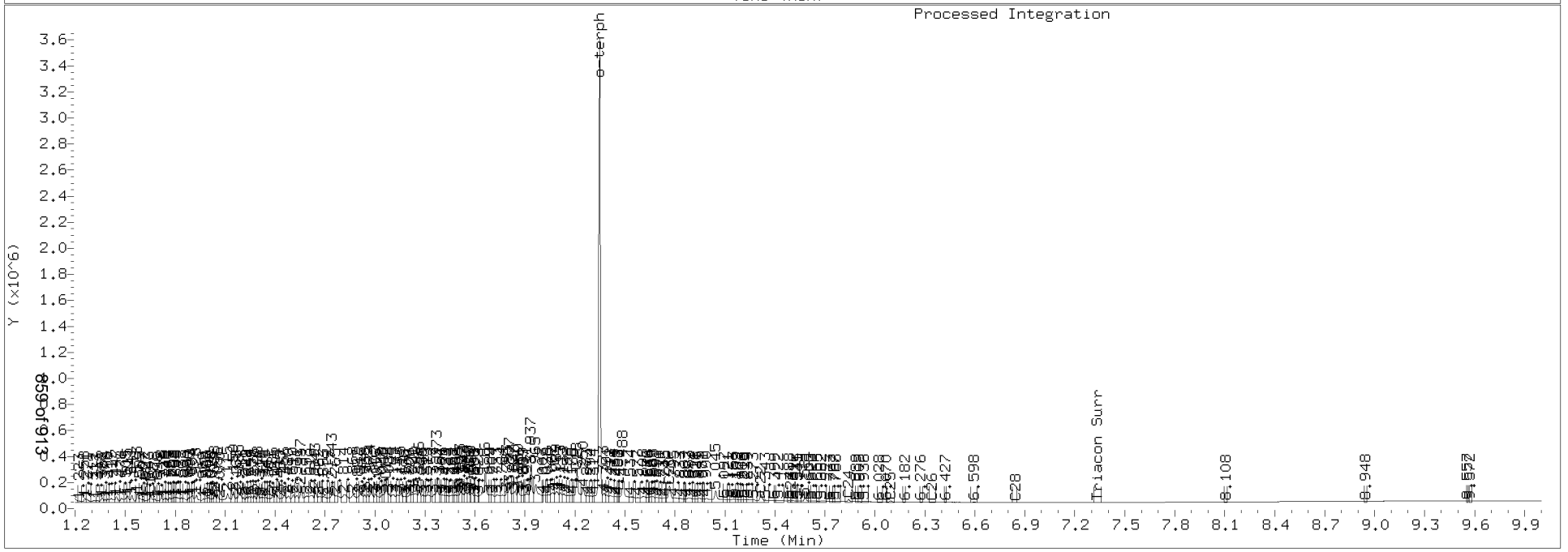
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0404.D Injection: 04-APR-2018 12:21

Lab ID:SGD0044-ICV1





Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID4	Calibration:	BC00067
Lab File ID:	418D0405.D	Calibration Date:	03/27/18 15:31
Sequence:	SGD0044	Injection Date:	04/04/18
Lab Sample ID:	SGD0044-ICV2	Injection Time:	12:41
Sequence Name:	MOIL CCV2		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1020	19499.2000	19969.0300		2.4	15

* Values outside of QC limits

Data File: \\TARGET\share\chem2\fid4a.i\20180404.b\418D0405.D

Date : 04-APR-2018 12:41

Client ID:

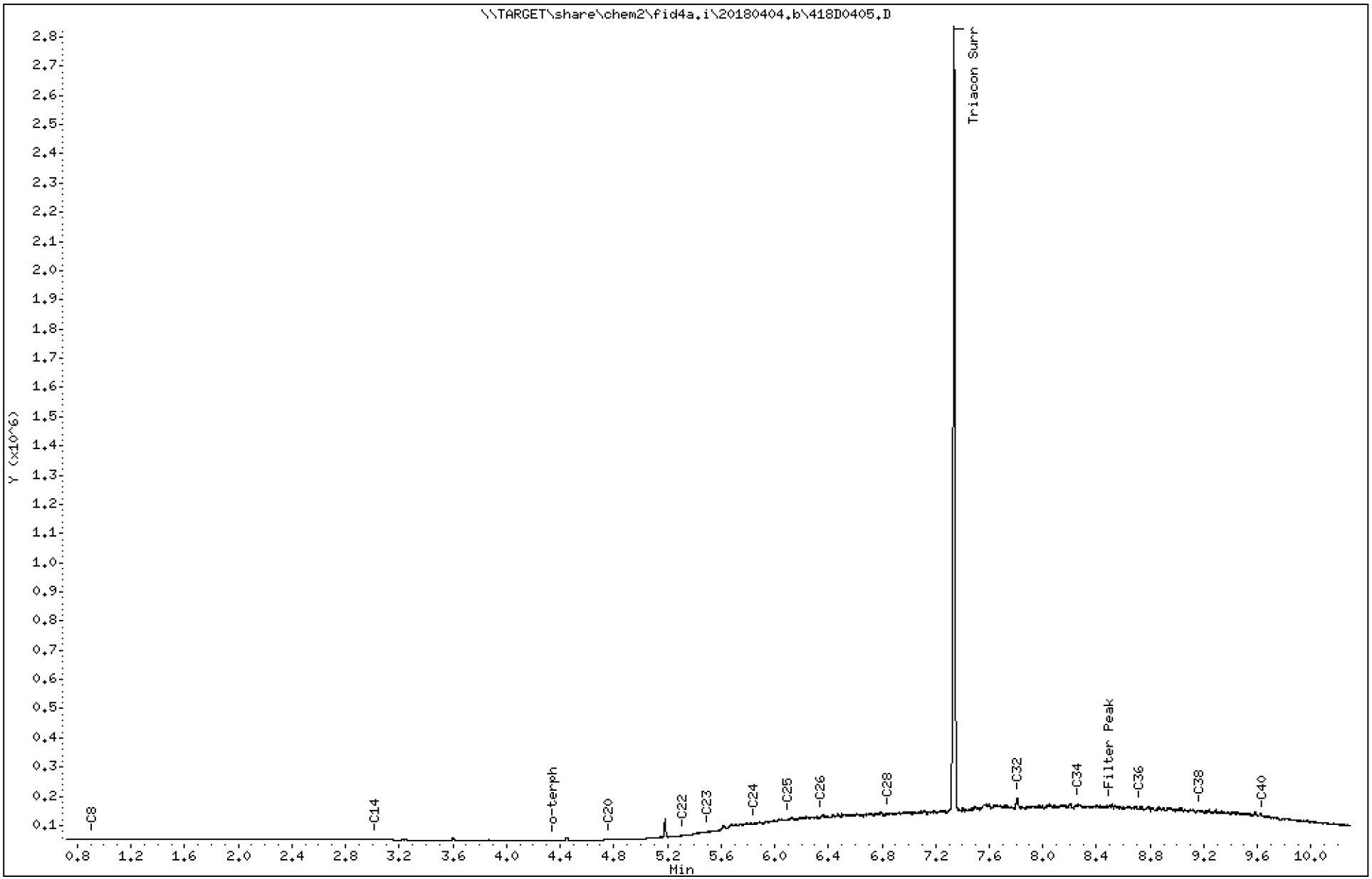
Sample Info: SGD0044-ICV2

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0405.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/04/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGD0044-ICV2
Client ID:
Injection: 04-APR-2018 12:41
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.910	0.027	3356	3807	WATPHD	(C12-C24)	1769820	104.4
C10	----				WATPHM	(C24-C38)	19969032	1024.1
C12	----				AK102	(C10-C25)	2322931	116.8
C14	3.020	-0.047	3748	4856	AK103	(C25-C36)	16623029	1006.6
C16	----				OR.DIES	(C10-C28)	6584856	330.0
C18	----							
C20	4.767	-0.002	3242	4797				
C22	5.313	-0.003	17092	14110				
C24	5.842	-0.001	58001	30943				
C25	6.102	0.007	75158	43842				
C26	6.346	-0.001	83295	63696				
C28	6.847	0.002	93808	73559				
C32	7.809	0.003	145033	350099				
C34	8.267	0.003	124941	79200				
Filter Peak	8.498	0.005	123562	169150	BUNKERC	(C10-C38)	21738852	3865.8
C36	8.722	-0.001	115369	131960				
C38	9.172	-0.006	101161	49437				
C40	9.640	0.006	86251	29847				
o-terph	4.345	-0.007	1240	1138				
Triacon Surr	7.338	-0.006	2683564	2693044	NAS DIES	(C10-C24)	1769820	89.1

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	1138	0.0	
Triacontane	2693044	90.8	M

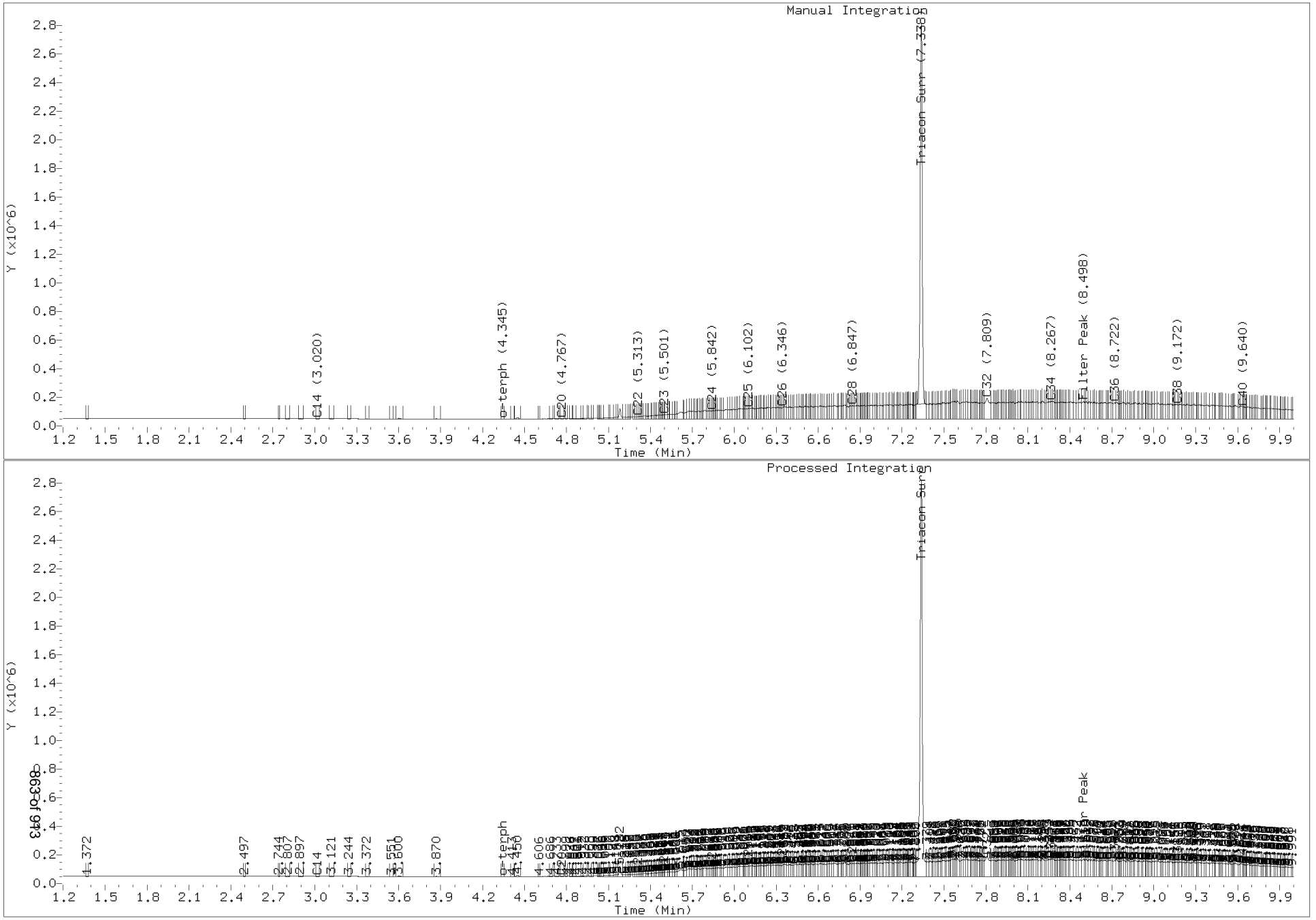
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0405.D Injection: 04-APR-2018 12:41

Lab ID:SGD0044-ICV2



CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID4	Calibration:	BC00067
Lab File ID:	418D0412.D	Calibration Date:	03/27/18 15:31
Sequence:	SGD0044	Injection Date:	04/04/18
Lab Sample ID:	SGD0044-CCV1	Injection Time:	15:17
Sequence Name:	Diesel CCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	557	16949.37	18882.9		11.4	15
o-Terphenyl	A	90.000	88.8	25166.01	24830.78		-1.3	15

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0412.D

Date : 04-APR-2018 15:17

Client ID:

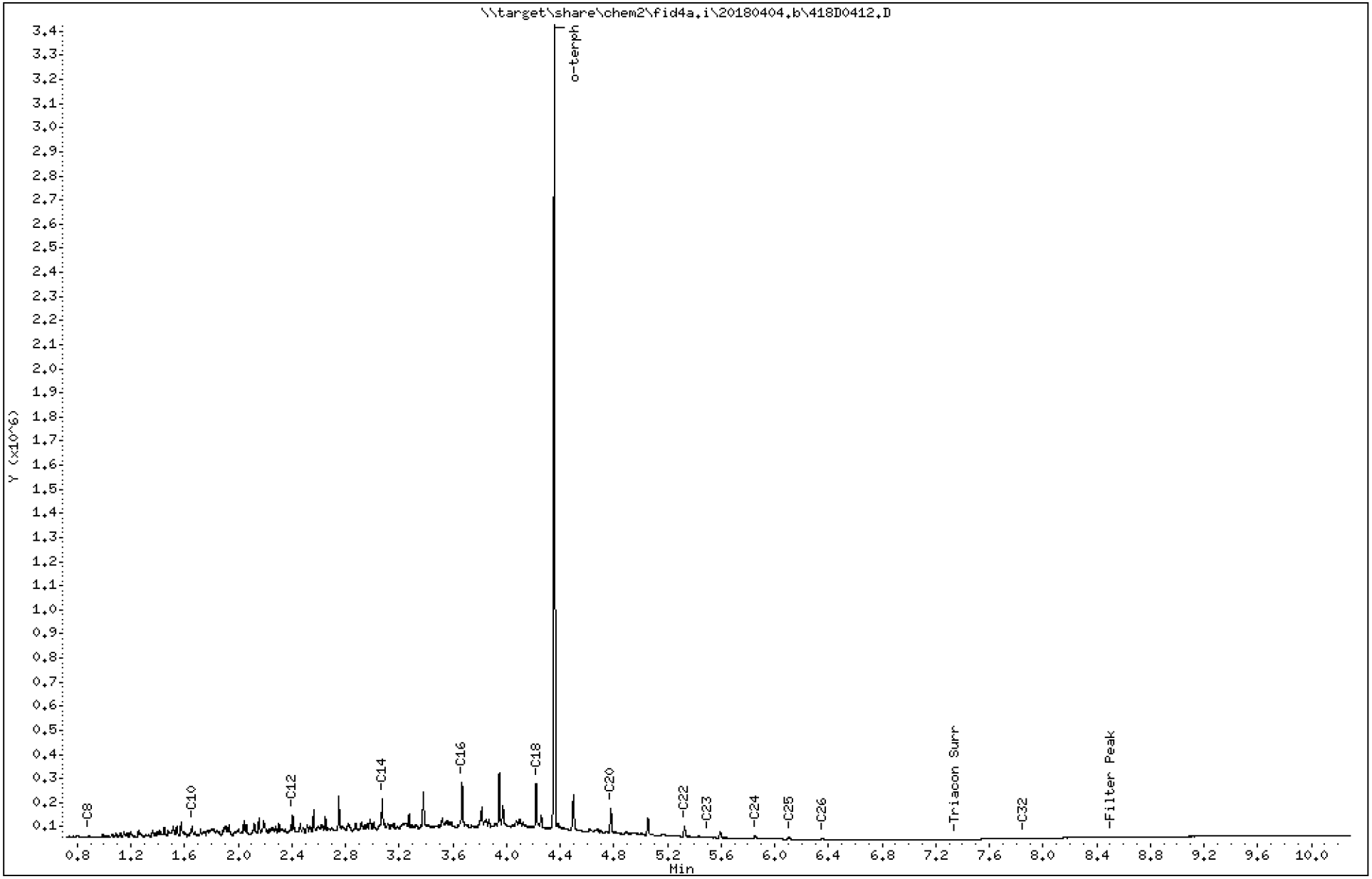
Sample Info: SGD0044-CCV1

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0412.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGD0044-CCV1
Client ID:
Injection: 04-APR-2018 15:17
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.887	0.003	18672	25431	WATPHD	(C12-C24)	9441448	557.1
C10	1.656	0.002	58482	50067	WATPHM	(C24-C38)	112925	5.8
C12	2.406	0.004	100618	69073	AK102	(C10-C25)	11344074	570.2
C14	3.074	0.007	172533	147532	AK103	(C25-C36)	99287	6.0
C16	3.668	0.006	238689	278212	OR.DIES	(C10-C28)	11378635	570.3
C18	4.221	0.008	233702	252301				
C20	4.777	0.009	132438	142448				
C22	5.327	0.011	57834	78848				
C24	5.852	0.009	18919	23279				
C25	6.107	0.011	9998	17145				
C26	6.356	0.009	4395	5113				
C32	7.856	0.050	6624	2939				
C34	----							
Filter Peak	8.507	0.013	10321	6675	BUNKERC	(C10-C38)	11447626	2035.7
C36	----							
C38	----							
C40	----							
o-terph	4.357	0.006	3326981	2234770				
Triacon Surr	7.347	0.002	2645	4721	NAS DIES	(C10-C24)	11334701	570.3

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	2234770	88.8	M
Triacontane	4721	0.2	

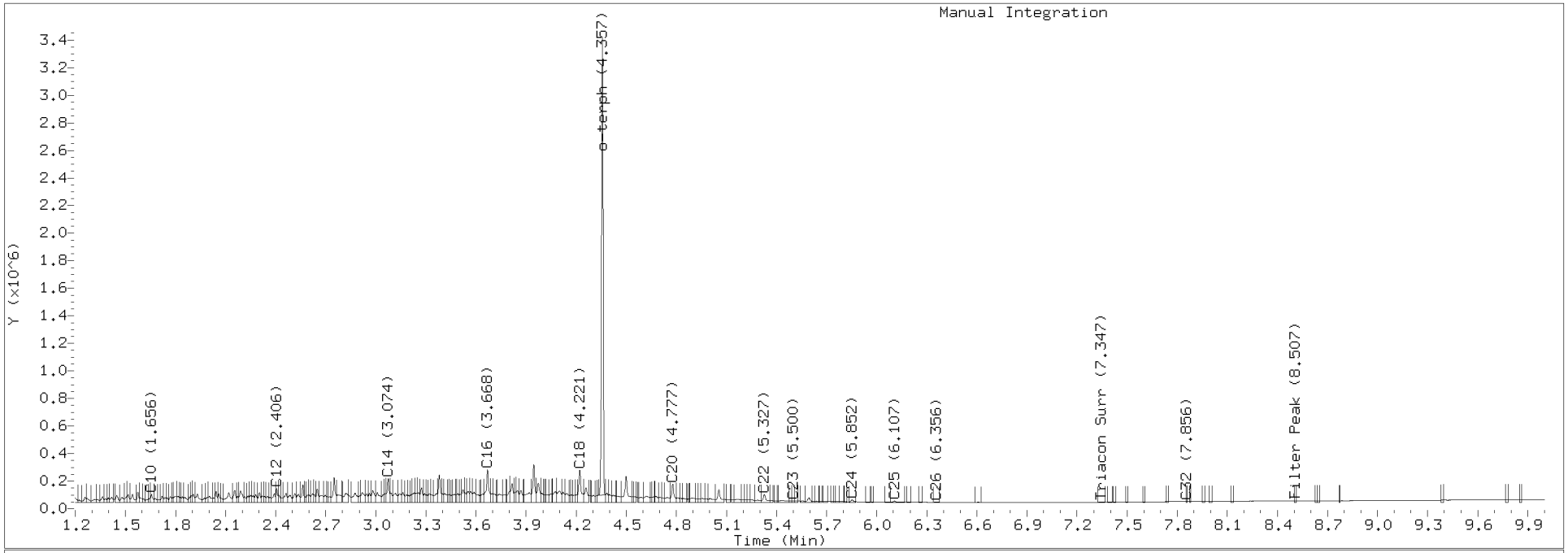
M Indicates the peak was manually integrated

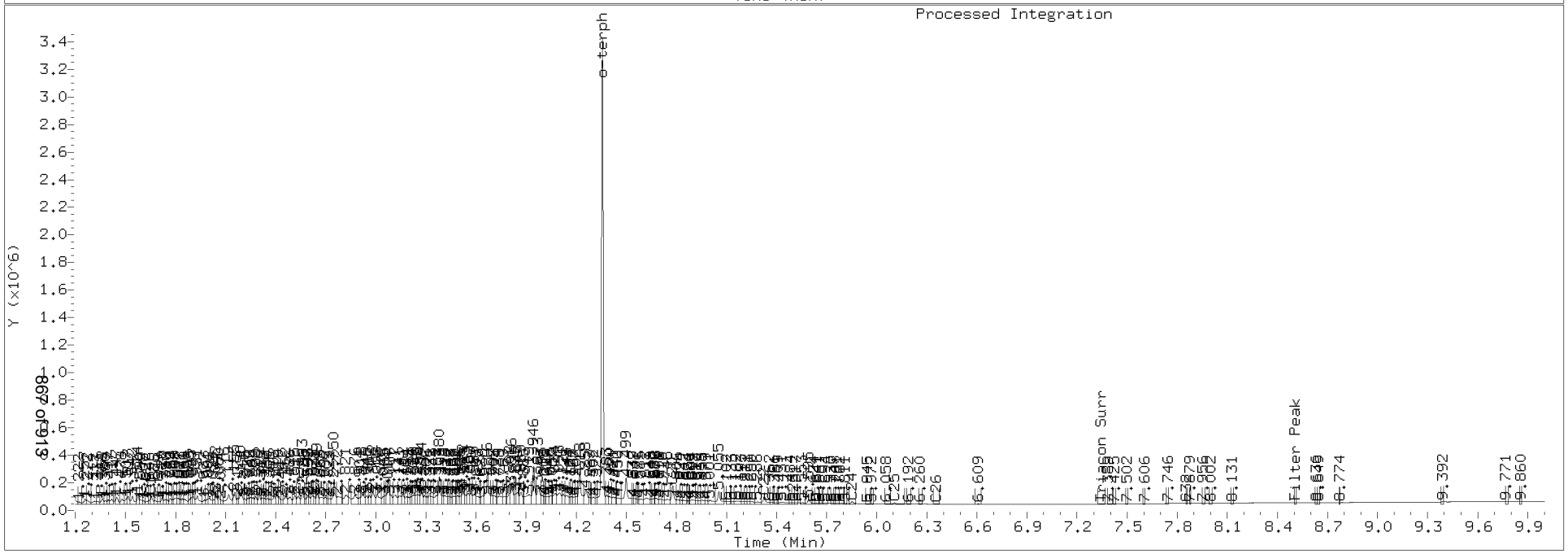
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0412.D Injection: 04-APR-2018 15:17

Lab ID:SGD0044-CCV1





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID4	Calibration:	BC00067
Lab File ID:	418D0413.D	Calibration Date:	03/27/18 15:31
Sequence:	SGD0044	Injection Date:	04/04/18
Lab Sample ID:	SGD0044-CCV2	Injection Time:	15:38
Sequence Name:	MOIL CCV2		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1060	19499.2	20743.9		6.4	15

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0413.D

Date : 04-APR-2018 15:38

Client ID:

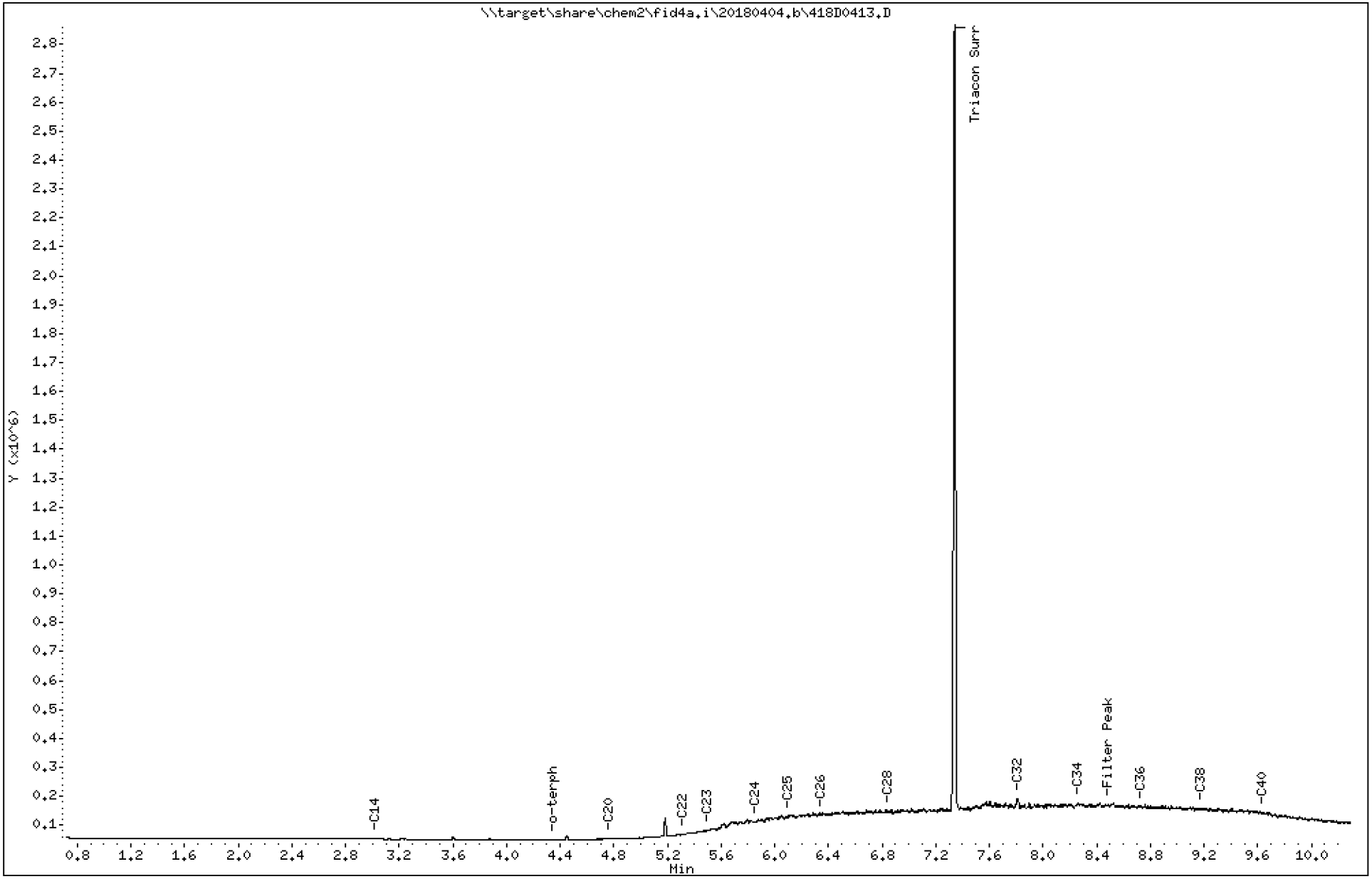
Sample Info: SGD0044-CCV2

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0413.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGD0044-CCV2
Client ID:
Injection: 04-APR-2018 15:38
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	1895809	111.9
C10	----				WATPHM	(C24-C38)	20743896	1063.8
C12	----				AK102	(C10-C25)	2584589	129.9
C14	3.020	-0.046	3627	5180	AK103	(C25-C36)	17192833	1041.1
C16	----				OR.DIES	(C10-C28)	7155634	358.6
C18	----							
C20	4.769	0.001	3799	4470				
C22	5.321	0.004	19891	33406				
C24	5.853	0.009	62177	52230				
C25	6.099	0.004	78892	23493				
C26	6.348	0.002	85789	25606				
C28	6.845	0.000	99995	145670				
C32	7.810	0.004	142400	294007				
C34	8.262	-0.001	127418	104799				
Filter Peak	8.485	-0.008	123567	166013	BUNKERC	(C10-C38)	22646837	4027.2
C36	8.725	0.003	113718	85275				
C38	9.181	0.003	108784	83928				
C40	9.638	0.004	95628	59861				
o-terph	4.345	-0.006	1799	2109				
Triacon Surr	7.339	-0.005	2716830	2905906	NAS DIES	(C10-C24)	1902941	95.8

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	2109	0.1	
Triacontane	2905906	98.0	M

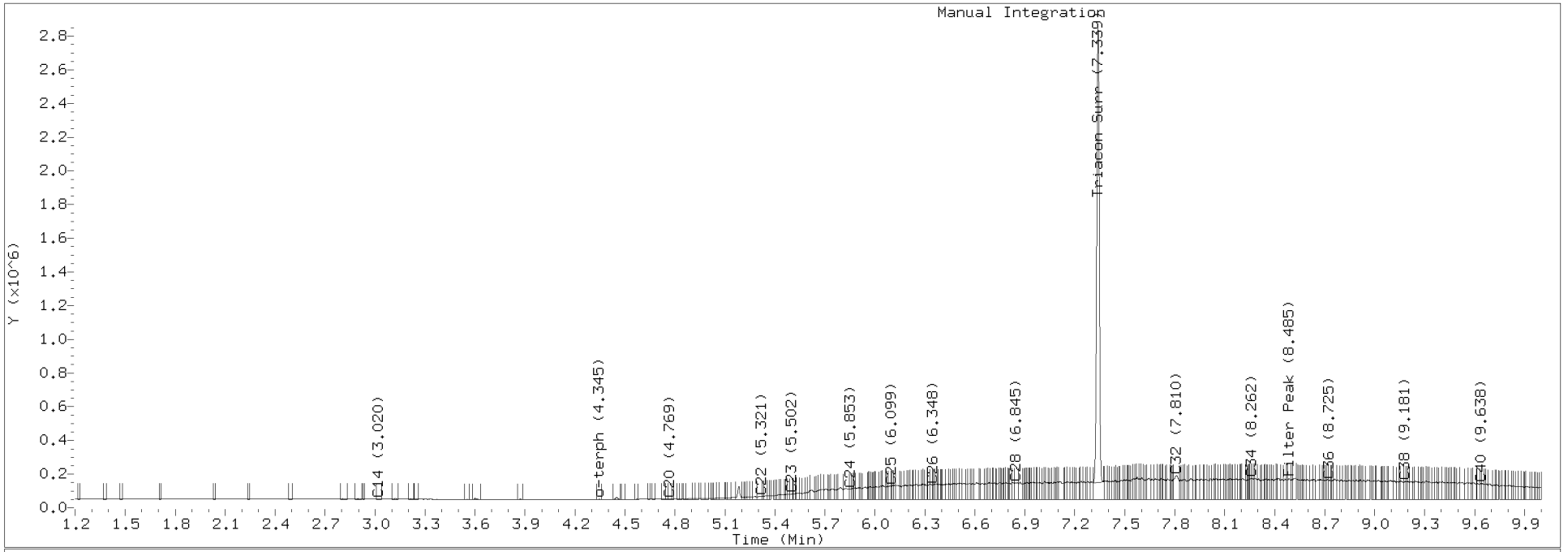
M Indicates the peak was manually integrated

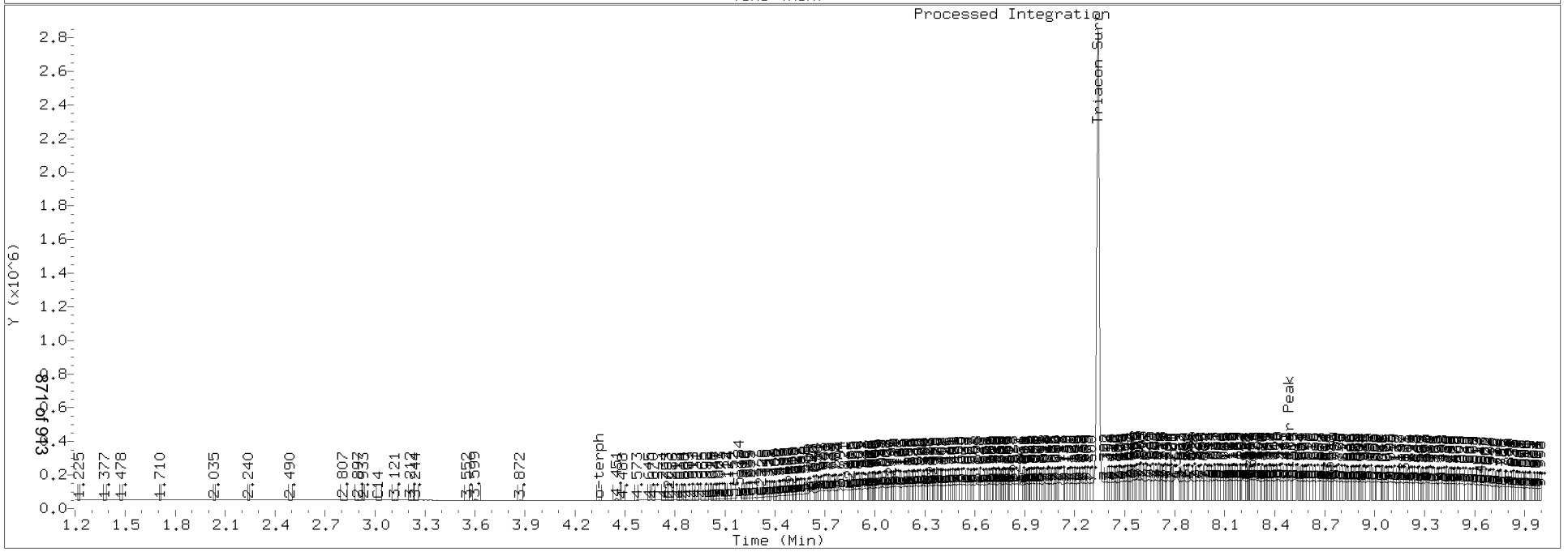
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0413.D Injection: 04-APR-2018 15:38

Lab ID:SGD0044-CCV2





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID4	Calibration:	BC00067
Lab File ID:	418D0428.D	Calibration Date:	03/27/18 15:31
Sequence:	SGD0044	Injection Date:	04/04/18
Lab Sample ID:	SGD0044-CCV3	Injection Time:	20:51
Sequence Name:	Diesel CCV3		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	518	16949.37	17569.39		3.7	15
o-Terphenyl	A	90.000	89.7	25166.01	25070.1		-0.3	15

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0428.D

Date : 04-APR-2018 20:51

Client ID:

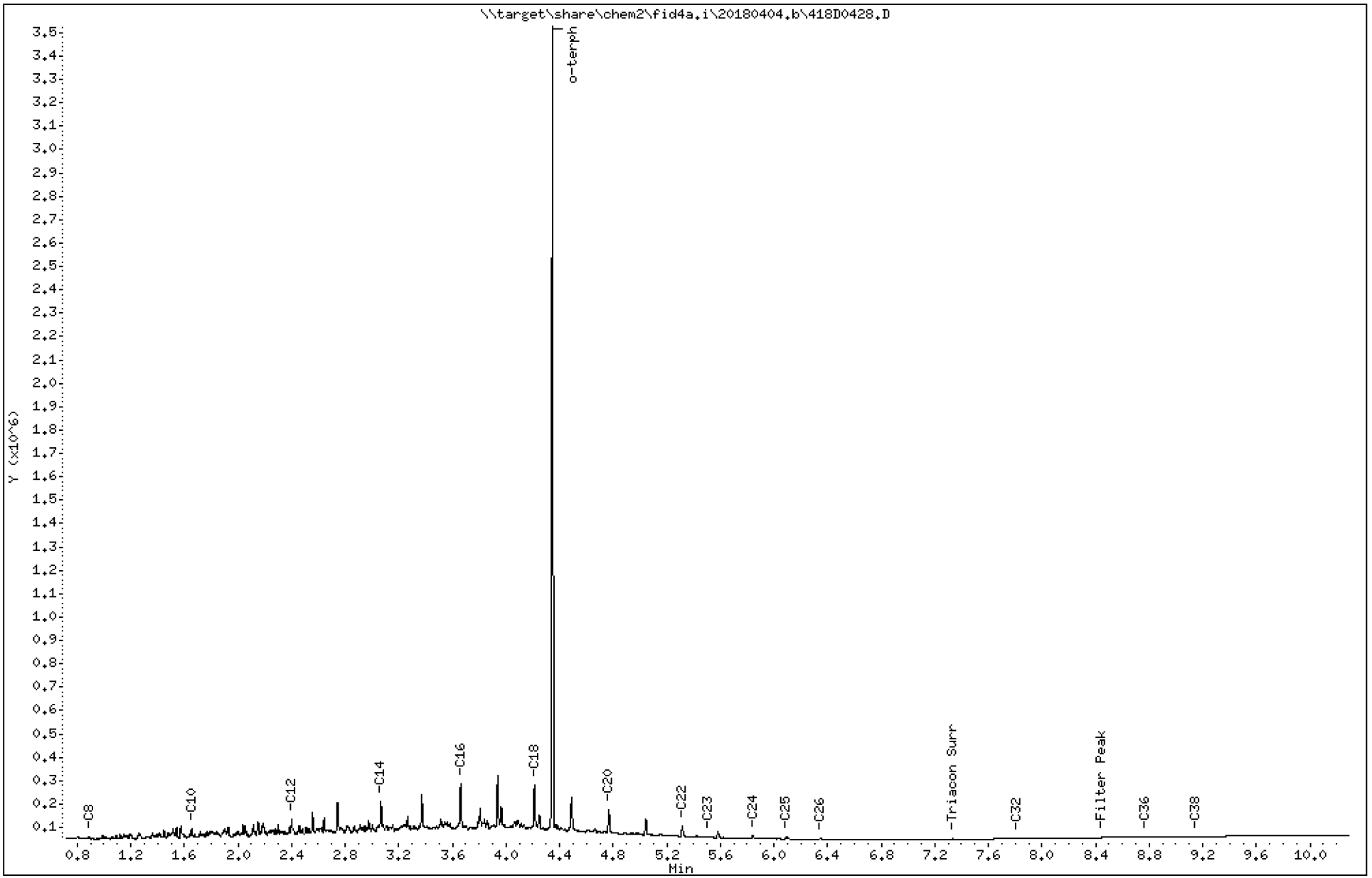
Instrument: fid4a.i

Sample Info: SGD0044-CCV3

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0428.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGD0044-CCV3
Client ID:
Injection: 04-APR-2018 20:51
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.889	0.005	10653	11901	WATPHD	(C12-C24)	8784694	518.3
C10	1.655	0.001	46670	38245	WATPHM	(C24-C38)	168754	8.7
C12	2.401	-0.000	87234	59223	AK102	(C10-C25)	10251595	515.3
C14	3.066	-0.000	162187	138892	AK103	(C25-C36)	113197	6.9
C16	3.661	-0.001	239768	294621	OR.DIES	(C10-C28)	10278564	515.1
C18	4.213	-0.000	233091	250462				
C20	4.767	-0.001	130577	144045				
C22	5.316	-0.000	58340	74548				
C24	5.843	-0.000	18049	25127				
C25	6.095	-0.001	9288	15157				
C26	6.347	0.000	3829	6248				
C32	7.814	0.008	4763	4393				
C34	----							
Filter Peak	8.448	-0.045	8664	7247	BUNKERC	(C10-C38)	10402445	1849.8
C36	8.770	0.048	11025	11442				
C38	9.153	-0.025	13030	5188				
C40	----							
o-terph	4.347	-0.005	3427368	2256309				
Triacon Surr	7.333	-0.011	2928	4619	NAS DIES	(C10-C24)	10233691	514.9

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	2256309	89.7	M
Triacontane	4619	0.2	

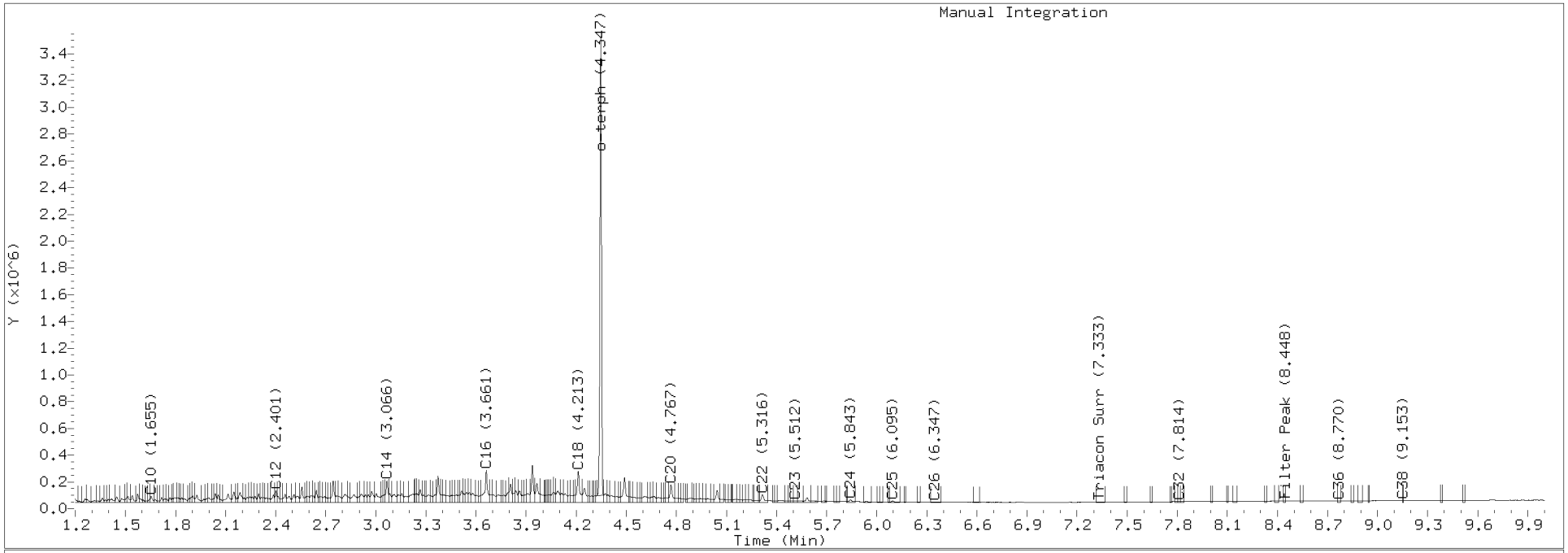
M Indicates the peak was manually integrated

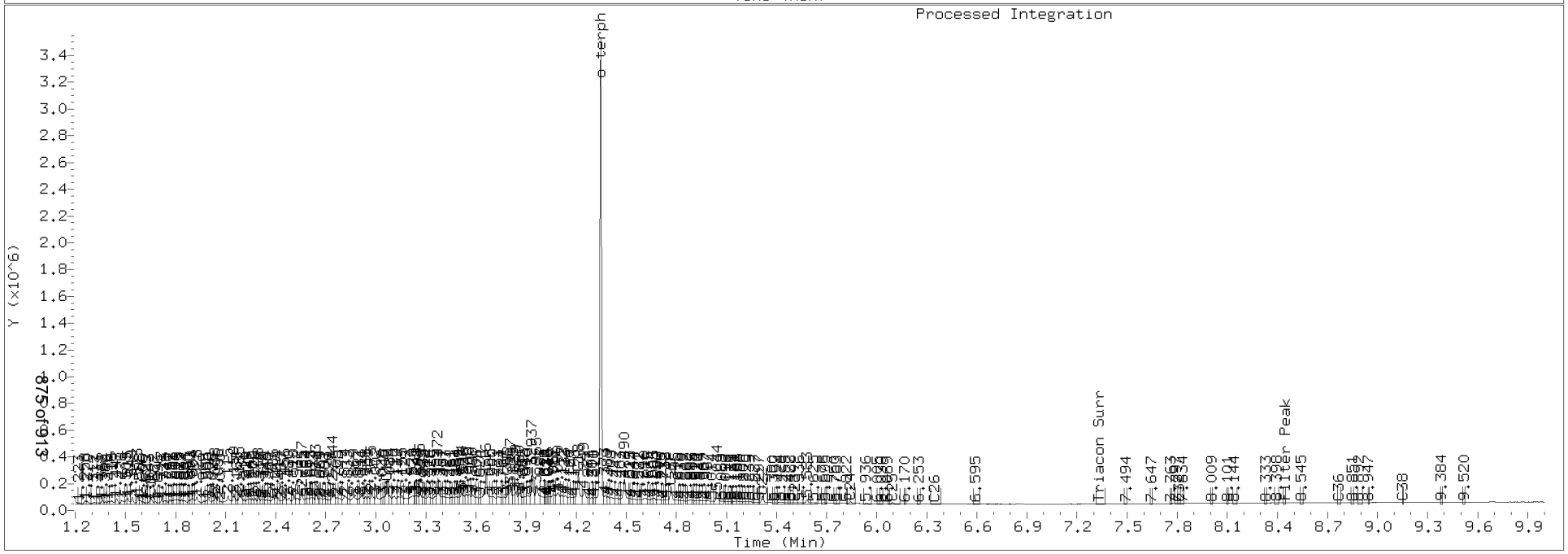
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0428.D Injection: 04-APR-2018 20:51

Lab ID:SGD0044-CCV3





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID4	Calibration:	BC00067
Lab File ID:	418D0429.D	Calibration Date:	03/27/18 15:31
Sequence:	SGD0044	Injection Date:	04/04/18
Lab Sample ID:	SGD0044-CCV4	Injection Time:	21:11
Sequence Name:	MOIL CCV4		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1070	19499.2	20828.1		6.8	15

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0429.D

Date : 04-APR-2018 21:11

Client ID:

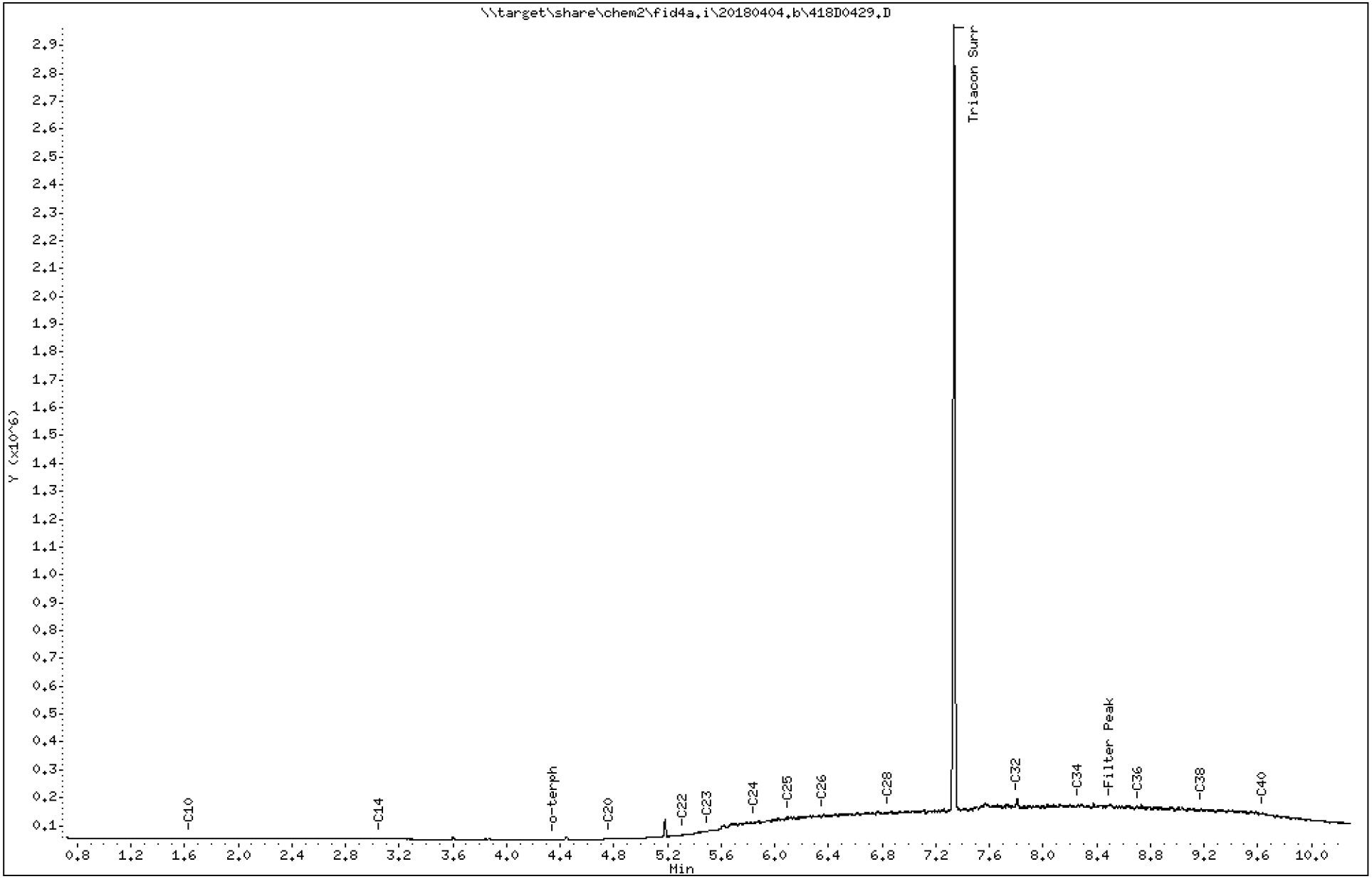
Sample Info: SGD0044-CCV4

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0429.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGD0044-CCV4
Client ID:
Injection: 04-APR-2018 21:11
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	1810994	106.8
C10	1.639	-0.014	4221	2053	WATPHM	(C24-C38)	20828096	1068.2
C12	----				AK102	(C10-C25)	2401728	120.7
C14	3.050	-0.016	3044	1728	AK103	(C25-C36)	17200409	1041.6
C16	----				OR.DIES	(C10-C28)	6902600	345.9
C18	----							
C20	4.765	-0.003	3222	5427				
C22	5.314	-0.002	17407	6866				
C24	5.847	0.004	61844	51167				
C25	6.097	0.001	81808	74630				
C26	6.356	0.009	88994	51472				
C28	6.849	0.004	96589	47810				
C32	7.807	0.001	148222	284670				
C34	8.260	-0.003	128504	129529				
Filter Peak	8.494	0.001	127781	62402	BUNKERC	(C10-C38)	22641144	4026.2
C36	8.715	-0.007	116555	68065				
C38	9.178	-0.001	114434	125706				
C40	9.638	0.004	95804	162817				
o-terph	4.345	-0.006	1917	1804				
Triacon Surr	7.338	-0.006	2821795	2834855	NAS DIES	(C10-C24)	1813047	91.2

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	1804	0.1	
Triacontane	2834855	95.6	M

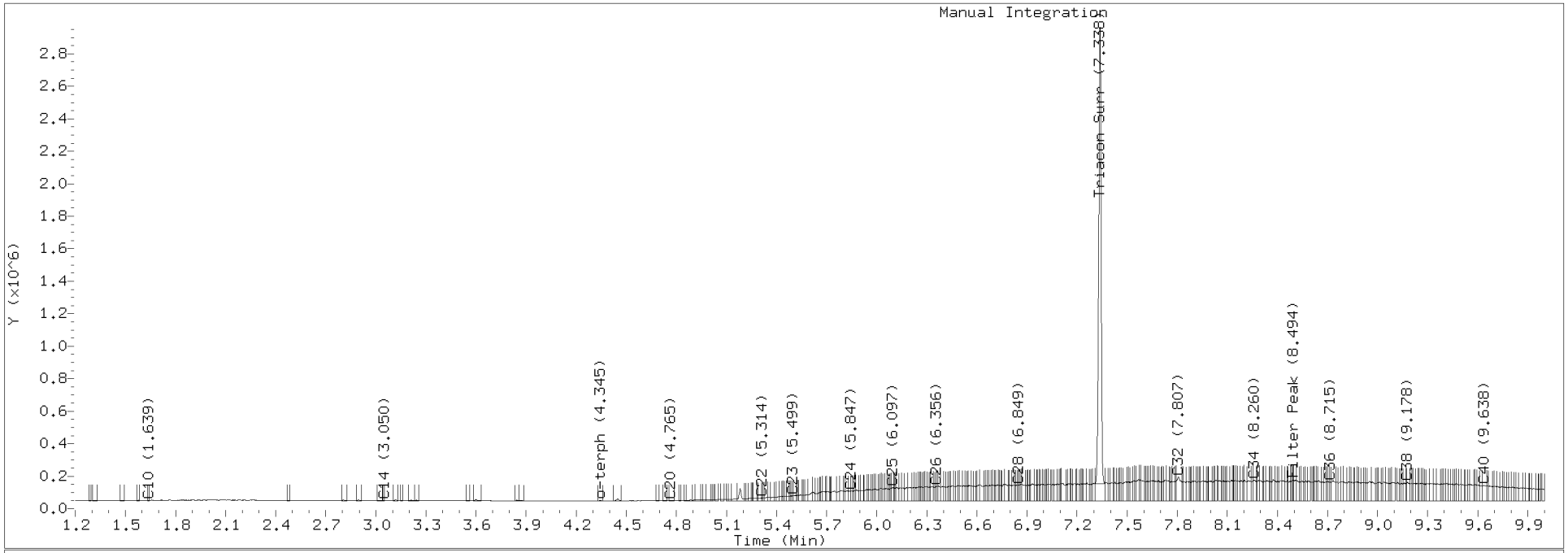
M Indicates the peak was manually integrated

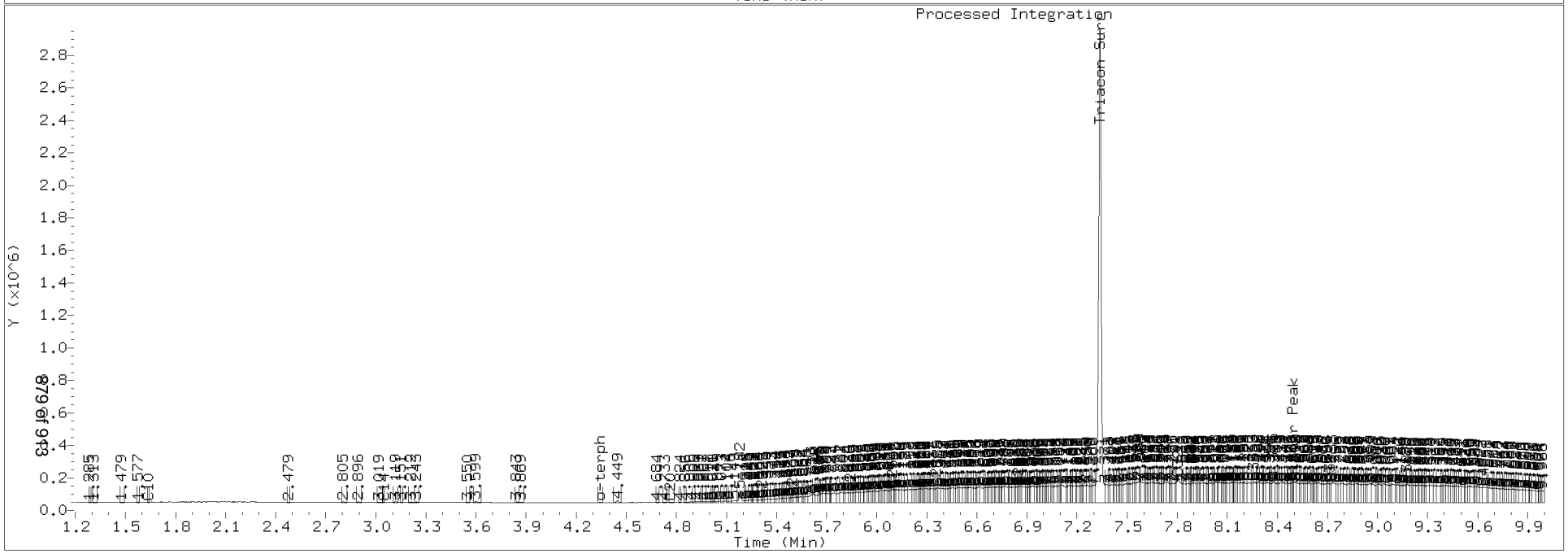
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0429.D Injection: 04-APR-2018 21:11

Lab ID:SGD0044-CCV4





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID4	Calibration:	BC00067
Lab File ID:	418D0441.D	Calibration Date:	03/27/18 15:31
Sequence:	SGD0044	Injection Date:	04/05/18
Lab Sample ID:	SGD0044-CCV5	Injection Time:	01:22
Sequence Name:	Diesel CCV5		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	559	16949.37	18960.85		11.9	15
o-Terphenyl	A	90.000	92.1	25166.01	25754.99		2.3	15

* Values outside of QC limits

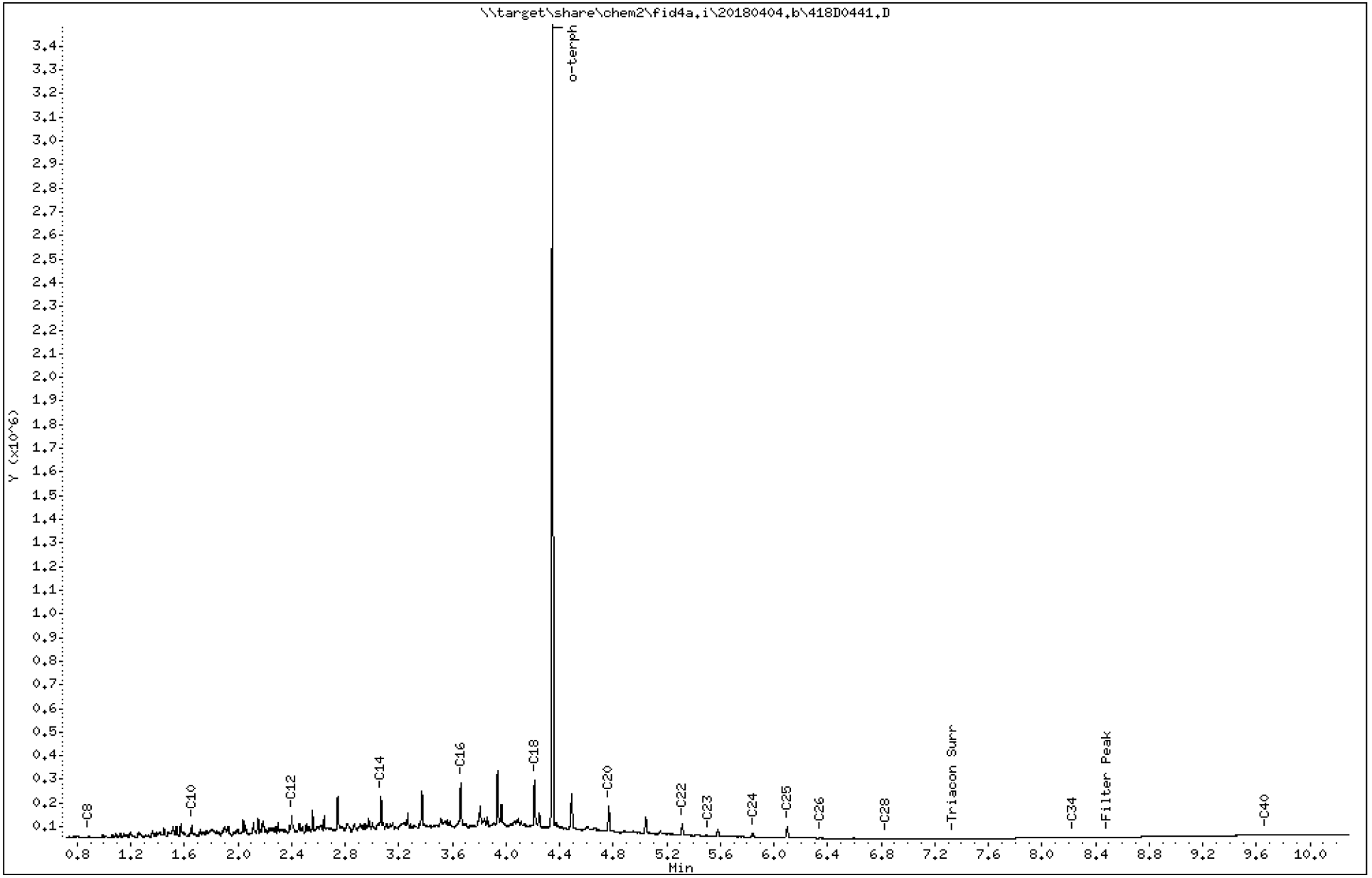
* Values outside of QC limits

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0441.D
Date : 05-APR-2018 01:22
Client ID:
Sample Info: SGD0044-CCV5

Column phase: RTX-1

Instrument: fid4a.i

Operator: MDL
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0441.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGD0044-CCV5
Client ID:
Injection: 05-APR-2018 01:22
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	0.888	0.004	12430	15782	WATPHD	(C12-C24)	9480427	559.4
C10	1.654	0.001	55198	44151	WATPHM	(C24-C38)	173288	8.9
C12	2.402	0.000	100325	71961	AK102	(C10-C25)	11169599	561.4
C14	3.067	0.000	179142	153995	AK103	(C25-C36)	107218	6.5
C16	3.662	-0.001	237716	231088	OR.DIES	(C10-C28)	11253969	564.0
C18	4.213	-0.000	250910	259302				
C20	4.768	-0.000	135804	150314				
C22	5.315	-0.001	62960	75585				
C24	5.842	-0.001	22190	27338				
C25	6.099	0.003	52029	56375				
C26	6.344	-0.003	6271	10054				
C28	6.838	-0.007	1188	1356				
C32	----							
C34	8.226	-0.037	5289	7528				
Filter Peak	8.489	-0.005	6692	4310	BUNKERC	(C10-C38)	11320670	2013.1
C36	----							
C38	----							
C40	9.664	0.029	15395	11438				
o-terph	4.347	-0.005	3388252	2317949				
Triacon Surr	7.332	-0.012	1776	1871	NAS DIES	(C10-C24)	11147381	560.9

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	2317949	92.1	M
Triacontane	1871	0.1	

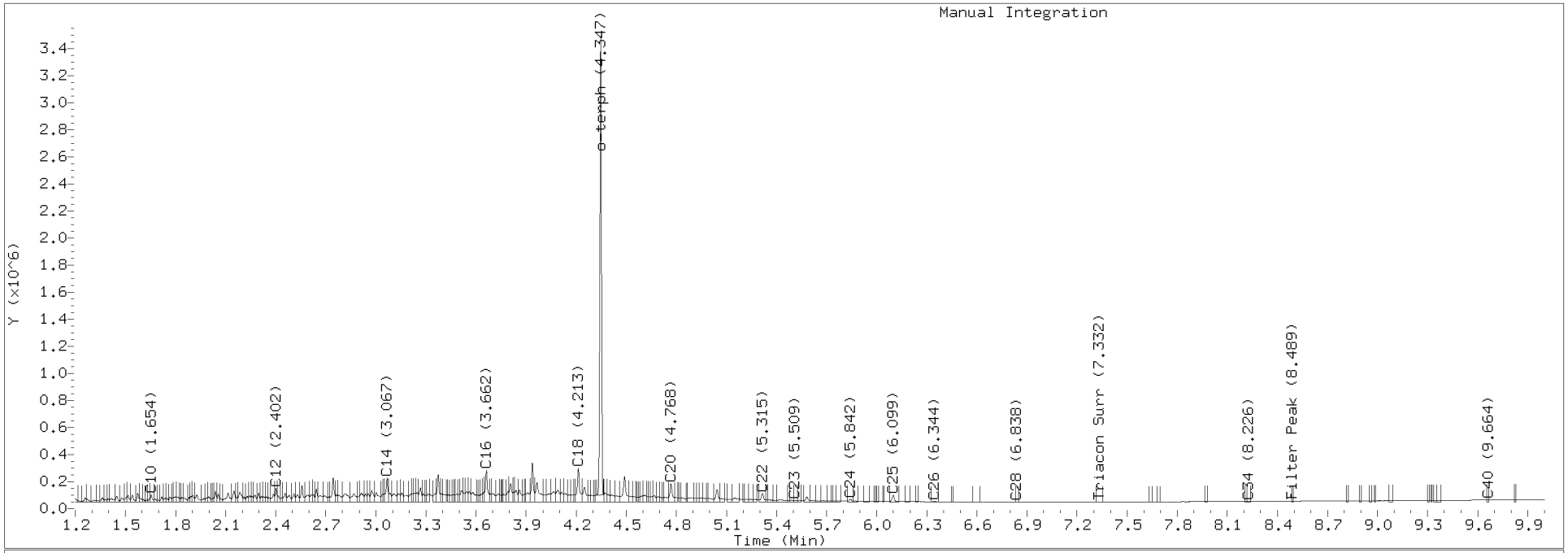
M Indicates the peak was manually integrated

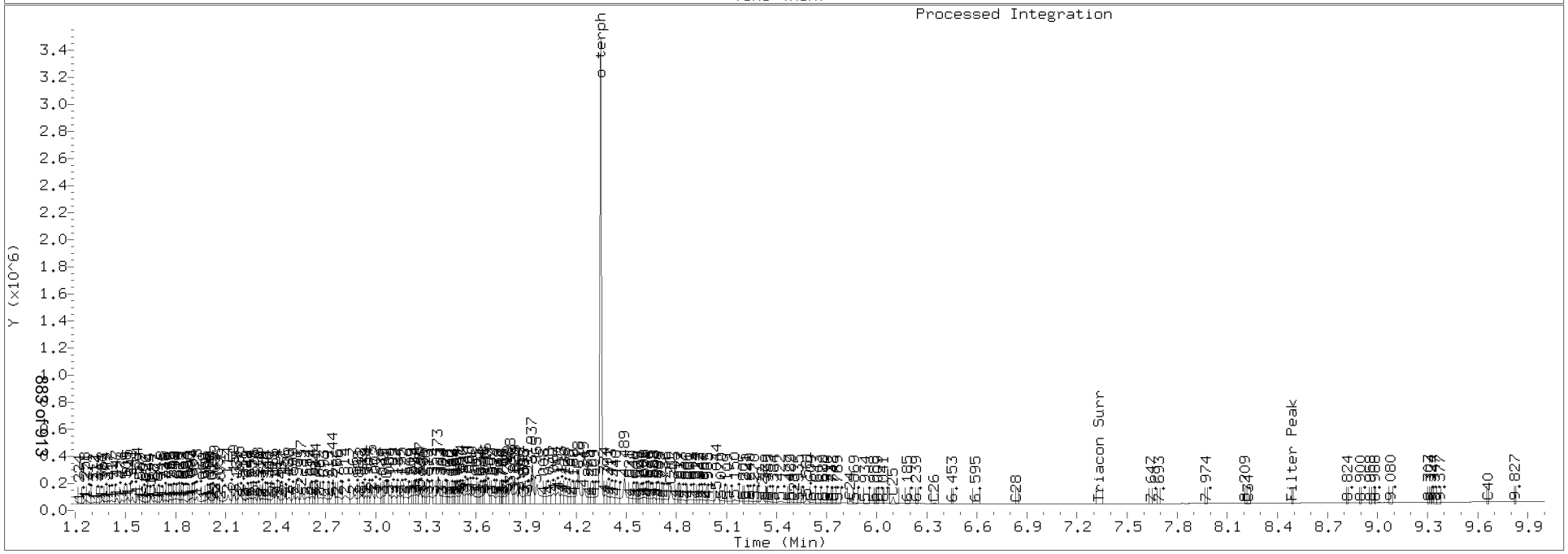
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0441.D Injection: 05-APR-2018 01:22

Lab ID:SGD0044-CCV5





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID4	Calibration:	BC00067
Lab File ID:	418D0442.D	Calibration Date:	03/27/18 15:31
Sequence:	SGD0044	Injection Date:	04/05/18
Lab Sample ID:	SGD0044-CCV6	Injection Time:	01:42
Sequence Name:	MOIL CCV6		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1040	19499.2	20213.55		3.7	15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a.i\20180404.b\418D0442.D

Date : 05-APR-2018 01:42

Client ID:

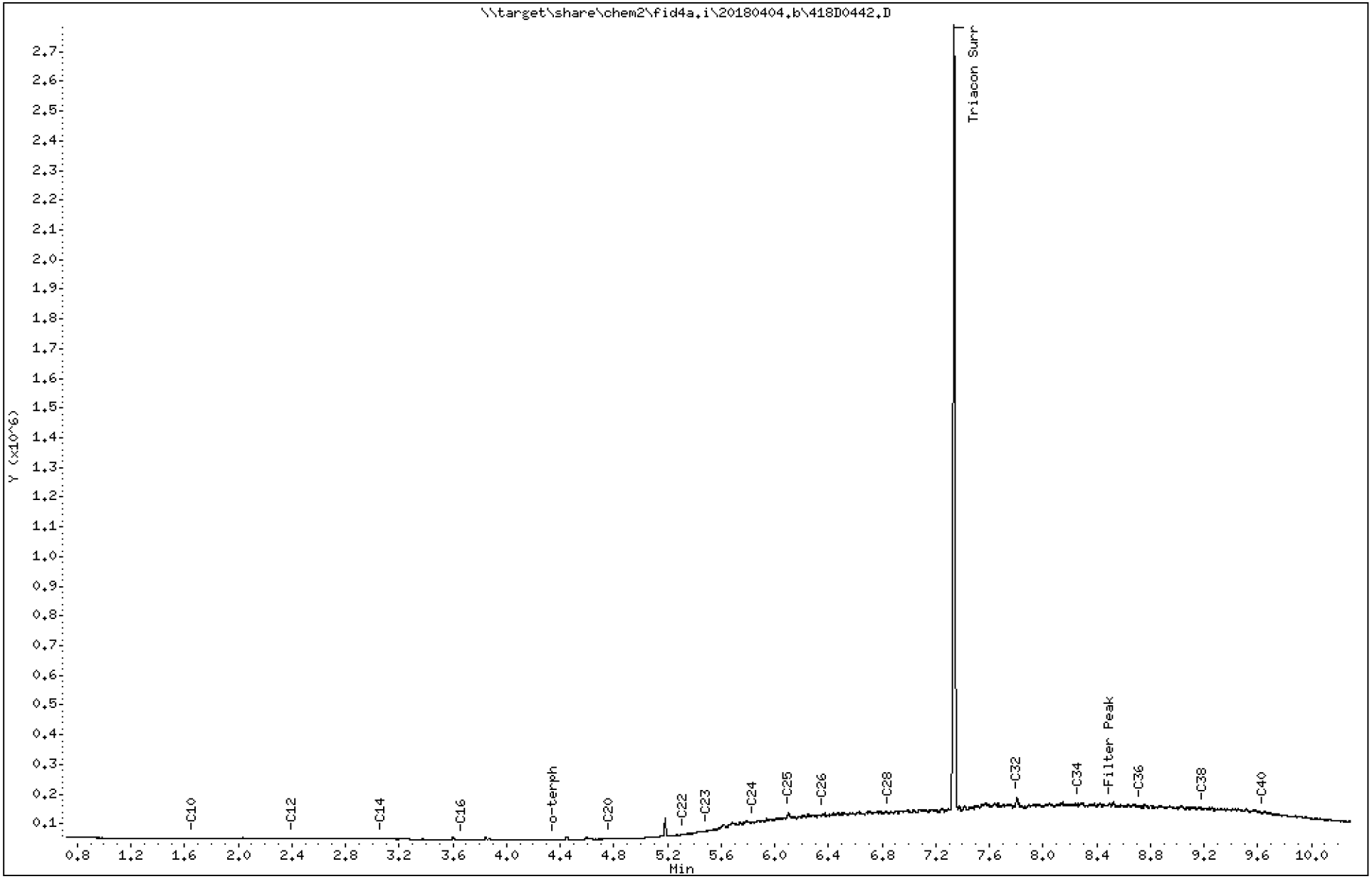
Sample Info: SGD0044-CCV6

Instrument: fid4a.i

Operator: MDL

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180404.b/418D0442.D
Method: 20180404.b\FID4TPH.m
Instrument: fid4a.i, MDL
Report Date: 04/05/2018
Macro: 27-MAR-2018
Calibration Dates: Gas:XX-XXX-XXXX Diesel:27-MAR-2018 M.Oil:27-MAR-2018

ARI ID: SGD0044-CCV6
Client ID:
Injection: 05-APR-2018 01:42
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	----				WATPHD	(C12-C24)	1887483	111.4
C10	1.654	0.001	6597	8562	WATPHM	(C24-C38)	20213551	1036.6
C12	2.402	0.000	6696	9145	AK102	(C10-C25)	2566633	129.0
C14	3.067	0.000	5005	5563	AK103	(C25-C36)	16646737	1008.0
C16	3.661	-0.001	1930	2563	OR.DIES	(C10-C28)	6902650	345.9
C18	----							
C20	4.768	-0.001	3531	3759				
C22	5.316	-0.001	18539	14314				
C24	5.839	-0.004	61255	73546				
C25	6.100	0.004	91236	187478				
C26	6.355	0.009	86787	83394				
C28	6.848	0.003	92104	49284				
C32	7.807	0.001	141455	300780				
C34	8.264	0.000	122134	70784				
Filter Peak	8.492	-0.001	122609	143650	BUNKERC	(C10-C38)	22158111	3940.3
C36	8.720	-0.002	116767	141526				
C38	9.189	0.010	103876	66541				
C40	9.638	0.004	91484	27182				
o-terph	4.344	-0.007	2071	2256				
Triacon Surr	7.337	-0.007	2643499	2687711	NAS DIES	(C10-C24)	1944561	97.8

Range Times: NW Diesel(2.402 - 5.843) AK102(1.65 - 6.10) Jet A(1.65 - 4.21)
NW M.Oil(5.84 - 9.18) AK103(6.10 - 8.72) OR Diesel(1.65 - 6.84)

Surrogate	Area	Amount	
o-Terphenyl	2256	0.1	
Triacontane	2687711	90.7	M

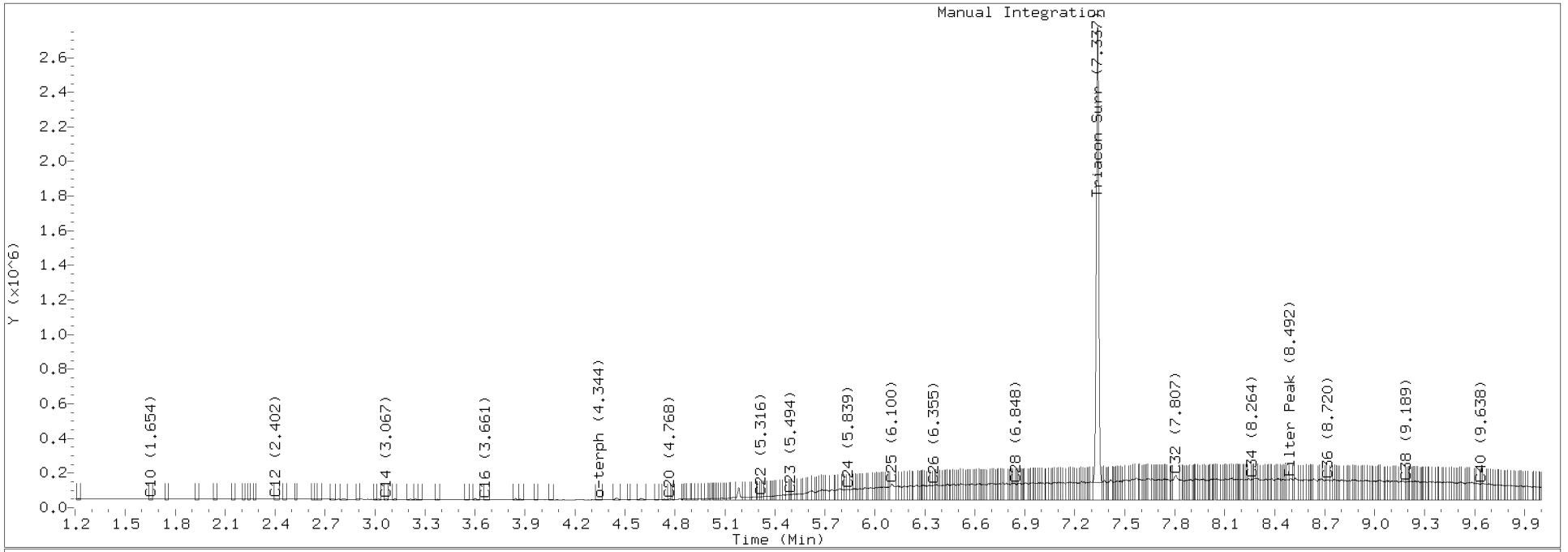
M Indicates the peak was manually integrated

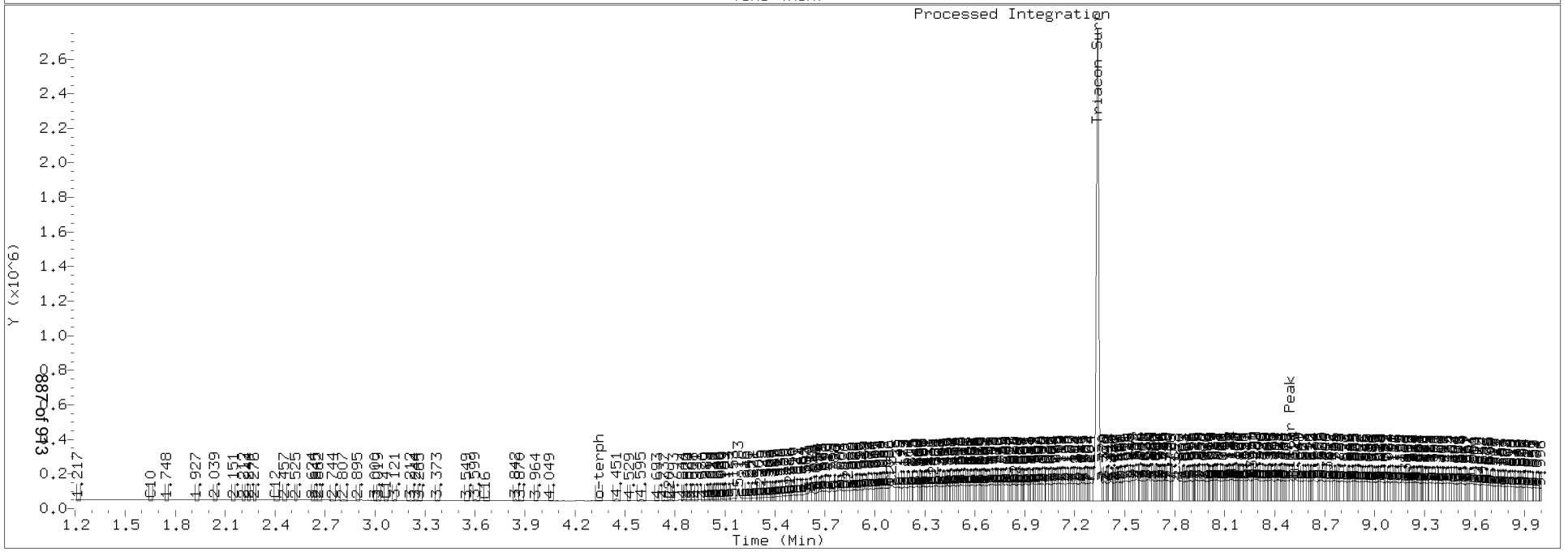
Analyte	RF	Curve Date
o-Terph Surr	25166.0	27-MAR-2018
Triacon Surr	29646.7	27-MAR-2018
Gas	15000.0	XX-XXX-XXXX
Diesel	16949.0	27-MAR-2018
Motor Oil	19499.0	27-MAR-2018
AK102	19895.0	27-MAR-2018
AK103	16514.0	27-MAR-2018
OR Diesel	19953.0	27-MAR-2018
NAS Diesel	19874.0	27-MAR-2018
Bunker C	5623.4	30-MAR-2018

TPH Manual Integrations Report

Datafile: FID4A, 20180404.b/418D0442.D Injection: 05-APR-2018 01:42

Lab ID:SGD0044-CCV6





Analytical Resources, Incorporated

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGC0396	Instrument:	FID4
		Calibration:	BC00067

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Std	SGC0396-IBL1	418C2714.D	NA	03/27/18 14:59
Instrument Blank	SGC0396-IBL2	418C2715.D	NA	03/27/18 15:20
Diesel 50	SGC0396-CAL1	418C2718.D	NA	03/27/18 17:18
Diesel 100	SGC0396-CAL2	418C2719.D	NA	03/27/18 17:39
Diesel 250	SGC0396-CAL3	418C2720.D	NA	03/27/18 18:00
Diesel 500	SGC0396-CAL4	418C2721.D	NA	03/27/18 18:21
Diesel 1000	SGC0396-CAL5	418C2722.D	NA	03/27/18 18:42
Diesel 2500	SGC0396-CAL6	418C2723.D	NA	03/27/18 19:03
MOIL 100	SGC0396-CAL7	418C2724.D	NA	03/27/18 19:23
Moil 250	SGC0396-CAL8	418C2725.D	NA	03/27/18 19:44
Moil 500	SGC0396-CAL9	418C2726.D	NA	03/27/18 20:04
Moil 1000	SGC0396-CALA	418C2727.D	NA	03/27/18 20:25
Moil 2500	SGC0396-CALB	418C2728.D	NA	03/27/18 20:47
Moil 5000	SGC0396-CALC	418C2729.D	NA	03/27/18 21:07
DIES SCV 500	SGC0396-SCV1	418C2730.D	NA	03/27/18 21:28
Moil SCV 1000	SGC0396-SCV2	418C2731.D	NA	03/27/18 21:48

Printed: 3/28/2018 3:37:49PM

ANALYSIS SEQUENCE

SGC0396

Instrument: FID4 Element Column ID:
Calibration ID: BC00067

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGC0396-IBL1	Retention Time Std	QC		1	F011826		
SGC0396-IBL2	Instrument Blank	QC		2	F011834		
SGC0396-CAL1	Diesel 50	QC		3	G002337		
SGC0396-CAL2	Diesel 100	QC		4	G002336		
SGC0396-CAL3	Diesel 250	QC		5	G002335		
SGC0396-CAL4	Diesel 500	QC		6	G002334		
SGC0396-CAL5	Diesel 1000	QC		7	G002333		
SGC0396-CAL6	Diesel 2500	QC		8	G002332		
SGC0396-CAL7	MOIL 100	QC		9	G000264		
SGC0396-CAL8	Moil 250	QC		10	G000263		
SGC0396-CAL9	Moil 500	QC		11	G000262		
SGC0396-CALA	Moil 1000	QC		12	G000261		
SGC0396-CALB	Moil 2500	QC		13	G000260		
SGC0396-CALC	Moil 5000	QC		14	G000259		
SGC0396-SCV1	DIES SCV 500	QC		15	F011649		
SGC0396-SCV2	Moil SCV 1000	QC		16	G002331		

Security Status Report

Date: 28-Mar-2018 15:18

418C2714.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2715.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2718.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2719.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2720.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2721.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2722.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2723.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2724.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2725.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2726.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2727.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2728.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2729.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2730.D	Data Locked	maxl, 28-Mar-2018 15:18
418C2731.D	Data Locked	maxl, 28-Mar-2018 15:18

GC LOG SUMMARY FOR DATABATCH - \\TARGET\share\chem2\fid4a.i\20180327.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	27-MAR-2018 10:13	418C2701.D	1	RINSE	
2	27-MAR-2018 10:33	418C2702.D	1	RINSE	
3	27-MAR-2018 10:55	418C2703.D	1	RT	
4	27-MAR-2018 11:13	418C2704.D	1	RT	
5	27-MAR-2018 11:33	418C2705.D	1	IB	
6	27-MAR-2018 11:53	418C2706.D	1	D500	
7	27-MAR-2018 12:15	418C2707.D	1	D500	
8	27-MAR-2018 12:36	418C2708.D	1	D500	
9	27-MAR-2018 12:56	418C2709.D	1	M1000	
10	27-MAR-2018 13:17	418C2710.D	1	M1000	
11	27-MAR-2018 13:38	418C2711.D	1	M1000	
12	27-MAR-2018 14:17	418C2712.D	1	RINMSE	
13	27-MAR-2018 14:38	418C2713.D	1	RINMSE	
14	27-MAR-2018 14:59	418C2714.D	1	RT	
15	27-MAR-2018 15:20	418C2715.D	1	IB	
16	27-MAR-2018 15:40	418C2716.D	1	D500	
17	27-MAR-2018 16:00	418C2717.D	1	M1000	
18	27-MAR-2018 17:18	418C2718.D	1	SEQ-CAL1	
19	27-MAR-2018 17:39	418C2719.D	1	SEQ-CAL2	
20	27-MAR-2018 18:00	418C2720.D	1	SEQ-CAL3	
21	27-MAR-2018 18:21	418C2721.D	1	SEQ-CAL4	
22	27-MAR-2018 18:42	418C2722.D	1	SEQ-CAL5	
23	27-MAR-2018 19:03	418C2723.D	1	SEQ-CAL6	
24	27-MAR-2018 19:23	418C2724.D	1	SEQ-CAL7	
25	27-MAR-2018 19:44	418C2725.D	1	SEQ-CAL8	
26	27-MAR-2018 20:04	418C2726.D	1	SEQ-CAL9	
27	27-MAR-2018 20:25	418C2727.D	1	SEQ-CALA	
28	27-MAR-2018 20:47	418C2728.D	1	SEQ-CALB	
29	27-MAR-2018 21:07	418C2729.D	1	SEQ-CALC	
30	27-MAR-2018 21:28	418C2730.D	1	SEQ-SCV1	
31	27-MAR-2018 21:48	418C2731.D	1	SEQ-SCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\TARGET\share\chem2\fid4a.i\20180327.b

ARI Job No.: SEQ- Method: FID4TPH.m Instrument: fid4a.i Date: 27-MAR-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1459	418C2714.D	SEQ-IBL1		1	C40,
1520	418C2715.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1718	418C2718.D	SEQ-CAL1		1	Filter Peak, o-terph,
1739	418C2719.D	SEQ-CAL2		1	Filter Peak, o-terph,
1800	418C2720.D	SEQ-CAL3		1	Filter Peak, o-terph,
1821	418C2721.D	SEQ-CAL4		1	Filter Peak, o-terph,
1842	418C2722.D	SEQ-CAL5		1	Filter Peak, o-terph,
1903	418C2723.D	SEQ-CAL6		1	Filter Peak, o-terph,
1923	418C2724.D	SEQ-CAL7		1	Triacon Surr,
1944	418C2725.D	SEQ-CAL8		1	Triacon Surr,
2004	418C2726.D	SEQ-CAL9		1	Triacon Surr,
2025	418C2727.D	SEQ-CALA		1	Triacon Surr,
2047	418C2728.D	SEQ-CALB		1	Triacon Surr,
2107	418C2729.D	SEQ-CALC		1	Triacon Surr,
2128	418C2730.D	SEQ-SCV1		1	o-terph,
2148	418C2731.D	SEQ-SCV2		1	Triacon Surr,

Analytical Resources, Incorporated

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGC0447	Instrument:	FID4
		Calibration:	BC00067

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Std	SGC0447-IBL1	418C3001.D	NA	03/30/18 11:49
Instrument Blank	SGC0447-IBL2	418C3002.D	NA	03/30/18 12:09

Printed: 4/2/2018 12:38:52PM

ANALYSIS SEQUENCE

SGC0447

Instrument: FID4 Element Column ID: F002859
Calibration ID: BC00067

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGC0447-IBL1	Retention Time Std	QC		1	F011826		
SGC0447-IBL2	Instrument Blank	QC		2	F011834		
SGC0447-CAL1	A/S Bunker C 250	QC		3	G002184		
SGC0447-CAL2	A/S Bunker C 500	QC		4	G002183		
SGC0447-CAL3	A/S Bunker C 1000	QC		5	G002182		
SGC0447-CAL4	A/S Bunker C 2500	QC		6	G002181		
SGC0447-CAL5	A/S Bunker C 5000	QC		7	G002180		
SGC0447-CAL6	A/S Bunker C 10000	QC		8	G002169		

GC LOG SUMMARY FOR DATABATCH - \\TARGET\share\chem2\fid4a.i\20180330.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	30-MAR-2018 11:28	418C3000.D	1	RINSE	
2	30-MAR-2018 11:49	418C3001.D	1	SGC0447-IBL1	
3	30-MAR-2018 12:09	418C3002.D	1	SGC0447-IBL2	
4	30-MAR-2018 12:29	418C3003.D	1	SGC0447-CAL1	
5	30-MAR-2018 12:52	418C3004.D	1	SGC0447-CAL2	
6	30-MAR-2018 13:13	418C3005.D	1	SGC0447-CAL3	
7	30-MAR-2018 13:33	418C3006.D	1	SGC0447-CAL4	
8	30-MAR-2018 13:54	418C3007.D	1	SGC0447-CAL5	
9	30-MAR-2018 14:16	418C3008.D	1	SGC0447-CAL6	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\TARGET\share\chem2\fid4a.i\20180330.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 30-MAR-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1128	418C3000.D	RINSE		1	NO MANUAL INTEGRATION
1149	418C3001.D	SGC0447-IBL1		1	NO MANUAL INTEGRATION
1209	418C3002.D	SGC0447-IBL2		1	NO MANUAL INTEGRATION
1229	418C3003.D	SGC0447-CAL1		1	o-terph,
1252	418C3004.D	SGC0447-CAL2		1	o-terph,
1313	418C3005.D	SGC0447-CAL3		1	o-terph,
1333	418C3006.D	SGC0447-CAL4		1	o-terph,
1354	418C3007.D	SGC0447-CAL5		1	o-terph,
1416	418C3008.D	SGC0447-CAL6		1	o-terph,

Security Status Report

Date: 02-Apr-2018 12:38

418C3000.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3001.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3002.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3003.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3004.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3005.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3006.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3007.D	Data Locked	maxl, 02-Apr-2018 12:38
418C3008.D	Data Locked	maxl, 02-Apr-2018 12:38
FID4TPH.m	Method Locked	maxl, 02-Apr-2018 12:38

Analytical Resources, Incorporated

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGD0044	Instrument:	FID4
		Calibration:	BC00067

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Std	SGD0044-IBL1	418D0402.D	NA	04/04/18 11:39
Instrument Blank	SGD0044-IBL2	418D0403.D	NA	04/04/18 12:01
Diesel CCV1	SGD0044-ICV1	418D0404.D	NA	04/04/18 12:21
MOIL CCV2	SGD0044-ICV2	418D0405.D	NA	04/04/18 12:41
ZZZZZ	18C0363-03RE1	418D0406.D	Water	04/04/18 13:02
ZZZZZ	18C0363-04RE1	418D0407.D	Water	04/04/18 13:23
ZZZZZ	BGD0036-BLK1	418D0408.D	Solid	04/04/18 13:45
ZZZZZ	BGD0036-BS1	418D0409.D	Solid	04/04/18 14:05
ZZZZZ	18C0403-01	418D0410.D	Solid	04/04/18 14:26
ZZZZZ	18C0403-02	418D0411.D	Solid	04/04/18 14:46
Diesel CCV1	SGD0044-CCV1	418D0412.D	NA	04/04/18 15:17
MOIL CCV2	SGD0044-CCV2	418D0413.D	NA	04/04/18 15:38
Blank	BGC0815-BLK1	418D0414.D	Water	04/04/18 15:58
LCS	BGC0815-BS1	418D0415.D	Water	04/04/18 16:20
MW-4-180326	18C0424-01	418D0416.D	Water	04/04/18 16:41
ZZZZZ	18C0445-01	418D0417.D	Water	04/04/18 17:01
ZZZZZ	18C0445-02	418D0418.D	Water	04/04/18 17:22
ZZZZZ	18C0457-01	418D0419.D	Water	04/04/18 17:43
ZZZZZ	18C0457-02	418D0420.D	Water	04/04/18 18:05
ZZZZZ	18C0457-03	418D0421.D	Water	04/04/18 18:25
ZZZZZ	18C0457-04	418D0422.D	Water	04/04/18 18:46
ZZZZZ	18C0457-05	418D0425.D	Water	04/04/18 19:47
ZZZZZ	18C0457-06	418D0426.D	Water	04/04/18 20:10
ZZZZZ	18C0457-07	418D0427.D	Water	04/04/18 20:30
Diesel CCV3	SGD0044-CCV3	418D0428.D	NA	04/04/18 20:51
MOIL CCV4	SGD0044-CCV4	418D0429.D	NA	04/04/18 21:11
ZZZZZ	18C0474-01	418D0430.D	Water	04/04/18 21:32
Blank	BGC0819-BLK1	418D0431.D	Water	04/04/18 21:52
LCS	BGC0819-BS1	418D0432.D	Water	04/04/18 22:14
MW-4-180326	18C0424-02	418D0433.D	Water	04/04/18 22:35
ZZZZZ	BGD0040-BLK1	418D0434.D	Water	04/04/18 22:56

Analytical Resources, Incorporated

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGD0044	Instrument:	FID4
		Calibration:	BC00067

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	BGD0040-BS1	418D0435.D	Water	04/04/18 23:16
ZZZZZ	18D0001-01	418D0436.D	Water	04/04/18 23:37
ZZZZZ	18D0001-02	418D0437.D	Water	04/04/18 23:57
ZZZZZ	18D0001-03	418D0438.D	Water	04/05/18 00:19
ZZZZZ	18D0027-01	418D0440.D	Water	04/05/18 01:01
Diesel CCV5	SGD0044-CCV5	418D0441.D	NA	04/05/18 01:22
MOIL CCV6	SGD0044-CCV6	418D0442.D	NA	04/05/18 01:42

SVCA Area Z Remediation
18C0424

Analysis	Matrix	Method
TPH NW (Extractables) low level	Water	NWTPH-Dx

Checklist: Analyst Checklist-FID(rev2)

#	Checklist Item	Response		Analyst Initials	Date
1	Detail all ICV/CCV failures for all affected Workorders	NA		PKC	04/05/2018
2	Narrate any Retention times not within windows for all affected Workorders	NA		PKC	04/05/2018
3	Manual Integrations were applied as per SOP 1021s	YES		PKC	04/05/2018
4	Narrate any Workorders where the Project specific requirements have not been met	NA		PKC	04/05/2018
5	An extract dilution bench sheet is attached to the sequence for all dilutions performed	YES		PKC	04/05/2018
6	Extraction basis, cleanups, and total solids are correctly entered	YES		PKC	04/05/2018
7	AUTOCHECK: Blank checked for exceedence of criteria	YES	*	PKC	04/05/2018
8	AUTOCHECK: Check blank spike recovery	YES	*	PKC	04/05/2018
9	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	NA	*	PKC	04/05/2018
10	AUTOCHECK: Compounds in method designated as blank spike compounds are present	NO	*	PKC	04/05/2018

Comments:
Motor Oil Range Organics (C24-C38) was not spiked into LCS BGC0684-BS1 for TPH NW (Extractables) low level

Motor Oil Range Organics (C24-C38) was not spiked into LCS BGC0815-BS1 for TPH NW (Extractables) low level

Motor Oil Range Organics (C24-C38) was not spiked into LCS BGC0819-BS1 for TPH NW (Extractables) low level

Motor Oil Range Organics (C24-C38) was not spiked into LCS BGD0036-BS1 for TPH NW (Extractables) low level

Motor Oil Range Organics (C24-C38) was not spiked into LCS BGD0040-BS1 for TPH NW (Extractables) low level

spike mix contains diesel only.

11	AUTOCHECK: Check %RPD between sample and sample duplicate	NA	*	PKC	04/05/2018
12	AUTOCHECK: Matrix spike recoveries within limits	NO	*	PKC	04/05/2018

Comments:
Matrix Spike Recovery for Diesel Range Organics (C12-C24) (136%) was outside acceptance limits (56-120) in BGC0684-MS1 for TPH NW (Extractables) low level

MS recovery limits are advisory.

13	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NO	*	PKC	04/05/2018

Comments:
Matrix Spike Duplicate RPD for Motor Oil Range Organics (C24-C38) (36.8%) was above the acceptance limit (30) in BGC0815-MSD1 for TPH NW (Extractables) low level
- Flagged value is not within established control limits.
This range is not spiked.

* = Indicates Automated Response from Element DataSyst

SVCA Area Z Remediation
18C0424

Analysis	Matrix	Method
TPH NW (Extractables) low level	Water	NWTPH-Dx

Checklist: Analyst Checklist-FID(rev2)

#	Checklist Item	Response	Analyst Initials	Date
14	AUTOCHECK: List of compounds listed as spiked are present	NO *	PKC	04/05/2018

Comments:
Motor Oil Range Organics (C24-C38) was not spiked into Matrix Spike BGC0684-MS1 for TPH NW (Extractables) low level

Motor Oil Range Organics (C24-C38) was not spiked into Matrix Spike BGC0815-MS1 for TPH NW (Extractables) low level

Motor Oil Range Organics (C24-C38) was not spiked into Matrix Spike BGC0815-MSD1 for TPH NW (Extractables) low level
- Flagged value is not within established control limits.

Spike contains diesel only.

#	Checklist Item	Response	Analyst Initials	Date
15	AUTOCHECK: Check Surrogate recoveries	YES *	PKC	04/05/2018
16	AUTOCHECK: Checks Surrogate spike list against Analysis	YES *	PKC	04/05/2018
17	Data locked, checklist completed and status is analyzed (REVIEWER)	YES	BB	04/05/2018
18	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES	BB	04/05/2018
19	List of samples or QC in this sequence that will require additional runs-verify reshot created (ANALYST)	YES	PKC	04/05/2018

Comments:
18D0027-01 requires further dilution. 10x dilution reported for surrogate recoveries.

#	Checklist Item	Response	Analyst Initials	Date
20	List of samples or QC in this sequence that are re-analysis or dilutions of samples (ANALYST)	YES	PKC	04/05/2018

Comments:
18C0363-03RE1 and -04RE1 are dilutions.

#	Checklist Item	Response	Analyst Initials	Date
21	Additional Notes (ANALYST and REVIEWER)	NA	BB	04/05/2018

* = Indicates Automated Response from Element DataSyst

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 4/5/2018 2:21:12PM

ANALYSIS SEQUENCE

SGD0044

Instrument: FID4 Element Column ID: F002859
Calibration ID: BC00067

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGD0044-IBL1	Retention Time Std	QC		1	F011826		
SGD0044-IBL2	Instrument Blank	QC		2	F011834		
SGD0044-ICV1	Diesel CCV1	QC		3	G002334		
SGD0044-ICV2	MOIL CCV2	QC		4	G002553		
18C0363-03RE1	92-10S	TPH NW (Extractables) low level	F 01	5			Added 4/4/2018 by MDL
18C0363-04RE1	51-2	TPH NW (Extractables) low level	F 01	6			Added 4/4/2018 by MDL
BGD0036-BLK1	Blank	QC		7			
BGD0036-BS1	LCS	QC		8			
18C0403-01	BK-97810	TPH NW (Extractables) low level	A 02	9			Acid/Silica Cleanup w/ signature match
18C0403-02	BK-97811	TPH NW (Extractables) low level	A 02	10			Acid/Silica Cleanup w/ signature match
SGD0044-CCV1	Diesel CCV1	QC		11	G002334		
SGD0044-CCV2	MOIL CCV2	QC		12	G002553		
BGC0815-BLK1	Blank	QC		13			
BGC0815-BS1	LCS	QC		14			
18C0424-01	MW-4-180326	TPH NW (Extractables) low level	A 01	15			
18C0445-01	032818 02	TPH NW (Extractables) low level	C 01	16			
18C0445-02	032818 03	TPH NW (Extractables) low level	C 01	17			
18C0457-01	CNGMW-8	TPH NW (Extractables) low level	A 01	18			Client Gets raw data
18C0457-02	CNGMW-9	TPH NW (Extractables) low level	A 01	19			Client Gets raw data
18C0457-03	CNGMW-1	TPH NW (Extractables) low level	A 01	20			Client Gets raw data
18C0457-04	CNGMW-3	TPH NW (Extractables) low level	A 01	21			Client Gets raw data
BGC0815-MS1	Matrix Spike	QC		22			

Printed: 4/5/2018 2:21:12PM

ANALYSIS SEQUENCE

SGD0044

Instrument: FID4 Element Column ID: F002859
Calibration ID: BC00067

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
BGC0815-MSD1	Matrix Spike Dup	QC		23			
18C0457-05	CNGMW-4	TPH NW (Extractables) low level	A 01	24			Client Gets raw data
18C0457-06	CNGMW-5	TPH NW (Extractables) low level	A 01	25			Client Gets raw data
18C0457-07	CNGMW-6	TPH NW (Extractables) low level	A 01	26			Client Gets raw data
SGD0044-CCV3	Diesel CCV3	QC		27	G002334		
SGD0044-CCV4	MOIL CCV4	QC		28	G002553		
18C0474-01	Q12018	TPH NW (Extractables) low level	C 01	29			
BGC0819-BLK1	Blank	QC		30			
BGC0819-BS1	LCS	QC		31			
18C0424-02	MW-4-180326	TPH NW (Extractables) low level	A 01	32			
BGD0040-BLK1	Blank	QC		33			
BGD0040-BS1	LCS	QC		34			
18D0001-01	MW-05	TPH NW (Extractables) low level	B 01	35			
18D0001-02	MW-06	TPH NW (Extractables) low level	B 01	36			
18D0001-03	MW-07R	TPH NW (Extractables) low level	B 01	37			
18D0027-01	;3-313;N180309 WaterWithTrac	TPH NW (Extractables) low level	C 01	38			
SGD0044-CCV5	Diesel CCV5	QC		39	G002334		
SGD0044-CCV6	MOIL CCV6	QC		40	G002553		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20180404.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	04-APR-2018 10:57	418D0400.D	1	RINSE	
2	04-APR-2018 11:17	418D0401.D	1	RINSE	
3	04-APR-2018 11:39	418D0402.D	1	SGD0044-IBL1	
4	04-APR-2018 12:01	418D0403.D	1	SGD0044-IBL2	
5	04-APR-2018 12:21	418D0404.D	1	SGD0044-ICV1	
6	04-APR-2018 12:41	418D0405.D	1	SGD0044-ICV2	
7	04-APR-2018 13:02	418D0406.D	5	18C0363-03RE1	
8	04-APR-2018 13:23	418D0407.D	5	18C0363-04RE1	
9	04-APR-2018 13:45	418D0408.D	1	BGD0036-BLK1	
10	04-APR-2018 14:05	418D0409.D	1	BGD0036-BS1	
11	04-APR-2018 14:26	418D0410.D	1	18C0403-01	
12	04-APR-2018 14:46	418D0411.D	1	18C0403-02	
13	04-APR-2018 15:17	418D0412.D	1	SGD0044-CCV1	
14	04-APR-2018 15:38	418D0413.D	1	SGD0044-CCV2	
15	04-APR-2018 15:58	418D0414.D	1	BGC0815-BLK1	
16	04-APR-2018 16:20	418D0415.D	1	BGC0815-BS1	
17	04-APR-2018 16:41	418D0416.D	1	18C0424-01	
18	04-APR-2018 17:01	418D0417.D	1	18C0445-01	
19	04-APR-2018 17:22	418D0418.D	1	18C0445-02	
20	04-APR-2018 17:43	418D0419.D	1	18C0457-01	
21	04-APR-2018 18:05	418D0420.D	1	18C0457-02	
22	04-APR-2018 18:25	418D0421.D	1	18C0457-03	
23	04-APR-2018 18:46	418D0422.D	1	18C0457-04	
24	04-APR-2018 19:06	418D0423.D	1	BGC0815-MS1	
25	04-APR-2018 19:27	418D0424.D	1	BGC0815-MSD1	
26	04-APR-2018 19:47	418D0425.D	1	18C0457-05	
27	04-APR-2018 20:10	418D0426.D	1	18C0457-06	
28	04-APR-2018 20:30	418D0427.D	1	18C0457-07	
29	04-APR-2018 20:51	418D0428.D	1	SGD0044-CCV3	
30	04-APR-2018 21:11	418D0429.D	1	SGD0044-CCV4	
31	04-APR-2018 21:32	418D0430.D	1	18C0474-01	
32	04-APR-2018 21:52	418D0431.D	1	BGC0819-BLK1	
33	04-APR-2018 22:14	418D0432.D	1	BGC0819-BS1	
34	04-APR-2018 22:35	418D0433.D	1	18C0424-02	
35	04-APR-2018 22:56	418D0434.D	1	BGD0040-BLK1	
36	04-APR-2018 23:16	418D0435.D	1	BGD0040-BS1	
37	04-APR-2018 23:37	418D0436.D	1	18D0001-01	
38	04-APR-2018 23:57	418D0437.D	1	18D0001-02	
39	05-APR-2018 00:19	418D0438.D	1	18D0001-03	
40	05-APR-2018 00:41	418D0439.D	1	18D0027-01	
41	05-APR-2018 01:01	418D0440.D	10	18D0027-01	
42	05-APR-2018 01:22	418D0441.D	1	SGD0044-CCV5	
43	05-APR-2018 01:42	418D0442.D	1	SGD0044-CCV6	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20180404.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 04-APR-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1057	418D0400.D	RINSE		1	NO MANUAL INTEGRATION
1117	418D0401.D	RINSE		1	NO MANUAL INTEGRATION
1139	418D0402.D	SGD0044-IBL1		1	NO MANUAL INTEGRATION
1201	418D0403.D	SGD0044-IBL2		1	NO MANUAL INTEGRATION
1221	418D0404.D	SGD0044-ICV1		1	o-terph,
1241	418D0405.D	SGD0044-ICV2		1	Triacon Surr,
1302	418D0406.D	18C0363-03RE1		5	o-terph, Triacon Surr,
1323	418D0407.D	18C0363-04RE1		5	o-terph, Triacon Surr,
1345	418D0408.D	BGD0036-BLK1		1	NO MANUAL INTEGRATION
1405	418D0409.D	BGD0036-BS1		1	o-terph,
1426	418D0410.D	18C0403-01		1	Triacon Surr,
1446	418D0411.D	18C0403-02		1	Triacon Surr,
1517	418D0412.D	SGD0044-CCV1		1	o-terph,
1538	418D0413.D	SGD0044-CCV2		1	Triacon Surr,
1558	418D0414.D	BGC0815-BLK1		1	NO MANUAL INTEGRATION
1620	418D0415.D	BGC0815-BS1		1	o-terph,
1641	418D0416.D	18C0424-01		1	o-terph,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20180404.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1701	418D0417.D	18C0445-01		1	NO MANUAL INTEGRATION
1722	418D0418.D	18C0445-02		1	NO MANUAL INTEGRATION
1743	418D0419.D	18C0457-01		1	NO MANUAL INTEGRATION
1805	418D0420.D	18C0457-02		1	o-terph,
1825	418D0421.D	18C0457-03		1	NO MANUAL INTEGRATION
1846	418D0422.D	18C0457-04		1	o-terph,
1906	418D0423.D	BGC0815-MS1		1	o-terph,
1927	418D0424.D	BGC0815-MSD1		1	o-terph,
1947	418D0425.D	18C0457-05		1	o-terph,
2010	418D0426.D	18C0457-06		1	o-terph,
2030	418D0427.D	18C0457-07		1	NO MANUAL INTEGRATION
2051	418D0428.D	SGD0044-CCV3		1	o-terph,
2111	418D0429.D	SGD0044-CCV4		1	Triacon Surr,
2132	418D0430.D	18C0474-01		1	o-terph, Triacon Surr,
2152	418D0431.D	BGC0819-BLK1		1	NO MANUAL INTEGRATION
2214	418D0432.D	BGC0819-BS1		1	o-terph,
2235	418D0433.D	18C0424-02		1	NO MANUAL INTEGRATION
2256	418D0434.D	BGD0040-BLK1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20180404.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2316	418D0435.D	BGD0040-BS1		1	o-terph,
2337	418D0436.D	18D0001-01		1	NO MANUAL INTEGRATION
2357	418D0437.D	18D0001-02		1	NO MANUAL INTEGRATION
0019	418D0438.D	18D0001-03		1	NO MANUAL INTEGRATION
0041	418D0439.D	x18D0027-01x	overloaded	1	NO MANUAL INTEGRATION
0101	418D0440.D	18D0027-01		10	o-terph,
0122	418D0441.D	SGD0044-CCV5		1	o-terph,
0142	418D0442.D	SGD0044-CCV6		1	Triacon Surr,

Security Status Report

Date: 05-Apr-2018 13:56

418D0400.D	Data Locked	paul, 05-Apr-2018 13:43
418D0401.D	Data Locked	paul, 05-Apr-2018 13:43
418D0402.D	Data Locked	paul, 05-Apr-2018 13:43
418D0403.D	Data Locked	paul, 05-Apr-2018 13:43
418D0404.D	Data Locked	paul, 05-Apr-2018 13:43
418D0405.D	Data Locked	paul, 05-Apr-2018 13:43
418D0406.D	Data Locked	paul, 05-Apr-2018 13:43
418D0407.D	Data Locked	paul, 05-Apr-2018 13:43
418D0408.D	Data Locked	paul, 05-Apr-2018 13:43
418D0409.D	Data Locked	paul, 05-Apr-2018 13:43
418D0410.D	Data Locked	paul, 05-Apr-2018 13:43
418D0411.D	Data Locked	paul, 05-Apr-2018 13:43
418D0412.D	Data Locked	paul, 05-Apr-2018 13:43
418D0413.D	Data Locked	paul, 05-Apr-2018 13:43
418D0414.D	Data Locked	paul, 05-Apr-2018 13:43
418D0415.D	Data Locked	paul, 05-Apr-2018 13:43
418D0416.D	Data Locked	paul, 05-Apr-2018 13:43
418D0417.D	Data Locked	paul, 05-Apr-2018 13:43
418D0418.D	Data Locked	paul, 05-Apr-2018 13:43
418D0419.D	Data Locked	paul, 05-Apr-2018 13:43
418D0420.D	Data Locked	paul, 05-Apr-2018 13:43
418D0421.D	Data Locked	paul, 05-Apr-2018 13:43
418D0422.D	Data Locked	paul, 05-Apr-2018 13:43
418D0423.D	Data Locked	paul, 05-Apr-2018 13:43
418D0424.D	Data Locked	paul, 05-Apr-2018 13:43
418D0425.D	Data Locked	paul, 05-Apr-2018 13:43
418D0426.D	Data Locked	paul, 05-Apr-2018 13:43
418D0427.D	Data Locked	paul, 05-Apr-2018 13:43
418D0428.D	Data Locked	paul, 05-Apr-2018 13:43
418D0429.D	Data Locked	paul, 05-Apr-2018 13:43
418D0430.D	Data Locked	paul, 05-Apr-2018 13:43
418D0431.D	Data Locked	paul, 05-Apr-2018 13:43
418D0432.D	Data Locked	paul, 05-Apr-2018 13:43
418D0433.D	Data Locked	paul, 05-Apr-2018 13:43
418D0434.D	Data Locked	paul, 05-Apr-2018 13:43
418D0435.D	Data Locked	paul, 05-Apr-2018 13:43
418D0436.D	Data Locked	paul, 05-Apr-2018 13:43
418D0437.D	Data Locked	paul, 05-Apr-2018 13:43
418D0438.D	Data Locked	paul, 05-Apr-2018 13:43
418D0439.D	Data Locked	paul, 05-Apr-2018 13:55
418D0440.D	Data Locked	paul, 05-Apr-2018 13:55
418D0441.D	Data Locked	paul, 05-Apr-2018 13:43
418D0442.D	Data Locked	paul, 05-Apr-2018 13:43

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Extract Dilution Bench Sheet

Sequence: SGD0044
Analyst: ML Date: 4/4/18

Sample ID	Primary Dilution				Secondary Dilution			
	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor
18C0363-03RE1	100	DCM	400	5x				
-04 RE1	100	DCM	400	5x				
18D0027-01	100	DCM	900	10x				

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGC0396	Instrument:	FID4
Calibration:	BC00067	Calibration Date:	03/30/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGC0396-SCV1 (Water)			Lab File ID: 418C2730.D				Analyzed: 03/27/18 21:28	
o-Terphenyl	90.000	100	0 - 200	4.35	4.353333	-0.0033	N/A	

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18C0424
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGD0044	Instrument:	FID4
Calibration:	BC00067	Calibration Date:	03/30/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGD0044-IBL1 (Water)				Lab File ID: 418D0402.D			Analyzed: 04/04/18 11:39	
o-Terphenyl	225.00	105	50 - 150	4.35	4.353333	-0.0033	N/A	
SGD0044-IBL2 (Water)				Lab File ID: 418D0403.D			Analyzed: 04/04/18 12:01	
o-Terphenyl	225.00	99.6	50 - 150	4.35	4.353333	-0.0033	N/A	
SGD0044-ICV1 (Water)				Lab File ID: 418D0404.D			Analyzed: 04/04/18 12:21	
o-Terphenyl	90.000	100	85 - 115	4.35	4.353333	-0.0033	N/A	
BGC0815-BLK1 (Water)				Lab File ID: 418D0414.D			Analyzed: 04/04/18 15:58	
o-Terphenyl	0.45000	81.2	50 - 150	4.35	4.353333	-0.0033	N/A	
BGC0815-BS1 (Water)				Lab File ID: 418D0415.D			Analyzed: 04/04/18 16:20	
o-Terphenyl	0.45000	91.2	50 - 150	4.35	4.353333	-0.0033	N/A	
18C0424-01 (Water)				Lab File ID: 418D0416.D			Analyzed: 04/04/18 16:41	
o-Terphenyl	0.45000	87.2	50 - 150	4.35	4.353333	-0.0033	N/A	
BGC0819-BLK1 (Water)				Lab File ID: 418D0431.D			Analyzed: 04/04/18 21:52	
o-Terphenyl	0.45000	81.8	50 - 150	4.35	4.353333	-0.0033	N/A	
BGC0819-BS1 (Water)				Lab File ID: 418D0432.D			Analyzed: 04/04/18 22:14	
o-Terphenyl	0.45000	73.2	50 - 150	4.35	4.353333	-0.0033	N/A	
18C0424-02 (Water)				Lab File ID: 418D0433.D			Analyzed: 04/04/18 22:35	
o-Terphenyl	0.45000	76.8	50 - 150	4.35	4.353333	-0.0033	N/A	

Analytical Resources, Incorporated

HOLDING TIME SUMMARY

Analysis: NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18C0424

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-180326 18C0424-01	03/26/18 11:42	03/27/18 08:27	04/02/18 10:12	6	7	04/04/18 16:41	2	40	
MW-4-180326 18C0424-02	03/26/18 11:42	03/27/18 08:27	04/02/18 11:55	7	7	04/04/18 22:35	2	40	

* Indicates hold time exceedance.

Analytical Resources, Incorporated

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18C0424
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: FID4

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	0.033	0.100	mg/L
Motor Oil Range Organics (C24-C38)	0.056	0.200	mg/L

Analytical Resources, Incorporated
Analytical Chemists and Consultants

26 June 2018

Jennifer Allen
Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle, WA 98101

RE: SVCA Area Z Remediation

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
18F0189	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.



Amanda Volgardsen, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cert# 100006-011

PJLA Testing
Accreditation # 66169

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

18P0189

Chain of Custody Record & Laboratory Analysis Request

Laboratory: **Analytical Resources, Inc.**
Date: **6/12/2018**
Project Name: **SVCA Area Z Remediation**
Project Manager: **Jennifer Allen**
Phone Number: **360-715-2724**
Shipment Method: **Fedex**

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: NWTPH-G	NWTPH-D	BTEX	Archive										Comments/Preservation
1	MW-4-180612	6/12/18; 12:19	GW	9	X	X	X											
2	TB-180608	6/8/18; N/A	TB	1														
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Notes: NWTPH-D extended analyzed with and without silica gel cleanup. See contract for analysis details.

Email sample confirmation report to labdata@anchorqea.com

Relinquished By:	Company: Anchor QEA, LLC	Received By:	Company: ARI
Signature/Printed Name: Jennifer Allen	Date/Time: 6/12/18 @ 1530	Signature/Printed Name: Jacob Haltz	Date/Time: 06/13/18 1041
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Archer

Project Name: SVC Area Z rem.

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 180189

Tracking No: 020177346079254 2 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) Sef YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.8°C

Time: 1041

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D00526

Cooler Accepted by: JBL Date: 06/13/18 Time: 1041

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO Sef

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA 6/8/18

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: Sef Date: 6/13/18 Time: 1229

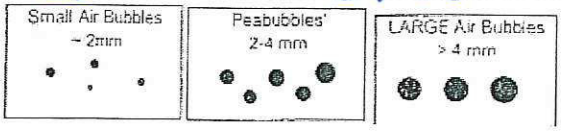
*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

TB doesn't say which analysis on COC

By: Sef Date: 6/13/18



Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

Anchor QEA, LLC	Project: SVCA Area Z Remediation	
720 Olive Way, Suite 1900	Project Number: [none]	**Reported:**
Seattle WA, 98101	Project Manager: Jennifer Allen	26-Jun-2018 16:00

Case Narrative

Sample receipt

Samples as listed on the preceding page were received June 13, 2018 under ARI work order 18F0189. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Gasoline by NWTPH-g (GC/MS)

The samples were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx (Ac/Si cleaned and not Ac/Si cleaned)

The samples were extracted and analyzed within the recommended holding times.

Batch BGF0282 is associated with the acid silica cleaned sample, and batch BGF0330 is associated with the standard non-acid silica cleaned sample.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Anchor QEA, LLC	Project:	SVCA Area Z Remediation	
720 Olive Way, Suite 1900	Project Number:	[none]	**Reported:**
Seattle, WA 98101	Project Manager:	Jennifer Allen	06/26/2018 16:00

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18F0189-01	MW-4-180612	Water	06/12/18 12:19	06/13/18 10:41
18F0189-02	TB-180608	Water	06/12/18 00:00	06/13/18 10:41
18F0189-03	MW-4-180612	Water	06/12/18 12:19	06/13/18 10:41

QUALIFIERS AND NOTES

Qualifier	Definition
U	This analyte is not detected above the applicable reporting or detection limit.
J	Estimated concentration value detected below the reporting limit.
D	The reported value is from a dilution
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

MW-4-180612

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

Volatile Organic Compounds

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Ground Water	Laboratory ID:	18F0189-01	SDG:	18F0189
Sampled:	06/12/18 12:19	Prepared:	06/13/18 14:27	File ID:	V306131815.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	06/13/18 14:27
Batch:	BGF0288	Sequence:	SGF0173	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BE00101

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	4.82	96.3	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	5.14	103	80 - 120	
Toluene-d8	5.0000	4.88	97.6	80 - 120	
4-Bromofluorobenzene	5.0000	5.05	101	80 - 120	

TB-180608

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

Volatile Organic Compounds

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18F0189-02	SDG:	18F0189
Sampled:	06/12/18 00:00	Prepared:	06/13/18 14:02	File ID:	V306131814.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	06/13/18 14:02
Batch:	BGF0288	Sequence:	SGF0173	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BE00101

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	4.84	96.8	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	4.98	99.6	80 - 120	
Toluene-d8	5.0000	5.06	101	80 - 120	
4-Bromofluorobenzene	5.0000	4.86	97.2	80 - 120	

PREPARATION BATCH SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc. SDG: 18F0189

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGF0288 Batch Matrix: Water Preparation: EPA 5030 (Purge and Trap)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180612	18F0189-01	V306131815.D	06/13/18 14:27	
TB-180608	18F0189-02	V306131814.D	06/13/18 14:02	
Blank	BGF0288-BLK1	V306131807.D	06/13/18 10:58	
LCS	BGF0288-BS1	V306131803LCS.D	06/13/18 09:13	
LCS Dup	BGF0288-BSD1	V306131804.D	06/13/18 09:39	

Form I

METHOD BLANK DATA SHEET

EPA 8260C

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0189
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGF0288-BLK1	File ID:	V306131807.D
Sampled:	N/A	Prepared:	06/13/18 10:58	Analyzed:	06/13/18 10:58
Solids:		Preparation:	EPA 5030 (Purge and Trap)	Initial/Final:	10 mL / 10 ml
Batch:	BGF0288	Sequence:	SGF0173	Calibration:	BE00101
Instrument:	NT3	Column:	RTX-VMS		

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	4.77	95.4	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	4.88	97.6	80 - 120	
Toluene-d8	5.0000	5.16	103	80 - 120	
4-Bromofluorobenzene	5.0000	4.92	98.5	80 - 120	

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	06/13/18 09:13
Batch:	BGF0288	Laboratory ID:	BGF0288-BS1
Preparation:	EPA 5030 (Purge and Trap)	Sequence Name:	LCS
Initial/Final:	10 mL / 10 ml		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Benzene	10.0	9.86		98.6	80 - 120
Toluene	10.0	9.91		99.1	80 - 120
Ethylbenzene	10.0	10.2		102	80 - 120
m,p-Xylene	20.0	20.1		101	80 - 121
o-Xylene	10.0	9.89		98.9	80 - 121

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	10.0	10.4		104	5.21	30	80 - 120
Toluene	10.0	10.3		103	3.58	30	80 - 120
Ethylbenzene	10.0	10.5		105	2.42	30	80 - 120
m,p-Xylene	20.0	20.9		104	3.61	30	80 - 121
o-Xylene	10.0	10.3		103	3.83	30	80 - 121

* Indicates values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V305301803.D	Injection Date:	05/30/18
Instrument ID:	NT3	Injection Time:	10:31
Sequence:	SGE0481	Lab Sample ID:	SGE0481-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	27.4	PASS
75	30 - 80% of 95	54.5	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.14	PASS
173	Less than 2% of 174	0.29	PASS
174	50 - 120% of 95	93.3	PASS
175	5 - 9% of 174	7.93	PASS
176	95 - 101% of 174	96.1	PASS
177	5 - 9% of 176	6.5	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGE0481-TUN1	V305301803.D	05/30/2018	10:31
Cal Standard	SGE0481-CAL1	V305301808.D	05/30/2018	12:52
Cal Standard	SGE0481-CAL2	V305301809.D	05/30/2018	13:19
Cal Standard	SGE0481-CAL3	V305301810.D	05/30/2018	13:44
Cal Standard	SGE0481-CAL4	V305301811.D	05/30/2018	14:11
Cal Standard	SGE0481-CAL5	V305301812.D	05/30/2018	14:37
Cal Standard	SGE0481-CAL6	V305301813.D	05/30/2018	15:03
Cal Standard	SGE0481-CAL7	V305301814.D	05/30/2018	15:29
Cal Standard	SGE0481-CAL8	V305301815.D	05/30/2018	15:55
Secondary Cal Check	SGE0481-SCV1	V305301817.D	05/30/2018	16:47

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V306131802.D	Injection Date:	06/13/18
Instrument ID:	NT3	Injection Time:	08:34
Sequence:	SGF0173	Lab Sample ID:	SGF0173-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	25.6	PASS
75	30 - 80% of 95	52	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.62	PASS
173	Less than 2% of 174	0.268	PASS
174	50 - 120% of 95	99.1	PASS
175	5 - 9% of 174	8.02	PASS
176	95 - 101% of 174	96.2	PASS
177	5 - 9% of 176	6.9	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGF0173-TUN1	V306131802.D	06/13/2018	8:34
Initial Cal Check	SGF0173-ICV1	V306131803.D	06/13/2018	9:13
LCS	BGF0288-BS1	V306131803LCS.D	06/13/2018	9:13
LCS Dup	BGF0288-BSD1	V306131804.D	06/13/2018	9:39
Blank	BGF0288-BLK1	V306131807.D	06/13/2018	10:58
ZZZZZ	18F0039-01	V306131808.D	06/13/2018	11:24
ZZZZZ	18F0116-03	V306131809.D	06/13/2018	11:50
ZZZZZ	18F0160-02	V306131810.D	06/13/2018	12:18
TB-180608	18F0189-02	V306131814.D	06/13/2018	14:02
MW-4-180612	18F0189-01	V306131815.D	06/13/2018	14:27
Calibration Check	SGF0173-CCV1	V306131817.D	06/13/2018	16:14

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00101	Instrument:	NT3
Calibration Date:	05/30/2018 8:48	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Benzene	0.2	1.586871	0.5	1.710444	1	1.712051	2	1.619237	10	1.59486	20	1.625758
Toluene	0.2	1.052745	0.5	1.108713	1	1.091022	2	1.038804	10	1.02088	20	1.056232
Ethylbenzene	0.2	0.7398892	0.5	0.761775	1	0.7487215	2	0.7096228	10	0.7275665	20	0.7696033
m,p-Xylene	0.4	0.8761021	1	0.976205	2	0.9301855	4	0.8955828	20	0.8977369	40	0.9526915
o-Xylene	0.2	0.8579851	0.5	0.9764384	1	0.953239	2	0.9273527	10	0.8998087	20	0.9482785
1,2-Dichloroethane-d4	5	0.527492	5	0.5217849	5	0.5262652	5	0.5348993	5	0.5325686	5	0.5340945
1,2-Dichlorobenzene-d4	5	0.9115618	5	0.947072	5	0.9083528	5	0.941824	5	0.9180353	5	0.9262159
Toluene-d8	5	1.117994	5	1.117266	5	1.116137	5	1.139369	5	1.137111	5	1.122795
4-Bromofluorobenzene	5	0.4524865	5	0.4634022	5	0.4566288	5	0.4628056	5	0.4662872	5	0.4668475
Dibromofluoromethane	5	0.4189192	5	0.4269405	5	0.4172714	5	0.4196055	5	0.4133727	5	0.4249801

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00101	Instrument:	NT3
Calibration Date:	05/30/2018 8:48	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Benzene	40	1.594554	80	1.604205								
Toluene	40	1.049572	80	1.064502								
Ethylbenzene	40	0.7493109	80	0.7728094								
m,p-Xylene	80	0.9220987	160	0.9183654								
o-Xylene	40	0.9233123	80	0.9501505								
1,2-Dichloroethane-d4	5	0.5311608	5	0.516458								
1,2-Dichlorobenzene-d4	5	0.8966128	5	0.9317521								
Toluene-d8	5	1.138415	5	1.134324								
4-Bromofluorobenzene	5	0.4725495	5	0.4755548								
Dibromofluoromethane	5	0.4265452	5	0.4160275								

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00101	Instrument:	NT3
Calibration Date:	05/30/2018 8:48	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Benzene	1.630997	3.1			RSD (15)	
Toluene	1.060309	2.6			RSD (15)	
Ethylbenzene	0.7474123	2.9			RSD (15)	
m,p-Xylene	0.921121	3.5			RSD (15)	
o-Xylene	0.9295707	4.0			RSD (15)	
1,2-Dichloroethane-d4	0.5280904	1.2			RSD (15)	
1,2-Dichlorobenzene-d4	0.9226783	1.9			RSD (15)	
Toluene-d8	1.127926	0.9			RSD (15)	
4-Bromofluorobenzene	0.4645703	1.6			RSD (15)	
Dibromofluoromethane	0.4204578	1.2			RSD (15)	

INITIAL CALIBRATION CHECK

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BE00101
Lab File ID:	V306131803.D	Calibration Date:	05/30/18 08:48
Sequence:	SGF0173	Injection Date:	06/13/18
Lab Sample ID:	SGF0173-ICV1	Injection Time:	09:13
Sequence Name:	VOA 10		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Benzene	A	10.000	9.86	1.6309970	16074.8000		-1.4	20
Toluene	A	10.000	9.91	1.0603090	10511.9900		-0.9	20
Ethylbenzene	A	10.000	10.2	0.7474123	7631.3210		2.1	20
m,p-Xylene	A	20.000	20.1	0.9211210	9262.2110		0.6	20
o-Xylene	A	10.000	9.89	0.9295707	9190.8380		-1.1	20
Dibromofluoromethane	A	5.0000	4.83	0.4204578	4061.0620		-3.4	20
1,2-Dichloroethane-d4	A	5.0000	4.64	0.5280904	4900.4740		-7.2	20
Toluene-d8	A	5.0000	5.16	1.1279260	11642.8600		3.2	20
4-Bromofluorobenzene	A	5.0000	5.07	0.4645703	4714.6510		1.5	20
1,2-Dichlorobenzene-d4	A	5.0000	4.78	0.9226783	8828.1790		-4.3	20

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGE0481	Instrument:	NT3
		Calibration:	BE00101

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGE0481-TUN1	V305301803.D	NA	05/30/18 10:31
8260C 0.2	SGE0481-CAL1	V305301808.D	NA	05/30/18 12:52
8260C 0.5	SGE0481-CAL2	V305301809.D	NA	05/30/18 13:19
8260C 1.0	SGE0481-CAL3	V305301810.D	NA	05/30/18 13:44
8260C 2.0	SGE0481-CAL4	V305301811.D	NA	05/30/18 14:11
8260C 10	SGE0481-CAL5	V305301812.D	NA	05/30/18 14:37
8260C 20	SGE0481-CAL6	V305301813.D	NA	05/30/18 15:03
8260C 40	SGE0481-CAL7	V305301814.D	NA	05/30/18 15:29
8260C 80	SGE0481-CAL8	V305301815.D	NA	05/30/18 15:55
8260C SCV 10	SGE0481-SCV1	V305301817.D	NA	05/30/18 16:47

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0173	Instrument:	NT3
		Calibration:	BE00101

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGF0173-TUN1	V306131802.D	NA	06/13/18 08:34
VOA 10	SGF0173-ICV1	V306131803.D	NA	06/13/18 09:13
LCS	BGF0288-BS1	V306131803LCS.D	Water	06/13/18 09:13
LCS Dup	BGF0288-BSD1	V306131804.D	Water	06/13/18 09:39
Blank	BGF0288-BLK1	V306131807.D	Water	06/13/18 10:58
ZZZZZ	18F0039-01	V306131808.D	Water	06/13/18 11:24
ZZZZZ	18F0116-03	V306131809.D	Water	06/13/18 11:50
ZZZZZ	18F0160-02	V306131810.D	Water	06/13/18 12:18
TB-180608	18F0189-02	V306131814.D	Water	06/13/18 14:02
MW-4-180612	18F0189-01	V306131815.D	Water	06/13/18 14:27
CCV	SGF0173-CCV1	V306131817.D	NA	06/13/18 16:14

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGE0481	Instrument:	NT3
Calibration:	BE00101	Calibration Date:	05/30/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
SGE0481-SCV1 (Water)	Lab File ID: V305301817.D		Analyzed: 05/30/18 16:47	
1,2-Dichloroethane-d4	5.0000	99.8	80 - 120	
1,2-Dichlorobenzene-d4	5.0000	97.4	80 - 120	
Toluene-d8	5.0000	98.9	80 - 120	
4-Bromofluorobenzene	5.0000	93.0	80 - 120	
Dibromofluoromethane	5.0000	102	80 - 120	

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGF0173
Instrument: NT3
Calibration: BE00101
Calibration Date: 05/30/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
BGF0288-BS1 (Water)	Lab File ID: V306131803LCS.D		Analyzed: 06/13/18 09:13	
1,2-Dichloroethane-d4	5.0000	92.8	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	95.7	80 - 120	
Toluene-d8	5.0000	103	80 - 120	
4-Bromofluorobenzene	5.0000	101	80 - 120	
Dibromofluoromethane	5.0000	96.6	80 - 120	
SGF0173-ICV1 (Water)	Lab File ID: V306131803.D		Analyzed: 06/13/18 09:13	
1,2-Dichloroethane-d4	5.0000	92.8	80 - 120	
1,2-Dichlorobenzene-d4	5.0000	95.7	80 - 120	
Toluene-d8	5.0000	103	80 - 120	
4-Bromofluorobenzene	5.0000	101	80 - 120	
Dibromofluoromethane	5.0000	96.6	80 - 120	
BGF0288-BSD1 (Water)	Lab File ID: V306131804.D		Analyzed: 06/13/18 09:39	
1,2-Dichloroethane-d4	5.0000	91.7	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	99.2	80 - 120	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	102	80 - 120	
Dibromofluoromethane	5.0000	101	80 - 120	
BGF0288-BLK1 (Water)	Lab File ID: V306131807.D		Analyzed: 06/13/18 10:58	
1,2-Dichloroethane-d4	5.0000	95.4	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	97.6	80 - 120	
Toluene-d8	5.0000	103	80 - 120	
4-Bromofluorobenzene	5.0000	98.5	80 - 120	
18F0189-02 (Water)	Lab File ID: V306131814.D		Analyzed: 06/13/18 14:02	
1,2-Dichloroethane-d4	5.0000	96.8	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	99.6	80 - 120	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	97.2	80 - 120	

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0173	Instrument:	NT3
Calibration:	BE00101	Calibration Date:	05/30/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
18F0189-01 (Water)	Lab File ID: V306131815.D		Analyzed: 06/13/18 14:27	
1,2-Dichloroethane-d4	5.0000	96.3	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	103	80 - 120	
Toluene-d8	5.0000	97.6	80 - 120	
4-Bromofluorobenzene	5.0000	101	80 - 120	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGE0481	Instrument:	NT3
		Calibration:	BE00101

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SGE0481-SCV1)		(Water)		Lab File ID: V305301817.D				Analyzed: 05/30/18 16:47	
Pentafluorobenzene	170904	5.4	163378	5.403	105	50 - 200	0.0030	+/-0.50	
Chlorobenzene-d5	215878	7.824	213821	7.827	101	50 - 200	0.0030	+/-0.50	
1,4-Difluorobenzene	237661	5.782	227684	5.786	104	50 - 200	0.0040	+/-0.50	
1,4-Dichlorobenzene-d4	112316	9.514	130666	9.512	86	50 - 200	-0.0020	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGF0173
Instrument: NT3
Calibration: BE00101

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BGF0288-BS1)		(Water)	Lab File ID: V306131803LCS.D				Analyzed: 06/13/18 09:13		
Pentafluorobenzene	159707	5.399	163378		98	50 - 200		+/-0.50	
Chlorobenzene-d5	210514	7.823	213821		98	50 - 200		+/-0.50	
1,4-Difluorobenzene	221255	5.782	227684		97	50 - 200		+/-0.50	
1,4-Dichlorobenzene-d4	127784	9.513	130666		98	50 - 200		+/-0.50	
Initial Cal Check (SGF0173-ICV1)		(Water)	Lab File ID: V306131803.D				Analyzed: 06/13/18 09:13		
Pentafluorobenzene	159707	5.399	163378	5.399	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	210514	7.823	213821	7.823	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	221255	5.782	227684	5.782	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	127784	9.513	130666	9.513	98	50 - 200	0.0000	+/-0.50	
LCS Dup (BGF0288-BSD1)		(Water)	Lab File ID: V306131804.D				Analyzed: 06/13/18 09:39		
Pentafluorobenzene	153837	5.398	163378	5.399	94	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	205130	7.821	213821	7.823	96	50 - 200	0.0020	+/-0.50	
1,4-Difluorobenzene	213507	5.78	227684	5.782	94	50 - 200	0.0020	+/-0.50	
1,4-Dichlorobenzene-d4	124851	9.512	130666	9.513	96	50 - 200	0.0010	+/-0.50	
Blank (BGF0288-BLK1)		(Water)	Lab File ID: V306131807.D				Analyzed: 06/13/18 10:58		
Pentafluorobenzene	157384	5.398	163378	5.399	96	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	208669	7.822	213821	7.823	98	50 - 200	0.0010	+/-0.50	
1,4-Difluorobenzene	213146	5.781	227684	5.782	94	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	120802	9.512	130666	9.513	92	50 - 200	0.0010	+/-0.50	
TB-180608 (18F0189-02)		(Water)	Lab File ID: V306131814.D				Analyzed: 06/13/18 14:02		
Pentafluorobenzene	156079	5.398	163378	5.399	96	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	206626	7.822	213821	7.823	97	50 - 200	0.0010	+/-0.50	
1,4-Difluorobenzene	216206	5.781	227684	5.782	95	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	117727	9.512	130666	9.513	90	50 - 200	0.0010	+/-0.50	
MW-4-180612 (18F0189-01)		(Water)	Lab File ID: V306131815.D				Analyzed: 06/13/18 14:27		
Pentafluorobenzene	149968	5.404	163378	5.399	92	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	195143	7.823	213821	7.823	91	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	208350	5.782	227684	5.782	92	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	115740	9.513	130666	9.513	89	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGF0173
Instrument: NT3
Calibration: BE00101

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (SGF0173-CCV1)		(Water)		Lab File ID: V306131817.D				Analyzed: 06/13/18 16:14	
Pentafluorobenzene	149313	5.399	163378	5.399	91	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	196184	7.823	213821	7.823	92	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	207180	5.782	227684	5.782	91	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	123046	9.513	130666	9.513	94	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

Analysis: EPA 8260C

Laboratory: Analytical Resources, Inc. SDG: 18F0189

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-180612 18F0189-01	06/12/18 12:19	06/13/18 10:41	06/13/18 14:27	1	14	06/13/18 14:27	1	14	
TB-180608 18F0189-02	06/12/18 00:00	06/13/18 10:41	06/13/18 14:02	1	14	06/13/18 14:02	2	14	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: NT3

Analyte	MDL	RL	Units
Benzene	0.03	0.20	ug/L
Toluene	0.04	0.20	ug/L
Ethylbenzene	0.04	0.20	ug/L
m,p-Xylene	0.05	0.40	ug/L
o-Xylene	0.03	0.20	ug/L

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MW-4-180612

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPHg

Gasoline Range Organics (GC/MS)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Ground Water	Laboratory ID:	18F0189-01	SDG:	18F0189
Sampled:	06/12/18 12:19	Prepared:	06/13/18 10:11	File ID:	V306131815G.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	06/13/18 14:27
Batch:	BGF0288	Sequence:	SGF0174	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BE00106

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	4.88	97.6	80 - 120	
4-Bromofluorobenzene	5.0000	5.05	101	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180613s.b\V306131815G.D

Date : 13-JUN-2018 14:27

Client ID:

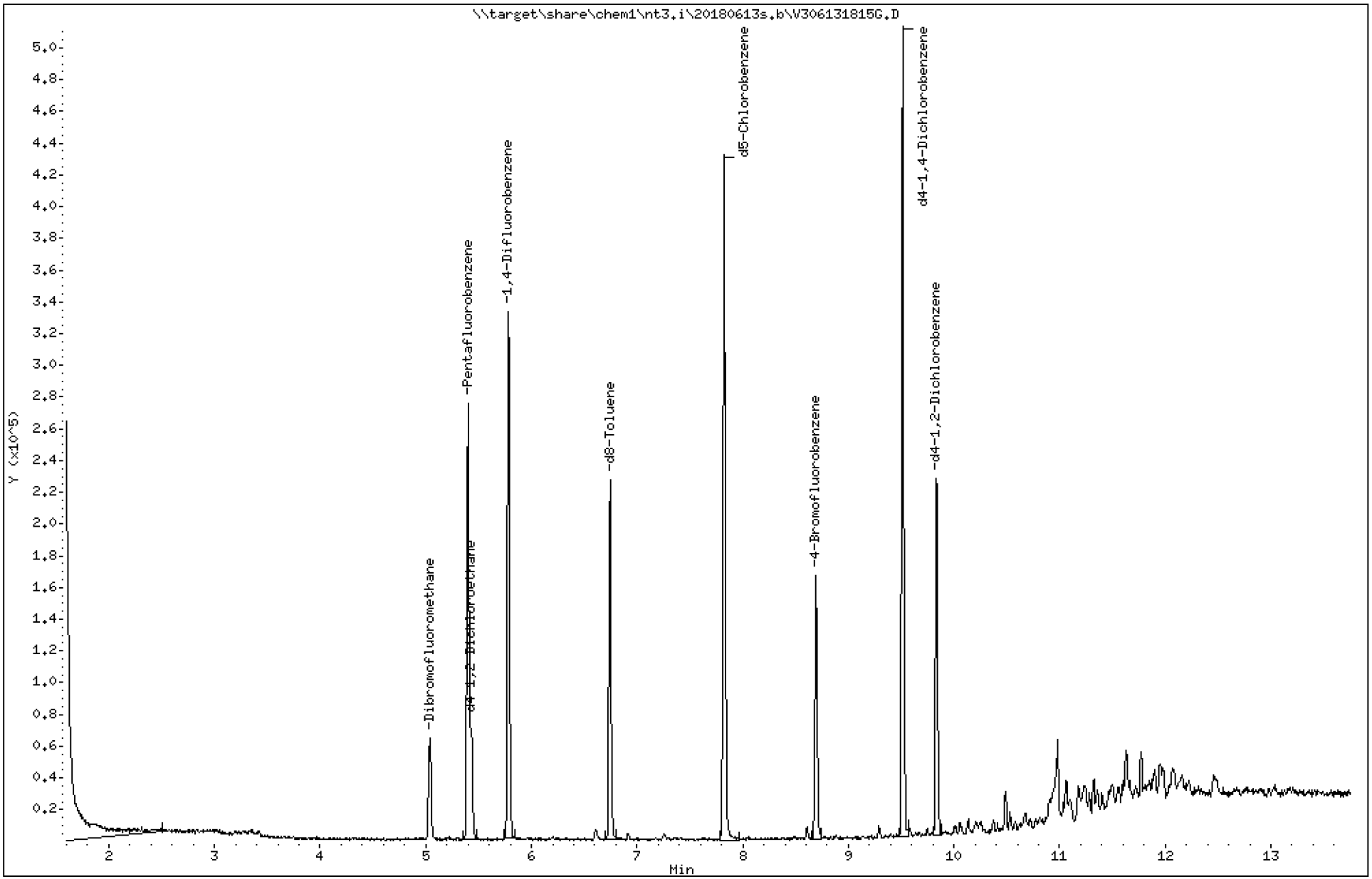
Sample Info: 18F0189-01

Column phase: RTXVMS

Instrument: nt3.i

Operator: PC

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180613s.b\V306131815G.D
Lab Smp Id: 18F0189-01
Inj Date : 13-JUN-2018 14:27
Operator : PC Inst ID: nt3.i
Smp Info : 18F0189-01
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180613s.b\8260C053018.m
Meth Date : 14-Jun-2018 08:47 nt3.i Quant Type: ISTD
Cal Date : 30-MAY-2018 15:55 Cal File: V305301815.D
Als bottle: 54
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.037	5.037	(0.932)	30889	4.89872	4.899(R)
* 32 Pentafluorobenzene	168	5.404	5.399	(1.000)	149968	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.431	5.431	(1.005)	38149	4.81700	4.817(R)
* 37 1,4-Difluorobenzene	114	5.782	5.782	(1.000)	208350	10.0000	
$ 43 d8-Toluene	98	6.744	6.744	(1.166)	114692	4.88044	4.880(R)
* 53 d5-Chlorobenzene	117	7.823	7.823	(1.000)	195143	10.0000	
$ 62 4-Bromofluorobenzene	174	8.695	8.694	(1.111)	45796	5.05153	5.052(R)
* 76 d4-1,4-Dichlorobenzene	152	9.513	9.513	(1.000)	115740	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.837	9.837	(1.034)	54871	5.13818	5.138(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V306131815G.D
Lab Smp Id: 18F0189-01
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20180613s.b\8260C053018.m
Misc Info: 16-

Calibration Date: 13-JUN-2018
Calibration Time: 16:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	163378	81689	326756	149968	-8.21
37 1,4-Difluorobenze	227684	113842	455368	208350	-8.49
53 d5-Chlorobenzene	213821	106911	427642	195143	-8.74
76 d4-1,4-Dichlorobe	130666	65333	261332	115740	-11.42

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	0.10
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	0.00
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	0.00
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20150930a
Sample Matrix: NONE
Fraction: VOA
Lab Smp Id: 18F0189-01
Level:
Operator: PC
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180613s.b\8260C053018.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.899	97.97	
$ 33 d4-1,2-Dichloroeth	5.000	4.817	96.34	
$ 43 d8-Toluene	5.000	4.880	97.61	
$ 62 4-Bromofluorobenze	5.000	5.052	101.03	
$ 79 d4-1,2-Dichloroben	5.000	5.138	102.76	

REVIEW SUMMARY FOR FILE - V306131815G.D

Lab ID: 18F0189-01
nt3.i, 20180613s.b\8260C053018.m,   13-JUN-2018 14:27

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180613g.b\V306131815G.D

Date : 13-JUN-2018 14:27

Client ID:

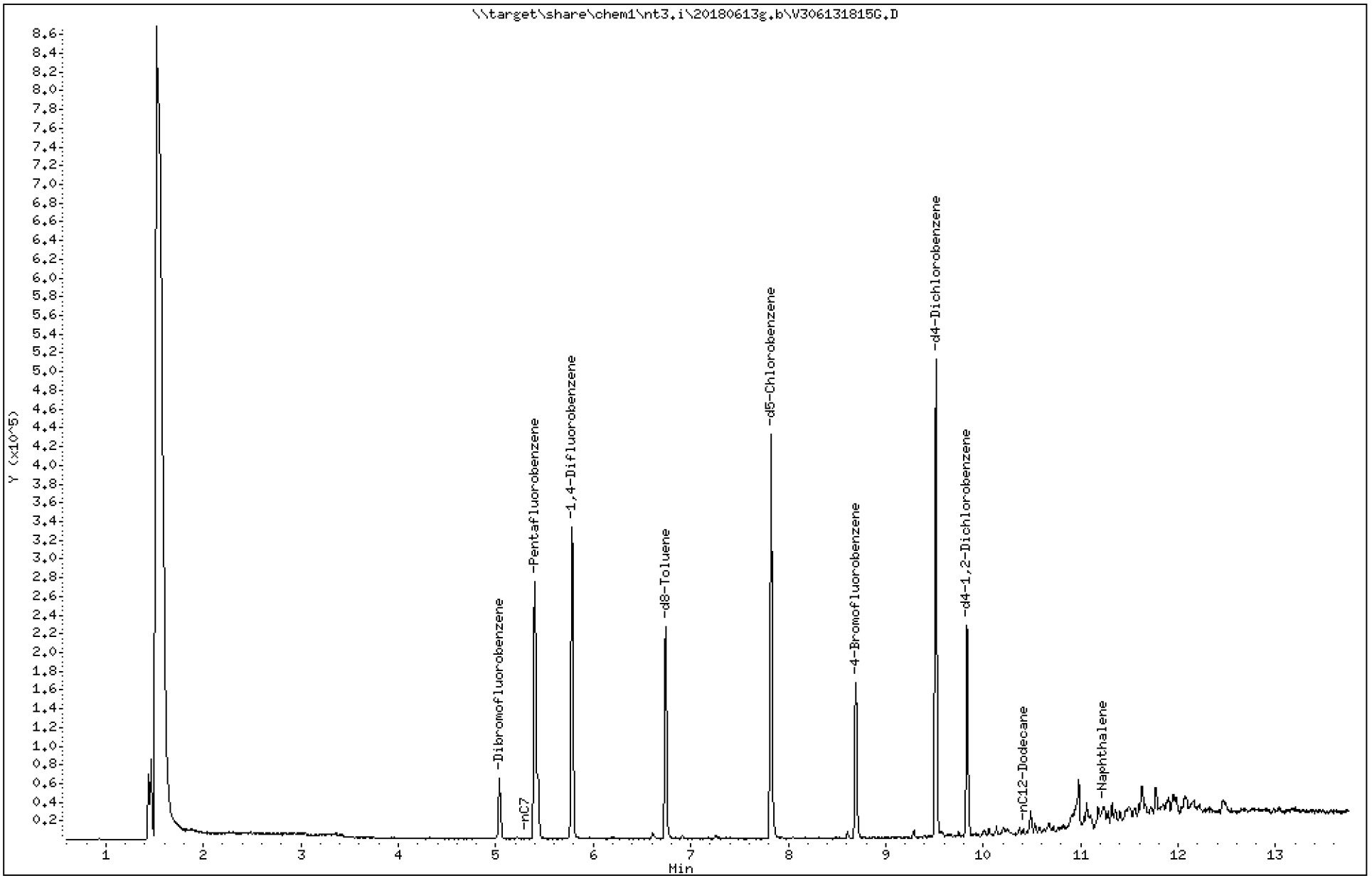
Sample Info: 18F0189-01

Column phase: RTXVMS

Instrument: nt3.i

Operator: PC

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180613g.b/V306131815G.D
Method: \20180613g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 19-MAY-2018
Injection Date: 13-JUN-2018 14:27

ARI ID: 18F0189-01
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PC

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.68 to 10.54)	22381817	160936	0.007
8015C 2MP-TMB	(2.92 to 9.27)	43716780	71592	0.002
AK101 nC6-nC10	(3.63 to 8.66)	28497425	38418	0.001
NWTPHG Tol-Nap	(6.68 to 11.33)	23744521	540675	0.023
mod8015 nC7-nC12	(5.20 to 10.54)	32548753	175036	0.005

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.823	645572	d5-Chlorobenzene
6.744	331573	d8-Toluene
9.514	727501	d4-Dichlorobenzene
8.695	259986	4-Bromofluorobenzene
9.833	335978	d4-1,2-Dichlorobenzene

TB-180608

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPHg

Gasoline Range Organics (GC/MS)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18F0189-02	SDG:	18F0189
Sampled:	06/12/18 00:00	Prepared:	06/13/18 10:11	File ID:	V306131814G.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	06/13/18 14:02
Batch:	BGF0288	Sequence:	SGF0174	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BE00106

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	5.06	101	80 - 120	
4-Bromofluorobenzene	5.0000	4.86	97.2	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180613s.b\V306131814G.D

Date : 13-JUN-2018 14:02

Client ID:

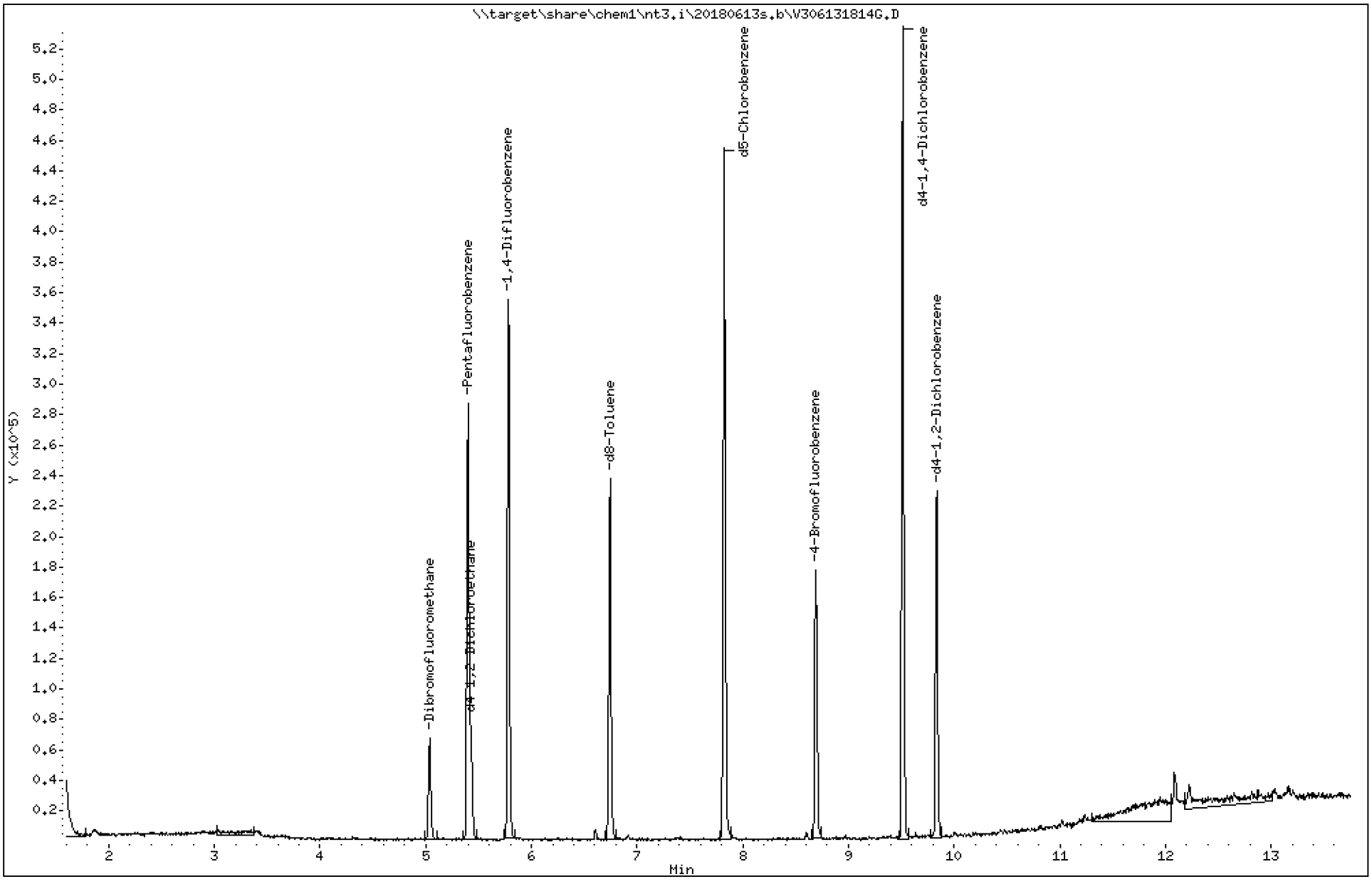
Sample Info: 18F0189-02

Column phase: RTXVMS

Instrument: nt3.i

Operator: PC

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180613s.b\V306131814G.D
Lab Smp Id: 18F0189-02
Inj Date : 13-JUN-2018 14:02
Operator : PC   Inst ID: nt3.i
Smp Info : 18F0189-02
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180613s.b\8260C053018.m
Meth Date : 14-Jun-2018 08:47 nt3.i   Quant Type: ISTD
Cal Date : 30-MAY-2018 15:55   Cal File: V305301815.D
Als bottle: 54
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.036	5.037	(0.933)	32371	4.93275	4.933(R)
* 32 Pentafluorobenzene	168	5.398	5.399	(1.000)	156079	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.430	5.431	(1.006)	39888	4.83938	4.839(R)
* 37 1,4-Difluorobenzene	114	5.781	5.782	(1.000)	216206	10.0000	
$ 43 d8-Toluene	98	6.743	6.744	(1.166)	123318	5.05682	5.057(R)
* 53 d5-Chlorobenzene	117	7.822	7.823	(1.000)	206626	10.0000	
$ 62 4-Bromofluorobenzene	174	8.694	8.694	(1.111)	46643	4.85904	4.859(R)
* 76 d4-1,4-Dichlorobenzene	152	9.512	9.513	(1.000)	117727	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.836	9.837	(1.034)	54101	4.98057	4.981(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V306131814G.D
Lab Smp Id: 18F0189-02
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20180613s.b\8260C053018.m
Misc Info: 16-

Calibration Date: 13-JUN-2018
Calibration Time: 16:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	163378	81689	326756	156079	-4.47
37 1,4-Difluorobenze	227684	113842	455368	216206	-5.04
53 d5-Chlorobenzene	213821	106911	427642	206626	-3.36
76 d4-1,4-Dichlorobe	130666	65333	261332	117727	-9.90

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	-0.02
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	-0.02
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	-0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20150930a
Sample Matrix: NONE
Fraction: VOA
Lab Smp Id: 18F0189-02
Level:
Operator: PC
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180613s.b\8260C053018.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.933	98.66	
$ 33 d4-1,2-Dichloroeth	5.000	4.839	96.79	
$ 43 d8-Toluene	5.000	5.057	101.14	
$ 62 4-Bromofluorobenze	5.000	4.859	97.18	
$ 79 d4-1,2-Dichloroben	5.000	4.981	99.61	

REVIEW SUMMARY FOR FILE - V306131814G.D

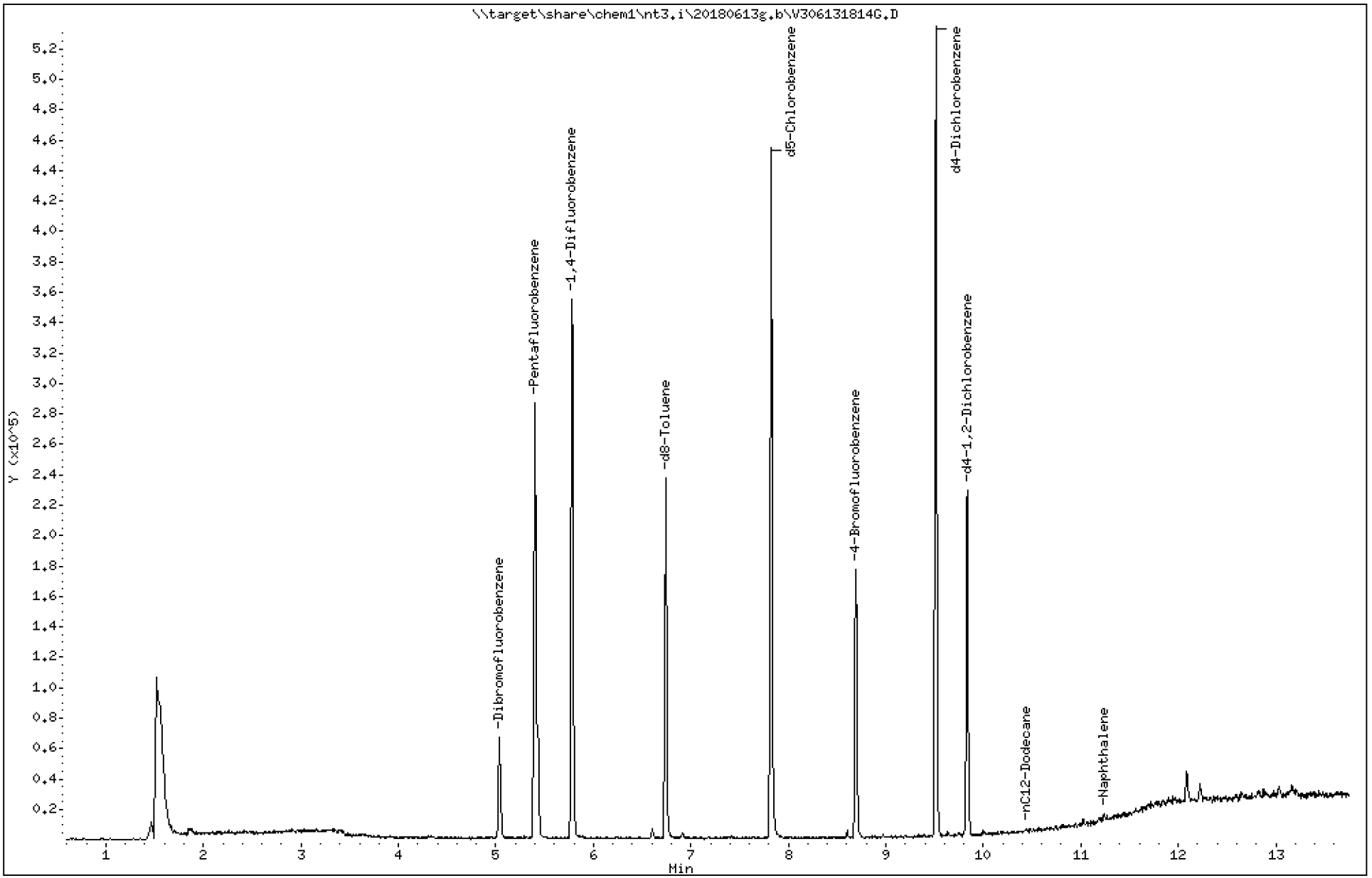
Lab ID: 18F0189-02
nt3.i, 20180613s.b\8260C053018.m,   13-JUN-2018 14:02

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180613g.b\V306131814G.D
Date : 13-JUN-2018 14:02
Client ID:
Sample Info: 18F0189-02

Instrument: nt3.i
Operator: PC
Column diameter: 0.18

Column phase: RTXVMS



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180613g.b/V306131814G.D
Method: \20180613g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 19-MAY-2018
Injection Date: 13-JUN-2018 14:02

ARI ID: 18F0189-02
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.68 to 10.54)	22381817	26631	0.001
8015C 2MP-TMB	(2.92 to 9.27)	43716780	56008	0.001
AK101 nC6-nC10	(3.63 to 8.66)	28497425	22424	0.001
NWTPHG Tol-Nap	(6.68 to 11.33)	23744521	69130	0.003
mod8015 nC7-nC12	(5.20 to 10.54)	32548753	37960	0.001

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.822	676775	d5-Chlorobenzene
6.743	347280	d8-Toluene
9.513	743708	d4-Dichlorobenzene
8.694	274192	4-Bromofluorobenzene
9.837	337671	d4-1,2-Dichlorobenzene

PREPARATION BATCH SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc. SDG: 18F0189

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGF0288 Batch Matrix: Water Preparation: EPA 5030 (Purge and Trap)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180612	18F0189-01	V306131815G.D	06/13/18 10:11	
TB-180608	18F0189-02	V306131814G.D	06/13/18 10:11	
Blank	BGF0288-BLK2	V306131807GA.D	06/13/18 10:11	
LCS	BGF0288-BS2	V306131805GLCSA.D	06/13/18 10:05	
LCS Dup	BGF0288-BSD2	V306131806GA.D	06/13/18 10:11	

Form I

METHOD BLANK DATA SHEET

NWTPHg

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0189
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGF0288-BLK2	File ID:	V306131807GA.D
Sampled:	N/A	Prepared:	06/13/18 10:11	Analyzed:	06/13/18 10:58
Solids:		Preparation:	EPA 5030 (Purge and Trap)	Initial/Final:	10 mL / 10 ml
Batch:	BGF0288	Sequence:	SGF0174	Calibration:	BE00106
Instrument:	NT3	Column:	RTX-VMS		

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	5.16	103	80 - 120	
4-Bromofluorobenzene	5.0000	4.92	98.5	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180613s.b\V306131807GA.D

Date : 13-JUN-2018 10:58

Client ID:

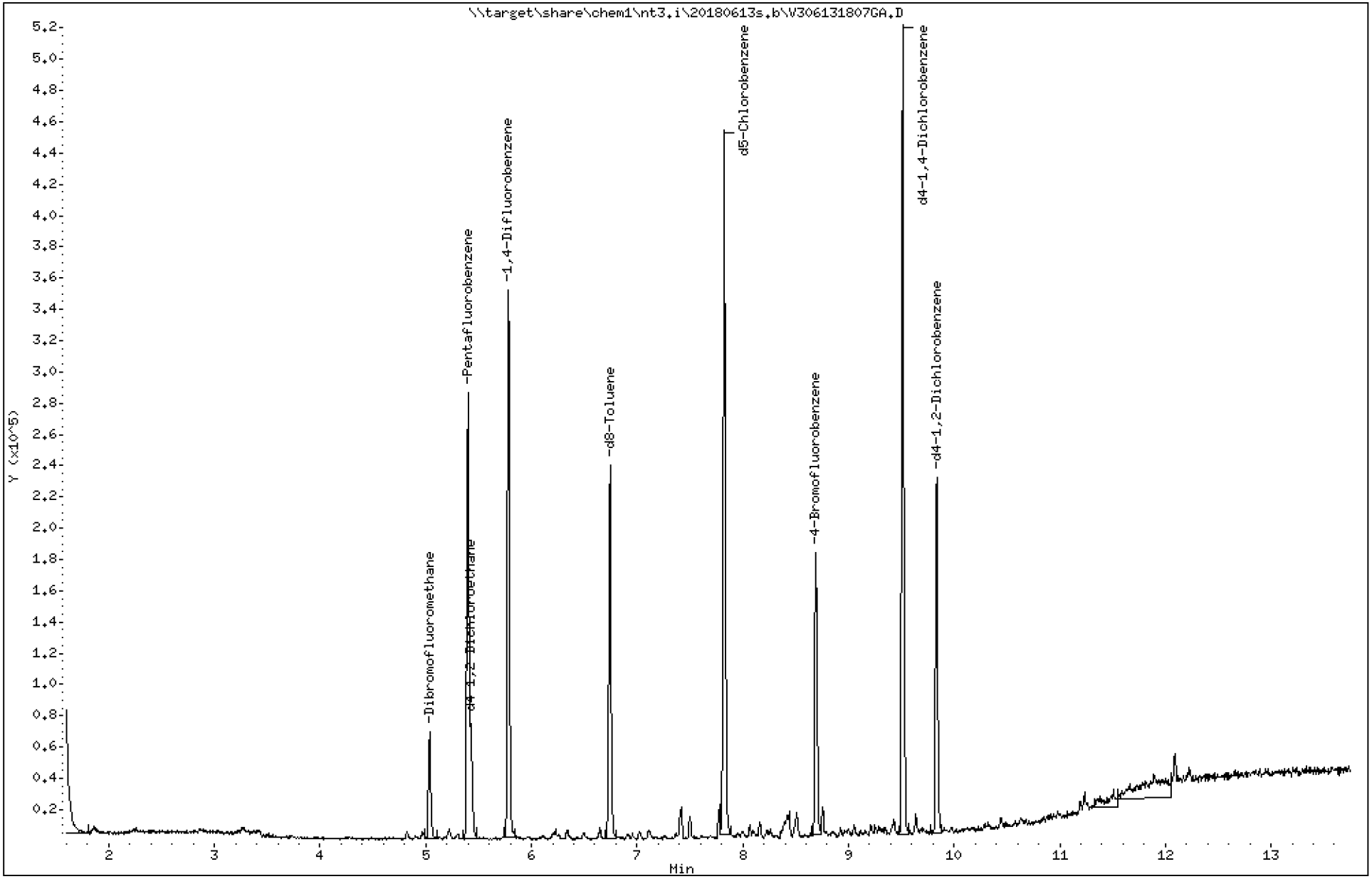
Instrument: nt3.i

Sample Info: BGF0288-BLK2

Operator: PC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180613s.b\V306131807GA.D
Lab Smp Id: BGF0288-BLK2
Inj Date : 13-JUN-2018 10:58
Operator : PC Inst ID: nt3.i
Smp Info : BGF0288-BLK2
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20180613s.b\8260C053018.m
Meth Date : 14-Jun-2018 08:47 nt3.i Quant Type: ISTD
Cal Date : 30-MAY-2018 15:55 Cal File: V305301815.D
Als bottle: 54
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.036	5.037	(0.933)	32508	4.91255	4.913(R)
* 32 Pentafluorobenzene	168	5.398	5.399	(1.000)	157384	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.430	5.431	(1.006)	39644	4.76989	4.770(R)
* 37 1,4-Difluorobenzene	114	5.781	5.782	(1.000)	213146	10.0000	
$ 43 d8-Toluene	98	6.743	6.744	(1.166)	124063	5.16041	5.160(R)
* 53 d5-Chlorobenzene	117	7.822	7.823	(1.000)	208669	10.0000	
$ 62 4-Bromofluorobenzene	174	8.693	8.694	(1.111)	47735	4.92411	4.924(R)
* 76 d4-1,4-Dichlorobenzene	152	9.512	9.513	(1.000)	120802	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.836	9.837	(1.034)	54366	4.87756	4.878(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V306131807GA.D
Lab Smp Id: BGF0288-BLK2
Analysis Type: VOA
Quant Type: ISTD
Operator: PC
Method File: \\target\share\chem1\nt3.i\20180613s.b\8260C053018.m
Misc Info: 16-

Calibration Date: 13-JUN-2018
Calibration Time: 16:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	163378	81689	326756	157384	-3.67
37 1,4-Difluorobenze	227684	113842	455368	213146	-6.39
53 d5-Chlorobenzene	213821	106911	427642	208669	-2.41
76 d4-1,4-Dichlorobe	130666	65333	261332	120802	-7.55

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.40	4.90	5.90	5.40	-0.02
37 1,4-Difluorobenze	5.78	5.28	6.28	5.78	-0.02
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	-0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930a
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: BGF0288-BLK2
Level: Operator: PC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180613s.b\8260C053018.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.913	98.25	
$ 33 d4-1,2-Dichloroeth	5.000	4.770	95.40	
$ 43 d8-Toluene	5.000	5.160	103.21	
$ 62 4-Bromofluorobenze	5.000	4.924	98.48	
$ 79 d4-1,2-Dichloroben	5.000	4.878	97.55	

REVIEW SUMMARY FOR FILE - V306131807GA.D

Lab ID: BGF0288-BLK2
nt3.i, 20180613s.b\8260C053018.m,   13-JUN-2018 10:58

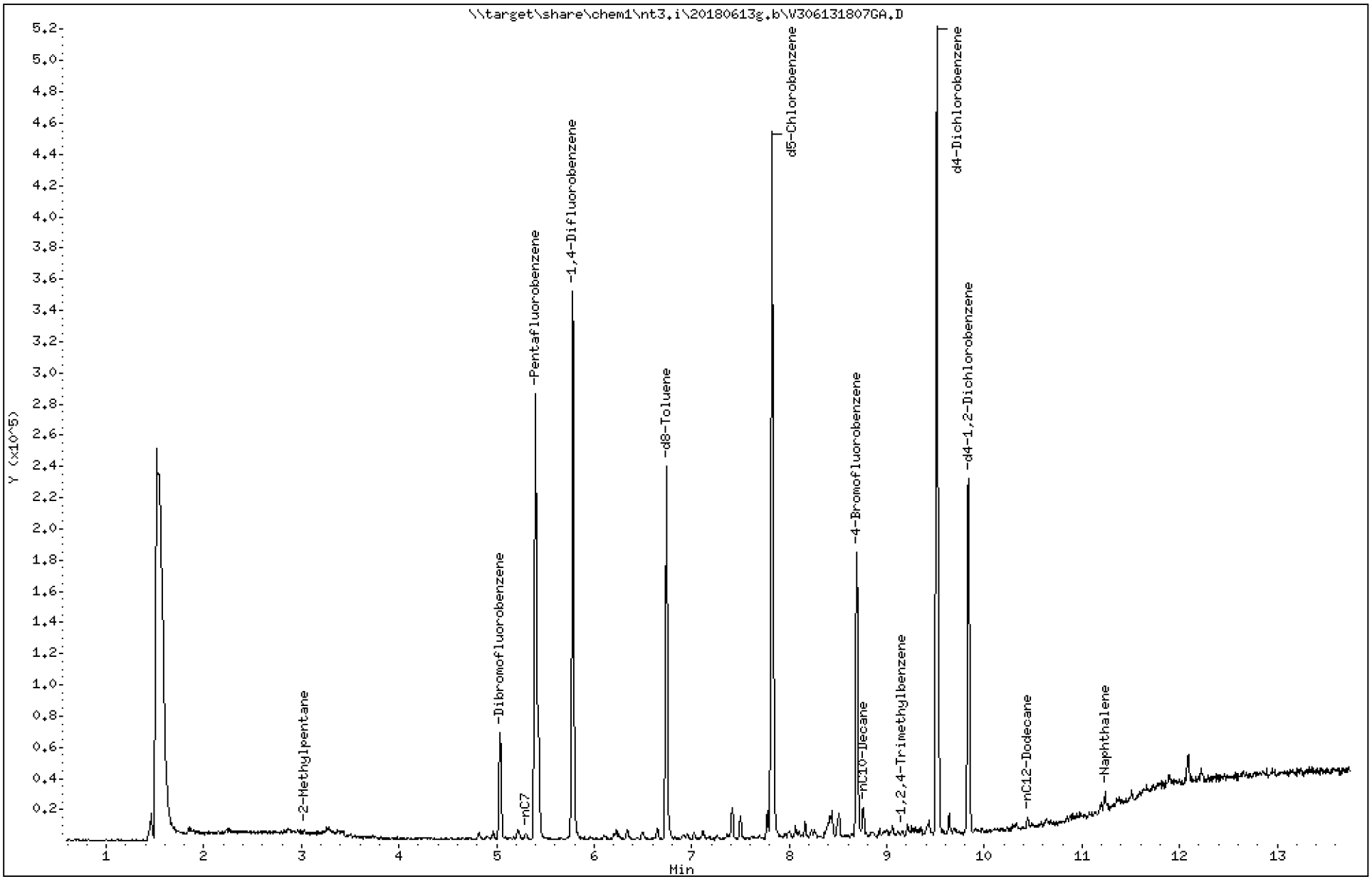
RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180613g.b\V306131807GA.D
Date : 13-JUN-2018 10:58
Client ID:
Sample Info: BGF0288-BLK2

Column phase: RTXVMS

Instrument: nt3.i

Operator: PC
Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180613g.b/V306131807GA.D
Method: \20180613g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 19-MAY-2018
Injection Date: 13-JUN-2018 10:58

ARI ID: BGF0288-BLK2
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PC

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.68 to 10.54)	22381817	392321	0.018 M
8015C 2MP-TMB	(2.92 to 9.27)	43716780	426252	0.010
AK101 nC6-nC10	(3.63 to 8.66)	28497425	312753	0.011
NWTPHG Tol-Nap	(6.68 to 11.33)	23744521	461189	0.019 M
mod8015 nC7-nC12	(5.20 to 10.54)	32548753	453521	0.014 M

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

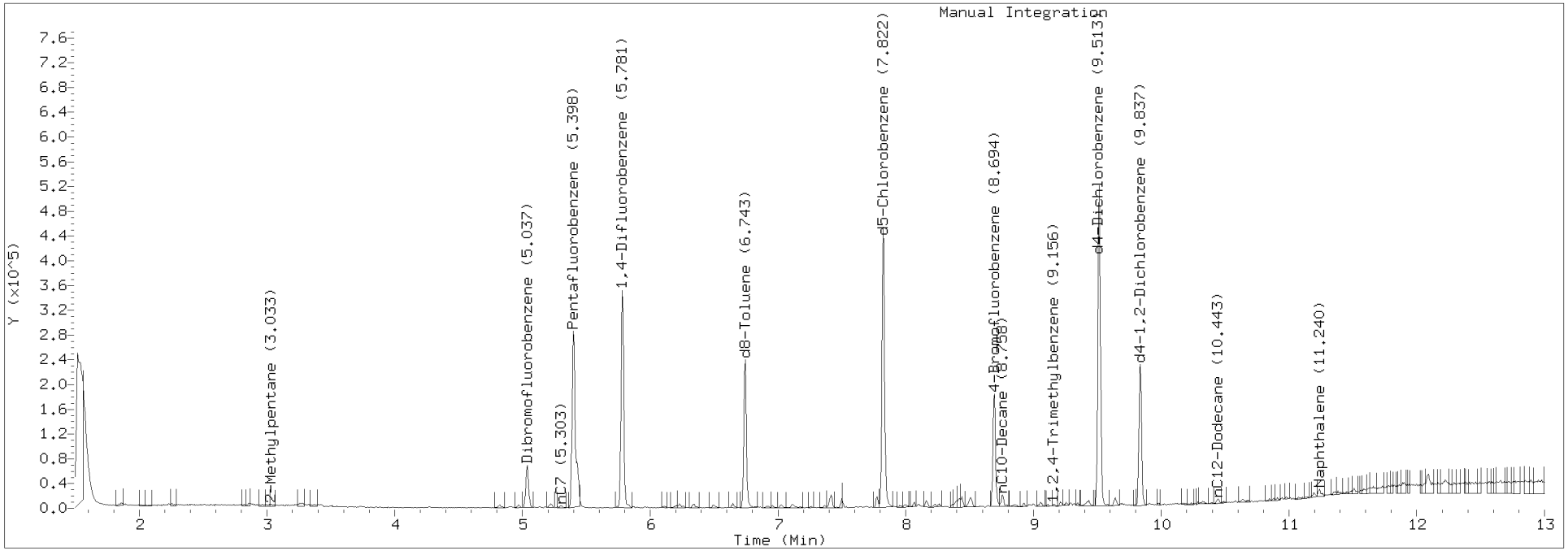
NW Gas Range Subtracted Peaks

7.822	678142	d5-Chlorobenzene
6.743	355301	d8-Toluene
9.513	731080	d4-Dichlorobenzene
8.694	268655	4-Bromofluorobenzene
9.837	341699	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180613g.b/V306131807GA.D Injection: 13-JUN-2018 10:58

Lab ID:BGF0288-BLK2



LCS / LCS DUPLICATE RECOVERY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	06/13/18 10:05
Batch:	BGF0288	Laboratory ID:	BGF0288-BS2
Preparation:	EPA 5030 (Purge and Trap)	Sequence Name:	LCS
Initial/Final:	10 mL / 10 ml		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Gasoline Range Organics (Tol-Nap)	1000	1020		102	72 - 128

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Gasoline Range Organics (Tol-Nap)	1000	978		97.8	4.24	30	72 - 128

* Indicates values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V306131802G.D	Injection Date:	06/13/18
Instrument ID:	NT3	Injection Time:	08:34
Sequence:	SGF0174	Lab Sample ID:	SGF0174-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	25.6	PASS
75	30 - 80% of 95	52	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.62	PASS
173	Less than 2% of 174	0.268	PASS
174	50 - 120% of 95	99.1	PASS
175	5 - 9% of 174	8.02	PASS
176	95 - 101% of 174	96.2	PASS
177	5 - 9% of 176	6.9	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGF0174-TUN1	V306131802G.D	06/13/2018	8:34
LCS	BGF0288-BS2	V306131805GLCSA.D	06/13/2018	10:05
Initial Cal Check	SGF0174-ICV1	V306131816G.D	06/13/2018	10:05
LCS	BGF0290-BS1	V306131805GLCS.D	06/13/2018	10:05
LCS Dup	BGF0288-BSD2	V306131806GA.D	06/13/2018	10:32
LCS Dup	BGF0290-BSD1	V306131806G.D	06/13/2018	10:32
Blank	BGF0288-BLK2	V306131807GA.D	06/13/2018	10:58
Blank	BGF0290-BLK1	V306131807G.D	06/13/2018	10:58
ZZZZZ	18F0116-01	V306131811G.D	06/13/2018	12:44
ZZZZZ	18F0116-02	V306131812G.D	06/13/2018	13:10
ZZZZZ	18F0126-01	V306131813G.D	06/13/2018	13:36
TB-180608	18F0189-02	V306131814G.D	06/13/2018	14:02
MW-4-180612	18F0189-01	V306131815G.D	06/13/2018	14:27
Calibration Check	SGF0174-CCV1	V306131816G.D	06/13/2018	15:47

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V305301803G.D	Injection Date:	05/30/18
Instrument ID:	NT3	Injection Time:	10:31
Sequence:	SGE0490	Lab Sample ID:	SGE0490-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	27.4	PASS
75	30 - 80% of 95	54.5	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.14	PASS
173	Less than 2% of 174	0.29	PASS
174	50 - 120% of 95	93.3	PASS
175	5 - 9% of 174	7.93	PASS
176	95 - 101% of 174	96.1	PASS
177	5 - 9% of 176	6.5	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGE0490-TUN1	V305301803G.D	05/30/2018	10:31

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V306131802G.D	Injection Date:	06/13/18
Instrument ID:	NT3	Injection Time:	08:34
Sequence:	SGF0174	Lab Sample ID:	SGF0174-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	25.6	PASS
75	30 - 80% of 95	52	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.62	PASS
173	Less than 2% of 174	0.268	PASS
174	50 - 120% of 95	99.1	PASS
175	5 - 9% of 174	8.02	PASS
176	95 - 101% of 174	96.2	PASS
177	5 - 9% of 176	6.9	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGF0174-TUN1	V306131802G.D	06/13/2018	8:34
LCS	BGF0288-BS2	V306131805GLCSA.D	06/13/2018	10:05
Initial Cal Check	SGF0174-ICV1	V306131816G.D	06/13/2018	10:05
LCS	BGF0290-BS1	V306131805GLCS.D	06/13/2018	10:05
LCS Dup	BGF0288-BSD2	V306131806GA.D	06/13/2018	10:32
LCS Dup	BGF0290-BSD1	V306131806G.D	06/13/2018	10:32
Blank	BGF0288-BLK2	V306131807GA.D	06/13/2018	10:58
Blank	BGF0290-BLK1	V306131807G.D	06/13/2018	10:58
ZZZZZ	18F0116-01	V306131811G.D	06/13/2018	12:44
ZZZZZ	18F0116-02	V306131812G.D	06/13/2018	13:10
ZZZZZ	18F0126-01	V306131813G.D	06/13/2018	13:36
TB-180608	18F0189-02	V306131814G.D	06/13/2018	14:02
MW-4-180612	18F0189-01	V306131815G.D	06/13/2018	14:27
Calibration Check	SGF0174-CCV1	V306131816G.D	06/13/2018	15:47

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00076	Instrument:	NT3
Calibration Date:	05/19/2018 12:39	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Toluene-d8	5	1.128723	5	1.150313	5	1.123732	5	1.154154	5	1.140304	5	1.159348
4-Bromofluorobenzene	5	0.4382678	5	0.457078	5	0.4594028	5	0.4592862	5	0.4647812	5	0.4508026

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00076	Instrument:	NT3
Calibration Date:	05/19/2018 12:39	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)					100	23412.61	250	22295.92	500	22943.24	1000	20967.73
Toluene-d8	5	1.149661	5	1.142277								
4-Bromofluorobenzene	5	0.4747102	5	0.4674497								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00076	Instrument:	NT3
Calibration Date:	05/19/2018 12:39	Column (1):	RTX-VMS

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)	2500	25490.03	5000	27357.58								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00076	Instrument:	NT3
Calibration Date:	05/19/2018 12:39	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Gasoline Range Organics (Tol-Nap)	23744.52	9.7			RSD (15)	
Toluene-d8	1.143564	1.1			RSD (15)	
4-Bromofluorobenzene	0.4589723	2.4			RSD (15)	

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00106	Instrument:	NT3
Calibration Date:	05/30/2018 11:37	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Toluene-d8	5	1.117994	5	1.117266	5	1.116137	5	1.139369	5	1.137111	5	1.122795
4-Bromofluorobenzene	5	0.4524865	5	0.4634022	5	0.4566288	5	0.4628056	5	0.4662872	5	0.4668475

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00106	Instrument:	NT3
Calibration Date:	05/30/2018 11:37	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)					100	23412.61	250	22295.92	500	22943.24	1000	20967.73
Toluene-d8	5	1.138415	5	1.134324								
4-Bromofluorobenzene	5	0.4725495	5	0.4755548								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00106	Instrument:	NT3
Calibration Date:	05/30/2018 11:37	Column (1):	RTX-VMS

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)	2500	25490.03	5000	27357.58								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00106	Instrument:	NT3
Calibration Date:	05/30/2018 11:37	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Gasoline Range Organics (Tol-Nap)	23744.52	9.7			RSD (15)	
Toluene-d8	1.127926	0.9			RSD (15)	
4-Bromofluorobenzene	0.4645703	1.6			RSD (15)	

INITIAL CALIBRATION CHECK

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BE00106
Lab File ID:	V306131816G.D	Calibration Date:	05/30/18 11:37
Sequence:	SGF0174	Injection Date:	06/13/18
Lab Sample ID:	SGF0174-ICV1	Injection Time:	10:05
Sequence Name:	ICV		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Gasoline Range Organics (Tol-Nap)	A	1000.0	1020	23744.5200	24227.5900		2.0	20
Toluene-d8	A	5.0000	5.04	1.1279260	1.1367140		0.8	
4-Bromofluorobenzene	A	5.0000	5.02	0.4645703	0.4667149		0.5	

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGE0391	Instrument:	NT3
		Calibration:	BE00076

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
8260C 0.2	SGE0391-CAL1	V3A05191805G.D	NA	05/19/18 10:58
8260C 0.5	SGE0391-CAL2	V3A05191806G.D	NA	05/19/18 11:24
8260C 1.0	SGE0391-CAL3	V3A05191807G.D	NA	05/19/18 11:50
8260C 2.0	SGE0391-CAL4	V3A05191808G.D	NA	05/19/18 12:16
8260C 10	SGE0391-CAL5	V3A05191809G.D	NA	05/19/18 12:42
8260C 20	SGE0391-CAL6	V3A05191810G.D	NA	05/19/18 13:08
8260C 40	SGE0391-CAL7	V3A05191811G.D	NA	05/19/18 13:34
8260C 80	SGE0391-CAL8	V3A05191812G.D	NA	05/19/18 14:00
Gas 0.1	SGE0391-CAL9	V3A05191816G.D	NA	05/19/18 15:45
Gas 0.25	SGE0391-CALA	V3A05191817G.D	NA	05/19/18 16:11
Gas 0.5	SGE0391-CALB	V3A05191818G.D	NA	05/19/18 16:37
Gas 1	SGE0391-CALC	V3A05191819G.D	NA	05/19/18 17:03
Gas 2.5	SGE0391-CALD	V3A05191820G.D	NA	05/19/18 17:29
Gas 5	SGE0391-CALE	V3A05191821G.D	NA	05/19/18 17:55

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGE0490	Instrument:	NT3
		Calibration:	BE00106

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGE0490-TUN1	V305301803G.D	NA	05/30/18 10:31

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0174	Instrument:	NT3
		Calibration:	BE00106

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
BFB	SGF0174-TUN1	V306131802G.D	NA	06/13/18 08:34
ICV	SGF0174-ICV1	V306131816G.D	NA	06/13/18 10:05
ZZZZZ	BGF0290-BS1	V306131805GLCS.D	Solid	06/13/18 10:05
LCS	BGF0288-BS2	V306131805GLCSA.D	Water	06/13/18 10:05
ZZZZZ	BGF0290-BSD1	V306131806G.D	Solid	06/13/18 10:32
LCS Dup	BGF0288-BSD2	V306131806GA.D	Water	06/13/18 10:32
ZZZZZ	BGF0290-BLK1	V306131807G.D	Solid	06/13/18 10:58
Blank	BGF0288-BLK2	V306131807GA.D	Water	06/13/18 10:58
ZZZZZ	18F0116-01	V306131811G.D	Solid	06/13/18 12:44
ZZZZZ	18F0116-02	V306131812G.D	Solid	06/13/18 13:10
ZZZZZ	18F0126-01	V306131813G.D	Solid	06/13/18 13:36
TB-180608	18F0189-02	V306131814G.D	Water	06/13/18 14:02
MW-4-180612	18F0189-01	V306131815G.D	Water	06/13/18 14:27
CCV	SGF0174-CCV1	V306131816G.D	NA	06/13/18 15:47

SURROGATE RECOVERY SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGF0174
Instrument: NT3
Calibration: BE00106
Calibration Date: 05/30/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
BGF0288-BS2 (Water)	Lab File ID: V306131805GLCSA.D		Analyzed: 06/13/18 10:05	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	100	80 - 120	
SGF0174-ICV1 (Solid)	Lab File ID: V306131805G.D		Analyzed: 06/13/18 10:05	
Toluene-d8	5.0000	101	0 - 200	
4-Bromofluorobenzene	5.0000	100	0 - 200	
BGF0288-BSD2 (Water)	Lab File ID: V306131806GA.D		Analyzed: 06/13/18 10:32	
Toluene-d8	5.0000	102	80 - 120	
4-Bromofluorobenzene	5.0000	101	80 - 120	
BGF0288-BLK2 (Water)	Lab File ID: V306131807GA.D		Analyzed: 06/13/18 10:58	
Toluene-d8	5.0000	103	80 - 120	
4-Bromofluorobenzene	5.0000	98.5	80 - 120	
18F0189-02 (Water)	Lab File ID: V306131814G.D		Analyzed: 06/13/18 14:02	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	97.2	80 - 120	
18F0189-01 (Water)	Lab File ID: V306131815G.D		Analyzed: 06/13/18 14:27	
Toluene-d8	5.0000	97.6	80 - 120	
4-Bromofluorobenzene	5.0000	101	80 - 120	

INTERNAL STANDARD AREA AND RT SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGF0174
Instrument: NT3
Calibration: BE00106

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BGF0288-BS2)		(Water)	Lab File ID: V306131805GLCSA.D					Analyzed: 06/13/18 10:05	
Pentafluorobenzene	157948	5.398	163378		97	50 - 200		+/-0.50	
Chlorobenzene-d5	207300	7.822	213821		97	50 - 200		+/-0.50	
1,4-Difluorobenzene	221403	5.78	227684		97	50 - 200		+/-0.50	
1,4-Dichlorobenzene-d4	120206	9.512	130666		92	50 - 200		+/-0.50	
Initial Cal Check (SGF0174-ICV1)		(Solid)		Lab File ID: V306131805G.D				Analyzed: 06/13/18 10:05	
Pentafluorobenzene	157948	5.398	163378	5.398	97	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	207300	7.822	213821	7.822	97	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	221403	5.78	227684	5.78	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	120206	9.512	130666	9.512	92	50 - 200	0.0000	+/-0.50	
LCS Dup (BGF0288-BSD2)		(Water)		Lab File ID: V306131806GA.D				Analyzed: 06/13/18 10:32	
Pentafluorobenzene	155827	5.399	163378	5.398	95	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5	207848	7.823	213821	7.822	97	50 - 200	-0.0010	+/-0.50	
1,4-Difluorobenzene	217228	5.782	227684	5.78	95	50 - 200	-0.0020	+/-0.50	
1,4-Dichlorobenzene-d4	121897	9.513	130666	9.512	93	50 - 200	-0.0010	+/-0.50	
Blank (BGF0288-BLK2)		(Water)		Lab File ID: V306131807GA.D				Analyzed: 06/13/18 10:58	
Pentafluorobenzene	157384	5.398	163378	5.398	96	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	208669	7.822	213821	7.822	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	213146	5.781	227684	5.78	94	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	120802	9.512	130666	9.512	92	50 - 200	0.0000	+/-0.50	
TB-180608 (18F0189-02)		(Water)		Lab File ID: V306131814G.D				Analyzed: 06/13/18 14:02	
Pentafluorobenzene	156079	5.398	163378	5.398	96	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	206626	7.822	213821	7.822	97	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	216206	5.781	227684	5.78	95	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	117727	9.512	130666	9.512	90	50 - 200	0.0000	+/-0.50	
MW-4-180612 (18F0189-01)		(Water)		Lab File ID: V306131815G.D				Analyzed: 06/13/18 14:27	
Pentafluorobenzene	149968	5.404	163378	5.398	92	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	195143	7.823	213821	7.822	91	50 - 200	-0.0010	+/-0.50	
1,4-Difluorobenzene	208350	5.782	227684	5.78	92	50 - 200	-0.0020	+/-0.50	
1,4-Dichlorobenzene-d4	115740	9.513	130666	9.512	89	50 - 200	-0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGF0174
Instrument: NT3
Calibration: BE00106

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (SGF0174-CCV1)		(Solid)		Lab File ID: V306131816G.D				Analyzed: 06/13/18 15:47	
Pentafluorobenzene	153895	5.398	163378	5.398	94	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	210150	7.822	213821	7.822	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	218995	5.781	227684	5.78	96	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	123881	9.512	130666	9.512	95	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

Analysis: NWTPHg

Laboratory: Analytical Resources, Inc. SDG: 18F0189

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-180612 18F0189-01	06/12/18 12:19	06/13/18 10:41	06/13/18 10:11	0	14	06/13/18 14:27	1	14	
TB-180608 18F0189-02	06/12/18 00:00	06/13/18 10:41	06/13/18 10:11	1	14	06/13/18 14:02	2	14	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Solid
Instrument: NT3

Analyte	MDL	RL	Units
Gasoline Range Organics (Tol-Nap)	2500	5000	ug/kg

METHOD DETECTION AND REPORTING LIMITS

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: NT3

Analyte	MDL	RL	Units
Gasoline Range Organics (Tol-Nap)	13.6	100	ug/L

MW-4-180612

Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Ground Water	Laboratory ID:	18F0189-01	SDG:	18F0189
Sampled:	06/12/18 12:19	Prepared:	06/15/18 11:30	File ID:	318F2015.D
% Solids:		Preparation:	EPA 3510C SepF	Analyzed:	06/20/18 16:41
Batch:	BGF0282	Sequence:	SGF0286	Initial/Final:	500 mL / 1 mL
Instrument:	FID3	Column:	RTX-1	Calibration:	BF00020
Cleanups:	Silica Gel, Sulfuric Acid				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.45000	0.328	72.8	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20180620.b\318F2015.D

Date : 20-JUN-2018 16:41

Client ID:

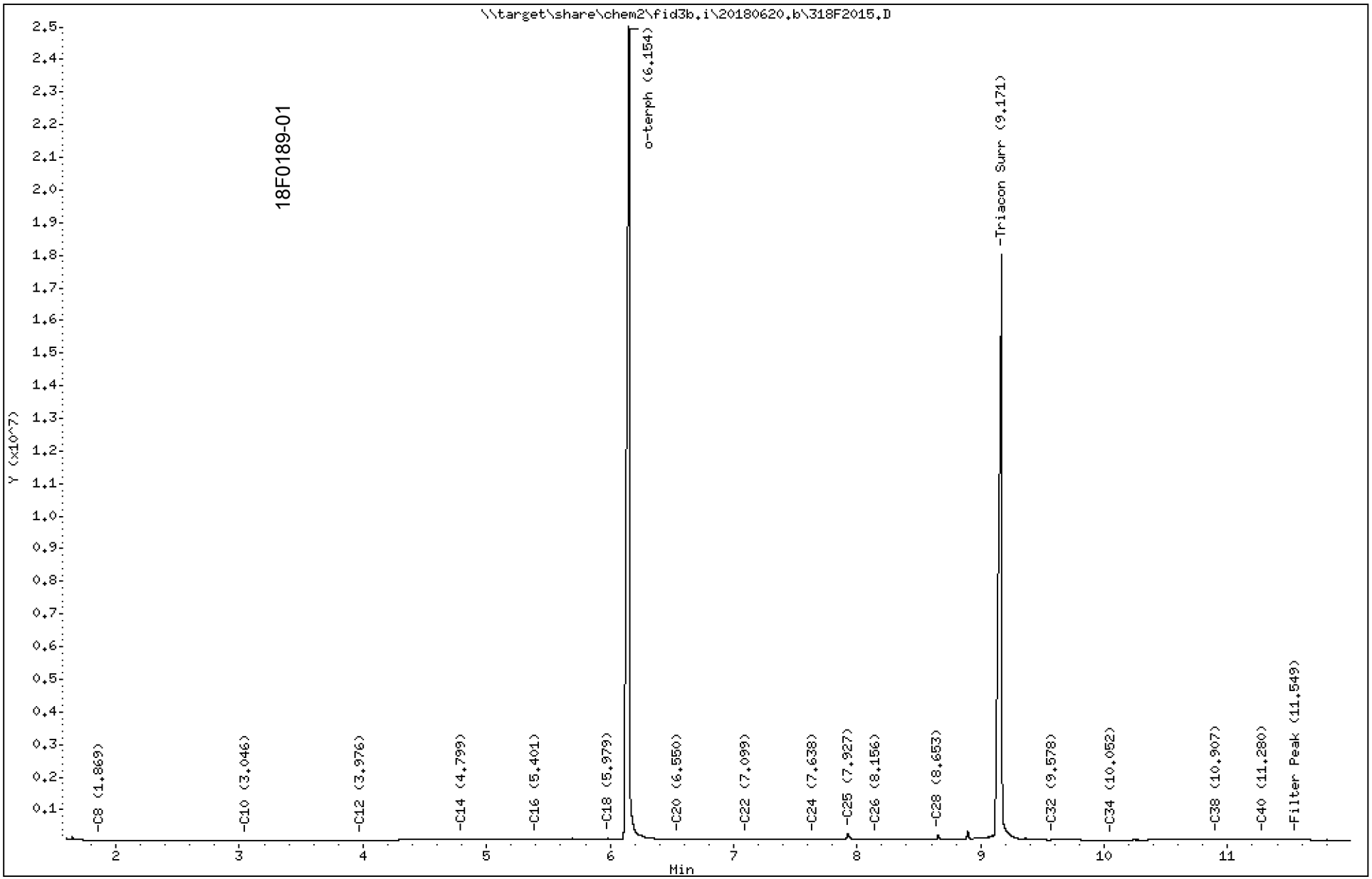
Sample Info: 18F0189-02

Instrument: fid3b.i

Operator: JGR

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

18f0189-01

Data file: 20180620.b/318F2015.D
Method: 20180620.b\FID3TPH.m
Instrument: fid3b.i
Operator: JGR
Report Date: 06/22/2018
Macro: FID3_060718

ARI ID: 18F0189-02
Client ID:
Injection: 20-JUN-2018 16:41
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	1.646	0.004	120664	317154	WATPHG	(Tol-C12)	717299	33.0
C8	1.869	0.007	9147	18056	WATPHD	(C12-C24)	6584473	38.3
C10	3.046	0.010	3071	7267	WATPHM	(C24-C38)	5434451	37.1
C12	3.976	-0.008	14048	15282	AK102	(C10-C25)	7005029	34.5
C14	4.799	0.049	40053	99206	AK103	(C25-C36)	4897874	46.5
C16	5.401	0.008	47544	247756	OR.DIES	(C10-C28)	8768578	43.0
C18	5.979	0.000	65593	106571				
C20	6.550	0.004	46912	194432				
C22	7.099	0.008	41394	218696				
C24	7.638	0.007	42596	193785				
C25	7.927	0.030	199400	498194	KEROSEN	(Tol-C18)	4381980	18.7
C26	8.156	-0.000	38113	145640				
C28	8.653	-0.003	165797	274660	IT.DIES	(C10-C24)	6848826	33.8
C32	9.578	-0.021	36231	102951				
C34	10.052	0.018	19863	30411				
Filter Peak	11.549	0.030	22042	31104				
C36	----							
o-terph	6.154	0.009	24974367	38266031				
Triacon Surr	9.171	0.010	17995110	33341520				

Range Times: NW Diesel(4.033 - 7.681) NW Gas(1.592 - 4.033) NW M.Oil(7.681 - 10.938)
AK102(2.986 - 7.847) AK103(7.847 - 10.513) Jet A(2.986 - 6.029)

Surrogate	Area	Amount
o-Terphenyl	38266031	163.9
Triacontane	33341520	170.3

Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	21747.6	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018

MW-4-180612

Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Ground Water	Laboratory ID:	18F0189-03	SDG:	18F0189
Sampled:	06/12/18 12:19	Prepared:	06/14/18 13:37	File ID:	318F1537.D
% Solids:		Preparation:	EPA 3510C SepF	Analyzed:	06/16/18 01:34
Batch:	BGF0330	Sequence:	SGF0211	Initial/Final:	500 mL / 1 mL
Instrument:	FID3	Column:	RTX-1	Calibration:	BF00020

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.160		0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

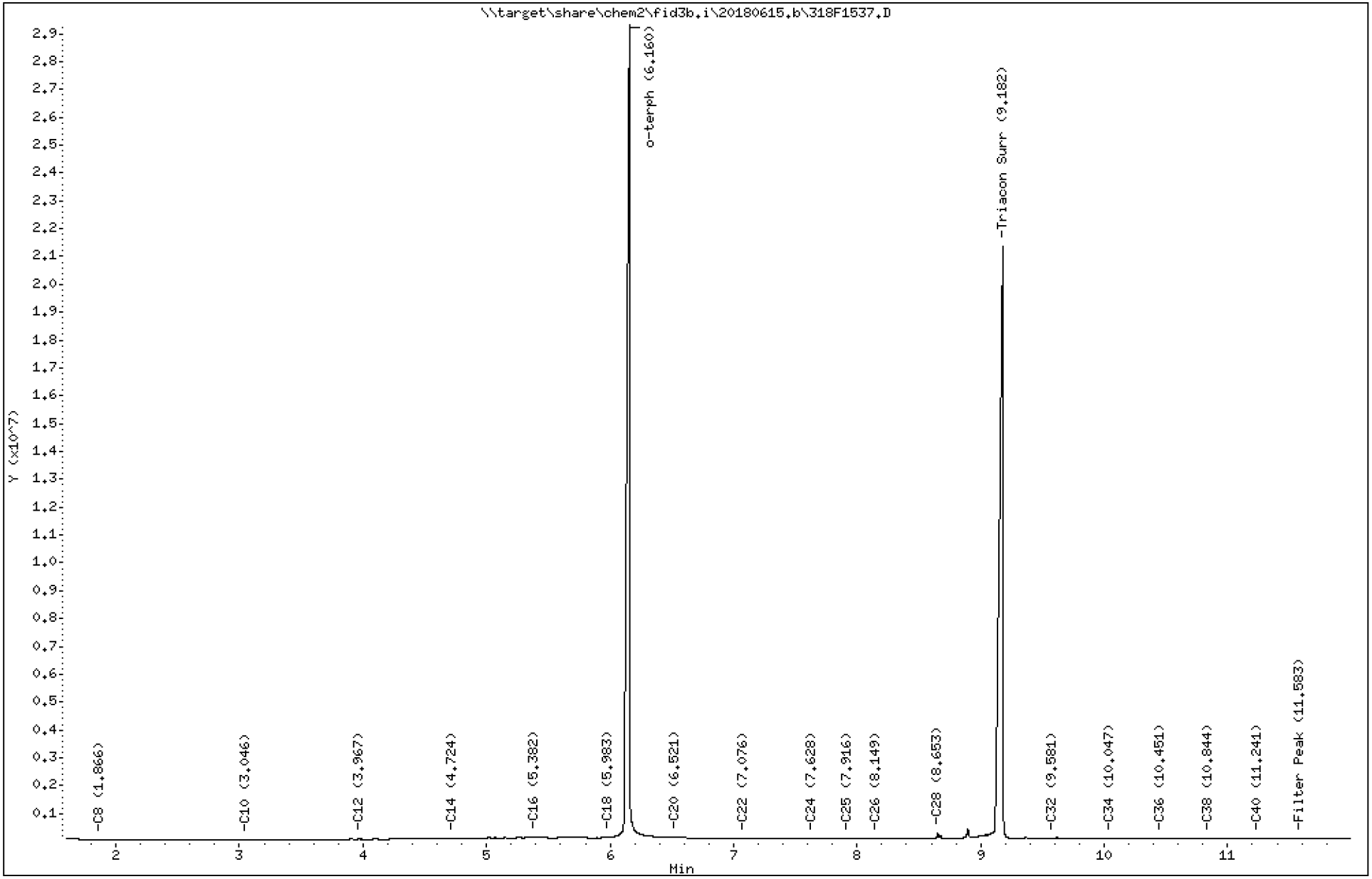
SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.45000	0.435	96.7	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20180615.b\318F1537.D
Date : 16-JUN-2018 01:34
Client ID:
Sample Info: 18F0189-03

Instrument: fid3b.i

Operator: JGR
Column diameter: 0.25

Column phase: RTX-1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180615.b/318F1537.D
Method: 20180615.b\FID3TPH.m
Instrument: fid3b.i
Operator: JGR
Report Date: 06/16/2018
Macro: FID3_060718

ARI ID: 18F0189-03
Client ID:
Injection: 16-JUN-2018 01:34
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)	
Toluene	1.646	0.001	69413	250395	WATPHG	(Tol-C12)	963070	44.3	
C8	1.866	0.002	7920	12706	WATPHD	(C12-C24)	13781286	80.2	
C10	3.046	0.011	6581	23124	WATPHM	(C24-C38)	9094362	62.2	
C12	3.967	-0.010	26018	141196	AK102	(C10-C25)	14607084	72.0	M
C14	4.724	-0.014	49178	30249	AK103	(C25-C36)	8363739	79.4	M
C16	5.382	-0.009	83779	162809	OR.DIES	(C10-C28)	16703613	81.9	M
C18	5.983	0.003	105864	407672					
C20	6.521	-0.019	79052	94499					
C22	7.076	-0.011	60151	103655					
C24	7.628	0.000	48750	112636					
C25	7.916	0.021	51021	207940	KEROSEN	(Tol-C18)	7984735	34.0	
C26	8.149	-0.007	40034	75284					
C28	8.653	-0.005	223090	257616	IT.DIES	(C10-C24)	14306712	70.6	
C32	9.581	-0.013	69990	150931					
C34	10.047	0.022	30620	37979					
Filter Peak	11.583	0.018	37041	153257					
C36	10.451	0.005	32369	44695					
o-terph	6.160	0.014	29126461	50786494					
Triacon Surr	9.182	0.019	21087405	43353557					

Range Times: NW Diesel(4.027 - 7.678) NW Gas(1.595 - 4.027) NW M.Oil(7.678 - 10.907)
AK102(2.985 - 7.844) AK103(7.844 - 10.495) Jet A(2.985 - 6.030)

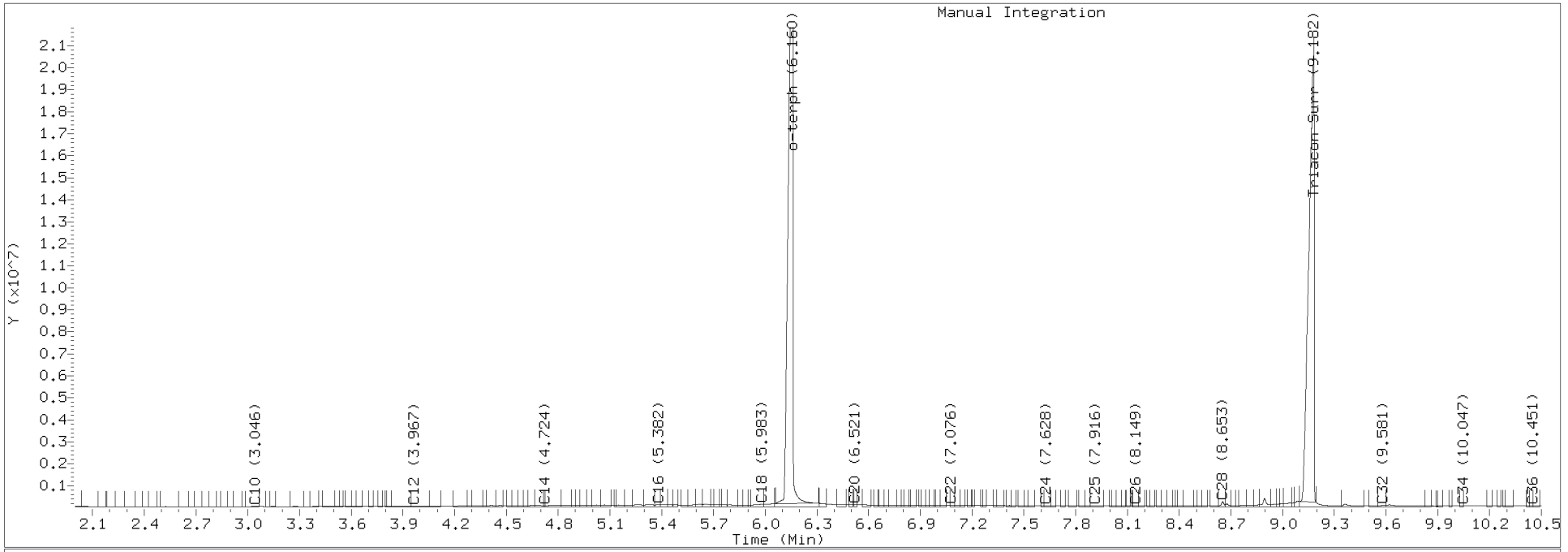
Surrogate	Area	Amount
o-Terphenyl	50786494	217.5
Triacontane	43353557	221.5

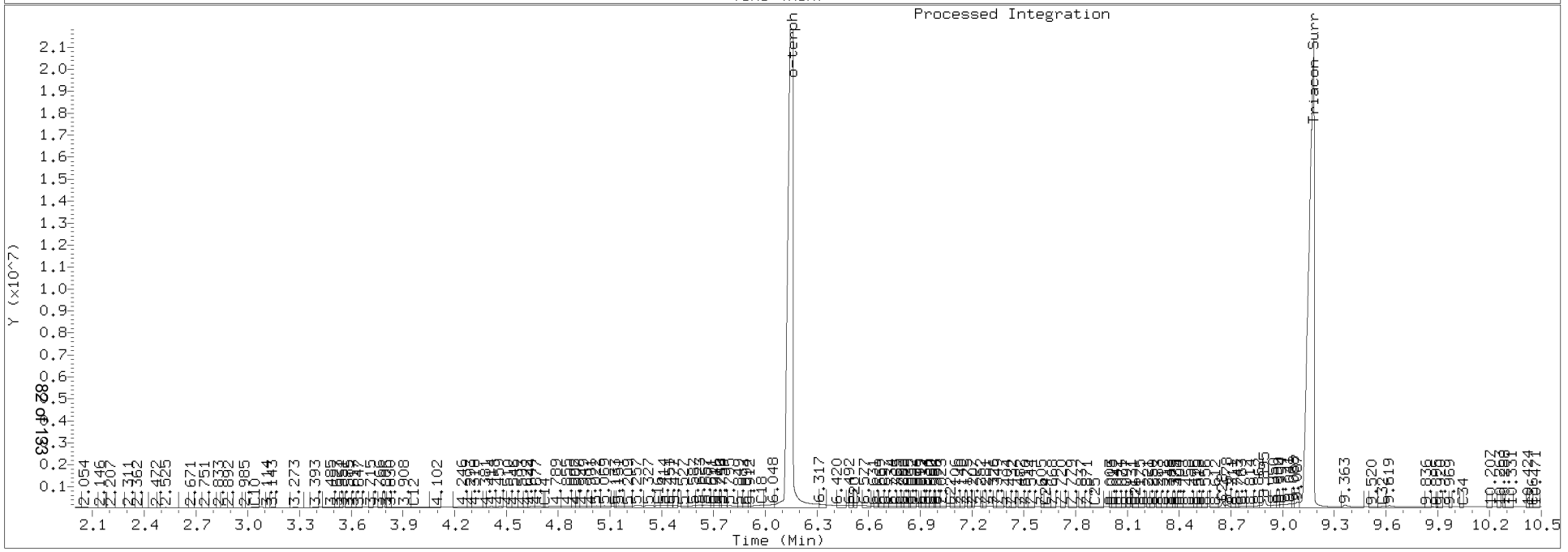
Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	21747.6	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018

TPH Manual Integrations Report

Datafile: FID3B, 20180615.b/318F1537.D Injection: 16-JUN-2018 01:34

Lab ID:18F0189-03





PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18F0189

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGF0282 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180612	18F0189-01	318F2015.D	06/15/18 11:30	
Blank	BGF0282-BLK1	318F2007.D	06/15/18 11:30	
LCS	BGF0282-BS1	318F2008.D	06/15/18 11:30	

PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18F0189

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGF0330 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180612	18F0189-03	318F1537.D	06/14/18 13:37	
Blank	BGF0330-BLK1	318F1533.D	06/14/18 13:37	
LCS	BGF0330-BS1	318F1534.D	06/14/18 13:37	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Cleanup Batch:	CGF0120	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665A Sulfuric Acid Cleanup	Analysis:	NWTPH-Dx

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
MW-4-180612	18F0189-01	318F2015.D	06/20/2018	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Cleanup Batch:	CGF0121	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	NWTPH-Dx

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
MW-4-180612	18F0189-01	318F2015.D	06/20/2018	

Form I

METHOD BLANK DATA SHEET

NWTPH-Dx

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0189
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGF0282-BLK1	File ID:	318F2007.D
Sampled:	N/A	Prepared:	06/15/18 11:30	Analyzed:	06/20/18 14:05
Solids:		Preparation:	EPA 3510C SepF	Initial/Final:	500 mL / 1 mL
Batch:	BGF0282	Sequence:	SGF0286	Calibration:	BF00020
Instrument:	FID3	Column:	RTX-1	Cleanups:	Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.45000	0.386	85.7	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20180620.b\318F2007.D

Date : 20-JUN-2018 14:05

Client ID:

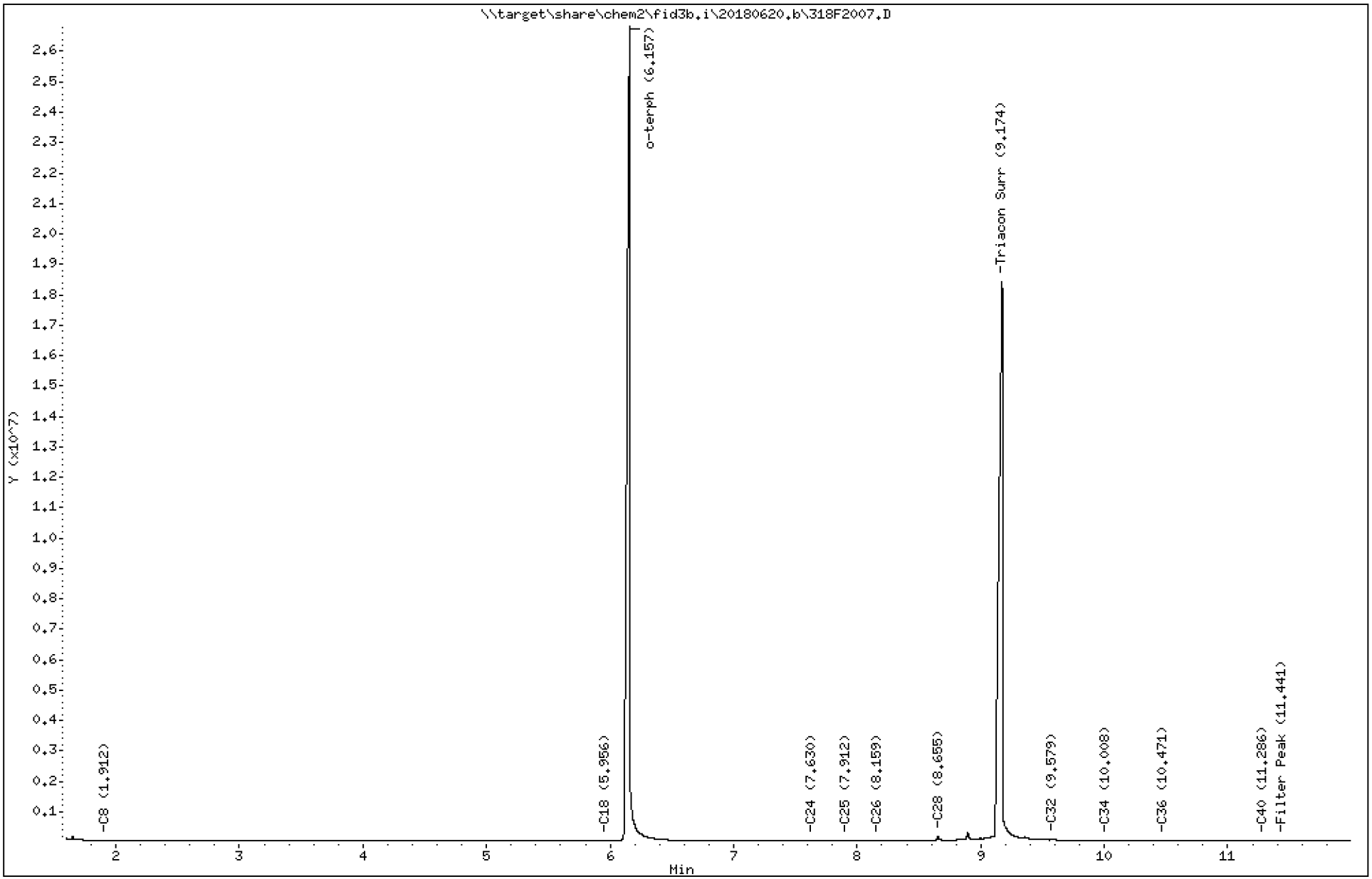
Sample Info: BGF0282-BLK1

Column phase: RTX-1

Instrument: fid3b.i

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180620.b/318F2007.D
Method: 20180620.b\FID3TPH.m
Instrument: fid3b.i
Operator: JGR
Report Date: 06/22/2018
Macro: FID3_060718

ARI ID: BGF0282-BLK1
Client ID:
Injection: 20-JUN-2018 14:05
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	1.647	0.005	138116	346218	WATPHG	(Tol-C12)	421002	19.4
C8	1.912	0.050	8176	6599	WATPHD	(C12-C24)	459579	2.7
C10	----				WATPHM	(C24-C38)	3769815	25.8
C12	----				AK102	(C10-C25)	462467	2.3
C14	----				AK103	(C25-C36)	3473589	33.0
C16	----				OR.DIES	(C10-C28)	849227	4.2
C18	5.956	-0.023	2241	4259				
C20	----							
C22	----							
C24	7.630	-0.001	2541	1161				
C25	7.912	0.015	3764	7103	KEROSEN	(Tol-C18)	449981	1.9
C26	8.159	0.004	4589	9698				
C28	8.655	-0.001	152574	195242	IT.DIES	(C10-C24)	462467	2.3
C32	9.579	-0.020	39334	147892				
C34	10.008	-0.025	20314	152074				
Filter Peak	11.441	-0.078	18552	54483				
C36	10.471	0.008	17900	164697				
o-terph	6.157	0.012	26780664	45023648				
Triacon Surr	9.174	0.013	18381305	37740248				

Range Times: NW Diesel(4.033 - 7.681) NW Gas(1.592 - 4.033) NW M.Oil(7.681 - 10.938)
AK102(2.986 - 7.847) AK103(7.847 - 10.513) Jet A(2.986 - 6.029)

Surrogate	Area	Amount
o-Terphenyl	45023648	192.8
Triacontane	37740248	192.8

Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	21747.6	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018

Form I

METHOD BLANK DATA SHEET

NWTPH-Dx

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0189
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGF0330-BLK1	File ID:	318F1533.D
Sampled:	N/A	Prepared:	06/14/18 13:37	Analyzed:	06/16/18 00:18
Solids:		Preparation:	EPA 3510C SepF	Initial/Final:	500 mL / 1 mL
Batch:	BGF0330	Sequence:	SGF0211	Calibration:	BF00020
Instrument:	FID3	Column:	RTX-1		

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.45000	0.449	99.7	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20180615.b\318F1533.D

Date : 16-JUN-2018 00:18

Client ID:

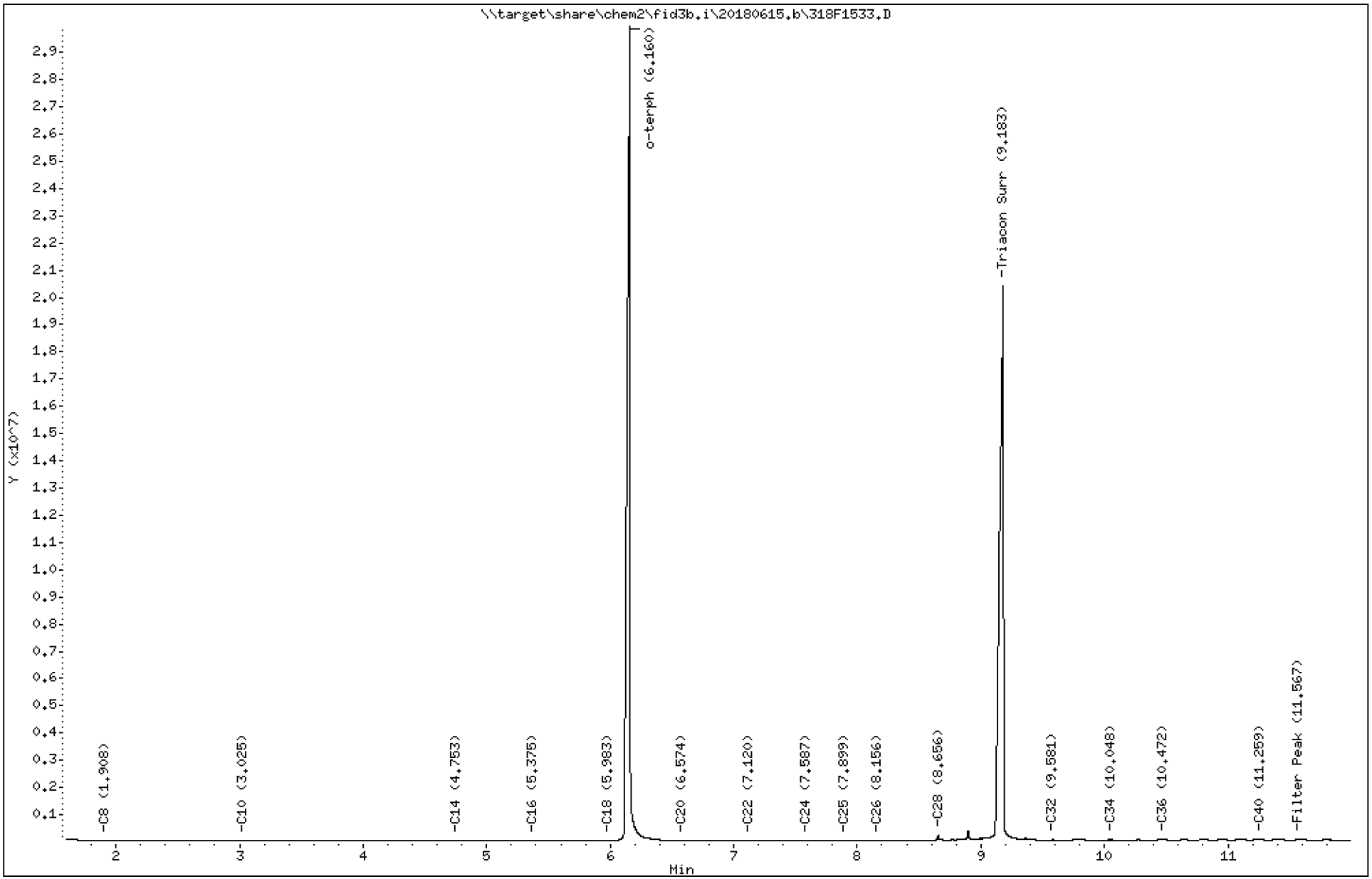
Sample Info: BGF0330-BLK1

Column phase: RTX-1

Instrument: fid3b.i

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180615.b/318F1533.D
Method: 20180615.b\FID3TPH.m
Instrument: fid3b.i
Operator: JGR
Report Date: 06/16/2018
Macro: FID3_060718

ARI ID: BGF0330-BLK1
Client ID:
Injection: 16-JUN-2018 00:18
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	1.643	-0.003	56639	236723	WATPHG	(Tol-C12)	328188	15.1
C8	1.908	0.044	7526	13837	WATPHD	(C12-C24)	233502	1.4
C10	3.025	-0.009	1849	2762	WATPHM	(C24-C38)	6035626	41.3
C12	----				AK102	(C10-C25)	252196	1.2
C14	4.753	0.015	3467	5183	AK103	(C25-C36)	5558309	52.7 M
C16	5.375	-0.016	2313	5172	OR.DIES	(C10-C28)	735265	3.6
C18	5.983	0.003	4515	4732				
C20	6.574	0.034	4340	18409				
C22	7.120	0.033	2442	4844				
C24	7.587	-0.041	1871	2137				
C25	7.899	0.005	3196	2678	KEROSEN	(Tol-C18)	366128	1.6
C26	8.156	0.001	4313	5079				
C28	8.656	-0.002	186049	206466	IT.DIES	(C10-C24)	251116	1.2
C32	9.581	-0.012	33997	104066				
C34	10.048	0.023	25733	264565				
Filter Peak	11.567	0.002	27340	106435				
C36	10.472	0.026	32060	250408				
o-terph	6.160	0.014	29913474	52374726				
Triacon Surr	9.183	0.020	20214896	42687978				

Range Times: NW Diesel(4.027 - 7.678) NW Gas(1.595 - 4.027) NW M.Oil(7.678 - 10.907)
AK102(2.985 - 7.844) AK103(7.844 - 10.495) Jet A(2.985 - 6.030)

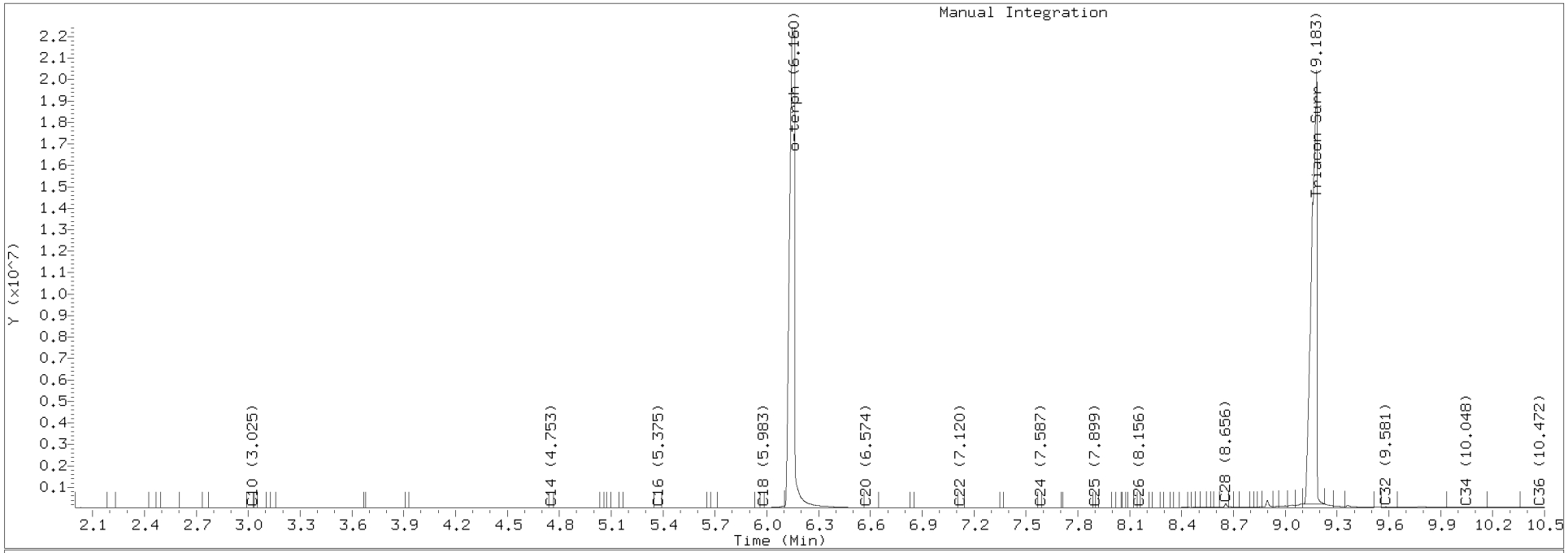
Surrogate	Area	Amount
o-Terphenyl	52374726	224.3
Triacontane	42687978	218.1

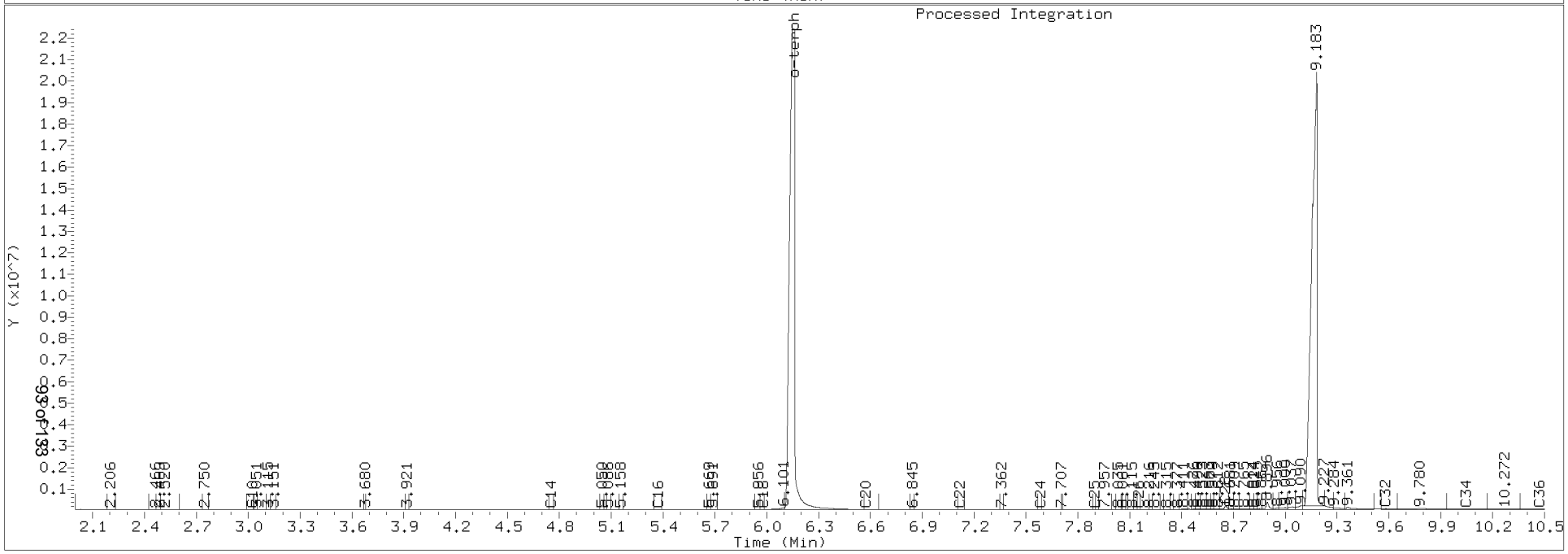
Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	21747.6	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018

TPH Manual Integrations Report

Datafile: FID3B, 20180615.b/318F1533.D Injection: 16-JUN-2018 00:18

Lab ID:BGF0330-BLK1





LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	06/20/18 14:25
Batch:	BGF0282	Laboratory ID:	BGF0282-BS1
Preparation:	EPA 3510C SepF	Sequence Name:	LCS
Initial/Final:	500 mL / 1 mL		

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	3.00	2.62		87.3	56 - 120

* Indicates values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	06/16/18 00:37
Batch:	BGF0330	Laboratory ID:	BGF0330-BS1
Preparation:	EPA 3510C SepF	Sequence Name:	LCS
Initial/Final:	500 mL / 1 mL		

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	3.00	2.39		79.8	56 - 120

* Indicates values outside of QC limits

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00096	Instrument:	FID3
Calibration Date:	05/25/2018 0:00	Column (1):	RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)	50	158510.6	100	171800.2	250	169154.2	500	178941.9	1000	175530.8	2500	177106.4
o-Terphenyl	9	221774.8	18	229375.1	45	226684.4	90	236263.9	180	242679.8	450	244185.1

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00096	Instrument:	FID3
Calibration Date:	05/25/2018 0:00	Column (1):	RTX-1

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Motor Oil Range Organics (C24-C38)	100	147580.7	250	147417.5	500	140364.9	1000	143003.2	2500	149126.5	5000	150296.8

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00096	Instrument:	FID3
Calibration Date:	05/25/2018 0:00	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	171840.7	4.3			RSD (20)	
Motor Oil Range Organics (C24-C38)	146298.2	2.6			RSD (20)	
o-Terphenyl	233493.9	3.9			RSD (20)	

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)	50	158510.6	100	171800.2	250	169154.2	500	178941.9	1000	175530.8	2500	177106.4
o-Terphenyl	9	221774.8	18	229375.1	45	226684.4	90	236263.9	180	242679.8	450	244185.1

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Motor Oil Range Organics (C24-C38)	100	147580.7	250	147417.5	500	140364.9	1000	143003.2	2500	149126.5	5000	150296.8

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)												
o-Terphenyl												

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

19-24	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
Compound		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)												
Kerosene Range Organics (Tol-C18)	500	234790.8										

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	171840.7	4.3			RSD (20)	
Motor Oil Range Organics (C24-C38)	146298.2	2.6			RSD (20)	
o-Terphenyl	233493.9	3.9			RSD (20)	

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Calibration: BE00096
Laboratory ID: SGE0465-SCV1
Sequence: SGE0465
Sequence Name: DieselSCV 500
Standard ID: F011649

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Diesel Range Organics (C12-C24)	500.00	551	10.2	30.00
o-Terphenyl	90.000	101	12.1	

* Indicates values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Calibration: BE00096
Laboratory ID: SGE0465-SCV2
Sequence: SGE0465
Sequence Name: Moil SCV 1000
Standard ID: G004802

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Motor Oil Range Organics (C24-C38)	1000.0	967	-3.3	30.00

* Indicates values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F0607.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0092	Injection Date:	06/07/18
Lab Sample ID:	SGF0092-ICV1	Injection Time:	12:39
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	523	171840.7000	179731.2000		4.6	15
o-Terphenyl	A	90.000	93.7	233493.9000	243140.8000		4.1	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F0608.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0092	Injection Date:	06/07/18
Lab Sample ID:	SGF0092-ICV2	Injection Time:	12:59
Sequence Name:	MOIL ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	983	146298.2000	143751.1000		-1.7	15

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1504.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/15/18
Lab Sample ID:	SGF0211-ICV1	Injection Time:	15:02
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	459	171840.7000	157636.1000		-8.3	15
o-Terphenyl	A	90.000	77.2	233493.9000	200373.4000		-14.2	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1505.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/15/18
Lab Sample ID:	SGF0211-ICV2	Injection Time:	15:21
Sequence Name:	AK103ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	868	146298.2000	127045.5000		-13.2	15

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F2005.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0286	Injection Date:	06/20/18
Lab Sample ID:	SGF0286-ICV1	Injection Time:	13:26
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	470	171840.7000	161491.5000		-6.0	15
o-Terphenyl	A	90.000	79.4	233493.9000	206018.6000		-11.8	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F2006.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0286	Injection Date:	06/20/18
Lab Sample ID:	SGF0286-ICV2	Injection Time:	13:46
Sequence Name:	MOILICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1000	146298.2000	146840.9000		0.4	15

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1518.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/15/18
Lab Sample ID:	SGF0211-CCV1	Injection Time:	19:32
Sequence Name:	DIESELCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	463	171840.7	159274.8		-7.3	15
o-Terphenyl	A	90.000	78.2	233493.9	202803.6		-13.1	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1519.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/15/18
Lab Sample ID:	SGF0211-CCV2	Injection Time:	19:52
Sequence Name:	AK103CCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	895	146298.2	130952.4		-10.5	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1530.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/15/18
Lab Sample ID:	SGF0211-CCV3	Injection Time:	23:22
Sequence Name:	DIESELCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	475	171840.7	163233.7		-5.0	15
o-Terphenyl	A	90.000	80.4	233493.9	208643.8		-10.7	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1531.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/15/18
Lab Sample ID:	SGF0211-CCV4	Injection Time:	23:40
Sequence Name:	AK103CCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	895	146298.2	130909.7		-10.5	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1532.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/16/18
Lab Sample ID:	SGF0211-CCV5	Injection Time:	23:59
Sequence Name:	MOILCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	947	146298.2	138566.5		-5.3	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1544.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/16/18
Lab Sample ID:	SGF0211-CCV6	Injection Time:	03:46
Sequence Name:	DIESELCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	465	171840.7	159691.7		-7.1	15
o-Terphenyl	A	90.000	80.1	233493.9	207893.9		-11.0	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1545.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/16/18
Lab Sample ID:	SGF0211-CCV7	Injection Time:	04:05
Sequence Name:	MOILCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	978	146298.2	143021.1		-2.2	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1556.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/16/18
Lab Sample ID:	SGF0211-CCV8	Injection Time:	07:34
Sequence Name:	DIESELCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	503	171840.7	172738.2		0.5	15
o-Terphenyl	A	90.000	82.5	233493.9	214147.6		-8.3	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F1557.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0211	Injection Date:	06/16/18
Lab Sample ID:	SGF0211-CCV9	Injection Time:	07:53
Sequence Name:	MOILCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	968	146298.2	141577.3		-3.2	15

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F2016.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0286	Injection Date:	06/20/18
Lab Sample ID:	SGF0286-CCV1	Injection Time:	17:00
Sequence Name:	DIESELCCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	480	171840.7	165000.6		-4.0	15
o-Terphenyl	A	90.000	79.2	233493.9	205396.2		-12.0	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F2017.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0286	Injection Date:	06/20/18
Lab Sample ID:	SGF0286-CCV2	Injection Time:	17:20
Sequence Name:	MOILCCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1000	146298.2	146348.2		0.03	15

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGE0465	Instrument:	FID3
		Calibration:	BE00096

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
RT	SGE0465-IBL1	318E2504.D	NA	05/25/18 17:02
IB	SGE0465-IBL2	318E2505.D	NA	05/25/18 17:21
50ppmDiesel	SGE0465-CAL1	318E2506.D	NA	05/25/18 17:39
100ppmDiesel	SGE0465-CAL2	318E2507.D	NA	05/25/18 17:57
250ppmDiesel	SGE0465-CAL3	318E2508.D	NA	05/25/18 18:15
500ppmDiesel	SGE0465-CAL4	318E2509.D	NA	05/25/18 18:33
1000ppmDiesel	SGE0465-CAL5	318E2510.D	NA	05/25/18 18:51
2500ppmDiesel	SGE0465-CAL6	318E2511.D	NA	05/25/18 19:09
100ppmmoil	SGE0465-CAL7	318E2512.D	NA	05/25/18 19:27
250ppmmoil	SGE0465-CAL8	318E2513.D	NA	05/25/18 19:45
500ppmmoil	SGE0465-CAL9	318E2514.D	NA	05/25/18 20:03
1000ppmmoil	SGE0465-CALA	318E2515.D	NA	05/25/18 20:21
2500ppmmoil	SGE0465-CALB	318E2516.D	NA	05/25/18 20:38
5000ppmmoil	SGE0465-CALC	318E2517.D	NA	05/25/18 20:56
DieselSCV 500	SGE0465-SCV1	318E2518.D	NA	05/25/18 21:14
Moil SCV 1000	SGE0465-SCV2	318E2906.D	NA	05/29/18 10:16

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0092	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
RT	SGF0092-IBL1	318F0604.D	NA	06/07/18 11:42
IB	SGF0092-IBL2	318F0605.D	NA	06/07/18 12:01
500ppm Kerosene	SGF0092-CAL1	318F0606.D	NA	06/07/18 12:20
Diesel ICV	SGF0092-ICV1	318F0607.D	NA	06/07/18 12:39
MOIL ICV	SGF0092-ICV2	318F0608.D	NA	06/07/18 12:59
ZZZZZ	BGF0149-BLK1	318F0609.D	Water	06/07/18 13:18
ZZZZZ	BGF0149-BS1	318F0610.D	Water	06/07/18 13:37
ZZZZZ	18F0064-01	318F0612.D	Water	06/07/18 14:15
ZZZZZ	18F0064-02	318F0613.D	Water	06/07/18 14:35
ZZZZZ	18F0064-03	318F0614.D	Water	06/07/18 14:54
ZZZZZ	18F0064-04	318F0615.D	Water	06/07/18 15:13
ZZZZZ	18F0064-05	318F0616.D	Water	06/07/18 15:33
ZZZZZ	18F0064-06	318F0617.D	Water	06/07/18 15:52
500PPMKEROSENECCV1	SGF0092-CCV1	318F0618.D	NA	06/07/18 16:11
DIESEL CCV1	SGF0092-CCV2	318F0619.D	NA	06/07/18 16:31
MOILCCV1	SGF0092-CCV3	318F0620.D	NA	06/07/18 16:50
ZZZZZ	18F0052-01	318F0623.D	Solid	06/07/18 17:48
ZZZZZ	BGE0753-BLK1	318F0626.D	Water	06/07/18 18:46
ZZZZZ	BGE0753-BS1	318F0627.D	Water	06/07/18 19:05
ZZZZZ	18E0367-01	318F0628.D	Water	06/07/18 19:24
DIESELCCV2	SGF0092-CCV4	318F0629.D	NA	06/07/18 19:43
MOILCCV2	SGF0092-CCV5	318F0630.D	NA	06/07/18 20:02
AK103CCV2	SGF0092-CCV6	318F0631.D	NA	06/07/18 20:22
DIESELCCV3	SGF0092-CCV7	318F0642.D	NA	06/07/18 23:50
AK103CCV3	SGF0092-CCV8	318F0643.D	NA	06/08/18 00:09
DIESELCCV4	SGF0092-CCV9	318F0651.D	NA	06/08/18 02:40
AK103CCV4	SGF0092-CCVA	318F0652.D	NA	06/08/18 02:59
DIESELCCV5	SGF0092-CCVB	318F0660.D	NA	06/08/18 05:31
AK103CCV5	SGF0092-CCVC	318F0661.D	NA	06/08/18 05:50

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0211	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
RT	SGF0211-IBL1	318F1502.D	NA	06/15/18 14:23
IB	SGF0211-IBL2	318F1503.D	NA	06/15/18 14:42
Diesel ICV	SGF0211-ICV1	318F1504.D	NA	06/15/18 15:02
AK103ICV	SGF0211-ICV2	318F1505.D	NA	06/15/18 15:21
DIESELCCV	SGF0211-CCV1	318F1518.D	NA	06/15/18 19:32
AK103CCV	SGF0211-CCV2	318F1519.D	NA	06/15/18 19:52
DIESELCCV	SGF0211-CCV3	318F1530.D	NA	06/15/18 23:22
AK103CCV	SGF0211-CCV4	318F1531.D	NA	06/15/18 23:40
Blank	BGF0330-BLK1	318F1533.D	Water	06/16/18 00:18
LCS	BGF0330-BS1	318F1534.D	Water	06/16/18 00:37
ZZZZZ	18F0183-01	318F1535.D	Water	06/16/18 00:56
ZZZZZ	18F0183-02	318F1536.D	Water	06/16/18 01:15
MW-4-180612	18F0189-03	318F1537.D	Water	06/16/18 01:34
ZZZZZ	BGF0283-BLK1	318F1538.D	Solid	06/16/18 01:53
ZZZZZ	BGF0283-BS1	318F1539.D	Solid	06/16/18 02:12
ZZZZZ	18F0116-01	318F1540.D	Solid	06/16/18 02:30
ZZZZZ	18F0116-02	318F1541.D	Solid	06/16/18 02:49
ZZZZZ	18F0164-01	318F1542.D	Solid	06/16/18 03:08
ZZZZZ	18F0164-02	318F1543.D	Solid	06/16/18 03:27
DIESELCCV	SGF0211-CCV6	318F1544.D	NA	06/16/18 03:46
MOILCCV	SGF0211-CCV7	318F1545.D	NA	06/16/18 04:05
ZZZZZ	BGF0207-BLK1	318F1546.D	Water	06/16/18 04:24
ZZZZZ	BGF0207-BS1	318F1547.D	Water	06/16/18 04:43
ZZZZZ	18F0070-10	318F1548.D	Water	06/16/18 05:02
ZZZZZ	18F0070-27	318F1551.D	Water	06/16/18 05:59
ZZZZZ	18F0070-29	318F1552.D	Water	06/16/18 06:18
ZZZZZ	18F0070-32	318F1553.D	Water	06/16/18 06:37
ZZZZZ	18F0070-34	318F1554.D	Water	06/16/18 06:56
ZZZZZ	18F0070-36	318F1555.D	Water	06/16/18 07:15
DIESELCCV	SGF0211-CCV8	318F1556.D	NA	06/16/18 07:34

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0211	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MOILCCV	SGF0211-CCV9	318F1557.D	NA	06/16/18 07:53
MOILCCV	SGF0211-CCV5	318F1532.D	NA	06/16/18 23:59

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0286	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
RT	SGF0286-IBL1	318F2003.D	NA	06/20/18 12:48
IB	SGF0286-IBL2	318F2004.D	NA	06/20/18 13:07
Diesel ICV	SGF0286-ICV1	318F2005.D	NA	06/20/18 13:26
MOILICV	SGF0286-ICV2	318F2006.D	NA	06/20/18 13:46
Blank	BGF0282-BLK1	318F2007.D	Water	06/20/18 14:05
LCS	BGF0282-BS1	318F2008.D	Water	06/20/18 14:25
ZZZZZ	18F0152-02	318F2010.D	Water	06/20/18 15:04
ZZZZZ	18F0152-01	318F2011.D	Water	06/20/18 15:23
ZZZZZ	18F0152-03	318F2012.D	Water	06/20/18 15:43
ZZZZZ	18F0152-04	318F2013.D	Water	06/20/18 16:02
ZZZZZ	18F0152-05	318F2014.D	Water	06/20/18 16:21
MW-4-180612	18F0189-01	318F2015.D	Water	06/20/18 16:41
DIESELCCV1	SGF0286-CCV1	318F2016.D	NA	06/20/18 17:00
MOILCCV1	SGF0286-CCV2	318F2017.D	NA	06/20/18 17:20

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0092	Instrument:	FID3
Calibration:	BF00020	Calibration Date:	05/25/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGF0092-ICV1 (Solid)				Lab File ID: 318F0607.D			Analyzed: 06/07/18 12:39	
o-Terphenyl	90.000	104	85 - 115	6.15	6.145	0.0050	N/A	

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0211	Instrument:	FID3
Calibration:	BF00020	Calibration Date:	06/07/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGF0211-IBL1 (Solid)				Lab File ID: 318F1502.D			Analyzed: 06/15/18 14:23	
o-Terphenyl	112.50	95.5	50 - 150	6.15	6.145	0.0050	N/A	
SGF0211-IBL2 (Solid)				Lab File ID: 318F1503.D			Analyzed: 06/15/18 14:42	
o-Terphenyl	112.50	96.7	50 - 150	6.15	6.145	0.0050	N/A	
SGF0211-ICV1 (Solid)				Lab File ID: 318F1504.D			Analyzed: 06/15/18 15:02	
o-Terphenyl	90.000	85.8	85 - 115	6.15	6.145	0.0050	N/A	
BGF0330-BLK1 (Water)				Lab File ID: 318F1533.D			Analyzed: 06/16/18 00:18	
o-Terphenyl	0.45000	99.7	50 - 150	6.16	6.145	0.0150	N/A	
BGF0330-BS1 (Water)				Lab File ID: 318F1534.D			Analyzed: 06/16/18 00:37	
o-Terphenyl	0.45000	79.2	50 - 150	6.16	6.145	0.0150	N/A	
18F0189-03 (Water)				Lab File ID: 318F1537.D			Analyzed: 06/16/18 01:34	
o-Terphenyl	0.45000	96.7	50 - 150	6.16	6.145	0.0150	N/A	

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18F0189
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0286	Instrument:	FID3
Calibration:	BF00020	Calibration Date:	06/07/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGF0286-IBL1 (Water)				Lab File ID: 318F2003.D			Analyzed: 06/20/18 12:48	
o-Terphenyl	112.50	96.0	50 - 150	6.15	6.145	0.0050	N/A	
SGF0286-IBL2 (Water)				Lab File ID: 318F2004.D			Analyzed: 06/20/18 13:07	
o-Terphenyl	112.50	92.5	50 - 150	6.15	6.145	0.0050	N/A	
SGF0286-ICV1 (Water)				Lab File ID: 318F2005.D			Analyzed: 06/20/18 13:26	
o-Terphenyl	90.000	88.2	85 - 115	6.15	6.145	0.0050	N/A	
BGF0282-BLK1 (Water)				Lab File ID: 318F2007.D			Analyzed: 06/20/18 14:05	
o-Terphenyl	0.45000	85.7	50 - 150	6.16	6.145	0.0150	N/A	
BGF0282-BS1 (Water)				Lab File ID: 318F2008.D			Analyzed: 06/20/18 14:25	
o-Terphenyl	0.45000	80.2	50 - 150	6.16	6.145	0.0150	N/A	
18F0189-01 (Water)				Lab File ID: 318F2015.D			Analyzed: 06/20/18 16:41	
o-Terphenyl	0.45000	72.8	50 - 150	6.15	6.145	0.0050	N/A	

HOLDING TIME SUMMARY

Analysis: NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18F0189

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-180612 18F0189-01	06/12/18 12:19	06/13/18 10:41	06/15/18 11:30	2	7	06/20/18 16:41	5	40	
MW-4-180612 18F0189-03	06/12/18 12:19	06/13/18 10:41	06/14/18 13:37	2	7	06/16/18 01:34	1	40	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Solid
Instrument: FID3

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	2.34	5.00	mg/kg
Motor Oil Range Organics (C24-C38)	2.99	10.0	mg/kg

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18F0189
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: FID3

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	0.033	0.100	mg/L
Motor Oil Range Organics (C24-C38)	0.056	0.200	mg/L

Analytical Resources, Incorporated
Analytical Chemists and Consultants

18 September 2018

Jennifer Allen
Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle, WA 98101

RE: SVCA Area Z Remediation

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
18I0031	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.



Amanda Volgardsen, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cert# 100006-011

PJLA Testing
Accreditation # 66169

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

1810031

Chain of Custody Record & Laboratory Analysis Request

Laboratory: **Analytical Resources, Inc.**
Date: **9/4/2018**
Project Name: **SVCA Area Z Remediation**
Project Manager: **Jennifer Allen**
Phone Number: **360-715-2724**
Shipment Method: **Fedex**

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: NWTPH-G	NWTPH-D	BTEX	Archive										Comments/Preservation
1	MW-4-180904	09/04/18; 12:01	GW	7	X	X	X											
2	TB-180608	6/8/18; N/A	TB	1														
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Notes: NWTPH-D extended analyzed with and without silica gel cleanup. See contract for analysis details.

Email sample confirmation report to labdata@anchorqea.com

Relinquished By:	Company: Anchor QEA, LLC	Received By:	Company: ARI
Signature/Printed Name	9/4/18; 1530 Date/Time	Stephanie Fisher Signature/Printed Name	9-5-18 1035 Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Anchor QEA Project Name: SVCA Area 2

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 180031 Tracking No: 773134602583 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 6.9

Time: 1035

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D002565

Cooler Accepted by: Sef Date: 9-5-18 Time: 1035

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO Sef
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	6/18/18	

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

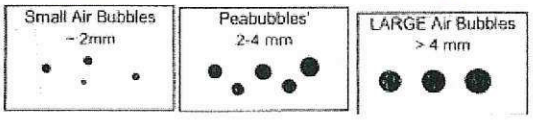
Samples Logged by: Sef Date: 9-5-18 Time: 1349

** ***Notify Project Manager of discrepancies or concerns*** **

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions: Samples unknown, TB doesn't have analyses requested on COC.

By: Sef Date: 9-5-18



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: 1810037

Cooler#: 1 **Temperature(°C):** 6.9

Sample ID	Bottle Count	Bottle Type
samples received above 6°		

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Completed by: SeE Date: 9-5-18 Time: 1035

Analytical Report

Anchor QEA, LLC	Project: SVCA Area Z Remediation	
720 Olive Way, Suite 1900	Project Number: [none]	**Reported:**
Seattle WA, 98101	Project Manager: Jennifer Allen	18-Sep-2018 13:08

Case Narrative

Sample receipt

Samples as listed on the preceding page were received September 5, 2018 under ARI work order 18I0031. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Gasoline by NWTPH-g (GC/MS)

The samples were run within the recommended holding times.

Initial and continuing calibrations were within method requirements. The gas closing calibration for 9/5/18 failed due to a burned out filament. The sample was reanalyzed, but the trip blank was only received with one vial and there was no remaining volume to re-run. The failed closing CCV was within control limits for all internal standards and surrogates. Sample TB-180608 was reported as is.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx (Ac/Si cleaned and not cleaned)

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Anchor QEA, LLC	Project:	SVCA Area Z Remediation	
720 Olive Way, Suite 1900	Project Number:	[none]	**Reported:**
Seattle, WA 98101	Project Manager:	Jennifer Allen	09/18/2018 13:08

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18I0031-01	MW-4-180904	Water	09/04/18 12:01	09/05/18 10:35
18I0031-02	MW-4-180904	Water	09/04/18 12:01	09/05/18 10:35
18I0031-03	TB-180608	Water	09/04/18 00:00	09/05/18 10:35

QUALIFIERS AND NOTES

Qualifier	Definition
U	This analyte is not detected above the applicable reporting or detection limit.
J	Estimated concentration value detected below the reporting limit.
D	The reported value is from a dilution
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

MW-4-180904

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

Volatile Organic Compounds

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Ground Water	Laboratory ID:	18I0031-01	SDG:	18I0031
Sampled:	09/04/18 12:01	Prepared:	09/05/18 14:55	File ID:	V309051815.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	09/05/18 19:08
Batch:	BGI0088	Sequence:	SGI0087	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BH00083

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	5.30	106	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	5.13	103	80 - 120	
Toluene-d8	5.0000	5.00	100	80 - 120	
4-Bromofluorobenzene	5.0000	4.94	98.7	80 - 120	

TB-180608

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

Volatile Organic Compounds

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18I0031-03	SDG:	18I0031
Sampled:	09/04/18 00:00	Prepared:	09/05/18 14:55	File ID:	V309051811.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	09/05/18 17:24
Batch:	BGI0088	Sequence:	SGI0087	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BH00083

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	5.20	104	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	5.12	102	80 - 120	
Toluene-d8	5.0000	4.93	98.5	80 - 120	
4-Bromofluorobenzene	5.0000	4.87	97.5	80 - 120	

PREPARATION BATCH SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc. SDG: 18I0031

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGI0088 Batch Matrix: Water Preparation: EPA 5030 (Purge and Trap)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180904	18I0031-01	V309051815.D	09/05/18 14:55	
TB-180608	18I0031-03	V309051811.D	09/05/18 14:55	
Blank	BGI0088-BLK1	V309051809.D	09/05/18 14:55	
LCS	BGI0088-BS1	V309051803LCS.D	09/05/18 13:54	
LCS Dup	BGI0088-BSD1	V309051804.D	09/05/18 14:21	

Form I

METHOD BLANK DATA SHEET

EPA 8260C

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18I0031
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGI0088-BLK1	File ID:	V309051809.D
Sampled:	N/A	Prepared:	09/05/18 14:55	Analyzed:	09/05/18 16:31
Solids:		Preparation:	EPA 5030 (Purge and Trap)	Initial/Final:	10 mL / 10 ml
Batch:	BGI0088	Sequence:	SGI0087	Calibration:	BH00083
Instrument:	NT3	Column:	RTX-VMS		

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	5.13	103	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	5.06	101	80 - 120	
Toluene-d8	5.0000	5.01	100	80 - 120	
4-Bromofluorobenzene	5.0000	4.88	97.6	80 - 120	

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	09/05/18 13:54
Batch:	BGI0088	Laboratory ID:	BGI0088-BS1
Preparation:	EPA 5030 (Purge and Trap)	Sequence Name:	LCS
Initial/Final:	10 mL / 10 ml		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Benzene	10.0	10.0		100	80 - 120
Toluene	10.0	10.1		101	80 - 120
Ethylbenzene	10.0	10.4		104	80 - 120
m,p-Xylene	20.0	20.8		104	80 - 121
o-Xylene	10.0	10.3		103	80 - 121

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	10.0	9.90		99.0	1.37	30	80 - 120
Toluene	10.0	9.99		99.9	1.03	30	80 - 120
Ethylbenzene	10.0	10.2		102	1.42	30	80 - 120
m,p-Xylene	20.0	20.6		103	1.32	30	80 - 121
o-Xylene	10.0	10.3		103	0.0253	30	80 - 121

* Indicates values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V308281802.D	Injection Date:	08/28/18
Instrument ID:	NT3	Injection Time:	09:44
Sequence:	SGH0415	Lab Sample ID:	SGH0415-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	24.9	PASS
75	30 - 80% of 95	49.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.81	PASS
173	Less than 2% of 174	0.266	PASS
174	50 - 120% of 95	93.7	PASS
175	5 - 9% of 174	7.2	PASS
176	95 - 101% of 174	95.6	PASS
177	5 - 9% of 176	7.24	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGH0415-TUN1	V308281802.D	08/28/2018	9:44
Cal Standard	SGH0415-CAL1	V308281804.D	08/28/2018	10:50
Cal Standard	SGH0415-CAL2	V308281805.D	08/28/2018	11:16
Cal Standard	SGH0415-CAL3	V308281806.D	08/28/2018	11:42
Cal Standard	SGH0415-CAL4	V308281807.D	08/28/2018	12:08
Cal Standard	SGH0415-CAL5	V308281808.D	08/28/2018	12:34
Cal Standard	SGH0415-CAL6	V308281809.D	08/28/2018	13:00
Cal Standard	SGH0415-CAL7	V308281810.D	08/28/2018	13:26
Cal Standard	SGH0415-CAL8	V308281811.D	08/28/2018	14:34
Secondary Cal Check	SGH0415-SCV1	V308281813.D	08/28/2018	15:26

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V309051802.D	Injection Date:	09/05/18
Instrument ID:	NT3	Injection Time:	13:12
Sequence:	SGI0087	Lab Sample ID:	SGI0087-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	24.7	PASS
75	30 - 80% of 95	47.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.83	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	89.7	PASS
175	5 - 9% of 174	6.79	PASS
176	95 - 101% of 174	98	PASS
177	5 - 9% of 176	6.49	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGI0087-TUN1	V309051802.D	09/05/2018	13:12
LCS	BGI0088-BS1	V309051803LCS.D	09/05/2018	13:54
Initial Cal Check	SGI0087-ICV1	V309051803.D	09/05/2018	13:54
LCS Dup	BGI0088-BSD1	V309051804.D	09/05/2018	14:21
Low Cal Check	SGI0087-LCV1	V309051807.D	09/05/2018	15:39
Low Cal Check	SGI0087-LCV2	V309051808.D	09/05/2018	16:05
Blank	BGI0088-BLK1	V309051809.D	09/05/2018	16:31
ZZZZZ	18H0363-01	V309051810.D	09/05/2018	16:57
TB-180608	18I0031-03	V309051811.D	09/05/2018	17:24
ZZZZZ	18I0023-09	V309051812.D	09/05/2018	17:49
ZZZZZ	18I0020-02	V309051813.D	09/05/2018	18:16
ZZZZZ	18I0020-07	V309051814.D	09/05/2018	18:42
MW-4-180904	18I0031-01	V309051815.D	09/05/2018	19:08
ZZZZZ	18I0023-01	V309051816.D	09/05/2018	19:34
ZZZZZ	18I0023-03	V309051817.D	09/05/2018	19:59
ZZZZZ	18I0023-05	V309051818.D	09/05/2018	20:26
ZZZZZ	18I0023-07	V309051819.D	09/05/2018	20:52
ZZZZZ	18I0021-01	V309051820.D	09/05/2018	21:18

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00083	Instrument:	NT3
Calibration Date:	08/28/2018 7:14	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Benzene	0.2	1.733019	0.5	1.664309	1	1.688111	2	1.740957	10	1.703461	20	1.669268
Toluene	0.2	1.082811	0.5	1.094083	1	1.061611	2	1.088324	10	1.084316	20	1.064142
Ethylbenzene	0.2	0.7154621	0.5	0.6257123	1	0.6777291	2	0.700094	10	0.7109565	20	0.6882963
m,p-Xylene	0.4	0.840053	1	0.7980415	2	0.8510512	4	0.8658556	20	0.8742798	40	0.8549317
o-Xylene	0.2	0.7967403	0.5	0.8122564	1	0.8445865	2	0.878728	10	0.8786881	20	0.8508598
1,2-Dichloroethane-d4	5	0.4681404	5	0.4741621	5	0.4718312	5	0.4701623	5	0.459597	5	0.4713747
1,2-Dichlorobenzene-d4	5	0.9047482	5	0.8926149	5	0.8907591	5	0.919397	5	0.9041769	5	0.9113703
Toluene-d8	5	1.14998	5	1.161652	5	1.153238	5	1.16109	5	1.146974	5	1.18398
4-Bromofluorobenzene	5	0.4848202	5	0.4670944	5	0.4794464	5	0.4856681	5	0.4820117	5	0.4737753
Dibromofluoromethane	5	0.3836036	5	0.3940373	5	0.3812397	5	0.3787831	5	0.3741563	5	0.399945

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00083	Instrument:	NT3
Calibration Date:	08/28/2018 7:14	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Benzene	40	1.595156	80	1.586297								
Toluene	40	1.043054	80	1.049156								
Ethylbenzene	40	0.6765553	80	0.6953238								
m,p-Xylene	80	0.832621	160	0.8219667								
o-Xylene	40	0.8405953	80	0.8488644								
1,2-Dichloroethane-d4	5	0.4511983	5	0.45229								
1,2-Dichlorobenzene-d4	5	0.8839609	5	0.8674244								
Toluene-d8	5	1.161997	5	1.168267								
4-Bromofluorobenzene	5	0.4740444	5	0.4807018								
Dibromofluoromethane	5	0.3821817	5	0.3850255								

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00083	Instrument:	NT3
Calibration Date:	08/28/2018 7:14	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Benzene	1.672572	3.4			RSD (15)	
Toluene	1.070937	1.8			RSD (15)	
Ethylbenzene	0.6862662	4.1			RSD (15)	
m,p-Xylene	0.8423501	2.9			RSD (15)	
o-Xylene	0.8439148	3.4			RSD (15)	
1,2-Dichloroethane-d4	0.4648445	2.0			RSD (15)	
1,2-Dichlorobenzene-d4	0.8968065	1.8			RSD (15)	
Toluene-d8	1.160897	1.0			RSD (15)	
4-Bromofluorobenzene	0.4784453	1.3			RSD (15)	
Dibromofluoromethane	0.3848715	2.2			RSD (15)	

INITIAL CALIBRATION CHECK

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BH00083
Lab File ID:	V309051803.D	Calibration Date:	08/28/18 07:14
Sequence:	SGI0087	Injection Date:	09/05/18
Lab Sample ID:	SGI0087-ICV1	Injection Time:	13:54
Sequence Name:	VOA 10		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Benzene	A	10.000	10.0	1.6725720	1.6786810	0.5	0.4	20
Toluene	A	10.000	10.1	1.0709370	1.0814030	0.4	1.0	20
Ethylbenzene	A	10.000	10.4	0.6862662	0.7104295	0.1	3.5	20
m,p-Xylene	A	20.000	20.8	0.8423501	0.8774542	0.1	4.2	20
o-Xylene	A	10.000	10.3	0.8439148	0.8667027	0.3	2.7	20
Dibromofluoromethane	A	5.0000	5.04	0.3848715	0.3881546		0.9	20
1,2-Dichloroethane-d4	A	5.0000	4.70	0.4648445	0.4365552		-6.1	20
Toluene-d8	A	5.0000	5.12	1.1608970	1.1888190		2.4	20
4-Bromofluorobenzene	A	5.0000	4.87	0.4784453	0.4662452		-2.5	20
1,2-Dichlorobenzene-d4	A	5.0000	5.02	0.8968065	0.9006152		0.4	20

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGH0415	Instrument:	NT3
		Calibration:	BH00083

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGH0415-TUN1	V308281802.D	NA	08/28/18 09:44
8260C 0.2	SGH0415-CAL1	V308281804.D	NA	08/28/18 10:50
8260C 0.5	SGH0415-CAL2	V308281805.D	NA	08/28/18 11:16
8260C 1.0	SGH0415-CAL3	V308281806.D	NA	08/28/18 11:42
8260C 2.0	SGH0415-CAL4	V308281807.D	NA	08/28/18 12:08
8260C 10	SGH0415-CAL5	V308281808.D	NA	08/28/18 12:34
8260C 20	SGH0415-CAL6	V308281809.D	NA	08/28/18 13:00
8260C 40	SGH0415-CAL7	V308281810.D	NA	08/28/18 13:26
8260C 80	SGH0415-CAL8	V308281811.D	NA	08/28/18 14:34
8260C SCV 10	SGH0415-SCV1	V308281813.D	NA	08/28/18 15:26

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGI0087	Instrument:	NT3
		Calibration:	BH00083

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGI0087-TUN1	V309051802.D	NA	09/05/18 13:12
VOA 10	SGI0087-ICV1	V309051803.D	NA	09/05/18 13:54
LCS	BGI0088-BS1	V309051803LCS.D	Water	09/05/18 13:54
LCS Dup	BGI0088-BSD1	V309051804.D	Water	09/05/18 14:21
VOA 0.2	SGI0087-LCV1	V309051807.D	NA	09/05/18 15:39
VOA 0.5	SGI0087-LCV2	V309051808.D	NA	09/05/18 16:05
Blank	BGI0088-BLK1	V309051809.D	Water	09/05/18 16:31
ZZZZZ	18H0363-01	V309051810.D	Water	09/05/18 16:57
TB-180608	18I0031-03	V309051811.D	Water	09/05/18 17:24
ZZZZZ	18I0023-09	V309051812.D	Water	09/05/18 17:49
ZZZZZ	18I0020-02	V309051813.D	Water	09/05/18 18:16
ZZZZZ	18I0020-07	V309051814.D	Water	09/05/18 18:42
MW-4-180904	18I0031-01	V309051815.D	Water	09/05/18 19:08
ZZZZZ	18I0023-01	V309051816.D	Water	09/05/18 19:34
ZZZZZ	18I0023-03	V309051817.D	Water	09/05/18 19:59
ZZZZZ	18I0023-05	V309051818.D	Water	09/05/18 20:26
ZZZZZ	18I0023-07	V309051819.D	Water	09/05/18 20:52
ZZZZZ	18I0021-01	V309051820.D	Water	09/05/18 21:18

Analysis	Matrix	Method
8260C VOA	Water	EPA 8260C

Checklist for SEQUENCE SGI0087

Checklist: Analyst Checklist-VOA(rev3)

#	Checklist Item	Response	Analyst Initials	Date
1	Samples have no Bubbles/Headspace of note for all Workorders	NO	PKC	09/06/2018
	Comments: *18I0020-02, -07 SM*			
2	PH <=2 / 5035 Preserved for all Workorders	NO	PKC	09/06/2018
	Comments: *18I0020-02, -07 pH 6* *18I0021-01 pH 6*			
3	BFB abundance and time criteria met	YES	PKC	09/06/2018
4	Narrate all Internal Standard areas not within 50-200% for all affected Workorders	NA	PKC	09/06/2018
5	Retention times within windows and coelution summary checked for all Workorders	YES	PKC	09/06/2018
6	Manual Integrations were applied as per SOP 1021s	YES	PKC	09/06/2018
	Comments: *Manual integrations applied to correct for partial integrations by automated software and to detect peaks missed by automated integration.*			
7	Narrate any Workorders where the Project specific requirements have not been met	NA	PKC	09/06/2018
8	Trip Blank, Field Blank and (or) Holding Blank are below MRL for all Analytes	YES	PKC	09/06/2018
9	Narrate Samples per Workorder that will require more than one analysis to be reported due to dilutions or re-analysis	NA	PKC	09/06/2018
10	Verify that all samples requiring a dilution or re-analysis have been added to another batch or sequence	NA	PKC	09/06/2018
11	Extraction basis, sample prep, dilution factor, and total solids are correctly entered.	YES	PKC	09/06/2018
	Comments: *18I0021-01 initial 0.02 final 10*			
12	AUTOCHECK: Blank checked for exceedence of criteria	YES *	PKC	09/06/2018
13	AUTOCHECK: Check blank spike recovery	NO *	PKC	09/06/2018

Comments:
LCS Recovery for Hexachloro-1,3-Butadiene (133%) was outside acceptance limits (58-123) in BGI0088-BS1 for 8260C VOA
- Flagged value is not within established control limits.
- Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)

LCS Recovery for 1,2,3-Trichlorobenzene (142%) was outside acceptance limits (49-133) in BGI0088-BSD1 for 8260C VOA
- Flagged value is not within established control limits.

LCS Recovery for Hexachloro-1,3-Butadiene (130%) was outside acceptance limits (58-123) in BGI0088-BSD1 for 8260C VOA
- Flagged value is not within established control limits.
- Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance

Checklist for SEQUENCE SGI0087

Checklist: Analyst Checklist-VOA(rev3)

#	Checklist Item	Response		Analyst Initials	Date
	criteria (<20% RSD, <20% drift or minimum RRF)				
	LCS Recovery for trans-1,4-Dichloro 2-Butene (130%) was outside acceptance limits (55-129) in BGI0088-BSD1 for 8260C VOA *- Flagged value is not within established control limits.* *- Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)*				
	Poor performing analytes, not detected in samples.				
14	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	YES	*	PKC	09/06/2018
15	AUTOCHECK: Compounds in method designated as blank spike compounds are present	YES	*	PKC	09/06/2018
16	AUTOCHECK: Check %RPD between sample and sample duplicate	NA	*	PKC	09/06/2018
17	AUTOCHECK: Matrix spike recoveries within limits	NA	*	PKC	09/06/2018
18	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NA	*	PKC	09/06/2018
19	AUTOCHECK: List of compounds listed as spiked are present	NA	*	PKC	09/06/2018
20	AUTOCHECK: Check Surrogate recoveries	YES	*	PKC	09/06/2018
21	AUTOCHECK: Checks Surrogate spike list against Analysis	YES	*	PKC	09/06/2018
	Comments: *18I0031 requests BTEX only - does not require d4 1,2 dichloroethane or d4 1,2 dichlorobenzene surrogates.*				
22	Data locked, checklist completed and status is Analyzed (REVIEWER)	YES		BB	09/06/2018
23	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES		BB	09/06/2018
24	rev_DilutionCheck.rpt and rev_DilutionCheck.exe was run to verify multiple sample results are consistent (REVIEWER)	NA		BB	09/06/2018
25	List of samples in this sequence that will require additional runs-verify reshot created (ANALYST)	NA		PKC	09/06/2018
26	List of samples in this sequence that are re-analysis or dilutions of samples (ANALYST)	NA		PKC	09/06/2018
27	Additional Notes (ANALYST and REVIEWER)	YES		PKC	09/06/2018
	Comments: *No closing CCV - instrument failed before completing sequence. Filament burned out. All surrogates and I.S. were in control.*				

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGH0415	Instrument:	NT3
Calibration:	BH00083	Calibration Date:	08/28/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
SGH0415-SCV1 (Water)	Lab File ID: V308281813.D		Analyzed: 08/28/18 15:26	
1,2-Dichloroethane-d4	5.0000	103	80 - 120	
1,2-Dichlorobenzene-d4	5.0000	98.4	80 - 120	
Toluene-d8	5.0000	99.9	80 - 120	
4-Bromofluorobenzene	5.0000	99.8	80 - 120	
Dibromofluoromethane	5.0000	103	80 - 120	

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG/WO: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGI0087
Instrument: NT3
Calibration: BH00083
Calibration Date: 08/28/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
BGI0088-BS1 (Water)	Lab File ID: V309051803LCS.D		Analyzed: 09/05/18 13:54	
1,2-Dichloroethane-d4	5.0000	93.9	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	100	80 - 120	
Toluene-d8	5.0000	102	80 - 120	
4-Bromofluorobenzene	5.0000	97.5	80 - 120	
Dibromofluoromethane	5.0000	101	80 - 120	
SGI0087-ICV1 (Water)	Lab File ID: V309051803.D		Analyzed: 09/05/18 13:54	
1,2-Dichloroethane-d4	5.0000	93.9	80 - 120	
1,2-Dichlorobenzene-d4	5.0000	100	80 - 120	
Toluene-d8	5.0000	102	80 - 120	
4-Bromofluorobenzene	5.0000	97.5	80 - 120	
Dibromofluoromethane	5.0000	101	80 - 120	
BGI0088-BSD1 (Water)	Lab File ID: V309051804.D		Analyzed: 09/05/18 14:21	
1,2-Dichloroethane-d4	5.0000	97.8	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	100	80 - 120	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	103	80 - 120	
Dibromofluoromethane	5.0000	100	80 - 120	
SGI0087-LCV1 (Water)	Lab File ID: V309051807.D		Analyzed: 09/05/18 15:39	
1,2-Dichloroethane-d4	5.0000	100	0 - 200	
1,2-Dichlorobenzene-d4	5.0000	102	0 - 200	
Toluene-d8	5.0000	99.1	0 - 200	
4-Bromofluorobenzene	5.0000	97.8	0 - 200	
Dibromofluoromethane	5.0000	101	0 - 200	
SGI0087-LCV2 (Water)	Lab File ID: V309051808.D		Analyzed: 09/05/18 16:05	
1,2-Dichloroethane-d4	5.0000	102	0 - 200	
1,2-Dichlorobenzene-d4	5.0000	101	0 - 200	
Toluene-d8	5.0000	98.2	0 - 200	
4-Bromofluorobenzene	5.0000	101	0 - 200	
Dibromofluoromethane	5.0000	102	0 - 200	

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGI0087	Instrument:	NT3
Calibration:	BH00083	Calibration Date:	08/28/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
BGI0088-BLK1 (Water)	Lab File ID: V309051809.D		Analyzed: 09/05/18 16:31	
1,2-Dichloroethane-d4	5.0000	103	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	101	80 - 120	
Toluene-d8	5.0000	100	80 - 120	
4-Bromofluorobenzene	5.0000	97.6	80 - 120	
18I0031-03 (Water)	Lab File ID: V309051811.D		Analyzed: 09/05/18 17:24	
1,2-Dichloroethane-d4	5.0000	104	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	102	80 - 120	
Toluene-d8	5.0000	98.5	80 - 120	
4-Bromofluorobenzene	5.0000	97.5	80 - 120	
18I0031-01 (Water)	Lab File ID: V309051815.D		Analyzed: 09/05/18 19:08	
1,2-Dichloroethane-d4	5.0000	106	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	103	80 - 120	
Toluene-d8	5.0000	100	80 - 120	
4-Bromofluorobenzene	5.0000	98.7	80 - 120	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGH0415	Instrument:	NT3
		Calibration:	BH00083

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SGH0415-SCV1)		(Water)		Lab File ID: V308281813.D				Analyzed: 08/28/18 15:26	
Pentafluorobenzene	183903	5.391	180593	5.392	102	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	242708	7.819	232401	7.82	104	50 - 200	0.0010	+/-0.50	
1,4-Difluorobenzene	260885	5.773	251589	5.774	104	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	146906	9.509	141970	9.51	103	50 - 200	0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGI0087
Instrument: NT3
Calibration: BH00083

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BGI0088-BS1)		(Water)	Lab File ID: V309051803LCS.D				Analyzed: 09/05/18 13:54		
Pentafluorobenzene	179006	5.386	180593		99	50 - 200		+/-0.50	
Chlorobenzene-d5	236944	7.819	232401		102	50 - 200		+/-0.50	
1,4-Difluorobenzene	244673	5.774	251589		97	50 - 200		+/-0.50	
1,4-Dichlorobenzene-d4	143855	9.509	141970		101	50 - 200		+/-0.50	
Initial Cal Check (SGI0087-ICV1)		(Water)		Lab File ID: V309051803.D			Analyzed: 09/05/18 13:54		
Pentafluorobenzene	179006	5.386	180593	5.386	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	236944	7.819	232401	7.819	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	244673	5.774	251589	5.774	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	143855	9.509	141970	9.509	101	50 - 200	0.0000	+/-0.50	
LCS Dup (BGI0088-BSD1)		(Water)		Lab File ID: V309051804.D			Analyzed: 09/05/18 14:21		
Pentafluorobenzene	173809	5.392	180593	5.386	96	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	230631	7.82	232401	7.819	99	50 - 200	-0.0010	+/-0.50	
1,4-Difluorobenzene	241708	5.774	251589	5.774	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	143910	9.509	141970	9.509	101	50 - 200	0.0000	+/-0.50	
Low Cal Check (SGI0087-LCV1)		(Water)		Lab File ID: V309051807.D			Analyzed: 09/05/18 15:39		
Pentafluorobenzene	166775	5.391	180593	5.386	92	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	225097	7.819	232401	7.819	97	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	231167	5.774	251589	5.774	92	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	134928	9.509	141970	9.509	95	50 - 200	0.0000	+/-0.50	
Low Cal Check (SGI0087-LCV2)		(Water)		Lab File ID: V309051808.D			Analyzed: 09/05/18 16:05		
Pentafluorobenzene	167137	5.392	180593	5.386	93	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	218826	7.82	232401	7.819	94	50 - 200	-0.0010	+/-0.50	
1,4-Difluorobenzene	230089	5.775	251589	5.774	91	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	133466	9.51	141970	9.509	94	50 - 200	-0.0010	+/-0.50	
Blank (BGI0088-BLK1)		(Water)		Lab File ID: V309051809.D			Analyzed: 09/05/18 16:31		
Pentafluorobenzene	166310	5.392	180593	5.386	92	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	221729	7.82	232401	7.819	95	50 - 200	-0.0010	+/-0.50	
1,4-Difluorobenzene	228211	5.774	251589	5.774	91	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	132049	9.51	141970	9.509	93	50 - 200	-0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGI0087
Instrument: NT3
Calibration: BH00083

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
TB-180608 (18I0031-03)		(Water)		Lab File ID: V309051811.D				Analyzed: 09/05/18 17:24	
Pentafluorobenzene	164069	5.391	180593	5.386	91	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	222007	7.819	232401	7.819	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	230760	5.773	251589	5.774	92	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	131051	9.509	141970	9.509	92	50 - 200	0.0000	+/-0.50	
MW-4-180904 (18I0031-01)		(Water)		Lab File ID: V309051815.D				Analyzed: 09/05/18 19:08	
Pentafluorobenzene	160580	5.391	180593	5.386	89	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	215757	7.819	232401	7.819	93	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	224297	5.774	251589	5.774	89	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	129611	9.509	141970	9.509	91	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

Analysis: EPA 8260C

Laboratory: Analytical Resources, Inc. SDG: 18I0031

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-180904 18I0031-01	09/04/18 12:01	09/05/18 10:35	09/05/18 14:55	1	14	09/05/18 19:08	1	14	
TB-180608 18I0031-03	09/04/18 00:00	09/05/18 10:35	09/05/18 14:55	1	14	09/05/18 17:24	2	14	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: NT3

Analyte	MDL	RL	Units
Benzene	0.03	0.20	ug/L
Toluene	0.04	0.20	ug/L
Ethylbenzene	0.04	0.20	ug/L
m,p-Xylene	0.05	0.40	ug/L
o-Xylene	0.03	0.20	ug/L

MW-4-180904

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPHg

Gasoline Range Organics (GC/MS)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Ground Water	Laboratory ID:	18I0031-01	SDG:	18I0031
Sampled:	09/04/18 12:01	Prepared:	09/07/18 08:34	File ID:	V209071812G.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	09/07/18 10:16
Batch:	BGI0138	Sequence:	SGI0146	Initial/Final:	10 mL / 10 ml
Instrument:	NT2	Column:	RTX-VMS	Calibration:	BH00088

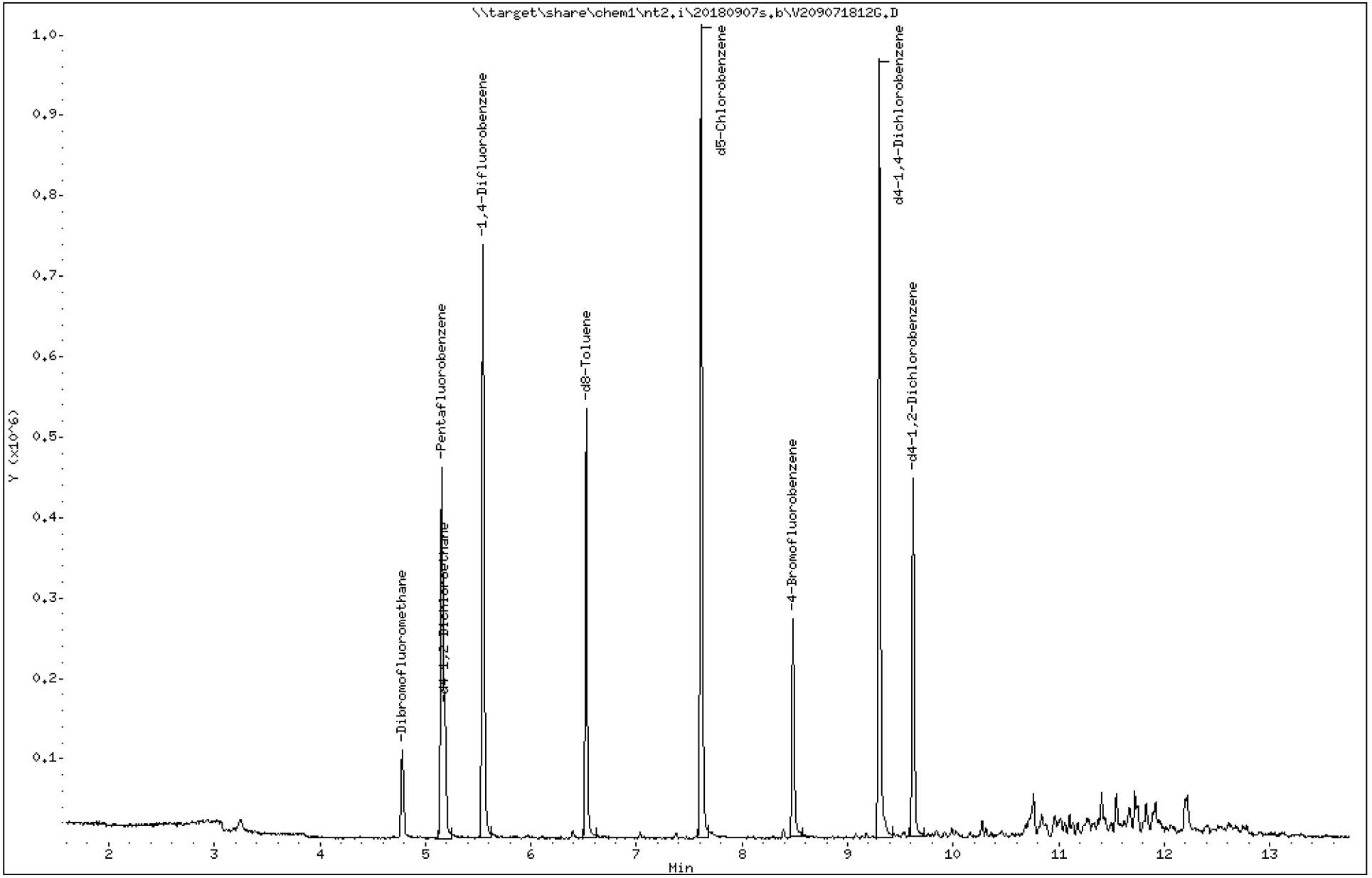
CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	4.92	98.5	80 - 120	
4-Bromofluorobenzene	5.0000	4.17	83.5	80 - 120	

Data File: \\target\share\chem1\nt2.i\20180907s.b\V209071812G.D
Date : 07-SEP-2018 10:16
Client ID:
Sample Info: 18I0031-01

Instrument: nt2.i
Operator: LH
Column diameter: 0.18

Column phase: RTXVMS



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt2.i\20180907s.b\V209071812G.D
Lab Smp Id: 18I0031-01
Inj Date : 07-SEP-2018 10:16
Operator : LH   Inst ID: nt2.i
Smp Info : 18I0031-01
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt2.i\20180907s.b\8260082718.m
Meth Date : 10-Sep-2018 12:43 nt2.i   Quant Type: ISTD
Cal Date : 27-AUG-2018 11:27   Cal File: V208271813.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	4.777	4.777	(0.927)	64062	5.50531	5.505
* 32 Pentafluorobenzene	168	5.154	5.154	(1.000)	228662	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.184	5.178	(1.006)	77044	5.83668	5.837
* 37 1,4-Difluorobenzene	114	5.543	5.543	(1.000)	457495	10.0000	
$ 43 d8-Toluene	98	6.522	6.522	(1.177)	264108	4.92473	4.925
* 53 d5-Chlorobenzene	117	7.611	7.611	(1.000)	416137	10.0000	
$ 62 4-Bromofluorobenzene	174	8.487	8.481	(1.115)	61134	4.17299	4.173
* 76 d4-1,4-Dichlorobenzene	152	9.302	9.302	(1.000)	200103	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.624	9.618	(1.035)	96663	5.05990	5.060

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt2.i
Lab File ID: V209071812G.D
Lab Smp Id: 18I0031-01
Analysis Type: VOA
Quant Type: ISTD
Operator: LH
Method File: \\target\share\chem1\nt2.i\20180907s.b\8260082718.m
Misc Info: 15-

Calibration Date: 07-SEP-2018
Calibration Time: 19:24
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	292945	146473	585890	228662	-21.94
37 1,4-Difluorobenze	511164	255582	1022328	457495	-10.50
53 d5-Chlorobenzene	468722	234361	937444	416137	-11.22
76 d4-1,4-Dichlorobe	241207	120604	482414	200103	-17.04

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.15	4.65	5.65	5.15	-0.00
37 1,4-Difluorobenze	5.54	5.04	6.04	5.54	-0.00
53 d5-Chlorobenzene	7.61	7.11	8.11	7.61	-0.00
76 d4-1,4-Dichlorobe	9.30	8.80	9.80	9.30	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20150930
Sample Matrix: NONE
Fraction: VOA
Lab Smp Id: 18I0031-01
Level:
Operator: LH
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt2.i\20180907s.b\8260082718.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.505	110.11	
$ 33 d4-1,2-Dichloroeth	5.000	5.837	116.73	
$ 43 d8-Toluene	5.000	4.925	98.49	
$ 62 4-Bromofluorobenze	5.000	4.173	83.46	
$ 79 d4-1,2-Dichloroben	5.000	5.060	101.20	

REVIEW SUMMARY FOR FILE - V209071812G.D

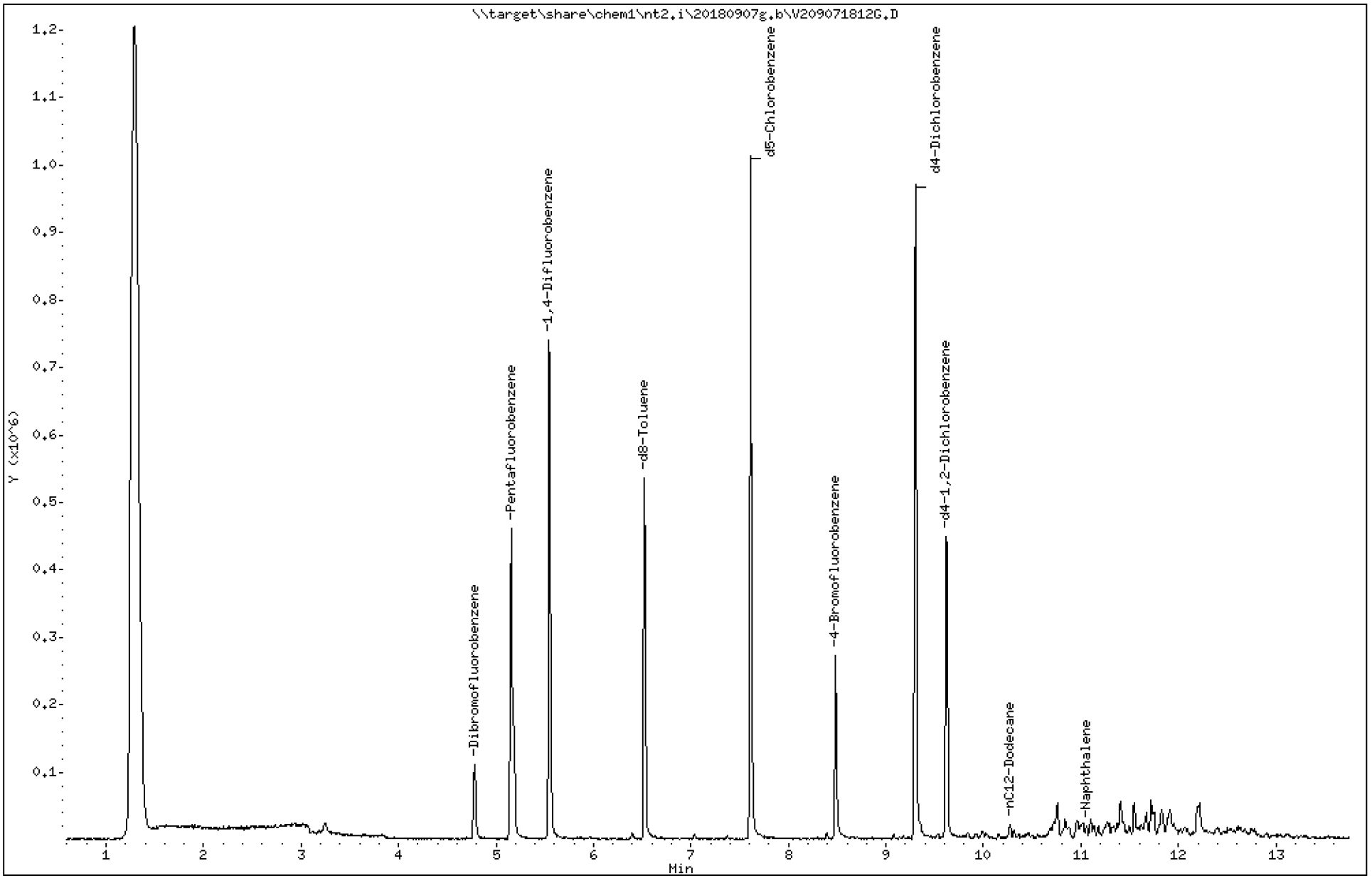
Lab ID: 18I0031-01
nt2.i, 20180907s.b\8260082718.m,   07-SEP-2018 10:16

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt2.i\20180907g.b\V209071812G.D
Date : 07-SEP-2018 10:16
Client ID:
Sample Info: 18I0031-01

Instrument: nt2.i
Operator: LH
Column diameter: 0.18

Column phase: RTXVMS



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180907g.b/V209071812G.D
Method: \20180907g.b\GAS071918.m
Instrument: nt2.i
Gas Ical Date: 07/25/18
Injection Date: 07-SEP-2018 10:16

ARI ID: 18I0031-01
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: LH

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.45 to 10.33)	47474976	77387	0.002
8015C 2MP-TMB	(2.97 to 9.23)	88761912	44227	0.000
AK101 nC6-nC10	(3.28 to 8.45)	70378930	13690	0.000
NWTPHG Tol-Nap	(6.45 to 11.12)	50179601	379915	0.008
mod8015 nC7-nC12	(4.94 to 10.33)	73231691	77389	0.001

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.611	1335665	d5-Chlorobenzene
8.481	401685	4-Bromofluorobenzene
6.523	720031	d8-Toluene
9.302	1315333	d4-Dichlorobenzene
9.618	627661	d4-1,2-Dichlorobenzene

TB-180608

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPHg

Gasoline Range Organics (GC/MS)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18I0031-03	SDG:	18I0031
Sampled:	09/04/18 00:00	Prepared:	09/05/18 14:55	File ID:	V309051811G.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	09/05/18 17:24
Batch:	BGI0088	Sequence:	SGI0089	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BH00087

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	4.93	98.5	80 - 120	
4-Bromofluorobenzene	5.0000	4.87	97.5	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180905s.b\W309051811G.D

Date : 05-SEP-2018 17:24

Client ID:

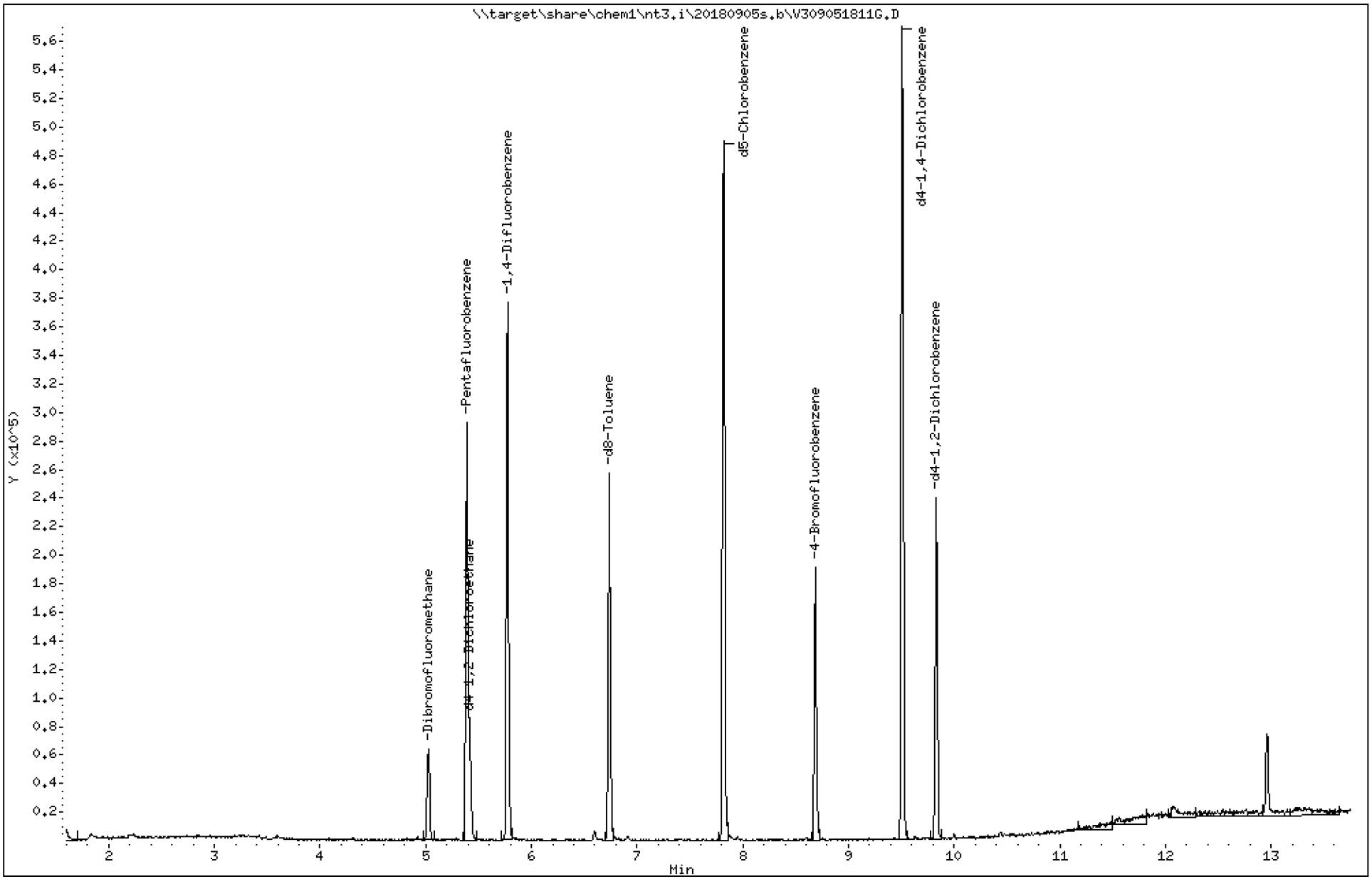
Instrument: nt3.i

Sample Info: 18I0031-03

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180905s.b\V309051811G.D
Lab Smp Id: 18I0031-03
Inj Date : 05-SEP-2018 17:24
Operator : PKC   Inst ID: nt3.i
Smp Info : 18I0031-03
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180905s.b\8260C082818.m
Meth Date : 06-Sep-2018 12:36 nt3.i   Quant Type: ISTD
Cal Date : 28-AUG-2018 10:50   Cal File: V308281804.D
Als bottle: 54
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.024	5.025	(0.932)	31988	5.06576	5.066(R)
* 32 Pentafluorobenzene	168	5.391	5.386	(1.000)	164069	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.417	5.418	(1.005)	39695	5.20477	5.205(R)
* 37 1,4-Difluorobenzene	114	5.773	5.774	(1.000)	230760	10.0000	
$ 43 d8-Toluene	98	6.735	6.736	(1.167)	131974	4.92645	4.926(R)
* 53 d5-Chlorobenzene	117	7.819	7.819	(1.000)	222007	10.0000	
$ 62 4-Bromofluorobenzene	174	8.690	8.691	(1.111)	51775	4.87440	4.874(R)
* 76 d4-1,4-Dichlorobenzene	152	9.509	9.509	(1.000)	131051	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.833	9.833	(1.034)	60158	5.11864	5.119(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V309051811G.D
Lab Smp Id: 18I0031-03
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180905s.b\8260C082818.m
Misc Info: 16-

Calibration Date: 05-SEP-2018
Calibration Time: 13:54
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	180593	90297	361186	164069	-9.15
37 1,4-Difluorobenze	251589	125795	503178	230760	-8.28
53 d5-Chlorobenzene	232401	116201	464802	222007	-4.47
76 d4-1,4-Dichlorobe	141970	70985	283940	131051	-7.69

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.39	4.89	5.89	5.39	0.09
37 1,4-Difluorobenze	5.77	5.27	6.27	5.77	-0.01
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	-0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20150930a
Sample Matrix: NONE
Fraction: VOA
Lab Smp Id: 18I0031-03
Level:
Operator: PKC
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180905s.b\8260C082818.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.066	101.32	
$ 33 d4-1,2-Dichloroeth	5.000	5.205	104.10	
$ 43 d8-Toluene	5.000	4.926	98.53	
$ 62 4-Bromofluorobenze	5.000	4.874	97.49	
$ 79 d4-1,2-Dichloroben	5.000	5.119	102.37	

REVIEW SUMMARY FOR FILE - V309051811G.D

Lab ID: 18I0031-03
nt3.i, 20180905s.b\8260C082818.m,   05-SEP-2018 17:24

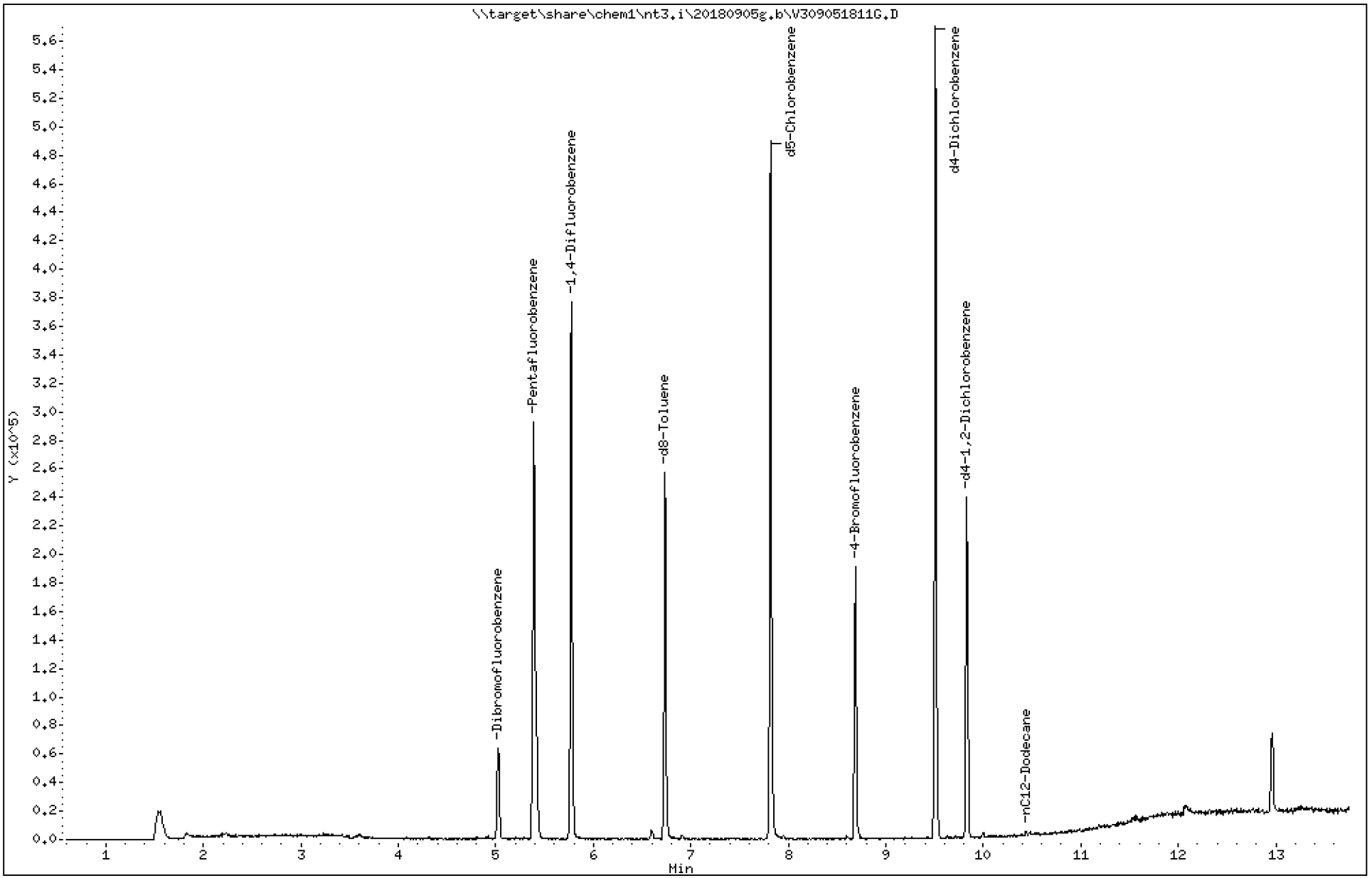
RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180905g.b\V309051811G.D
Date : 05-SEP-2018 17:24
Client ID:
Sample Info: 18I0031-03

Instrument: nt3.i

Operator: PKC
Column diameter: 0.18

Column phase: RTXVMS



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180905g.b/V309051811G.D
Method: \20180905g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 28-AUG-2018
Injection Date: 05-SEP-2018 17:24

ARI ID: 18I0031-03
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.67 to 10.54)	24784469	19480	0.001 M
8015C 2MP-TMB	(2.97 to 9.26)	47786134	19295	0.000 M
AK101 nC6-nC10	(3.61 to 8.66)	33491976	19295	0.001 M
NWTPHG Tol-Nap	(6.67 to 11.33)	25976372	27174	0.001 M
mod8015 nC7-nC12	(5.19 to 10.54)	37018079	31498	0.001 M

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

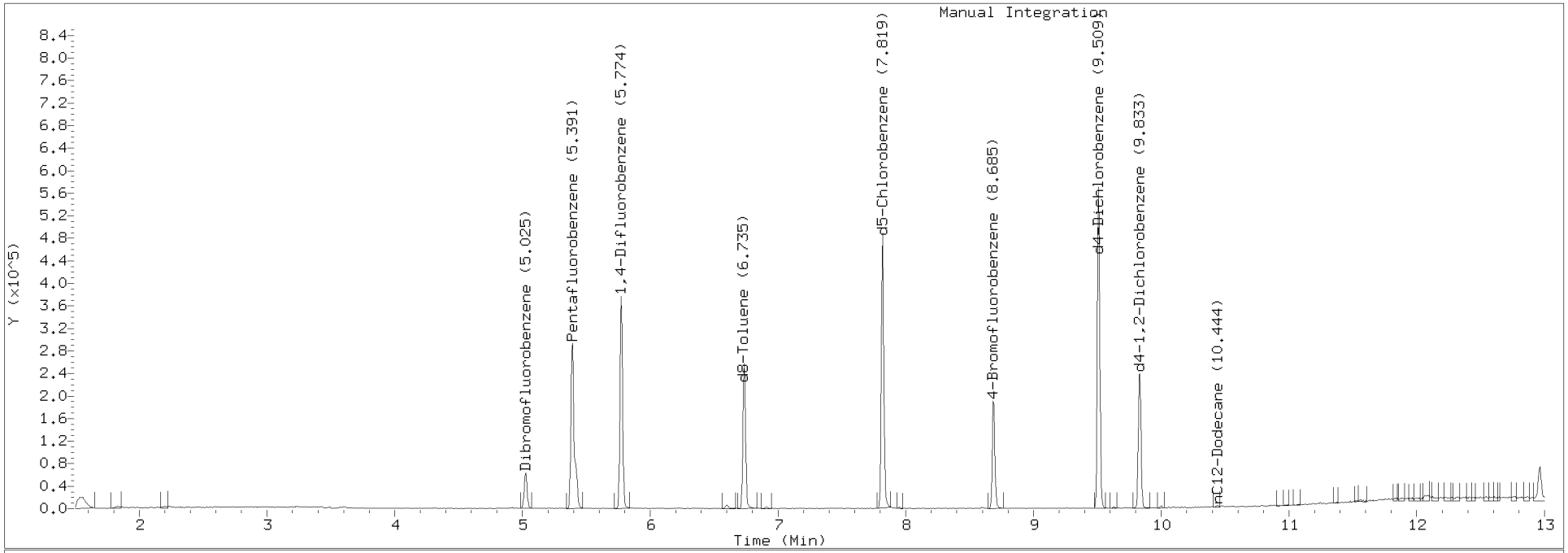
NW Gas Range Subtracted Peaks

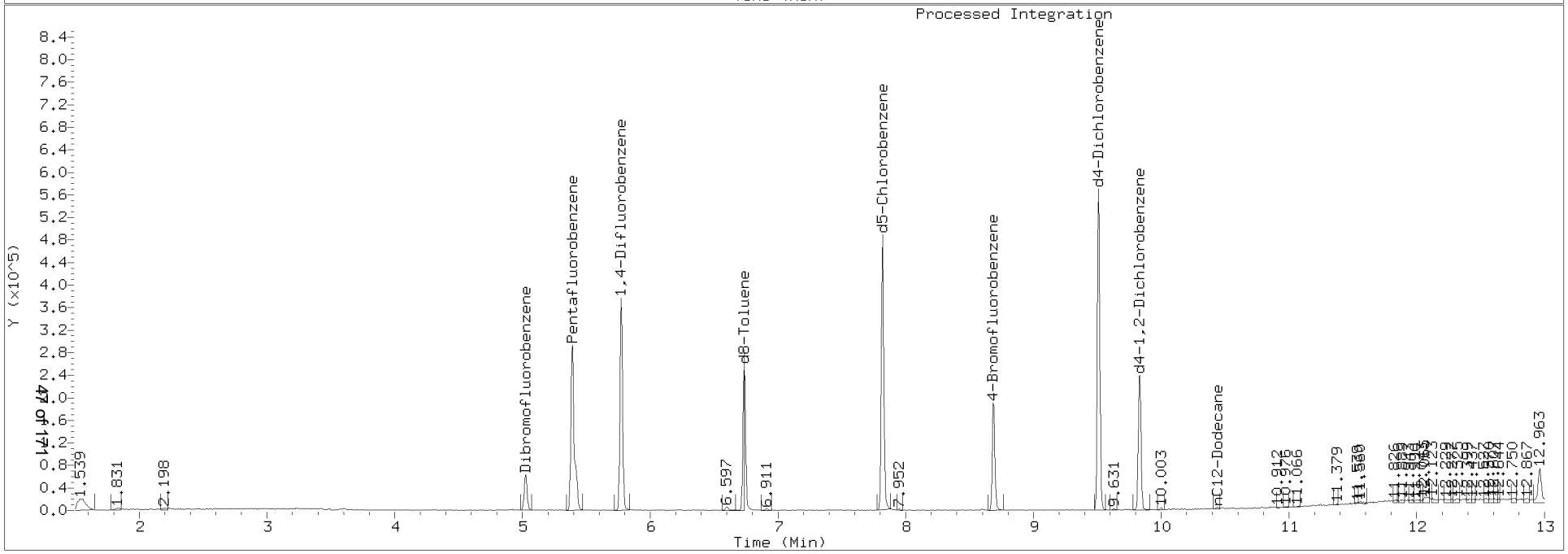
7.819	705326	d5-Chlorobenzene
6.735	368939	d8-Toluene
9.509	795957	d4-Dichlorobenzene
8.685	282429	4-Bromofluorobenzene
9.833	361124	d4-1,2-Dichlorobenzene

TPHG Manual Integrations Report

Datafile: NT3, 20180905g.b/V309051811G.D Injection: 05-SEP-2018 17:24

Lab ID:18I0031-03





PREPARATION BATCH SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Batch: BGI0088 Batch Matrix: Water
Preparation: EPA 5030 (Purge and Trap)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
TB-180608	18I0031-03	V309051811G.D	09/05/18 14:55	
Blank	BGI0088-BLK2	V309051809G.D	09/05/18 14:55	
LCS	BGI0088-BS2	V309051805GLCS.D	09/05/18 14:47	
LCS Dup	BGI0088-BSD2	V309051806G.D	09/05/18 14:55	

PREPARATION BATCH SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc. SDG: 18I0031

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGI0138 Batch Matrix: Water Preparation: EPA 5030 (Purge and Trap)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180904	18I0031-01	V209071812G.D	09/07/18 08:34	From BGI0104 by LH on 07-Sep-2018
Blank	BGI0138-BLK1	V209071811G.D	09/07/18 08:19	
LCS	BGI0138-BS1	V209071804GLCS.D	09/07/18 07:34	
LCS Dup	BGI0138-BSD1	V209071806G.D	09/07/18 08:14	

Form I

METHOD BLANK DATA SHEET

NWTPHg

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18I0031
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGI0088-BLK2	File ID:	V309051809G.D
Sampled:	N/A	Prepared:	09/05/18 14:55	Analyzed:	09/05/18 16:31
Solids:		Preparation:	EPA 5030 (Purge and Trap)	Initial/Final:	10 mL / 10 ml
Batch:	BGI0088	Sequence:	SGI0089	Calibration:	BH00087
Instrument:	NT3	Column:	RTX-VMS		

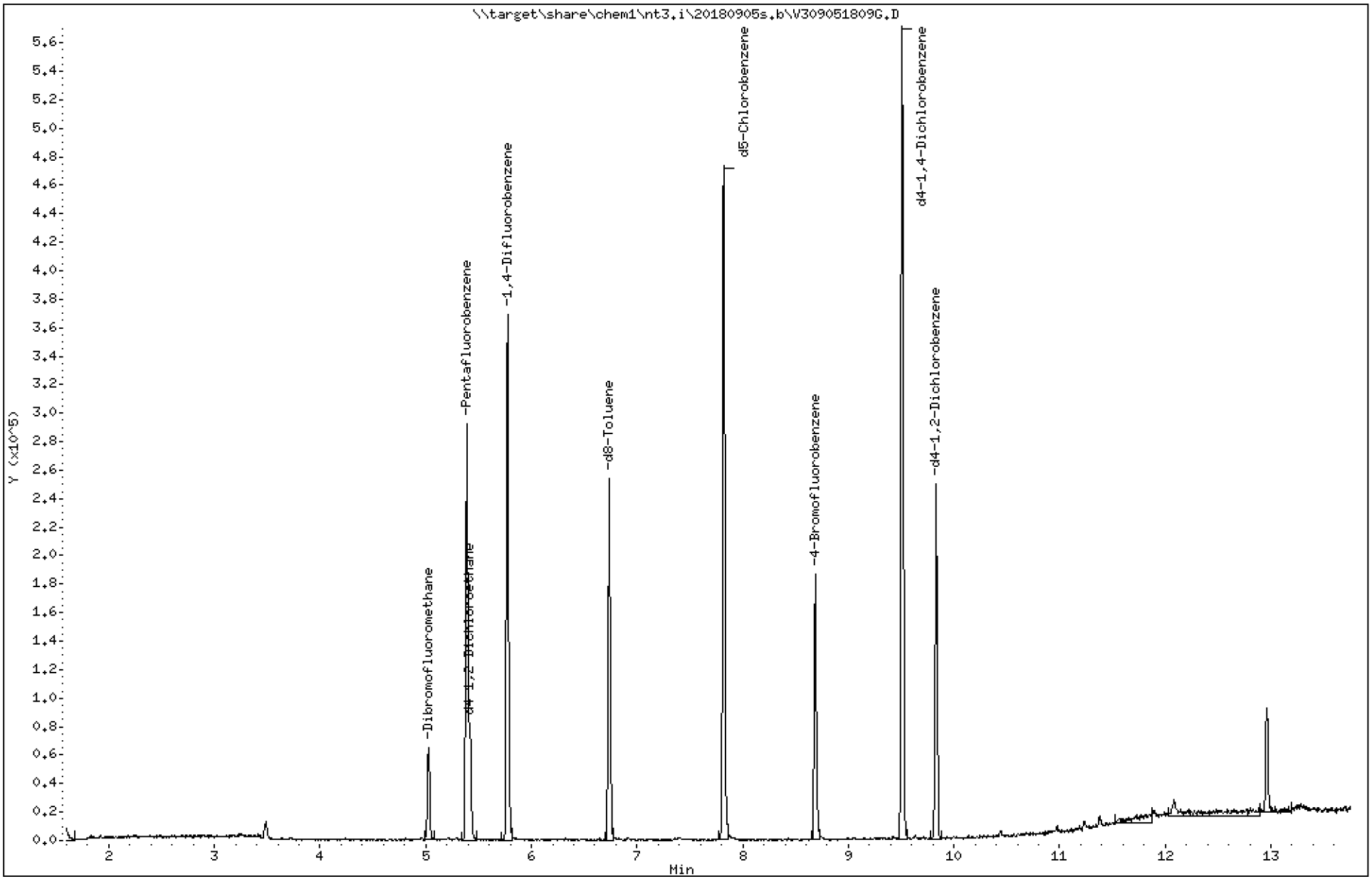
CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	5.01	100	80 - 120	
4-Bromofluorobenzene	5.0000	4.88	97.6	80 - 120	

Data File: \\target\share\chem1\nt3.i\20180905s.b\V309051809G.D
Date : 05-SEP-2018 16:31
Client ID:
Sample Info: BGI0088-BLK2

Instrument: nt3.i
Operator: PKC
Column diameter: 0.18

Column phase: RTXVMS



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20180905s.b\V309051809G.D
Lab Smp Id: BGI0088-BLK2
Inj Date : 05-SEP-2018 16:31
Operator : PKC   Inst ID: nt3.i
Smp Info : BGI0088-BLK2
Misc Info : 16-
Comment   :
Method   : \\target\share\chem1\nt3.i\20180905s.b\8260C082818.m
Meth Date : 06-Sep-2018 12:36 nt3.i   Quant Type: ISTD
Cal Date : 28-AUG-2018 10:50   Cal File: V308281804.D
Als bottle: 56
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.025	5.025	(0.932)	32883	5.13733	5.137(R)
* 32 Pentafluorobenzene	168	5.392	5.386	(1.000)	166310	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.418	5.418	(1.005)	39625	5.12558	5.126(R)
* 37 1,4-Difluorobenzene	114	5.774	5.774	(1.000)	228211	10.0000	
$ 43 d8-Toluene	98	6.736	6.736	(1.167)	132834	5.01394	5.014(R)
* 53 d5-Chlorobenzene	117	7.820	7.819	(1.000)	221729	10.0000	
$ 62 4-Bromofluorobenzene	174	8.691	8.691	(1.111)	51772	4.88023	4.880(R)
* 76 d4-1,4-Dichlorobenzene	152	9.510	9.509	(1.000)	132049	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.828	9.833	(1.034)	59963	5.06348	5.063(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V309051809G.D
Lab Smp Id: BGI0088-BLK2
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20180905s.b\8260C082818.m
Misc Info: 16-

Calibration Date: 05-SEP-2018
Calibration Time: 13:54
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	180593	90297	361186	166310	-7.91
37 1,4-Difluorobenze	251589	125795	503178	228211	-9.29
53 d5-Chlorobenzene	232401	116201	464802	221729	-4.59
76 d4-1,4-Dichlorobe	141970	70985	283940	132049	-6.99

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.39	4.89	5.89	5.39	0.11
37 1,4-Difluorobenze	5.77	5.27	6.27	5.77	0.01
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20150930a
Sample Matrix: NONE
Fraction: VOA
Lab Smp Id: BGI0088-BLK2
Level:
Operator: PKC
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20180905s.b\8260C082818.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.137	102.75	
$ 33 d4-1,2-Dichloroeth	5.000	5.126	102.51	
$ 43 d8-Toluene	5.000	5.014	100.28	
$ 62 4-Bromofluorobenze	5.000	4.880	97.60	
$ 79 d4-1,2-Dichloroben	5.000	5.063	101.27	

REVIEW SUMMARY FOR FILE - V309051809G.D

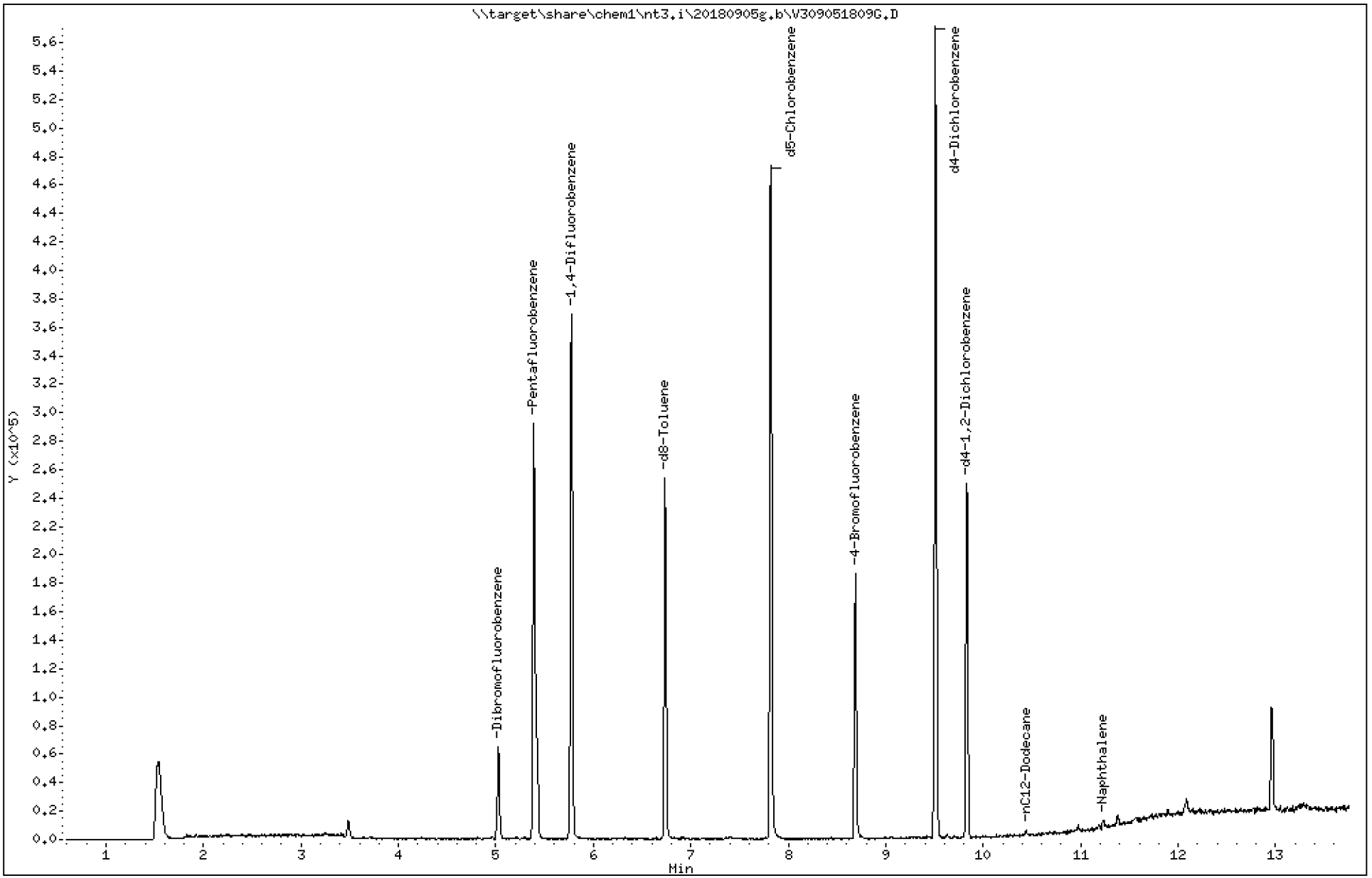
Lab ID: BGI0088-BLK2
nt3.i, 20180905s.b\8260C082818.m,   05-SEP-2018 16:31

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20180905g.b\V309051809G.D
Date : 05-SEP-2018 16:31
Client ID:
Sample Info: BGI0088-BLK2

Instrument: nt3.i
Operator: PKC
Column diameter: 0.18

Column phase: RTXVMS



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180905g.b/V309051809G.D
Method: \20180905g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 28-AUG-2018
Injection Date: 05-SEP-2018 16:31

ARI ID: BGI0088-BLK2
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.67 to 10.54)	24784469	13508	0.001
8015C 2MP-TMB	(2.97 to 9.26)	47786134	24834	0.001
AK101 nC6-nC10	(3.61 to 8.66)	33491976	2	0.000
NWTPHG Tol-Nap	(6.67 to 11.33)	25976372	37095	0.001
mod8015 nC7-nC12	(5.19 to 10.54)	37018079	13508	0.000

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.821	709544	d5-Chlorobenzene
6.737	368145	d8-Toluene
9.510	807815	d4-Dichlorobenzene
8.687	285063	4-Bromofluorobenzene
9.829	362857	d4-1,2-Dichlorobenzene

Form I

METHOD BLANK DATA SHEET

NWTPHg

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18I0031
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGI0138-BLK1	File ID:	V209071811G.D
Sampled:	N/A	Prepared:	09/07/18 08:19	Analyzed:	09/07/18 09:56
Solids:		Preparation:	EPA 5030 (Purge and Trap)	Initial/Final:	10 mL / 10 ml
Batch:	BGI0138	Sequence:	SGI0146	Calibration:	BH00088
Instrument:	NT2	Column:	RTX-VMS		

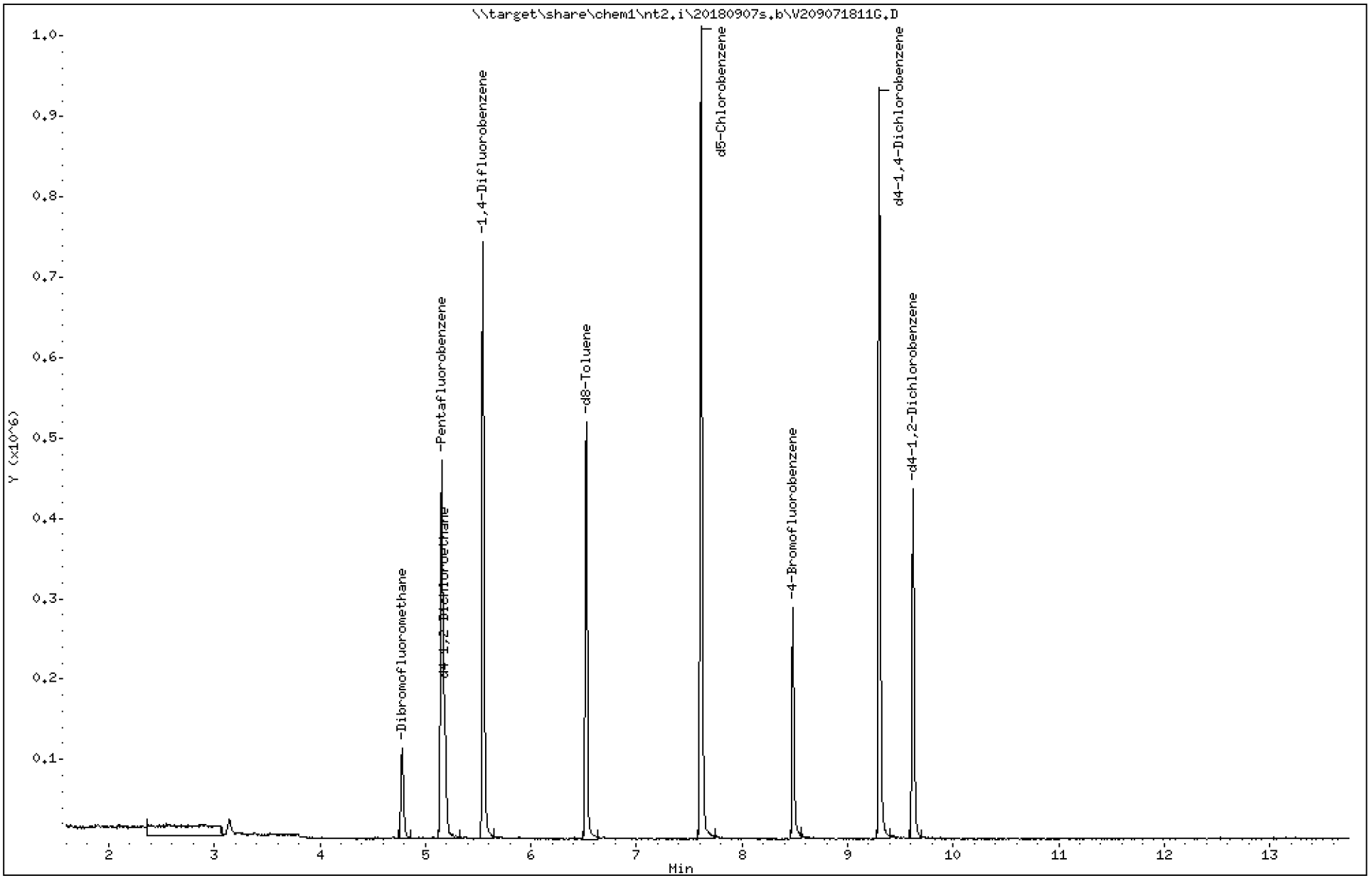
CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	4.92	98.4	80 - 120	
4-Bromofluorobenzene	5.0000	4.24	84.8	80 - 120	

Data File: \\target\share\chem1\nt2.i\20180907s.b\V209071811G.D
Date : 07-SEP-2018 09:56
Client ID:
Sample Info: BGI0146-BLK1

Instrument: nt2.i
Operator: LH
Column diameter: 0.18

Column phase: RTXVMS



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt2.i\20180907s.b\V209071811G.D
Lab Smp Id: BGI0146-BLK1
Inj Date : 07-SEP-2018 09:56
Operator : LH   Inst ID: nt2.i
Smp Info : BGI0146-BLK1
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt2.i\20180907s.b\8260082718.m
Meth Date : 10-Sep-2018 12:43 nt2.i   Quant Type: ISTD
Cal Date : 27-AUG-2018 11:27   Cal File: V208271813.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	4.778	4.777	(0.927)	65234	5.53677	5.537
* 32 Pentafluorobenzene	168	5.155	5.154	(1.000)	231522	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.180	5.178	(1.005)	74218	5.55313	5.553
* 37 1,4-Difluorobenzene	114	5.545	5.543	(1.000)	459520	10.0000	
$ 43 d8-Toluene	98	6.524	6.522	(1.177)	265055	4.92061	4.921
* 53 d5-Chlorobenzene	117	7.612	7.611	(1.000)	419167	10.0000	
$ 62 4-Bromofluorobenzene	174	8.482	8.481	(1.114)	62574	4.24040	4.240
* 76 d4-1,4-Dichlorobenzene	152	9.303	9.302	(1.000)	196696	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.619	9.618	(1.034)	95408	5.08071	5.081

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt2.i
Lab File ID: V209071811G.D
Lab Smp Id: BGI0146-BLK1
Analysis Type: VOA
Quant Type: ISTD
Operator: LH
Method File: \\target\share\chem1\nt2.i\20180907s.b\8260082718.m
Misc Info: 15-

Calibration Date: 07-SEP-2018
Calibration Time: 19:24
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	292945	146473	585890	231522	-20.97
37 1,4-Difluorobenze	511164	255582	1022328	459520	-10.10
53 d5-Chlorobenzene	468722	234361	937444	419167	-10.57
76 d4-1,4-Dichlorobe	241207	120604	482414	196696	-18.45

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.15	4.65	5.65	5.16	0.02
37 1,4-Difluorobenze	5.54	5.04	6.04	5.55	0.02
53 d5-Chlorobenzene	7.61	7.11	8.11	7.61	0.02
76 d4-1,4-Dichlorobe	9.30	8.80	9.80	9.30	0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: BGI0146-BLK1
Level: Operator: LH
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt2.i\20180907s.b\8260082718.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.537	110.74	
$ 33 d4-1,2-Dichloroeth	5.000	5.553	111.06	
$ 43 d8-Toluene	5.000	4.921	98.41	
$ 62 4-Bromofluorobenze	5.000	4.240	84.81	
$ 79 d4-1,2-Dichloroben	5.000	5.081	101.61	

REVIEW SUMMARY FOR FILE - V209071811G.D

Lab ID: BGI0146-BLK1
nt2.i, 20180907s.b\8260082718.m,   07-SEP-2018 09:56

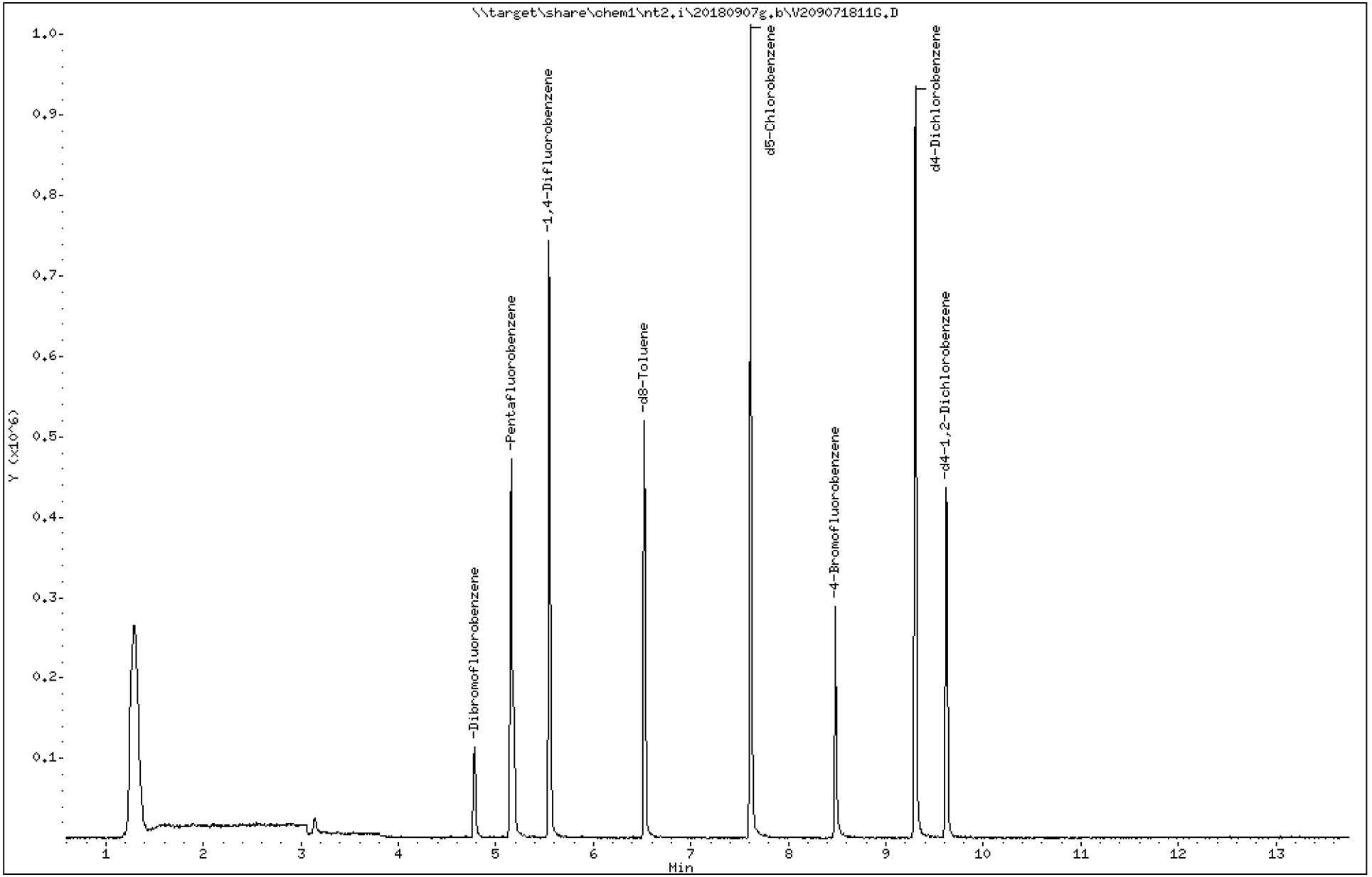
RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt2.i\20180907g.b\V209071811G.D
Date : 07-SEP-2018 09:56
Client ID:
Sample Info: BGI0146-BLK1

Column phase: RTXVMS

Instrument: nt2.i

Operator: LH
Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20180907g.b/V209071811G.D
Method: \20180907g.b\GAS071918.m
Instrument: nt2.i
Gas Ical Date: 07/25/18
Injection Date: 07-SEP-2018 09:56

ARI ID: BGI0146-BLK1
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: LH

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.45 to 10.33)	47474976	3	0.000
8015C 2MP-TMB	(2.97 to 9.23)	88761912	40911	0.000
AK101 nC6-nC10	(3.28 to 8.45)	70378930	2	0.000
NWTPHG Tol-Nap	(6.45 to 11.12)	50179601	3	0.000
mod8015 nC7-nC12	(4.94 to 10.33)	73231691	3	0.000

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.613	1317361	d5-Chlorobenzene
8.482	398471	4-Bromofluorobenzene
6.524	721822	d8-Toluene
9.303	1261086	d4-Dichlorobenzene
9.620	606731	d4-1,2-Dichlorobenzene

LCS / LCS DUPLICATE RECOVERY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	09/05/18 14:47
Batch:	BGI0088	Laboratory ID:	BGI0088-BS2
Preparation:	EPA 5030 (Purge and Trap)	Sequence Name:	LCS
Initial/Final:	10 mL / 10 ml		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Gasoline Range Organics (Tol-Nap)	1000	1110		111	72 - 128

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Gasoline Range Organics (Tol-Nap)	1000	1100		110	1.11	30	72 - 128

* Indicates values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	09/07/18 07:34
Batch:	BGI0138	Laboratory ID:	BGI0138-BS1
Preparation:	EPA 5030 (Purge and Trap)	Sequence Name:	LCS
Initial/Final:	10 mL / 10 ml		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Gasoline Range Organics (Tol-Nap)	1000	1010		101	72 - 128

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Gasoline Range Organics (Tol-Nap)	1000	1010		101	0.702	30	72 - 128

* Indicates values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V207251811G.D	Injection Date:	07/25/18
Instrument ID:	NT2	Injection Time:	10:33
Sequence:	SGG0398	Lab Sample ID:	SGG0398-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	22.8	PASS
75	30 - 80% of 95	44.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.09	PASS
173	Less than 2% of 174	0.264	PASS
174	50 - 120% of 95	87	PASS
175	5 - 9% of 174	7.48	PASS
176	95 - 101% of 174	98.5	PASS
177	5 - 9% of 176	7.28	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Cal Standard	SGG0398-CALE	V207251812G.D	07/25/2018	11:05
Cal Standard	SGG0398-CALD	V207251813G.D	07/25/2018	11:27
Cal Standard	SGG0398-CALC	V207251814G.D	07/25/2018	11:48
Cal Standard	SGG0398-CALB	V207251815G.D	07/25/2018	12:10
Cal Standard	SGG0398-CALA	V207251816G.D	07/25/2018	12:32
Cal Standard	SGG0398-CAL9	V207251817G.D	07/25/2018	12:53
Secondary Cal Check	SGG0398-SCV1	V207251818G.D	07/25/2018	13:15

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V308281802G.D	Injection Date:	08/28/18
Instrument ID:	NT3	Injection Time:	09:44
Sequence:	SGH0424	Lab Sample ID:	SGH0424-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	24.9	PASS
75	30 - 80% of 95	49.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.81	PASS
173	Less than 2% of 174	0.266	PASS
174	50 - 120% of 95	93.7	PASS
175	5 - 9% of 174	7.2	PASS
176	95 - 101% of 174	95.6	PASS
177	5 - 9% of 176	7.24	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGH0424-TUN1	V308281802G.D	08/28/2018	9:44
Cal Standard	SGH0424-CAL9	V308281815G.D	08/28/2018	16:19
Cal Standard	SGH0424-CALA	V308281816G.D	08/28/2018	16:45
Cal Standard	SGH0424-CALB	V308281817G.D	08/28/2018	17:11
Cal Standard	SGH0424-CALC	V308281818G.D	08/28/2018	17:37
Cal Standard	SGH0424-CALD	V308281819G.D	08/28/2018	18:03
Cal Standard	SGH0424-CALE	V308281820G.D	08/28/2018	18:29
Secondary Cal Check	SGH0424-SCV2	V308281822G.D	08/28/2018	19:21

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V208271804G.D	Injection Date:	08/27/18
Instrument ID:	NT2	Injection Time:	08:12
Sequence:	SGH0431	Lab Sample ID:	SGH0431-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	25.1	PASS
75	30 - 80% of 95	46.2	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.95	PASS
173	Less than 2% of 174	0.653	PASS
174	50 - 120% of 95	74	PASS
175	5 - 9% of 174	7.71	PASS
176	95 - 101% of 174	96.5	PASS
177	5 - 9% of 176	6.2	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGH0431-TUN1	V208271804G.D	08/27/2018	8:12

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V309051802G.D	Injection Date:	09/05/18
Instrument ID:	NT3	Injection Time:	13:12
Sequence:	SGI0089	Lab Sample ID:	SGI0089-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	24.7	PASS
75	30 - 80% of 95	47.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.83	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	89.7	PASS
175	5 - 9% of 174	6.79	PASS
176	95 - 101% of 174	98	PASS
177	5 - 9% of 176	6.49	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGI0089-TUN1	V309051802G.D	09/05/2018	13:12
Initial Cal Check	SGI0089-ICV1	V309051805G.D	09/05/2018	14:47
LCS	BGI0088-BS2	V309051805GLCS.D	09/05/2018	14:47
LCS Dup	BGI0088-BSD2	V309051806G.D	09/05/2018	15:13
Blank	BGI0088-BLK2	V309051809G.D	09/05/2018	16:31
TB-180608	18I0031-03	V309051811G.D	09/05/2018	17:24

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V209071803G.D	Injection Date:	09/07/18
Instrument ID:	NT2	Injection Time:	07:01
Sequence:	SGI0146	Lab Sample ID:	SGI0146-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	27.3	PASS
75	30 - 80% of 95	47.1	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.21	PASS
173	Less than 2% of 174	0.272	PASS
174	50 - 120% of 95	68.8	PASS
175	5 - 9% of 174	8.02	PASS
176	95 - 101% of 174	99.5	PASS
177	5 - 9% of 176	6.21	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGI0146-TUN1	V209071803G.D	09/07/2018	7:01
Initial Cal Check	SGI0146-ICV1	V209071804G.D	09/07/2018	7:34
LCS	BGI0138-BS1	V209071804GLCS.D	09/07/2018	7:34
LCS Dup	BGI0138-BSD1	V209071806G.D	09/07/2018	8:14
Blank	BGI0138-BLK1	V209071811G.D	09/07/2018	9:56
MW-4-180904	18I0031-01	V209071812G.D	09/07/2018	10:16
Calibration Check	SGI0146-CCV1	V209071814G.D	09/07/2018	10:57

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BG00084	Instrument:	NT2
Calibration Date:	07/27/2018 10:44	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Toluene-d8	5	1.143291	5	1.123292	5	1.121336	5	1.137577	5	1.126811	5	1.132245
4-Bromofluorobenzene	5	0.4043826	5	0.4221476	5	0.4171531	5	0.4360665	5	0.4374384	5	0.4352829

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BG00084	Instrument:	NT2
Calibration Date:	07/27/2018 10:44	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)					100	43740.77	250	44592.6	500	45981.2	1000	52002.8
Toluene-d8	5	1.131224	5	1.125824								
4-Bromofluorobenzene	5	0.427131	5	0.4430207								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BG00084	Instrument:	NT2
Calibration Date:	07/27/2018 10:44	Column (1):	RTX-VMS

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)	2500	58021.6	5000	56738.66								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BG00084	Instrument:	NT2
Calibration Date:	07/27/2018 10:44	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Gasoline Range Organics (Tol-Nap)	50179.61	12.5			RSD (15)	
Toluene-d8	1.1302	0.7			RSD (15)	
4-Bromofluorobenzene	0.4278278	3.0			RSD (15)	

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00087	Instrument:	NT3
Calibration Date:	08/28/2018 11:04	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Toluene-d8	5	1.14998	5	1.161652	5	1.153238	5	1.16109	5	1.146974	5	1.18398
4-Bromofluorobenzene	5	0.4848202	5	0.4670944	5	0.4794464	5	0.4856681	5	0.4820117	5	0.4737753

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00087	Instrument:	NT3
Calibration Date:	08/28/2018 11:04	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)					100	22697.08	250	21837.53	500	24253.4	1000	26312.59
Toluene-d8	5	1.161997	5	1.168267								
4-Bromofluorobenzene	5	0.4740444	5	0.4807018								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00087	Instrument:	NT3
Calibration Date:	08/28/2018 11:04	Column (1):	RTX-VMS

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)	2500	28745.24	5000	32012.38								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00087	Instrument:	NT3
Calibration Date:	08/28/2018 11:04	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Gasoline Range Organics (Tol-Nap)	25976.37	14.9			RSD (15)	
Toluene-d8	1.160897	1.0			RSD (15)	
4-Bromofluorobenzene	0.4784453	1.3			RSD (15)	

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00088	Instrument:	NT2
Calibration Date:	08/27/2018 14:28	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Toluene-d8	5	1.15374	5	1.146265	5	1.164034	5	1.176406	5	1.169922	5	1.191802
4-Bromofluorobenzene	5	0.3225933	5	0.3229427	5	0.3396711	5	0.3501725	5	0.3709918	5	0.363344

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00088	Instrument:	NT2
Calibration Date:	08/27/2018 14:28	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)					100	43740.77	250	44592.6	500	45981.2	1000	52002.8
Toluene-d8	5	1.185451	5	1.190222								
4-Bromofluorobenzene	5	0.3784546	5	0.3681994								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00088	Instrument:	NT2
Calibration Date:	08/27/2018 14:28	Column (1):	RTX-VMS

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)	2500	58021.6	5000	56738.66								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BH00088	Instrument:	NT2
Calibration Date:	08/27/2018 14:28	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Gasoline Range Organics (Tol-Nap)	50179.61	12.5			RSD (15)	
Toluene-d8	1.17223	1.4			RSD (15)	
4-Bromofluorobenzene	0.3520462	6.2			RSD (15)	

INITIAL CALIBRATION CHECK

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BH00087
Lab File ID:	V309051805G.D	Calibration Date:	08/28/18 11:04
Sequence:	SGI0089	Injection Date:	09/05/18
Lab Sample ID:	SGI0089-ICV1	Injection Time:	14:47
Sequence Name:	ICV		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Gasoline Range Organics (Tol-Nap)	A	1000.0	1110	25976.3700	28950.6800		11.5	20
Toluene-d8	A	5.0000	4.92	1.1608970	1.1419060		-1.6	
4-Bromofluorobenzene	A	5.0000	4.94	0.4784453	0.4729859		-1.1	

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT2	Calibration:	BH00088
Lab File ID:	V209071804G.D	Calibration Date:	08/27/18 14:28
Sequence:	SGI0146	Injection Date:	09/07/18
Lab Sample ID:	SGI0146-ICV1	Injection Time:	07:34
Sequence Name:	ICV		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Gasoline Range Organics (Tol-Nap)	A	1000.0	1010	50179.6100	50931.6000		1.5	20
Toluene-d8	A	5.0000	5.07	1.1722300	1.1891200		1.4	
4-Bromofluorobenzene	A	5.0000	4.82	0.3520462	0.3393563		-3.6	

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGG0398	Instrument:	NT2
		Calibration:	BG00084

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
GAS 5	SGG0398-CALE	V207251812G.D	NA	07/25/18 11:05
GAS 2.5	SGG0398-CALD	V207251813G.D	NA	07/25/18 11:27
GAS 1	SGG0398-CALC	V207251814G.D	NA	07/25/18 11:48
GAS 0.5	SGG0398-CALB	V207251815G.D	NA	07/25/18 12:10
GAS 0.25	SGG0398-CALA	V207251816G.D	NA	07/25/18 12:32
GAS 0.1	SGG0398-CAL9	V207251817G.D	NA	07/25/18 12:53
GAS SCV	SGG0398-SCV1	V207251818G.D	NA	07/25/18 13:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGH0424	Instrument:	NT3
		Calibration:	BH00087

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGH0424-TUN1	V308281802G.D	NA	08/28/18 09:44
Gas 0.1	SGH0424-CAL9	V308281815G.D	NA	08/28/18 16:19
Gas 0.25	SGH0424-CALA	V308281816G.D	NA	08/28/18 16:45
Gas 0.5	SGH0424-CALB	V308281817G.D	NA	08/28/18 17:11
Gas 1	SGH0424-CALC	V308281818G.D	NA	08/28/18 17:37
Gas 2.5	SGH0424-CALD	V308281819G.D	NA	08/28/18 18:03
Gas 5	SGH0424-CALE	V308281820G.D	NA	08/28/18 18:29
Gas SCV 1	SGH0424-SCV2	V308281822G.D	NA	08/28/18 19:21

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGH0431	Instrument:	NT2
		Calibration:	BH00088

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGH0431-TUN1	V208271804G.D	NA	08/27/18 08:12

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGI0089	Instrument:	NT3
		Calibration:	BH00087

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
BFB	SGI0089-TUN1	V309051802G.D	NA	09/05/18 13:12
ICV	SGI0089-ICV1	V309051805G.D	NA	09/05/18 14:47
LCS	BGI0088-BS2	V309051805GLCS.D	Water	09/05/18 14:47
LCS Dup	BGI0088-BSD2	V309051806G.D	Water	09/05/18 15:13
Blank	BGI0088-BLK2	V309051809G.D	Water	09/05/18 16:31
TB-180608	18I0031-03	V309051811G.D	Water	09/05/18 17:24

SVCA Area Z Remediation

18I0031

Analysis	Matrix	Method
8260C Gas (NWTPH)	Water	NWTPHg

Checklist for SEQUENCE SGI0089

Checklist: Analyst Checklist-VOA(rev3)

#	Checklist Item	Response		Analyst Initials	Date
1	Samples have no Bubbles/Headspace of note for all Workorders	YES		PKC	09/06/2018
2	PH <=2 / 5035 Preserved for all Workorders	YES		PKC	09/06/2018
3	BFB abundance and time criteria met	YES		PKC	09/06/2018
4	Narrate all Internal Standard areas not within 50-200% for all affected Workorders	NA		PKC	09/06/2018
5	Retention times within windows and coelution summary checked for all Workorders	YES		PKC	09/06/2018
6	Manual Integrations were applied as per SOP 1021s	YES		PKC	09/06/2018
7	Narrate any Workorders where the Project specific requirements have not been met	NA		PKC	09/06/2018
8	Trip Blank, Field Blank and (or) Holding Blank are below MRL for all Analytes	YES		PKC	09/06/2018
9	Narrate Samples per Workorder that will require more than one analysis to be reported due to dilutions or re-analysis	NA		PKC	09/06/2018
10	Verify that all samples requiring a dilution or re-analysis have been added to another batch or sequence	NA		PKC	09/06/2018
11	Extraction basis, sample prep, dilution factor, and total solids are correctly entered.	YES		PKC	09/06/2018
12	AUTOCHECK: Blank checked for exceedence of criteria	YES	*	PKC	09/06/2018
13	AUTOCHECK: Check blank spike recovery	YES	*	PKC	09/06/2018
14	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	YES	*	PKC	09/06/2018
15	AUTOCHECK: Compounds in method designated as blank spike compounds are present	YES	*	PKC	09/06/2018
16	AUTOCHECK: Check %RPD between sample and sample duplicate	NA	*	PKC	09/06/2018
17	AUTOCHECK: Matrix spike recoveries within limits	NA	*	PKC	09/06/2018
18	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NA	*	PKC	09/06/2018
19	AUTOCHECK: List of compounds listed as spiked are present	NA	*	PKC	09/06/2018
20	AUTOCHECK: Check Surrogate recoveries	YES	*	PKC	09/06/2018
21	AUTOCHECK: Checks Surrogate spike list against Analysis	YES	*	PKC	09/06/2018
22	Data locked, checklist completed and status is Analyzed (REVIEWER)	YES		BB	09/06/2018
23	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES		BB	09/06/2018
24	rev_DilutionCheck.rpt and rev_DilutionCheck.exe was run to verify multiple sample results are consistent (REVIEWER)	NA		BB	09/06/2018
25	List of samples in this sequence that will require additional runs-verify reshot created (ANALYST)	NA		PKC	09/06/2018

* = Indicates Automated Response from Element DataSyst

SVCA Area Z Remediation

18I0031

Analysis	Matrix	Method
8260C Gas (NWTPH)	Water	NWTPHg

Checklist for SEQUENCE SGI0089

Checklist: Analyst Checklist-VOA(rev3)

#	Checklist Item	Response	Analyst Initials	Date
26	List of samples in this sequence that are re-analysis or dilutions of samples (ANALYST)	NA	PKC	09/06/2018
27	Additional Notes (ANALYST and REVIEWER)	YES	PKC	09/06/2018

Comments:
CCV data was not acquired - filament burned out. Only one vial provided for 18I0031-03.

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGI0146	Instrument:	NT2
		Calibration:	BH00088

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
BFB	SGI0146-TUN1	V209071803G.D	NA	09/07/18 07:01
ICV	SGI0146-ICV1	V209071804G.D	NA	09/07/18 07:34
LCS	BGI0138-BS1	V209071804GLCS.D	Water	09/07/18 07:34
LCS Dup	BGI0138-BSD1	V209071806G.D	Water	09/07/18 08:14
Blank	BGI0138-BLK1	V209071811G.D	Water	09/07/18 09:56
MW-4-180904	18I0031-01	V209071812G.D	Water	09/07/18 10:16
CCV	SGI0146-CCV1	V209071814G.D	NA	09/07/18 10:57

SVCA Area Z Remediation

18I0031

Analysis	Matrix	Method
8260C Gas (NWTPH)	Water	NWTPHg

Checklist for SEQUENCE SGI0146

Checklist: Analyst Checklist-VOA(rev3)

#	Checklist Item	Response	Analyst Initials	Date
1	Samples have no Bubbles/Headspace of note for all Workorders	NO	PKC	09/10/2018
	Comments: *18I0046-01 Headspace, improper container - sampled in a soil jar.*			
2	PH <=2 / 5035 Preserved for all Workorders	NO	PKC	09/10/2018
	Comments: *18I0046-01 pH 12+ : turned broad range pH paper blue.*			
3	BFB abundance and time criteria met	YES	PKC	09/10/2018
4	Narrate all Internal Standard areas not within 50-200% for all affected Workorders	NA	PKC	09/10/2018
5	Retention times within windows and coelution summary checked for all Workorders	YES	PKC	09/10/2018
6	Manual Integrations were applied as per SOP 1021s	YES	PKC	09/10/2018
7	Narrate any Workorders where the Project specific requirements have not been met	NA	PKC	09/10/2018
8	Trip Blank, Field Blank and (or) Holding Blank are below MRL for all Analytes	NA	PKC	09/10/2018
9	Narrate Samples per Workorder that will require more than one analysis to be reported due to dilutions or re-analysis	NA	PKC	09/10/2018
10	Verify that all samples requiring a dilution or re-analysis have been added to another batch or sequence	NA	PKC	09/10/2018
11	Extraction basis, sample prep, dilution factor, and total solids are correctly entered.	YES	PKC	09/10/2018
	Comments: *18I0046-01 initial 0.2 final 10. Dilution for matrix - sample is labeled as a "sludge" Sample is a brownish liquid.*			
12	AUTOCHECK: Blank checked for exceedence of criteria	YES *	PKC	09/10/2018
13	AUTOCHECK: Check blank spike recovery	YES *	PKC	09/10/2018
14	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	YES *	PKC	09/10/2018
15	AUTOCHECK: Compounds in method designated as blank spike compounds are present	YES *	PKC	09/10/2018
16	AUTOCHECK: Check %RPD between sample and sample duplicate	NA *	PKC	09/10/2018
17	AUTOCHECK: Matrix spike recoveries within limits	NA *	PKC	09/10/2018
18	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NA *	PKC	09/10/2018
19	AUTOCHECK: List of compounds listed as spiked are present	NA *	PKC	09/10/2018
20	AUTOCHECK: Check Surrogate recoveries	YES *	PKC	09/10/2018
21	AUTOCHECK: Checks Surrogate spike list against Analysis	YES *	PKC	09/10/2018
22	Data locked, checklist completed and status is Analyzed (REVIEWER)	YES	BB	09/10/2018
23	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES	BB	09/10/2018

* = Indicates Automated Response from Element DataSyst

Checklist for SEQUENCE SGI0146

Checklist: Analyst Checklist-VOA(rev3)

#	Checklist Item	Response	Analyst Initials	Date
24	rev_DilutionCheck.rpt and rev_DilutionCheck.exe was run to verify multiple sample results are consistent (REVIEWER)	NA	BB	09/10/2018
25	List of samples in this sequence that will require additional runs-verify reshot created (ANALYST)	NA	PKC	09/10/2018
26	List of samples in this sequence that are re-analysis or dilutions of samples (ANALYST)	NA	PKC	09/10/2018
27	Additional Notes (ANALYST and REVIEWER)	NA	BB	09/10/2018

SURROGATE RECOVERY SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG/WO: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGH0424
Instrument: NT3
Calibration: BH00087
Calibration Date: 08/28/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
SGH0424-SCV2 (Solid)	Lab File ID: V308281822G.D		Analyzed: 08/28/18 19:21	
Toluene-d8	5.0000	99.3	0 - 200	
4-Bromofluorobenzene	5.0000	101	0 - 200	

SURROGATE RECOVERY SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG/WO: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGI0089
Instrument: NT3
Calibration: BH00087
Calibration Date: 08/28/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
BGI0088-BS2 (Water)	Lab File ID: V309051805GLCS.D		Analyzed: 09/05/18 14:47	
Toluene-d8	5.0000	98.4	80 - 120	
4-Bromofluorobenzene	5.0000	98.9	80 - 120	
SGI0089-ICV1 (Water)	Lab File ID: V309051805G.D		Analyzed: 09/05/18 14:47	
Toluene-d8	5.0000	98.4	0 - 200	
4-Bromofluorobenzene	5.0000	98.9	0 - 200	
BGI0088-BSD2 (Water)	Lab File ID: V309051806G.D		Analyzed: 09/05/18 15:13	
Toluene-d8	5.0000	99.9	80 - 120	
4-Bromofluorobenzene	5.0000	100	80 - 120	
BGI0088-BLK2 (Water)	Lab File ID: V309051809G.D		Analyzed: 09/05/18 16:31	
Toluene-d8	5.0000	100	80 - 120	
4-Bromofluorobenzene	5.0000	97.6	80 - 120	
18I0031-03 (Water)	Lab File ID: V309051811G.D		Analyzed: 09/05/18 17:24	
Toluene-d8	5.0000	98.5	80 - 120	
4-Bromofluorobenzene	5.0000	97.5	80 - 120	

SURROGATE RECOVERY SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG/WO: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGI0146
Instrument: NT2
Calibration: BH00088
Calibration Date: 08/27/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
BGI0138-BS1 (Water)	Lab File ID: V209071804GLCS.D		Analyzed: 09/07/18 07:34	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	96.4	80 - 120	
SGI0146-ICV1 (Water)	Lab File ID: V209071804G.D		Analyzed: 09/07/18 07:34	
Toluene-d8	5.0000	101	0 - 200	
4-Bromofluorobenzene	5.0000	96.4	0 - 200	
BGI0138-BSD1 (Water)	Lab File ID: V209071806G.D		Analyzed: 09/07/18 08:14	
Toluene-d8	5.0000	104	80 - 120	
4-Bromofluorobenzene	5.0000	103	80 - 120	
BGI0138-BLK1 (Water)	Lab File ID: V209071811G.D		Analyzed: 09/07/18 09:56	
Toluene-d8	5.0000	98.4	80 - 120	
4-Bromofluorobenzene	5.0000	84.8	80 - 120	
18I0031-01 (Water)	Lab File ID: V209071812G.D		Analyzed: 09/07/18 10:16	
Toluene-d8	5.0000	98.5	80 - 120	
4-Bromofluorobenzene	5.0000	83.5	80 - 120	

INTERNAL STANDARD AREA AND RT SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGH0424	Instrument:	NT3
		Calibration:	BH00087

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SGH0424-SCV2)		(Solid)		Lab File ID: V308281822G.D				Analyzed: 08/28/18 19:21	
Pentafluorobenzene	182513	5.392	182217	5.392	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	235906	7.82	242703	7.82	97	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	257093	5.775	255443	5.774	101	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	142333	9.51	147321	9.509	97	50 - 200	-0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGI0089
Instrument: NT3
Calibration: BH00087

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BGI0088-BS2)		(Water)	Lab File ID: V309051805GLCS.D					Analyzed: 09/05/18 14:47	
Pentafluorobenzene	173679	5.392	182217		95	50 - 200		+/-0.50	
Chlorobenzene-d5	230768	7.82	242703		95	50 - 200		+/-0.50	
1,4-Difluorobenzene	251800	5.775	255443		99	50 - 200		+/-0.50	
1,4-Dichlorobenzene-d4	140799	9.51	147321		96	50 - 200		+/-0.50	
Initial Cal Check (SGI0089-ICV1)		(Water)	Lab File ID: V309051805G.D					Analyzed: 09/05/18 14:47	
Pentafluorobenzene	173679	5.392	182217	5.392	95	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	230768	7.82	242703	7.82	95	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	251800	5.775	255443	5.775	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	140799	9.51	147321	9.51	96	50 - 200	0.0000	+/-0.50	
LCS Dup (BGI0088-BSD2)		(Water)	Lab File ID: V309051806G.D					Analyzed: 09/05/18 15:13	
Pentafluorobenzene	177197	5.392	182217	5.392	97	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	235809	7.82	242703	7.82	97	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	252002	5.774	255443	5.775	99	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	143323	9.509	147321	9.51	97	50 - 200	0.0010	+/-0.50	
Blank (BGI0088-BLK2)		(Water)	Lab File ID: V309051809G.D					Analyzed: 09/05/18 16:31	
Pentafluorobenzene	166310	5.392	182217	5.392	91	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	221729	7.82	242703	7.82	91	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	228211	5.774	255443	5.775	89	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	132049	9.51	147321	9.51	90	50 - 200	0.0000	+/-0.50	
TB-180608 (18I0031-03)		(Water)	Lab File ID: V309051811G.D					Analyzed: 09/05/18 17:24	
Pentafluorobenzene	164069	5.391	182217	5.392	90	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	222007	7.819	242703	7.82	91	50 - 200	0.0010	+/-0.50	
1,4-Difluorobenzene	230760	5.773	255443	5.775	90	50 - 200	0.0020	+/-0.50	
1,4-Dichlorobenzene-d4	131051	9.509	147321	9.51	89	50 - 200	0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGI0146
Instrument: NT2
Calibration: BH00088

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BGI0138-BS1)		(Water)	Lab File ID: V209071804GLCS.D					Analyzed: 09/07/18 07:34	
Pentafluorobenzene	287100	5.151	292945		98	50 - 200		+/-0.50	
Chlorobenzene-d5	505734	7.608	468722		108	50 - 200		+/-0.50	
1,4-Difluorobenzene	561232	5.546	511164		110	50 - 200		+/-0.50	
1,4-Dichlorobenzene-d4	250192	9.299	241207		104	50 - 200		+/-0.50	
Initial Cal Check (SGI0146-ICV1)		(Water)	Lab File ID: V209071804G.D					Analyzed: 09/07/18 07:34	
Pentafluorobenzene	287100	5.151	292945	5.151	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	505734	7.608	468722	7.608	108	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	561232	5.546	511164	5.546	110	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	250192	9.299	241207	9.299	104	50 - 200	0.0000	+/-0.50	
LCS Dup (BGI0138-BSD1)		(Water)	Lab File ID: V209071806G.D					Analyzed: 09/07/18 08:14	
Pentafluorobenzene	283872	5.156	292945	5.151	97	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	481328	7.613	468722	7.608	103	50 - 200	-0.0050	+/-0.50	
1,4-Difluorobenzene	527670	5.546	511164	5.546	103	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	246631	9.298	241207	9.299	102	50 - 200	0.0010	+/-0.50	
Blank (BGI0138-BLK1)		(Water)	Lab File ID: V209071811G.D					Analyzed: 09/07/18 09:56	
Pentafluorobenzene	231522	5.155	292945	5.151	79	50 - 200	-0.0040	+/-0.50	
Chlorobenzene-d5	419167	7.612	468722	7.608	89	50 - 200	-0.0040	+/-0.50	
1,4-Difluorobenzene	459520	5.545	511164	5.546	90	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	196696	9.303	241207	9.299	82	50 - 200	-0.0040	+/-0.50	
MW-4-180904 (18I0031-01)		(Water)	Lab File ID: V209071812G.D					Analyzed: 09/07/18 10:16	
Pentafluorobenzene	228662	5.154	292945	5.151	78	50 - 200	-0.0030	+/-0.50	
Chlorobenzene-d5	416137	7.611	468722	7.608	89	50 - 200	-0.0030	+/-0.50	
1,4-Difluorobenzene	457495	5.543	511164	5.546	90	50 - 200	0.0030	+/-0.50	
1,4-Dichlorobenzene-d4	200103	9.302	241207	9.299	83	50 - 200	-0.0030	+/-0.50	

HOLDING TIME SUMMARY

Analysis: NWTPHg

Laboratory: Analytical Resources, Inc. SDG: 18I0031

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-180904 18I0031-01	09/04/18 12:01	09/05/18 10:35	09/07/18 08:34	2	14	09/07/18 10:16	3	14	
TB-180608 18I0031-03	09/04/18 00:00	09/05/18 10:35	09/05/18 14:55	1	14	09/05/18 17:24	2	14	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Solid
Instrument: NT3

Analyte	MDL	RL	Units
Gasoline Range Organics (Tol-Nap)	2500	5000	ug/kg

METHOD DETECTION AND REPORTING LIMITS

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: NT2

Analyte	MDL	RL	Units
Gasoline Range Organics (Tol-Nap)	13.6	100	ug/L

METHOD DETECTION AND REPORTING LIMITS

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: NT3

Analyte	MDL	RL	Units
Gasoline Range Organics (Tol-Nap)	13.6	100	ug/L

MW-4-180904

Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Ground Water	Laboratory ID:	18I0031-01	SDG:	18I0031
Sampled:	09/04/18 12:01	Prepared:	09/11/18 11:24	File ID:	318I1424.D
% Solids:		Preparation:	EPA 3510C SepF	Analyzed:	09/14/18 19:25
Batch:	BGI0210	Sequence:	SGI0258	Initial/Final:	500 mL / 1 mL
Instrument:	FID3	Column:	RTX-1	Calibration:	BF00020
Cleanups:	Silica Gel, Sulfuric Acid				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.191	84.7	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20180914.b\318I1424.D

Date : 14-SEP-2018 19:25

Client ID:

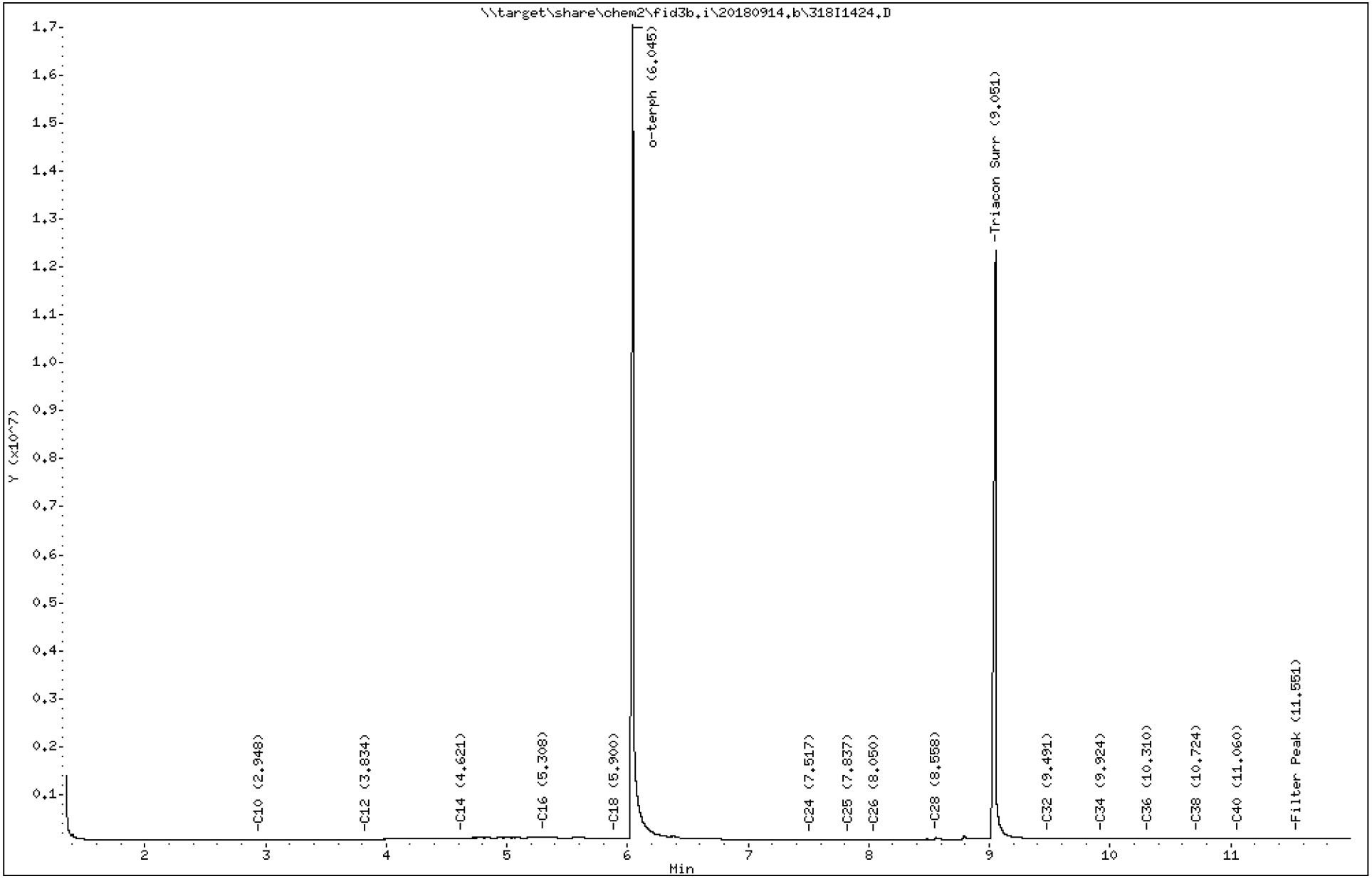
Sample Info: 18I0031-01

Column phase: RTX-1

Instrument: fid3b.i

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180914.b/318I1424.D
Method: 20180914.b\FID3TPH.m
Instrument: fid3b.i
Operator: JGR
Report Date: 09/15/2018
Macro: FID3_072018

ARI ID: 18I0031-01
Client ID:
Injection: 14-SEP-2018 19:25
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	1.401	-0.008	102457	310038	WATPHG	(Tol-C12)	492042	2.7
C8	----				WATPHD	(C12-C24)	4683965	27.3
C10	2.948	0.045	3016	3912	WATPHM	(C24-C38)	2622906	17.9
C12	3.834	-0.038	8329	11990	AK102	(C10-C25)	4840187	23.8
C14	4.621	-0.022	42175	241095	AK103	(C25-C36)	2237591	21.2
C16	5.308	0.010	46915	77210	OR.DIES	(C10-C28)	5240831	25.7
C18	5.900	0.011	29478	65239				
C20	----							
C22	----							
C24	7.517	-0.008	7729	17617				
C25	7.837	0.037	10571	60326	KEROSEN	(Tol-C18)	4323310	18.4
C26	8.050	-0.001	7354	3780				
C28	8.558	0.005	49054	170231	IT.DIES	(C10-C24)	4818437	23.8
C32	9.491	0.005	32639	49021				
C34	9.924	0.012	22788	15386				
Filter Peak	11.551	-0.025	33802	32276				
C36	10.310	-0.006	24995	33632	BUNKERC	(C10-C38)	7441343	120.3
o-terph	6.045	-0.005	17017705	22252743				
Triacon Surr	9.051	-0.008	12308321	16730016				

Range Times: NW Diesel(3.922 - 7.575) NW Gas(1.358 - 3.922) NW M.Oil(7.575 - 10.756)
AK102(2.852 - 7.750) AK103(7.750 - 10.366) Jet A(2.852 - 5.938)

Surrogate	Area	Amount
o-Terphenyl	22252743	95.3
Triacontane	16730016	85.5

Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	179445.5	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018
Bunker C	61842.2	20-JUL-2018

MW-4-180904

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPH-Dx

TPH (Extractables)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Ground Water	Laboratory ID:	18I0031-02	SDG:	18I0031
Sampled:	09/04/18 12:01	Prepared:	09/11/18 08:30	File ID:	318I1326.D
% Solids:		Preparation:	EPA 3510C SepF	Analyzed:	09/13/18 16:48
Batch:	BGI0174	Sequence:	SGI0244	Initial/Final:	500 mL / 1 mL
Instrument:	FID3	Column:	RTX-1	Calibration:	BF00020

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.157		0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.220	97.8	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20180913.b\318I1326.D

Date : 13-SEP-2018 16:48

Client ID:

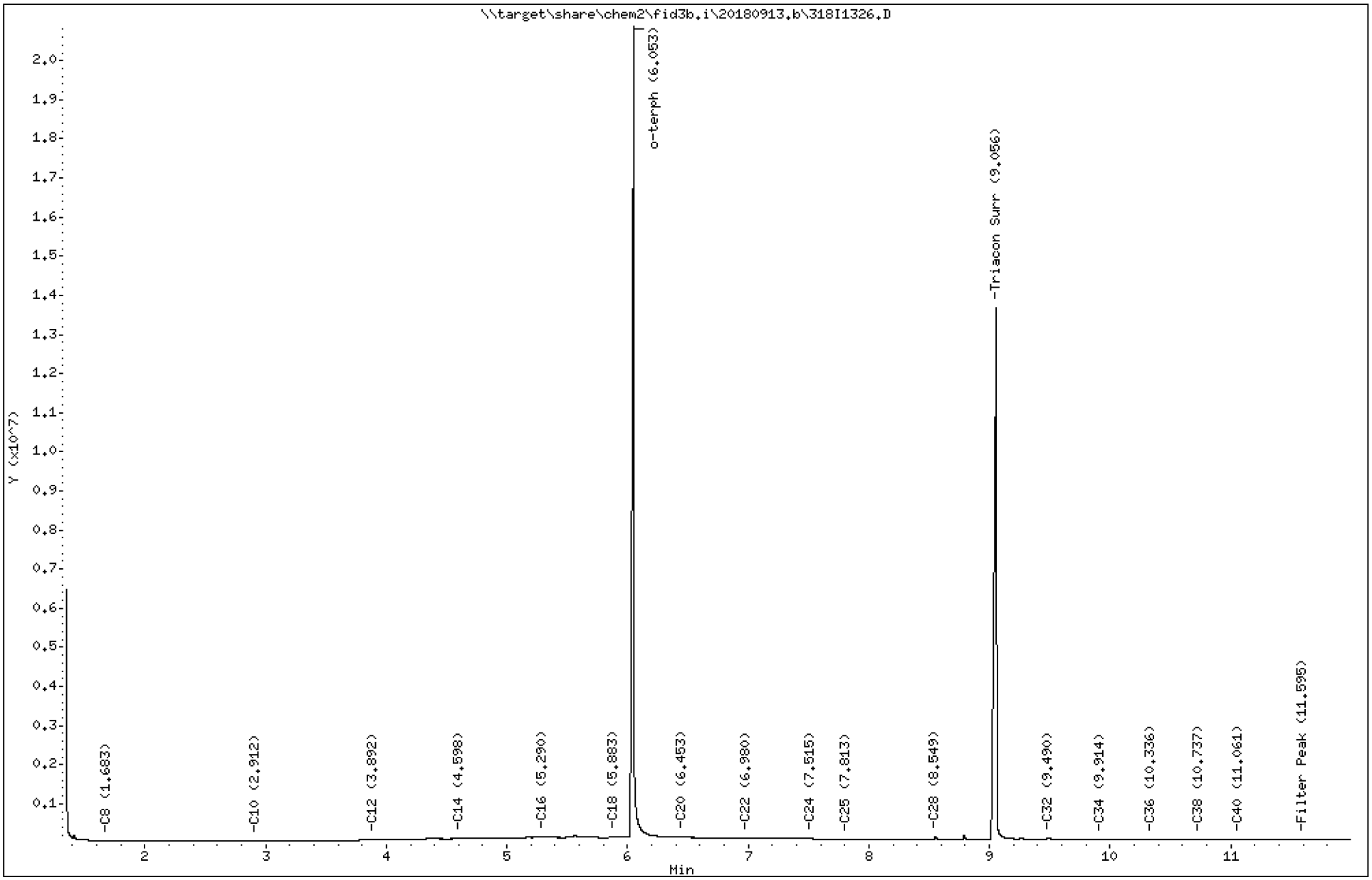
Sample Info: 18I0031-02

Column phase: RTX-1

Instrument: fid3b.i

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180913.b/318I1326.D
Method: 20180913.b\FID3TPH.m
Instrument: fid3b.i
Operator: JGR
Report Date: 09/14/2018
Macro: FID3_072018

ARI ID: 18I0031-02
Client ID:
Injection: 13-SEP-2018 16:48
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	1.410	-0.006	136253	296695	WATPHG	(Tol-C12)	1039457	5.8
C8	1.683	0.040	6597	22188	WATPHD	(C12-C24)	13524799	78.7
C10	2.912	0.007	4799	5139	WATPHM	(C24-C38)	5421796	37.1
C12	3.892	0.021	26274	80352	AK102	(C10-C25)	14436277	71.1
C14	4.598	-0.040	65213	196066	AK103	(C25-C36)	4540081	43.1
C16	5.290	-0.007	97010	100055	OR.DIES	(C10-C28)	15920559	78.1
C18	5.883	-0.007	99912	220069				
C20	6.453	0.013	95108	136111				
C22	6.980	-0.005	71503	141876				
C24	7.515	-0.009	54096	256962				
C25	7.813	0.012	48933	126110	KEROSEN	(Tol-C18)	8960875	38.2
C26	----							
C28	8.549	-0.005	89848	233454	IT.DIES	(C10-C24)	14053181	69.4
C32	9.490	0.002	73590	355861				
C34	9.914	0.002	34218	72893				
Filter Peak	11.595	-0.006	44114	85861				
C36	10.336	0.018	47195	133426	BUNKERC	(C10-C38)	19474977	314.9
o-terph	6.053	0.001	20829295	25677669				
Triacon Surr	9.056	-0.002	13638540	20058287				

Range Times: NW Diesel(3.921 - 7.575) NW Gas(1.366 - 3.921) NW M.Oil(7.575 - 10.757)
AK102(2.855 - 7.750) AK103(7.750 - 10.368) Jet A(2.855 - 5.940)

Surrogate	Area	Amount
o-Terphenyl	25677669	110.0
Triacontane	20058287	102.5

Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	179445.5	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018
Bunker C	61842.2	20-JUL-2018

PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18I0031

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGI0174 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180904	18I0031-02	318I1326.D	09/11/18 08:30	
Blank	BGI0174-BLK1	318I1319.D	09/11/18 08:30	
LCS	BGI0174-BS1	318I1320.D	09/11/18 08:30	

PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18I0031

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGI0210 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-180904	18I0031-01	318I1424.D	09/11/18 11:24	
Blank	BGI0210-BLK1	318I1422.D	09/11/18 11:24	
LCS	BGI0210-BS1	318I1423.D	09/11/18 11:24	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Cleanup Batch:	CGI0106	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665A Sulfuric Acid Cleanup	Analysis:	NWTPH-Dx

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
MW-4-180904	18I0031-01	318I1424.D	09/14/2018	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Cleanup Batch:	CGI0107	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	NWTPH-Dx

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
MW-4-180904	18I0031-01	318I1424.D	09/14/2018	

Form I

METHOD BLANK DATA SHEET

NWTPH-Dx

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18I0031
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGI0174-BLK1	File ID:	318I1319.D
Sampled:	N/A	Prepared:	09/11/18 08:30	Analyzed:	09/13/18 14:32
Solids:		Preparation:	EPA 3510C SepF	Initial/Final:	500 mL / 1 mL
Batch:	BGI0174	Sequence:	SGI0244	Calibration:	BF00020
Instrument:	FID3	Column:	RTX-1		

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.200	89.0	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20180913.b\318I1319.D

Date : 13-SEP-2018 14:32

Client ID:

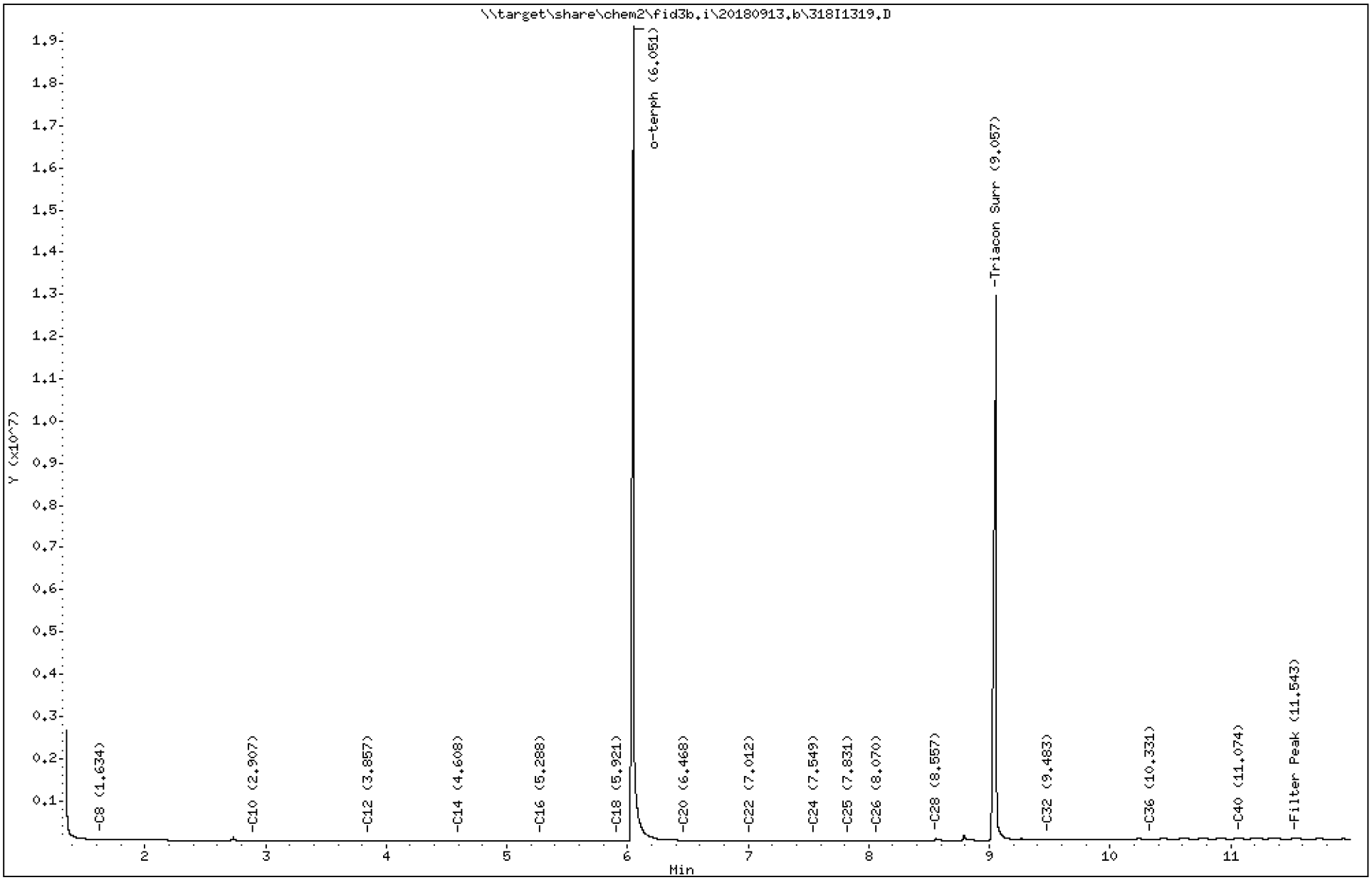
Sample Info: BGI0174-BLK1

Column phase: RTX-1

Instrument: fid3b.i

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180913.b/318I1319.D
Method: 20180913.b\FID3TPH.m
Instrument: fid3b.i
Operator: JGR
Report Date: 09/14/2018
Macro: FID3_072018

ARI ID: BGI0174-BLK1
Client ID:
Injection: 13-SEP-2018 14:32
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	1.401	-0.015	135092	566263	WATPHG	(Tol-C12)	1979618	11.0
C8	1.634	-0.009	36886	54378	WATPHD	(C12-C24)	505419	2.9
C10	2.907	0.001	8042	23729	WATPHM	(C24-C38)	3570459	24.4
C12	3.857	-0.014	7398	15867	AK102	(C10-C25)	699660	3.4
C14	4.608	-0.030	5585	5498	AK103	(C25-C36)	2640148	25.1
C16	5.288	-0.009	3155	3684	OR.DIES	(C10-C28)	968333	4.7
C18	5.921	0.032	1082	2183				
C20	6.468	0.028	13152	14022				
C22	7.012	0.027	1705	4022				
C24	7.549	0.025	2003	2087				
C25	7.831	0.031	4142	14186	KEROSEN	(Tol-C18)	2204903	9.4
C26	8.070	0.020	4050	5112				
C28	8.557	0.003	54335	176839	IT.DIES	(C10-C24)	692177	3.4
C32	9.483	-0.004	29289	40904				
C34	----							
Filter Peak	11.543	-0.058	54707	498927				
C36	10.331	0.013	32038	42573	BUNKERC	(C10-C38)	4262636	68.9
o-terph	6.051	-0.001	19306509	23368112				
Triacon Surr	9.057	-0.002	12919868	19115454				

Range Times: NW Diesel(3.921 - 7.575) NW Gas(1.366 - 3.921) NW M.Oil(7.575 - 10.757)
AK102(2.855 - 7.750) AK103(7.750 - 10.368) Jet A(2.855 - 5.940)

Surrogate	Area	Amount
o-Terphenyl	23368112	100.1
Triacontane	19115454	97.6

Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	179445.5	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018
Bunker C	61842.2	20-JUL-2018

Form I

METHOD BLANK DATA SHEET

NWTPH-Dx

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18I0031
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGI0210-BLK1	File ID:	318I1422.D
Sampled:	N/A	Prepared:	09/11/18 11:24	Analyzed:	09/14/18 18:46
Solids:		Preparation:	EPA 3510C SepF	Initial/Final:	500 mL / 1 mL
Batch:	BGI0210	Sequence:	SGI0258	Calibration:	BF00020
Instrument:	FID3	Column:	RTX-1	Cleanups:	Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.190	84.4	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20180914.b\318I1422.D

Date : 14-SEP-2018 18:46

Client ID:

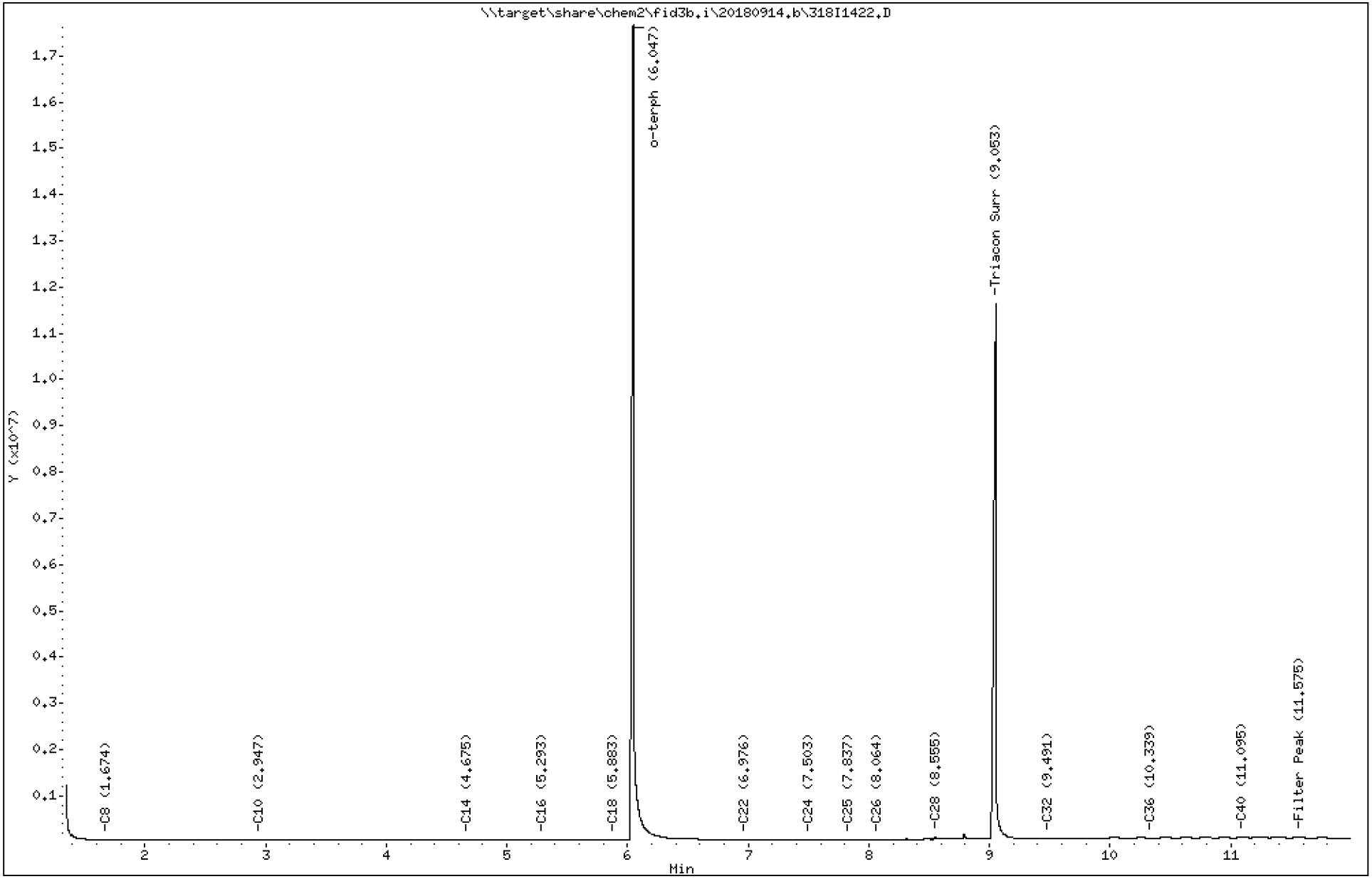
Instrument: fid3b.i

Sample Info: BGI0210-BLK1

Operator: JGR

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20180914.b/318I1422.D
Method: 20180914.b\FID3TPH.m
Instrument: fid3b.i
Operator: JGR
Report Date: 09/15/2018
Macro: FID3_072018

ARI ID: BGI0210-BLK1
Client ID:
Injection: 14-SEP-2018 18:46
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	1.396	-0.012	109986	357416	WATPHG	(Tol-C12)	415765	2.3
C8	1.674	0.039	6107	11623	WATPHD	(C12-C24)	518104	3.0
C10	2.947	0.044	1964	3035	WATPHM	(C24-C38)	4199769	28.7
C12	----				AK102	(C10-C25)	559090	2.8
C14	4.675	0.032	3753	4114	AK103	(C25-C36)	3264426	31.0
C16	5.293	-0.005	4084	4715	OR.DIES	(C10-C28)	1077376	5.3
C18	5.883	-0.005	4061	5598				
C20	----							
C22	6.976	-0.011	6766	4787				
C24	7.503	-0.022	6598	9078				
C25	7.837	0.036	11575	42905	KEROSEN	(Tol-C18)	560473	2.4
C26	8.064	0.013	9725	11224				
C28	8.555	0.001	54687	172403	IT.DIES	(C10-C24)	541785	2.7
C32	9.491	0.004	33331	71376				
C34	----							
Filter Peak	11.575	-0.001	49856	109072				
C36	10.339	0.022	39356	72509	BUNKERC	(C10-C38)	4741554	76.7
o-terph	6.047	-0.004	17624085	22167969				
Triacon Surr	9.053	-0.006	11581622	17307591				

Range Times: NW Diesel(3.922 - 7.575) NW Gas(1.358 - 3.922) NW M.Oil(7.575 - 10.756)
AK102(2.852 - 7.750) AK103(7.750 - 10.366) Jet A(2.852 - 5.938)

Surrogate	Area	Amount
o-Terphenyl	22167969	94.9
Triacontane	17307591	88.4

Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	179445.5	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018
Bunker C	61842.2	20-JUL-2018

LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	09/13/18 14:52
Batch:	BGI0174	Laboratory ID:	BGI0174-BS1
Preparation:	EPA 3510C SepF	Sequence Name:	LCS
Initial/Final:	500 mL / 1 mL		

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	3.00	2.62		87.5	56 - 120

* Indicates values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	09/14/18 19:05
Batch:	BGI0210	Laboratory ID:	BGI0210-BS1
Preparation:	EPA 3510C SepF	Sequence Name:	LCS
Initial/Final:	500 mL / 1 mL		

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	3.00	2.49		82.9	56 - 120

* Indicates values outside of QC limits

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00096	Instrument:	FID3
Calibration Date:	05/25/2018 0:00	Column (1):	RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)	50	158510.6	100	171800.2	250	169154.2	500	178941.9	1000	175530.8	2500	177106.4
Diesel Range Organics (C10-C24)	50	189670	100	200829.2	250	199156.2	500	210300.4	1000	206762.1	2500	208621
o-Terphenyl	9	221774.8	18	229375.1	45	226684.4	90	236263.9	180	242679.8	450	244185.1

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00096	Instrument:	FID3
Calibration Date:	05/25/2018 0:00	Column (1):	RTX-1

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Motor Oil Range Organics (C24-C38)	100	147580.7	250	147417.5	500	140364.9	1000	143003.2	2500	149126.5	5000	150296.8

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00096	Instrument:	FID3
Calibration Date:	05/25/2018 0:00	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	171840.7	4.3			RSD (20)	
Diesel Range Organics (C10-C24)	202556.5	3.8			RSD (20)	
Motor Oil Range Organics (C24-C38)	146298.2	2.6			RSD (20)	
o-Terphenyl	233493.9	3.9			RSD (20)	

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)	50	158510.6	100	171800.2	250	169154.2	500	178941.9	1000	175530.8	2500	177106.4
o-Terphenyl	9	221774.8	18	229375.1	45	226684.4	90	236263.9	180	242679.8	450	244185.1

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Motor Oil Range Organics (C24-C38)	100	147580.7	250	147417.5	500	140364.9	1000	143003.2	2500	149126.5	5000	150296.8

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)												

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

19-24	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
Compound		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)												
Bunker C Range Organics (C10-C38)			100	42329.47	250	64430.92	500	65412.18	1000	65435.45	2500	67069.24

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)												
Bunker C Range Organics (C10-C38)	5000	66375.92										

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	171840.7	4.3			RSD (20)	
Motor Oil Range Organics (C24-C38)	146298.2	2.6			RSD (20)	
o-Terphenyl	233493.9	3.9			RSD (20)	

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Calibration: BE00096
Laboratory ID: SGE0465-SCV1
Sequence: SGE0465
Sequence Name: DieselSCV 500
Standard ID: F011649

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Diesel Range Organics (C12-C24)	500.00	551	10.2	30.00
o-Terphenyl	90.000	101	12.1	

* Indicates values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Calibration: BE00096
Laboratory ID: SGE0465-SCV2
Sequence: SGE0465
Sequence Name: Moil SCV 1000
Standard ID: G004802

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Motor Oil Range Organics (C24-C38)	1000.0	967	-3.3	30.00

* Indicates values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F0607.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0092	Injection Date:	06/07/18
Lab Sample ID:	SGF0092-ICV1	Injection Time:	12:39
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	523	171840.7000	179731.2000		4.6	15
o-Terphenyl	A	90.000	93.7	233493.9000	243140.8000		4.1	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F0608.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0092	Injection Date:	06/07/18
Lab Sample ID:	SGF0092-ICV2	Injection Time:	12:59
Sequence Name:	MOIL ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	983	146298.2000	143751.1000		-1.7	15

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318G2025.D	Calibration Date:	06/07/18 00:00
Sequence:	SGG0316	Injection Date:	07/20/18
Lab Sample ID:	SGG0316-ICV1	Injection Time:	21:04
Sequence Name:	DIESEL ICV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	481	171840.7000	165451.1000		-3.7	15
o-Terphenyl	A	90.000	83.3	233493.9000	216070.2000		-7.4	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318G2026.D	Calibration Date:	06/07/18 00:00
Sequence:	SGG0316	Injection Date:	07/20/18
Lab Sample ID:	SGG0316-ICV2	Injection Time:	21:23
Sequence Name:	BUNKERCICV2		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Bunker C Range Organics (C10-C38)	A	1000.0	1110	61842.2000	68367.4100		10.6	15
o-Terphenyl	A	45.000	47.3	233493.9000	245404.7000		5.1	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318G2027.D	Calibration Date:	06/07/18 00:00
Sequence:	SGG0316	Injection Date:	07/20/18
Lab Sample ID:	SGG0316-ICV3	Injection Time:	21:42
Sequence Name:	MOILICV3		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	973	146298.2000	142273.3000		-2.8	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318G2305.D	Calibration Date:	06/07/18 00:00
Sequence:	SGG0316	Injection Date:	07/23/18
Lab Sample ID:	SGG0316-ICV4	Injection Time:	09:29
Sequence Name:	DIESELICV4		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	452	171840.7000	155370.0000		-9.6	15
o-Terphenyl	A	90.000	79.6	233493.9000	206417.2000		-11.6	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318G2306.D	Calibration Date:	06/07/18 00:00
Sequence:	SGG0316	Injection Date:	07/23/18
Lab Sample ID:	SGG0316-ICV5	Injection Time:	09:48
Sequence Name:	MOILICV5		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	899	146298.2000	131542.7000		-10.1	15

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1305.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0244	Injection Date:	09/13/18
Lab Sample ID:	SGI0244-ICV1	Injection Time:	08:25
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	506	171840.7000	173716.1000		1.1	15
o-Terphenyl	A	90.000	84.9	233493.9000	220218.7000		-5.7	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1306.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0244	Injection Date:	09/13/18
Lab Sample ID:	SGI0244-ICV2	Injection Time:	08:45
Sequence Name:	MOIL ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	956	146298.2000	139792.3000		-4.5	15

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1419.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0258	Injection Date:	09/14/18
Lab Sample ID:	SGI0258-ICV1	Injection Time:	17:48
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	557	171840.7000	191422.4000		11.4	15
o-Terphenyl	A	90.000	90.2	233493.9000	233972.1000		0.2	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1420.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0258	Injection Date:	09/14/18
Lab Sample ID:	SGI0258-ICV2	Injection Time:	18:07
Sequence Name:	MOIL ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1050	146298.2000	153012.0000		4.6	15

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1317.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0244	Injection Date:	09/13/18
Lab Sample ID:	SGI0244-CCV1	Injection Time:	13:54
Sequence Name:	Diesel CCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	504	171840.7	173177.1		0.8	15
o-Terphenyl	A	90.000	86.2	233493.9	223578.9		-4.2	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1318.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0244	Injection Date:	09/13/18
Lab Sample ID:	SGI0244-CCV2	Injection Time:	14:13
Sequence Name:	MOIL CCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	941	146298.2	137615.2		-5.9	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1330.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0244	Injection Date:	09/13/18
Lab Sample ID:	SGI0244-CCV3	Injection Time:	18:06
Sequence Name:	Dieselccv		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	511	171840.7	175641.2		2.2	15
o-Terphenyl	A	90.000	88.3	233493.9	228966.8		-1.9	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1331.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0244	Injection Date:	09/13/18
Lab Sample ID:	SGI0244-CCV4	Injection Time:	18:25
Sequence Name:	MOILCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	961	146298.2	140602.2		-3.9	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1345.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0244	Injection Date:	09/13/18
Lab Sample ID:	SGI0244-CCV6	Injection Time:	22:55
Sequence Name:	Dieselccv		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	520	171840.7	178607.4		3.9	15
o-Terphenyl	A	90.000	87.0	233493.9	225625.9		-3.3	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1346.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0244	Injection Date:	09/13/18
Lab Sample ID:	SGI0244-CCV7	Injection Time:	23:14
Sequence Name:	MOILCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1010	146298.2	148017.1		1.2	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1354.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0244	Injection Date:	09/14/18
Lab Sample ID:	SGI0244-CCV9	Injection Time:	01:47
Sequence Name:	Dieselccv		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	537	171840.7	184646.7		7.5	15
o-Terphenyl	A	90.000	90.8	233493.9	235471.8		0.9	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1355.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0244	Injection Date:	09/14/18
Lab Sample ID:	SGI0244-CCVA	Injection Time:	02:07
Sequence Name:	MOILCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1070	146298.2	156929.7		7.3	15

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1431.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0258	Injection Date:	09/14/18
Lab Sample ID:	SGI0258-CCV1	Injection Time:	21:39
Sequence Name:	Diesel CCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	514	171840.7	176559.3		2.7	15
o-Terphenyl	A	90.000	88.8	233493.9	230258.8		-1.3	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I1432.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0258	Injection Date:	09/14/18
Lab Sample ID:	SGI0258-CCV2	Injection Time:	21:58
Sequence Name:	MOIL CCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1030	146298.2	150529.6		2.9	15

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGE0465	Instrument:	FID3
		Calibration:	BE00096

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
RT	SGE0465-IBL1	318E2504.D	NA	05/25/18 17:02
IB	SGE0465-IBL2	318E2505.D	NA	05/25/18 17:21
50ppmDiesel	SGE0465-CAL1	318E2506.D	NA	05/25/18 17:39
100ppmDiesel	SGE0465-CAL2	318E2507.D	NA	05/25/18 17:57
250ppmDiesel	SGE0465-CAL3	318E2508.D	NA	05/25/18 18:15
500ppmDiesel	SGE0465-CAL4	318E2509.D	NA	05/25/18 18:33
1000ppmDiesel	SGE0465-CAL5	318E2510.D	NA	05/25/18 18:51
2500ppmDiesel	SGE0465-CAL6	318E2511.D	NA	05/25/18 19:09
100ppmmoil	SGE0465-CAL7	318E2512.D	NA	05/25/18 19:27
250ppmmoil	SGE0465-CAL8	318E2513.D	NA	05/25/18 19:45
500ppmmoil	SGE0465-CAL9	318E2514.D	NA	05/25/18 20:03
1000ppmmoil	SGE0465-CALA	318E2515.D	NA	05/25/18 20:21
2500ppmmoil	SGE0465-CALB	318E2516.D	NA	05/25/18 20:38
5000ppmmoil	SGE0465-CALC	318E2517.D	NA	05/25/18 20:56
DieselSCV 500	SGE0465-SCV1	318E2518.D	NA	05/25/18 21:14
Moil SCV 1000	SGE0465-SCV2	318E2906.D	NA	05/29/18 10:16

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0092	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
RT	SGF0092-IBL1	318F0604.D	NA	06/07/18 11:42
IB	SGF0092-IBL2	318F0605.D	NA	06/07/18 12:01
500ppm Kerosene	SGF0092-CAL1	318F0606.D	NA	06/07/18 12:20
Diesel ICV	SGF0092-ICV1	318F0607.D	NA	06/07/18 12:39
MOIL ICV	SGF0092-ICV2	318F0608.D	NA	06/07/18 12:59
ZZZZZ	BGF0149-BLK1	318F0609.D	Water	06/07/18 13:18
ZZZZZ	BGF0149-BS1	318F0610.D	Water	06/07/18 13:37
ZZZZZ	18F0064-01	318F0612.D	Water	06/07/18 14:15
ZZZZZ	18F0064-02	318F0613.D	Water	06/07/18 14:35
ZZZZZ	18F0064-03	318F0614.D	Water	06/07/18 14:54
ZZZZZ	18F0064-04	318F0615.D	Water	06/07/18 15:13
ZZZZZ	18F0064-05	318F0616.D	Water	06/07/18 15:33
ZZZZZ	18F0064-06	318F0617.D	Water	06/07/18 15:52
500PPMKEROSENECCV1	SGF0092-CCV1	318F0618.D	NA	06/07/18 16:11
DIESEL CCV1	SGF0092-CCV2	318F0619.D	NA	06/07/18 16:31
MOILCCV1	SGF0092-CCV3	318F0620.D	NA	06/07/18 16:50
ZZZZZ	18F0052-01	318F0623.D	Solid	06/07/18 17:48
ZZZZZ	BGE0753-BLK1	318F0626.D	Water	06/07/18 18:46
ZZZZZ	BGE0753-BS1	318F0627.D	Water	06/07/18 19:05
ZZZZZ	18E0367-01	318F0628.D	Water	06/07/18 19:24
DIESELCCV2	SGF0092-CCV4	318F0629.D	NA	06/07/18 19:43
MOILCCV2	SGF0092-CCV5	318F0630.D	NA	06/07/18 20:02
AK103CCV2	SGF0092-CCV6	318F0631.D	NA	06/07/18 20:22
DIESELCCV3	SGF0092-CCV7	318F0642.D	NA	06/07/18 23:50
AK103CCV3	SGF0092-CCV8	318F0643.D	NA	06/08/18 00:09
DIESELCCV4	SGF0092-CCV9	318F0651.D	NA	06/08/18 02:40
AK103CCV4	SGF0092-CCVA	318F0652.D	NA	06/08/18 02:59
DIESELCCV5	SGF0092-CCVB	318F0660.D	NA	06/08/18 05:31
AK103CCV5	SGF0092-CCVC	318F0661.D	NA	06/08/18 05:50

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGG0316
Instrument: FID3
Calibration: BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
SEQ-IBL1	SGG0316-IBL1	318G2017.D	NA	07/20/18 18:31
SEQ-IBL2	SGG0316-IBL2	318G2018.D	NA	07/20/18 18:50
100ppm BUNKERC	SGG0316-CAL1	318G2019.D	NA	07/20/18 19:09
250ppm BUNKERC	SGG0316-CAL2	318G2020.D	NA	07/20/18 19:28
500ppm BUNKERC	SGG0316-CAL3	318G2021.D	NA	07/20/18 19:47
1000ppmBUNKERC	SGG0316-CAL4	318G2022.D	NA	07/20/18 20:07
2500ppmBUNKERC	SGG0316-CAL5	318G2023.D	NA	07/20/18 20:26
5000ppmBUNKERC	SGG0316-CAL6	318G2024.D	NA	07/20/18 20:45
DIESEL ICV1	SGG0316-ICV1	318G2025.D	NA	07/20/18 21:04
BUNKERCICV2	SGG0316-ICV2	318G2026.D	NA	07/20/18 21:23
MOILICV3	SGG0316-ICV3	318G2027.D	NA	07/20/18 21:42
ZZZZZ	18G0216-01	318G2030.D	Solid	07/20/18 22:39
ZZZZZ	BGG0444-BLK1	318G2032.D	Water	07/20/18 23:17
ZZZZZ	BGG0444-BS1	318G2033.D	Water	07/20/18 23:36
ZZZZZ	18G0214-03	318G2034.D	Water	07/20/18 23:55
ZZZZZ	18G0214-06	318G2035.D	Water	07/21/18 00:14
ZZZZZ	BGG0446-BLK1	318G2036.D	Water	07/21/18 00:33
ZZZZZ	BGG0446-BS1	318G2037.D	Water	07/21/18 00:52
ZZZZZ	18G0207-01	318G2038.D	Water	07/21/18 01:11
ZZZZZ	18G0207-03	318G2039.D	Water	07/21/18 01:30
ZZZZZ	18G0214-04	318G2040.D	Water	07/21/18 01:49
ZZZZZ	18G0214-07	318G2041.D	Water	07/21/18 02:08
DIESELCCV1	SGG0316-CCV1	318G2042.D	NA	07/21/18 02:27
BUNKERCCCV2	SGG0316-CCV2	318G2043.D	NA	07/21/18 02:46
MOILCCV3	SGG0316-CCV3	318G2044.D	NA	07/21/18 03:04
ZZZZZ	BGG0458-BLK1	318G2045.D	Solid	07/21/18 03:23
ZZZZZ	18G0214-09	318G2047.D	Solid	07/21/18 04:01
ZZZZZ	18G0214-10	318G2050.D	Solid	07/21/18 04:58
ZZZZZ	18G0214-12	318G2051.D	Solid	07/21/18 05:16
ZZZZZ	18G0214-13	318G2052.D	Solid	07/21/18 05:35

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGG0316
Instrument: FID3
Calibration: BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	18G0214-15	318G2053.D	Solid	07/21/18 05:54
DIESELCCV4	SGG0316-CCV4	318G2054.D	NA	07/21/18 06:13
MOILCCV5	SGG0316-CCV5	318G2055.D	NA	07/21/18 06:32
ZZZZZ	18G0214-16	318G2056.D	Solid	07/21/18 06:51
ZZZZZ	18G0214-18	318G2057.D	Solid	07/21/18 07:10
ZZZZZ	18G0214-20	318G2058.D	Solid	07/21/18 07:29
ZZZZZ	18G0214-22	318G2059.D	Solid	07/21/18 07:48
ZZZZZ	18G0219-01	318G2060.D	Solid	07/21/18 08:07
ZZZZZ	BGG0432-BLK1	318G2062.D	Solid	07/21/18 08:44
ZZZZZ	BGG0432-BS1	318G2063.D	Solid	07/21/18 09:03
DIESELCCV6	SGG0316-CCV6	318G2064.D	NA	07/21/18 09:22
MOILCCV7	SGG0316-CCV7	318G2065.D	NA	07/21/18 09:42
ZZZZZ	18G0206-10	318G2070.D	Solid	07/21/18 11:17
DIESELCCV8	SGG0316-CCV8	318G2074.D	NA	07/21/18 12:34
MOILCCV9	SGG0316-CCV9	318G2075.D	NA	07/21/18 12:53
ZZZZZ	18G0206-07	318G2076.D	Solid	07/21/18 13:13
ZZZZZ	18G0206-08	318G2077.D	Solid	07/21/18 13:32
ZZZZZ	18G0206-12	318G2078.D	Solid	07/21/18 13:51
ZZZZZ	18G0186-09	318G2079.D	Solid	07/21/18 14:10
ZZZZZ	18G0186-11	318G2080.D	Solid	07/21/18 14:30
DIESELCCVA	SGG0316-CCVA	318G2081.D	NA	07/21/18 14:49
MOILCCVB	SGG0316-CCVB	318G2082.D	NA	07/21/18 15:08
RT2	SGG0316-IBL3	318G2303.D	NA	07/23/18 08:51
IB2	SGG0316-IBL4	318G2304.D	NA	07/23/18 09:10
DIESELICV4	SGG0316-ICV4	318G2305.D	NA	07/23/18 09:29
MOILICV5	SGG0316-ICV5	318G2306.D	NA	07/23/18 09:48
ZZZZZ	BGG0458-BS1	318G2307.D	Solid	07/23/18 11:10
DIESELCCVC	SGG0316-CCVC	318G2308.D	NA	07/23/18 11:29
MOILCCVD	SGG0316-CCVD	318G2309.D	NA	07/23/18 11:48

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGI0244
Instrument: FID3
Calibration: BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SGI0244-IBL1	318I1303.D	NA	09/13/18 07:47
Instrument Blank	SGI0244-IBL2	318I1304.D	NA	09/13/18 08:06
Diesel ICV	SGI0244-ICV1	318I1305.D	NA	09/13/18 08:25
MOIL ICV	SGI0244-ICV2	318I1306.D	NA	09/13/18 08:45
ZZZZZ	BGI0062-BLK1	318I1308.D	Water	09/13/18 10:59
ZZZZZ	BGI0062-BS1	318I1309.D	Water	09/13/18 11:18
ZZZZZ	18H0424-01	318I1310.D	Water	09/13/18 11:38
ZZZZZ	18H0424-02	318I1311.D	Water	09/13/18 11:57
ZZZZZ	18H0424-03	318I1312.D	Water	09/13/18 12:16
ZZZZZ	18H0424-04	318I1313.D	Water	09/13/18 12:36
ZZZZZ	18H0424-05	318I1314.D	Water	09/13/18 12:55
ZZZZZ	18H0424-06	318I1315.D	Water	09/13/18 13:15
ZZZZZ	18H0424-07	318I1316.D	Water	09/13/18 13:34
Diesel CCV1	SGI0244-CCV1	318I1317.D	NA	09/13/18 13:54
MOIL CCV1	SGI0244-CCV2	318I1318.D	NA	09/13/18 14:13
Blank	BGI0174-BLK1	318I1319.D	Water	09/13/18 14:32
LCS	BGI0174-BS1	318I1320.D	Water	09/13/18 14:52
ZZZZZ	18I0083-01	318I1321.D	Water	09/13/18 15:11
ZZZZZ	18I0083-02	318I1322.D	Water	09/13/18 15:31
ZZZZZ	18I0083-03	318I1323.D	Water	09/13/18 15:50
ZZZZZ	18I0097-01	318I1324.D	Water	09/13/18 16:10
ZZZZZ	18I0098-01	318I1325.D	Water	09/13/18 16:29
MW-4-180904	18I0031-02	318I1326.D	Water	09/13/18 16:48
ZZZZZ	18I0052-03	318I1327.D	Water	09/13/18 17:08
ZZZZZ	18I0052-04	318I1328.D	Water	09/13/18 17:27
ZZZZZ	18I0052-05	318I1329.D	Water	09/13/18 17:46
Dieselccv	SGI0244-CCV3	318I1330.D	NA	09/13/18 18:06
MOILCCV	SGI0244-CCV4	318I1331.D	NA	09/13/18 18:25
Dieselccv	SGI0244-CCV6	318I1345.D	NA	09/13/18 22:55
MOILCCV	SGI0244-CCV7	318I1346.D	NA	09/13/18 23:14

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGI0244	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Dieselccv	SGI0244-CCV9	318I1354.D	NA	09/14/18 01:47
MOILCCV	SGI0244-CCVA	318I1355.D	NA	09/14/18 02:07

SVCA Area Z Remediation

18I0031

Analysis	Matrix	Method
TPH NW (Extractables) low level	Water	NWTPH-Dx

Checklist for SEQUENCE SGI0244

Checklist: Analyst Checklist-FID(rev3)

#	Checklist Item	Response		Analyst Initials	Date
1	Detail all ICV/CCV failures for all affected Workorders	NA		JGR	09/14/2018
2	Narrate any Retention times not within windows for all affected Workorders	NA		JGR	09/14/2018
3	Manual Integrations were applied as per SOP 1021s Comments: *skimmed surr.*	YES		JGR	09/14/2018
4	Narrate any Workorders where the Project specific requirements have not been met	NA		JGR	09/14/2018
5	Narrate samples per Workorder that will require more than one analysis to be reported due to dilutions or re-analysis Comments: *18h0424-05,-07* *18i0072-20,-22,-24,-27*	YES		JGR	09/14/2018
6	Verify that all samples requiring a dilution or re-analysis have been added to another batch or sequence	YES		JGR	09/14/2018
7	Extraction basis, cleanups, and total solids are correctly entered	YES		JGR	09/14/2018
8	An extract dilution bench sheet is attached to the sequence for all dilutions performed	NA		JGR	09/14/2018
9	AUTOCHECK: Blank checked for exceedence of criteria	YES	*	JGR	09/14/2018
10	AUTOCHECK: Check blank spike recovery	YES	*	JGR	09/14/2018
11	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	YES	*	JGR	09/14/2018
12	AUTOCHECK: Compounds in method designated as blank spike compounds are present	NA	*	JGR	09/14/2018
13	AUTOCHECK: Check %RPD between sample and sample duplicate	NA	*	JGR	09/14/2018
14	AUTOCHECK: Matrix spike recoveries within limits	NA	*	JGR	09/14/2018
15	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NA	*	JGR	09/14/2018
16	AUTOCHECK: List of compounds listed as spiked are present	NA	*	JGR	09/14/2018
17	AUTOCHECK: Check Surrogate recoveries Comments: *Surrogate Recovery for n-Triacontane (4.44%) was outside acceptance limits (50-150) in 18I0072-27 for TPH AK103 - This surrogate not reported due to chromatographic interference*	NO	*	JGR	09/14/2018
18	AUTOCHECK: Checks Surrogate spike list against Analysis	YES	*	JGR	09/14/2018
19	Data locked, checklist completed and status is analyzed (REVIEWER)	YES		BB	09/14/2018
20	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES		BB	09/14/2018
21	rev_DilutionCheck.rpt and rev_DilutionCheck.exe was run to verify multiple sample results are consistent (REVIEWER)	YES		BB	09/14/2018

* = Indicates Automated Response from Element DataSyst

SVCA Area Z Remediation

18I0031

Analysis	Matrix	Method
TPH NW (Extractables) low level	Water	NWTPH-Dx

Checklist for SEQUENCE SGI0244

Checklist: Analyst Checklist-FID(rev3)

#	Checklist Item	Response	Analyst Initials	Date
22	List of samples or QC in this sequence that will require additional runs-verify reshot created (ANALYST)	YES	JGR	09/14/2018
23	List of samples or QC in this sequence that are re-analysis or dilutions of samples (ANALYST)	NA	JGR	09/14/2018
24	Additional Notes (ANALYST and REVIEWER)	YES	JGR	09/14/2018

Comments:
samples identified as diesel look like a weathered diesel, samples might benefit from clean-ups

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGI0258	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SGI0258-IBL1	318I1417.D	NA	09/14/18 17:09
Instrument Blank	SGI0258-IBL2	318I1418.D	NA	09/14/18 17:29
Diesel ICV	SGI0258-ICV1	318I1419.D	NA	09/14/18 17:48
MOIL ICV	SGI0258-ICV2	318I1420.D	NA	09/14/18 18:07
Blank	BGI0210-BLK1	318I1422.D	Water	09/14/18 18:46
LCS	BGI0210-BS1	318I1423.D	Water	09/14/18 19:05
MW-4-180904	18I0031-01	318I1424.D	Water	09/14/18 19:25
ZZZZZ	18H0424-05RE1	318I1425.D	Water	09/14/18 19:44
ZZZZZ	18H0424-07RE1	318I1426.D	Water	09/14/18 20:03
Diesel CCV1	SGI0258-CCV1	318I1431.D	NA	09/14/18 21:39
MOIL CCV1	SGI0258-CCV2	318I1432.D	NA	09/14/18 21:58

SVCA Area Z Remediation

18I0031

Analysis	Matrix	Method
TPH NW (Extractables) low level	Water	NWTPH-Dx

Checklist for SEQUENCE SGI0258

Checklist: Analyst Checklist-FID(rev3)

#	Checklist Item	Response	Analyst Initials	Date
1	Detail all ICV/CCV failures for all affected Workorders	YES	VTS	09/15/2018
2	Narrate any Retention times not within windows for all affected Workorders	YES	VTS	09/15/2018
3	Manual Integrations were applied as per SOP 1021s Comments: *Baseline correction*	YES	VTS	09/15/2018
4	Narrate any Workorders where the Project specific requirements have not been met	NA	VTS	09/15/2018
5	Narrate samples per Workorder that will require more than one analysis to be reported due to dilutions or re-analysis Comments: *18H0424 and 18I0072*	YES	VTS	09/15/2018
6	Verify that all samples requiring a dilution or re-analysis have been added to another batch or sequence	NA	VTS	09/15/2018
7	Extraction basis, cleanups, and total solids are correctly entered	YES	VTS	09/15/2018
8	An extract dilution bench sheet is attached to the sequence for all dilutions performed Comments: *2nd PDF*	YES	VTS	09/15/2018
9	AUTOCHECK: Blank checked for exceedence of criteria	YES *	VTS	09/15/2018
10	AUTOCHECK: Check blank spike recovery	YES *	VTS	09/15/2018
11	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	NA *	VTS	09/15/2018
12	AUTOCHECK: Compounds in method designated as blank spike compounds are present	YES *	VTS	09/15/2018
13	AUTOCHECK: Check %RPD between sample and sample duplicate	NA *	VTS	09/15/2018
14	AUTOCHECK: Matrix spike recoveries within limits	NA *	VTS	09/15/2018
15	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NA *	VTS	09/15/2018
16	AUTOCHECK: List of compounds listed as spiked are present	NA *	VTS	09/15/2018
17	AUTOCHECK: Check Surrogate recoveries	YES *	VTS	09/15/2018
18	AUTOCHECK: Checks Surrogate spike list against Analysis	YES *	VTS	09/15/2018
19	Data locked, checklist completed and status is analyzed (REVIEWER)	YES	JGR	09/17/2018
20	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES	JGR	09/17/2018
21	rev_DilutionCheck.rpt and rev_DilutionCheck.exe was run to verify multiple sample results are consistent (REVIEWER)	YES	JGR	09/17/2018
22	List of samples or QC in this sequence that will require additional runs-verify reshot created (ANALYST)	NA	VTS	09/15/2018

* = Indicates Automated Response from Element DataSyst

SVCA Area Z Remediation

18I0031

Analysis	Matrix	Method
TPH NW (Extractables) low level	Water	NWTPH-Dx

Checklist for SEQUENCE SGI0258

Checklist: Analyst Checklist-FID(rev3)

#	Checklist Item	Response	Analyst Initials	Date
23	List of samples or QC in this sequence that are re-analysis or dilutions of samples (ANALYST) Comments: *Dilutions for 18H0424 and 18I0072*	YES	VTS	09/15/2018
24	Additional Notes (ANALYST and REVIEWER) Comments: *Queue loaded by Josh. Data and upload by Van*	YES	VTS	09/15/2018

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0092	Instrument:	FID3
Calibration:	BF00020	Calibration Date:	05/25/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGF0092-ICV1 (Solid)				Lab File ID: 318F0607.D			Analyzed: 06/07/18 12:39	
o-Terphenyl	90.000	104	85 - 115	6.15	6.145	0.0050	N/A	

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18I0031
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGG0316	Instrument:	FID3
Calibration:	BF00020	Calibration Date:	05/25/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGG0316-ICV1 (Solid)			Lab File ID: 318G2025.D				Analyzed: 07/20/18 21:04	
o-Terphenyl	90.000	92.6	85 - 115	6.13	6.145	-0.0150	N/A	
SGG0316-ICV2 (Solid)			Lab File ID: 318G2026.D				Analyzed: 07/20/18 21:23	
o-Terphenyl	45.000	105	85 - 115	6.12	6.145	-0.0250	N/A	
SGG0316-ICV4 (Solid)			Lab File ID: 318G2305.D				Analyzed: 07/23/18 09:29	
o-Terphenyl	90.000	88.4	85 - 115	6.12	6.145	-0.0250	N/A	

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG/WO: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGI0244
Instrument: FID3
Calibration: BF00020
Calibration Date: 07/20/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGI0244-IBL1 (Water)				Lab File ID: 318I1303.D			Analyzed: 09/13/18 07:47	
o-Terphenyl	100.00	97.6	50 - 150	6.05	6.145	-0.0950	N/A	
SGI0244-IBL2 (Water)				Lab File ID: 318I1304.D			Analyzed: 09/13/18 08:06	
o-Terphenyl	100.00	98.9	50 - 150	6.05	6.145	-0.0950	N/A	
SGI0244-ICV1 (Water)				Lab File ID: 318I1305.D			Analyzed: 09/13/18 08:25	
o-Terphenyl	90.000	94.3	85 - 115	6.05	6.145	-0.0950	N/A	
BGI0174-BLK1 (Water)				Lab File ID: 318I1319.D			Analyzed: 09/13/18 14:32	
o-Terphenyl	0.22500	89.0	50 - 150	6.05	6.145	-0.0950	N/A	
BGI0174-BS1 (Water)				Lab File ID: 318I1320.D			Analyzed: 09/13/18 14:52	
o-Terphenyl	0.22500	87.2	50 - 150	6.06	6.145	-0.0850	N/A	
18I0031-02 (Water)				Lab File ID: 318I1326.D			Analyzed: 09/13/18 16:48	
o-Terphenyl	0.22500	97.8	50 - 150	6.05	6.145	-0.0950	N/A	

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG/WO: 18I0031
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGI0258
Instrument: FID3
Calibration: BF00020
Calibration Date: 07/20/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGI0258-IBL1 (Water)				Lab File ID: 318I1417.D			Analyzed: 09/14/18 17:09	
o-Terphenyl	100.00	97.5	50 - 150	6.05	6.145	-0.0950	N/A	
SGI0258-IBL2 (Water)				Lab File ID: 318I1418.D			Analyzed: 09/14/18 17:29	
o-Terphenyl	100.00	97.7	50 - 150	6.05	6.145	-0.0950	N/A	
SGI0258-ICV1 (Water)				Lab File ID: 318I1419.D			Analyzed: 09/14/18 17:48	
o-Terphenyl	90.000	100	85 - 115	6.05	6.145	-0.0950	N/A	
BGI0210-BLK1 (Water)				Lab File ID: 318I1422.D			Analyzed: 09/14/18 18:46	
o-Terphenyl	0.22500	84.4	50 - 150	6.05	6.145	-0.0950	N/A	
BGI0210-BS1 (Water)				Lab File ID: 318I1423.D			Analyzed: 09/14/18 19:05	
o-Terphenyl	0.22500	83.6	50 - 150	6.05	6.145	-0.0950	N/A	
18I0031-01 (Water)				Lab File ID: 318I1424.D			Analyzed: 09/14/18 19:25	
o-Terphenyl	0.22500	84.7	50 - 150	6.05	6.145	-0.0950	N/A	

HOLDING TIME SUMMARY

Analysis: NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18I0031

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-180904 18I0031-01	09/04/18 12:01	09/05/18 10:35	09/11/18 11:24	6	7	09/14/18 19:25	3	40	
MW-4-180904 18I0031-02	09/04/18 12:01	09/05/18 10:35	09/11/18 08:30	6	7	09/13/18 16:48	2	40	

* Indicates hold time exceedance.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

13 December 2018

Jennifer Allen
Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle, WA 98101

RE: SVCA Area Z Remediation

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
18K0439	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.



Amanda Volgardsen, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cert# 100006-011

PJLA Testing
Accreditation # 66169

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

18K0439

Chain of Custody Record & Laboratory Analysis Request

Laboratory: **Analytical Resources, Inc.**
Date: **11/29/2018**
Project Name: **SVCA Area Z Remediation**
Project Manager: **Jennifer Allen**
Phone Number: **360-715-2724**
Shipment Method: **Fedex**

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: NWTPH-G	NWTPH-D	BTEX	Archive										Comments/Preservation
1	MW-4-181129	11/29/18; 13:50	GW	7	X	X	X											
2	TB-181119	11/19/18; N/A	TB	1														
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Notes: NWTPH-D extended analyzed with and without silica gel cleanup. See contract for analysis details.

Email sample confirmation report to labdata@anchorqea.com

Relinquished By:	Company:	Received By:	Company:
Jennifer Allen	Anchor QEA, LLC	Stephanie Fisher	ANC
Signature/Printed Name	11/29/18; 4:45PM Date/Time	Signature/Printed Name Stephanie Fisher	11-30-18 1050 Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Anchor — Project Name: SVCA Area 2

COC No(s): _____ (NA) — Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18K0439 — Tracking No: 7840 9307 8603 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 3.3

Time: 1050

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID#: 202568

Cooler Accepted by: Sef — Date: 11-30-18 — Time: 1050

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ...	Bubble Wrap, Wet Ice, Gel Packs, Baggies, Foam Block, Paper, Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	11-19-18	

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

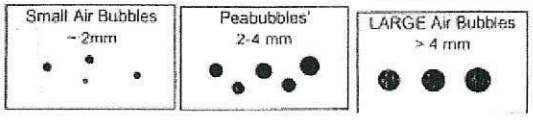
Samples Logged by: Sef — Date: 11-30-18 — Time: 1255

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions: 9 Containers received for MW-4-181129, T on COC

By: Sef — Date: 11-30-18



Small → "sm"	(< 2 mm)
Peabubbles → "pb"	(2 to < 4 mm)
Large → "lg"	(4 to < 6 mm)
Headspace → "hs"	(> 6 mm)

Anchor QEA, LLC	Project: SVCA Area Z Remediation	
720 Olive Way, Suite 1900	Project Number: [none]	**Reported:**
Seattle WA, 98101	Project Manager: Jennifer Allen	13-Dec-2018 15:43

Case Narrative

Sample receipt

Samples as listed on the preceding page were received 18K0439 under ARI work order 18K0439. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Gasoline by NWTPH-g (GC/MS)

The samples were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx (Ac/Si cleaned and not Ac/Si cleaned)

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Anchor QEA, LLC	Project:	SVCA Area Z Remediation	
720 Olive Way, Suite 1900	Project Number:	[none]	**Reported:**
Seattle, WA 98101	Project Manager:	Jennifer Allen	12/13/2018 15:43

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18K0439-01	MW-4-181129	Water	11/29/18 13:50	11/30/18 10:50
18K0439-02	MW-4-181129	Water	11/29/18 13:50	11/30/18 10:50
18K0439-03	TB-181119	Water	11/29/18 00:00	11/30/18 10:50

QUALIFIERS AND NOTES

Qualifier	Definition
U	This analyte is not detected above the applicable reporting or detection limit.
J	Estimated concentration value detected below the reporting limit.
H	Hold time violation - Hold time was exceeded.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
D1	Surrogate was not detected due to sample extract dilution
D	The reported value is from a dilution
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

MW-4-181129

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8260C
Volatile Organic Compounds

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18K0439-01	SDG:	18K0439
Sampled:	11/29/18 13:50	Prepared:	11/30/18 12:53	File ID:	V311301820.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	11/30/18 18:01
Batch:	BGK0728	Sequence:	SGK0462	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BK00052

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	5.09	102	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	5.15	103	80 - 120	
Toluene-d8	5.0000	5.04	101	80 - 120	
4-Bromofluorobenzene	5.0000	4.88	97.6	80 - 120	

TB-181119

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

Volatile Organic Compounds

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18K0439-03	SDG:	18K0439
Sampled:	11/29/18 00:00	Prepared:	11/30/18 12:53	File ID:	V311301817.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	11/30/18 16:43
Batch:	BGK0728	Sequence:	SGK0462	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BK00052

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	5.04	101	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	5.15	103	80 - 120	
Toluene-d8	5.0000	5.09	102	80 - 120	
4-Bromofluorobenzene	5.0000	4.83	96.7	80 - 120	

PREPARATION BATCH SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc. SDG: 18K0439

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGK0728 Batch Matrix: Water Preparation: EPA 5030 (Purge and Trap)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-181129	18K0439-01	V311301820.D	11/30/18 12:53	
TB-181119	18K0439-03	V311301817.D	11/30/18 12:53	
Blank	BGK0728-BLK1	V311301809.D	11/30/18 07:53	
LCS	BGK0728-BS1	V311301804LCS.D	11/30/18 07:53	
LCS Dup	BGK0728-BSD1	V311301805.D	11/30/18 07:53	

Form I

METHOD BLANK DATA SHEET

EPA 8260C

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18K0439
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGK0728-BLK1	File ID:	V311301809.D
Sampled:	N/A	Prepared:	11/30/18 07:53	Analyzed:	11/30/18 13:14
Solids:		Preparation:	EPA 5030 (Purge and Trap)	Initial/Final:	10 mL / 10 ml
Batch:	BGK0728	Sequence:	SGK0462	Calibration:	BK00052
Instrument:	NT3	Column:	RTX-VMS		

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
71-43-2	Benzene	1	0.20	U	0.03	0.20
108-88-3	Toluene	1	0.20	U	0.04	0.20
100-41-4	Ethylbenzene	1	0.20	U	0.04	0.20
179601-23-1	m,p-Xylene	1	0.40	U	0.05	0.40
95-47-6	o-Xylene	1	0.20	U	0.03	0.20

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	5.0000	5.32	106	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	5.21	104	80 - 120	
Toluene-d8	5.0000	4.94	98.7	80 - 120	
4-Bromofluorobenzene	5.0000	4.94	98.9	80 - 120	

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	11/30/18 11:04
Batch:	BGK0728	Laboratory ID:	BGK0728-BS1
Preparation:	EPA 5030 (Purge and Trap)	Sequence Name:	LCS
Initial/Final:	10 mL / 10 ml		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Benzene	10.0	10.9		109	80 - 120
Toluene	10.0	11.3		113	80 - 120
Ethylbenzene	10.0	10.9		109	80 - 120
m,p-Xylene	20.0	22.0		110	80 - 121
o-Xylene	10.0	10.8		108	80 - 121

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	10.0	9.93		99.3	9.29	30	80 - 120
Toluene	10.0	10.2		102	10.0	30	80 - 120
Ethylbenzene	10.0	9.77		97.7	11.1	30	80 - 120
m,p-Xylene	20.0	20.1		101	9.02	30	80 - 121
o-Xylene	10.0	9.85		98.5	9.40	30	80 - 121

* Indicates values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V311151802.D	Injection Date:	11/15/18
Instrument ID:	NT3	Injection Time:	09:11
Sequence:	SGK0262	Lab Sample ID:	SGK0262-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	32.5	PASS
75	30 - 80% of 95	52.5	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.4	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	94.9	PASS
175	5 - 9% of 174	6.57	PASS
176	95 - 101% of 174	98.5	PASS
177	5 - 9% of 176	6.51	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGK0262-TUN1	V311151802.D	11/15/2018	9:11
Cal Standard	SGK0262-CAL1	V311151807.D	11/15/2018	13:05
Cal Standard	SGK0262-CAL2	V311151808.D	11/15/2018	13:31
Cal Standard	SGK0262-CAL3	V311151809.D	11/15/2018	13:57
Cal Standard	SGK0262-CAL4	V311151810.D	11/15/2018	14:23
Cal Standard	SGK0262-CAL5	V311151811.D	11/15/2018	14:49
Cal Standard	SGK0262-CAL6	V311151812.D	11/15/2018	15:15
Cal Standard	SGK0262-CAL7	V311151813.D	11/15/2018	15:41
Cal Standard	SGK0262-CAL8	V311151814.D	11/15/2018	16:07
Secondary Cal Check	SGK0262-SCV1	V311151816.D	11/15/2018	16:59

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V311301803.D	Injection Date:	11/30/18
Instrument ID:	NT3	Injection Time:	10:26
Sequence:	SGK0462	Lab Sample ID:	SGK0462-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	30.3	PASS
75	30 - 80% of 95	49.9	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.73	PASS
173	Less than 2% of 174	0.446	PASS
174	50 - 120% of 95	92.9	PASS
175	5 - 9% of 174	7.05	PASS
176	95 - 101% of 174	99	PASS
177	5 - 9% of 176	7.15	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGK0462-TUN1	V311301803.D	11/30/2018	10:26
Initial Cal Check	SGK0462-ICV1	V311301804.D	11/30/2018	11:04
LCS	BGK0728-BS1	V311301804LCS.D	11/30/2018	11:04
LCS Dup	BGK0728-BSD1	V311301805.D	11/30/2018	11:30
Low Cal Check	SGK0462-LCV1	V311301808.D	11/30/2018	12:48
Blank	BGK0728-BLK1	V311301809.D	11/30/2018	13:14
ZZZZZ	18K0413-01RE1	V311301810.D	11/30/2018	13:40
TB-181119	18K0439-03	V311301817.D	11/30/2018	16:43
MW-4-181129	18K0439-01	V311301820.D	11/30/2018	18:01
ZZZZZ	18K0428-01	V311301821.D	11/30/2018	18:27
ZZZZZ	18K0454-01	V311301822.D	11/30/2018	18:53
Calibration Check	SGK0462-CCV1	V311301824.D	11/30/2018	19:45

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BK00052	Instrument:	NT3
Calibration Date:	11/15/2018 15:44	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Benzene	0.2	1.898257	0.5	1.825775	1	1.811302	2	1.985889	10	1.666864	20	1.906585
Toluene	0.2	1.08668	0.5	1.07179	1	1.079233	2	1.212198	10	1.055823	20	1.198989
Ethylbenzene	0.2	0.6939807	0.5	0.7441647	1	0.7300897	2	0.7582018	10	0.7088256	20	0.7903755
m,p-Xylene	0.4	0.8856041	1	0.8414577	2	0.8679102	4	0.9493072	20	0.8543674	40	0.9691806
o-Xylene	0.2	0.8918337	0.5	0.8243178	1	0.8172646	2	0.9731041	10	0.8546491	20	0.9590414
1,2-Dichloroethane-d4	5	0.4965012	5	0.4910612	5	0.4995295	5	0.4946552	5	0.4937265	5	0.4831531
1,2-Dichlorobenzene-d4	5	0.9105609	5	0.8909144	5	0.9320596	5	0.9023343	5	0.905708	5	0.8964486
Toluene-d8	5	1.161751	5	1.138491	5	1.143669	5	1.15243	5	1.135575	5	1.142212
4-Bromofluorobenzene	5	0.4366222	5	0.4431508	5	0.4587777	5	0.4445586	5	0.4537526	5	0.4442082
Dibromofluoromethane	5	0.4243075	5	0.4081682	5	0.4193137	5	0.4248118	5	0.4132632	5	0.4123564

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BK00052	Instrument:	NT3
Calibration Date:	11/15/2018 15:44	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Benzene	40	1.614875	80	1.649808								
Toluene	40	1.034964	80	1.053501								
Ethylbenzene	40	0.6904777	80	0.7321445								
m,p-Xylene	80	0.8567658	160	0.8836561								
o-Xylene	40	0.8489071	80	0.8962148								
1,2-Dichloroethane-d4	5	0.4927213	5	0.4885621								
1,2-Dichlorobenzene-d4	5	0.9095832	5	0.9112518								
Toluene-d8	5	1.128798	5	1.107545								
4-Bromofluorobenzene	5	0.4685863	5	0.4722498								
Dibromofluoromethane	5	0.4266581	5	0.4208958								

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BK00052	Instrument:	NT3
Calibration Date:	11/15/2018 15:44	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Benzene	1.794919	7.6			RSD (15)	
Toluene	1.099147	6.2			RSD (15)	
Ethylbenzene	0.7310325	4.6			RSD (15)	
m,p-Xylene	0.8885311	5.2			RSD (15)	
o-Xylene	0.8831666	6.6			RSD (15)	
1,2-Dichloroethane-d4	0.4924888	1.0			RSD (15)	
1,2-Dichlorobenzene-d4	0.9073576	1.4			RSD (15)	
Toluene-d8	1.138809	1.4			RSD (15)	
4-Bromofluorobenzene	0.4527383	2.8			RSD (15)	
Dibromofluoromethane	0.4187218	1.6			RSD (15)	

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BK00052
Lab File ID:	V311151816.D	Calibration Date:	11/15/18 15:44
Sequence:	SGK0262	Injection Date:	11/15/18
Lab Sample ID:	SGK0262-SCV1	Injection Time:	16:59
Sequence Name:	8260C SCV 10		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Benzene	A	10.000	9.69	1.7949190	1.7395900	0.5	-3.1	20
Toluene	A	10.000	10.2	1.0991470	1.1163310	0.4	1.6	20
Ethylbenzene	A	10.000	10.3	0.7310325	0.7503201	0.1	2.6	20
m,p-Xylene	A	20.000	20.8	0.8885311	0.9256514	0.1	4.2	20
o-Xylene	A	10.000	10.3	0.8831666	0.9058410	0.3	2.6	20
Dibromofluoromethane	A	5.0000	4.93	0.4187218	0.4131265		-1.3	20
1,2-Dichloroethane-d4	A	5.0000	5.02	0.4924888	0.4944107		0.4	20
Toluene-d8	A	5.0000	5.12	1.1388090	1.1668850		2.5	20
4-Bromofluorobenzene	A	5.0000	4.90	0.4527383	0.4439273		-1.9	20
1,2-Dichlorobenzene-d4	A	5.0000	4.94	0.9073576	0.8972038		-1.1	20

* Values outside of QC limits

LOW-CONCENTRATION
CONTINUING CALIBRATION CHECK
EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BK00052
Lab File ID:	V311301808.D	Calibration Date:	11/15/18 15:44
Sequence:	SGK0462	Injection Date:	11/30/18
Lab Sample ID:	SGK0462-LCV1	Injection Time:	12:48
Sequence Name:	VOA 1.0		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Benzene	A	1.0000	0.95	1.7949190	1.7112970	0.5	-4.7	
Toluene	A	1.0000	0.99	1.0991470	1.0885060	0.4	-1.0	
Ethylbenzene	A	1.0000	0.98	0.7310325	0.7198262	0.1	-1.5	
m,p-Xylene	A	2.0000	1.95	0.8885311	0.8661937	0.1	-2.5	
o-Xylene	A	1.0000	0.95	0.8831666	0.8391391	0.3	-5.0	
Dibromofluoromethane	A	5.0000	5.11	0.4187218	0.4279929		2.2	
1,2-Dichloroethane-d4	A	5.0000	5.12	0.4924888	0.5044222		2.4	
Toluene-d8	A	5.0000	4.93	1.1388090	1.1235890		-1.3	
4-Bromofluorobenzene	A	5.0000	5.10	0.4527383	0.4620107		2.0	
1,2-Dichlorobenzene-d4	A	5.0000	5.14	0.9073576	0.9328953		2.8	

* Values outside of QC limits

INITIAL CALIBRATION CHECK

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BK00052
Lab File ID:	V311301804.D	Calibration Date:	11/15/18 15:44
Sequence:	SGK0462	Injection Date:	11/30/18
Lab Sample ID:	SGK0462-ICV1	Injection Time:	11:04
Sequence Name:	VOA 10		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Benzene	A	10.000	10.9	1.7949190	1.9564040	0.5	9.0	20
Toluene	A	10.000	11.3	1.0991470	1.2449640	0.4	13.3	20
Ethylbenzene	A	10.000	10.9	0.7310325	0.7982937	0.1	9.2	20
m,p-Xylene	A	20.000	22.0	0.8885311	0.9777543	0.1	10.0	20
o-Xylene	A	10.000	10.8	0.8831666	0.9561656	0.3	8.3	20
Dibromofluoromethane	A	5.0000	5.07	0.4187218	0.4242782		1.3	20
1,2-Dichloroethane-d4	A	5.0000	4.78	0.4924888	0.4711218		-4.3	20
Toluene-d8	A	5.0000	5.14	1.1388090	1.1716370		2.9	20
4-Bromofluorobenzene	A	5.0000	5.02	0.4527383	0.4545205		0.4	20
1,2-Dichlorobenzene-d4	A	5.0000	5.09	0.9073576	0.9237588		1.8	20

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGK0262	Instrument:	NT3
		Calibration:	BK00052

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGK0262-TUN1	V311151802.D	NA	11/15/18 09:11
8260C 0.2	SGK0262-CAL1	V311151807.D	NA	11/15/18 13:05
8260C 0.5	SGK0262-CAL2	V311151808.D	NA	11/15/18 13:31
8260C 1.0	SGK0262-CAL3	V311151809.D	NA	11/15/18 13:57
8260C 2.0	SGK0262-CAL4	V311151810.D	NA	11/15/18 14:23
8260C 10	SGK0262-CAL5	V311151811.D	NA	11/15/18 14:49
8260C 20	SGK0262-CAL6	V311151812.D	NA	11/15/18 15:15
8260C 40	SGK0262-CAL7	V311151813.D	NA	11/15/18 15:41
8260C 80	SGK0262-CAL8	V311151814.D	NA	11/15/18 16:07
8260C SCV 10	SGK0262-SCV1	V311151816.D	NA	11/15/18 16:59

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGK0462	Instrument:	NT3
		Calibration:	BK00052

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGK0462-TUN1	V311301803.D	NA	11/30/18 10:26
VOA 10	SGK0462-ICV1	V311301804.D	NA	11/30/18 11:04
LCS	BGK0728-BS1	V311301804LCS.D	Water	11/30/18 11:04
LCS Dup	BGK0728-BSD1	V311301805.D	Water	11/30/18 11:30
VOA 1.0	SGK0462-LCV1	V311301808.D	NA	11/30/18 12:48
Blank	BGK0728-BLK1	V311301809.D	Water	11/30/18 13:14
ZZZZZ	18K0413-01RE1	V311301810.D	Water	11/30/18 13:40
TB-181119	18K0439-03	V311301817.D	Water	11/30/18 16:43
MW-4-181129	18K0439-01	V311301820.D	Water	11/30/18 18:01
ZZZZZ	18K0428-01	V311301821.D	Water	11/30/18 18:27
ZZZZZ	18K0454-01	V311301822.D	Water	11/30/18 18:53
CCV	SGK0462-CCV1	V311301824.D	NA	11/30/18 19:45

Analysis	Matrix	Method
8260C VOA	Water	EPA 8260C

Checklist for SEQUENCE SGK0462

Checklist: Analyst Checklist-VOA(rev3)

#	Checklist Item	Response	Analyst Initials	Date
1	Samples have no Bubbles/Headspace of note for all Workorders	YES	PKC	11/30/2018
2	PH <=2 / 5035 Preserved for all Workorders	YES	PKC	11/30/2018
3	BFB abundance and time criteria met	YES	PKC	11/30/2018
4	Narrate all Internal Standard areas not within 50-200% for all affected Workorders	NA	PKC	11/30/2018
5	Retention times within windows and coelution summary checked for all Workorders	YES	PKC	11/30/2018
6	Rationale provided for all manual Integrations not done for baseline corrections per SOP 1021s	YES	PKC	11/30/2018
	Comments: *Manual integrations to correct for partial integrations by automated software.*			
7	Narrate any Workorders where the Project specific requirements have not been met	NA	PKC	11/30/2018
8	Trip Blank, Field Blank and (or) Holding Blank are below MRL for all Analytes	NA	PKC	11/30/2018
9	Narrate Samples per Workorder that will require more than one analysis to be reported due to dilutions or re-analysis	YES	PKC	11/30/2018
	Comments: *18K0413-01 was initially overdiluted. 200x run reported for rush data. Reanalysis is at 50x. 18K0454-01 is overrange.*			
10	Verify that all samples requiring a dilution or re-analysis have been added to another batch or sequence	YES	PKC	11/30/2018
11	Extraction basis, sample prep, dilution factor, and total solids are correctly entered.	YES	PKC	11/30/2018
	Comments: *18K0454-01RE1 in BKL0024*			
12	AUTOCHECK: Blank checked for exceedence of criteria	NO *	PKC	11/30/2018
	Comments: *QC Sample BGK0728-BLK1 failed criteria for 1,2,3-Trichlorobenzene in 8260C VOA. MDL = 0.11 ug/L MRL = 0.50 ug/L Result = 0.54 ug/L Criterion = 1 x MRL - Flagged value is not within established control limits.*			
		QC Sample BGK0728-BLK1 failed criteria for Naphthalene in 8260C VOA. MDL = 0.12 ug/L MRL = 0.50 ug/L Result = 0.67 ug/L Criterion = 1 x MRL - Flagged value is not within established control limits.		
		Samples in this batch do not request these analytes.		
13	AUTOCHECK: Check blank spike recovery	NO *	PKC	11/30/2018

* = Indicates Automated Response from Element DataSyst

Checklist for SEQUENCE SGK0462

Checklist: Analyst Checklist-VOA(rev3)

#	Checklist Item	Response		Analyst Initials	Date
	Comments: *LCS Recovery for Acrolein (32.6%) was outside acceptance limits (52-144) in BGK0728-BS1 for 8260C VOA* *- Flagged value is not within established control limits.* *- Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)* *LCS Recovery for Hexachloro-1,3-Butadiene (129%) was outside acceptance limits (58-123) in BGK0728-BS1 for 8260C VOA* *- Flagged value is not within established control limits.* *- Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)* *LCS Recovery for Naphthalene (147%) was outside acceptance limits (50-134) in BGK0728-BS1 for 8260C VOA* *- Flagged value is not within established control limits.* *- This analyte was detected in the method blank.* *- Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)* *LCS Recovery for Acrolein (40.5%) was outside acceptance limits (52-144) in BGK0728-BSD1 for 8260C VOA* *- Flagged value is not within established control limits.* *- Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)* *Samples in this batch do not request these analytes.*				
14	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	YES	*	PKC	11/30/2018
15	AUTOCHECK: Compounds in method designated as blank spike compounds are present	YES	*	PKC	11/30/2018
16	AUTOCHECK: Check %RPD between sample and sample duplicate	NA	*	PKC	11/30/2018
17	AUTOCHECK: Matrix spike recoveries within limits	NA	*	PKC	11/30/2018
18	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NA	*	PKC	11/30/2018
19	AUTOCHECK: List of compounds listed as spiked are present	NA	*	PKC	11/30/2018
20	AUTOCHECK: Check Surrogate recoveries	YES	*	PKC	11/30/2018
21	AUTOCHECK: Checks Surrogate spike list against Analysis	YES	*	PKC	11/30/2018
	Comments: *18K0439 list is BTEX only - should not require d4 1,2 dichloroethane or d4 1,2 dichlorobenzene.*				
22	Data locked, checklist completed and status is Analyzed (REVIEWER)	YES		BB	11/30/2018
23	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES		BB	11/30/2018
24	rev_DilutionCheck.rpt and rev_DilutionCheck.exe was run to verify multiple sample results are consistent (REVIEWER)				12/30/1899
25	List of samples in this sequence that will require additional runs-verify reshot created (ANALYST)	YES		PKC	12/03/2018

Checklist for SEQUENCE SGK0462

Checklist: Analyst Checklist-VOA(rev3)

#	Checklist Item	Response	Analyst Initials	Date
	Comments: *18K0454-01 is overrange.*			
26	List of samples in this sequence that are re-analysis or dilutions of samples (ANALYST)	YES	PKC	11/30/2018
	Comments: *18K0413-01 was overdiluted in initial analysis. 200x run reported for rush data. Reanalysis is at 50x.*			
27	Additional Notes (ANALYST and REVIEWER)	YES	PKC	11/30/2018
	Comments: *Partial sequence reported for rush data.*			

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGK0262	Instrument:	NT3
Calibration:	BK00052	Calibration Date:	11/15/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
SGK0262-SCV1 (Water)	Lab File ID: V311151816.D		Analyzed: 11/15/18 16:59	
1,2-Dichloroethane-d4	5.0000	100	80 - 120	
1,2-Dichlorobenzene-d4	5.0000	98.9	80 - 120	
Toluene-d8	5.0000	102	80 - 120	
4-Bromofluorobenzene	5.0000	98.1	80 - 120	
Dibromofluoromethane	5.0000	98.7	80 - 120	

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG/WO: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGK0462
Instrument: NT3
Calibration: BK00052
Calibration Date: 11/15/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
BGK0728-BS1 (Water)	Lab File ID: V311301804LCS.D		Analyzed: 11/30/18 11:04	
1,2-Dichloroethane-d4	5.0000	95.7	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	102	80 - 120	
Toluene-d8	5.0000	103	80 - 120	
4-Bromofluorobenzene	5.0000	100	80 - 120	
Dibromofluoromethane	5.0000	101	80 - 120	
SGK0462-ICV1 (Water)	Lab File ID: V311301804.D		Analyzed: 11/30/18 11:04	
1,2-Dichloroethane-d4	5.0000	95.7	80 - 120	
1,2-Dichlorobenzene-d4	5.0000	102	80 - 120	
Toluene-d8	5.0000	103	80 - 120	
4-Bromofluorobenzene	5.0000	100	80 - 120	
Dibromofluoromethane	5.0000	101	80 - 120	
BGK0728-BSD1 (Water)	Lab File ID: V311301805.D		Analyzed: 11/30/18 11:30	
1,2-Dichloroethane-d4	5.0000	100	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	98.9	80 - 120	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	102	80 - 120	
Dibromofluoromethane	5.0000	99.7	80 - 120	
SGK0462-LCV1 (Water)	Lab File ID: V311301808.D		Analyzed: 11/30/18 12:48	
1,2-Dichloroethane-d4	5.0000	102	0 - 200	
1,2-Dichlorobenzene-d4	5.0000	103	0 - 200	
Toluene-d8	5.0000	98.7	0 - 200	
4-Bromofluorobenzene	5.0000	102	0 - 200	
Dibromofluoromethane	5.0000	102	0 - 200	
BGK0728-BLK1 (Water)	Lab File ID: V311301809.D		Analyzed: 11/30/18 13:14	
1,2-Dichloroethane-d4	5.0000	106	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	104	80 - 120	
Toluene-d8	5.0000	98.7	80 - 120	
4-Bromofluorobenzene	5.0000	98.9	80 - 120	

SURROGATE RECOVERY SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG/WO: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGK0462
Instrument: NT3
Calibration: BK00052
Calibration Date: 11/15/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
18K0439-03 (Water)	Lab File ID: V311301817.D		Analyzed: 11/30/18 16:43	
1,2-Dichloroethane-d4	5.0000	101	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	103	80 - 120	
Toluene-d8	5.0000	102	80 - 120	
4-Bromofluorobenzene	5.0000	96.7	80 - 120	
18K0439-01 (Water)	Lab File ID: V311301820.D		Analyzed: 11/30/18 18:01	
1,2-Dichloroethane-d4	5.0000	102	80 - 129	
1,2-Dichlorobenzene-d4	5.0000	103	80 - 120	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	97.6	80 - 120	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGK0262	Instrument:	NT3
		Calibration:	BK00052

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SGK0262-SCV1)		(Water)		Lab File ID: V311151816.D				Analyzed: 11/15/18 16:59	
Pentafluorobenzene	134811	5.388	129003	5.387	105	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5	196816	7.812	184898	7.817	106	50 - 200	0.0050	+/-0.50	
1,4-Difluorobenzene	197531	5.771	186302	5.77	106	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	114012	9.507	109281	9.507	104	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGK0462
Instrument: NT3
Calibration: BK00052

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BGK0728-BS1)		(Water)	Lab File ID: V311301804LCS.D				Analyzed: 11/30/18 11:04		
Pentafluorobenzene	130306	5.389	129003		101	50 - 200		+/-0.50	
Chlorobenzene-d5	196330	7.812	184898		106	50 - 200		+/-0.50	
1,4-Difluorobenzene	191783	5.771	186302		103	50 - 200		+/-0.50	
1,4-Dichlorobenzene-d4	113941	9.508	109281		104	50 - 200		+/-0.50	
Initial Cal Check (SGK0462-ICV1)		(Water)	Lab File ID: V311301804.D				Analyzed: 11/30/18 11:04		
Pentafluorobenzene	130306	5.389	129003	5.389	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	196330	7.812	184898	7.812	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	191783	5.771	186302	5.771	103	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	113941	9.508	109281	9.508	104	50 - 200	0.0000	+/-0.50	
LCS Dup (BGK0728-BSD1)		(Water)	Lab File ID: V311301805.D				Analyzed: 11/30/18 11:30		
Pentafluorobenzene	144767	5.388	129003	5.389	112	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	215560	7.817	184898	7.812	117	50 - 200	-0.0050	+/-0.50	
1,4-Difluorobenzene	214768	5.771	186302	5.771	115	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	128716	9.507	109281	9.508	118	50 - 200	0.0010	+/-0.50	
Low Cal Check (SGK0462-LCV1)		(Water)	Lab File ID: V311301808.D				Analyzed: 11/30/18 12:48		
Pentafluorobenzene	143479	5.388	129003	5.389	111	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	212718	7.817	184898	7.812	115	50 - 200	-0.0050	+/-0.50	
1,4-Difluorobenzene	217601	5.771	186302	5.771	117	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	127532	9.507	109281	9.508	117	50 - 200	0.0010	+/-0.50	
Blank (BGK0728-BLK1)		(Water)	Lab File ID: V311301809.D				Analyzed: 11/30/18 13:14		
Pentafluorobenzene	132997	5.388	129003	5.389	103	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	200185	7.817	184898	7.812	108	50 - 200	-0.0050	+/-0.50	
1,4-Difluorobenzene	199660	5.77	186302	5.771	107	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	116165	9.507	109281	9.508	106	50 - 200	0.0010	+/-0.50	
TB-181119 (18K0439-03)		(Water)	Lab File ID: V311301817.D				Analyzed: 11/30/18 16:43		
Pentafluorobenzene	134196	5.387	129003	5.389	104	50 - 200	0.0020	+/-0.50	
Chlorobenzene-d5	197813	7.816	184898	7.812	107	50 - 200	-0.0040	+/-0.50	
1,4-Difluorobenzene	193507	5.775	186302	5.771	104	50 - 200	-0.0040	+/-0.50	
1,4-Dichlorobenzene-d4	116149	9.507	109281	9.508	106	50 - 200	0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGK0462
Instrument: NT3
Calibration: BK00052

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
MW-4-181129 (18K0439-01)		(Water)		Lab File ID: V311301820.D				Analyzed: 11/30/18 18:01	
Pentafluorobenzene	136741	5.387	129003	5.389	106	50 - 200	0.0020	+/-0.50	
Chlorobenzene-d5	203118	7.816	184898	7.812	110	50 - 200	-0.0040	+/-0.50	
1,4-Difluorobenzene	198613	5.77	186302	5.771	107	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	118740	9.507	109281	9.508	109	50 - 200	0.0010	+/-0.50	
Calibration Check (SGK0462-CCV1)		(Water)		Lab File ID: V311301824.D				Analyzed: 11/30/18 19:45	
Pentafluorobenzene	140035	5.388	129003	5.389	109	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	205124	7.817	184898	7.812	111	50 - 200	-0.0050	+/-0.50	
1,4-Difluorobenzene	203970	5.771	186302	5.771	109	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	126451	9.507	109281	9.508	116	50 - 200	0.0010	+/-0.50	

HOLDING TIME SUMMARY

Analysis: EPA 8260C

Laboratory: Analytical Resources, Inc. SDG: 18K0439

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-181129 18K0439-01	11/29/18 13:50	11/30/18 10:50	11/30/18 12:53	0	14	11/30/18 18:01	1	14	
TB-181119 18K0439-03	11/29/18 00:00	11/30/18 10:50	11/30/18 12:53	1	14	11/30/18 16:43	2	14	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: NT3

Analyte	MDL	RL	Units
Benzene	0.03	0.20	ug/L
Toluene	0.04	0.20	ug/L
Ethylbenzene	0.04	0.20	ug/L
m,p-Xylene	0.05	0.40	ug/L
o-Xylene	0.03	0.20	ug/L

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MW-4-181129

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPHg

Gasoline Range Organics (GC/MS)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18K0439-01	SDG:	18K0439
Sampled:	11/29/18 13:50	Prepared:	11/30/18 12:53	File ID:	V311301820G.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	11/30/18 18:01
Batch:	BGK0728	Sequence:	SGL0003	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BK00055

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	5.04	101	80 - 120	
4-Bromofluorobenzene	5.0000	4.88	97.6	80 - 120	

Data File: \\target\share\chem1\nt3.i\20181130s.b\V311301820G.D

Date : 30-NOV-2018 18:01

Client ID:

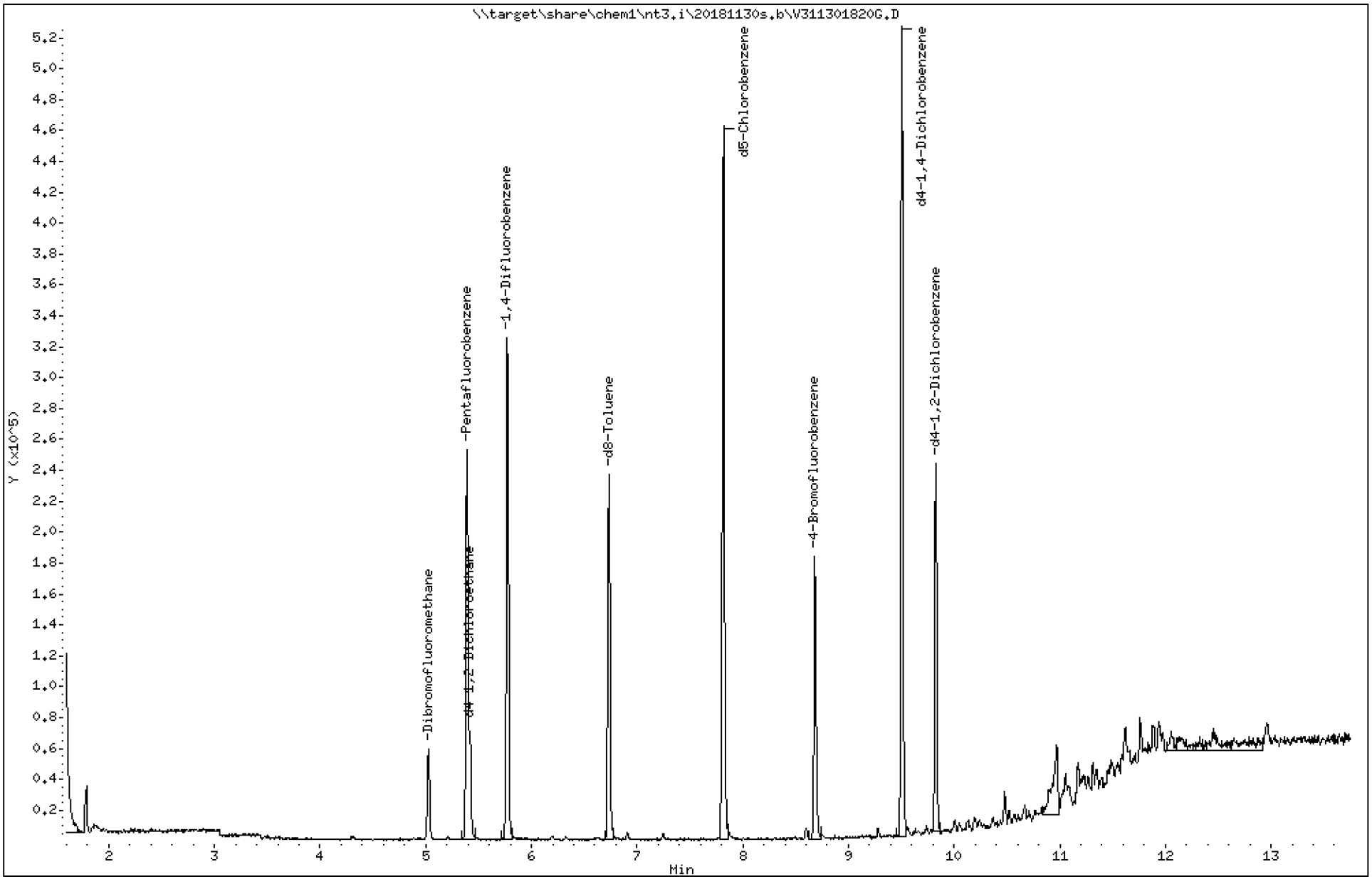
Sample Info: 18K0439-01

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC

Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20181130s.b\V311301820G.D
Lab Smp Id: 18K0439-01
Inj Date : 30-NOV-2018 18:01
Operator : PKC   Inst ID: nt3.i
Smp Info : 18K0439-01
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt3.i\20181130s.b\8260C111518.m
Meth Date : 03-Dec-2018 07:29 paul   Quant Type: ISTD
Cal Date : 15-NOV-2018 16:07   Cal File: V311151814.D
Als bottle: 55
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Concentration Formula: Amt * DF * Pv / Sa * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Pv	10.000	Purge Volume (mL)
Sa	10.000	Sample Amount (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$	27 Dibromofluoromethane	111	5.026	5.026	(0.933)	27912	4.87491	4.875
*	32 Pentafluorobenzene	168	5.387	5.388	(1.000)	136741	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.419	5.420	(1.006)	34260	5.08736	5.087
*	37 1,4-Difluorobenzene	114	5.770	5.771	(1.000)	198613	10.0000	
$	43 d8-Toluene	98	6.732	6.733	(1.167)	114024	5.04124	5.041
*	53 d5-Chlorobenzene	117	7.816	7.817	(1.000)	203118	10.0000	
$	62 4-Bromofluorobenzene	174	8.683	8.684	(1.111)	44897	4.88227	4.882
*	76 d4-1,4-Dichlorobenzene	152	9.507	9.507	(1.000)	118740	10.0000	
$	79 d4-1,2-Dichlorobenzene	152	9.826	9.826	(1.034)	55532	5.15428	5.154

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311301820G.D
Lab Smp Id: 18K0439-01
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20181130s.b\8260C111518.m
Misc Info: 15-

Calibration Date: 30-NOV-2018
Calibration Time: 19:45
Level: LOW
Sample Type: WATER

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	147446	73723	294892	136741	-7.26
37 1,4-Difluorobenze	212745	106373	425490	198613	-6.64
53 d5-Chlorobenzene	209493	104747	418986	203118	-3.04
76 d4-1,4-Dichlorobe	124316	62158	248632	118740	-4.49

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.39	4.89	5.89	5.39	-0.01
37 1,4-Difluorobenze	5.77	5.27	6.27	5.77	-0.01
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	-0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20151005
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 18K0439-01
Level: LOW Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20181130s.b\8260C111518.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	4.875	97.50	80-120
$ 33 d4-1,2-Dichloroeth	5.000	5.087	101.75	80-128
$ 43 d8-Toluene	5.000	5.041	100.82	80-120
$ 62 4-Bromofluorobenze	5.000	4.882	97.65	80-120
$ 79 d4-1,2-Dichloroben	5.000	5.154	103.09	80-120

REVIEW SUMMARY FOR FILE - V311301820G.D

Lab ID: 18K0439-01
nt3.i, 20181130s.b\8260C111518.m,   30-NOV-2018 18:01

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20181130g.b\V311301820G.D

Date : 30-NOV-2018 18:01

Client ID:

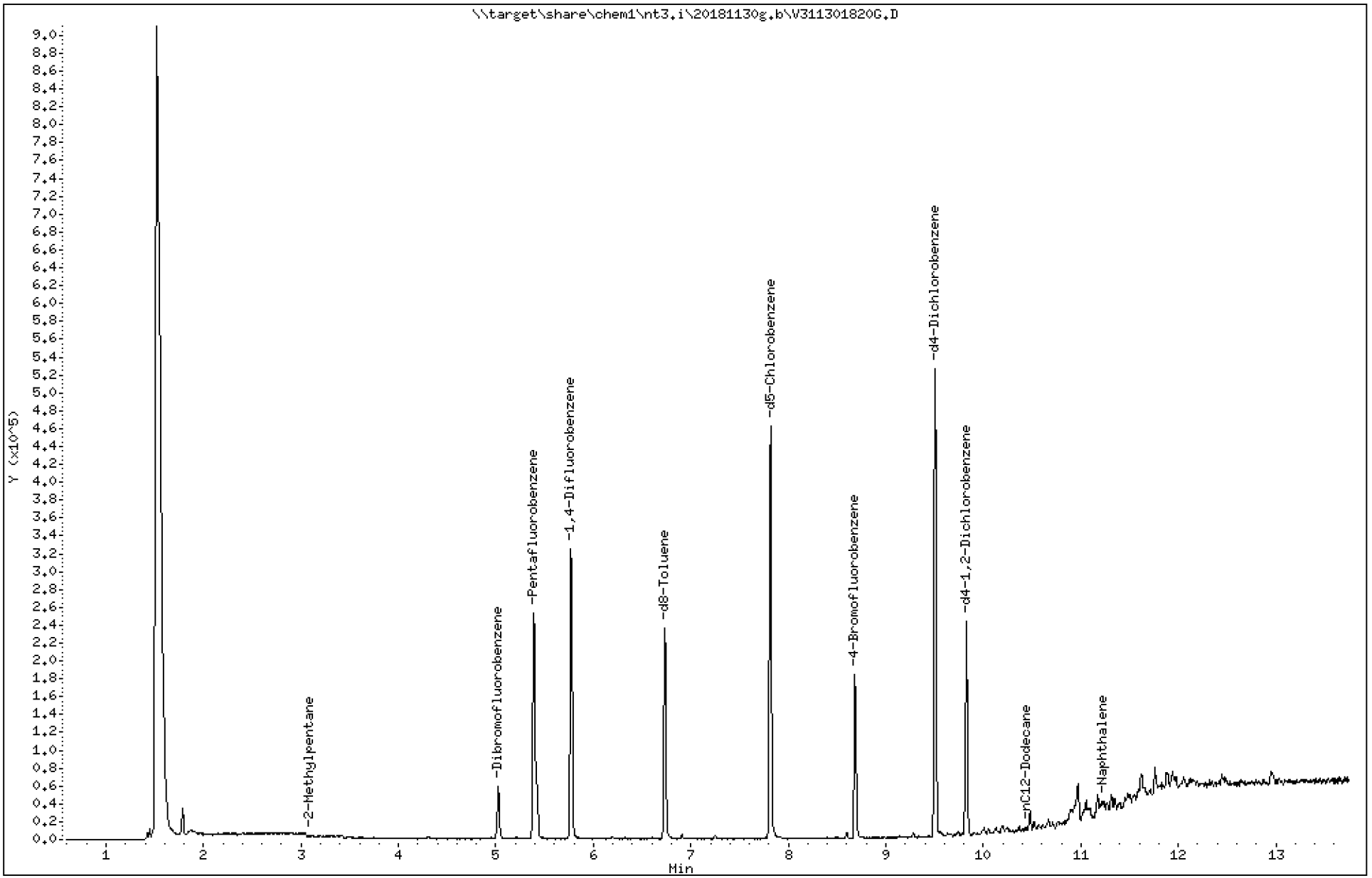
Instrument: nt3.i

Sample Info: 18K0439-01

Operator: PKC

Column phase: RTXVMS

Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20181130g.b/V311301820G.D
Method: \20181130g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 15-NOV-2018
Injection Date: 30-NOV-2018 18:01

ARI ID: 18K0439-01
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.67 to 10.53)	21550020	175450	0.008
8015C 2MP-TMB	(2.94 to 9.30)	43588865	61012	0.001
AK101 nC6-nC10	(3.62 to 8.65)	31854830	28735	0.001
NWTPHG Tol-Nap	(6.67 to 11.33)	22801860	493876	0.022
mod8015 nC7-nC12	(5.19 to 10.53)	33636390	175451	0.005

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.817	671949	d5-Chlorobenzene
6.732	339878	d8-Toluene
9.507	761367	d4-Dichlorobenzene
8.683	258534	4-Bromofluorobenzene
9.826	345715	d4-1,2-Dichlorobenzene

TB-181119

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPHg

Gasoline Range Organics (GC/MS)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18K0439-03	SDG:	18K0439
Sampled:	11/29/18 00:00	Prepared:	11/30/18 12:53	File ID:	V311301817G.D
% Solids:		Preparation:	EPA 5030 (Purge and Trap)	Analyzed:	11/30/18 16:43
Batch:	BGK0728	Sequence:	SGL0003	Initial/Final:	10 mL / 10 ml
Instrument:	NT3	Column:	RTX-VMS	Calibration:	BK00055

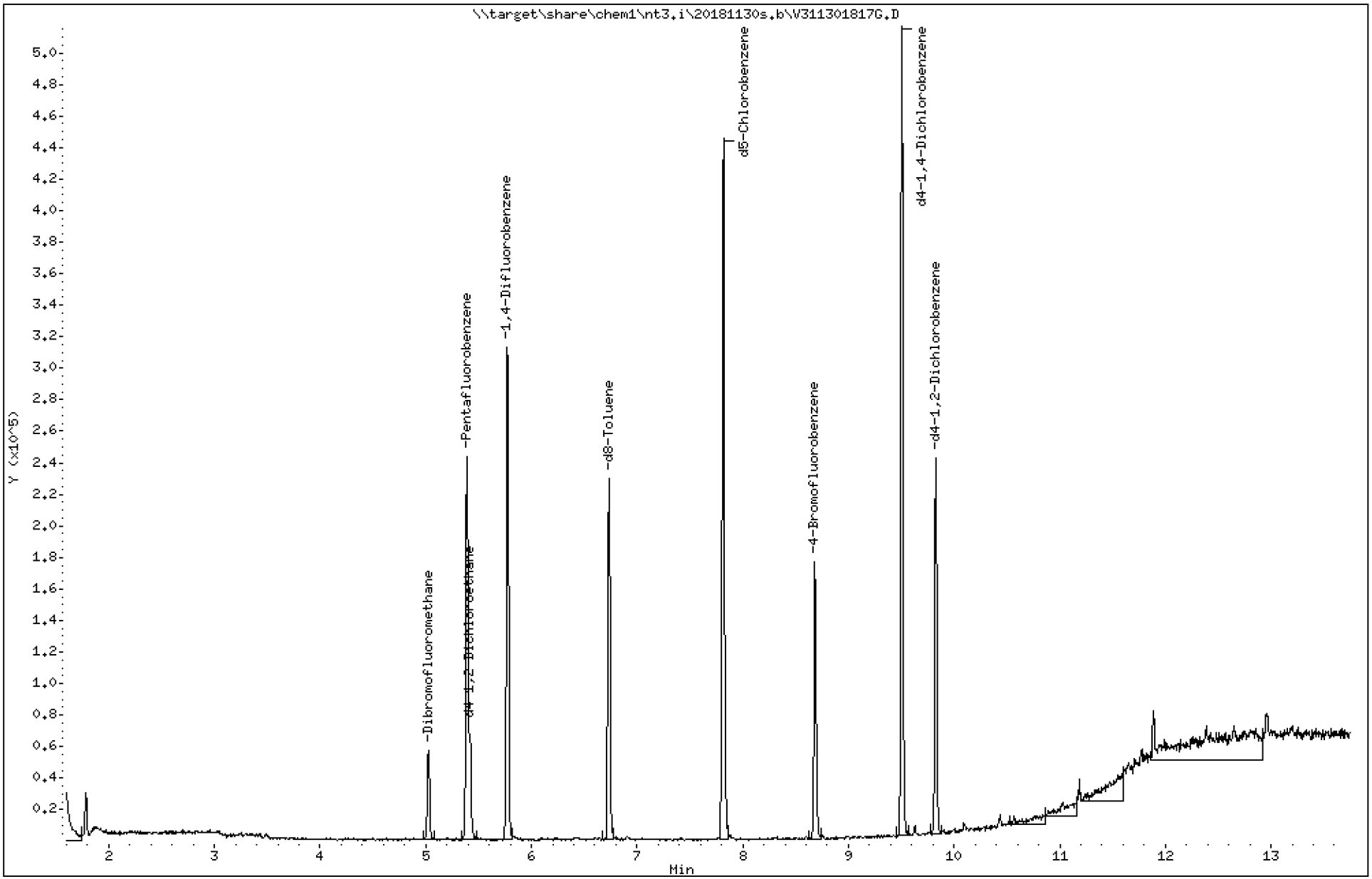
CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	5.09	102	80 - 120	
4-Bromofluorobenzene	5.0000	4.83	96.7	80 - 120	

Data File: \\target\share\chem1\nt3.i\20181130s.b\V311301817G.D
Date : 30-NOV-2018 16:43
Client ID:
Sample Info: 18K0439-03

Instrument: nt3.i

Operator: PKC
Column phase: RTXVMS
Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20181130s.b\V311301817G.D
Lab Smp Id: 18K0439-03
Inj Date : 30-NOV-2018 16:43
Operator : PKC   Inst ID: nt3.i
Smp Info : 18K0439-03
Misc Info : 15-
Comment   :
Method   : \\target\share\chem1\nt3.i\20181130s.b\8260C111518.m
Meth Date : 03-Dec-2018 07:29 paul   Quant Type: ISTD
Cal Date : 15-NOV-2018 16:07   Cal File: V311151814.D
Als bottle: 55
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Concentration Formula: Amt * DF * Pv / Sa * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Pv	10.000	Purge Volume (mL)
Sa	10.000	Sample Amount (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$	27 Dibromofluoromethane	111	5.026	5.026	(0.933)	28245	5.02662	5.027
*	32 Pentafluorobenzene	168	5.387	5.388	(1.000)	134196	10.0000	
$	33 d4-1,2-Dichloroethane	65	5.419	5.420	(1.006)	33301	5.03873	5.039
*	37 1,4-Difluorobenzene	114	5.775	5.771	(1.000)	193507	10.0000	
$	43 d8-Toluene	98	6.732	6.733	(1.166)	112109	5.08737	5.087
*	53 d5-Chlorobenzene	117	7.816	7.817	(1.000)	197813	10.0000	
$	62 4-Bromofluorobenzene	174	8.683	8.684	(1.111)	43289	4.83365	4.834
*	76 d4-1,4-Dichlorobenzene	152	9.507	9.507	(1.000)	116149	10.0000	
$	79 d4-1,2-Dichlorobenzene	152	9.826	9.826	(1.034)	54291	5.15150	5.152

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311301817G.D
Lab Smp Id: 18K0439-03
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20181130s.b\8260C111518.m
Misc Info: 15-

Calibration Date: 30-NOV-2018
Calibration Time: 19:45
Level: LOW
Sample Type: WATER

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	147446	73723	294892	134196	-8.99
37 1,4-Difluorobenze	212745	106373	425490	193507	-9.04
53 d5-Chlorobenzene	209493	104747	418986	197813	-5.58
76 d4-1,4-Dichlorobe	124316	62158	248632	116149	-6.57

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.39	4.89	5.89	5.39	-0.01
37 1,4-Difluorobenze	5.77	5.27	6.27	5.78	0.08
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	-0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20151005
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 18K0439-03
Level: LOW Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20181130s.b\8260C111518.m
Misc Info: 15-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.027	100.53	80-120
$ 33 d4-1,2-Dichloroeth	5.000	5.039	100.77	80-128
$ 43 d8-Toluene	5.000	5.087	101.75	80-120
$ 62 4-Bromofluorobenze	5.000	4.834	96.67	80-120
$ 79 d4-1,2-Dichloroben	5.000	5.152	103.03	80-120

REVIEW SUMMARY FOR FILE - V311301817G.D

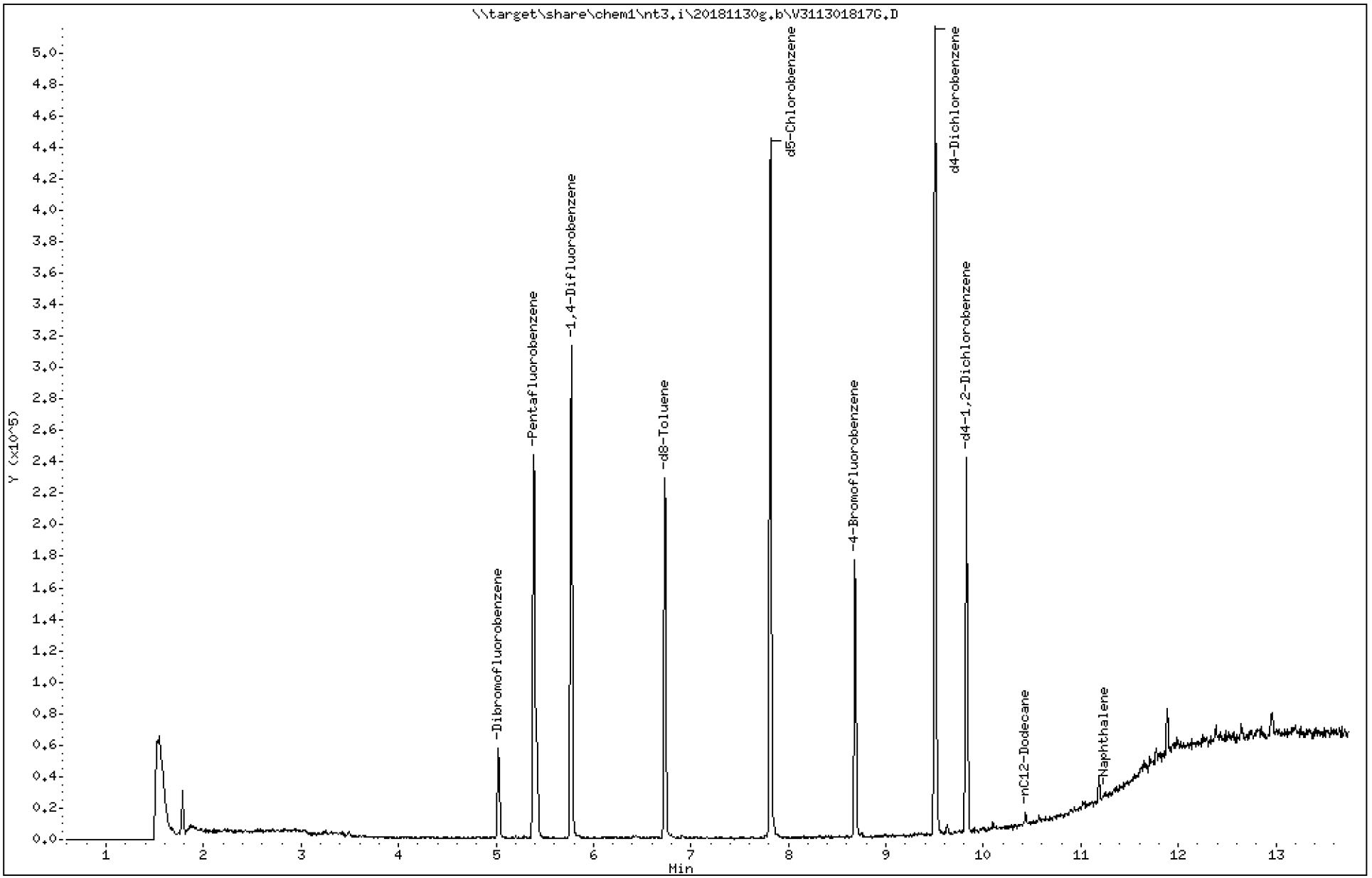
Lab ID: 18K0439-03
nt3.i, 20181130s.b\8260C111518.m,   30-NOV-2018 16:43

RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20181130g.b\V311301817G.D
Date : 30-NOV-2018 16:43
Client ID:
Sample Info: 18K0439-03

Instrument: nt3.i
Operator: PKC
Column diameter: 0.18

Column phase: RTXVMS



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20181130g.b/V311301817G.D
Method: \20181130g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 15-NOV-2018
Injection Date: 30-NOV-2018 16:43

ARI ID: 18K0439-03
Client ID:
Matrix: WATER
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

	Range	RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.67 to 10.53)	21550020	31324	0.001
8015C 2MP-TMB	(2.94 to 9.30)	43588865	8893	0.000
AK101 nC6-nC10	(3.62 to 8.65)	31854830	2519	0.000
NWTPHG Tol-Nap	(6.67 to 11.33)	22801860	90261	0.004
mod8015 nC7-nC12	(5.19 to 10.53)	33636390	31325	0.001

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.817	654751	d5-Chlorobenzene
6.733	330692	d8-Toluene
9.507	742359	d4-Dichlorobenzene
8.683	253868	4-Bromofluorobenzene
9.826	343868	d4-1,2-Dichlorobenzene

PREPARATION BATCH SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc. SDG: 18K0439

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGK0728 Batch Matrix: Water Preparation: EPA 5030 (Purge and Trap)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-181129	18K0439-01	V311301820G.D	11/30/18 12:53	
TB-181119	18K0439-03	V311301817G.D	11/30/18 12:53	
Blank	BGK0728-BLK2	V311301809GA.D	11/30/18 07:53	
LCS	BGK0728-BS2	V311301806GLCSA.D	11/30/18 07:53	
LCS Dup	BGK0728-BSD2	V311301807GA.D	11/30/18 07:53	

Form I

METHOD BLANK DATA SHEET

NWTPHg

Blank

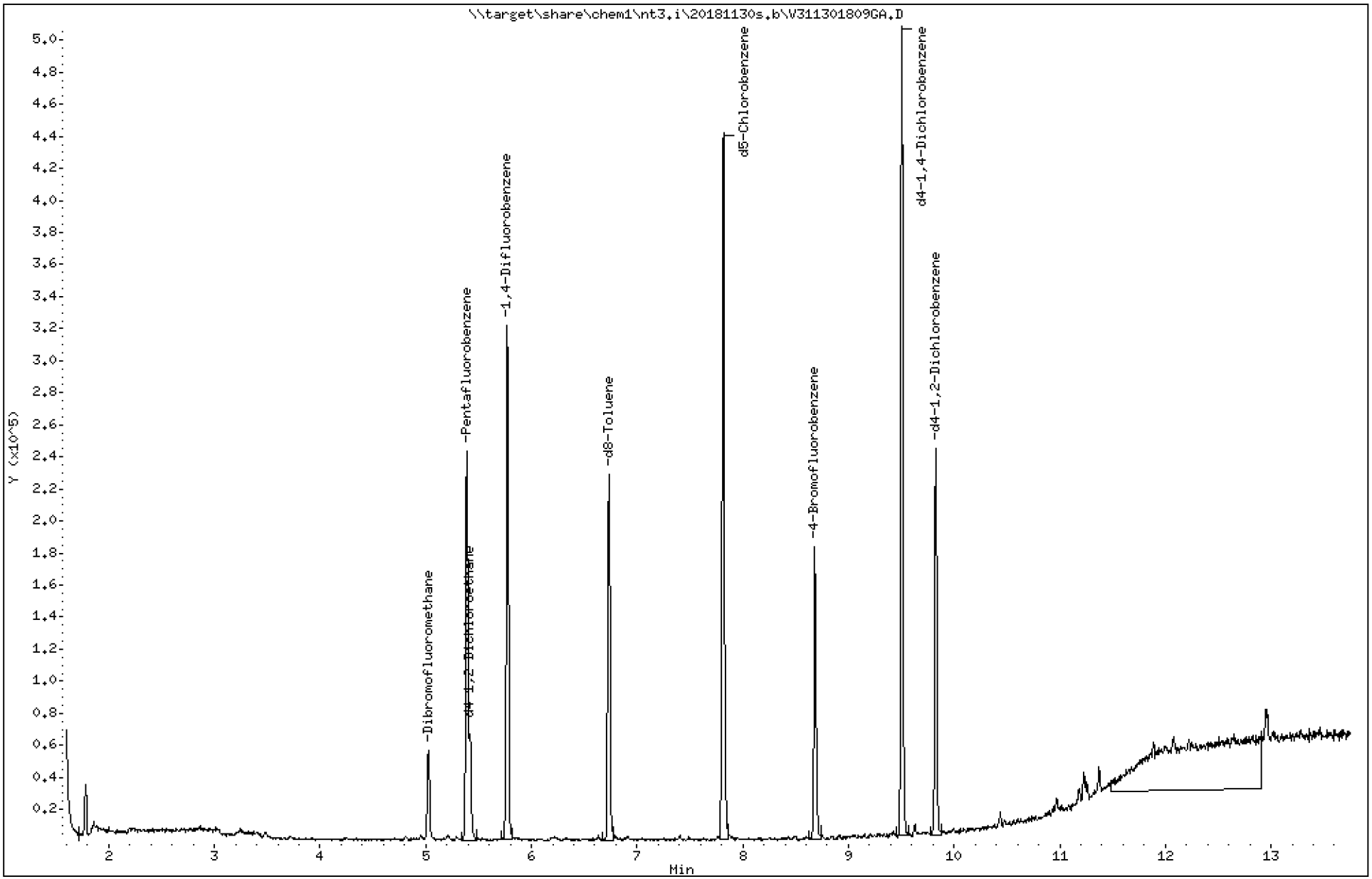
Laboratory:	Analytical Resources, Inc.			SDG:	18K0439
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGK0728-BLK2	File ID:	V311301809GA.D
Sampled:	N/A	Prepared:	11/30/18 07:53	Analyzed:	11/30/18 13:14
Solids:		Preparation:	EPA 5030 (Purge and Trap)	Initial/Final:	10 mL / 10 ml
Batch:	BGK0728	Sequence:	SGL0003	Calibration:	BK00055
Instrument:	NT3	Column:	RTX-VMS		

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
	Gasoline Range Organics (Tol-Nap)	1	100	U	13.6	100

SURROGATES	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	5.0000	4.94	98.7	80 - 120	
4-Bromofluorobenzene	5.0000	4.94	98.9	80 - 120	

Data File: \\target\share\chem1\nt3.i\20181130s.b\V311301809GA.D
Date : 30-NOV-2018 13:14
Client ID:
Sample Info: BGK0728-BLK2

Instrument: nt3.i
Operator: PKC
Column phase: RTXVMS
Column diameter: 0.18



ARI Labs, Inc.

8260C 10 ml purge

Data file : \\target\share\chem1\nt3.i\20181130s.b\V311301809GA.D
Lab Smp Id: BGK0728-BLK2
Inj Date : 30-NOV-2018 13:14
Operator : PKC Inst ID: nt3.i
Smp Info : BGK0728-BLK2
Misc Info : 16-
Comment :
Method : \\target\share\chem1\nt3.i\20181130s.b\8260C111518.m
Meth Date : 03-Dec-2018 07:29 paul Quant Type: ISTD
Cal Date : 15-NOV-2018 16:07 Cal File: V311151814.D
Als bottle: 55
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: gsurr.sub
Target Version: 4.14
Processing Host: ORGDATA11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 27 Dibromofluoromethane	111	5.026	5.026	(0.933)	28995	5.20662	5.207(R)
* 32 Pentafluorobenzene	168	5.388	5.388	(1.000)	132997	10.0000	
$ 33 d4-1,2-Dichloroethane	65	5.419	5.420	(1.006)	34878	5.32492	5.325(R)
* 37 1,4-Difluorobenzene	114	5.770	5.771	(1.000)	199660	10.0000	
$ 43 d8-Toluene	98	6.732	6.733	(1.167)	112260	4.93723	4.937(R)
* 53 d5-Chlorobenzene	117	7.817	7.817	(1.000)	200185	10.0000	
$ 62 4-Bromofluorobenzene	174	8.683	8.684	(1.111)	44799	4.94299	4.943(R)
* 76 d4-1,4-Dichlorobenzene	152	9.507	9.507	(1.000)	116165	10.0000	
$ 79 d4-1,2-Dichlorobenzene	152	9.826	9.826	(1.034)	54940	5.21237	5.212(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt3.i
Lab File ID: V311301809GA.D
Lab Smp Id: BGK0728-BLK2
Analysis Type: VOA
Quant Type: ISTD
Operator: PKC
Method File: \\target\share\chem1\nt3.i\20181130s.b\8260C111518.m
Misc Info: 16-

Calibration Date: 30-NOV-2018
Calibration Time: 19:45
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	147446	73723	294892	132997	-9.80
37 1,4-Difluorobenze	212745	106373	425490	199660	-6.15
53 d5-Chlorobenzene	209493	104747	418986	200185	-4.44
76 d4-1,4-Dichlorobe	124316	62158	248632	116165	-6.56

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
32 Pentafluorobenzen	5.39	4.89	5.89	5.39	-0.01
37 1,4-Difluorobenze	5.77	5.27	6.27	5.77	-0.01
53 d5-Chlorobenzene	7.82	7.32	8.32	7.82	-0.01
76 d4-1,4-Dichlorobe	9.51	9.01	10.01	9.51	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: 20150930a
Sample Matrix: NONE Fraction: VOA
Lab Smp Id: BGK0728-BLK2
Level: Operator: PKC
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: gsurr.sub
Method File: \\target\share\chem1\nt3.i\20181130s.b\8260C111518.m
Misc Info: 16-

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 27 Dibromofluorometha	5.000	5.207	104.13	
$ 33 d4-1,2-Dichloroeth	5.000	5.325	106.50	
$ 43 d8-Toluene	5.000	4.937	98.74	
$ 62 4-Bromofluorobenze	5.000	4.943	98.86	
$ 79 d4-1,2-Dichloroben	5.000	5.212	104.25	

REVIEW SUMMARY FOR FILE - V311301809GA.D

Lab ID: BGK0728-BLK2
nt3.i, 20181130s.b\8260C111518.m,   30-NOV-2018 13:14

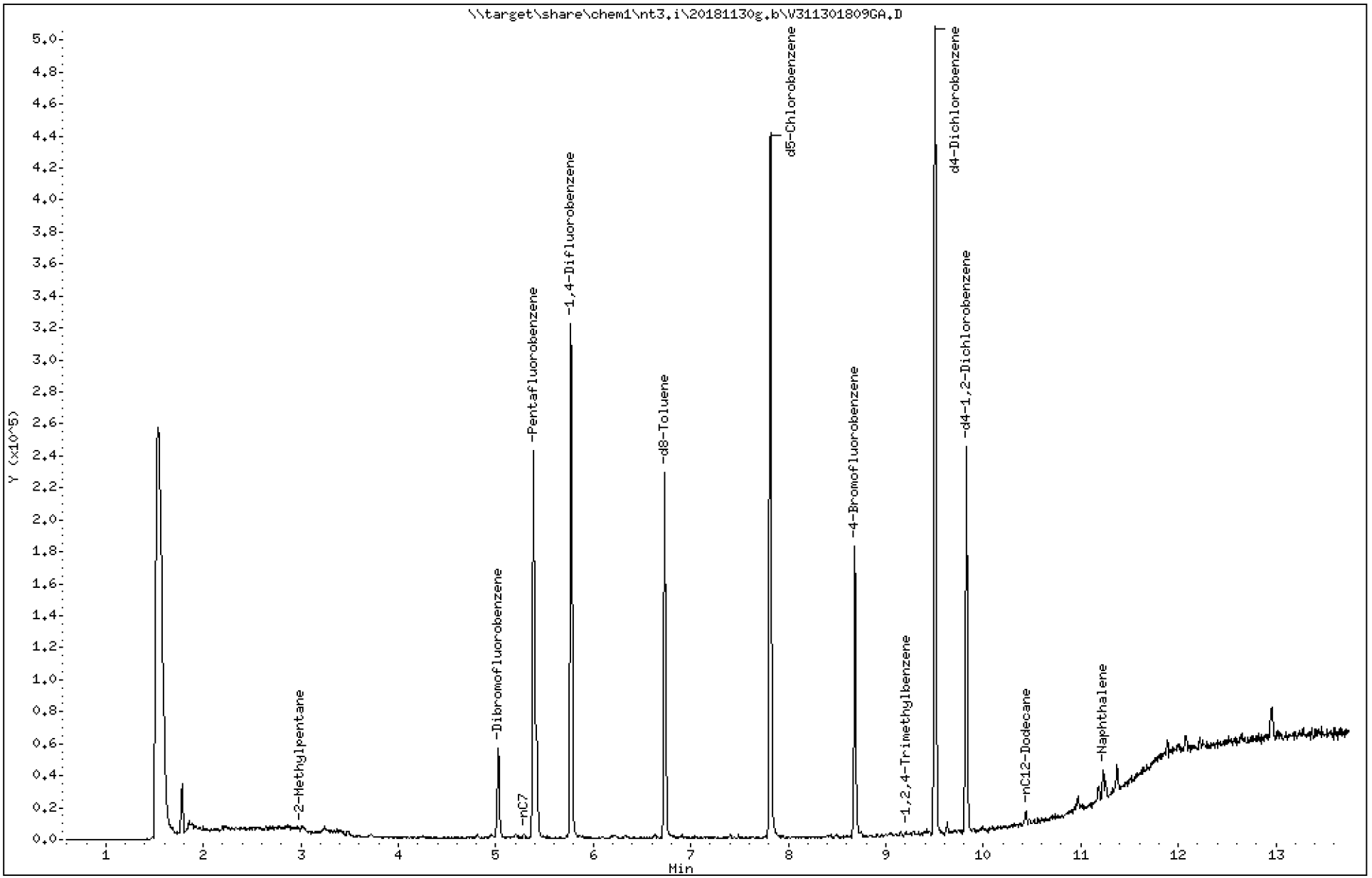
RT	CO-ELUTION COMPOUNDS

Data File: \\target\share\chem1\nt3.i\20181130g.b\V311301809GA.D
Date : 30-NOV-2018 13:14
Client ID:
Sample Info: BGK0728-BLK2

Column phase: RTXVMS

Instrument: nt3.i

Operator: PKC
Column diameter: 0.18



Analytical Resources Inc.
GC/MS Gas Quantitation Report

Data file: 20181130g.b/V311301809GA.D
Method: \20181130g.b\NWTPHG.m
Instrument: nt3.i
Gas Ical Date: 15-NOV-2018
Injection Date: 30-NOV-2018 13:14
ARI ID: BGK7280-BLK2
Client ID:
Matrix: NONE
Dilution Factor: 1.000
Operator: PKC

GASOLINE HYDROCARBONS

Range		RF	Total Area*	Amount (ug/mL)
WAGas Tol-C12	(6.67 to 10.53)	21550020	63876	0.003
8015C 2MP-TMB	(2.94 to 9.30)	43588865	48687	0.001
AK101 nC6-nC10	(3.62 to 8.65)	31854830	16301	0.001
NWTPHG Tol-Nap	(6.67 to 11.33)	22801860	162885	0.007
mod8015 nC7-nC12	(5.19 to 10.53)	33636390	67606	0.002

M Indicates manual integration within range

* Surrogate areas are subtracted from Total Area

NW Gas Range Subtracted Peaks

7.817	664930	d5-Chlorobenzene
6.733	328094	d8-Toluene
9.508	739351	d4-Dichlorobenzene
8.684	249673	4-Bromofluorobenzene
9.826	356498	d4-1,2-Dichlorobenzene

LCS / LCS DUPLICATE RECOVERY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	11/30/18 11:56
Batch:	BGK0728	Laboratory ID:	BGK0728-BS2
Preparation:	EPA 5030 (Purge and Trap)	Sequence Name:	LCS
Initial/Final:	10 mL / 10 ml		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Gasoline Range Organics (Tol-Nap)	1000	1080		108	72 - 128

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Gasoline Range Organics (Tol-Nap)	1000	1100		110	1.26	30	72 - 128

* Indicates values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V311151802G.D	Injection Date:	11/15/18
Instrument ID:	NT3	Injection Time:	09:11
Sequence:	SGK0275	Lab Sample ID:	SGK0275-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	32.5	PASS
75	30 - 80% of 95	52.5	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.4	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	94.9	PASS
175	5 - 9% of 174	6.57	PASS
176	95 - 101% of 174	98.5	PASS
177	5 - 9% of 176	6.51	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGK0275-TUN1	V311151802G.D	11/15/2018	9:11
Cal Standard	SGK0275-CAL9	V311151818G.D	11/15/2018	17:51
Cal Standard	SGK0275-CALA	V311151819G.D	11/15/2018	18:17
Cal Standard	SGK0275-CALB	V311151820G.D	11/15/2018	18:43
Cal Standard	SGK0275-CALC	V311151821G.D	11/15/2018	19:10
Cal Standard	SGK0275-CALD	V311151822G.D	11/15/2018	19:36
Secondary Cal Check	SGK0275-SCV2	V311151824G.D	11/15/2018	20:28
Secondary Cal Check	SGK0275-SCV3	V311151825G.D	11/15/2018	20:54

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Lab File ID:	V311301803G.D	Injection Date:	11/30/18
Instrument ID:	NT3	Injection Time:	10:26
Sequence:	SGL0003	Lab Sample ID:	SGL0003-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	30.3	PASS
75	30 - 80% of 95	49.9	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.73	PASS
173	Less than 2% of 174	0.446	PASS
174	50 - 120% of 95	92.9	PASS
175	5 - 9% of 174	7.05	PASS
176	95 - 101% of 174	99	PASS
177	5 - 9% of 176	7.15	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGL0003-TUN1	V311301803G.D	11/30/2018	10:26
LCS	BGK0728-BS2	V311301806GLCSA.D	11/30/2018	11:56
Initial Cal Check	SGL0003-ICV1	V311301806G.D	11/30/2018	11:56
LCS Dup	BGK0728-BSD2	V311301807GA.D	11/30/2018	12:22
Blank	BGK0728-BLK2	V311301809GA.D	11/30/2018	13:14
TB-181119	18K0439-03	V311301817G.D	11/30/2018	16:43
MW-4-181129	18K0439-01	V311301820G.D	11/30/2018	18:01
Calibration Check	SGL0003-CCV1	V311301823G.D	11/30/2018	19:19

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BK00055	Instrument:	NT3
Calibration Date:	11/15/2018 10:39	Column (1):	RTX-VMS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Toluene-d8	5	1.161751	5	1.138491	5	1.143669	5	1.15243	5	1.135575	5	1.142212
4-Bromofluorobenzene	5	0.4366222	5	0.4431508	5	0.4587777	5	0.4445586	5	0.4537526	5	0.4442082

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BK00055	Instrument:	NT3
Calibration Date:	11/15/2018 10:39	Column (1):	RTX-VMS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)					100	19667.57	250	20751.57	500	22195.76	2500	24190.25
Toluene-d8	5	1.128798	5	1.107545								
4-Bromofluorobenzene	5	0.4685863	5	0.4722498								

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BK00055	Instrument:	NT3
Calibration Date:	11/15/2018 10:39	Column (1):	RTX-VMS

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Gasoline Range Organics (Tol-Nap)	5000	27204.12										

INITIAL CALIBRATION DATA

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BK00055	Instrument:	NT3
Calibration Date:	11/15/2018 10:39	Column (1):	RTX-VMS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Gasoline Range Organics (Tol-Nap)	22801.85	13.1			RSD (15)	
Toluene-d8	1.138809	1.4			RSD (15)	
4-Bromofluorobenzene	0.4527383	2.8			RSD (15)	

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BK00055
Lab File ID:	V311151824G.D	Calibration Date:	11/15/18 10:39
Sequence:	SGK0275	Injection Date:	11/15/18
Lab Sample ID:	SGK0275-SCV2	Injection Time:	20:28
Sequence Name:	SPEX Gas SCV 1.0		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Gasoline Range Organics (Tol-Nap)	A	1000.0	1250	22801.85	28535.73		25.1	20 *
Toluene-d8	A	5.0000	4.93	1.1388090	1.1224020		-1.4	
4-Bromofluorobenzene	A	5.0000	5.06	0.4527383	0.4578467		1.1	

* Values outside of QC limits

* Values outside of QC limits

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BK00055
Lab File ID:	V311151825G.D	Calibration Date:	11/15/18 10:39
Sequence:	SGK0275	Injection Date:	11/15/18
Lab Sample ID:	SGK0275-SCV3	Injection Time:	20:54
Sequence Name:	ACCUSTD Gas SCV 1.0		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Gasoline Range Organics (Tol-Nap)	A	1000.0	1130	22801.85	25764.43		13.0	20
Toluene-d8	A	5.0000	5.09	1.1388090	1.1601100		1.9	
4-Bromofluorobenzene	A	5.0000	5.06	0.4527383	0.4585225		1.3	

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	NT3	Calibration:	BK00055
Lab File ID:	V311301806G.D	Calibration Date:	11/15/18 10:39
Sequence:	SGL0003	Injection Date:	11/30/18
Lab Sample ID:	SGL0003-ICV1	Injection Time:	11:56
Sequence Name:	ICV		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Gasoline Range Organics (Tol-Nap)	A	1000.0	1080	22801.8500	24712.9600		8.4	20
Toluene-d8	A	5.0000	5.05	1.1388090	1.1501960		1.0	
4-Bromofluorobenzene	A	5.0000	4.99	0.4527383	0.4517760		-0.2	

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGK0275	Instrument:	NT3
		Calibration:	BK00055

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGK0275-TUN1	V311151802G.D	NA	11/15/18 09:11
Gas 0.1	SGK0275-CAL9	V311151818G.D	NA	11/15/18 17:51
Gas 0.25	SGK0275-CALA	V311151819G.D	NA	11/15/18 18:17
Gas 0.5	SGK0275-CALB	V311151820G.D	NA	11/15/18 18:43
Gas 2.5	SGK0275-CALC	V311151821G.D	NA	11/15/18 19:10
Gas 5.0	SGK0275-CALD	V311151822G.D	NA	11/15/18 19:36
SPEX Gas SCV 1.0	SGK0275-SCV2	V311151824G.D	NA	11/15/18 20:28
ACCUSTD Gas SCV 1.0	SGK0275-SCV3	V311151825G.D	NA	11/15/18 20:54

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGL0003	Instrument:	NT3
		Calibration:	BK00055

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
BFB	SGL0003-TUN1	V311301803G.D	NA	11/30/18 10:26
ICV	SGL0003-ICV1	V311301806G.D	NA	11/30/18 11:56
LCS	BGK0728-BS2	V311301806GLCSA.D	Water	11/30/18 11:56
LCS Dup	BGK0728-BSD2	V311301807GA.D	Water	11/30/18 12:22
Blank	BGK0728-BLK2	V311301809GA.D	Water	11/30/18 13:14
TB-181119	18K0439-03	V311301817G.D	Water	11/30/18 16:43
MW-4-181129	18K0439-01	V311301820G.D	Water	11/30/18 18:01
CCV	SGL0003-CCV1	V311301823G.D	NA	11/30/18 19:19

SURROGATE RECOVERY SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG/WO: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGK0275
Instrument: NT3
Calibration: BK00055
Calibration Date: 11/15/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
SGK0275-SCV2 (Solid)	Lab File ID: V311151824G.D		Analyzed: 11/15/18 20:28	
Toluene-d8	5.0000	98.6	0 - 200	
4-Bromofluorobenzene	5.0000	101	0 - 200	
SGK0275-SCV3 (Solid)	Lab File ID: V311151825G.D		Analyzed: 11/15/18 20:54	
Toluene-d8	5.0000	102	0 - 200	
4-Bromofluorobenzene	5.0000	101	0 - 200	

SURROGATE RECOVERY SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGL0003	Instrument:	NT3
Calibration:	BK00055	Calibration Date:	11/15/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	Q
BGK0728-BS2 (Water)	Lab File ID: V311301806GLCSA.D		Analyzed: 11/30/18 11:56	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	99.8	80 - 120	
SGL0003-ICV1 (Solid)	Lab File ID: V311301806G.D		Analyzed: 11/30/18 11:56	
Toluene-d8	5.0000	101	0 - 200	
4-Bromofluorobenzene	5.0000	99.8	0 - 200	
BGK0728-BSD2 (Water)	Lab File ID: V311301807GA.D		Analyzed: 11/30/18 12:22	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	101	80 - 120	
BGK0728-BLK2 (Water)	Lab File ID: V311301809GA.D		Analyzed: 11/30/18 13:14	
Toluene-d8	5.0000	98.7	80 - 120	
4-Bromofluorobenzene	5.0000	98.9	80 - 120	
18K0439-03 (Water)	Lab File ID: V311301817G.D		Analyzed: 11/30/18 16:43	
Toluene-d8	5.0000	102	80 - 120	
4-Bromofluorobenzene	5.0000	96.7	80 - 120	
18K0439-01 (Water)	Lab File ID: V311301820G.D		Analyzed: 11/30/18 18:01	
Toluene-d8	5.0000	101	80 - 120	
4-Bromofluorobenzene	5.0000	97.6	80 - 120	

INTERNAL STANDARD AREA AND RT SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGK0275	Instrument:	NT3
		Calibration:	BK00055

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SGK0275-SCV2)		(Solid)		Lab File ID: V311151824G.D				Analyzed: 11/15/18 20:28	
Pentafluorobenzene	157602	5.383	147446	5.388	107	50 - 200	0.0050	+/-0.50	
Chlorobenzene-d5	219947	7.812	209493	7.817	105	50 - 200	0.0050	+/-0.50	
1,4-Difluorobenzene	231655	5.771	212745	5.77	109	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	125494	9.508	124316	9.507	101	50 - 200	-0.0010	+/-0.50	
Secondary Cal Check (SGK0275-SCV3)		(Solid)		Lab File ID: V311151825G.D				Analyzed: 11/15/18 20:54	
Pentafluorobenzene	153494	5.387	147446	5.388	104	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	222410	7.816	209493	7.817	106	50 - 200	0.0010	+/-0.50	
1,4-Difluorobenzene	226544	5.77	212745	5.77	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	125856	9.507	124316	9.507	101	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGL0003
Instrument: NT3
Calibration: BK00055

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BGK0728-BS2)		(Water)	Lab File ID: V311301806GLCSA.D					Analyzed: 11/30/18 11:56	
Pentafluorobenzene	140356	5.387	147446		95	50 - 200		+/-0.50	
Chlorobenzene-d5	208081	7.817	209493		99	50 - 200		+/-0.50	
1,4-Difluorobenzene	213388	5.77	212745		100	50 - 200		+/-0.50	
1,4-Dichlorobenzene-d4	123518	9.507	124316		99	50 - 200		+/-0.50	
Initial Cal Check (SGL0003-ICV1)		(Solid)	Lab File ID: V311301806G.D					Analyzed: 11/30/18 11:56	
Pentafluorobenzene	140356	5.387	147446	5.387	95	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	208081	7.817	209493	7.817	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	213388	5.77	212745	5.77	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	123518	9.507	124316	9.507	99	50 - 200	0.0000	+/-0.50	
LCS Dup (BGK0728-BSD2)		(Water)	Lab File ID: V311301807GA.D					Analyzed: 11/30/18 12:22	
Pentafluorobenzene	131075	5.387	147446	5.387	89	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	195069	7.816	209493	7.817	93	50 - 200	0.0010	+/-0.50	
1,4-Difluorobenzene	199932	5.77	212745	5.77	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	116650	9.507	124316	9.507	94	50 - 200	0.0000	+/-0.50	
Blank (BGK0728-BLK2)		(Water)	Lab File ID: V311301809GA.D					Analyzed: 11/30/18 13:14	
Pentafluorobenzene	132997	5.388	147446	5.387	90	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5	200185	7.817	209493	7.817	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	199660	5.77	212745	5.77	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	116165	9.507	124316	9.507	93	50 - 200	0.0000	+/-0.50	
TB-181119 (18K0439-03)		(Water)	Lab File ID: V311301817G.D					Analyzed: 11/30/18 16:43	
Pentafluorobenzene	134196	5.387	147446	5.387	91	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	197813	7.816	209493	7.817	94	50 - 200	0.0010	+/-0.50	
1,4-Difluorobenzene	193507	5.775	212745	5.77	91	50 - 200	-0.0050	+/-0.50	
1,4-Dichlorobenzene-d4	116149	9.507	124316	9.507	93	50 - 200	0.0000	+/-0.50	
MW-4-181129 (18K0439-01)		(Water)	Lab File ID: V311301820G.D					Analyzed: 11/30/18 18:01	
Pentafluorobenzene	136741	5.387	147446	5.387	93	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	203118	7.816	209493	7.817	97	50 - 200	0.0010	+/-0.50	
1,4-Difluorobenzene	198613	5.77	212745	5.77	93	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	118740	9.507	124316	9.507	96	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

NWTPHg

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGL0003	Instrument:	NT3
		Calibration:	BK00055

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (SGL0003-CCV1)		(Solid)		Lab File ID: V311301823G.D				Analyzed: 11/30/18 19:19	
Pentafluorobenzene	136169	5.387	147446	5.387	92	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	206310	7.816	209493	7.817	98	50 - 200	0.0010	+/-0.50	
1,4-Difluorobenzene	203547	5.77	212745	5.77	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	124344	9.506	124316	9.507	100	50 - 200	0.0010	+/-0.50	

HOLDING TIME SUMMARY

Analysis: NWTPHg

Laboratory: Analytical Resources, Inc. SDG: 18K0439

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-181129 18K0439-01	11/29/18 13:50	11/30/18 10:50	11/30/18 12:53	0	14	11/30/18 18:01	1	14	
TB-181119 18K0439-03	11/29/18 00:00	11/30/18 10:50	11/30/18 12:53	1	14	11/30/18 16:43	2	14	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Solid
Instrument: NT3

Analyte	MDL	RL	Units
Gasoline Range Organics (Tol-Nap)	2500	5000	ug/kg

METHOD DETECTION AND REPORTING LIMITS

NWTPHg

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: NT3

Analyte	MDL	RL	Units
Gasoline Range Organics (Tol-Nap)	13.6	100	ug/L

MW-4-181129

Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables)

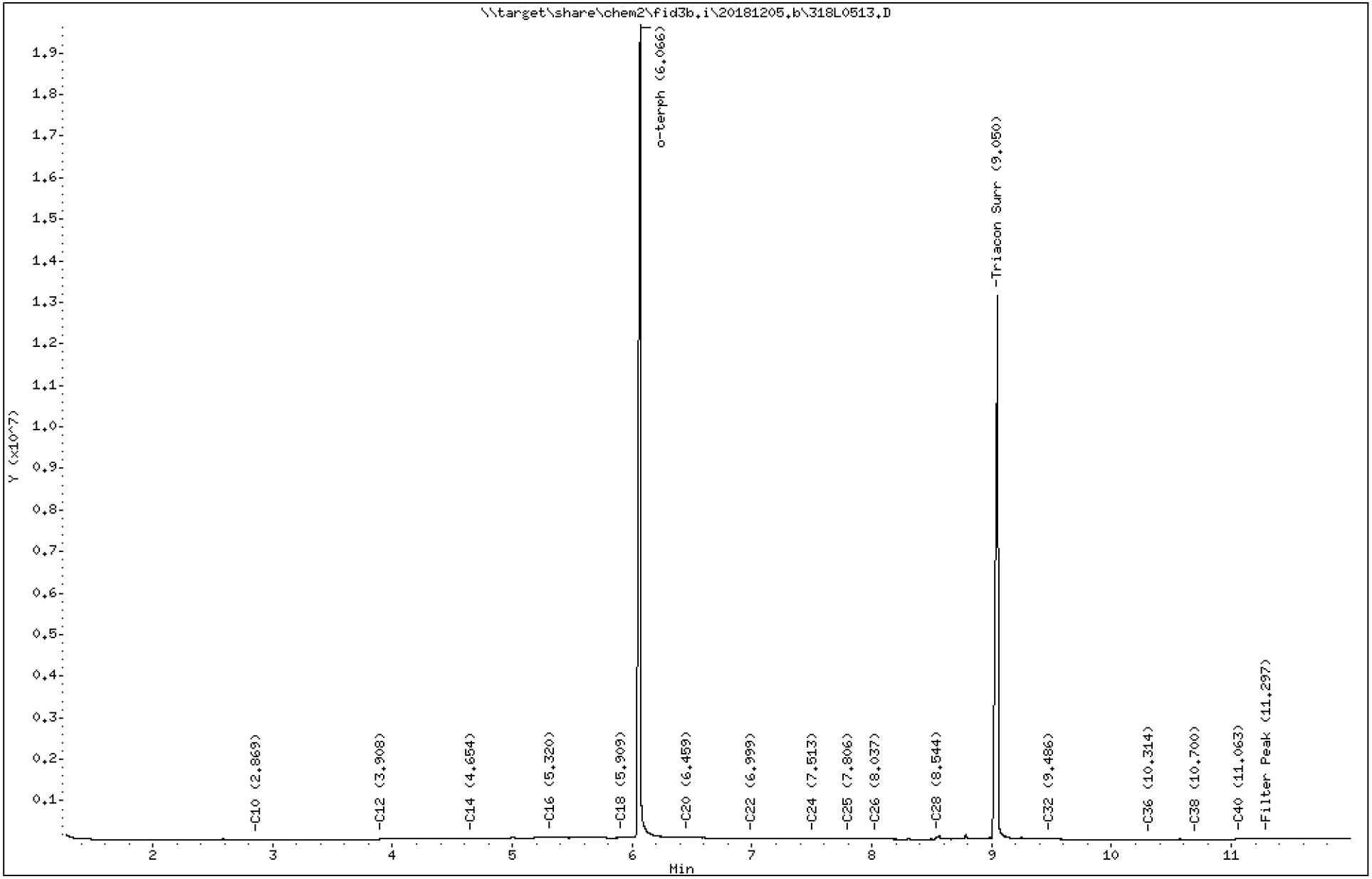
Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18K0439-01	SDG:	18K0439
Sampled:	11/29/18 13:50	Prepared:	12/03/18 13:45	File ID:	318L0513.D
% Solids:		Preparation:	EPA 3510C SepF	Analyzed:	12/05/18 14:44
Batch:	BGL0011	Sequence:	SGL0047	Initial/Final:	500 mL / 1 mL
Instrument:	FID3	Column:	RTX-1	Calibration:	BF00020

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.103		0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.193	85.8	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20181205.b\318L0513.D
Date : 05-DEC-2018 14:44
Client ID:
Sample Info: 18K0439-01

Instrument: fid3b.i
Operator: VTS
Column phase: RTX-1
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20181205.b/318L0513.D
Method: 20181205.b\FID3TPH.m
Instrument: fid3b.i
Operator: VTS
Report Date: 12/06/2018
Macro: FID3_072018

ARI ID: 18K0439-01
Client ID:
Injection: 05-DEC-2018 14:44
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)	
Toluene	----				WATPHG	(Tol-C12)	430663	2.4	
C8	----				WATPHD	(C12-C24)	8847384	51.5	
C10	2.869	-0.009	8344	48857	WATPHM	(C24-C38)	3059545	20.9	
C12	3.908	0.025	18443	87532	AK102	(C10-C25)	9368263	46.1	M
C14	4.654	-0.009	39174	44721	AK103	(C25-C36)	2696213	25.6	M
C16	5.320	0.007	56686	45865	OR.DIES	(C10-C28)	10215194	50.1	M
C18	5.909	0.003	58266	72399					
C20	6.459	0.009	56052	75143					
C22	6.999	0.010	38403	15938					
C24	7.513	-0.011	27881	47235					
C25	7.806	0.008	25857	54083	KEROSEN	(Tol-C18)	5138157	21.9	
C26	8.037	-0.009	18951	24610					
C28	8.544	-0.004	61413	66786	IT.DIES	(C10-C24)	9169188	45.3	
C32	9.486	0.006	43439	211658					
C34	----								
Filter Peak	11.297	-0.006	19764	55733					
C36	10.314	0.003	13865	42735	BUNKERC	(C10-C38)	12228733	257.9	
o-terph	6.066	0.001	19548425	22548051	JET-A	(C10-C18)	5029298	25.5	
Triacon Surr	9.050	-0.002	13060160	19425686					

Range Times: NW Diesel(3.933 - 7.574) NW Gas(1.271 - 3.933) NW M.Oil(7.574 - 10.749)
AK102(2.828 - 7.748) AK103(7.748 - 10.360) Jet A(2.828 - 5.956)

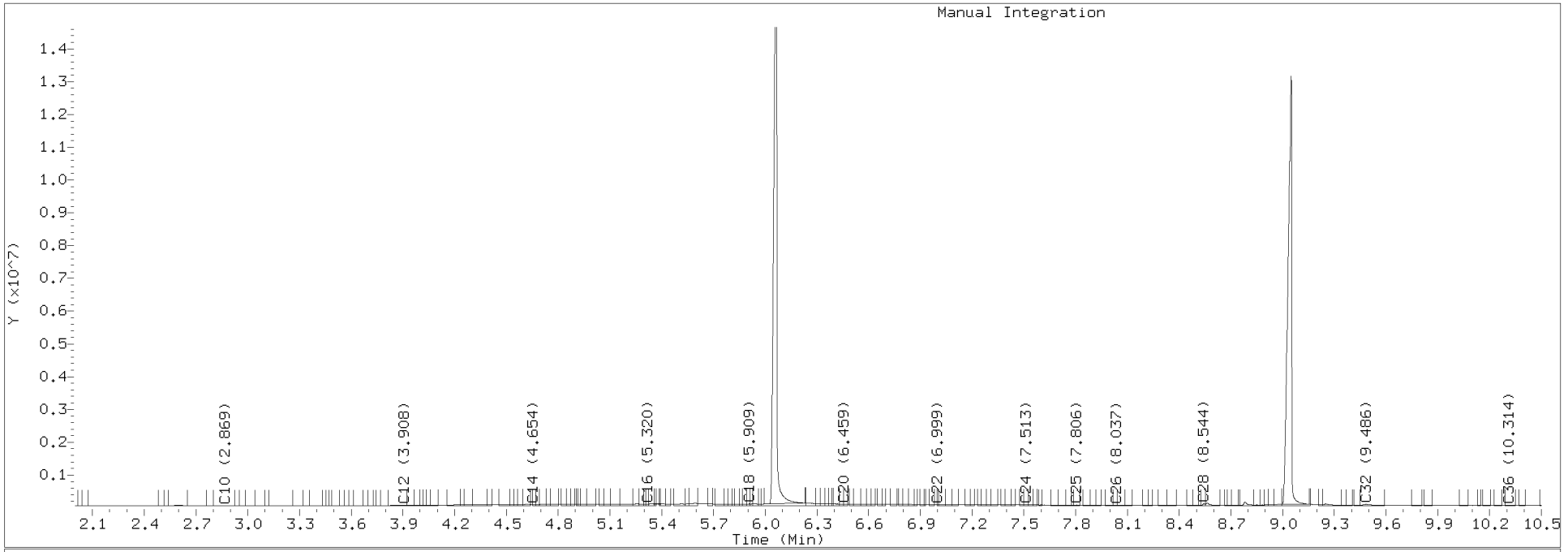
Surrogate	Area	Amount
o-Terphenyl	22548051	96.6
Triacontane	19425686	99.2

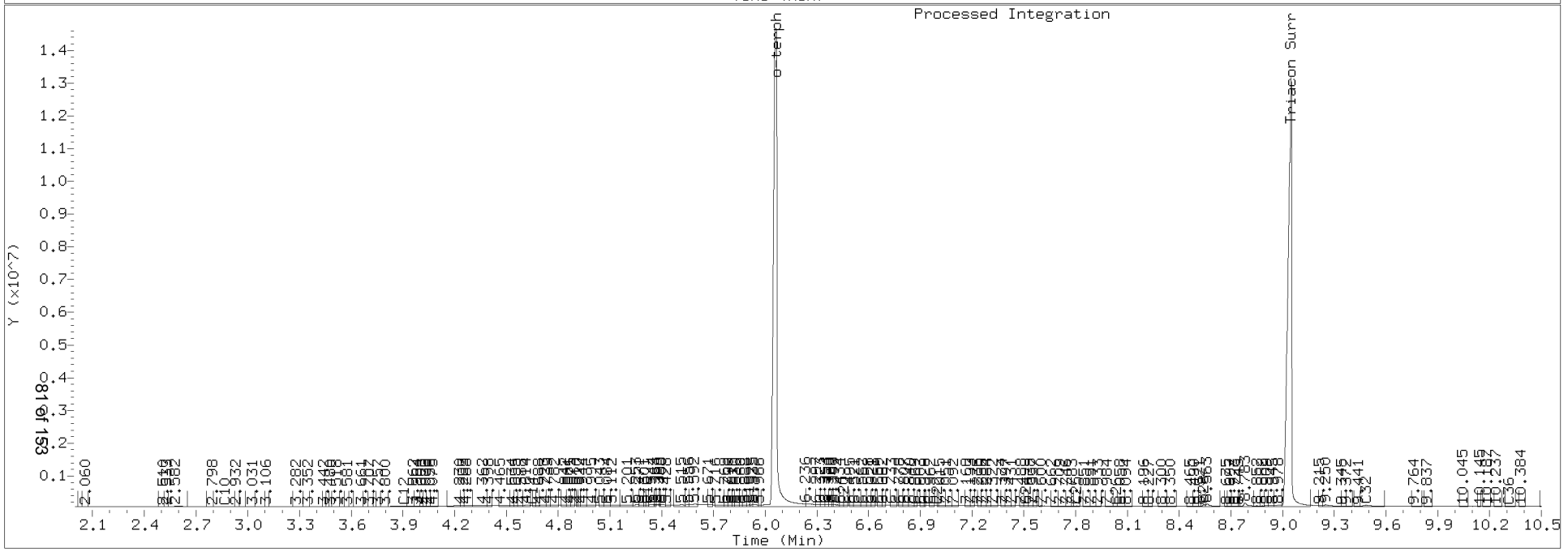
Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	179445.5	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
JetA	197575.1	03-OCT-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018
Bunker C	47422.4	03-OCT-2018

TPH Manual Integrations Report

Datafile: FID3B, 20181205.b/318L0513.D Injection: 05-DEC-2018 14:44

Lab ID:18K0439-01





MW-4-181129

Form I

ORGANIC ANALYSIS DATA SHEET

NWTPH-Dx

TPH (Extractables)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	SVCA Area Z Remediation				
Matrix:	Water	Laboratory ID:	18K0439-02	SDG:	18K0439
Sampled:	11/29/18 13:50	Prepared:	12/05/18 14:47	File ID:	318L1011.D
% Solids:		Preparation:	EPA 3510C SepF	Analyzed:	12/10/18 11:05
Batch:	BGL0092	Sequence:	SGL0100	Initial/Final:	500 mL / 1 mL
Instrument:	FID3	Column:	RTX-1	Calibration:	BF00020
Cleanups:	Silica Gel, Sulfuric Acid				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

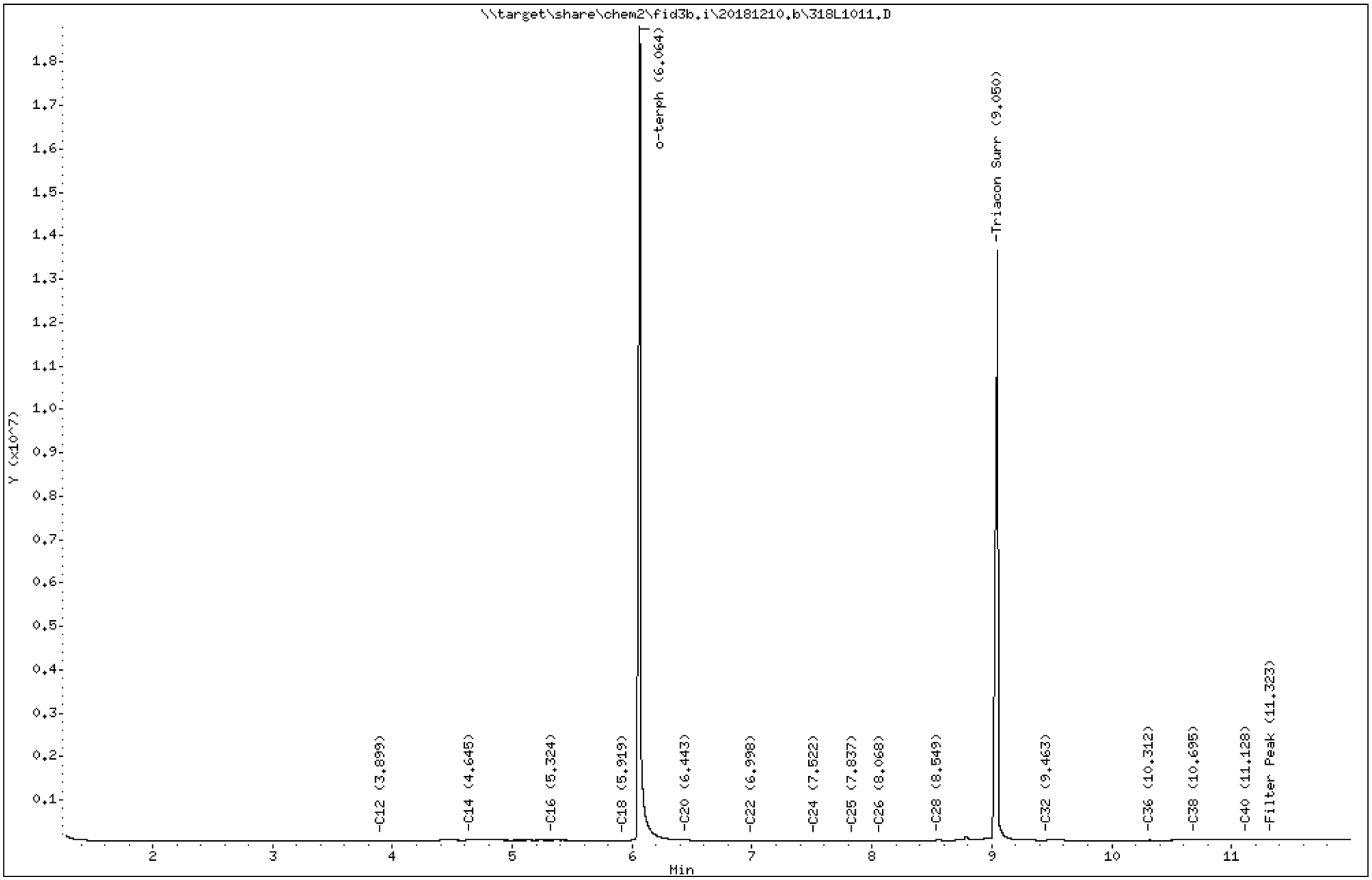
SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.212	94.3	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20181210.b\318L1011.D
Date : 10-DEC-2018 11:05
Client ID:
Sample Info: 18K0439-02

Instrument: fid3b.i

Operator: VTS/JGR
Column diameter: 0.25

Column phase: RTX-1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20181210.b/318L1011.D
Method: 20181210.b\FID3TPH.m
Instrument: fid3b.i
Operator: VTS/JGR
Report Date: 12/11/2018
Macro: FID3_072018

ARI ID: 18K0439-02
Client ID:
Injection: 10-DEC-2018 11:05
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	----				WATPHG	(Tol-C12)	103872	0.6
C8	----				WATPHD	(C12-C24)	1044414	6.1
C10	----				WATPHM	(C24-C38)	1723328	11.8
C12	3.899	0.017	6915	2703	AK102	(C10-C25)	1120907	5.5
C14	4.645	-0.015	17502	38421	AK103	(C25-C36)	1591704	15.1
C16	5.324	0.010	15768	18198	OR.DIES	(C10-C28)	1281785	6.3
C18	5.919	0.014	7947	9823				
C20	6.443	-0.007	19403	52869				
C22	6.998	0.008	3236	2543				
C24	7.522	-0.002	2333	2782				
C25	7.837	0.040	2408	5071	KEROSEN	(Tol-C18)	1059822	4.5
C26	8.068	0.022	1752	2315				
C28	8.549	0.001	46762	103913	IT.DIES	(C10-C24)	1118362	5.5
C32	9.463	-0.018	16461	26496				
C34	----							
Filter Peak	11.323	0.008	31874	97987				
C36	10.312	-0.008	16427	49094	BUNKERC	(C10-C38)	2841690	59.9
o-terph	6.064	-0.002	18776187	24784181	JET-A	(C10-C18)	1029898	5.2
Triacon Surr	9.050	-0.006	13618159	20911274				

Range Times: NW Diesel(3.932 - 7.574) NW Gas(1.230 - 3.932) NW M.Oil(7.574 - 10.771)
AK102(2.823 - 7.747) AK103(7.747 - 10.371) Jet A(2.823 - 5.955)

Surrogate	Area	Amount
o-Terphenyl	24784181	106.1
Triacontane	20911274	106.8

Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	179445.5	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
JetA	197575.1	03-OCT-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018
Bunker C	47422.4	03-OCT-2018

PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18K0439

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGL0011 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-181129	18K0439-01	318L0513.D	12/03/18 13:45	
Blank	BGL0011-BLK1	318L0510.D	12/03/18 13:45	
LCS	BGL0011-BS1	318L0511.D	12/03/18 13:45	
MRL Check	BGL0011-MRL1	318L0512.D	12/03/18 13:45	

PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18K0439

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Batch: BGL0092 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MW-4-181129	18K0439-02	318L1011.D	12/05/18 14:47	
Blank	BGL0092-BLK1	318L1010.D	12/05/18 14:47	
LCS	BGL0092-BS1	318L1009.D	12/05/18 14:47	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Cleanup Batch:	CGL0049	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665A Sulfuric Acid Cleanup	Analysis:	NWTPH-Dx

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
MW-4-181129	18K0439-02	318L1011.D	12/07/2018	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Cleanup Batch:	CGL0050	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	NWTPH-Dx

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
MW-4-181129	18K0439-02	318L1011.D	12/07/2018	

Form I

METHOD BLANK DATA SHEET

NWTPH-Dx

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18K0439
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGL0011-BLK1	File ID:	318L0510.D
Sampled:	N/A	Prepared:	12/03/18 13:45	Analyzed:	12/05/18 13:47
Solids:		Preparation:	EPA 3510C SepF	Initial/Final:	500 mL / 1 mL
Batch:	BGL0011	Sequence:	SGL0047	Calibration:	BF00020
Instrument:	FID3	Column:	RTX-1		

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.205	91.1	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20181205.b\318L0510.D

Date : 05-DEC-2018 13:47

Client ID:

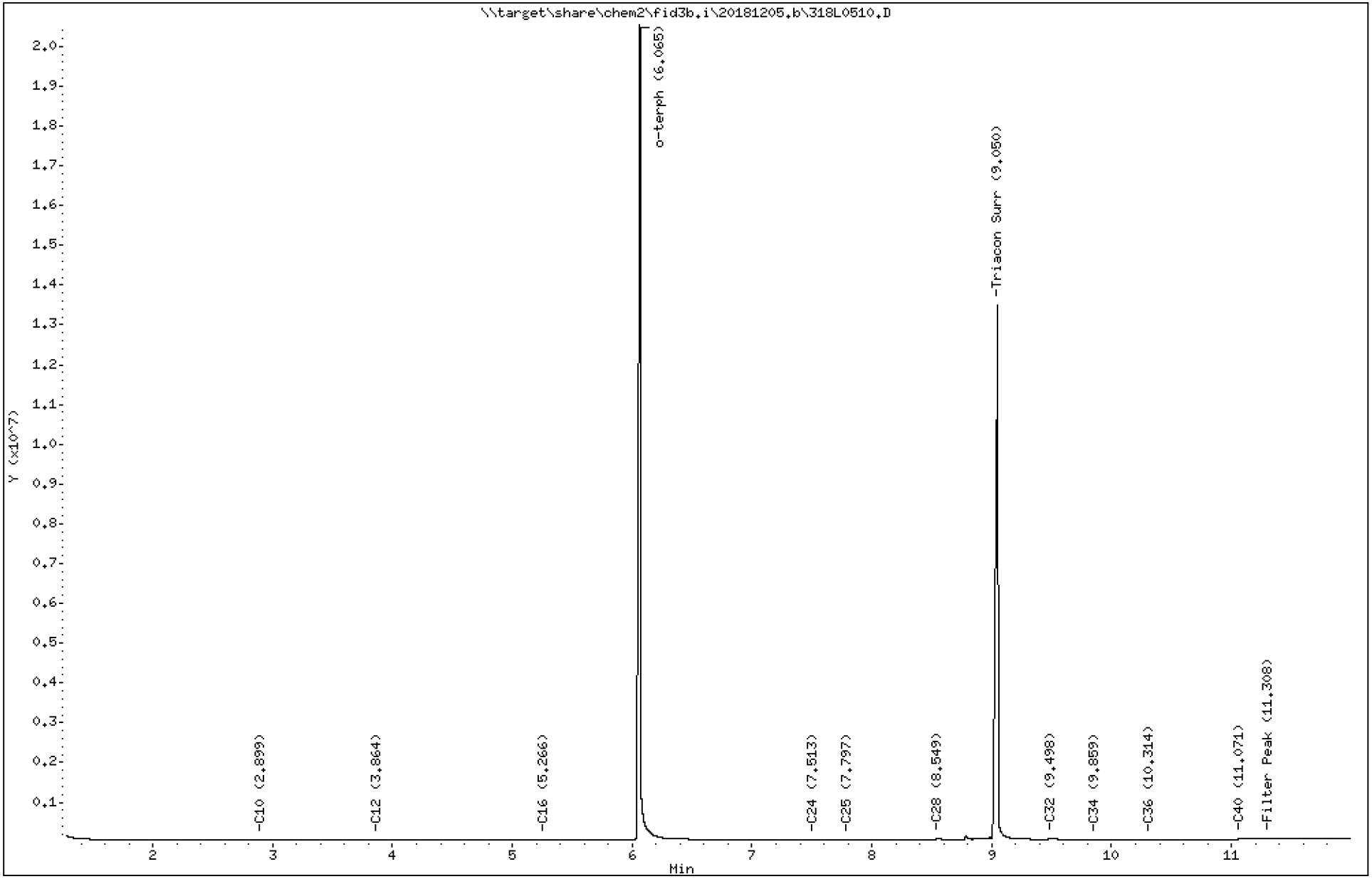
Sample Info: BGL0011-BLK1

Column phase: RTX-1

Instrument: fid3b.i

Operator: VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20181205.b/318L0510.D
Method: 20181205.b\FID3TPH.m
Instrument: fid3b.i
Operator: VTS
Report Date: 12/06/2018
Macro: FID3_072018

ARI ID: BGL0011-BLK1
Client ID:
Injection: 05-DEC-2018 13:47
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	----				WATPHG	(Tol-C12)	164022	0.9
C8	----				WATPHD	(C12-C24)	159325	0.9
C10	2.899	0.020	6051	11253	WATPHM	(C24-C38)	1375263	9.4
C12	3.864	-0.019	3405	5820	AK102	(C10-C25)	245815	1.2
C14	----				AK103	(C25-C36)	1200766	11.4
C16	5.266	-0.048	2174	4001	OR.DIES	(C10-C28)	405273	2.0
C18	----							
C20	----							
C22	----							
C24	7.513	-0.011	2775	1745				
C25	7.797	-0.002	2426	1090	KEROSEN	(Tol-C18)	191473	0.8
C26	----							
C28	8.549	0.000	40664	103289	IT.DIES	(C10-C24)	236639	1.2
C32	9.498	0.018	28547	184406				
C34	9.859	-0.045	8260	10379				
Filter Peak	11.308	0.004	19374	40055				
C36	10.314	0.003	10146	27475	BUNKERC	(C10-C38)	1611903	34.0
o-terph	6.065	0.000	20484029	23939594	JET-A	(C10-C18)	104765	0.5
Triacon Surr	9.050	-0.002	13434411	20023778				

Range Times: NW Diesel(3.933 - 7.574) NW Gas(1.271 - 3.933) NW M.Oil(7.574 - 10.749)
AK102(2.828 - 7.748) AK103(7.748 - 10.360) Jet A(2.828 - 5.956)

Surrogate	Area	Amount
o-Terphenyl	23939594	102.5
Triacontane	20023778	102.3

Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	179445.5	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
JetA	197575.1	03-OCT-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018
Bunker C	47422.4	03-OCT-2018

Form I

METHOD BLANK DATA SHEET

NWTPH-Dx

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18K0439
Client:	Anchor QEA, LLC			Project:	SVCA Area Z Remediation
Matrix:	Water	Laboratory ID:	BGL0092-BLK1	File ID:	318L1010.D
Sampled:	N/A	Prepared:	12/05/18 14:47	Analyzed:	12/10/18 10:46
Solids:		Preparation:	EPA 3510C SepF	Initial/Final:	500 mL / 1 mL
Batch:	BGL0092	Sequence:	SGL0100	Calibration:	BF00020
Instrument:	FID3	Column:	RTX-1	Cleanups:	Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.199	88.6	50 - 150	

Data File: \\target\share\chem2\fid3b.i\20181210.b\318L1010.D

Date : 10-DEC-2018 10:46

Client ID:

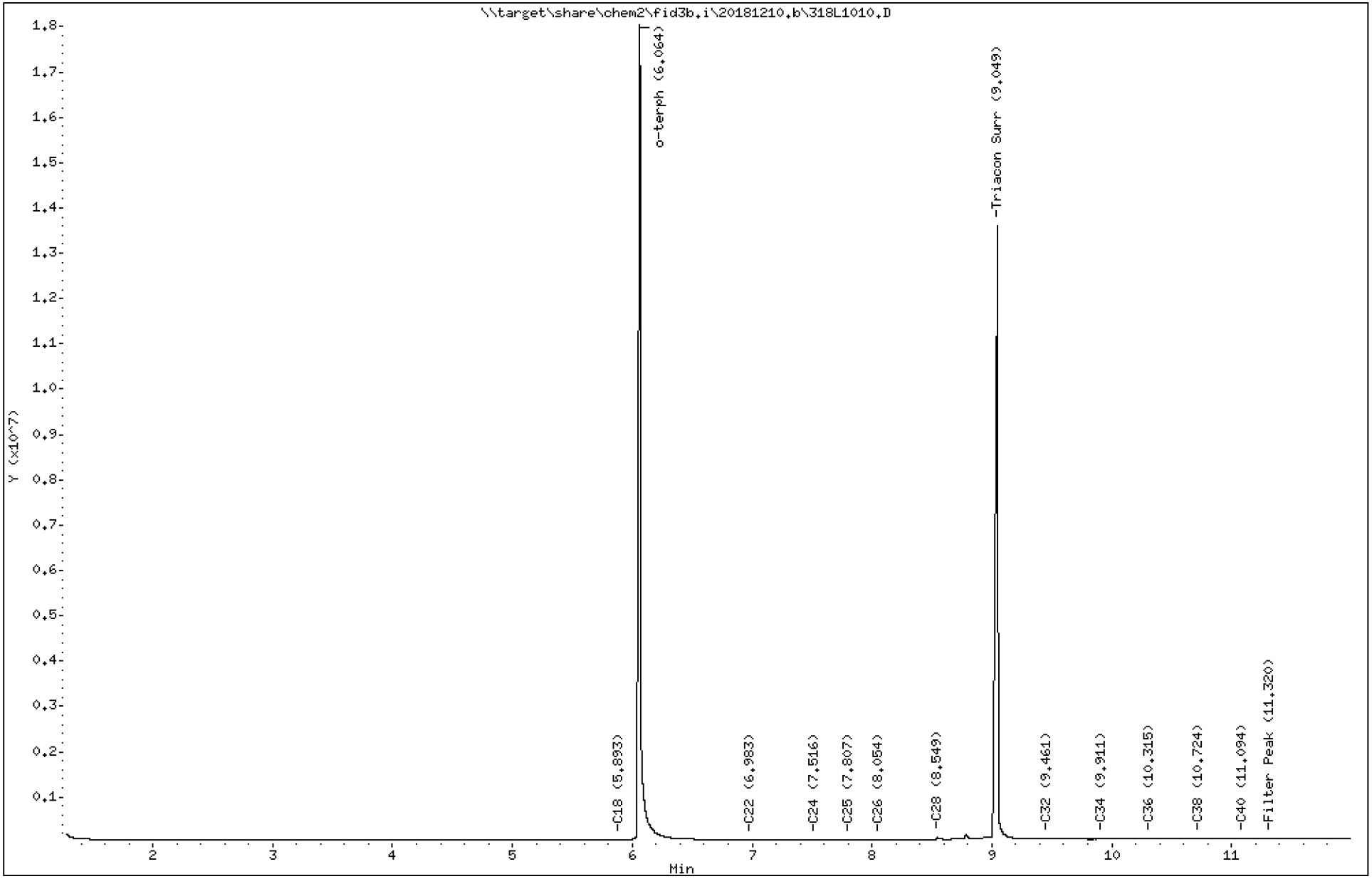
Instrument: fid3b.i

Sample Info: BGL0092-BLK1

Operator: VTS/JGR

Column phase: RTX-1

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20181210.b/318L1010.D
Method: 20181210.b\FID3TPH.m
Instrument: fid3b.i
Operator: VTS/JGR
Report Date: 12/11/2018
Macro: FID3_072018

ARI ID: BGL0092-BLK1
Client ID:
Injection: 10-DEC-2018 10:46
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	----				WATPHG	(Tol-C12)	53590	0.3
C8	----				WATPHD	(C12-C24)	298074	1.7
C10	----				WATPHM	(C24-C38)	2116179	14.5
C12	----				AK102	(C10-C25)	317734	1.6
C14	----				AK103	(C25-C36)	1831720	17.4
C16	----				OR.DIES	(C10-C28)	542091	2.7
C18	5.893	-0.011	1013	1653				
C20	----							
C22	6.983	-0.006	5385	5147				
C24	7.516	-0.008	5943	11653				
C25	7.807	0.010	4221	2339	KEROSEN	(Tol-C18)	61709	0.3
C26	8.054	0.007	4423	2993				
C28	8.549	0.001	45262	110458	IT.DIES	(C10-C24)	307478	1.5
C32	9.461	-0.020	22418	40301				
C34	9.911	0.002	15458	23810				
Filter Peak	11.320	0.004	36214	86247				
C36	10.315	-0.005	23579	72857	BUNKERC	(C10-C38)	2423657	51.1
o-terph	6.064	-0.002	17989747	23284969	JET-A	(C10-C18)	17524	0.1
Triacon Surr	9.049	-0.007	13558925	20598544				

Range Times: NW Diesel(3.932 - 7.574) NW Gas(1.230 - 3.932) NW M.Oil(7.574 - 10.771)
AK102(2.823 - 7.747) AK103(7.747 - 10.371) Jet A(2.823 - 5.955)

Surrogate	Area	Amount
o-Terphenyl	23284969	99.7
Triacontane	20598544	105.2

Analyte	RF	Curve Date
o-Terph Surr	233493.9	25-MAY-2018
Triacon Surr	195771.2	25-MAY-2018
Gas	179445.5	xx-xx-xxxx
Diesel	171841.0	25-MAY-2018
Motor Oil	146298.0	25-MAY-2018
AK102	203004.0	25-MAY-2018
AK103	105393.0	05-JUN-2018
JetA	197575.1	03-OCT-2018
Kerosene	234790.8	07-JUN-2018
OR Diesel	203892.0	25-MAY-2018
IT Diesel	202556.0	25-MAY-2018
Bunker C	47422.4	03-OCT-2018

LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	12/05/18 14:06
Batch:	BGL0011	Laboratory ID:	BGL0011-BS1
Preparation:	EPA 3510C SepF	Sequence Name:	LCS
Initial/Final:	500 mL / 1 mL		

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	3.00	2.66		88.7	56 - 120

* Indicates values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Matrix:	Water	Analyzed:	12/10/18 10:27
Batch:	BGL0092	Laboratory ID:	BGL0092-BS1
Preparation:	EPA 3510C SepF	Sequence Name:	LCS
Initial/Final:	500 mL / 1 mL		

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	3.00	2.66		88.7	70 - 120

* Indicates values outside of QC limits

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00096	Instrument:	FID3
Calibration Date:	05/25/2018 0:00	Column (1):	RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)	50	158510.6	100	171800.2	250	169154.2	500	178941.9	1000	175530.8	2500	177106.4
Diesel Range Organics (C10-C24)	50	189670	100	200829.2	250	199156.2	500	210300.4	1000	206762.1	2500	208621
Diesel Range Organics (C10-C28)	50	190105.6	100	201613.1	250	200314.9	500	212022	1000	208627.1	2500	210668.1
o-Terphenyl	9	221774.8	18	229375.1	45	226684.4	90	236263.9	180	242679.8	450	244185.1

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00096	Instrument:	FID3
Calibration Date:	05/25/2018 0:00	Column (1):	RTX-1

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Motor Oil Range Organics (C24-C38)	100	147580.7	250	147417.5	500	140364.9	1000	143003.2	2500	149126.5	5000	150296.8

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BE00096	Instrument:	FID3
Calibration Date:	05/25/2018 0:00	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	171840.7	4.3			RSD (20)	
Diesel Range Organics (C10-C24)	202556.5	3.8			RSD (20)	
Diesel Range Organics (C10-C28)	203891.8	4.1			RSD (20)	
Motor Oil Range Organics (C24-C38)	146298.2	2.6			RSD (20)	
o-Terphenyl	233493.9	3.9			RSD (20)	

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)	50	158510.6	100	171800.2	250	169154.2	500	178941.9	1000	175530.8	2500	177106.4
Diesel Range Organics (C10-C24)	50	189670	100	200829.2	250	199156.2	500	210300.4	1000	206762.1	2500	208621
o-Terphenyl	9	221774.8	18	229375.1	45	226684.4	90	236263.9	180	242679.8	450	244185.1

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Motor Oil Range Organics (C24-C38)	100	147580.7	250	147417.5	500	140364.9	1000	143003.2	2500	149126.5	5000	150296.8

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)												
Diesel Range Organics (C10-C24)												

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

19-24	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
Compound		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)												
Diesel Range Organics (C10-C24)												
Kerosene Range Organics (Tol-C18)	500	234790.8										
Bunker C Range Organics (C10-C38)			0		0		0		0		0	

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)												
Diesel Range Organics (C10-C24)												
Motor Oil Range Organics (C24-C38)												
Bunker C Range Organics (C10-C38)	0				200	31548.55	500	47201.78	1000	49602.2	2000	51067.45

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

Compound	Level 31		Level 32		Level 33		Level 34		Level 35		Level 36	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)												
Diesel Range Organics (C10-C24)												
Bunker C Range Organics (C10-C38)	5000	52530.1	10000	52584.61								

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Calibration:	BF00020	Instrument:	FID3
Calibration Date:	06/07/2018 0:00	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	171840.7	4.3			RSD (20)	
Diesel Range Organics (C10-C24)	202556.5	3.8			RSD (20)	
Motor Oil Range Organics (C24-C38)	146298.2	2.6			RSD (20)	
o-Terphenyl	233493.9	3.9			RSD (20)	

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Calibration: BE00096
Laboratory ID: SGE0465-SCV1
Sequence: SGE0465
Sequence Name: DieselSCV 500
Standard ID: F011649

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Diesel Range Organics (C12-C24)	500.00	551	10.2	30.00
o-Terphenyl	90.000	101	12.1	

* Indicates values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Calibration: BE00096
Laboratory ID: SGE0465-SCV2
Sequence: SGE0465
Sequence Name: Moil SCV 1000
Standard ID: G004802

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Motor Oil Range Organics (C24-C38)	1000.0	967	-3.3	30.00

* Indicates values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F0607.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0092	Injection Date:	06/07/18
Lab Sample ID:	SGF0092-ICV1	Injection Time:	12:39
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	523	171840.7000	179731.2000		4.6	15
o-Terphenyl	A	90.000	93.7	233493.9000	243140.8000		4.1	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318F0608.D	Calibration Date:	06/07/18 00:00
Sequence:	SGF0092	Injection Date:	06/07/18
Lab Sample ID:	SGF0092-ICV2	Injection Time:	12:59
Sequence Name:	MOIL ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	983	146298.2000	143751.1000		-1.7	15

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I2712.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0435	Injection Date:	09/27/18
Lab Sample ID:	SGI0435-ICV1	Injection Time:	14:29
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	513	171840.7000	176433.2000		2.7	15
o-Terphenyl	A	90.000	87.5	233493.9000	226982.0000		-2.8	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318I2713.D	Calibration Date:	06/07/18 00:00
Sequence:	SGI0435	Injection Date:	09/27/18
Lab Sample ID:	SGI0435-ICV2	Injection Time:	14:49
Sequence Name:	MOIL ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1000	146298.2000	146850.0000		0.4	15

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318J0311.D	Calibration Date:	06/07/18 00:00
Sequence:	SGJ0080	Injection Date:	10/03/18
Lab Sample ID:	SGJ0080-ICV1	Injection Time:	10:18
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	469	171840.7000	161235.8000		-6.2	15
o-Terphenyl	A	90.000	79.5	233493.9000	206218.7000		-11.7	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318J0312.D	Calibration Date:	06/07/18 00:00
Sequence:	SGJ0080	Injection Date:	10/03/18
Lab Sample ID:	SGJ0080-ICV2	Injection Time:	10:37
Sequence Name:	MOIL ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	942	146298.2000	137756.8000		-5.8	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318J0313.D	Calibration Date:	06/07/18 00:00
Sequence:	SGJ0080	Injection Date:	10/03/18
Lab Sample ID:	SGJ0080-ICV3	Injection Time:	10:56
Sequence Name:	AC BUNKER C		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Bunker C Range Organics (C10-C38)	A	2000.0	2120	47422.4500	50206.3500		5.9	15
o-Terphenyl	A	90.000	85.9	233493.9000	222767.9000		-4.6	15

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L0505.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0047	Injection Date:	12/05/18
Lab Sample ID:	SGL0047-ICV1	Injection Time:	12:13
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	522	171840.7000	179247.8000		4.3	15
o-Terphenyl	A	90.000	90.9	233493.9000	235908.1000		1.0	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L0506.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0047	Injection Date:	12/05/18
Lab Sample ID:	SGL0047-ICV2	Injection Time:	12:32
Sequence Name:	MOIL ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	957	146298.2000	140015.7000		-4.3	15

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1004.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-ICV1	Injection Time:	08:54
Sequence Name:	Diesel ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	500	171840.7000	171720.0000		-0.08	15
Diesel Range Organics (C10-C24)	A	500.00	486	202556.5000	196991.5000		-2.7	15
o-Terphenyl	A	90.000	86.3	233493.9000	223860.2000		-4.1	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1005.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-ICV2	Injection Time:	09:12
Sequence Name:	MOIL ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	892	146298.2000	130452.2000		-10.8	15

* Values outside of QC limits

* Values outside of QC limits

INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1006.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-ICV3	Injection Time:	09:31
Sequence Name:	AK103 ICV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	985	146298.2000	144147.7000		-1.5	15

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L0517.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0047	Injection Date:	12/05/18
Lab Sample ID:	SGL0047-CCV1	Injection Time:	15:59
Sequence Name:	Diesel CCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	514	171840.7	176575.4		2.8	15
o-Terphenyl	A	90.000	92.1	233493.9	239057.4		2.4	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L0518.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0047	Injection Date:	12/05/18
Lab Sample ID:	SGL0047-CCV2	Injection Time:	16:18
Sequence Name:	MOIL CCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	958	146298.2	140104.5		-4.2	15

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1019.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-CCV1	Injection Time:	13:36
Sequence Name:	Diesel CCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	491	171840.7	168793.8		-1.8	15
Diesel Range Organics (C10-C24)	A	500.00	477	202556.5	193327.8		-4.6	15
o-Terphenyl	A	90.000	86.7	233493.9	225043.3		-3.6	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1020.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-CCV2	Injection Time:	13:55
Sequence Name:	MOIL CCV1		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	899	146298.2	131465.9		-10.1	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1021.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-CCV3	Injection Time:	14:13
Sequence Name:	AK103 CCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	929	146298.2	135863.7		-7.1	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1031.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-CCV4	Injection Time:	17:23
Sequence Name:	DIESEL CCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	490	171840.7	168249.2		-2.1	15
Diesel Range Organics (C10-C24)	A	500.00	480	202556.5	194487.2		-4.0	15
o-Terphenyl	A	90.000	84.9	233493.9	220309.4		-5.6	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1032.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-CCV5	Injection Time:	17:42
Sequence Name:	MOIL CCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	904	146298.2	132256.3		-9.6	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1033.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-CCV6	Injection Time:	18:01
Sequence Name:	AK103CCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	902	146298.2	132002.6		-9.8	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1046.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-CCV7	Injection Time:	22:14
Sequence Name:	DIESELCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	496	171840.7	170294.5		-0.9	15
Diesel Range Organics (C10-C24)	A	500.00	482	202556.5	195338.6		-3.6	15
o-Terphenyl	A	90.000	84.8	233493.9	219998.4		-5.8	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1047.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-CCV8	Injection Time:	22:33
Sequence Name:	AK103CCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	861	146298.2	125926.6		-13.9	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1052.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-CCV9	Injection Time:	00:07
Sequence Name:	DIESELCCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	487	171840.7	167291.9		-2.6	15
Diesel Range Organics (C10-C24)	A	500.00	476	202556.5	192894.3		-4.8	15
o-Terphenyl	A	90.000	83.8	233493.9	217413.7		-6.9	15

* Values outside of QC limits

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Instrument ID:	FID3	Calibration:	BF00020
Lab File ID:	318L1053.D	Calibration Date:	06/07/18 00:00
Sequence:	SGL0100	Injection Date:	12/10/18
Lab Sample ID:	SGL0100-CCVA	Injection Time:	00:26
Sequence Name:	AK103CCV		

		CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	883	146298.2	129117.8		-11.7	15

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGE0465	Instrument:	FID3
		Calibration:	BE00096

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
RT	SGE0465-IBL1	318E2504.D	NA	05/25/18 17:02
IB	SGE0465-IBL2	318E2505.D	NA	05/25/18 17:21
50ppmDiesel	SGE0465-CAL1	318E2506.D	NA	05/25/18 17:39
100ppmDiesel	SGE0465-CAL2	318E2507.D	NA	05/25/18 17:57
250ppmDiesel	SGE0465-CAL3	318E2508.D	NA	05/25/18 18:15
500ppmDiesel	SGE0465-CAL4	318E2509.D	NA	05/25/18 18:33
1000ppmDiesel	SGE0465-CAL5	318E2510.D	NA	05/25/18 18:51
2500ppmDiesel	SGE0465-CAL6	318E2511.D	NA	05/25/18 19:09
100ppmmoil	SGE0465-CAL7	318E2512.D	NA	05/25/18 19:27
250ppmmoil	SGE0465-CAL8	318E2513.D	NA	05/25/18 19:45
500ppmmoil	SGE0465-CAL9	318E2514.D	NA	05/25/18 20:03
1000ppmmoil	SGE0465-CALA	318E2515.D	NA	05/25/18 20:21
2500ppmmoil	SGE0465-CALB	318E2516.D	NA	05/25/18 20:38
5000ppmmoil	SGE0465-CALC	318E2517.D	NA	05/25/18 20:56
DieselSCV 500	SGE0465-SCV1	318E2518.D	NA	05/25/18 21:14
Moil SCV 1000	SGE0465-SCV2	318E2906.D	NA	05/29/18 10:16

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0092	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
RT	SGF0092-IBL1	318F0604.D	NA	06/07/18 11:42
IB	SGF0092-IBL2	318F0605.D	NA	06/07/18 12:01
500ppm Kerosene	SGF0092-CAL1	318F0606.D	NA	06/07/18 12:20
Diesel ICV	SGF0092-ICV1	318F0607.D	NA	06/07/18 12:39
MOIL ICV	SGF0092-ICV2	318F0608.D	NA	06/07/18 12:59
ZZZZZ	BGF0149-BLK1	318F0609.D	Water	06/07/18 13:18
ZZZZZ	BGF0149-BS1	318F0610.D	Water	06/07/18 13:37
ZZZZZ	18F0064-01	318F0612.D	Water	06/07/18 14:15
ZZZZZ	18F0064-02	318F0613.D	Water	06/07/18 14:35
ZZZZZ	18F0064-03	318F0614.D	Water	06/07/18 14:54
ZZZZZ	18F0064-04	318F0615.D	Water	06/07/18 15:13
ZZZZZ	18F0064-05	318F0616.D	Water	06/07/18 15:33
ZZZZZ	18F0064-06	318F0617.D	Water	06/07/18 15:52
500PPMKEROSENECCV1	SGF0092-CCV1	318F0618.D	NA	06/07/18 16:11
DIESEL CCV1	SGF0092-CCV2	318F0619.D	NA	06/07/18 16:31
MOILCCV1	SGF0092-CCV3	318F0620.D	NA	06/07/18 16:50
ZZZZZ	18F0052-01	318F0623.D	Solid	06/07/18 17:48
ZZZZZ	BGE0753-BLK1	318F0626.D	Water	06/07/18 18:46
ZZZZZ	BGE0753-BS1	318F0627.D	Water	06/07/18 19:05
ZZZZZ	18E0367-01	318F0628.D	Water	06/07/18 19:24
DIESELCCV2	SGF0092-CCV4	318F0629.D	NA	06/07/18 19:43
MOILCCV2	SGF0092-CCV5	318F0630.D	NA	06/07/18 20:02
AK103CCV2	SGF0092-CCV6	318F0631.D	NA	06/07/18 20:22
DIESELCCV3	SGF0092-CCV7	318F0642.D	NA	06/07/18 23:50
AK103CCV3	SGF0092-CCV8	318F0643.D	NA	06/08/18 00:09
DIESELCCV4	SGF0092-CCV9	318F0651.D	NA	06/08/18 02:40
AK103CCV4	SGF0092-CCVA	318F0652.D	NA	06/08/18 02:59
DIESELCCV5	SGF0092-CCVB	318F0660.D	NA	06/08/18 05:31
AK103CCV5	SGF0092-CCVC	318F0661.D	NA	06/08/18 05:50

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGI0435	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SGI0435-IBL1	318I2704.D	NA	09/27/18 11:53
Instrument Blank	SGI0435-IBL2	318I2705.D	NA	09/27/18 12:13
100ppm AC CREO	SGI0435-CAL1	318I2706.D	NA	09/27/18 12:32
250ppm AC CREO	SGI0435-CAL2	318I2707.D	NA	09/27/18 12:52
500ppm AC CREO	SGI0435-CAL3	318I2708.D	NA	09/27/18 13:11
1000ppm AC CREO	SGI0435-CAL4	318I2709.D	NA	09/27/18 13:31
2500ppm AC CREO	SGI0435-CAL5	318I2710.D	NA	09/27/18 13:50
5000ppm AC CREO	SGI0435-CAL6	318I2711.D	NA	09/27/18 14:10
Diesel ICV	SGI0435-ICV1	318I2712.D	NA	09/27/18 14:29
MOIL ICV	SGI0435-ICV2	318I2713.D	NA	09/27/18 14:49
ZZZZZ	18I0357-01RE1	318I2716.D	Solid	09/27/18 15:47
Diesel CCV1	SGI0435-CCV1	318I2729.D	NA	09/27/18 20:00
MOIL CCV1	SGI0435-CCV2	318I2730.D	NA	09/27/18 20:19
ZZZZZ	BGI0702-BLK1	318I2732.D	Solid	09/27/18 20:58
ZZZZZ	BGI0702-BS1	318I2733.D	Solid	09/27/18 21:17
Diesel CCV	SGI0435-CCV3	318I2742.D	NA	09/28/18 00:11
MOILCCV	SGI0435-CCV4	318I2743.D	NA	09/28/18 00:30

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Sequence: SGJ0080

SDG: 18K0439
Project: SVCA Area Z Remediation
Instrument: FID3
Calibration: BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SGJ0080-IBL1	318J0303.D	NA	10/03/18 07:47
Instrument Blank	SGJ0080-IBL2	318J0304.D	NA	10/03/18 08:06
200ppm AC BUNKERC	SGJ0080-CAL1	318J0305.D	NA	10/03/18 08:25
500ppm AC BUNKERC	SGJ0080-CAL2	318J0306.D	NA	10/03/18 08:43
1000ppm AC BUNKERC	SGJ0080-CAL3	318J0307.D	NA	10/03/18 09:02
2000ppm AC BUNKERC	SGJ0080-CAL4	318J0308.D	NA	10/03/18 09:21
5000ppm AC BUNKERC	SGJ0080-CAL5	318J0309.D	NA	10/03/18 09:40
10000ppm AC BUNKERC	SGJ0080-CAL6	318J0310.D	NA	10/03/18 09:59
Diesel ICV	SGJ0080-ICV1	318J0311.D	NA	10/03/18 10:18
MOIL ICV	SGJ0080-ICV2	318J0312.D	NA	10/03/18 10:37
AC BUNKER C	SGJ0080-ICV3	318J0313.D	NA	10/03/18 10:56
ZZZZZ	BGI0619-BLK1	318J0314.D	Water	10/03/18 11:15
ZZZZZ	BGI0619-BS1	318J0315.D	Water	10/03/18 11:33
ZZZZZ	18I0324-01	318J0316.D	Water	10/03/18 11:52
ZZZZZ	18I0324-02	318J0317.D	Water	10/03/18 12:11
ZZZZZ	18I0324-03	318J0318.D	Water	10/03/18 12:30
ZZZZZ	18I0324-04	318J0321.D	Water	10/03/18 13:28
Diesel CCV1	SGJ0080-CCV1	318J0322.D	NA	10/03/18 13:47
MOIL CCV1	SGJ0080-CCV2	318J0323.D	NA	10/03/18 14:06
AC BUNKER C	SGJ0080-CCV3	318J0324.D	NA	10/03/18 14:26
ZZZZZ	18I0324-05	318J0325.D	Water	10/03/18 14:45
ZZZZZ	18I0324-06	318J0326.D	Water	10/03/18 15:04
ZZZZZ	18I0324-07	318J0327.D	Water	10/03/18 15:23
ZZZZZ	18I0324-08	318J0328.D	Water	10/03/18 15:42
ZZZZZ	18I0324-09	318J0329.D	Water	10/03/18 16:02
ZZZZZ	18I0324-10	318J0330.D	Water	10/03/18 16:21
ZZZZZ	18I0324-11	318J0331.D	Water	10/03/18 16:40
DIESELCCV	SGJ0080-CCV4	318J0332.D	NA	10/03/18 16:59
MOILCCV	SGJ0080-CCV5	318J0333.D	NA	10/03/18 17:18
AC BUNKER C	SGJ0080-CCV6	318J0334.D	NA	10/03/18 17:37

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGJ0080
Instrument: FID3
Calibration: BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
500PPM Jet A	SGJ0080-CAL7	318J0335.D	NA	10/03/18 17:56
JETA1000CCV	SGJ0080-CCV7	318J0335B.D	NA	10/03/18 17:56
ZZZZZ	BGJ0114-BLK1	318J0336.D	Water	10/03/18 18:15
ZZZZZ	BGJ0114-BS1	318J0337.D	Water	10/03/18 18:35
ZZZZZ	18J0042-01	318J0338.D	Water	10/03/18 18:54
ZZZZZ	BGJ0098-BLK1	318J0339.D	Solid	10/03/18 19:13
ZZZZZ	BGJ0098-BS1	318J0340.D	Solid	10/03/18 19:32
ZZZZZ	18J0032-22	318J0341.D	Solid	10/03/18 19:51
ZZZZZ	18J0032-25	318J0342.D	Solid	10/03/18 20:09
ZZZZZ	18J0032-26	318J0343.D	Solid	10/03/18 20:28
ZZZZZ	18J0032-27	318J0344.D	Solid	10/03/18 20:47
ZZZZZ	18J0032-28	318J0347.D	Solid	10/03/18 21:45
ZZZZZ	18J0032-30	318J0348.D	Solid	10/03/18 22:04
ZZZZZ	18J0032-52	318J0349.D	Solid	10/03/18 22:23
DIESELCCV	SGJ0080-CCV8	318J0351.D	NA	10/03/18 23:01
MOIL CCV	SGJ0080-CCV9	318J0352.D	NA	10/03/18 23:20
JETACCV	SGJ0080-CCVA	318J0353.D	NA	10/03/18 23:39
ZZZZZ	18J0032-23	318J0354.D	Solid	10/03/18 23:58
ZZZZZ	18J0032-24	318J0355.D	Solid	10/04/18 00:17
ZZZZZ	18J0032-29	318J0356.D	Solid	10/04/18 00:36
ZZZZZ	18J0032-31	318J0357.D	Solid	10/04/18 00:55
ZZZZZ	18J0032-32	318J0358.D	Solid	10/04/18 01:14
ZZZZZ	18J0032-33	318J0359.D	Solid	10/04/18 01:33
ZZZZZ	18J0032-34	318J0360.D	Solid	10/04/18 01:52
ZZZZZ	18J0032-35	318J0361.D	Solid	10/04/18 02:11
ZZZZZ	18J0032-36	318J0362.D	Solid	10/04/18 02:30
ZZZZZ	18J0032-37	318J0363.D	Solid	10/04/18 02:49
ZZZZZ	18J0032-38	318J0364.D	Solid	10/04/18 03:08
DIESELCCV	SGJ0080-CCVB	318J0365.D	NA	10/04/18 03:27
MOILCCV	SGJ0080-CCVC	318J0366.D	NA	10/04/18 03:46

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGJ0080	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	18J0032-39	318J0367.D	Solid	10/04/18 04:05
ZZZZZ	18J0032-40	318J0368.D	Solid	10/04/18 04:24
DIESELCCV	SGJ0080-CCVD	318J0369.D	NA	10/04/18 04:43
MOILCCV	SGJ0080-CCVE	318J0370.D	NA	10/04/18 05:02

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGL0047	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SGL0047-IBL1	318L0503.D	NA	12/05/18 11:36
Instrument Blank	SGL0047-IBL2	318L0504.D	NA	12/05/18 11:54
Diesel ICV	SGL0047-ICV1	318L0505.D	NA	12/05/18 12:13
MOIL ICV	SGL0047-ICV2	318L0506.D	NA	12/05/18 12:32
ZZZZZ	18L0009-01	318L0507.D	Solid	12/05/18 12:51
ZZZZZ	18L0009-05RE1	318L0508.D	Solid	12/05/18 13:10
ZZZZZ	18L0008-01RE1	318L0509.D	Solid	12/05/18 13:28
Blank	BGL0011-BLK1	318L0510.D	Water	12/05/18 13:47
LCS	BGL0011-BS1	318L0511.D	Water	12/05/18 14:06
MRL Check	BGL0011-MRL1	318L0512.D	Water	12/05/18 14:25
MW-4-181129	18K0439-01	318L0513.D	Water	12/05/18 14:44
ZZZZZ	18K0443-01	318L0514.D	Water	12/05/18 15:03
ZZZZZ	18L0003-01	318L0515.D	Water	12/05/18 15:21
ZZZZZ	18L0003-02	318L0516.D	Water	12/05/18 15:40
Diesel CCV1	SGL0047-CCV1	318L0517.D	NA	12/05/18 15:59
MOIL CCV1	SGL0047-CCV2	318L0518.D	NA	12/05/18 16:18

SVCA Area Z Remediation

18K0439

Analysis	Matrix	Method
TPH NW (Extractables) low level	Solid	NWTPH-Dx
TPH NW (Extractables) low level	Water	NWTPH-Dx

Checklist for SEQUENCE SGL0047

Checklist: Analyst Checklist-FID(rev3)

#	Checklist Item	Response	Analyst Initials	Date
1	Detail all ICV/CCV failures for all affected Workorders	NA	VTS	12/06/2018
2	Narrate any Retention times not within windows for all affected Workorders	NA	VTS	12/06/2018
3	Rationale provided for all manual integrations not done for baseline correction per SOP 1021s	NA	VTS	12/06/2018
4	Narrate any Workorders where the Project specific requirements have not been met	NA	VTS	12/06/2018
5	Narrate samples per Workorder that will require more than one analysis to be reported due to dilutions or re-analysis Comments: *18L0009-05 and 18L0008-01 also reported at dilution*	YES	VTS	12/06/2018
6	Verify that all samples requiring a dilution or re-analysis have been added to another batch or sequence	NA	VTS	12/06/2018
7	Extraction basis, cleanups, and total solids are correctly entered	YES	VTS	12/06/2018
8	An extract dilution bench sheet is attached to the sequence for all dilutions performed	YES	VTS	12/06/2018
9	AUTOCHECK: Blank checked for exceedence of criteria	YES *	VTS	12/06/2018
10	AUTOCHECK: Check blank spike recovery	YES *	VTS	12/06/2018
11	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	NA *	VTS	12/06/2018
12	AUTOCHECK: Compounds in method designated as blank spike compounds are present	YES *	VTS	12/06/2018
13	AUTOCHECK: Check %RPD between sample and sample duplicate	NA *	VTS	12/06/2018
14	AUTOCHECK: Matrix spike recoveries within limits	NA *	VTS	12/06/2018
15	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NA *	VTS	12/06/2018
16	AUTOCHECK: List of compounds listed as spiked are present	NA *	VTS	12/06/2018
17	AUTOCHECK: Check Surrogate recoveries	YES *	VTS	12/06/2018
18	AUTOCHECK: Checks Surrogate spike list against Analysis	YES *	VTS	12/06/2018
19	Data locked, checklist completed and status is analyzed (REVIEWER)	YES	BB	12/06/2018
20	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES	BB	12/06/2018
21	rev_DilutionCheck.rpt and rev_DilutionCheck.exe was run to verify multiple sample results are consistent (REVIEWER)	NA	BB	12/06/2018
22	List of samples or QC in this sequence that will require additional runs-verify reshot created (ANALYST)	NA	VTS	12/06/2018
23	List of samples or QC in this sequence that are re-analysis or dilutions of samples (ANALYST)	YES	VTS	12/06/2018

* = Indicates Automated Response from Element DataSyst

SVCA Area Z Remediation

18K0439

Analysis	Matrix	Method
TPH NW (Extractables) low level	**Solid**	**NWTPH-Dx**
TPH NW (Extractables) low level	**Water**	**NWTPH-Dx**

Checklist for SEQUENCE SGL0047

Checklist: Analyst Checklist-FID(rev3)

#	Checklist Item	Response	Analyst Initials	Date
	Comments: *18L0009-05 and 18L0008-01 also reported at dilution*			
24	Additional Notes (ANALYST and REVIEWER)	NA	VTS	12/06/2018

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Sequence: SGL0100
Instrument: FID3
Calibration: BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
DIESELCCV	SGL0100-CCV9	318L1052.D	NA	12/10/18 00:07
AK103CCV	SGL0100-CCVA	318L1053.D	NA	12/10/18 00:26
Retention Time Standard	SGL0100-IBL1	318L1002.D	NA	12/10/18 08:16
Instrument Blank	SGL0100-IBL2	318L1003.D	NA	12/10/18 08:35
Diesel ICV	SGL0100-ICV1	318L1004.D	NA	12/10/18 08:54
MOIL ICV	SGL0100-ICV2	318L1005.D	NA	12/10/18 09:12
AK103 ICV	SGL0100-ICV3	318L1006.D	NA	12/10/18 09:31
LCS	BGL0092-BS1	318L1009.D	Water	12/10/18 10:27
Blank	BGL0092-BLK1	318L1010.D	Water	12/10/18 10:46
MW-4-181129	18K0439-02	318L1011.D	Water	12/10/18 11:05
ZZZZZ	18L0002-02	318L1012.D	Water	12/10/18 11:24
ZZZZZ	18L0002-07	318L1013.D	Water	12/10/18 11:43
ZZZZZ	18L0002-09	318L1016.D	Water	12/10/18 12:39
ZZZZZ	18L0002-10	318L1017.D	Water	12/10/18 12:58
ZZZZZ	18L0002-14	318L1018.D	Water	12/10/18 13:17
Diesel CCV1	SGL0100-CCV1	318L1019.D	NA	12/10/18 13:36
MOIL CCV1	SGL0100-CCV2	318L1020.D	NA	12/10/18 13:55
AK103 CCV	SGL0100-CCV3	318L1021.D	NA	12/10/18 14:13
ZZZZZ	18L0002-15	318L1022.D	Water	12/10/18 14:32
ZZZZZ	18L0002-16	318L1023.D	Water	12/10/18 14:51
ZZZZZ	18L0002-17	318L1024.D	Water	12/10/18 15:10
ZZZZZ	18L0002-18	318L1025.D	Water	12/10/18 15:29
ZZZZZ	18L0002-19	318L1026.D	Water	12/10/18 15:48
ZZZZZ	18L0002-20	318L1027.D	Water	12/10/18 16:07
ZZZZZ	18L0002-27	318L1028.D	Water	12/10/18 16:26
DIESEL CCV	SGL0100-CCV4	318L1031.D	NA	12/10/18 17:23
MOIL CCV	SGL0100-CCV5	318L1032.D	NA	12/10/18 17:42
AK103CCV	SGL0100-CCV6	318L1033.D	NA	12/10/18 18:01
ZZZZZ	BGL0144-BLK1	318L1034.D	Water	12/10/18 18:28
ZZZZZ	BGL0144-BS1	318L1035.D	Water	12/10/18 18:47

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGL0100	Instrument:	FID3
		Calibration:	BF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	18L0045-03	318L1036.D	Water	12/10/18 19:06
ZZZZZ	18L0045-04	318L1039.D	Water	12/10/18 20:03
ZZZZZ	18L0045-05	318L1040.D	Water	12/10/18 20:21
ZZZZZ	18L0045-06	318L1041.D	Water	12/10/18 20:40
ZZZZZ	18L0045-07	318L1042.D	Water	12/10/18 20:59
ZZZZZ	18L0045-08	318L1043.D	Water	12/10/18 21:18
DIESELCCV	SGL0100-CCV7	318L1046.D	NA	12/10/18 22:14
AK103CCV	SGL0100-CCV8	318L1047.D	NA	12/10/18 22:33
ZZZZZ	18L0045-09	318L1048.D	Water	12/10/18 22:52
ZZZZZ	18L0045-10	318L1049.D	Water	12/10/18 23:11
ZZZZZ	18L0045-11	318L1050.D	Water	12/10/18 23:30
ZZZZZ	18L0045-12	318L1051.D	Water	12/10/18 23:48

SVCA Area Z Remediation

18K0439

Analysis	Matrix	Method
TPH NW (Extractables) low level	Solid	NWTPH-Dx
TPH NW (Extractables) low level	Water	NWTPH-Dx

Checklist for SEQUENCE SGL0100

Checklist: Analyst Checklist-FID(rev3)

#	Checklist Item	Response	Analyst Initials	Date
1	Detail all ICV/CCV failures for all affected Workorders	NA	VTS	12/11/2018
2	Narrate any Retention times not within windows for all affected Workorders	NA	VTS	12/11/2018
3	Rationale provided for all manual integrations not done for baseline correction per SOP 1021s	NA	VTS	12/11/2018
4	Narrate any Workorders where the Project specific requirements have not been met	NA	VTS	12/11/2018
5	Narrate samples per Workorder that will require more than one analysis to be reported due to dilutions or re-analysis	YES	VTS	12/11/2018
	Comments: *18L0005-13 reported at 3x and 6x*			
6	Verify that all samples requiring a dilution or re-analysis have been added to another batch or sequence	NA	VTS	12/11/2018
7	Extraction basis, cleanups, and total solids are correctly entered	YES	VTS	12/11/2018
8	An extract dilution bench sheet is attached to the sequence for all dilutions performed	YES	VTS	12/11/2018
9	AUTOCHECK: Blank checked for exceedence of criteria	YES *	VTS	12/11/2018
10	AUTOCHECK: Check blank spike recovery	YES *	VTS	12/11/2018
11	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	NA *	VTS	12/11/2018
12	AUTOCHECK: Compounds in method designated as blank spike compounds are present	YES *	VTS	12/11/2018
13	AUTOCHECK: Check %RPD between sample and sample duplicate	NA *	VTS	12/11/2018
14	AUTOCHECK: Matrix spike recoveries within limits	YES *	VTS	12/11/2018
15	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	YES *	VTS	12/11/2018
16	AUTOCHECK: List of compounds listed as spiked are present	YES *	VTS	12/11/2018
17	AUTOCHECK: Check Surrogate recoveries	NO *	VTS	12/11/2018
	Comments: *Surrogate Recovery for o-Terphenyl (48.0%) was outside acceptance limits (50-150) in 18L0005-13RE1 for TPH AK102 - Flagged value is not within established control limits. Triacontane did meet recovery limit. No corrective action taken at this time*			
18	AUTOCHECK: Checks Surrogate spike list against Analysis	YES *	VTS	12/11/2018
19	Data locked, checklist completed and status is analyzed (REVIEWER)	YES	BB	12/11/2018
20	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES	BB	12/11/2018
21	rev_DilutionCheck.rpt and rev_DilutionCheck.exe was run to verify multiple sample results are consistent (REVIEWER)	NA	BB	12/11/2018

* = Indicates Automated Response from Element DataSyst

SVCA Area Z Remediation

18K0439

Analysis	Matrix	Method
TPH NW (Extractables) low level	**Solid**	**NWTPH-Dx**
TPH NW (Extractables) low level	**Water**	**NWTPH-Dx**

Checklist for SEQUENCE SGL0100

Checklist: Analyst Checklist-FID(rev3)

#	Checklist Item	Response	Analyst Initials	Date
22	List of samples or QC in this sequence that will require additional runs-verify reshot created (ANALYST)	NA	VTS	12/11/2018
23	List of samples or QC in this sequence that are re-analysis or dilutions of samples (ANALYST)	NA	VTS	12/11/2018
24	Additional Notes (ANALYST and REVIEWER)	NA	VTS	12/11/2018

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGF0092	Instrument:	FID3
Calibration:	BF00020	Calibration Date:	05/25/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGF0092-ICV1 (Solid)				Lab File ID: 318F0607.D			Analyzed: 06/07/18 12:39	
o-Terphenyl	90.000	104	85 - 115	6.15	6.145	0.0050	N/A	

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGI0435	Instrument:	FID3
Calibration:	BF00020	Calibration Date:	05/25/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGI0435-ICV1 (Solid)				Lab File ID: 318I2712.D			Analyzed: 09/27/18 14:29	
o-Terphenyl	90.000	97.2	85 - 115	6.05	6.145	-0.0950	N/A	

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGJ0080	Instrument:	FID3
Calibration:	BF00020	Calibration Date:	05/25/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGJ0080-ICV1 (Water)				Lab File ID: 318J0311.D			Analyzed: 10/03/18 10:18	
o-Terphenyl	90.000	88.3	85 - 115	6.04	6.145	-0.1050	N/A	
SGJ0080-ICV3 (Water)				Lab File ID: 318J0313.D			Analyzed: 10/03/18 10:56	
o-Terphenyl	90.000	95.4	85 - 115	6.04	6.145	-0.1050	N/A	

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGL0047	Instrument:	FID3
Calibration:	BF00020	Calibration Date:	10/03/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGL0047-IBL1 (Solid)				Lab File ID: 318L0503.D			Analyzed: 12/05/18 11:36	
o-Terphenyl	100.00	100	50 - 150	6.06	6.145	-0.0850	N/A	
SGL0047-IBL2 (Solid)				Lab File ID: 318L0504.D			Analyzed: 12/05/18 11:54	
o-Terphenyl	100.00	102	50 - 150	6.06	6.145	-0.0850	N/A	
SGL0047-ICV1 (Solid)				Lab File ID: 318L0505.D			Analyzed: 12/05/18 12:13	
o-Terphenyl	90.000	101	85 - 115	6.07	6.145	-0.0750	N/A	
BGL0011-BLK1 (Water)				Lab File ID: 318L0510.D			Analyzed: 12/05/18 13:47	
o-Terphenyl	0.22500	91.1	50 - 150	6.06	6.145	-0.0850	N/A	
BGL0011-BS1 (Water)				Lab File ID: 318L0511.D			Analyzed: 12/05/18 14:06	
o-Terphenyl	0.22500	83.6	50 - 150	6.07	6.145	-0.0750	N/A	
BGL0011-MRL1 (Water)				Lab File ID: 318L0512.D			Analyzed: 12/05/18 14:25	
o-Terphenyl	0.22500	84.4	50 - 150	6.07	6.145	-0.0750	N/A	
18K0439-01 (Water)				Lab File ID: 318L0513.D			Analyzed: 12/05/18 14:44	
o-Terphenyl	0.22500	85.8	50 - 150	6.07	6.145	-0.0750	N/A	

SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18K0439
Client:	Anchor QEA, LLC	Project:	SVCA Area Z Remediation
Sequence:	SGL0100	Instrument:	FID3
Calibration:	BF00020	Calibration Date:	10/03/2018

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGL0100-IBL1 (Solid)				Lab File ID: 318L1002.D			Analyzed: 12/10/18 08:16	
o-Terphenyl	100.00	107	50 - 150	6.07	6.145	-0.0750	N/A	
SGL0100-IBL2 (Solid)				Lab File ID: 318L1003.D			Analyzed: 12/10/18 08:35	
o-Terphenyl	100.00	98.1	50 - 150	6.06	6.145	-0.0850	N/A	
SGL0100-ICV1 (Solid)				Lab File ID: 318L1004.D			Analyzed: 12/10/18 08:54	
o-Terphenyl	90.000	95.9	85 - 115	6.07	6.145	-0.0750	N/A	
BGL0092-BS1 (Water)				Lab File ID: 318L1009.D			Analyzed: 12/10/18 10:27	
o-Terphenyl	0.22500	87.7	50 - 150	6.07	6.145	-0.0750	N/A	
BGL0092-BLK1 (Water)				Lab File ID: 318L1010.D			Analyzed: 12/10/18 10:46	
o-Terphenyl	0.22500	88.6	50 - 150	6.06	6.145	-0.0850	N/A	
18K0439-02 (Water)				Lab File ID: 318L1011.D			Analyzed: 12/10/18 11:05	
o-Terphenyl	0.22500	94.3	50 - 150	6.06	6.145	-0.0850	N/A	

HOLDING TIME SUMMARY

Analysis: NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 18K0439

Client: Anchor QEA, LLC Project: SVCA Area Z Remediation

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
MW-4-181129 18K0439-01	11/29/18 13:50	11/30/18 10:50	12/03/18 13:45	3	7	12/05/18 14:44	2	40	
MW-4-181129 18K0439-02	11/29/18 13:50	11/30/18 10:50	12/05/18 14:47	6	7	12/10/18 11:05	5	40	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Solid
Instrument: FID3

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	2.34	5.00	mg/kg
Motor Oil Range Organics (C24-C38)	2.99	10.0	mg/kg

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.
SDG: 18K0439
Client: Anchor QEA, LLC
Project: SVCA Area Z Remediation
Matrix: Water
Instrument: FID3

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	0.033	0.100	mg/L
Diesel Range Organics (C10-C24)	0.050	0.100	mg/L
Motor Oil Range Organics (C24-C38)	0.056	0.200	mg/L

Appendix C
Terrestrial Ecological Evaluation Form

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Terrestrial-ecological-evaluation

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: Sudden Valley Resort	
Facility/Site Address: 2650 Lake Louise Road, Bellingham, WA 98229	
Facility/Site No: 47652753	VCP Project No.: NW2897

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Mark Larsen		Title: Principle Scientist	
Organization: Anchor QEA, LLC			
Mailing address: 1605 Cornwall Avenue			
City: Bellingham	State: WA	Zip code: 98225	
Phone: (360) 903-3359	Fax:	E-mail: mlarsen@anchorqea.com	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☑ Yes *If you answered **"YES,"** then answer **Question 2**.*

☐ No or Unknown *If you answered **"NO" or "UNKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☐ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☐ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☑ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

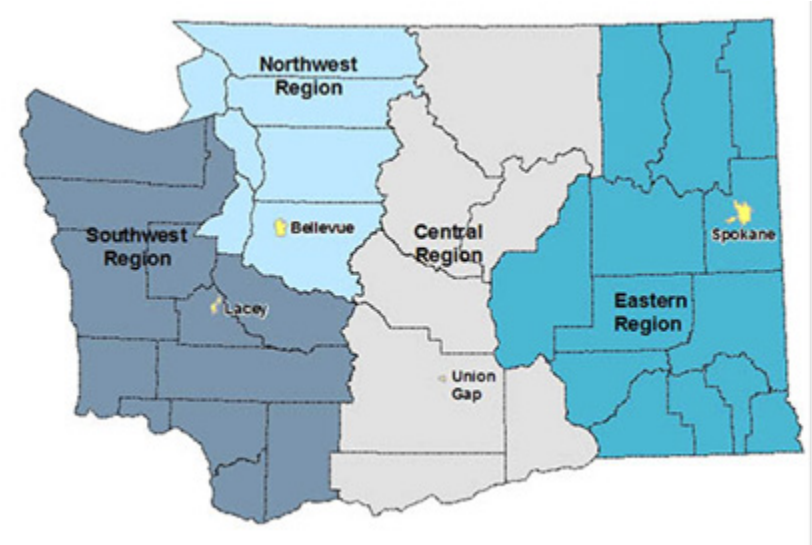
* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295

If you need this publication in an alternate format, please call the Toxics Cleanup Program at 360-407-7170. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call 877-833-6341.