

# INTERIM ACTION WORK PLAN

## Texaco Strickland Site

Prepared for:

Strickland Real Estate Holdings, LLC and  
Chevron Environmental Management Company

Project No. 180357 • June 14, 2021 • PUBLIC REVIEW DRAFT



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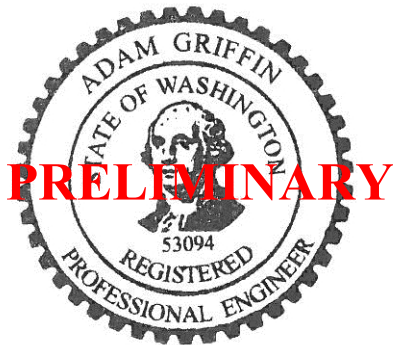
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## Acronyms and Abbreviations

AO	Agreed Order
ARARs	Applicable or Relevant and Appropriate Requirements
Aspect	Aspect Consulting, LLC
ASTM	ASTM International
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
Cambria	Cambria Environmental Technology, Inc.
CDF	controlled-density fill
CEMC	Chevron Environmental Management Company
CFR	Code of Federal Regulations
City	City of Lynnwood
COPCs	contaminants of potential concern
CRA	Conestoga-Rovers & Associates, Inc.
cVOCs	chlorinated volatile organic compounds
DAHP	Department of Archeological and Historic Preservation
EA	Environmental Associates, Inc.
Ecology	Washington State Department of Ecology
EDB	1,2-dibromoethane
EDC	1,2-dichloroethane
EIM	Environmental Information Management database
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
FINE	FINEnvironmental, Inc.
FS	Feasibility Study
GeoEngineers	GeoEngineers, Inc.
GPR	ground penetrating radar
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response

IAR	Interim Action Report
IAWP	Interim Action Work Plan
IDP	Inadvertent Discovery Plan
mg/kg	milligrams per kilogram
LNAPL	light non-aqueous phase liquid
LUST	leaking underground storage tank
MA APH	Massachusetts Department of Environmental Protection Air-Phase Petroleum Hydrocarbons
MTBE	Methyl tert-butyl ether
MTCA	Model Toxics Control Act
NAVD88	North American Vertical Datum of 1988
NFA	No Further Action
Nowicki	Nowicki & Associates
OSHA	Occupational Health and Safety Administration
PAHs	polycyclic aromatic hydrocarbon
PCBs	polychlorinated biphenyl
PCS	petroleum-contaminated soil
PID	photoionization detector
PIS	petroleum-impacted soil
PLIA	Washington State Pollution Liability Insurance Agency
PLPs	Potentially Liable Parties
PTAP	Petroleum Technical Assistance Program
RBM	regulated building material
RCW	Revised Code of Washington
RI	Remedial Investigation
RIWP	Remedial Investigation Work Plan
ROW	right-of-way
SAP/QAPP	Sampling Analysis Plan / Quality Assurance Project Plan
SEPA	State Environmental Policy Act
SREH	Strickland Real Estate Holdings, LLC

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TESC	temporary erosion and sediment control
TPHd	total petroleum hydrocarbons as diesel
TPHg	total petroleum hydrocarbons as gasoline
TPHo	total petroleum hydrocarbons as oil
USGS	U.S. Geological Survey
UST	underground storage tank
VI	vapor intrusion
VOC	volatile organic compound
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
WISHA	Washington Industrial Health and Safety Act

# 1 Introduction

Aspect Consulting, LLC (Aspect) has prepared this Interim Action Work Plan (IAWP), on behalf of Strickland Real Estate Holdings, LLC (SREH) to describe Interim Action cleanup activities to be completed at the Texaco Strickland Cleanup Site (the Site), located at 6808 196th Street SW in Lynnwood, Washington (the Property; Figure 1). The Property is recorded by the Snohomish County Tax Assessor as tax parcel #27042000200600. Two potentially liable parties (PLPs), Strickland Real Estate Holdings, LLC (SREH) and Chevron Environmental Management Company (CEMC), entered into Agreed Order (AO) No. 14315 with the Washington State Department of Ecology (Ecology) on August 28, 2018. On December 14, 2020, Ecology named Jiffy Lube International, Inc. (Jiffy Lube) as a PLP with regard to the Site.

The planned Interim Action is based on the results of the ongoing Remedial Investigation (RI) outlined in the “RI Work Plan” (RIWP, Aspect 2019). The first Remedial Investigation (RI) activities under the AO were completed in June 2019 and documented in the RIWP Addendum dated May 28, 2020 (Aspect, 2020). The RI activities were completed in accordance with the Ecology-approved RIWP and RIWP Addendum (Aspect, 2019 and 2020) and consisted of characterizing the nature and extent of residual light non-aqueous phase liquid (LNAPL) and petroleum-contaminated soil and groundwater exceeding the Model Toxics Control Act (MTCA) Method A cleanup levels at the Site. Additional RI activities were necessary to define extent of LNAPL and petroleum-contaminated groundwater (Aspect, 2020). The investigation results will be compiled in the AO-required deliverable RI Report. The RI results form the basis of the planned Interim Action described herein.

Historical operations resulted in the release of petroleum hydrocarbons to the subsurface, impacting soil and groundwater on the Property. Contaminated groundwater has migrated off-Property. Remedial investigations have identified LNAPL in monitoring wells at the Property. The LNAPL at the Site is a hazardous substance which must be treated or removed if it cannot be reliably contained (Washington Administrative Code [WAC] 173-340-360(2)(c) (ii)(A)).

The primary purpose of the Interim Action is to remove LNAPL and contaminated soils from the Property to the maximum extent practicable (considering Site constraints) and mitigate the potential exposure pathways at the Site. A gasoline service station was operated at the Property for approximately 18 years (1959 to 1977) and a Jiffy Lube/Equilon lube facility operated at the Property for approximately 26 years (1977 to 2006). Ecology has determined that releases from the gasoline service station and the lube facility have commingled at the Site. LNAPL has accumulated at the groundwater interface and is a continuing source of contamination to groundwater and soil gas at the Site.

Concurrent with the Interim Action, the PLPs will close the remaining RI data gaps and satisfy the RI-requirements in the AO. The Interim Action will be implemented on a separate track from RI activities. The RI results, and the Interim Action performance

monitoring results will serve as the basis of the final cleanup action to be selected in the next AO-deliverable, the Feasibility Study (FS) Report.

## 1.1 Work Plan Organization

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This IAWP is organized as follows:

- Section 2 – Site Description and Subsurface Conditions
- Section 3 – Interim Action Summary
- Section 4 – Interim Action Elements
- Section 5 – Compliance Monitoring
- Section 6 – Permitting
- Section 7 – Reporting
- Section 8 – Schedule
- Section 9 – References
- Section 10 – Limitations



## 2 Site Description and Subsurface Conditions

### 2.1 Site History and Description

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The Property is zoned as commercial and currently developed with one unoccupied building. The Property is identified by Snohomish County Parcel Number 27042000200600. The following subsections summarize the operational history of the Property and the land use of the adjacent properties.

#### 2.1.1 Operational History of the Property

Based on the construction date of the service station building, the Property was first developed in approximately 1959. A review of historical documents has established the following operational history for the Site (Conestoga-Rovers & Associates [CRA], 2011; Aspect, 2019; Aspect, 2020):

- 1959 to 1977 – Texaco-branded Service Station:** The property was initially developed with a Texaco-branded service station in 1959. Based on construction drawings, the service station consisted of two 4,000-gallon leaded gasoline underground storage tanks (USTs); one 6,000-gallon leaded gasoline UST; a single pump island with three pumps; associated product conveyance piping; an in-ground vehicle hoist; a 550-gallon used oil UST; and a 1,000-gallon heating oil UST.

Historical Site features are shown on Figure 2. The three gasoline USTs were removed by 1977 (Aspect, 2020). The 550-gallon waste oil and 1,000-gallon heating oil USTs remain in place, but it is unknown if they were decommissioned.

- 1977 to 2006 – Jiffy Lube/Equilon Lube Facilities:** In 1977, the property was converted to a lube facility, which operated continuously until approximately 2006. During this time, two additional USTs were installed on the property. According to Ecology’s UST database, a 500-gallon used oil UST and a 3,000-gallon motor oil UST were installed in June of 1982. In 1995, these two USTs were decommissioned: the 500-gallon used oil UST was closed in place, and the 3,000-gallon motor oil UST was removed (see following section).
- 2006 to 2018 – Aloha Café:** In 2006, the building was renovated into a restaurant, Aloha Café, which operated until 2018.
- 2018 to Present –** The property has been vacant since 2018 to allow for ongoing remedial investigations.

#### 2.1.2 Adjacent Property Descriptions

The parcel to the west of the Property (tax parcel 27042000200800) is commercially occupied by a strip mall, where a dry cleaner (Slater’s One Hour Cleaners) historically operated. According to city directory records, Slater’s One Hour Cleaners operated from at least 1971 through at least 2013.

The parcels to the south (tax parcel 27042000201000 and 27042000200900) are occupied by a multi-family residential apartment building owned by FWAK, LLC and operated as Chri-Mar Apartments. The presence of chlorinated solvents in soil and groundwater occur on this property based on environmental characterization work performed by Environmental Associates, Inc. (EA) on behalf of that property owner (EA, 2016a and 2018; see Section 2.3.3).

A commercial strip mall is located to the north of the Property across 196th Street SW. This property (tax parcel 27041700307000) was historically occupied by a Shell-branded service station with confirmed releases of petroleum and impacts to soil and groundwater. Shell is pursuing an opinion through the Washington State Pollution Liability Insurance Agency's (PLIA's) Petroleum Technical Assistance Program (PTAP).

The parcel to the east of the Property (tax parcel 27042000103100), across 68th Ave West, is currently used as parking for Edmonds Community College. This parcel was previously occupied by an Exxon-branded service station, which had confirmed releases of petroleum hydrocarbons to soil and groundwater. A remedial excavation was conducted on the property in 2005, and a No Further Action (NFA) determination was issued by Ecology in 2007.

## 2.2 Site Geology and Hydrogeology

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The geology at the Site is imported fill to depths of approximately 10 feet below ground surface (bgs). This fill soil is underlain by unconsolidated silt, sand, gravel, and clay characteristic of a weathered glacial till deposit. The till deposit increases in density from 18 feet bgs to 32.5 feet bgs, the maximum depth explored at the Site. A cross section depicting these geologic strata are shown in Figure 4.

Fill material was encountered in all 26 soil borings advanced as part of the RIWP and RIWP Addendum implementations to depths ranging between 4 and 10 feet bgs. Boring logs are included as Appendix A. Fill material at the Site is comprised of sand with gravel and sand with silt and gravel. The sand content varied from poor- to well-graded, and the sand and gravel were subangular to subrounded. The fill was generally loose, and the fines (where present) were low plasticity.

Beneath the fill, Vashon till was encountered in all borings, which is consistent with the mapped geologic unit of the area (USGS, 1983). The till encountered during subsurface explorations had a variable composition and included silt (MH); sandy silt with gravel (ML); silty sand and silty sand with gravel (SM); sand with silt and sand with silt and gravel (SW/SP-SM); and sand with gravel (SP). The density of the till was consistent across the Site, ranging from medium dense at the fill-till interface and grading to very dense within a few feet below the interface.

The majority of the subsurface explorations were completed using a hollow-stem auger drilling rig, and geotechnical information was collected for nearly all borings. Based on the observed blow counts, the weathered, medium dense top of till varied in thickness between 2.5 and 15 feet. The underlying unweathered till is differentiated based on the blow counts and inferred density during drilling (Appendix A).

Groundwater is present at the Site and encountered at depths ranging from 7 to 15 feet bgs in the Vashon till unit. The horizontal hydraulic gradient is steep (5 percent). Groundwater flow at the Site and adjacent properties is generally to the southwest, with some minor seasonal variation.

## 2.3 Summary of Previous Remedial Investigation and Cleanup Actions

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### 2.3.1 *Underground Storage Tank Removals and Closures*

To date, at least seven USTs have been installed on the Property. Four of the USTs have been removed; one was closed in place; and two confirmed to be present at the Property by a geophysical survey (Aspect, 2020). A description of installation date, decommissioning date and method, and tank operator is included below and summarized in Table A.

#### 2.3.1.1 1977 UST Closure

The three gasoline USTs associated with the Texaco-branded service station were decommissioned (removed) in 1977 when the Property was converted to a Jiffy Lube/Equilon lube oil facility (Aspect, 2020). Based on the building plans for the original service station, these USTs were located in the northeastern corner of the Property, and the dispenser islands were located in the north-central portion of the Property (Figure 2). Decommissioning details are not available; however, a Snohomish County tax assessor indicates the tanks were indeed removed in 1977 (Aspect, 2020).

#### 2.3.1.2 1995 UST Closure

Petroleum-impacted soil related to the former Jiffy Lube/Equilon lube oil facility was discovered in 1995 during removal of a 3,000-gallon new oil UST and closure-in-place of a 500-gallon waste oil UST (Figure 2). Nowicki & Associates (Nowicki) oversaw the removal of approximately 65 tons of soil impacted with total petroleum hydrocarbons as oil (TPHo) above the MTCA Method A cleanup level from the area of the former 3,000-gallon new oil UST (Nowicki, 1995a). Post-excavation sidewall and bottom samples collected by Nowicki concluded that soils impacted by TPHo exceeding the MTCA Method A cleanup levels had been removed.

The 500-gallon waste oil UST located beneath the building was decommissioned by cleaning and slurry filling. A soil boring was advanced approximately 4 feet south of the tank (location SB, Figure 2), and samples were analyzed for TPHo and TPH as gasoline (TPHg). Both TPHo and TPHg were detected at concentrations exceeding MTCA Method A cleanup levels at depths of 1.3 and 2 feet bgs.

The releases were reported to Ecology in 1995. The Site was subsequently listed with Ecology's leaking underground storage tank (LUST) program, as Site ID #6802.

#### 2.3.1.3 Geophysical Survey and UST Inventory Summary

Aspect subcontracted Philip Duoos to conduct electromagnetic and ground penetrating radar (GPR) geophysical surveys at the Property. The purpose of these surveys was to evaluate the potential presence of any remaining subsurface service station infrastructure,

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including potential USTs and product/vent lines. The geophysical survey was completed on June 3, 2019.

The geophysical survey noted that a large excavation was present in the northeast portion of the Property where station construction drawings indicated the three gasoline USTs were located. The results of the geophysical survey confirmed that the three gasoline USTs were removed from the Property. The gasoline contents of the USTs are documented in station construction diagrams and tax assessor records.

Two probable concrete slabs were encountered in the north central portion of the Property, at the location of the former pump islands. Numerous probable pipes were encountered extending from the excavation extents to the concrete slabs, indicating that product conveyance piping still exists. The depths of these probable pipes ranged from approximately 2.5 to 4 feet bgs.

What appeared to be an unknown UST was also detected on the north side of the existing building, which was not identified in the Final RIWP. The unknown UST was located at approximately 3.2 feet bgs. Another UST was detected at the southeast corner of the existing building and is assumed to be the 500-gallon heating oil UST based on the station construction diagrams.

A summary of all USTs at the Site is included below as Table A. The geophysical survey report is included as Appendix B in the RIWP Addendum (Aspect, 2020). The results of the geophysical survey were evaluated prior to mobilizing for other RIWP activities.

**Table A. UST Summary**

UST	Contents	Installation Date	Decommissioning Date and Method	Tank Operator
4,000-gallon	Gasoline	1959	1977 – Removed	Service Station Dealer
4,000-gallon	Gasoline	1959	1977 – Removed	Service Station Dealer
6,000-gallon	Gasoline	1959	1977 – Removed	Service Station Dealer
3,000-gallon	New Oil	1982	1995 – Removed	Jiffy Lube/Equilon
500-gallon	Waste oil	1982	1995 – Closed In-Place	Jiffy Lube/Equilon
500-gallon <sup>(a)</sup>	Heating Oil	Unknown	Unknown – Unknown	Jiffy Lube/Equilon
Unknown UST <sup>(b)</sup>	Unknown	Unknown	Unknown – Unknown	Unknown

**Notes:**

- (a) The installation date of the 500- gallon heating oil UST cannot be confirmed but was reported to be 1989 (CRA, 2011). However, station construction diagrams show it was likely installed along with the station in the 1950s.
- (b) The unknown UST was identified on the north side of the building during the geophysical survey. Station construction diagrams indicate this was likely used as waste oil storage tank.

### 2.3.2 Historical Environmental Investigations

Environmental investigations were completed at the Site between 1995 and 2012:

- Nowicki, 1995b – Nowicki advanced two soil borings (SB1 and SB2) to the north of the existing building.
- FINE Environmental, Inc. (FINE), 2003 – FINE completed a Phase I Environmental Site Assessment (ESA) that identified the Property had operated as a Texaco-branded gasoline service station prior to 1977.
- GeoEngineers, Inc. (GeoEngineers), 2004 – GeoEngineers completed a Phase I ESA which resulted in similar findings to the Phase I conducted by FINE.
- Cambria Environmental Technology (Cambria), 2006 – Cambria installed five monitoring wells (MW-1 through MW-5) and advanced one soil boring (SB-1) at the Property.
- Conestoga-Rovers & Associates, Inc. (CRA), 2007 – CRA installed five monitoring wells (MW-6 through MW-10) on the Property.
- CRA, 2011 – CRA advanced two soil borings (SB-3 and SB-4) and summarized Site characterization data collected to date.
- CRA, 2014 – CRA advanced three additional soil borings (SB-5 through SB-7).

A complete summary of historical environmental investigations completed at the Site served as the primary basis of the data gaps identified in the Final RIWP (Aspect, 2019).

### 2.3.3 Off-Property Environmental Investigations

In February 2016, EA conducted a limited subsurface investigation and subsequent indoor air sampling at the adjacent property to the south, Chri-Mar Apartments. No TPHg, TPH as diesel (TPHd), TPHo, or benzene, toluene, ethylbenzene, and total xylenes (BTEX) compounds were detected in soil or groundwater at the five boring locations (B-01 through B-05, Figure 2). Grab soil vapor samples were collected from borings B-01 and B-03, and concentrations of benzene exceeded the MTCA Method B subslab soil gas screening level at both locations (EA, 2016a).

In March 2016, EA returned to the Chri-Mar Apartments property to conduct indoor and outdoor air sampling. Two indoor air samples were collected from the interior of the Chri-Mar complex, and one outdoor air sample was collected. Samples were collected over a 24-hour period. Benzene was detected in both indoor air samples and the outdoor air sample at concentrations exceeding the MTCA Method B indoor air cleanup levels (EA, 2016b). The benzene concentrations in the outdoor air sample indicate a background source to indoor air in this suburban area with lots of vehicle traffic.

## 2.4 Summary of 2019 and 2020 Remedial Investigation Results

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SREH and CEMC entered into AO No. 14315 with Ecology on August 28, 2018, in order to select a cleanup action for the Site. The first AO-deliverable, the RIWP, was finalized by Aspect on March 6, 2019, and approved by Ecology on March 20, 2019 (Aspect, 2019). Based on the RIWP results, an RIWP Addendum was produced to address the

outstanding data gaps for completion of the RI, and was finalized on May 28, 2020 (Aspect, 2020). The results of RI activities conducted under the AO are summarized below.

### 2.4.1 Soil Analytical Results

A total of 52 unique soil samples (not including quality control samples) were submitted to Friedman & Bruya, Inc., a state-certified laboratory, for chemical analysis of the following contaminants of potential concern (COPCs):

- TPHg by Ecology Method NWTPH-Gx
- TPHd and TPHo by Ecology Method NWTPH-Dx
- BTEX and naphthalene by United States Department of Environmental Protection Agency (EPA) Method 8260C

Additionally, select soil samples were analyzed for the following:

- 8 of the 52 samples were analyzed for 1,2-dichloroethane (EDB); 1,2-dibromoethane (EDC); and methyl tert-butyl ether (MTBE) by EPA Method 8260C.
- 4 of the 52 samples were analyzed for lead by EPA Method 6010C at locations where TPHg concentrations were elevated.
- 6 of the 52 samples were analyzed for chlorinated volatile organic compounds (cVOCs) by EPA Method 8260C from locations along the western Property boundary.

Soil analytical results are summarized in Table 1 and presented on Figure 3. Based on the analytical data, TPHg, TPHd, TPHo, benzene, ethylbenzene, total xylenes, and naphthalene were detected above their respective MTCA Method A cleanup levels, and these analytes comprise the COPCs in soil at the Site. The following locations and depths contained one or more COPCs at concentrations greater than their respective MTCA Method A cleanup level (Table 1, Figure 3):

- B-07 at a depth of 8 feet bgs
- MW-11 at depths of 1 and 6 feet bgs
- MW-15 at depths of 10.5, 13, and 17.5 feet bgs
- MW-22 at a depth of 16 feet bgs
- MW-23 at depths of 18 and 25 feet bgs

The remaining soil borings did not contain detectable concentrations of TPHg or other Site COPCs. Additionally, no cVOCs were detected in soil from borings along the western Property boundary (B-08, GP-04, MW-12, MW-13, MW-14, MW-18, and MW-19; Table 1) and closest to the former dry cleaner. Laboratory analytical reports are included as Appendix B. Data validation reports are included as Appendix C.

### 2.4.2 Groundwater Elevation and Analytical Results

Groundwater occurs in the fill and weathered glacial till at the Site (Figure 4). Groundwater was gauged at depths ranging between approximately 8 and 16 feet bgs, corresponding to elevations of 431 to 442 feet (NAVD88<sup>1</sup>) during the four monitoring events performed from August 2019 to November 2020 (Table 3). During each event, the groundwater flow direction was to the southwest at an average horizontal hydraulic gradient of 0.05 foot/foot (Figure 5).

During three of the four groundwater sampling events, LNAPL was present in monitoring wells MW-3, MW-4, MW-5, MW-8, and MW-15, and these monitoring wells were therefore not sampled. In August 2020, no LNAPL was measured at MW-4 or MW-8, and groundwater samples were collected. Groundwater samples were submitted to Friedman & Bruya, Inc. and analyzed for the following COPCs:

- TPHg by Ecology Method NWTPH-Gx
- TPHd and TPHo by Ecology Method NWTPH-Dx
- Naphthalene by EPA Method 8260C
- BTEX, EDB, EDC, and MTBE by EPA Method 8260C (August and November 2019 only)
- Total lead by EPA Method 6010C (August and November 2019 only)

Additionally, samples from monitoring wells closest to the former dry cleaner operation were analyzed for cVOCs by EPA Method 8260C. Laboratory analytical reports are included as Appendix B; data validation reports are included in Appendix C.

Groundwater analytical results are summarized in Table 4. Analytical results from the two 2020 events are presented on Figure 5. Based on the analytical data, TPHg, TPHd, TPHo, BTEX, and naphthalene were detected above their respective MTCA Method A cleanup levels. The following locations contained one or more COPCs at concentrations greater than the respective MTCA Method A cleanup levels (Table 4, Figure 5): MW-1, MW-2, MW-4, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14, MW-17, MW-18, MW-21, MW-22, and MW-23.

Based on recent groundwater data, the groundwater plume has been delineated to the east and southeast (Figure 5). Based on the results of the two sampling events, it is apparent that results at the edges of the groundwater plume show seasonal variability (Figure 4). This may be due to groundwater contacting more residual, sorbed-phase petroleum hydrocarbon impacts present in the smear zone during certain seasons and also may be attributable to increased groundwater flow during certain conditions.

### 2.4.3 Soil Gas Analytical Results

A total of 16 unique soil gas samples (not including quality control samples) were collected in July 2019, August 2020, and November 2020 events and submitted to Friedman & Bruya, Inc. for analysis of the following:

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<sup>1</sup> Elevations presented in feet referenced to North American Vertical Datum of 1988 (NAVD88).

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- BTEX and naphthalene by EPA Method TO-15
- Aliphatic and aromatic hydrocarbons by Massachusetts Department of Environmental Protection Air-Phase Petroleum Hydrocarbons (MA APH)

Additionally, samples collected during the July 2019 event were analyzed for EDB, EDC, and MTBE by EPA Method TO-15.

Soil gas sampling results are summarized in Table 5 and the August 2020 and November 2020 results are presented on Figure 6. The concentration for TPH was calculated as the sum of aliphatic hydrocarbons, aromatic hydrocarbons, and gas-range volatile organic compounds (VOCs) and was compared to the generic total petroleum hydrocarbon screening level.<sup>2</sup> Total petroleum hydrocarbons exceeded the MTCA Method B subslab screening level for unrestricted use at the following locations:

- GP-03 during all three events.
- GP-05 during the November 2020 sampling event (the only sampling event for this location).
- SVS-01 during the August 2020 sampling event.

Individual analytes, including carcinogenic compounds, were not detected above their respective MTCA Method B subslab screening levels (Table 5). EDB, EDC, and MTBE were not detected in soil gas. Laboratory analytical reports are included as Appendix B, and data validation reports are included in Appendix C.

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<sup>2</sup> The generic subslab TPH screening level is based on the generic TPH indoor air cleanup level of 140 ug/m<sup>3</sup> and an attenuation factor of 0.03 in accordance with Ecology's Implementation Memo No. 18 (Ecology, 2018a).



## 3 Interim Action Summary

The purpose of the Interim Action is to remove LNAPL and contaminated soils from the Property to the maximum extent practicable (considering Site constraints) and mitigate the potential exposure pathways at the Site. Excavation of the LNAPL source and surrounding soils exceeding MTCA cleanup levels will be performed as an Interim Action under AO No. 14315.

The Interim Action will consist of a planned excavation to an average depth of 18 feet bgs with the ability to overexcavate deeper to an average maximum depth of 30 feet bgs, if warranted based on soil performance monitoring. Demolition of the building and temporary shoring on the northern and western Property extents is required to remove the LNAPL source from the Property. The remedial excavation will be backfilled to original grade.

### 3.1 Objectives

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The Interim Action will be conducted to achieve the following objectives:

- Remove the LNAPL source of contamination at the Site.
- Achieve soil remediation levels at the excavation limits, to the extent practicable.
- Remove potential sources of contamination to groundwater and soil gas, including both LNAPL and petroleum hydrocarbons sorbed to soil as mentioned above, mitigating potential off-Property soil vapor intrusion risks.

### 3.2 Exposure Pathways

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The goal of an Interim Action is “to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance” (WAC 173-340-430(1)(a)). The following exposure pathways are determined to be complete or potentially complete at the Site:

- **LNAPL to Groundwater:** The LNAPL to groundwater pathway is complete at the Site. LNAPL has accumulated at the water table and dissolves into groundwater.
- **Soil to Groundwater:** The soil to groundwater pathway is complete at the Site. Sorbed-phase contamination is present in and surrounding the LNAPL body and leaches to groundwater.
- **Vapor Intrusion (VI):** The vapor intrusion pathway is potentially complete at the Site.

These exposure pathways serve as a basis of the Interim Action. The exposure pathway assessment for the Site will be presented in the RI Report.

### 3.3 Basis of Interim Action

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The primary purpose of the Interim Action is to remove LNAPL and contaminated soils from the Property to mitigate the potential exposure pathways at the Site. LNAPL has

accumulated at the groundwater interface and is a continuing source of contamination to groundwater and soil gas at the Site. Based on environmental investigations conducted to date, the product released migrated vertically through the vadose zone (which consists of loose fill material) and accumulated at capillary contacts (the fill/till interface and/or groundwater table). The LNAPL migrated downgradient to the southwest through gravity and capillary forces on the surface of the water table.

Over the entire historical monitoring record, LNAPL thickness has varied at monitoring wells MW-3, MW-4, MW-5, MW-8 and MW-15, with the following maximum observed thicknesses:

- 0.39 feet in MW-3,
- 0.32 feet in MW-4,
- 1.12 feet in MW-5,
- 0.61 feet in MW-8, and
- 0.66 feet in MW-15.

LNAPL has not accumulated at MW-23, which bounds the downgradient LNAPL extent to the Property. The LNAPL extent is estimated as 3,100 square feet (sf) and is shown on Figure 2. A large portion of the LNAPL extent is underneath the existing building at the Property.

Seasonally, the thickness in LNAPL wells can decrease to 0 feet during high groundwater elevations. Seasonal groundwater elevation fluctuations are significant at the Site, varying between 5.02 feet at MW-08 and up to 7.25 feet at MW-09 over the 13-year monitoring record. This groundwater seasonality controls the observed LNAPL thicknesses in monitoring wells.

Based on the groundwater seasonality, the estimated LNAPL smear zone thickness is approximately 5 to 7 feet. The bottom of the smear zone was observed between 6 and 13 feet bgs in the vicinity of the release, and 10 to 18 feet bgs at the most downgradient LNAPL well, MW-15. It is possible that LNAPL accumulated at the groundwater interface at a rate greater than it could migrate downgradient, creating a slight hydraulic head which would allow LNAPL migration in the apparent upgradient direction of MW-5 and MW-8 and potentially off the Property to the north. The northern LNAPL extents have been bound by MW-17: there is a 16-inch diameter, high-pressure water main and major fiber optic corridor in the sidewalk and a high-pressure natural-gas main in the southern lane of 196th Street SW. MW-17 was placed as close to MW-8 as these utilities allowed.

The excavation and off-Site disposal of the contaminated soils associated with the LNAPL source zone at the Site is the basis of the Interim Action.

### 3.4 Remediation Levels

COPCs at the Site were refined based on the analytical data collected during historical and current RI activities<sup>3</sup>. The following COPCs were identified for each environmental media:

- **Soil:** BTEX, TPHg, TPHd, TPHo, and naphthalene
- **Groundwater:** BTEX, TPHg, TPHd, TPHo, and naphthalene
- **Soil Gas:** Benzene, TPH

For the purposes of this interim soil removal action, soil remediation levels have been established. Because cleanup levels have not yet been determined for the Site, the Interim Action will target soil compliance with remediation levels defined for the Interim Action in accordance with WAC 173-340-355 and 173-340-360. The soil remediation levels for Site COPCs are the MTCA Method A cleanup levels, as shown in Table B.

**Table B. Soil Remediation Levels**

Analyte	Soil Remediation Level (milligrams per kilogram [mg/kg])
TPHg	30
TPHd	2,000
TPHo	2,000
Benzene	0.03
Toluene	7
Ethylbenzene	6
Total Xylenes	9
Naphthalene	5

### 3.5 Soil Removal

The excavation and off-Site disposal of the contaminated soils associated with the LNAPL source zone at the Site is the first Interim Action objective. The second Interim Action objective is to achieve the remediation levels at the excavation extents, to the extent practicable. This section estimates to the soil excavation extents, in order to meet this objective.

Soil exceedances have been laterally delineated in all directions (Figure 3). The RI soil analytical results have vertically delineated cleanup level exceedances at depths of 16 to 25 feet bgs in areas close to the LNAPL footprint (MW-15 and MW-22) and at depths up to 8 feet bgs outside the LNAPL footprint (B-07 and MW-11).

Soil was not vertically delineated at locations MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-8, MW-9, MW-10, and MW-23. At these locations, only benzene exceeded

<sup>3</sup> EDB, EDC, MTBE, Lead, polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) have all been eliminated as COPCs at the Site and approved by Ecology in the RIWP Addendum (Aspect, 2020).

the MTCA Method A cleanup level in each of the deepest analytical results from each boring. Table C below shows the maximum depth where analytical data was acquired for each of these locations; all soil analytical results are available in the attached Table 1.

**Table C. Locations Lacking Vertical Delineation**

Location	Depth (feet bgs)	Benzene Soil Concentration (milligrams per kilogram [mg/kg])
MW-1	27.5	0.14
MW-2	17.5	0.33
MW-3	17.5	0.53
MW-4	17.5	0.24
MW-5	17.5	0.09
MW-6	20	0.0921
MW-8	20	0.0486
MW-9	20	0.104
MW-10	20	0.0532
MW-23	25	0.047

At MW-2 and MW-6, which are outside the source zone area, benzene was either not detected or was detected at concentrations less than the remediation level in shallower soil samples (Table 1). The exposure pathways at each location formed the basis for targeted removal during the interim action.

With respect to the exceedance at MW-6:

- At 15 feet bgs, no Site COPCs were detected in soil.
- At 20 feet bgs, only benzene exceeded the MTCA Method A cleanup level in soil; since the exceedance is 20 feet deep, there is not a direct contact exposure risk, and the exceedance is outside the vertical separation screening distance for vapor intrusion.
- Benzene has never been detected in groundwater at MW-6 since sampling began in 2007, empirically demonstrating the historical soil exceedance does not present a current soil-to-groundwater exposure risk.
- Because benzene has never been detected in groundwater at MW-6, there is no potential groundwater-to-soil-gas VI exposure risk.

With respect to the exceedance at MW-2:

- At 12.5 feet bgs, benzene was detected but did not exceed the MTCA Method A cleanup level; no other Site COPCs were detected in soil.
- At 17.5 feet bgs, only benzene exceeded the MTCA Method A cleanup level in soil; since the exceedance is 17.5 feet deep, there is not a direct contact exposure risk, and the exceedance is outside the vertical separation screening distance for vapor intrusion as established in Ecology’s *Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion* (2016a).

- Benzene is detected but does not exceed soil gas screening levels at GP-2, GP-3, and GP-5, which are 20, 25, and 24 feet away from MW-2, respectively; however, the benzene concentration in groundwater at MW-2 exceeds groundwater screening levels for potential VI risk.
- Benzene in groundwater at MW-2 exceeds groundwater cleanup levels.

The historical soil exceedance at MW-6 does not present any current exposure risk and will not be targeted for removal during the IAWP. The lack of groundwater exceedances at MW-6 empirically demonstrates soil compliance at this location.

The MW-2 soil exceedance is not protective of groundwater and will be targeted for removal during the IAWP.

At the remaining locations (MW-1, MW-3, MW-4, MW-5, MW-8, MW-9, MW-10, and MW-23), the benzene concentrations observed in the deepest soil sample fall within one order of magnitude of the remediation level. Additionally, these benzene exceedances are orders of magnitude less than the exceedances detected at shallower depths within each soil boring. These shallower, larger magnitude benzene exceedances coincide with relatively high exceedances of other Site COPCs, including TPHg. Based on observed geology, groundwater flow is not expected to be significant in the very dense, unweathered glacial till from which these samples were collected. These exceedances may be due to drag down of shallower LNAPL and/or higher-concentration soils and groundwater during drilling.

The planned remedial excavation targets higher concentration exceedances of benzene that occur with TPHg exceedances and are located within the fill and weathered till that is present in the subsurface at the Site. The planned remedial excavation is also based on the expectation that compliance with remediation levels can potentially be achieved at or near the top of the unweathered glacial till. The IAWP remedial excavation design accommodates overexcavation of soils exceeding remediation levels to a maximum depth into the unweathered glacial till, if warranted by soil performance monitoring. The basis for the depths across the remedial excavation is presented in Table 6.

- **Planned Excavation Limits** – The planned excavation depth is based on analytical results indicative of LNAPL and the Site geology as presented in Table 6. In cases where low-level benzene exceedances were detected, the blow counts presented in the boring logs (Appendix A) were used to infer the depth to the unweathered glacial till.

The areal planned excavation limits will be advanced to the maximum extent practicable. The practical limitations of soil excavation are (1) the right-of-way (ROW) and utilities in the ROW at the northern excavation limits, (2) the adjacent property and building at the western excavation limits, and (3) the adjacent property and building at the southern excavation limits. The temporary shoring will be designed to allow for the maximum areal extent of soil removal based on these practical constraints.

- **Maximum Overexcavation Depth** – The shoring has been designed so that if compliance with the remediation levels is not achieved at the bottom of the

planned excavation depth, the shoring can be extended vertically to accommodate overexcavation of soil exceeding remediation levels. The basis for the maximum overexcavation depth at each location presented in Table 6 are the low-level benzene exceedances observed in historical borings.

The planned excavation depth for the majority of the excavation is 18 to 20 feet bgs (Table 6; Figure 7). Compliance with soil remediation levels will be confirmed during performance sampling associated with the excavation (Section 5), and the shoring has been designed to allow overexcavation to depths up to 30 feet bgs along the western shoring wall (near MW-1) and depths up to 22 feet bgs along the northern shoring wall (Table 6; Figure 8). Excavation will be conducted below the groundwater table, and limited groundwater to be managed is anticipated in the glacial till soils.

Based on the historical and current RI analytical data, approximately 1,800 cubic yards of potentially clean soil (as described further in Section 4.7) exists as overburden above the contaminated soil to be removed. The estimated volume of contaminated soil to be removed for the planned excavation is approximately 5,300 cubic yards. Up to an additional 3,000 cubic yards may be removed if the maximum possible overexcavation is conducted in order to achieve soil remediation levels (Table 7).

## 4 Interim Action Elements

This section describes specific work elements of the Interim Action.

### 4.1 Construction and Safety Requirements

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The following is a summary of construction and safety requirements to be employed at the Site when contamination is encountered during redevelopment construction:

- All persons performing Site activities where they may contact hazardous materials, including petroleum hydrocarbon-impacted soil or groundwater, must have completed Hazardous Waste Operations and Emergency Response (HAZWOPER) training in accordance with the Occupational Safety and Health Administration Part 1910.120 of Title 29 of the Code of Federal Regulations, and be in possession of a current HAZWOPER certification card.
- All work must be performed in accordance with the contractor's site-specific health and safety plan (HASP). The HASP will include guidelines to reduce the potential for injury, as well as incident preparedness and response procedures, emergency response and evacuation procedures, local and project emergency contact information, appropriate precautions for potential airborne contaminants, and Site hazards, and expected characteristics of generated waste. The general contractor will operate under its own HASP, as will any subcontractor performing site activities where hazardous materials may be contacted. The Aspect HASP establishes procedures and practices to protect employees of Aspect from potential hazards associated with Interim Action activities. The HASP will be updated prior to the start of construction.
- A safety meeting will be conducted prior to the start of each workday to inform workers of changing work conditions, and to reinforce key safety requirements.

All work must be conducted in a manner consistent with federal, state, and local construction and health and safety standards applicable to the Site and to the work being performed. All companies are responsible for the health and safety of their own workers.

### 4.2 Mobilization and Site Preparation

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Mobilization and construction site preparation activities include:

- Mobilize construction equipment, materials, and utilities (e.g., electrical generators).
- Install temporary construction fencing.
- Building demolition, described below.
- Construct bermed and lined soil stockpile area(s) for soil handling.
- Construct temporary erosion and sediment controls (TESCs) per the TESC Plan.

- Remove or reroute any active utilities that may be impacted by the cleanup including water, gas, electric, and communication. This includes coordination with utility owners and deactivation as necessary.
- Decommission monitoring wells that are within the footprint of the planned excavation (Figure 7), as described in Section 4.3.

### 4.3 Monitoring Well Decommissioning and Replacement

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Groundwater monitoring wells located within the footprint of the Interim Action excavation will be properly decommissioned, prior to the start of excavation, in accordance with the requirements of Chapter 173-160 WAC.

Fourteen monitoring wells will be decommissioned – MW-1, MW-3, MW-4, MW-5, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14, MW-15, MW-20, MW-22, and MW-23 (Figure 7). Ecology well tags and resource protection well reports were located for all monitoring wells to be decommissioned. In accordance with WAC 173-160-640, monitoring wells will be decommissioned by filling the entire length of the casing with bentonite. Monitoring well decommissioning will be performed by a licensed driller. Off-Property monitoring wells located outside of the planned excavation footprint will be protected if practicable; otherwise, they will be decommissioned.

After the completion of the excavation and backfill, four monitoring wells will be installed in accordance with the procedures outlined in the Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP; Appendix D). The replacement monitoring wells will be located based on the results of a groundwater monitoring event at remaining wells after the interim action. Replacement monitoring well locations will be proposed in the Interim Action Report (IAR) for Ecology approval.

### 4.4 Building Demolition

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Demolition of the existing building is required to conduct the Interim Action. Prior to demolition, the contractor will subcontract a survey of regulated building materials (RBMs), including potentially asbestos-containing materials, lead-containing paints, polychlorinated biphenyl (PCB)-containing light ballasts, and mercury-containing fluorescent light bulbs and thermostat switches. All RBMs will be abated prior to demolition in accordance with local, state, and federal regulations. Building demolition requires a City of Lynnwood (City) demolition permit, discussed in Section 6.2 below.

Following abatement, Aspect will oversee the demolition of the aboveground portion of the building, and direct segregation of building materials potentially contaminated with petroleum hydrocarbons in accordance with Section 5.7. During demolition of the floor slab, Aspect will closely observe the underlying soils for evidence of petroleum hydrocarbon source zones and unanticipated subsurface structures such as USTs.

### 4.5 UST and Hoist Removal

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The contractor will remove the remaining three USTs during the Interim Action in accordance with Ecology’s UST regulations (WAC 173-360A). One of the USTs was closed-in-place, and the closure status of the remaining two USTs is unknown (Table A). During removal, their condition, including whether they were previously abandoned-in-



place, will be documented. If any additional USTs are encountered during soil excavation activities, they will be removed in accordance with Ecology's UST regulations.

The condition and presence of the in-ground hoist shown on the original building construction diagrams is unknown. While hoists are not subject to the same regulations as USTs, the hoist may still contain hydraulic oil. Therefore, the hoist will be removed at the same time as the three remaining USTs and using similar means and methods. Any UST contents discovered during decommissioning, will be removed, handled, and disposed of in accordance with all state and federal regulations. Waste characterization sampling of contents will be conducted, if required for applicable disposal requirements.

## 4.6 Shoring Installation

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Temporary shoring of the northern and western property boundaries is required to conduct the Interim Action. The shoring wall alignments, shown in plan view on Figure 7 and in section on Figure 8, are conceptual. Actual shoring wall alignments will be determined during design and permitting and be constrained by the ROW and utilities on the north wall, and the building on the adjacent property on the west wall. The design will target alignments as far north and west as possible, and as close to property boundary as these constraints, setbacks, and City permitting allows. The northern and western extents of contaminated soil excavation will be to the maximum extent practicable.

It is anticipated that a temporary soldier pile wall system will consist of wide-flange steel beams set into vertically drilled shafts typically installed at 6- to 8-foot horizontal spacing. Thick timber lagging would be placed to span between the soldier piles. The space behind the timber lagging would be backfilled with sand and gravel or controlled density fill (CDF) between the wall and surrounding sidewalks or buildings. The temporary shoring design will be prepared by a Washington-licensed geotechnical engineer, based on the remedial excavation requirements in this IAWP.

The estimated total length of temporary shoring is approximately 235 feet along the northern and western walls (Figure 7). The planned excavation limits require an exposed (retained) wall height of 20 feet on the northern and western walls. The temporary shoring will be designed to accommodate removal to the maximum overexcavation depth. Shoring will be designed to allow for a maximum of 22 feet exposure (bgs) on the north wall and 30 feet exposure (bgs) on the west wall. Section views shown on Figure 8 indicate the planned and maximum excavation extents.

## 4.7 Soil Segregation, Handling, Management, and Monitoring

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Soil within the remedial excavation and from the locations of the soldier piles has been delineated into management categories according to the results of past environmental sampling. Three soil management categories will be used during the Interim Action, which were established based on Ecology's guidance (2016b):

1. Petroleum-Contaminated Soil (PCS) – Soil containing Site COPCs above the MTCA Method A cleanup levels

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2. Petroleum-Impacted Soil (PIS) – Soil containing detectable concentrations of Site COPCs but at concentrations less than the MTCA Method A cleanup levels
3. Potentially Clean Soil

The following sections define each management category, describe handling requirements, and provide acceptable soil disposal facilities for each.

### **4.7.1 Identification of Impacted and Contaminated Soils**

An Aspect field representative will be on-Site full-time to monitor excavation activities for evidence of contamination, including potentially unanticipated sources. Criteria to be used include, but are not limited to:

- Petroleum hydrocarbon staining, sheen, or chemical color hues in soil or standing water.
- The presence of separate-phase petroleum hydrocarbon product or other chemicals.
- The presence of utility pipelines with sludge or trapped liquid indicating petroleum hydrocarbon product.
- The presence of buried pipes, conduits, or tanks.
- Vapors causing eye irritation or nose tingling or burning.
- The presence of gasoline- or oil-like odors.

When evidence of PIS or PCS is encountered, an Aspect field representative will use visual and PID field screening techniques to assess the extent of contamination and instruct the contractor in segregation of PCS/PIS vs. potentially clean soils. Field screening methods include visual (staining and sheen testing), olfactory indicators, and headspace vapor screening using a photoionization detector (PID). If the PID response is greater than 10 parts per million, the soil will be segregated as PIS and/or PCS pending further characterization. Field segregation of soils will follow Ecology guidance, and soils impacted with petroleum hydrocarbons will be managed in accordance with Ecology's *Guidance for Remediation of Petroleum Contaminated Sites* (Ecology, 2016b) and as outlined below. If other soil contaminants or other conditions are encountered, an appropriate environmental response will be developed on a case-by-case basis.

### **4.7.2 Soil Excavation, Segregation and Stockpiling**

The estimated extents of excavation for the Interim Action are shown on Figure 7 and in section views on Figure 8. Excavation will be implemented to first remove the delineated LNAPL source zone and continue to the planned excavation limits, or until field screening indicates the absence of petroleum hydrocarbon impacts, whichever is shallower. This remedial excavation design is based on the current understanding of subsurface conditions and the Interim Action objectives in Section 3.1.

Throughout the excavation, an Aspect representative will field screen for evidence of contamination and direct segregation of all excavated materials. Excavated soils that are known to be contaminated based on analytical data presented herein (or field-determined) may be direct-loaded and hauled to the selected off-Site treatment/disposal facility as

PCS. It may be necessary to temporarily stockpile soils for final categorization and subsequent handling based on laboratory analytical results. Any stockpiling will include the following requirements:

- If stockpiles are staged on pavement, the stockpiles must be underlain with plastic sheeting of 10-mil minimum thickness, with adjacent sheeting sections overlapping a minimum of 3 feet.
- If stockpiles are staged on pervious surfaces (soil), all stockpiles must be separated from underlying soil if the underlying soil is not known to be PCS based on previous environmental sampling.
- The perimeter of stockpiles will be surrounded by a berm or other erosion control measure as identified in the TESC to prevent run-on and/or runoff of precipitation.
- All stockpiles will be covered with plastic sheeting of 6-mil minimum thickness when not in use, and the cover will be anchored to prevent it from being disturbed by wind.
- Analytical testing will be conducted at the frequency prescribed in Ecology's guidance (2016b).

#### **4.7.3 Soil Sampling and Analysis**

Stockpiles will be sampled at the frequency prescribed in Ecology's guidance (2016b) and provided in Table D, below.

**Table D. Stockpile Sampling Frequency**

<b>Cubic Yards of Soil</b>	<b>Number of Analytical Samples</b>
0 – 100	3
101 – 500	5
501 – 1,000	7
1,001 – 2,000	10
> 2,000	10 + 1 for each additional 500 cubic yards

Stockpile samples will be collected and submitted for laboratory analysis of Site COPCs in accordance with the SAP/QAPP (Appendix D).

#### **4.7.4 Soil Profiling and Off-Site Treatment/Disposal**

The soil removal action has been designed and permitted in compliance with Washington State Dangerous Waste Regulations (WAC 173-303).

cVOCs have not been detected in soil samples collected from the Property. Samples have been analyzed for cVOCs on the west and south portions of the Site, near the former Slater's One Hour Cleaners at locations GP-04, B-08, MW-12, MW-13, MW-14, and

MW-18 (Table 1). Similarly, cVOCs were not detected in groundwater at on-Property monitoring wells MW-13 and MW-18. Vinyl chloride was detected in groundwater at monitoring MW-14, which is in the southwest portion of the Property (Table 4). At this location, the sloping for the remedial excavation is expected to remain in the vadose zone. Therefore, a Contained-In Determination will not be required to dispose of the PCS soils.

All soil and debris removed that is designated as PIS or PCS will be loaded and transported off-Site for disposal. Based on historical and current RI analytical data, all of the contaminated soil at the Site would exceed the criteria for PIS and would be profiled as PCS. Therefore, for the purposes of this IAWP, if suspected PIS and/or PCS is direct loaded, it must be presumed to be PCS and disposed of at a permitted Subtitle D landfill. Trucks transporting contaminated materials from the Site will comply with applicable state and federal regulations and local ordinances and will be covered from the time they are loaded on-Site until they off-load at the designated off-Site disposal facility.

If suspected PCS is stockpiled, and analytical testing indicates that Site COPCs are detected at concentrations less than remediation levels, the soil may be designated as PIS in accordance with Ecology's guidance (2016b). PIS is not suitable for reuse at the Site due to the shallow depth to groundwater. However, PIS may be disposed of at alternative disposal facility, such as Cadman's permitted Class 2 landfill, provided that petroleum-impacted soil meets the selected disposal facility's permit criteria in accordance with WAC 173-340.

## 4.8 Water Management

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Management of water is necessary to advance the remedial excavation to the planned excavation limits. Water generated during the cleanup action will consist of groundwater and any stormwater entering the excavation. The groundwater quantities anticipated are low, and excavation water will be managed with sumps installed in the bottom of the excavation. Limited volumes of drainable LNAPL are expected within the excavation area, whereas the majority of the LNAPL body is expected to be residually trapped within the pore spaces of the soil matrix. Any drainable LNAPL will be managed in accordance with all local and state requirements. The IAWP implementation will target dry season to minimize water quantities to be managed.

All generated water will be pumped to tanks and handled in accordance with all local and state requirements by either hauling for disposal off-Site, or by a permitted discharge to a sanitary sewer in accordance with applicable permit requirements by the City and/or Snohomish County. If a permitted discharge is required, all permit treatment, monitoring and discharge requirements will be met. CVOCs were not detected in the groundwater on the Property; however, if they did occur in water generated, they would be treated using the same treatment process for the high concentrations of petroleum hydrocarbons and discharged in accordance with permit conditions and all local and state requirements.

## 4.9 Excavation Backfill

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The backfill of the excavation will be conducted in phases during and following completion of discrete areas of remedial excavations. Assuming that the base of excavation is completely dewatered, these areas will be backfilled within 1 foot of final

grade with material meeting the requirements for Washington State Department of Transportation (WSDOT) Standard Specification for Gravel Borrow 9-03.14(1). Within 1 foot of final grade, the excavation will be backfilled with material meeting WSDOT Standard Specification for Crushed Surfacing 9-03.9(3).

The backfill material should only be placed on a relatively firm and unyielding subgrade, free from soft or disturbed material, standing water or organic material. The exposed subgrade soils will be compacted (in place) to a dense and unyielding condition prior to placement of backfill. The subgrade preparation should be observed by the geotechnical engineer prior to placement of backfill.

The backfill will be compacted to a relatively firm and unyielding condition to a minimum density of 95 percent of the maximum dry density as determined by ASTM International (ASTM) D1557 (ASTM, 2020). Backfill should be placed in lifts with a loose thickness no greater than 12 inches when using relatively large compaction equipment, such as a vibrating plate attachment to an excavator (hoe pack) or a drum roller). If small, hand-operated compaction equipment is used to compact structural fill, lifts should not exceed 6 inches in loose thickness.

Moisture content of the fill will be controlled to within 3 percent of optimum moisture during placement and will be wet of optimum moisture below the static groundwater table. Optimum moisture content shall correspond to the laboratory determined maximum modified proctor density.

## 5 Compliance Monitoring

In accordance with WAC 173-340-410, compliance monitoring includes the following elements:

- **Protection monitoring** confirms that human health and the environment are adequately protected during the Interim Action.
- **Performance monitoring** confirms that the cleanup action has attained Interim Action remediation levels and/or other performance standards, such as permit requirements.
- **Confirmation monitoring** confirms the long-term effectiveness of the cleanup action once cleanup levels and/or other performance standards have been attained.

For this Interim Action, protection and performance monitoring will be conducted, as outlined below. Confirmation monitoring will be conducted as part of the final cleanup action for the Site, not as part of this Interim Action.

### 5.1 Protection Monitoring

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Protection monitoring of human health will be conducted during the Interim Action by requiring that on-Site workers conducting the soil handling and management are appropriately trained and aware of environmental exposure hazards with conduct of the work. Aspect's HASP for the Interim Action will be updated prior to the initiation of any field work. The contractor will prepare and comply with their own HASP.

Protection monitoring includes real-time air monitoring within the worker breathing zone and at the downgradient property boundary. The air monitoring is discussed in Aspect's HASP. Air monitoring data will be made available to on-Site workers and Ecology. Nothing in this IAWP precludes contractors/consultants on-Site from choosing to conduct additional air monitoring. Fugitive dust emissions will be monitored and managed by the Contractor and as required by the City.

Protection monitoring of the environment will occur via implementation and regular inspection of the TESC, complying with any dewatering discharge authorization requirements, and soil profiling and disposal in accordance with Washington State Dangerous Waste Regulations (WAC 173-303).

### 5.2 Performance Monitoring and Overexcavation

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Soil performance monitoring will include laboratory analysis of both excavation sidewall and excavation bottom samples. The distance between soil samples will not exceed 20 feet laterally or 5 feet vertically, and closer sample spacing may be necessary. The samples will be submitted for laboratory analysis of Site COPCs described in Section 3.4 and in accordance with the SAP/QAPP (Appendix D).

Once the planned excavation limits are reached or when field screening indicates the absence of petroleum hydrocarbon impacts, excavation confirmation soil samples will be collected for laboratory analysis to confirm compliance with the Interim Action

remediation levels (Section 3.4). The soil samples will be collected from within the excavation using the excavator bucket or by hand if safely accessible to a worker in accordance with the SAP/QAPP (Appendix D). Excavation bottom samples will be collected on a systematic grid coinciding with pile locations in the final shoring design; bottom grid spacing will not exceed 20 feet by 20 feet. The sampling grid boundary will correspond to the remedial excavation area, and bottom samples will be collected from within the base of the excavation. Sidewall samples will be collected from behind the shoring wall and from the slope cuts on the south and east sides of the excavation; sidewall grid spacing will not exceed 20 feet laterally or 5 feet vertically. Within each grid area, Aspect will field-screen the soil for evidence of contamination.

Soil samples will be obtained at the bottom elevations, as follows:

- If there are no field screening indicators of contamination within the entire grid area, a single soil sample will be collected for analysis from the approximate center of the square area (one sample per maximum 20-foot by 20-foot square) to document the remediation levels (Table B) have been met at depth.
- If field screening indicators of contamination are observed at the planned excavation limit, the area will be immediately overexcavated by approximately 2 feet deep, and field screened.<sup>4</sup>
- This overexcavation process will be repeated until there are no field indicators of contamination, or until the maximum overexcavation depth is reached, whichever occurs first. Then excavation performance bottom samples will be collected as indicated above.

The shoring limits will be designed to accommodate overexcavation of contaminated soils to the maximum overexcavation depth. If contaminated soil cannot be safely or practicably overexcavated, it will be left in place and documented in the IAR. In areas where overexcavation is practicable and performed, a new bottom soil sample will be collected and evaluated for compliance with remediation levels.

The soil sampling and chemical analysis described above will be conducted in accordance with the SAP/QAPP (Appendix D).

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<sup>4</sup> Preliminary samples will be dual purposed; to document soil quality at the base of the planned excavation and to profile the stockpile as described above.

## 6 Permitting

### 6.1 Applicable or Relevant and Appropriate Requirements

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The Interim Action will be performed under the Agreed Order, and it is therefore exempt from the procedural requirements of Chapters 70.94 (Washington Clean Air Act), 70.95 (Solid Waste Management Act), 70.105 (Hazardous Waste Management Act), 90.48 (Water Pollution Control), and 90.58 (Shoreline Management Act) Revised Code of Washington (RCW), and of laws requiring or authorizing local government permits or approvals. However, the Interim Action must still comply with the substantive requirements of such permits or approvals (WAC 173-340-520). In addition, the Interim Action is not exempt from federal permits.

The starting point for Applicable or Relevant and Appropriate Requirements (ARARs) is MTCA regulations (Chapter 173-340 WAC) that address implementation of a cleanup and define cleanup standards under the MTCA statute (Chapter 173.105D RCW). Other ARARs include, but are not limited, to the following:

1. State Water Pollution Control Act (Chapter 90.48 RCW)
2. Water Resources Act (Chapter 90.54 RCW)
3. Applicable surface water quality criteria published in the water quality standards for surface waters of the State of Washington (Chapter 173-201A WAC)
4. Applicable surface water quality criteria published under Sections 303(c) and 304 of the Clean Water Act
5. Washington State Hazardous Waste Management Act (Chapter 70.105 RCW)
6. State Dangerous Waste Regulations (Chapter 173-303 WAC)
7. Solid Waste Management-Reduction and Recycling (Chapter 70.95 RCW)
8. Minimum Standards for Construction and Maintenance of Wells (Chapter 173-160 RCW)
9. Washington Clean Air Act (Chapter 70.94 RCW)
10. Puget Sound Clean Air Agency Regulations (<http://www.pscleanair.org>)
11. Occupational Safety and Health Act (OSHA), 29 Code of Federal Regulations (CFR) Subpart 1910.120
12. Washington Industrial Safety and Health Act (WISHA)
13. Archaeological and Cultural Resources Act (Chapter 27.53 RCW)
14. State Environmental Policy Act (SEPA; Chapter 43.21C RCW, Chapter 197-11 WAC, and Chapter WAC 173-802)



## 6.2 Permitting and Substantive Requirements

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The following permits have been identified for the Interim Action.

### 6.2.1 City of Lynnwood

The City will require permits for the building demolition, shoring installation, and remedial excavation.

Concurrent with the public comment period on the Public Review Draft IAWP, a plan submittal to the City will initiate the City permit review and issuance outlined in this Section. The following permits will be required by the City for IAWP implementation:

- **Right-of-Way Use** – Limited closure of lanes surrounding the Property may be necessary for equipment mobilizations, trucking and removal of soils, and equipment staging. The Contractor will apply for an ROW Use permit at a future date, as the need is identified.
- **Tree Removal – Class II** – Based on the number of trees to be removed, a class II tree removal permit will be required. The tree removal permit will be submitted with the Public Works Permit application. Replanting of trees will be required as part of post-construction site restoration.
- **Building Demolition** – The building demolition permit will be required to remove the former service station building.
- **Grading** – The grading permit will cover earthworks and shoring requirements for the project. The grading permit will be submitted with the Public Works Permit application.
- **Industrial Waste, Limited Discharge** – The industrial waste permit (if necessary) for the excavation dewatering discharge to the public sewer system. The industrial waste permit will be submitted with the Public Works Permit application.
- **Sewer Capping** – Once dewatering for the remedial excavation is complete, the sewer will need to be capped in accordance with the local, applicable code. The sewer capping permit will be submitted under the umbrella of a Public Works Permit application.

The permitting timeline is anticipated to be completed on a parallel schedule with the Ecology public comment process for the IAWP.

### 6.2.2 State Environmental Policy Act (SEPA)

The Interim Action activities comply with SEPA, Chapter 43.21C RCW by conducting a review in accordance with applicable regulatory requirements, including WAC 197-11-268, and Ecology Policy 130A (Ecology, 2004). A SEPA checklist for the Interim Action was submitted to Ecology with the Agency Review Draft and is included as Appendix E. Ecology determined that this IAWP will not have a probable significant adverse impact on the environment and issued a preliminary Determination of Nonsignificance for public review. The public review of the determination coincides with the comment period on

this Public Review Draft IAWP. The final SEPA determination will be issued by Ecology and included in the Ecology-approved Final IAWP.

### **6.2.3 Archaeological Resources**

An Inadvertent Discovery Plan (IDP) was submitted to Ecology with the Agency Review Draft IAWP and is included as Appendix F. In accordance with the IDP, if potential archaeological materials are observed in the excavation, work will be stopped, and a professional archaeologist will be mobilized to the excavation location to observe and assess the materials encountered and determine the appropriate path forward in accordance with applicable laws and regulations. The Washington State Archaeologist will be notified in accordance with requirements of the Department of Archaeology and Historic Preservation (DAHP). The IDP will be included in the Ecology-approved Final IAWP.

## 7 Reporting

Within 90 days of completing the Interim Action construction activities and receipt of all construction reporting and laboratory analytical data, the PLPs will submit to Ecology the Draft IAR required by the Agreed Order. Information provided in the Draft IAR will include a description of the lateral and vertical limits of excavations, the volume of contaminated material removed/landfilled, how the contaminated media was managed, volume of water managed during excavation, and the performance monitoring data. Certificates of Disposal for the waste disposition will also be included. Ecology's comments will be addressed in a Final IAR. The Final IAR will complete satisfaction of the Agreed Order requirements for the interim action.

The analytical data collected during the Interim Action will also be uploaded to Ecology's Environmental Information Management (EIM) database within 60 days after it being validated in accordance with WAC 173-340-840(5) and Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements).

## 8 Schedule

The anticipated schedule of the IAWP implementation follows the schedule set forth in the AO, Exhibit C, Table 2, as outlined below:

**Table E. Interim Action Schedule**

<b>Deliverable</b>	<b>Due Date</b>
Public Review Draft IAWP and Ecology SEPA Determination	Due June 16, 2021
Public Comment Period	July 7 to August 3, 2021
Final Interim Action Work Plan	Due no later than 30 days after public notice and comment period closes - September 2, 2021
Ecology Review Draft IAR	Due no later than 90 days after IAWP completion
Final IAR	30 days after Ecology's approval of the Agency Review Draft IAR

The Final IAWP cannot be implemented until the City has issued permits required to satisfy local substantive requirements as identified in Section 6.2. Upon Ecology approval of the Public Review Draft IAWP, the design and permitting of the project will be initiated and with the goal of completing project permitting and contractor selection at the same time as the Final IAWP. Once permits have been issued by the City, Ecology will be notified of the Final IAWP implementation schedule. The IAWP implementation schedule will target the dry season to minimize water management during implementation.

The completion of the IAWP will be reported in the IAR satisfying the interim action requirements of the Agreed Order.

## 9 References

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Washington State Department of Ecology (Ecology), 2018a, Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings, Implementation Memorandum No. 18, Publication No. 17-09-043, dated January 10, 2018.

Washington State Department of Ecology (Ecology) 2018b, Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Publication No. 09-09-047, dated DRAFT, October 2009 and revised February 2016 and April 2018.

# TABLES

**Table 1. Soil Analytical Data**

Project No. 180357, Lynnwood, Washington

DRAFT

Analyte	Unit	MTCA Method A Cleanup Level	Location		SB		SB1		SB1-CAM	
			Date	Date	08/24/1995	08/24/1995	11/06/1995	11/06/1995	11/16/2006	11/16/2006
			Sample Name	Sample Name	SB-16"	SB-24"	SB1-12.5'	SB1-16'	SB1-CAM-7.5	SB1-CAM-12.5
			Depth Below Ground Surface	Depth Below Ground Surface	1.33 ft	2 ft	12.5 ft	16 ft	7.5 ft	12.5 ft
<b>Total Petroleum Hydrocarbons (TPHs)</b>										
Gasoline-Range Organics	mg/kg	30	--	--	4100	< 5 U	4.51	12.3		
Diesel-Range Organics	mg/kg	2000	1400	630	< 50 U	--	< 10.8 U	< 11.4 U		
Motor Oil-Range Organics	mg/kg	2000	5200	2000	< 100 U	--	< 27.1 U	< 28.6 U		
Diesel and Oil Extended-Range Organics	mg/kg	2000	--	--	--	--	--	--		
<b>BTEX</b>										
Benzene	mg/kg	0.03	--	--	18	< 0.1 U	0.14	0.73		
Toluene	mg/kg	7	--	--	150	< 0.1 U	0.42	1.7		
Ethylbenzene	mg/kg	6	--	--	57	< 0.1 U	< 0.08 U	0.18		
Total Xylenes	mg/kg	9	--	--	280	< 0.3 U	< 0.24 U	0.9		
<b>Metals</b>										
Lead	mg/kg	250	--	--	--	--	1.71	2.06		
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>										
Naphthalene	mg/kg	5	--	--	--	--	0.1138	0.0152		
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	< 0.0195 U	< 0.0208 U		
<b>Polychlorinated Biphenyls (PCBs)</b>										
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	< 0.0108 U	< 0.0115 U		
<b>Volatile Organic Compounds (VOCs)</b>										
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--	--		
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--		
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--		
1,1-Dichloroethane	mg/kg		--	--	--	--	--	--		
1,1-Dichloroethene	mg/kg		--	--	--	--	--	--		
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--		
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--		
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--		
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--		
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--		
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--		
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	--	--	--	< 0.04 U	< 0.04 U		
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--		
1,2-Dichloroethane (EDC)	mg/kg		--	--	--	--	< 0.04 U	< 0.04 U		
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--		
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--		
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--		
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--		
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--		
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--		
2-Butanone	mg/kg		--	--	--	--	--	--		
2-Chlorotoluene	mg/kg		--	--	--	--	--	--		
2-Hexanone	mg/kg		--	--	--	--	--	--		
4-Chlorotoluene	mg/kg		--	--	--	--	--	--		
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--		
Acetone	mg/kg		--	--	--	--	--	--		
Bromobenzene	mg/kg		--	--	--	--	--	--		
Bromodichloromethane	mg/kg		--	--	--	--	--	--		
Bromoform	mg/kg		--	--	--	--	--	--		
Bromomethane	mg/kg		--	--	--	--	--	--		
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--		
Chlorobenzene	mg/kg		--	--	--	--	--	--		
Chloroethane	mg/kg		--	--	--	--	--	--		
Chloroform	mg/kg		--	--	--	--	--	--		
Chloromethane	mg/kg		--	--	--	--	--	--		
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--	--	--		
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--		
Dibromochloromethane	mg/kg		--	--	--	--	--	--		
Dibromomethane	mg/kg		--	--	--	--	--	--		
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--		
Isopropylbenzene	mg/kg		--	--	--	--	--	--		
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	--	--	--	< 0.41 U	< 0.39 U		
Methylene Chloride	mg/kg	0.02	--	--	--	--	--	--		
n-Hexane	mg/kg		--	--	--	--	--	--		
n-Propylbenzene	mg/kg		--	--	--	--	--	--		
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--		
sec-Butylbenzene	mg/kg		--	--	--	--	--	--		
Styrene	mg/kg		--	--	--	--	--	--		
tert-Butylbenzene	mg/kg		--	--	--	--	--	--		
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--	--		
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--	--		
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--		
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--	--		
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--		
Vinyl Chloride	mg/kg		--	--	--	--	--	--		

**Notes:**

mg/kg - milligrams per kilogram, ft = feet

**Bold - Analyte detected**

**Blue Shaded - Detected result exceeded screening level**

U - Analyte not detected at or above Reporting Limit (RL) shown

J - Result value estimated

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

X - Chromatographic pattern does not match fuel standard used for quantitation



**Table 1. Soil Analytical Data**

Project No. 180357, Lynnwood, Washington

DRAFT

			Location	SB2	SW	WW	WW2	WW4	BOT
			Date	11/06/1995	08/22/1995	08/22/1995	08/22/1995	08/24/1995	08/24/1995
			Sample Name	SB2-15'	SW	WW	WW2	WW4	BOT
			Depth Below Ground Surface	15 ft	6 ft	6 ft	-	10 ft	9 ft
Analyte	Unit	MTCA Method A Cleanup Level							
<b>Total Petroleum Hydrocarbons (TPHs)</b>									
Gasoline-Range Organics	mg/kg	30	<b>640</b>	--	--	--	--	--	--
Diesel-Range Organics	mg/kg	2000	--	< 25 U	<b>5100</b>	--	--	< 25 U	27
Motor Oil-Range Organics	mg/kg	2000	--	< 50 U	<b>13000</b>	--	--	< 50 U	66
Diesel and Oil Extended-Range Organics	mg/kg	2000	--	--	--	--	--	--	--
<b>BTEX</b>									
Benzene	mg/kg	0.03	<b>2.4</b>	--	--	< 0.1 U	--	--	--
Toluene	mg/kg	7	<b>15</b>	--	--	< 0.1 U	--	--	--
Ethylbenzene	mg/kg	6	<b>7</b>	--	--	< 0.1 U	--	--	--
Total Xylenes	mg/kg	9	<b>33</b>	--	--	< 0.3 U	--	--	--
<b>Metals</b>									
Lead	mg/kg	250	--	--	--	--	--	--	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>									
Naphthalene	mg/kg	5	--	--	--	--	--	--	--
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--	--
<b>Polychlorinated Biphenyls (PCBs)</b>									
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--	--
<b>Volatile Organic Compounds (VOCs)</b>									
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--	--
1,1-Dichloroethane	mg/kg		--	--	--	--	--	--	--
1,1-Dichloroethene	mg/kg		--	--	--	--	--	--	--
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--	--
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	--	--	--	--	--	--
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	mg/kg		--	--	--	< 0.1 U	--	--	--
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--
2-Butanone	mg/kg		--	--	--	--	--	--	--
2-Chlorotoluene	mg/kg		--	--	--	--	--	--	--
2-Hexanone	mg/kg		--	--	--	--	--	--	--
4-Chlorotoluene	mg/kg		--	--	--	--	--	--	--
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--	--
Acetone	mg/kg		--	--	--	--	--	--	--
Bromobenzene	mg/kg		--	--	--	--	--	--	--
Bromodichloromethane	mg/kg		--	--	--	--	--	--	--
Bromoform	mg/kg		--	--	--	--	--	--	--
Bromomethane	mg/kg		--	--	--	--	--	--	--
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--	--
Chlorobenzene	mg/kg		--	--	--	--	--	--	--
Chloroethane	mg/kg		--	--	--	--	--	--	--
Chloroform	mg/kg		--	--	--	--	--	--	--
Chloromethane	mg/kg		--	--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--
Dibromochloromethane	mg/kg		--	--	--	--	--	--	--
Dibromomethane	mg/kg		--	--	--	--	--	--	--
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--	--
Isopropylbenzene	mg/kg		--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	--	--	--	--	--	--
Methylene Chloride	mg/kg	0.02	--	--	--	--	--	--	--
n-Hexane	mg/kg		--	--	--	--	--	--	--
n-Propylbenzene	mg/kg		--	--	--	--	--	--	--
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--	--
sec-Butylbenzene	mg/kg		--	--	--	--	--	--	--
Styrene	mg/kg		--	--	--	--	--	--	--
tert-Butylbenzene	mg/kg		--	--	--	--	--	--	--
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--	--	--
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--	--
Vinyl Chloride	mg/kg		--	--	--	--	--	--	--

**Notes:**

mg/kg - milligrams per kilogram, ft = feet

**Bold - Analyte detected**

**Blue Shaded - Detected result exceeded screening level**

U - Analyte not detected at or above Reporting Limit (RL) shown

J - Result value estimated

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

X - Chromatographic pattern does not match fuel standard used for quantitation

**Table 1. Soil Analytical Data**  
Project No. 180357, Lynnwood, Washington

Analyte	Unit	MTCA Method A Cleanup Level	Location	MW-1		MW-2	
			Date	11/16/2006	11/16/2006	11/17/2006	11/17/2006
			Sample Name	GW1-17.5	GW1-27.5	GW2-12.5	GW2-17.5
			Depth Below Ground Surface	17.5 ft	27.5 ft	12.5 ft	17.5 ft
<b>Total Petroleum Hydrocarbons (TPHs)</b>							
Gasoline-Range Organics	mg/kg	30	--	< 3.54 U	<b>4.54</b>	< 3.68 U	<b>9.49</b>
Diesel-Range Organics	mg/kg	2000	< 25 U	< 10.9 U	< 10.6 U	< 11 U	< 11.2 U
Motor Oil-Range Organics	mg/kg	2000	< 50 U	< 27.2 U	< 26.4 U	< 27.4 U	< 28.1 U
Diesel and Oil Extended-Range Organics	mg/kg	2000	--	--	--	--	--
<b>BTEX</b>							
Benzene	mg/kg	0.03	--	<b>0.16</b>	<b>0.14</b>	<b>0.02</b>	<b>0.33</b>
Toluene	mg/kg	7	--	<b>0.34</b>	<b>0.38</b>	< 0.07 U	<b>1</b>
Ethylbenzene	mg/kg	6	--	< 0.07 U	< 0.07 U	< 0.07 U	<b>0.87</b>
Total Xylenes	mg/kg	9	--	< 0.21 U	< 0.21 U	< 0.22 U	<b>0.34</b>
<b>Metals</b>							
Lead	mg/kg	250	--	<b>1.48</b>	<b>0.962</b>	<b>1.6</b>	<b>1.4</b>
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>							
Naphthalene	mg/kg	5	--	< 0.0108 U	< 0.0106 U	< 0.0111 U	< 0.0113 U
Total cPAHs TEQ	mg/kg	0.1	--	< 0.0195 U	< 0.0192 U	< 0.0201 U	< 0.0205 U
<b>Polychlorinated Biphenyls (PCBs)</b>							
Total PCBs (Sum of Aroclors)	mg/kg	1	--	< 0.0108 U	< 0.0106 U	< 0.0111 U	< 0.0113 U
<b>Volatile Organic Compounds (VOCs)</b>							
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--
1,1-Dichloroethane	mg/kg		--	--	--	--	--
1,1-Dichloroethene	mg/kg		--	--	--	--	--
1,1-Dichloropropene	mg/kg		--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--
1,2-Dichloroethane (EDC)	mg/kg		--	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U
1,2-Dichloropropane	mg/kg		--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--
1,3-Dichloropropane	mg/kg		--	--	--	--	--
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--
2,2-Dichloropropane	mg/kg		--	--	--	--	--
2-Butanone	mg/kg		--	--	--	--	--
2-Chlorotoluene	mg/kg		--	--	--	--	--
2-Hexanone	mg/kg		--	--	--	--	--
4-Chlorotoluene	mg/kg		--	--	--	--	--
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--
Acetone	mg/kg		--	--	--	--	--
Bromobenzene	mg/kg		--	--	--	--	--
Bromodichloromethane	mg/kg		--	--	--	--	--
Bromoform	mg/kg		--	--	--	--	--
Bromomethane	mg/kg		--	--	--	--	--
Carbon Tetrachloride	mg/kg		--	--	--	--	--
Chlorobenzene	mg/kg		--	--	--	--	--
Chloroethane	mg/kg		--	--	--	--	--
Chloroform	mg/kg		--	--	--	--	--
Chloromethane	mg/kg		--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--
Dibromochloromethane	mg/kg		--	--	--	--	--
Dibromomethane	mg/kg		--	--	--	--	--
Dichlorodifluoromethane	mg/kg		--	--	--	--	--
Isopropylbenzene	mg/kg		--	--	--	--	--
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	< 0.35 U	< 0.36 U	< 0.37 U	< 0.43 U
Methylene Chloride	mg/kg	0.02	--	--	--	--	--
n-Hexane	mg/kg		--	--	--	--	--
n-Propylbenzene	mg/kg		--	--	--	--	--
p-Isopropyltoluene	mg/kg		--	--	--	--	--
sec-Butylbenzene	mg/kg		--	--	--	--	--
Styrene	mg/kg		--	--	--	--	--
tert-Butylbenzene	mg/kg		--	--	--	--	--
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--
Trichlorofluoromethane	mg/kg		--	--	--	--	--
Vinyl Chloride	mg/kg		--	--	--	--	--

Notes:  
mg/kg - milligrams per kilogram, ft = feet  
**Blue Shaded - Detected result exceeded screening level**  
U - Analyte not detected at or above Reporting Limit (RL) shown  
J - Result value estimated  
UJ - Analyte not detected and the Reporting Limit (RL) is an estimate  
X - Chromatographic pattern does not match fuel standard used for quantitation

Analyte	Unit	MTCA Method A Cleanup Level	Location		MW-3		MW-4		MW-5	
			Date	Date	11/16/2006	11/16/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
			Sample Name	Sample Name	GW3-7.5	GW3-17.5	GW4-7.5	GW4-17.5	GW5-7.5	GW5-17.5
			Depth Below Ground Surface	Depth Below Ground Surface	7.5 ft	17.5 ft	7.5 ft	17.5 ft	7.5 ft	17.5 ft
<b>Total Petroleum Hydrocarbons (TPHs)</b>										
Gasoline-Range Organics	mg/kg	30	1820	8.39	1060	8.57	1550	23.9		
Diesel-Range Organics	mg/kg	2000	63.3	< 11.1 U	30.9	< 11 U	62.4	< 11 U		
Motor Oil-Range Organics	mg/kg	2000	< 27.9 U	< 27.8 U	< 26.8 U	< 27.5 U	< 26.9 U	< 27.5 U		
Diesel and Oil Extended-Range Organics	mg/kg	2000	--	--	--	--	--	--		
<b>BTEX</b>										
Benzene	mg/kg	0.03	8.6	0.53	0.48	0.24	0.97	0.09		
Toluene	mg/kg	7	99	0.85	12	0.44	24	0.52		
Ethylbenzene	mg/kg	6	25	0.12	8.2	< 0.08 U	14	0.19		
Total Xylenes	mg/kg	9	160	0.39	54	0.31	90	0.9		
<b>Metals</b>										
Lead	mg/kg	250	6.69	1.55	2.35	1.58	4.64	1.33		
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>										
Naphthalene	mg/kg	5	5.86	< 0.0111 U	4.1	< 0.011 U	6.34	0.0127		
Total cPAHs TEQ	mg/kg	0.1	< 0.0201 U	< 0.0201 U	< 0.0194 U	< 0.01991 U	< 0.0195 U	< 0.0201 U		
<b>Polychlorinated Biphenyls (PCBs)</b>										
Total PCBs (Sum of Aroclors)	mg/kg	1	< 0.0111 U	0.109	< 0.0107 U	< 0.011 U	< 0.0108 U	< 0.0111 U		
<b>Volatile Organic Compounds (VOCs)</b>										
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--	--		
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--		
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--		
1,1-Dichloroethane	mg/kg		--	--	--	--	--	--		
1,1-Dichloroethene	mg/kg		--	--	--	--	--	--		
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--		
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--		
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--		
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--		
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--		
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--		
1,2-Dibromoethane (EDB)	mg/kg	0.005	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U		
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--		
1,2-Dichloroethane (EDC)	mg/kg		< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U		
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--		
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--		
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--		
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--		
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--		
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--		
2-Butanone	mg/kg		--	--	--	--	--	--		
2-Chlorotoluene	mg/kg		--	--	--	--	--	--		
2-Hexanone	mg/kg		--	--	--	--	--	--		
4-Chlorotoluene	mg/kg		--	--	--	--	--	--		
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--		
Acetone	mg/kg		--	--	--	--	--	--		
Bromobenzene	mg/kg		--	--	--	--	--	--		
Bromodichloromethane	mg/kg		--	--	--	--	--	--		
Bromoform	mg/kg		--	--	--	--	--	--		
Bromomethane	mg/kg		--	--	--	--	--	--		
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--		
Chlorobenzene	mg/kg		--	--	--	--	--	--		
Chloroethane	mg/kg		--	--	--	--	--	--		
Chloroform	mg/kg		--	--	--	--	--	--		
Chloromethane	mg/kg		--	--	--	--	--	--		
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--	--	--		
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--		
Dibromochloromethane	mg/kg		--	--	--	--	--	--		
Dibromomethane	mg/kg		--	--	--	--	--	--		
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--		
Isopropylbenzene	mg/kg		--	--	--	--	--	--		
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	< 0.4 U	< 0.39 U	< 0.38 U	< 0.38 U	< 0.39 U	< 0.37 U		
Methylene Chloride	mg/kg	0.02	--	--	--	--	--	--		
n-Hexane	mg/kg		--	--	--	--	--	--		
n-Propylbenzene	mg/kg		--	--	--	--	--	--		
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--		
sec-Butylbenzene	mg/kg		--	--	--	--	--	--		
Styrene	mg/kg		--	--	--	--	--	--		
tert-Butylbenzene	mg/kg		--	--	--	--	--	--		
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--	--		
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--	--		
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--		
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--	--		
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--		
Vinyl Chloride	mg/kg		--	--	--	--	--	--		

Notes:  
mg/kg - milligrams per kilogram, ft = feet  
**Blue Shaded - Detected result exceeded screening level**  
U - Analyte not detected at or above Reporting Limit (RL) shown  
J - Result value estimated  
UJ - Analyte not detected and the Reporting Limit (RL) is an estimate  
X - Chromatographic pattern does not match fuel standard used for quantitation

Analyte	Unit	MTCA Method A Cleanup Level	Location		MW-6		MW-7		MW-8	
			Date	Date	07/05/2007	07/05/2007	07/05/2007	07/05/2007	07/05/2007	07/05/2007
			Sample Name	Sample Name	MW6@15'	MW6@20'	MW7@5'	MW7@20'	MW8@15'	MW8@20'
			Depth Below Ground Surface	Depth Below Ground Surface	15 ft	20 ft	5 ft	20 ft	15 ft	20 ft
<b>Total Petroleum Hydrocarbons (TPHs)</b>										
Gasoline-Range Organics	mg/kg	30	< 3.95 U	< 3.54 U	< 4.11 U	< 4.36 U	<b>834</b>	< 4.19 U		
Diesel-Range Organics	mg/kg	2000	--	--	--	--	--	--		
Motor Oil-Range Organics	mg/kg	2000	--	--	--	--	--	--		
Diesel and Oil Extended-Range Organics	mg/kg	2000	--	--	--	--	--	--		
<b>BTEX</b>										
Benzene	mg/kg	0.03	< 0.0158 U	<b>0.0921</b>	< 0.0164 U	< 0.0177 U	<b>2.91</b>	<b>0.0486</b>		
Toluene	mg/kg	7	< 0.079 U	< 0.0708 U	<b>0.214</b>	< 0.0886 U	<b>30.9</b>	<b>0.161</b>		
Ethylbenzene	mg/kg	6	< 0.079 U	< 0.0708 U	< 0.0822 U	< 0.0886 U	<b>7.76</b>	< 0.0838 U		
Total Xylenes	mg/kg	9	< 0.237 U	< 0.212 U	< 0.247 U	< 0.266 U	<b>49.7</b>	< 0.252 U		
<b>Metals</b>										
Lead	mg/kg	250	<b>1.49</b>	<b>1.93</b>	<b>2.34</b>	<b>1.85</b>	<b>3.29</b>	<b>1.46</b>		
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>										
Naphthalene	mg/kg	5	--	--	--	--	--	--		
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--		
<b>Polychlorinated Biphenyls (PCBs)</b>										
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--		
<b>Volatile Organic Compounds (VOCs)</b>										
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--	--		
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--		
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--		
1,1-Dichloroethane	mg/kg		--	--	--	--	--	--		
1,1-Dichloroethene	mg/kg		--	--	--	--	--	--		
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--		
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--		
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--		
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--		
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--		
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--		
1,2-Dibromoethane (EDB)	mg/kg	0.005	< 0.079 U	< 0.0708 U	< 0.0822 U	< 0.0886 U	< 0.0789 U	< 0.0838 U		
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--		
1,2-Dichloroethane (EDC)	mg/kg		< 0.079 U	< 0.0708 U	< 0.0822 U	< 0.0886 U	< 0.0789 U	< 0.0838 U		
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--		
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--		
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--		
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--		
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--		
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--		
2-Butanone	mg/kg		--	--	--	--	--	--		
2-Chlorotoluene	mg/kg		--	--	--	--	--	--		
2-Hexanone	mg/kg		--	--	--	--	--	--		
4-Chlorotoluene	mg/kg		--	--	--	--	--	--		
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--		
Acetone	mg/kg		--	--	--	--	--	--		
Bromobenzene	mg/kg		--	--	--	--	--	--		
Bromodichloromethane	mg/kg		--	--	--	--	--	--		
Bromoform	mg/kg		--	--	--	--	--	--		
Bromomethane	mg/kg		--	--	--	--	--	--		
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--		
Chlorobenzene	mg/kg		--	--	--	--	--	--		
Chloroethane	mg/kg		--	--	--	--	--	--		
Chloroform	mg/kg		--	--	--	--	--	--		
Chloromethane	mg/kg		--	--	--	--	--	--		
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--	--	--		
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--		
Dibromochloromethane	mg/kg		--	--	--	--	--	--		
Dibromomethane	mg/kg		--	--	--	--	--	--		
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--		
Isopropylbenzene	mg/kg		--	--	--	--	--	--		
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	< 0.39 U	< 0.35 U	< 0.41 U	< 0.44 U	< 0.39 U	< 0.42 U		
Methylene Chloride	mg/kg	0.02	--	--	--	--	--	--		
n-Hexane	mg/kg		--	--	--	--	--	--		
n-Propylbenzene	mg/kg		--	--	--	--	--	--		
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--		
sec-Butylbenzene	mg/kg		--	--	--	--	--	--		
Styrene	mg/kg		--	--	--	--	--	--		
tert-Butylbenzene	mg/kg		--	--	--	--	--	--		
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--	--		
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--	--		
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--		
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--	--		
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--		
Vinyl Chloride	mg/kg		--	--	--	--	--	--		

**Notes:**

mg/kg - milligrams per kilogram, ft = feet

**Bold - Analyte detected**

**Blue Shaded - Detected result exceeded screening level**

U - Analyte not detected at or above Reporting Limit (RL) shown

J - Result value estimated

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

X - Chromatographic pattern does not match fuel standard used for quantitation

Analyte	Unit	MTCA Method A Cleanup Level	Location		MW-9		MW-10		HB-SB-3
			Date	Date	07/06/2007	07/06/2007	07/06/2007	07/06/2007	05/10/2010
			Sample Name	Sample Name	MW9@10'	MW9@20'	MW10@5'	MW10@20'	SO-241739-051010-HB-SB-3-5.0
			Depth Below Ground Surface	Depth Below Ground Surface	10 ft	20 ft	5 ft	20 ft	5 ft
<b>Total Petroleum Hydrocarbons (TPHs)</b>									
Gasoline-Range Organics	mg/kg	30	< 0.0364 U	< 3.72 U	<b>8.16</b>	<b>3.99</b>			< 0.2 U
Diesel-Range Organics	mg/kg	2000	--	--	--	--			< 5 U
Motor Oil-Range Organics	mg/kg	2000	--	--	--	--			< 5 U
Diesel and Oil Extended-Range Organics	mg/kg	2000	--	--	--	--			--
<b>BTEX</b>									
Benzene	mg/kg	0.03	<b>0.248</b>	<b>0.104</b>	<b>0.119</b>	<b>0.0532</b>			< 0.00083 U
Toluene	mg/kg	7	< 0.0854 U	< 0.0744 U	<b>0.359</b>	<b>0.102</b>			< 0.00083 U
Ethylbenzene	mg/kg	6	<b>0.0854</b>	< 0.0744 U	< 0.0756 U	<b>0.131</b>			< 0.00083 U
Total Xylenes	mg/kg	9	< 0.256 U	<b>0.327</b>	< 0.227 U	< 0.228 U			< 0.0017 U
<b>Metals</b>									
Lead	mg/kg	250	<b>1.96</b>	<b>1.29</b>	<b>5.91</b>	<b>1.54</b>			--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>									
Naphthalene	mg/kg	5	--	--	--	--			--
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--			--
<b>Polychlorinated Biphenyls (PCBs)</b>									
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--			--
<b>Volatile Organic Compounds (VOCs)</b>									
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--			--
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--			--
1,1,2-Trichloroethane	mg/kg		--	--	--	--			--
1,1-Dichloroethane	mg/kg		--	--	--	--			--
1,1-Dichloroethene	mg/kg		--	--	--	--			--
1,1-Dichloropropene	mg/kg		--	--	--	--			--
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--			--
1,2,3-Trichloropropane	mg/kg		--	--	--	--			--
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--			--
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--			--
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--			--
1,2-Dibromoethane (EDB)	mg/kg	0.005	< 0.0854 U	< 0.0744 U	< 0.0756 U	< 0.0795 U			--
1,2-Dichlorobenzene	mg/kg		--	--	--	--			--
1,2-Dichloroethane (EDC)	mg/kg		< 0.0854 U	< 0.0744 U	< 0.0756 U	< 0.0794 U			--
1,2-Dichloropropane	mg/kg		--	--	--	--			--
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--			--
1,3-Dichlorobenzene	mg/kg		--	--	--	--			--
1,3-Dichloropropane	mg/kg		--	--	--	--			--
1,4-Dichlorobenzene	mg/kg		--	--	--	--			--
2,2-Dichloropropane	mg/kg		--	--	--	--			--
2-Butanone	mg/kg		--	--	--	--			--
2-Chlorotoluene	mg/kg		--	--	--	--			--
2-Hexanone	mg/kg		--	--	--	--			--
4-Chlorotoluene	mg/kg		--	--	--	--			--
4-Methyl-2-pentanone	mg/kg		--	--	--	--			--
Acetone	mg/kg		--	--	--	--			--
Bromobenzene	mg/kg		--	--	--	--			--
Bromodichloromethane	mg/kg		--	--	--	--			--
Bromoform	mg/kg		--	--	--	--			--
Bromomethane	mg/kg		--	--	--	--			--
Carbon Tetrachloride	mg/kg		--	--	--	--			--
Chlorobenzene	mg/kg		--	--	--	--			--
Chloroethane	mg/kg		--	--	--	--			--
Chloroform	mg/kg		--	--	--	--			--
Chloromethane	mg/kg		--	--	--	--			--
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--			--
cis-1,3-Dichloropropene	mg/kg		--	--	--	--			--
Dibromochloromethane	mg/kg		--	--	--	--			--
Dibromomethane	mg/kg		--	--	--	--			--
Dichlorodifluoromethane	mg/kg		--	--	--	--			--
Isopropylbenzene	mg/kg		--	--	--	--			--
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	< 0.43 U	< 0.37 U	< 0.38 U	< 0.4 U			--
Methylene Chloride	mg/kg	0.02	--	--	--	--			--
n-Hexane	mg/kg		--	--	--	--			--
n-Propylbenzene	mg/kg		--	--	--	--			--
p-Isopropyltoluene	mg/kg		--	--	--	--			--
sec-Butylbenzene	mg/kg		--	--	--	--			--
Styrene	mg/kg		--	--	--	--			--
tert-Butylbenzene	mg/kg		--	--	--	--			--
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--			--
trans-1,2-Dichloroethene	mg/kg		--	--	--	--			--
trans-1,3-Dichloropropene	mg/kg		--	--	--	--			--
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--			--
Trichlorofluoromethane	mg/kg		--	--	--	--			--
Vinyl Chloride	mg/kg		--	--	--	--			--

Notes:  
mg/kg - milligrams per kilogram, ft = feet  
**Bold - Analyte detected**  
**Blue Shaded - Detected result exceeded screening level**  
U - Analyte not detected at or above Reporting Limit (RL) shown  
J - Result value estimated  
UJ - Analyte not detected and the Reporting Limit (RL) is an estimate  
X - Chromatographic pattern does not match fuel standard used for quantitation

**Table 1. Soil Analytical Data**

Project No. 180357, Lynnwood, Washington

DRAFT

			Location	HB-SB-4	B-05	B-06	B-07	
			Date	05/10/2010	06/10/2019	06/11/2019	06/12/2019	06/12/2019
			Sample Name	SO-241739-051010-HB-SB-4-5.0	B-05-16	B-06-13	B-07-8	B-07-12.5
			Depth Below Ground Surface	5 ft	16 ft	13 ft	8 ft	12.5 ft
Analyte	Unit	MTCA Method A Cleanup Level						
<b>Total Petroleum Hydrocarbons (TPHs)</b>								
Gasoline-Range Organics	mg/kg	30	< 0.24 U	< 5 U	< 5 U	<b>87 J</b>	< 5 U	< 5 U
Diesel-Range Organics	mg/kg	2000	6.1	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Motor Oil-Range Organics	mg/kg	2000	47	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Diesel and Oil Extended-Range Organics	mg/kg	2000	--	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
<b>BTEX</b>								
Benzene	mg/kg	0.03	< 0.001 U	< 0.02 U	< 0.02 U	--	--	--
Toluene	mg/kg	7	<b>0.0018</b>	< 0.02 U	< 0.02 U	--	--	--
Ethylbenzene	mg/kg	6	< 0.001 U	< 0.02 U	< 0.02 U	--	--	--
Total Xylenes	mg/kg	9	<b>0.002</b>	< 0.06 U	< 0.06 U	--	--	--
<b>Metals</b>								
Lead	mg/kg	250	--	--	--	<b>1.44</b>	--	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>								
Naphthalene	mg/kg	5	--	--	--	< 0.005 UJ	< 0.005 UJ	--
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--
<b>Polychlorinated Biphenyls (PCBs)</b>								
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--
<b>Volatile Organic Compounds (VOCs)</b>								
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--
1,1-Dichloroethane	mg/kg		--	--	--	--	--	--
1,1-Dichloroethene	mg/kg		--	--	--	--	--	--
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	--	--	< 0.005 U	< 0.005 U	--
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--
1,2-Dichloroethane (EDC)	mg/kg		--	--	--	< 0.005 U	< 0.005 U	--
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--
2-Butanone	mg/kg		--	--	--	--	--	--
2-Chlorotoluene	mg/kg		--	--	--	--	--	--
2-Hexanone	mg/kg		--	--	--	--	--	--
4-Chlorotoluene	mg/kg		--	--	--	--	--	--
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--
Acetone	mg/kg		--	--	--	--	--	--
Bromobenzene	mg/kg		--	--	--	--	--	--
Bromodichloromethane	mg/kg		--	--	--	--	--	--
Bromoform	mg/kg		--	--	--	--	--	--
Bromomethane	mg/kg		--	--	--	--	--	--
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--
Chlorobenzene	mg/kg		--	--	--	--	--	--
Chloroethane	mg/kg		--	--	--	--	--	--
Chloroform	mg/kg		--	--	--	--	--	--
Chloromethane	mg/kg		--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--
Dibromochloromethane	mg/kg		--	--	--	--	--	--
Dibromomethane	mg/kg		--	--	--	--	--	--
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--
Isopropylbenzene	mg/kg		--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	--	--	< 0.005 U	< 0.005 U	--
Methylene Chloride	mg/kg	0.02	--	--	--	--	--	--
n-Hexane	mg/kg		--	--	--	--	--	--
n-Propylbenzene	mg/kg		--	--	--	--	--	--
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--
sec-Butylbenzene	mg/kg		--	--	--	--	--	--
Styrene	mg/kg		--	--	--	--	--	--
tert-Butylbenzene	mg/kg		--	--	--	--	--	--
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--	--
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--	--
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--
Vinyl Chloride	mg/kg		--	--	--	--	--	--

**Notes:**

mg/kg - milligrams per kilogram, ft = feet

**Blue Shaded - Detected result exceeded screening level**

U - Analyte not detected at or above Reporting Limit (RL) shown

J - Result value estimated

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

X - Chromatographic pattern does not match fuel standard used for quantitation



Analyte	Unit	MTCA Method A Cleanup Level	Location	B-08	B-09		B-10	B-11	
			Date	07/16/2019	08/05/2020	08/05/2020	07/30/2020	07/28/2020	07/28/2020
			Sample Name	B-08-13.5	B-09-2.5	B-09-6	B-10-12.5	B-11-5.5	B-11-10.5
			Depth Below Ground Surface	13.5 ft	2.5 ft	6 ft	12.5 ft	5.5 ft	10.5 ft
<b>Total Petroleum Hydrocarbons (TPHs)</b>									
Gasoline-Range Organics	mg/kg	30	< 5 U	< 5 U	< 5 U	< 5 U	12	< 5 U	
Diesel-Range Organics	mg/kg	2000	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Motor Oil-Range Organics	mg/kg	2000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Diesel and Oil Extended-Range Organics	mg/kg	2000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
<b>BTEX</b>									
Benzene	mg/kg	0.03	< 0.02 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U
Toluene	mg/kg	7	< 0.02 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Ethylbenzene	mg/kg	6	< 0.02 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Total Xylenes	mg/kg	9	< 0.06 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
<b>Metals</b>									
Lead	mg/kg	250	--	--	--	--	--	--	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>									
Naphthalene	mg/kg	5	--	< 0.05 U	< 0.05 U	< 0.05 U	0.082	< 0.05 U	
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--	--
<b>Polychlorinated Biphenyls (PCBs)</b>									
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--	--
<b>Volatile Organic Compounds (VOCs)</b>									
1,1,1-Trichloroethane	mg/kg	2	< 0.05 U	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--	--
1,1-Dichloroethane	mg/kg		< 0.05 U	--	--	--	--	--	--
1,1-Dichloroethene	mg/kg		< 0.05 U	--	--	--	--	--	--
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--	--
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	--	--	--	--	--	--
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	mg/kg		< 0.05 U	--	--	--	--	--	--
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--
2-Butanone	mg/kg		--	--	--	--	--	--	--
2-Chlorotoluene	mg/kg		--	--	--	--	--	--	--
2-Hexanone	mg/kg		--	--	--	--	--	--	--
4-Chlorotoluene	mg/kg		--	--	--	--	--	--	--
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--	--
Acetone	mg/kg		--	--	--	--	--	--	--
Bromobenzene	mg/kg		--	--	--	--	--	--	--
Bromodichloromethane	mg/kg		--	--	--	--	--	--	--
Bromoform	mg/kg		--	--	--	--	--	--	--
Bromomethane	mg/kg		--	--	--	--	--	--	--
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--	--
Chlorobenzene	mg/kg		--	--	--	--	--	--	--
Chloroethane	mg/kg		< 0.5 U	--	--	--	--	--	--
Chloroform	mg/kg		--	--	--	--	--	--	--
Chloromethane	mg/kg		--	--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	mg/kg		< 0.05 U	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--
Dibromochloromethane	mg/kg		--	--	--	--	--	--	--
Dibromomethane	mg/kg		--	--	--	--	--	--	--
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--	--
Isopropylbenzene	mg/kg		--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	--	--	--	--	--	--
Methylene Chloride	mg/kg	0.02	< 0.5 U	--	--	--	--	--	--
n-Hexane	mg/kg		--	--	--	--	--	--	--
n-Propylbenzene	mg/kg		--	--	--	--	--	--	--
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--	--
sec-Butylbenzene	mg/kg		--	--	--	--	--	--	--
Styrene	mg/kg		--	--	--	--	--	--	--
tert-Butylbenzene	mg/kg		--	--	--	--	--	--	--
Tetrachloroethene (PCE)	mg/kg	0.05	< 0.025 U	--	--	--	--	--	--
trans-1,2-Dichloroethene	mg/kg		< 0.05 U	--	--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--
Trichloroethene (TCE)	mg/kg	0.03	< 0.02 U	--	--	--	--	--	--
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--	--
Vinyl Chloride	mg/kg		< 0.05 U	--	--	--	--	--	--

Notes:  
mg/kg - milligrams per kilogram, ft = feet  
**Blue Shaded - Detected result exceeded screening level**  
U - Analyte not detected at or above Reporting Limit (RL) shown  
J - Result value estimated  
UJ - Analyte not detected and the Reporting Limit (RL) is an estimate  
X - Chromatographic pattern does not match fuel standard used for quantitation

Analyte	Unit	MTCA Method A Cleanup Level	Location	B-11	GP-04	GP-05		GP-06	MW-11
			Date	07/28/2020	06/05/2019	11/10/2020	11/10/2020	11/10/2020	06/10/2019
			Sample Name	B-11-15	GP-04-2	GP-05-1.25	GP-05-6	GP-06-2.5	MW-11-1
			Depth Below Ground Surface	15 ft	2 ft	1.25 ft	6 ft	2.5 ft	1 ft
<b>Total Petroleum Hydrocarbons (TPHs)</b>									
Gasoline-Range Organics	mg/kg	30	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	280
Diesel-Range Organics	mg/kg	2000	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	--
Motor Oil-Range Organics	mg/kg	2000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	--
Diesel and Oil Extended-Range Organics	mg/kg	2000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	--
<b>BTEX</b>									
Benzene	mg/kg	0.03	< 0.03 U	< 0.03 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.2 U
Toluene	mg/kg	7	< 0.05 U	< 0.05 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	0.99
Ethylbenzene	mg/kg	6	< 0.05 U	< 0.05 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	2
Total Xylenes	mg/kg	9	< 0.1 U	< 0.1 U	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	11
<b>Metals</b>									
Lead	mg/kg	250	--	--	--	--	--	--	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>									
Naphthalene	mg/kg	5	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	1.5
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--	--
<b>Polychlorinated Biphenyls (PCBs)</b>									
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--	--
<b>Volatile Organic Compounds (VOCs)</b>									
1,1,1-Trichloroethane	mg/kg	2	--	< 0.05 U	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg		--	< 0.05 U	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg		--	< 0.05 U	--	--	--	--	--
1,1-Dichloroethane	mg/kg		--	< 0.05 U	--	--	--	--	--
1,1-Dichloroethene	mg/kg		--	< 0.05 U	--	--	--	--	--
1,1-Dichloropropene	mg/kg		--	< 0.05 U	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg		--	< 0.25 U	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg		--	< 0.05 U	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg		--	< 0.25 U	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg		--	< 0.5 U	--	--	--	--	--
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	< 0.05 U	--	--	--	--	< 0.005 U
1,2-Dichlorobenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
1,2-Dichloroethane (EDC)	mg/kg		--	< 0.05 U	--	--	--	--	< 0.005 U
1,2-Dichloropropane	mg/kg		--	< 0.05 U	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
1,3-Dichloropropane	mg/kg		--	< 0.05 U	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
2,2-Dichloropropane	mg/kg		--	< 0.05 U	--	--	--	--	--
2-Butanone	mg/kg		--	< 0.5 U	--	--	--	--	--
2-Chlorotoluene	mg/kg		--	< 0.05 U	--	--	--	--	--
2-Hexanone	mg/kg		--	< 0.5 U	--	--	--	--	--
4-Chlorotoluene	mg/kg		--	< 0.05 U	--	--	--	--	--
4-Methyl-2-pentanone	mg/kg		--	< 0.5 U	--	--	--	--	--
Acetone	mg/kg		--	< 0.5 U	--	--	--	--	--
Bromobenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
Bromodichloromethane	mg/kg		--	< 0.05 U	--	--	--	--	--
Bromoform	mg/kg		--	< 0.05 U	--	--	--	--	--
Bromomethane	mg/kg		--	< 0.5 U	--	--	--	--	--
Carbon Tetrachloride	mg/kg		--	< 0.05 U	--	--	--	--	--
Chlorobenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
Chloroethane	mg/kg		--	< 0.5 U	--	--	--	--	--
Chloroform	mg/kg		--	< 0.05 U	--	--	--	--	--
Chloromethane	mg/kg		--	< 0.5 U	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	< 0.05 U	--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg		--	< 0.05 U	--	--	--	--	--
Dibromochloromethane	mg/kg		--	< 0.05 U	--	--	--	--	--
Dibromomethane	mg/kg		--	< 0.05 U	--	--	--	--	--
Dichlorodifluoromethane	mg/kg		--	< 0.5 U	--	--	--	--	--
Isopropylbenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	< 0.05 U	--	--	--	--	< 0.005 U
Methylene Chloride	mg/kg	0.02	--	< 0.5 U	--	--	--	--	--
n-Hexane	mg/kg		--	< 0.25 U	--	--	--	--	--
n-Propylbenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
p-Isopropyltoluene	mg/kg		--	< 0.05 U	--	--	--	--	--
sec-Butylbenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
Styrene	mg/kg		--	< 0.05 U	--	--	--	--	--
tert-Butylbenzene	mg/kg		--	< 0.05 U	--	--	--	--	--
Tetrachloroethene (PCE)	mg/kg	0.05	--	< 0.025 U	--	--	--	--	--
trans-1,2-Dichloroethene	mg/kg		--	< 0.05 U	--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg		--	< 0.05 U	--	--	--	--	--
Trichloroethene (TCE)	mg/kg	0.03	--	< 0.02 U	--	--	--	--	--
Trichlorofluoromethane	mg/kg		--	< 0.5 U	--	--	--	--	--
Vinyl Chloride	mg/kg		--	< 0.05 U	--	--	--	--	--

Notes:  
mg/kg - milligrams per kilogram, ft = feet  
**Blue Shaded - Detected result exceeded screening level**  
U - Analyte not detected at or above Reporting Limit (RL) shown  
J - Result value estimated  
UJ - Analyte not detected and the Reporting Limit (RL) is an estimate  
X - Chromatographic pattern does not match fuel standard used for quantitation



**Table 1. Soil Analytical Data**  
Project No. 180357, Lynnwood, Washington

Analyte	Unit	MTCA Method A Cleanup Level	Location		MW-11	MW-12	MW-13	MW-14	
			Date	Date	06/10/2019	06/10/2019	06/10/2019	06/11/2019	06/11/2019
			Sample Name	Sample Name	MW-11-6	MW-11-13	MW-12-15	MW-13-12.5	MW-14-12.5
			Depth Below Ground Surface	Depth Below Ground Surface	6 ft	13 ft	15 ft	12.5 ft	12.5 ft
<b>Total Petroleum Hydrocarbons (TPHs)</b>									
Gasoline-Range Organics	mg/kg	30	2600	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	
Diesel-Range Organics	mg/kg	2000	240 X	--	< 50 U	< 50 U	< 50 U	< 50 U	
Motor Oil-Range Organics	mg/kg	2000	< 250 U	--	< 250 U	< 250 U	< 250 U	< 250 U	
Diesel and Oil Extended-Range Organics	mg/kg	2000	240 X	--	< 250 U	< 250 U	< 250 U	< 250 U	
<b>BTEX</b>									
Benzene	mg/kg	0.03	0.63	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	
Toluene	mg/kg	7	4.1	0.031	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	
Ethylbenzene	mg/kg	6	38	0.025	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	
Total Xylenes	mg/kg	9	140	0.12	< 0.06 U	< 0.06 U	< 0.06 U	< 0.06 U	
<b>Metals</b>									
Lead	mg/kg	250	8.76	--	--	--	--	--	
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>									
Naphthalene	mg/kg	5	7.4	--	--	--	--	--	
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--	
<b>Polychlorinated Biphenyls (PCBs)</b>									
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--	
<b>Volatile Organic Compounds (VOCs)</b>									
1,1,1-Trichloroethane	mg/kg	2	--	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--	
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--	
1,1-Dichloroethane	mg/kg		--	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	
1,1-Dichloroethene	mg/kg		--	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--	
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--	
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--	
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--	
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--	
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--	
1,2-Dibromoethane (EDB)	mg/kg	0.005	< 0.005 U	--	--	--	--	--	
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--	
1,2-Dichloroethane (EDC)	mg/kg		< 0.005 U	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--	
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--	
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--	
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--	
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--	
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--	
2-Butanone	mg/kg		--	--	--	--	--	--	
2-Chlorotoluene	mg/kg		--	--	--	--	--	--	
2-Hexanone	mg/kg		--	--	--	--	--	--	
4-Chlorotoluene	mg/kg		--	--	--	--	--	--	
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--	
Acetone	mg/kg		--	--	--	--	--	--	
Bromobenzene	mg/kg		--	--	--	--	--	--	
Bromodichloromethane	mg/kg		--	--	--	--	--	--	
Bromoform	mg/kg		--	--	--	--	--	--	
Bromomethane	mg/kg		--	--	--	--	--	--	
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--	
Chlorobenzene	mg/kg		--	--	--	--	--	--	
Chloroethane	mg/kg		--	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	
Chloroform	mg/kg		--	--	--	--	--	--	
Chloromethane	mg/kg		--	--	--	--	--	--	
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	
Dibromochloromethane	mg/kg		--	--	--	--	--	--	
Dibromomethane	mg/kg		--	--	--	--	--	--	
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--	
Isopropylbenzene	mg/kg		--	--	--	--	--	--	
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	< 0.005 U	--	--	--	--	--	
Methylene Chloride	mg/kg	0.02	--	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	
n-Hexane	mg/kg		--	--	--	--	--	--	
n-Propylbenzene	mg/kg		--	--	--	--	--	--	
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--	
sec-Butylbenzene	mg/kg		--	--	--	--	--	--	
Styrene	mg/kg		--	--	--	--	--	--	
tert-Butylbenzene	mg/kg		--	--	--	--	--	--	
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	
trans-1,2-Dichloroethene	mg/kg		--	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	
Trichloroethene (TCE)	mg/kg	0.03	--	--	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--	
Vinyl Chloride	mg/kg		--	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	

Notes:  
 mg/kg - milligrams per kilogram, ft = feet  
**Blue Shaded - Detected result exceeded screening level**  
 U - Analyte not detected at or above Reporting Limit (RL) shown  
 J - Result value estimated  
 UJ - Analyte not detected and the Reporting Limit (RL) is an estimate  
 X - Chromatographic pattern does not match fuel standard used for quantitation

Analyte	Unit	MTCA Method A Cleanup Level	Location		MW-15					MW-16
			Date	Sample Name	06/12/2019	06/12/2019	06/12/2019	06/12/2019	06/12/2019	06/14/2019
			Depth Below Ground Surface		MW-15-7.5	MW-15-10.5	MW-15-13	MW-15-17.5	MW-15-25	MW-16-7.5
			7.5 ft	10.5 ft	13 ft	17.5 ft	25 ft	7.5 ft		
<b>Total Petroleum Hydrocarbons (TPHs)</b>										
Gasoline-Range Organics	mg/kg	30	< 5 U	6500 J	3400	200	< 5 U	< 5 U	< 5 U	< 5 U
Diesel-Range Organics	mg/kg	2000	< 50 U	1500 X	990 X	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Motor Oil-Range Organics	mg/kg	2000	< 250 U	590	370	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Diesel and Oil Extended-Range Organics	mg/kg	2000	< 250 U	2090 X	1360 X	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
<b>BTEX</b>										
Benzene	mg/kg	0.03	--	--	0.7 J	0.22	0.026	--	--	--
Toluene	mg/kg	7	--	--	4.7 J	0.096	< 0.005 U	--	--	--
Ethylbenzene	mg/kg	6	--	--	10 J	0.19	< 0.005 UJ	--	--	--
Total Xylenes	mg/kg	9	--	--	64 J	1.19	< 0.01 U	--	--	--
<b>Metals</b>										
Lead	mg/kg	250	--	1.88	1.93	--	--	--	--	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>										
Naphthalene	mg/kg	5	< 0.005 UJ	6.3 J	4.9	--	--	--	--	--
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--	--	--
<b>Polychlorinated Biphenyls (PCBs)</b>										
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--	--	--
<b>Volatile Organic Compounds (VOCs)</b>										
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--	--	--
1,1-Dichloroethane	mg/kg		--	--	--	--	--	--	--	--
1,1-Dichloroethene	mg/kg		--	--	--	--	--	--	--	--
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--	--	--
1,2-Dibromoethane (EDB)	mg/kg	0.005	< 0.005 U	< 0.005 U	< 0.005 U	--	--	--	--	--
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	mg/kg		< 0.005 U	< 0.005 U	< 0.005 U	--	--	--	--	--
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--	--
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--	--
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--	--
2-Butanone	mg/kg		--	--	--	--	--	--	--	--
2-Chlorotoluene	mg/kg		--	--	--	--	--	--	--	--
2-Hexanone	mg/kg		--	--	--	--	--	--	--	--
4-Chlorotoluene	mg/kg		--	--	--	--	--	--	--	--
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--	--	--
Acetone	mg/kg		--	--	--	--	--	--	--	--
Bromobenzene	mg/kg		--	--	--	--	--	--	--	--
Bromodichloromethane	mg/kg		--	--	--	--	--	--	--	--
Bromoform	mg/kg		--	--	--	--	--	--	--	--
Bromomethane	mg/kg		--	--	--	--	--	--	--	--
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--	--	--
Chlorobenzene	mg/kg		--	--	--	--	--	--	--	--
Chloroethane	mg/kg		--	--	--	--	--	--	--	--
Chloroform	mg/kg		--	--	--	--	--	--	--	--
Chloromethane	mg/kg		--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--	--
Dibromochloromethane	mg/kg		--	--	--	--	--	--	--	--
Dibromomethane	mg/kg		--	--	--	--	--	--	--	--
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--	--	--
Isopropylbenzene	mg/kg		--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	< 0.005 U	< 0.005 U	< 0.005 U	--	--	--	--	--
Methylene Chloride	mg/kg	0.02	--	--	--	--	--	--	--	--
n-Hexane	mg/kg		--	--	--	--	--	--	--	--
n-Propylbenzene	mg/kg		--	--	--	--	--	--	--	--
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--	--	--
sec-Butylbenzene	mg/kg		--	--	--	--	--	--	--	--
Styrene	mg/kg		--	--	--	--	--	--	--	--
tert-Butylbenzene	mg/kg		--	--	--	--	--	--	--	--
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--	--
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--	--	--	--
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--	--	--
Vinyl Chloride	mg/kg		--	--	--	--	--	--	--	--

Notes:  
mg/kg - milligrams per kilogram, ft = feet  
**Blue Shaded - Detected result exceeded screening level**  
U - Analyte not detected at or above Reporting Limit (RL) shown  
J - Result value estimated  
UJ - Analyte not detected and the Reporting Limit (RL) is an estimate  
X - Chromatographic pattern does not match fuel standard used for quantitation

Analyte	Unit	MTCA Method A Cleanup Level	Location	MW-17	MW-18	MW-19	MW-20		
			Date	06/14/2019	07/15/2019	07/16/2019	07/30/2020	07/30/2020	07/30/2020
			Sample Name	MW-17-8.5	MW-18-10	MW-19-8.5	MW-20-5'	MW-20-8'	MW-20-13'
			Depth Below Ground Surface	8.5 ft	10 ft	8.5 ft	5 ft	8 ft	13 ft
<b>Total Petroleum Hydrocarbons (TPHs)</b>									
Gasoline-Range Organics	mg/kg	30	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Diesel-Range Organics	mg/kg	2000	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Motor Oil-Range Organics	mg/kg	2000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Diesel and Oil Extended-Range Organics	mg/kg	2000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
<b>BTEX</b>									
Benzene	mg/kg	0.03	--	< 0.02 U	< 0.02 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U
Toluene	mg/kg	7	--	< 0.02 U	< 0.02 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Ethylbenzene	mg/kg	6	--	< 0.02 U	< 0.02 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Total Xylenes	mg/kg	9	--	< 0.06 U	< 0.06 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
<b>Metals</b>									
Lead	mg/kg	250	--	--	--	--	--	--	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>									
Naphthalene	mg/kg	5	--	--	--	< 0.05 U	<b>0.065</b>	< 0.05 U	< 0.05 U
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--	--
<b>Polychlorinated Biphenyls (PCBs)</b>									
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--	--
<b>Volatile Organic Compounds (VOCs)</b>									
1,1,1-Trichloroethane	mg/kg	2	--	< 0.05 U	< 0.05 U	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--	--
1,1-Dichloroethane	mg/kg		--	< 0.05 U	< 0.05 U	--	--	--	--
1,1-Dichloroethene	mg/kg		--	< 0.05 U	< 0.05 U	--	--	--	--
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--	--
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	--	--	--	--	--	--
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	mg/kg		--	< 0.05 U	< 0.05 U	--	--	--	--
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--
2-Butanone	mg/kg		--	--	--	--	--	--	--
2-Chlorotoluene	mg/kg		--	--	--	--	--	--	--
2-Hexanone	mg/kg		--	--	--	--	--	--	--
4-Chlorotoluene	mg/kg		--	--	--	--	--	--	--
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--	--
Acetone	mg/kg		--	--	--	--	--	--	--
Bromobenzene	mg/kg		--	--	--	--	--	--	--
Bromodichloromethane	mg/kg		--	--	--	--	--	--	--
Bromoform	mg/kg		--	--	--	--	--	--	--
Bromomethane	mg/kg		--	--	--	--	--	--	--
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--	--
Chlorobenzene	mg/kg		--	--	--	--	--	--	--
Chloroethane	mg/kg		--	< 0.5 U	< 0.5 U	--	--	--	--
Chloroform	mg/kg		--	--	--	--	--	--	--
Chloromethane	mg/kg		--	--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	< 0.05 U	< 0.05 U	--	--	--	--
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--
Dibromochloromethane	mg/kg		--	--	--	--	--	--	--
Dibromomethane	mg/kg		--	--	--	--	--	--	--
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--	--
Isopropylbenzene	mg/kg		--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	--	--	--	--	--	--
Methylene Chloride	mg/kg	0.02	--	< 0.5 U	< 0.5 U	--	--	--	--
n-Hexane	mg/kg		--	--	--	--	--	--	--
n-Propylbenzene	mg/kg		--	--	--	--	--	--	--
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--	--
sec-Butylbenzene	mg/kg		--	--	--	--	--	--	--
Styrene	mg/kg		--	--	--	--	--	--	--
tert-Butylbenzene	mg/kg		--	--	--	--	--	--	--
Tetrachloroethene (PCE)	mg/kg	0.05	--	< 0.025 U	< 0.025 U	--	--	--	--
trans-1,2-Dichloroethene	mg/kg		--	< 0.05 U	< 0.05 U	--	--	--	--
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--
Trichloroethene (TCE)	mg/kg	0.03	--	< 0.02 U	< 0.02 U	--	--	--	--
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--	--
Vinyl Chloride	mg/kg		--	< 0.05 U	< 0.05 U	--	--	--	--

Notes:  
mg/kg - milligrams per kilogram, ft = feet  
**Blue Shaded - Detected result exceeded screening level**  
U - Analyte not detected at or above Reporting Limit (RL) shown  
J - Result value estimated  
UJ - Analyte not detected and the Reporting Limit (RL) is an estimate  
X - Chromatographic pattern does not match fuel standard used for quantitation

**Table 1. Soil Analytical Data**

Project No. 180357, Lynnwood, Washington

DRAFT

Location Date Sample Name Depth Below Ground Surface			MW-21				MW-22	
			07/30/2020	07/28/2020	07/28/2020	07/28/2020	07/30/2020	07/30/2020
			MW-21A-2.5	MW-21-5	MW-21-10	MW-21-17.5	MW-22A-2.5	MW-22B-5'
			2.5 ft	5 ft	10 ft	17.5 ft	2.5 ft	5 ft
Analyte	Unit	MTCA Method A Cleanup Level						
<b>Total Petroleum Hydrocarbons (TPHs)</b>								
Gasoline-Range Organics	mg/kg	30	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Diesel-Range Organics	mg/kg	2000	90 X	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Motor Oil-Range Organics	mg/kg	2000	360	< 250 U	< 250 U	< 250 U	< 250 U	680
Diesel and Oil Extended-Range Organics	mg/kg	2000	450 X	< 250 U	< 250 U	< 250 U	< 250 U	680
<b>BTEX</b>								
Benzene	mg/kg	0.03	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U
Toluene	mg/kg	7	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Ethylbenzene	mg/kg	6	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Total Xylenes	mg/kg	9	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
<b>Metals</b>								
Lead	mg/kg	250	--	--	--	--	--	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>								
Naphthalene	mg/kg	5	< 0.05 U	< 0.05 U	0.097	< 0.05 U	< 0.05 U	< 0.05 U
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--
<b>Polychlorinated Biphenyls (PCBs)</b>								
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--
<b>Volatile Organic Compounds (VOCs)</b>								
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--
1,1-Dichloroethane	mg/kg		--	--	--	--	--	--
1,1-Dichloroethene	mg/kg		--	--	--	--	--	--
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	--	--	--	--	--
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--
1,2-Dichloroethane (EDC)	mg/kg		--	--	--	--	--	--
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--
2-Butanone	mg/kg		--	--	--	--	--	--
2-Chlorotoluene	mg/kg		--	--	--	--	--	--
2-Hexanone	mg/kg		--	--	--	--	--	--
4-Chlorotoluene	mg/kg		--	--	--	--	--	--
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--
Acetone	mg/kg		--	--	--	--	--	--
Bromobenzene	mg/kg		--	--	--	--	--	--
Bromodichloromethane	mg/kg		--	--	--	--	--	--
Bromoform	mg/kg		--	--	--	--	--	--
Bromomethane	mg/kg		--	--	--	--	--	--
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--
Chlorobenzene	mg/kg		--	--	--	--	--	--
Chloroethane	mg/kg		--	--	--	--	--	--
Chloroform	mg/kg		--	--	--	--	--	--
Chloromethane	mg/kg		--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--
Dibromochloromethane	mg/kg		--	--	--	--	--	--
Dibromomethane	mg/kg		--	--	--	--	--	--
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--
Isopropylbenzene	mg/kg		--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	--	--	--	--	--
Methylene Chloride	mg/kg	0.02	--	--	--	--	--	--
n-Hexane	mg/kg		--	--	--	--	--	--
n-Propylbenzene	mg/kg		--	--	--	--	--	--
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--
sec-Butylbenzene	mg/kg		--	--	--	--	--	--
Styrene	mg/kg		--	--	--	--	--	--
tert-Butylbenzene	mg/kg		--	--	--	--	--	--
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--	--
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--	--
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--
Vinyl Chloride	mg/kg		--	--	--	--	--	--

**Notes:**

mg/kg - milligrams per kilogram, ft = feet

**Blue Shaded - Detected result exceeded screening level**

U - Analyte not detected at or above Reporting Limit (RL) shown

J - Result value estimated

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

X - Chromatographic pattern does not match fuel standard used for quantitation

Analyte	Unit	MTCA Method A Cleanup Level	MW-22				MW-23	
			Date	Date	Date	Date	Date	Date
			07/28/2020	07/28/2020	07/28/2020	07/28/2020	07/28/2020	07/28/2020
Sample Name	MW-22-10	MW-22-12.5	MW-22-16	MW-22-25	MW-23-8	MW-23-12.5		
Depth Below Ground Surface	10 ft	12.5 ft	16 ft	25 ft	8 ft	12.5 ft		
<b>Total Petroleum Hydrocarbons (TPHs)</b>								
Gasoline-Range Organics	mg/kg	30	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Diesel-Range Organics	mg/kg	2000	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Motor Oil-Range Organics	mg/kg	2000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Diesel and Oil Extended-Range Organics	mg/kg	2000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
<b>BTEX</b>								
Benzene	mg/kg	0.03	< 0.03 U	< 0.03 U	<b>0.069</b>	< 0.03 U	< 0.03 U	< 0.03 U
Toluene	mg/kg	7	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Ethylbenzene	mg/kg	6	< 0.05 U	<b>0.068</b>	<b>0.12</b>	< 0.05 U	< 0.05 U	< 0.05 U
Total Xylenes	mg/kg	9	< 0.1 U	<b>0.11</b>	<b>0.63</b>	< 0.1 U	< 0.1 U	< 0.1 U
<b>Metals</b>								
Lead	mg/kg	250	--	--	--	--	--	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>								
Naphthalene	mg/kg	5	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--
<b>Polychlorinated Biphenyls (PCBs)</b>								
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--
<b>Volatile Organic Compounds (VOCs)</b>								
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--
1,1-Dichloroethane	mg/kg		--	--	--	--	--	--
1,1-Dichloroethene	mg/kg		--	--	--	--	--	--
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	--	--	--	--	--
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--
1,2-Dichloroethane (EDC)	mg/kg		--	--	--	--	--	--
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--
2-Butanone	mg/kg		--	--	--	--	--	--
2-Chlorotoluene	mg/kg		--	--	--	--	--	--
2-Hexanone	mg/kg		--	--	--	--	--	--
4-Chlorotoluene	mg/kg		--	--	--	--	--	--
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--
Acetone	mg/kg		--	--	--	--	--	--
Bromobenzene	mg/kg		--	--	--	--	--	--
Bromodichloromethane	mg/kg		--	--	--	--	--	--
Bromoform	mg/kg		--	--	--	--	--	--
Bromomethane	mg/kg		--	--	--	--	--	--
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--
Chlorobenzene	mg/kg		--	--	--	--	--	--
Chloroethane	mg/kg		--	--	--	--	--	--
Chloroform	mg/kg		--	--	--	--	--	--
Chloromethane	mg/kg		--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--
Dibromochloromethane	mg/kg		--	--	--	--	--	--
Dibromomethane	mg/kg		--	--	--	--	--	--
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--
Isopropylbenzene	mg/kg		--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	--	--	--	--	--
Methylene Chloride	mg/kg	0.02	--	--	--	--	--	--
n-Hexane	mg/kg		--	--	--	--	--	--
n-Propylbenzene	mg/kg		--	--	--	--	--	--
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--
sec-Butylbenzene	mg/kg		--	--	--	--	--	--
Styrene	mg/kg		--	--	--	--	--	--
tert-Butylbenzene	mg/kg		--	--	--	--	--	--
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--	--
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--	--
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--
Vinyl Chloride	mg/kg		--	--	--	--	--	--

Notes:  
 mg/kg - milligrams per kilogram, ft = feet  
**Blue Shaded - Detected result exceeded screening level**  
 U - Analyte not detected at or above Reporting Limit (RL) shown  
 J - Result value estimated  
 UJ - Analyte not detected and the Reporting Limit (RL) is an estimate  
 X - Chromatographic pattern does not match fuel standard used for quantitation

Analyte	Unit	MTCA Method A Cleanup Level	Location		MW-23	MW-24	MW-25	MW-26	MW-27	
			Date	Date	07/28/2020	07/28/2020	07/29/2020	07/30/2020	07/29/2020	07/29/2020
			Sample Name	Sample Name	MW-23-18	MW-23-25	MW-24-10.5	MW-25-8'	MW-26-12.5	MW-27-10.5
Depth Below Ground Surface			18 ft	25 ft	10.5 ft	8 ft	12.5 ft	10.5 ft		
<b>Total Petroleum Hydrocarbons (TPHs)</b>										
Gasoline-Range Organics	mg/kg	30	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	
Diesel-Range Organics	mg/kg	2000	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	
Motor Oil-Range Organics	mg/kg	2000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	
Diesel and Oil Extended-Range Organics	mg/kg	2000	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	
<b>BTEX</b>										
Benzene	mg/kg	0.03	0.44	0.047	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	
Toluene	mg/kg	7	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	
Ethylbenzene	mg/kg	6	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	
Total Xylenes	mg/kg	9	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	
<b>Metals</b>										
Lead	mg/kg	250	--	--	--	--	--	--	--	
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>										
Naphthalene	mg/kg	5	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	
Total cPAHs TEQ	mg/kg	0.1	--	--	--	--	--	--	--	
<b>Polychlorinated Biphenyls (PCBs)</b>										
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--	--	
<b>Volatile Organic Compounds (VOCs)</b>										
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--	--	
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--	--	
1,1-Dichloroethane	mg/kg		--	--	--	--	--	--	--	
1,1-Dichloroethene	mg/kg		--	--	--	--	--	--	--	
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--	
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--	--	
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--	
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--	
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--	--	
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--	
1,2-Dichloroethane (EDC)	mg/kg		--	--	--	--	--	--	--	
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--	
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--	
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--	
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--	--	
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--	
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--	
2-Butanone	mg/kg		--	--	--	--	--	--	--	
2-Chlorotoluene	mg/kg		--	--	--	--	--	--	--	
2-Hexanone	mg/kg		--	--	--	--	--	--	--	
4-Chlorotoluene	mg/kg		--	--	--	--	--	--	--	
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--	--	
Acetone	mg/kg		--	--	--	--	--	--	--	
Bromobenzene	mg/kg		--	--	--	--	--	--	--	
Bromodichloromethane	mg/kg		--	--	--	--	--	--	--	
Bromoform	mg/kg		--	--	--	--	--	--	--	
Bromomethane	mg/kg		--	--	--	--	--	--	--	
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--	--	
Chlorobenzene	mg/kg		--	--	--	--	--	--	--	
Chloroethane	mg/kg		--	--	--	--	--	--	--	
Chloroform	mg/kg		--	--	--	--	--	--	--	
Chloromethane	mg/kg		--	--	--	--	--	--	--	
cis-1,2-Dichloroethene (cDCE)	mg/kg		--	--	--	--	--	--	--	
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--	
Dibromochloromethane	mg/kg		--	--	--	--	--	--	--	
Dibromomethane	mg/kg		--	--	--	--	--	--	--	
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--	--	
Isopropylbenzene	mg/kg		--	--	--	--	--	--	--	
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	--	--	--	--	--	--	
Methylene Chloride	mg/kg	0.02	--	--	--	--	--	--	--	
n-Hexane	mg/kg		--	--	--	--	--	--	--	
n-Propylbenzene	mg/kg		--	--	--	--	--	--	--	
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--	--	
sec-Butylbenzene	mg/kg		--	--	--	--	--	--	--	
Styrene	mg/kg		--	--	--	--	--	--	--	
tert-Butylbenzene	mg/kg		--	--	--	--	--	--	--	
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--	--	--	
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--	--	--	
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--	
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--	--	--	
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--	--	
Vinyl Chloride	mg/kg		--	--	--	--	--	--	--	

**Notes:**

mg/kg - milligrams per kilogram, ft = feet

**Bold** - Analyte detected

**Blue Shaded** - Detected result exceeded screening level

U - Analyte not detected at or above Reporting Limit (RL) shown

J - Result value estimated

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

X - Chromatographic pattern does not match fuel standard used for quantitation



**Table 2. Historical Groundwater Analytical Data**

DRAFT

Project No. 180357, Lynnwood, Washington

Location Sample Date			MW-1										
			MW-1-39080	MW-1-39128	MW-1-39178	MW-1-39291	MW-1-39356	MW-1-39457	MW-1-39639	MW-1-39819	MW-1-40007	MW-1-40388	MW-1-40563
Date			12/29/2006	02/15/2007	04/06/2007	07/28/2007	10/01/2007	01/10/2008	07/10/2008	01/06/2009	07/13/2009	07/29/2010	01/20/2011
Analyte	Unit	MTCA Method A Cleanup Level											
<b>TPHs</b>													
Gasoline-Range Organics	ug/L	800	42100	41200	30200	5850	23900	73000	800	< 100 U	7500	--	--
Diesel-Range Organics	ug/L	500	< 255 U	< 269 U	< 258 U	< 258 U	1540 X	< 243 U	1400	190	2800 X	320 X	2550
Motor Oil-Range Organics	ug/L	500	< 510 U	< 538 U	< 515 U	< 515 U	< 105 U	< 485 U	< 300 U	< 380 U	< 100 U	110	725
<b>BTEX</b>													
Benzene	ug/L	5	9190	9230	7450	2400	6270	16500	280	1	1200	32	13400
Toluene	ug/L	1000	2140	1840	732	32.4	196	4010	13	< 1 U	60	2.9	3950
Ethylbenzene	ug/L	700	1090	938	718	131	653	1610	2	< 1 U	220	17	1700
Total Xylenes	ug/L	1000	4100	3710	2310	190	1340	6790	33	< 1 U	470	48	7240
<b>Metals</b>													
Lead	ug/L	15	--	--	--	--	--	--	--	--	3.33	--	--
<b>VOCs</b>													
1,2-Dibromoethane (EDB)	ug/L	0.01	--	--	--	--	--	--	--	--	< 0.01 U	--	--
1,2-Dichloroethane (EDC)	ug/L	5	--	--	--	--	--	--	--	--	< 0.29 U	--	--
Diisopropyl ether (DIPE)	ug/L		--	< 1 U	--	--	--	--	--	< 2 U	--	--	< 1 U
Ethyl t-butyl ether (ETBE)	ug/L		--	< 1 U	--	--	--	--	--	< 2 U	--	--	< 1 U
Methyl tert-butyl ether (MTBE)	ug/L	20	--	< 5 U	--	--	--	--	--	< 1 U	--	--	< 1 U
t-Amyl methyl ether (TAME)	ug/L		--	< 1 U	--	--	--	--	--	< 2 U	--	--	< 1 U
t-Butyl alcohol (TBA)	ug/L		--	54.6	--	--	--	--	--	< 10 U	--	--	132

**Notes**

ug/L = micrograms per liter

**Blue = detected**

**Blue = exceeded**

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

**Table 2. Historical Groundwater Analytical Data**

DRAFT

Project No. 180357, Lynnwood, Washington

Location			MW-1			MW-2							
			MW-1-41220	MW-1-41394	MW-1-41571	MW-2-39080	MW-2-39128	MW-2-39178	MW-2-39291	MW-2-39356	MW-2-39457	MW-2-39639	MW-2-39819
Sample Date			11/07/2012	04/30/2013	10/24/2013	12/29/2006	02/15/2007	04/06/2007	07/28/2007	10/01/2007	01/10/2008	07/10/2008	01/06/2009
Analyte	Unit	MTCA Method A Cleanup Level											
<b>TPHs</b>													
Gasoline-Range Organics	ug/L	800	16700	7300	445	2640	249	180	3200	3980	5000	540	9200
Diesel-Range Organics	ug/L	500	1460	1600	898	< 253 U	< 278 U	< 258 U	< 255 U	1080 X	< 243 U	< 500 U	< 100 U
Motor Oil-Range Organics	ug/L	500	163	818	172	< 505 U	< 556 U	< 515 U	< 510 U	< 105 U	< 485 U	< 200 U	< 100 U
<b>BTEX</b>													
Benzene	ug/L	5	4880	1590	28.8	21.7	2.06	1.83	66.1	175	214	4.9	390
Toluene	ug/L	1000	361	100	< 1 U	6.75	< 0.5 U	0.518	7.86	13.7	9.85	< 1 U	16
Ethylbenzene	ug/L	700	525	374	7.91	55.1	4.36	2.61	137	331	502	9.4	840
Total Xylenes	ug/L	1000	1530	445	7.82	9.91	< 1 U	< 1 U	20.4	47.4	71.0	< 1 U	62.0
<b>Metals</b>													
Lead	ug/L	15	--	--	--	--	--	--	--	--	--	--	--
<b>VOCs</b>													
1,2-Dibromoethane (EDB)	ug/L	0.01	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--
Diisopropyl ether (DIPE)	ug/L		--	--	--	--	< 1 U	--	--	--	--	--	< 20 U
Ethyl t-butyl ether (ETBE)	ug/L		--	--	--	--	< 1 U	--	--	--	--	--	< 20 U
Methyl tert-butyl ether (MTBE)	ug/L	20	--	--	--	--	< 5 U	--	--	--	--	--	< 10 U
t-Amyl methyl ether (TAME)	ug/L		--	--	--	--	< 1 U	--	--	--	--	--	< 20 U
t-Butyl alcohol (TBA)	ug/L		--	--	--	--	< 50 U	--	--	--	--	--	< 100 U

**Notes**

ug/L = micrograms per liter

**Bold = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.



**Table 2. Historical Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

Location Sample Date			MW-2						MW-3				
			MW-2-40007	MW-2-40388	MW-2-40563	MW-2-41220	MW-2-41394	MW-2-41571	MW-3-39080	MW-3-39128	MW-3-39178	MW-3-39291	MW-3-39356
Date			07/13/2009	07/29/2010	01/20/2011	11/07/2012	04/30/2013	10/24/2013	12/29/2006	02/15/2007	04/06/2007	07/28/2007	10/01/2007
Analyte	Unit	MTCA Method A Cleanup Level											
<b>TPHs</b>													
Gasoline-Range Organics	ug/L	800	320	--	--	4070	< 100 U	2350	171000	263000	214000	248000	252000
Diesel-Range Organics	ug/L	500	210 X	200 X	689	757	261	527	608	2580 X	867 X	8340	185000 X
Motor Oil-Range Organics	ug/L	500	< 100 U	< 100 U	402	< 94.3 U	198	181	< 510 U	< 2750 U	< 495 U	< 5.05 U	< 10500 U
<b>BTEX</b>													
Benzene	ug/L	5	3.8	2.1	25.1	228	< 1 U	61.3	28500	29200	26600	28600	29300
Toluene	ug/L	1000	< 1 U	< 1 U	< 1 U	4.99	< 1 U	1.03	29200	37400	37500	37400	35200
Ethylbenzene	ug/L	700	3.3	< 1 U	54.4	125	< 1 U	6.49	2950	3140	2850	2810	3260
Total Xylenes	ug/L	1000	< 1 U	< 1 U	5.42	40.3	< 3 U	3.52	15900	18600	16800	12800	19300
<b>Metals</b>													
Lead	ug/L	15	< 1 U	--	--	--	--	--	--	--	--	--	--
<b>VOCs</b>													
1,2-Dibromoethane (EDB)	ug/L	0.01	< 0.01 U	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	ug/L	5	< 0.5 U	--	--	--	--	--	--	--	--	--	--
Diisopropyl ether (DIPE)	ug/L		--	--	< 1 U	--	--	--	--	< 100 U	--	--	--
Ethyl t-butyl ether (ETBE)	ug/L		--	--	< 1 U	--	--	--	--	< 100 U	--	--	--
Methyl tert-butyl ether (MTBE)	ug/L	20	--	--	< 1 U	--	--	--	--	< 500 U	--	--	--
t-Amyl methyl ether (TAME)	ug/L		--	--	< 1 U	--	--	--	--	< 100 U	--	--	--
t-Butyl alcohol (TBA)	ug/L		--	--	< 20 U	--	--	--	--	< 5000 U	--	--	--

**Notes**

ug/L = micrograms per liter

**Blue = detected**

**Blue = exceeded**

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

**Table 2. Historical Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

			Location	MW-3			MW-4			MW-5			MW-6			
			Sample	MW-3-40563	MW-4-39080	MW-4-39128	MW-4-40563	MW-5-39080	MW-5-39128	MW-5-40563	MW-6-39291	MW-6-39356	MW-6-39457	MW-6-39639		
			Date	01/20/2011	12/29/2006	02/15/2007	01/20/2011	12/29/2006	02/15/2007	01/20/2011	07/28/2007	10/01/2007	01/10/2008	07/10/2008		
Analyte	Unit	MTCA Method A Cleanup Level														
<b>TPHs</b>																
Gasoline-Range Organics	ug/L	800	87800	207000	253000	313000	122000	771000	327000	52.4	< 250 U	< 50 U	< 50 U			
Diesel-Range Organics	ug/L	500	--	1810	72100 X	--	603	49200 X	--	< 253 U	< 105 U	< 250 U	< 500 U			
Motor Oil-Range Organics	ug/L	500	7690	< 510 U	< 50000 U	< 9520 U	< 515 U	< 5000 U	109005	< 505 U	< 105 U	< 500 U	< 200 U			
<b>BTEX</b>																
Benzene	ug/L	5	12100	32400	31500	12800	7220	12800	3710	< 0.5 U	< 1 U	< 0.5 U	< 1 U			
Toluene	ug/L	1000	23200	39700	40500	28700	24400	43600	16200	1.25	< 1 U	< 0.5 U	< 1 U			
Ethylbenzene	ug/L	700	3020	3200	2990	3180	2280	6000	2690	< 0.5 U	< 1 U	< 0.5 U	< 1 U			
Total Xylenes	ug/L	1000	19700	18800	18100	21200	13200	40700	15800	< 1 U	< 3 U	< 3 U	< 1 U			
<b>Metals</b>																
Lead	ug/L	15	--	--	--	--	--	--	--	--	--	--	--			
<b>VOCs</b>																
1,2-Dibromoethane (EDB)	ug/L	0.01	< 1 U	--	--	< 1 U	--	--	< 1 U	--	--	--	--			
1,2-Dichloroethane (EDC)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--			
Diisopropyl ether (DIPE)	ug/L		1.24	--	< 100 U	< 1.00 U	--	< 100 U	< 1 U	--	--	--	--			
Ethyl t-butyl ether (ETBE)	ug/L		< 1 U	--	< 100 U	< 1 U	--	< 100 U	< 1 U	--	--	--	--			
Methyl tert-butyl ether (MTBE)	ug/L	20	--	--	< 500 U	--	--	< 500 U	--	--	--	--	--			
t-Amyl methyl ether (TAME)	ug/L		< 1 U	--	< 100 U	< 1 U	--	< 100 U	< 1 U	--	--	--	--			
t-Butyl alcohol (TBA)	ug/L		101	--	< 5000 U	61.8	--	< 5000 U	45.4	--	--	--	--			

**Notes**

ug/L = micrograms per liter

**Bold = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

**Table 2. Historical Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

Location Sample Date			MW-6						MW-7				
			MW-6-39819	MW-6-40007	MW-6-40388	MW-6-40563	MW-6-41220	MW-6-41394	MW-6-41571	MW-7-39291	MW-7-39356	MW-7-39457	MW-7-39639
			01/06/2009	07/13/2009	07/29/2010	01/20/2011	11/07/2012	04/30/2013	10/24/2013	07/28/2007	10/01/2007	01/10/2008	07/10/2008
Analyte	Unit	MTCA Method A Cleanup Level											
<b>TPHs</b>													
Gasoline-Range Organics	ug/L	800	< 100 U	--	--	201	< 100 U	< 100 U	< 100 U	< 50 U	< 250 U	51.2	< 50 U
Diesel-Range Organics	ug/L	500	< 100 U	--	< 100 U	--	< 94.3 U	97.8	124	< 253 U	< 111 U	< 250 U	< 500 U
Motor Oil-Range Organics	ug/L	500	< 100 U	--	190	472	< 94.3 U	< 93.5 U	123	< 495 U	< 111 U	< 500 U	< 200 U
<b>BTEX</b>													
Benzene	ug/L	5	< 0.5 U	--	< 0.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	1.78	68.4	< 1 U
Toluene	ug/L	1000	< 1 U	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	1.26	< 1 U
Ethylbenzene	ug/L	700	< 1 U	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	79.7	< 1 U
Total Xylenes	ug/L	1000	< 1 U	--	< 1 U	< 3 U	< 3 U	< 3 U	< 2 U	< 1 U	< 3 U	110	< 1 U
<b>Metals</b>													
Lead	ug/L	15	--	< 1 U	--	--	--	--	--	--	--	--	--
<b>VOCs</b>													
1,2-Dibromoethane (EDB)	ug/L	0.01	--	--	--	< 1 U	--	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--
Diisopropyl ether (DIPE)	ug/L		< 2 U	--	--	< 1 U	--	--	--	--	--	--	--
Ethyl t-butyl ether (ETBE)	ug/L		< 2 U	--	--	< 1 U	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/L	20	< 1 U	--	--	--	--	--	--	--	--	--	--
t-Amyl methyl ether (TAME)	ug/L		< 2 U	--	--	< 1 U	--	--	--	--	--	--	--
t-Butyl alcohol (TBA)	ug/L		< 10 U	--	--	< 20 U	--	--	--	--	--	--	--

**Notes**

ug/L = micrograms per liter

**Bold = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

**Table 2. Historical Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

Location Sample Date			MW-7						MW-8				
			MW-7-39819	MW-7-40007	MW-7-40388	MW-7-40563	MW-7-41220	MW-7-41394	MW-7-41571	MW-8-39291	MW-8-39356	MW-8-39457	MW-8-39819
Date			01/06/2009	07/13/2009	07/29/2010	01/20/2011	11/07/2012	04/30/2013	10/24/2013	07/28/2007	10/01/2007	01/10/2008	01/06/2009
Analyte	Unit	MTCA Method A Cleanup Level											
<b>TPHs</b>													
Gasoline-Range Organics	ug/L	800	< 100 U	--	--	119	< 100 U	< 100 U	< 100 U	266000	181000	202000	22000
Diesel-Range Organics	ug/L	500	< 100 U	--	< 100 U	--	94.3	115	< 93.5 U	8580	6540 X	9190 X	6900
Motor Oil-Range Organics	ug/L	500	< 100 U	--	< 100 U	174	< 94.3 U	< 93.5 U	106	< 5210 U	< 1110 U	< 4850 U	440
<b>BTEX</b>													
Benzene	ug/L	5	< 0.5 U	2.7	< 0.5 U	< 1 U	< 1 U	< 1 U	< 1 U	20500	18000	13400	2700
Toluene	ug/L	1000	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	43600	32000	29600	6300
Ethylbenzene	ug/L	700	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	3550	2250	2200	390
Total Xylenes	ug/L	1000	< 1 U	< 1 U	< 1 U	< 3 U	< 3 U	< 3 U	< 2 U	23000	14900	14000	4300
<b>Metals</b>													
Lead	ug/L	15	--	< 1 U	--	--	--	--	--	--	--	--	--
<b>VOCs</b>													
1,2-Dibromoethane (EDB)	ug/L	0.01	--	--	--	< 1 U	--	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--
Diisopropyl ether (DIPE)	ug/L		< 2 U	--	--	< 1 U	--	--	--	--	--	--	< 40 U
Ethyl t-butyl ether (ETBE)	ug/L		< 2 U	--	--	< 1 U	--	--	--	--	--	--	< 40 U
Methyl tert-butyl ether (MTBE)	ug/L	20	< 1 U	--	--	--	--	--	--	--	--	--	< 20 U
t-Amyl methyl ether (TAME)	ug/L		< 2 U	--	--	< 1 U	--	--	--	--	--	--	< 40 U
t-Butyl alcohol (TBA)	ug/L		< 10 U	--	--	< 20 U	--	--	--	--	--	--	< 200 U

**Notes**

ug/L = micrograms per liter

**Blue = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

**Table 2. Historical Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

Location			MW-8				MW-9						
			MW-8-40388	MW-8-40563	MW-8-41220	MW-8-41394	MW-9-39291	MW-9-39356	MW-9-39457	MW-9-39639	MW-9-39819	MW-9-40007	MW-9-40388
Sample Date			07/29/2010	01/20/2011	11/07/2012	04/30/2013	07/28/2007	10/01/2007	01/10/2008	07/10/2008	01/06/2009	07/13/2009	07/29/2010
Analyte	Unit	MTCA Method A Cleanup Level											
<b>TPHs</b>													
Gasoline-Range Organics	ug/L	800	--	--	75300	103000	< 50 U	299	< 50 U	< 50 U	< 100 U	--	--
Diesel-Range Organics	ug/L	500	5300 X	6570	3160	3820	< 248 U	174 X	< 238 U	< 500 U	< 100 U	--	< 100 U
Motor Oil-Range Organics	ug/L	500	2000 X	1550	< 94.3 U	309	< 495 U	< 111 U	< 476 U	< 1000 U	< 100 U	--	< 100 U
<b>BTEX</b>													
Benzene	ug/L	5	18000	13800	7630	8830	< 0.5 U	5.52	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U	< 0.5 U
Toluene	ug/L	1000	40000	31500	15200	29400	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	ug/L	700	17000	3290	1140	1950	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U	< 1 U
Total Xylenes	ug/L	1000	110000	21900	6120	11200	< 1 U	< 3 U	< 3 U	< 1 U	< 1 U	< 1 U	< 1 U
<b>Metals</b>													
Lead	ug/L	15	--	--	--	--	--	--	--	--	--	< 1 U	--
<b>VOCs</b>													
1,2-Dibromoethane (EDB)	ug/L	0.01	--	< 1 U	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--
Diisopropyl ether (DIPE)	ug/L		--	< 1 U	--	--	--	--	--	--	< 2 U	--	--
Ethyl t-butyl ether (ETBE)	ug/L		--	< 1 U	--	--	--	--	--	--	< 2 U	--	--
Methyl tert-butyl ether (MTBE)	ug/L	20	--	--	--	--	--	--	--	--	< 1 U	--	--
t-Amyl methyl ether (TAME)	ug/L		--	< 1 U	--	--	--	--	--	--	< 2 U	--	--
t-Butyl alcohol (TBA)	ug/L		--	128	--	--	--	--	--	--	< 10 U	--	--

**Notes**

ug/L = micrograms per liter

**Bold = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

**Table 2. Historical Groundwater Analytical Data**

DRAFT

Project No. 180357, Lynnwood, Washington

Location Sample Date			MW-9				MW-10						
			MW-9-40563	MW-9-41220	MW-9-41394	MW-9-41571	MW-10-39291	MW-10-39356	MW-10-39457	MW-10-39639	MW-10-39819	MW-10-40007	MW-10-40388
			01/20/2011	11/07/2012	04/30/2013	10/24/2013	07/28/2007	10/01/2007	01/10/2008	07/10/2008	01/06/2009	07/13/2009	07/29/2010
Analyte	Unit	MTCA Method A Cleanup Level											
<b>TPHs</b>													
Gasoline-Range Organics	ug/L	800	--	< 100 U	< 100 U	< 100 U	6570	27100	11400	1400	29000	4800	--
Diesel-Range Organics	ug/L	500	141	< 94.3 U	< 93.5 U	< 94.3 U	307 X	1820 X	< 248 U	< 500 U	120	< 100 U	< 100 U
Motor Oil-Range Organics	ug/L	500	463	< 94.3 U	< 93.5 U	< 94.3 U	< 505 U	< 556 U	< 495 U	< 1000 U	< 100 U	< 100 U	< 100 U
<b>BTEX</b>													
Benzene	ug/L	5	< 1 U	< 1 U	< 1.00 U	< 1.00 U	299	1510	316	1400	4800	1600	240
Toluene	ug/L	1000	< 1 U	< 1 U	< 1 U	< 1 U	179	1220	237	1200	1400	260	9.9
Ethylbenzene	ug/L	700	< 1 U	< 1 U	< 1 U	< 1 U	237	1210	842	710	1800	190	45
Total Xylenes	ug/L	1000	< 3 U	< 3 U	< 3 U	< 2 U	615	2650	604	2310	5100	1000	89
<b>Metals</b>													
Lead	ug/L	15	--	--	--	--	--	--	--	--	--	1.02	--
<b>VOCs</b>													
1,2-Dibromoethane (EDB)	ug/L	0.01	--	--	--	--	--	--	--	--	--	< 0.01 U	--
1,2-Dichloroethane (EDC)	ug/L	5	--	--	--	--	--	--	--	--	--	< 1.5 U	--
Diisopropyl ether (DIPE)	ug/L		< 1 U	--	--	--	--	--	--	--	< 20 U	--	--
Ethyl t-butyl ether (ETBE)	ug/L		< 1 U	--	--	--	--	--	--	--	< 20 U	--	--
Methyl tert-butyl ether (MTBE)	ug/L	20	< 1 U	--	--	--	--	--	--	--	< 10 U	--	--
t-Amyl methyl ether (TAME)	ug/L		< 1 U	--	--	--	--	--	--	--	< 20 U	--	--
t-Butyl alcohol (TBA)	ug/L		< 20 U	--	--	--	--	--	--	--	< 100 U	--	--

**Notes**

ug/L = micrograms per liter

**Blue = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

**Table 2. Historical Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

DRAFT

			Location				SB-3	SB-4
			MW-10				SB-3-40308	SB-4-40308
			Sample	MW-10-40563	MW-10-41220	MW-10-41394	MW-10-41571	
Date			01/20/2011	11/07/2012	04/30/2013	10/24/2013	05/10/2010	05/10/2010
Analyte	Unit	MTCA Method A Cleanup Level						
<b>TPHs</b>								
Gasoline-Range Organics	ug/L	800	--	17300	590	6890	360	180
Diesel-Range Organics	ug/L	500	707	2710	346	2080	1600 X	2400 X
Motor Oil-Range Organics	ug/L	500	394	< 94.3 U	148	109	< 100 U	< 100 U
<b>BTEX</b>								
Benzene	ug/L	5	938	5920	48.1	5630	170	< 0.5 U
Toluene	ug/L	1000	16.6	78.3	1.22	188	< 1 U	< 1 U
Ethylbenzene	ug/L	700	108	594	15.1	582	< 1 U	< 1 U
Total Xylenes	ug/L	1000	115	1060	21.4	1230	< 1 U	< 1 U
<b>Metals</b>								
Lead	ug/L	15	--	--	--	--	--	--
<b>VOCs</b>								
1,2-Dibromoethane (EDB)	ug/L	0.01	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	ug/L	5	--	--	--	--	--	--
Diisopropyl ether (DIPE)	ug/L		< 1 U	--	--	--	--	--
Ethyl t-butyl ether (ETBE)	ug/L		< 1 U	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/L	20	< 1 U	--	--	--	--	--
t-Amyl methyl ether (TAME)	ug/L		< 1 U	--	--	--	--	--
t-Butyl alcohol (TBA)	ug/L		< 20 U	--	--	--	--	--

**Notes**

ug/L = micrograms per liter

**Blue = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

**Table 3. Remedial Investigation Groundwater Elevations**

DRAFT

Project No. 180357, Lynnwood, Washington

Monitoring Well	TOC Elevation	Date	DTNAPL	DTW	LNAPL Thickness (feet)	Water Table (ft BTOC) <sup>1</sup>	Groundwater Elevation
MW-1	451.74	7/31/2019	--	12.86	--	12.86	438.88
		11/19/2019	--	13.81	--	13.81	437.93
		8/17/2020	--	11.82	--	11.82	439.92
		11/16/2020	--	12.85	--	12.85	438.89
MW-2	450.59	7/31/2019	--	11.51	--	11.51	439.08
		11/19/2019	--	11.76	--	11.76	438.83
		8/17/2020	--	10.77	--	10.77	439.82
		11/16/2020	--	11.3	--	11.30	439.29
MW-3	451.69	7/31/2019	10.45	10.75	0.3	10.52	441.17
		11/19/2019	11.62	12.00	0.38	11.71	439.98
		8/17/2020	9.69	9.94	0.25	9.75	441.94
		11/16/2020	10.93	11.09	0.16	10.97	440.72
MW-4	452.01	7/31/2019	11.22	11.33	0.11	11.25	440.76
		11/19/2019	12.36	12.67	0.31	12.43	439.58
		8/17/2020	--	10.41	--	10.41	441.60
		11/16/2020	11.69	11.71	0.02	11.69	440.32
MW-5	451.38	7/31/2019	9.87	10.69	0.82	10.07	441.31
		11/19/2019	11.37	11.73	0.36	11.46	439.92
		8/17/2020	9.23	9.33	0.1	9.25	442.13
		11/16/2020	10.56	10.71	0.15	10.60	440.78
MW-6	449.4	7/31/2019	--	9.01	--	9.01	440.39
		11/19/2019	--	9.10	--	9.10	440.30
		8/17/2020	--	8.44	--	8.44	440.96
		11/16/2020	--	8.62	--	8.62	440.78
MW-7	450.14	7/31/2019	--	8.29	--	8.29	441.85
		11/19/2019	--	9.12	--	9.12	441.02
		8/17/2020	--	7.79	--	7.79	442.35
		11/16/2020	--	8.4	--	8.40	441.74
MW-8	451.31	7/31/2019	9.41	9.92	0.51	9.53	441.78
		11/19/2019	10.66	11.07	0.41	10.76	440.55
		8/17/2020	--	8.84	--	8.84	442.47
		11/16/2020	9.89	10.02	0.13	9.92	441.39
MW-9	451.75	7/31/2019	--	11.9	--	11.90	439.85
		11/19/2019	--	13.25	--	13.25	438.50
		8/17/2020	--	10.87	--	10.87	440.88
		11/16/2020	--	12.37	--	12.37	439.38
MW-10	451.34	7/31/2019	--	13.53	--	13.53	437.81
		11/20/2019	--	13.99	--	13.99	437.35
		8/17/2020	--	12.59	--	12.59	438.75
		11/16/2020	--	13.35	--	13.35	437.99
MW-11	450.81	7/31/2019	--	9.81	--	9.81	441.00
		11/19/2019	--	10.83	--	10.83	439.98
		8/17/2020	--	9.19	--	9.19	441.62
		11/16/2020	--	10.02	--	10.02	440.79
MW-12	449.42	7/31/2019	--	10.93	--	10.93	438.49
		11/19/2019	--	10.87	--	10.87	438.55
		8/17/2020	--	10.26	--	10.26	439.16
		11/16/2020	--	10.52	--	10.52	438.90



**Table 3. Remedial Investigation Groundwater Elevations**

DRAFT

Project No. 180357, Lynnwood, Washington

Monitoring Well	TOC Elevation	Date	DTNAPL	DTW	LNAPL Thickness (feet)	Water Table (ft BTOC) <sup>1</sup>	Groundwater Elevation
MW-13	450.57	7/31/2019	--	13.67	--	13.67	436.90
		11/19/2019	--	13.83	--	13.83	436.74
		8/17/2020	--	12.76	--	12.76	437.81
		11/16/2020	--	13.28	--	13.28	437.29
MW-14	450.85	7/31/2019	--	14.64	--	14.64	436.21
		11/19/2019	--	14.73	--	14.73	436.12
		8/17/2020	--	13.65	--	13.65	437.20
		11/16/2020	--	14.14	--	14.14	436.71
MW-15	451.16	7/31/2019	12.40	12.42	0.02	12.40	438.76
		11/19/2019	13.97	14.15	0.18	14.01	437.15
		8/17/2020	12.27	12.96	0.69	12.44	438.72
		11/16/2020	13.22	13.88	0.66	13.38	437.78
MW-16	450.6	7/31/2019	--	9.15	--	9.15	441.45
		11/19/2019	--	10.58	--	10.58	440.02
		8/17/2020	--	8.40	--	8.40	442.20
		11/16/2020	--	9.69	--	9.69	440.91
MW-17	450.18	7/31/2019	--	8.47	--	8.47	441.71
		11/19/2019	--	9.70	--	9.70	440.48
		8/17/2020	--	7.90	--	7.90	442.28
		11/16/2020	--	8.83	--	8.83	441.35
MW-18	449.28	7/31/2019	--	12.08	--	12.08	437.20
		11/19/2019	--	12.96	--	12.96	436.32
		8/17/2020	--	11.04	--	11.04	438.24
		11/16/2020	--	12.07	--	12.07	437.21
MW-19	446.02	7/31/2019	--	11.54	--	11.54	434.48
		11/19/2019	--	10.31	--	10.31	435.71
		8/17/2020	--	9.76	--	9.76	436.26
		11/16/2020	--	9.67	--	9.67	436.35
MW-20	450.59	8/17/2020	--	8.54	--	8.54	442.05
		11/16/2020	--	9.32	--	9.32	441.27
MW-21	450.603	8/17/2020	--	11.41	--	11.41	439.19
		11/16/2020	--	10.16	--	10.16	440.44
MW-22	451.254	8/17/2020	--	11.38	--	11.38	439.87
		11/16/2020	--	12.31	--	12.31	438.94
MW-23	451.079	8/17/2020	--	13.16	--	13.16	437.92
		11/16/2020	--	13.90	--	13.90	437.18
MW-24	449.094	8/17/2020	--	12.31	--	12.31	436.78
		11/16/2020	--	12.02	--	12.02	437.07
MW-25	449.701	8/17/2020	--	9.87	--	9.87	439.83
		11/16/2020	--	11.43	--	11.43	438.27
MW-26	449.13	8/17/2020	--	14.92	--	14.92	434.21
		11/16/2020	--	15.73	--	15.73	433.40
MW-27	447.27	8/17/2020	--	DRY	--	--	--
		11/16/2020	--	15.94	--	15.94	431.33
MW-28	--	8/17/2020	--	DRY	--	--	--
		11/16/2020	--	DRY	--	--	--

**Notes**

TOC = Top of Casing elevation in ft above mean sea level (NAVD88); NAPL = Non-aqueous phase liquid

DTNAPL = Depth to NAPL below TOC (ft); DTW = Depth to water below TOC (ft); btoc = below TOC

<sup>1</sup> - In wells where NAPL is present, the depth to water table was calculated as  
 Water Table = DTW + 0.76\*(DTNAPL-DTW)

**Table 4. Remedial Investigation Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

Analyte	Unit	MTCA Method A Cleanup Level	Location		MW-1				MW-2				MW-4	MW-6	
			Date	Date	08/01/2019	11/20/2019	08/18/2020	11/18/2020	08/01/2019	11/20/2019	08/17/2020	11/17/2020	08/18/2020	07/31/2019	11/20/2019
			Sample	Sample	080119	112019	081820	111820	080119	112019	081720	111720	081820	073119	112019
<b>Total Petroleum Hydrocarbons (TPHs)</b>															
Gasoline Range Organics	ug/L	800	< 100 U	< 100 U	24000	44000	14000	31000	1600	4600	770	4100	170000	< 100 U	< 100 U
Diesel Range Organics	ug/L	500	< 50 U	< 50 U	2100 X	3200 X	2100 X	1800 X	790 X	2200 X	660 X	1300 X	4500 X	68 X	< 50 U
Motor Oil Range Organics	ug/L	500	< 250 U	< 250 U	1000 X	570 X	1100 X	810 X	< 250 U	260 X	310 X	< 250 U	1000 X	< 250 U	< 250 U
Diesel and Oil Extended Range Organics	ug/L	500	< 250 U	< 250 U	3100 X	3770 X	3200 X	2610 X	790 X	2460 X	970 X	1300 X	5500 X	68 X	< 250 U
<b>BTEX</b>															
Benzene	ug/L	5	< 0.35 U	< 0.35 U	4200	6700	2200	5600	13	30	4.5	29	6000	< 0.35 U	< 0.35 U
Toluene	ug/L	1000	< 1 U	< 1 U	410	1500	180	740	2.2	6.5	< 1 U	7.8	21000	< 1 U	< 1 U
Ethylbenzene	ug/L	700	< 1 U	< 1 U	520	860	300	720	6.5	28	2.8	49	2300	< 1 U	< 1 U
Total Xylenes	ug/L	1000	< 2 U	< 2 U	1650	3680	750	2780	7.4	23.9	2.1	24.4	14100	< 2 U	< 2 U
<b>Metals</b>															
Lead	ug/L	15	--	--	< 1 UJ	< 1 U	--	--	< 1 UJ	< 1 U	--	--	--	< 1 UJ	< 1 U
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>															
Naphthalene	ug/L	160	< 1 U	< 1 U	130	210	84	200	33	150	15	150	500	< 1 U	< 1 U
<b>Volatile Organic Compounds (VOCs)</b>															
1,1,1-Trichloroethane	ug/L	200	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L		--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L		--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (EDB)	ug/L	0.01	--	--	< 1 U	< 100 U	--	--	< 1 U	< 1 U	--	--	--	< 1 U	< 1 U
1,2-Dichloroethane (EDC)	ug/L	5	--	--	< 1 U	< 100 U	--	--	< 1 U	< 1 U	--	--	--	< 1 U	< 1 U
Chloroethane	ug/L		--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	ug/L		--	--	--	--	--	--	--	--	--	--	--	--	--
m,p-Xylenes	ug/L		< 2 U	< 2 U	1300	2800	580	2200	5.6	19	2.1	20	10000	< 2 U	< 2 U
Methyl tert-butyl ether (MTBE)	ug/L	20	--	--	< 1 U	< 100 U	--	--	< 1 U	< 1 U	--	--	--	< 1 U	< 1 U
Methylene Chloride	ug/L	5	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	ug/L		< 1 U	< 1 U	350	880	170	580	1.8	4.9	< 1 U	4.4	4100	< 1 U	< 1 U
Tetrachloroethene (PCE)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L		--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene (TCE)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	ug/L	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--

**Notes**

**Bold = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

ug/L = micrograms per liter

**Table 4. Remedial Investigation Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

Analyte	Unit	MTCA Method A Cleanup Level	MW-6		MW-7				MW-8	MW-9				MW-10	
			Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	
			08/17/2020	11/16/2020	07/31/2019	11/19/2019	08/17/2020	11/17/2020	08/18/2020	08/01/2019	11/20/2019	08/18/2020	11/16/2020	08/01/2019	11/20/2019
Sample	081720	111620	073119	111920	081720	111720	081820	080119	112019	081820	111620	080119	112019		
<b>Total Petroleum Hydrocarbons (TPHs)</b>															
Gasoline Range Organics	ug/L	800	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	130000	< 100 U	560	< 100 U	< 100 U	19000	21000
Diesel Range Organics	ug/L	500	170 X	< 50 U	83 X	< 50 U	110 X	< 50 U	3200 X	88 X	290 X	80 X	< 54 U	1900 X	3900 X
Motor Oil Range Organics	ug/L	500	< 250 U	< 250 U	< 250 U	< 250 U	< 260 U	< 250 U	550 X	< 250 U	< 250 U	< 250 U	< 250 U	260 X	340 X
Diesel and Oil Extended Range Organics	ug/L	500	170 X	< 250 U	83 X	< 250 U	110 X	< 250 U	3750 X	88 X	290 X	80 X	< 250 U	2160 X	4240 X
<b>BTEX</b>															
Benzene	ug/L	5	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	4800	< 0.35 U	6.4	< 0.35 U	< 0.35 U	2400	2800
Toluene	ug/L	1000	< 1 U	< 1 U	< 1 U	2.7	< 1 U	< 1 U	18000	< 1 U	< 1 U	< 1 U	< 1 U	44	< 100 U
Ethylbenzene	ug/L	700	< 1 U	< 1 U	< 1 U	1.6	< 1 U	< 1 U	1600	< 1 U	6.6	< 1 U	< 1 U	670	1000
Total Xylenes	ug/L	1000	< 2 U	< 2 U	< 2 U	8.8	< 2 U	< 2 U	10300	< 2 U	3.3	< 2 U	< 2 U	1102.7	1500
<b>Metals</b>															
Lead	ug/L	15	--	--	< 1 UJ	< 1 U	--	--	--	< 1 UJ	< 1 U	--	--	< 1 UJ	< 1 U
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>															
Naphthalene	ug/L	160	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	400	< 1 U	< 1 U	< 1 U	< 1 U	160	270
<b>Volatile Organic Compounds (VOCs)</b>															
1,1,1-Trichloroethane	ug/L	200	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L		--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L		--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (EDB)	ug/L	0.01	--	--	< 1 U	< 1 U	--	--	--	< 1 U	< 1 U	--	--	< 1 U	< 100 U
1,2-Dichloroethane (EDC)	ug/L	5	--	--	< 1 U	< 1 U	--	--	--	< 1 U	< 1 U	--	--	< 1 U	< 100 U
Chloroethane	ug/L		--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	ug/L		--	--	--	--	--	--	--	--	--	--	--	--	--
m,p-Xylenes	ug/L		< 2 U	< 2 U	< 2 U	7.1	< 2 U	< 2 U	7500	< 2 U	< 2 U	< 2 U	< 2 U	1100	1500
Methyl tert-butyl ether (MTBE)	ug/L	20	--	--	< 1 U	< 1 U	--	--	--	< 1 U	< 1 U	--	--	< 1 U	< 100 U
Methylene Chloride	ug/L	5	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	ug/L		< 1 U	< 1 U	< 1 U	1.7	< 1 U	< 1 U	2800	< 1 U	3.3	< 1 U	< 1 U	2.7	< 100 U
Tetrachloroethene (PCE)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L		--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene (TCE)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	ug/L	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--

**Notes**

**Bold = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

ug/L = micrograms per liter

**Table 4. Remedial Investigation Groundwater Analytical Data**

DRAFT

Project No. 180357, Lynnwood, Washington

Location			MW-10		MW-11				MW-12				MW-13		
Date			08/18/2020	11/17/2020	07/31/2019	11/19/2019	08/17/2020	11/17/2020	08/01/2019	11/20/2019	08/17/2020	11/16/2020	07/31/2019	11/20/2019	08/17/2020
Sample			081820	111720	073119	111919	081720	111720	080119	112019	081720	111620	073119	112019	081720
Analyte	Unit	MTCA Method A Cleanup Level													
<b>Total Petroleum Hydrocarbons (TPHs)</b>															
Gasoline Range Organics	ug/L	800	5100	12000	13000	20000	27000	5400	240	540	230	410	1400	1800	420
Diesel Range Organics	ug/L	500	1100 X	1400 X	1100 X	2400 X	1600 X	720 X	310 X	370 X	240 X	230 X	530 X	780 X	320 X
Motor Oil Range Organics	ug/L	500	360 X	< 250 U	< 250 U	310 X	260 X	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Diesel and Oil Extended Range Organics	ug/L	500	1460 X	1400 X	1100 X	2710 X	1860 X	720 X	310 X	370 X	240 X	230 X	530 X	780 X	320 X
<b>BTEX</b>															
Benzene	ug/L	5	490	1800	320	270	330	160	0.59	1.1	< 0.35 U	0.65	7.5	4	0.75
Toluene	ug/L	1000	< 10 U	31	1800	1500	2200	290	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	ug/L	700	200	630	410	690	790	220	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Total Xylenes	ug/L	1000	240	620	1400	2580	3400	400	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
<b>Metals</b>															
Lead	ug/L	15	--	--	3.49 J	1.85	--	--	< 1 UJ	< 1 U	--	--	< 1 UJ	< 1 U	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>															
Naphthalene	ug/L	160	60	220	42	130	140	110	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
<b>Volatile Organic Compounds (VOCs)</b>															
1,1,1-Trichloroethane	ug/L	200	--	--	--	--	--	--	--	--	--	--	< 1 U	< 1 U	--
1,1-Dichloroethane	ug/L		--	--	--	--	--	--	--	--	--	--	< 1 U	< 1 U	--
1,1-Dichloroethene	ug/L		--	--	--	--	--	--	--	--	--	--	< 1 U	< 1 U	--
1,2-Dibromoethane (EDB)	ug/L	0.01	--	--	< 1 U	< 100 U	--	--	< 1 U	< 1 U	--	--	< 1 U	< 1 U	--
1,2-Dichloroethane (EDC)	ug/L	5	--	--	< 1 U	< 100 U	--	--	< 1 U	< 1 U	--	--	< 1 U	< 1 U	--
Chloroethane	ug/L		--	--	--	--	--	--	--	--	--	--	< 1 U	< 1 U	--
cis-1,2-Dichloroethene (cDCE)	ug/L		--	--	--	--	--	--	--	--	--	--	< 1 U	< 1 U	--
m,p-Xylenes	ug/L		240	620	1000	2100	2700	280	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Methyl tert-butyl ether (MTBE)	ug/L	20	--	--	< 1 U	< 100 U	--	--	< 1 U	< 1 U	--	--	< 1 U	< 1 U	--
Methylene Chloride	ug/L	5	--	--	--	--	--	--	--	--	--	--	< 5 U	< 5 U	--
o-Xylene	ug/L		< 10 U	< 10 U	400	480	700	120	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene (PCE)	ug/L	5	--	--	--	--	--	--	--	--	--	--	< 1 U	< 1 U	--
trans-1,2-Dichloroethene	ug/L		--	--	--	--	--	--	--	--	--	--	< 1 U	< 1 U	--
Trichloroethene (TCE)	ug/L	5	--	--	--	--	--	--	--	--	--	--	< 1 U	< 1 U	--
Vinyl Chloride	ug/L	0.2	--	--	--	--	--	--	--	--	--	--	< 0.2 U	< 0.2 U	--

**Notes**

**Bold = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

ug/L = micrograms per liter

**Table 4. Remedial Investigation Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

Location			MW-13	MW-14				MW-16				MW-17			
Date			11/17/2020	07/31/2019	11/20/2019	08/18/2020	11/18/2020	07/31/2019	11/19/2019	08/17/2020	11/16/2020	07/31/2019	11/19/2019	08/17/2020	11/17/2020
Sample			111720	073119	112019	081820	111820	073119	111919	081720	111620	073119	111919	081720	111720
Analyte	Unit	MTCA Method A Cleanup Level													
<b>Total Petroleum Hydrocarbons (TPHs)</b>															
Gasoline Range Organics	ug/L	800	1200	7500	11000	5000	6400	< 100 U	< 100 U	< 100 U	< 100 U	1800	1100	550	1200
Diesel Range Organics	ug/L	500	490 X	1200 X	1600 X	570 X	780 X	84 X	< 50 U	130 X	< 50 U	320 X	560 X	270 X	550 X
Motor Oil Range Organics	ug/L	500	260 X	330 X	300 X	< 250 U	290 X	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
Diesel and Oil Extended Range Organics	ug/L	500	750 X	1530 X	1900 X	570 X	1070 X	84 X	< 250 U	130 X	< 250 U	320 X	560 X	270 X	550 X
<b>BTEX</b>															
Benzene	ug/L	5	1.5	2400	2700	1200	2000	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	4.2	1.1	5.7
Toluene	ug/L	1000	< 1 U	32	< 100 U	9.8	19	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	2.8	< 1 U	6.9
Ethylbenzene	ug/L	700	< 1 U	130	< 100 U	32	31	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Total Xylenes	ug/L	1000	< 2 U	90	< 200 U	22.9	< 20 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	6.3	< 2 U	16
<b>Metals</b>															
Lead	ug/L	15	--	< 1 UJ	< 1 U	--	--	< 1 UJ	1.02	--	--	< 1 UJ	< 1 U	--	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>															
Naphthalene	ug/L	160	< 1 U	50	< 100 U	31	46	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1.6	< 1 U	1.9
<b>Volatile Organic Compounds (VOCs)</b>															
1,1,1-Trichloroethane	ug/L	200	--	< 1 U	< 100 U	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L		--	< 1 U	< 100 U	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L		--	< 1 U	< 100 U	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (EDB)	ug/L	0.01	--	< 1 U	< 100 U	--	--	< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--
1,2-Dichloroethane (EDC)	ug/L	5	--	< 1 U	< 100 U	--	--	< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--
Chloroethane	ug/L		--	< 1 U	< 100 U	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	ug/L		--	< 1 U	< 100 U	--	--	--	--	--	--	--	--	--	--
m,p-Xylenes	ug/L		< 2 U	72	< 200 U	19	< 20 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	4.2	< 2 U	16
Methyl tert-butyl ether (MTBE)	ug/L	20	--	< 1 U	< 100 U	--	--	< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--
Methylene Chloride	ug/L	5	--	< 5 U	< 500 U	--	--	--	--	--	--	--	--	--	--
o-Xylene	ug/L		< 1 U	18	< 100 U	3.9	< 10 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	2.1	< 1 U	< 1 U
Tetrachloroethene (PCE)	ug/L	5	--	< 1 U	< 100 U	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L		--	< 1 U	< 100 U	--	--	--	--	--	--	--	--	--	--
Trichloroethene (TCE)	ug/L	5	--	< 1 U	< 100 U	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	ug/L	0.2	--	2.7	< 20 U	--	--	--	--	--	--	--	--	--	--

**Notes**

**Bold = detected**

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X = chromatographic pattern did not match fuel standard.

ug/L = micrograms per liter

**Table 4. Remedial Investigation Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

Location			MW-18				MW-19				MW-20		MW-21		MW-22
Date			07/31/2019	11/19/2019	08/18/2020	11/16/2020	07/31/2019	11/20/2019	08/18/2020	11/17/2020	08/17/2020	11/17/2020	08/17/2020	11/17/2020	08/17/2020
Sample			073119	111919	081820	111620	073119	112019	081820	111720	081720	111720	081720	111720	081720
Analyte	Unit	MTCA Method A Cleanup Level													
<b>Total Petroleum Hydrocarbons (TPHs)</b>															
Gasoline Range Organics	ug/L	800	< 100 U	1300	< 100 U	340	< 100 U	< 100 U	< 100 U	< 100 U	120	< 100 U	7400	6600	14000
Diesel Range Organics	ug/L	500	55 X	260 X	< 50 U	59 X	< 50 U	< 50 U	< 50 U	< 50 U	180 X	< 50 U	3200 X	2800 X	2500 X
Motor Oil Range Organics	ug/L	500	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	260 X	360 X	< 250 U
Diesel and Oil Extended Range Organics	ug/L	500	55 X	260 X	< 250 U	59 X	< 250 U	< 250 U	< 250 U	< 250 U	180 X	< 250 U	3460 X	3160 X	2500 X
<b>BTEX</b>															
Benzene	ug/L	5	1	240	1.2	61	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	21	25	540
Toluene	ug/L	1000	< 1 U	8.2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 10 U	12	56
Ethylbenzene	ug/L	700	< 1 U	14	< 1 U	2.1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	400	620	630
Total Xylenes	ug/L	1000	< 2 U	65	< 2 U	11.9	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	48	43	1350
<b>Metals</b>															
Lead	ug/L	15	< 1 UJ	< 1 U	--	--	< 1 UJ	< 1 U	--	--	--	--	--	--	--
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>															
Naphthalene	ug/L	160	< 1 U	5.2	< 1 U	2.4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	470	440	220
<b>Volatile Organic Compounds (VOCs)</b>															
1,1,1-Trichloroethane	ug/L	200	< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L		< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L		< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--	--	--	--	--	--
1,2-Dibromoethane (EDB)	ug/L	0.01	< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--	--	--	--	--	--
1,2-Dichloroethane (EDC)	ug/L	5	< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--	--	--	--	--	--
Chloroethane	ug/L		< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--	--	--	--	--	--
cis-1,2-Dichloroethene (cDCE)	ug/L		< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--	--	--	--	--	--
m,p-Xylenes	ug/L		< 2 U	48	< 2 U	9.8	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	48	43	1200
Methyl tert-butyl ether (MTBE)	ug/L	20	< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--	--	--	--	--	--
Methylene Chloride	ug/L	5	< 5 U	< 5 U	--	--	< 5 U	< 5 U	--	--	--	--	--	--	--
o-Xylene	ug/L		< 1 U	17	< 1 U	2.1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 10 U	< 10 U	150
Tetrachloroethene (PCE)	ug/L	5	< 1 U	< 1 U	--	--	17	12	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L		< 1 U	< 1 U	--	--	< 1 U	< 1 U	--	--	--	--	--	--	--
Trichloroethene (TCE)	ug/L	5	< 1 U	< 1 U	--	--	1	< 1 U	--	--	--	--	--	--	--
Vinyl Chloride	ug/L	0.2	< 0.2 U	< 0.2 U	--	--	< 0.2 U	< 0.2 U	--	--	--	--	--	--	--

**Notes**

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J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

ug/L = micrograms per liter

**Table 4. Remedial Investigation Groundwater Analytical Data**

Project No. 180357, Lynnwood, Washington

DRAFT

Analyte	Unit	MTCA Method A Cleanup Level	Location										
			MW-22	MW-23		MW-24		MW-25		MW-26		MW-27	
			Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	
Sample	111620	081820	111820	081820	111720	081820	111620	081820	111620	081820	111620	112020	
<b>Total Petroleum Hydrocarbons (TPHs)</b>													
Gasoline Range Organics	ug/L	800	24000	21000	27000	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	
Diesel Range Organics	ug/L	500	3000 X	1900 X	2600 X	76 X	< 50 U	55 X	< 50 U	< 50 U	< 50 U	< 50 U	
Motor Oil Range Organics	ug/L	500	410 X	< 250 U	390 X	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	
Diesel and Oil Extended Range Organics	ug/L	500	3410 X	1900 X	2990 X	76 X	< 250 U	55 X	< 250 U	< 250 U	< 250 U	< 250 U	
<b>BTEX</b>													
Benzene	ug/L	5	1000	3100	5300	< 0.35 U	< 0.35 U	< 0.35 U	0.53	< 0.35 U	< 0.35 U	< 0.35 U	
Toluene	ug/L	1000	240	210	120	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
Ethylbenzene	ug/L	700	1300	400	640	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
Total Xylenes	ug/L	1000	3880	900	930	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	
<b>Metals</b>													
Lead	ug/L	15	--	--	--	--	--	--	--	--	--	--	
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>													
Naphthalene	ug/L	160	390	110	170	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
<b>Volatile Organic Compounds (VOCs)</b>													
1,1,1-Trichloroethane	ug/L	200	--	--	--	--	--	--	--	--	--	--	
1,1-Dichloroethane	ug/L		--	--	--	--	--	--	--	--	--	--	
1,1-Dichloroethene	ug/L		--	--	--	--	--	--	--	--	--	--	
1,2-Dibromoethane (EDB)	ug/L	0.01	--	--	--	--	--	--	--	--	--	--	
1,2-Dichloroethane (EDC)	ug/L	5	--	--	--	--	--	--	--	--	--	--	
Chloroethane	ug/L		--	--	--	--	--	--	--	--	--	--	
cis-1,2-Dichloroethene (cDCE)	ug/L		--	--	--	--	--	--	--	--	--	--	
m,p-Xylenes	ug/L		3500	790	930	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	
Methyl tert-butyl ether (MTBE)	ug/L	20	--	--	--	--	--	--	--	--	--	--	
Methylene Chloride	ug/L	5	--	--	--	--	--	--	--	--	--	--	
o-Xylene	ug/L		380	110	< 50 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
Tetrachloroethene (PCE)	ug/L	5	--	--	--	--	--	--	--	--	--	--	
trans-1,2-Dichloroethene	ug/L		--	--	--	--	--	--	--	--	--	--	
Trichloroethene (TCE)	ug/L	5	--	--	--	--	--	--	--	--	--	--	
Vinyl Chloride	ug/L	0.2	--	--	--	--	--	--	--	--	--	--	

**Notes**

**Bold = detected**

Blue = exceeded

U = nondetect

J = estimated

UJ = nondetect, estimated

X = chromatographic pattern did not match fuel standard.

ug/L = micrograms per liter

**Table 5. Remedial Investigation Soil Gas Analytical Data**

Project No. 180357, Lynnwood, Washington

DRAFT

Analyte	Unit	Risk Driver	MTCA Method B Subslab Screening Level (Unrestricted) <sup>1</sup>	MTCA Method B Subslab Screening Level (Commercial) <sup>2</sup>	Location		GP-01			GP-02			GP-03		
					Date	GP-01	GP-01	GP-02	GP-02	GP-02	GP-03	GP-03	GP-03		
					Sample Name	07/25/2019	08/20/2020	07/25/2019	08/20/2020	11/20/2020	07/25/2019	08/20/2020	11/20/2020		
					GP-01-072519	GP-01-082020	GP-02-072519	GP-02-082020	GP-02-112020	GP-03-072519	GP-03-082020	GP-03-112020			
<b>BTEX</b>															
Benzene	ug/m3	C	11	37	3.8	< 1.1 U	1.5	< 1.1 U	< 1.1 U	3.4	6.4	< 2.7 U			
Toluene	ug/m3	NC	76000	560,000	28	< 64 U	12	< 62 U	< 64 U	15	< 170 U	< 160 U			
Ethylbenzene	ug/m3	NC	15000	110,000	6	< 1.5 U	3.4	3.1	2.2	3.9	60	< 3.6 U			
Total Xylenes	ug/m3	NC	1500	11,000	32.9	< 3 U	18.3	16.7	12	21.5	293	10			
<b>PAHs</b>															
Naphthalene	ug/m3	C	2.5	8.4	< 0.84 U	< 0.89 U	< 0.81 U	1.2	< 0.89 U	< 2 U	< 2.3 U	< 2.2 U			
<b>VOCs</b>															
1,2-Dibromoethane (EDB)	ug/m3	NC	0.14	0.47	< 0.25 U	--	< 0.24 U	--	--	< 0.6 U	--	--			
1,2-Dichloroethane (EDC)	ug/m3	NC	3.2	10.7	< 0.13 U	--	< 0.13 U	--	--	< 0.32 U	--	--			
Methyl tert-butyl ether (MTBE)	ug/m3	NC	320	1070	< 5.8 U	--	< 5.6 U	--	--	< 14 U	--	--			
<b>APH</b>															
C5 - C8 Aliphatic Hydrocarbons	ug/m3	--	--	--	410	580	350	630	210	9,100	15,000	3,700			
C9 - C12 Aliphatic Hydrocarbons	ug/m3	--	--	--	2,200	680	2,600	890	480	11,000	2,300	1,100			
C9 - C10 Aromatic Hydrocarbons	ug/m3	--	--	--	< 80 U	< 85 U	< 77 U	< 82 U	< 85 U	< 190 U	< 220 U	< 210 U			
Total Petroleum Hydrocarbons (ND = 1/2 RL)	ug/m3	NC	4,700	35,000	2,721	1,338	3,024	1,614	780	20,240	17,856	5,001			

**Notes**

- (1) Model Toxic Control Act (MTCA) Method B Subslab Soil Gas Screening Levels (SLs).
- (2) Commercial screening levels calculated by adjusting exposure frequency for both noncarcinogens and carcinogens to 0.30, and average body weight and breathing rate for noncarcinogens to 70 kg and 20 m<sup>3</sup>/day, respectively. These adjustments are in accordance with MTCA Equations 750-1 and 750-2 and Ecology's Implementation Memorandum No. 21 (FAQs Regarding VI and Ecology's 2009 Draft VI Guidance).
- (3) Total petroleum hydrocarbon concentration is the sum total of VOCs and APHs, one-half of the laboratory detection limit was used for non-detects.
- (4) Generic sub-slab TPH screening level based on generic TPH indoor air cleanup level of 140 ug/m3 and an attenuation factor of 0.03 (Ecology Implementation Memo #18.)

**Bold - Analyte Detected**

**Blue Shaded - Detected result exceeded unrestricted use MTCA Method B Subslab Screening Level**

BTEX = benzene, toluene, ethylbenzene, and total xylenes

PAHs = polycyclic aromatic hydrocarbons

VOCs = volatile organic compounds

APH = air petroleum hydrocarbon

ug/m<sub>3</sub> = micrograms per cubic meter

-- = Not Analyzed

U = Analyte was not detected at or above the Reporting Limit shown.

C = Carcinogenic; NC = Non carcinogenic



**Table 5. Remedial Investigation Soil Gas Analytical Data**

Project No. 180357, Lynnwood, Washington

DRAFT

Analyte	Unit	Risk Driver	MTCA Method B Subslab Screening Level (Unrestricted) <sup>1</sup>	MTCA Method B Subslab Screening Level (Commercial) <sup>2</sup>	GP-04		GP-05	GP-06	SVS-01		SVS-02	
					Date	Date	Date	Date	Date	Date	Date	Date
					Sample Name	Sample Name	Sample Name	Sample Name	Sample Name	Sample Name	Sample Name	Sample Name
<b>BTEX</b>												
Benzene	ug/m3	C	11	37	1.2	1.7	< 14 U	2.7	2.2	17	3.3	1.8
Toluene	ug/m3	NC	76000	560,000	11	< 68 U	< 810 U	< 64 U	9.3	< 160 U	13	< 64 U
Ethylbenzene	ug/m3	NC	15000	110,000	3.4	5.1	< 19 U	5	2.6	7	2.9	5.8
Total Xylenes	ug/m3	NC	1500	11,000	18.7	28.3	< 37 U	25.8	14.4	57	14.2	31.3
<b>PAHs</b>												
Naphthalene	ug/m3	C	2.5	8.4	< 0.84 U	< 0.94 U	< 11 U	< 0.89 U	< 0.81 U	< 2.2 U	< 0.81 U	< 0.89 U
<b>VOCs</b>												
1,2-Dibromoethane (EDB)	ug/m3	NC	0.14	0.47	< 0.25 U	--	--	--	< 0.24 U	--	< 0.24 U	--
1,2-Dichloroethane (EDC)	ug/m3	NC	3.2	10.7	< 0.13 U	--	--	--	< 0.13 U	--	< 0.13 U	--
Methyl tert-butyl ether (MTBE)	ug/m3	NC	320	1070	< 5.8 U	--	--	--	< 5.6 U	--	< 5.6 U	--
<b>APH</b>												
C5 - C8 Aliphatic Hydrocarbons	ug/m3	--	--	--	510	650	22,000	160	1,000	4,100	1,700	750
C9 - C12 Aliphatic Hydrocarbons	ug/m3	--	--	--	1,800	470	5,000	390	1,300	6,700	1,100	670
C9 - C10 Aromatic Hydrocarbons	ug/m3	--	--	--	100	< 90 U	< 1100 U	< 85 U	78	< 210 U	100	< 85 U
Total Petroleum Hydrocarbons (ND = 1/2 RL)	ug/m3	NC	4,700	35,000	2,445	1,235	28,005	658	2,407	11,067	2,934	1,534

**Notes**

- (1) Model Toxic Control Act (MTCA) Method B Subslab Soil Gas Screening Levels (SLs).
- (2) Commercial screening levels calculated by adjusting exposure frequency for both noncarcinogens and carcinogens to 0.30, and average body weight and breathing rate for noncarcinogens to 70 kg and 20 m<sup>3</sup>/day, respectively. These adjustments are in accordance with MTCA Equations 750-1 and 750-2 and Ecology's Implementation Memorandum No. 21 (FAQs Regarding VI and Ecology's 2009 Draft VI Guidance).
- (3) Total petroleum hydrocarbon concentration is the sum total of VOCs and APHs, one-half of the laboratory detection limit was used for non-detects.
- (4) Generic sub-slab TPH screening level based on generic TPH indoor air cleanup level of 140 ug/m3 and an attenuation factor of 0.03 (Ecology Implementation Memo #18.)

**Bold - Analyte Detected**

**Blue Shaded - Detected result exceeded unrestricted use MTCA Method B Subslab Screening Level**

BTEX = benzene, toluene, ethylbenzene, and total xylenes

PAHs = polycyclic aromatic hydrocarbons

VOCs = volatile organic compounds

APH = air petroleum hydrocarbon

ug/m<sub>3</sub> = micrograms per cubic meter

-- = Not Analyzed

U = Analyte was not detected at or above the Reporting Limit shown.

C = Carcinogenic; NC = Non carcinogenic

**Table 6. Basis of Remedial Excavation Extents**

Project No. 180357, Lynnwood, Washington

DRAFT

Area of Site	Location	Depth of First Impacted Soil (feet bgs)	Depth to Unweathered Till (feet bgs)	Depth of Deepest Soil CUL Exceedance (feet bgs)	Depth of Soil Compliance (feet bgs)	Depth of Planned Excavation (feet bgs)	Depth of Maximum Possible Overexcavation (feet bgs)	Notes
Source Area	MW-3	0	17	17.5	Not Delineated	18	> 25	The soil CUL exceedance at 17.5 feet was for benzene only, and may have been caused by dragdown of LNAPL during drilling. Due to the distance from the shoring wall, the maximum possible overexcavation depth is greater than 25 feet bgs. Depth of first impacted soil based on PID readings.
	MW-4	0	17	17.5	Not Delineated	18	> 25	The soil CUL exceedance at 17.5 feet was for benzene only, and may have been caused by dragdown of LNAPL during drilling. Due to the distance from the shoring wall, the maximum possible overexcavation depth is greater than 25 feet bgs. Depth of first impacted soil based on PID readings.
	MW-5	0	17.5	17.5	Not Delineated	18	22	The soil CUL exceedance at 17.5 feet was for benzene only, and may have been caused by dragdown of LNAPL during drilling. Due to the distance from the shoring wall, the maximum possible overexcavation depth at this location is 22 feet bgs. Depth of first impacted soil based on PID readings.
	MW-8	0	20	20	Not Delineated	20	22	The soil CUL exceedance at 17.5 feet was for benzene only, and may have been caused by dragdown of LNAPL during drilling. Due to the distance from the shoring wall, the maximum possible overexcavation depth at this location is 22 feet bgs. Depth of first impacted soil based on PID readings.
	SB1	10	17.5	12.5	16	16	> 25	Overexcavation is not anticipated at this location. However, due to the layout of the shoring and slope cuts, overexcavation in this area is possible to the depth indicated. Depth of first impacted soil based on PID readings.
	SB2	0	15	15	Not Delineated	16	> 25	Due to the distance from the shoring wall, the maximum possible overexcavation depth is greater than 25 feet bgs. Depth of first impacted soil based on PID readings.
	SB	--	--	2	Not Delineated	--	--	Too shallow to be used for the purpose of defining excavation extents.
Northwest Corner	B-7	7	16	8	12.5	10	18	Due to its position near MW-5, and the slope requirements from the NW corner of the two shoring walls, the maximum possible overexcavation in this area is expected to be 18 feet bgs. Depth of first impacted soil based on PID readings.
	B-10	> 12.5	15	No Exceedances	Ground Surface	As needed for sloping	10	Due to its position near the corner of the two shoring walls, some excavation of clean soil may be necessary to meet sloping requirements within the interior of the excavation.
	MW-9	0	10	20	Not Delineated	18	25	The soil CUL exceedance at both 10 and 20 feet was for benzene only, and may have been caused by dragdown during drilling. The planned excavation depth is based on nearby locations and the relative order of magnitude of CUL exceedances at 10 feet bgs versus 20 feet bgs. Due to the proximity of this location to both MW-1 and the NW corner where the two shoring walls meet, the maximum possible overexcavation at this location will be 25 feet bgs.

**Table 6. Basis of Remedial Excavation Extents**

Project No. 180357, Lynnwood, Washington

DRAFT

Area of Site	Location	Depth of First Impacted Soil (feet bgs)	Depth to Unweathered Till (feet bgs)	Depth of Deepest Soil CUL Exceedance (feet bgs)	Depth of Soil Compliance (feet bgs)	Depth of Planned Excavation (feet bgs)	Depth of Maximum Possible Overexcavation (feet bgs)	Notes
Southwest Area	MW-1	0	17.5	27.5	Not Delineated	18	30	The soil CUL exceedance at 27.5 feet was for benzene only, and may have been caused by dragdown of LNAPL during drilling. The planned excavation depth is to the top of unweathered till at this location. However, the shoring wall has been designed to extend 2.5 feet below the deepest historical soil CUL exceedance.
	MW-10	0	20	20	Not Delineated	20	> 25	The soil CUL exceedance at 20 feet was for benzene only, and may have been caused by dragdown during drilling. The depth to unweathered till forms the basis of the remedial excavation depth. Due to the distance from the shoring wall, the maximum possible overexcavation depth is greater than 25 feet bgs.
	MW-15	10.5	13	17.5	25	18	> 25	Based on its distance from the shoring wall, the maximum possible overexcavation depth at this location is greater than 25 feet bgs.
	MW-23	18	12.5	25	Not Delineated	20	30	The soil CUL exceedance at 25 feet was for benzene only, and may have been caused by dragdown during drilling. The planned excavation depth is based on the order of magnitude of the soil exceedance at 18 feet as compared to the soil exceedance at 25 feet bgs. However, based on the proximity of this location to MW-1, the maximum possible overexcavation depth at this location will be 30 feet bgs.
Eastern Extents	B-11	> 15	18	No Exceedances	Ground Surface	As needed for sloping	As needed for sloping	This location establishes the eastern edge of soil compliance. Excavation in this area will only be performed as necessary to meet sloping requirements for larger excavation area.
	MW-2	17.5	17.5	17.5	Not Delineated	18	20	The soil CUL exceedance at 17.5 feet was for benzene only, and may have been caused by dragdown during drilling. Due to the distance from the property line, the maximum possible overexcavation depth is 20 feet bgs.
	MW-11	0	18	6	13	8	13	This location will be part of the slope cut. Based on the boring logs, an excavation depth of 8 feet is expected, though the shoring has been designed to reach depths of up to 13 feet bgs in this area.
	MW-20	> 13	18	No Exceedances	Ground Surface	As needed for sloping	As needed for sloping	This location establishes the eastern edge of soil compliance. Excavation in this area will only be performed as necessary to meet sloping requirements for larger excavation area.
	MW-21	> 17.5	17.5	No Exceedances	Ground Surface	As needed for sloping	As needed for sloping	This location establishes the eastern edge of soil compliance. Excavation in this area will only be performed as necessary to meet sloping requirements for larger excavation area.
	MW-22	16	17.5	16	25	17.5	> 25	The soil CUL exceedance at 16 feet was for benzene only. Based on its distance from the shoring wall, the maximum possible overexcavation depth at this location is greater than 25 feet bgs.

**Notes:**

bgs = below ground surface

CUL = MTCA Method A Cleanup Levels

## Table 7. Estimated Soil Removal Volumes

Project No. 180357, Lynnwood, Washington

DRAFT

<b>Feature</b>	<b>Elevation (feet<sup>1</sup>)</b>	<b>Area (square feet)</b>	<b>Volume (cubic yards)</b>	<b>Notes</b>
Planned Excavation Top	451	13,100	N/A	Area at ground surface
Planned Excavation Bottom	431-433	6,500	N/A	Area at planned bottom
Overexcavation Bottom	421	5,560	N/A	Area at practical limit bottom
Planned Soil Removal	431-433	N/A	7,100	Assumed 1.5:1 side slopes <sup>2</sup>
Potentially Clean Soil			1,800	Based depth to first impacted soil
Petroleum Contaminated Soil			5,300	Planned Soil Removal less Potentially Clean
Additional Overexcavation	421	N/A	3,000	Assumed 1.5:1 side slopes <sup>2</sup>

### Notes:

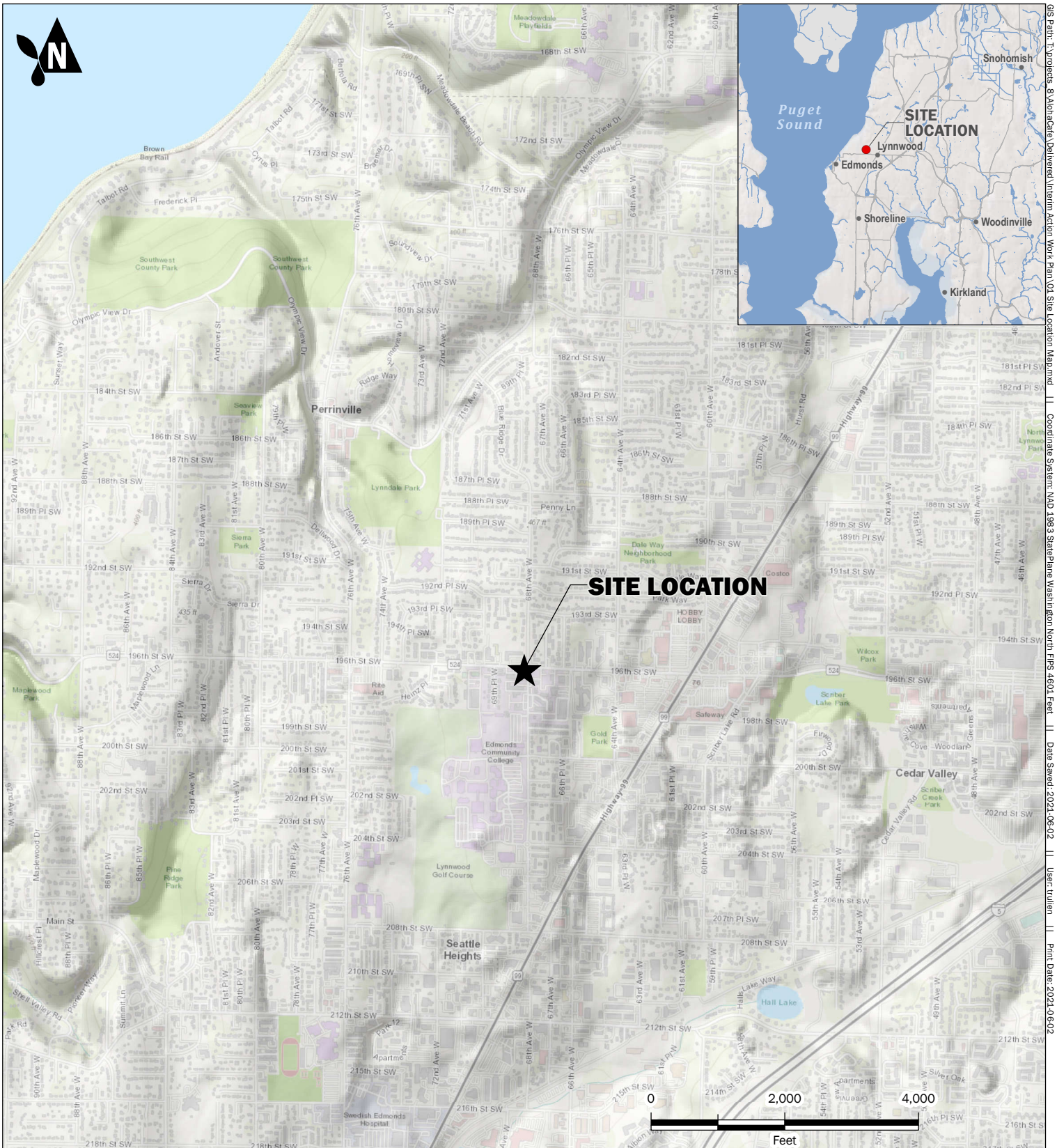
1) Elevation feet in NAVD88

2) Except for southern cut slope near MW-2 which may be closer to 1:1

Table areas and volumes assume a 1-foot offset from the property line and 3-foot offset from utilities to the shoring wall.

# FIGURES





**Site Location Map**  
 Interim Action Work Plan  
 Texaco Strickland Site  
 6808 196th Street SW  
 Lynnwood, WA

**DRAFT**

	JUN-2021	BY: WVG / TDR	FIGURE NO. <b>1</b>
	PROJECT NO. 180357	REVISED BY: ---	

GIS Path: I:\Projects\_S\Mapacade\Delivered\Interim Action Work Plan\_Q3 Site Location\Map.mxd | Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet | Date Saved: 2021-06-02 | User: trulen | Print Date: 2021-06-02





**Exploration Location**

- Monitoring Well
- Soil Boring
- Soil Vapor Sample
- 🟪 LNAPL Plume
- 📏 CrossSection
- 🏠 Building
- 🖱 Subject Property
- ▨ Former UST (Removed)
- ▭ Existing UST (Closed-In-Place or Abandoned)
- ⬜ Former Pump Island
- 📐 Snohomish County Tax Parcel

**Notes:**  
 - LNAPL = Light Non-aqueous Phase Liquid

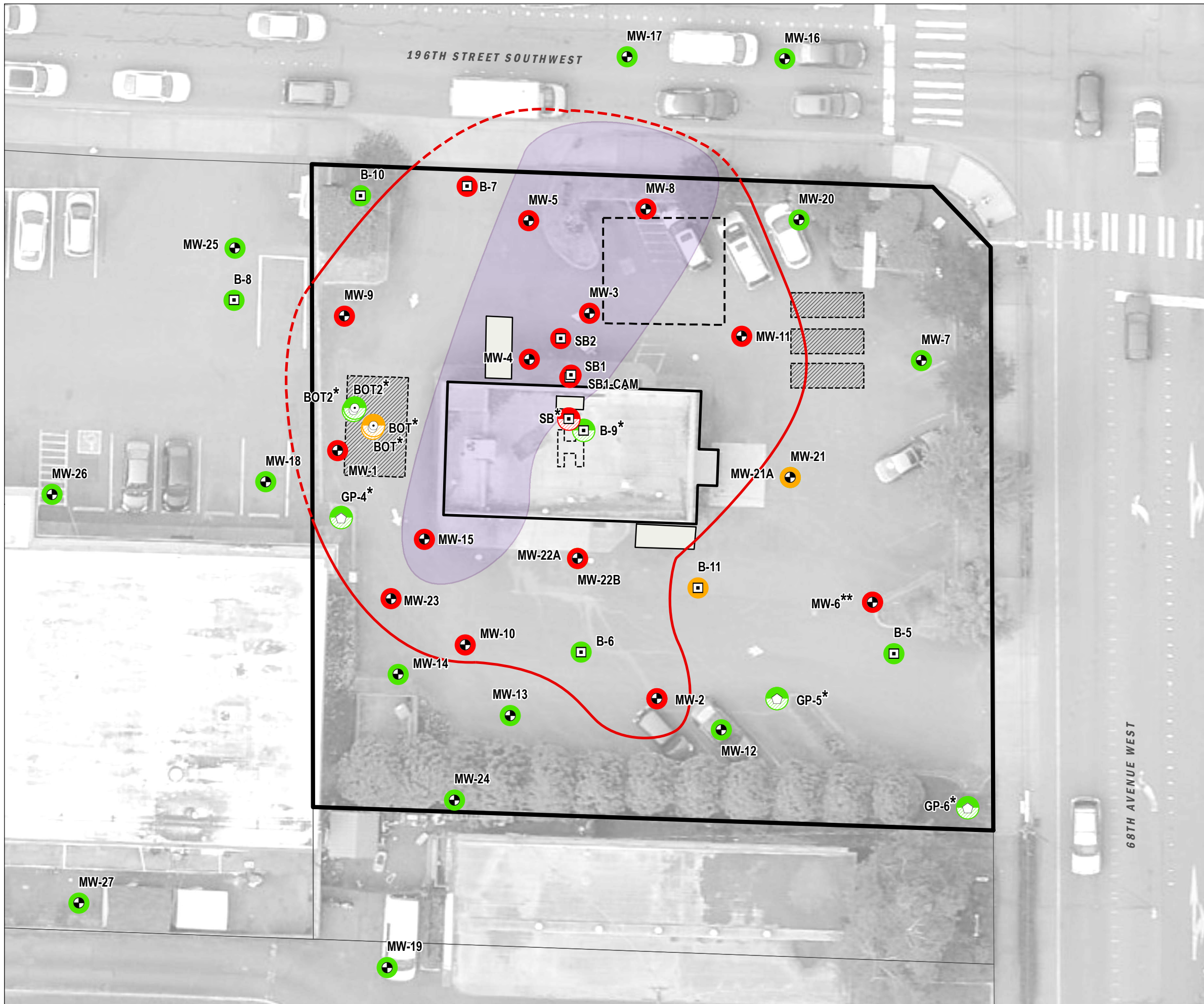
0 30 60  
Feet

**Site Plan**  
 Interim Action Work Plan  
 Texaco Strickland Site  
 6808 196th Street SW  
 Lynnwood, WA

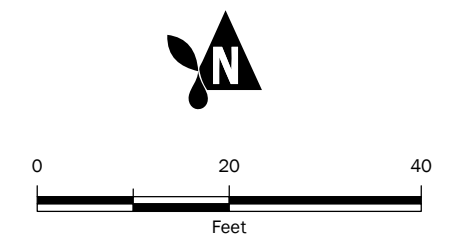
**DRAFT**

PROJECT NO. 180357	BY: WVG / TDR REVISED BY: AJY / WEG	FIGURE NO. <b>2</b>
-----------------------	--	------------------------





- One or more analytes detected at concentrations greater than the MTCA Method A cleanup levels in soil.
- One or more analytes detected at concentrations less than the MTCA Method A cleanup levels in soil.
- One or more analytes not detected.
- \* Shallow Soil Sample Result (less than 5 feet below ground surface)
- Soil Probe
- Soil Boring
- Monitoring Well
- Soil Sample
- Extents of Soil Exceeding Cleanup Levels  
*Dashed where inferred*
- LNAPL Plume
- Building
- Subject Property
- Former UST (Removed)
- Existing UST (Closed-In-Place or Abandoned)
- Former Pump Island
- Snohomish County Tax Parcel



**Notes:**

- LNAPL = Light Non-Aqueous Phase Liquid
- \*\* The soil sample collected at MW-6 in 2007 contained an exceedance of benzene at 20 feet bgs. The soil sample collected from B-05 in 2010 did not contain detectable concentrations of benzene and has established soil confirmation.

## Remedial Investigation Soil Analytical Results

Interim Action Work Plan  
Texaco Strickland Site  
6808 196th Street SW  
Lynnwood, WA

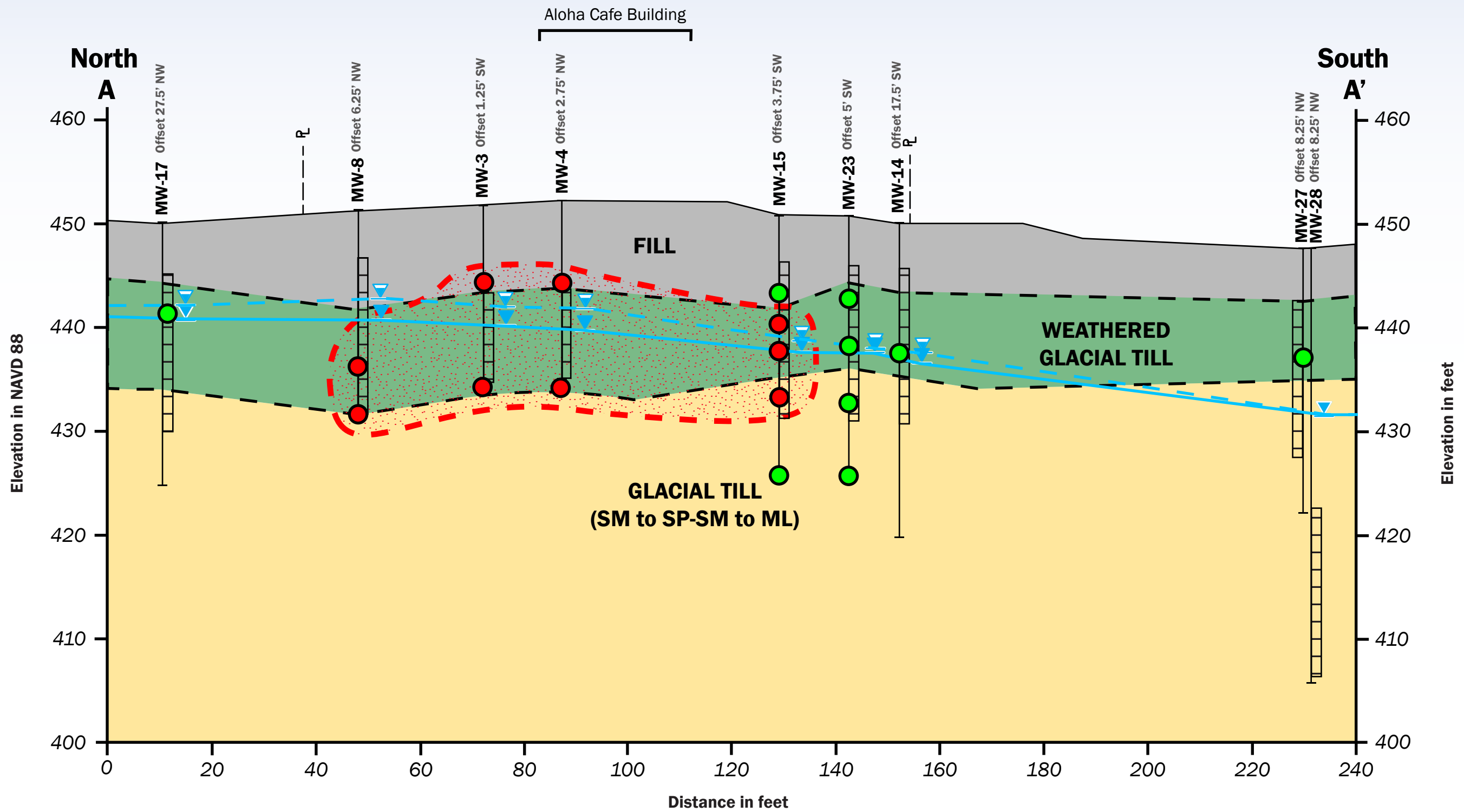
DRAFT

FIGURE NO.  
**3**

	JUN-2021	BY: WVG / TDR	
	PROJECT NO. 180357	REVISED BY: AJY / WEG / SBM	

GIS Data: T:\projects\_8\Avalanche\Delivered\Interim Action Work Plan\03 Remedial Investigation Soil Analytical Results.mxd | Coordinate System: NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet | Date Saved: 2021-06-02 | User: t.tullien | Print Date: 2021-06-02





<ul style="list-style-type: none"> <li><span style="color: red;">●</span> One or more analytes detected at concentrations greater than the MTCA Method A cleanup levels in soil</li> <li><span style="color: green;">●</span> One or more analytes not detected</li> <li> Approximate Extents of Gasoline Range Total Petroleum Hydrocarbon Contaminated Soil</li> </ul>	<ul style="list-style-type: none"> <li> Inferred Geologic Contact</li> <li> Highest observed groundwater elevation</li> <li> Lowest observed groundwater elevation</li> <li> Fill</li> <li> Weathered Glacial Till</li> <li> Glacial Till (SM to SP-SM to ML)</li> </ul>	<ul style="list-style-type: none"> <li> MW-16 ← Monitoring Well Identification</li> <li> ← Monitoring Well</li> <li> ← Seasonal High Water Level</li> <li> ← Screened Interval</li> <li> ← Seasonal Low Water Level</li> </ul>
--	--	--

Vertical Exaggeration 2x

**Cross Section A-A'**

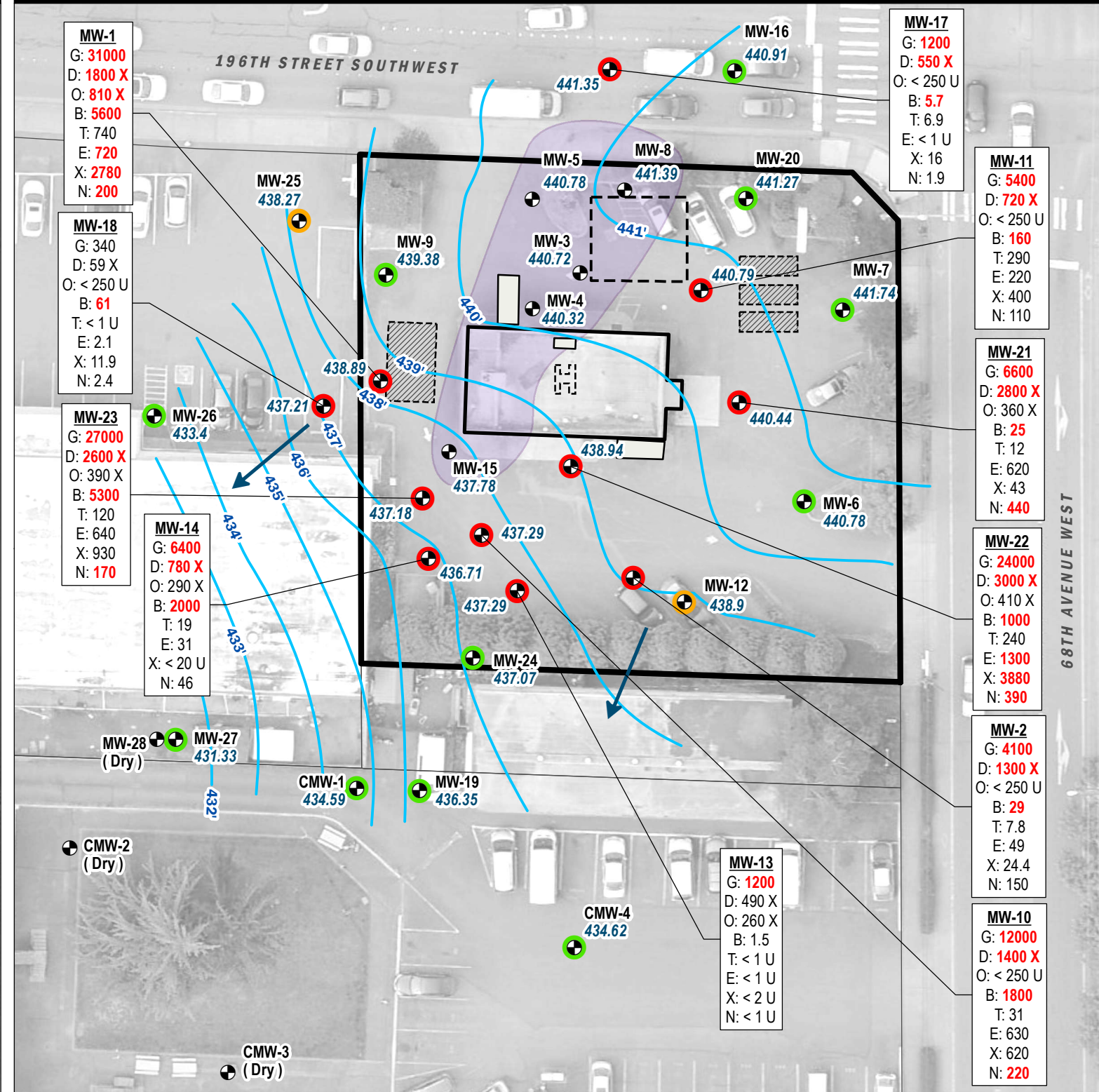
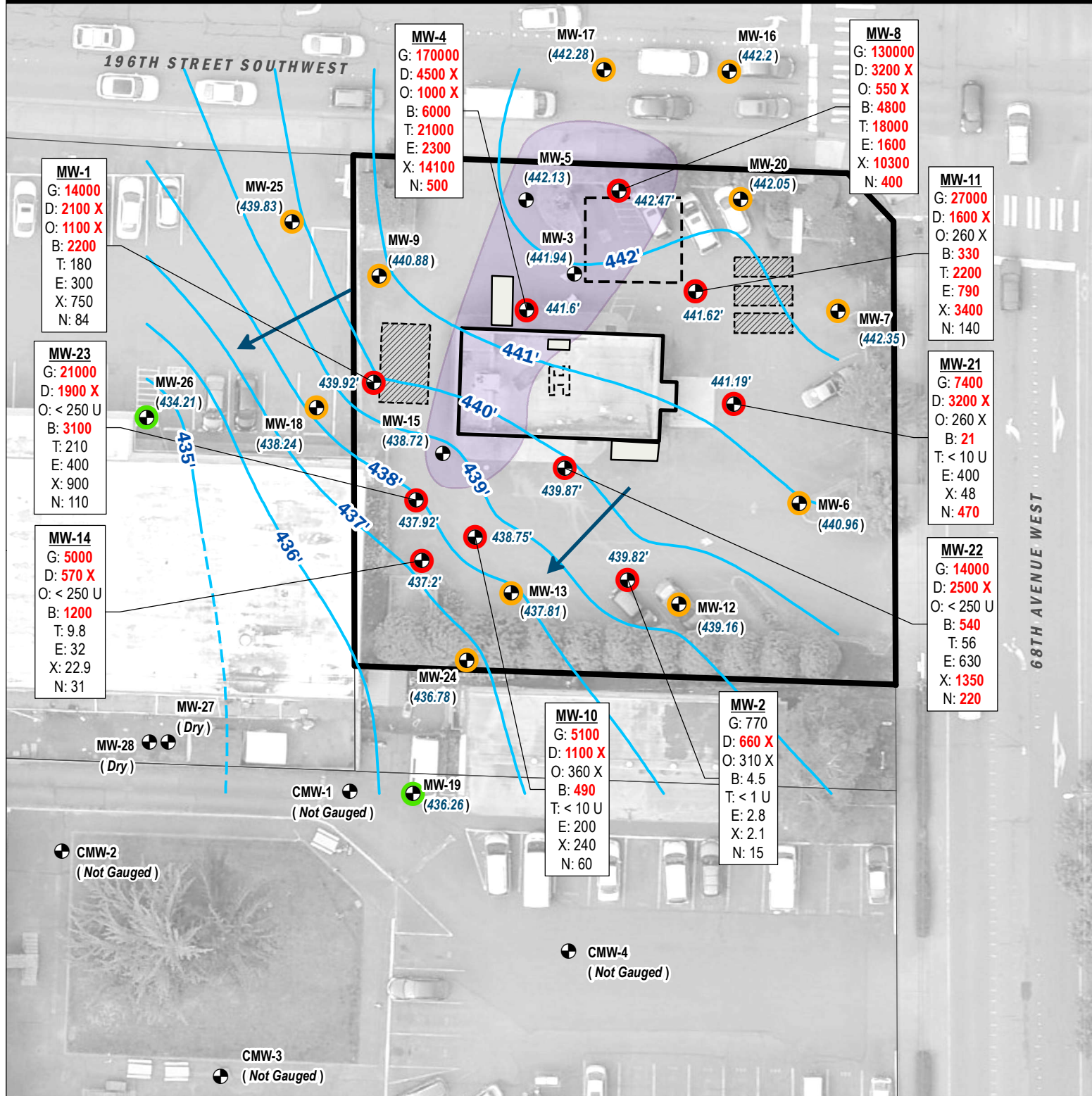
RWIP Addendum  
 Texaco Strickland Site  
 Lynnwood, Washington

DRAFT

DEC-2020	BY: DWU / RAC	FIGURE NO.
PROJECT NO. 180357	REV BY: ---	4

# August 2020

# November 2020



**Legend:**

- One or more analytes detected at concentrations greater than the MTCA Method A cleanup levels in groundwater.
- One or more analytes detected at concentrations less than the MTCA Method A cleanup levels in groundwater.
- Analytes not detected.
- ⊕ Monitoring Well
- ⊕ LNAPL Plume
- Groundwater Contour
- Approximate Groundwater Flow Direction
- ⊕ Building
- ⊕ Subject Property
- ⊕ Former UST (Removed)
- ⊕ Existing UST (Closed-In-Place or Abandoned)
- ⊕ Former Pump Island
- ⊕ Snohomish County Tax Parcel

**Groundwater elevation in feet**

**Analyte and its concentration in micrograms per liter**

**Notes:**

- LNAPL = Light Non-aqueous Phase Liquid
- X = Total Xylenes
- E = Ethylbenzene
- GRO = Gasoline Range Organics
- DRO = Diesel Range Organics
- B = Benzene
- Only locations that exceed the MTCA Method A Cleanup Levels are shown

**Groundwater Analytical Results - 2020**

Interim Action Work Plan  
 Texaco Strickland Site  
 6808 196th Street SW  
 Lynnwood, WA

**DRAFT**

PROJECT NO. 180357	BY: WVG / TDR REVISOR: SBM / AJY / WEG	FIGURE NO. <b>5</b>
-----------------------	---	------------------------

ASPECT CONSULTING

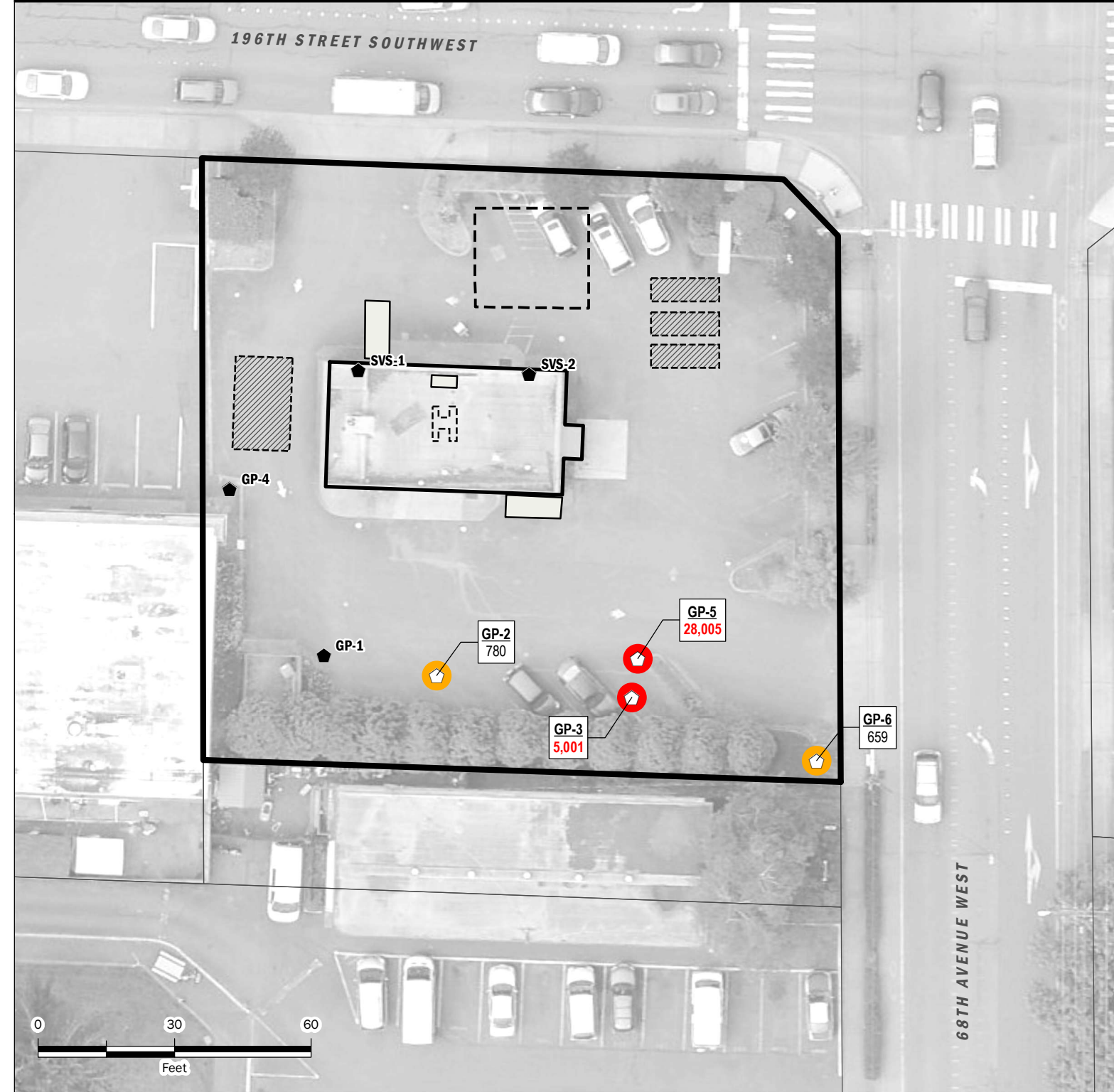
GIS Data: D:\projects\_8\AutoCAD\Delivered\Interim Action Work Plan\GIS\Groundwater Analytical Results.mxd | Coordinate System: NAD 1983 HARN StatePlane Washington North FIPS 4801 Feet | Date Saved: 2021-06-02 | User: tullen | Print Date: 2021-06-02



# August 2020



# November 2020



- Total Petroleum Hydrocarbons detected at concentrations greater than the MTCA Method B Subslab Soil Screening Levels for Unrestricted Use.
- Total Petroleum Hydrocarbons detected at concentrations less than the MTCA Method B Subslab Soil Screening Levels for Unrestricted Use.
- Total Petroleum Hydrocarbons not detected.

- Soil Vapor Sample
- ◐ Soil Vapor Sample (Not Sampled During Event)
- Building
- Subject Property
- Former UST (Removed)
- Existing UST (Closed-In-Place or Abandoned)

- Former Pump Island
  - Snohomish County Tax Parcel
- GP-03 ← Exploration Name  
5,001 ← Concentration of TPH in µg/m³



**Notes:**

- TPH = Total Petroleum Hydrocarbons
- µg/m³ = Micrograms per cubic meter
- Total petroleum hydrocarbon concentration is the sum total of VOCs and APHs; one-half of the laboratory detection limit was used for non-detects.

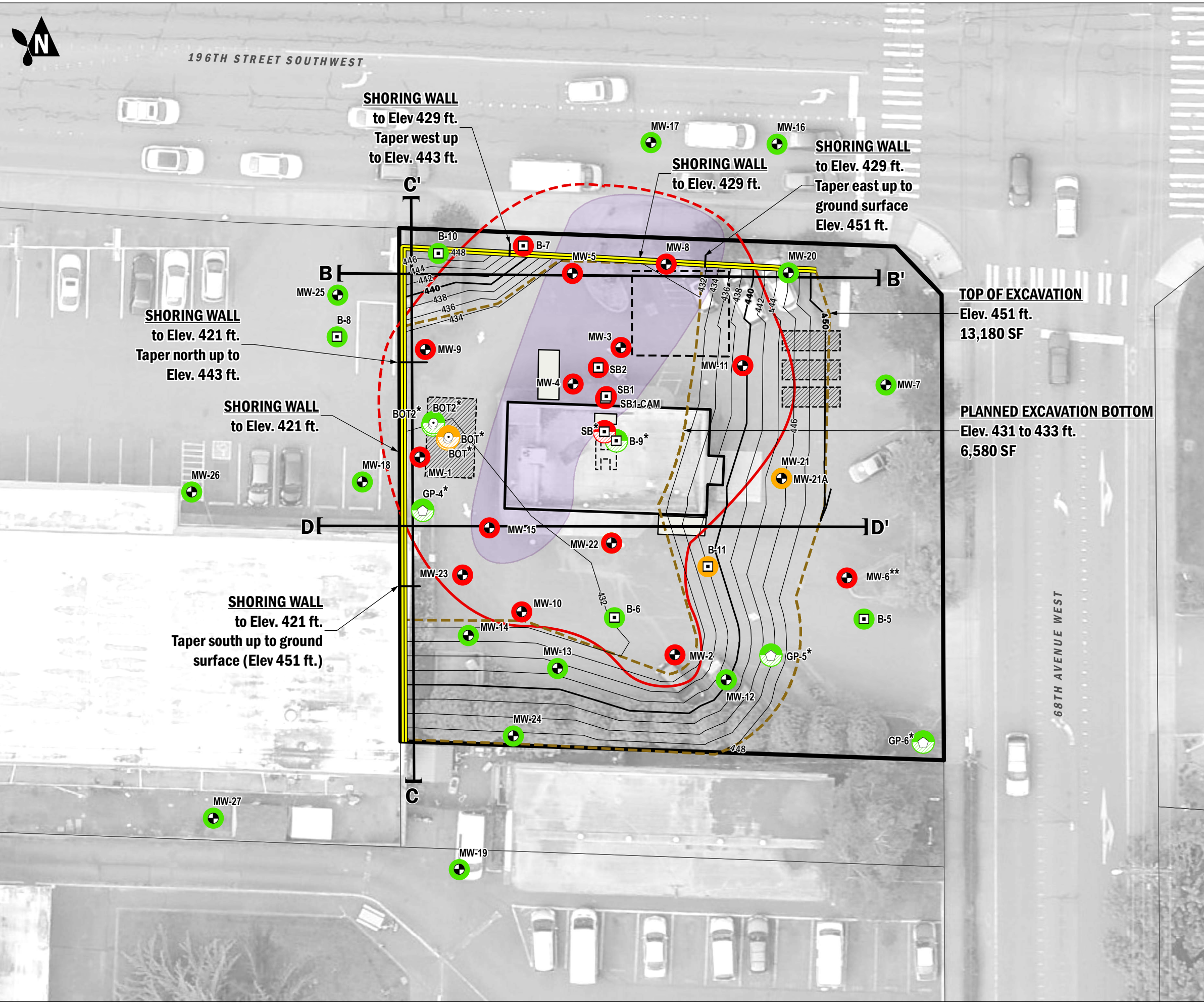
## Soil Gas Analytical Results - 2020

Interim Action Work Plan  
Texaco Strickland Site  
6808 196th Street SW  
Lynnwood, WA

DRAFT

	JUN-2021	BY: WVG / TDR	FIGURE NO. <b>6</b>
	PROJECT NO. 180357	REVISED BY: SBM / AJY / WEG	



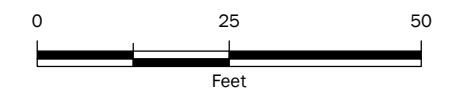


- One or more analytes detected at concentrations greater than the MTCA Method A cleanup levels in soil.
- One or more analytes detected at concentrations less than the MTCA Method A cleanup levels in soil.
- Analytes not detected.

- \* Shallow Soil Sample Result (less than 5 feet below ground surface)
- Soil Probe
- Soil Boring
- + Monitoring Well
- Soil Sample

- - - Extents of Soil Exceeding Cleanup Levels  
Dashed where inferred

- LNAPL Plume
- Shoring Wall
- 10-ft. Excavation Contour
- 2-ft. Excavation Contour
- Building
- Subject Property
- Former UST (Removed)
- Existing UST (Closed-In-Place or Abandoned)
- Former Pump Island
- Snohomish County Tax Parcel



Notes: - LNAPL = Light Non-Aqueous Phase Liquid

\*\* The soil sample collected at MW-6 in 2007 contained an exceedance of benzene at 20 feet bgs. The soil sample collected from B-05 in 2010 did not contain detectable concentrations of benzene and has established soil confirmation.

### Conceptual Soil Excavation Plan

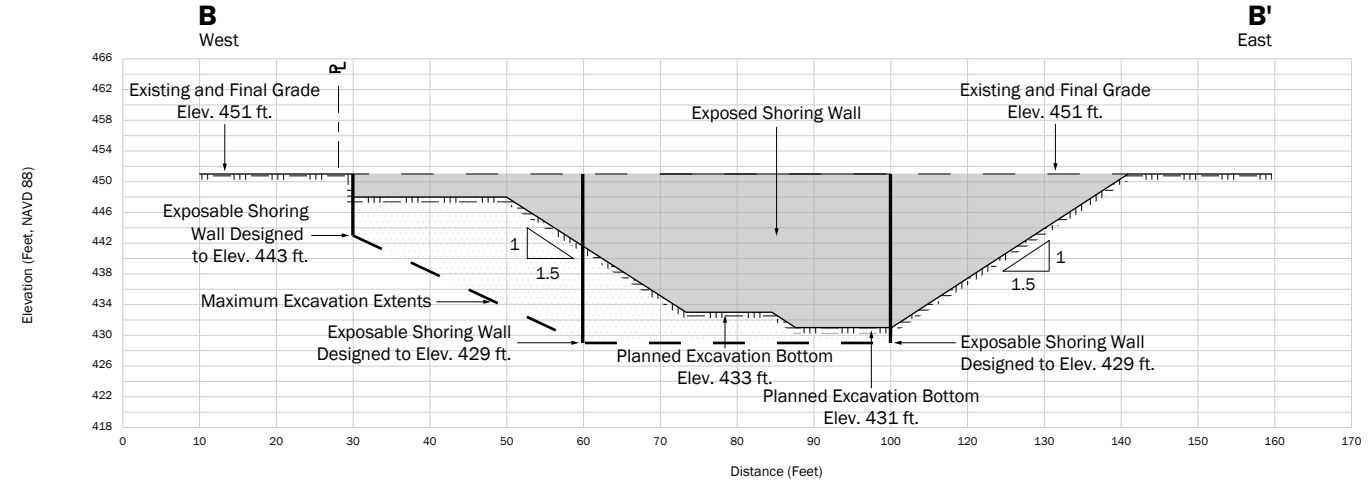
Interim Action Work Plan  
Texaco Strickland Site  
6808 196th Street SW  
Lynnwood, WA

**DRAFT**

	JUN-2021	BY: WVG / TDR	FIGURE NO. <b>7</b>
	PROJECT NO. 180357	REVISED BY: BMG / WEG	

GIS Path: T:\projects\_8\Avalanche\Deliverables\Interim Action Work Plan\Conceptual Soil Excavation Plan.mxd | Coordinate System: NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet | Date Saved: 2021-06-02 | User: trulien | Print Date: 2021-06-02

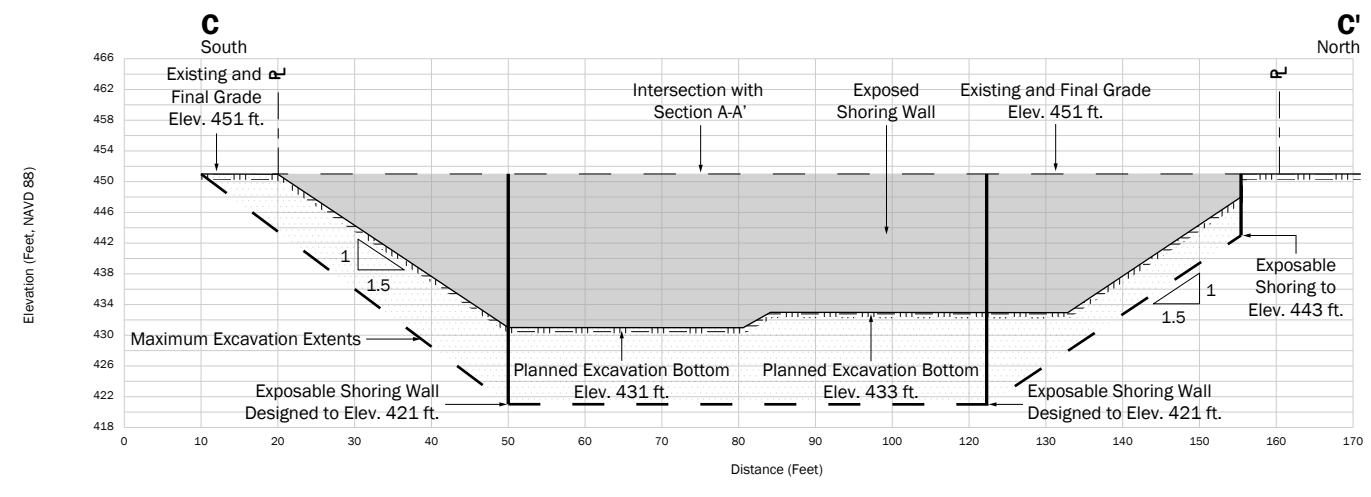
### Section B-B'



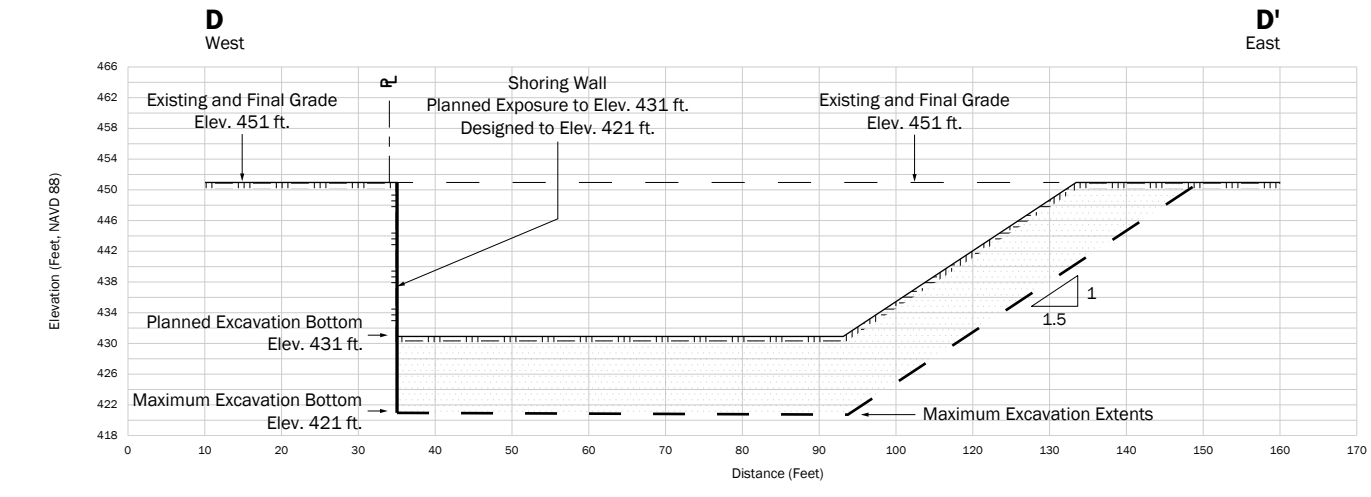
### LEGEND:

- SOIL REMAINING IN PLACE
- EXPOSED SHORING WALL
- MAXIMUM OVEREXCAVATION AREA
- MAXIMUM OVEREXCAVATION EXTENTS
- EXISTING AND FINAL GRADE
- PROPOSED EXCAVATION BOUNDARY
- SHORING WALL

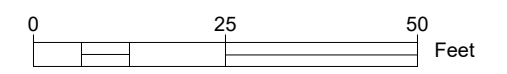
### Section C-C'



### Section D-D'



### Cross Section Scale



## Conceptual Soil Excavation Sections

**DRAFT**

Interim Action Work Plan  
 Texaco Strickland Site  
 6808 196th Street SW  
 Lynnwood, WA



FEB-2021  
 PROJECT NO.  
 180357

BY:  
 BMG / RAC  
 REV BY:  
 ---

FIGURE NO.  
**8**

## **APPENDIX A**

### **Remedial Investigation Boring and Monitoring Well Logs**



Coarse-Grained Soils - More than 50% <sup>1</sup> Retained on No. 200 Sieve	Gravels - More than 50% <sup>1</sup> of Coarse Fraction Retained on No. 4 Sieve	≤ 5% Fines	GW	Well-graded GRAVEL Well-graded GRAVEL WITH SAND
			GP	Poorly-graded GRAVEL Poorly-graded GRAVEL WITH SAND
			GM	SILTY GRAVEL SILTY GRAVEL WITH SAND
	Sands - 50% <sup>1</sup> or More of Coarse Fraction Passes No. 4 Sieve	≥ 15% Fines	GC	CLAYEY GRAVEL CLAYEY GRAVEL WITH SAND
			SW	Well-graded SAND Well-graded SAND WITH GRAVEL
			SP	Poorly-graded SAND Poorly-graded SAND WITH GRAVEL
Sands - 50% <sup>1</sup> or More of Coarse Fraction Passes No. 4 Sieve	≤ 5% Fines	SM	SILTY SAND SILTY SAND WITH GRAVEL	
		SC	CLAYEY SAND CLAYEY SAND WITH GRAVEL	
		Fine-Grained Soils - 50% <sup>1</sup> or More Passes No. 200 Sieve	Sils and Clays Liquid Limit Less than 50%	ML
CL	LEAN CLAY SANDY or GRAVELLY LEAN CLAY LEAN CLAY WITH SAND LEAN CLAY WITH GRAVEL			
OL	ORGANIC SILT SANDY or GRAVELLY ORGANIC SILT ORGANIC SILT WITH SAND ORGANIC SILT WITH GRAVEL			
Sils and Clays Liquid Limit 50% or More	MH		ELASTIC SILT SANDY or GRAVELLY ELASTIC SILT ELASTIC SILT WITH SAND ELASTIC SILT WITH GRAVEL	
	CH		FAT CLAY SANDY or GRAVELLY FAT CLAY FAT CLAY WITH SAND FAT CLAY WITH GRAVEL	
	OH		ORGANIC CLAY SANDY or GRAVELLY ORGANIC CLAY ORGANIC CLAY WITH SAND ORGANIC CLAY WITH GRAVEL	
Highly Organic Soils		PT	PEAT and other mostly organic soils	

"WITH SILT" or "WITH CLAY" means 5 to 15% silt and clay, denoted by a "-" in the group name; e.g., SP-SM • "SILTY" or "CLAYEY" means >15% silt and clay • "WITH SAND" or "WITH GRAVEL" means 15 to 30% sand and gravel. • "SANDY" or "GRAVELLY" means >30% sand and gravel. • "Well-graded" means approximately equal amounts of fine to coarse grain sizes • "Poorly graded" means unequal amounts of grain sizes • Group names separated by "/" means soil contains layers of the two soil types; e.g., SM/ML.

Soils were described and identified in the field in general accordance with the methods described in ASTM D2488. Where indicated in the log, soils were classified using ASTM D2487 or other laboratory tests as appropriate. Refer to the report accompanying these exploration logs for details.

1. Estimated or measured percentage by dry weight
2. (SPT) Standard Penetration Test (ASTM D1586)
3. Determined by SPT, DCPT (ASTM STP399) or other field methods. See report text for details.

MC	=	Natural Moisture Content	<b>GEOTECHNICAL LAB TESTS</b>
PS	=	Particle Size Distribution	
FC	=	Fines Content (% < 0.075 mm)	
GH	=	Hydrometer Test	
AL	=	Atterberg Limits	
C	=	Consolidation Test	
Str	=	Strength Test	
OC	=	Organic Content (% Loss by Ignition)	
Comp	=	Proctor Test	
K	=	Hydraulic Conductivity Test	
SG	=	Specific Gravity Test	

<b>Organic Chemicals</b>			<b>CHEMICAL LAB TESTS</b>
BTEX	=	Benzene, Toluene, Ethylbenzene, Xylenes	
TPH-Dx	=	Diesel and Oil-Range Petroleum Hydrocarbons	
TPH-G	=	Gasoline-Range Petroleum Hydrocarbons	
VOCs	=	Volatile Organic Compounds	
SVOCs	=	Semi-Volatile Organic Compounds	
PAHs	=	Polycyclic Aromatic Hydrocarbon Compounds	
PCBs	=	Polychlorinated Biphenyls	
<b>Metals</b>			
RCRA8	=	As, Ba, Cd, Cr, Pb, Hg, Se, Ag, (d = dissolved, t = total)	
MTCA5	=	As, Cd, Cr, Hg, Pb (d = dissolved, t = total)	
PP-13	=	Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn (d=dissolved, t=total)	

PID	=	Photoionization Detector	<b>FIELD TESTS</b>
Sheen	=	Oil Sheen Test	
SPT <sup>2</sup>	=	Standard Penetration Test	
NSPT	=	Non-Standard Penetration Test	
DCPT	=	Dynamic Cone Penetration Test	

<b>Descriptive Term</b>	<b>Size Range and Sieve Number</b>	<b>COMPONENT DEFINITIONS</b>
Boulders	= Larger than 12 inches	
Cobbles	= 3 inches to 12 inches	
Coarse Gravel	= 3 inches to 3/4 inches	
Fine Gravel	= 3/4 inches to No. 4 (4.75 mm)	
Coarse Sand	= No. 4 (4.75 mm) to No. 10 (2.00 mm)	
Medium Sand	= No. 10 (2.00 mm) to No. 40 (0.425 mm)	
Fine Sand	= No. 40 (0.425 mm) to No. 200 (0.075 mm)	
Silt and Clay	= Smaller than No. 200 (0.075 mm)	

<b>% by Weight</b>	<b>Modifier</b>	<b>% by Weight</b>	<b>Modifier</b>	<b>ESTIMATED<sup>1</sup> PERCENTAGE</b>
<1	=	Subtrace	15 to 25 = Little	
1 to <5	=	Trace	30 to 45 = Some	
5 to 10	=	Few	>50 = Mostly	

Dry	=	Absence of moisture, dusty, dry to the touch	<b>MOISTURE CONTENT</b>
Slightly Moist	=	Perceptible moisture	
Moist	=	Damp but no visible water	
Very Moist	=	Water visible but not free draining	
Wet	=	Visible free water, usually from below water table	

<b>Non-Cohesive or Coarse-Grained Soils</b>			<b>RELATIVE DENSITY</b>
<b>Density<sup>3</sup></b>	<b>SPT<sup>2</sup> Blows/Foot</b>	<b>Penetration with 1/2" Diameter Rod</b>	
Very Loose	= 0 to 4	≥ 2'	
Loose	= 5 to 10	1' to 2'	
Medium Dense	= 11 to 30	3" to 1'	
Dense	= 31 to 50	1" to 3"	
Very Dense	= > 50	< 1"	

<b>Cohesive or Fine-Grained Soils</b>			<b>CONSISTENCY</b>
<b>Consistency<sup>3</sup></b>	<b>SPT<sup>2</sup> Blows/Foot</b>	<b>Manual Test</b>	
Very Soft	= 0 to 1	Penetrated >1" easily by thumb. Extrudes between thumb & fingers.	
Soft	= 2 to 4	Penetrated 1/4" to 1" easily by thumb. Easily molded.	
Medium Stiff	= 5 to 8	Penetrated >1/4" with effort by thumb. Molded with strong pressure.	
Stiff	= 9 to 15	Indented ~1/4" with effort by thumb.	
Very Stiff	= 16 to 30	Indented easily by thumbnail.	
Hard	= > 30	Indented with difficulty by thumbnail.	

<b>GEOLOGIC CONTACTS</b>		
Observed and Distinct	Observed and Gradual	Inferred

	<b>Exploration Log Key</b>
---	----------------------------



### Aloha Cafe - 180357

### Environmental Exploration Log

*Project Address & Site Specific Location*  
6808 196th Street Southwest, Lynwood, Washington, 98036, E of former building

*Coordinates*

*Exploration Number*

NA

**B-04**

*Contractor*

*Equipment*

*Sampling Method*

*Ground Surface Elev. (NAVD88)*

Holocene

Direct push rig

Percussion hammer

440' (est)

*Operator*

*Exploration Method(s)*

*Work Start/Completion Dates*

*Top of Casing Elev. (NAVD88)*

*Depth to Water (Below GS)*

Matt

Direct push

8/5/2020

NA

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
1	439						SAND WITH SILT (SW-SM); dry, light grey; fines low plasticity, sand fine to coarse, subangular; appears to be CDF	1
2	438						SAND WITH SILT (SW-SM); dry, light grey; fines low plasticity, sand fine to coarse, subangular	2
3	437							3
4	436							4
5	435							5
6	434							6
7	433						concrete	7
8	432						Bottom of exploration at 7.5 ft. bgs.	8
9	431							9
10	430							10
11	429							11
12	428							12
13	427							13
14	426							14
15	425							15
16	424							16
17	423							17
18	422							18
19	421							19
20	420							20
21	419							21
22	418							22
23	417							23
24	416							24

**Legend**

Sample Type

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DRB  
Approved by: AY

**Exploration Log B-04**

Sheet 1 of 1





**Aloha Cafe - 180357**

**Environmental Exploration Log**

*Project Address & Site Specific Location*  
6808 196th Street Southwest, Lynwood, Washington, 98036, N side of E driveway, 30 ft E of 68th St

*Coordinates (Lat, Lon WGS84)*

47.8210, -122.3252 (est)

*Exploration Number*

**B-05**

*Contractor*

Holt Services

*Equipment*

Mobile Drilling B-59

*Sampling Method*

Autohammer; 140 lb hammer; 30" drop

*Ground Surface Elev. (NAVD88)*

440' (est)

*Operator*

John

*Exploration Method(s)*

8.5" OD X 4.25" ID Hollow-Stem Auger

*Work Start/Completion Dates*

6/10/2019

*Top of Casing Elev. (NAVD88)*

NA

*Depth to Water (Below GS)*

12.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							ASPHALT; road surface	
							FILL	
				B-05-3	SPT=4, 7, 5 PID=0 Sheen=No sheen		SAND WITH GRAVEL (SW); medium dense, slightly moist, medium brown; trace fines; fine to coarse, subangular sand; fine to medium, subrounded gravel; no odor	
5	435			B-05-6	SPT=3, 10, 18 PID=0.1 Sheen=No sheen		SILT WITH GRAVEL (ML); stiff, moist, dark brown; low plasticity fines; fine, subrounded gravel; no odor	5
					SPT=7, 12, 18 PID=0.2 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SW-SM); dense, moist, dark grey; low plasticity fines; fine to coarse, subangular sand; fine, subrounded gravel; no odor	
10	430	Boring backfilled with 3/8" hydrated bentonite chips  ▽ 6/10/2019		B-05-10.5	SPT=7, 17, 24 PID=0.3 Sheen=No sheen		VASHON TILL SILTY SAND WITH GRAVEL (SM); dense, moist, dark grey; medium plasticity fines; fine to medium, subangular sand; fine, subrounded gravel; no odor	10
					SPT=31, 50/5		no recovery; outside of sampler wet	
15	425			B-05-16	SPT=11, 50/5 PID=0 Sheen=No sheen		becomes very dense	15
					SPT=50/4 PID=0.2 Sheen=No sheen		GRAVEL WITH SILT AND SAND (GP-GM); very dense, wet, dark grey; medium plasticity fines; fine to coarse, subangular sand; fine to medium subrounded to subangular gravel; no odor slow drilling	
20	420				SPT=50/4.5 PID=0.2 Sheen=No sheen			20
					SPT=50/3 PID=0.2 Sheen=No sheen		GRAVEL WITH SILT AND SAND (GW-GM); very dense, moist, dark grey; medium plasticity fines; fine to coarse, subangular sand; fine to medium, subrounded to subangular gravel; no odor	
25	415			B-05-25	SPT=50/4 PID=0.1 Sheen=No sheen			25
							Bottom of exploration at 25.5 ft. bgs.	
30	410							30

**Legend**

☐ No Soil Sample Recovery

▣ Split Barrel 2" X 1.375" (SPT)

▣ Grab sample

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU

Approved by: AY

**Exploration Log B-05**

Sheet 1 of 1



### Aloha Cafe - 180357

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, 35 ft S of center of building

### Environmental Exploration Log

Coordinates (Lat, Lon WGS84)

47.8210, -122.3255 (est)

Exploration Number

**B-06**

Contractor

Holt Services

Equipment

Mobile Drilling B-59

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

John

Exploration Method(s)

8.5" OD X 4.25" ID Hollow-Stem Auger

Work Start/Completion Dates

6/11/2019

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

12.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							ASPHALT; road surface	
							<b>FILL</b> SAND WITH SILT (SW-SM); medium dense, slightly moist, medium grey; low plasticity fines, fine to coarse, subangular sand; trace fine, subrounded gravel	
5	435	Boring backfilled with 3/8" hydrated bentonite chips		B-06-6	SPT=11, 11, 9 PID=0.4 Sheen=No sheen			5
					SPT=2, 1, 2 PID=1.1 Sheen=No sheen		SANDY SILT (ML); soft, moist, dark brown; low plasticity fines; fine, subangular sand; some charcoal and wood debris	
				B-06-8.5	SPT=13, 28, 32 PID=1.4 Sheen=Slight		SAND WITH SILT AND GRAVEL (SW-SM); very dense, slightly moist, dark grey; low plasticity fines; fine to coarse, subangular sand; fine to coarse, subrounded to subangular gravel	
10	430			B-06-10	SPT=16, 14, 17 PID=1.2 Sheen=No sheen			10
		▽ 6/11/2019					<b>VASHON TILL</b> SILTY SAND WITH GRAVEL (SM); very dense, wet, dark grey; medium plasticity fines; fine to medium, subangular sand; fine to medium, subangular to subrounded gravel	
15	425			B-06-13	SPT=7, 20, 50/5 PID=2.5 Sheen=Slight			15
					SPT=24, 50-/5 PID=4.9 Sheen=Slight		SAND WITH SILT AND GRAVEL (SP-SM); very dense, wet, dark grey; low plasticity fines; fine to medium, subangular sand; fine to medium, subrounded to subangular gravel	
					SPT=20, 39, 50/5 PID=1.1 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); very dense, moist, dark grey; medium plasticity fines; fine to coarse, subangular sand; fine to coarse, subangular to subrounded gravel	
20	420				SPT=50/5 PID=0.6 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SW-SM); very dense, moist, dark grey; low plasticity fines; fine to coarse, subangular sand; fine to medium, subrounded to subangular gravel	20
					SPT=50/4 PID=0.7 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); very dense, moist, dark grey; medium plasticity fines; fine to medium, subangular sand; fine to medium, subrounded gravel	
25	415			B-06-25	SPT=50/3 PID=0.7 Sheen=No sheen			25
							Bottom of exploration at 25.5 ft. bgs.	
30	410							30

**Legend**

☐ No Soil Sample Recovery

▣ Split Barrel 2" X 1.375" (SPT)

▤ Grab sample

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log B-06**

Sheet 1 of 1



### Aloha Cafe - 180357

### Environmental Exploration Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynnwood, Washington, 98036, NW  
driveway, 15 ft S of 196th St SW

Coordinates (Lat, Lon WGS84)

Exploration Number

47.8212, -122.3256 (est)

**B-07**

Contractor

Equipment

Sampling Method

Ground Surface Elev. (NAVD88)

Holt Services

Mobile Drilling B-59

Autohammer; 140 lb hammer; 30" drop

440' (est)

Operator

Exploration Method(s)  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

John

6/12/2019

NA

12.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							ASPHALT; road surface	
							<b>FILL</b> SAND WITH SILT AND GRAVEL (SW-SM); loose, slightly moist, dark brown; low plasticity fines; fine to coarse, subangular sand; fine to medium, subangular to subrounded gravel; no odor	
5	435			B-07-6	SPT=4, 5, 3 PID=31.4 Sheen=Slight			5
							SANDY SILT (ML); medium stiff, slightly moist, dark brown; low plasticity fines; fine, subangular sand; some charcoal and wood debris; very slight petroleum-like odor	
				B-07-8	SPT=10, 35, 45 PID=25.9 Sheen=Slight			
							SAND WITH SILT AND GRAVEL (SP-SM); very dense, slightly moist, medium grey; low to medium plasticity fines; fine to medium, subangular sand; fine to medium, subrounded gravel; moderate petroleum-like odor	
10	430			B-07-12.5	SPT=6, 12, 12 PID=52.14 Sheen=Slight			10
							<b>VAHSON TILL</b> SILTY SAND WITH GRAVEL (SM); very dense, wet, dark grey; medium plasticity fines; fine to medium, subangular sand; fine, subrounded gravel; moderate petroleum-like odor	
15	425				SPT=8, 14, 20 PID=41.6 Sheen=Slight			15
							becomes moist, no odor	
					SPT=12, 30, 30 PID=46.8 Sheen=Slight			
					SPT=30, 50/4 PID=30.3 Sheen=No sheen			
					SPT=50/4 PID=28.6 Sheen=No sheen			
20	420			B-07-22.5	SPT=50/1			20
					SPT=50/4 PID=31.6 Sheen=No sheen			
25	415			B-07-25	SPT=50/3 PID=36.1 Sheen=No sheen			25
					SPT=50/4 PID=23.4 Sheen=No sheen			
					SPT=50/5 PID=14.2 Sheen=No sheen			
30	410						Bottom of exploration at 30.5 ft. bgs.	30

**Legend**

- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)
- Grab sample

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log B-07**

Sheet 1 of 1



### Aloha Cafe - 180357

### Environmental Exploration Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynnwood, Washington, 98036, 50 ft N of NE corner of China Cafe Restaurant

Coordinates (Lat, Lon WGS84)

Exploration Number

47.8211, -122.3258 (est)

**B-08**

Contractor

Equipment

Sampling Method

Ground Surface Elev. (NAVD88)

Holt Services

Mobile Drilling B-59

Autohammer; 140 lb hammer; 30" drop

440' (est)

Operator

Exploration Method(s)  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

Mitch

7/16/2019

NA

8.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							ASPHALT; road surface	
							<b>FILL</b> SAND WITH GRAVEL (SP); very dense, slightly moist, grey brown; fine to medium, subangular sand; fine, subrounded gravel; no odor	
5	435	Boring backfilled with 3/8" hydrated bentonite chips		B-08-6.0	SPT=22, 50/5 PID=0.0 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); dense, slightly moist, grey brown; fine to medium, subangular sand; fine to coarse, subrounded gravel; no odor	5
		▽ 7/16/2019					SILTY GRAVEL WITH SAND (GM); dense, slightly moist, grey brown; fine to medium, subangular sand; fine to coarse, subangular to subrounded gravel; no odor	
				B-08-8.5	SPT=20, 50/5 PID=0.0 Sheen=No sheen		<b>VASHON TILL</b> SAND WITH SILT AND GRAVEL (SP-SM); very dense, slightly moist, light grey to grey brown; fine to medium, subangular sand; fine to coarse, subrounded gravel	
10	430				SPT=18, 32, 50/5 PID=0.0 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); very dense, moist, grey brown; fine to medium, subangular sand; fine to coarse, subrounded gravel; no odor	10
				B-08-13.5	SPT=28, 50/5 PID=0.0 Sheen=No sheen		SANDY SILT WITH GRAVEL (ML); very dense, moist, grey; fine, subangular sand; fine, subrounded gravel; no odor	
15	425						SILTY SAND WITH GRAVEL (SM); very dense, very moist, grey brown; fine to medium, subangular sand; fine, subrounded gravel; no odor	15
				B-08-18.5	SPT=50/5 PID=0.0 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SP-SM); very dense, very moist, grey brown; fine to medium, subangular sand; fine, subrounded gravel; no odor	
20	420							20
				B-08-23.5	SPT=50/6 PID=0.0 Sheen=No sheen			
25	415						Bottom of exploration at 25.5 ft. bgs.	25
30	410							30

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\180357 ALOHA CAFE\1.GPJ January 28, 2021

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)
- ▤ Grab sample

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log B-08**

Sheet 1 of 1



### Aloha Cafe - 180357

### Environmental Exploration Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, E of former hoist inside Aloha Cafe building

Coordinates

Exploration Number

NA

**B-09**

Contractor

Equipment

Sampling Method

Ground Surface Elev. (NAVD88)

Standard Drilling

Geprobe 5412

Percussion hammer

440' (est)

Operator

Exploration Method(s)

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

Direct push

8/5/2020

NA

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
1	439	Boring backfilled with 3/8" hydrated bentonite chips	S1	B-09-2.5	PID=0.2 Sheen=No sheen	CONCRETE; building slab	FILL SAND WITH SILT (SW-SM); dry, light gray; fine to coarse, subangular sand; well consolidated; slow drilling; appears to be controlled density fill	1
2	438		S2					2
3	437		S3	3				
4	436		S4	4				
5	435		S5	5				
6	434		B-09-6	6				
7	433		CONCRETE; dry, light gray; refusal on concrete	7				
8	432	Bottom of exploration at 7.5 ft. bgs.	8					
9	431		9					
10	430		10					
11	429		11					
12	428		12					
13	427		13					
14	426		14					
15	425		15					
16	424		16					
17	423		17					
18	422		18					
19	421		19					
20	420		20					
21	419		21					
22	418		22					
23	417		23					
24	416		24					

**Legend**

- Continuous core 1.85" ID
- Grab sample

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log B-09**



### Aloha Cafe - 180357

### Environmental Exploration Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, NW corner of 6808 parking lot on planter

Coordinates (Lat, Lon WGS84)

Exploration Number

47.8212, -122.3257 (est)

**B-10**

Contractor

Equipment

Sampling Method

Ground Surface Elev. (NAVD88)

Holocene

HSA Foremost B-58

Autohammer; 140 lb hammer; 30" drop

440' (est)

Operator

Exploration Method(s)  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

Matt

7/30/2020

NA

9.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Boring backfilled with 3/8" hydrated bentonite chips	S1		SPT=2, 2, 1 PID=2.5 Sheen=No sheen		<b>FILL</b> SILTY SAND (SM); very loose, slightly moist, red-brown; low plasticity fines; fine to medium, subangular sand; subtrace fine, subrounded gravel; some grey to dark brown mottling; subtrace charred wood fragments; no odor	
5	435		S2		SPT=7, 38, 50/6 PID=3.1 Sheen=No sheen		<b>VASHON TILL</b> SILTY SAND (SM); very dense, slightly moist, light gray; low plasticity fines; fine to medium, subangular sand; trace fine, subrounded gravel; some coarse, subangular sand; no odor	5
			S3		SPT=26, 38, 38 PID=2.5 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); very dense, very moist, light gray; low plasticity fines; fine to coarse, subangular sand; fine to medium, subrounded gravel; no odor	
10	430	▽ 7/30/2020	S4		SPT=30, 39, 50/5			10
			S5	B-10-12.5 NWTPH-Dx, GX, BTEX, Napthalene	SPT=16, 22, 28 PID=5.6 Sheen=No sheen		SILTY SAND (SM); very dense, wet, light gray; low to medium plasticity fines; fine to medium, subangular sand; trace fine, subrounded gravel; no odor	
15	425		S6		SPT=16, 24, 50/4 PID=2.1 Sheen=No sheen			15
			S7		SPT=50/5 PID=4.1 Sheen=No sheen		sampler stuck on 4 in cobble	
20	420		S8		SPT=50/5 PID=3.1 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); very dense, very wet, gray; low to medium plasticity fines; fine to medium, subangular sand; fine to medium, subrounded gravel; no odor	20
			S9		SPT=39, 50/5 PID=4.1 Sheen=No sheen		SANDY SILT (ML); hard, very moist, gray; medium plasticity; fine to medium, subangular sand; trace fine to coarse, subrounded gravel; no odor	
25	415		S10		SPT=50/6 PID=3.6 Sheen=No sheen		Bottom of exploration at 25 ft. bgs.	25

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log B-10**

Sheet 1 of 1



### Aloha Cafe - 180357

### Environmental Exploration Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, SE of SE corner of Aloha Cafe

Coordinates (Lat, Lon WGS84)

Exploration Number

47.8210, -122.3254 (est)

**B-11**

Contractor

Equipment

Sampling Method

Ground Surface Elev. (NAVD88)

Holocene

HSA Foremost B-58

Autohammer; 140 lb hammer; 30" drop

440' (est)

Operator

Exploration Method(s)  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

Matt

7/28/2020

NA

10' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							ASPHALT; road surface	
							<b>FILL</b> SANDY SILT (ML); hard, moist, dark brown; medium plasticity fines; fine to coarse, subangular sand; trace fine, subrounded gravel; no odor; poor recovery due to cobble stuck in sampler	
5	435	Boring backfilled with 3/8" hydrated bentonite chips	S1	B-11-5.5 NWTPH-Dx, GX, BTEX, Napthalene	SPT=17, 21, 10 PID=7.4 Sheen=No sheen			5
			S2		SPT=1, 1, 2 PID=7.7 Sheen=Slight		SILTY SAND (SM); very loose, moist, dark brown; medium plasticity fines; fine to coarse, subangular sand; trace fine to medium, subrounded gravel; some charcoal fragments; slight asphalt-like odor	
			S3		SPT=28, 37, 50/5 PID=11.5 Sheen=No sheen		<b>VASHON TILL</b> SILTY SAND (SM); very dense, moist, gray; low plasticity fines; fine to medium, subangular sand; trace fine to medium, subrounded gravel; no odor	
10	430	7/28/2020	S4	B-11-10.5 NWTPH-Dx, GX, BTEX, Napthalene	SPT=6, 14, 7 PID=31.8 Sheen=No sheen		some 2 in layers of sand with silt; becomes wet	10
			S5		SPT=25, 32, 50/5 PID=6.6 Sheen=No sheen			
15	425		S6	B-11-15 NWTPH-Dx, GX, BTEX, Napthalene	SPT=16, 27, 40 PID=18.6 Sheen=No sheen		trace fine to coarse, subrounded gravel	15
			S7		SPT=32, 38, 50/4 PID=5.8 Sheen=No sheen			
20	420		S8		SPT=50/6 PID=6.8 Sheen=No sheen			20
			S9		SPT=50/2 PID=5.6 Sheen=No sheen		becomes moist	
25	415		S10		SPT=50/5 PID=4.9 Sheen=No sheen		Bottom of exploration at 25.5 ft. bgs.	25

**Legend**

- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log B-11**

Sheet 1 of 1



### Aloha Cafe - 180357

### Environmental Exploration Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, 10' S of N wall, ~ 20' E of W wall

Coordinates

Exploration Number

NA

**B-12**

Contractor  
Standard Drilling

Equipment  
Geoprobe 5412

Sampling Method  
Percussion hammer

Ground Surface Elev. (NAVD88)  
440' (est)

Operator

Exploration Method(s)  
Direct push

Work Start/Completion Dates  
8/5/2020

Top of Casing Elev. (NAVD88)  
NA

Depth to Water (Below GS)  
No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							CONCRETE; floor of building	
1	439						<b>FILL</b> SAND WITH SILT (SW-SM); dry, light grey; fines low plasticity, sand fine to coarse, subangular; appears to be CDF; no odor; slow drilling	1
2	438							2
3	437	Boring backfilled with 3/8" hydrated bentonite chips						3
4	436						slow drilling	4
5	435						Bottom of exploration at 5 ft. bgs.	5
6	434							6
7	433							7
8	432							8
9	431							9

**Legend**

Sample Type

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log B-12**

Sheet 1 of 1





### Aloha Cafe - 180357

### Monitoring Well Log

*Project Address & Site Specific Location*  
6808 196th Street Southwest, Lynwood, Washington, 98036, SW corner of property, 10 ft E of dumpster enclosure

*Coordinates (Lat, Lon WGS84)*

47.8209, -122.3256 (est)

*Exploration Number*

**GP-01**

Ecology Well Tag No. BMF 722

*Contractor*  
Holt Services

*Equipment*  
Geoprobe 7800

*Sampling Method*  
Percussion hammer

*Ground Surface Elev. (NAVD88)*  
440' (est)

*Operator*  
Louie

*Exploration Method(s)*  
Direct push

*Work Start/Completion Dates*  
6/5/2019

*Top of Casing Elev. (NAVD88)*  
NA

*Depth to Water (Below GS)*  
No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
1	439	5" Flush mount, traffic-rated monument in concrete						1
2	438						No samples collected	2
3	437	1/4" Teflon tubing in 3/8" hydrated bentonite chips						3
4	436							4
5	435	Perforated stainless steel screen in 10-20 silica sand					Bottom of exploration at 5 ft. bgs.	5
6	434							6
7	433							7
8	432							8
9	431							9

**Legend**

Sample Type

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log GP-01**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

*Project Address & Site Specific Location*  
 6808 196th Street Southwest, Lynwood, Washington, 98036, Along S property boundary, 30 ft E of dumpster enclosure

*Coordinates (Lat, Lon WGS84)*

47.8209, -122.3255 (est)

*Exploration Number*

**GP-02**

*Contractor*

Holt Services

*Equipment*

Geoprobe 7800

*Sampling Method*

Percussion hammer

*Ground Surface Elev. (NAVD88)*

440' (est)

*Operator*

Louie

*Exploration Method(s)*

Direct push

*Work Start/Completion Dates*

6/5/2019

*Top of Casing Elev. (NAVD88)*

NA

*Depth to Water (Below GS)*

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
1	439	5" Flush mount, traffic-rated monument in concrete						1
2	438						No samples collected	2
3	437	1/4" Teflon tubing in 3/8" hydrated bentonite chips						3
4	436							4
5	435	Perforated stainless steel screen in 10-20 silica sand					Bottom of exploration at 5 ft. bgs.	5
6	434							6
7	433							7
8	432							8
9	431							9

**Legend**

Sample Type

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
 Approved by: AY

**Exploration Log GP-02**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

*Project Address & Site Specific Location*  
 6808 196th Street Southwest, Lynwood, Washington, 98036, Along S property boundary, 40 ft W of 68th St curb

*Coordinates (Lat, Lon WGS84)*

47.8209, -122.3253 (est)

*Exploration Number*

**GP-03**

*Contractor*

Holt Services

*Equipment*

Geoprobe 7800

*Sampling Method*

Percussion hammer

*Ground Surface Elev. (NAVD88)*

440' (est)

*Operator*

Louie

*Exploration Method(s)*

Direct push

*Work Start/Completion Dates*

6/5/2019

*Top of Casing Elev. (NAVD88)*

NA

*Depth to Water (Below GS)*

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
1	439	5" Flush mount, traffic-rated monument in concrete						1
2	438						No samples collected	2
3	437	1/4" Teflon tubing in 3/8" hydrated bentonite chips						3
4	436							4
5	435	Perforated stainless steel screen in 10-20 silica sand					Bottom of exploration at 5 ft. bgs.	5
6	434							6
7	433							7
8	432							8
9	431							9

**Legend**

Sample Type

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
 Approved by: AY

**Exploration Log GP-03**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

*Project Address & Site Specific Location*  
 6808 196th Street Southwest, Lynnwood, Washington, 98036, Along E  
 property boundary, 20 ft W of SW corner of building

*Coordinates (Lat, Lon WGS84)*

47.8210, -122.3257 (est)

*Exploration Number*

**GP-04**

*Contractor*

Holt Services

*Equipment*

Geoprobe 7800

*Sampling Method*

Percussion hammer

*Ground Surface Elev. (NAVD88)*

440' (est)

*Operator*

Louie

*Exploration Method(s)*

Direct push

*Work Start/Completion Dates*

6/5/2019

*Top of Casing Elev. (NAVD88)*

NA

*Depth to Water (Below GS)*

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							ASPHALT; Road surface	
1	439	5" Flush mount, traffic-rated monument in concrete	GP-04-1		PID=7.9 Sheen=Slight		<b>FILL</b> SAND WITH SILT AND GRAVEL (SW-SM); loose, slightly moist, medium grey; trace fines; sand fine to coarse, subangular; gravel fine to medium, subrounded; no odor	1
2	438		GP-04-2		PID=11.8 Sheen=Slight		SILT WITH GRAVEL (ML); soft, slightly moist, dark brown; fines low plasticity; gravel fine, subrounded; no odor	2
3	437	1/4" Teflon tubing in 3/8" hydrated bentonite chips						3
4	436							4
5	435	Perforated stainless steel screen in 10-20 silica sand					Bottom of exploration at 5 ft. bgs.	5
6	434							6
7	433							7
8	432							8
9	431							9

**Legend**

- No Soil Sample Recovery
- Continuous core 1.85" ID
- Grab sample

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
 Approved by: AY

**Exploration Log**  
**GP-04**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, Co-located with GP-03

Coordinates (Lat, Lon WGS84)  
, (est)

Exploration Number

## GP-05

Contractor

Equipment

Sampling Method

Ground Surface Elev. (NAVD88)

Holocene

Geoprobe 7822DT

Percussion hammer

440' (est)

Ecology Well Tag No.  
BNF 357

Operator

Exploration Method(s)

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

Chris

Direct push

11/10/2020

NA

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
1	439	5" Flush mount, traffic-rated monument in concrete	S1	GP-05-6 NWTPH-Dx, Gx, BTEXN	PID=0.0 Sheen=VSS	ASPHALT; Road surface	1	
2	438				PID=0.0 Sheen=OS	FILL SAND WITH SILT AND GRAVEL (SW-SM); appears medium dense, moist, gray; low plasticity fines; fine to coarse, subangular sand; fine to medium, subangular to subrounded gravel; no odor	2	
3	437	1/4" Teflon tubing in 3/8" hydrated bentonite chips			PID=0.0 Sheen=OS	SILTY SAND WITH GRAVEL (SM); appears dense, moist, brown; medium plasticity fines; fine to coarse, subangular sand; fine to medium, subangular to subrounded gravel; no odor	3	
4	436		S2	GP-05-6 NWTPH-Dx, Gx, BTEXN	PID=0.5 Sheen=OS	ORGANIC SILT (OL); appears soft, moist, dark brown; low to medium plasticity; some organic debris; slight asphalt-like odor	4	
5	435						5	
6	434		S2	GP-05-6 NWTPH-Dx, Gx, BTEXN	PID=0.2 Sheen=VSS	VASHON TILL SILTY SAND (SM); appears denes, moist, gray-brown; low plasticity fines; fine to medium, subangular sand; trace fine, subrounded gravel; no odor	6	
7	433						7	
8	432	Perforated stainless steel screen in 10-20 silica sand					Bottom of exploration at 8 ft. bgs.	8
9	431							9

#### Legend

- No Soil Sample Recovery
- Continuous core 1.85" ID
- Grab sample

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**GP-05**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

*Project Address & Site Specific Location*  
6808 196th Street Southwest, Lynwood, Washington, 98036, SE Property corner in driveway

*Coordinates (Lat, Lon WGS84)*  
, (est)

*Exploration Number*

**GP-06**

*Contractor*

*Equipment*

*Sampling Method*

*Ground Surface Elev. (NAVD88)*

Holocene

Geoprobe 7822DT

Percussion hammer

439' (est)

Ecology Well Tag No. BNF 358

*Operator*

*Exploration Method(s)*

*Work Start/Completion Dates*

*Top of Casing Elev. (NAVD88)*

*Depth to Water (Below GS)*

Chris

Direct push

11/10/2020

NA

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
1	438	5" Flush mount, traffic-rated monument in concrete			PID=0.1 Sheen=OS	ASPHALT; Road surface		1
2	437					<b>FILL</b> SAND WITH SILT (SP-SM); appears loose, moist, light brown; low plasticity fines; fine to coarse, mostly medium, subangular sand; trace fine to medium, subrounded gravel; no odor		2
3	436	1/4" Teflon tubing in 3/8" hydrated bentonite chips	S1	GP-06-2.5 NWTPH-Dx, Gx, BTEXN	PID=0.1 Sheen=OS	ORGANIC SILT (OL); appears soft, very moist, dark brown; low plasticity; mostly organic debris; no odor		3
4	435					SILTY SAND (SM); appears medium dense, very moist, light brown; low plasticity fines; fine to medium, subangular sand; trace fine, subrounded gravel; no odor		4
5	434	Perforated stainless steel screen in 10-20 silica sand				Bottom of exploration at 5 ft. bgs.		5
6	433							6
7	432							7
8	431							8
9	430							9

**Legend**

- No Soil Sample Recovery
- Continuous core 1.85" ID
- Grab sample

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**GP-06**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, NE of NE corner of building, close to former UST locations

Coordinates (Lat, Lon WGS84)

47.8211, -122.3254 (est)

Exploration Number

**MW-11**

Contractor

Holt Services

Equipment

Mobile Drilling B-59

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

John

Exploration Method(s)

8.5" OD X 4.25" ID Hollow-Stem Auger

Work Start/Completion Dates

6/10/2019

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

9.08' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; road surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips					<b>FILL</b> SAND WITH SILT AND GRAVEL (SW-SM); loose, slightly moist, light grey; low plasticity fines; sand fine to coarse, subangular sand; fine to medium, subrounded gravel; moderate petroleum-like odor	
5	435			MW-11-1	SPT=3, 7, 5 PID=2688 Sheen=Slight			
				MW-11-6	SPT=1, 3, 13 PID=3057 Sheen=Slight		SILT WITH GRAVEL (ML); medium stiff, slightly moist, dark brown; low plasticity fines; fine, subrounded gravel; moderate petroleum-like odor	5
					SPT=20, 50/5		<b>VASHON TILL</b> SILTY SAND WITH GRAVEL (SM); medium dense, slightly moist, dark grey; medium plasticity fines; fine to medium, subangular sand; fine, subrounded gravel; moderate petroleum-like odor	
10	430	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand			SPT=19, 24, 30			10
		6/20/2019		MW-11-13	SPT=6, 11, 22 PID=11.2 Sheen=No sheen		becomes dense; wet; no odor	
15	425				SPT=39, 43, 50/5		GRAVEL WITH SILT AND SAND (GP-GM); very dense, wet, dark grey; medium plasticity fines; coarse, subangular sand; fine to coarse, subrounded gravel; no odor	15
				MW-11-18	SPT=38, 50/3 PID=1.3 Sheen=No sheen		SILTY GRAVEL (GM); very dense, wet, dark grey; medium plasticity fines; medium to coarse, subrounded to subangular gravel; no odor	
20	420				SPT=50/4		SAND WITH SILT AND GRAVEL (SW-SM); very dense, moist, dark grey; medium plasticity fines; fine to coarse, subangular sand; fine to medium, subrounded to subangular gravel; no odor	20
				MW-11-25	SPT=50/3 PID=1.7 Sheen=No sheen			
25	415				SPT=50/4 PID=2.2 Sheen=No sheen			25
							Bottom of exploration at 25.5 ft. bgs.	
30	410							30

**Legend**

- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)
- Grab sample

Water Level

- Static Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-11**

Sheet 1 of 1



# Aloha Cafe - 180357

# Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, 50 ft S of SE corner of building

Coordinates (Lat, Lon WGS84)

47.8209, -122.3254 (est)

Exploration Number

## MW-12

Ecology Well Tag No. BMF 727

Contractor

Holt Services

Equipment

Mobile Drilling B-59

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

John

Exploration Method(s)

8.5" OD X 4.25" ID Hollow-Stem Auger

Work Start/Completion Dates

6/10/2019

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

9.88' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; road surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips		MW-12-3	SPT=13, 15, 18 PID=0.3 Sheen=No sheen		<b>FILL</b> SAND WITH GRAVEL (SW); dense, slightly moist, light grey; trace fines; fine to coarse, subangular sand; fine to medium, subangular to subrounded gravel; no odor	
5	435				SPT=5, 3, 2			5
		▼ 6/19/2019		MW-12-8	SPT=6, 15, 20 PID=0.8 Sheen=No sheen		SANDY SILT WITH GRAVEL (ML); hard, moist, medium brown; low plasticity fines; fine, subangular sand; fine, subrounded gravel; no odor	
10	430			MW-12-11.5	SPT=4, 9, 12 PID=0.8 Sheen=No sheen		<b>VASHON TILL</b> SILTY SAND WITH GRAVEL (SM); medium dense, moist, dark grey; medium plasticity fines; fine to medium, subangular sand; fine to medium, subangular to subrounded gravel; no odor	10
		0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand					becomes very dense	
15	425	▽ 6/10/2019		MW-12-15	SPT=15, 23, 28 PID=0.8 Sheen=No sheen		becomes wet	15
					SPT=26, 50/4 PID=3.8 Sheen=No sheen		becomes moist	
20	420				SPT=50/4 PID=0.5 Sheen=No sheen		slow drilling	20
				MW-12-25	SPT=50/4 PID=0.1 Sheen=No sheen		GRAVEL WITH SAND (GW); very dense, slightly moist, light grey; trace fines; fine to coarse, subangular sand; fine to coarse, subangular to subrounded gravel; no odor	25
25	415						Bottom of exploration at 25.5 ft. bgs.	
30	410							30

### Legend

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)
- ▤ Grab sample

Water Level

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-12**

Sheet 1 of 1





### Aloha Cafe - 180357

### Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, Along S property boundary, 35 ft E of dumpster enclosure

Coordinates (Lat, Lon WGS84)

Exploration Number

47.8209, -122.3256 (est)

**MW-13**

Contractor

Equipment

Sampling Method

Ground Surface Elev. (NAVD88)

Holt Services

Mobile Drilling B-59

Autohammer; 140 lb hammer; 30" drop

440' (est)

Ecology Well Tag No. BMF 728

Operator

Exploration Method(s)  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

John

6/11/2019

NA

12.31' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; road surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips					<b>FILL</b> SAND WITH SILT AND GRAVEL (SW-SM); medium dense, slightly moist, dark brown; low plasticity fines, fine to coarse, subangular sand; fine, subrounded gravel; no odor	
5	435			MW-13-6	SPT=5, 5, 10 PID=0.9 Sheen=No sheen			5
					SPT=2, 2, 9 PID=0.8 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SP-SM); loose, moist, dark grey; medium plasticity fines; fine to medium, subangular sand; fine to medium, subrounded gravel; no odor	
					SPT=19, 25, 31 PID=0.7 Sheen=No Sheen		SANDY SILT WITH GRAVEL (ML); stiff, moist, dark brown; low plasticity fines; fine, subangular sand; fine, subrounded gravel; some wood and charcoal debris; no odor	
10	430	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand		MW-13-11	SPT=10, 16, 17 PID=0.9 Sheen=No sheen		SAND WITH SILT (SP-SM); dense, slightly moist, light brown; low plasticity fines; fine to medium, subangular sand; fine to medium, subangular to subrounded gravel; no odor	10
		6/19/2019 6/11/2019		MW-13-12.5	SPT=9, 19, 27 PID=1.2 Sheen=No sheen		SAND WITH GRAVEL (SP); dense, slightly moist, light brown; trace fines; fine to medium, subangular sand; fine, subrounded gravel; no odor	
					SPT=22, 27, 50/5 PID=2.5 Sheen=No sheen		<b>VASHON TILL</b> SAND WITH SILT AND GRAVEL (SW-SM); medium dense, moist, light grey; medium plasticity fines; fine to coarse, subangular sand; fine, subrounded gravel; no odor	15
15	425			MW-13-18	SPT=39, 50/4 PID=1.8 Sheen=No sheen		SILTY SAND (SM); dense, moist, dark grey; medium plasticity fines; fine, subangular sand; trace rounded gravel; no odor	
					SPT=38, 50/3 PID=1.8 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); dense, wet, dark grey; medium plasticity fines; fine to medium, subangular sand; fine to medium subangular to subrounded gravel; no odor	20
20	420			MW-13-25	SPT=50/5.5 PID=1.7 Sheen=No sheen		becomes very dense, moist; gravel fine to coarse	20
					SPT=40, 50/3 PID=1.9 Sheen=No sheen		becomes slightly moist	25
25	415						Bottom of exploration at 25.5 ft. bgs.	25
30	410							30

**Legend**

- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)
- Grab sample

Water Level

- Static Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-13**

Sheet 1 of 1



### Aloha Cafe - 180357

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, 5 ft N of NE corner of dumpster enclosure

### Monitoring Well Log

Coordinates (Lat, Lon WGS84)

47.8209, -122.3257 (est)

Exploration Number

**MW-14**

Ecology Well Tag No. BMF 729

Contractor

Holt Services

Equipment

Mobile Drilling B-59

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

John

Exploration Method(s)

8.5" OD X 4.25" ID Hollow-Stem Auger

Work Start/Completion Dates

6/11/2019

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

13.25' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; road surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips			SPT=3, 10, 7 PID=0.8 Sheen=No sheen		FILL SAND WITH SILT AND GRAVEL (SW-SM); medium dense, slightly moist, dark brown; low plasticity fines; fine to coarse, subangular sand; fine to medium, subangular to subrounded gravel; no odor	
5	435				SPT=2, 2, 2 PID=2.5 Sheen=No sheen		charcoal fragments slow drilling, drill rig chatter	5
10	430	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand		MW-14-10.5	SPT=16, 30, 28 PID=2.9 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SP-SM); dense, moist, light brown; low plasticity fines; fine to medium, subangular sand; fine to medium, subrounded to subangular gravel; no odor	10
		▽ 6/11/2019 ▼ 6/20/2019		MW-14-12.5	SPT=18, 30, 28 PID=2.9 Sheen=No sheen		becomes wet	
15	425				SPT=50/4			15
				MW-14-17.5-D MW-14-17.5	SPT=50/5 PID=7.5 Sheen=No sheen		VASHON TILL SILTY SAND WITH GRAVEL (SM); very dense, wet, dark grey; medium plasticity fines; fine to medium, subangular sand; fine to coarse, subangular to subrounded gravel; no odor	
20	420				SPT=50/3 PID=7.3 Sheen=No sheen		becomes moist	20
				MW-14-22.5	SPT=41, 50/1 PID=5 Sheen=No sheen			
25	415			MW-14-25	SPT=50/4 PID=11.5 Sheen=No sheen		SILTY SAND (SM); very dense, wet, dark grey; medium plasticity fines; fine to medium, subangular sand; trace fine, subrounded gravel; no odor	25
				MW-14-27.5	SPT=50/3 PID=12.5 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); very dense, moist, dark grey; medium plasticity fines, fine to medium, subangular sand; fine to coarse, subangular to subrounded gravel; no odor	
30	410			MW-14-30	SPT=46, 50/6 PID=2.1 Sheen=No sheen		SILTY SAND (SM); very dense, wet, dark grey; medium plasticity fines; fine, subangular sand; trace subrounded gravel; no odor	30
							Bottom of exploration at 31 ft. bgs.	

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)
- ▨ Grab sample

Water Level

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-14**

Sheet 1 of 1



### Aloha Cafe - 180357

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, 5 ft SW of SW corner of building

### Monitoring Well Log

Coordinates (Lat, Lon WGS84)

47.8210, -122.3256 (est)

Exploration Number

**MW-15**

Ecology Well Tag No. BMF 730

Contractor

Holt Services

Equipment

Mobile Drilling B-59

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

John

Exploration Method(s)

8.5" OD X 4.25" ID Hollow-Stem Auger

Work Start/Completion Dates

6/12/2019

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

12.1' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; road surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips			SPT=9, 12, 7 PID=13.6 Sheen=No sheen		FILL SAND WITH SILT AND GRAVEL (SW-SM); medium dense, slightly moist, light brown; low plasticity fines; fine to coarse, subangular sand; fine to medium, subrounded gravel; no odor	
5	435				SPT=2, 2, 1 PID=60.8 Sheen=Slight		SANDY SILT (ML); soft, slightly moist, light grey; medium plasticity fines; fine, subangular sand; some wood and charcoal debris; very slight petroleum-like odor	5
				MW-15-7.5	SPT=17, 35, 50/6 PID=30.8 Sheen=Slight		SAND WITH SILT AND GRAVEL (SW-SM); very dense, slightly moist, light grey; low plasticity fines; fine to coarse, subangular sand; fine to medium, subrounded gravel; some oxide staining; very slight petroleum-like odor	
10	430	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand			SPT=8, 19, 16 PID=15000 Sheen=Moderate		VASHON TILL SILTY SAND WITH GRAVEL (SM); dense, moist, dark grey; medium plasticity fines; fine to medium, subangular sand; fine, subrounded gravel; moderate to strong petroleum-like odor	10
		6/20/2019		MW-15-10.5	SPT=11, 26, 50/5 PID=15000 Sheen=Moderate		fine to medium, subrounded gravel	
15	425				SPT=16, 50/6 PID=703.4 Sheen=Slight			15
		6/12/2019		MW-15-17.5	SPT=50/4 PID=1887 Sheen=Slight		becomes wet, fine to coarse gravel	
20	420				SPT=50/6 PID=455.6 Sheen=No sheen		SAND (SP); very dense, moist, dark grey; trace fines; medium, subangular sand; moderate petroleum-like odor	20
				MW-15-25	SPT=50/5 PID=2807 Sheen=Slight		SILTY SAND WITH GRAVEL (SM); very dense, moist, dark grey; medium plasticity fines; fine to medium, subangular sand; fine, subrounded gravel; moderate petroleum-like odor	
25	415				SPT=50/4 PID=52.5 Sheen=No sheen			25
				MW-15-25	SPT=50/5 PID=51.1		SAND WITH GRAVEL (SP); very dense, wet, dark grey; trace fines; medium, subangular sand; fine to medium, subrounded gravel; no odor	
30	410				SPT=45, 50/6 PID=14.3 Sheen=No sheen		GRAVEL WITH SAND (GW); very dense, wet, dark grey; trace fines; fine to coarse, subangular sand; fine to medium, subrounded gravel; no odor	30
				MW-15-25			SILTY SAND (SM); very dense, moist, dark grey; low plasticity fines; fine, subangular sand; no odor	
							Bottom of exploration at 31 ft. bgs.	

**Legend**

- No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)
- ▣ Grab sample

Water Level

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-15**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, 2nd lane of 196th St SW, 50 ft from 68th St

Coordinates (Lat, Lon WGS84)

47.8213, -122.3255 (est)

Exploration Number

**MW-16**

Ecology Well Tag No. BMF 732

Contractor

Holt Services

Equipment

Mobile Drilling B-59

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

John

Exploration Method(s)

8.5" OD X 4.25" ID Hollow-Stem Auger

Work Start/Completion Dates

6/14/2019

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

8.25' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; road surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips					<b>FILL</b> SAND WITH SILT AND GRAVEL (SP-SM); dense, moist, medium grey; low to medium plasticity fines; fine to medium, subangular sand; fine to medium, subrounded gravel; no odor	
5	435			MW-16-6.5	SPT=16, 18, 29 PID=0.8 Sheen=Slight			5
		▼ 6/19/2019		MW-16-7.5	SPT=7, 16, 19 PID=1.6 Sheen=Slight			
10	430	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand			SPT=6, 14, 21 PID=1.4 Sheen=No sheen		<b>VASHON TILL</b> SILTY SAND WITH GRAVEL (SM); dense, moist, dark grey; medium plasticity fines; fine to medium, subangular sand; fine to coarse, subrounded gravel; no odor	10
		▽ 6/14/2019		MW-16-12.5	SPT=5, 23, 50-5 PID=1.4 Sheen=No sheen		becomes wet	
15	425				SPT=28, 36, 49 PID=1.5 Sheen=No sheen			15
				MW-16-17.5	SPT=50/5 PID=1.4 Sheen=No sheen		SANDY SILT WITH GRAVEL (ML); hard, moist, light grey; low plasticity fines; fine, subangular sand; fine, subrounded gravel; no odor	
20	420				SPT=50/5 PID=2.0 Sheen=No sheen		+ medium gravel	20
				MW-16-25	SPT=50/1 PID=1.1 Sheen=No sheen			
25	415				SPT=50/6 PID=1.1 Sheen=No sheen			25
							Bottom of exploration at 25.5 ft. bgs.	
30	410							30

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)
- ▨ Grab sample

Water Level

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-16**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, 2nd lane of  
196th St SW, 20 ft from 68th St

Coordinates (Lat, Lon WGS84)

47.8213, -122.3254 (est)

Exploration Number

**MW-17**

Ecology Well Tag No.  
BMF 731

Contractor

Holt Services

Equipment

Mobile Drilling B-59

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

John

Exploration Method(s)

8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

6/14/2019

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

7.83' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; road surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips					<b>FILL</b> SAND WITH SILT AND GRAVEL (SP-SM); very dense, slightly moist, medium grey; low to medium plasticity fines; fine to medium, subangular sand; fine to medium, subrounded gravel; no odor	
5	435	6/14/2019 6/19/2019	Split Barrel 2" X 1.375" (SPT)	MW-17-6	SPT=15, 23, 30 PID=1.1 Sheen=No sheen			5
10	430	6/14/2019	Water Level ATD	MW-17-8.5	SPT=9, 11, 12 PID=0.7 Sheen=No sheen		<b>VASHON TILL</b> SILTY SAND WITH GRAVEL (SM); medium dense, moist, dark grey; medium plasticity fines; fine to medium, subangular sand; fine to medium, subrounded gravel; no odor	10
15	425	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand	Grab sample	MW-17-10	SPT=3, 10, 22 PID=1.1 Sheen=No sheen		becomes wet	15
20	420		Split Barrel 2" X 1.375" (SPT)	MW-17-20	SPT=4, 10, 14 PID=0.6 Sheen=No sheen		becomes very dense	20
25	415		Split Barrel 2" X 1.375" (SPT)	MW-17-25	SPT=50/4 PID=1.3 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SW-SM); very dense, wet, medium grey; medium plasticity fines; fine to coarse, subangular sand; fine to medium, subrounded gravel; no odor	25
			Split Barrel 2" X 1.375" (SPT)		SPT=50/5 PID=1.5 Sheen=No sheen		becomes light brown	
			Split Barrel 2" X 1.375" (SPT)		SPT=40, 50/2 PID=1.1 Sheen=No sheen		+ coarse gravel; becomes moist	
			Split Barrel 2" X 1.375" (SPT)		SPT=50/5 PID=1.1 Sheen=No sheen		Bottom of exploration at 25.5 ft. bgs.	
30	410							30

**Legend**

- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)
- Grab sample

Water Level

- Static Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-17**

Sheet 1 of 1



### Aloha Cafe - 180357

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, NE corner of  
O'Yeah Tasty Restaurant

### Monitoring Well Log

Coordinates (Lat, Lon WGS84)

47.8211, -122.3258 (est)

Exploration Number

## MW-18

Contractor

Holt Services

Equipment

CME 300

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

Kyle

Exploration Method(s)

8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

7/15/2019

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

12.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; Road surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips					<b>FILL</b> SAND WITH SILT AND GRAVEL (SW-SM); dense, slightly moist, orange brown; low to medium plasticity fines; fine to coarse, subangular sand; fine, subrounded to subangular gravel; no odor	
5	435			MW-18-6.5	SPT=3, 13, 27 PID=0.3 Sheen=No sheen			5
				MW-18-8	SPT=18, 32, 24 PID=1.1 Sheen=No sheen			
10	430	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand		MW-18-10	SPT=15, 24, 22 PID=0.1 Sheen=No sheen			10
		▽ 7/15/2019					<b>VASHON TILL</b> SILTY SAND WITH GRAVEL (SM); very dense, moist, medium grey; medium plasticity fines; fine to coarse, subangular sand; fine to coarse, subrounded to subangular gravel; no odor	
15	425			MW-18-15	SPT=16, 39, 38 PID=0.2 Sheen=No sheen			15
					SPT=29, 50/4 PID=0.2 Sheen=No sheen		SILT (MH); hard, moist, medium grey; medium plasticity fines; trace fine to medium sand; no odor	
					SPT=50/3 PID=1.5 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SW-SM); very dense, moist, medium grey; low to medium plasticity fines; fine to coarse, subangular sand; fine to medium, subangular to subrounded gravel; no odor	
20	420			MW-18-20 / FDUP-1	SPT=50/3 PID=0.2 Sheen=No sheen			20
					SPT=50/3 PID=0.2 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); very dense, moist, medium grey; medium plasticity fines; fine to medium, subangular sand; fine to medium, subangular to subrounded gravel; no odor	
					SPT=50/3 PID=0.8 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SW-SM); very dense, slightly moist, medium grey; low plasticity fines; fine to coarse, subangular sand; fine to medium, subrounded gravel; no odor	
25	415				SPT=50/4 PID=0.4 Sheen=No sheen		Bottom of exploration at 25.5 ft. bgs.	25
30	410							30

#### Legend

☐ No Soil Sample Recovery

▣ Split Barrel 2" X 1.375" (SPT)

▤ Grab sample

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU

Approved by: AY

**Exploration Log**  
**MW-18**

Sheet 1 of 1



# Aloha Cafe - 180357

# Monitoring Well Log

*Project Address & Site Specific Location*  
 6808 196th Street Southwest, Lynwood, Washington, 98036, 30' W of SW corner of NE building of Chri-Mar Apartments

*Coordinates (Lat, Lon WGS84)*

47.8208, -122.3257 (est)

*Exploration Number*

**MW-19**

*Contractor*

Holt Services

*Equipment*

Mobile Drilling B-59

*Sampling Method*

Autohammer; 140 lb hammer; 30" drop

*Ground Surface Elev. (NAVD88)*

440' (est)

*Operator*

Mitch

*Exploration Method(s)*

8.5" OD X 4.25" ID Hollow-Stem Auger

*Work Start/Completion Dates*

7/16/2019

*Top of Casing Elev. (NAVD88)*

NA

*Depth to Water (Below GS)*

10' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; road surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips			SPT=12, 20, 32 PID=0.1 Sheen=No sheen		<b>FILL</b> SAND WITH SILT AND GRAVEL (SP-SM); very dense, slightly moist, brown; fine, subangular sand; fine to coarse, subangular gravel; no odor	
5	435			MW-19-6.0	SPT=30, 50/5 PID=0.0 Sheen=No sheen		SAND WITH SILT (SP-SM); very dense, slightly moist, grey brown; fine, subangular sand; no odor	5
		0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand			SPT=22, 50/5 PID=0.0 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SP-SM); very dense, slightly moist, grey brown; fine, subangular sand; fine to coarse, subangular to subrounded gravel; no odor	
10	430	7/16/2019		MW-19-8.5	SPT=15, 36, 36 PID=0.0 Sheen=No sheen		<b>VASHON TILL</b> SILTY SAND (SM); very dense, moist, brown; fine, subangular sand; fine, subrounded gravel; no odor	10
15	425			MW-19-13.5	SPT=34, 50/6 PID=0.0 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SP-SM); very dense, slightly moist, grey brown; fine to medium, subangular sand; fine, subrounded gravel; no odor	15
20	420			MW-19-18.5	SPT=50/5 PID=0.0 Sheen=No sheen		SAND WITH SILT (SP-SM); very dense, slightly moist, grey brown; fine to medium, subangular sand; some fine, subrounded gravel; no odor	20
25	415			MW-19-23.5	SPT=50/4 PID=0.1 Sheen=No sheen			25
30	410						Bottom of exploration at 30 ft. bgs.	30

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\180357 ALOHA CAFE1.GPJ January 28, 2021

**Legend**

- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)
- Grab sample

Water Level

Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DRB  
 Approved by: AY

**Exploration Log**  
**MW-19**



### Aloha Cafe - 180357

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, NE corner of  
6808 parking lot, ~5' W of Aloha Cafe sign

### Monitoring Well Log

Coordinates (Lat, Lon WGS84)

47.8212, -122.3253 (est)

Exploration Number

**MW-20**

Ecology Well Tag No.  
BNF 485

Contractor

Holocene

Operator

Matt

Equipment

HSA Foremost B-58

Exploration Method(s)  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Work Start/Completion Dates

7/30/2020

Ground Surface Elev. (NAVD88)

440' (est)

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

8.06' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; paved parking lot surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips					FILL	
5	435			MW-20-5	SPT=4, 7, 17 PID=3.4 Sheen=No sheen		SILTY SAND (SM); medium dense, moist, dark brown; medium plasticity fines; fine to coarse subangular sand; no odor	5
		7/30/2020 7/31/2020		MW-20-8	SPT=12, 18, 24 PID=125.4 Sheen=No sheen		SAND WITH SILT (SP-SM); medium dense, moist, grey-brown; low plasticity fines; fine to coarse subangular sand; no odor	
10	430	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand		MW-20-13	SPT=10, 18, 17 PID=4.0 Sheen=No sheen		VASHON TILL SAND WITH SILT (SP-SM); dense, very moist, grey; low plasticity fines; fine to coarse subangular sand; petroleum-like odor	10
					SPT=7, 10, 13 PID=3.6 Sheen=No sheen		SAND WITH SILT (SP-SM); dense, wet, grey; low plasticity fines; fine to coarse subangular sand; petroleum-like odor	
15	425				SPT=10, 22, 42 PID=4.4 Sheen=No sheen		SAND (SP); dense, wet, grey; fine to medium subangular sand; petroleum-like odor	15
					SPT=22, 50/5 PID=6.7 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); dense, wet, grey; medium plasticity fines; fine to coarse subangular sand; fine to coarse, subangular to subrounded gravel; no odor	
20	420				SPT=50/5 PID=5.4 Sheen=No sheen		SAND WITH SILT (SP-SM); medium dense, wet, grey; low plasticity fines; fine to coarse subangular sand; medium to coarse, subangular to subrounded gravel	20
					SPT=50/4 PID=2.4 Sheen=No sheen		SILTY GRAVEL WITH SAND (GM); very dense, wet, grey; low plasticity fines, medium to coarse subangular sand; fine to coarse, subangular to subrounded gravel; no odor	
25	415				SPT=50/6 PID=2.8 Sheen=No sheen		SAND WITH SILT (SW-SM); very dense, wet, red brown; low plasticity fines; fine to coarse subangular sand; fine, subangular gravel; no odor	25
							SILTY SAND (SM); very dense, wet, grey; medium plasticity fines; fine to coarse subangular sand; fine, subangular trace gravel; no odor	
							Bottom of exploration at 25.5 ft. bgs.	

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)

Water Level

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-20**

Sheet 1 of 1





### Aloha Cafe - 180357

### Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, E of drive-thru window, E of building

Coordinates (Lat, Lon WGS84)

47.8211, -122.3253 (est)

Exploration Number

**MW-21**

Ecology Well Tag No.  
BNF 488

Contractor

Holocene

Equipment

HSA Foremost B-58

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

Matt

Exploration Method(s)

8.5" OD X 4.25" ID Hollow-Stem Auger

Work Start/Completion Dates

7/28/2020

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

9.05' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; paved parking lot surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips					<b>FILL</b> SAND WITH SILT (SP-SM); loose, slightly moist, light brown; low plasticity fines; fine to medium, subangular sand with some coarse, subangular sand; trace fine to medium, subrounded gravel; no odor	
5	435			MW-21-5	SPT=4, 6, 3 PID=4.9 Sheen=Slight sheen			5
					SPT=6, 3, 1 PID=5.5 Sheen=Very slight sheen		SANDY SILT (ML); soft, moist, dark red-brown; medium plasticity fines; fine to medium, subangular sand; trace fine, subrounded gravel; trace charcoal fragments; no odor	
					SPT=25, 37, 28			
10	430	▼ 7/31/2020 ▽ 7/28/2020		MW-21-10	SPT=10, 12, 18 PID=108.3 Sheen=Slight sheen		<b>VASHON TILL</b> SILTY SAND WITH GRAVEL (SM); medium dense, wet, grey; low to medium plasticity fines; fine to medium, subangular sand; fine to medium, subangular to subrounded gravel; slight petroleum-like odor	10
					SPT=10, 10, 12 PID=18.7 Sheen=No sheen		no odor	
15	425	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand		MW-21-17.5	SPT=15, 16, 14 PID=15.4 Sheen=No sheen		becomes very wet; trace coarse, subangular sand	15
					SPT=42, 50/6 PID=6.3 Sheen=No sheen		SANDY SILT (ML); hard, moist, grey; low to medium plasticity fines; fine, subangular sand; trace fine, subrounded gravel; no odor	
20	420				SPT=50/4 PID=5.7 Sheen=No sheen		SILTY SAND (SM); very dense, very moist, grey; low to medium plasticity fines; fine to medium, subangular sand with trace coarse, subangular sand; trace fine to medium, subrounded gravel; no odor	20
					SPT=50/3 PID=5.8 Sheen=No sheen		becomes moist	
25	415				SPT=50/5 PID=4.6 Sheen=No sheen		Bottom of exploration at 25.5 ft. bgs.	25

**Legend**

- No Soil Sample Recovery
- ◼ Split Barrel 2" X 1.375" (SPT)

Water Level

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-21**

Sheet 1 of 1



### Aloha Cafe - 180357

### Environmental Exploration Log

*Project Address & Site Specific Location*  
6808 196th Street Southwest, Lynwood, Washington, 98036, ~25' E of drive-thru window, 3' NW of MW-21

*Coordinates*

NA

*Exploration Number*

**MW-21A**

*Contractor*

Holocene

*Equipment*

HSA Foremost B-58

*Sampling Method*

Autohammer; 140 lb hammer; 30" drop

*Ground Surface Elev. (NAVD88)*

440' (est)

*Operator*

Matt

*Exploration Method(s)*

8.5" OD X 4.25" ID Hollow-Stem Auger

*Work Start/Completion Dates*

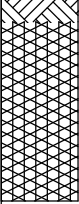
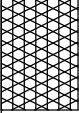
7/30/2020

*Top of Casing Elev. (NAVD88)*



NA

*Depth to Water (Below GS)*

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		 Surface restored with concrete  Boring backfilled with 3/8" hydrated bentonite chips					ASPHALT; paved parking lot surface  <b>FILL</b> SAND WITH SILT (SP-SM); loose, slightly moist, light brown; low plasticity fines; fine to medium, subangular sand; trace fine to medium, subangular to subrounded gravel; no odor	
5	435			MW-21A-2.5	SPT=4, 5, 3 PID=2.7 Sheen=Slight sheen		Bottom of exploration at 4 ft. bgs.	5
10	430							10
15	425							15
20	420							20
25	415							25

**Legend**

-  No Soil Sample Recovery
-  Split Barrel 2" X 1.375" (SPT)

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-21A**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, S of garage door of Aloha Cafe

Coordinates (Lat, Lon WGS84)

47.8210, -122.3255 (est)

Exploration Number

**MW-22**

Ecology Well Tag No.  
BNF 481

Contractor

Holocene

Equipment

HSA Foremost B-58

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

Matt

Exploration Method(s)

8.5" OD X 4.25" ID Hollow-Stem Auger

Work Start/Completion Dates

7/28/2020

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

10.78' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; paved parking lot surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips			SPT=10, 12, 4 PID=3.4 Sheen=No sheen		<b>FILL</b> SILTY SAND WITH GRAVEL (SM); medium dense, moist, grey brown; low plasticity fines; fine to medium, subangular sand; fine to medium, subrounded gravel; no odor	
5	435				SPT=2, 2, 2 PID=2.1 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SP-SM); loose, very moist, grey-brown; low to medium plasticity fines; fine to medium, subangular sand; fine, subangular to subrounded gravel; no odor	5
		7/28/2020			SPT=10, 26, 27 PID=4.7 Sheen=No sheen		<b>VASHON TILL</b> SILTY SAND (SM); very dense, very moist, grey-brown; low plasticity fines; fine to medium, subangular sand; trace fine to medium, subangular gravel; no odor	
10	430	7/31/2020			SPT=5, 4, 15 PID=6.7 Sheen=Very slight sheen		SILTY SAND (SM); dense, wet, grey; low to medium plasticity fines; fine to medium, subangular sand; trace fine, subrounded gravel; very slight petroleum-like odor	10
		0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand			SPT=11, 20, 21 PID=23.9 Sheen=No sheen		medium plasticity fines; no odor	
15	425			MW-22-16	SPT=12, 25, 50/4 PID=70.2 Sheen=Slight sheen		becomes moist	15
					SPT=33, 50/4 PID=25.1 Sheen=No sheen			
20	420				SPT=26, 50/5 PID=5.9 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); some coarse, subangular sand; low to medium plasticity fines; fine to medium, subangular sand; trace fine to coarse subrounded gravel; trace granite composition; no odor	20
					SPT=50/5 PID=4.4 Sheen=No sheen		some coarse, subangular sand becomes sandier	
25	415			MW-22-25	SPT=50/4 PID=1.8 Sheen=No sheen		Bottom of exploration at 25.5 ft. bgs.	25

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)

Water Level

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-22**



### Aloha Cafe - 180357

### Environmental Exploration Log

*Project Address & Site Specific Location*  
6808 196th Street Southwest, Lynwood, Washington, 98036, Co-located with MW-22, 2' W

*Coordinates*

NA

*Exploration Number*

**MW-22A**

*Contractor*

Holocene

*Equipment*

HSA Foremost B-58

*Sampling Method*

Autohammer; 140 lb hammer; 30" drop

*Ground Surface Elev. (NAVD88)*

440' (est)

*Operator*

Matt

*Exploration Method(s)*  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

*Work Start/Completion Dates*

7/30/2020

*Top of Casing Elev. (NAVD88)*

NA

*Depth to Water (Below GS)*

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Surface restored with concrete					ASPHALT; paved parking lot surface	
		Boring backfilled with 3/8" hydrated bentonite chips		MW-22A-2.5	SPT=11, 10, 11 PID=2.7 Sheen=Slight sheen		<b>FILL</b> SILTY SAND WITH GRAVEL (SM); medium dense, moist, grey brown; low plasticity fines, fine to medium, subangular sand; fine to medium, subangular to subrounded gravel; no odor	
5	435				SPT=12, 12, 7  Blows (non-SPT)=6, 6, 5		no recovery on on 5-6' sample, sample attempted 6-7' with ModCal sampler	5
10	430						Bottom of exploration at 7.5 ft. bgs.	10
15	425							15
20	420							20
25	415							25

**Legend**

- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-22A**

Sheet 1 of 1



### Aloha Cafe - 180357

### Environmental Exploration Log

*Project Address & Site Specific Location*  
6808 196th Street Southwest, Lynwood, Washington, 98036, Co-located with MW-22, 2' E

*Coordinates*

NA

*Exploration Number*

**MW-22B**

*Contractor*

Holocene

*Equipment*

HSA Foremost B-58

*Sampling Method*

Autohammer; 140 lb hammer; 30" drop

*Ground Surface Elev. (NAVD88)*

440' (est)

*Operator*

Matt

*Exploration Method(s)*

8.5" OD X 4.25" ID Hollow-Stem Auger

*Work Start/Completion Dates*

7/30/2020

*Top of Casing Elev. (NAVD88)*

NA

*Depth to Water (Below GS)*

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Surface restored with concrete					ASPHALT; paved parking lot surface	
		Boring backfilled with 3/8" hydrated bentonite chips					<b>FILL</b> SILTY SAND (SM); loose, moist, medium brown; low to medium plasticity fines; fine to medium, subangular sand; trace fine, subrounded gravel; no odor	
5	435			MW-22B-5	SPT=Pushed with tube; no blow count PID=4.0 Sheen=Very slight sheen		Bottom of exploration at 5.5 ft. bgs.	5
10	430							10
15	425							15
20	420							20
25	415							25

**Legend**

- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-22B**

Sheet 1 of 1



### Aloha Cafe - 180357

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, 20' N of dumpster enclosure

### Monitoring Well Log

Coordinates (Lat, Lon WGS84)

47.8210, -122.3257 (est)

Exploration Number

**MW-23**

Ecology Well Tag No.  
BNF 482

Contractor

Holocene

Equipment

HSA Foremost B-58

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

Matt

Exploration Method(s)  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

7/28/2020

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

12.35' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; paved parking lot surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips			SPT=12, 15, 11 PID=2.9 Sheen=No sheen		<b>FILL</b> SANDY SILT (ML); slightly moist, medium dense, grey brown; medium plasticity fines; fine, subangular sand; no odor	
5	435				SPT=2, 1, 0 PID=3.2 Sheen=Slight sheen		SAND WITH SILT AND GRAVEL (SP-SM); medium dense, slightly moist, grey brown; low plasticity fines; fine to medium, subangular sand; fine to medium, subrounded gravel; no odor	5
		0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand			SPT=24, 24, 37 PID=5.4 Sheen=Slight sheen		<b>VASHON TILL</b> SAND WITH SILT AND GRAVEL (SW-SM); very dense, moist, grey brown; low plasticity fines; fine to coarse, subangular sand; fine to medium, subrounded gravel; no odor	
10	430				SPT=12, 22, 14 PID=7.8 Sheen=Slight sheen		becomes dense and grey	10
		▼ 7/31/2020			SPT=23, 25, 50/5 PID=677.2 Sheen=Medium sheen		SILTY SAND WITH GRAVEL (SM); very dense, very moist, grey; medium plasticity fines; fine to medium, subangular sand; fine to medium, subangular to subrounded gravel; moderate petroleum-like odor	
15	425				SPT=18, 40, 50/5 PID=79.2 Sheen=Slight sheen		becomes wet; approximately 2 inch thick lens of sand with silt and gravel at 15.25 feet	15
		▽ 7/28/2020			SPT=36, 41, 50/4 PID=80.5 Sheen=Slight sheen		SANDY SILT WITH GRAVEL (ML); hard, wet, grey; medium plasticity fines; fine to medium, subangular sand; fine to medium, subrounded gravel; very slight petroleum-like odor	
20	420				SPT=50/5 PID=39.7 Sheen=Very slight sheen		SILTY SAND (SM); very dense, moist, grey; low to medium plasticity fines; fine to medium, subangular sand; trace fine to medium, subrounded gravel; no odor	20
					SPT=50/5 PID=5.7 Sheen=No sheen			
25	415				SPT=50/4 PID=5.1 Sheen=No sheen		3 in cobble stuck in sampler	25
							Bottom of exploration at 25.5 ft. bgs.	

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)

Water Level

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-23**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, S of Aloha Cafe, on planter. 1" N of Chri-Mar Apartments fence

Coordinates (Lat, Lon WGS84)

47.8209, -122.3256 (est)

Exploration Number

**MW-24**

Contractor

Holocene

Equipment

HSA Diedrich D-50 Turbo

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

RJ

Exploration Method(s)  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

7/29/2020

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

14.36' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					<b>FILL</b> SILTY SAND (SM); loose, slightly moist, dark brown; fines low plasticity; fine to coarse, subangular sand; trace fine gravel; contains wood fragments approximately 1-2 inches long; no odor	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips			SPT=5, 9, 8 PID=8.8 Sheen=Organic sheen			
5	435				SPT=4, 2, 4		3 in cobble in sampler	5
		7/29/2020			SPT=26, 29, 29 PID=1.6 Sheen=Slight sheen		SILTY SAND (SM); dense, moist, dark brown; low to medium plasticity fines; fine to coarse, subangular sand; trace fine, subangular to subrounded gravel; trace wood debris < 1 in.; no odor	
10	430				SPT=24, 24, 37 PID=1.4 Sheen=Slight sheen		<b>VASHON TILL</b> SILTY SAND WITH GRAVEL (SM); very dense, very moist, grey; low to medium plasticity fines; fine to coarse, subangular sand; fine to coarse, subangular to subrounded gravel; no odor becomes wet	10
		0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand			SPT=9, 17, 25 PID=2.1 Sheen=Slight sheen		SILTY SAND WITH GRAVEL (SM); very dense, wet, grey brown; medium plasticity fines; fine to coarse, subangular sand; fine to coarse, subangular to subrounded gravel; trace wood debris < 1 in.; no odor	
		7/31/2020			SPT=22, 34, 50/6 PID=1.6 Sheen=Very slight sheen		SILTY SAND WITH GRAVEL (SM); very dense, wet, grey; low to medium plasticity fines; fine to coarse, subangular sand; fine to coarse, subangular to subrounded gravel; no odor	15
15	425				SPT=50/6 PID=1.6 Sheen=Very slight sheen			
20	420				SPT=50/6 PID=1.9 Sheen=Very slight sheen			
					SPT=50/5 PID=0.4 Sheen=No sheen		SILTY SAND (SM); very dense, wet, grey; low to medium plasticity fines; fine to medium, subangular sand; trace fine to medium, subangular to subrounded gravel; no odor	
25	415				SPT=50/6 PID=1.9 Sheen=No sheen		SILT WITH SAND (ML); hard, wet, grey; medium plasticity fines; fine to coarse subangular sand; no odor	25
							Bottom of exploration at 25.5 ft. bgs.	

MW-24-10.5

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\180357 ALOHA CAFE\1.GPJ January 28, 2021

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)

Water Level

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-24**



### Aloha Cafe - 180357

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, NE corner of 6820 parking lot

### Monitoring Well Log

Coordinates (Lat, Lon WGS84)

47.8212, -122.3258 (est)

Exploration Number

**MW-25**

Ecology Well Tag No. BNF 484

Contractor

Holocene

Equipment

HSA Foremost B-58

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

Matt

Exploration Method(s)

8.5" OD X 4.25" ID Hollow-Stem Auger

Work Start/Completion Dates

7/30/2020

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

9.16' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; paved parking lot surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips			SPT=8, 15, 30 PID=1.8 Sheen=No sheen		<b>FILL</b> SAND WITH SILT AND GRAVEL (SP-SM); dense, slightly moist, light brown; low plasticity fines; fine to medium, subangular sand; fine to medium, subangular gravel; some asphalt and glass fragments; no odor	
5	435	7/30/2020		MW-25-8	SPT=18, 50/4 PID=2.0 Sheen=No sheen		<b>VASHON TILL</b> SILTY SAND (SM); dense, slightly moist, grey-brown; low to medium plasticity fines; fine to medium, subangular sand; trace fine, subrounded gravel; no odor	5
		7/31/2020			SPT=15, 28, 32 PID=1.9 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SP-SM); very dense, slightly moist, grey-brown; low plasticity fines; fine to medium, subangular sand; fine to coarse, subangular to subrounded gravel; no odor; poor recovery due to cobble in sampler	
10	430	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand			SPT=16, 23, 33 PID=2.0 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); very dense, very moist, grey; low to medium plasticity fines; fine to medium, subangular sand; trace coarse sand; fine to coarse, subangular to subrounded gravel; no odor; apparent water table	10
					SPT=28, 40, 50/5 PID=1.6 Sheen=No sheen		SILTY SAND (SM); very dense, very moist, grey; low to medium plasticity fines; fine to medium, subangular sand; trace fine, subrounded gravel; no odor	
15	425				SPT=20, 45, 50/3 PID=2.3 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); very dense, very moist, grey; low to medium plasticity fines; fine to medium, subangular sand; trace coarse sand; fine to medium, subangular to subrounded gravel; no odor	15
					SPT=50/4 PID=1.1 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SP-SM); very dense, very moist, grey; low plasticity fines; fine to medium, subangular sand with some coarse sand; fine to coarse, subangular to subrounded gravel; no odor	
20	420				SPT=50/3 PID=1.7 Sheen=No sheen		SAND WITH SILT AND GRAVEL (SW-SM); very dense, wet, grey; low plasticity sand; fine to coarse, subangular sand; fine to medium, subangular to subrounded gravel; no odor	20
					SPT=50/4 PID=1.0 Sheen=No sheen		SILTY SAND (SM); very dense, very moist, grey; medium plasticity fines; fine to medium subangular sand; trace fine subangular gravel; no odor	
25	415				SPT=50/4 PID=1.5 Sheen=No sheen		Bottom of exploration at 25.5 ft. bgs.	25

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-25**

Sheet 1 of 1





### Aloha Cafe - 180357

### Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynnwood, Washington, 98036, E of E edge  
of entryway overhang for Nielson Bros Carpets

Coordinates (Lat, Lon WGS84)

47.8210, -122.3260 (est)

Exploration Number

**MW-26**

Contractor

Holocene

Equipment

HSA Diedrich D-50 Turbo

Sampling Method

Autohammer; 140 lb hammer; 30" drop

Ground Surface Elev. (NAVD88)

440' (est)

Operator

RJ

Exploration Method(s)  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

7/29/2020

Top of Casing Elev. (NAVD88)

NA

Depth to Water (Below GS)

14.36' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; paved parking lot surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips			SPT=4, 9, 23 PID=0.7 Sheen=No sheen		<b>FILL</b> SAND WITH SILT (SP-SM); dense, moist, medium brown; low to medium plasticity fines; fine to medium, subangular sand with some coarse sand; fine, subrounded trace gravel; no odor	
5	435				SPT=26, 41, 50/6 PID=0.5 Sheen=No sheen		SILTY SAND (SM); dense, moist, grey-brown; low plasticity fines; fine to medium, subangular sand; fine, subrounded subtrace gravel; no odor	5
					SPT=33, 36, 44 PID=1.4 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); dense, moist, grey-brown; low plasticity fines; fine to medium, subangular sand with some coarse sand; fine to coarse, subangular to subrounded granite and pegmatite gravel; no odor	
10	430	0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand			SPT=26, 40 50/6 PID=1.4 Sheen=No sheen		<b>VASHON TILL</b> SILTY SAND (SM); very dense, very moist, grey; low plasticity fines; fine to medium, subangular sand with some coarse sand; fine to medium, subangular to subrounded gravel; no odor	10
		7/29/2020			SPT=50/6 PID=1.2 Sheen=No sheen		becomes wet	
		7/31/2020			SPT=37, 50/5 PID=1.0 Sheen=No sheen		SANDY SILT (ML); hard, wet, grey; medium plasticity fines; fine to medium, subtrace, subangular sand; fine, subrounded gravel; no odor	15
					SPT=50/1 PID=1.4 Sheen=No sheen		SILTY SAND (SM); very dense, wet, grey; low to medium plasticity fines; fine to medium, subangular sand; fine to medium, subrounded trace gravel; no odor; slow drilling, slight rig chatter	
20	420				SPT=50/3 PID=1.0 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); very dense, moist, grey; low plasticity fines; fine to medium, subangular sand; fine to coarse, subangular to subrounded gravel; no odor	20
					SPT=50/3 PID=1.1 Sheen=No sheen		SILTY SAND (SM); very dense, moist, grey; low plasticity fines; fine to medium, subangular sand; trace fine to coarse, subangular to subrounded gravel; no odor	
25	415				SPT=50/6 PID=1.3 Sheen=No sheen		SANDY SILT (ML); hard, moist, grey; low to medium plasticity fines; fine to medium, subangular sand; no odor	25
							Bottom of exploration at 25.5 ft. bgs.	

MW-26-12.5

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)

Water Level

- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log**  
**MW-26**

Sheet 1 of 1



### Aloha Cafe - 180357

### Monitoring Well Log

*Project Address & Site Specific Location*  
 6808 196th Street Southwest, Lynwood, Washington, 98036, S of Nielson Bros Carpets, behind building, W of storage shed

*Coordinates (Lat, Lon WGS84)*

47.8208, -122.3260 (est)

*Exploration Number*

**MW-27**

*Contractor*

Holocene

*Equipment*

HSA Diedrich D-50 Turbo

*Sampling Method*

Autohammer; 140 lb hammer; 30" drop

*Ground Surface Elev. (NAVD88)*

447' (est)

*Operator*

RJ

*Exploration Method(s)*  
 8.5" OD X 4.25" ID Hollow-Stem Auger

*Work Start/Completion Dates*

7/29/2020

*Top of Casing Elev. (NAVD88)*

NA

*Depth to Water (Below GS)*

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete					ASPHALT; paved parking lot surface	
		2" Schedule 40 PVC in 3/8" hydrated bentonite chips					<b>FILL</b> SILTY SAND (SM); loose, slightly moist, red-brown; low to medium plasticity fines; fine to coarse, subangular sand; trace fine to medium, subangular to subrounded gravel; no odor	
445					SPT=9, 8, 9 PID=1.7 Sheen=No sheen		SILTY SAND (SM); loose, slightly moist, grey-brown; low plasticity fines; fine to coarse, subangular sand; no odor	
5					SPT=12, 26, 38 PID=1.6 Sheen=Slight sheen		<b>VASHON TILL</b> SILTY SAND (SM); medium dense, moist, red-brown; low to medium plasticity fines; fine to coarse, subangular sand; no odor	5
440					SPT=11, 14, 26 PID=3.1 Sheen=No sheen		SILTY SAND (SM); dense, moist, grey; low plasticity fines, fine to medium, subangular sand; no odor	
10		7/29/2020			SPT=12, 23, 26 PID=2.4 Sheen=No sheen		SILTY SAND (SM); medium dense, moist, red-brown; medium plasticity fines, fine to medium, subangular sand; no odor becomes grey	10
435		0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand		MW-27-10.5	SPT=50/5 PID=1.9 Sheen=No sheen		SILTY SAND WITH GRAVEL (SM); dense, very moist, grey; low to medium plasticity fines; fine to coarse, subangular sand; fine to coarse, subangular to subrounded gravel; no odor	
15					SPT=38, 50/2 PID=0.6 Sheen=Very slight sheen		SILTY SAND WITH GRAVEL (SM); very dense, wet, grey-brown; low to medium plasticity fines; fine to coarse, subangular sand; fine to medium, subangular to subrounded gravel; no odor	15
430					SPT=50/6 PID=0.6 Sheen=No sheen		becomes very moist, grey	
20					SPT=50/2 PID=0.4 Sheen=No sheen		slow drilling, rig chatter from 20-21 feet	20
425					SPT=50/2 PID=0.7 Sheen=No sheen		1/2 in. layer of sand	
25					SPT=50/3 PID=1.1 Sheen=No sheen		becomes moist	25
420							Bottom of exploration at 25.25 ft. bgs.	

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\180357 ALOHA CAFE1.GPJ January 28, 2021

**Legend**

- ☐ No Soil Sample Recovery
- ▣ Split Barrel 2" X 1.375" (SPT)

Water Level

▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DWU  
 Approved by: AY

**Exploration Log**  
**MW-27**



### Aloha Cafe - 180357

### Monitoring Well Log

Project Address & Site Specific Location  
6808 196th Street Southwest, Lynwood, Washington, 98036, Back alley of 6820 building, 4' W of MW-27

Coordinates (Lat, Lon WGS84)  
, (est)

Exploration Number

**MW-28**

Contractor

Equipment

Sampling Method

Ground Surface Elev. (NAVD88)

Holocene

HSA Diedrich D-50 Turbo

Autohammer; 140 lb hammer; 30" drop

447' (est)

Ecology Well Tag No.  
BNF 464

Operator

Exploration Method(s)  
8.5" OD X 4.25" ID  
Hollow-Stem Auger

Work Start/Completion Dates

Top of Casing Elev. (NAVD88)

Depth to Water (Below GS)

RJ

8/14/2020

NA

No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
445		8" Flush mount, traffic-rated monument in concrete					ASPHALT; paved parking lot surface no samples; see MW-27 for lithology	5
440								10
435		2" Schedule 40 PVC in 3/8" hydrated bentonite chips						15
430							slow drilling; large cobble on boring, auger sticking and stalling	20
425				SPT=50/3 PID=1.9 Sheen=No sheen			<b>VASHON TILL</b> SAND WITH SILT (SW-SM); very dense, moist, grey-brown; low plasticity fines; fine to coarse, subangular sand; fine to medium, subrounded gravel; no odor	25
420				SPT=50/2 PID=1.7 Sheen=No sheen			SILTY SAND WITH GRAVEL (SM); very dense, very moist, grey-brown; low plasticity fines; fine to coarse, subangular sand; fine to medium, subangular to subrounded gravel; no odor	30
415		0.010" (10-slot) 2" schedule 40 PVC screen in 12-20 silica sand		SPT=50/2 PID=2.2 Sheen=No sheen			SAND WITH SILT AND GRAVEL (SP-SM); very dense, very moist, grey-brown; low plasticity fines; fine to medium, subangular sand; fine to coarse, subrounded gravel; no odor	35
410				SPT=50/5 PID=2.6 Sheen=No sheen			SILT (ML); hard, moist, grey-brown; low plasticity fines; trace fine to coarse, subrounded gravel; no odor	40
405				SPT=50/3 PID=2.0 Sheen=No sheen			SAND WITH SILT (SP-SM); very dense, very moist, grey-brown; low plasticity fines; fine to medium, subangular sand; fine to coarse, subrounded gravel; no odor	
				SPT=50/3 PID=3.8 Sheen=No sheen			SILTY SAND WITH GRAVEL (SM); very dense, very moist, grey-brown; low to medium plasticity fines; fine to medium, subangular trace fine to medium, subrounded gravel; no odor	
				SPT=50/6 PID=3.3 Sheen=No sheen			SILT (ML); hard, moist, grey-brown; low plasticity fines; no odor	
				SPT=50/5 PID=5.5 Sheen=No sheen			SAND WITH SILT (SP-SM); very dense, very moist, grey-brown; low plasticity fines; mostly medium, subangular sand; no odor Bottom of exploration at 40.5 ft. bgs.	

**Legend**

- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)

Water Level

No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DWU  
Approved by: AY

**Exploration Log MW-28**

Sheet 1 of 1

## **APPENDIX B**

### **Laboratory Analytical Reports**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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June 11, 2019

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710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on June 5, 2019 from the Aloha Cafe 180357, F&BI 906075 project. There are 10 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP0611R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 5, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Cafe 180357, F&BI 906075 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
906075 -01	GP-04-1
906075 -02	GP-04-2
906075 -03	AB-01-2
906075 -04	AB-01-5.5
906075 -05	AB-01-4
906075 -06	AB-01-11

The 8260C matrix spike and matrix spike duplicate failed the relative percent difference for dichlorodifluoromethane and cis-1,3-dichloropropene. The analytes were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/11/19

Date Received: 06/05/19

Project: Aloha Cafe 180357, F&BI 906075

Date Extracted: 06/06/19

Date Analyzed: 06/06/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
GP-04-2 906075-02	<5	108
Method Blank 09-1285 MB	<5	101

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/11/19

Date Received: 06/05/19

Project: Aloha Cafe 180357, F&BI 906075

Date Extracted: 06/07/19

Date Analyzed: 06/07/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
GP-04-2 906075-02	<50	<250	115
Method Blank 09-1347 MB	<50	<250	100



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: GP-04-2	Client: Aspect Consulting, LLC
Date Received: 06/05/19	Project: Aloha Cafe 180357, F&BI 906075
Date Extracted: 06/06/19	Lab ID: 906075-02
Date Analyzed: 06/06/19	Data File: 060612.D
Matrix: Soil	Instrument: GCMS4
Units: mg/kg (ppm) Dry Weight	Operator: MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	97	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 906075
Date Extracted:	06/06/19	Lab ID:	09-1316 mb
Date Analyzed:	06/06/19	Data File:	060608.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	145
Toluene-d8	94	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/11/19

Date Received: 06/05/19

Project: Aloha Cafe 180357, F&BI 906075

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-Gx**

Laboratory Code: 906063-03 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	280	160	56 hr

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	120	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/11/19

Date Received: 06/05/19

Project: Aloha Cafe 180357, F&BI 906075

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 906120-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	190	92	92	64-133	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	90	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/11/19

Date Received: 06/05/19

Project: Aloha Cafe 180357, F&BI 906075

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 905585-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	20	16	10-142	22 vo
Chloromethane	mg/kg (ppm)	2.5	<0.5	42	36	10-126	15
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	42	39	10-138	7
Bromomethane	mg/kg (ppm)	2.5	<0.5	48	46	10-163	4
Chloroethane	mg/kg (ppm)	2.5	<0.5	49	47	10-176	4
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	43	41	10-176	5
Acetone	mg/kg (ppm)	12.5	<0.5	124	119	10-163	4
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	69	69	10-160	0
Hexane	mg/kg (ppm)	2.5	<0.25	36	34	10-137	6
Methylene chloride	mg/kg (ppm)	2.5	<0.5	66	66	10-156	0
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	69	69	21-145	0
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	68	67	14-137	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	70	69	19-140	1
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	68	71	10-158	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	73	71	25-135	3
Chloroform	mg/kg (ppm)	2.5	<0.05	71	70	21-145	1
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	97	95	19-147	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	68	68	12-160	0
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	70	70	10-156	0
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	68	67	17-140	1
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	67	66	9-164	2
Benzene	mg/kg (ppm)	2.5	<0.03	69	68	29-129	1
Trichloroethene	mg/kg (ppm)	2.5	<0.03	67	66	21-139	2
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	71	70	30-135	1
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	87	79	23-155	10
Dibromomethane	mg/kg (ppm)	2.5	<0.05	74	72	23-145	3
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	85	84	24-155	1
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	74	75	28-144	1
Toluene	mg/kg (ppm)	2.5	<0.05	119	79	35-130	40 vo
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	78	78	26-149	0
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	91	80	10-205	13
2-Hexanone	mg/kg (ppm)	12.5	<0.5	90	87	15-166	3
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	73	74	31-137	1
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	68	65	20-133	5
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	78	78	28-150	0
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	74	74	28-142	0
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	69	69	32-129	0
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	88	74	32-137	17
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	79	76	31-143	4
m,p-Xylene	mg/kg (ppm)	5	<0.1	69	67	34-136	3
o-Xylene	mg/kg (ppm)	2.5	<0.05	70	68	33-134	3
Styrene	mg/kg (ppm)	2.5	<0.05	76	75	35-137	1
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	72	69	31-142	4
Bromoform	mg/kg (ppm)	2.5	<0.05	82	83	21-156	1
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	67	66	23-146	2
Bromobenzene	mg/kg (ppm)	2.5	<0.05	71	72	34-130	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	66	66	18-149	0
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	81	82	28-140	1
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	74	76	25-144	3
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	71	71	31-134	0
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	70	70	31-136	0
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	69	66	30-137	4
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	66	66	10-182	0
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	66	64	23-145	3
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	64	63	21-149	2
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	68	69	30-131	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	67	68	29-129	1
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	70	70	31-132	0
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	74	74	11-161	0
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	63	63	22-142	0
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	59	55	10-142	7
Naphthalene	mg/kg (ppm)	2.5	<0.05	64	65	14-157	2
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	60	60	20-144	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/11/19

Date Received: 06/05/19

Project: Aloha Cafe 180357, F&BI 906075

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	46	10-146
Chloromethane	mg/kg (ppm)	2.5	65	27-133
Vinyl chloride	mg/kg (ppm)	2.5	75	22-139
Bromomethane	mg/kg (ppm)	2.5	67	38-114
Chloroethane	mg/kg (ppm)	2.5	79	9-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	76	10-196
Acetone	mg/kg (ppm)	12.5	140	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	103	47-128
Hexane	mg/kg (ppm)	2.5	78	43-142
Methylene chloride	mg/kg (ppm)	2.5	81	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	89	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	94	67-129
1,1-Dichloroethane	mg/kg (ppm)	2.5	94	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	98	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	92	72-127
Chloroform	mg/kg (ppm)	2.5	90	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	110	72-127
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	85	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	96	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	93	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	97	60-139
Benzene	mg/kg (ppm)	2.5	90	68-114
Trichloroethene	mg/kg (ppm)	2.5	87	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	89	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	95	72-130
Dibromomethane	mg/kg (ppm)	2.5	90	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	97	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	93	75-136
Toluene	mg/kg (ppm)	2.5	90	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	96	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	93	75-113
2-Hexanone	mg/kg (ppm)	12.5	98	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	90	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	95	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	99	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	92	74-132
Chlorobenzene	mg/kg (ppm)	2.5	87	76-111
Ethylbenzene	mg/kg (ppm)	2.5	91	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	100	69-135
m,p-Xylene	mg/kg (ppm)	5	92	78-122
o-Xylene	mg/kg (ppm)	2.5	92	77-124
Styrene	mg/kg (ppm)	2.5	95	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	97	76-127
Bromoform	mg/kg (ppm)	2.5	106	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	94	74-124
Bromobenzene	mg/kg (ppm)	2.5	91	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	96	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	94	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	92	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	95	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	93	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	97	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	95	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	95	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	96	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	93	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	89	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	93	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	99	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	96	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	97	50-153
Naphthalene	mg/kg (ppm)	2.5	92	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	91	63-138

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

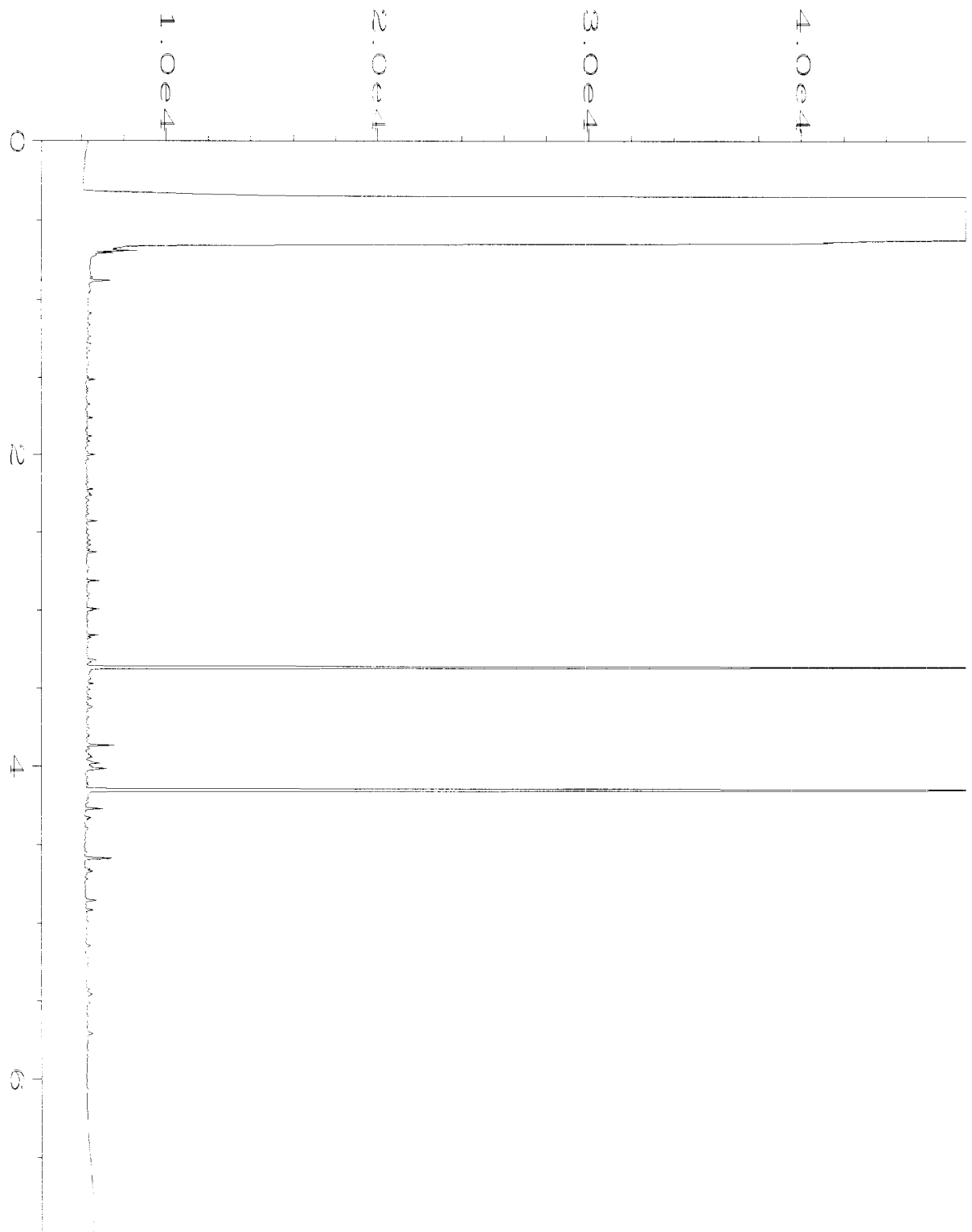
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

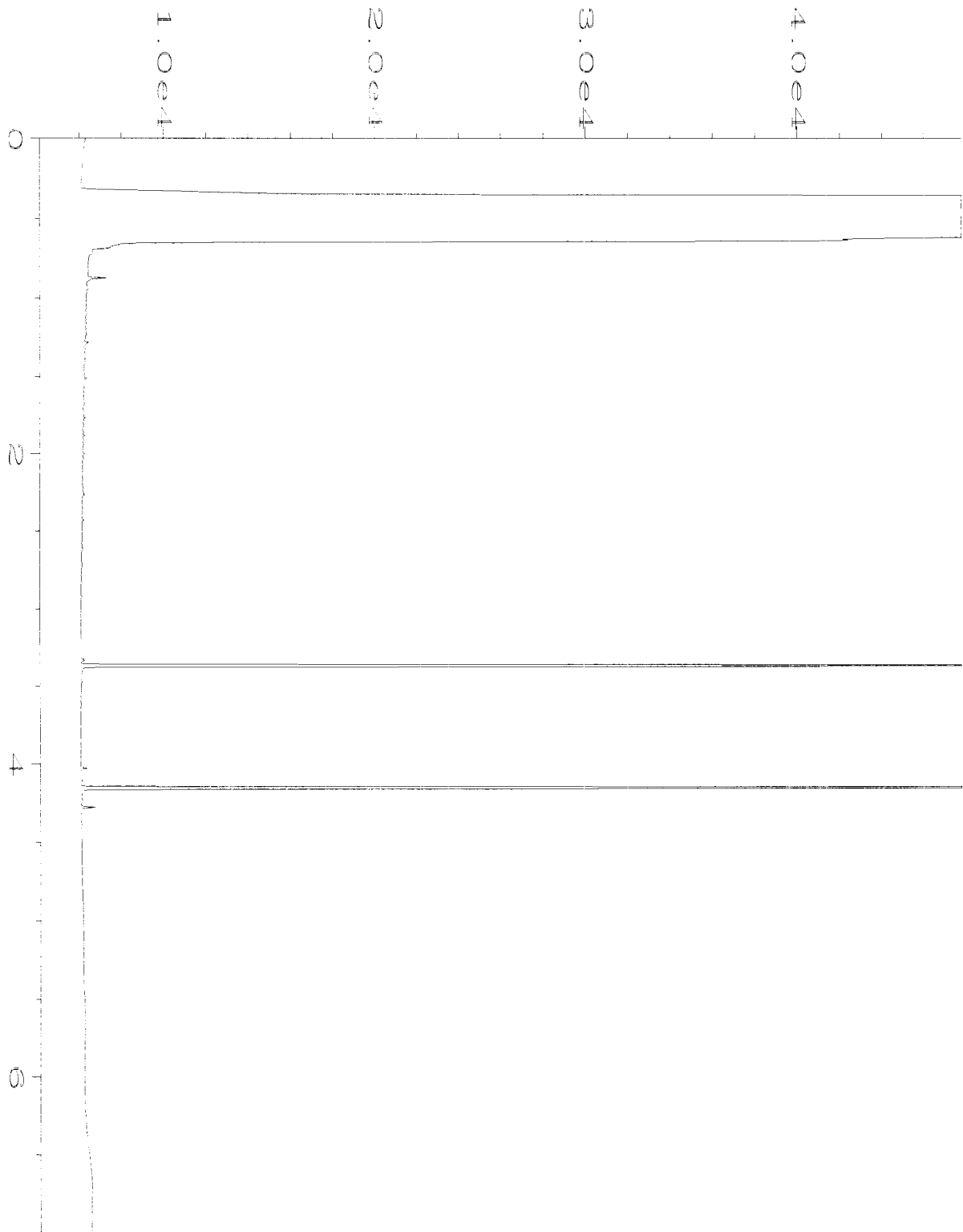
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

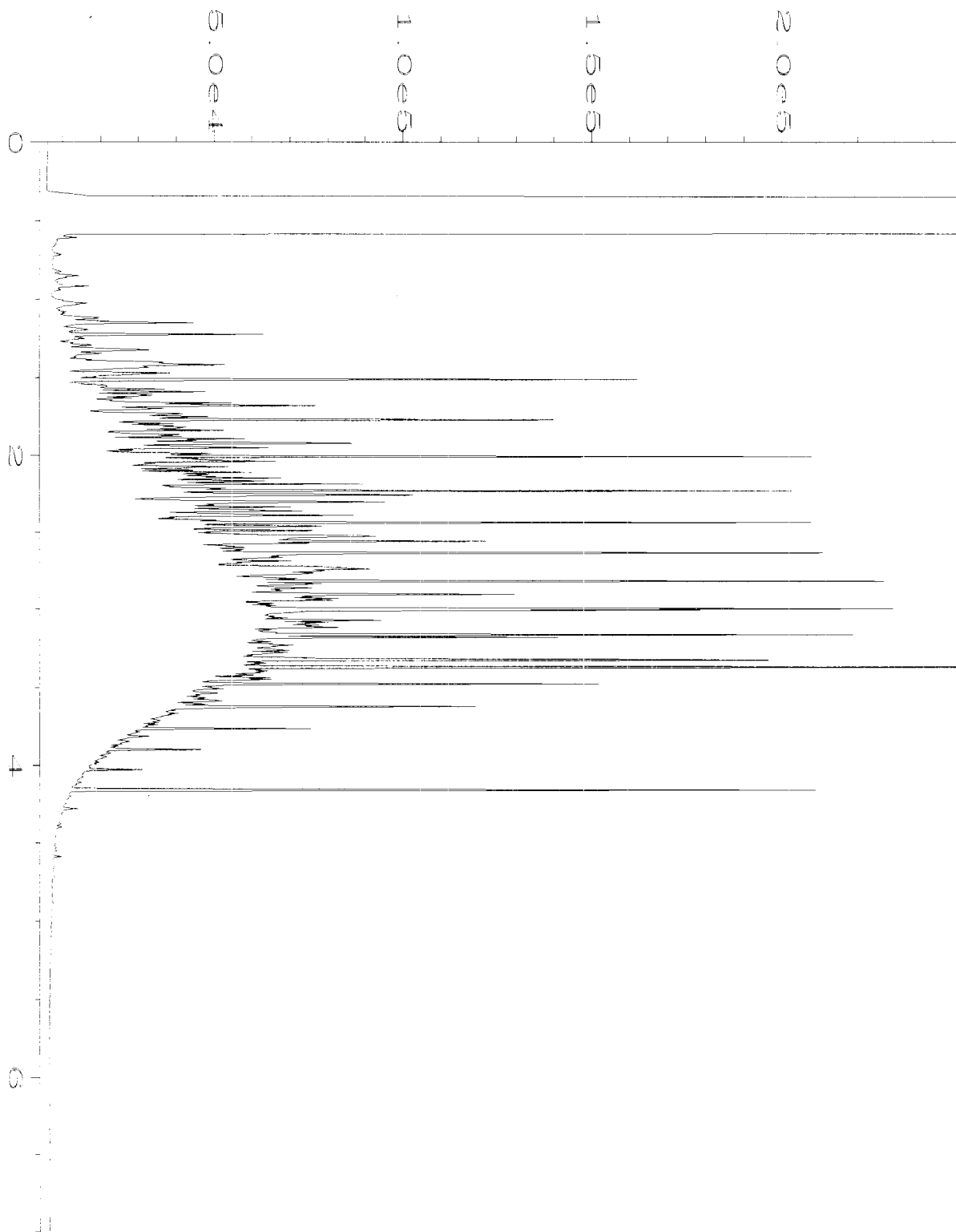


Data File Name	: C:\HPCHEM\6\DATA\06-07-19\054F0901.D	Page Number	: 1
Operator	: TL	Vial Number	: 54
Instrument	: GC6	Injection Number	: 1
Sample Name	: 906075-02	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 07 Jun 19 08:38 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	10 Jun 19 08:35 AM		





Data File Name	: C:\HPCHEM\6\DATA\06-07-19\050F0901.D	Page Number	: 1
Operator	: TL	Vial Number	: 50
Instrument	: GC6	Injection Number	: 1
Sample Name	: 09-1346 mb	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 07 Jun 19 07:54 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	10 Jun 19 08:33 AM		



Data File Name	: C:\HPCHEM\6\DATA\06-07-19\005F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC6	Injection Number	: 1
Sample Name	: 1000 Dx 57-78B	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 07 Jun 19 02:39 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	10 Jun 19 08:33 AM		

906075

SAMPLE CHAIN OF CUSTODY

ME 06-05-19

Page #

AD1 of 1/101

Report To Andrew Yorkbaskin  
 Company Aspect Consulting  
 Address 710 2nd Ave Ste 550  
 City, State, ZIP Seattle WA, 98104  
 Phone (206) 413-5411 Email Andrew@aspectconsulting.com

SAMPLERS (signature) <u>David Unruh</u>	
PROJECT NAME	PO #
<u>Alba Lake</u>	<u>180357</u>
REMARKS	INVOICE TO
	<u>AP?</u>

TURNAROUND TIME  
 Standard Turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other \_\_\_\_\_

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Notes
LP-04-1	Q1A.E	6/5/19	1234	soil	5		X	X	X			X	Hold Pending
LP-04-2	02 T		1230				X	X				X	
AP-01-2	03		1303										
AP-01-55	04		1313										
AP-01-9	05		1316										
AP-01-11	06		1328										

Do not receive at samples

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>David Unruh</u>	<u>Aspect Consulting</u>	<u>6/5/19</u>	<u>1518</u>
<u>[Signature]</u>	<u>Lisa Radford</u>	<u>FBI</u>	<u>6/5/19</u>	<u>1518</u>
Received by:		Samples received at	<u>3</u>	<u>°C</u>

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

June 21, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on June 11, 2019 from the Aloha Cafe 180357, F&BI 906200 project. There are 23 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP0621R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 11, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Cafe 180357, F&BI 906200 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
906200 -01	MW-11-1
906200 -02	MW-11-6
906200 -03	MW-11-13
906200 -04	MW-11-18
906200 -05	MW-11-25
906200 -06	B-05-3
906200 -07	B-05-6
906200 -08	B-05-10.5
906200 -09	B-05-16
906200 -10	B-05-25
906200 -11	MW-12-3
906200 -12	MW-12-8
906200 -13	MW-12-11.5
906200 -14	MW-12-15
906200 -15	MW-12-25
906200 -16	B-06-6
906200 -17	B-06-8.5
906200 -18	B-06-10
906200 -19	B-06-13
906200 -20	B-06-25
906200 -21	MW-13-6
906200 -22	MW-13-11
906200 -23	MW-13-12.5
906200 -24	MW-13-18
906200 -25	MW-13-25
906200 -26	MW-14-10.5
906200 -27	MW-14-12.5
906200 -28	MW-14-17.5
906200 -29	MW-14-17.5-D
906200 -30	MW-14-22.5
906200 -31	MW-14-25
906200 -32	MW-14-27.5
906200 -33	MW-14-30

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

An 8260C internal standard failed the acceptance criteria for the direct sparge analysis of samples MW-11-1 and MW-11-6. The samples were diluted by methanolic extraction and reanalyzed with acceptable results. Both data sets were reported.

CASE NARRATIVE (continued)

Several compounds in the 8260C direct sparge laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19  
 Date Received: 06/11/19  
 Project: Aloha Cafe 180357, F&BI 906200  
 Date Extracted: 06/13/19  
 Date Analyzed: 06/13/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
 FOR BENZENE, TOLUENE, ETHYLBENZENE,  
 XYLENES AND TPH AS GASOLINE  
 USING METHODS 8021B AND NWTPH-Gx**  
 Results Reported on a Dry Weight Basis  
 Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
MW-11-1 906200-01 1/10	<0.2	0.99	2.0	11	280	102
MW-11-6 906200-02 1/20	0.63	4.1	38	140	2,600	115
MW-11-13 906200-03	<0.02	0.031	0.025	0.12	<5	99
B-05-16 906200-09	<0.02	<0.02	<0.02	<0.06	<5	98
MW-12-15 906200-14	<0.02	<0.02	<0.02	<0.06	<5	100
B-06-13 906200-19	<0.02	<0.02	<0.02	<0.06	<5	100
MW-13-12.5 906200-23	<0.02	<0.02	<0.02	<0.06	<5	99
MW-14-12.5 906200-27	<0.02	<0.02	<0.02	<0.06	<5	99
Method Blank 09-1298 MB	<0.02	<0.02	<0.02	<0.06	<5	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/11/19

Project: Aloha Cafe 180357, F&BI 906200

Date Extracted: 06/13/19

Date Analyzed: 06/13/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 56-165)
MW-11-6 906200-02	240 x	<250	93
B-05-16 906200-09	<50	<250	92
MW-12-15 906200-14	<50	<250	91
B-06-13 906200-19	<50	<250	91
MW-13-12.5 906200-23	<50	<250	92
MW-14-12.5 906200-27	<50	<250	91
Method Blank 09-1385 MB	<50	<250	95



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-11-6	Client:	Aspect Consulting, LLC
Date Received:	06/11/19	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/13/19	Lab ID:	906200-02
Date Analyzed:	06/13/19	Data File:	906200-02.056
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Lead	8.76
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/13/19	Lab ID:	I9-365 mb
Date Analyzed:	06/13/19	Data File:	I9-365 mb.070
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	MW-11-1	Client:	Aspect Consulting, LLC
Date Received:	06/11/19	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/13/19	Lab ID:	906200-01
Date Analyzed:	06/14/19	Data File:	061426.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	255 ip	50	150
4-Bromofluorobenzene	148 J	50	150

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.005
1,2-Dibromoethane (EDB)	<0.005
1,2-Dichloroethane (EDC)	<0.005
Naphthalene	0.31 ve J jl

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Direct Sparge

Client Sample ID:	MW-11-6	Client:	Aspect Consulting, LLC
Date Received:	06/11/19	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/14/19	Lab ID:	906200-02
Date Analyzed:	06/14/19	Data File:	061427.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	118	50	150
Toluene-d8	741 ip	50	150
4-Bromofluorobenzene	428 ip	50	150

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.005 J
1,2-Dibromoethane (EDB)	<0.005 J
1,2-Dichloroethane (EDC)	<0.005 J
Naphthalene	0.36 ve J jl

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Direct Sparge

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/14/19	Lab ID:	09-1332 mb
Date Analyzed:	06/14/19	Data File:	061408.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.005
1,2-Dibromoethane (EDB)	<0.005
1,2-Dichloroethane (EDC)	<0.005
Naphthalene	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-1	Client:	Aspect Consulting, LLC
Date Received:	06/11/19	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/13/19	Lab ID:	906200-01
Date Analyzed:	06/18/19	Data File:	061813.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	98	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	1.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-6	Client:	Aspect Consulting, LLC
Date Received:	06/11/19	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/13/19	Lab ID:	906200-02
Date Analyzed:	06/18/19	Data File:	061814.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	107	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	7.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12-15	Client:	Aspect Consulting, LLC
Date Received:	06/11/19	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/12/19	Lab ID:	906200-14
Date Analyzed:	06/12/19	Data File:	061219.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	93	107
Toluene-d8	100	87	110
4-Bromofluorobenzene	99	85	112

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13-12.5	Client:	Aspect Consulting, LLC
Date Received:	06/11/19	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/12/19	Lab ID:	906200-23
Date Analyzed:	06/12/19	Data File:	061220.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	93	107
Toluene-d8	100	87	110
4-Bromofluorobenzene	99	85	112

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-12.5	Client:	Aspect Consulting, LLC
Date Received:	06/11/19	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/12/19	Lab ID:	906200-27
Date Analyzed:	06/12/19	Data File:	061221.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	93	107
Toluene-d8	100	87	110
4-Bromofluorobenzene	98	85	112

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/18/19	Lab ID:	09-1431 mb
Date Analyzed:	06/18/19	Data File:	061808.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	99	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 906200
Date Extracted:	06/12/19	Lab ID:	09-1327 mb
Date Analyzed:	06/12/19	Data File:	061211.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	93	107
Toluene-d8	98	87	110
4-Bromofluorobenzene	99	85	112

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/11/19

Project: Aloha Cafe 180357, F&BI 906200

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 906200-09 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	89	69-120
Toluene	mg/kg (ppm)	0.5	91	70-117
Ethylbenzene	mg/kg (ppm)	0.5	94	65-123
Xylenes	mg/kg (ppm)	1.5	95	66-120
Gasoline	mg/kg (ppm)	20	85	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/11/19

Project: Aloha Cafe 180357, F&BI 906200

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 906228-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	86	100	63-146	15

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	88	79-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/11/19

Project: Aloha Cafe 180357, F&BI 906200

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 906200-02 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	8.10	93	89	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	101	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/11/19

Project: Aloha Cafe 180357, F&BI 906200

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260D DIRECT SPARGE**

Laboratory Code: 906232-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	<0.005	<0.005	nm
1,2-Dichloroethane (EDC)	mg/kg (ppm)	<0.005	<0.005	nm
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.005	<0.005	nm
Naphthalene	mg/kg (ppm)	<0.005	<0.005	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	0.05	85	80	49-148	6
1,2-Dichloroethane (EDC)	mg/kg (ppm)	0.05	86	84	69-137	2
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	99	98	70-130	1
Naphthalene	mg/kg (ppm)	0.05	136 vo	99	70-130	31



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/11/19

Project: Aloha Cafe 180357, F&BI 906200

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 906094-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	41	38	10-91	8
Chloroethane	mg/kg (ppm)	2.5	<0.5	53	50	10-101	6
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	57	56	22-107	2
Methylene chloride	mg/kg (ppm)	2.5	<0.5	66	61	14-128	8
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	66	65	13-112	2
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	72	69	23-115	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	73	71	25-120	3
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	72	72	22-124	0
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	70	65	27-112	7
Trichloroethene	mg/kg (ppm)	2.5	<0.02	68	67	30-112	1
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	68	68	25-114	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	88	42-107
Chloroethane	mg/kg (ppm)	2.5	95	47-115
1,1-Dichloroethene	mg/kg (ppm)	2.5	99	65-110
Methylene chloride	mg/kg (ppm)	2.5	97	50-127
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	98	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	101	74-109
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	101	73-110
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	97	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	104	72-116
Trichloroethene	mg/kg (ppm)	2.5	94	72-107
Tetrachloroethene	mg/kg (ppm)	2.5	97	73-111

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/11/19

Project: Aloha Cafe 180357, F&BI 906200

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 906312-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	95	21-145
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	88	12-160
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	87	28-142
Naphthalene	mg/kg (ppm)	2.5	<0.05	91	14-157

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	104	106	60-123	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	97	99	56-135	2
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	95	98	74-132	3
Naphthalene	mg/kg (ppm)	2.5	104	106	63-140	2

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

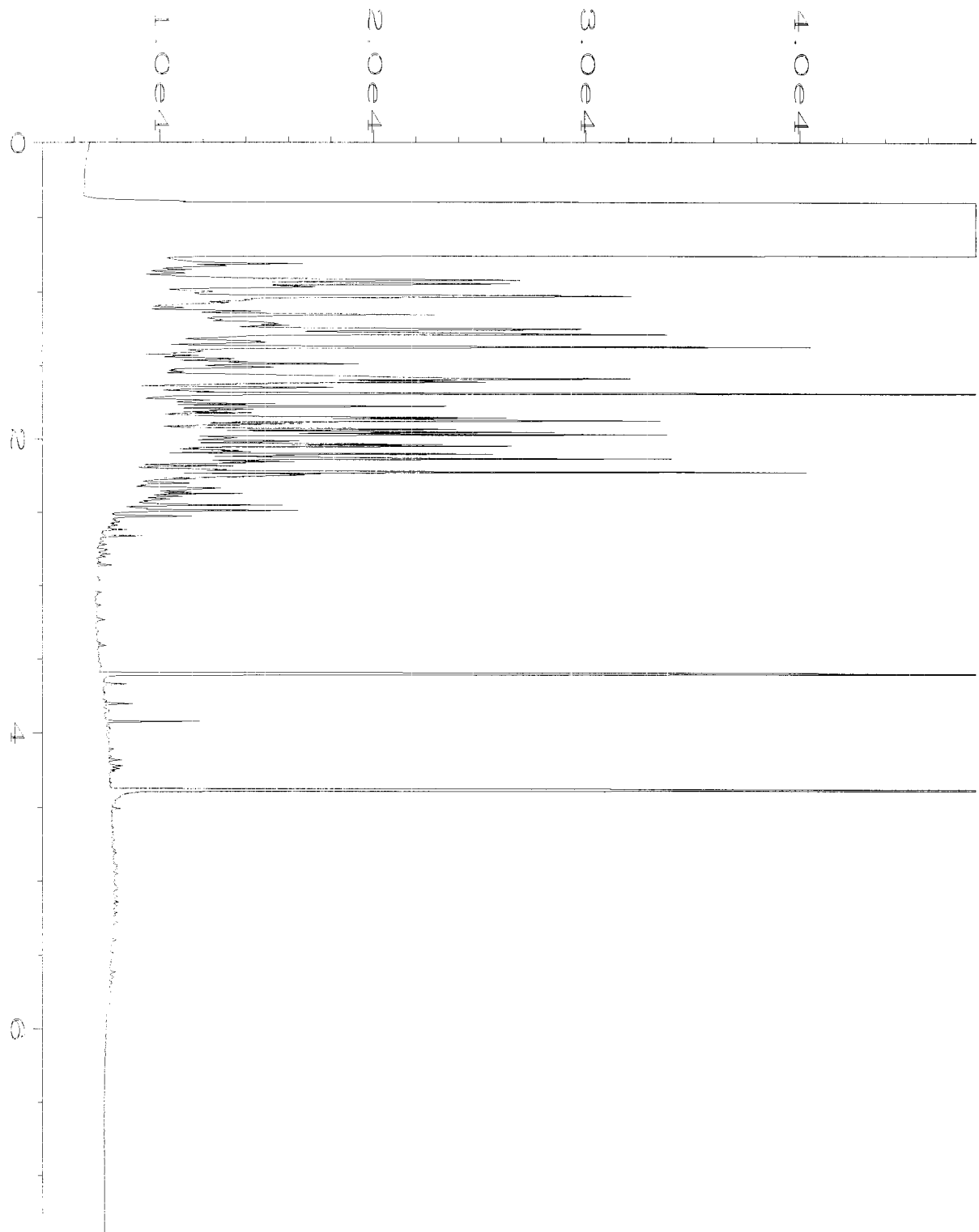
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

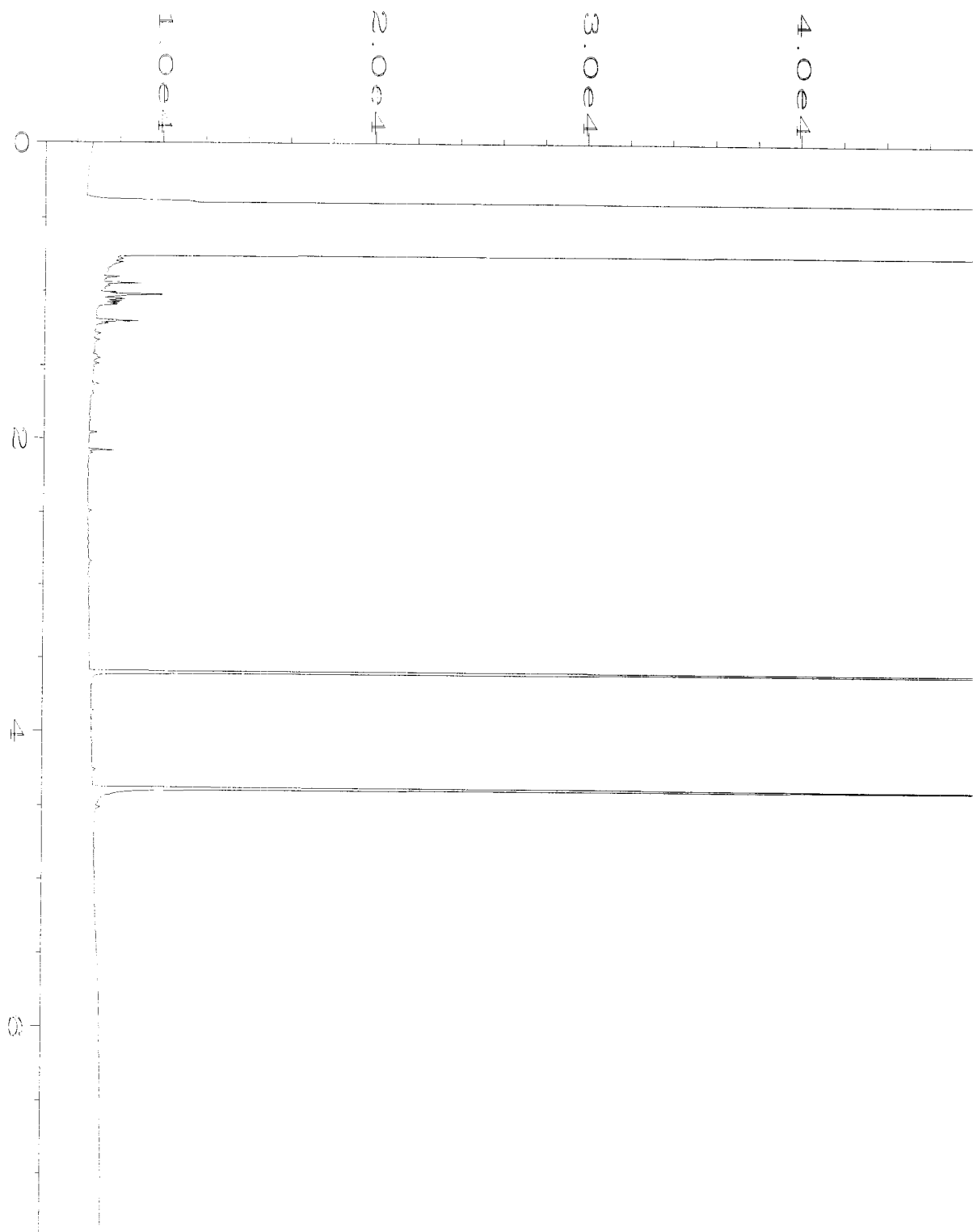
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

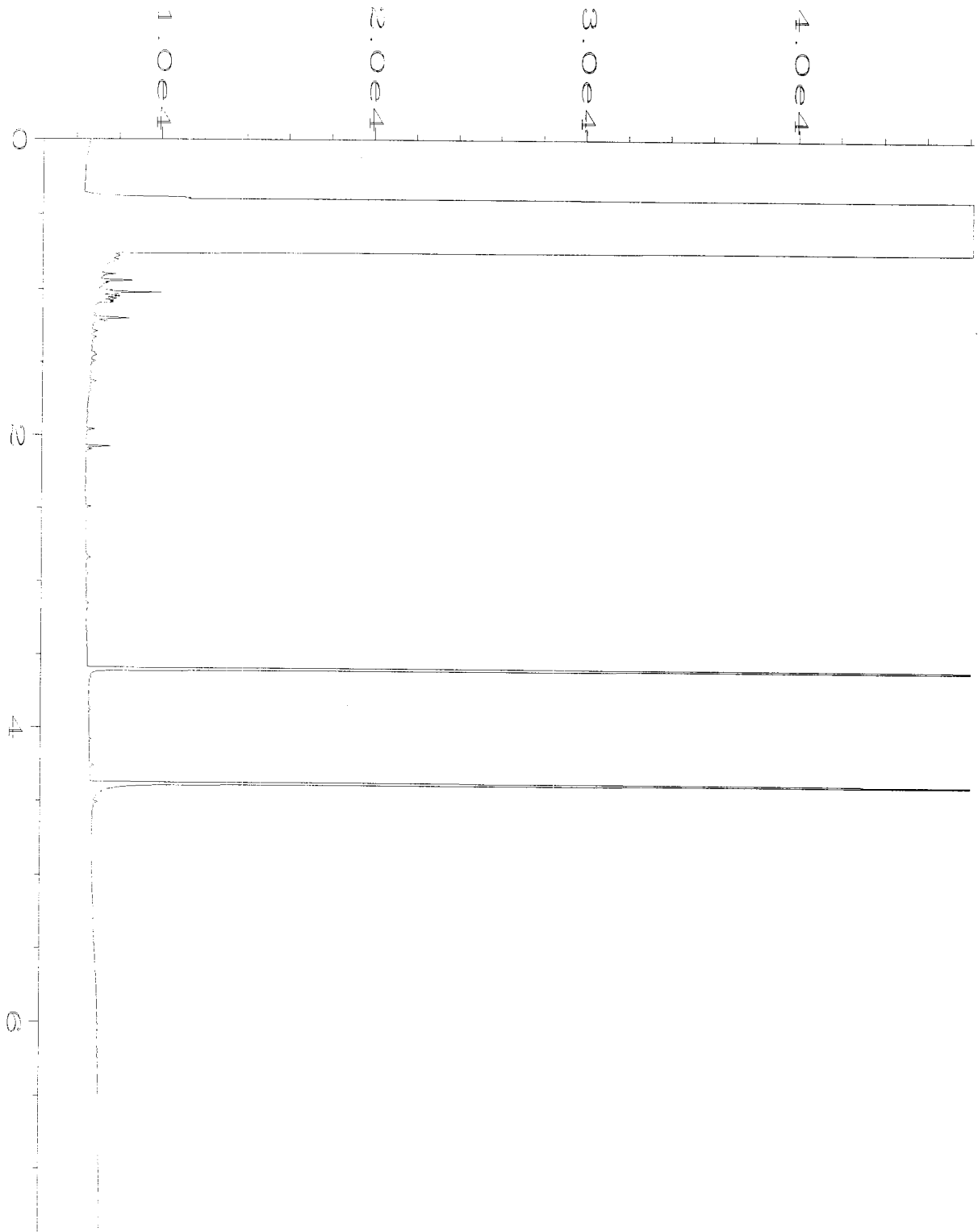
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



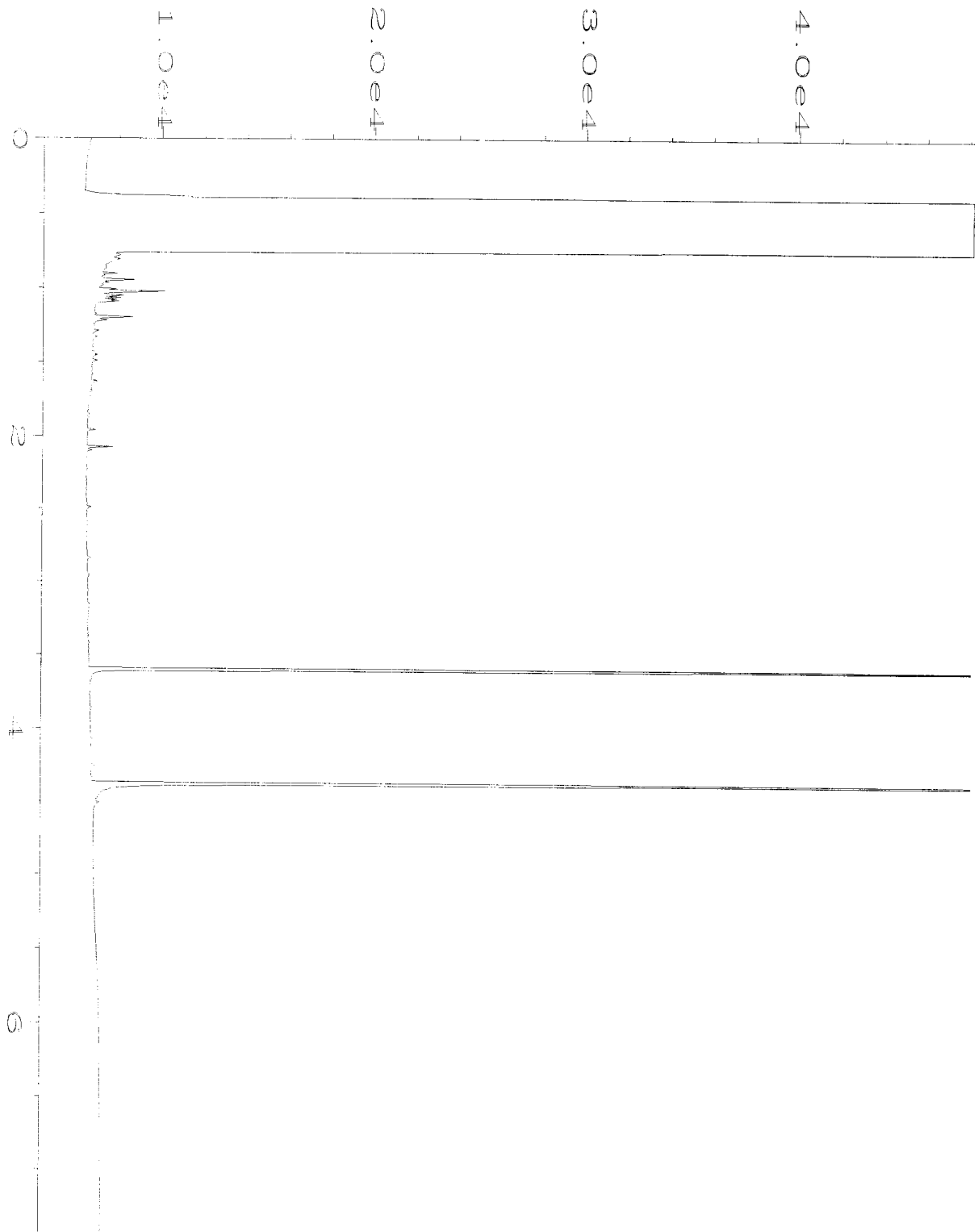
Data File Name	: C:\HPCHEM\1\DATA\06-13-19\024F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 24
Instrument	: GC1	Injection Number	: 1
Sample Name	: 906200-02	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 02:10 PM	Analysis Method	: DX.MTH
Report Created on:	14 Jun 19 08:20 AM		



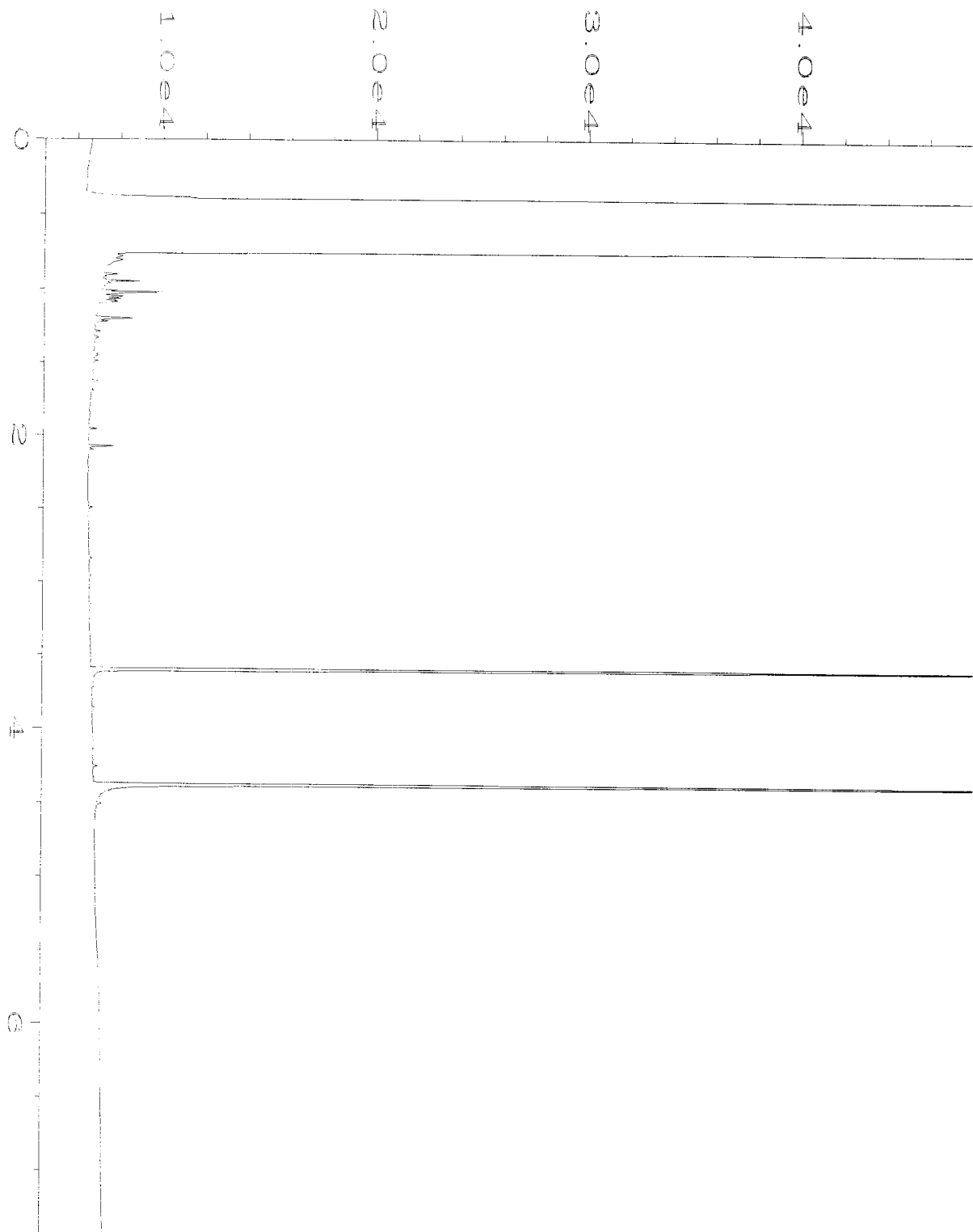
Data File Name	: C:\HPCHEM\1\DATA\06-13-19\025F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 25
Instrument	: GC1	Injection Number	: 1
Sample Name	: 906200-09	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 02:22 PM	Analysis Method	: DX.MTH
Report Created on:	14 Jun 19 08:20 AM		



Data File Name	: C:\HPCHEM\1\DATA\06-13-19\026F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 26
Instrument	: GC1	Injection Number	: 1
Sample Name	: 906200-14	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 02:34 PM	Analysis Method	: DX.MTH
Report Created on:	14 Jun 19 08:20 AM		

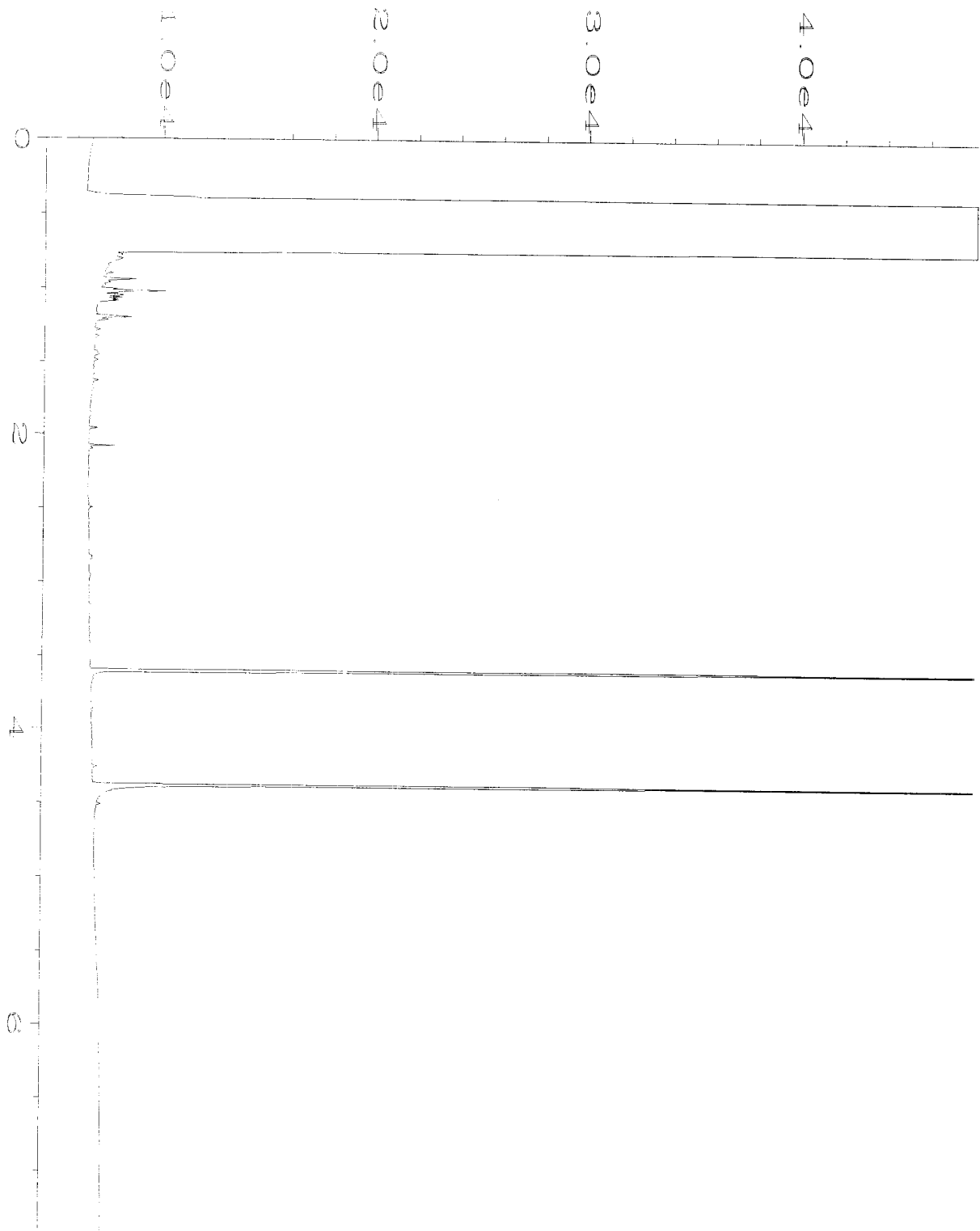


Data File Name	: C:\HPCHEM\1\DATA\06-13-19\027F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 27
Instrument	: GC1	Injection Number	: 1
Sample Name	: 906200-19	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 02:46 PM	Analysis Method	: DX.MTH
Report Created on:	14 Jun 19 08:20 AM		

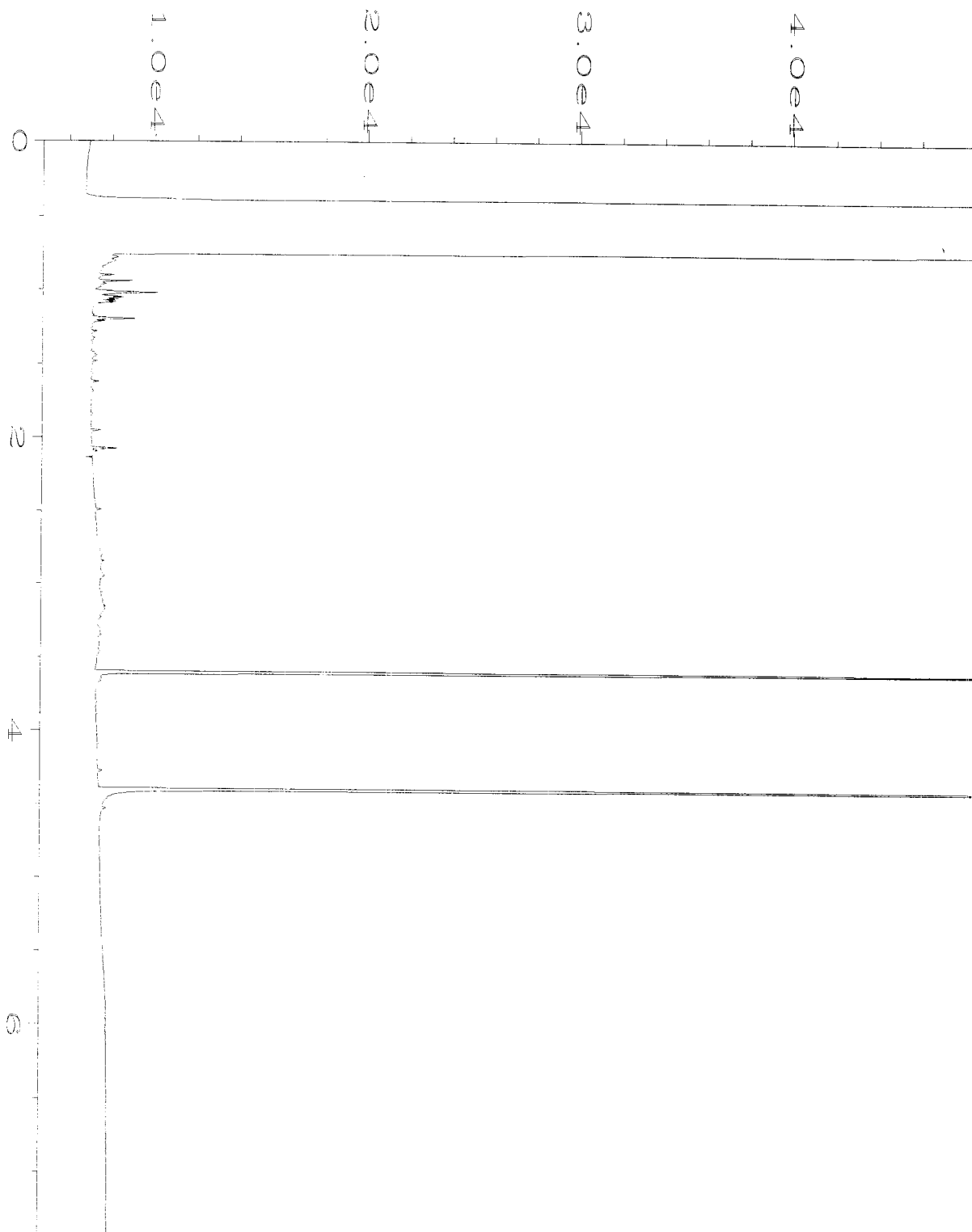


Data File Name	: C:\HPCHEM\1\DATA\06-13-19\028F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 28
Instrument	: GC1	Injection Number	: 1
Sample Name	: 906200-23	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 02:58 PM	Analysis Method	: DX.MTH
Report Created on:	14 Jun 19 08:20 AM		

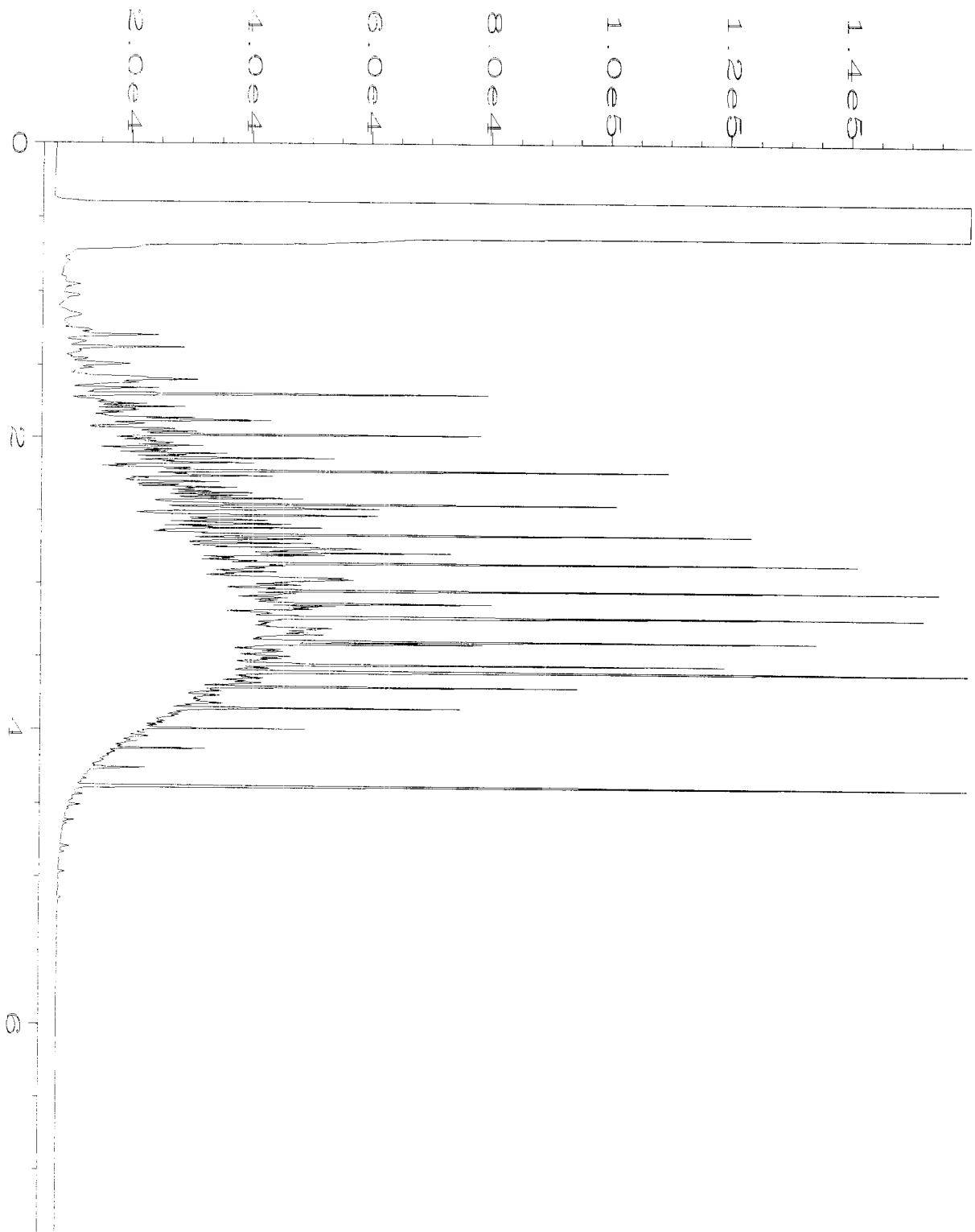




Data File Name	: C:\HPCHEM\1\DATA\06-13-19\029F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 29
Instrument	: GC1	Injection Number	: 1
Sample Name	: 906200-27	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 03:10 PM	Analysis Method	: DX.MTH
Report Created on:	14 Jun 19 08:20 AM		



Data File Name	: C:\HPCHEM\1\DATA\06-13-19\006F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 6
Instrument	: GC1	Injection Number	: 1
Sample Name	: 09-1385 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 08:53 AM	Analysis Method	: DX.MTH
Report Created on:	14 Jun 19 08:18 AM		



Data File Name	: C:\HPCHEM\1\DATA\06-13-19\003F0201.D	Page Number	: 1
Operator	: TL	Vial Number	: 3
Instrument	: GC1	Injection Number	: 1
Sample Name	: 500 Dx 57-78E	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 07:19 AM	Analysis Method	: DX.MTH
Report Created on:	14 Jun 19 08:18 AM		

906260

SAMPLE CHAIN OF CUSTODY

ME 06-11-19

Page # 874 of 154

Report To Andrew Yankovskii

Company Aspect Consulting

Address 710 2nd Ave, Ste 550

City, State, ZIP Seattle, WA, 98104

Phone (206) 413-5411 Email ayankovskii@aspectconsulting.com

SAMPLERS (signature) <u>D. Dank</u>	
PROJECT NAME <u>Alona Lake</u>	PO # <u>180357</u>
REMARKS <u>AP</u>	INVOICE TO <u>AP</u>

TURNAROUND TIME  
 Standard Turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other \_\_\_\_\_

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Hold pending Pb by GPO	MTDE, RDB, EDL Napth.				
MW-11-1	01A-E	6/10/19	0826	soil	5			X	X									
MW-11-6	02		0834					X	X									per AY
MW-11-13	03		0848					X	X									6/11/19 ME
MW-11-18	04		0904										X					per AY
MW-11-25	05		0923															6/12/19 ME
<del>B-05-3</del> B-05-3	06		1113															
B-05-6	07		1119															
B-05-105	08		1128															
B-05-16	09		1144					X	X									Samples received at 2:00
B-05-25	10		1212															

SIGNATURE		PRINT NAME		COMPANY		DATE		TIME	
<u>David Dank</u>		<u>David Dank</u>		<u>Aspect Consulting</u>		<u>6/11/19</u>		<u>1:56</u>	
<u>Mary Orr</u>		<u>MARY ORR</u>		<u>Aspect Consulting</u>		<u>6/11/19</u>		<u>1:56</u>	
Received by:		Received by:		Received by:		Received by:		Received by:	

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

906200

Report to: Andrew Vonhofski

Company: Aspect Consulting

Address: 710 2nd Ave, Ste 550

City, State, ZIP: Seattle, WA, 98104

Phone: 206 413-5711 Email: avonhofski@aspectconsulting.com

SAMPLE CHAIN OF CUSTODY ME 06-11-19

SAMPLERS (signature) <u>David Ulrich</u>	PROJECT NAME <u>Alta Cafe</u>	PO # <u>80357</u>
REMARKS	INVOICE TO <u>AP</u>	

Page # 2 of 24

TURNAROUND TIME

Standard Turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Dispose after 30 days  
 Archive Samples  
 Other \_\_\_\_\_

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes		
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM			
MU-12-3	11A+E	6/10/19	1331	Soil	5										
MU-12-8	12-T		1345												
MU-12-115	13		1350												
MU-12-15	14		1356												
MU-12-25	15		1432												
B-06-6	16	6/11/19	0835	Soil	5										
B-06-85	17		0842												
B-06-10	18		0847												
B-06-13	19		0852												
B-06-25	20		0920												

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
<u>David Ulrich</u>		David Ulrich		Aspect Consulting		6/11/19	1:55
<u>Horiz</u>		Horiz USWELL		APC			
Received by:							

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282





FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

June 21, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on June 12, 2019 from the Aloha Cafe 180357, F&BI 906232 project. There are 23 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP0621R.DOC



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 12, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Cafe 180357, F&BI 906232 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
906232 -01	MW-15-7.5
906232 -02	MW-15-10.5
906232 -03	MW-15-13
906232 -04	MW-15-17.5
906232 -05	MW-15-25
906232 -06	B-07-6
906232 -07	B-07-8
906232 -08	B-07-12.5
906232 -09	B-07-22.5
906232 -10	B-07-25

An 8260C internal standard failed the acceptance criteria for the direct sparge analysis of samples MW-15-10.5 and MW-15-13. The samples were diluted by methanolic extraction and reanalyzed with acceptable results. Both data sets were reported.

Several compounds in the 8260C direct sparge laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

Date Extracted: 06/17/19

Date Analyzed: 06/17/19 and 06/18/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
MW-15-7.5 906232-01	<5	88
MW-15-10.5 906232-02 1/20	6,500	ip
MW-15-13 906232-03 1/50	3,400	120
MW-15-25 906232-05	<5	89
B-07-8 906232-07	87	ip
B-07-12.5 906232-08	<5	86
Method Blank 09-1405 MB	<5	83

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

Date Extracted: 06/13/19

Date Analyzed: 06/13/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
MW-15-7.5 906232-01	<50	<250	84
MW-15-10.5 906232-02	1,500 x	590	81
MW-15-13 906232-03	990 x	370	84
MW-15-25 906232-05	<50	<250	86
B-07-8 906232-07	<50	<250	84
B-07-12.5 906232-08	<50	<250	85
Method Blank 09-1393 MB	<50	<250	84

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-15-10.5	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/13/19	Lab ID:	906232-02
Date Analyzed:	06/18/19	Data File:	906232-02.059
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Lead	1.88
------	------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-15-13	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/13/19	Lab ID:	906232-03
Date Analyzed:	06/18/19	Data File:	906232-03.060
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Lead	1.93
------	------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	B-07-8	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/13/19	Lab ID:	906232-07
Date Analyzed:	06/18/19	Data File:	906232-07.061
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Lead	1.44
------	------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/13/19	Lab ID:	I9-365 mb
Date Analyzed:	06/13/19	Data File:	I9-365 mb.070
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	MW-15-7.5	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/14/19	Lab ID:	906232-01
Date Analyzed:	06/14/19	Data File:	061419.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.005
1,2-Dibromoethane (EDB)	<0.005
1,2-Dichloroethane (EDC)	<0.005
Naphthalene	<0.005



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	MW-15-10.5	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/14/19	Lab ID:	906232-02
Date Analyzed:	06/14/19	Data File:	061425.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95 J	50	150
Toluene-d8	608 J ip	50	150
4-Bromofluorobenzene	2673 J ip	150	

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.005 J
1,2-Dibromoethane (EDB)	<0.005 J
1,2-Dichloroethane (EDC)	<0.005 J
Naphthalene	0.091 J jl

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	MW-15-13	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/14/19	Lab ID:	906232-03
Date Analyzed:	06/14/19	Data File:	061424.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	50	150
Toluene-d8	273 ip	50	150
4-Bromofluorobenzene	1029 J ip	50	150

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.005
1,2-Dibromoethane (EDB)	<0.005 J
1,2-Dichloroethane (EDC)	<0.005
Naphthalene	0.19 J ve jl

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Direct Sparge

Client Sample ID:	MW-15-25	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/14/19	Lab ID:	906232-05
Date Analyzed:	06/14/19	Data File:	061422.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	0.026
Toluene	<0.005
Ethylbenzene	<0.005
m,p-Xylene	<0.01
o-Xylene	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	B-07-8	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/14/19	Lab ID:	906232-07
Date Analyzed:	06/14/19	Data File:	061423.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	117	50	150
4-Bromofluorobenzene	116	50	150

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.005
1,2-Dibromoethane (EDB)	<0.005
1,2-Dichloroethane (EDC)	<0.005
Naphthalene	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	B-07-12.5	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/14/19	Lab ID:	906232-08
Date Analyzed:	06/14/19	Data File:	061421.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.005
1,2-Dibromoethane (EDB)	<0.005
1,2-Dichloroethane (EDC)	<0.005
Naphthalene	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/14/19	Lab ID:	09-1332 mb
Date Analyzed:	06/14/19	Data File:	061408.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.005
1,2-Dichloroethane (EDC)	<0.005
1,2-Dibromoethane (EDB)	<0.005
Benzene	<0.003
Toluene	<0.005
Ethylbenzene	<0.005
m,p-Xylene	<0.01
o-Xylene	<0.005
Naphthalene	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-15-10.5	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/18/19	Lab ID:	906232-02
Date Analyzed:	06/19/19	Data File:	061913.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	62	145
Toluene-d8	103	55	145
4-Bromofluorobenzene	130	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	6.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-15-13	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/18/19	Lab ID:	906232-03
Date Analyzed:	06/19/19	Data File:	061914.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	102	55	145
4-Bromofluorobenzene	116	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	4.9



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/18/19	Lab ID:	09-1431 mb
Date Analyzed:	06/18/19	Data File:	061808.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	99	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 906262-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	95	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 906230-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	94	90	90	73-135	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	84	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 906200-02 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	8.10	93	89	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	101	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE**

Laboratory Code: 906232-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	<0.005	<0.005	nm
1,2-Dichloroethane (EDC)	mg/kg (ppm)	<0.005	<0.005	nm
Benzene	mg/kg (ppm)	<0.003	0.0034	nm
Toluene	mg/kg (ppm)	<0.005	<0.005	nm
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.005	<0.005	nm
Ethylbenzene	mg/kg (ppm)	<0.005	<0.005	nm
m,p-Xylene	mg/kg (ppm)	<0.01	<0.01	nm
o-Xylene	mg/kg (ppm)	<0.005	<0.005	nm
Naphthalene	mg/kg (ppm)	<0.005	<0.005	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Hexane	mg/kg (ppm)	0.05	60 vo	62 vo	70-130	3
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	0.05	85	80	49-148	6
1,2-Dichloroethane (EDC)	mg/kg (ppm)	0.05	86	84	69-137	2
Benzene	mg/kg (ppm)	0.05	90	87	67-138	3
Toluene	mg/kg (ppm)	0.05	95	90	12-185	5
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	99	98	70-130	1
Ethylbenzene	mg/kg (ppm)	0.05	126	95	70-130	28 vo
m,p-Xylene	mg/kg (ppm)	0.1	163 vo	96	70-130	52 vo
o-Xylene	mg/kg (ppm)	0.05	100	94	70-130	6
Naphthalene	mg/kg (ppm)	0.05	136 vo	99	70-130	31 vo

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/21/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 906312-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	95	21-145
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	88	12-160
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	87	28-142
Naphthalene	mg/kg (ppm)	2.5	<0.05	91	14-157

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	104	106	60-123	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	97	99	56-135	2
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	95	98	74-132	3
Naphthalene	mg/kg (ppm)	2.5	104	106	63-140	2

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

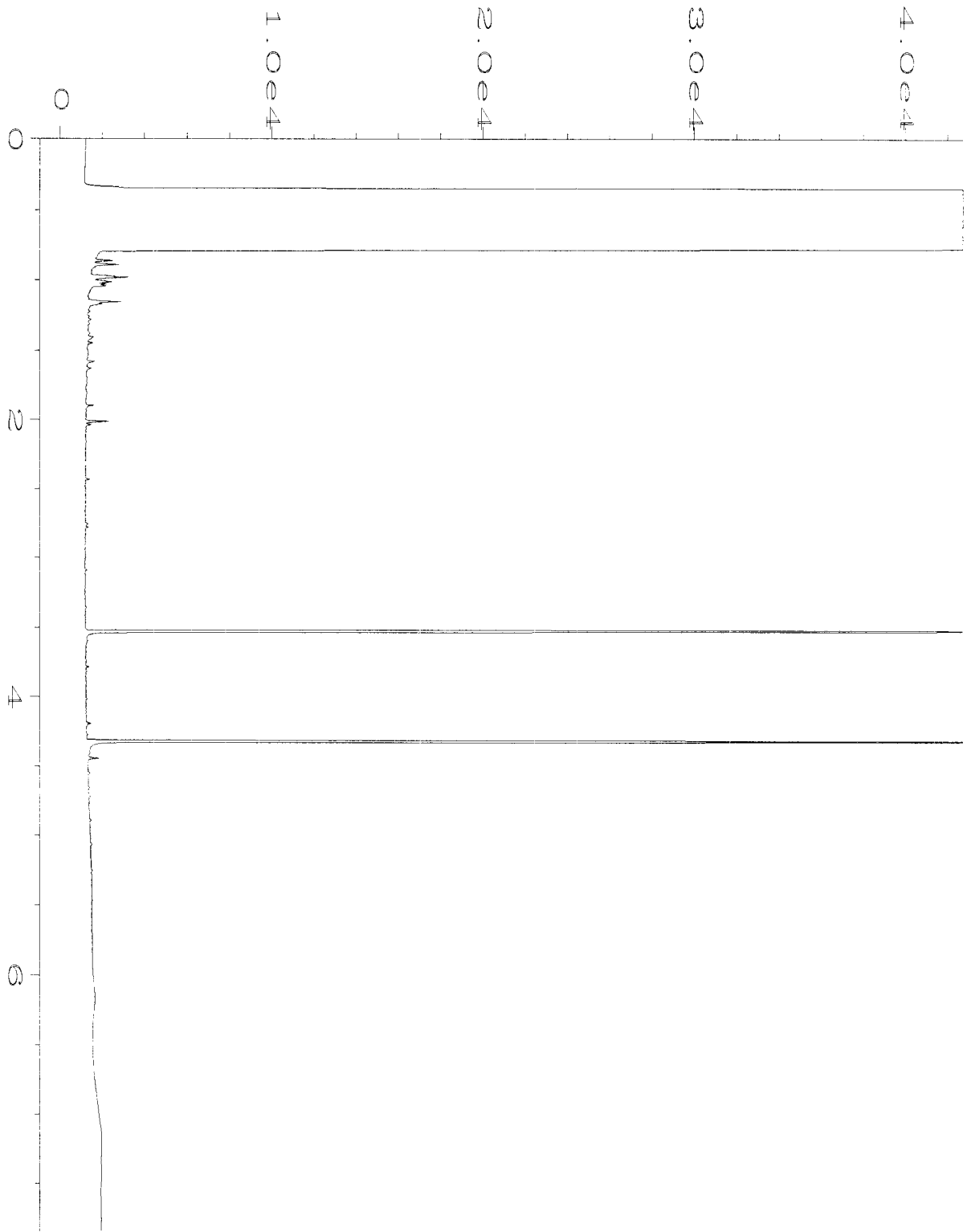
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

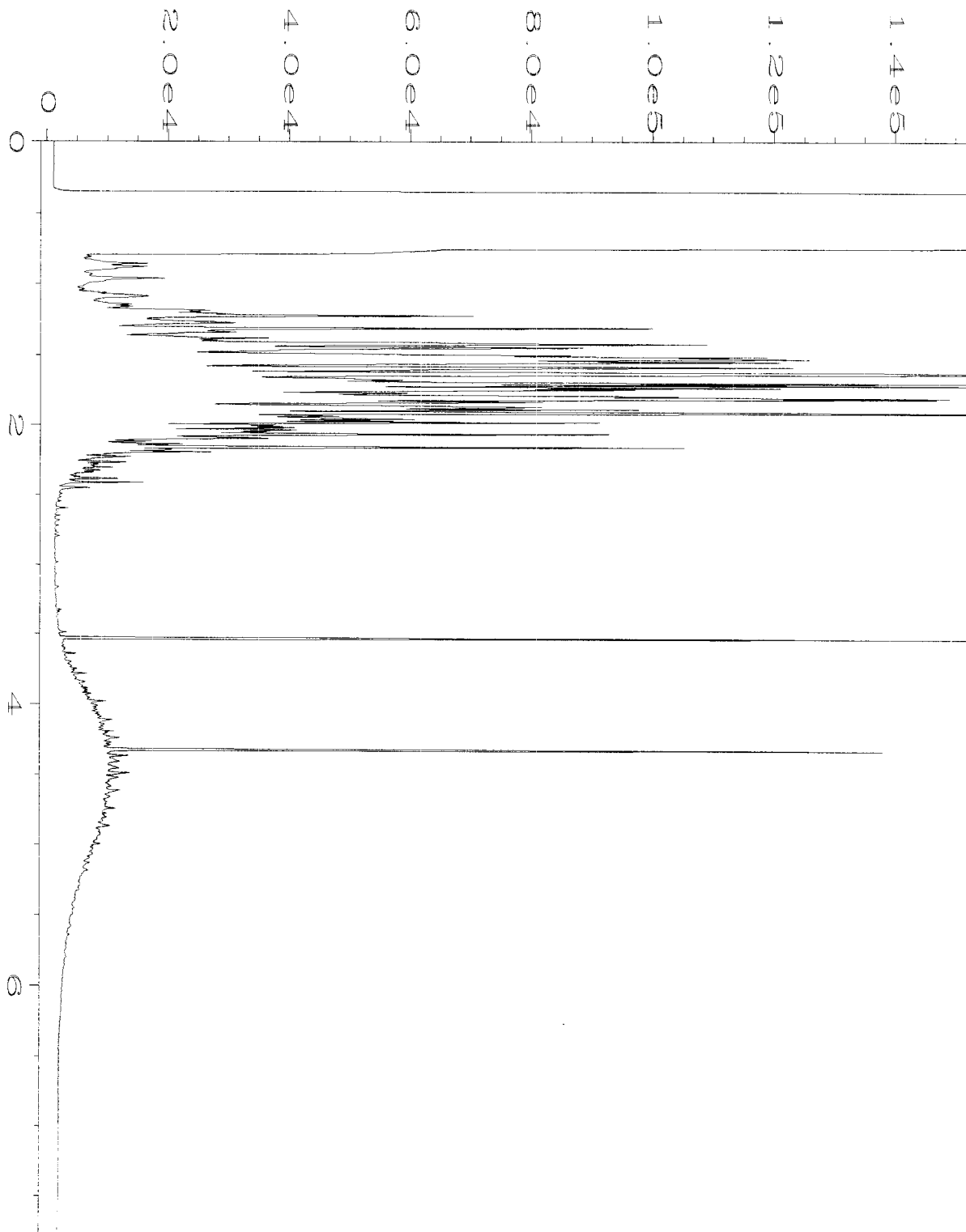
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

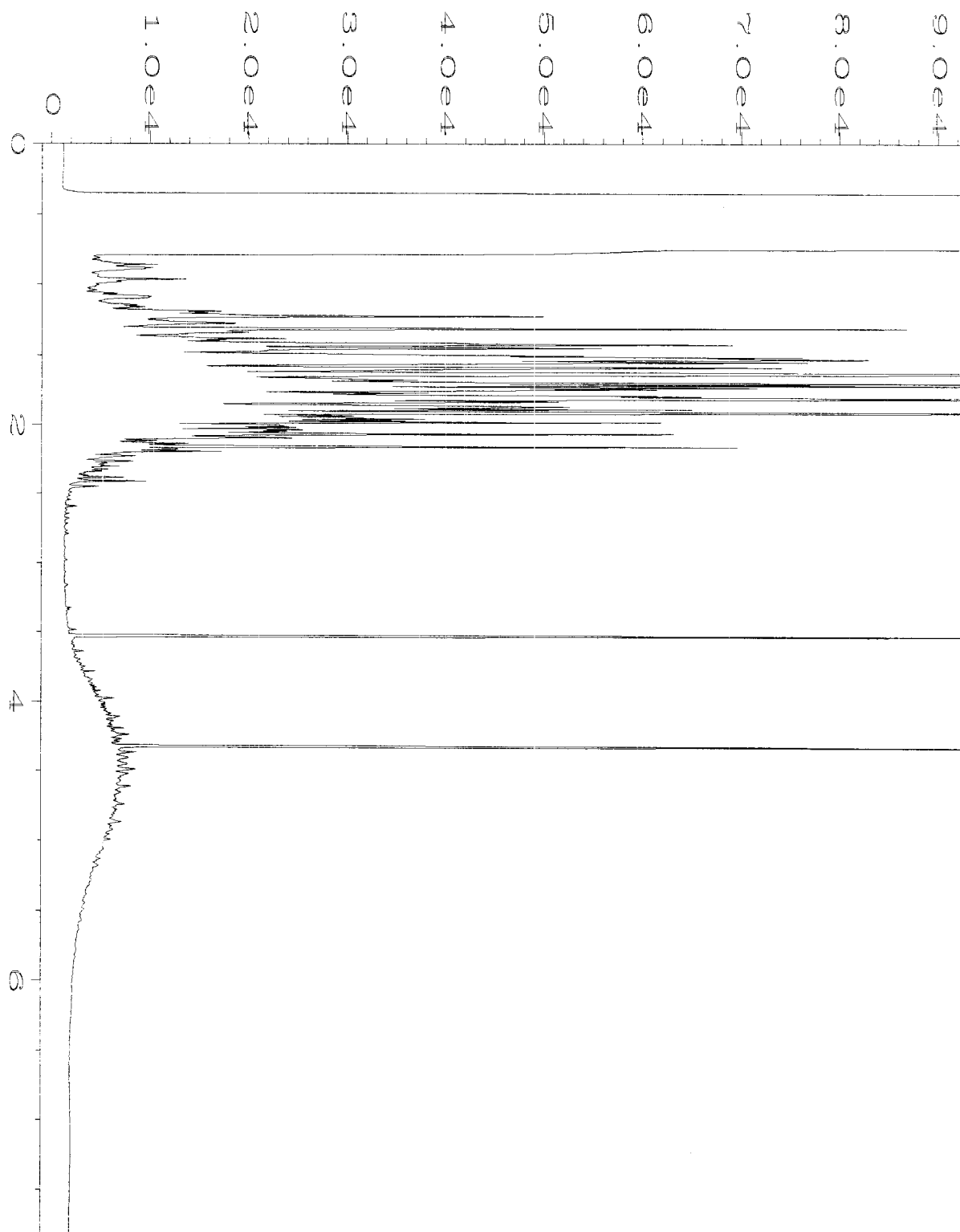


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Operator	: TL	Vial Number	: 41
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 906232-01	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 07:46 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	14 Jun 19 07:52 AM		

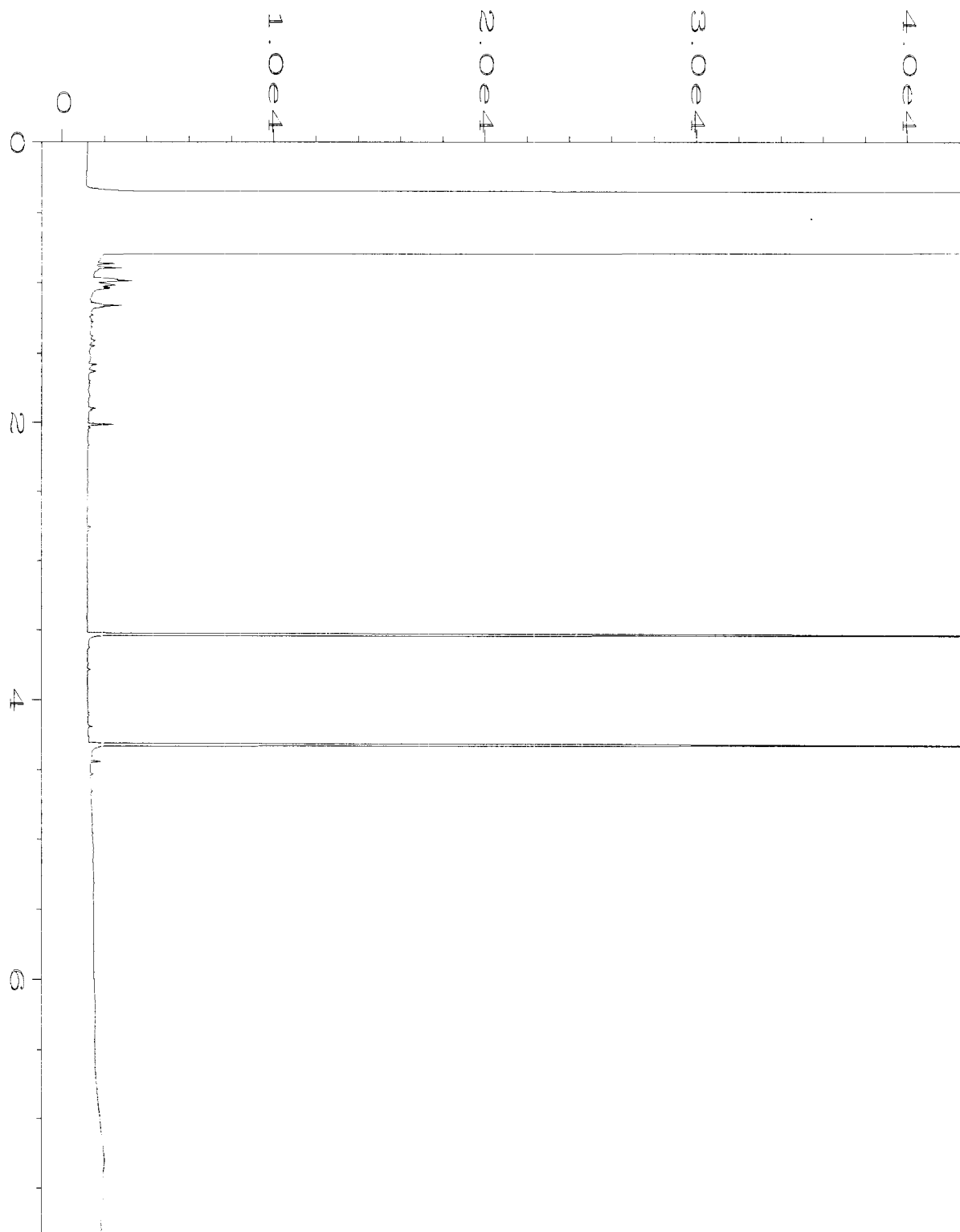




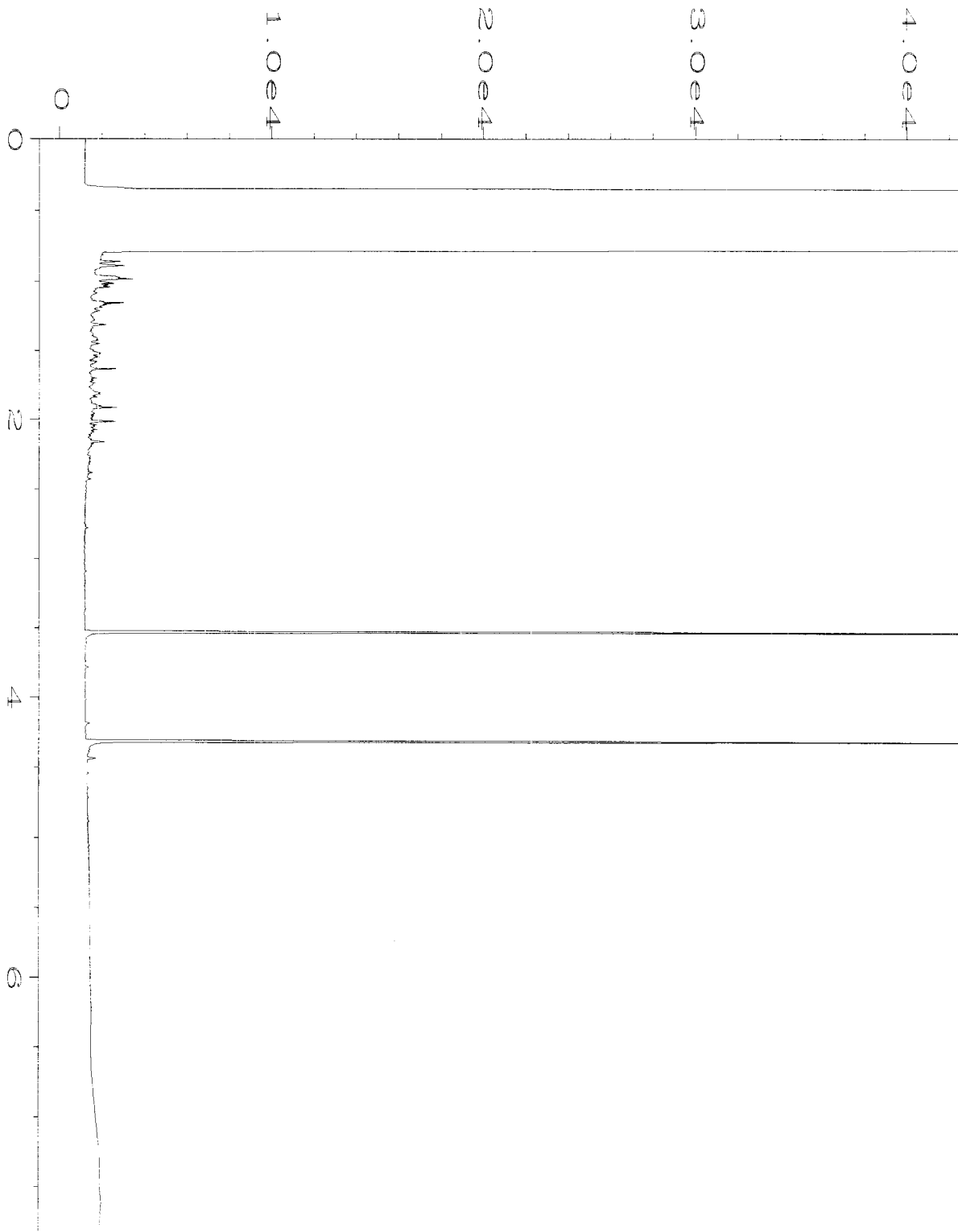
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Sample Name	: 906232-02	Sequence Line	: 14
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Acquired on	: 13 Jun 19 07:59 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	14 Jun 19 07:53 AM		



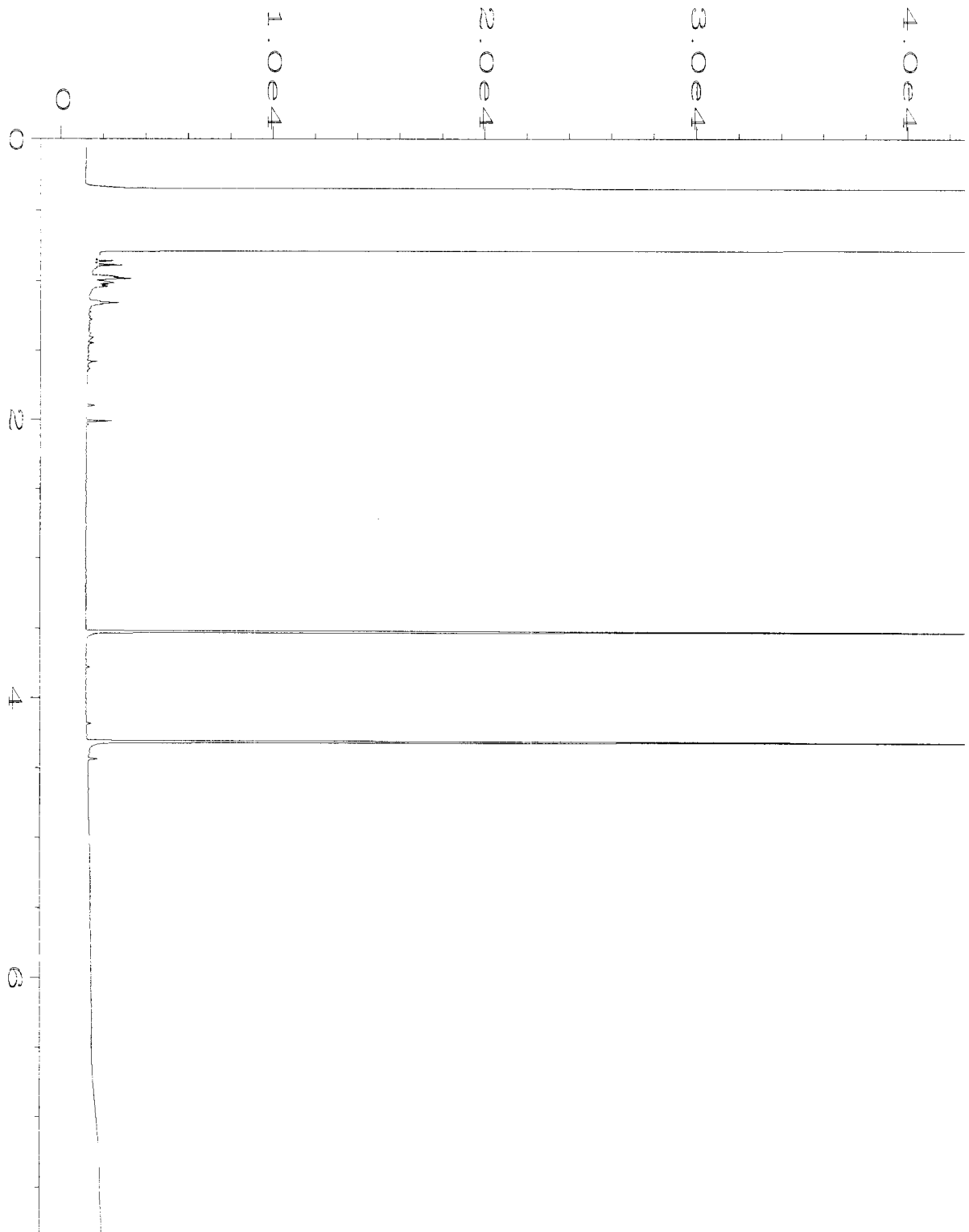
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Instrument	: GC#4	Injection Number	: 1
Sample Name	: 906232-03	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 08:11 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	14 Jun 19 07:53 AM		



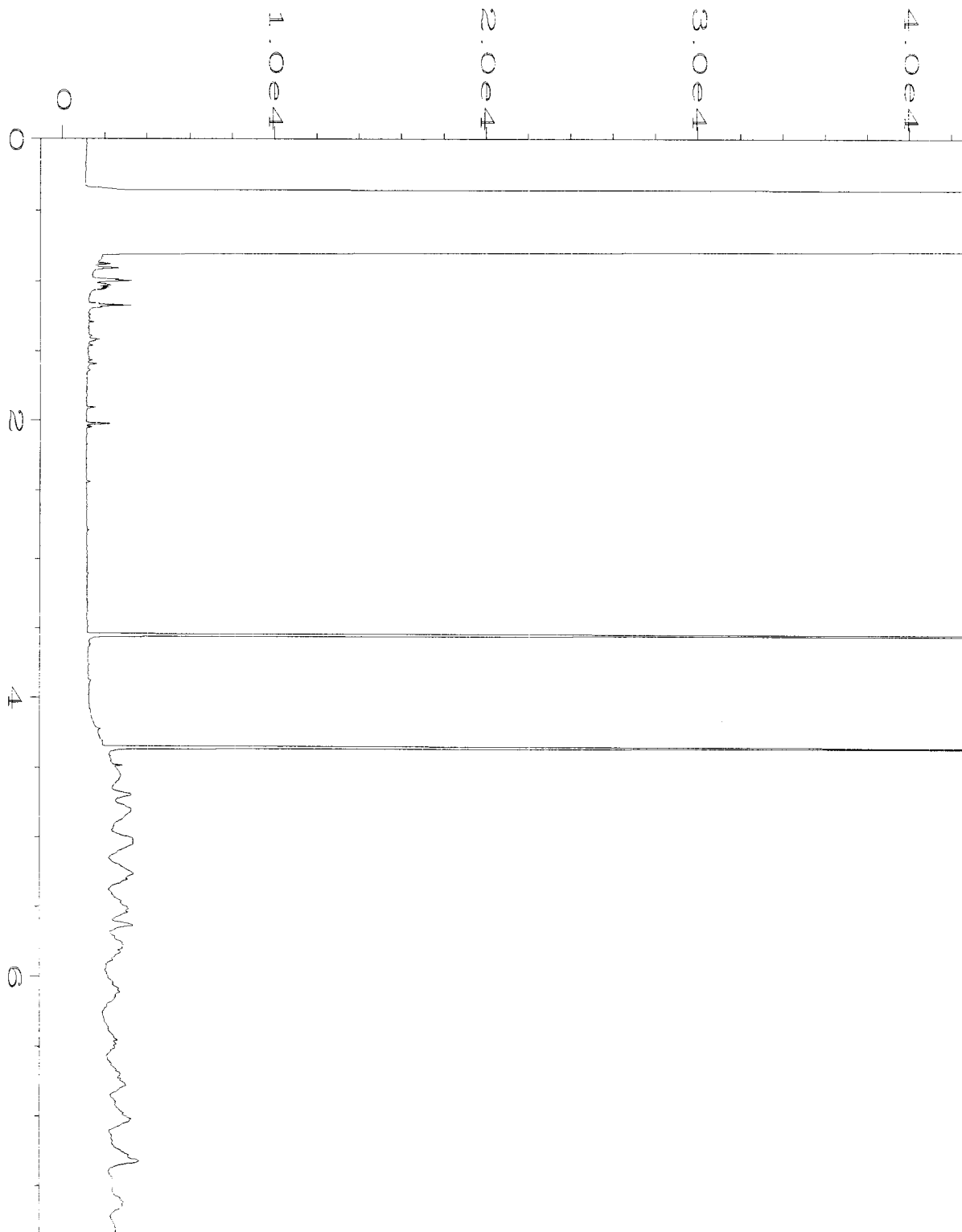
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Operator	: TL	Vial Number	: 44
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 906232-05	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 08:24 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	14 Jun 19 07:53 AM		



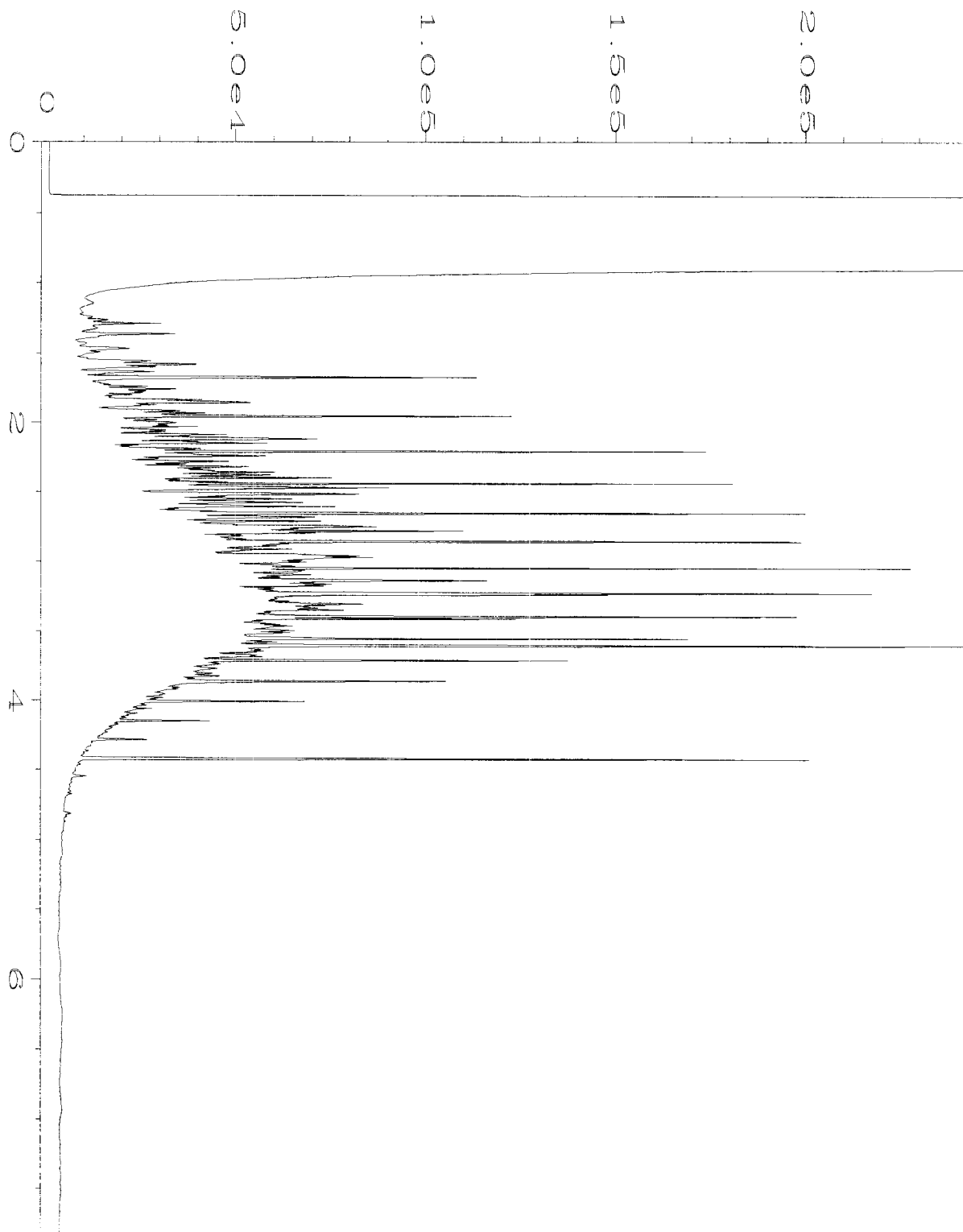
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Operator	: TL	Vial Number	: 45
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 906232-07	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 08:36 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	14 Jun 19 07:53 AM		



Data File Name	: C:\HPCHEM\4\DATA\06-13-19\046F1401.D	Page Number	: 1
Operator	: TL	Vial Number	: 46
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 906232-08	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 13 Jun 19 08:49 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	14 Jun 19 07:53 AM		



Data File Name	: C:\HPCHEM\4\DATA\06-13-19\023F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 23
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 09-1393 mb	Sequence Line	: 8
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 13 Jun 19 02:27 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	14 Jun 19 07:51 AM		



Data File Name	: C:\HPCHEM\4\DATA\06-13-19\005F0901.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 57-78B	Sequence Line	: 9
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 13 Jun 19 03:30 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	14 Jun 19 07:51 AM		





FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
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July 2, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the additional results from the testing of material submitted on June 12, 2019 from the Aloha Cafe 180357, F&BI 906232 project. There are 10 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP0702R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 12, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Cafe 180357, F&BI 906232 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
906232 -01	MW-15-7.5
906232 -02	MW-15-10.5
906232 -03	MW-15-13
906232 -04	MW-15-17.5
906232 -05	MW-15-25
906232 -06	B-07-6
906232 -07	B-07-8
906232 -08	B-07-12.5
906232 -09	B-07-22.5
906232 -10	B-07-25

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/02/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

Date Extracted: 06/26/19

Date Analyzed: 06/26/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 58-139)
MW-15-17.5 906232-04	200	133
Method Blank 09-1491 mb	<5	116

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/02/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

Date Extracted: 06/26/19

Date Analyzed: 06/26/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
MW-15-17.5 906232-04	<50	<250	100
Method Blank 09-1536 MB	<50	<250	104

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-15-13	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/27/19	Lab ID:	906232-03 1/5
Date Analyzed:	06/27/19	Data File:	062720.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	98	55	145
4-Bromofluorobenzene	104	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	0.70
Toluene	4.7
Ethylbenzene	10
m,p-Xylene	46
o-Xylene	18

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-15-17.5	Client:	Aspect Consulting, LLC
Date Received:	06/12/19	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/26/19	Lab ID:	906232-04
Date Analyzed:	06/26/19	Data File:	062612.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	99	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	0.22
Toluene	0.096
Ethylbenzene	0.19
m,p-Xylene	0.88
o-Xylene	0.31

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 906232
Date Extracted:	06/26/19	Lab ID:	09-1500 mb
Date Analyzed:	06/26/19	Data File:	062609.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	98	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/02/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 906512-03 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	100	71-131



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/02/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 906512-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	104	106	64-133	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/02/19

Date Received: 06/12/19

Project: Aloha Cafe 180357, F&BI 906232

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 906266-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Benzene	mg/kg (ppm)	2.5	<0.03	69	29-129
Toluene	mg/kg (ppm)	2.5	<0.05	64	35-130
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	68	32-137
m,p-Xylene	mg/kg (ppm)	5	<0.1	68	34-136
o-Xylene	mg/kg (ppm)	2.5	<0.05	72	33-134

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	2.5	95	100	68-114	5
Toluene	mg/kg (ppm)	2.5	93	96	66-126	3
Ethylbenzene	mg/kg (ppm)	2.5	97	102	64-123	5
m,p-Xylene	mg/kg (ppm)	5	99	104	78-122	5
o-Xylene	mg/kg (ppm)	2.5	101	103	77-124	2

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

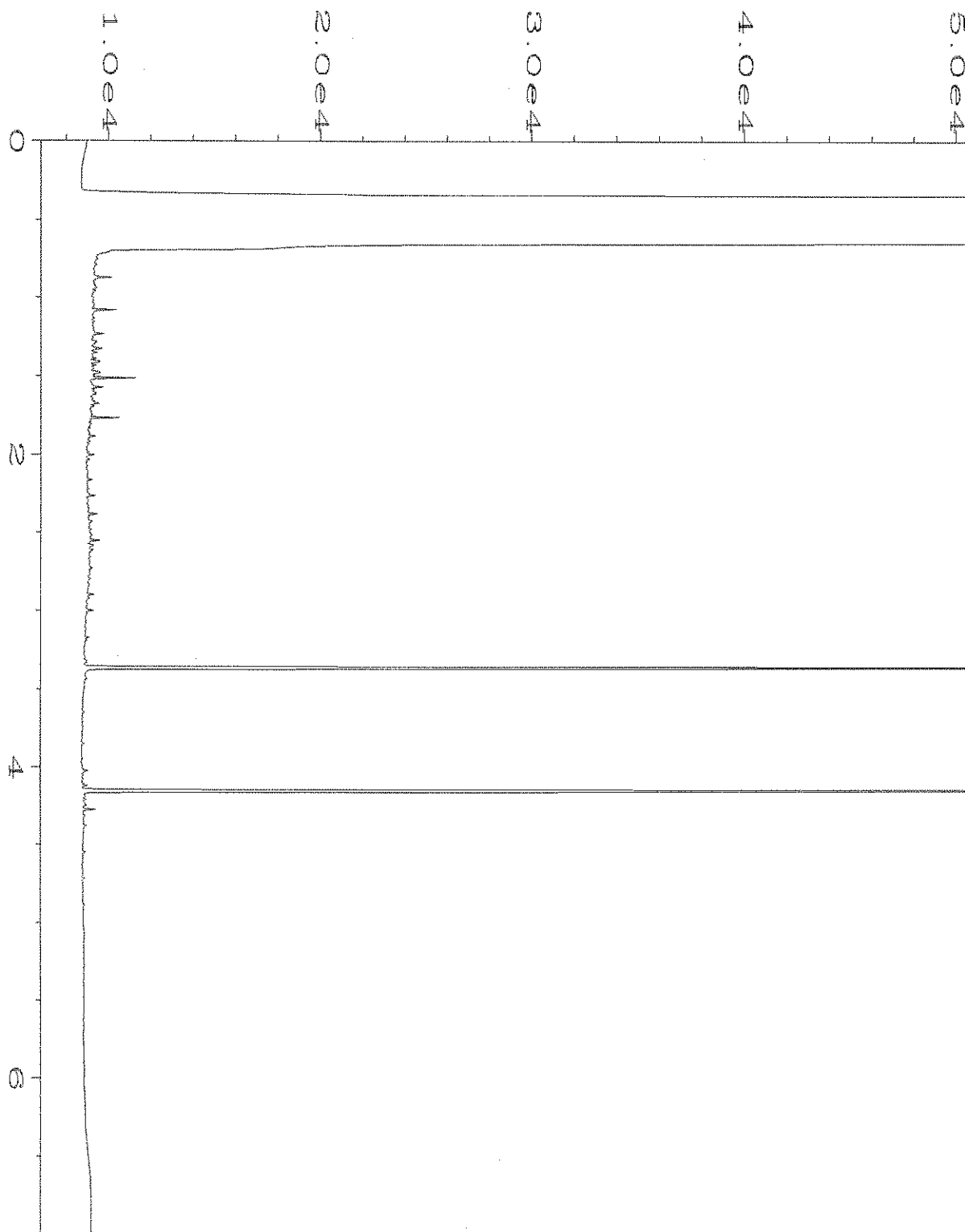
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

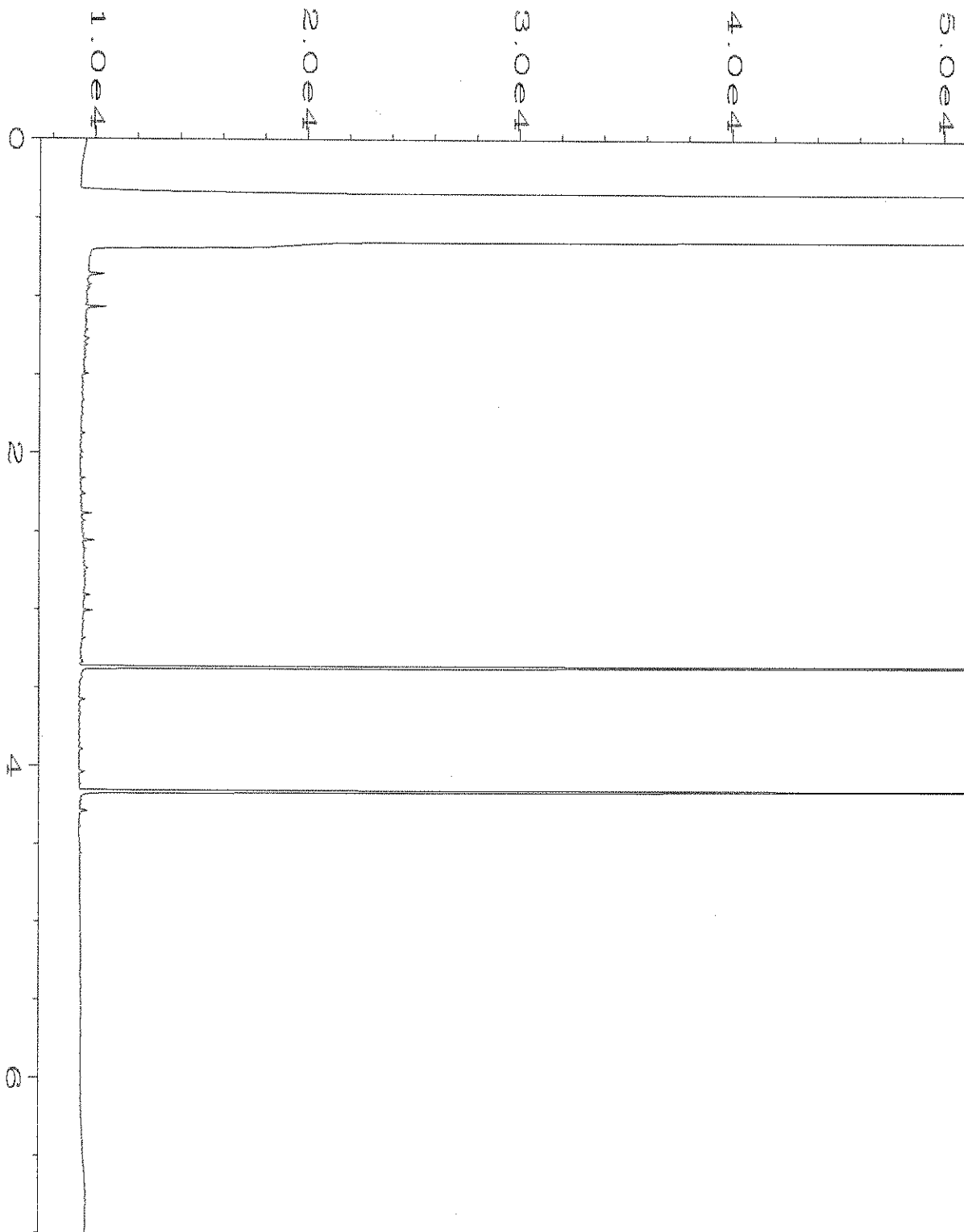
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

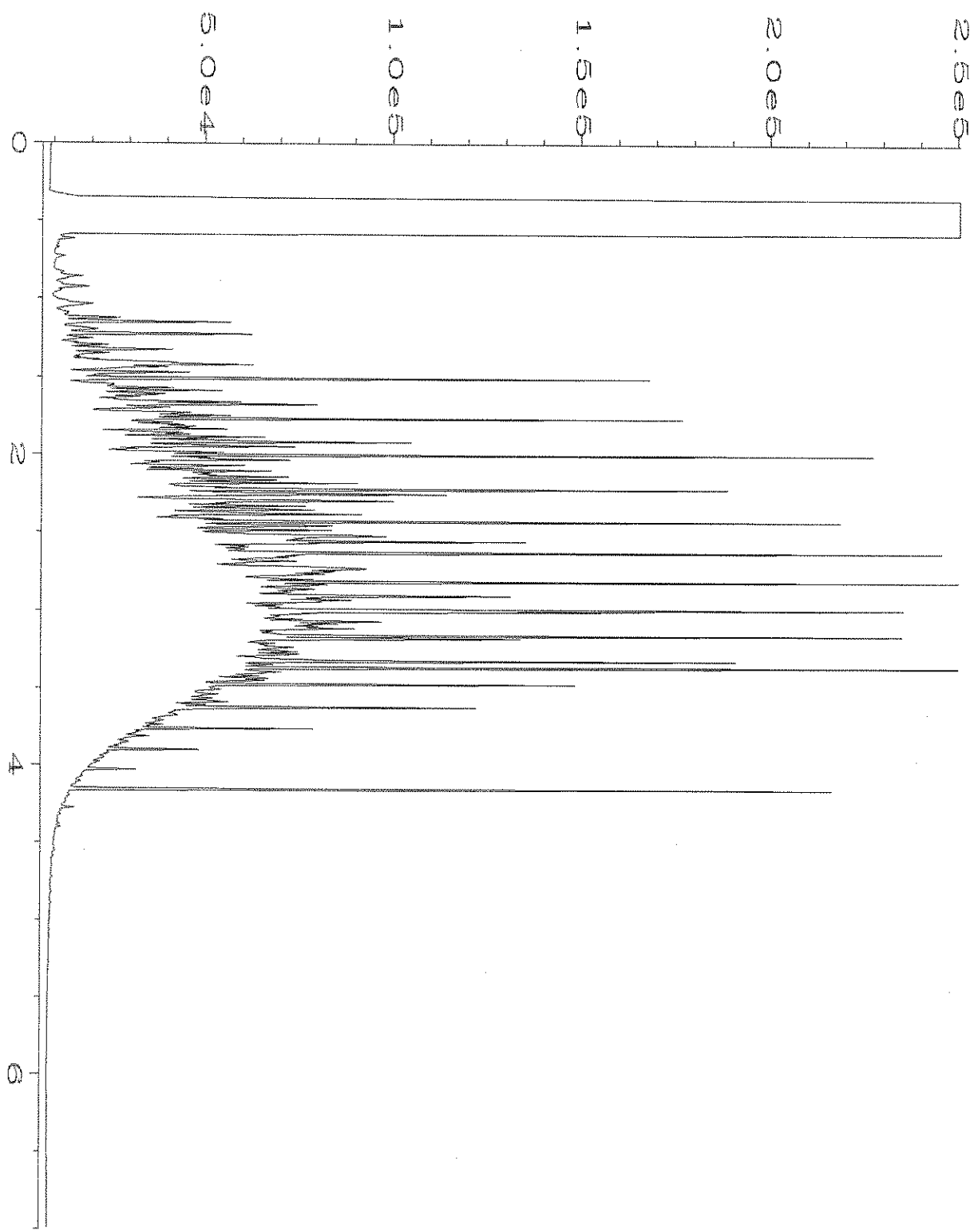
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



Data File Name	: C:\HPCHEM\6\DATA\06-26-19\037F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 37
Instrument	: GC6	Injection Number	: 1
Sample Name	: 906232-04	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 26 Jun 19 06:03 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	27 Jun 19 08:05 AM		



Data File Name	: C:\HPCHEM\6\DATA\06-26-19\006F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 6
Instrument	: GC6	Injection Number	: 1
Sample Name	: 09-1536 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 26 Jun 19 10:21 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	27 Jun 19 08:02 AM		



Data File Name	: C:\HPCHEM\6\DATA\06-26-19\005F0401.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC6	Injection Number	: 1
Sample Name	: 1000 Dx 57-78B	Sequence Line	: 4
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 26 Jun 19 02:41 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	27 Jun 19 08:03 AM		

906232

SAMPLE CHAIN OF CUSTODY

ME 06-12-19

VS2/B03

Report To Andrew Yoshko  
 Company Aspect Consulting  
 Address 710 2nd Ave. Ste 550  
 City, State, ZIP Seattle, WA, 98104  
 Phone 206 413-5411 Email ayoshko@aspectconsulting.com

SAMPLERS (signature) David Hawk  
 PROJECT NAME Alba Lake  
 REMARKS  
 INVOICE TO AP

TURNAROUND TIME  
 Standard Turnaround   
 RUSH   
 Rush charges authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 821B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Hold pending	LCOCs by 8260	Pb by 6010	
MW-15-75	01A-E	6/11/19	0914	soil	5	X	X	X	X			X	X	X	X	X-per AY
MW-15-10.5	02		0920			X	X	X	X							6/13/19 ME
MW-15-13	03		0926			X	X	X	X							(X)-per AG
MW-15-17.5	04		0937			(X)	(X)	(X)	(X)							6/26/19 ME
MW-15-25	05		0956			X	X	X	X							
B-07-6	06		1331													
B-07-8	07		1337													
B-07-12.5	08		1349			X	X									
B-07-22.5	09		1419													
B-07-25	10		1425													

Received by: [Signature] Received by: [Signature]  
 Relinquished by: [Signature] Relinquished by: [Signature]  
 SIGNATURE PRINT NAME COMPANY DATE TIME  
 David Ukul David Ukul Aspect Consulting 6/12/19 1703  
 HOLDG DWYER HOLDG DWYER 6/27/19 1703  
 Samples received at 3 oc

Friedman & Bruja, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

July 3, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on June 14, 2019 from the Aloha Café 180357, F&BI 906279 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP0703R.DOC



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 14, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Café 180357, F&BI 906279 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
906279 -01	MW-17-6
906279 -02	MW-17-8.5
906279 -03	MW-17-10
906279 -04	MW-17-20
906279 -05	MW-17-25
906279 -06	MW-16-6.5
906279 -07	MW-16-7.5
906279 -08	MW-16-12.5
906279 -09	MW-17-17.5
906279 -10	MW-17-25

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/03/19

Date Received: 06/14/19

Project: Aloha Cafe 180357, F&BI 906279

Date Extracted: 06/28/19

Date Analyzed: 06/28/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 58-139)
MW-17-8.5 906279-02	<5	81
MW-16-7.5 906279-07	<5	80
Method Blank 09-1521 MB	<5	78

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/03/19

Date Received: 06/14/19

Project: Aloha Cafe 180357, F&BI 906279

Date Extracted: 06/28/19

Date Analyzed: 06/28/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 56-165)
MW-17-8.5 906279-02	<50	<250	99
MW-16-7.5 906279-07	<50	<250	102
Method Blank 09-1552 MB	<50	<250	97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/03/19

Date Received: 06/14/19

Project: Aloha Cafe 180357, F&BI 906279

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-Gx**

Laboratory Code: 906590-03 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	110	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/03/19

Date Received: 06/14/19

Project: Aloha Cafe 180357, F&BI 906279

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: 906519-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	8,400	72	92	63-146	24 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	112	79-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

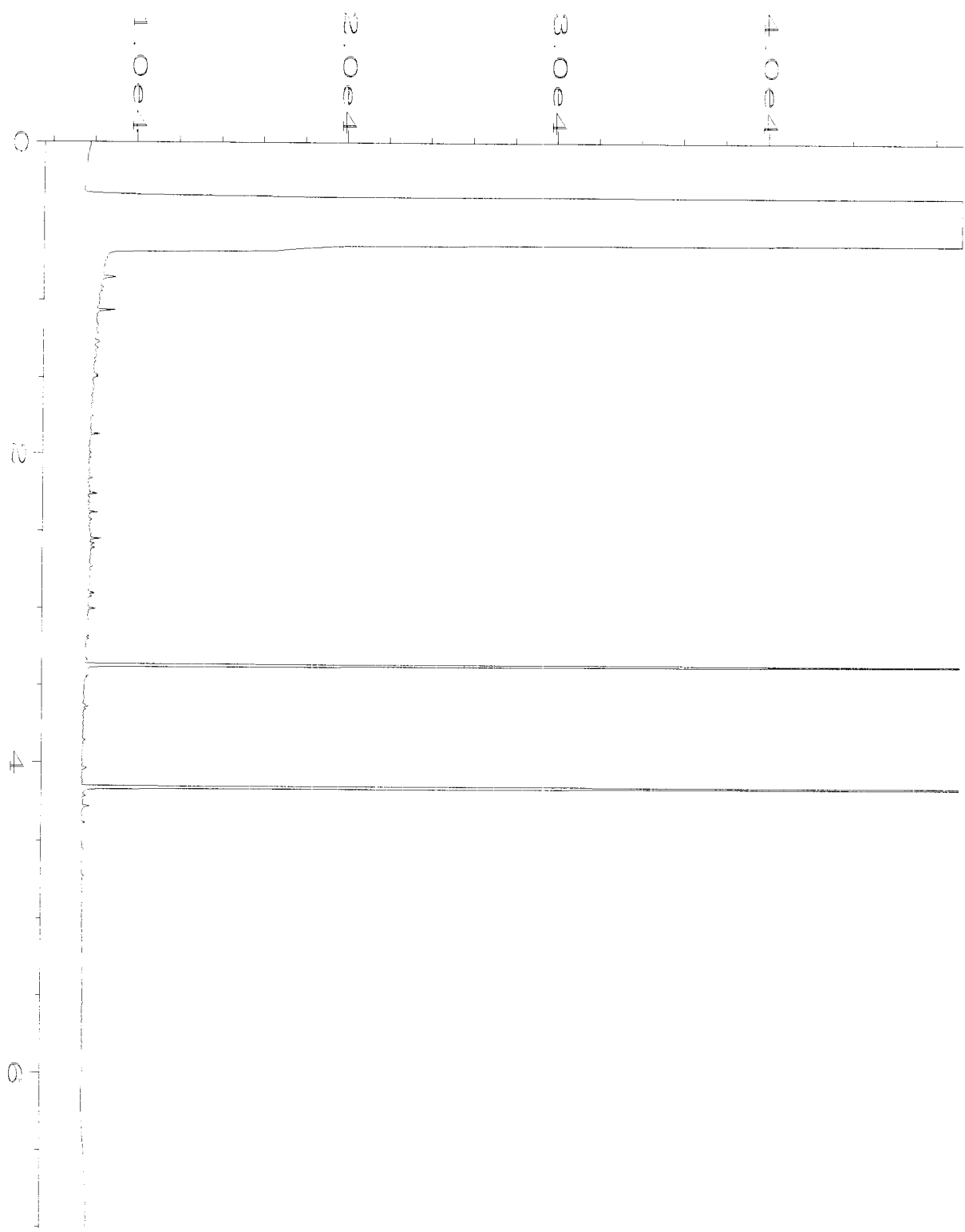
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

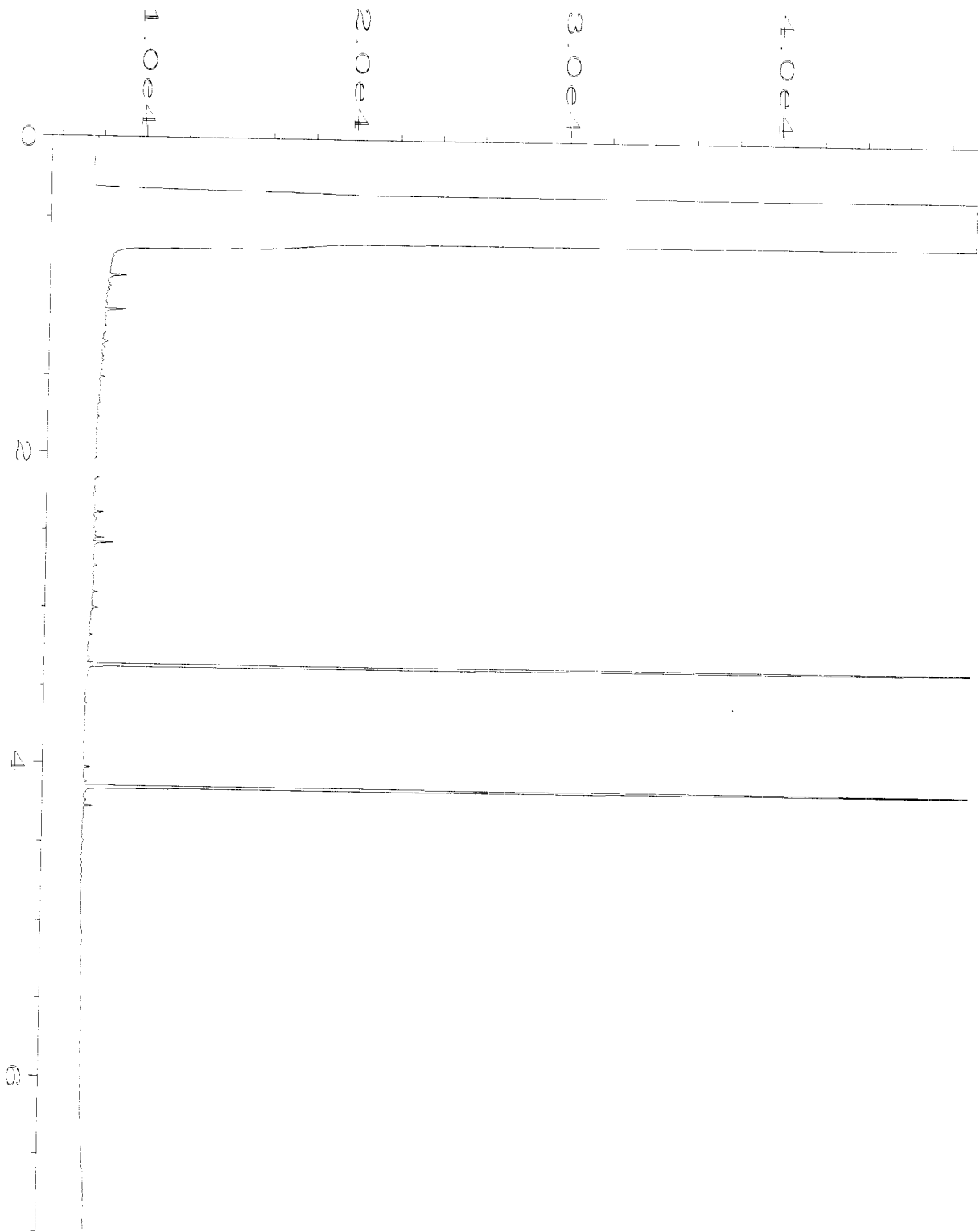
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

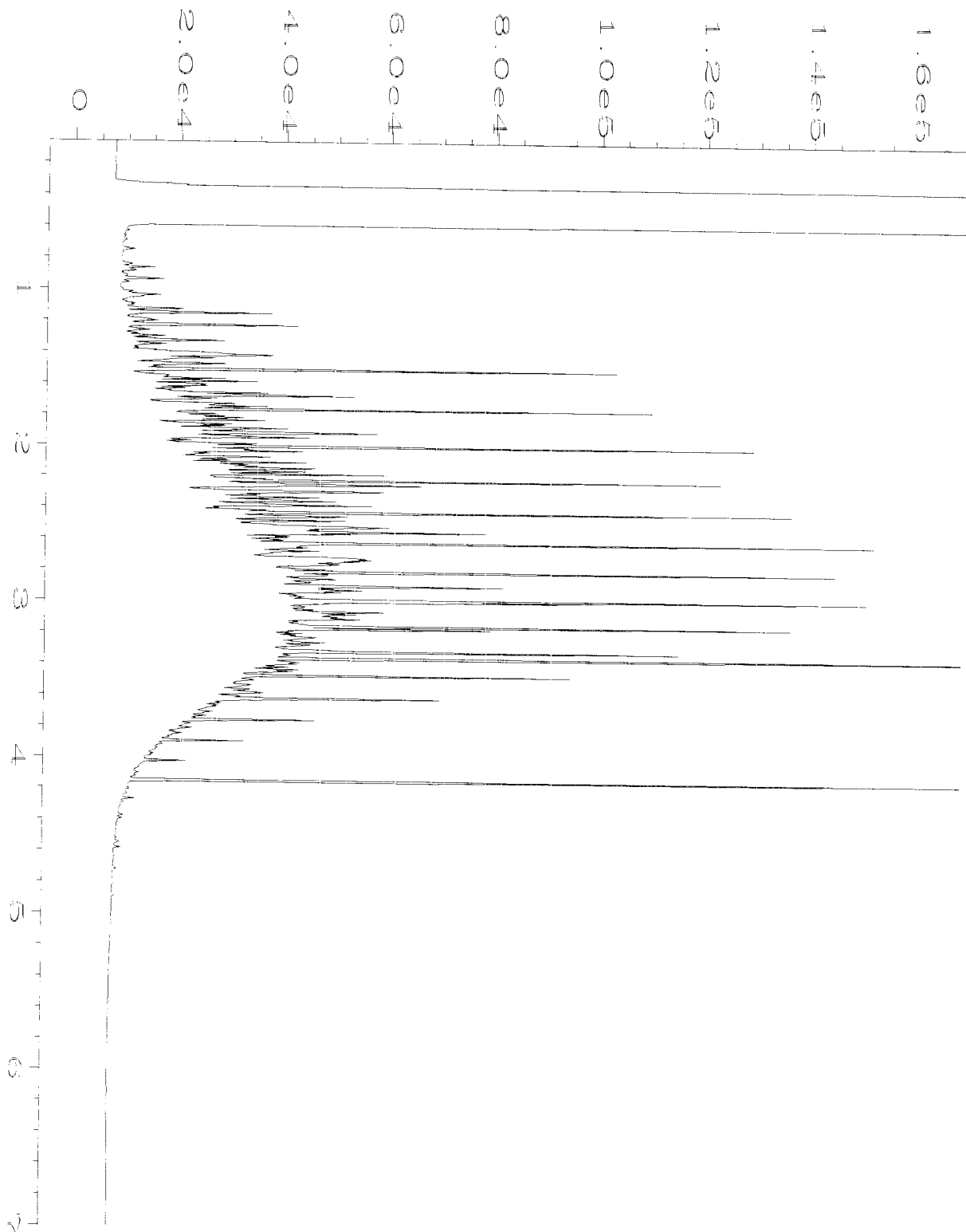


Data File Name	: C:\HPCHEM\6\DATA\06-28-19\025F1301.D	Page Number	: 1
Operator	: TL	Vial Number	: 25
Instrument	: GC6	Injection Number	: 1
Sample Name	: 906279-02	Sequence Line	: 13
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 28 Jun 19 04:18 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Jul 19 10:31 AM		

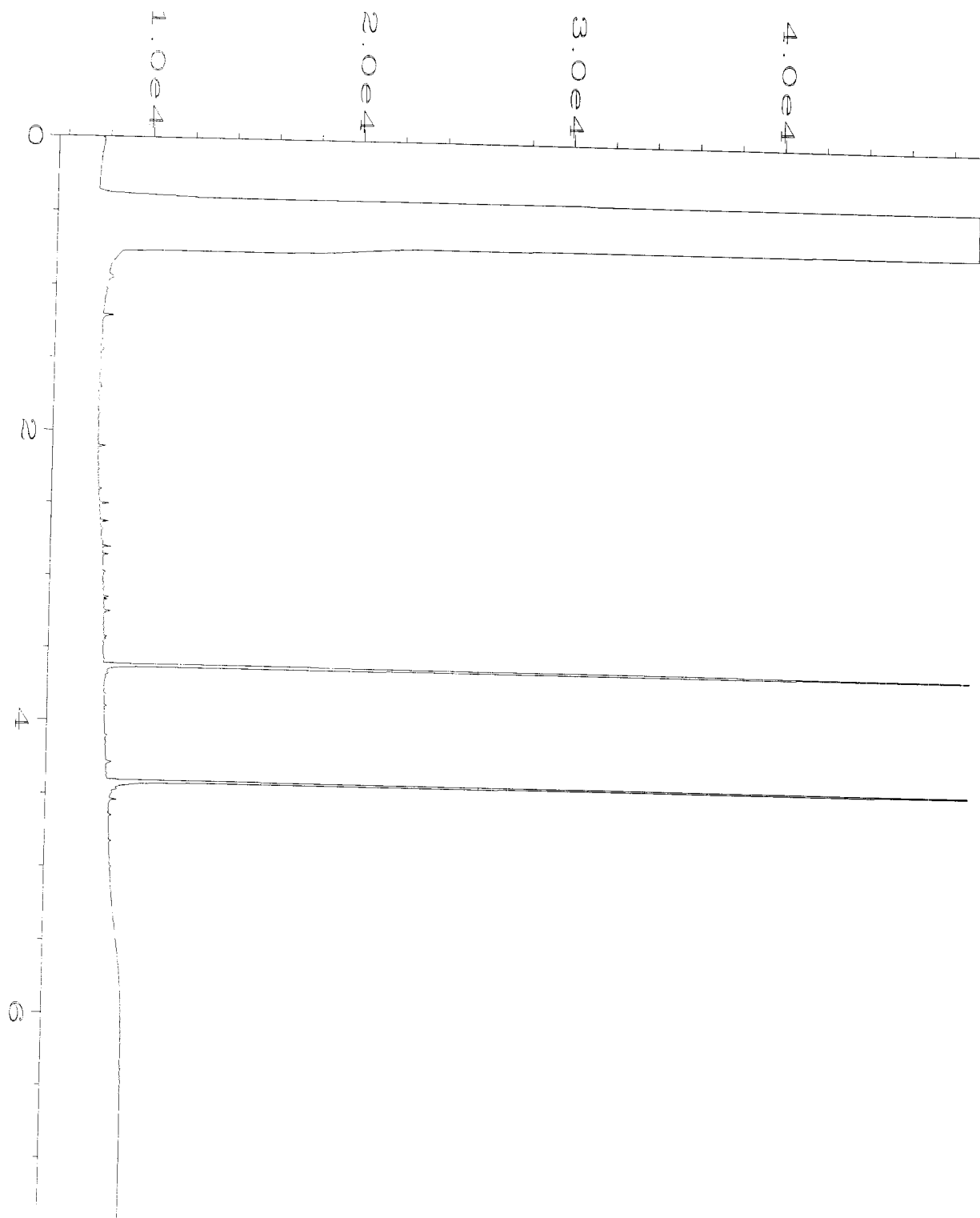


Data File Name	: C:\HPCHEM\6\DATA\06-28-19\026F1301.D	Page Number	: 1
Operator	: TL	Vial Number	: 26
Instrument	: GC6	Injection Number	: 1
Sample Name	: 906279-07	Sequence Line	: 13
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 28 Jun 19 04:27 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Jul 19 10:31 AM		





Data File Name	: C:\HPCHEM\6\DATA\06-28-19\093F1401.D	Page Number	: 1
Operator	: TL	Vial Number	: 93
Instrument	: GC6	Injection Number	: 1
Sample Name	: 500 Dx 57-78E	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 28 Jun 19 05:00 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Jul 19 10:32 AM		



Data File Name	: C:\HPCHEM\1\DATA\06-28-19\006F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 6
Instrument	: GC1	Injection Number	: 1
Sample Name	: 09-1552 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 28 Jun 19 09:33 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Jul 19 10:41 AM		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

July 24, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on July 17, 2019 from the Aloha Cafe 180357, F&BI 907276 project. There are 14 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Data Aspect, Adam Griffin  
ASP0724R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 17, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Cafe 180357, F&BI 907276 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
907276 -01	MW-18-6.5
907276 -02	MW-18-8
907276 -03	MW-18-10
907276 -04	MW-18-15
907276 -05	MW-18-20
907276 -06	B-08-6.0
907276 -07	B-08-8.5
907276 -08	B-08-13.5
907276 -09	B-08-18.5
907276 -10	B-08-23.5
907276 -11	MW-19-6.0
907276 -12	MW-19-8.5
907276 -13	MW-19-13.5
907276 -14	MW-19-18.5
907276 -15	MW-19-23.5
907276 -16	Dup-2
907276 -17	Trip Blank
907276 -18	FD1

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/24/19

Date Received: 07/17/19

Project: Aloha Cafe 180357, F&BI 907276

Date Extracted: 07/22/19

Date Analyzed: 07/23/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-132)
MW-18-10 907276-03	<0.02	<0.02	<0.02	<0.06	<5	93
B-08-13.5 907276-08	<0.02	<0.02	<0.02	<0.06	<5	94
MW-19-8.5 907276-12	<0.02	<0.02	<0.02	<0.06	<5	93
Dup-2 907276-16	<0.02	<0.02	<0.02	<0.06	<5	95
Method Blank 09-1723 MB	<0.02	<0.02	<0.02	<0.06	<5	74

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/24/19

Date Received: 07/17/19

Project: Aloha Cafe 180357, F&BI 907276

Date Extracted: 07/18/19

Date Analyzed: 07/18/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 8021B AND NWTPH-Gx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
Trip Blank 907276-17	<1	<1	<1	<3	<100	100
Method Blank 09-1712 MB	<1	<1	<1	<3	<100	102

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/24/19

Date Received: 07/17/19

Project: Aloha Cafe 180357, F&BI 907276

Date Extracted: 07/18/19

Date Analyzed: 07/18/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
MW-18-10 907276-03	<50	<250	94
B-08-13.5 907276-08	<50	<250	92
MW-19-8.5 907276-12	<50	<250	92
Dup-2 907276-16	<50	<250	93
Method Blank 09-1731 MB	<50	<250	98



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-18-10	Client:	Aspect Consulting, LLC
Date Received:	07/17/19	Project:	Aloha Cafe 180357, F&BI 907276
Date Extracted:	07/18/19	Lab ID:	907276-03
Date Analyzed:	07/18/19	Data File:	071815.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	93	107
Toluene-d8	100	87	110
4-Bromofluorobenzene	97	85	112

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-08-13.5	Client:	Aspect Consulting, LLC
Date Received:	07/17/19	Project:	Aloha Cafe 180357, F&BI 907276
Date Extracted:	07/18/19	Lab ID:	907276-08
Date Analyzed:	07/18/19	Data File:	071816.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	93	107
Toluene-d8	97	87	110
4-Bromofluorobenzene	96	85	112

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-19-8.5	Client:	Aspect Consulting, LLC
Date Received:	07/17/19	Project:	Aloha Cafe 180357, F&BI 907276
Date Extracted:	07/18/19	Lab ID:	907276-12
Date Analyzed:	07/18/19	Data File:	071817.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	93	107
Toluene-d8	97	87	110
4-Bromofluorobenzene	98	85	112

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Dup-2	Client:	Aspect Consulting, LLC
Date Received:	07/17/19	Project:	Aloha Cafe 180357, F&BI 907276
Date Extracted:	07/18/19	Lab ID:	907276-16
Date Analyzed:	07/18/19	Data File:	071818.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	93	107
Toluene-d8	97	87	110
4-Bromofluorobenzene	96	85	112

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 907276
Date Extracted:	07/18/19	Lab ID:	09-1684 mb
Date Analyzed:	07/18/19	Data File:	071814.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	98	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/24/19

Date Received: 07/17/19

Project: Aloha Cafe 180357, F&BI 907276

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 907338-06 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	15	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	109	69-120
Toluene	mg/kg (ppm)	0.5	114	70-117
Ethylbenzene	mg/kg (ppm)	0.5	113	65-123
Xylenes	mg/kg (ppm)	1.5	114	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/24/19

Date Received: 07/17/19

Project: Aloha Cafe 180357, F&BI 907276

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 907267-03 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	2.4	1.6	38 a
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	100	65-118
Toluene	ug/L (ppb)	50	106	72-122
Ethylbenzene	ug/L (ppb)	50	109	73-126
Xylenes	ug/L (ppb)	150	108	74-118
Gasoline	ug/L (ppb)	1,000	105	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/24/19

Date Received: 07/17/19

Project: Aloha Cafe 180357, F&BI 907276

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 907241-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	88	88	73-135	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	100	74-139



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/24/19

Date Received: 07/17/19

Project: Aloha Cafe 180357, F&BI 907276

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 907276-12 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	49	51	10-91	4
Chloroethane	mg/kg (ppm)	2.5	<0.5	65	68	10-101	5
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	67	71	22-107	6
Methylene chloride	mg/kg (ppm)	2.5	<0.5	68	71	14-128	4
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	71	76	13-112	7
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	74	79	23-115	7
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	75	80	25-120	6
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	80	82	22-124	2
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	78	82	27-112	5
Trichloroethene	mg/kg (ppm)	2.5	<0.02	80	81	30-112	1
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	82	83	25-114	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	95	42-107
Chloroethane	mg/kg (ppm)	2.5	92	47-115
1,1-Dichloroethene	mg/kg (ppm)	2.5	91	65-110
Methylene chloride	mg/kg (ppm)	2.5	104	50-127
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	101	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	99	74-109
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	105	73-110
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	96	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	104	72-116
Trichloroethene	mg/kg (ppm)	2.5	95	72-107
Tetrachloroethene	mg/kg (ppm)	2.5	102	73-111

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

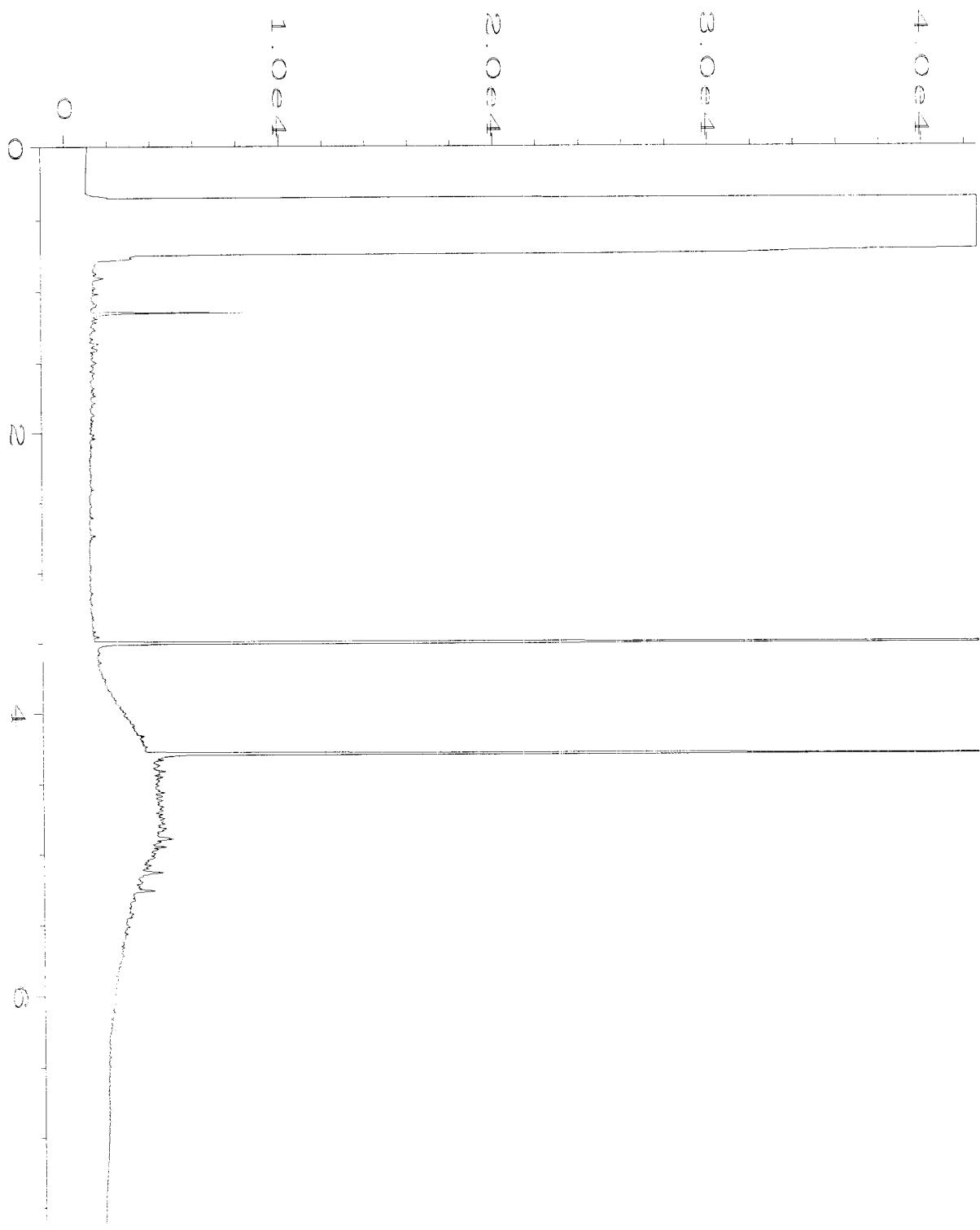
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

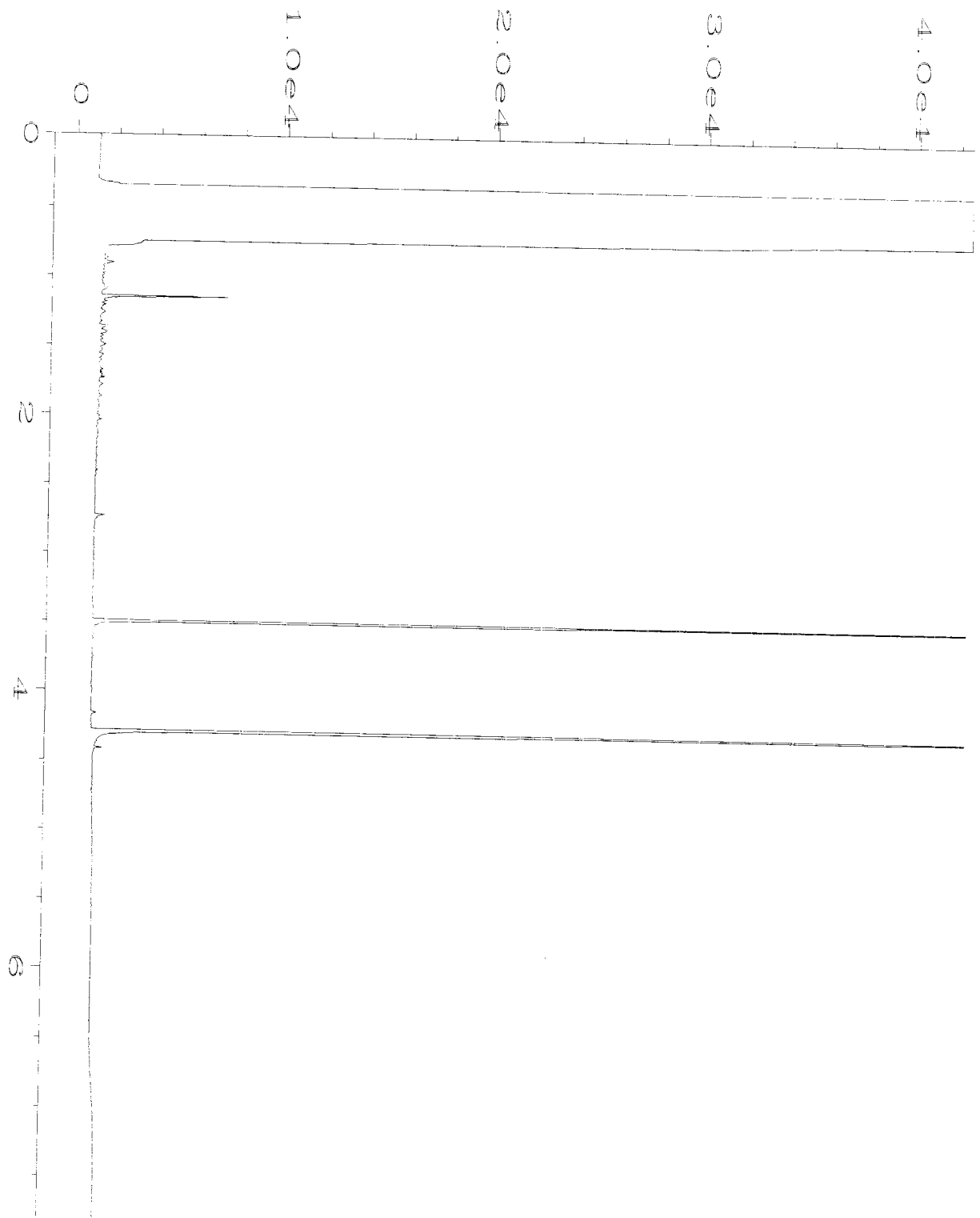
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

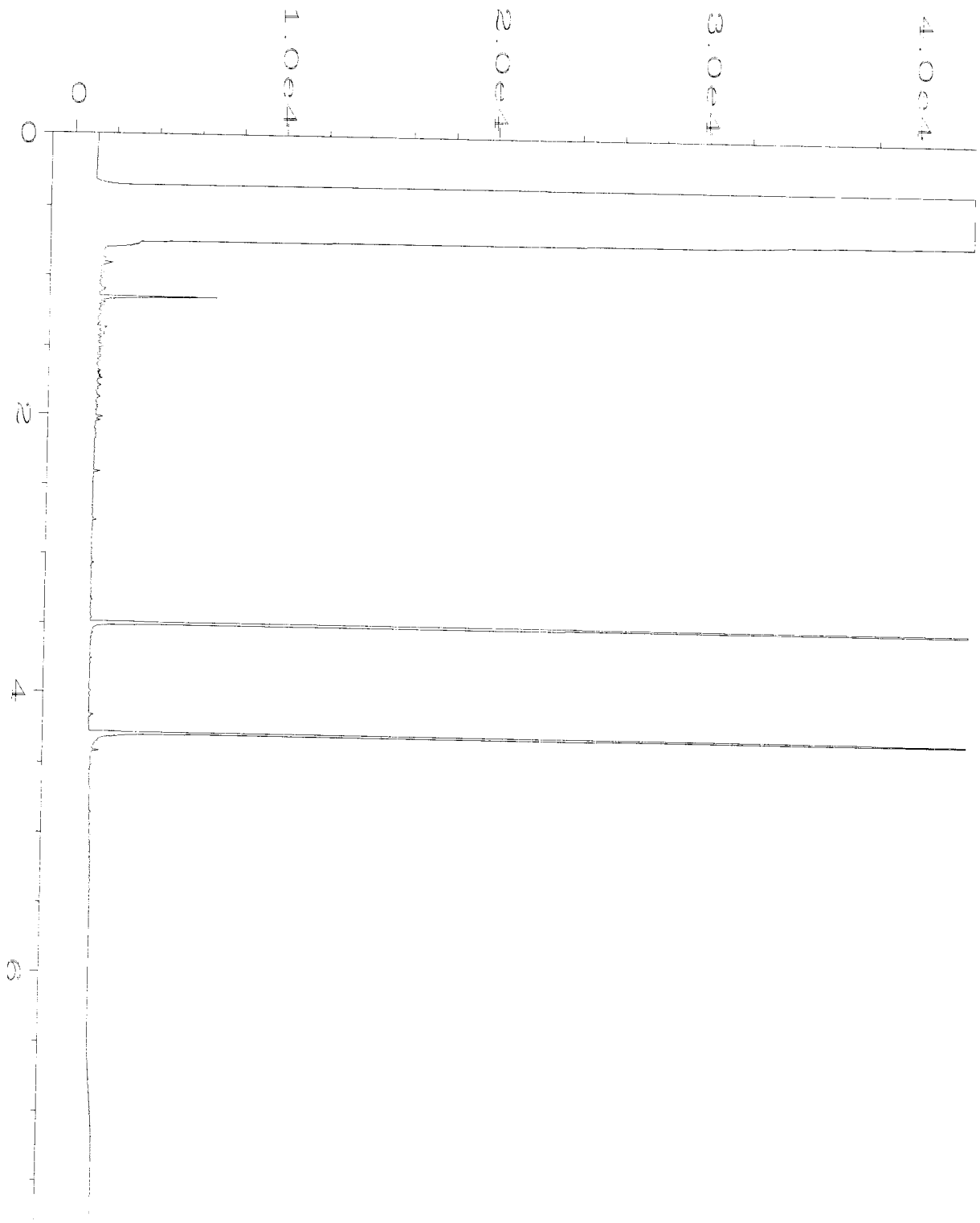
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



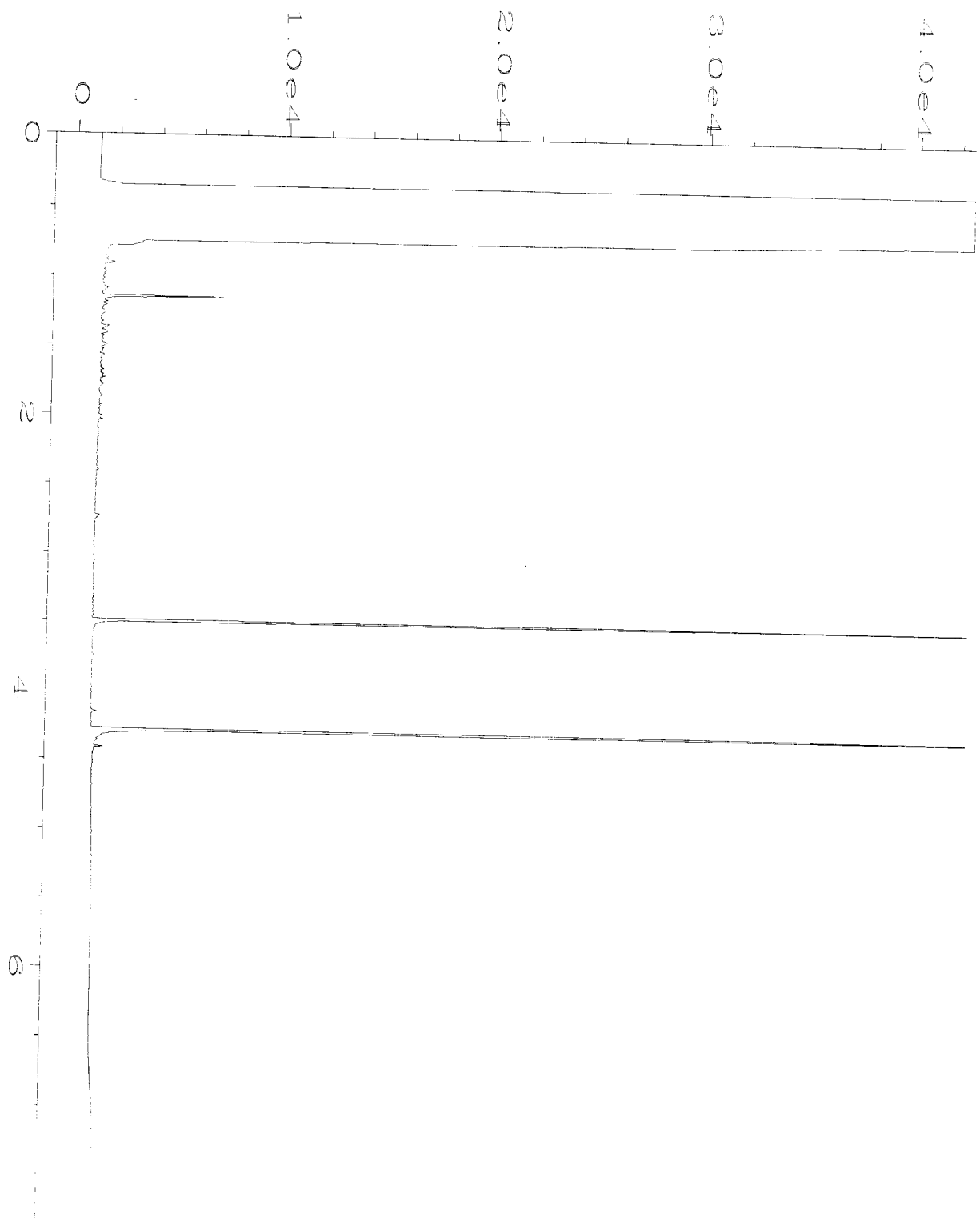
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Operator	: TL	Vial Number	: 24
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 907276-03	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 18 Jul 19 06:25 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	19 Jul 19 09:16 AM		



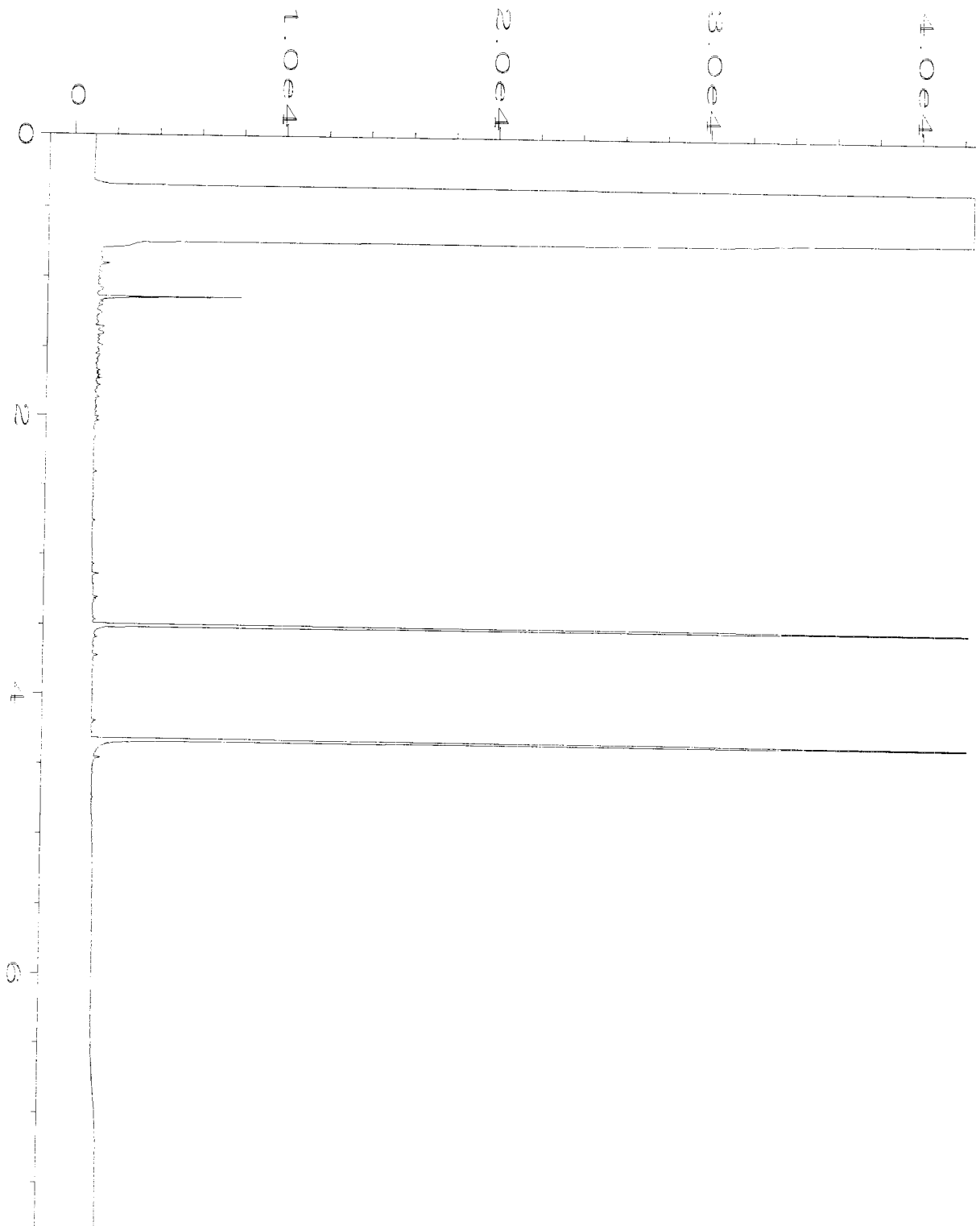
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Operator	: TL	Vial Number	: 25
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 907276-08	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 18 Jul 19 06:37 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	19 Jul 19 09:16 AM		



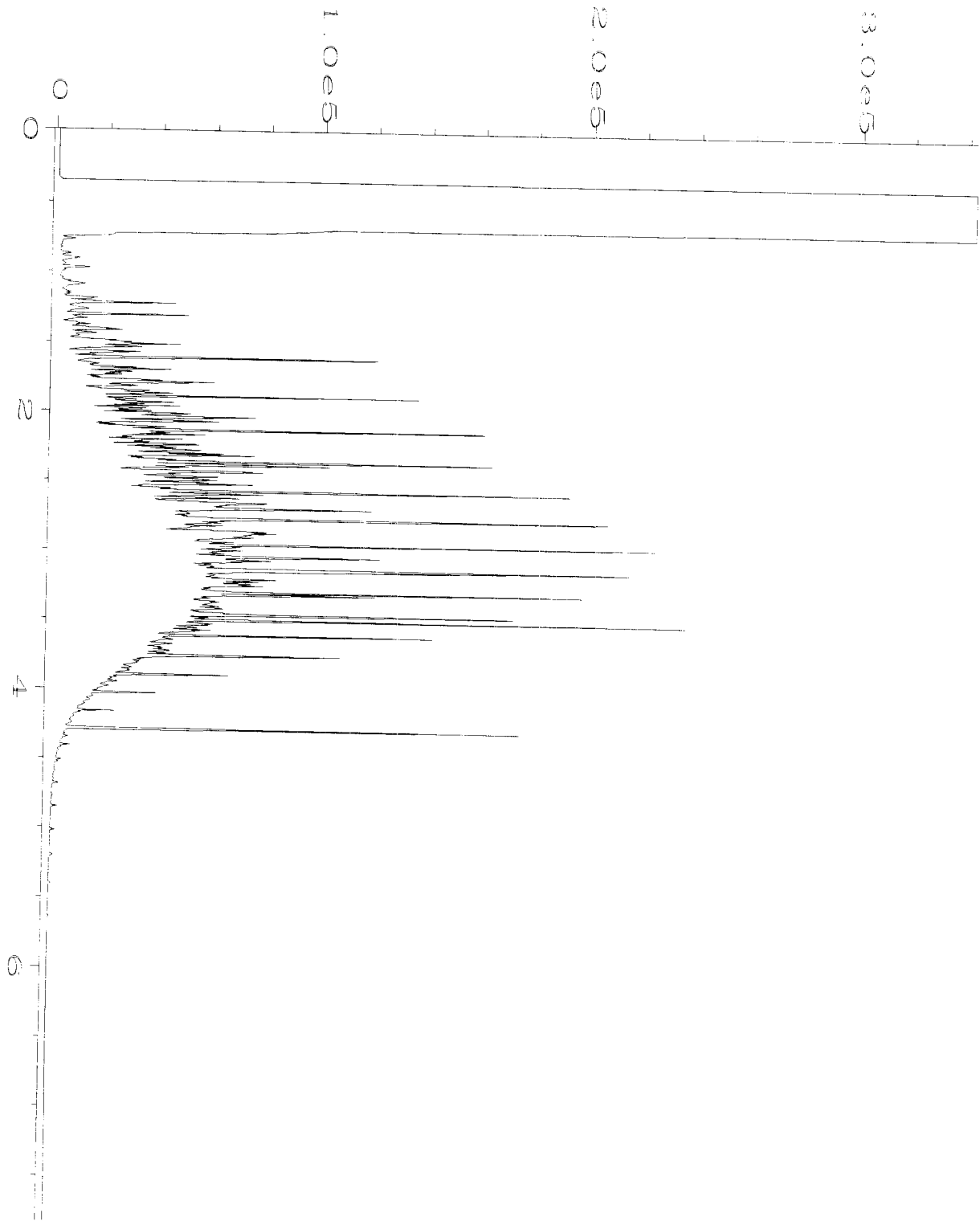
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Operator	: TL	Vial Number	: 26
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 907276-12	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 18 Jul 19 06:49 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	19 Jul 19 09:16 AM		



Data File Name	: C:\HPCHEM\4\DATA\07-18-19\027F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 27
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 907276-16	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 18 Jul 19 07:01 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	19 Jul 19 09:16 AM		



Data File Name	: C:\HPCHEM\4\DATA\07-18-19\006F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 6
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 09-1731 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 18 Jul 19 12:00 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	19 Jul 19 09:11 AM		



Data File Name	: C:\HPCHEM\4\DATA\07-18-19\005F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 57-78B	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 18 Jul 19 09:02 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	19 Jul 19 09:17 AM		



987276

SAMPLE CHAIN OF CUSTODY ME 07-17-19

Page # 805 of 1842

Report To: ~~Alaska~~ ~~Yonkers~~ ~~Alum~~ ~~Station~~

Company: Aspect Consulting

Address: 710 2nd Ave Ste 550

City, State, ZIP: Seattle, WA 98104

Phone: (206) 413-5411 Email: ayp@aspectconsulting.com

SAMPLERS (signature) <u>[Signature]</u>	
PROJECT NAME	<u>Alona Cole</u>
REMARKS	<u>AP</u>
PO #	<u>10357</u>
INVOICE TO	<u>AP</u>

TURNAROUND TIME

Standard Turnaround

RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other \_\_\_\_\_

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes	
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM		
MW-18-6.5	01A-E	7/15/19	1053	S	5									X-pr AY
MW-18-8	02		1102											7/17/19
MW-18-10	03		1108			X	X	X	X					ME
MW-18-15	04		1121											
MW-18-20	05	X	1144	SS soil	5									
B-08-6.0	06	7/16/19	1010											
B-08-8.5	07		1015											
B-08-13.5	08		1030			X	X	X	X					
B-08-18.5	09		1040											
B-08-23.5	10		1050											

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
<u>[Signature]</u>		<u>Daniel Boreck</u>		<u>Aspect Consulting</u>		<u>7/17/19</u>	<u>0940</u>
Relinquished by:		Received by:		Relinquished by:			
<u>[Signature]</u>		<u>[Signature]</u>		<u>Nhan Phan</u>		<u>7/17/19</u>	<u>0940</u>
Received by:		Samples received at					
<u>[Signature]</u>		<u>4</u>					

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

**SAMPLE CHAIN OF CUSTODY**

987776  
 ME 07-017-19  
 154 / B05  
 B 3/17

Report To: Andrew ~~Winkler~~ Alden Co. Inc.

Company: Aspect Consulting

City, State, ZIP: Seattle WA

Phone: 206-413-5411 Email: awinkler@aspectconsulting.com

SAMPLERS (signature) Daniel U. + Danielle B  
 PROJECT NAME: Alaska Cafe  
 PO #: 180357

REMARKS: \_\_\_\_\_  
 INVOICE TO: \_\_\_\_\_

Page # 1 of 2  
 TURNOURUND TIME  
 Standard Turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes			
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM				
MU-19-6.0	11 A-E	7/16/19	1320	Soil	5											
MU-19-8.5	12		1330			X	X	X	X							USM 14/14/19
MU-19-13.5	13		1340													USM 14/14/19
MU-19-18.5	14		1350													VOC labeled 8/19
MU-19-23.5	15		1410													
DUP-2	16					X	X	X	X							
Trip Blank	17 A-B			Water	4		X	X								
FD1	18 A-E	7/15/19														add to M 14/19

Friedman & Bruya, Inc.  
 3012 16<sup>th</sup> Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Daniel U. + Danielle B	Aspect Consulting	7/17/19	0940
<i>[Signature]</i>	Nhan Phan	Aspect Consulting	7/17/19	0940
Received by: _____				
Relinquished by: _____				
Received by: _____				

Samples received at FCG

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 9, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on July 30, 2019 from the Aloha Cafe 180357, F&BI 907561 project. There are 22 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP0809R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 30, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Cafe 180357, F&BI 907561 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
907561 -01	GP-01-072519
907561 -02	GP-02-072519
907561 -03	GP-03-072519
907561 -04	Dup-1-072519
907561 -05	GP-04-072519
907561 -06	SVS-02-072519
907561 -07	SVS-01-072519
907561 -08	Trip Blank

The APH EC5-8 aliphatics concentrations in samples GP-03-072519, Dup-1-072519, and SVS-02-072519 exceeded the calibration range of the instrument. The data were flagged accordingly.

APH EC9-12 aliphatics was detected in the TO-15 method blank at a level greater than one tenth the concentration detected in sample Dup-1-072519 and SVS-02-072519. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-01-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-01 1/3.2
Date Analyzed:	08/02/19	Data File:	080214.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	410
APH EC9-12 aliphatics	2,200
APH EC9-10 aromatics	<80

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-02-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-02 1/3.1
Date Analyzed:	08/03/19	Data File:	080216.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	350
APH EC9-12 aliphatics	2,600
APH EC9-10 aromatics	<77

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-03-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-03 1/7.5
Date Analyzed:	08/03/19	Data File:	080220.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	12,000 ve
APH EC9-12 aliphatics	3,600
APH EC9-10 aromatics	<190

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Dup-1-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-04 1/7.8
Date Analyzed:	08/03/19	Data File:	080221.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	76	70	130

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	12,000 ve
APH EC9-12 aliphatics	2,700 fb
APH EC9-10 aromatics	<190



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-04-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-05 1/3.2
Date Analyzed:	08/03/19	Data File:	080217.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	510
APH EC9-12 aliphatics	1,800
APH EC9-10 aromatics	100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SVS-02-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-06 1/3.1
Date Analyzed:	08/03/19	Data File:	080218.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	88	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	2,200 ve
APH EC9-12 aliphatics	1,100 fb
APH EC9-10 aromatics	100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SVS-01-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-07 1/3.1
Date Analyzed:	08/03/19	Data File:	080219.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	1,000
APH EC9-12 aliphatics	1,300
APH EC9-10 aromatics	78

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-08
Date Analyzed:	08/02/19	Data File:	080213.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	83	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<46
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357
Date Collected:	Not Applicable	Lab ID:	09-1852 mb
Date Analyzed:	08/02/19	Data File:	080212.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<46
APH EC9-12 aliphatics	37 lc
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-01-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-01 1/3.2
Date Analyzed:	08/02/19	Data File:	080214.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<5.8	<1.6
1,2-Dichloroethane (EDC)	<0.13	<0.032
Benzene	3.8	1.2
Toluene	28	7.4
1,2-Dibromoethane (EDB)	<0.25	<0.032
Ethylbenzene	6.0	1.4
m,p-Xylene	24	5.4
o-Xylene	8.9	2.1
Naphthalene	<0.84	<0.16

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-02-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-02 1/3.1
Date Analyzed:	08/03/19	Data File:	080216.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<5.6	<1.5
1,2-Dichloroethane (EDC)	<0.13	<0.031
Benzene	1.5	0.47
Toluene	12	3.2
1,2-Dibromoethane (EDB)	<0.24	<0.031
Ethylbenzene	3.4	0.78
m,p-Xylene	13	3.0
o-Xylene	5.3	1.2
Naphthalene	<0.81	<0.15

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-03-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-03 1/7.5
Date Analyzed:	08/03/19	Data File:	080220.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<14	<3.7
1,2-Dichloroethane (EDC)	<0.3	<0.075
Benzene	3.9	1.2
Toluene	17	4.6
1,2-Dibromoethane (EDB)	<0.58	<0.075
Ethylbenzene	4.9	1.1
m,p-Xylene	19	4.4
o-Xylene	8.1	1.9
Naphthalene	<2	<0.37



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Dup-1-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-04 1/7.8
Date Analyzed:	08/03/19	Data File:	080221.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	74	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<14	<3.9
1,2-Dichloroethane (EDC)	<0.32	<0.078
Benzene	3.4	1.1
Toluene	15	4.0
1,2-Dibromoethane (EDB)	<0.6	<0.078
Ethylbenzene	3.9	0.90
m,p-Xylene	15	3.5
o-Xylene	6.5	1.5
Naphthalene	<2	<0.39

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-04-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-05 1/3.2
Date Analyzed:	08/03/19	Data File:	080217.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<5.8	<1.6
1,2-Dichloroethane (EDC)	<0.13	<0.032
Benzene	1.2	0.36
Toluene	11	2.9
1,2-Dibromoethane (EDB)	<0.25	<0.032
Ethylbenzene	3.4	0.78
m,p-Xylene	13	3.1
o-Xylene	5.7	1.3
Naphthalene	<0.84	<0.16

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SVS-02-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-06 1/3.1
Date Analyzed:	08/03/19	Data File:	080218.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	86	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<5.6	<1.5
1,2-Dichloroethane (EDC)	<0.13	<0.031
Benzene	3.3	1.0
Toluene	13	3.3
1,2-Dibromoethane (EDB)	<0.24	<0.031
Ethylbenzene	2.9	0.66
m,p-Xylene	9.5	2.2
o-Xylene	4.7	1.1
Naphthalene	<0.81	<0.15

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SVS-01-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-07 1/3.1
Date Analyzed:	08/03/19	Data File:	080219.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<5.6	<1.5
1,2-Dichloroethane (EDC)	<0.13	<0.031
Benzene	2.2	0.68
Toluene	9.3	2.5
1,2-Dibromoethane (EDB)	<0.24	<0.031
Ethylbenzene	2.6	0.61
m,p-Xylene	9.9	2.3
o-Xylene	4.5	1.0
Naphthalene	<0.81	<0.15

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357
Date Collected:	07/25/19	Lab ID:	907561-08
Date Analyzed:	08/02/19	Data File:	080213.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	81	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<1.8	<0.5
1,2-Dichloroethane (EDC)	<0.04	<0.01
Benzene	<0.32	<0.1
Toluene	<0.38	<0.1
1,2-Dibromoethane (EDB)	<0.077	<0.01
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357
Date Collected:	Not Applicable	Lab ID:	09-1852 mb
Date Analyzed:	08/02/19	Data File:	080212.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<1.8	<0.5
1,2-Dichloroethane (EDC)	<0.04	<0.01
Benzene	<0.32	<0.1
Toluene	<0.38	<0.1
1,2-Dibromoethane (EDB)	<0.077	<0.01
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/09/19

Date Received: 07/30/19

Project: Aloha Cafe 180357, F&BI 907561

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 907561-01 1/3.2 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	410	440	7
APH EC9-12 aliphatics	ug/m3	2,200	2,100	5
APH EC9-10 aromatics	ug/m3	<80	<80	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	45	96	70-130
APH EC9-12 aliphatics	ug/m3	45	127	70-130
APH EC9-10 aromatics	ug/m3	45	92	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/09/19

Date Received: 07/30/19

Project: Aloha Cafe 180357, F&BI 907561

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Acceptance Criteria
			Recovery LCS	
Methyl t-butyl ether (MTBE)	ppbv	5	83	70-130
1,2-Dichloroethane (EDC)	ppbv	5	105	70-130
Benzene	ppbv	5	94	70-130
Toluene	ppbv	5	91	70-130
1,2-Dibromoethane (EDB)	ppbv	5	103	70-130
Ethylbenzene	ppbv	5	103	70-130
m,p-Xylene	ppbv	10	104	70-130
o-Xylene	ppbv	5	107	70-130
Naphthalene	ppbv	5	81	70-130



# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

407561

SAMPLE CHAIN OF CUSTODY

ME 07/30/19

Page # of

Report To: Andrew York/MSK  
 Company: Aspect Consulting  
 Address: 710 2nd Ave Ste 550 Seattle WA  
 City, State, ZIP: \_\_\_\_\_  
 Phone: 316.617.0444 Email: york@aspectconsulting.com

SAMPLERS (signature) _____		PROJECT NAME <u>Alpine Cafe</u>	PO # <u>180357</u>
REPORTING LEVEL <input checked="" type="checkbox"/> Indoor Air <input type="checkbox"/> Sub Slab/Soil Gas		INVOICE TO	
<input type="checkbox"/> Deep Soil Gas <input type="checkbox"/> SVE/Grab			

TURNAROUND TIME <input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH Rush charges authorized by: _____	SAMPLE DISPOSAL <input checked="" type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Archive Samples <input type="checkbox"/> Other
---	--

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Contr. ID	Date Sampled	Field Initial Press. (Hg)	Field Initial Time	Field Final Press. (Hg)	Field Final Time	TO-15 Full Scan	TO-15 BTEXN	TO-15 cVOCs	Notes
GP-01-072519	61	3664	242	7/25/19	30	1010	5	1016			X	All sampled for BTEX, MTBE, EDB, EDC, MAAPH.
GP-02-072519	02	3540	255	7/25/19	30	1102	5	1107			X	Naphthalene, & MAAPH
GP-03-072519	03	3617	257	7/25/19	30	1135	5	1141			X	
Dup-1-072519	04	2302	224	7/25/19	30		5				X	Collected within the time of the other sample
GP-04-072519	05	3287	204	7/25/19	30	1222	5	1227			X	
SVS-02-072519	06	2297	244	7/25/19	30	1330	5	1335			X	
SVS-D1-072519	07	3387	259	7/25/19	30	1357	5	1403			X	
Trip Blank	08	2432	-	-	-	-	-	-			X	Samples received at 25 °C

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044  
 FORMS\COC\COCTO-15.DOC

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by: _____	_____	Daniel Brack	Aspect Consulting	7/30/19	1536		
Received by: _____	_____	DAVID WILLIAMS	FED EX	7/30/19	3:26		
Relinquished by: _____	_____	_____	_____	_____	_____		
Received by: _____	_____	_____	_____	_____	_____		

7/30/19

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 28, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the additional results from the testing of material submitted on July 30, 2019 from the Aloha Cafe 180357, F&BI 907561 project. There are 7 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP0828R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 30, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Cafe 180357, F&BI 907561 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
907561 -01	GP-01-072519
907561 -02	GP-02-072519
907561 -03	GP-03-072519
907561 -04	Dup-1-072519
907561 -05	GP-04-072519
907561 -06	SVS-02-072519
907561 -07	SVS-01-072519
907561 -08	Trip Blank

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-03-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357, F&BI 907561
Date Collected:	07/25/19	Lab ID:	907561-03 1/37
Date Analyzed:	08/14/19	Data File:	081328.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	115	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	8,700
APH EC9-12 aliphatics	9,600
APH EC9-10 aromatics	<920

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Dup-1-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357, F&BI 907561
Date Collected:	07/25/19	Lab ID:	907561-04 1/39
Date Analyzed:	08/14/19	Data File:	081329.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	106	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	9,100
APH EC9-12 aliphatics	11,000
APH EC9-10 aromatics	<970

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SVS-02-072519	Client:	Aspect Consulting, LLC
Date Received:	07/30/19	Project:	Aloha Cafe 180357, F&BI 907561
Date Collected:	07/25/19	Lab ID:	907561-06 1/7.7
Date Analyzed:	08/14/19	Data File:	081327.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	81	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	1,700
APH EC9-12 aliphatics	860
APH EC9-10 aromatics	<190

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 907561
Date Collected:	Not Applicable	Lab ID:	09-1864 mb
Date Analyzed:	08/13/19	Data File:	081310.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	103	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<46
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/28/19

Date Received: 07/30/19

Project: Aloha Cafe 180357, F&BI 907561

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 908226-03 1/3.3 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	390	440	12
APH EC9-12 aliphatics	ug/m3	350	340	3
APH EC9-10 aromatics	ug/m3	<82	<82	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	45	97	70-130
APH EC9-12 aliphatics	ug/m3	45	123	70-130
APH EC9-10 aromatics	ug/m3	45	91	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

407561

SAMPLE CHAIN OF CUSTODY

ME 07/30/19

Page # of

Report To: Andrew York/MSK  
 Company: Aspect Consulting  
 Address: 710 2nd Ave Ste 550 Seattle WA  
 City, State, ZIP: \_\_\_\_\_  
 Phone: 316.617.0444 Email: york@aspectconsulting.com

SAMPLERS (signature) \_\_\_\_\_  
 PROJECT NAME: Alpine Cafe  
 REPORTING LEVEL:  Indoor Air  Deep Soil Gas  SVE/Grab  
 Sub Slab/Soil Gas  
 PO #: 180357  
 INVOICE TO: \_\_\_\_\_

TURNAROUND TIME:  Standard  RUSH  
 Rush charges authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL:  Dispose after 30 days  Archive Samples  Other

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Contr. ID	Date Sampled	Field Initial Press. (Hg)	Field Initial Time	Field Final Press. (Hg)	Field Final Time	TO-15 Full Scan	TO-15 BTEXN	TO-15 cVOCs	Notes
GP-01-072519	61	3664	242	7/25/19	30	1010	5	1016			EPATO-15 BTEX, MTBE, EDB, EDC, MA, APH.	All sampled for BTEX, MTBE, EDB, EDC, Naphthalene, & MA, APH
GP-02-072519	02	3540	255	7/25/19	30	1102	5	1107			X	
GP-03-072519	03	3667	257	7/25/19	30	1135	5	1141			X	
Dup-1-072519	04	2302	224	7/25/19	30		5				X	Collected within the time of the other sample
GP-04-072519	05	3287	204	7/25/19	30	1222	5	1227			X	
SVS-02-072519	06	2297	244	7/25/19	30	1330	5	1335			X	
SVS-D1-072519	07	3387	259	7/25/19	30	1357	5	1403			X	
Trip Blank	08	2432	-	-	-	-	-	-			X	Samples received at 25 °C

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044  
 FORMS\COC\COCTO-15.DOC

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Received by: _____	_____	Daniel Brack	ASPECT CONSULTING	7/30/19	3:26		
Relinquished by: _____	_____	_____	_____	7/30/19	1536		
Received by: _____	_____	_____	_____	7/30/19			

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 12, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on August 1, 2019 from the Aloha Cafe 180357, F&BI 908023 project. There are 51 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP0812R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 1, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Cafe 180357, F&BI 908023 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
908023 -01	MW-16-073119
908023 -02	MW-18-073119
908023 -03	MW-14-073119
908023 -04	MW-13-073119
908023 -05	Dup-01-073119
908023 -06	MW-17-073119
908023 -07	MW-19-073119
908023 -08	MW-7-073119
908023 -09	MW-11-073119
908023 -10	MW-6-073119
908023 -11	MW-12-080119
908023 -12	MW-2-080119
908023 -13	MW-10-080119
908023 -14	MW-9-080119
908023 -15	Rinse Blank-080119
908023 -16	MW-1-080119
908023 -17	Trip Blank

The NWTPH-Dx surrogate in sample Rinse Blank-080119 exceeded the acceptance criteria. No material was detected in the sample, therefore the results were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

Date Extracted: 08/06/19

Date Analyzed: 08/06/19, 08/07/19, 08/08/19, and 08/12/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-16-073119 908023-01	<100	109
MW-18-073119 908023-02	<100	110
MW-14-073119 908023-03	7,500	106
MW-13-073119 908023-04	1,400	92
Dup-01-073119 908023-05	9,700	107
MW-17-073119 908023-06 1/10	1,800	100
MW-19-073119 908023-07	<100	109
MW-7-073119 908023-08	<100	113
MW-11-073119 908023-09 1/20	13,000	98
MW-6-073119 908023-10	<100	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

Date Extracted: 08/06/19

Date Analyzed: 08/06/19, 08/07/19, 08/08/19, and 08/12/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-12-080119 908023-11	240	119
MW-2-080119 908023-12	1,600	114
MW-10-080119 908023-13 1/20	19,000	109
MW-9-080119 908023-14	<100	101
Rinse Blank-080119 908023-15	<100	91
MW-1-080119 908023-16 1/20	24,000	105
Trip Blank 908023-17	<100	95
Method Blank 09-1950 MB	<100	99
Method Blank 09-1903 MB	<100	116

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

Date Extracted: 08/02/19

Date Analyzed: 08/02/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
MW-16-073119 908023-01	84 x	<250	119
MW-18-073119 908023-02	55 x	<250	108
MW-14-073119 908023-03	1,200 x	330 x	121
MW-13-073119 908023-04	530 x	<250	131
Dup-01-073119 908023-05	1,100 x	270 x	116
MW-17-073119 908023-06	320 x	<250	113
MW-19-073119 908023-07	<50	<250	115
MW-7-073119 908023-08	83 x	<250	114
MW-11-073119 908023-09	1,100 x	<250	116
MW-6-073119 908023-10	68 x	<250	118
MW-12-080119 908023-11	310 x	<250	114



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

Date Extracted: 08/02/19

Date Analyzed: 08/02/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
MW-2-080119 908023-12	790 x	<250	128
MW-10-080119 908023-13	1,900 x	260 x	125
MW-9-080119 908023-14	88 x	<250	122
Rinse Blank-080119 908023-15	<50	<250	142 vo
MW-1-080119 908023-16	2,100 x	1,000 x	126
Method Blank 09-1899 MB	<50	<250	101

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-16-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-01
Date Analyzed:	08/05/19	Data File:	908023-01.059
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-18-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-02
Date Analyzed:	08/05/19	Data File:	908023-02.062
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-14-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-03
Date Analyzed:	08/05/19	Data File:	908023-03.063
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-13-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-04
Date Analyzed:	08/05/19	Data File:	908023-04.064
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Dup-01-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-05
Date Analyzed:	08/05/19	Data File:	908023-05.065
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-17-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-06
Date Analyzed:	08/05/19	Data File:	908023-06.066
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-19-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-07
Date Analyzed:	08/05/19	Data File:	908023-07.069
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-7-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-08
Date Analyzed:	08/05/19	Data File:	908023-08.070
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-11-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-09
Date Analyzed:	08/05/19	Data File:	908023-09.071
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	3.49
------	------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-6-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-10
Date Analyzed:	08/05/19	Data File:	908023-10.072
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-12-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-11
Date Analyzed:	08/05/19	Data File:	908023-11.073
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-2-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-12
Date Analyzed:	08/05/19	Data File:	908023-12.074
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-10-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-13
Date Analyzed:	08/05/19	Data File:	908023-13.075
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-9-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-14
Date Analyzed:	08/05/19	Data File:	908023-14.076
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Rinse Blank-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-15
Date Analyzed:	08/05/19	Data File:	908023-15.077
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-1-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-16
Date Analyzed:	08/05/19	Data File:	908023-16.078
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	I9-472 mb
Date Analyzed:	08/05/19	Data File:	I9-472 mb.057
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-16-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-01
Date Analyzed:	08/02/19	Data File:	080221.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-18-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-02
Date Analyzed:	08/02/19	Data File:	080222.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	1.0
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-03
Date Analyzed:	08/02/19	Data File:	080223.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.7
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	1,300 ve
Trichloroethene	<1
Toluene	32
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	130
m,p-Xylene	72
o-Xylene	18
Naphthalene	50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-03 1/100
Date Analyzed:	08/05/19	Data File:	080543.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
Methyl t-butyl ether (MTBE)	<100
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	<100
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Benzene	2,400
Trichloroethene	<100
Toluene	<100
Tetrachloroethene	<100
1,2-Dibromoethane (EDB)	<100
Ethylbenzene	120
m,p-Xylene	<200
o-Xylene	<100
Naphthalene	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-04
Date Analyzed:	08/05/19	Data File:	080530.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	7.5
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Dup-01-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-05
Date Analyzed:	08/02/19	Data File:	080225.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.8
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	1,400 ve
Trichloroethene	<1
Toluene	45
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	190 ve
m,p-Xylene	120
o-Xylene	25
Naphthalene	77



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Dup-01-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-05 1/100
Date Analyzed:	08/05/19	Data File:	080544.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
Methyl t-butyl ether (MTBE)	<100
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	<100
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Benzene	3,500
Trichloroethene	<100
Toluene	<100
Tetrachloroethene	<100
1,2-Dibromoethane (EDB)	<100
Ethylbenzene	170
m,p-Xylene	<200
o-Xylene	<100
Naphthalene	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-17-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-06
Date Analyzed:	08/05/19	Data File:	080531.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-19-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-07
Date Analyzed:	08/05/19	Data File:	080532.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	<0.35
Trichloroethene	1.0
Toluene	<1
Tetrachloroethene	17
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-7-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-08
Date Analyzed:	08/05/19	Data File:	080533.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-09
Date Analyzed:	08/02/19	Data File:	080229.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	320 ve
Toluene	1,600 ve
Ethylbenzene	450 ve
m,p-Xylene	1,300 ve
o-Xylene	460 ve
Naphthalene	42

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-09 1/100
Date Analyzed:	08/05/19	Data File:	080545.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
1,2-Dichloroethane (EDC)	<100
1,2-Dibromoethane (EDB)	<100
Benzene	320
Toluene	1,800
Ethylbenzene	410
m,p-Xylene	1,000
o-Xylene	400
Naphthalene	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-6-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-10
Date Analyzed:	08/05/19	Data File:	080534.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-11
Date Analyzed:	08/05/19	Data File:	080535.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	0.59
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-12
Date Analyzed:	08/02/19	Data File:	080232.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	13
Toluene	2.2
Ethylbenzene	6.5
m,p-Xylene	5.6
o-Xylene	1.8
Naphthalene	33

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-10-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-13
Date Analyzed:	08/02/19	Data File:	080233.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	1,200 ve
Toluene	44
Ethylbenzene	680 ve
m,p-Xylene	1,300 ve
o-Xylene	2.7
Naphthalene	190 ve

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-10-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-13 1/100
Date Analyzed:	08/05/19	Data File:	080546.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	94	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
1,2-Dichloroethane (EDC)	<100
1,2-Dibromoethane (EDB)	<100
Benzene	2,400
Toluene	<100
Ethylbenzene	670
m,p-Xylene	1,100
o-Xylene	<100
Naphthalene	160

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-9-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-14
Date Analyzed:	08/05/19	Data File:	080536.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Rinse Blank-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-15
Date Analyzed:	08/07/19	Data File:	080738.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-1-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-16
Date Analyzed:	08/02/19	Data File:	080236.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	1,400 ve
Toluene	420 ve
Ethylbenzene	550 ve
m,p-Xylene	1,500 ve
o-Xylene	380 ve
Naphthalene	130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-1-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-16 1/100
Date Analyzed:	08/05/19	Data File:	080547.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
1,2-Dichloroethane (EDC)	<100
1,2-Dibromoethane (EDB)	<100
Benzene	4,200
Toluene	410
Ethylbenzene	520
m,p-Xylene	1,300
o-Xylene	350
Naphthalene	110

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-17
Date Analyzed:	08/05/19	Data File:	080537.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	<0.35
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	09-1853 mb
Date Analyzed:	08/02/19	Data File:	080220.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	<0.35
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 908067-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	95	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	5,000	97	88	61-133	10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 908023-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	<1	68 b	68 b	75-125	0 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	94	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 908023-11 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	98	61-139
Chloroethane	ug/L (ppb)	50	<1	104	55-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	113	71-123
Methylene chloride	ug/L (ppb)	50	<5	88	61-126
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	96	68-125
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	101	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	99	79-113
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	96	63-126
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	104	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	103	75-121
Benzene	ug/L (ppb)	50	0.72	100	75-114
Trichloroethene	ug/L (ppb)	50	<1	100	73-122
Toluene	ug/L (ppb)	50	<1	102	73-117
Tetrachloroethene	ug/L (ppb)	50	<1	100	40-155
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	110	79-120
Ethylbenzene	ug/L (ppb)	50	<1	103	66-124
m,p-Xylene	ug/L (ppb)	100	<2	106	63-128
o-Xylene	ug/L (ppb)	50	<1	102	64-129
Naphthalene	ug/L (ppb)	50	<1	104	60-145

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	96	100	70-128	4
Chloroethane	ug/L (ppb)	50	104	108	66-149	4
1,1-Dichloroethene	ug/L (ppb)	50	109	112	72-121	3
Methylene chloride	ug/L (ppb)	50	85	87	63-132	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	92	96	70-122	4
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	100	76-118	2
1,1-Dichloroethane	ug/L (ppb)	50	96	98	77-119	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	94	97	76-119	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	103	106	75-116	3
1,1,1-Trichloroethane	ug/L (ppb)	50	103	106	80-116	3
Benzene	ug/L (ppb)	50	96	100	75-116	4
Trichloroethene	ug/L (ppb)	50	100	103	72-119	3
Toluene	ug/L (ppb)	50	100	104	79-115	4
Tetrachloroethene	ug/L (ppb)	50	100	103	78-109	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	111	117	82-118	5
Ethylbenzene	ug/L (ppb)	50	102	106	83-111	4
m,p-Xylene	ug/L (ppb)	100	106	110	81-112	4
o-Xylene	ug/L (ppb)	50	101	104	81-117	3
Naphthalene	ug/L (ppb)	50	95	99	72-131	4

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

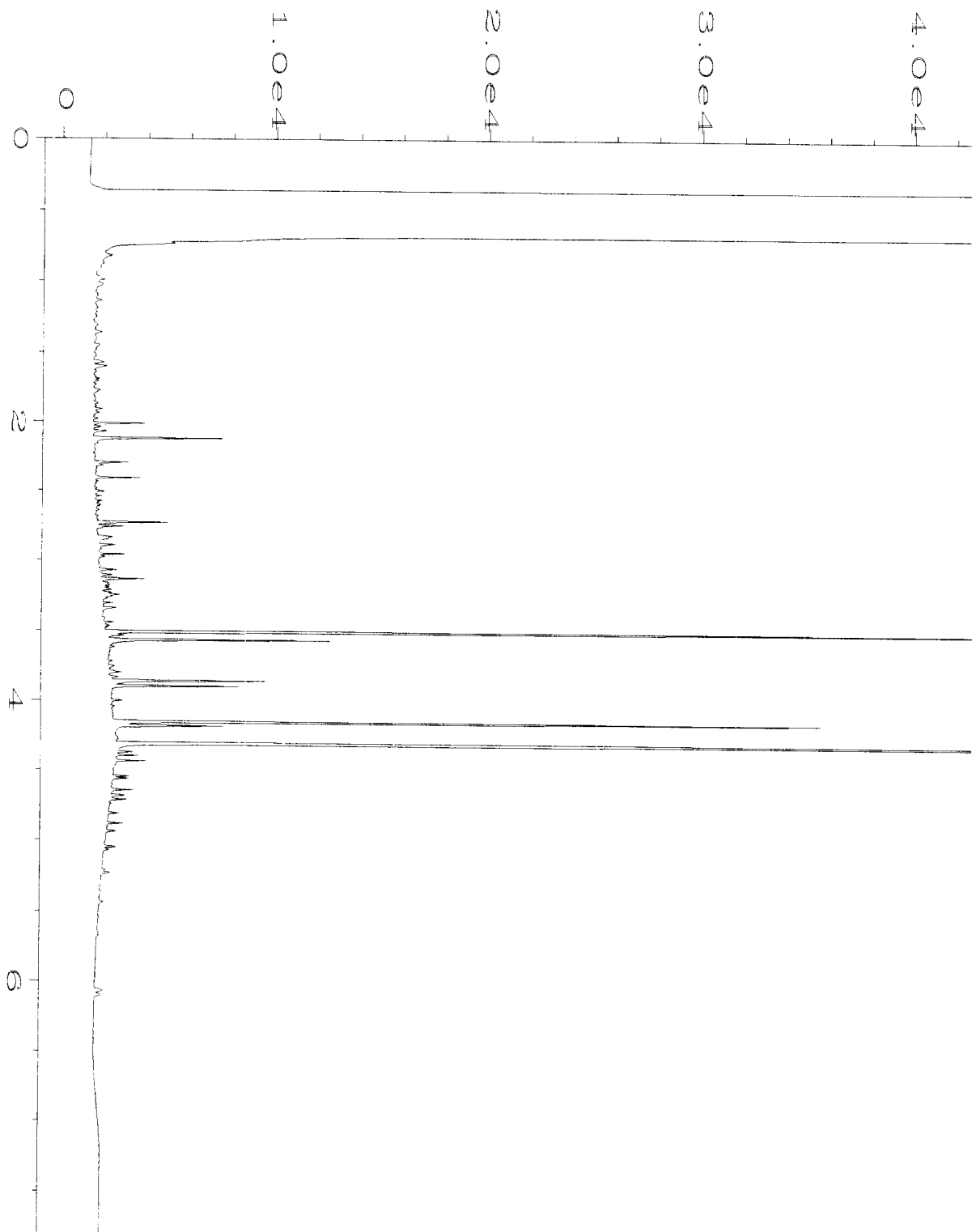
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

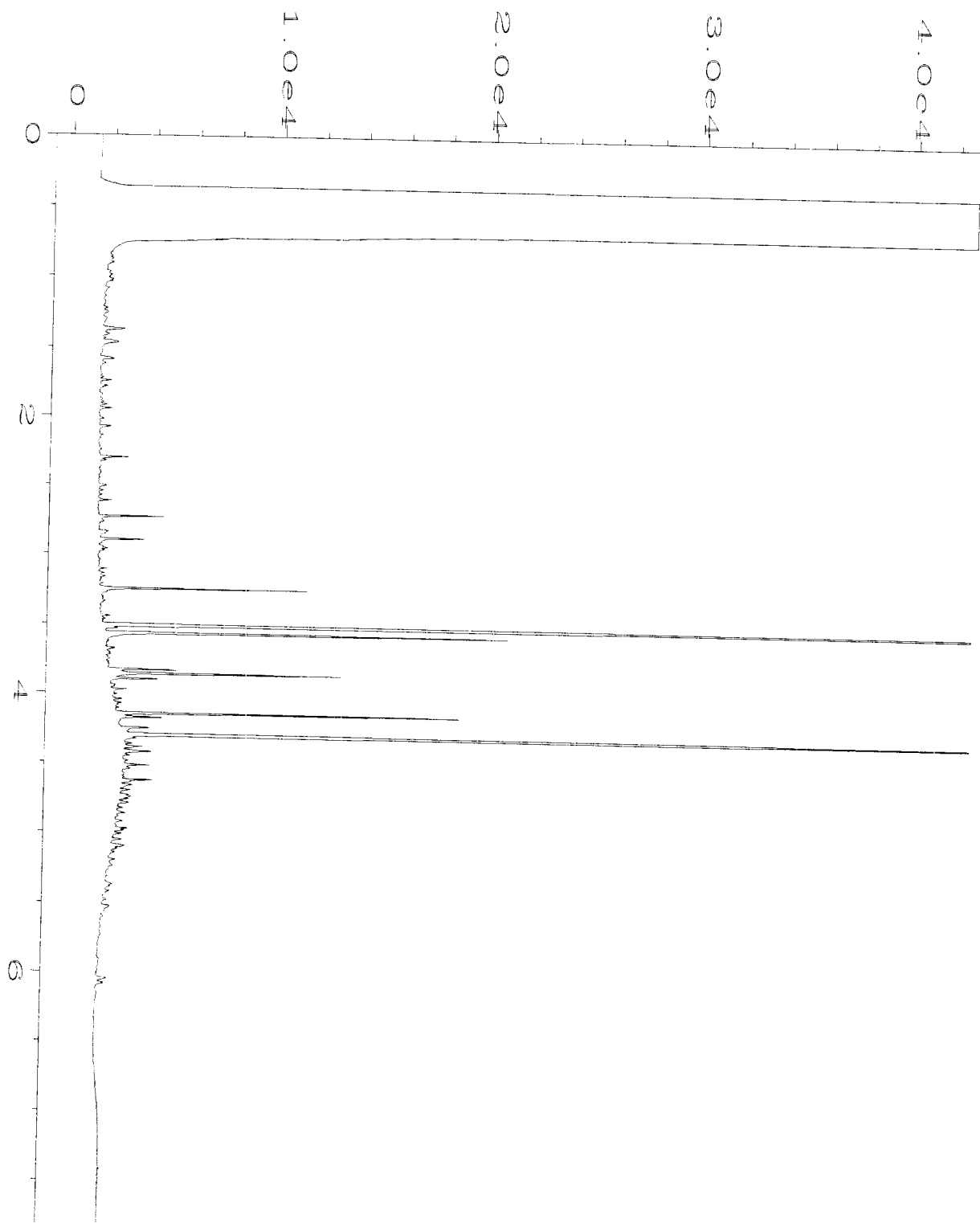
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

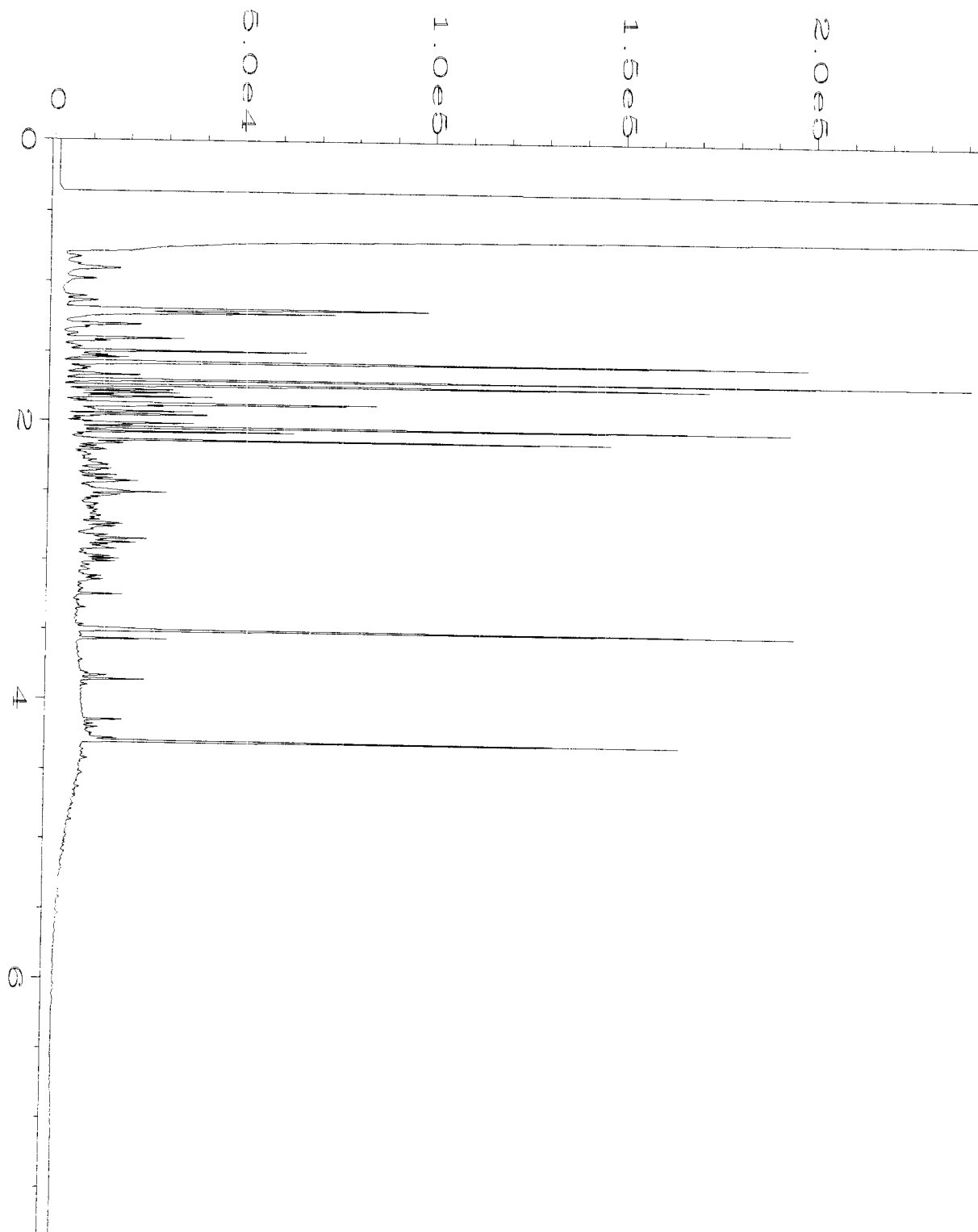


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Report Created on:	05 Aug 19 09:29 AM		

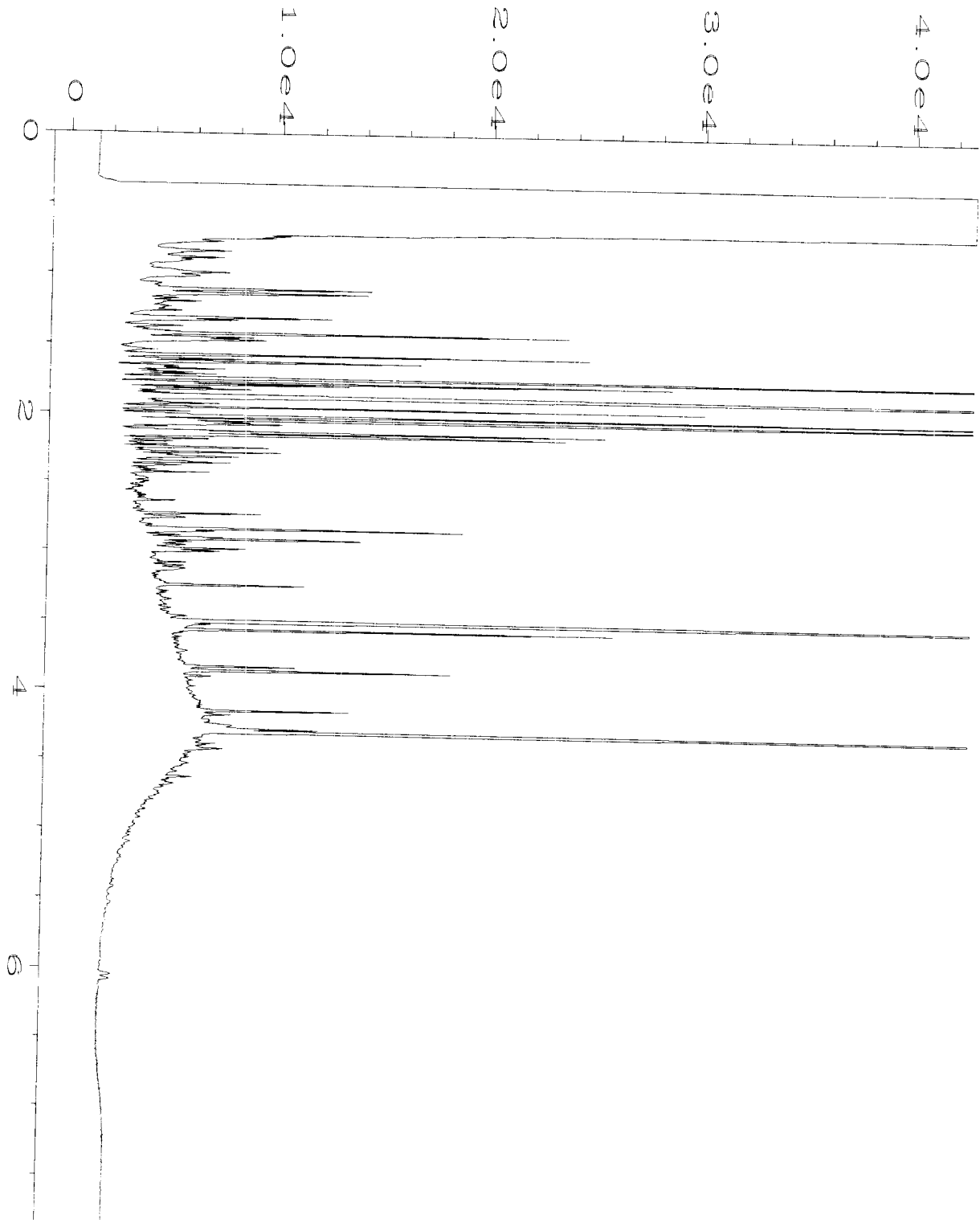




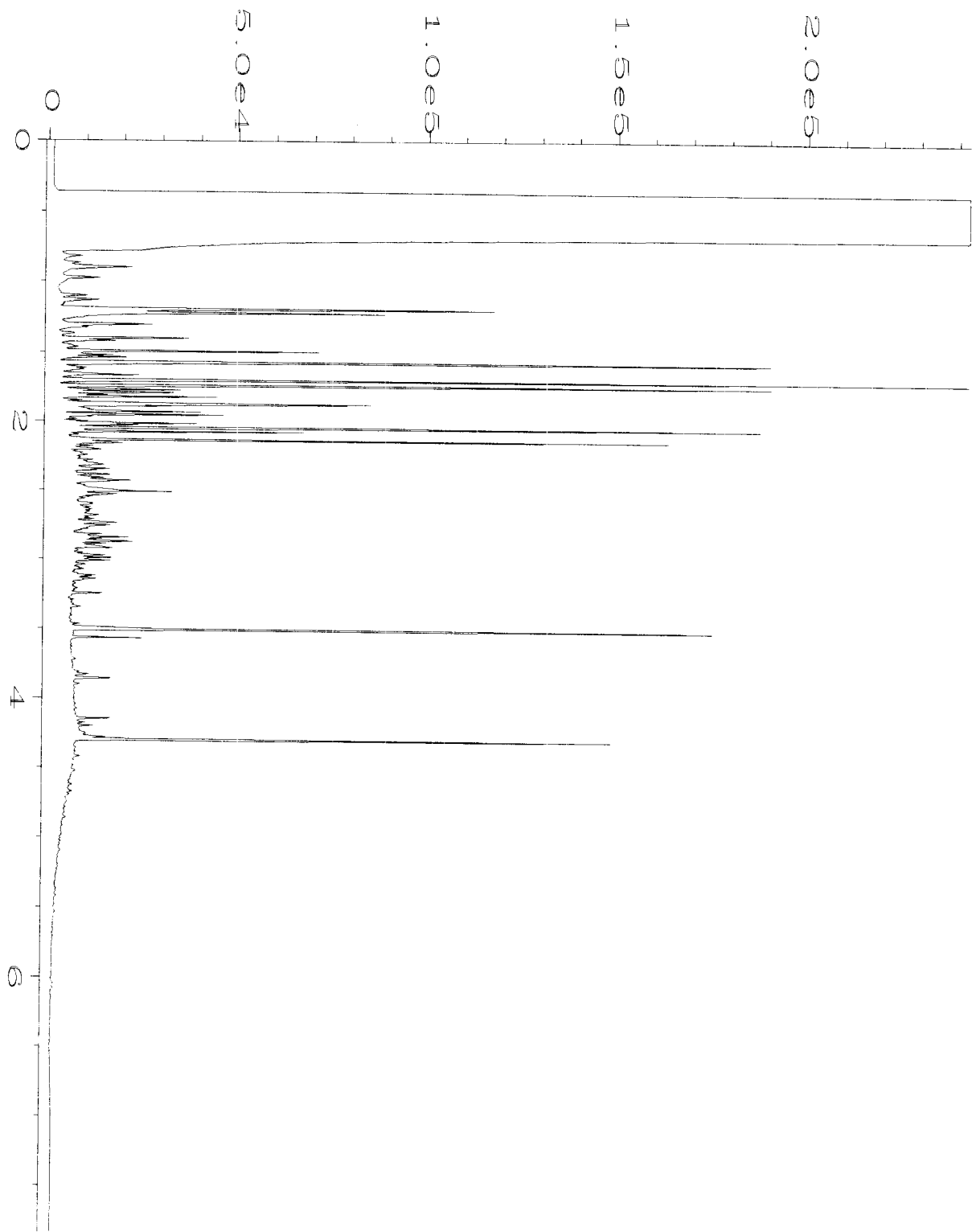
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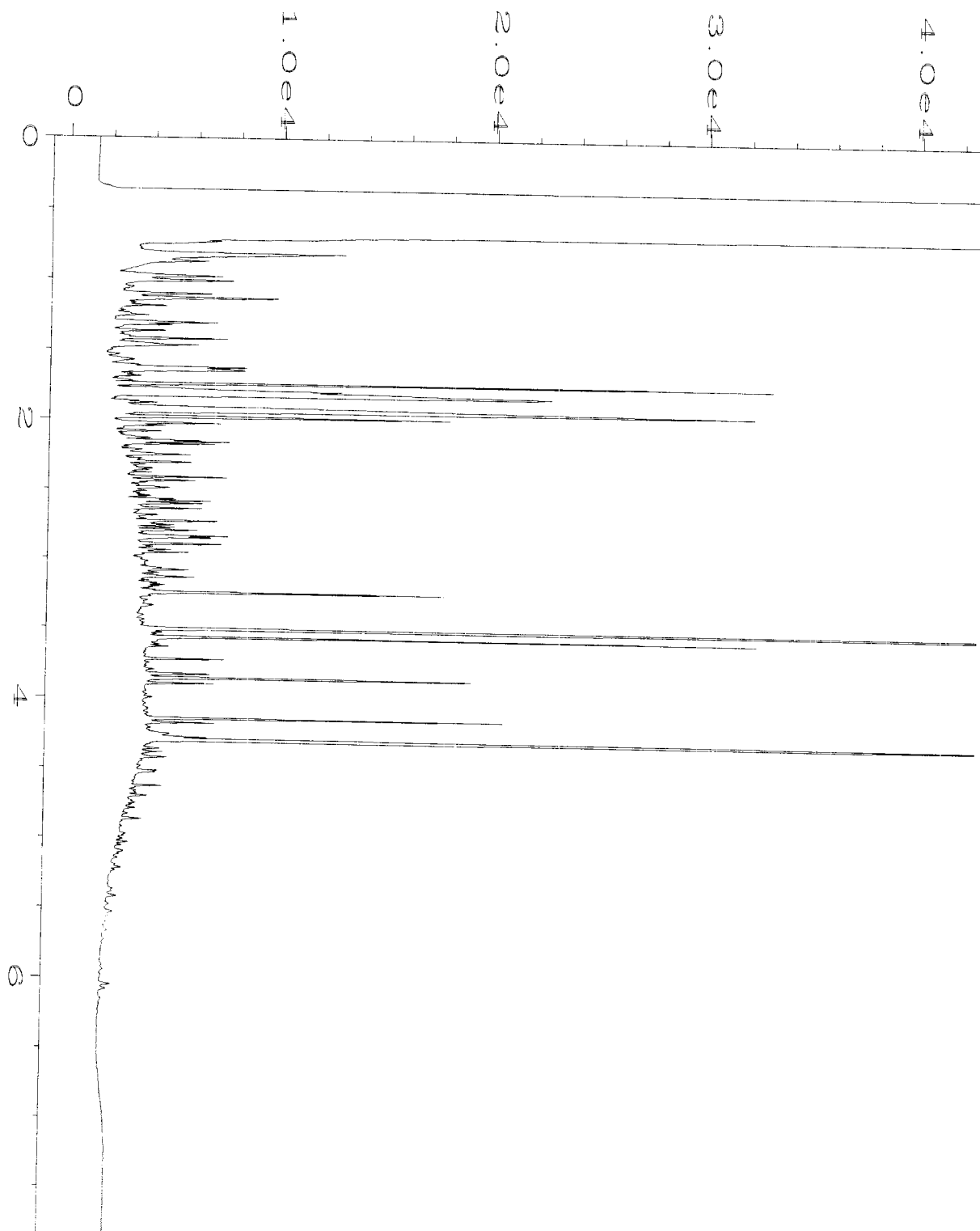
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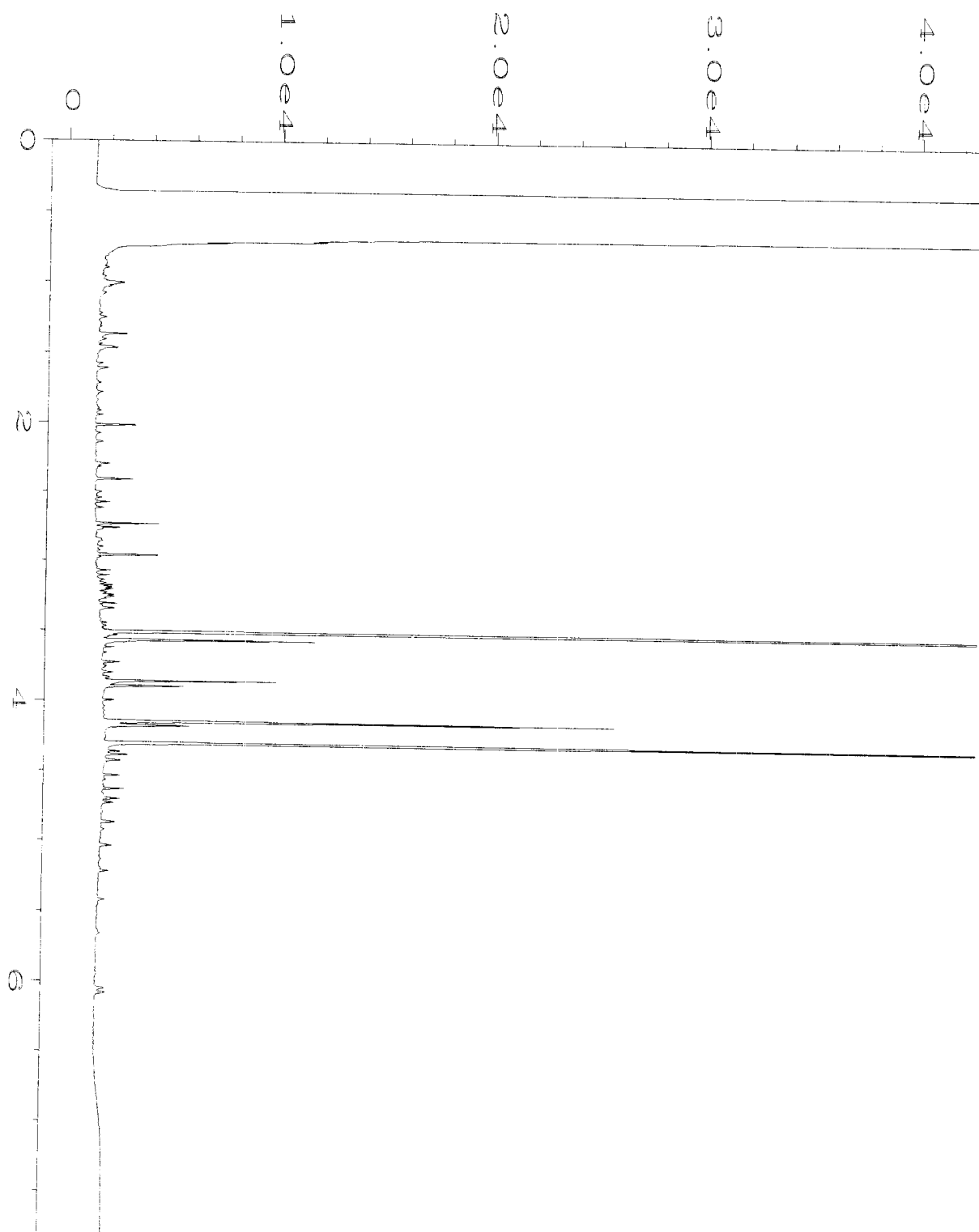
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Instrument	: GC#4	Injection Number	: 1
Sample Name	: 908023-04	Sequence Line	: 3
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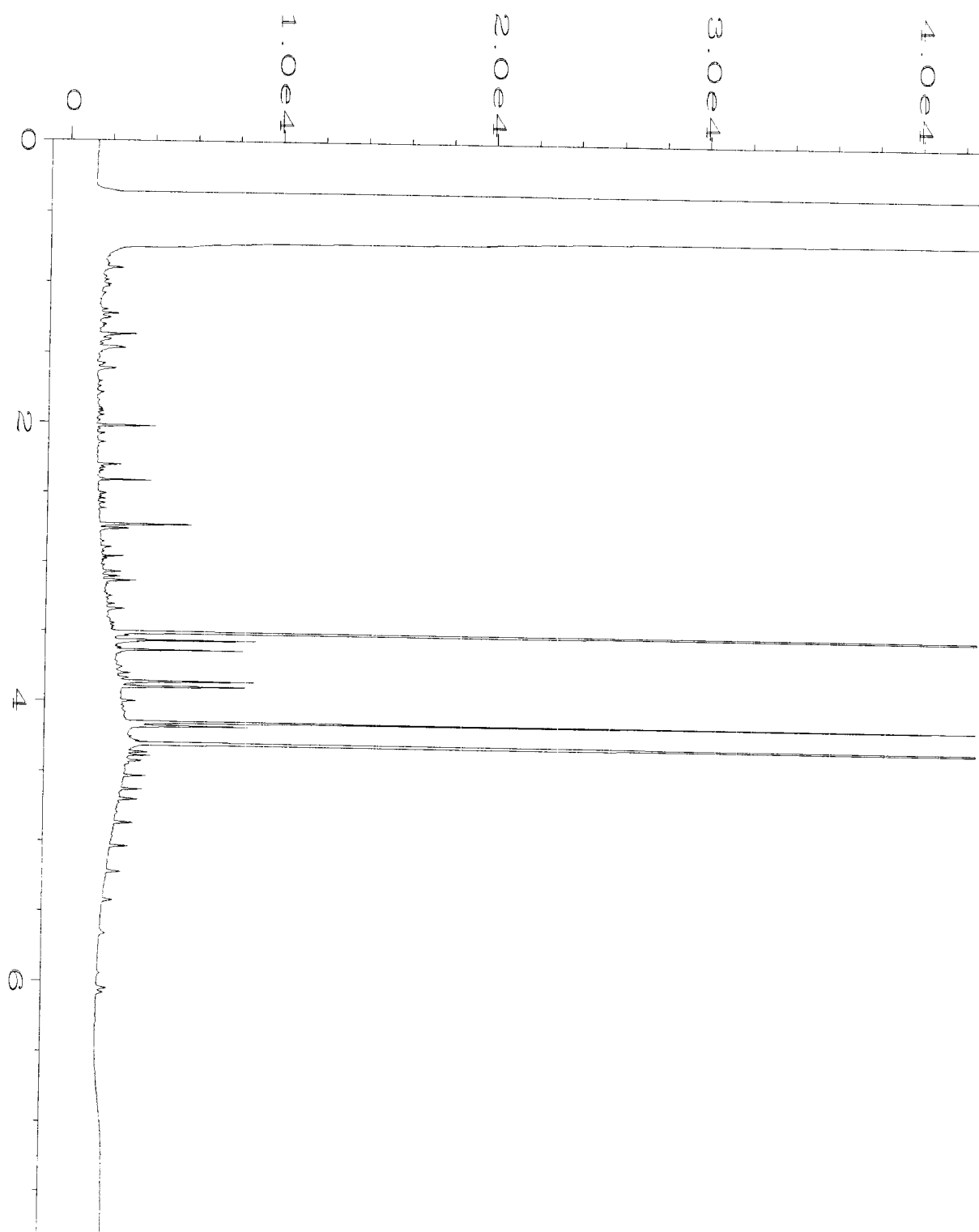
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Sample Name	: 908023-05	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 02:03 PM	Analysis Method	: DEFAULT.MTH
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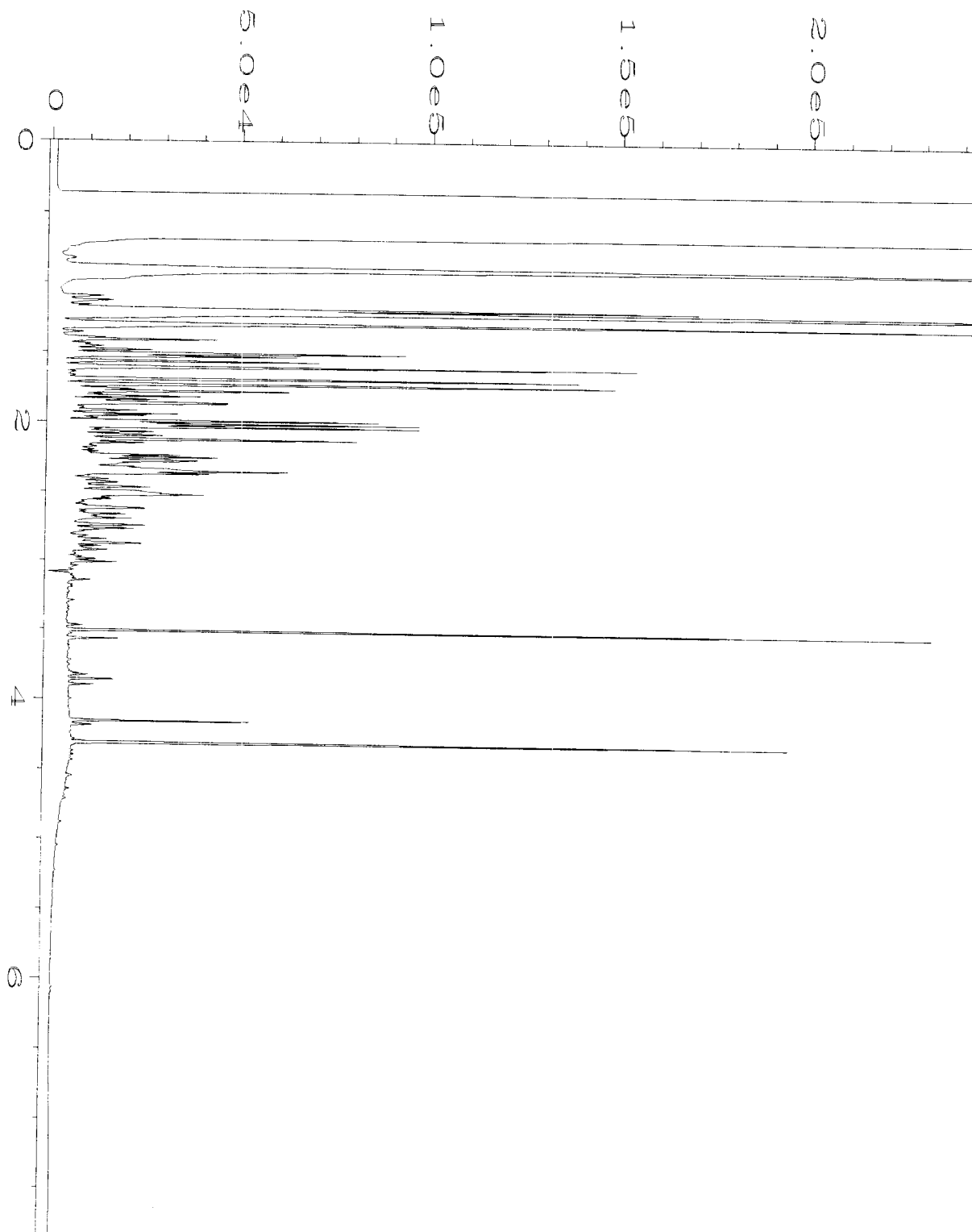
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Sample Name	: 908023-06	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 02:16 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:37 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-02-19\015F0301.D	Page Number	: 1
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Instrument	: GC#4	Injection Number	: 1
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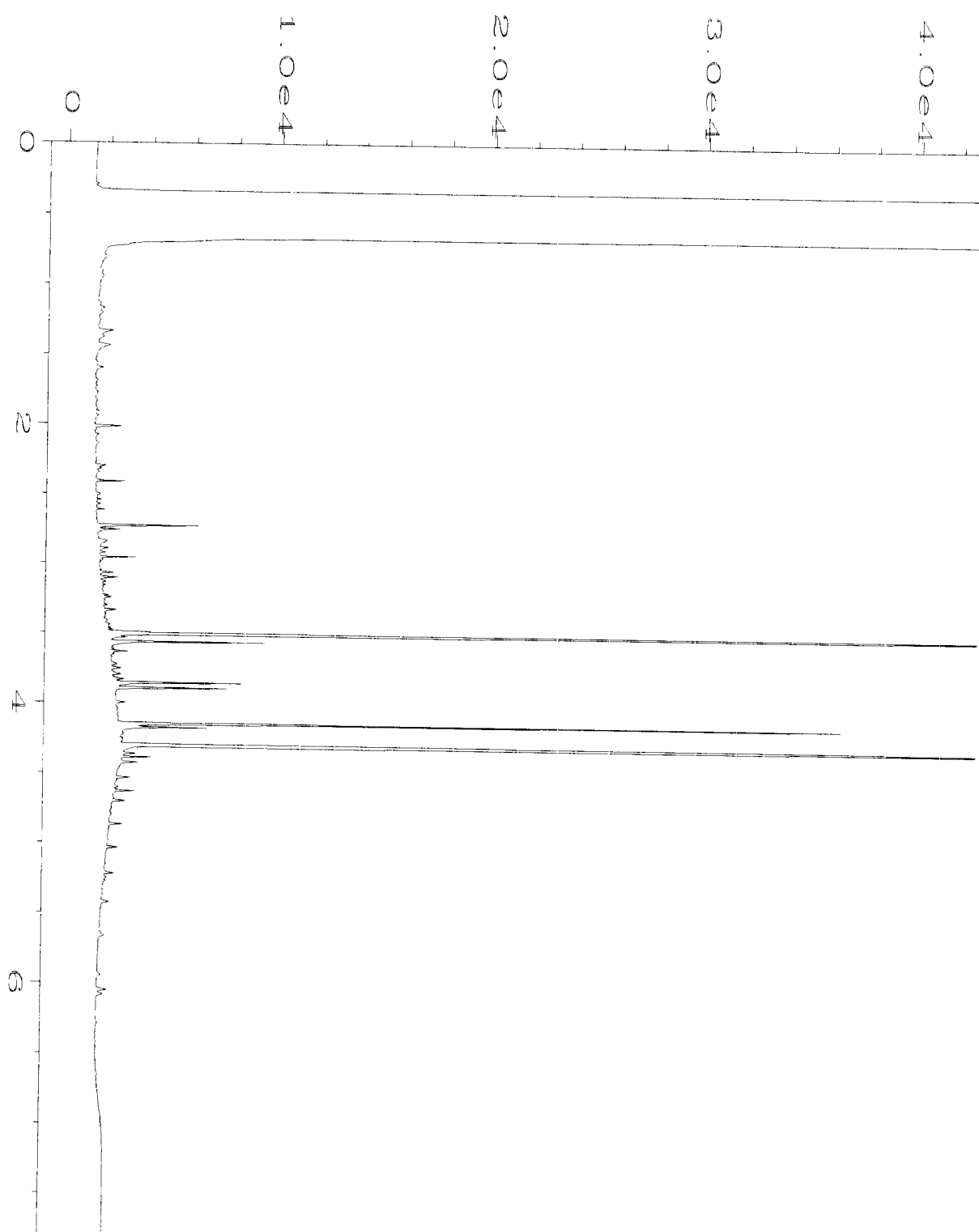


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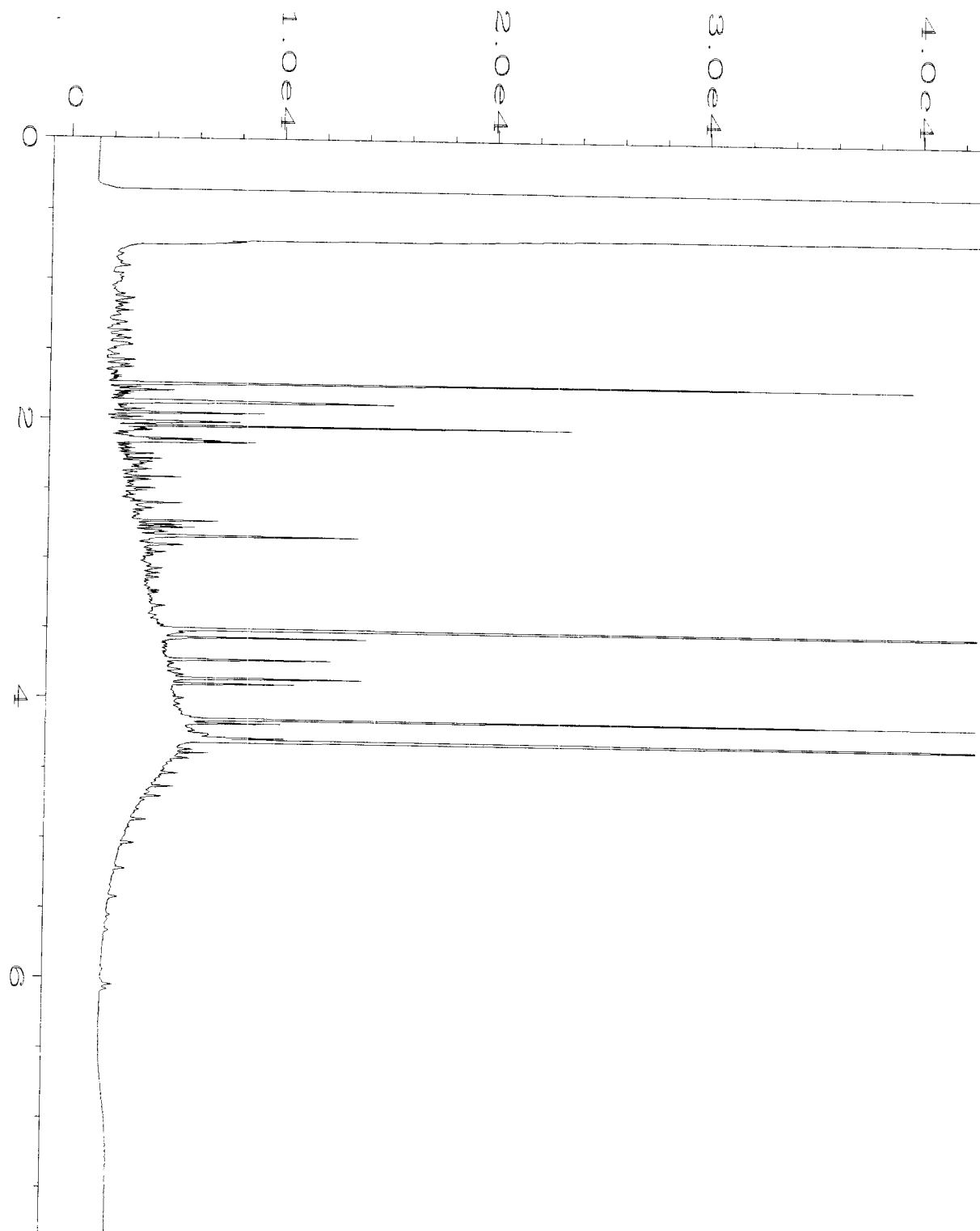


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Instrument	: GC#4	Injection Number	: 1
Sample Name	: 908023-09	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 03:29 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:40 AM		

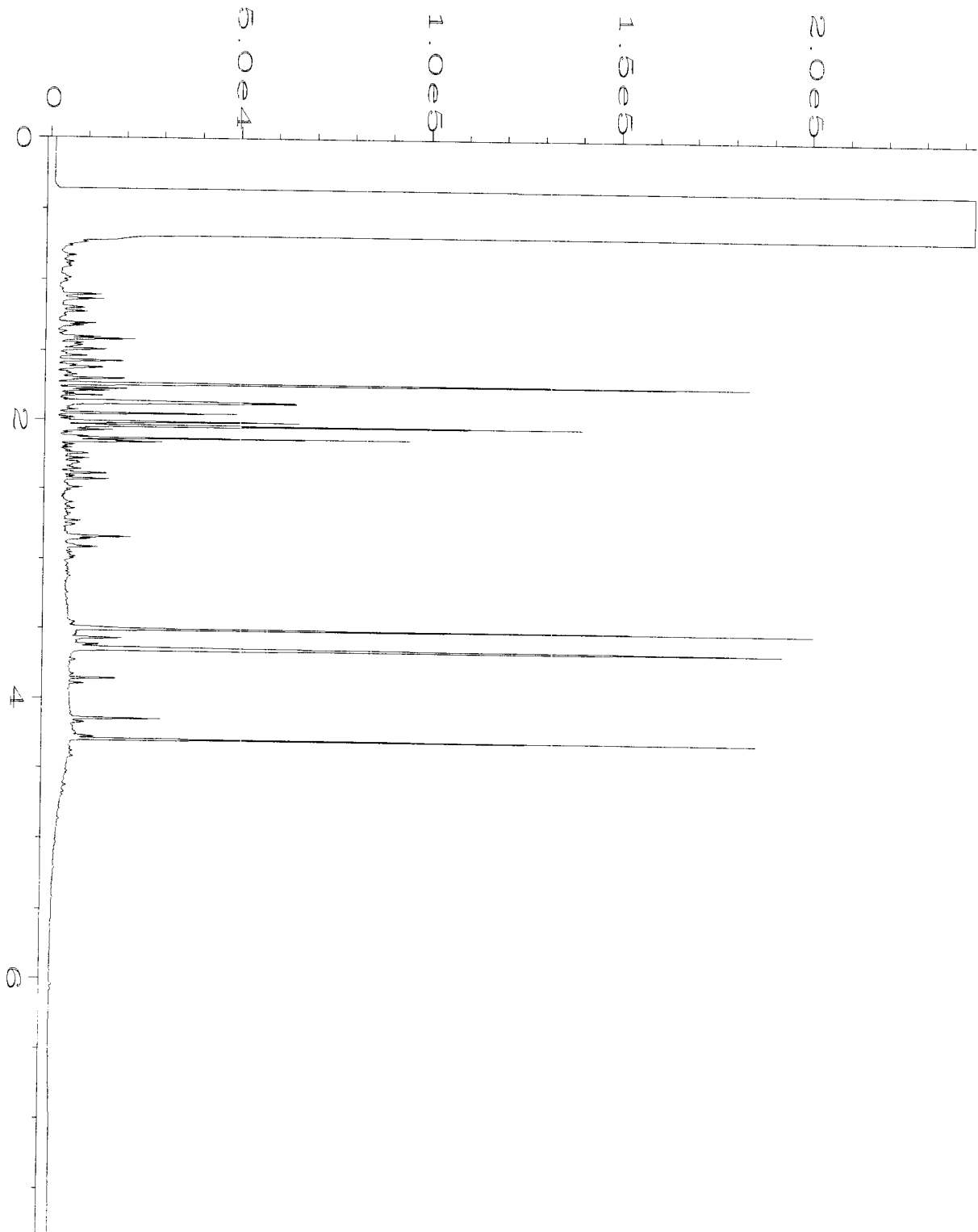




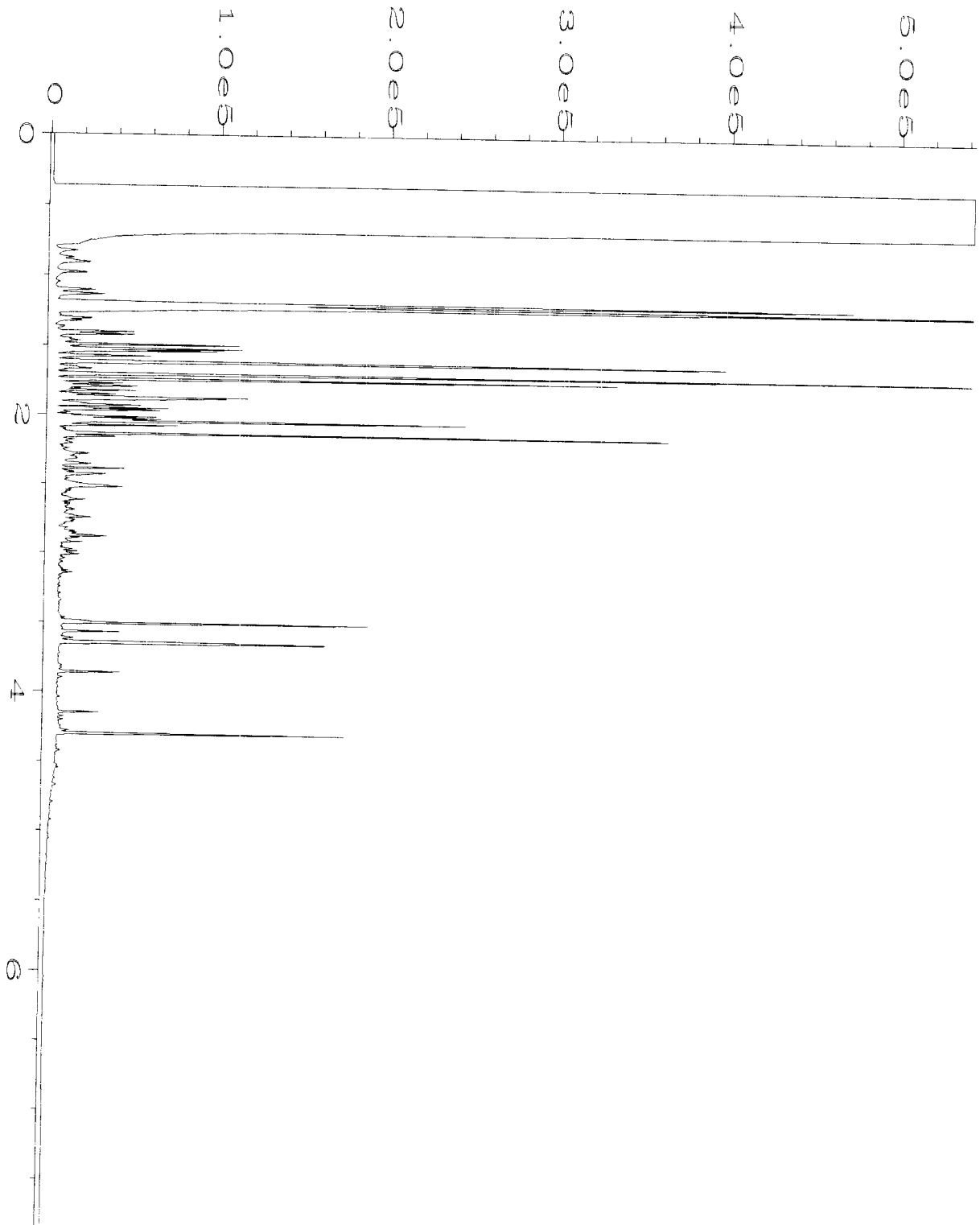
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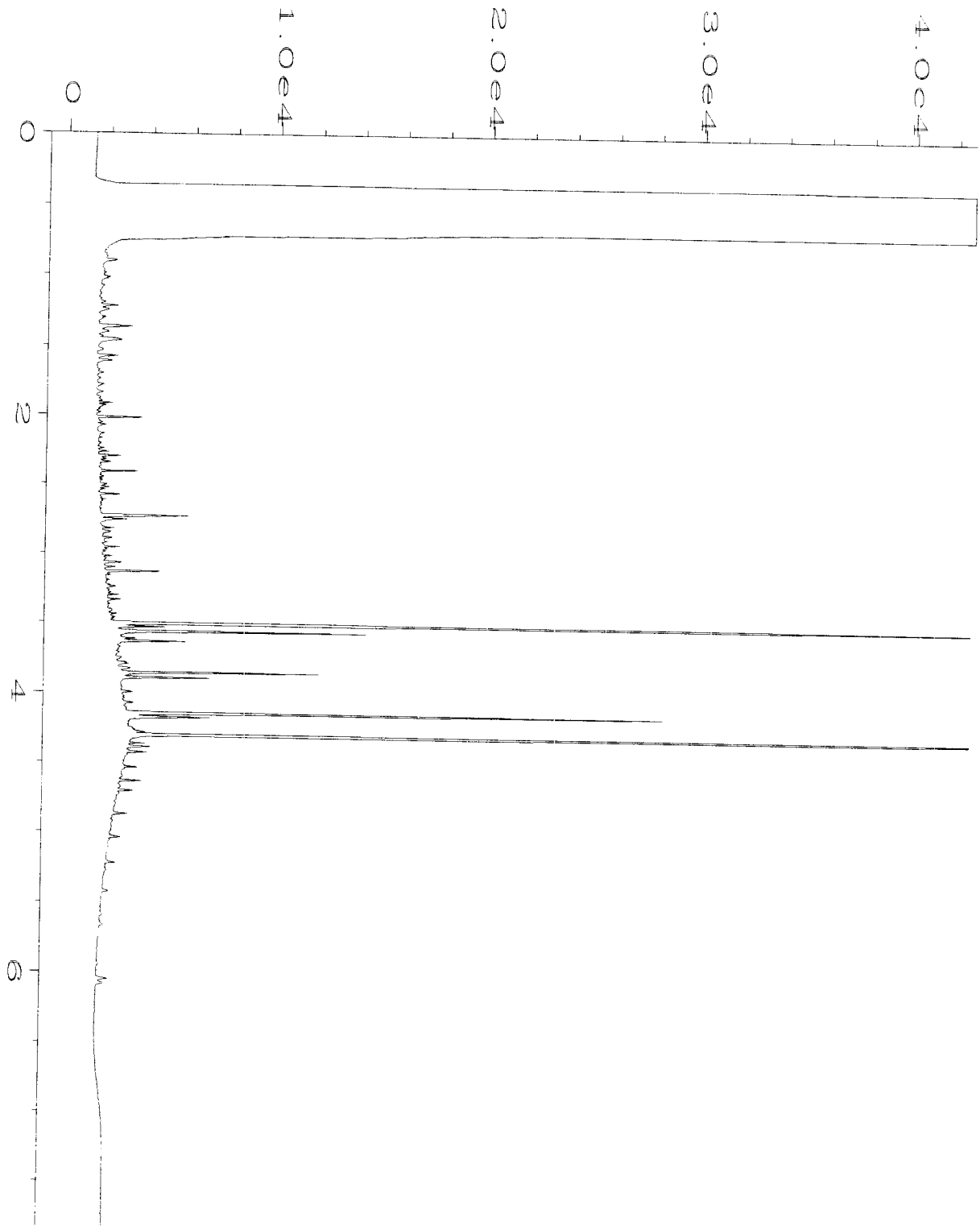
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Sample Name	: 908023-11	Sequence Line	: 5
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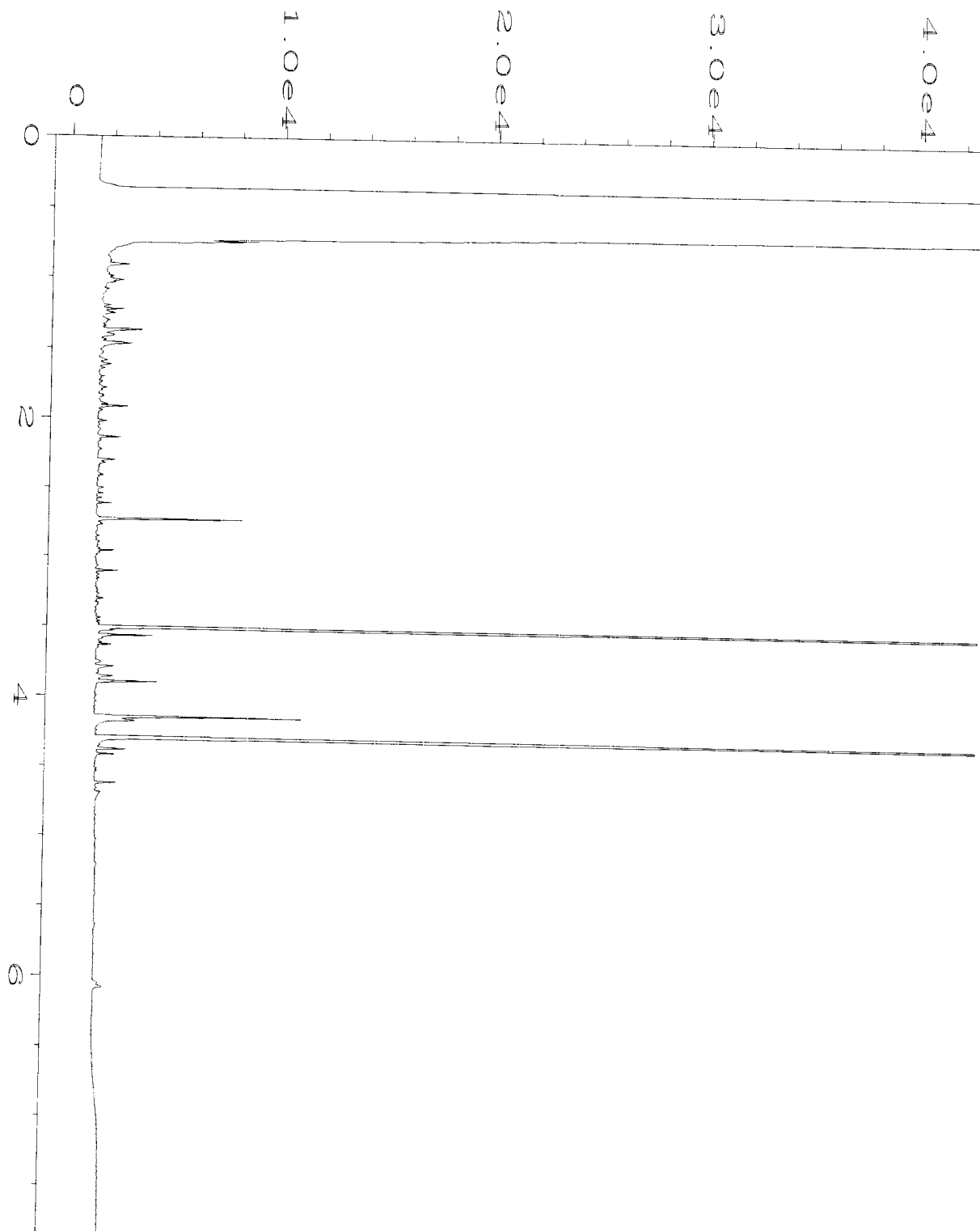
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Sample Name	: 908023-12	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 04:05 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:42 AM		



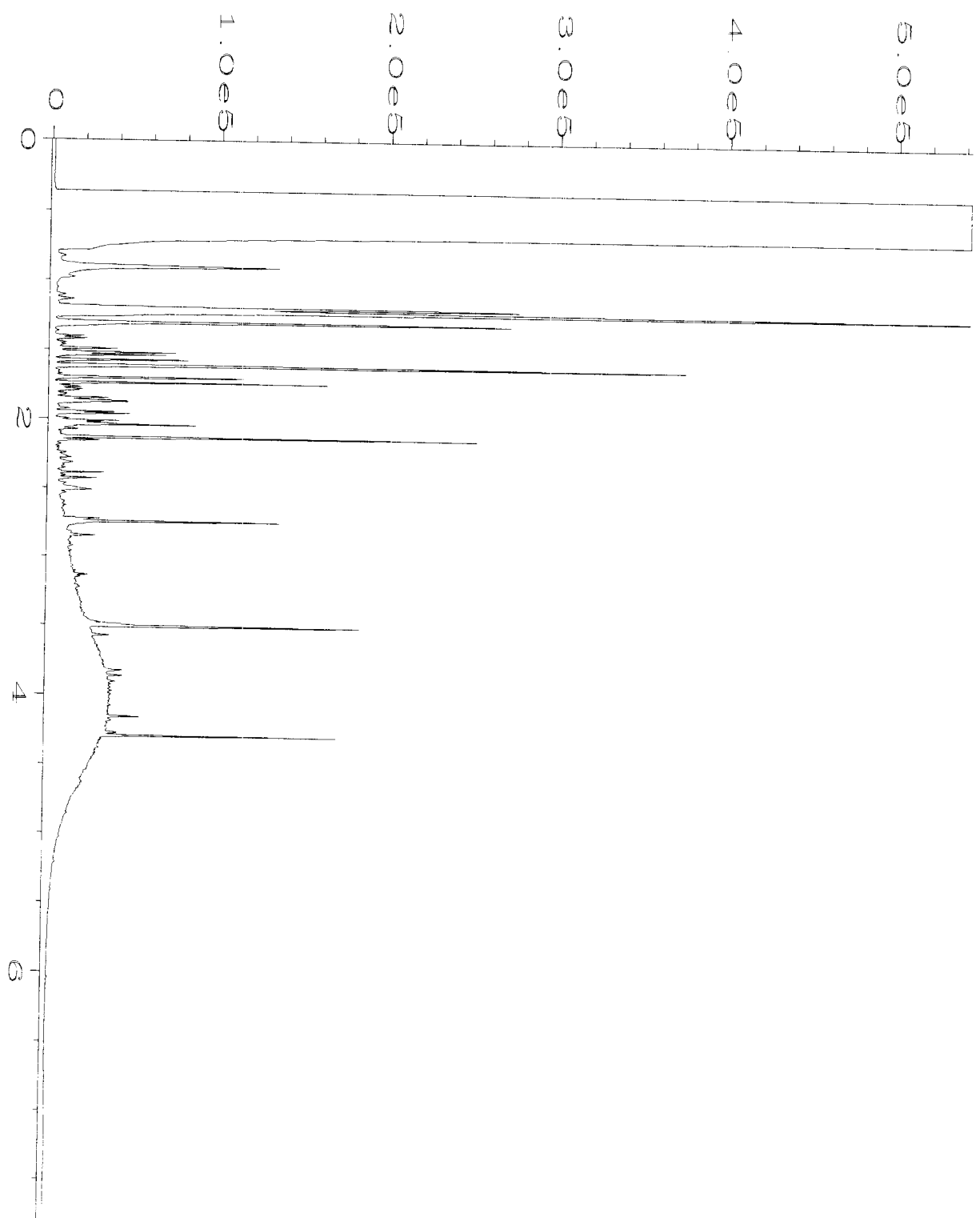
Data File Name	: C:\HPCHEM\4\DATA\08-02-19\021F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 21
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 908023-13	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 04:17 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:42 AM		



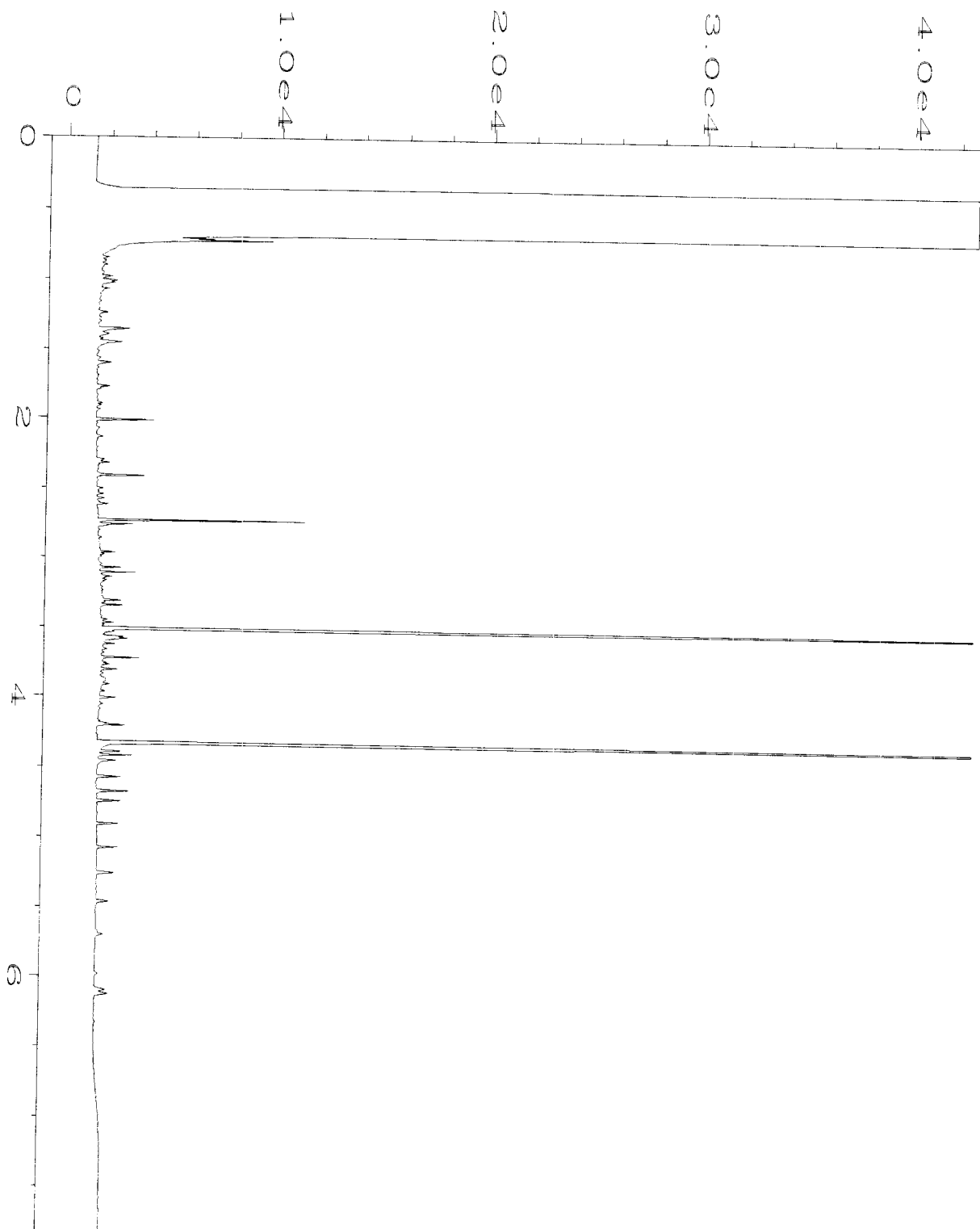
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Operator	: TL	Vial Number	: 22
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 908023-14	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 04:30 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:43 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-02-19\023F1101.D	Page Number	: 1
Operator	: TL	Vial Number	: 23
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 908023-15	Sequence Line	: 11
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 02 Aug 19 06:12 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:43 AM		

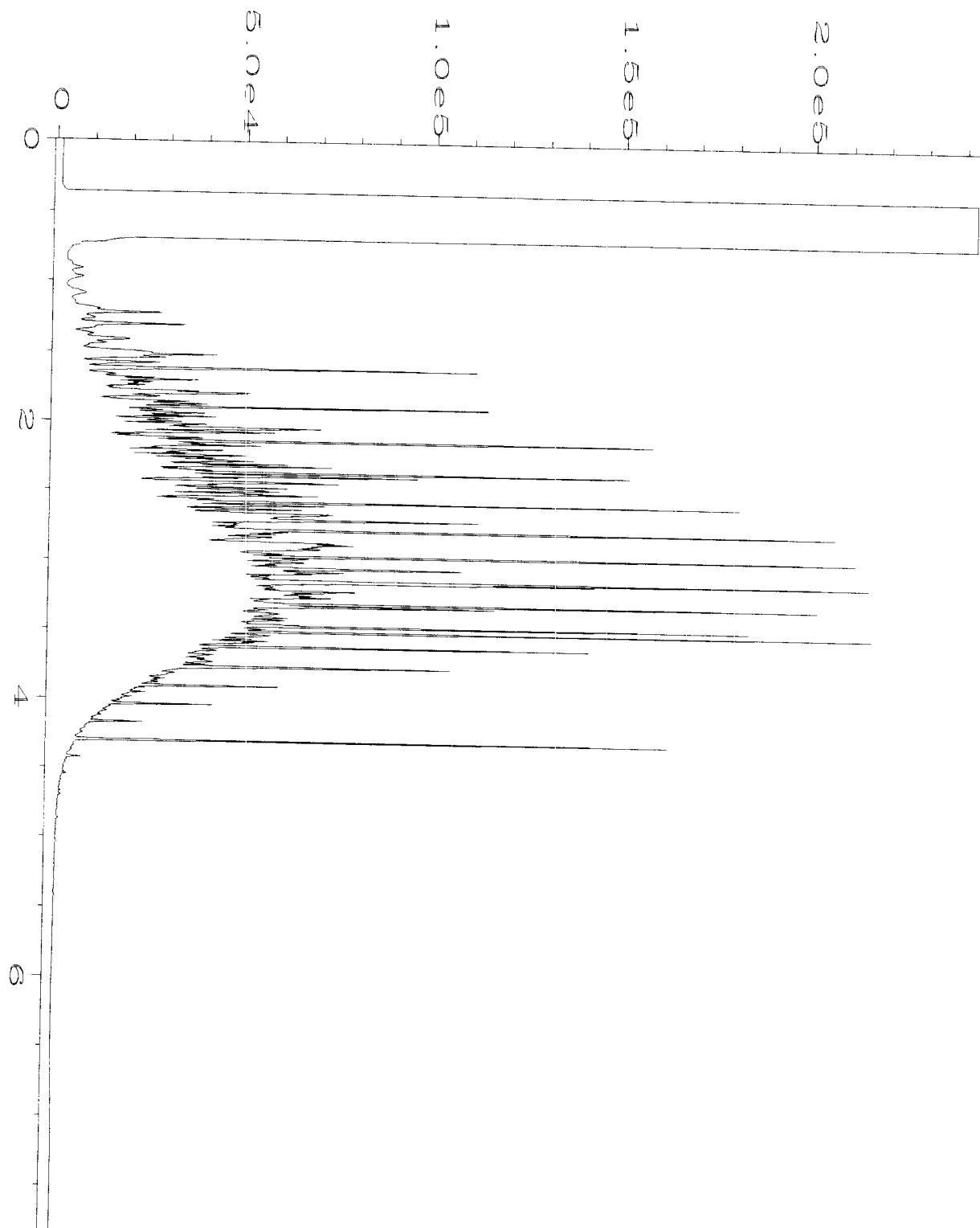


Data File Name	: C:\HPCHEM\4\DATA\08-02-19\024F1101.D	Page Number	: 1
Operator	: TL	Vial Number	: 24
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 908023-16	Sequence Line	: 11
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 06:25 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:44 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-02-19\006F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 6
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 09-1899 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 12:27 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:44 AM		





Data File Name	: C:\HPCHEM\4\DATA\08-02-19\005F0401.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 57-78B	Sequence Line	: 4
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 03:07 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:45 AM		

908023

SAMPLE CHAIN OF CUSTODY

ME 08/01/19

WV5/AT6/COS

Report To: ~~Andrew Jenkoffski~~

Company: Aspect

Address:

City, State, ZIP

Phone: 316.617.0499 Email: you@aspect.com

SAMPLERS (signature) [Signature]

PROJECT NAME: Alpha Cafe

PO #: 180357

REMARKS

INVOICE TO

TURNAROUND TIME

Standard Turnaround

RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	MTBE, EPB, EDC & naphthalene 8260	Total lead 6010	CVOCs			
MW-16-073119	01A-H	07/31/19	0830	Water	8	X	X	X										
MW-18-073119	02A-K		0925		8	X	X	X										
MW-14-073119	03		1030		8	X	X	X										HL odor present
MW-13-073119	04		1240		11	X	X	X										
DOP-01-073119	05				11	X	X	X										
MW-17-073119	06A-H		0820		8	X	X	X										
MW-19-073119	07A-K		0910		11	X	X	X										
MW-7-073119	08A-H		1020		8	X	X	X										
MW-11-073119	09		1115		8	X	X	X										
MW-6-073119	10		1245		8	X	X	X										

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>[Signature]</u>	<u>David Board</u>	<u>Aspect Consulting</u>	<u>8/1/19</u>	<u>1717</u>		
Received by: <u>[Signature]</u>	<u>[Signature]</u>	<u>HODGEN CUNYEN</u>	<u>FBI</u>	<u>8/1/19</u>	<u>1717</u>		
Relinquished by:							
Received by:							

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

Samples received at 400

908023  
 Andrew Yorkofski

SAMPLE CHAIN OF CUSTODY  
 ME 08/01/19

Page # 2 of 2  
 WWS/ADG/LOS

Report To: Andrew Yorkofski  
 Company: Aspect  
 Address: \_\_\_\_\_  
 City, State, ZIP: \_\_\_\_\_  
 Phone: 316-617-0499 Email: ayorkofski@aspectconsulting.com

SAMPLERS (signature) <i>[Signature]</i>	PROJECT NAME <u>Albino Cafe</u>	PO # <u>180357</u>
REMARKS	INVOICE TO	

TURNAROUND TIME  
 Standard Turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	MTBE, CPB, EDC + naphthalene 8210	Total lead 6010				
MW-12-080119	11A-H	8/1/19	1110	WTC	8	X	X	X				X	X	X				
MW-2-080119	12		1205		8	X	X	X				X	X	X				Heads Present
MW-10-080119	13		1330		8	X	X	X				X	X	X				Heads Present
MW-9-080119	14		1420		8	X	X	X				X	X	X				
Rinse Blank-080119	15		1455		8	X	X	X				X	X	X				
MW-1-080119	16		1530		8	X	X	X				X	X	X				Heads Present
Tip Blank 3 sets of 2	17 F				6		(X)					(X)						(X) - Gas + Gr, Gas Tags, VOCs, VOCs
AB sp EF																		Per DB 6/1/19 ME

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE <i>[Signature]</i>	PRINT NAME <u>Daniel Brocock</u>	COMPANY <u>Aspect Consulting</u>	DATE <u>8/1/19</u>	TIME <u>1717</u>
Relinquished by:	<u>Daniel Brocock</u>			
Received by:	<u>Monika</u>	<u>FB</u>		
Relinquished by:	<u>HONGWU</u>			
Received by:		<u>Samples received at</u>	<u>4</u>	<u>00</u>

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

September 11, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included is the amended report from the testing of material submitted on August 1, 2019 from the Aloha Cafe 180357, F&BI 908023 project. The second set of NWTPH-Gx quality assurance was added to the report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP0812R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 12, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on August 1, 2019 from the Aloha Cafe 180357, F&BI 908023 project. There are 52 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP0812R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 1, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Cafe 180357, F&BI 908023 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
908023 -01	MW-16-073119
908023 -02	MW-18-073119
908023 -03	MW-14-073119
908023 -04	MW-13-073119
908023 -05	Dup-01-073119
908023 -06	MW-17-073119
908023 -07	MW-19-073119
908023 -08	MW-7-073119
908023 -09	MW-11-073119
908023 -10	MW-6-073119
908023 -11	MW-12-080119
908023 -12	MW-2-080119
908023 -13	MW-10-080119
908023 -14	MW-9-080119
908023 -15	Rinse Blank-080119
908023 -16	MW-1-080119
908023 -17	Trip Blank

The NWTPH-Dx surrogate in sample Rinse Blank-080119 exceeded the acceptance criteria. No material was detected in the sample, therefore the results were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

Date Extracted: 08/06/19

Date Analyzed: 08/06/19, 08/07/19, 08/08/19, and 08/12/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-16-073119 908023-01	<100	109
MW-18-073119 908023-02	<100	110
MW-14-073119 908023-03	7,500	106
MW-13-073119 908023-04	1,400	92
Dup-01-073119 908023-05	9,700	107
MW-17-073119 908023-06 1/10	1,800	100
MW-19-073119 908023-07	<100	109
MW-7-073119 908023-08	<100	113
MW-11-073119 908023-09 1/20	13,000	98
MW-6-073119 908023-10	<100	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

Date Extracted: 08/06/19

Date Analyzed: 08/06/19, 08/07/19, 08/08/19, and 08/12/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-12-080119 908023-11	240	119
MW-2-080119 908023-12	1,600	114
MW-10-080119 908023-13 1/20	19,000	109
MW-9-080119 908023-14	<100	101
Rinse Blank-080119 908023-15	<100	91
MW-1-080119 908023-16 1/20	24,000	105
Trip Blank 908023-17	<100	95
Method Blank 09-1950 MB	<100	99
Method Blank 09-1903 MB	<100	116



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

Date Extracted: 08/02/19

Date Analyzed: 08/02/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
MW-16-073119 908023-01	84 x	<250	119
MW-18-073119 908023-02	55 x	<250	108
MW-14-073119 908023-03	1,200 x	330 x	121
MW-13-073119 908023-04	530 x	<250	131
Dup-01-073119 908023-05	1,100 x	270 x	116
MW-17-073119 908023-06	320 x	<250	113
MW-19-073119 908023-07	<50	<250	115
MW-7-073119 908023-08	83 x	<250	114
MW-11-073119 908023-09	1,100 x	<250	116
MW-6-073119 908023-10	68 x	<250	118
MW-12-080119 908023-11	310 x	<250	114

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

Date Extracted: 08/02/19

Date Analyzed: 08/02/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
MW-2-080119 908023-12	790 x	<250	128
MW-10-080119 908023-13	1,900 x	260 x	125
MW-9-080119 908023-14	88 x	<250	122
Rinse Blank-080119 908023-15	<50	<250	142 vo
MW-1-080119 908023-16	2,100 x	1,000 x	126
Method Blank 09-1899 MB	<50	<250	101

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-16-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-01
Date Analyzed:	08/05/19	Data File:	908023-01.059
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-18-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-02
Date Analyzed:	08/05/19	Data File:	908023-02.062
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-14-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-03
Date Analyzed:	08/05/19	Data File:	908023-03.063
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-13-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-04
Date Analyzed:	08/05/19	Data File:	908023-04.064
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Dup-01-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-05
Date Analyzed:	08/05/19	Data File:	908023-05.065
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-17-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-06
Date Analyzed:	08/05/19	Data File:	908023-06.066
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-19-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-07
Date Analyzed:	08/05/19	Data File:	908023-07.069
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-7-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-08
Date Analyzed:	08/05/19	Data File:	908023-08.070
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-11-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-09
Date Analyzed:	08/05/19	Data File:	908023-09.071
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	3.49
------	------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-6-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-10
Date Analyzed:	08/05/19	Data File:	908023-10.072
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-12-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-11
Date Analyzed:	08/05/19	Data File:	908023-11.073
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-2-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-12
Date Analyzed:	08/05/19	Data File:	908023-12.074
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-10-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-13
Date Analyzed:	08/05/19	Data File:	908023-13.075
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-9-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-14
Date Analyzed:	08/05/19	Data File:	908023-14.076
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Rinse Blank-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-15
Date Analyzed:	08/05/19	Data File:	908023-15.077
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-1-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	908023-16
Date Analyzed:	08/05/19	Data File:	908023-16.078
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/05/19	Lab ID:	I9-472 mb
Date Analyzed:	08/05/19	Data File:	I9-472 mb.057
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-16-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-01
Date Analyzed:	08/02/19	Data File:	080221.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-18-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-02
Date Analyzed:	08/02/19	Data File:	080222.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	1.0
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-03
Date Analyzed:	08/02/19	Data File:	080223.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.7
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	1,300 ve
Trichloroethene	<1
Toluene	32
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	130
m,p-Xylene	72
o-Xylene	18
Naphthalene	50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-03 1/100
Date Analyzed:	08/05/19	Data File:	080543.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
Methyl t-butyl ether (MTBE)	<100
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	<100
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Benzene	2,400
Trichloroethene	<100
Toluene	<100
Tetrachloroethene	<100
1,2-Dibromoethane (EDB)	<100
Ethylbenzene	120
m,p-Xylene	<200
o-Xylene	<100
Naphthalene	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-04
Date Analyzed:	08/05/19	Data File:	080530.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	7.5
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Dup-01-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-05
Date Analyzed:	08/02/19	Data File:	080225.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.8
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	1,400 ve
Trichloroethene	<1
Toluene	45
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	190 ve
m,p-Xylene	120
o-Xylene	25
Naphthalene	77

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Dup-01-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-05 1/100
Date Analyzed:	08/05/19	Data File:	080544.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
Methyl t-butyl ether (MTBE)	<100
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	<100
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Benzene	3,500
Trichloroethene	<100
Toluene	<100
Tetrachloroethene	<100
1,2-Dibromoethane (EDB)	<100
Ethylbenzene	170
m,p-Xylene	<200
o-Xylene	<100
Naphthalene	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-17-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-06
Date Analyzed:	08/05/19	Data File:	080531.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-19-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-07
Date Analyzed:	08/05/19	Data File:	080532.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	<0.35
Trichloroethene	1.0
Toluene	<1
Tetrachloroethene	17
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-7-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-08
Date Analyzed:	08/05/19	Data File:	080533.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-09
Date Analyzed:	08/02/19	Data File:	080229.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	320 ve
Toluene	1,600 ve
Ethylbenzene	450 ve
m,p-Xylene	1,300 ve
o-Xylene	460 ve
Naphthalene	42

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-09 1/100
Date Analyzed:	08/05/19	Data File:	080545.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
1,2-Dichloroethane (EDC)	<100
1,2-Dibromoethane (EDB)	<100
Benzene	320
Toluene	1,800
Ethylbenzene	410
m,p-Xylene	1,000
o-Xylene	400
Naphthalene	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-6-073119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-10
Date Analyzed:	08/05/19	Data File:	080534.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-11
Date Analyzed:	08/05/19	Data File:	080535.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	0.59
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-12
Date Analyzed:	08/02/19	Data File:	080232.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	13
Toluene	2.2
Ethylbenzene	6.5
m,p-Xylene	5.6
o-Xylene	1.8
Naphthalene	33

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-10-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-13
Date Analyzed:	08/02/19	Data File:	080233.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	1,200 ve
Toluene	44
Ethylbenzene	680 ve
m,p-Xylene	1,300 ve
o-Xylene	2.7
Naphthalene	190 ve

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-10-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-13 1/100
Date Analyzed:	08/05/19	Data File:	080546.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	94	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
1,2-Dichloroethane (EDC)	<100
1,2-Dibromoethane (EDB)	<100
Benzene	2,400
Toluene	<100
Ethylbenzene	670
m,p-Xylene	1,100
o-Xylene	<100
Naphthalene	160

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-9-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-14
Date Analyzed:	08/05/19	Data File:	080536.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Rinse Blank-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-15
Date Analyzed:	08/07/19	Data File:	080738.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-1-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-16
Date Analyzed:	08/02/19	Data File:	080236.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	1,400 ve
Toluene	420 ve
Ethylbenzene	550 ve
m,p-Xylene	1,500 ve
o-Xylene	380 ve
Naphthalene	130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-1-080119	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-16 1/100
Date Analyzed:	08/05/19	Data File:	080547.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
1,2-Dichloroethane (EDC)	<100
1,2-Dibromoethane (EDB)	<100
Benzene	4,200
Toluene	410
Ethylbenzene	520
m,p-Xylene	1,300
o-Xylene	350
Naphthalene	110



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	08/01/19	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	908023-17
Date Analyzed:	08/05/19	Data File:	080537.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	<0.35
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 908023
Date Extracted:	08/02/19	Lab ID:	09-1853 mb
Date Analyzed:	08/02/19	Data File:	080220.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	<0.35
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 908067-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	95	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 908177-09 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	88	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	5,000	97	88	61-133	10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 908023-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	<1	68 b	68 b	75-125	0 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	94	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 908023-11 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	98	61-139
Chloroethane	ug/L (ppb)	50	<1	104	55-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	113	71-123
Methylene chloride	ug/L (ppb)	50	<5	88	61-126
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	96	68-125
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	101	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	99	79-113
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	96	63-126
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	104	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	103	75-121
Benzene	ug/L (ppb)	50	0.72	100	75-114
Trichloroethene	ug/L (ppb)	50	<1	100	73-122
Toluene	ug/L (ppb)	50	<1	102	73-117
Tetrachloroethene	ug/L (ppb)	50	<1	100	40-155
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	110	79-120
Ethylbenzene	ug/L (ppb)	50	<1	103	66-124
m,p-Xylene	ug/L (ppb)	100	<2	106	63-128
o-Xylene	ug/L (ppb)	50	<1	102	64-129
Naphthalene	ug/L (ppb)	50	<1	104	60-145

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/12/19

Date Received: 08/01/19

Project: Aloha Cafe 180357, F&BI 908023

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	96	100	70-128	4
Chloroethane	ug/L (ppb)	50	104	108	66-149	4
1,1-Dichloroethene	ug/L (ppb)	50	109	112	72-121	3
Methylene chloride	ug/L (ppb)	50	85	87	63-132	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	92	96	70-122	4
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	100	76-118	2
1,1-Dichloroethane	ug/L (ppb)	50	96	98	77-119	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	94	97	76-119	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	103	106	75-116	3
1,1,1-Trichloroethane	ug/L (ppb)	50	103	106	80-116	3
Benzene	ug/L (ppb)	50	96	100	75-116	4
Trichloroethene	ug/L (ppb)	50	100	103	72-119	3
Toluene	ug/L (ppb)	50	100	104	79-115	4
Tetrachloroethene	ug/L (ppb)	50	100	103	78-109	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	111	117	82-118	5
Ethylbenzene	ug/L (ppb)	50	102	106	83-111	4
m,p-Xylene	ug/L (ppb)	100	106	110	81-112	4
o-Xylene	ug/L (ppb)	50	101	104	81-117	3
Naphthalene	ug/L (ppb)	50	95	99	72-131	4



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

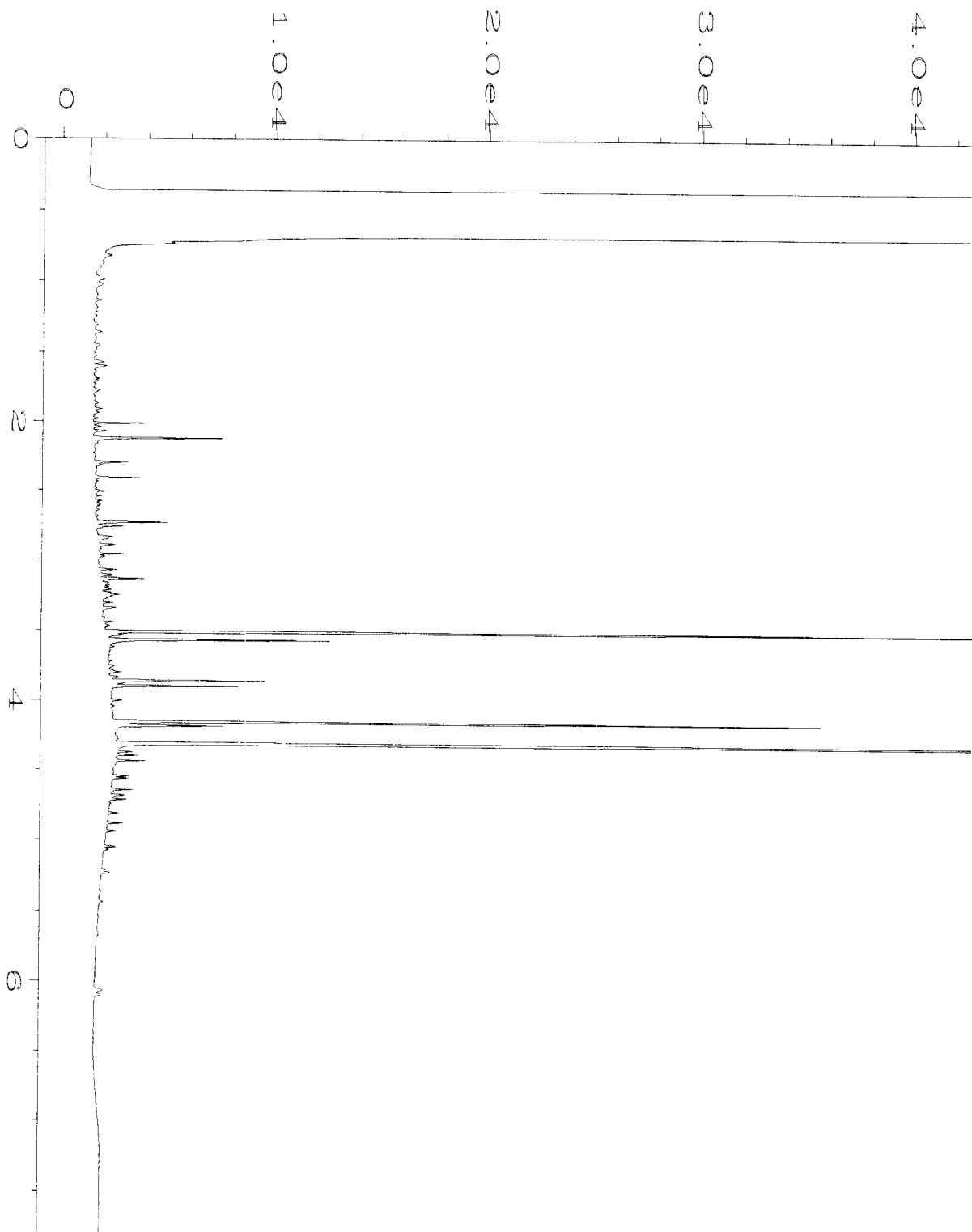
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

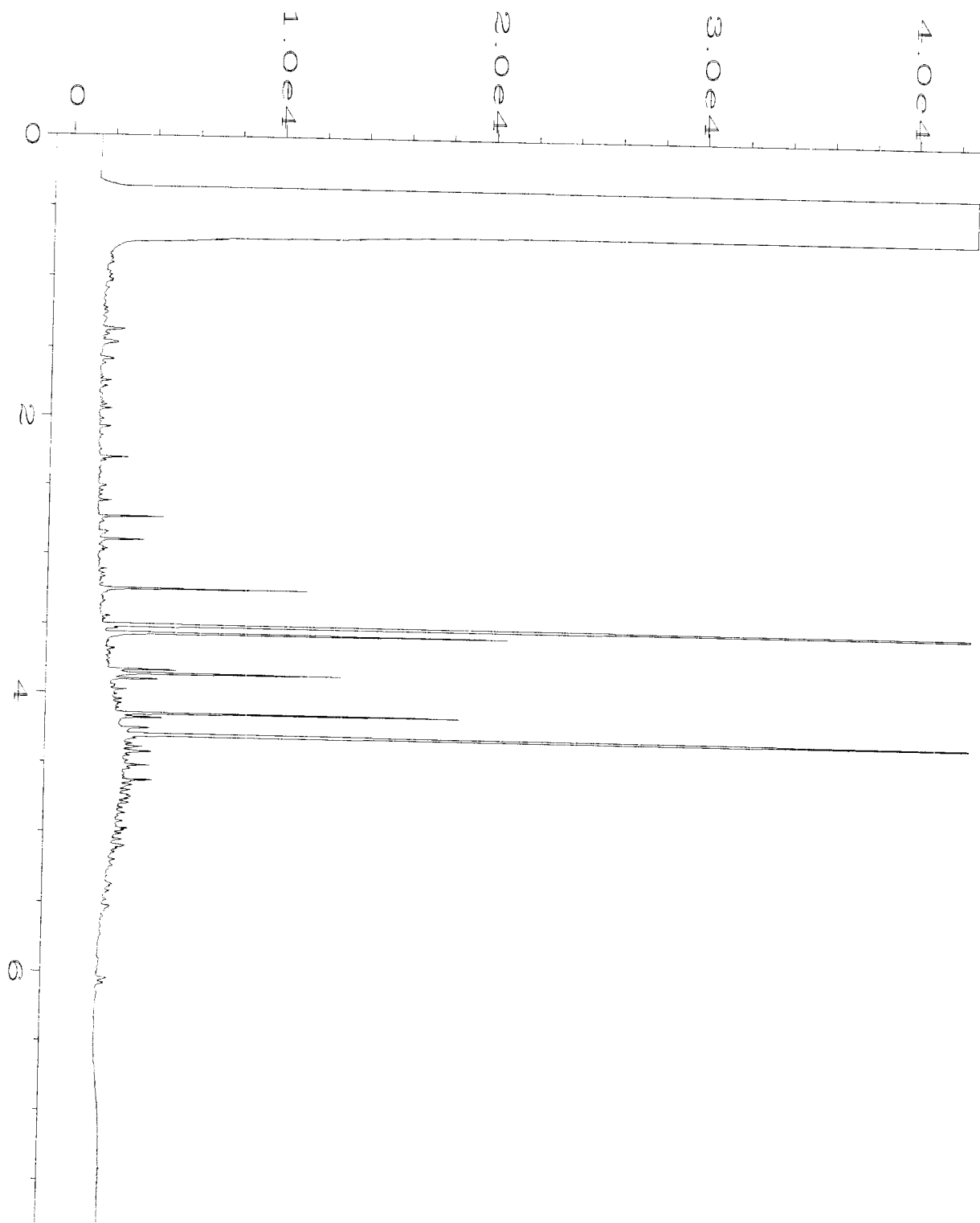
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

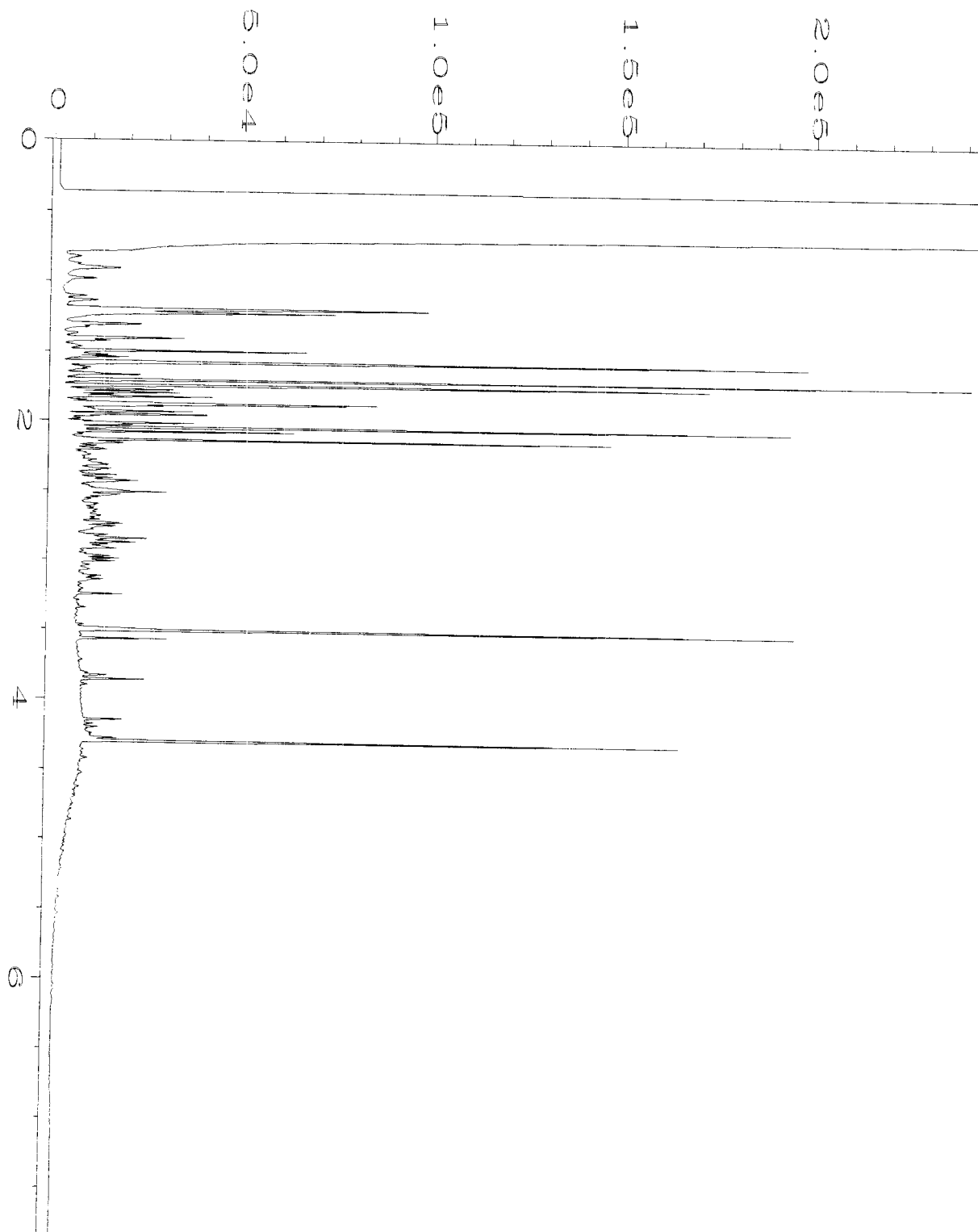
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



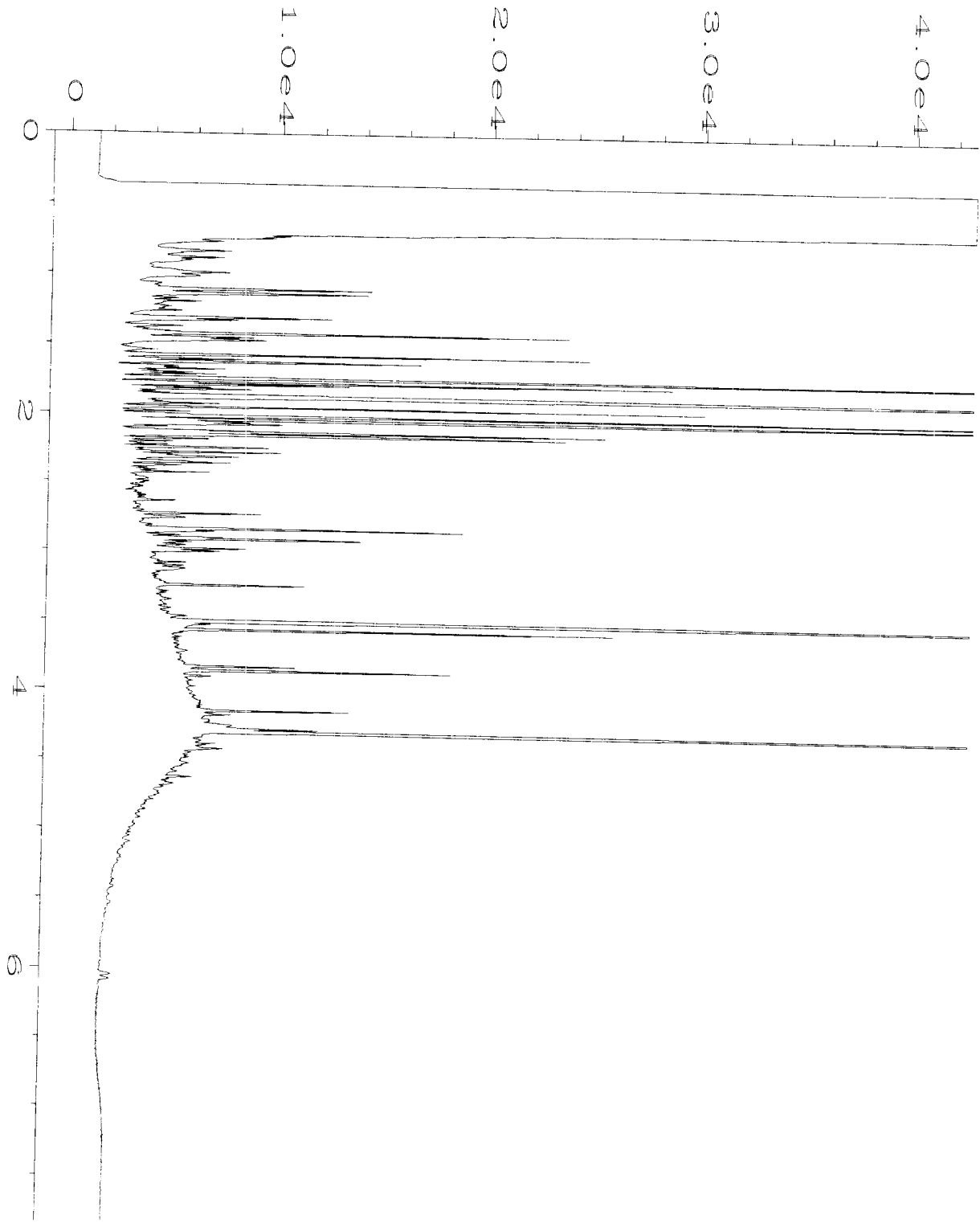
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Acquired on	: 02 Aug 19 01:02 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:29 AM		



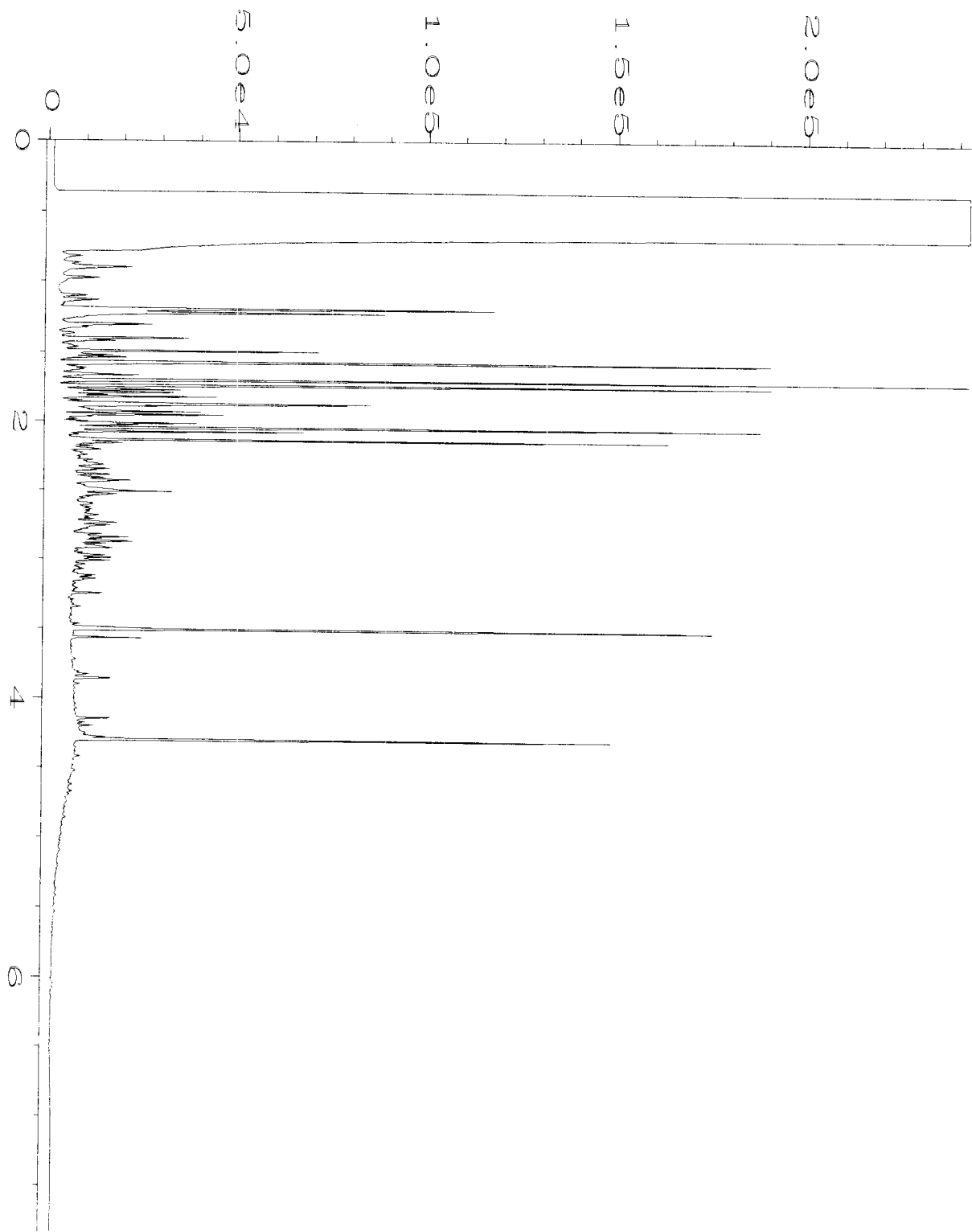
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Sample Name	: 908023-02	Sequence Line	: 3
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Report Created on:	05 Aug 19 09:40 AM		



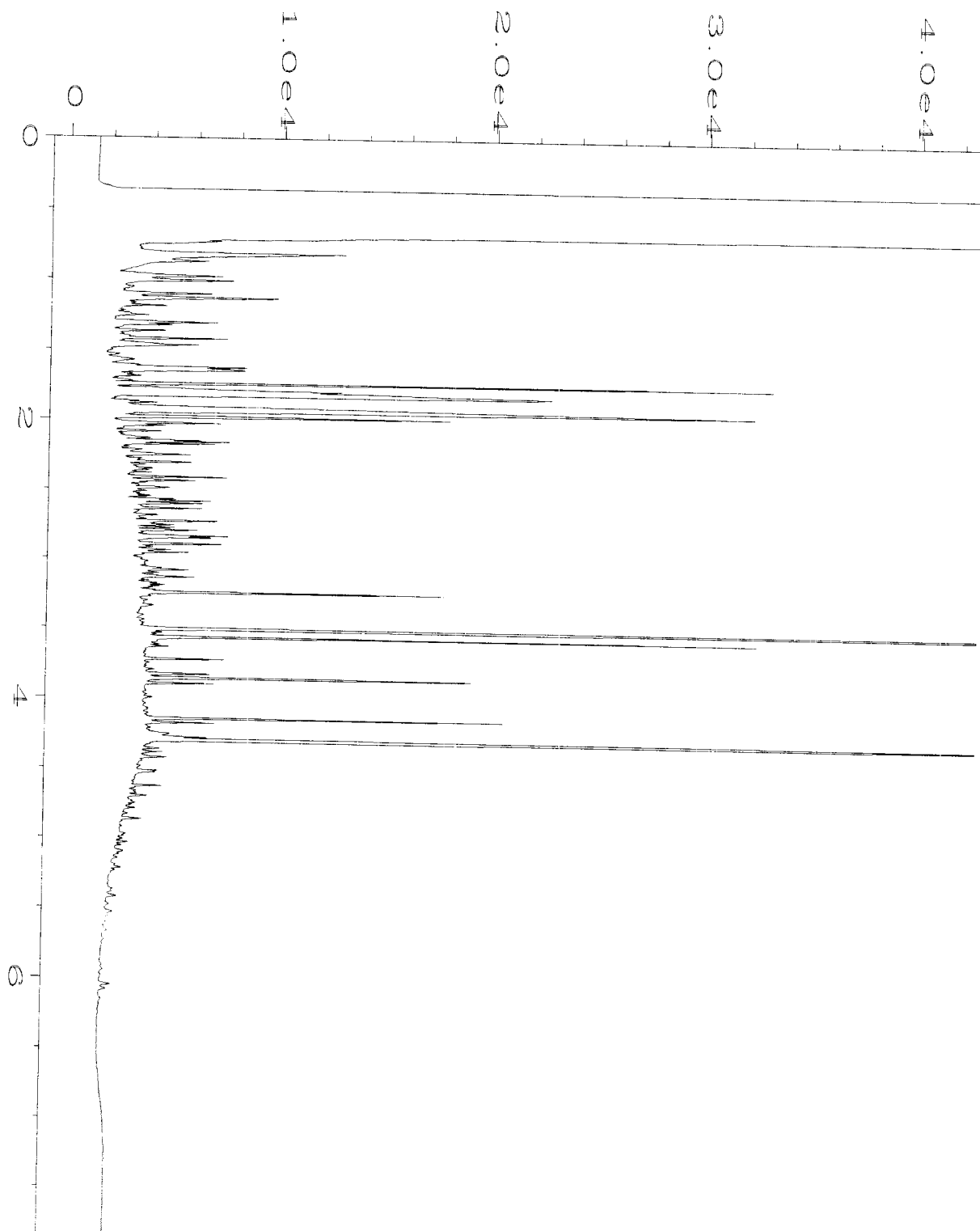
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Report Created on:	05 Aug 19 09:41 AM		



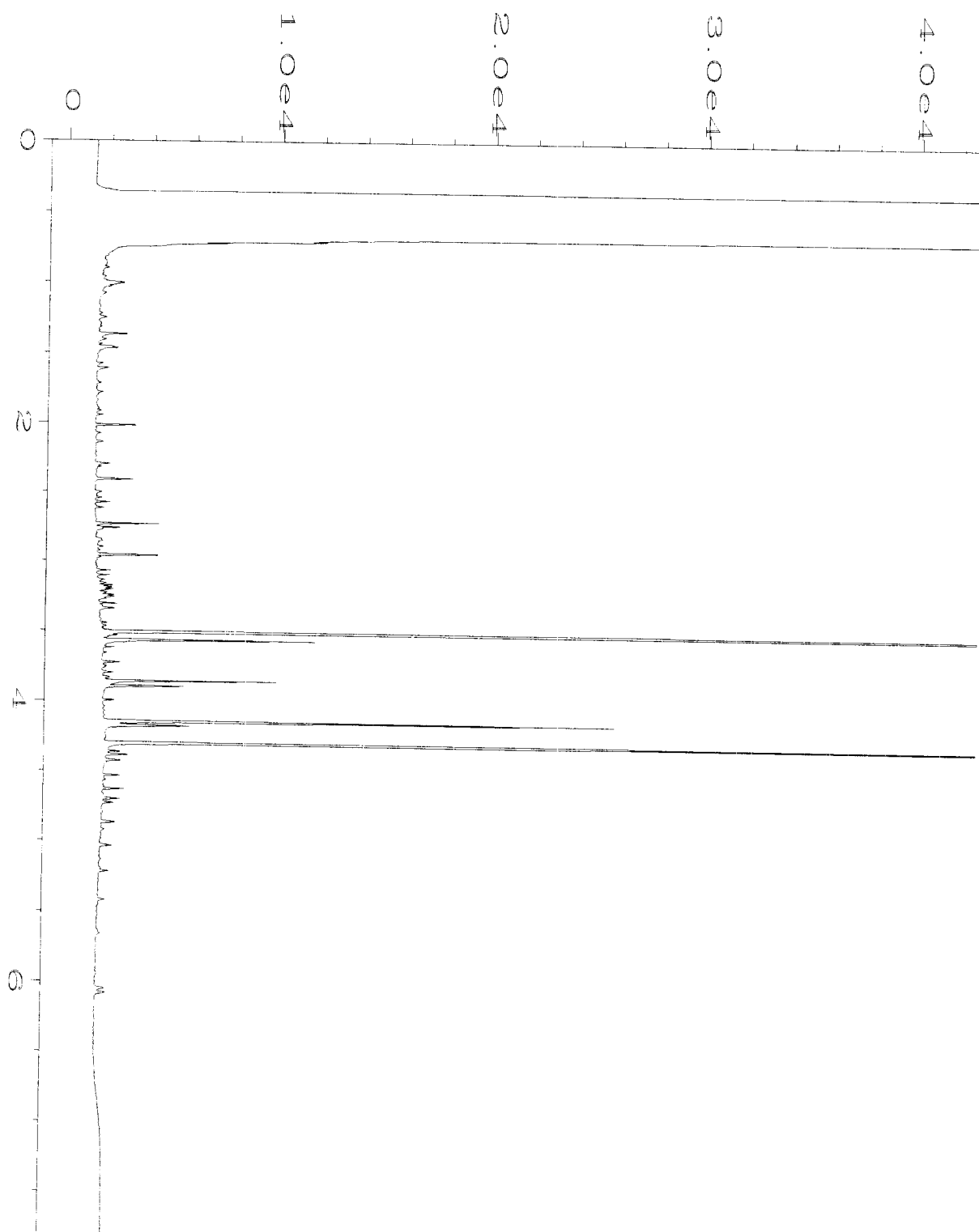
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Data File Name	: C:\HPCHEM\4\DATA\08-02-19\013F0301.D	Page Number	: 1
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Instrument	: GC#4	Injection Number	: 1
Sample Name	: 908023-05	Sequence Line	: 3
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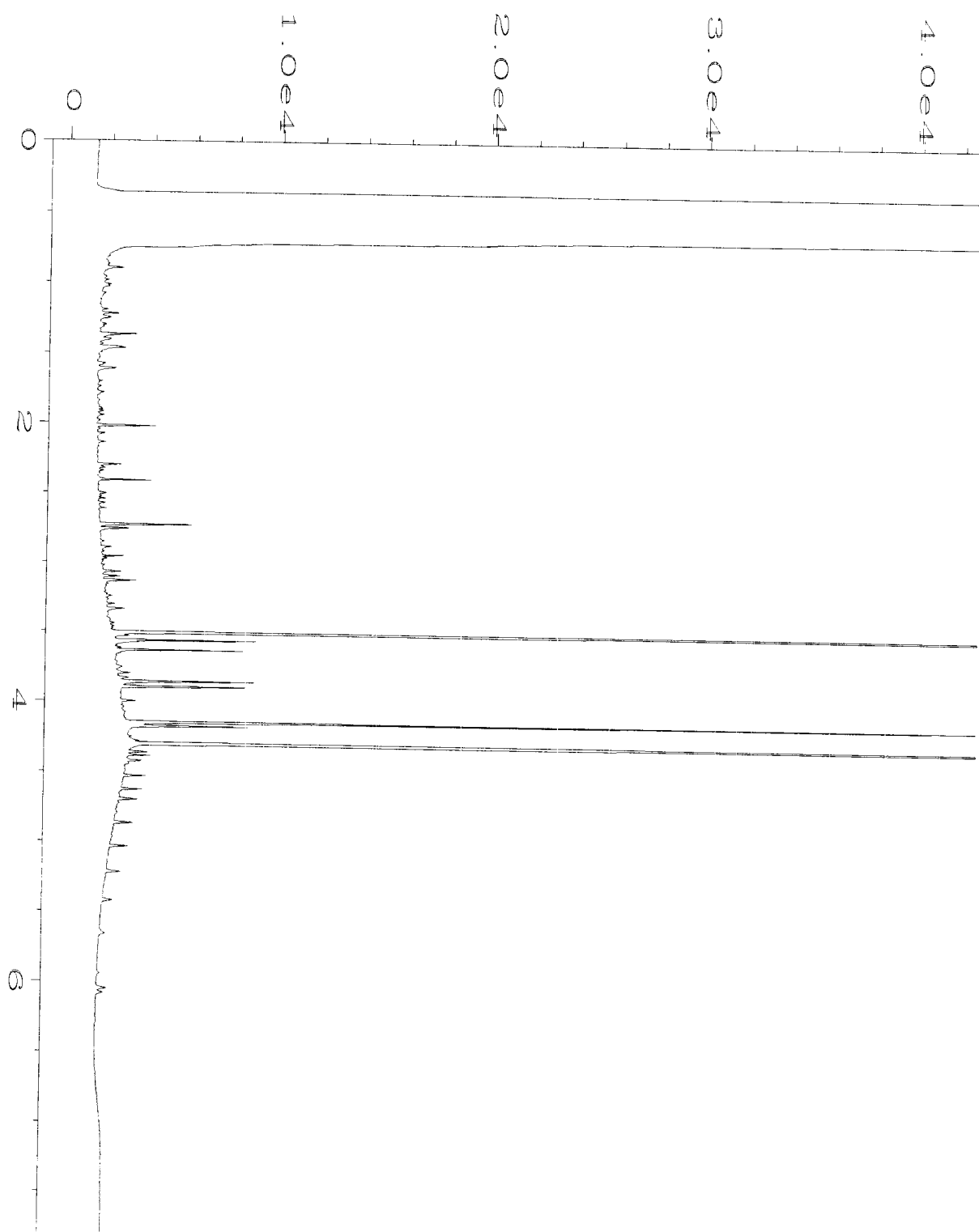


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Report Created on:	05 Aug 19 09:37 AM		

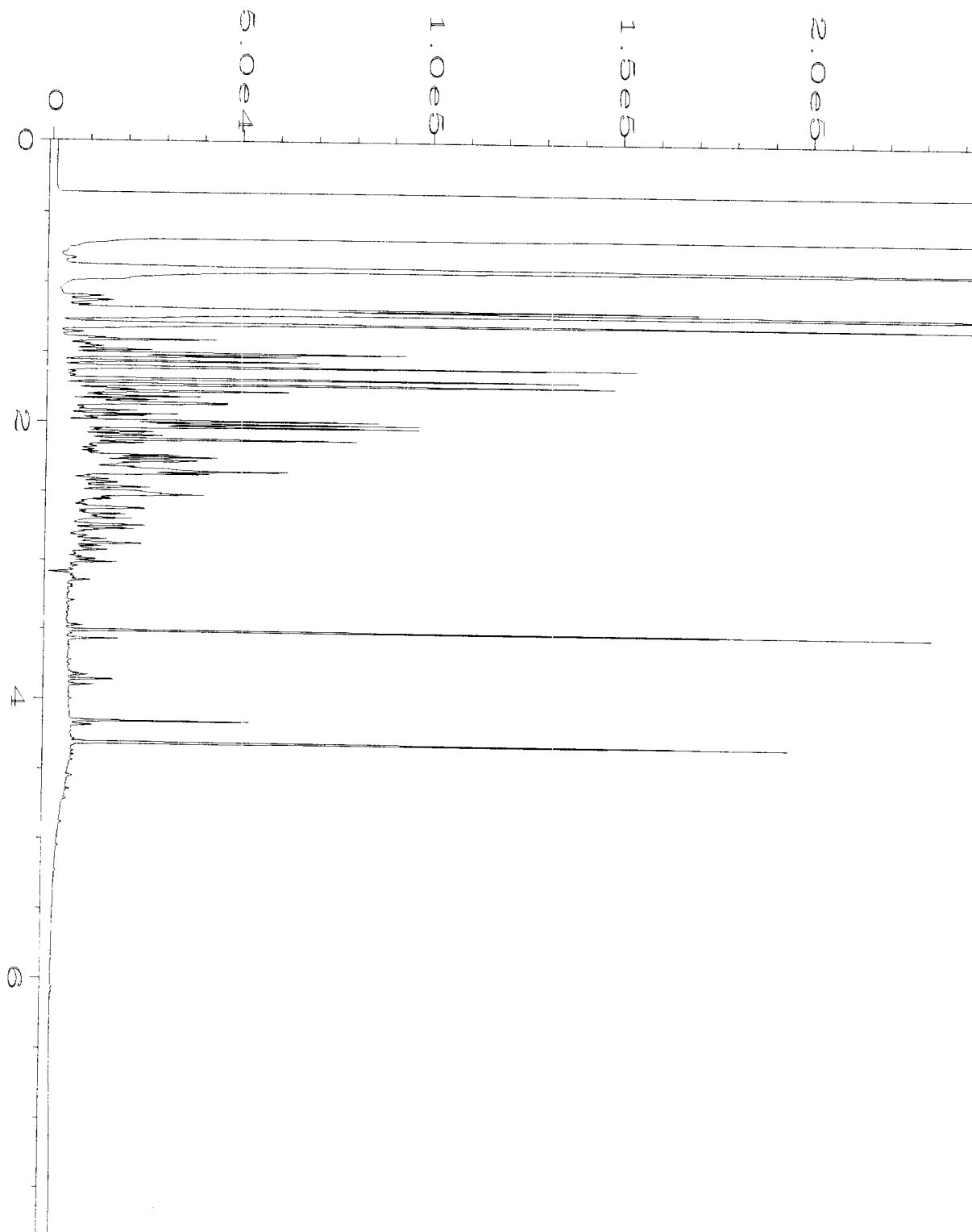


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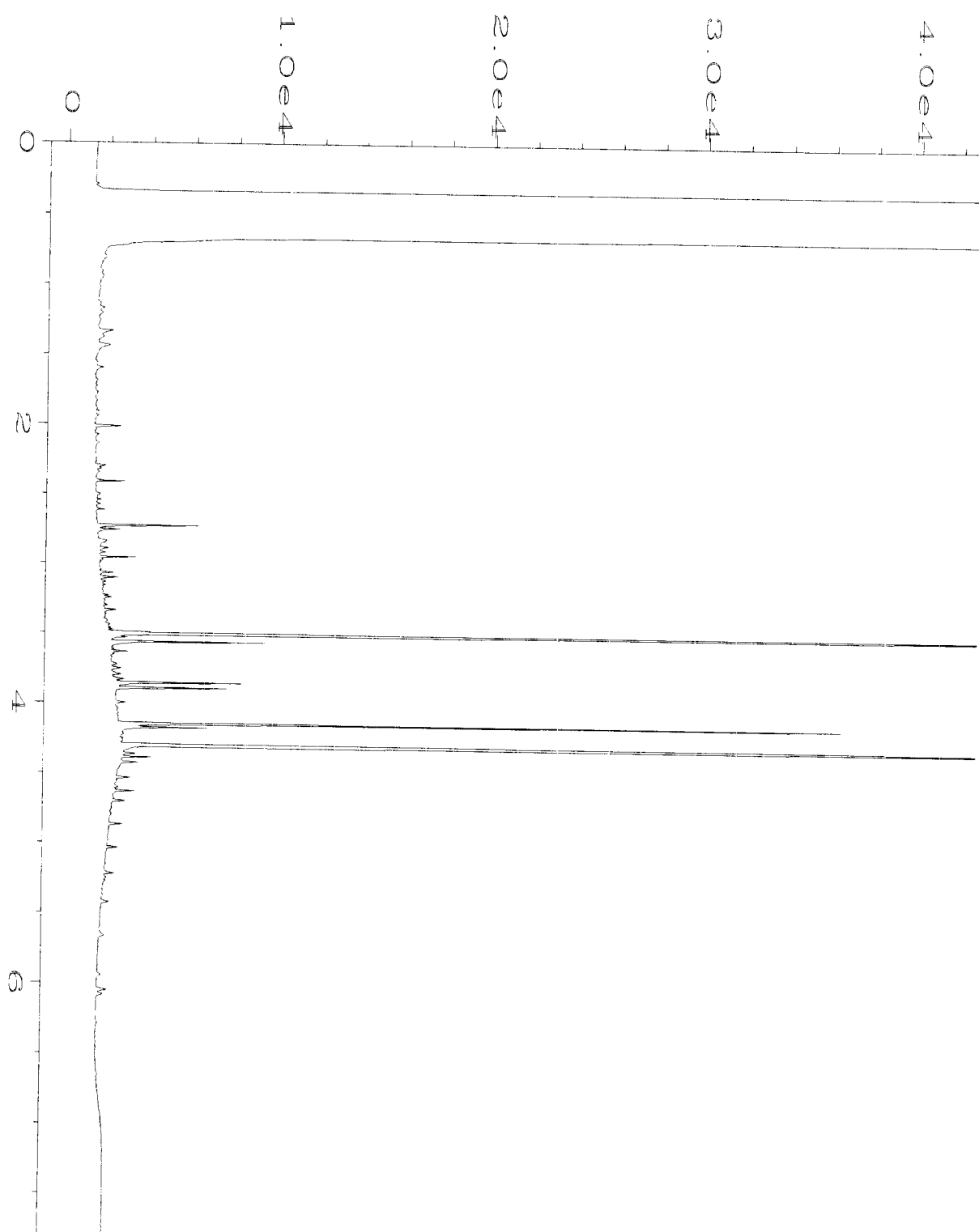




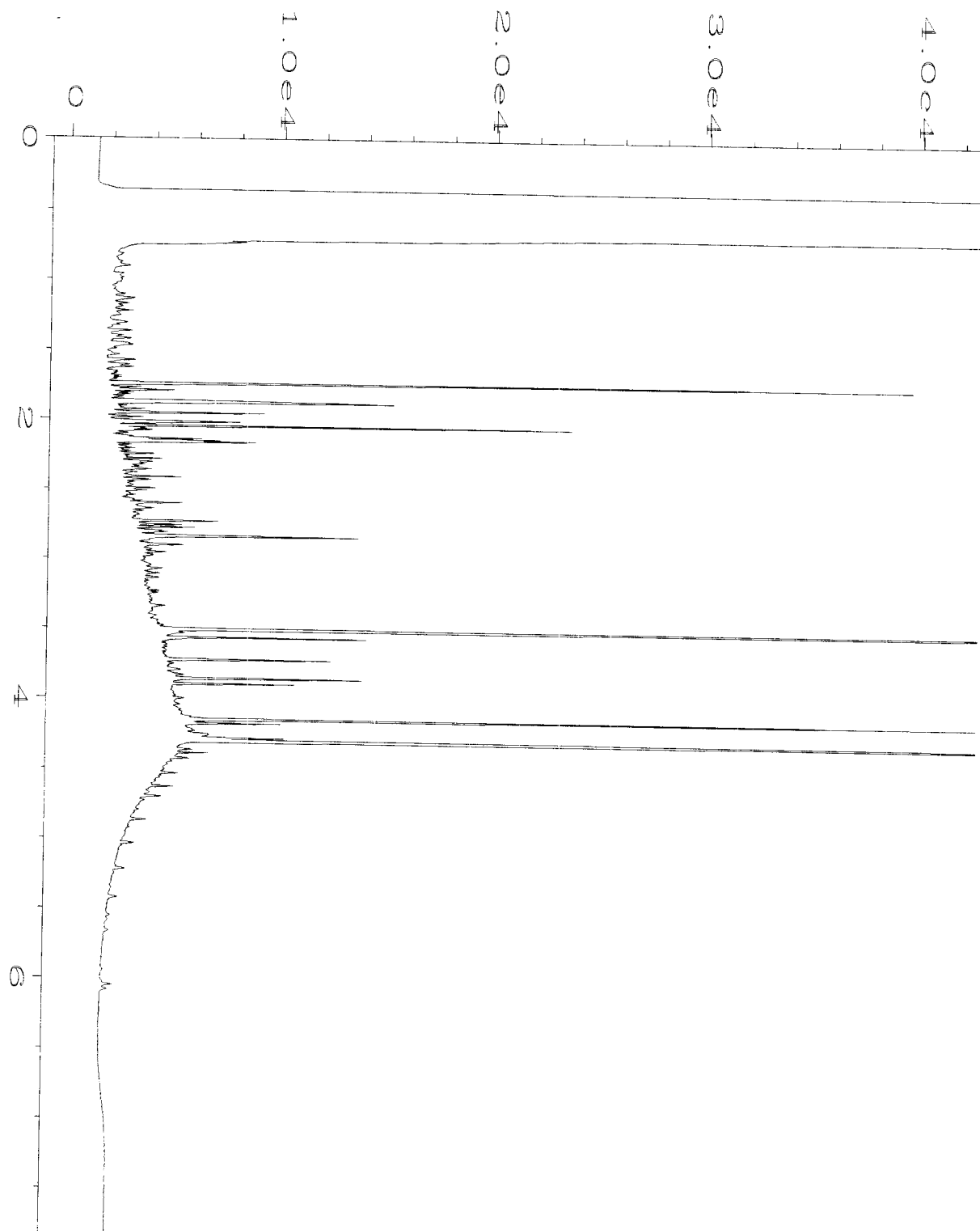
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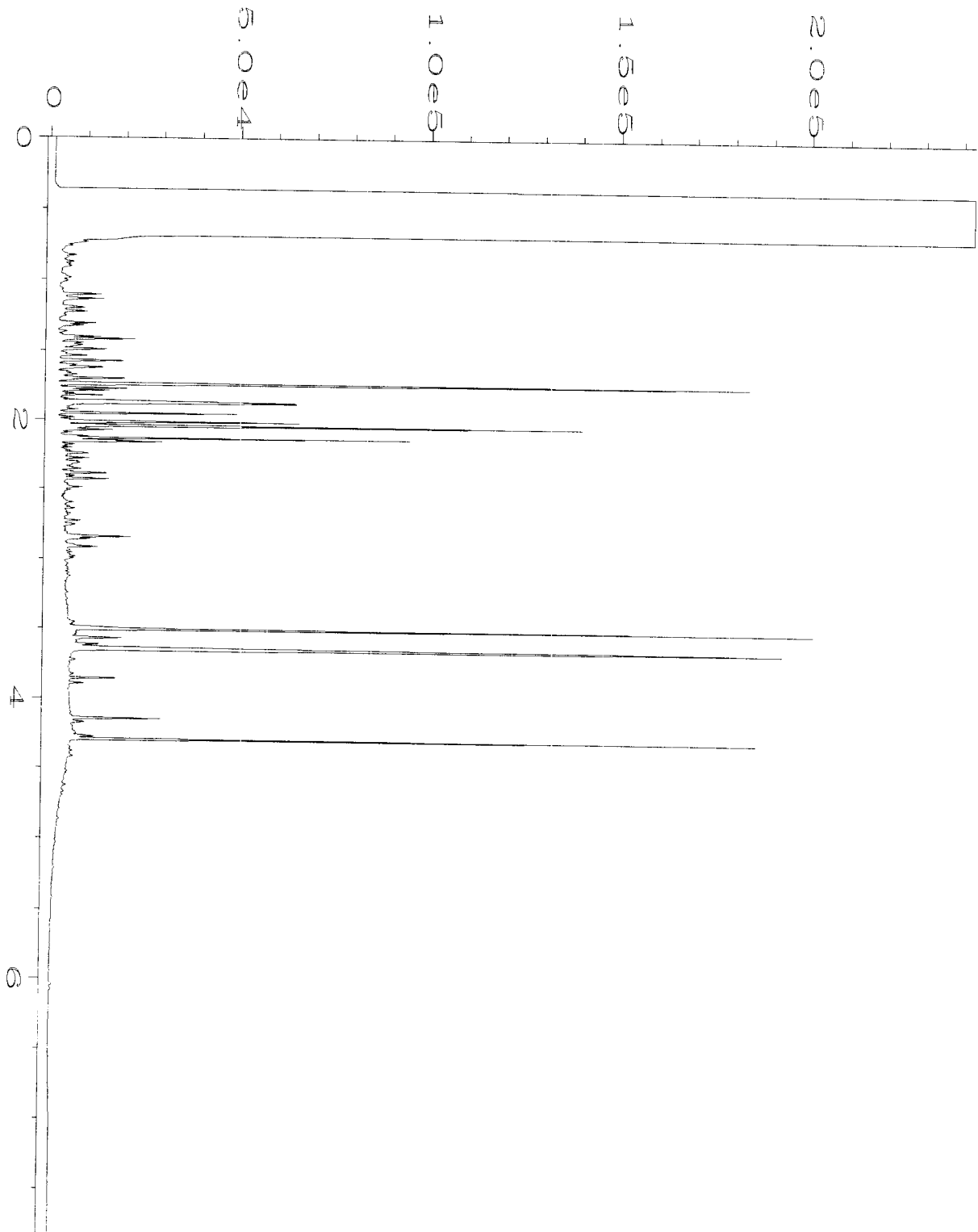
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Sample Name	: 908023-09	Sequence Line	: 5
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Report Created on:	05 Aug 19 09:40 AM		



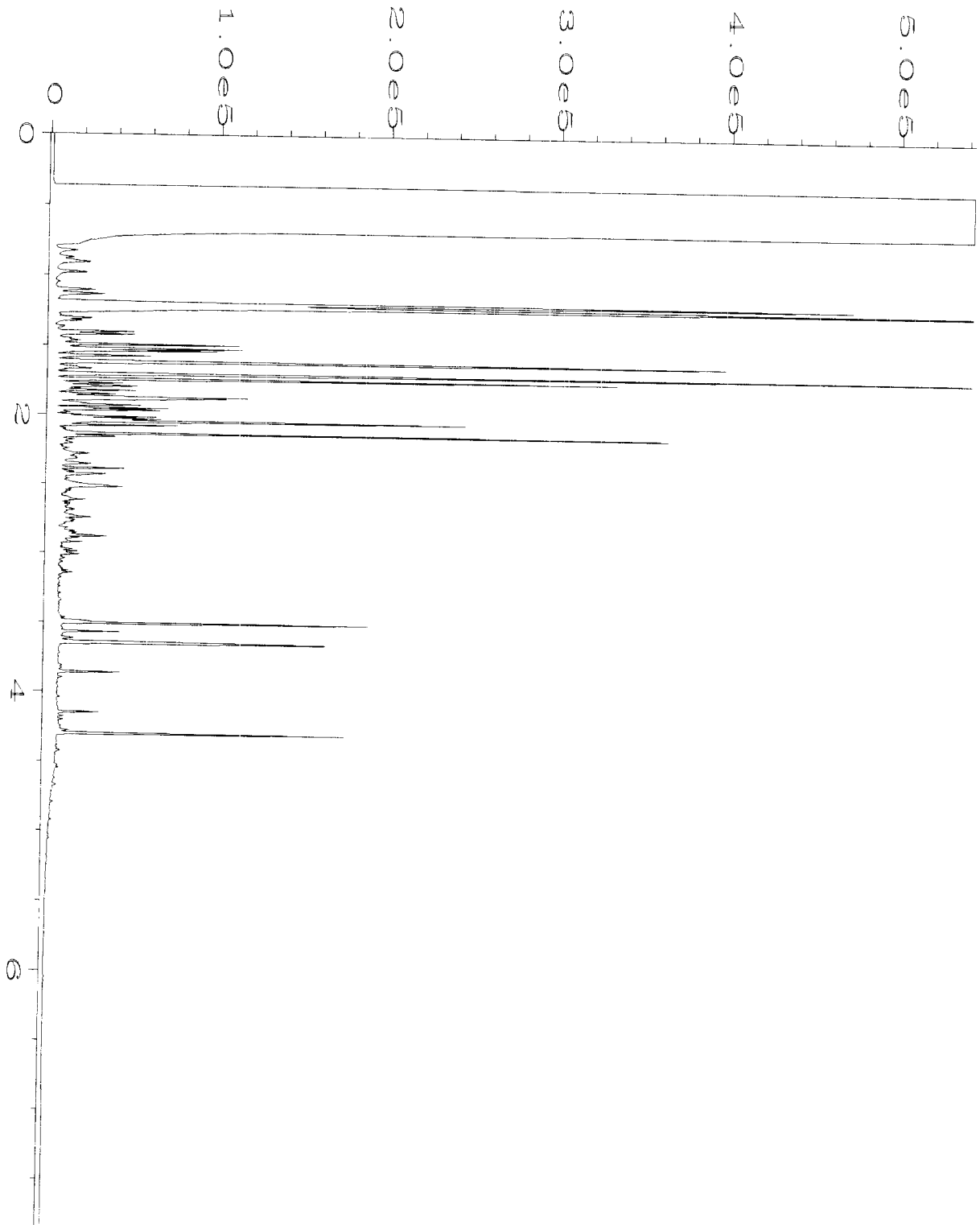
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Report Created on:	05 Aug 19 09:42 AM		



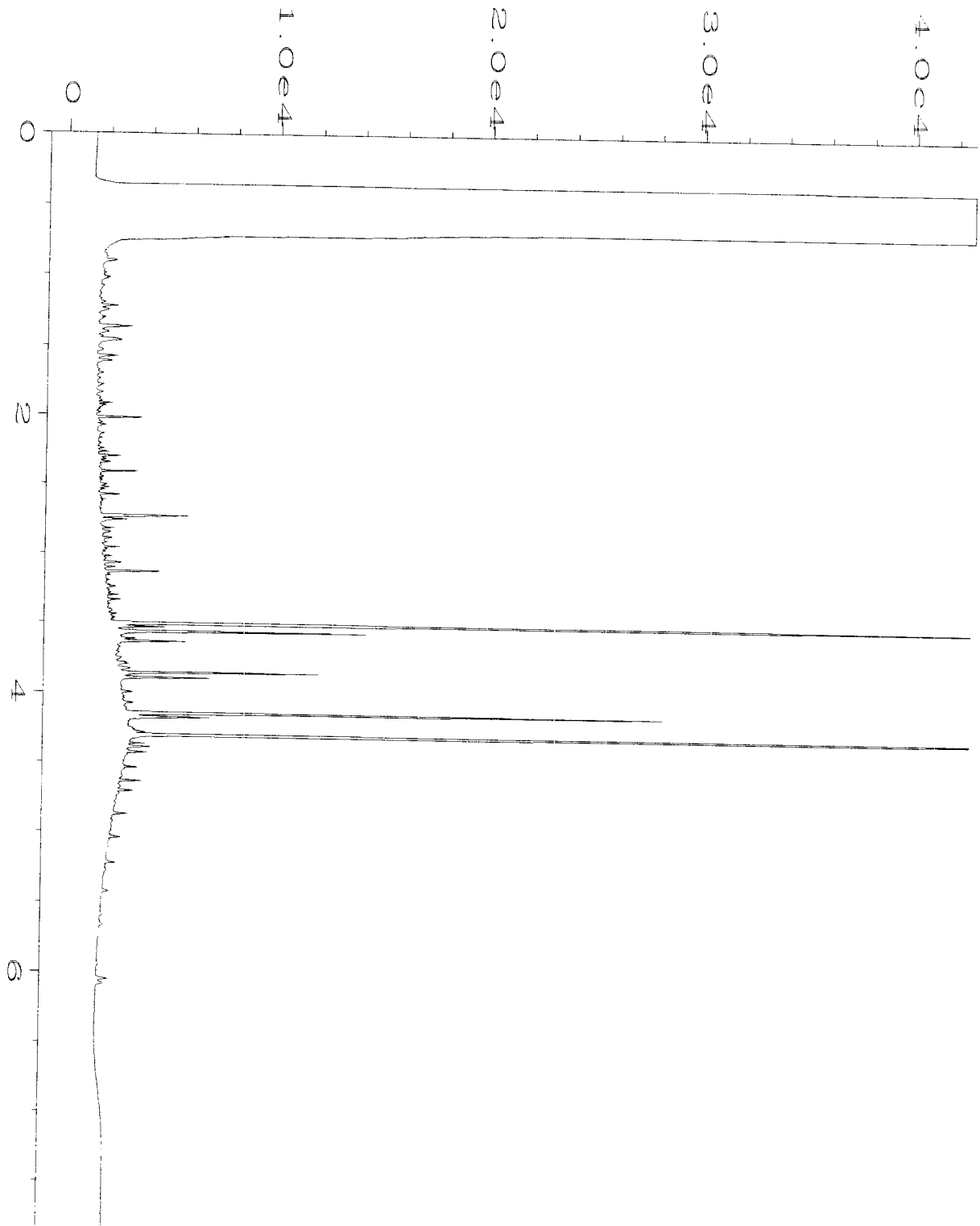
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Instrument	: GC#4	Injection Number	: 1
Sample Name	: 908023-11	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 03:52 PM	Analysis Method	: DEFAULT.MTH
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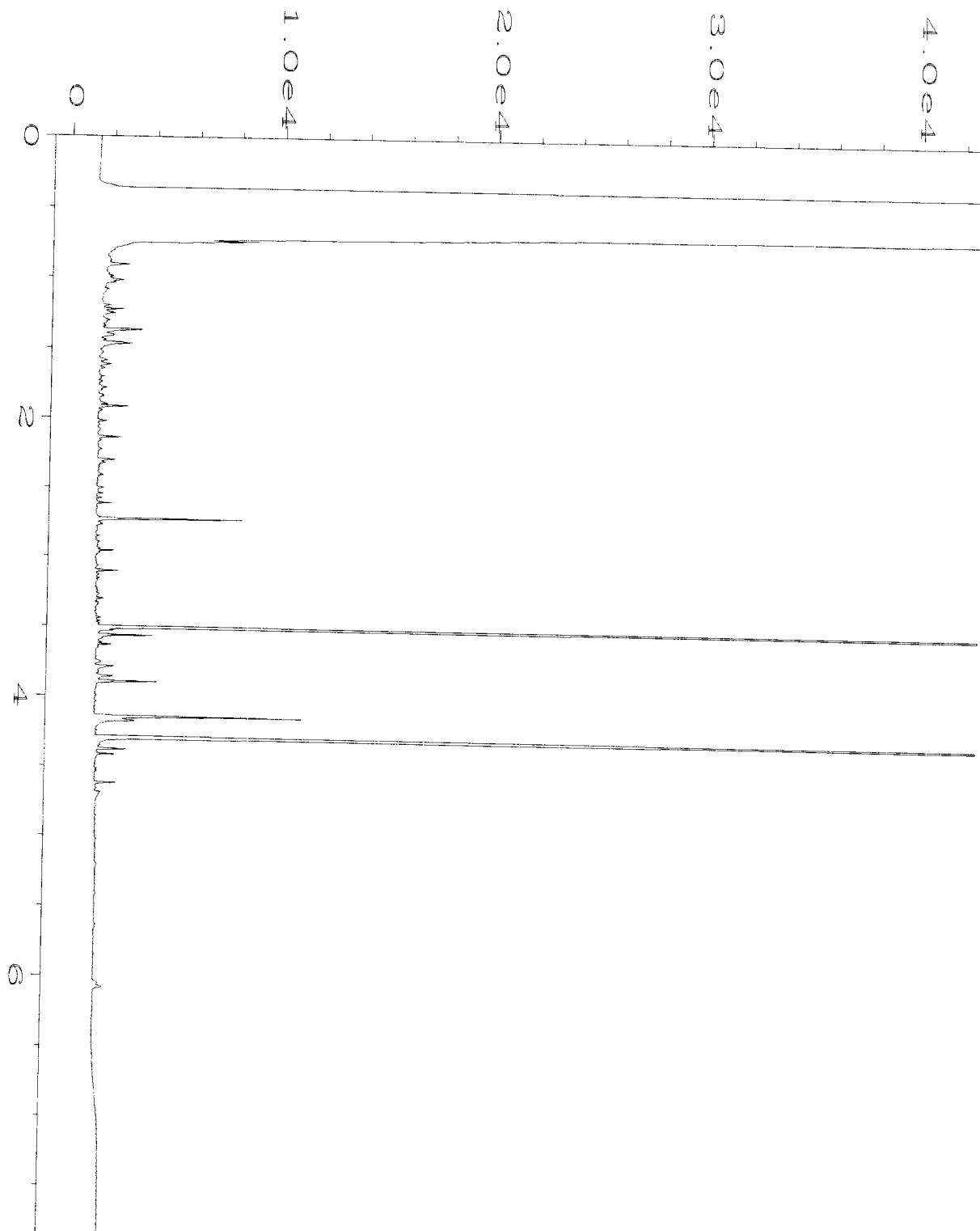
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Sample Name	: 908023-12	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 04:05 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:42 AM		



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Operator	: TL	Vial Number	: 21
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 908023-13	Sequence Line	: 5
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Report Created on:	05 Aug 19 09:42 AM		

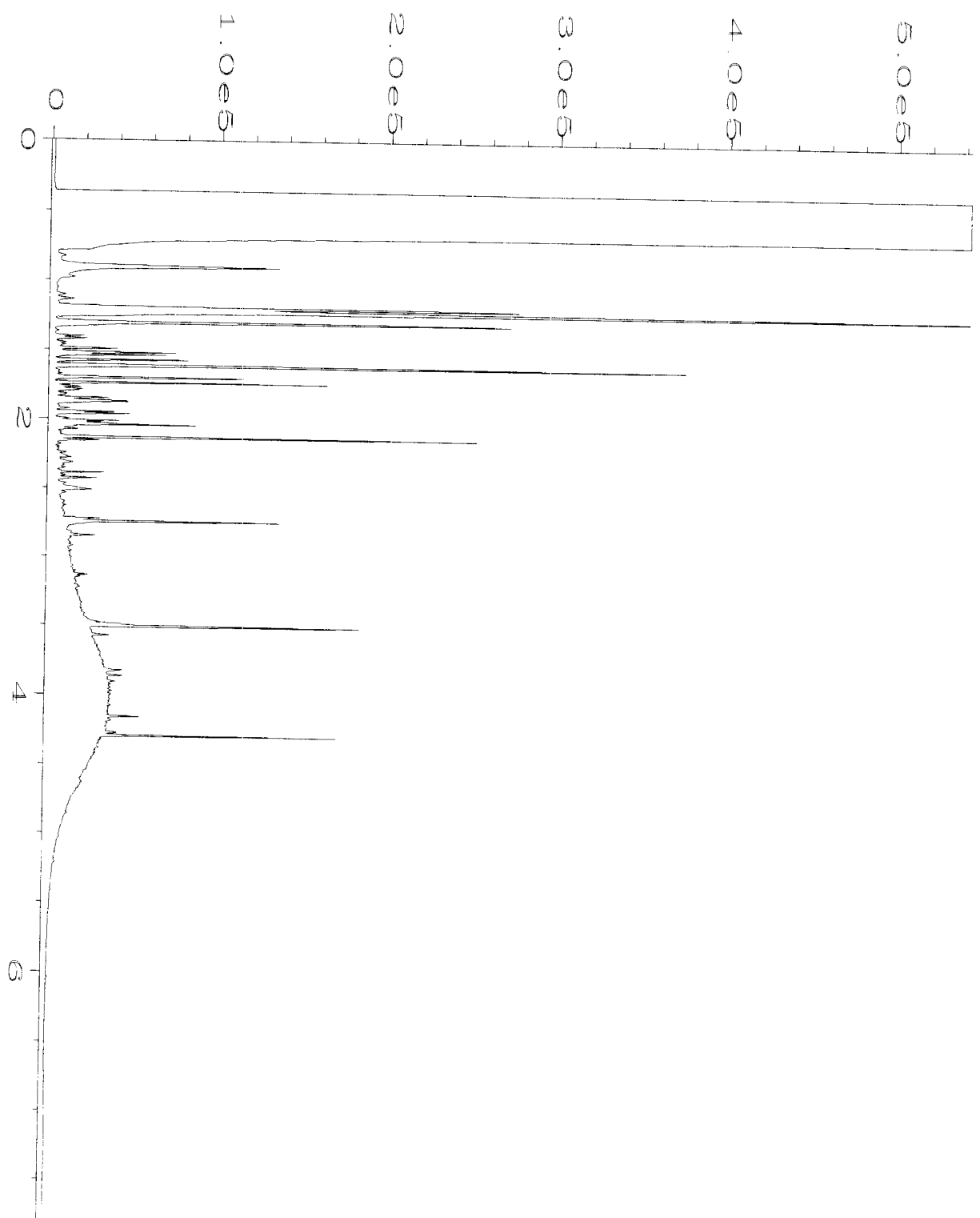


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Sample Name	: 908023-14	Sequence Line	: 5
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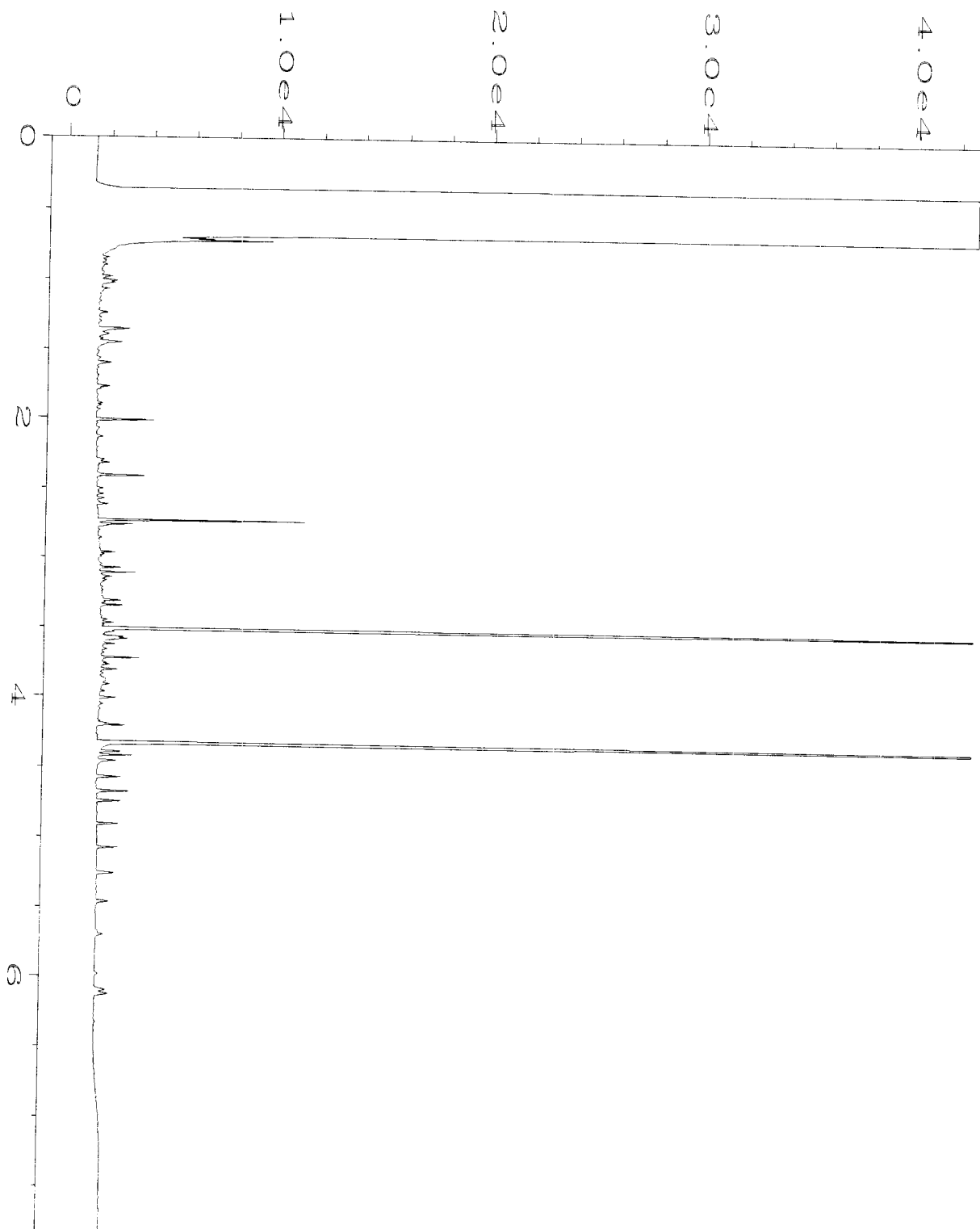


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Sample Name	: 908023-15	Sequence Line	: 11
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 02 Aug 19 06:12 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:43 AM		



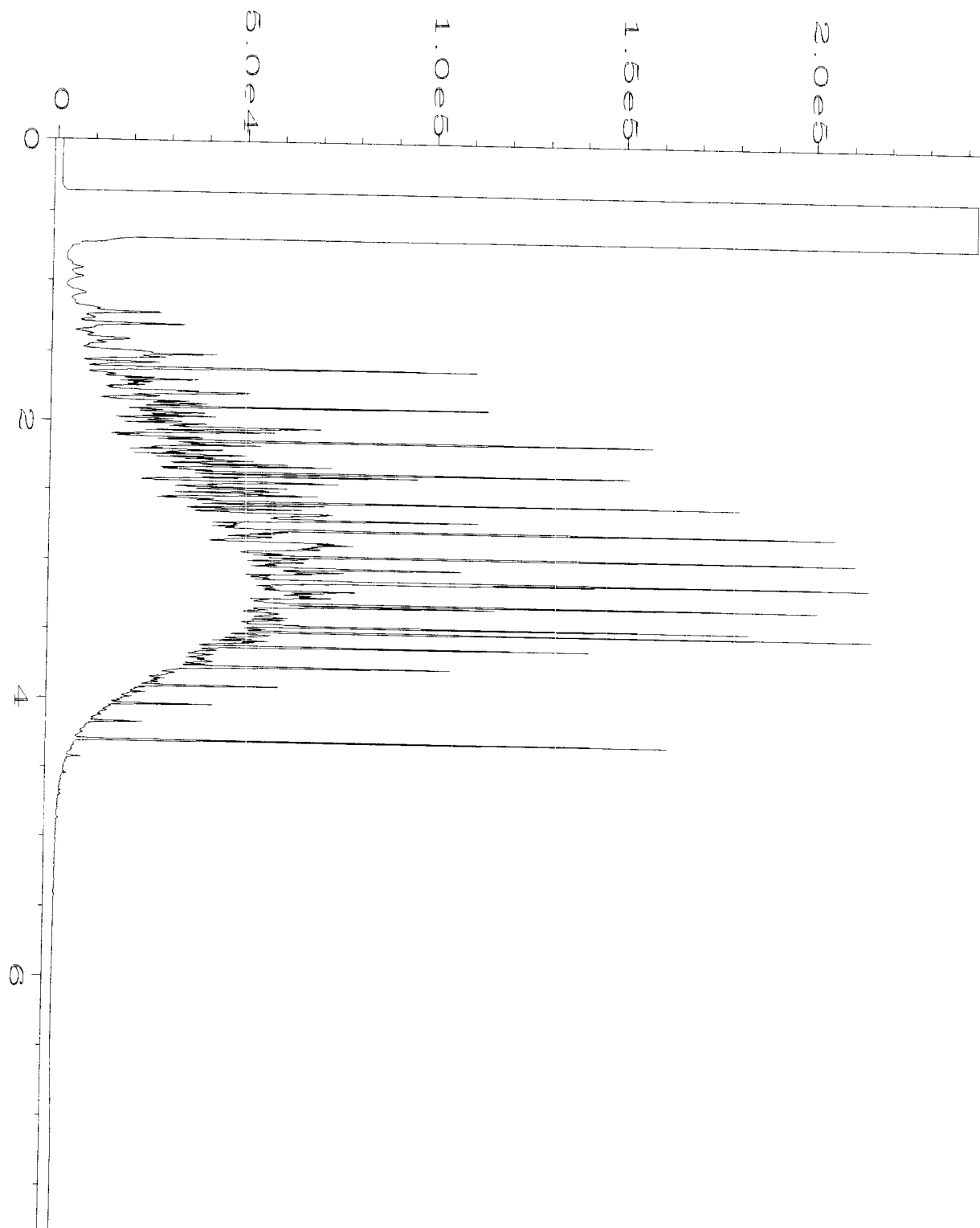


Data File Name	: C:\HPCHEM\4\DATA\08-02-19\024F1101.D	Page Number	: 1
Operator	: TL	Vial Number	: 24
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 908023-16	Sequence Line	: 11
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 06:25 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:44 AM		



18

Data File Name	: C:\HPCHEM\4\DATA\08-02-19\006F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 6
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 09-1899 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 12:27 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:44 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-02-19\005F0401.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 57-78B	Sequence Line	: 4
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 02 Aug 19 03:07 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 19 09:45 AM		

908023

SAMPLE CHAIN OF CUSTODY

ME 08/01/19

WV5/AT6/COS

Report To: ~~Andrew Jenkoffski~~

Company: Aspect

Address:

City, State, ZIP

Phone: 316.617.0499 Email: you@aspect.com

SAMPLERS (signature) [Signature]

PROJECT NAME: Alpha Cafe

PO #: 180357

REMARKS: Alpha Cafe

INVOICE TO

INVOICE TO

TURNAROUND TIME

Standard Turnaround

RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	MTBE, EPB, EDC & naphthalene 8260	Total lead 6010	CVOCs			
MW-16-073119	01A-H	07/31/19	0830	Water	8	X	X	X										
MW-18-073119	02A-K		0925		8	X	X	X										
MW-14-073119	03		1030		8	X	X	X										HL odor present
MW-13-073119	04		1240		11	X	X	X										
DOP-01-073119	05				11	X	X	X										
MW-17-073119	06A-H		0820		8	X	X	X										
MW-19-073119	07A-K		0910		11	X	X	X										
MW-7-073119	08A-H		1020		8	X	X	X										
MW-11-073119	09		1115		8	X	X	X										
MW-6-073119	10		1245		8	X	X	X										

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by:	<u>[Signature]</u>		<u>David Board</u>		<u>Aspect Consulting</u>	<u>8/1/19</u>	<u>1717</u>
Received by:	<u>[Signature]</u>		<u>HODGEN CUNYEN</u>		<u>FBI</u>	<u>8/1/19</u>	<u>1717</u>
Relinquished by:							
Received by:							

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

Samples received at 400

908023  
 Andrew Tonkofski

SAMPLE CHAIN OF CUSTODY ME 08/01/19

Page # 2 of 2  
 WWS/ADG/LOS

Report To: Andrew Tonkofski  
 Company: Aspect  
 Address: \_\_\_\_\_  
 City, State, ZIP: \_\_\_\_\_  
 Phone: 316-617-0499 Email: atn@aspectconsulting.com

SAMPLERS (signature) <i>[Signature]</i>	PROJECT NAME <u>Albino Cafe</u>	PO # <u>180357</u>
REMARKS	INVOICE TO	

TURNAROUND TIME  
 Standard Turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	BTEX 8220	MTBE, CPB, EDC + naphthalene 8220	Total lead 6010			
MW-12-080119	11A-H	8/1/19	1110	WTC	8	X	X	X				X	X	X				
MW-2-080119	12		1205		8	X	X	X				X	X	X				Heads Present
MW-10-080119	13		1330		8	X	X	X				X	X	X				Heads Present
MW-9-080119	14		1420		8	X	X	X				X	X	X				
Rinse Blank-080119	15		1455		8	X	X	X				X	X	X				
MW-1-080119	16		1530		8	X	X	X				X	X	X				Heads Present
Tip Blank 3 sets of 2	17 F				6													(X) - Gas + Gr Gas Tags, VOCs, VOCs
AB sp EF																		Per DB 6/1/19 ME

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE <i>[Signature]</i>	PRINT NAME <u>Daniel Brocock</u>	COMPANY <u>Aspect Consulting</u>	DATE <u>8/1/19</u>	TIME <u>1717</u>
Relinquished by:	<u>Daniel Brocock</u>			
Received by:	<u>Monika</u>	<u>FB</u>		
Relinquished by:	<u>HONOLUYEU</u>			
Received by:		<u>Samples received at</u>	<u>4</u>	<u>00</u>

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 2, 2019

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on November 20, 2019 from the Aloha Cafe 180357, F&BI 911310 project. There are 47 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Data Aspect  
ASP1202R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 20, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Aloha Cafe 180357, F&BI 911310 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
911310 -01	MW-1-112019
911310 -02	MW-2-112019
911310 -03	MW-6-112019
911310 -04	MW-7-112019
911310 -05	MW-9-112019
911310 -06	MW-10-112019
911310 -07	MW-11-112019
911310 -08	MW-12-112019
911310 -09	MW-13-112019
911310 -10	MW-14-112019
911310 -11	MW-16-112019
911310 -12	MW-17-112019
911310 -13	MW-18-112019
911310 -14	MW-19-112019
911310 -15	DUP-01-112019
911310 -16	Rinseblank-112019
911310 -17	Trip blank

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/02/19

Date Received: 11/20/19

Project: Aloha Cafe 180357, F&BI 911310

Date Extracted: 11/21/19

Date Analyzed: 11/21/19 and 11/25/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-1-112019 911310-01 1/20	44,000	98
MW-2-112019 911310-02	4,600	86
MW-6-112019 911310-03	<100	86
MW-7-112019 911310-04	<100	89
MW-9-112019 911310-05	560	100
MW-10-112019 911310-06 1/20	21,000	97
MW-11-112019 911310-07 1/10	20,000	108
MW-12-112019 911310-08	540	96
MW-13-112019 911310-09	1,800	104
MW-14-112019 911310-10 1/10	11,000	94
MW-16-112019 911310-11	<100	88



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/02/19  
Date Received: 11/20/19  
Project: Aloha Cafe 180357, F&BI 911310  
Date Extracted: 11/21/19  
Date Analyzed: 11/21/19 and 11/25/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 51-134)
MW-17-112019 911310-12	1,100	116
MW-18-112019 911310-13	1,300	96
MW-19-112019 911310-14	<100	86
DUP-01-112019 911310-15	<100	94
Rinseblank-112019 911310-16	<100	87
Trip blank 911310-17	<100	89
Method Blank 09-2735 MB	<100	81

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/02/19  
 Date Received: 11/20/19  
 Project: Aloha Cafe 180357, F&BI 911310  
 Date Extracted: 11/21/19  
 Date Analyzed: 11/21/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
 FOR TOTAL PETROLEUM HYDROCARBONS AS  
 DIESEL AND MOTOR OIL  
 USING METHOD NWTPH-D<sub>x</sub>  
 Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
MW-1-112019 911310-01	3,200 x	570 x	112
MW-2-112019 911310-02	2,200 x	260 x	125
MW-6-112019 911310-03	<50	<250	108
MW-7-112019 911310-04	<50	<250	122
MW-9-112019 911310-05	290 x	<250	121
MW-10-112019 911310-06	3,900 x	340 x	127
MW-11-112019 911310-07	2,400 x	310 x	125
MW-12-112019 911310-08	370 x	<250	126
MW-13-112019 911310-09	780 x	<250	117
MW-14-112019 911310-10	1,600 x	300 x	119
MW-16-112019 11310-11	<50	<250	120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/02/19  
Date Received: 11/20/19  
Project: Aloha Cafe 180357, F&BI 911310  
Date Extracted: 11/21/19  
Date Analyzed: 11/21/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
MW-17-112019 911310-12	560 x	<250	124
MW-18-112019 911310-13	260 x	<250	134
MW-19-112019 911310-14	<50	<250	134
DUP-01-112019 911310-15	<50	<250	137
Rinseblank-112019 911310-16	<50	<250	117
Method Blank 09-2869 MB	<50	<250	124

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-1-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-01
Date Analyzed:	11/21/19	Data File:	911310-01.050
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-2-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-02
Date Analyzed:	11/21/19	Data File:	911310-02.053
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-6-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-03
Date Analyzed:	11/21/19	Data File:	911310-03.054
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-7-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-04
Date Analyzed:	11/21/19	Data File:	911310-04.055
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-9-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-05
Date Analyzed:	11/21/19	Data File:	911310-05.056
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-10-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-06
Date Analyzed:	11/21/19	Data File:	911310-06.057
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-11-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-07
Date Analyzed:	11/21/19	Data File:	911310-07.060
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	1.85
------	------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-12-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-08
Date Analyzed:	11/21/19	Data File:	911310-08.061
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-13-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-09
Date Analyzed:	11/21/19	Data File:	911310-09.062
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-14-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-10
Date Analyzed:	11/21/19	Data File:	911310-10.063
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-16-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-11
Date Analyzed:	11/21/19	Data File:	911310-11.064
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	1.02
------	------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-17-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-12
Date Analyzed:	11/21/19	Data File:	911310-12.065
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-18-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-13
Date Analyzed:	11/21/19	Data File:	911310-13.066
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-19-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-14
Date Analyzed:	11/21/19	Data File:	911310-14.067
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	DUP-01-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-15
Date Analyzed:	11/21/19	Data File:	911310-15.068
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Rinseblank-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	911310-16
Date Analyzed:	11/21/19	Data File:	911310-16.069
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/21/19	Lab ID:	I9-744 mb
Date Analyzed:	11/21/19	Data File:	I9-744 mb.048
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-1-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-01 1/100
Date Analyzed:	11/26/19	Data File:	112545.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
1,2-Dichloroethane (EDC)	<100
Benzene	6,700
Toluene	1,500
1,2-Dibromoethane (EDB)	<100
Ethylbenzene	860
m,p-Xylene	2,800
o-Xylene	880
Naphthalene	210

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-02
Date Analyzed:	11/25/19	Data File:	112534.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	30
Toluene	6.5
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	28
m,p-Xylene	19
o-Xylene	4.9
Naphthalene	150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-6-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-03
Date Analyzed:	11/25/19	Data File:	112535.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-7-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-04
Date Analyzed:	11/25/19	Data File:	112536.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	95	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	2.7
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	1.6
m,p-Xylene	7.1
o-Xylene	1.7
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-9-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-05
Date Analyzed:	11/25/19	Data File:	112537.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	6.4
Toluene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	6.6
m,p-Xylene	<2
o-Xylene	3.3
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-10-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-06 1/100
Date Analyzed:	11/26/19	Data File:	112546.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
1,2-Dichloroethane (EDC)	<100
Benzene	2,800
Toluene	<100
1,2-Dibromoethane (EDB)	<100
Ethylbenzene	1,000
m,p-Xylene	1,500
o-Xylene	<100
Naphthalene	270

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-07 1/100
Date Analyzed:	11/26/19	Data File:	112547.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
1,2-Dichloroethane (EDC)	<100
Benzene	270
Toluene	1,500
1,2-Dibromoethane (EDB)	<100
Ethylbenzene	690
m,p-Xylene	2,100
o-Xylene	480
Naphthalene	130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-08
Date Analyzed:	11/25/19	Data File:	112538.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	1.1
Toluene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-09
Date Analyzed:	11/25/19	Data File:	112539.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	4.0
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-10 1/100
Date Analyzed:	11/26/19	Data File:	112548.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
Methyl t-butyl ether (MTBE)	<100
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	<100
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Benzene	2,700
Trichloroethene	<100
Toluene	<100
Tetrachloroethene	<100
1,2-Dibromoethane (EDB)	<100
Ethylbenzene	<100
m,p-Xylene	<200
o-Xylene	<100
Naphthalene	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-16-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-11
Date Analyzed:	11/25/19	Data File:	112540.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-17-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-12
Date Analyzed:	11/25/19	Data File:	112541.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	4.2
Toluene	2.8
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	4.2
o-Xylene	2.1
Naphthalene	1.6



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-18-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-13
Date Analyzed:	11/25/19	Data File:	112542.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	230 ve
Trichloroethene	<1
Toluene	8.2
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	14
m,p-Xylene	48
o-Xylene	17
Naphthalene	5.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-18-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-13 1/10
Date Analyzed:	11/26/19	Data File:	112626.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<2
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
Methyl t-butyl ether (MTBE)	<10
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	<10
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Benzene	240
Trichloroethene	<10
Toluene	<10
Tetrachloroethene	<10
1,2-Dibromoethane (EDB)	<10
Ethylbenzene	15
m,p-Xylene	52
o-Xylene	18
Naphthalene	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-19-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-14
Date Analyzed:	11/25/19	Data File:	112543.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	<0.35
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	12
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	DUP-01-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-15
Date Analyzed:	11/26/19	Data File:	112625.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	<0.35
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	15
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Rinseblank-112019	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-16
Date Analyzed:	11/26/19	Data File:	112544.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip blank	Client:	Aspect Consulting, LLC
Date Received:	11/20/19	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	911310-17
Date Analyzed:	11/25/19	Data File:	112533.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	95	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	<0.35
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Aloha Cafe 180357, F&BI 911310
Date Extracted:	11/25/19	Lab ID:	09-2843 mb
Date Analyzed:	11/25/19	Data File:	112512.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	95	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
Methyl t-butyl ether (MTBE)	<1
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Benzene	<0.35
Trichloroethene	<1
Toluene	<1
Tetrachloroethene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/02/19

Date Received: 11/20/19

Project: Aloha Cafe 180357, F&BI 911310

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 911310-03 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	102	69-134



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/02/19

Date Received: 11/20/19

Project: Aloha Cafe 180357, F&BI 911310

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	96	61-133	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/02/19

Date Received: 11/20/19

Project: Aloha Cafe 180357, F&BI 911310

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 911310-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	<1	84	89	75-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	93	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/02/19

Date Received: 11/20/19

Project: Aloha Cafe 180357, F&BI 911310

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 911310-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	90	36-166
Chloroethane	ug/L (ppb)	50	<1	102	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	107	60-136
Methylene chloride	ug/L (ppb)	50	<5	101	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	103	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	100	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	103	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	101	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	101	48-149
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	102	60-146
Benzene	ug/L (ppb)	50	30	101 b	76-125
Trichloroethene	ug/L (ppb)	50	<1	95	66-135
Toluene	ug/L (ppb)	50	6.5	104	76-122
Tetrachloroethene	ug/L (ppb)	50	<1	105	10-226
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	98	69-134
Ethylbenzene	ug/L (ppb)	50	28	104 b	69-135
m,p-Xylene	ug/L (ppb)	100	19	104	69-135
o-Xylene	ug/L (ppb)	50	4.9	104	60-140
Naphthalene	ug/L (ppb)	50	150	126 b	44-164

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/02/19

Date Received: 11/20/19

Project: Aloha Cafe 180357, F&BI 911310

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	93	83	50-154	11
Chloroethane	ug/L (ppb)	50	104	92	58-146	12
1,1-Dichloroethene	ug/L (ppb)	50	103	93	67-136	10
Methylene chloride	ug/L (ppb)	50	99	91	39-148	8
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	103	92	64-147	11
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	88	68-128	11
1,1-Dichloroethane	ug/L (ppb)	50	99	90	79-121	10
cis-1,2-Dichloroethene	ug/L (ppb)	50	99	90	80-123	10
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	96	88	73-132	9
1,1,1-Trichloroethane	ug/L (ppb)	50	102	92	81-125	10
Benzene	ug/L (ppb)	50	95	87	69-134	9
Trichloroethene	ug/L (ppb)	50	92	84	79-113	9
Toluene	ug/L (ppb)	50	107	96	72-122	11
Tetrachloroethene	ug/L (ppb)	50	109	99	76-121	10
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	102	94	82-115	8
Ethylbenzene	ug/L (ppb)	50	107	97	77-124	10
m,p-Xylene	ug/L (ppb)	100	107	96	81-112	11
o-Xylene	ug/L (ppb)	50	109	98	81-121	11
Naphthalene	ug/L (ppb)	50	105	95	64-133	10

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

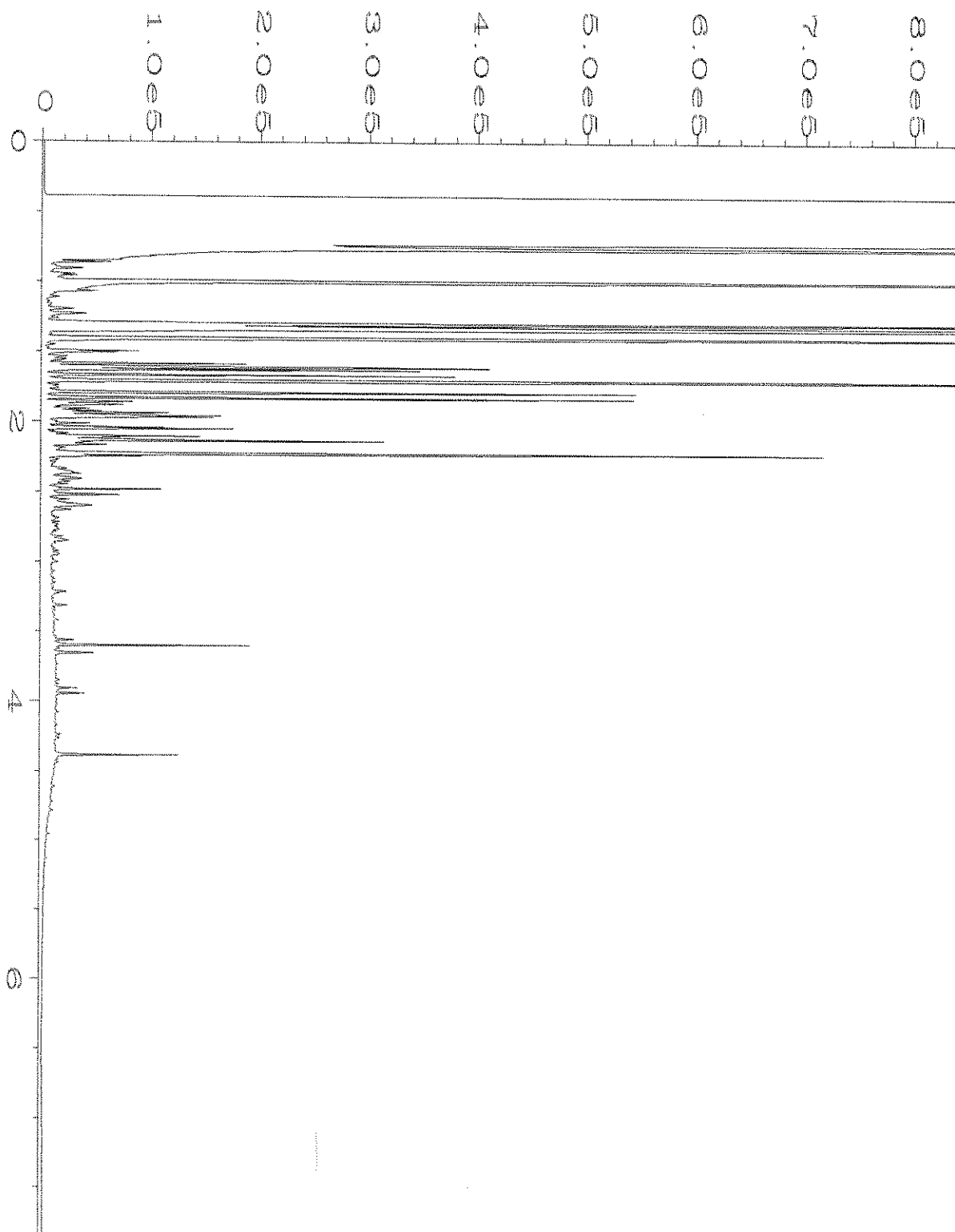
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

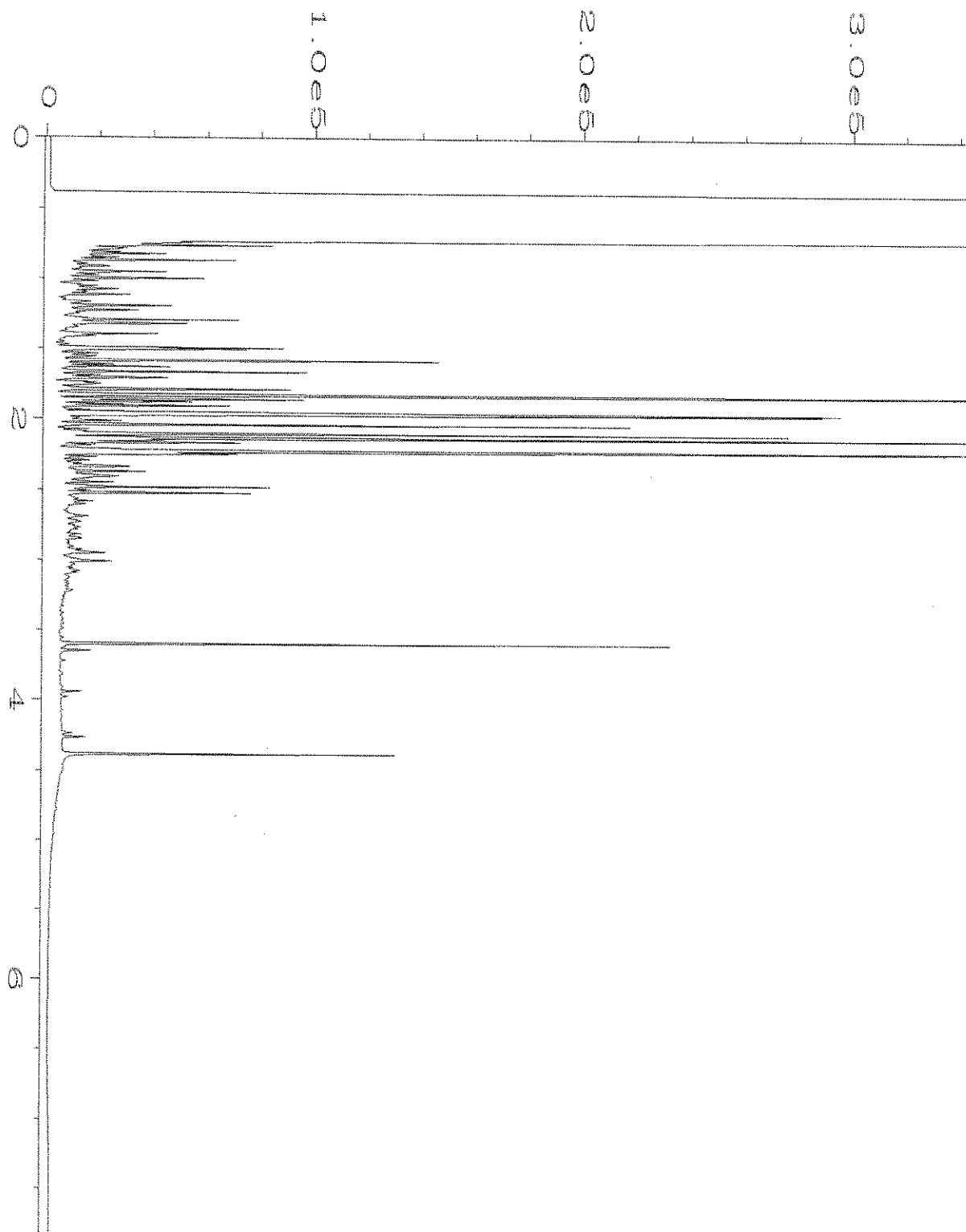
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

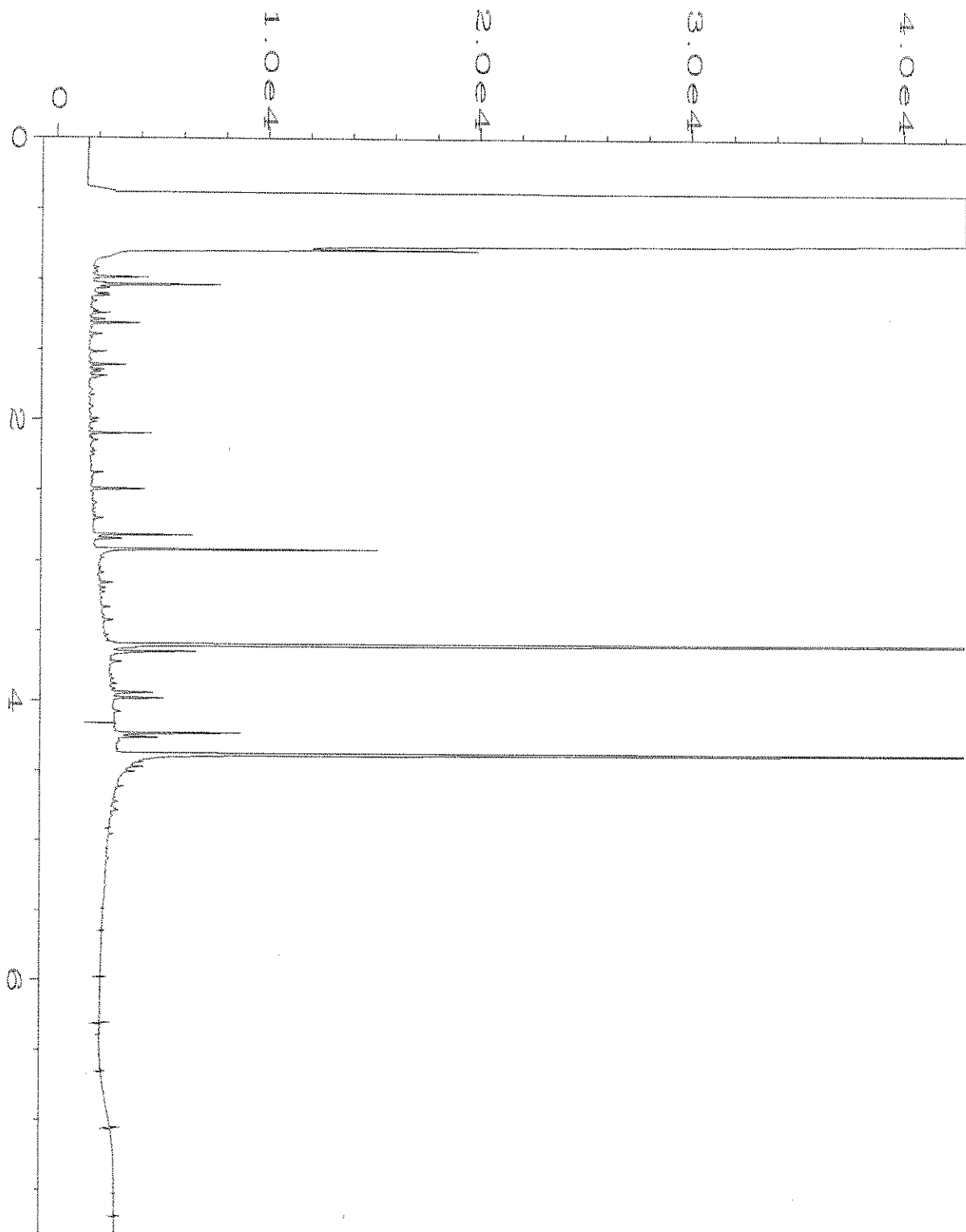
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



Data File Name	: C:\HPCHEM\4\DATA\11-21-19\041F1201.D	Page Number	: 1
Operator	: TL	Vial Number	: 41
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-01	Sequence Line	: 12
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Acquired on	: 21 Nov 19 04:30 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:25 AM		

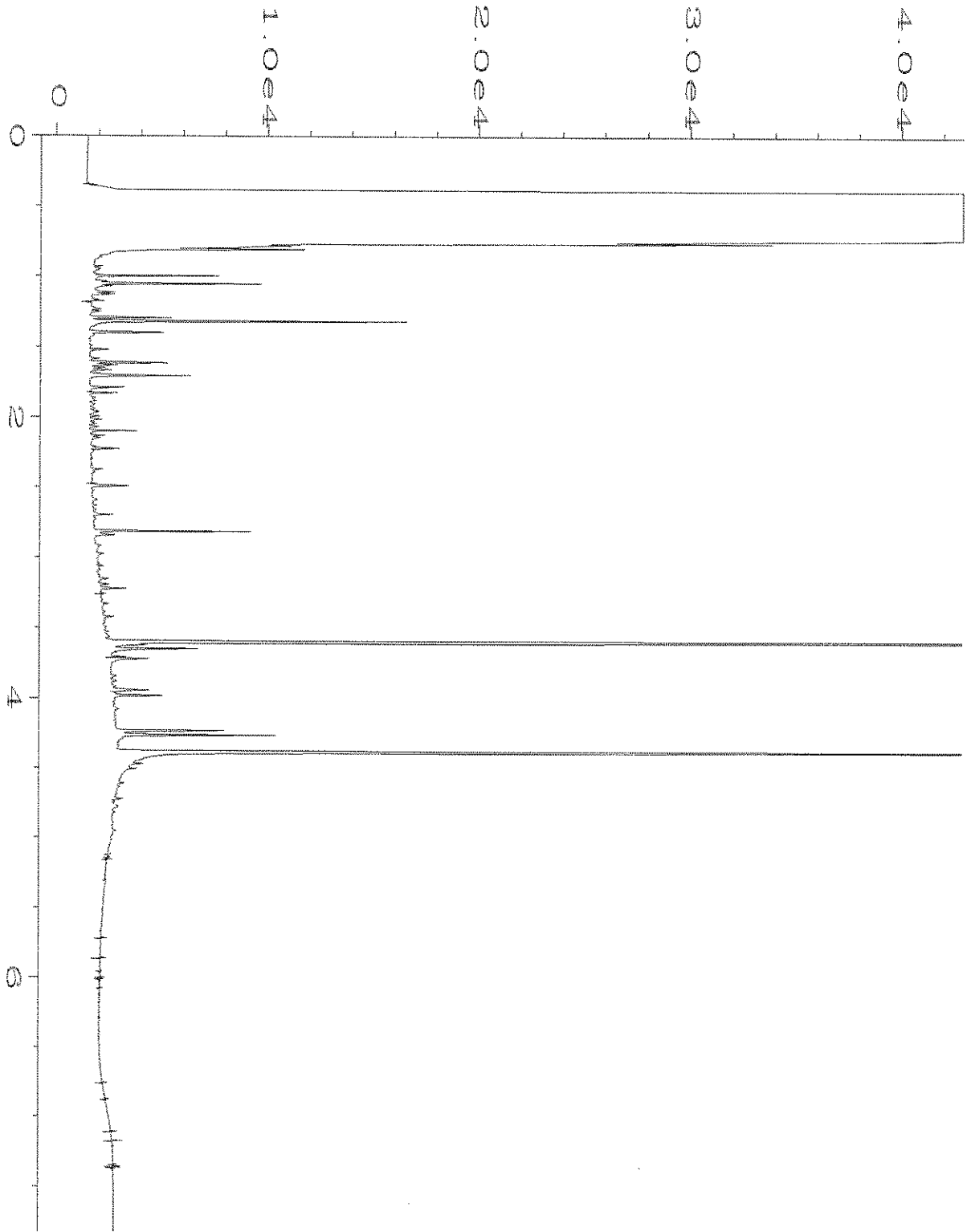


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Operator	: TL	Vial Number	: 42
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-02	Sequence Line	: 12
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 04:42 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:25 AM		

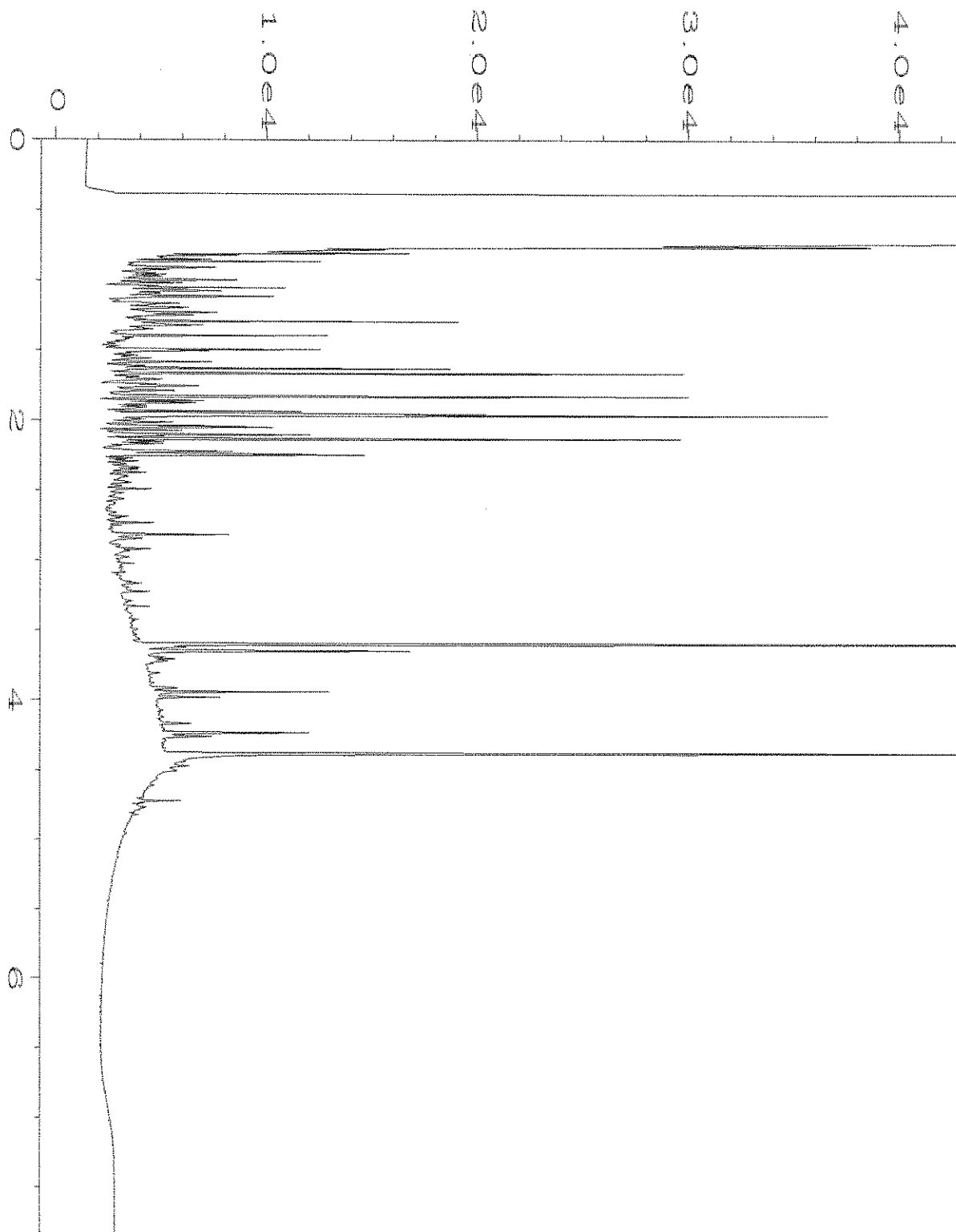


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Operator	: TL	Vial Number	: 43
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-03	Sequence Line	: 12
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 04:55 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:25 AM		

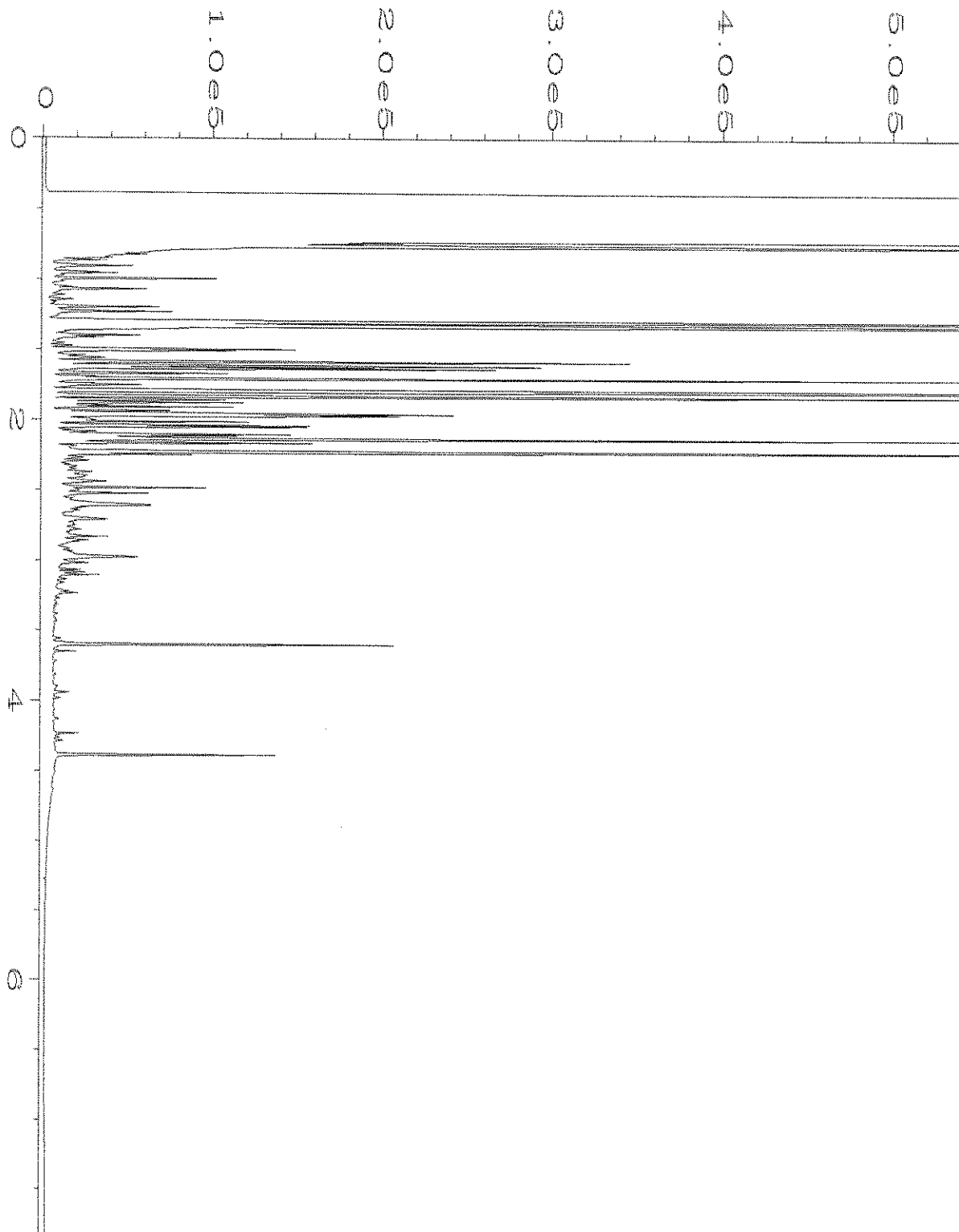




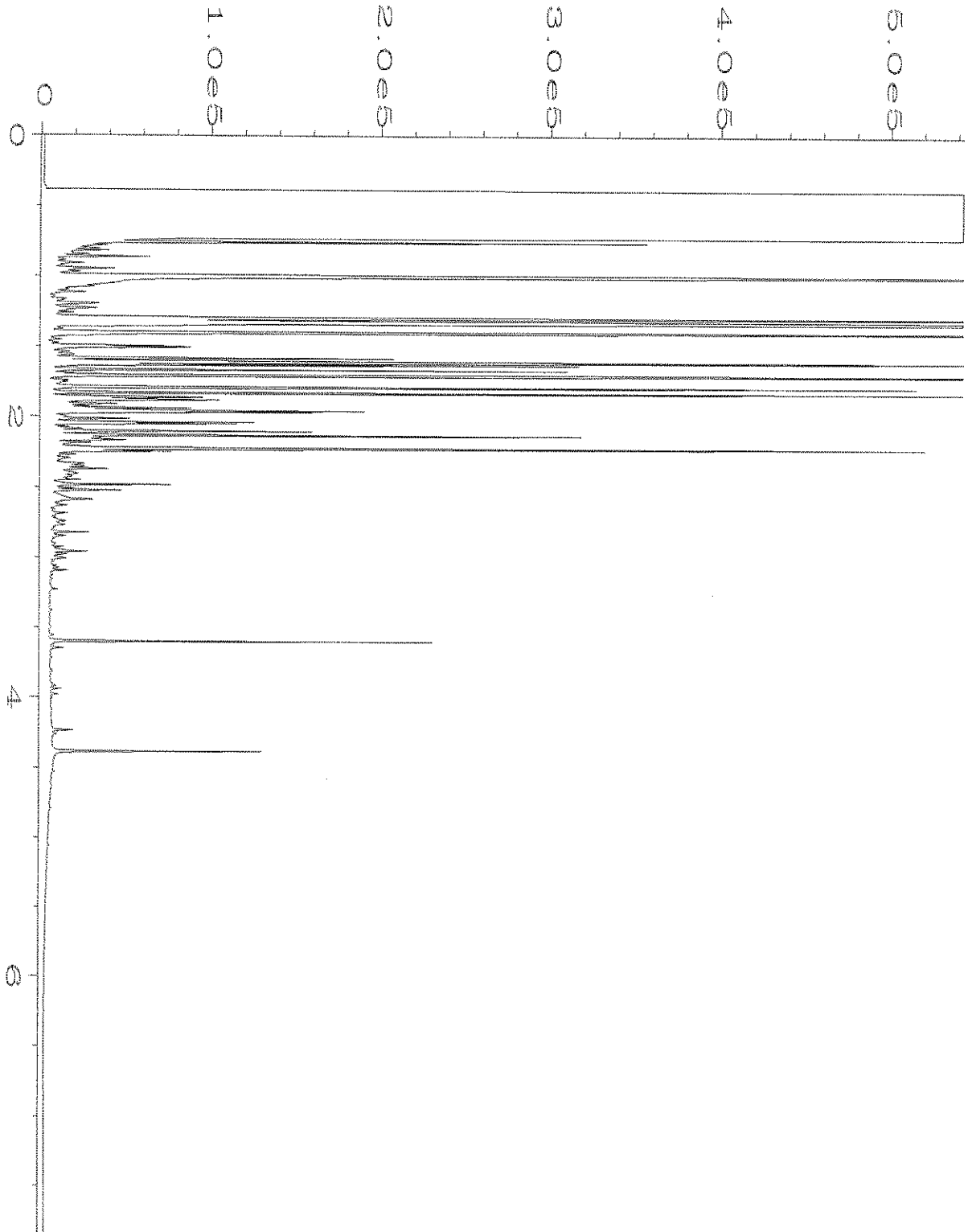
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Operator	: TL	Vial Number	: 44
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-04	Sequence Line	: 12
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 05:07 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:25 AM		



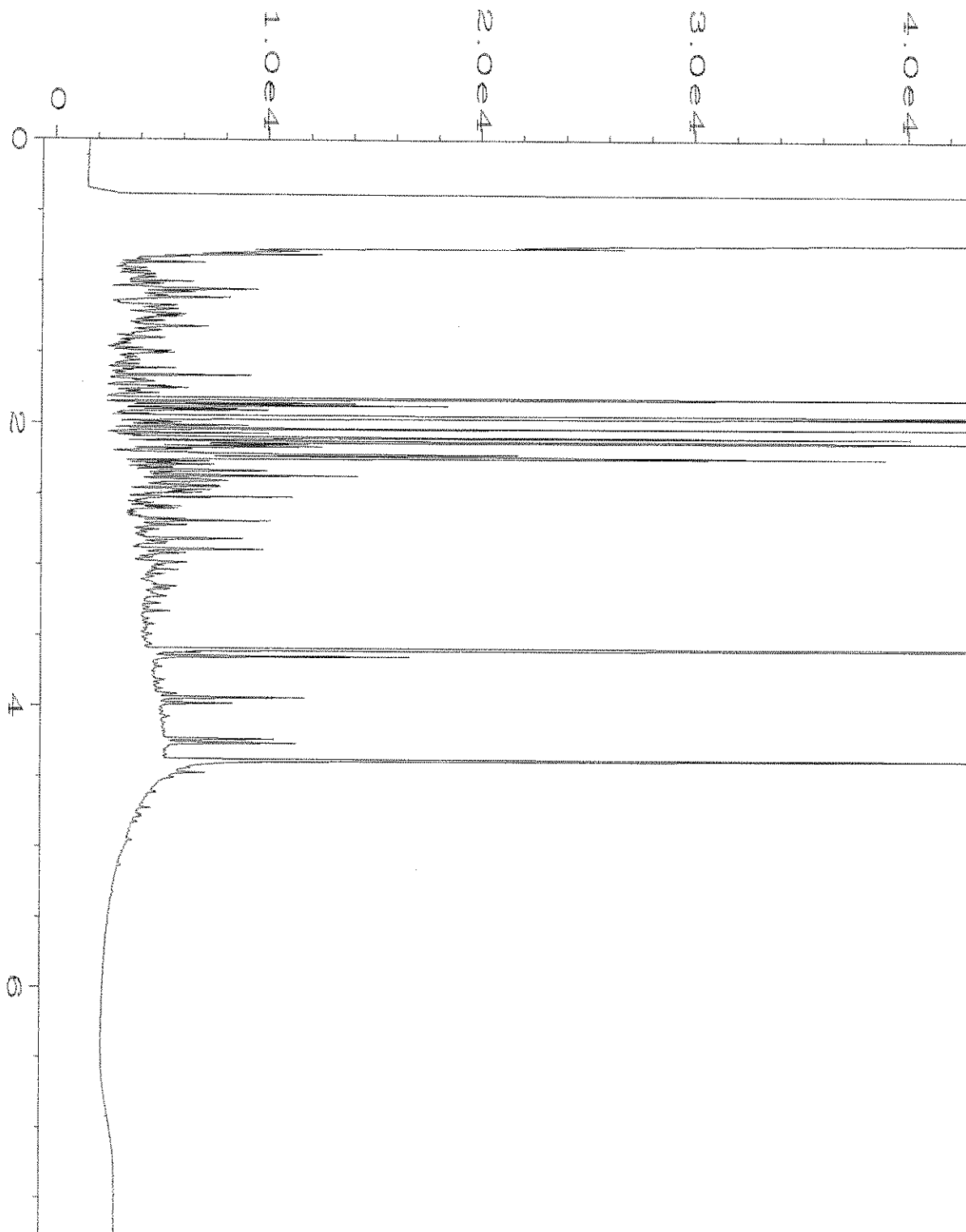
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Operator	: TL	Vial Number	: 45
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-05	Sequence Line	: 12
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Acquired on	: 21 Nov 19 05:18 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:26 AM		



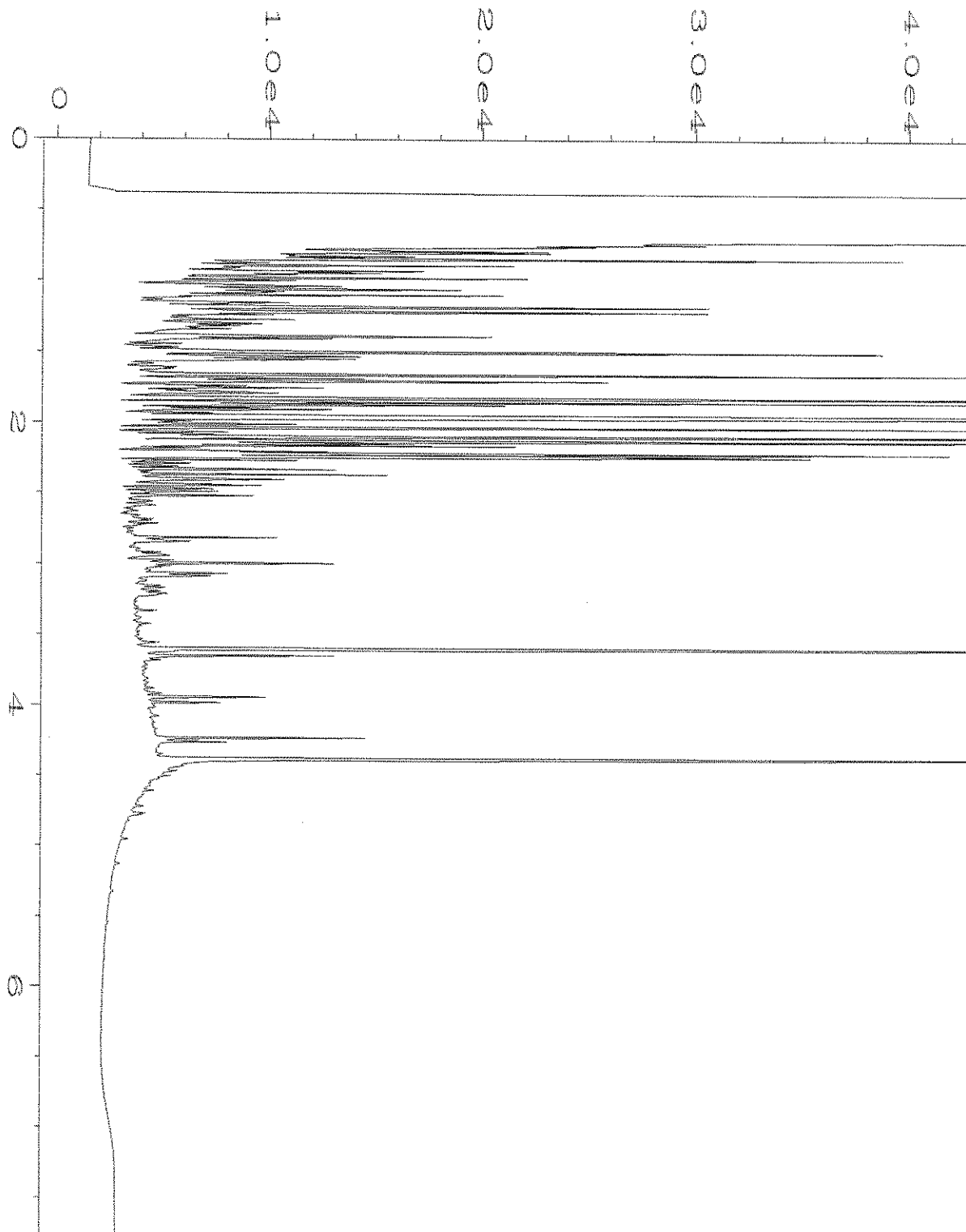
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Operator	: TL	Vial Number	: 46
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-06	Sequence Line	: 12
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 21 Nov 19 05:31 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:26 AM		



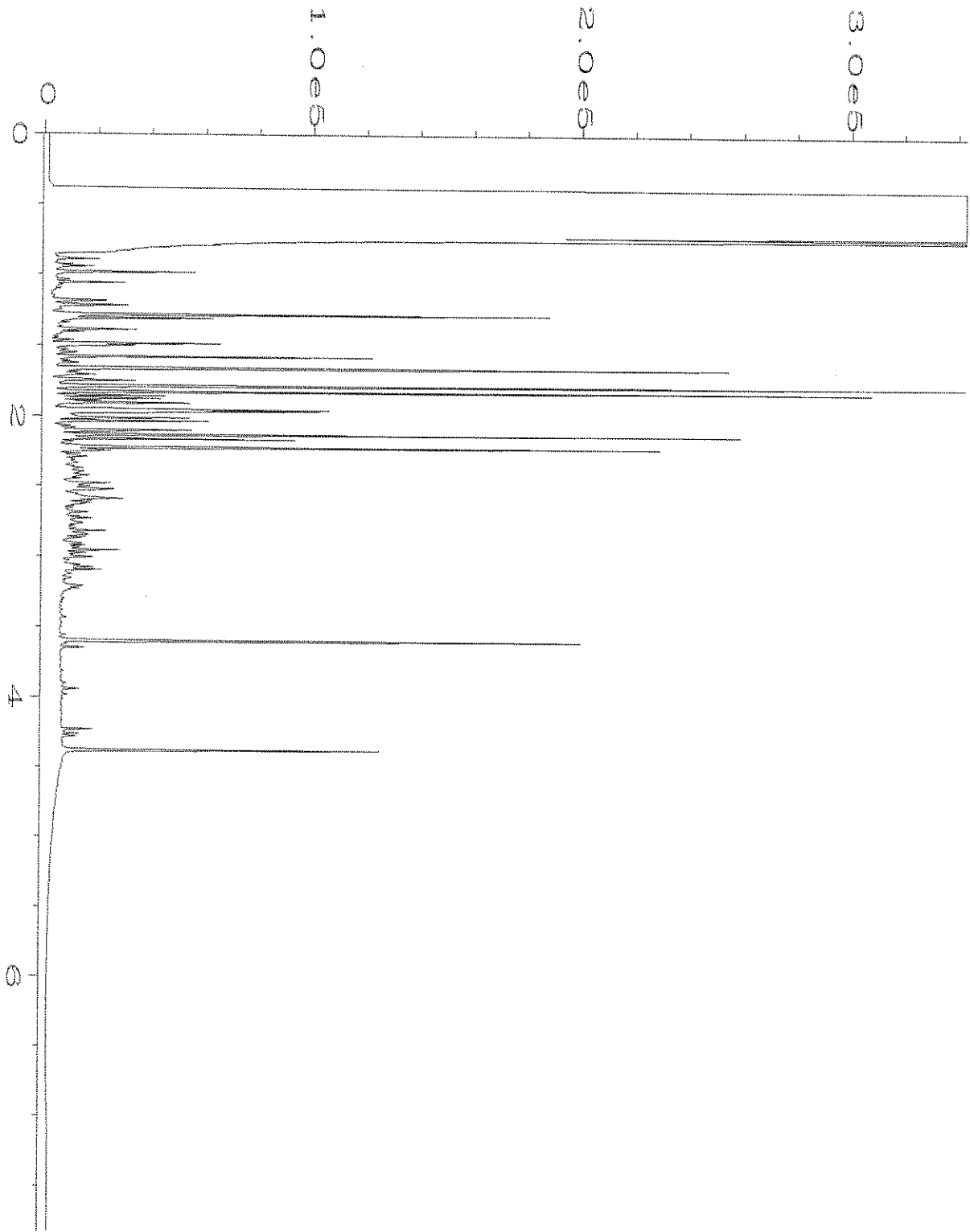
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Operator	: TL	Vial Number	: 47
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Sample Name	: 911310-07	Sequence Line	: 12
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Report Created on:	22 Nov 19 09:27 AM		



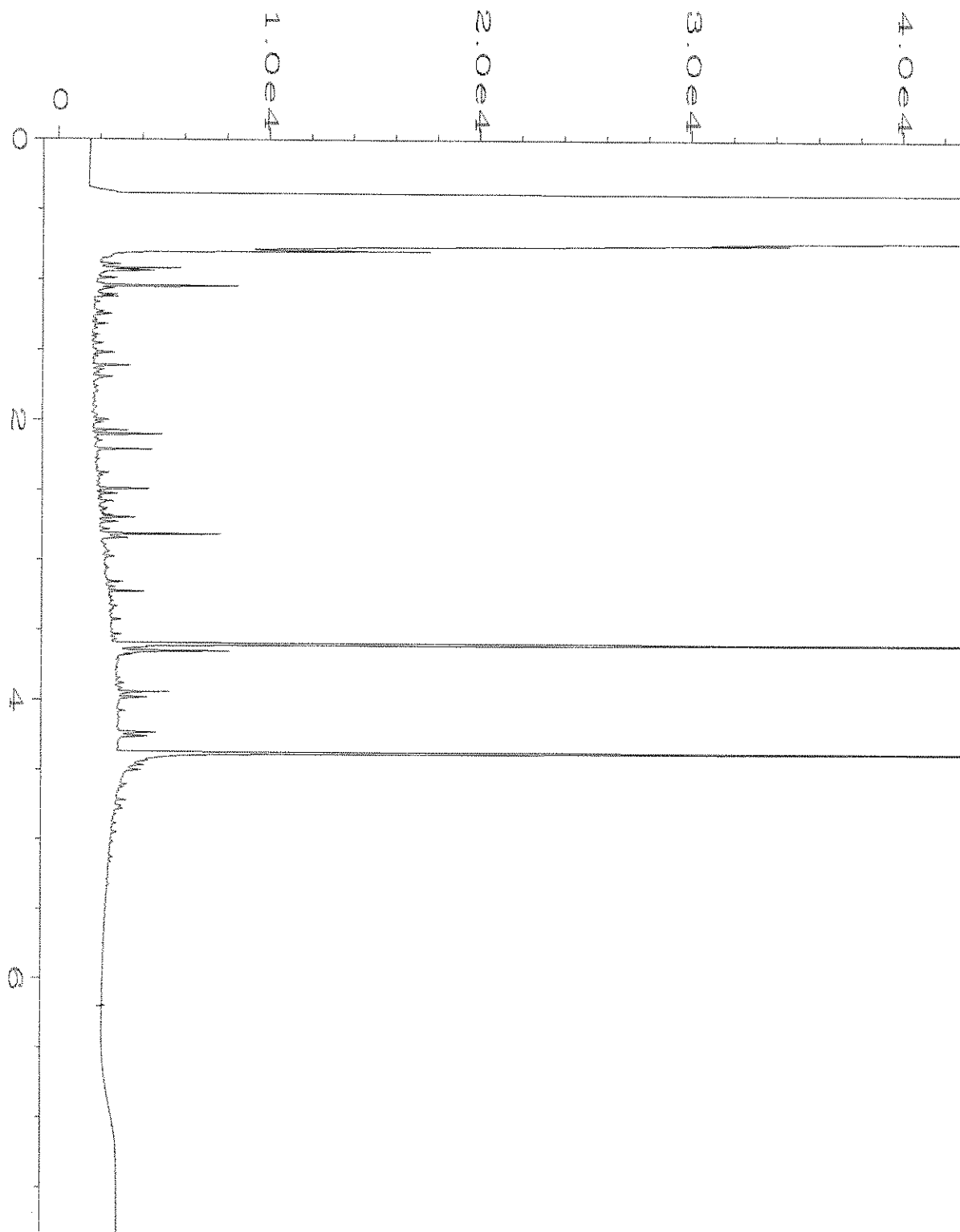
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Operator	: TL	Vial Number	: 48
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-08	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 06:18 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:27 AM		



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Operator	: TL	Vial Number	: 49
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-09	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 06:30 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:27 AM		

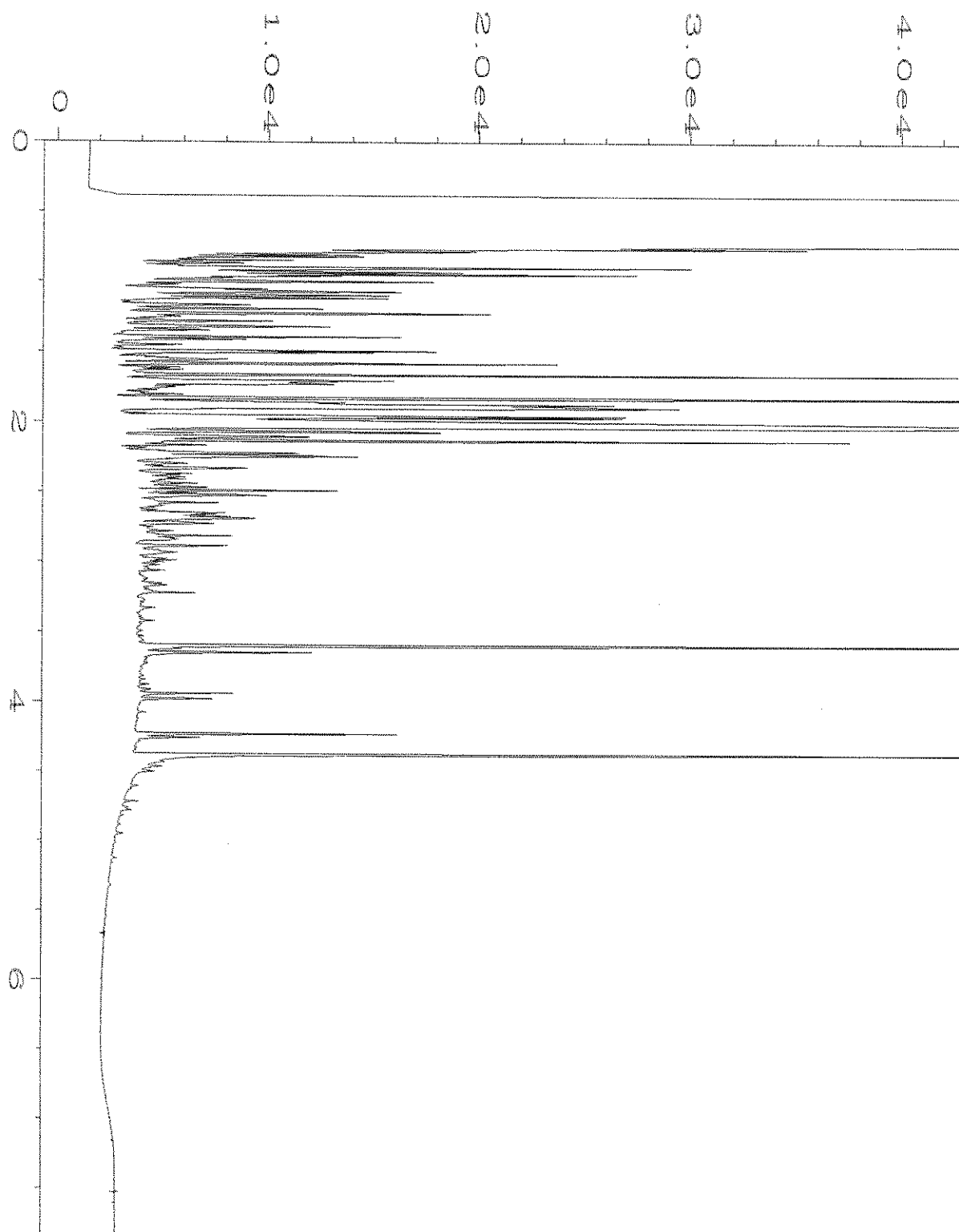


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Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-10	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 06:42 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:27 AM		

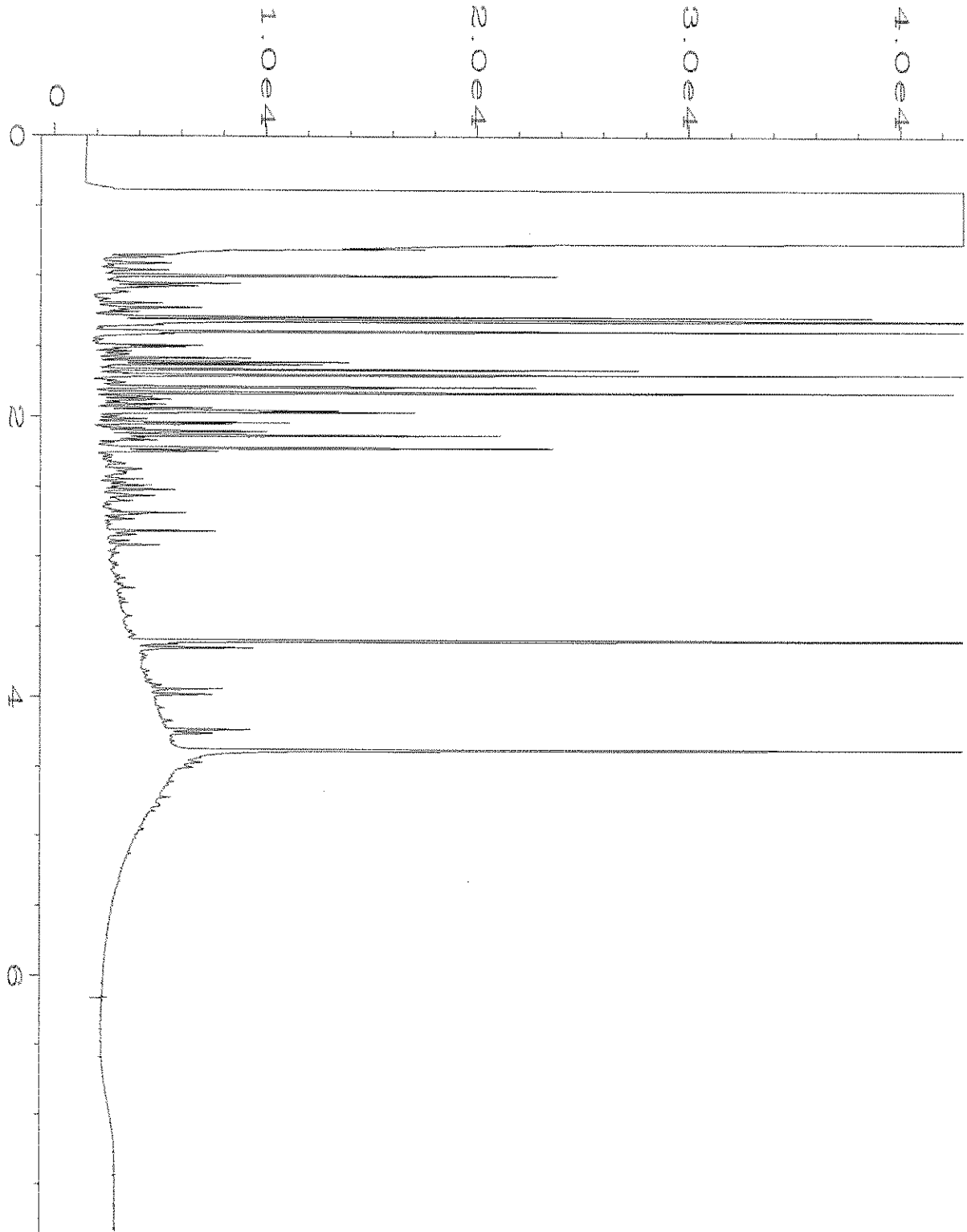


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Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-11	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 06:54 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:27 AM		

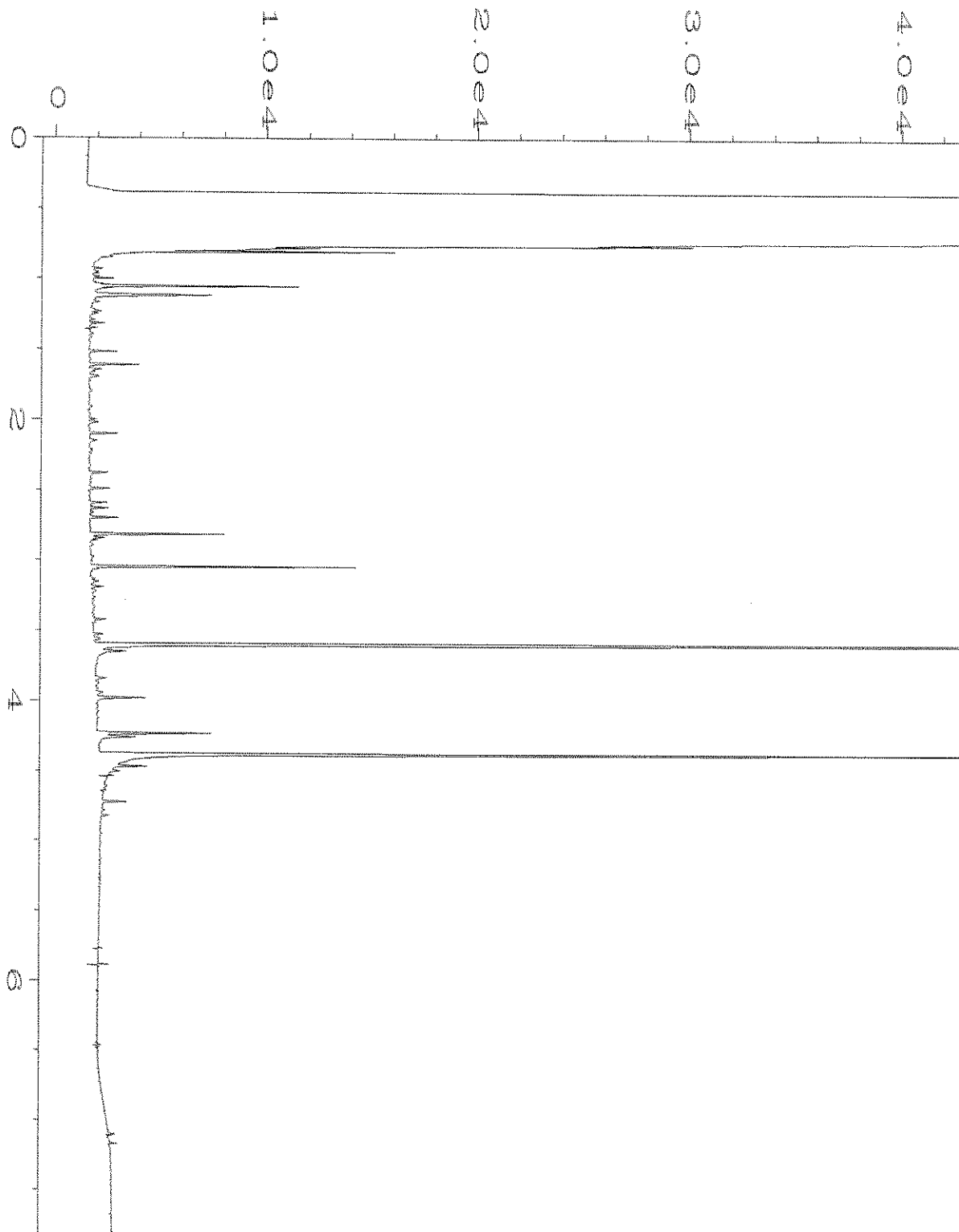




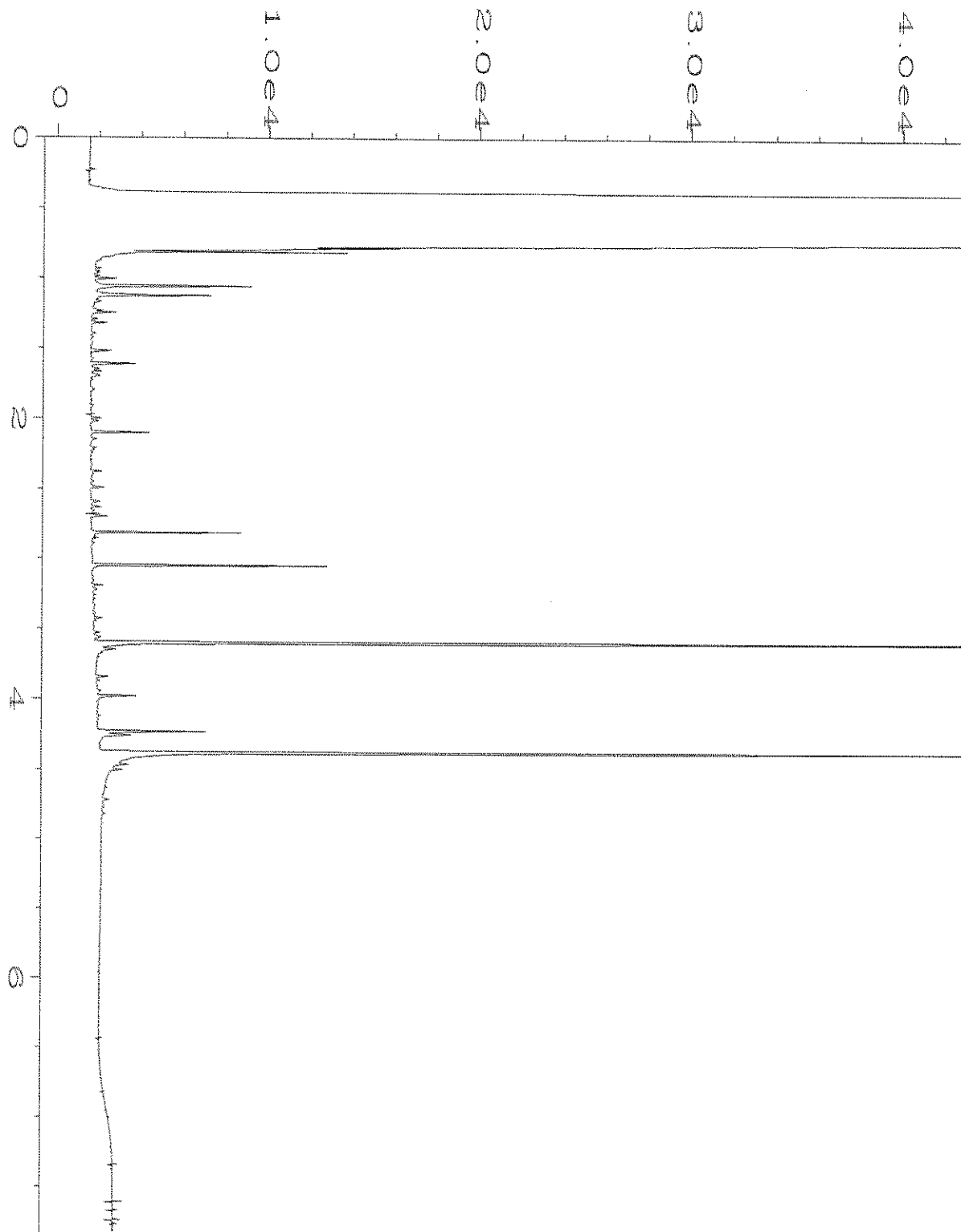
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Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-12	Sequence Line	: 14
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Acquired on	: 21 Nov 19 07:06 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:28 AM		



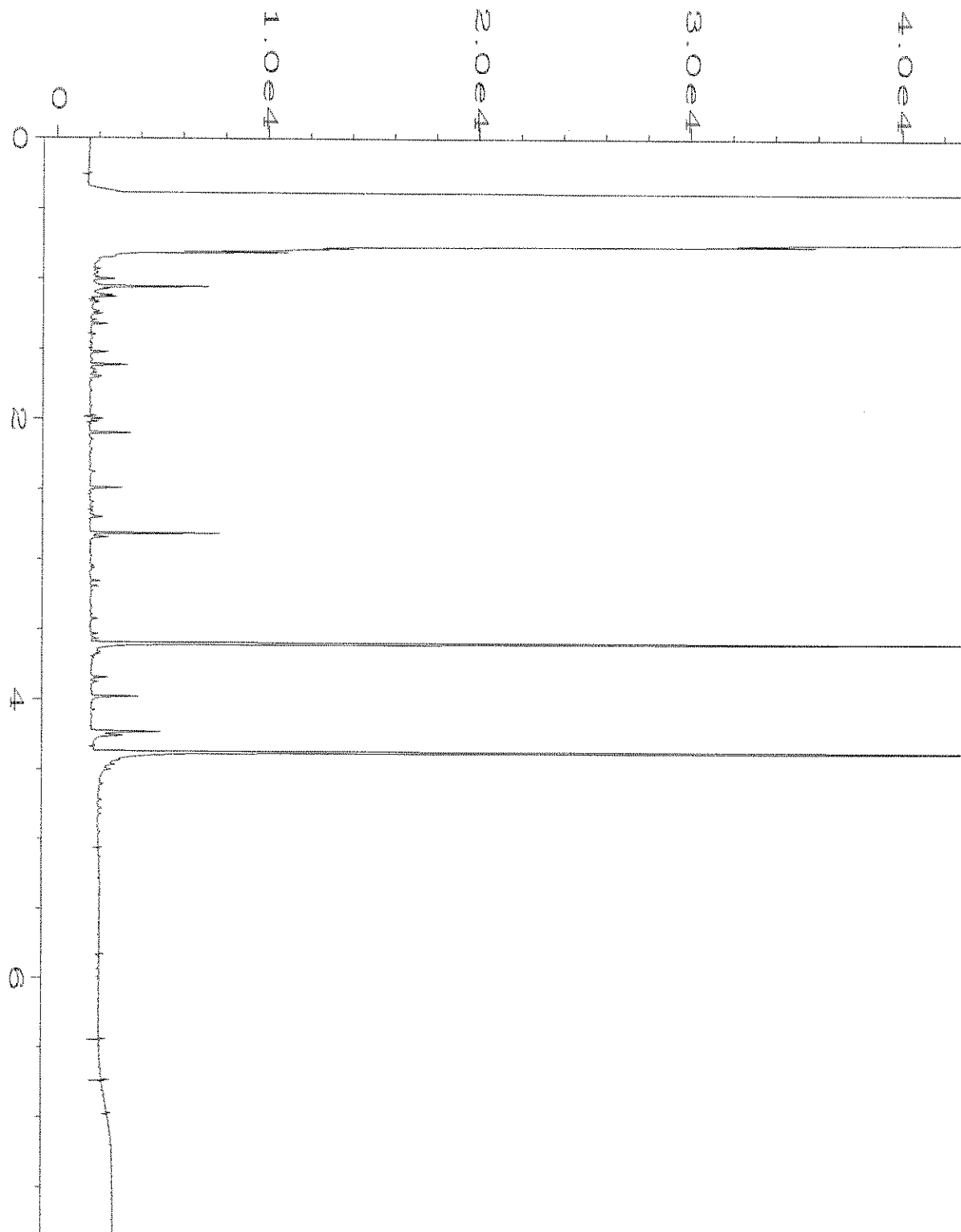
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Sample Name	: 911310-13	Sequence Line	: 14
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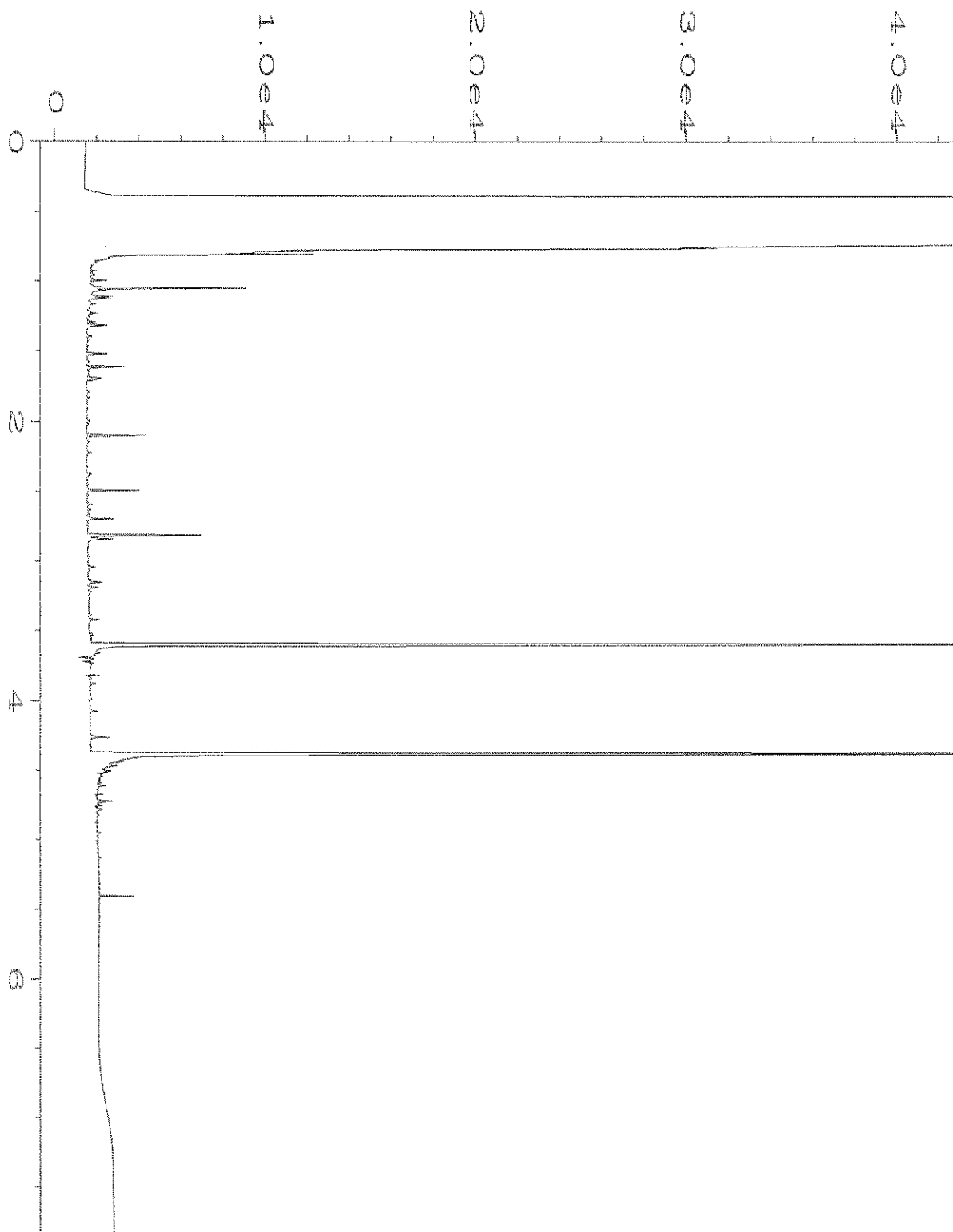
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Sample Name	: 911310-14	Sequence Line	: 14
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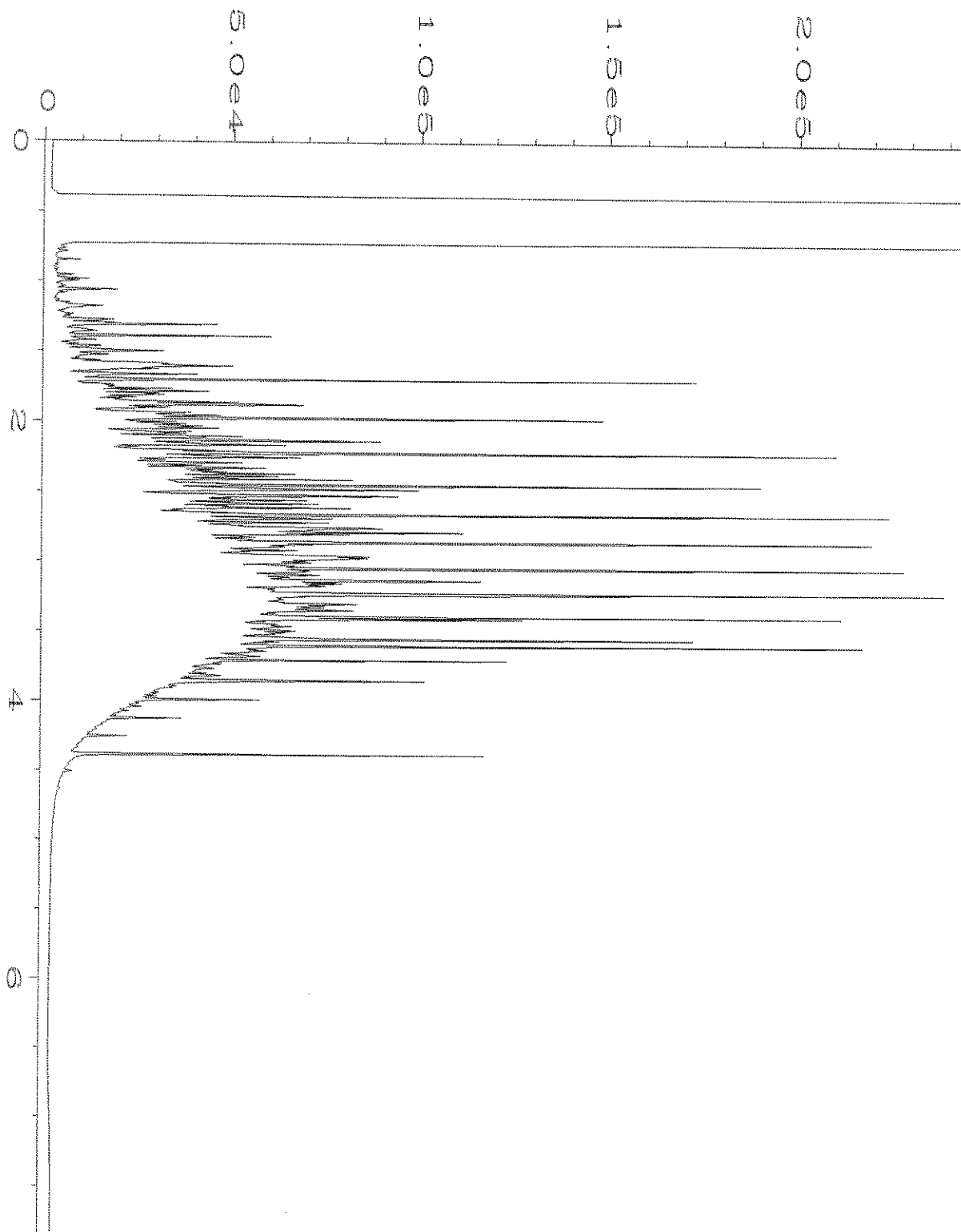
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Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-15	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 07:42 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:28 AM		



Data File Name	: C:\HPCHEM\4\DATA\11-21-19\056F1401.D	Page Number	: 1
Operator	: TL	Vial Number	: 56
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 911310-16	Sequence Line	: 14
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 07:54 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:28 AM		



Data File Name	: C:\HPCHEM\4\DATA\11-21-19\038F1201.D	Page Number	: 1
Operator	: TL	Vial Number	: 38
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 09-2869 mb	Sequence Line	: 12
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 03:54 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:29 AM		



Data File Name	: C:\HPCHEM\4\DATA\11-21-19\005F1101.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 58-146C	Sequence Line	: 11
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Nov 19 02:54 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	22 Nov 19 09:20 AM		

911310

SAMPLE CHAIN OF CUSTODY ME 11/20/19 WUS/BOS/AR52

Report To: Andrew Yankofski / Adam Griffin  
 Company: Aspect Consulting  
 Address: 710 2nd Ave Ste 550  
 City, State, ZIP: Seattle, WA, 98104  
 Phone: 206-415-5711 Email: ayankofski@aspectconsulting.com

SAMPLERS (signature) David Dool  
 PROJECT NAME: Alaska Cove  
 PO #: 180357  
 REMARKS: ADP  
 INVOICE TO: ADP  
 Project specific RLS? - Yes /  No

Page # 1 of 1  
 TURNOURND TIME  
 Standard turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL  
 Archive samples  
 Other  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes	
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BTEX 8260	MTBE, ED3, ED4, Naphthalene 8260	Total Pb 6010		WUXs 8260
MW-1-112019	01 A-B	11/20/19	0935x	Water	8	X	X						X	X	X		
MW-2-112019	02 T	11/20/19	1320														
MW-6-112019	03	11/20/19	1020														
MW-7-111919	04	11/19/19	1335														
MW-9-112019	05	11/20/19	1120x														
MW-10-112019	06	11/20/19	1130x														
MW-11-111919	07	11/19/19	1235														
MW-12-112019	08	11/20/19	1220x														
MW-13-112019	09	11/20/19	1225														
MW-14-112019	10	11/20/19	1055x														

Samples received at LOC

Friedman & Brywa, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>David Dool</u>	<u>David Dool</u>	<u>Aspect Consulting</u>	<u>11/20/19</u>	<u>14:38</u>
<u>David Dool</u>	<u>David Dool</u>	<u>FER</u>	<u>11-20-19</u>	<u>14:38</u>
Received by: _____				
Reinquished by: _____				
Received by: _____				



911310

SAMPLE CHAIN OF CUSTODY

ME 11-20-19

Page # 1 of 2  
 11/20/19 14:38

Report To: Andrew Vorhobst/Alma Lake

Company: Aspect Consultants

Address: 710 2nd Ave, Ste 550

City, State, ZIP: Seattle, WA, 98104

Phone: 206-413-5711 Email: avorhobst@aspectconsulting.com

SAMPLERS (signature) <u>David Umk</u>		PO #
PROJECT NAME	<u>Alma Lake</u>	<u>180357</u>
REMARKS	<u>AP</u>	
INVOICE TO		
TURNAROUND TIME	<input checked="" type="checkbox"/> Standard turnaround <input type="checkbox"/> RUSH <input type="checkbox"/> Rush charges authorized by:	
SAMPLE DISPOSAL	<input type="checkbox"/> Archive samples <input type="checkbox"/> Other Default: Dispose after 30 days	

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BTEX 8260	MTBE, EDC, EDC + Naphthalene 8260	Total Pb 6010	
MU-16-111914	(AP) A-H	11/19/14	0930	Water	8	X	X					X	X	X		
MU-17-111914		11/19/14	1005													
MU-18-111914		11/19/14	1110													
MU-19-112014		11/20/14	0910													
DDP-01-112014		11/20/14														
Amesblanks-112014		11/20/14														
Trop blank		11/20/14														

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>David Umk</u>	<u>David Umk</u>	<u>Aspect Consultants</u>	<u>11-20-19</u>	<u>1438</u>
Relinquished by:				
Received by:	<u>David Umk</u>			
Relinquished by:				
Received by:	<u>David Umk</u>	<u>Aspect Consultants</u>	<u>11-20-19</u>	<u>14:38</u>

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 4, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on July 29, 2020 from the Texaco Strickland PO 180357, F&BI 007493 project. There are 25 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Data Aspect, Adam Griffin  
ASP0804R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 29, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 007493 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
007493 -01	MW-22-7.5
007493 -02	MW-22-10
007493 -03	MW-22-12.5
007493 -04	MW-22-16
007493 -05	MW-22-25
007493 -06	MW-23-8
007493 -07	MW-23-12.5
007493 -08	MW-23-15
007493 -09	MW-23-18
007493 -10	MW-23-25
007493 -11	MW-21-5
007493 -12	MW-21-10
007493 -13	MW-21-17.5
007493 -14	MW-21-25
007493 -15	B-11-5.5
007493 -16	B-11-10.5
007493 -17	B-11-15
007493 -18	B-11-18
007493 -19	B-11-22.5
007493 -20	MW-26-5
007493 -21	MW-26-10.5
007493 -22	MW-26-12.5
007493 -23	MW-26-22.5
007493 -24	MW-27-8
007493 -25	MW-27-10.5
007493 -26	MW-27-15
007493 -27	MW-27-22.5
007493 -28	MW-24-8
007493 -29	MW-24-10.5
007493 -30	MW-24-13
007493 -31	MW-24-22.5
007493 -32	DUP-3

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/04/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

Date Extracted: 07/30/20

Date Analyzed: 07/30/20 and 07/31/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 58-139)
MW-22-16 007493-04	<5	97
MW-22-25 007493-05	<5	95
MW-23-8 007493-06	<5	95
MW-23-12.5 007493-07	<5	97
MW-23-18 007493-09	<5	95
MW-21-5 007493-11	<5	96
MW-21-10 007493-12	<5	97
MW-21-17.5 007493-13	<5	97
B-11-5.5 007493-15	12	96
B-11-10.5 007493-16	<5	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/04/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

Date Extracted: 07/30/20

Date Analyzed: 07/30/20 and 07/31/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 58-139)
B-11-15 007493-17	<5	90
MW-26-12.5 007493-22	<5	99
MW-27-10.5 007493-25	<5	97
MW-24-10.5 007493-29	<5	94
DUP-3 007493-32	<5	97
Method Blank 00-1390 MB	<5	92

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/04/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

Date Extracted: 07/31/20

Date Analyzed: 07/31/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
MW-22-16 007493-04	<50	<250	94
MW-22-25 007493-05	<50	<250	91
MW-23-8 007493-06	<50	<250	92
MW-23-12.5 007493-07	<50	<250	90
MW-23-18 007493-09	<50	<250	84
MW-21-5 007493-11	<50	<250	86
MW-21-10 007493-12	<50	<250	88
MW-21-17.5 007493-13	<50	<250	91
B-11-5.5 007493-15	<50	<250	91
B-11-10.5 007493-16	<50	<250	55

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/04/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

Date Extracted: 07/31/20

Date Analyzed: 07/31/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
B-11-15 007493-17	<50	<250	94
MW-26-12.5 007493-22	<50	<250	84
MW-27-10.5 007493-25	<50	<250	90
MW-24-10.5 007493-29	<50	<250	94
DUP-3 007493-32	<50	<250	94
Method Blank 00-1713 MB	<50	<250	89

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-22-16	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-04
Date Analyzed:	07/30/20	Data File:	073015.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	100	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	0.069
Toluene	<0.05
Ethylbenzene	0.12
m,p-Xylene	0.50
o-Xylene	0.13
Naphthalene	<0.05



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-22-25	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-05
Date Analyzed:	07/30/20	Data File:	073016.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	145
Toluene-d8	99	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-23-8	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-06
Date Analyzed:	07/30/20	Data File:	073017.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	145
Toluene-d8	96	55	145
4-Bromofluorobenzene	94	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-23-12.5	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-07
Date Analyzed:	07/30/20	Data File:	073018.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	97	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-23-18	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-09
Date Analyzed:	07/30/20	Data File:	073019.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	97	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	0.44
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-21-5	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-11
Date Analyzed:	07/30/20	Data File:	073020.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-21-10	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-12
Date Analyzed:	07/30/20	Data File:	073021.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	0.097

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-21-17.5	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-13
Date Analyzed:	07/30/20	Data File:	073022.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	99	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	B-11-5.5	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-15
Date Analyzed:	07/30/20	Data File:	073023.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	145
Toluene-d8	97	55	145
4-Bromofluorobenzene	94	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	0.082



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	B-11-10.5	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-16
Date Analyzed:	07/30/20	Data File:	073024.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	100	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	B-11-15	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-17
Date Analyzed:	07/30/20	Data File:	073025.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-26-12.5	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-22
Date Analyzed:	07/30/20	Data File:	073026.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	100	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-27-10.5	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-25
Date Analyzed:	07/30/20	Data File:	073027.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	62	145
Toluene-d8	97	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-24-10.5	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-29
Date Analyzed:	07/30/20	Data File:	073028.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	102	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DUP-3	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	007493-32
Date Analyzed:	07/30/20	Data File:	073029.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	98	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	07/30/20	Lab ID:	00-1688 mb
Date Analyzed:	07/30/20	Data File:	073010.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	99	55	145
4-Bromofluorobenzene	94	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/04/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-Gx**

Laboratory Code: 007470-02 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	90	71-131



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/04/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 007493-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	114	110	64-133	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	104	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/04/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 007470-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	2.5	<0.03	80	74	29-129	8
Toluene	mg/kg (ppm)	2.5	<0.05	79	74	35-130	7
Ethylbenzene	mg/kg (ppm)	2.5	0.35	66	60	32-137	10
m,p-Xylene	mg/kg (ppm)	5	0.71	65	61	34-136	6
o-Xylene	mg/kg (ppm)	2.5	0.054	83	78	33-134	6
Naphthalene	mg/kg (ppm)	2.5	0.59	59 b	54 b	14-157	9 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	2.5	99	68-114
Toluene	mg/kg (ppm)	2.5	97	66-126
Ethylbenzene	mg/kg (ppm)	2.5	100	64-123
m,p-Xylene	mg/kg (ppm)	5	102	78-122
o-Xylene	mg/kg (ppm)	2.5	104	77-124
Naphthalene	mg/kg (ppm)	2.5	106	63-140

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

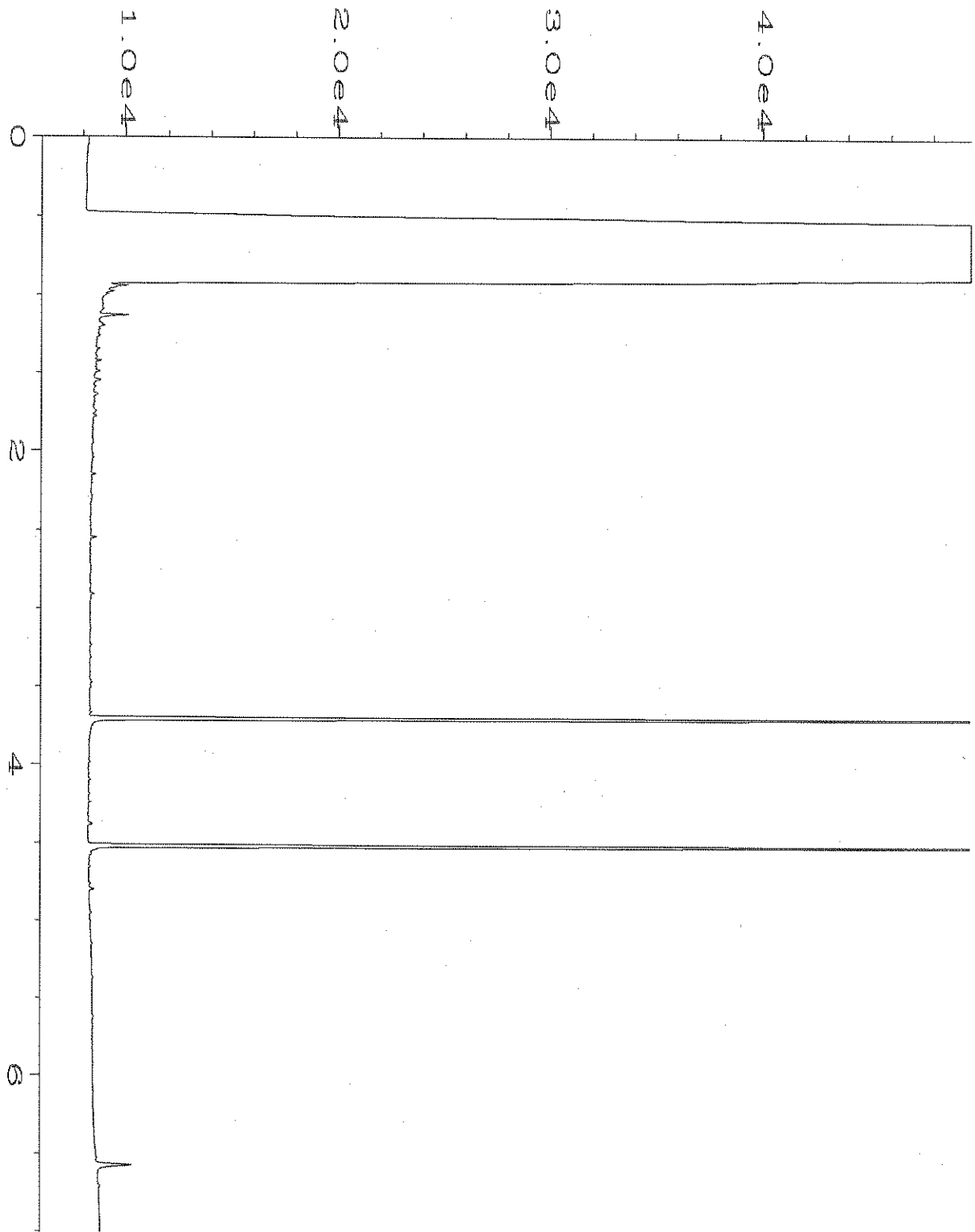
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

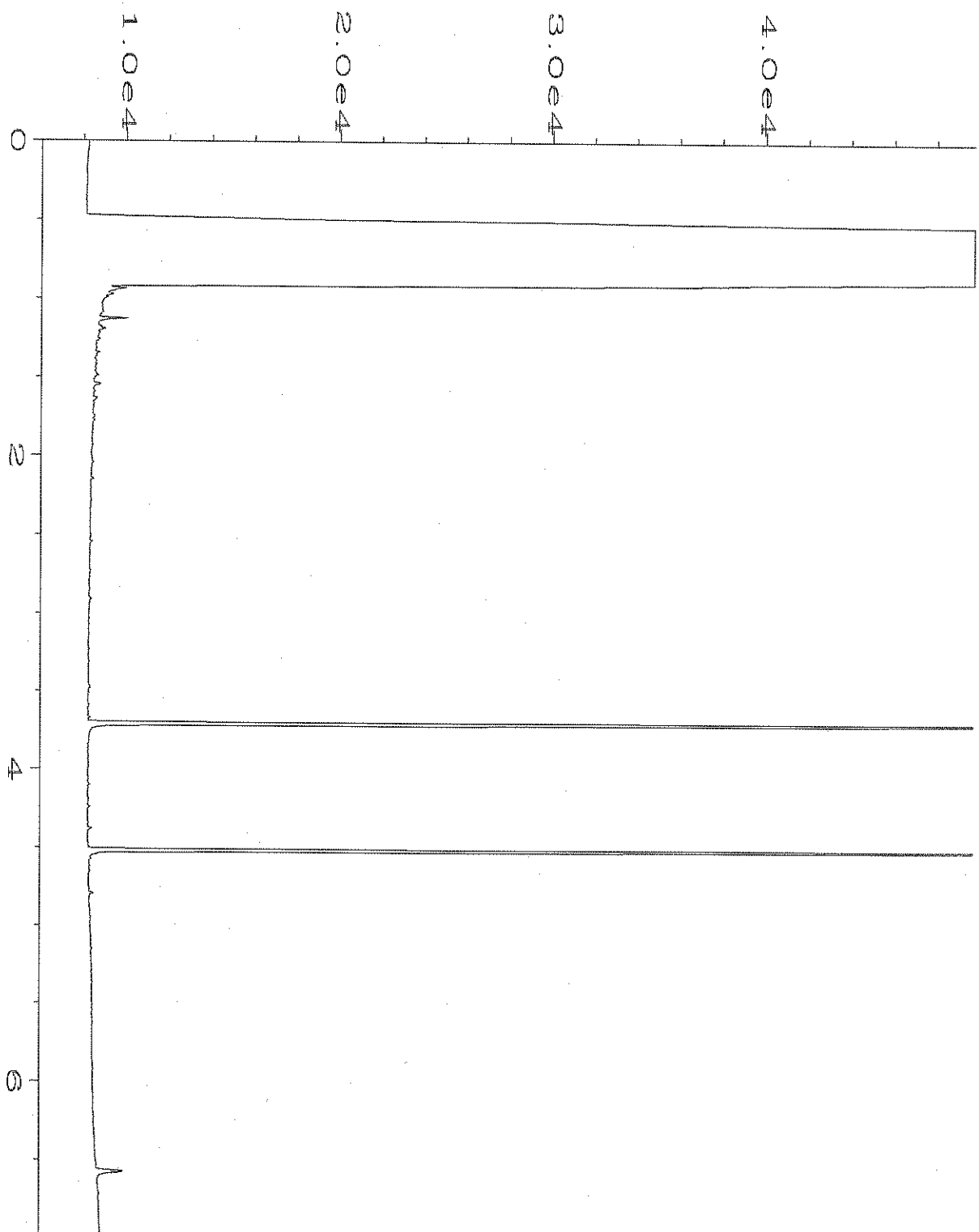
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

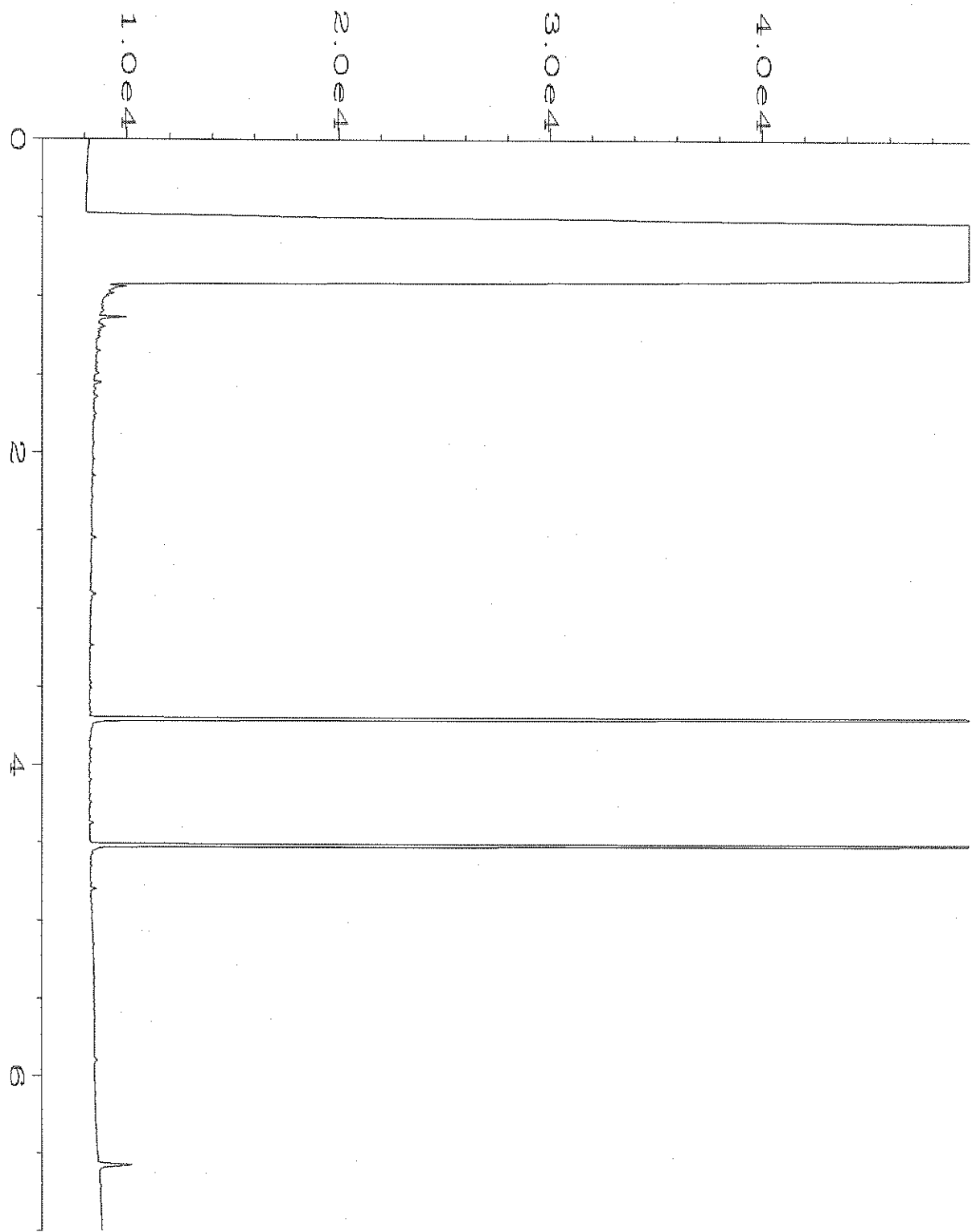
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



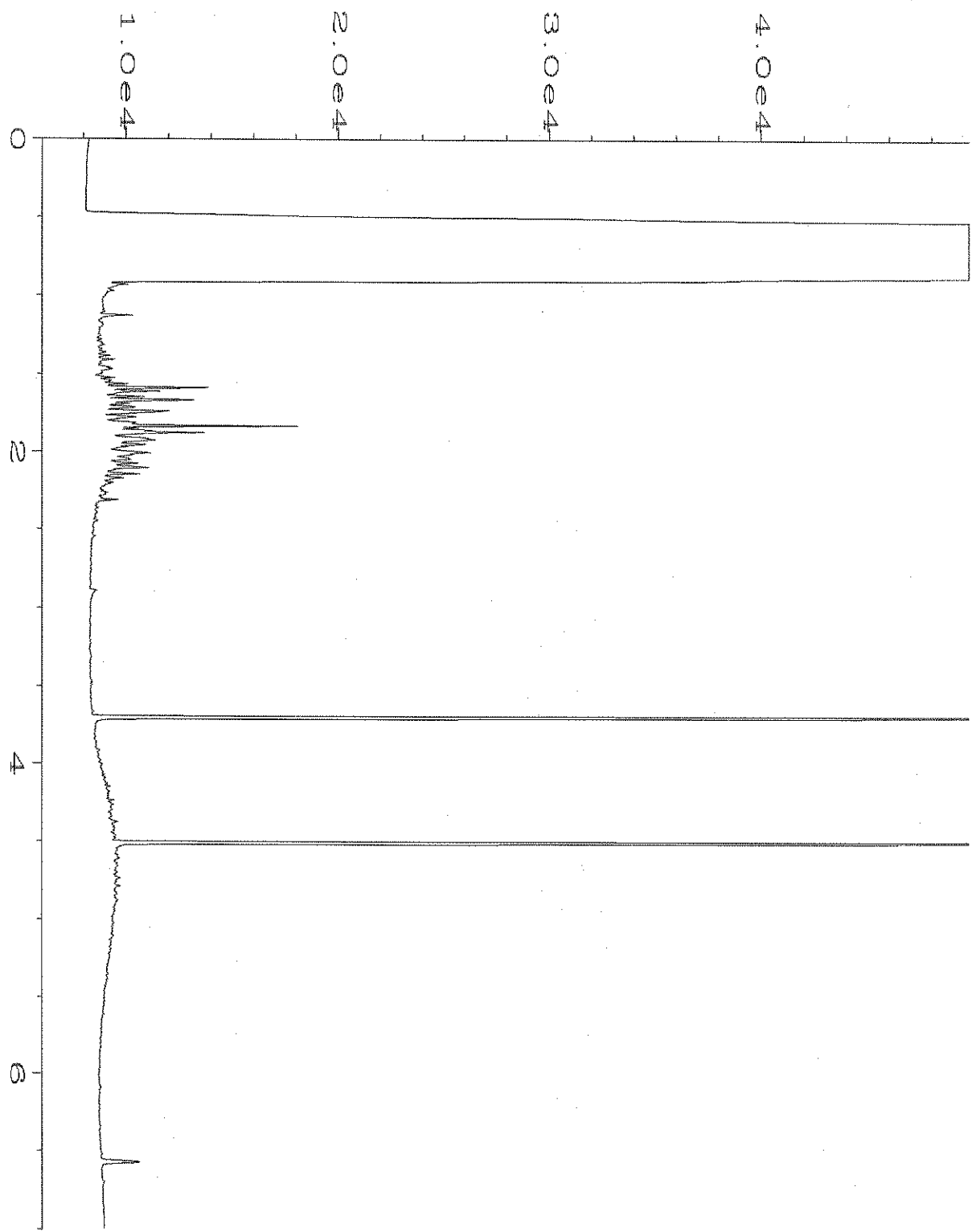
Data File Name	: C:\HPCHEM\6\DATA\07-31-20\035F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 35
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-04	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 03:18 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:02 AM		



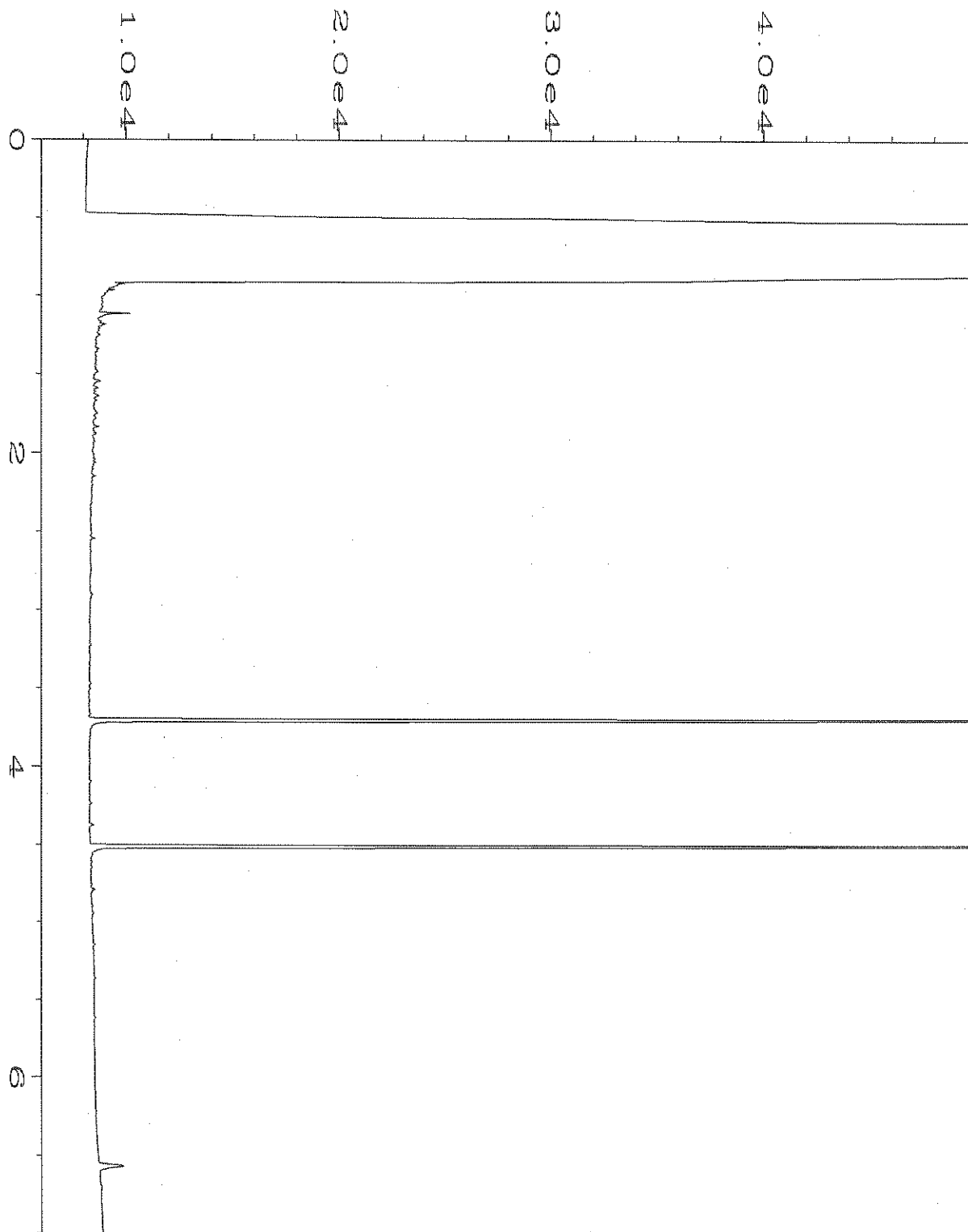
Data File Name	: C:\HPCHEM\6\DATA\07-31-20\036F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 36
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-05	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 03:29 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:02 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-31-20\037F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 37
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-06	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 03:40 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:03 AM		

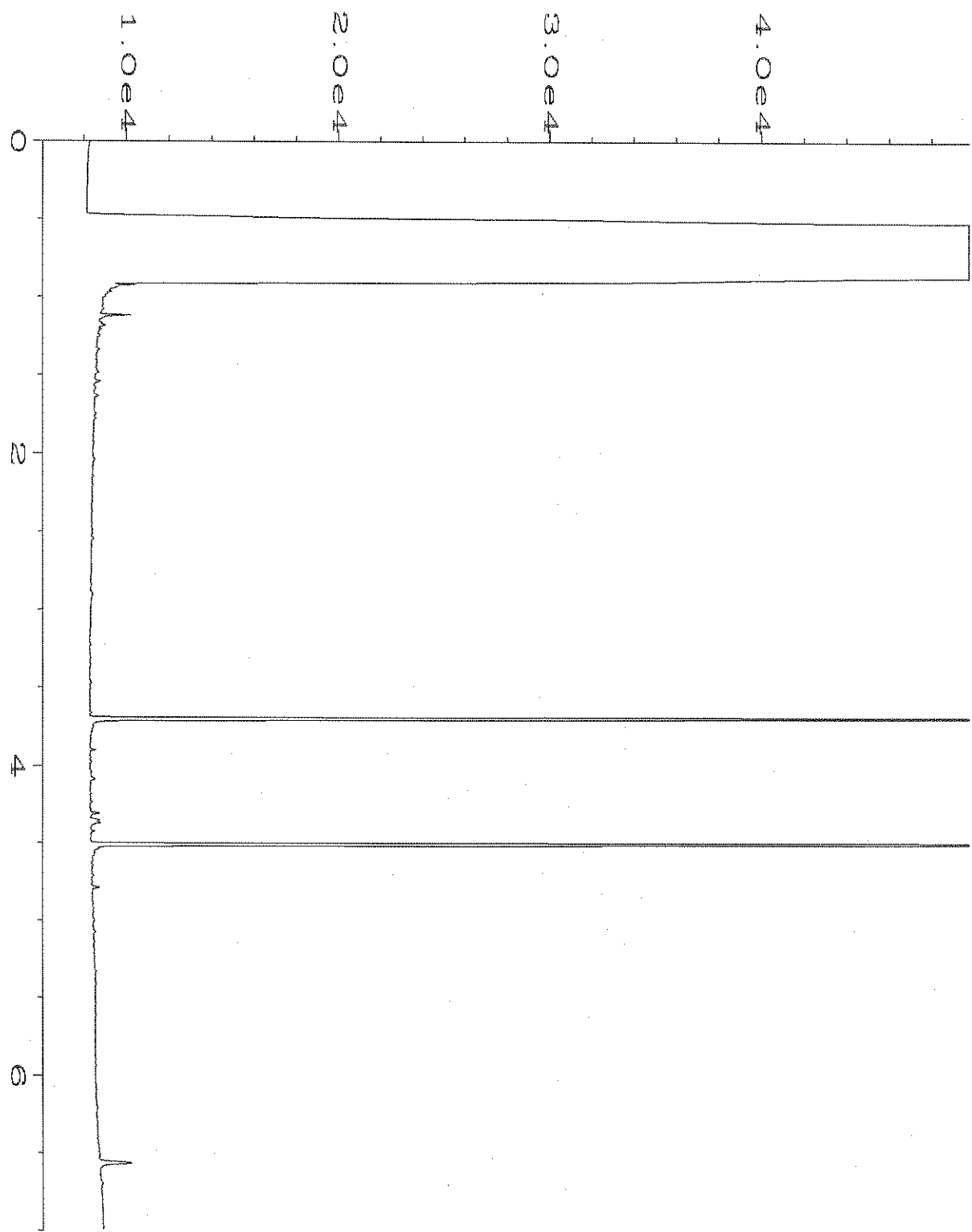


Data File Name	: C:\HPCHEM\6\DATA\07-31-20\038F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 38
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-07	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 03:51 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:03 AM		

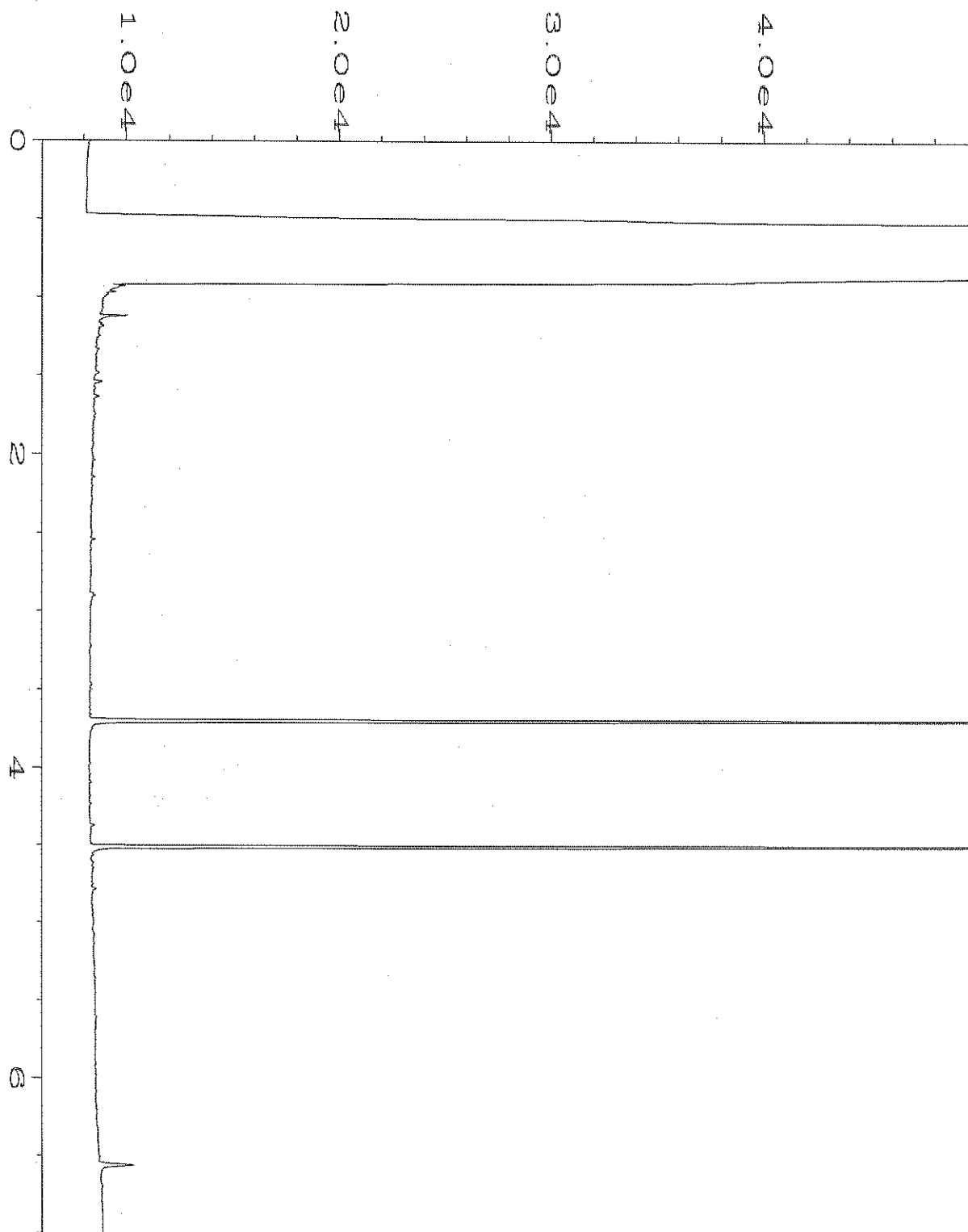


Data File Name	: C:\HPCHEM\6\DATA\07-31-20\039F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 39
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-09	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 04:02 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:03 AM		

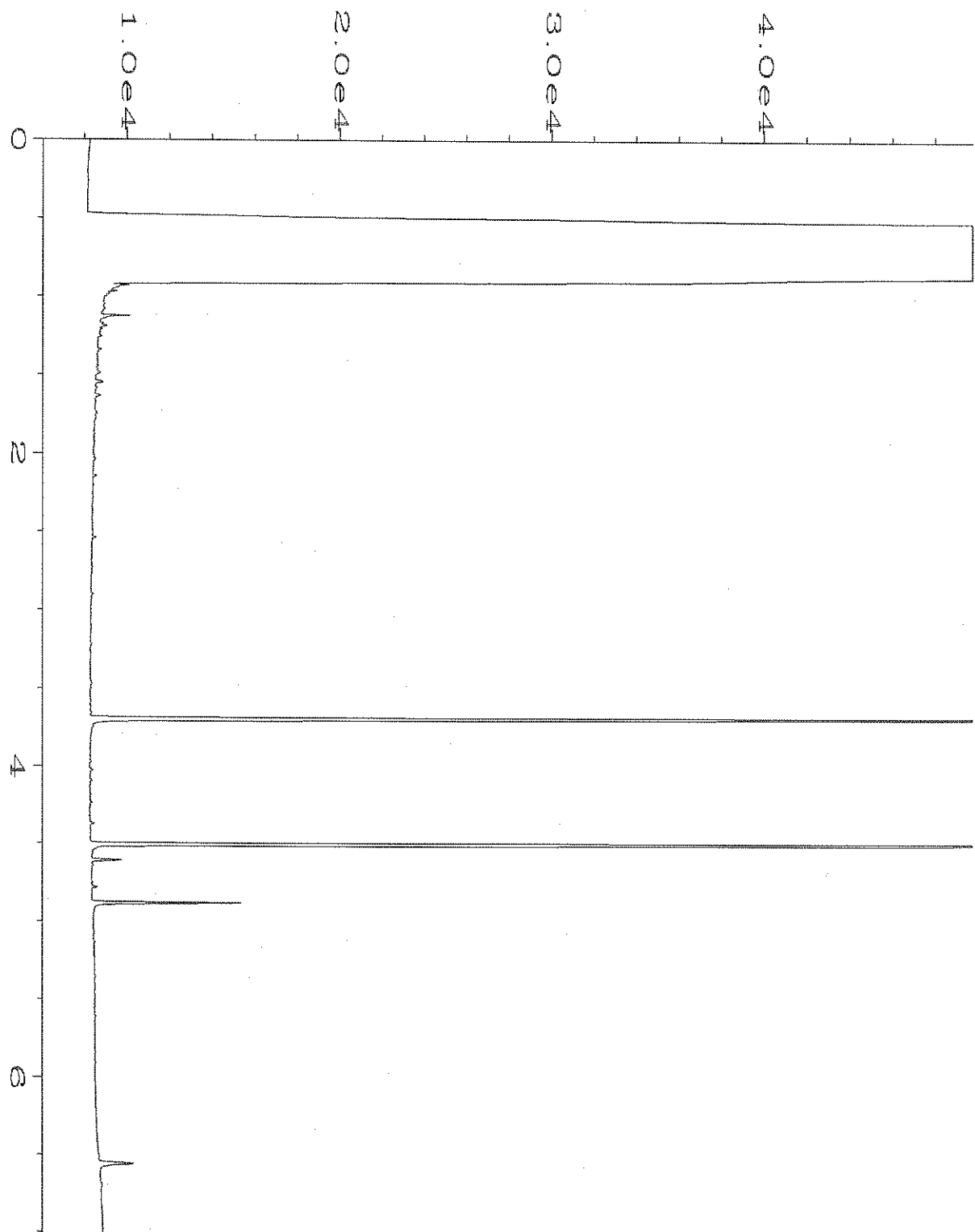




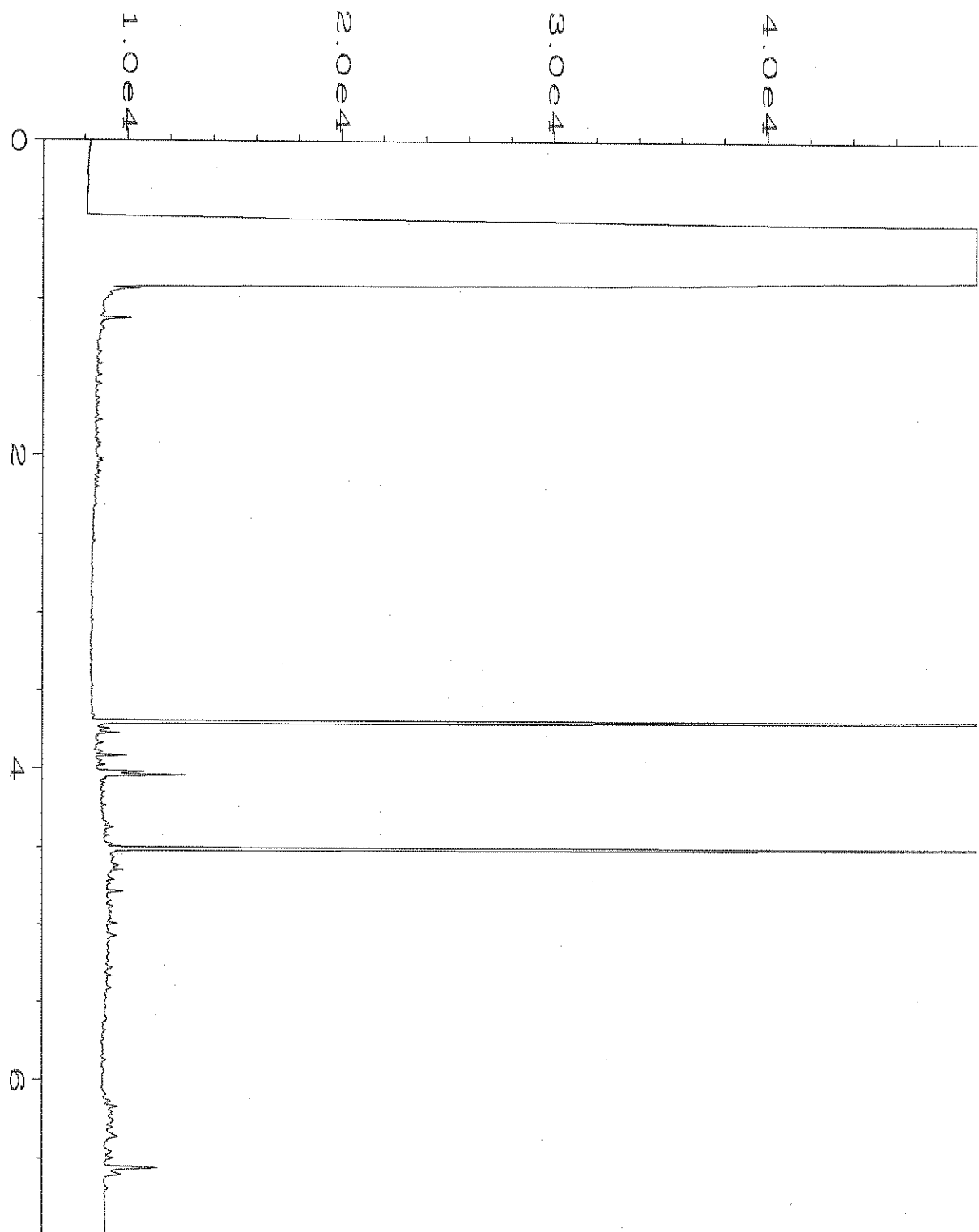
Data File Name	: C:\HPCHEM\6\DATA\07-31-20\040F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 40
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-11	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 04:13 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:03 AM		



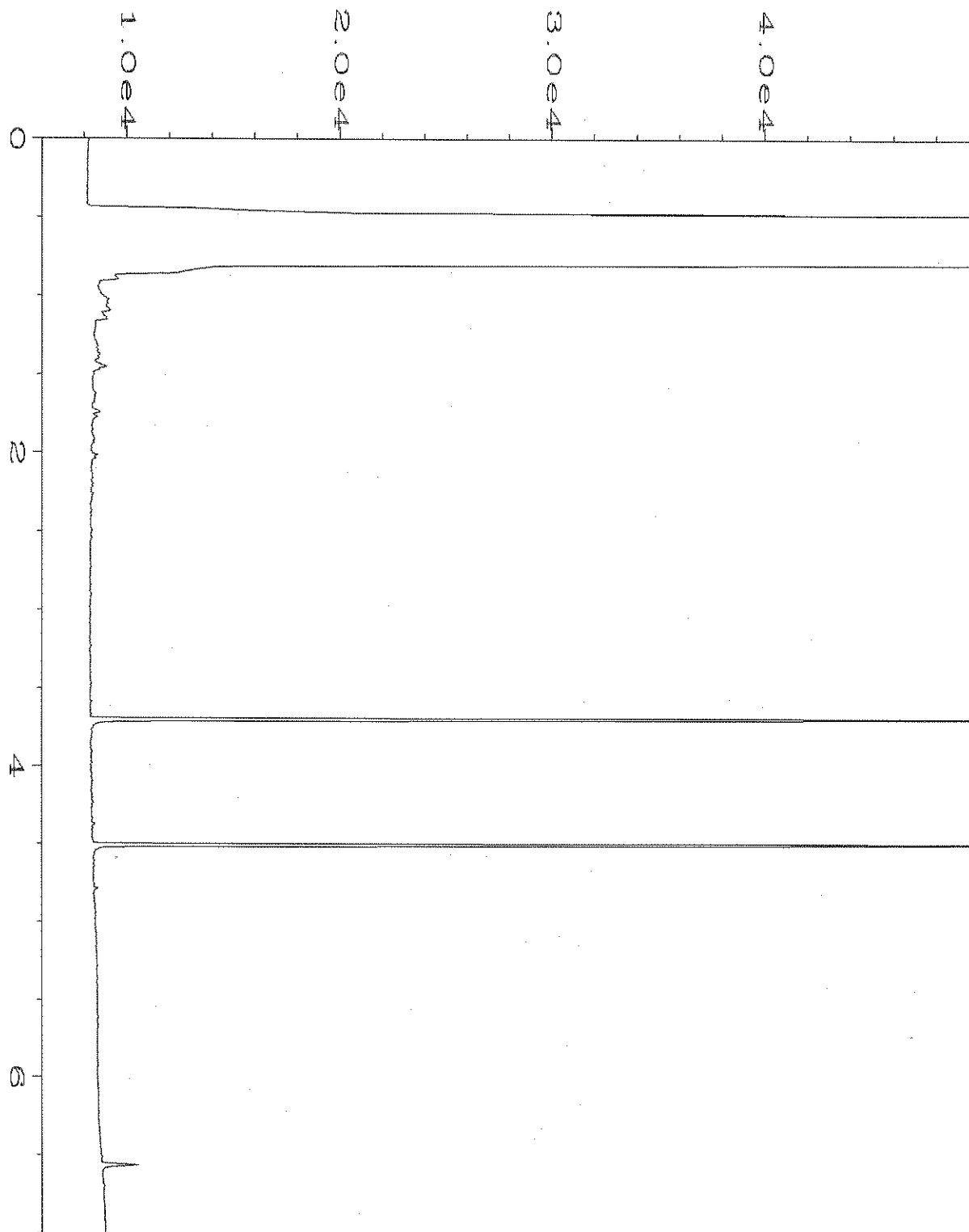
Data File Name	: C:\HPCHEM\6\DATA\07-31-20\041F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 41
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-12	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 04:47 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:03 AM		



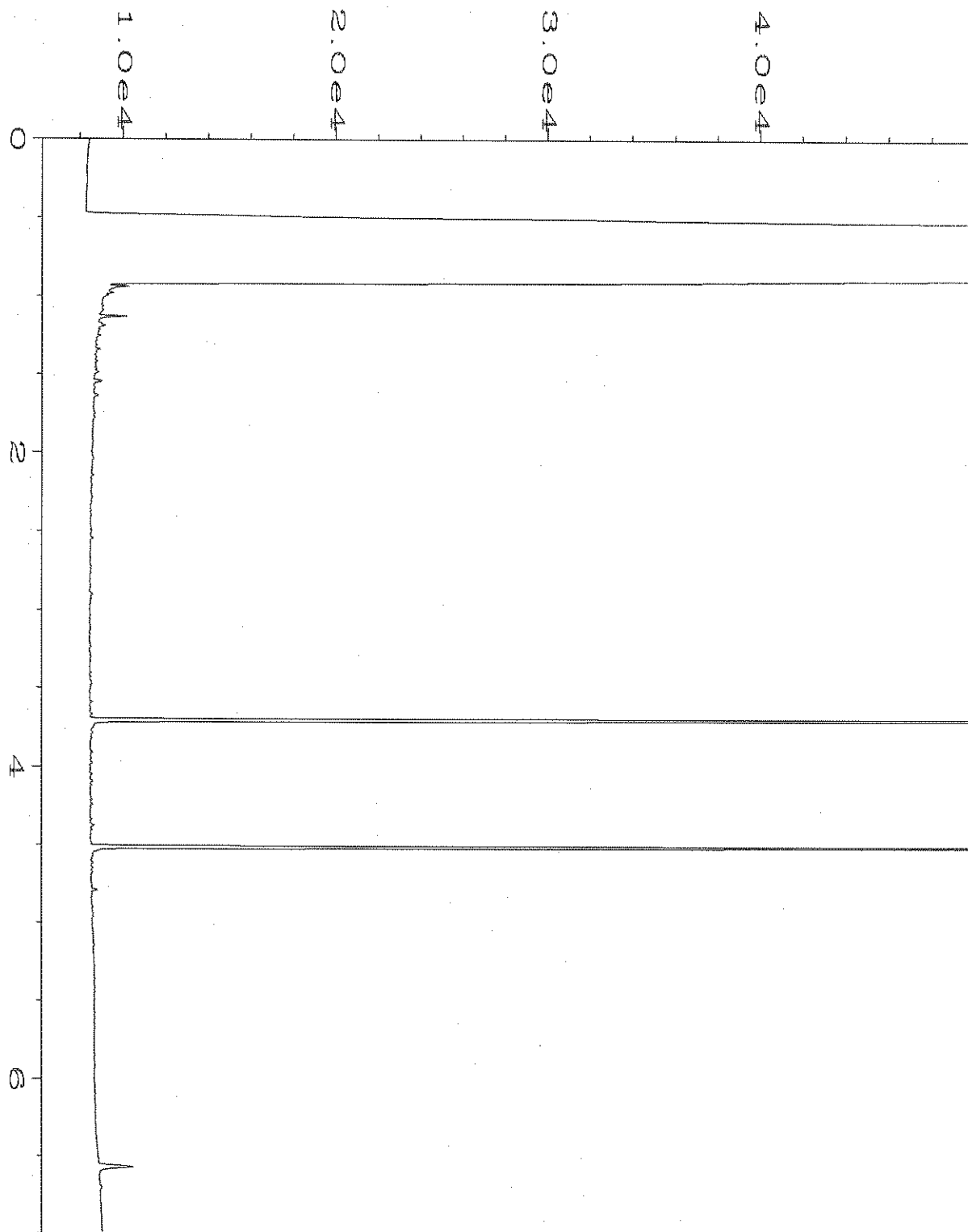
Data File Name	: C:\HPCHEM\6\DATA\07-31-20\042F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 42
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-13	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 04:58 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:03 AM		



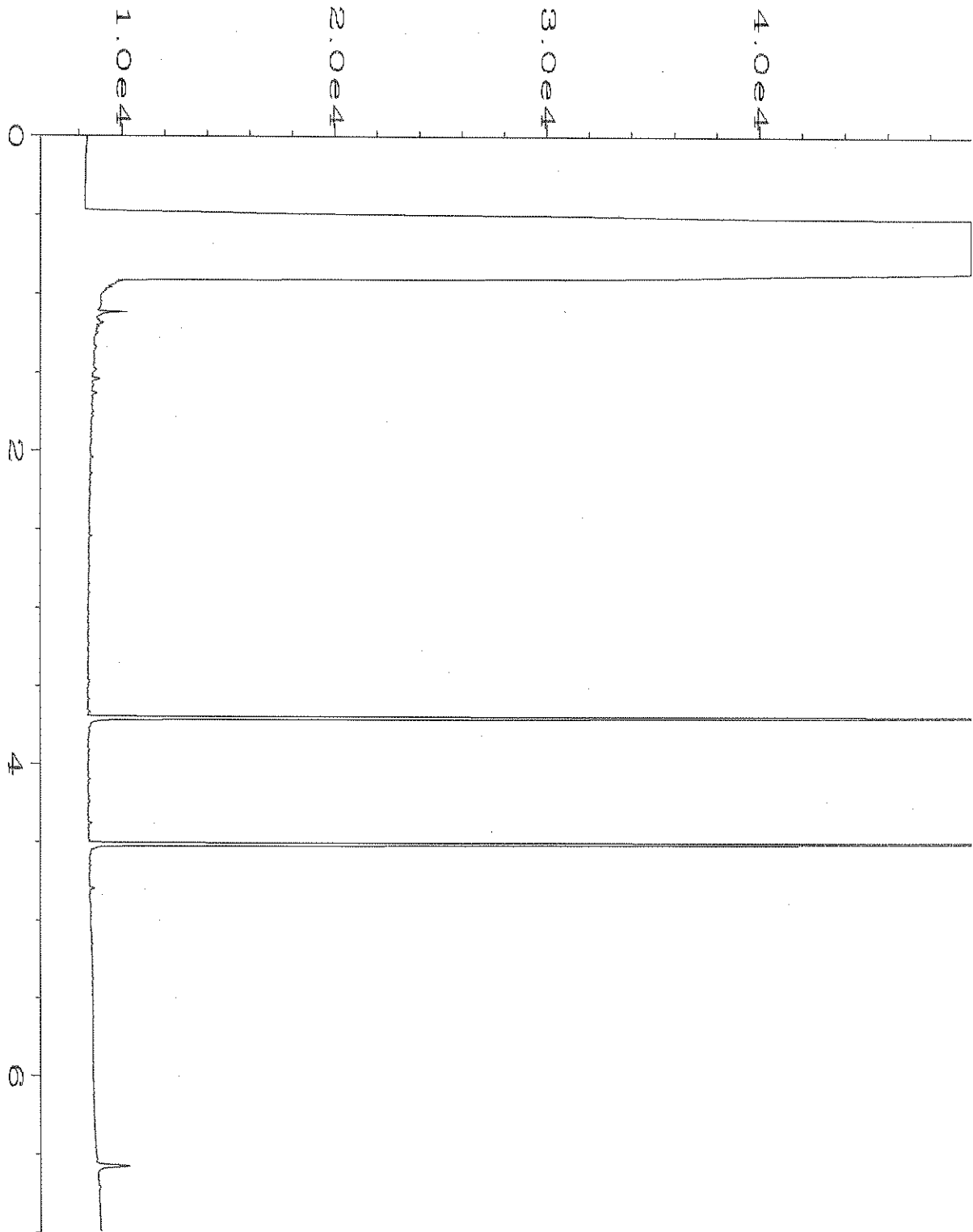
Data File Name	: C:\HPCHEM\6\DATA\07-31-20\043F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 43
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-15	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 05:09 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:03 AM		



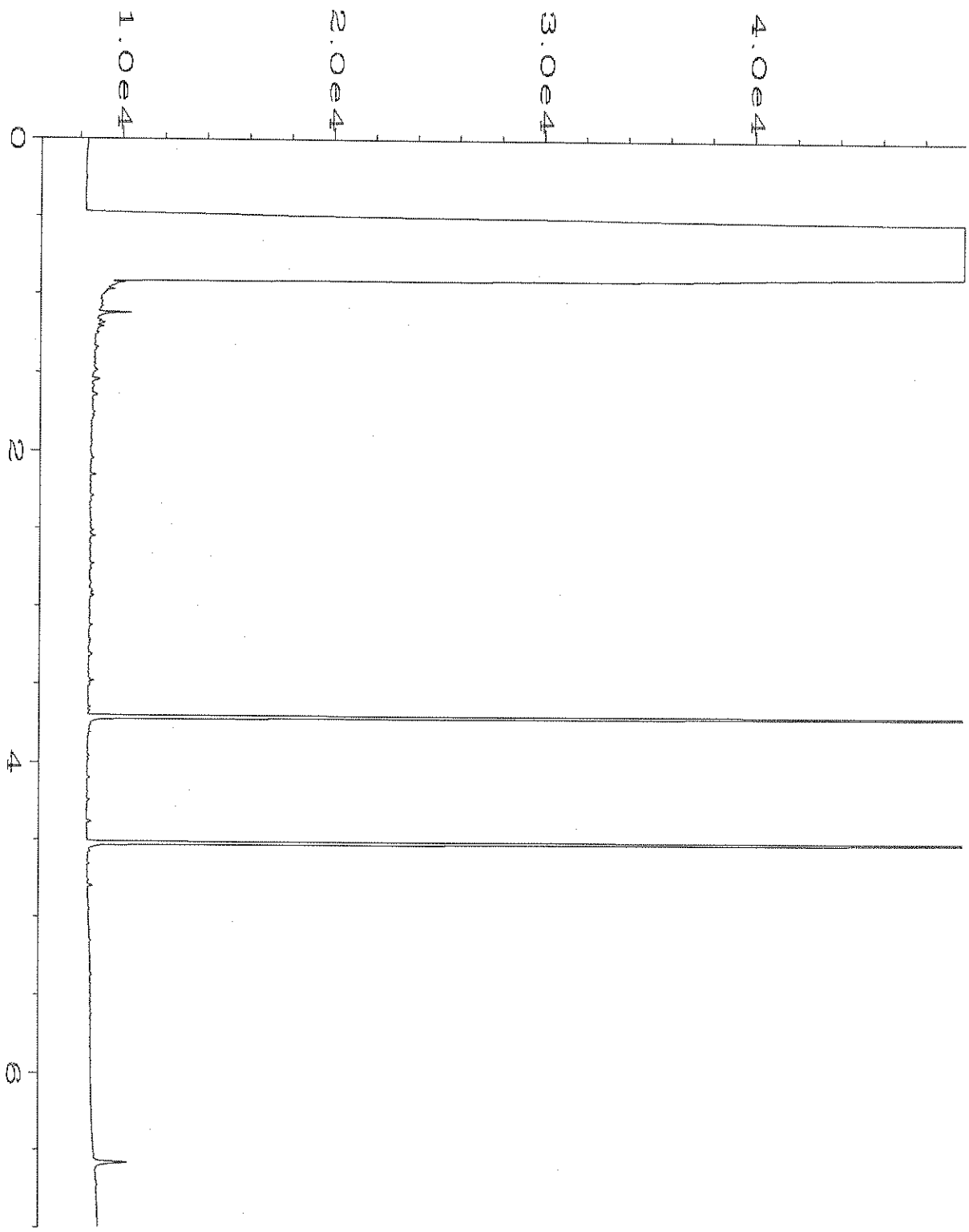
Data File Name	: C:\HPCHEM\6\DATA\07-31-20\044F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 44
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-16	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 05:20 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:04 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-31-20\045F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 45
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-17	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 05:31 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:04 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-31-20\046F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 46
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-22	Sequence Line	: 10
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 31 Jul 20 05:42 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:04 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-31-20\047F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 47
Instrument	: GC6	Injection Number	: 1
Sample Name	: 007493-25	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 05:54 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 09:04 AM		



007493 SAMPLE CHAIN OF CUSTODY MW 07-29-20 VSS/ROS Page # 1 of 4

Report To: Andrew Yonkoshki / Adam Carter  
 Company: Aspect Consulting  
 Address: 710 2nd Ave, Ste. 550  
 City, State, ZIP: Seattle, WA, 98104  
 Phone: 206-413-5411 Email: ayonkoshki@aspect.com

SAMPLERS (signature) *David Unak*  
 PROJECT NAME: Texas Strickland  
 PO #: 180357  
 REMARKS: INVOICE TO AP  
 Project specific RIS? - Yes /  No

TURNAROUND TIME:  Standard turnaround  
 RUSH  
 Rush charges authorized by:  
 SAMPLE DISPOSAL:  
 Archive samples  
 Other  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BTEXN 8260C	Hold pending				
MW-22-25	01A-E	7/28/20	0848	Soil	5													
MW-22-10	02		0853															
MW-22-125	03		0854															
MW-22-16	04		0906			X	X											
MW-22-25	25		0928			X	X											
MW-23-8	06		1102			X	X											
MW-23-125	07		1112			X	X											
MW-23-15	08		1120															
MW-23-18	09		127			X	X											
MW-23-25	10		139															

Received by: *David Unak* SIGNATURE  
 Received by: *David Unak* PRINT NAME  
 Relinquished by: *David Unak* SIGNATURE  
 Relinquished by: *David Unak* PRINT NAME  
 Received by: *Scott Cassidy* SIGNATURE  
 Received by: *Scott Cassidy* PRINT NAME  
 Company: Aspect Consulting  
 Date: 7/29/20 Time: 12:07  
 Date: 7/29/20 Time: 14:07  
 Samples received at: 2 °C

Friedman & Bryya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

007493

SAMPLE CHAIN OF CUSTODY

WE

07-29-20

US 5/025 2

Report To: Andrew Yorkoski / Alton Corff

Company: Aspect Consulting

Address: 710 2nd Ave Ste. 530

City, State, ZIP: Seattle, WA 98104

Phone: 206413-5411 Email: ayorkoski@aspectconsulting.com

SAMPLERS (signature) David Clark

PROJECT NAME: Texas Sheldons

PO #

REMARKS: APD

INVOICE TO

Protect specific RIS? Yes /  No

APD

Page # 2 of 2

TURNAROUND TIME

Standard turnaround

RUSH  
Rush charges authorized by:

SAMPLE DISPOSAL

Archive samples

Other  
Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Notes
MW-21-5	11A-E	7/28/20	1318	SO11	5	X	X						
MW-21-10	12		1328			X	X						
MW-21-17S	13		1340			X	X						
MW-21-25	14		1353									X	
B-11-05	15		1459			X	X					X	
B-11-10S	16		1511			X	X					X	
B-11-15	17		1526			X	X					X	
B-11-18	18		1533										
B-11-22S	19		1544										
MW-26-5	20	7/29/20	0759	SO11	5								

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>David Clark</u>	<u>David Clark</u>	<u>Aspect Consulting</u>	<u>7/29/20</u>	<u>12:07</u>
<u>David Clark</u>	<u>David Clark</u>	<u>Aspect Consulting</u>	<u>7/29/20</u>	<u>17:04</u>
<u>David Clark</u>	<u>David Clark</u>	<u>Aspect Consulting</u>	<u>7/29/20</u>	<u>17:04</u>

Samples received at 3 °C

Report To Andrew Yorkofsky / Adam Carter  
 Company Aspect Consulting  
 Address 710 2nd Ave, Ste 550  
 City, State, ZIP Seattle, WA, 98104  
 Phone 206 413 5411 Email ayorkofsky@aspectconsulting.com

SAMPLERS (signature) David Drake  
 PROJECT NAME Toxalo Strikland PO #  
 REMARKS  
 INVOICE TO

TURNAROUND TIME  
 Standard turnaround  
 RUSH  
 Rush charges authorized by:  
 SAMPLE DISPOSAL  
 Archive samples  
 Other  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes			
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082				
MU-26-10.5	21A-E	7/29/20	0812	Soil	5											
MU-26-12.5	22A-D		0818		1	X	X									NO 402 jar
MU-26-22.5	23A-D		0855		1											NO 402 jar
MU-27-8	24A-E		1056													
MU-27-10.5	25		1100			X	X									
MU-27-15	26		1112													
MU-27-22.5	27		1200													
MU-24-8	25		1410													
MU-24-10.5	29		1417			X	X									
MU-24-13	30		1420													

SIGNATURE PRINT NAME COMPANY DATE TIME

Relinquished by: David Drake David Drake Aspect Consulting 7/29/20 1207  
 Received by: David Drake  
 Relinquished by: David Drake David Drake Aspect Consulting 7/29/20 14:04  
 Received by: David Drake David Drake Aspect Consulting 7/29/20 14:04

Samples received at 2 oc

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 11, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the additional results from the testing of material submitted on July 29, 2020 from the Texaco Strickland PO 180357, F&BI 007493 project. There are 11 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Data Aspect, Adam Griffin  
ASP0811R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 29, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 007493 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
007493 -01	MW-22-7.5
007493 -02	MW-22-10
007493 -03	MW-22-12.5
007493 -04	MW-22-16
007493 -05	MW-22-25
007493 -06	MW-23-8
007493 -07	MW-23-12.5
007493 -08	MW-23-15
007493 -09	MW-23-18
007493 -10	MW-23-25
007493 -11	MW-21-5
007493 -12	MW-21-10
007493 -13	MW-21-17.5
007493 -14	MW-21-25
007493 -15	B-11-5.5
007493 -16	B-11-10.5
007493 -17	B-11-15
007493 -18	B-11-18
007493 -19	B-11-22.5
007493 -20	MW-26-5
007493 -21	MW-26-10.5
007493 -22	MW-26-12.5
007493 -23	MW-26-22.5
007493 -24	MW-27-8
007493 -25	MW-27-10.5
007493 -26	MW-27-15
007493 -27	MW-27-22.5
007493 -28	MW-24-8
007493 -29	MW-24-10.5
007493 -30	MW-24-13
007493 -31	MW-24-22.5
007493 -32	DUP-3

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

Date Extracted: 08/05/20

Date Analyzed: 08/05/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 58-139)
MW-22-10 007493-02	<5	90
MW-22-12.5 007493-03	<5	90
MW-23-25 007493-10	<5	92
Method Blank 00-1395 MB	<5	89

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

Date Extracted: 08/04/20

Date Analyzed: 08/04/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
MW-22-10 007493-02	<50	<250	90
MW-22-12.5 007493-03	<50	<250	91
MW-23-25 007493-10	<50	<250	91
Method Blank 00-1762 MB	<50	<250	102



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-22-10	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/04/20	Lab ID:	007493-02
Date Analyzed:	08/05/20	Data File:	080510.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	102	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-22-12.5	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/04/20	Lab ID:	007493-03
Date Analyzed:	08/05/20	Data File:	080511.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	0.068
m,p-Xylene	0.11
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-23-25	Client:	Aspect Consulting, LLC
Date Received:	07/29/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/04/20	Lab ID:	007493-10
Date Analyzed:	08/05/20	Data File:	080512.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	100	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	0.047
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	08/04/20	Lab ID:	00-1719 mb
Date Analyzed:	08/04/20	Data File:	080409.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	99	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-Gx**

Laboratory Code: 007493-02 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	100	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 008002-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	14,000	93 b	154 b	73-135	49 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	88	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 07/29/20

Project: Texaco Strickland PO 180357, F&BI 007493

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 007432-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	2.5	<0.03	93	96	29-129	3
Toluene	mg/kg (ppm)	2.5	<0.05	90	92	35-130	2
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	90	92	32-137	2
m,p-Xylene	mg/kg (ppm)	5	<0.1	90	91	34-136	1
o-Xylene	mg/kg (ppm)	2.5	<0.05	92	94	33-134	2
Naphthalene	mg/kg (ppm)	2.5	0.26	96	95	14-157	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	2.5	97	68-114
Toluene	mg/kg (ppm)	2.5	91	66-126
Ethylbenzene	mg/kg (ppm)	2.5	94	64-123
m,p-Xylene	mg/kg (ppm)	5	97	78-122
o-Xylene	mg/kg (ppm)	2.5	98	77-124
Naphthalene	mg/kg (ppm)	2.5	94	63-140

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

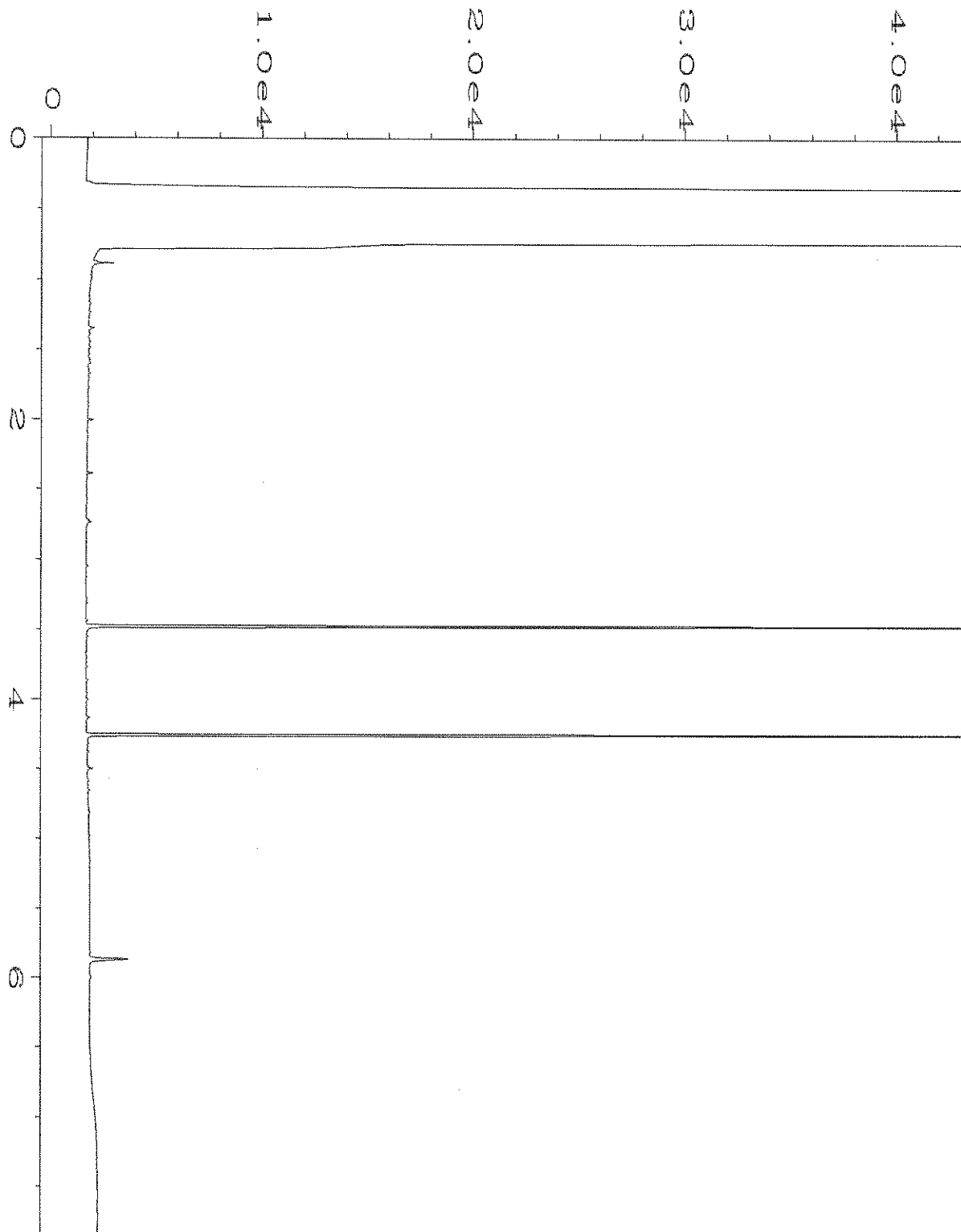
pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

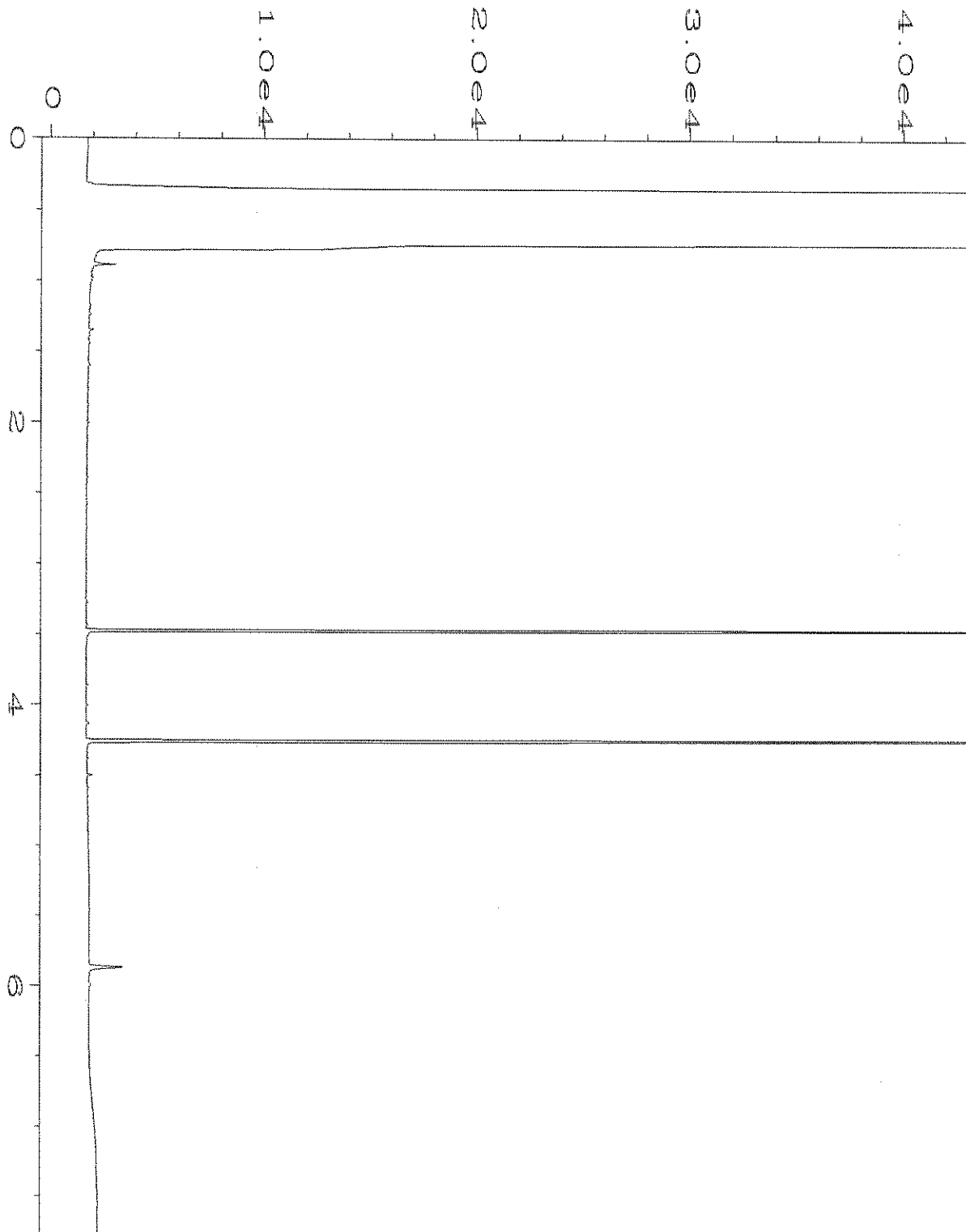
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

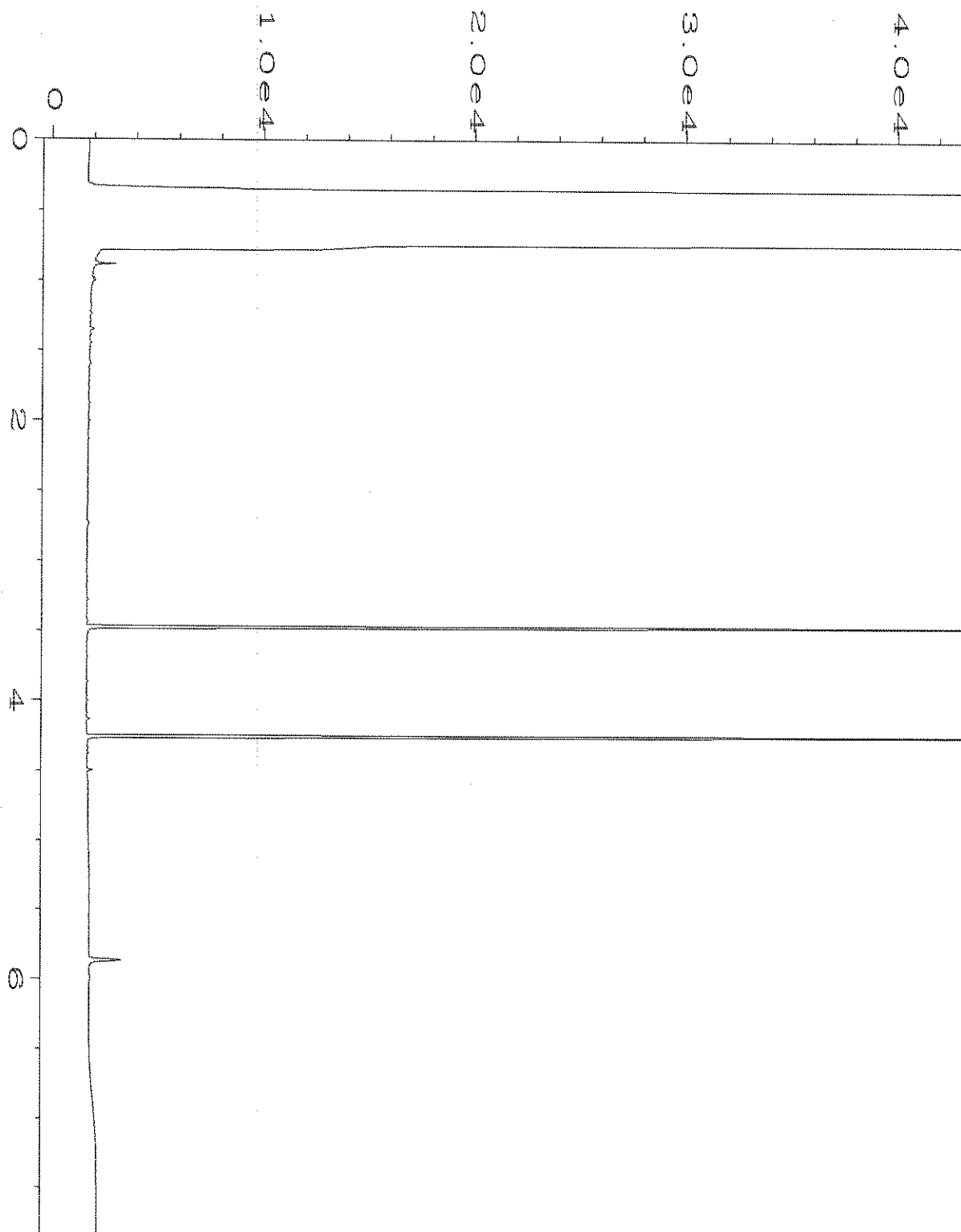




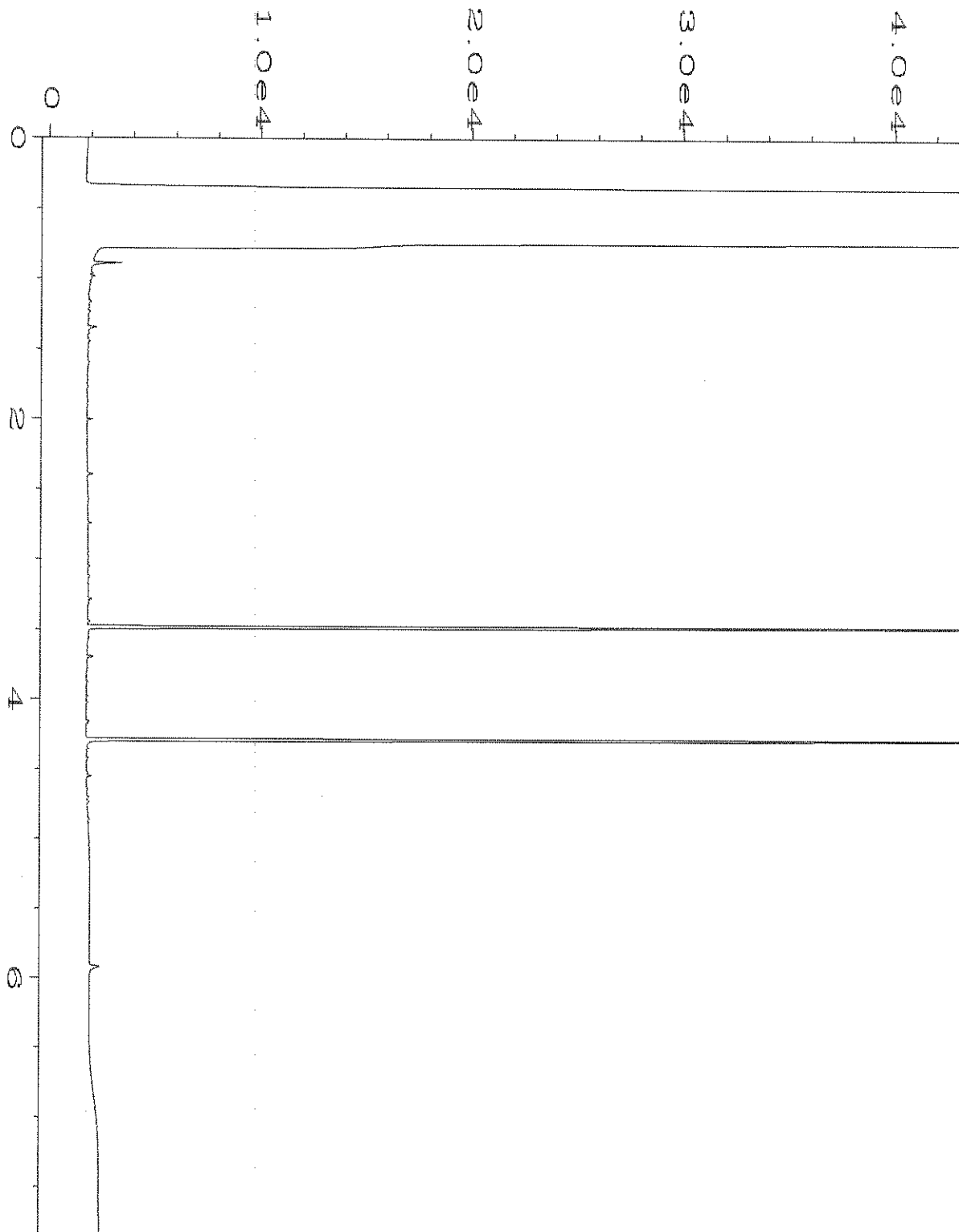
Data File Name	: C:\HPCHEM\4\DATA\08-04-20\040F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 40
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 007493-02	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 04 Aug 20 06:21 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 20 07:20 AM		



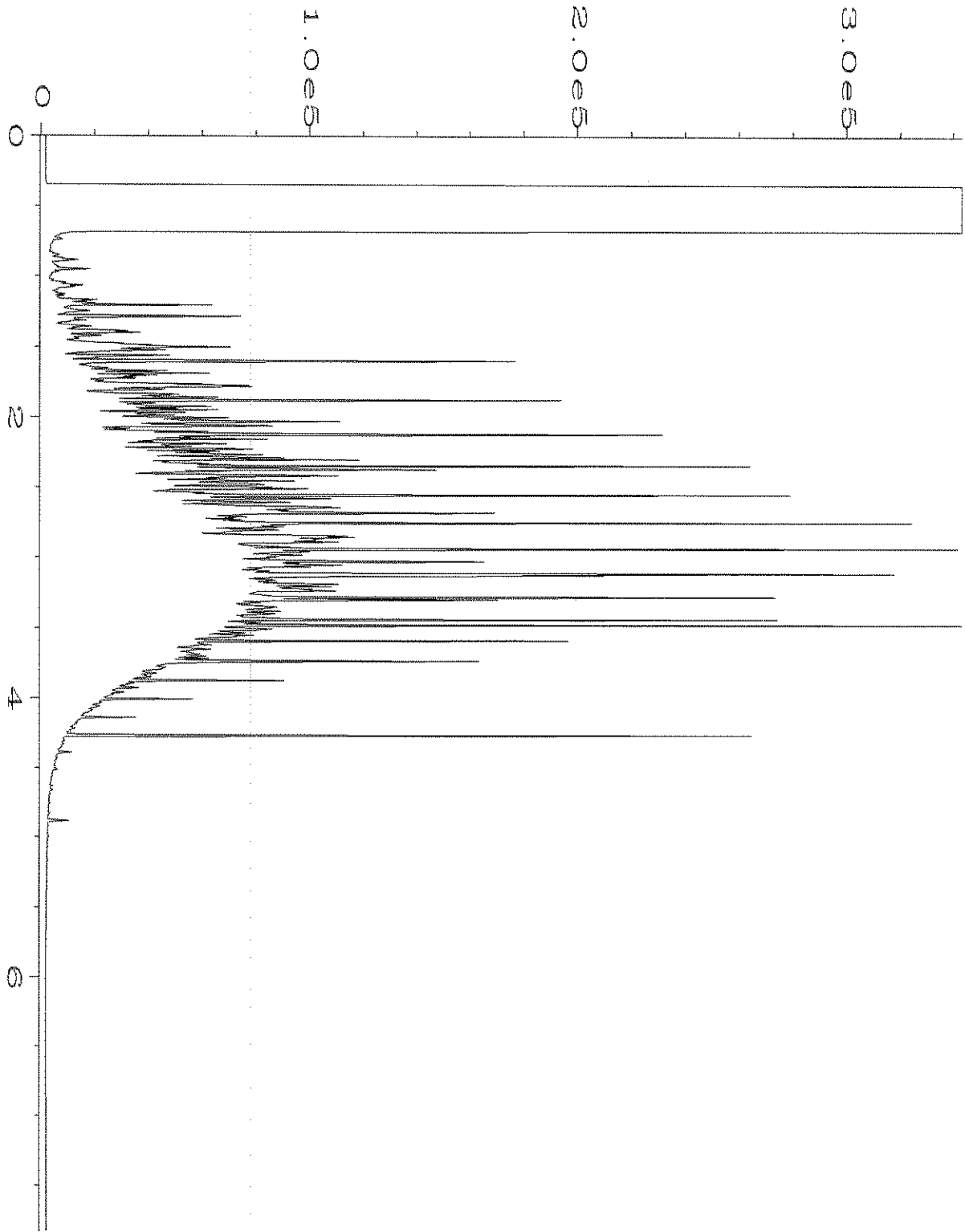
Data File Name	: C:\HPCHEM\4\DATA\08-04-20\041F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 41
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 007493-03	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 04 Aug 20 06:34 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 20 07:20 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-04-20\042F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 42
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 007493-10	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 04 Aug 20 06:47 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 20 07:20 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-04-20\006F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 6
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 00-1762 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 04 Aug 20 08:58 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 20 07:20 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-04-20\005F0401.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 60-170B	Sequence Line	: 4
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 04 Aug 20 02:49 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	05 Aug 20 07:20 AM		



007493

SAMPLE CHAIN OF CUSTODY

UT-LI-W

VS 5/025

Report To Andrew Yorkowski / Aaron Griffin

Company Aspect Consulting

Address 710 2nd Ave Ste. 530

City, State, ZIP Seattle, WA 98104

Phone 2064135411 Email ayorkowski@aspectconsulting.com

SAMPLERS (signature) David Unk

PROJECT NAME Texas Shakedown

REMARKS

Protect specific Pls? - Yes /  No

PO #

180357

INVOICE TO

APD

Page # 2 of 4

TURNAROUND TIME

Standard turnaround

RUSH  
Rush charges authorized by:

SAMPLE DISPOSAL

Archive samples

Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BTEXU BAKK	Hold Product		
MU-21-5	11A-E	7/28/20	1318	SOI1	5	X	X						X			
MU-21-10	12		1328			X	X						X			
MU-21-17S	13		1340			X	X						X			
MU-21-25	14		1353											X		
B-11-05	15		1459			X	X						X			
B-11-10S	16		1511			X	X						X			
B-11-15	17		1526			X	X						X			
B-11-18	18		1533											X		
B-11-22S	19		1544											X		
MU-26-5	20	7/29/20	0754	SOI1	5									X		

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Relinquished by: David Unk

Received by: David Unk

Relinquished by: David Unk

Received by: David Unk

PRINT NAME

David Unk

same as above

same as above

COMPANY

Aspect Consulting

FBI

Samples received at

DATE

7/29/20

7/29/20

TIME

1207

17:04

3:00

Report To: Andrew Yoshida / Aspect Consulting  
 Company: Aspect Consulting  
 Address: 710 2nd Ave, Ste 550  
 City, State, ZIP: Seattle, WA, 98104  
 Phone: 206-435-5411 Email: ayoshida@aspectconsulting.com

SAMPLERS (signature) [Signature]  
 PROJECT NAME: Texaco Strickland  
 REMARKS: Project specific RLS? - Yes / No  
 PO #  
 INVOICE TO

TURNAROUND TIME  
 Standard turnaround  
 RUSH  
 Rush charges authorized by:  
 SAMPLE DISPOSAL  
 Archive samples  
 Other  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes			
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082							
MU-26-105	21A-E	7/24/00	0812	Soil	5														
MU-26-125	23A-D		0818			X	X												NO 402 SW
MU-26-225	23A-D		0855																NO 402 SW
MU-27-8	24A-E		1056																
MU-27-105	25		1100			X	X												
MU-27-15	26		1112																
MU-27-225	27		1200																
MU-24-8	25		1410																
MU-24-105	29		1417			X	X												
MU-24-13	30		1420																

SIGNATURE: [Signature] PRINT NAME: David Drake  
 Relinquished by: [Signature] Received by: [Signature]  
 Relinquished by: [Signature] Received by: [Signature]  
 COMPANY: Aspect Consulting DATE: 7/24/00 TIME: 12:07  
 COMPANY: FBI DATE: 7/29/00 TIME: 4:01  
 Samples received at: 3 oc

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282



007493

SAMPLE CHAIN OF CUSTODY

Ms 04-19-20

V55/805

Report To: Andrew Volokhin / Adam Laffin  
 Company: Aspect Consulting  
 Address: 710 2nd Ave, Ste. 550  
 City, State, ZIP: Seattle, WA 98104  
 Phone: (206) 413-5411 Email: avolokhin@aspect.com

SAMPLERS (signature) [Signature]  
 PROJECT NAME: Texas Shikland  
 REMARKS: 180357  
 PO #: AP  
 INVOICE TO: AP

Page # 4 of 4  
 TURNAROUND TIME  
 Standard turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL  
 Archive samples  
 Other  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes				
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					
MUS-24-225	31A*	7/24/20	1441	Soil	5												
DUP-3	321	7/24/20	-	↓	↓	X	X										

Received by: [Signature] PRINT NAME: David Lind COMPANY: Aspect Consulting DATE: 7/29/20 TIME: 12:57

Relinquished by: [Signature] PRINT NAME: Isaac Vossig COMPANY: FBI DATE: 7/29/20 TIME: 17:07

Received by: \_\_\_\_\_

Samples received at: 206

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 6, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on July 30, 2020 from the Texaco Strickland PO 180357, F&BI 007523 project. There are 22 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Data Aspect, Adam Griffin  
ASP0806R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 30, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 007523 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
007523 -01	MW-20-5'
007523 -02	MW-20-8'
007523 -03	MW-20-10.5'
007523 -04	MW-20-13'
007523 -05	MW-20-15.5'
007523 -06	MW-20-17.5'
007523 -07	MW-20-20'
007523 -08	MW-20-22.5
007523 -09	MW-20-25'
007523 -10	MW-25-2.5
007523 -11	MW-25-5'
007523 -12	MW-25-8'
007523 -13	MW-25-10.5'
007523 -14	MW-25-13'
007523 -15	MW-25-15'
007523 -16	MW-25-17.5'
007523 -17	MW-25-20'
007523 -18	MW-25-22.5'
007523 -19	MW-25-25
007523 -20	B-10-2.5
007523 -21	B-10-6
007523 -22	B-10-7.5
007523 -23	B-10-12.5
007523 -24	B-10-16
007523 -25	B-10-17.5
007523 -26	B-10-20
007523 -27	B-10-22.5
007523 -28	B-10-25
007523 -29	MW-21A-2.5
007523 -30	MW-22A-2.5
007523 -31	MW-22B-5'
007523 -32	DUP-4
007523 -33	DUP-5
007523 -34	Trip Blank

The 8260D matrix sample and matrix sample duplicate failed the relative percent difference for several compounds. The laboratory control sample met the acceptance criteria, therefore the data were likely due to sample matrix effect.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/06/20

Date Received: 07/30/20

Project: Texaco Strickland PO 180357, F&BI 007523

Date Extracted: 07/31/20

Date Analyzed: 08/03/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
MW-20-5' 007523-01	<5	99
MW-20-8' 007523-02	<5	101
MW-20-13' 007523-04	<5	99
MW-25-8' 007523-12	<5	93
B-10-12.5 007523-23	<5	100
MW-21A-2.5 007523-29	<5	99
MW-22A-2.5 007523-30	<5	100
MW-22B-5' 007523-31	<5	98
DUP-4 007523-32	9.2	105
Method Blank 00-1392 MB	<5	92

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/06/20

Date Received: 07/30/20

Project: Texaco Strickland PO 180357, F&BI 007523

Date Extracted: 08/03/20

Date Analyzed: 08/04/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
Trip Blank 007523-34	<100	93
Method Blank 00-1393 MB	<100	108

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/06/20

Date Received: 07/30/20

Project: Texaco Strickland PO 180357, F&BI 007523

Date Extracted: 07/31/20

Date Analyzed: 07/31/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 56-165)
MW-20-5' 007523-01	<50	<250	97
MW-20-8' 007523-02	<50	<250	93
MW-20-13' 007523-04	<50	<250	91
MW-25-8' 007523-12	<50	<250	93
B-10-12.5 007523-23	<50	<250	92
MW-21A-2.5 007523-29	90 x	360	90
MW-22A-2.5 007523-30	<50	<250	91
MW-22B-5' 007523-31	<50	680	88
DUP-4 007523-32	<50	<250	90
Method Blank 00-1754 MB	<50	<250	92

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-20-5'	Client:	Aspect Consulting, LLC
Date Received:	07/30/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/31/20	Lab ID:	007523-01
Date Analyzed:	07/31/20	Data File:	073121.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	99	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-20-8'	Client:	Aspect Consulting, LLC
Date Received:	07/30/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/31/20	Lab ID:	007523-02
Date Analyzed:	07/31/20	Data File:	073122.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	100	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	0.065



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-20-13'	Client:	Aspect Consulting, LLC
Date Received:	07/30/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/31/20	Lab ID:	007523-04
Date Analyzed:	07/31/20	Data File:	073123.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-25-8'	Client:	Aspect Consulting, LLC
Date Received:	07/30/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/31/20	Lab ID:	007523-12
Date Analyzed:	07/31/20	Data File:	073124.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	62	145
Toluene-d8	100	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	B-10-12.5	Client:	Aspect Consulting, LLC
Date Received:	07/30/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/31/20	Lab ID:	007523-23
Date Analyzed:	07/31/20	Data File:	073125.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-21A-2.5	Client:	Aspect Consulting, LLC
Date Received:	07/30/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/31/20	Lab ID:	007523-29
Date Analyzed:	07/31/20	Data File:	073126.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	95	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-22A-2.5	Client:	Aspect Consulting, LLC
Date Received:	07/30/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/31/20	Lab ID:	007523-30
Date Analyzed:	07/31/20	Data File:	073127.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-22B-5'	Client:	Aspect Consulting, LLC
Date Received:	07/30/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/31/20	Lab ID:	007523-31
Date Analyzed:	07/31/20	Data File:	073128.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	102	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DUP-4	Client:	Aspect Consulting, LLC
Date Received:	07/30/20	Project:	Texaco Strickland PO 180357
Date Extracted:	07/31/20	Lab ID:	007523-32
Date Analyzed:	07/31/20	Data File:	073129.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	0.098

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	07/31/20	Lab ID:	00-1718 mb
Date Analyzed:	07/31/20	Data File:	073110.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	97	55	145
4-Bromofluorobenzene	93	65	139

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	07/30/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/03/20	Lab ID:	007523-34
Date Analyzed:	08/03/20	Data File:	080315.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	08/03/20	Lab ID:	00-1684 mb
Date Analyzed:	08/03/20	Data File:	080310.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/06/20

Date Received: 07/30/20

Project: Texaco Strickland PO 180357, F&BI 007523

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 007511-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	95	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/06/20

Date Received: 07/30/20

Project: Texaco Strickland PO 180357, F&BI 007523

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 007463-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	108	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/06/20

Date Received: 07/30/20

Project: Texaco Strickland PO 180357, F&BI 007523

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 007523-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	112	106	63-146	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	79-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/06/20

Date Received: 07/30/20

Project: Texaco Strickland PO 180357, F&BI 007523

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 007477-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	2.5	<0.03	78	62	29-129	23 vo
Toluene	mg/kg (ppm)	2.5	<0.05	77	61	35-130	23 vo
Ethylbenzene	mg/kg (ppm)	2.5	0.075	78	62	32-137	23 vo
m,p-Xylene	mg/kg (ppm)	5	1.2	74 b	58 b	34-136	24 b
o-Xylene	mg/kg (ppm)	2.5	0.061	85	67	33-134	24 vo
Naphthalene	mg/kg (ppm)	2.5	1.8	73 b	50 b	14-157	37 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	2.5	104	68-114
Toluene	mg/kg (ppm)	2.5	101	66-126
Ethylbenzene	mg/kg (ppm)	2.5	104	64-123
m,p-Xylene	mg/kg (ppm)	5	105	78-122
o-Xylene	mg/kg (ppm)	2.5	108	77-124
Naphthalene	mg/kg (ppm)	2.5	109	63-140

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/06/20

Date Received: 07/30/20

Project: Texaco Strickland PO 180357, F&BI 007523

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 007524-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Benzene	ug/L (ppb)	50	<0.35	101	76-125
Toluene	ug/L (ppb)	50	<1	95	76-122
Ethylbenzene	ug/L (ppb)	50	<1	95	69-135
m,p-Xylene	ug/L (ppb)	100	<2	96	69-135
o-Xylene	ug/L (ppb)	50	<1	98	60-140
Naphthalene	ug/L (ppb)	50	<1	99	44-164

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Percent	Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Benzene	ug/L (ppb)	50	101	94	69-134	7
Toluene	ug/L (ppb)	50	95	88	72-122	8
Ethylbenzene	ug/L (ppb)	50	98	90	77-124	9
m,p-Xylene	ug/L (ppb)	100	100	91	81-112	9
o-Xylene	ug/L (ppb)	50	101	92	81-121	9
Naphthalene	ug/L (ppb)	50	97	94	64-133	3

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

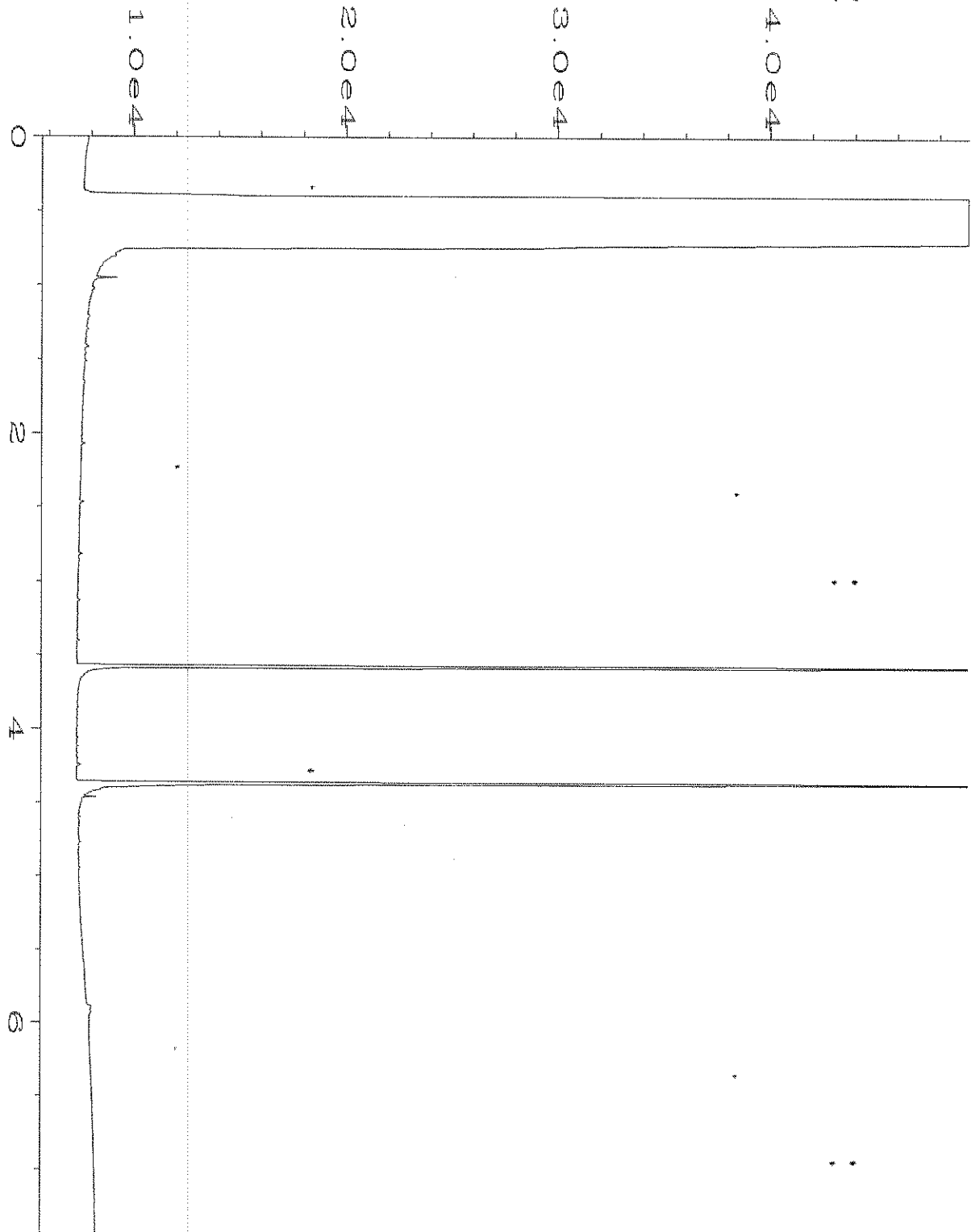
pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

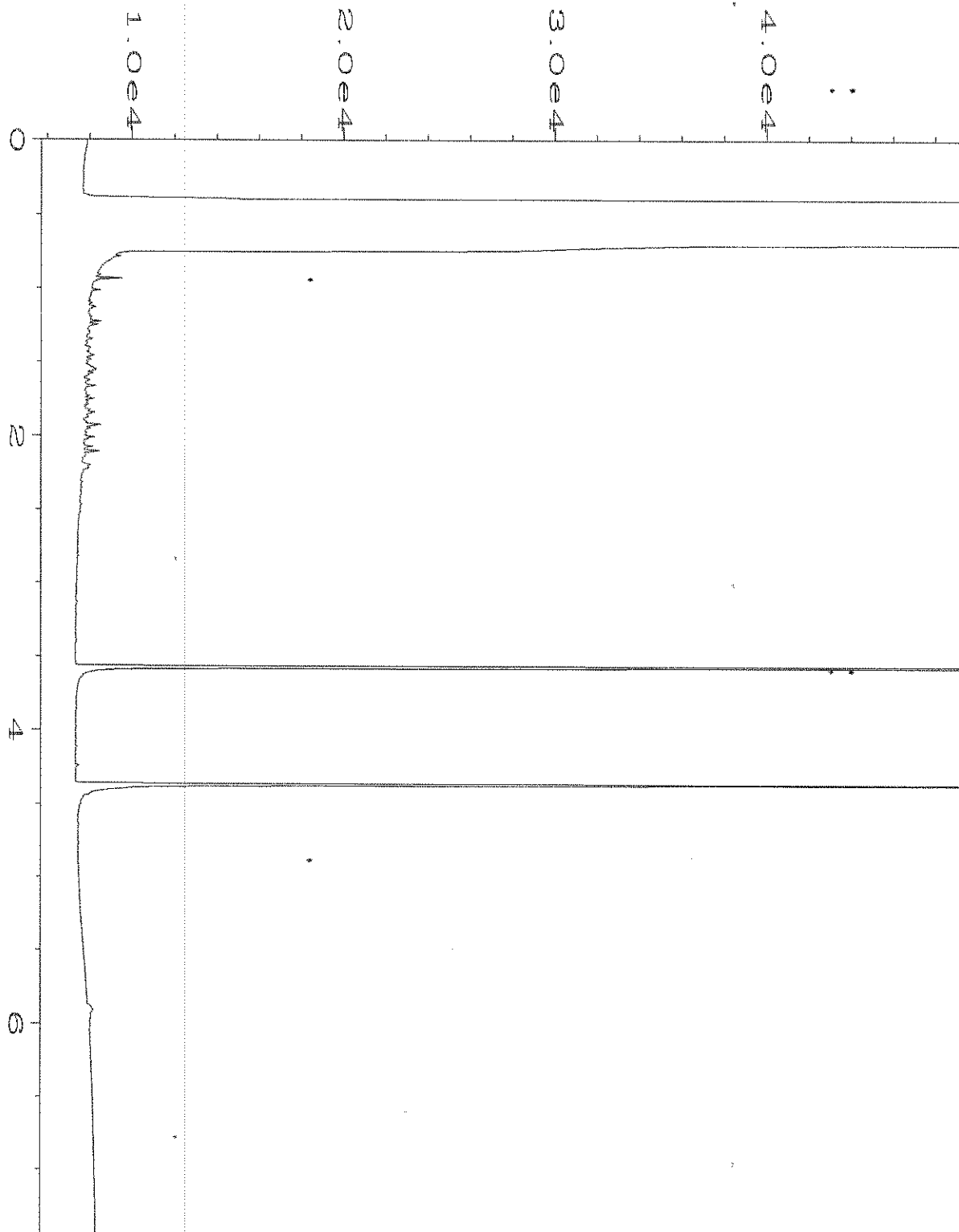
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

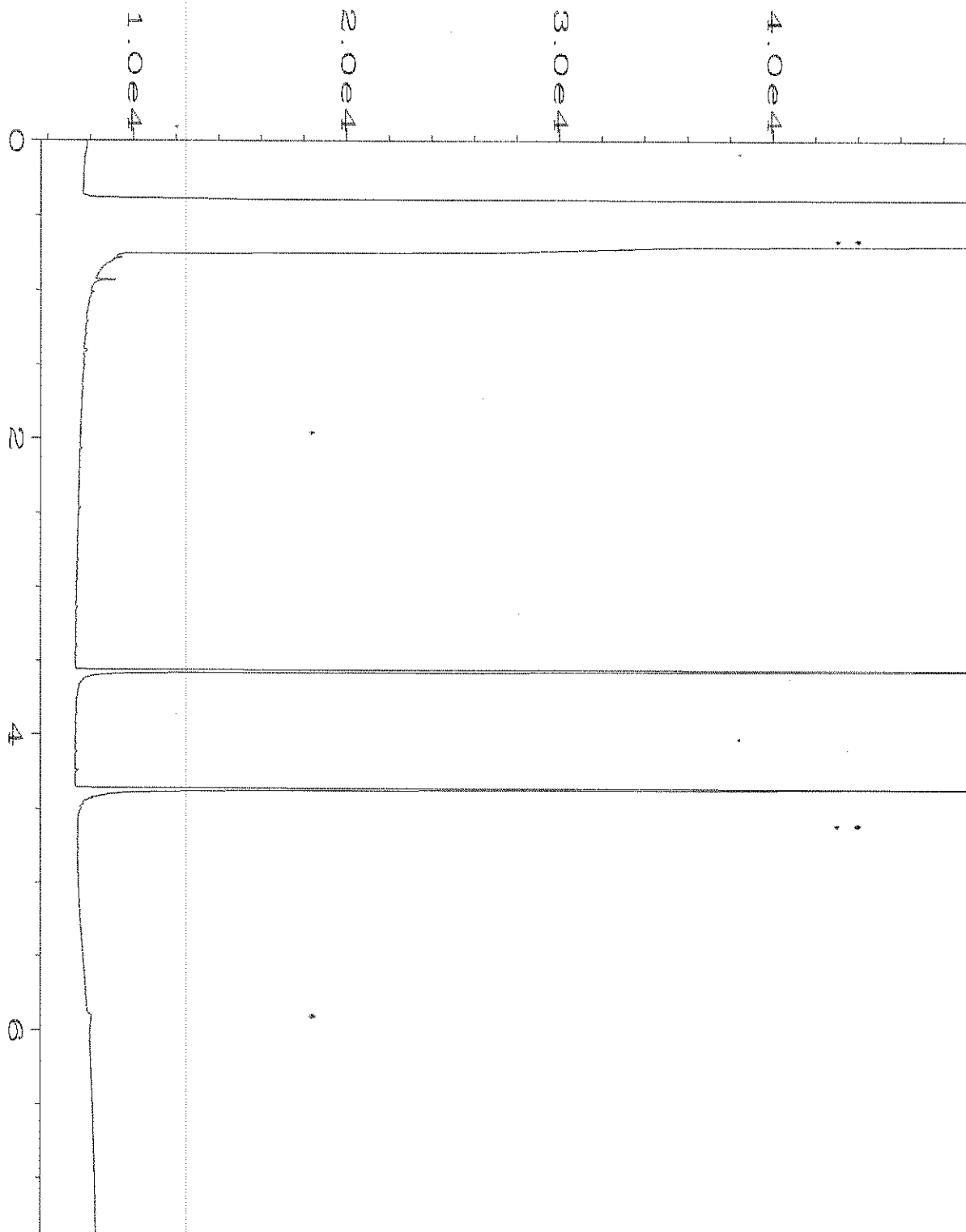




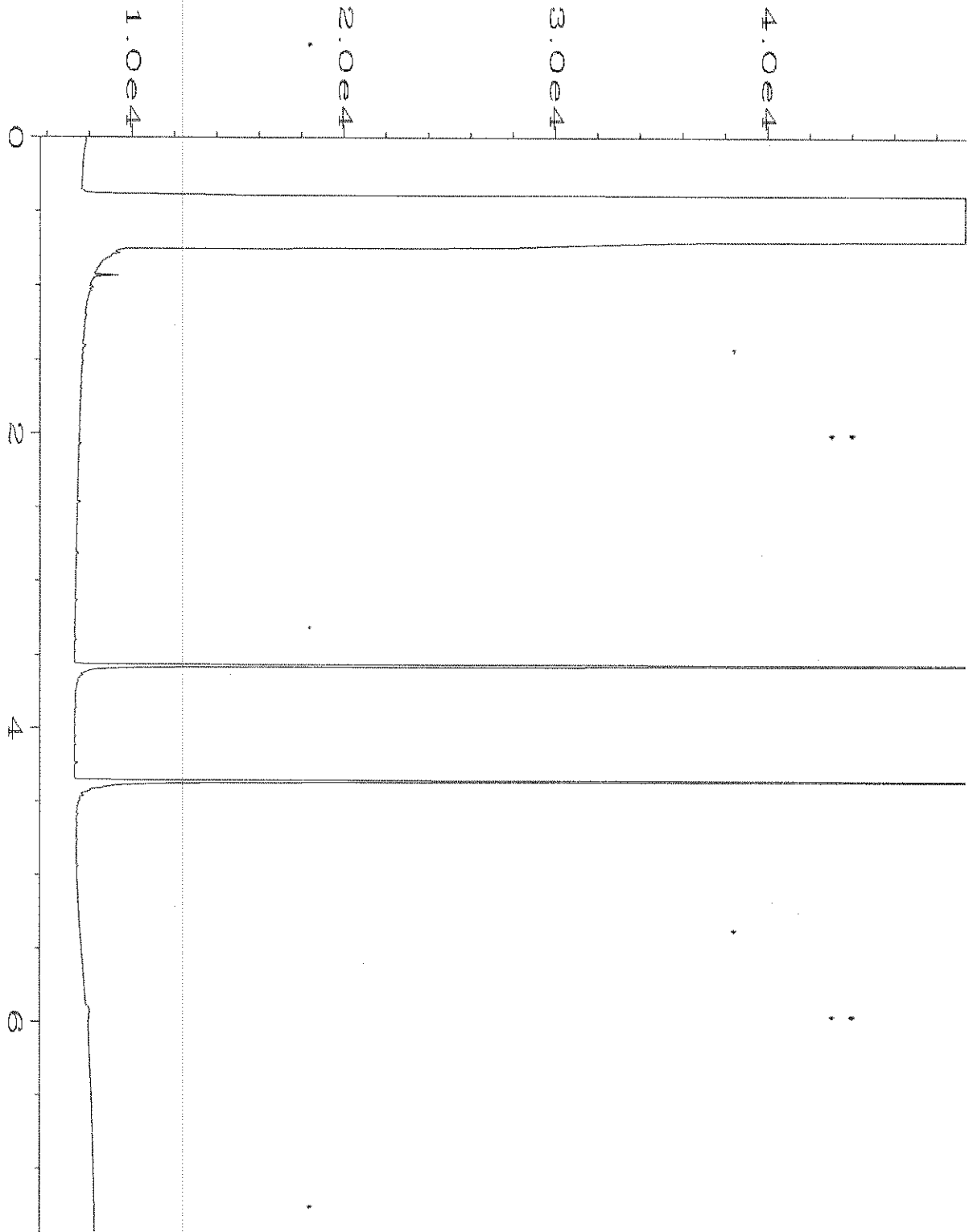
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Operator	: TL	Vial Number	: 23
Instrument	: GC1	Injection Number	: 1
Sample Name	: 007523-01	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 02:20 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 07:57 AM		



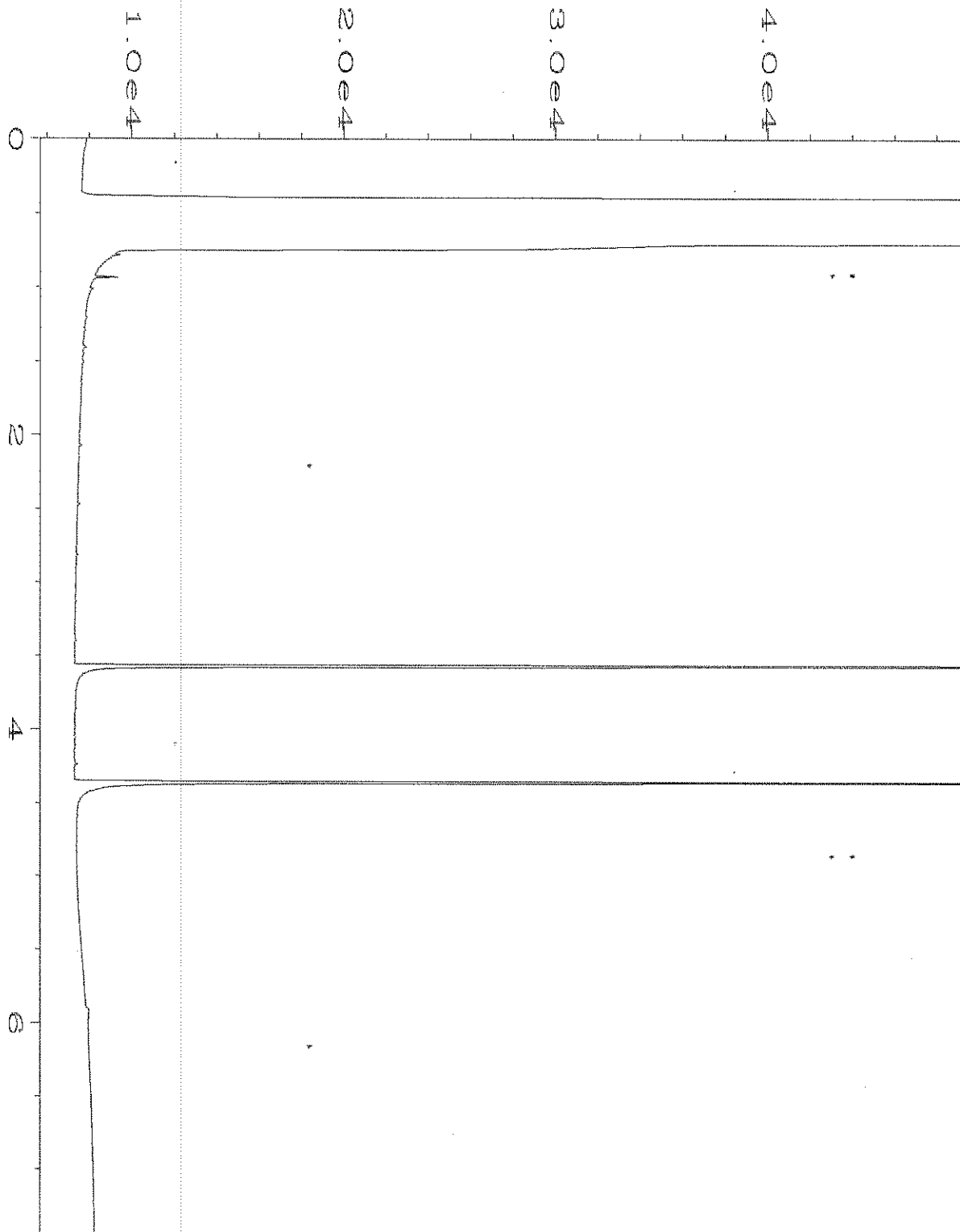
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Operator	: TL	Vial Number	: 24
Instrument	: GC1	Injection Number	: 1
Sample Name	: 007523-02	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 02:58 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 07:57 AM		



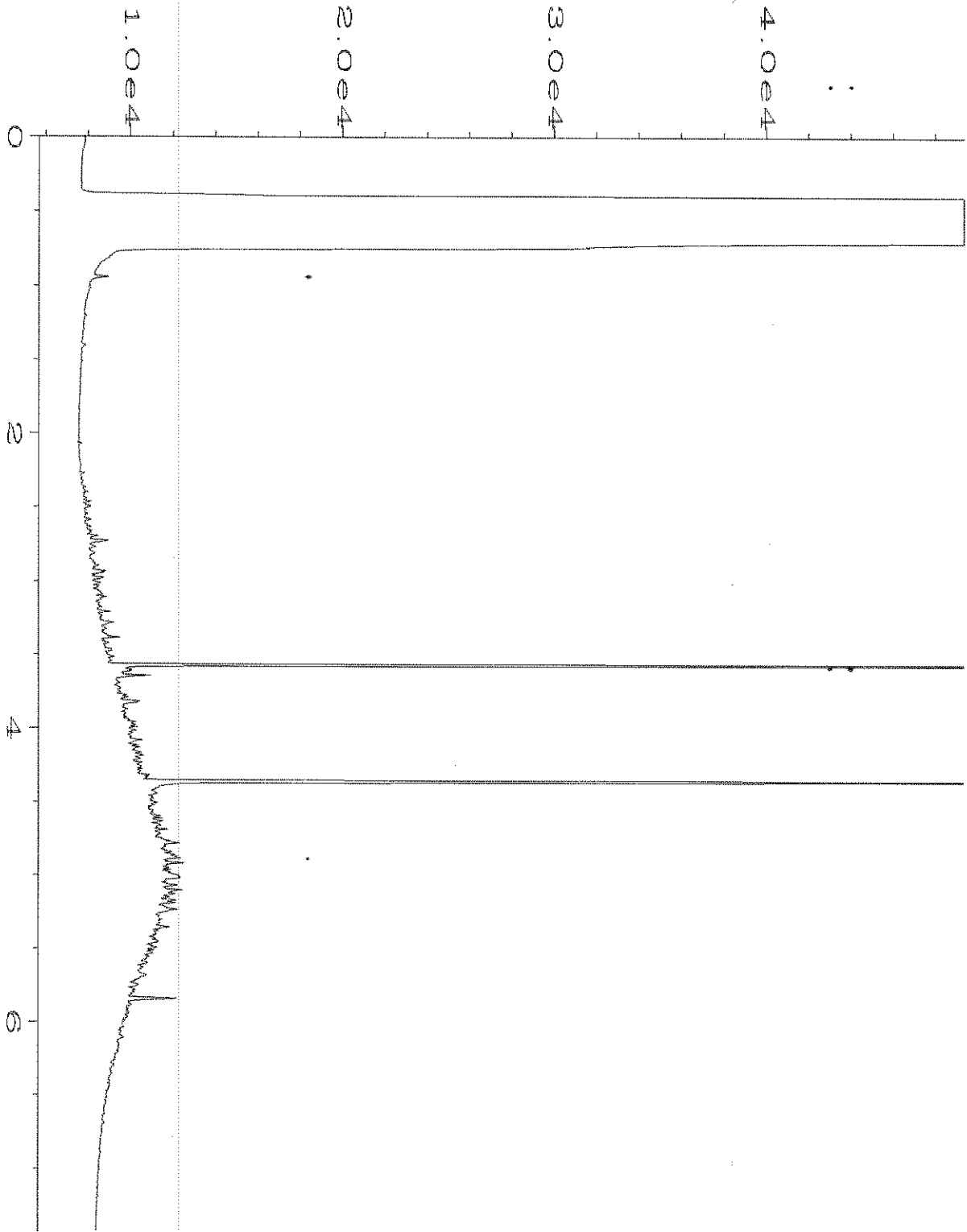
Data File Name	: C:\HPCHEM\1\DATA\07-31-20\025F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 25
Instrument	: GC1	Injection Number	: 1
Sample Name	: 007523-04	Sequence Line	: 7
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 31 Jul 20 03:07 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 07:57 AM		



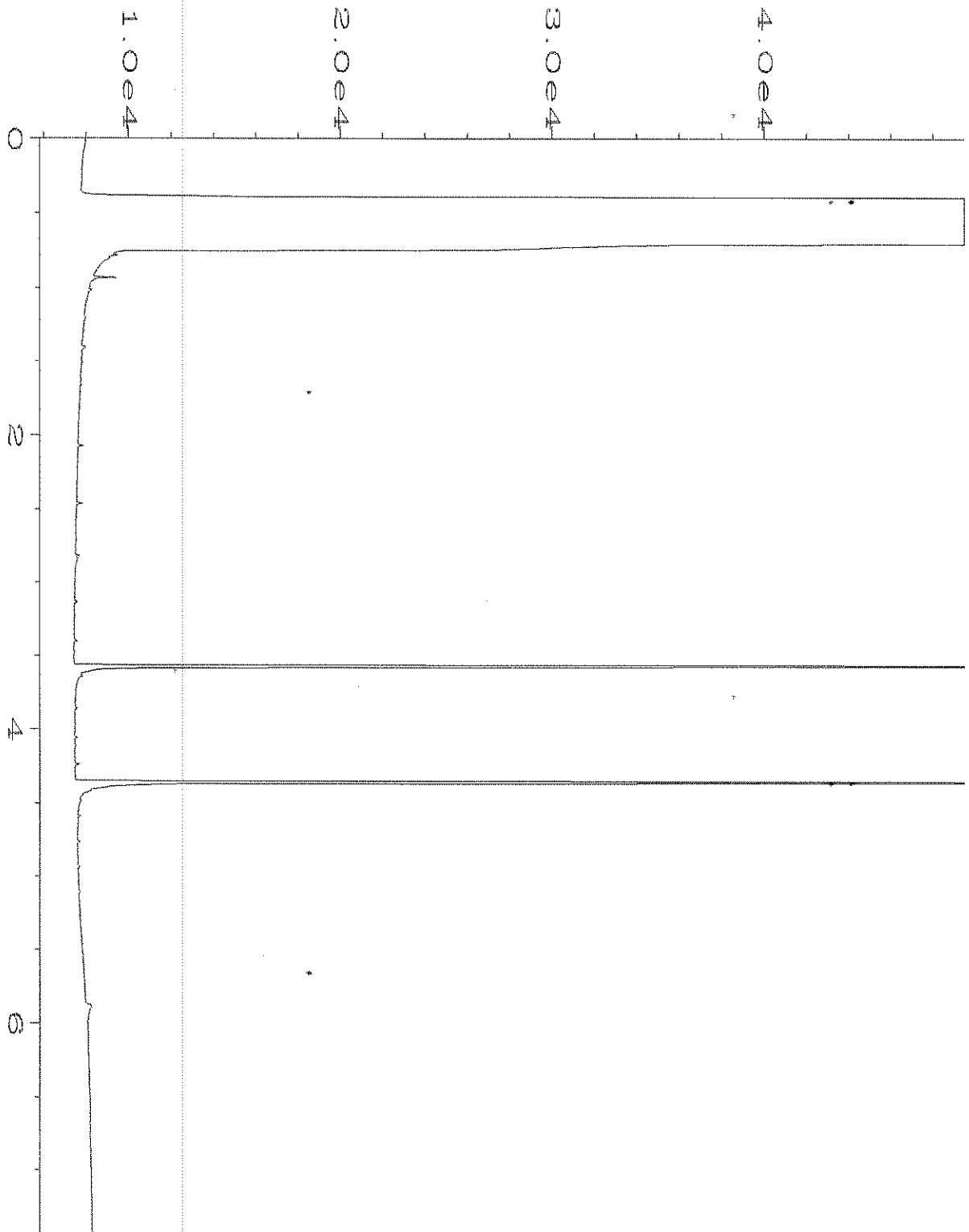
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Operator	: TL	Vial Number	: 26
Instrument	: GC1	Injection Number	: 1
Sample Name	: 007523-12	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 03:19 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 07:57 AM		



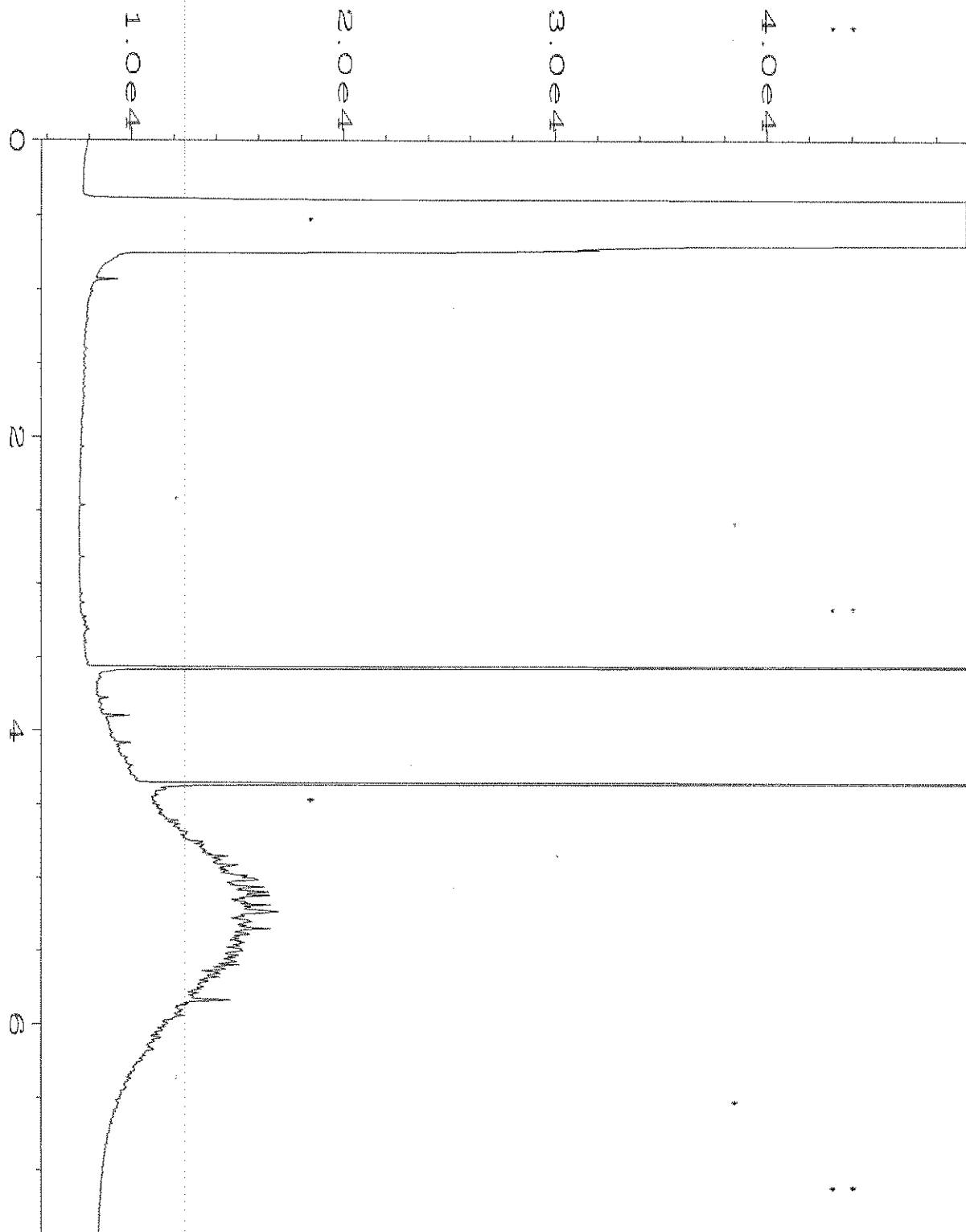
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Operator	: TL	Vial Number	: 27
Instrument	: GC1	Injection Number	: 1
Sample Name	: 007523-23	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 03:30 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 07:58 AM		



Data File Name	: C:\HPCHEM\1\DATA\07-31-20\028F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 28
Instrument	: GC1	Injection Number	: 1
Sample Name	: 007523-29	Sequence Line	: 7
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 31 Jul 20 03:42 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 07:58 AM		

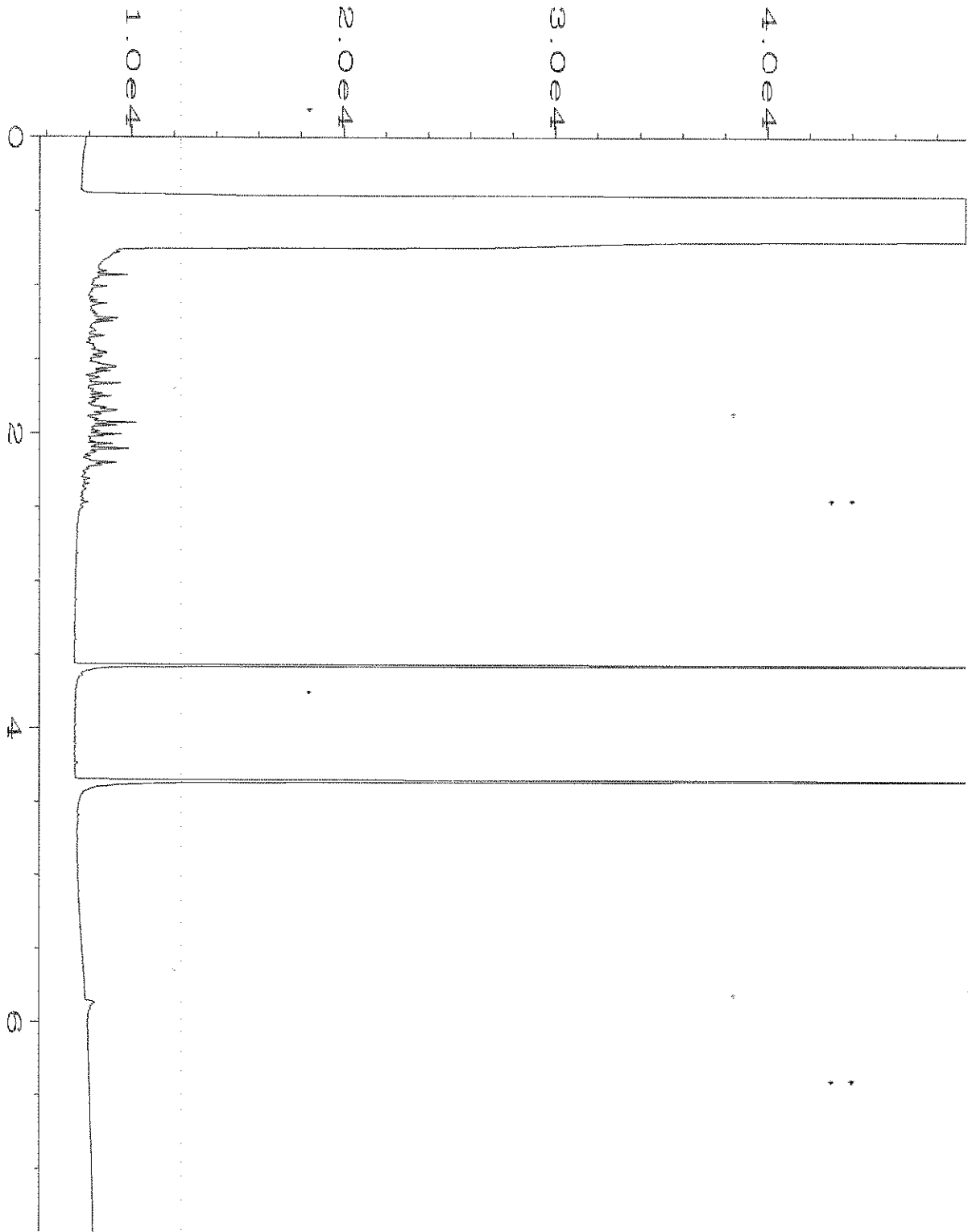


Data File Name	: C:\HPCHEM\1\DATA\07-31-20\029F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 29
Instrument	: GC1	Injection Number	: 1
Sample Name	: 007523-30	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 03:54 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 07:58 AM		

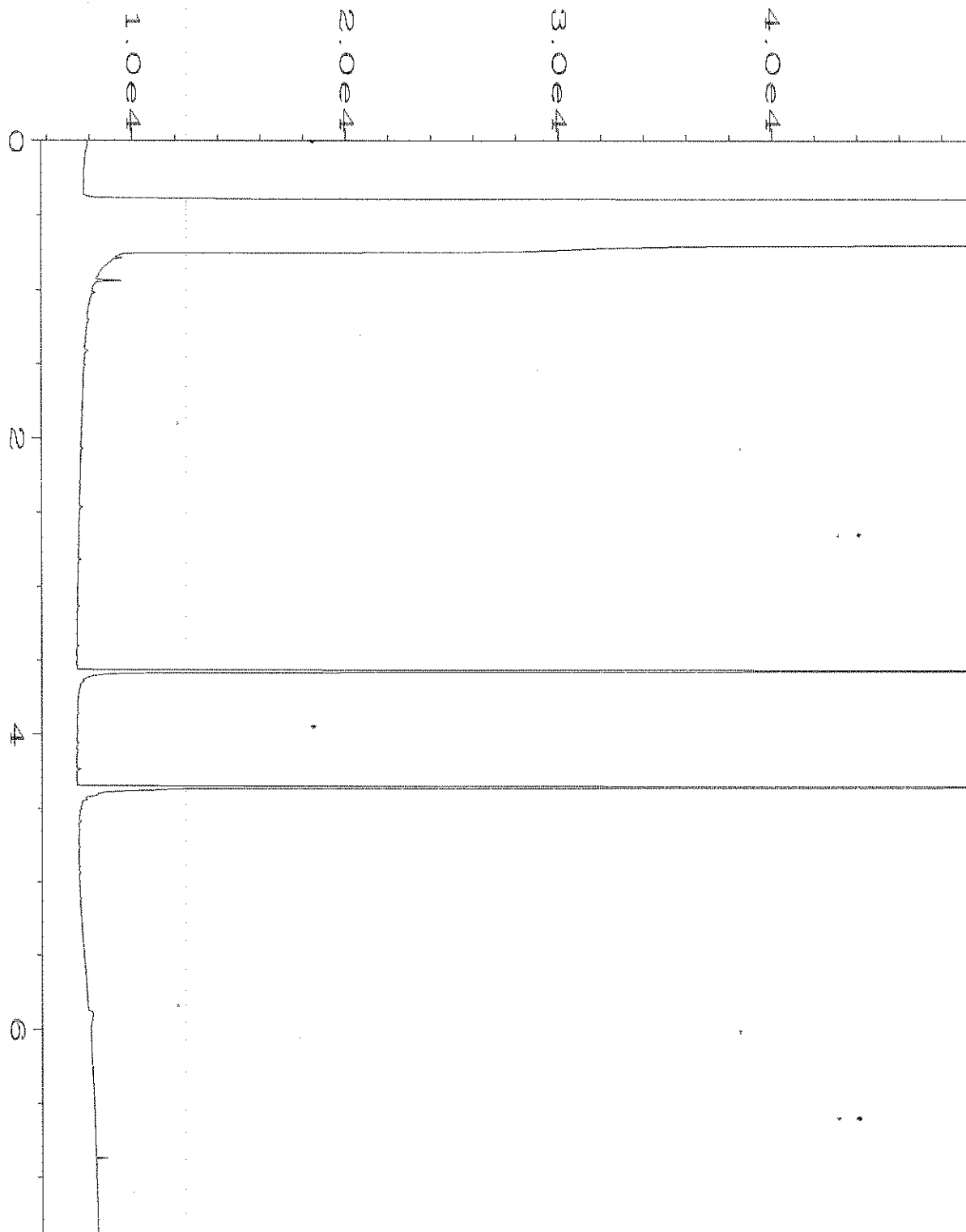


Data File Name	: C:\HPCHEM\1\DATA\07-31-20\030F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 30
Instrument	: GC1	Injection Number	: 1
Sample Name	: 007523-31	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 04:06 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 07:58 AM		

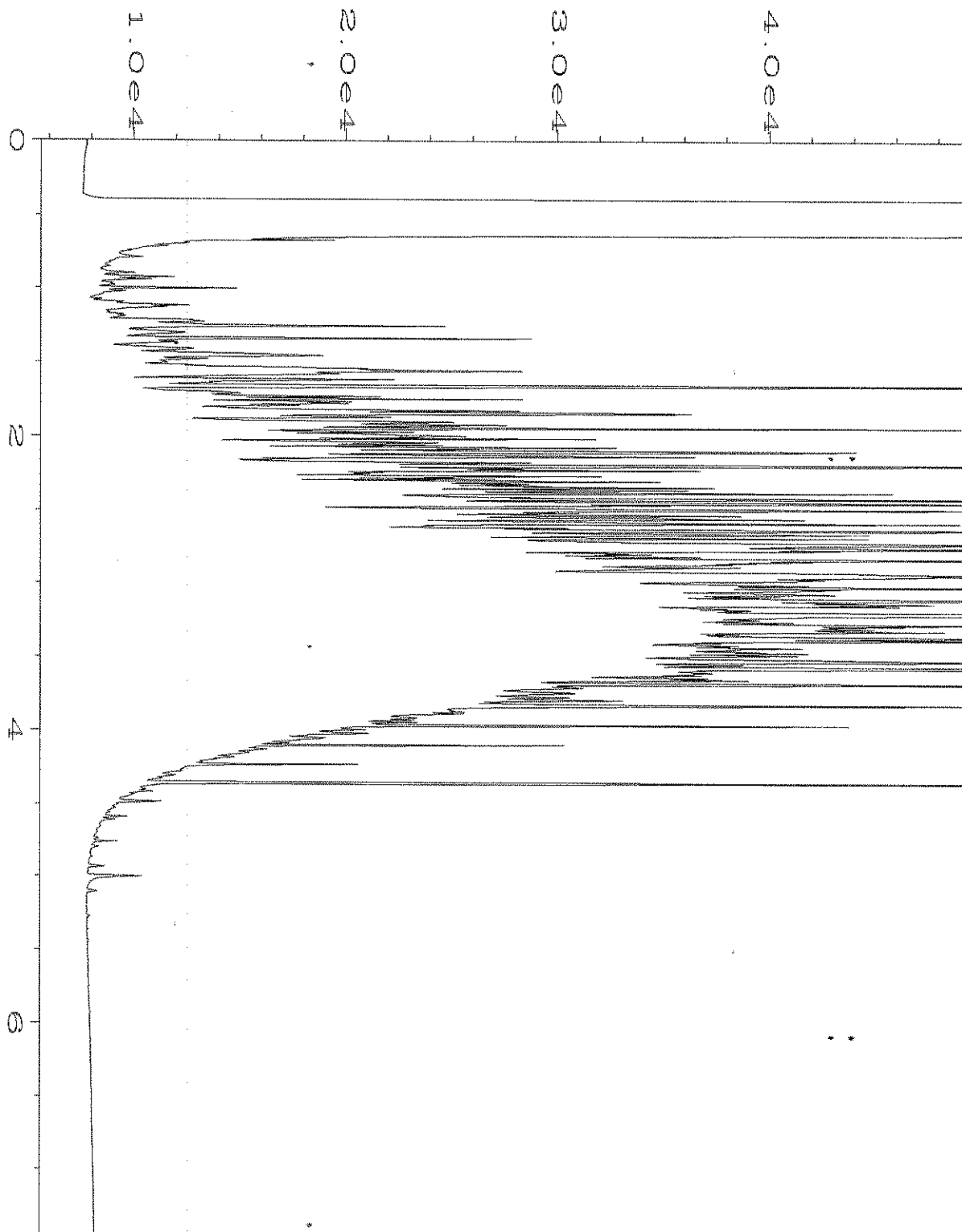




Data File Name	: C:\HPCHEM\1\DATA\07-31-20\031F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 31
Instrument	: GC1	Injection Number	: 1
Sample Name	: 007523-32	Sequence Line	: 7
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 31 Jul 20 04:18 PM	Analysis Method	: DX.MTH
Report Created on:	: 03 Aug 20 07:58 AM		



Data File Name	: C:\HPCHEM\1\DATA\07-31-20\018F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 18
Instrument	: GC1	Injection Number	: 1
Sample Name	: 00-1754 mb	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 01:21 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 07:57 AM		



Data File Name	: C:\HPCHEM\1\DATA\07-31-20\003F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 3
Instrument	: GC1	Injection Number	: 1
Sample Name	: 500 Dx 60-170C	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 31 Jul 20 04:42 PM	Analysis Method	: DX.MTH
Report Created on:	03 Aug 20 07:57 AM		

**SAMPLE CHAIN OF CUSTODY**

MC 07-30-20 of 4 BOSTON  
Page # 1 of 4

Report To: Andrew Funkofski/Adam Griffin

Company: Aspect Consulting

Address: 710 2nd Ave, Ste. 550

City, State, ZIP: Seattle, WA 98104

Phone: (206)413-5411 Email: ajonko@aspectconsulting.com

SAMPLERS (signature) [Signature]  
PROJECT NAME: Texaco Strickland  
PO #: 180357

REMARKS: AP  
INVOICE TO: AP

TURNAROUND TIME: Standard turnaround  
RUSH charges authorized by: [Signature]  
SAMPLE DISPOSAL:  Archive samples  
 Other  
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BTEXN 8260	Hold Pending		
MMW-20-25.5'	01 A-E	7/30/20	0914	Soil	5	X	X						X			
MMW-10-8'	02		0921		1	X	X						X			
MMW-20-10.5'	03		0928		1									X		
MMW-20-13'	04		0933		1	X	X						X			
MMW-20-15.5'	05		0936		1								X			
MMW-20-17.5'	06		0943		1								X			
MMW-20-20'	07 A-D		0949		4								X			
MMW-20-22.5'	08 A-E		0951		5								X			
MMW-20-25'	09		1007		5								X			
MMW-25-2.5'	10		0716		5								X			

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>Rachael Corwell</u>	Received by: <u>[Signature]</u>	<u>Rachael Corwell</u>	Aspect Consulting	7/30/20	1558	
Relinquished by: <u>[Signature]</u>	<u>Liz Weber-Brya</u>	Received by: <u>[Signature]</u>	<u>Liz Weber-Brya</u>	FiB	7/30/20	1558	
Received by: <u>[Signature]</u>	<u>[Signature]</u>	Received by: <u>[Signature]</u>	<u>[Signature]</u>	Samples received at <u>3</u>			<u>°C</u>

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282

007523

SAMPLE CHAIN OF CUSTODY

ME 07-30-20

Page # 2 of 4

Report To: Andrew Von Kofski / Adam Griffin

Company: Aspect Consulting

Address: 710 2nd Ave, Ste. 550

City, State, ZIP: Seattle, WA 98104

Phone: (206) 413-5411 Email: avonkofski@aspectconsulting.com

SAMPLERS (signature) [Signature]

PROJECT NAME: Texaco Shrinkland

REMARKS: Texaco Shrinkland

PO #

180357

INVOICE TO

AP

TURNAROUND TIME: 1558

SAMPLE DISPOSAL:  Standard turnaround,  RUSH,  Other

Rush charges authorized by: [Signature]

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BTEX N 8260	Hold Pending				
MW-25-5'	11A-D	7/30/20	0710	Soil	4													
MW-25-8'	12A-E		0723		5	X	X								X			
MW-25-10.5'	13		0729		5										X			
MW-25-13'	14		0734		5										X			
MW-25-15'	15		0740		5										X			
MW-25-17.5'	16A-D		0745		4										X			
MW-25-20'	17A-B		0750		5										X			
MW-25-22.5'	18		0757		5										X			
MW-25-25	19A-D		0804		5										X			only 3 vials
B-10-2.5	20A-B		1134		5										X			

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by: [Signature]

Patrick Connell

Aspect Consulting

7/30/20

1558

Received by: [Signature]

Liz Webber Brya

F.B.

7/30/20

1558

Friedman & Bryya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029

Ph. (206) 285-8282

007523

SAMPLE CHAIN OF CUSTODY

ME 07-30-20

805

Report To: Andrew Hinkofski / Adamus Griffin

Company: Aspect Consulting

Address: 710 2nd Ave, Ste. 550

City, State, ZIP: Seattle, WA 98104

Phone: (206) 413-5411 Email: aygonko@aspectconsulting.com

SAMPLERS (signature) [Signature]

PROJECT NAME: Texaco Smickland

REMARKS: Project specific RLS? - Yes /  No

PO #

180357

INVOICE TO

AP

Page # 3 of 4 155

TURNAROUND TIME: 1558

Standard turnaround  RUSH  Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL:  Archive samples  Other \_\_\_\_\_

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes			
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BTEX 260C		HCB Pending				
B-10-6	R1 A.E.	7/30/20	1140	Soil	5														
B-10-7.5	R2		1148		5														
B-10-12.5	R3		1200		5	X	X												
B-10-16	R4		1207		5														
B-10-17.5	R5 AD		1247		4														No 402 jar
B-10-20	R6 A.E.		1253		5														
B-10-22.5	R7		1300		5														
B-10-25	R8		1313		5														
MW-21A-2.5	R9		1341		5	X	X												
MW-22A-2.5	R10		1355		5	X	X												

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by: [Signature]

Rachel Cornwell

Aspect Consulting

7/30/20

1558

Received by: [Signature]

Liz Weber - Bruya

Aspect Consulting

7/30/20

1558

Relinquished by:

Received by:

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282

007523

SAMPLE CHAIN OF CUSTODY

ME 07-30-20

Page # 4 of 4

Report To: Andrew Yankowski / Adam Griffin

Company: Aspect Consulting

Address: 710 2nd Ave, Ste. 550

City, State, ZIP: Seattle, WA 98104

Phone: 206 413-5411 Email: ayankowski@aspectconsulting.com

SAMPLERS (signature) [Signature]

PROJECT NAME: TEXACO STRICKLAND

REMARKS: TEXACO STRICKLAND

PO # 180357

INVOICE TO: AR

TURNAROUND TIME: Standard turnaround  
 Standard turnaround  
 RUSH  
Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL:  
 Archive samples  
 Other \_\_\_\_\_  
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BTEXN8260C	Hold Pending				
MW-22B-5	3(A-D)	7/30/20	1434	Soil	15	X	X											
DUP-4	3(A-E)	7/30/20	---	Soil	5	X	X											
DUP-5	33 1	7/30/20	---	Soil	5													
Trip blank	3(A-B)	7/30/20	---	AQ	2	X												

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by: [Signature]

Rachel Connell

Aspect Consulting

7/30/20

1558

Received by: [Signature]

Liz Webber-Brays

ARB

7/30/20

1558

Seattle, WA 98119-2029

Ph. (206) 285-8282

Friedman & Bruya, Inc.

3012 16th Avenue West

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 11, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on August 5, 2020 from the Texaco Strickland PO 180357, F&BI 008076 project. There are 15 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Data Aspect, Adam Griffin  
ASP0811R.DOC



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 5, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 008076 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
008076 -01	B-09-2.5
008076 -02	B-09-4
008076 -03	B-09-6
008076 -04	B-12-2.5
008076 -05	B-12-5
008076 -06	Trip Blank

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 08/05/20

Project: Texaco Strickland PO 180357, F&BI 008076

Date Extracted: 08/07/20

Date Analyzed: 08/07/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B-09-2.5 008076-01	<5	96
B-09-6 008076-03	<5	96
Method Blank 00-1400 MB	<5	97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 08/05/20

Project: Texaco Strickland PO 180357, F&BI 008076

Date Extracted: 08/07/20

Date Analyzed: 08/07/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate <u>(% Recovery)</u> (Limit 51-134)
Trip Blank 008076-06	<100	95
Method Blank 00-1781 MB	<100	95

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 08/05/20

Project: Texaco Strickland PO 180357, F&BI 008076

Date Extracted: 08/06/20

Date Analyzed: 08/06/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
B-09-2.5 008076-01	<50	<250	92
B-09-6 008076-03	<50	<250	93
Method Blank 00-1777 MB	<50	<250	92

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	B-09-2.5	Client:	Aspect Consulting, LLC
Date Received:	08/05/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/06/20	Lab ID:	008076-01
Date Analyzed:	08/06/20	Data File:	080325.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	95	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	B-09-6	Client:	Aspect Consulting, LLC
Date Received:	08/05/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/06/20	Lab ID:	008076-03
Date Analyzed:	08/06/20	Data File:	080326.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	08/06/20	Lab ID:	00-1728 mb
Date Analyzed:	08/06/20	Data File:	080310.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	08/05/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/06/20	Lab ID:	008076-06
Date Analyzed:	08/06/20	Data File:	080324.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	08/06/20	Lab ID:	00-1729 mb
Date Analyzed:	08/06/20	Data File:	080309.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 08/05/20

Project: Texaco Strickland PO 180357, F&BI 008076

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 008076-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	90	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 08/05/20

Project: Texaco Strickland PO 180357, F&BI 008076

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 008040-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	108	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 08/05/20

Project: Texaco Strickland PO 180357, F&BI 008076

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 008076-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	86	96	73-135	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	84	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 08/05/20

Project: Texaco Strickland PO 180357, F&BI 008076

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 008076-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	1.0	<0.03	88	84	50-150	5
Toluene	mg/kg (ppm)	1.0	<0.05	90	84	50-150	7
Ethylbenzene	mg/kg (ppm)	1.0	<0.05	92	86	50-150	7
m,p-Xylene	mg/kg (ppm)	2.0	<0.1	88	82	50-150	7
o-Xylene	mg/kg (ppm)	1.0	<0.05	90	83	50-150	8
Naphthalene	mg/kg (ppm)	1.0	<0.05	95	87	50-150	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	1.0	101	70-130
Toluene	mg/kg (ppm)	1.0	104	70-130
Ethylbenzene	mg/kg (ppm)	1.0	105	70-130
m,p-Xylene	mg/kg (ppm)	2.0	100	70-130
o-Xylene	mg/kg (ppm)	1.0	102	70-130
Naphthalene	mg/kg (ppm)	1.0	106	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/11/20

Date Received: 08/05/20

Project: Texaco Strickland PO 180357, F&BI 008076

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 008091-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Benzene	ug/L (ppb)	10	<0.35	98	50-150
Toluene	ug/L (ppb)	10	2.3	94 b	50-150
Ethylbenzene	ug/L (ppb)	10	<1	97	50-150
m,p-Xylene	ug/L (ppb)	20	<2	94	50-150
o-Xylene	ug/L (ppb)	10	<1	95	50-150
Naphthalene	ug/L (ppb)	10	<1	100	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Percent	Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Benzene	ug/L (ppb)	10	98	98	70-130	0
Toluene	ug/L (ppb)	10	97	99	70-130	2
Ethylbenzene	ug/L (ppb)	10	98	99	70-130	1
m,p-Xylene	ug/L (ppb)	20	95	96	70-130	1
o-Xylene	ug/L (ppb)	10	96	97	70-130	1
Naphthalene	ug/L (ppb)	10	101	102	70-130	1

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

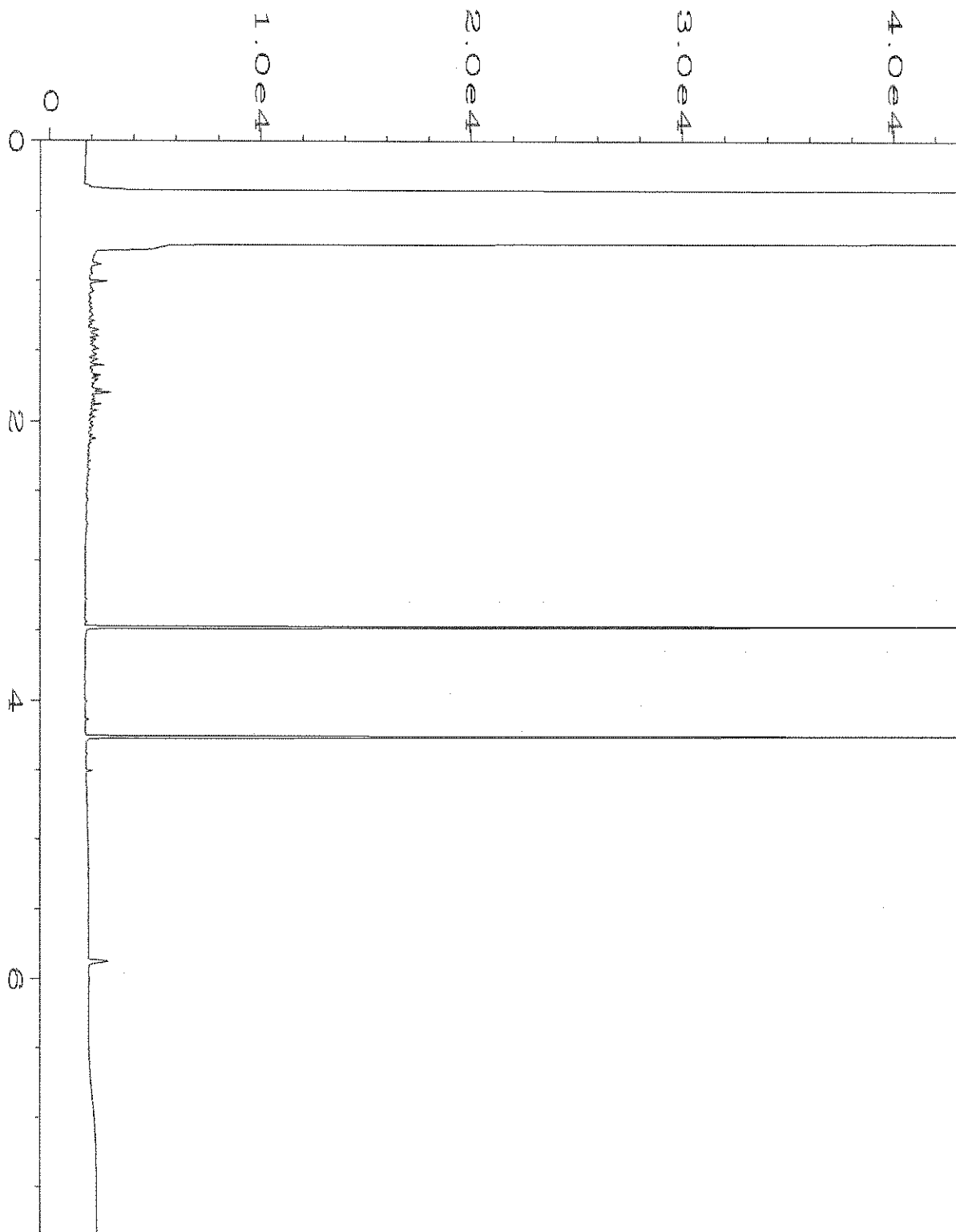
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

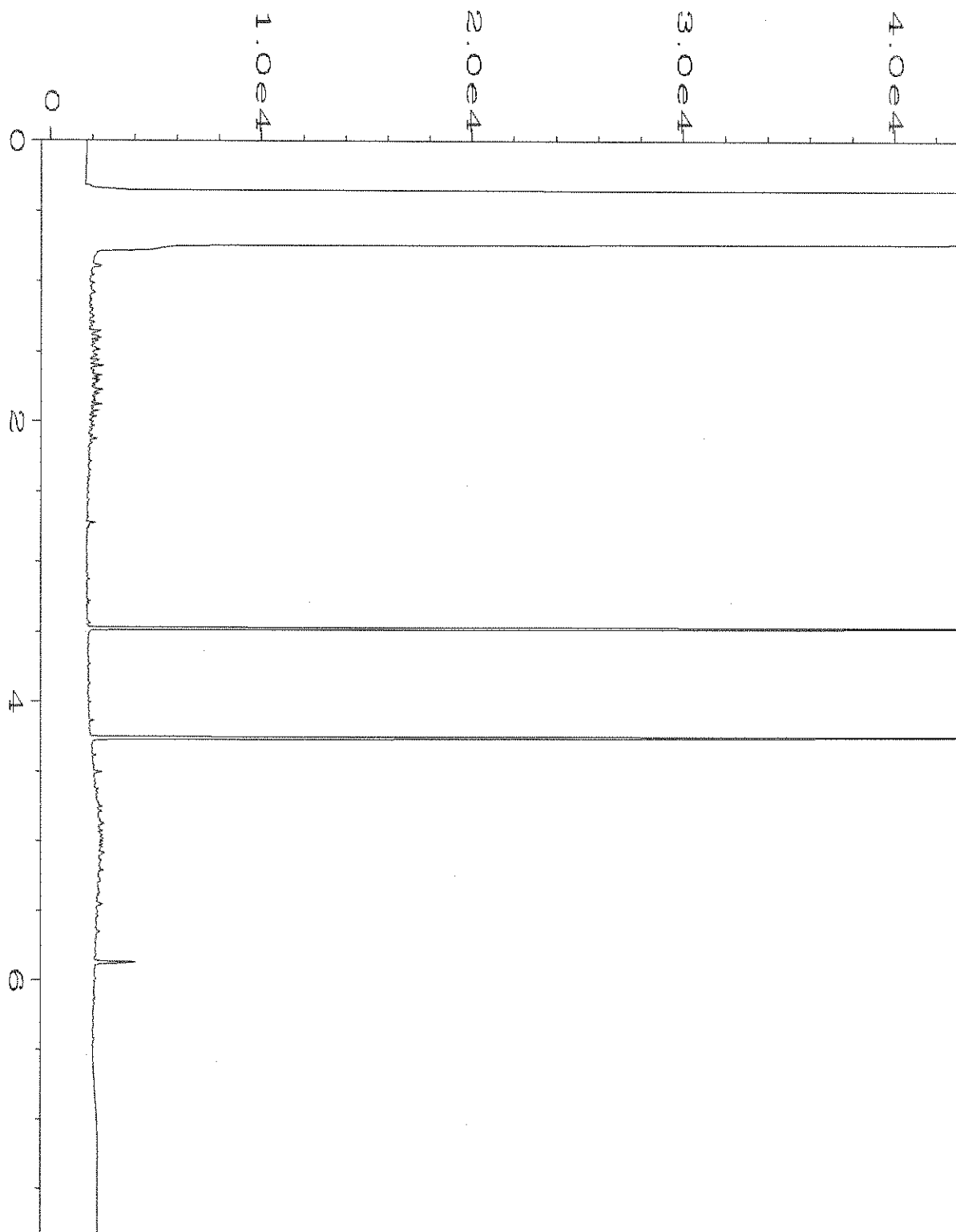
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

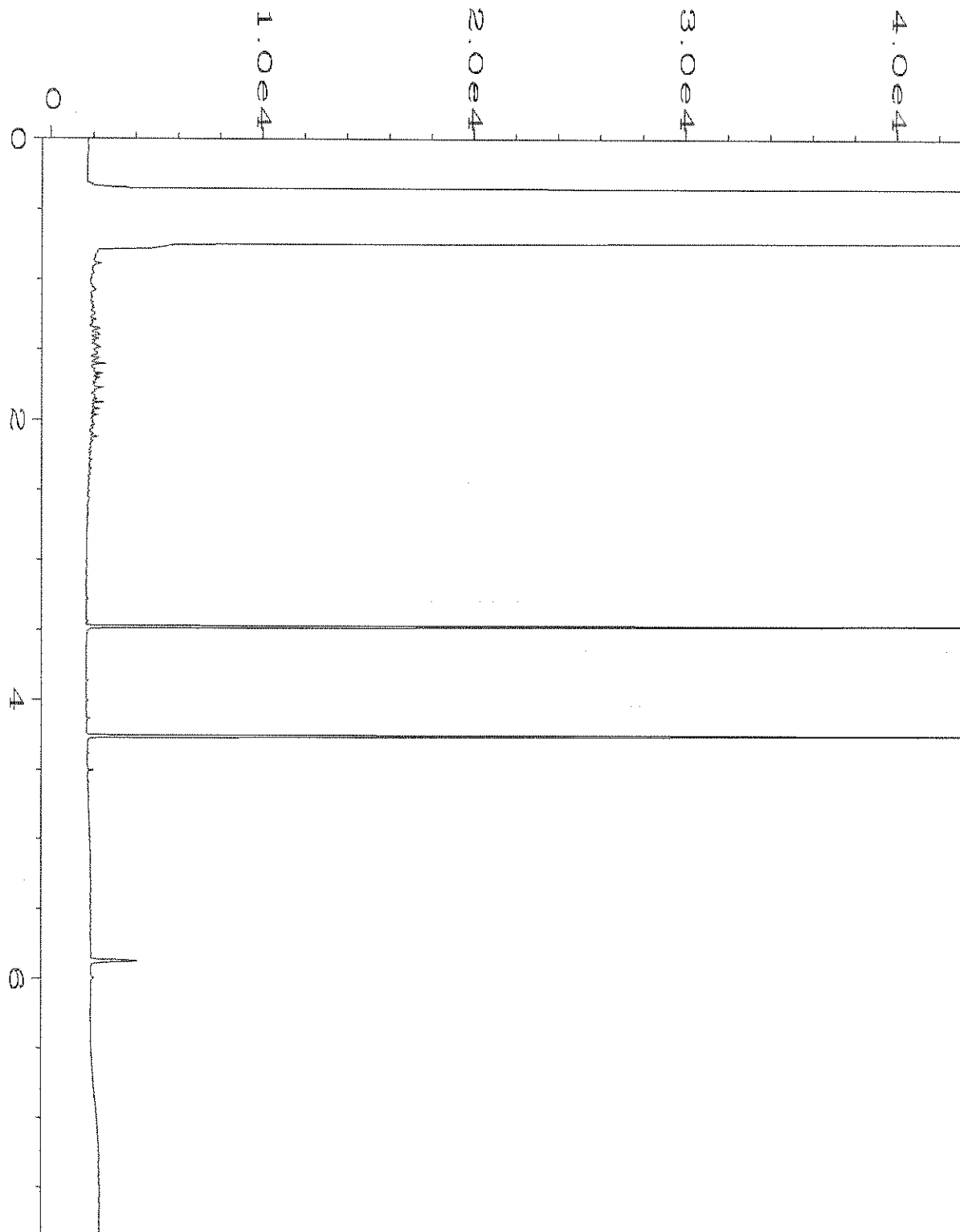


Data File Name	: C:\HPCHEM\4\DATA\08-06-20\017F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 17
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008076-01	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 06 Aug 20 11:03 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	07 Aug 20 08:40 AM		

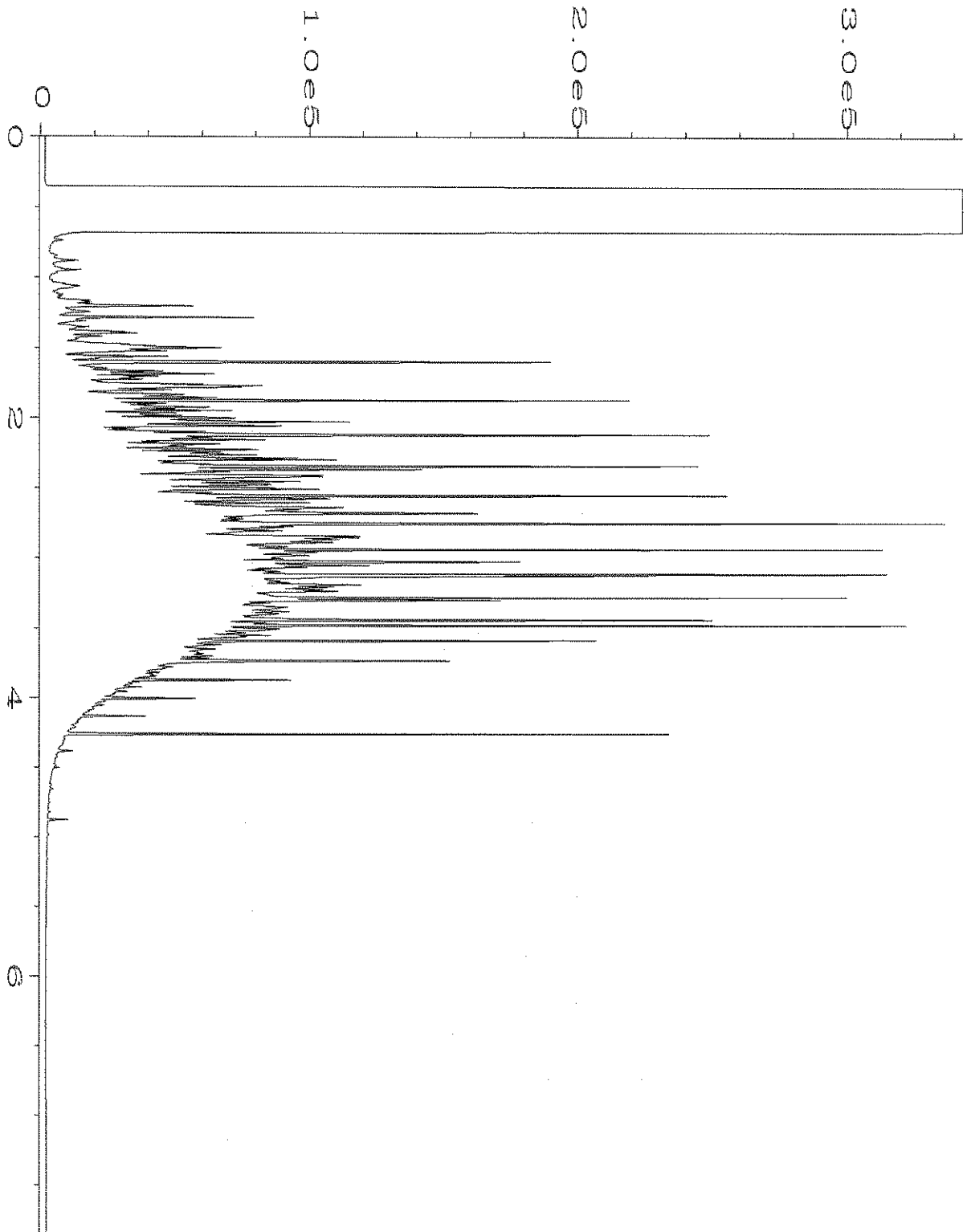




Data File Name	: C:\HPCHEM\4\DATA\08-06-20\018F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 18
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008076-03	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 06 Aug 20 11:16 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	07 Aug 20 08:41 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-06-20\013F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 13
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 00-1777 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 06 Aug 20 10:12 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	07 Aug 20 08:41 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-06-20\005F0401.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 60-170B	Sequence Line	: 4
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 06 Aug 20 02:01 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	07 Aug 20 08:41 AM		

008076

SAMPLE CHAIN OF CUSTODY

ME 08-05-20

1 of 1

Report To: Andrew Yonkofski / Andrew Carlton  
 Company: Aspect Consulting  
 Address: 710 2nd Ave, Ste. 550  
 City, State, ZIP: Seattle, WA, 98104  
 Phone: (206) 413-5711 Email: ayonkofski@aspectconsulting.com

SAMPLERS (signature) David Lusk  
 PROJECT NAME: Texaco Strickland  
 REMARKS: INVOICE TO AP  
 PO #: 180357  
 INVOICE TO: AP

TURNAROUND TIME: 002  
 Standard turnaround  
 RUSH  
 Rush charges authorized by: JW1  
 SAMPLE DISPOSAL  
 Archive samples  
 Other  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes	
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BTEXN 8260	Hold Pending			
B-09-25	01A-B	8/5/20	1422	Soil	5	X	X						X				
B-09-4	02		1427											X			
B-09-6	03		1445			X	X							X			
B-12-25	04		1542											X			
B-12-5	05		1554											X			
Trop Blank	06 A-B			AG	2	X	X										

SIGNATURE: David Lusk PRINT NAME: David Lusk  
 Relinquished by: David Lusk  
 Received by: FB COMPANY: Aspect Consulting DATE: 8/5/20 TIME: 711  
 Relinquished by: FB ADDRESS: FB  
 Received by: FB

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

September 1, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on August 18, 2020 from the Texaco Strickland PO 180357, F&BI 008261 project. There are 51 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Data Aspect, Adam Griffin  
ASP0901R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 18, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 008261 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
008261 -01	MW-1-081820
008261 -02	MW-2-081720
008261 -03	MW-4-081820
008261 -04	MW-6-081720
008261 -05	MW-7-081720
008261 -06	MW-8-081820
008261 -07	MW-9-081820
008261 -08	MW-10-081820
008261 -09	MW-11-081720
008261 -10	MW-12-081720
008261 -11	MW-13-081720
008261 -12	MW-14-081820
008261 -13	MW-16-081720
008261 -14	MW-17-081720
008261 -15	MW-18-081820
008261 -16	MW-19-081820
008261 -17	MW-20-081720
008261 -18	MW-21-081720
008261 -19	MW-22-081720
008261 -20	MW-23-081820
008261 -21	MW-24-081820
008261 -22	MW-25-081820
008261 -23	MW-26-081820
008261 -24	DUP-01-081720
008261 -25	DUP-02-081820
008261 -26	RB-01-081720
008261 -27	RB-02-081820
008261 -28	Trip Blank

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

Date Extracted: 08/24/20

Date Analyzed: 08/24/20 and 08/25/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-1-081820 008261-01 1/10	14,000	102
MW-2-081720 008261-02	770	106
MW-4-081820 008261-03 1/100	170,000	104
MW-6-081720 008261-04	<100	95
MW-7-081720 008261-05	<100	92
MW-8-081820 008261-06 1/100	130,000	100
MW-9-081820 008261-07	<100	94
MW-10-081820 008261-08	5,100	102
MW-11-081720 008261-09 1/20	27,000	106
MW-12-081720 008261-10	230	100
MW-13-081720 008261-11	420	104
MW-14-081820 008261-12	5,000	92

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

Date Extracted: 08/24/20

Date Analyzed: 08/24/20 and 08/25/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-16-081720 008261-13	<100	96
MW-17-081720 008261-14	550	104
MW-18-081820 008261-15	<100	94
MW-19-081820 008261-16	<100	96
MW-20-081720 008261-17	120	99
MW-21-081720 008261-18	7,400	132
MW-22-081720 008261-19 1/10	14,000	106
MW-23-081820 008261-20 1/10	21,000	99
MW-24-081820 008261-21	<100	95
MW-25-081820 008261-22	<100	95
MW-26-081820 008261-23	<100	90
DUP-01-081720 008261-24 1/10	13,000	110



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

Date Extracted: 08/24/20

Date Analyzed: 08/24/20 and 08/25/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 51-134)
DUP-02-081820 008261-25	<100	95
RB-01-081720 008261-26	<100	94
RB-02-081820 008261-27	<100	93
Trip Blank 008261-28	<100	94
Method Blank 00-1800 MB	<100	95
Method Blank 00-1801 MB	<100	86

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

Date Extracted: 08/19/20

Date Analyzed: 08/21/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
MW-1-081820 008261-01	2,100 x	1,100 x	95
MW-2-081720 008261-02	660 x	310 x	84
MW-4-081820 008261-03	4,500 x	1,000 x	86
MW-6-081720 008261-04	170 x	<250	105
MW-7-081720 008261-05	110 x	<260	86
MW-8-081820 008261-06	3,200 x	550 x	68
MW-9-081820 008261-07	80 x	<250	112
MW-10-081820 008261-08	1,100 x	360 x	98
MW-11-081720 008261-09	1,600 x	260 x	106
MW-12-081720 008261-10	240 x	<250	97
MW-13-081720 008261-11	320 x	<250	84

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

Date Extracted: 08/19/20

Date Analyzed: 08/21/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
MW-14-081820 008261-12	570 x	<250	80
MW-16-081720 008261-13	130 x	<250	100
MW-17-081720 008261-14	270 x	<250	89
MW-18-081820 008261-15	<50	<250	83
MW-19-081820 008261-16	<50	<250	92
MW-20-081720 008261-17	180 x	<250	94
MW-21-081720 008261-18	3,200 x	260 x	80
MW-22-081720 008261-19	2,500 x	<250	86
MW-23-081820 008261-20	1,900 x	<250	90
MW-24-081820 008261-21	76 x	<250	106
MW-25-081820 008261-22	55 x	<250	119

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

Date Extracted: 08/19/20

Date Analyzed: 08/21/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
MW-26-081820 008261-23	<50	<250	119
DUP-01-081720 008261-24	3,100 x	260 x	91
DUP-02-081820 008261-25	53 x	<250	111
RB-01-081720 008261-26	67 x	<250	114
RB-02-081820 008261-27	<50	<250	96
Method Blank 00-1892 MB	<50	<250	82
Method Blank 00-1893 MB	<50	<250	107

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-1-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-01
Date Analyzed:	08/19/20	Data File:	081935.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	88	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	860 ve
Toluene	170 ve
Ethylbenzene	280 ve
m,p-Xylene	560 ve
o-Xylene	170 ve
Naphthalene	84

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-1-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/24/20	Lab ID:	008261-01 1/100
Date Analyzed:	08/26/20	Data File:	082635.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	2,200
Toluene	180
Ethylbenzene	300
m,p-Xylene	580
o-Xylene	170
Naphthalene	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-2-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-02
Date Analyzed:	08/19/20	Data File:	081931.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	4.5
Toluene	<1
Ethylbenzene	2.8
m,p-Xylene	2.1
o-Xylene	<1
Naphthalene	15

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-4-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-03 1/100
Date Analyzed:	08/24/20	Data File:	082430.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	6,000
Toluene	21,000 ve
Ethylbenzene	2,300
m,p-Xylene	10,000
o-Xylene	4,100
Naphthalene	500



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-4-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/24/20	Lab ID:	008261-03 1/1000
Date Analyzed:	08/26/20	Data File:	082637.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	6,400
Toluene	21,000
Ethylbenzene	2,400
m,p-Xylene	11,000
o-Xylene	4,300
Naphthalene	<1,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-6-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-04
Date Analyzed:	08/19/20	Data File:	081931.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-7-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-05
Date Analyzed:	08/19/20	Data File:	081932.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-8-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-06 1/100
Date Analyzed:	08/24/20	Data File:	082431.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	4,800
Toluene	18,000 ve
Ethylbenzene	1,600
m,p-Xylene	7,500
o-Xylene	2,800
Naphthalene	400

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-8-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/24/20	Lab ID:	008261-06 1/1000
Date Analyzed:	08/26/20	Data File:	082638.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	4,900
Toluene	18,000
Ethylbenzene	1,600
m,p-Xylene	7,400
o-Xylene	2,700
Naphthalene	<1,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-9-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-07
Date Analyzed:	08/19/20	Data File:	081933.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-10-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-08 1/10
Date Analyzed:	08/24/20	Data File:	082424.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	490
Toluene	<10
Ethylbenzene	200
m,p-Xylene	240
o-Xylene	<10
Naphthalene	60

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-11-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-09 1/100
Date Analyzed:	08/24/20	Data File:	082432.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	330
Toluene	2,200
Ethylbenzene	790
m,p-Xylene	2,700
o-Xylene	700
Naphthalene	140



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-12-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-10
Date Analyzed:	08/19/20	Data File:	081934.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-13-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-11
Date Analyzed:	08/19/20	Data File:	081935.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	0.75
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-14-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-12
Date Analyzed:	08/19/20	Data File:	081936.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	380 ve
Toluene	9.8
Ethylbenzene	32
m,p-Xylene	19
o-Xylene	3.9
Naphthalene	31

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-14-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-12 1/10
Date Analyzed:	08/24/20	Data File:	082425.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	95	63	127
4-Bromofluorobenzene	93	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	1,200
Toluene	<10
Ethylbenzene	29
m,p-Xylene	<20
o-Xylene	<10
Naphthalene	25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-16-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-13
Date Analyzed:	08/19/20	Data File:	081917.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-17-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-14
Date Analyzed:	08/19/20	Data File:	081932.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	1.1
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-18-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-15
Date Analyzed:	08/19/20	Data File:	081918.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	1.2
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-19-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-16
Date Analyzed:	08/19/20	Data File:	081919.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-20-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-17
Date Analyzed:	08/19/20	Data File:	081920.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-21-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-18 1/10
Date Analyzed:	08/24/20	Data File:	082426.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	21
Toluene	<10
Ethylbenzene	400
m,p-Xylene	48
o-Xylene	<10
Naphthalene	470

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-22-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-19 1/10
Date Analyzed:	08/24/20	Data File:	082427.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	540
Toluene	56
Ethylbenzene	630
m,p-Xylene	1,200
o-Xylene	150
Naphthalene	220

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-23-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-20
Date Analyzed:	08/19/20	Data File:	081933.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	880 ve
Toluene	200 ve
Ethylbenzene	330 ve
m,p-Xylene	690 ve
o-Xylene	110
Naphthalene	110

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-23-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/24/20	Lab ID:	008261-20 1/100
Date Analyzed:	08/26/20	Data File:	082636.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	3,100
Toluene	210
Ethylbenzene	400
m,p-Xylene	790
o-Xylene	110
Naphthalene	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-24-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-21
Date Analyzed:	08/19/20	Data File:	081926.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-25-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-22
Date Analyzed:	08/19/20	Data File:	081927.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-26-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-23
Date Analyzed:	08/19/20	Data File:	081911.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DUP-01-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-24 1/10
Date Analyzed:	08/24/20	Data File:	082429.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	500
Toluene	52
Ethylbenzene	570
m,p-Xylene	1,100
o-Xylene	140
Naphthalene	200

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DUP-02-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-25
Date Analyzed:	08/19/20	Data File:	081928.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	1.2
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	RB-01-081720	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-26
Date Analyzed:	08/19/20	Data File:	081929.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	50	150
Toluene-d8	93	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	RB-02-081820	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-27
Date Analyzed:	08/19/20	Data File:	081930.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	08/18/20	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	008261-28
Date Analyzed:	08/19/20	Data File:	081912.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	08/26/20	Lab ID:	00-1868 mb
Date Analyzed:	08/26/20	Data File:	082609.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	00-1852 mb
Date Analyzed:	08/19/20	Data File:	081909.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	95	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	08/19/20	Lab ID:	00-1853 mb
Date Analyzed:	08/19/20	Data File:	081910.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 008261-05 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 008261-21 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	95	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	100	61-133	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	92	96	61-133	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 008261-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	
				Recovery MS	Acceptance Criteria
Benzene	ug/L (ppb)	10	<0.35	106	50-150
Toluene	ug/L (ppb)	10	<1	100	50-150
Ethylbenzene	ug/L (ppb)	10	<1	103	50-150
m,p-Xylene	ug/L (ppb)	20	<2	102	50-150
o-Xylene	ug/L (ppb)	10	<1	102	50-150
Naphthalene	ug/L (ppb)	10	<1	104	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent		Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Benzene	ug/L (ppb)	10	106	104	70-130	2
Toluene	ug/L (ppb)	10	101	101	70-130	0
Ethylbenzene	ug/L (ppb)	10	102	100	70-130	2
m,p-Xylene	ug/L (ppb)	20	100	98	70-130	2
o-Xylene	ug/L (ppb)	10	101	100	70-130	1
Naphthalene	ug/L (ppb)	10	109	105	70-130	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 008261-23 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	
				Recovery MS	Acceptance Criteria
Benzene	ug/L (ppb)	10	<0.35	100	50-150
Toluene	ug/L (ppb)	10	<1	98	50-150
Ethylbenzene	ug/L (ppb)	10	<1	100	50-150
m,p-Xylene	ug/L (ppb)	20	<2	96	50-150
o-Xylene	ug/L (ppb)	10	<1	97	50-150
Naphthalene	ug/L (ppb)	10	<1	103	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent		Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Benzene	ug/L (ppb)	10	98	103	70-130	5
Toluene	ug/L (ppb)	10	95	100	70-130	5
Ethylbenzene	ug/L (ppb)	10	97	102	70-130	5
m,p-Xylene	ug/L (ppb)	20	94	98	70-130	4
o-Xylene	ug/L (ppb)	10	95	100	70-130	5
Naphthalene	ug/L (ppb)	10	101	103	70-130	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/20

Date Received: 08/18/20

Project: Texaco Strickland PO 180357, F&BI 008261

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 008381-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Benzene	ug/L (ppb)	50	<0.35	94	76-125
Toluene	ug/L (ppb)	50	<1	93	76-122
Ethylbenzene	ug/L (ppb)	50	<1	95	69-135
m,p-Xylene	ug/L (ppb)	100	<2	96	69-135
o-Xylene	ug/L (ppb)	50	<1	96	60-140
Naphthalene	ug/L (ppb)	50	<1	91	44-164

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Percent	Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Benzene	ug/L (ppb)	50	92	91	69-134	1
Toluene	ug/L (ppb)	50	99	98	72-122	1
Ethylbenzene	ug/L (ppb)	50	98	95	77-124	3
m,p-Xylene	ug/L (ppb)	100	101	100	81-112	1
o-Xylene	ug/L (ppb)	50	96	94	81-121	2
Naphthalene	ug/L (ppb)	50	104	104	64-133	0

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

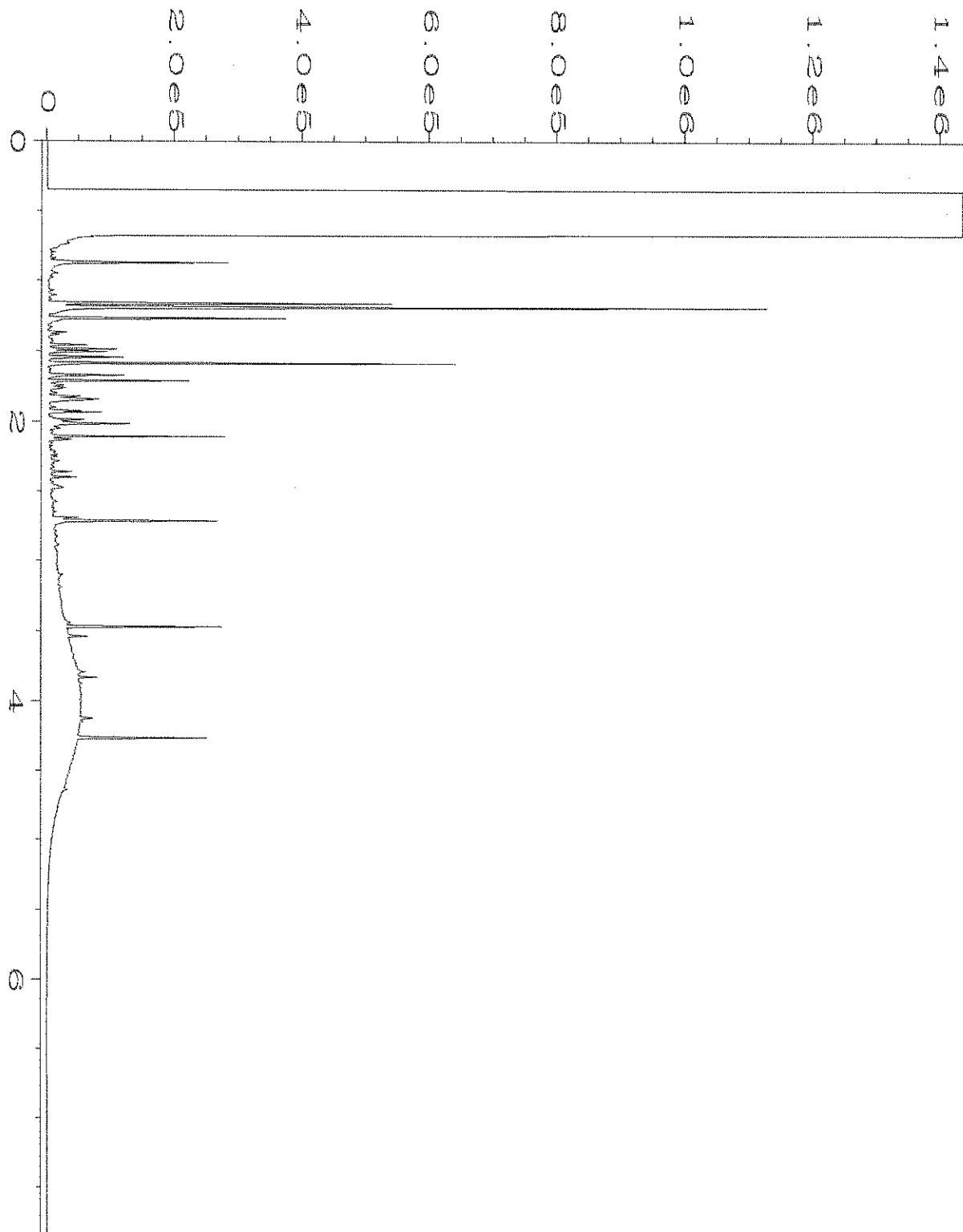
pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

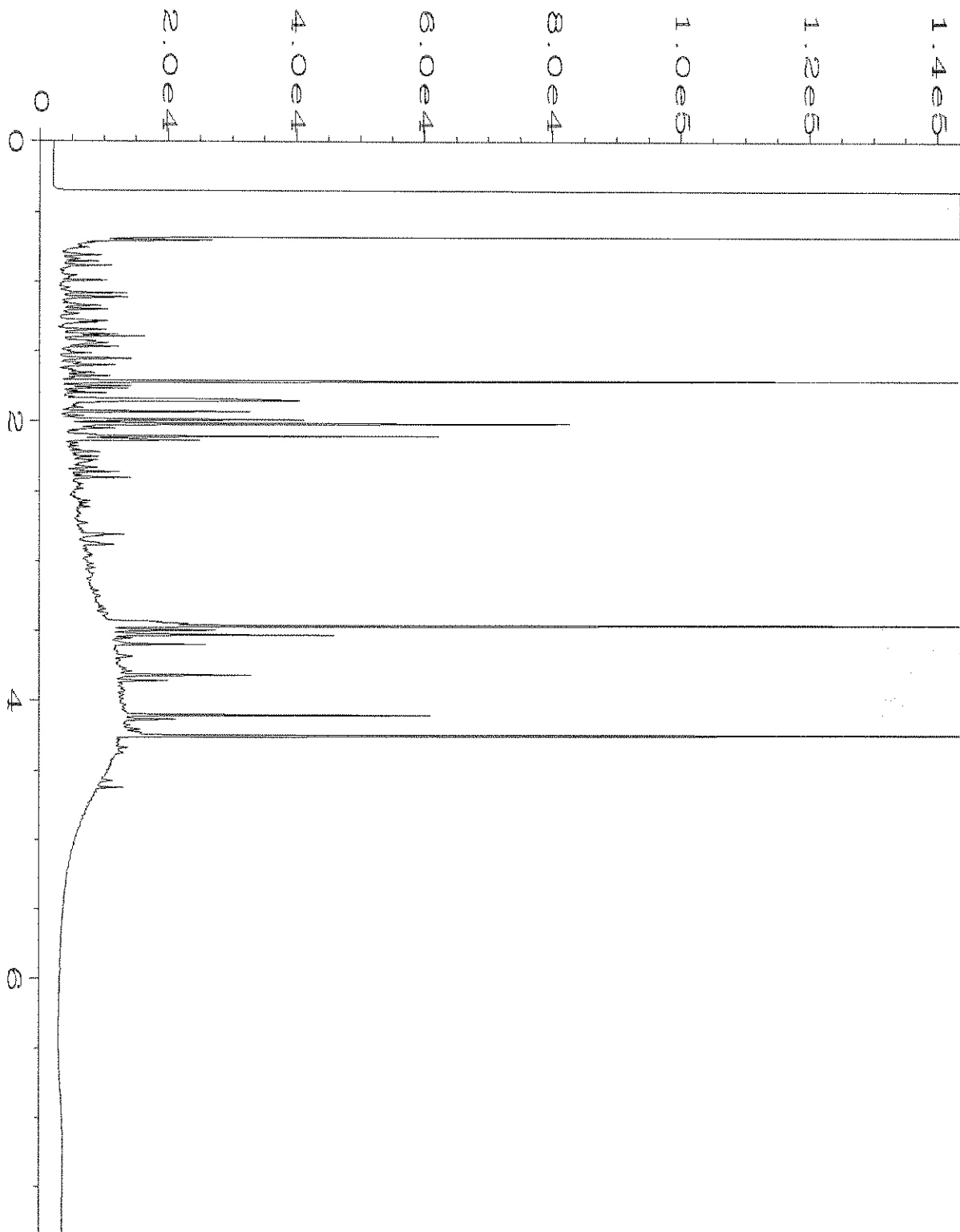
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

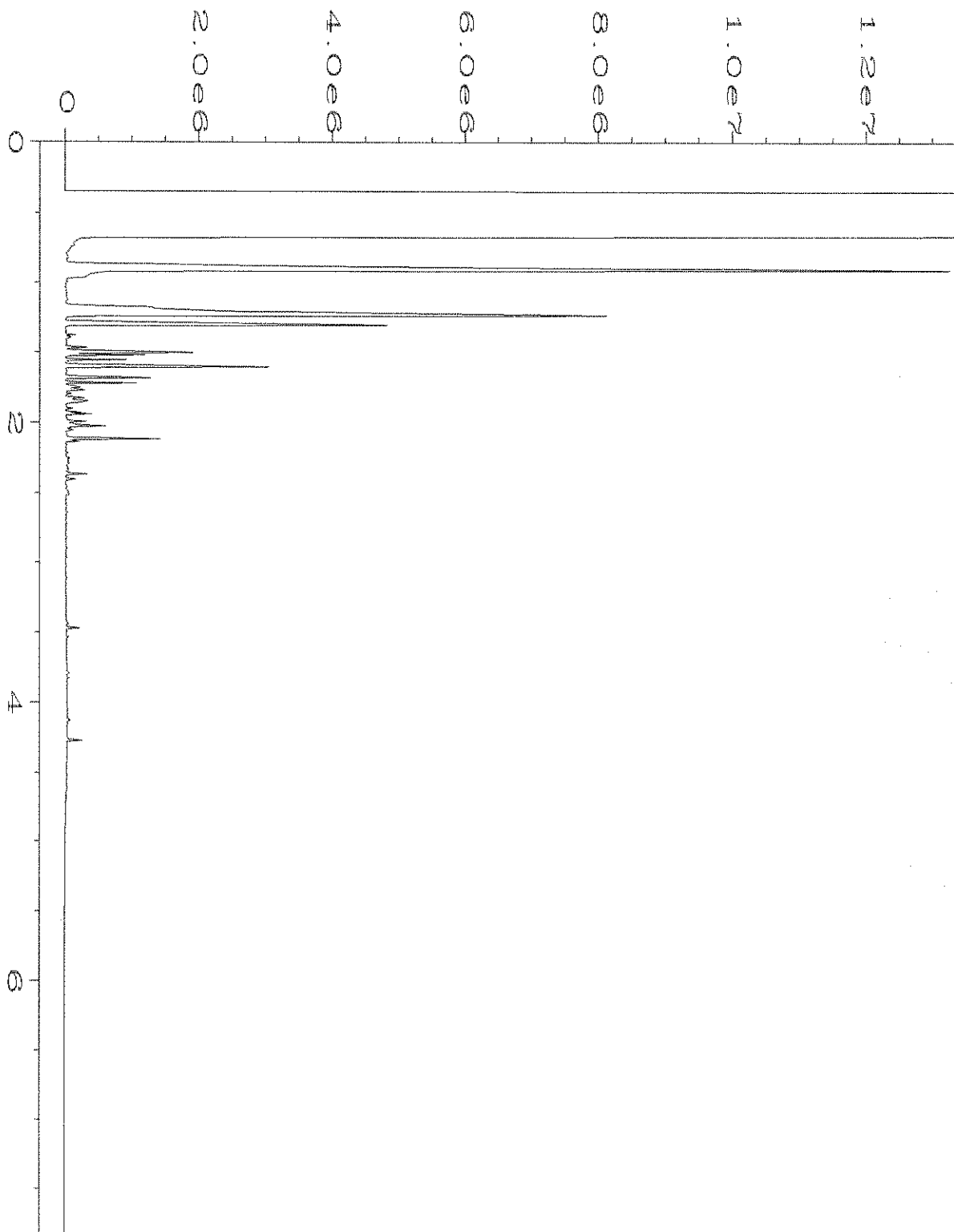




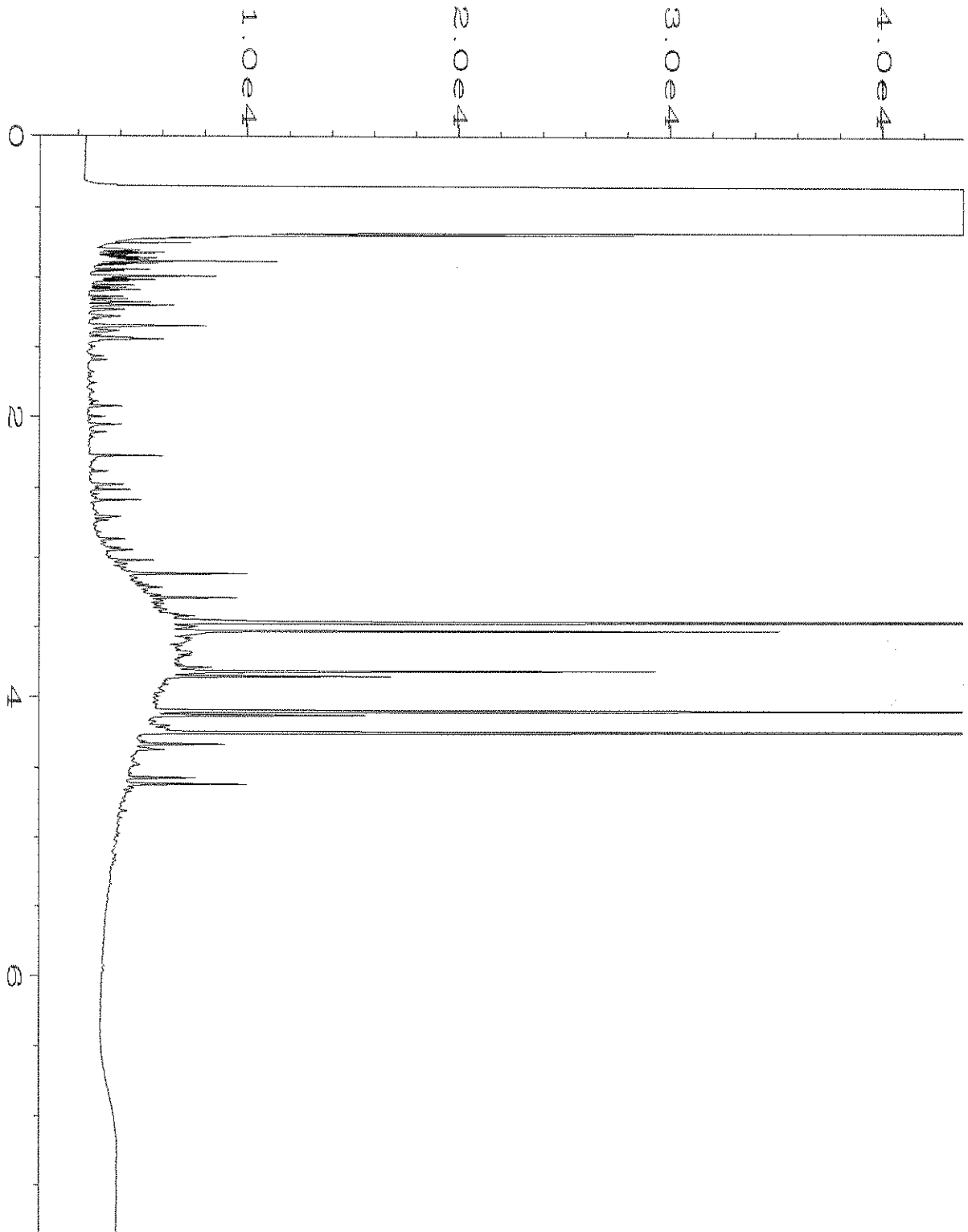
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\006F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 6
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-01	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 06:59 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:37 AM		



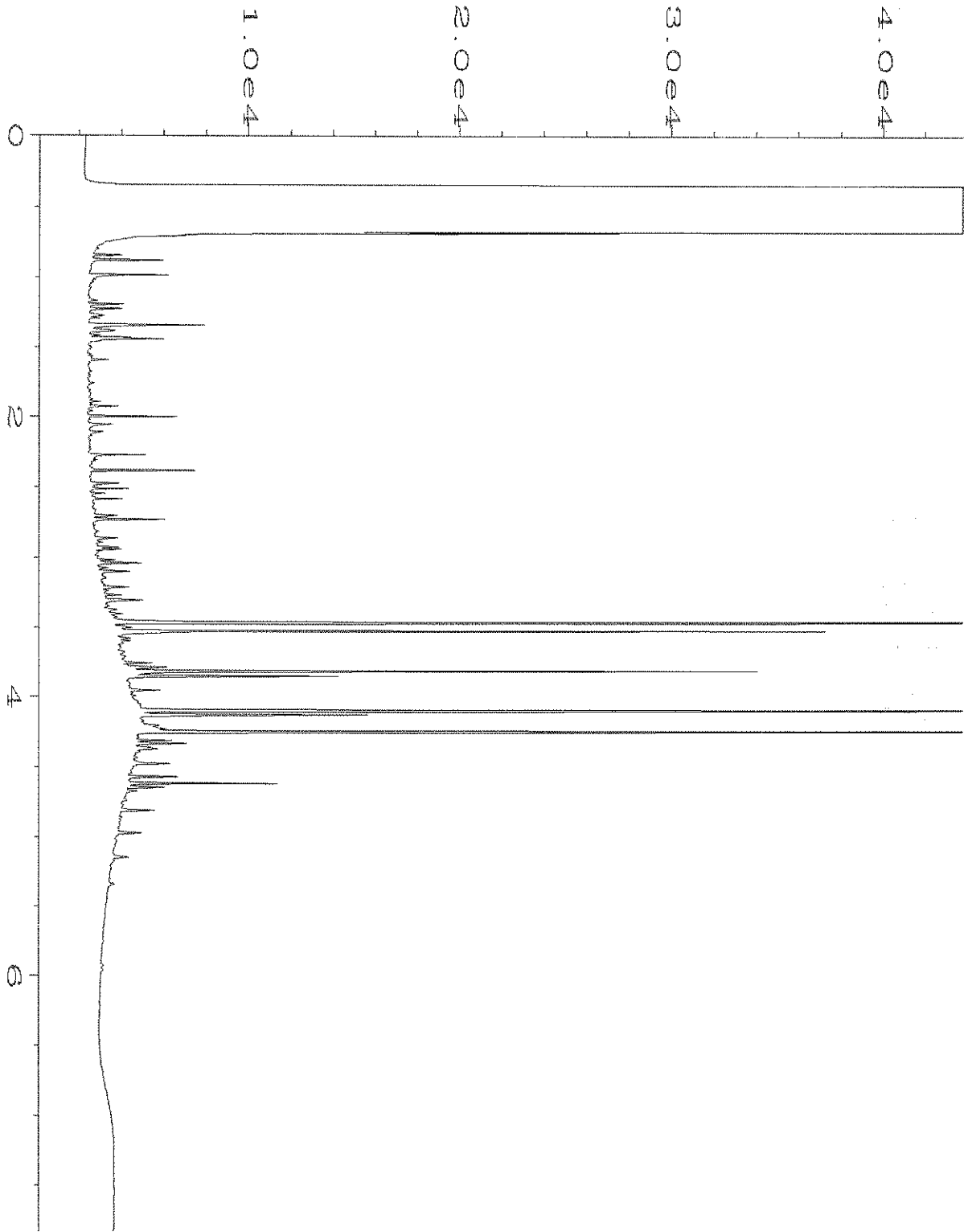
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\007F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 7
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-02	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 07:09 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:37 AM		



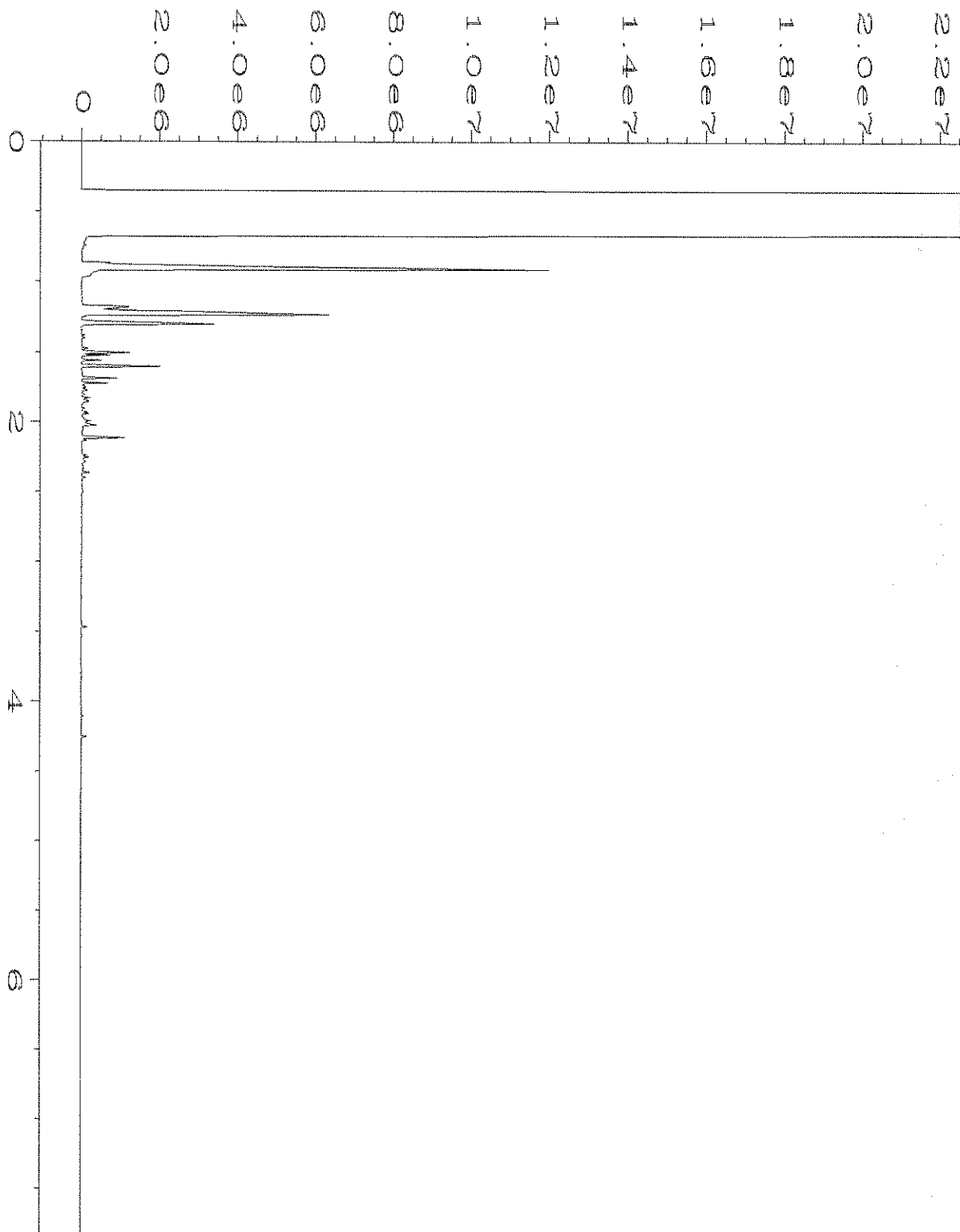
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\008F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 8
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-03	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 07:32 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:38 AM		



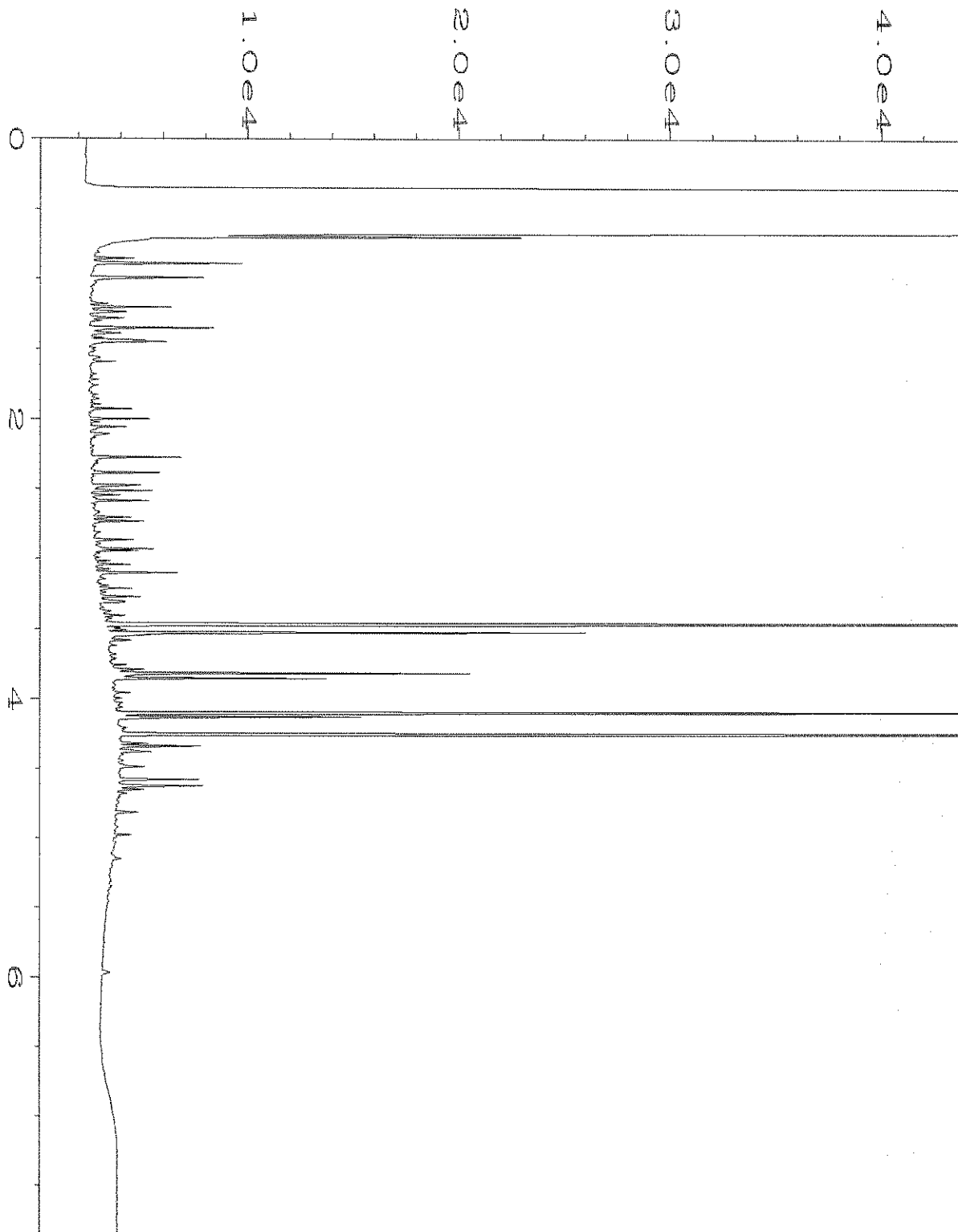
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\009F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 9
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-04	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 07:42 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:38 AM		



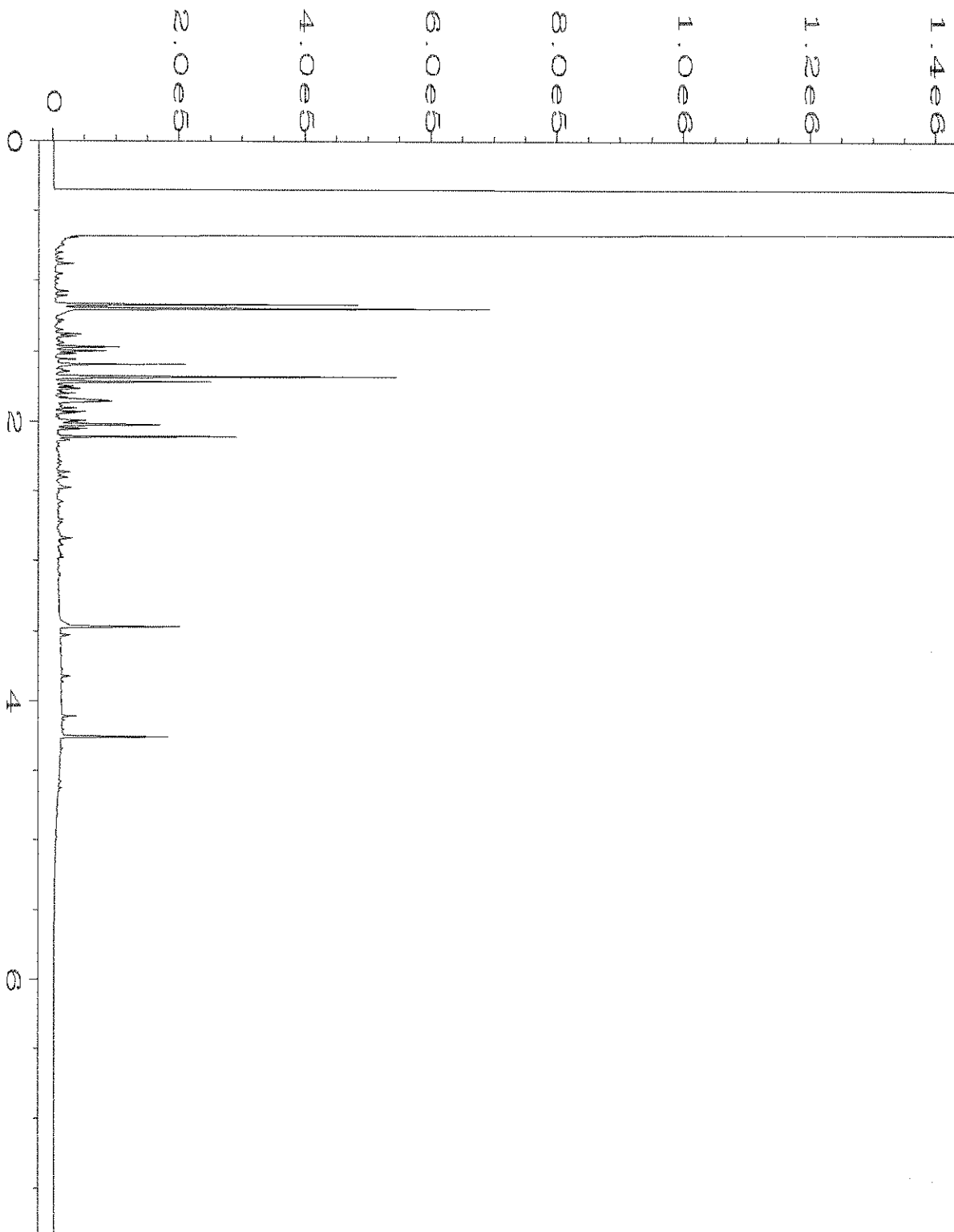
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\010F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 10
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-05	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 07:54 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:39 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-21-20\011F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 11
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-06	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 08:07 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:39 AM		

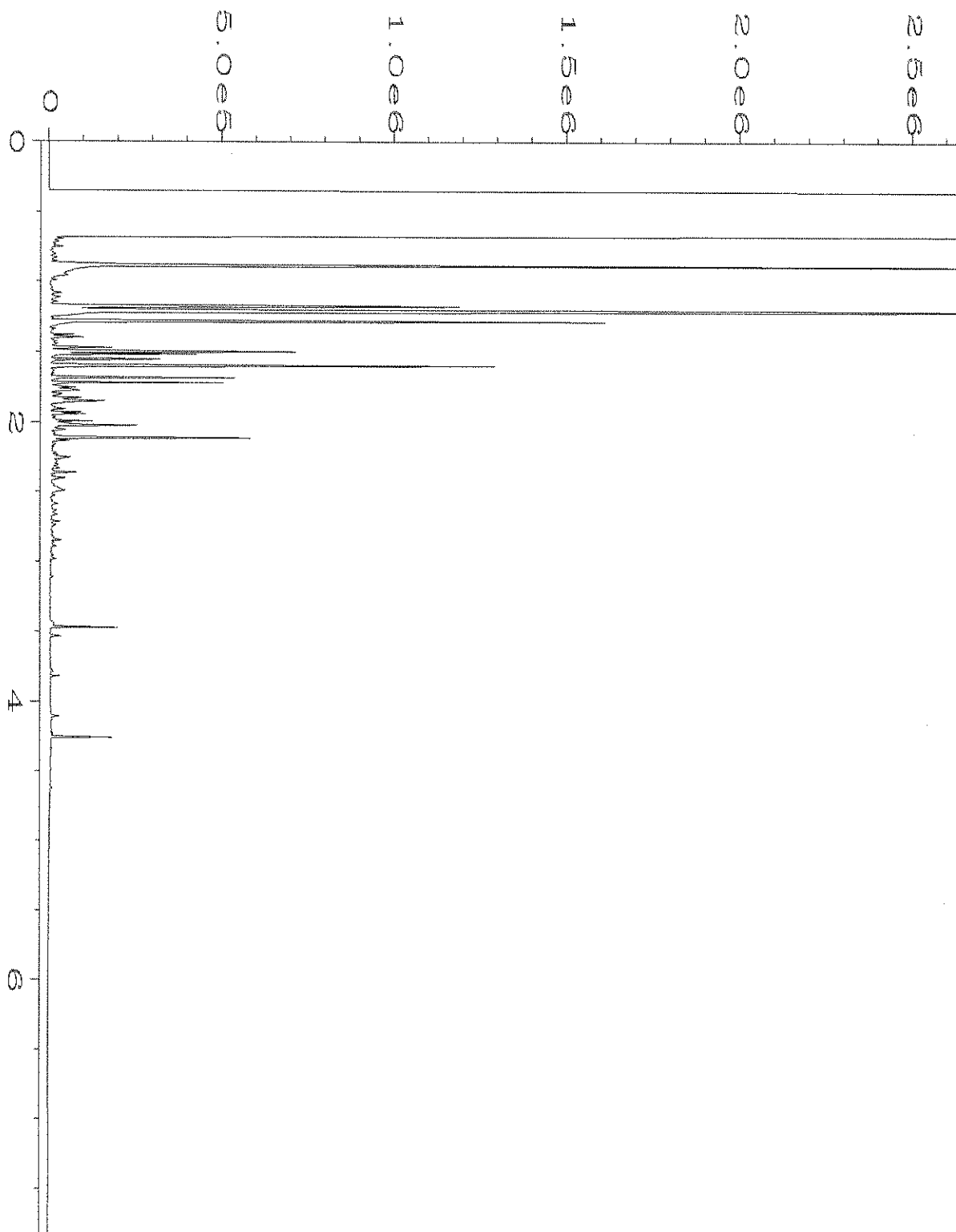


Data File Name	: C:\HPCHEM\4\DATA\08-21-20\012F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 12
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-07	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 08:20 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:40 AM		

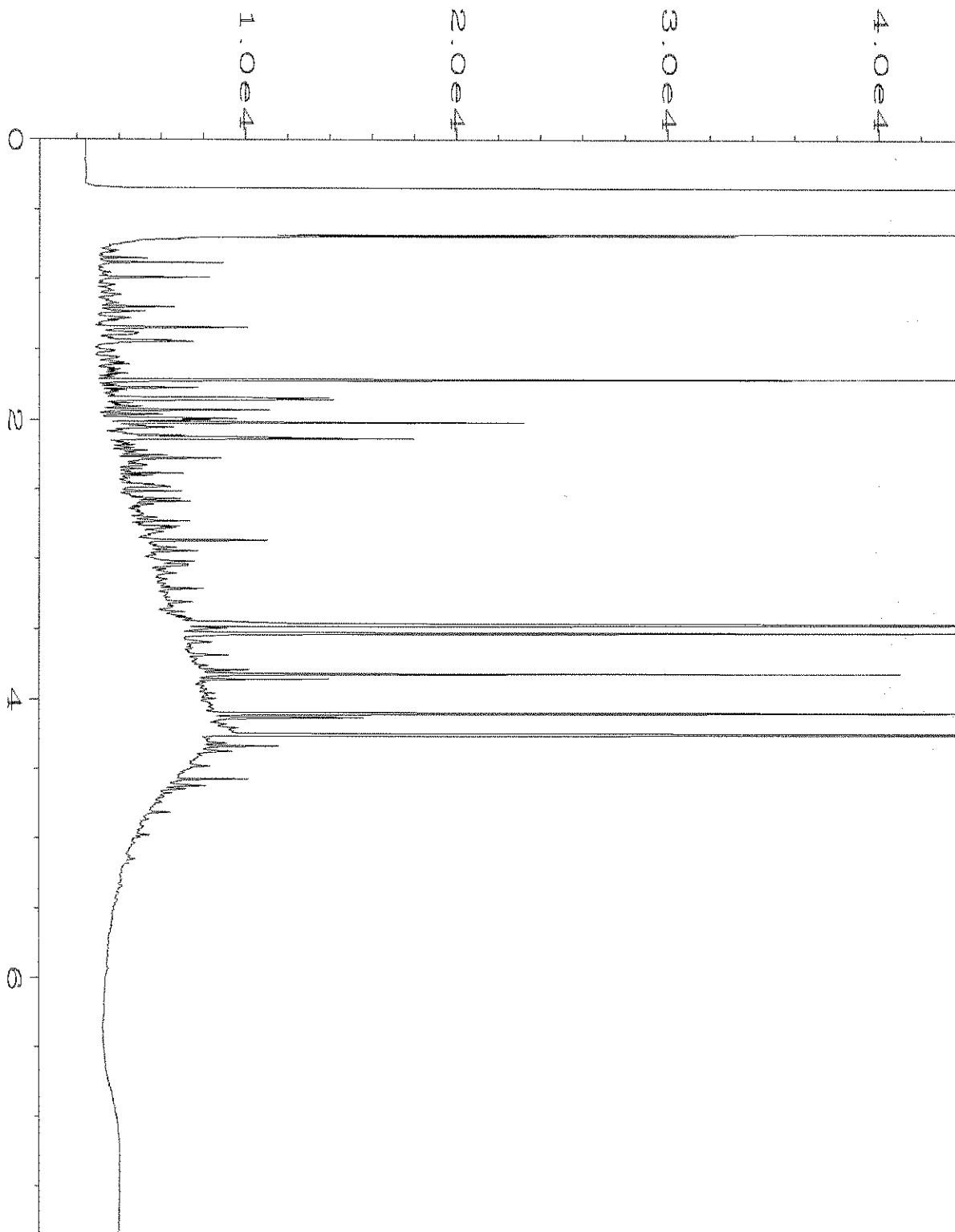


Data File Name	: C:\HPCHEM\4\DATA\08-21-20\013F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 13
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-08	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 08:32 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:40 AM		

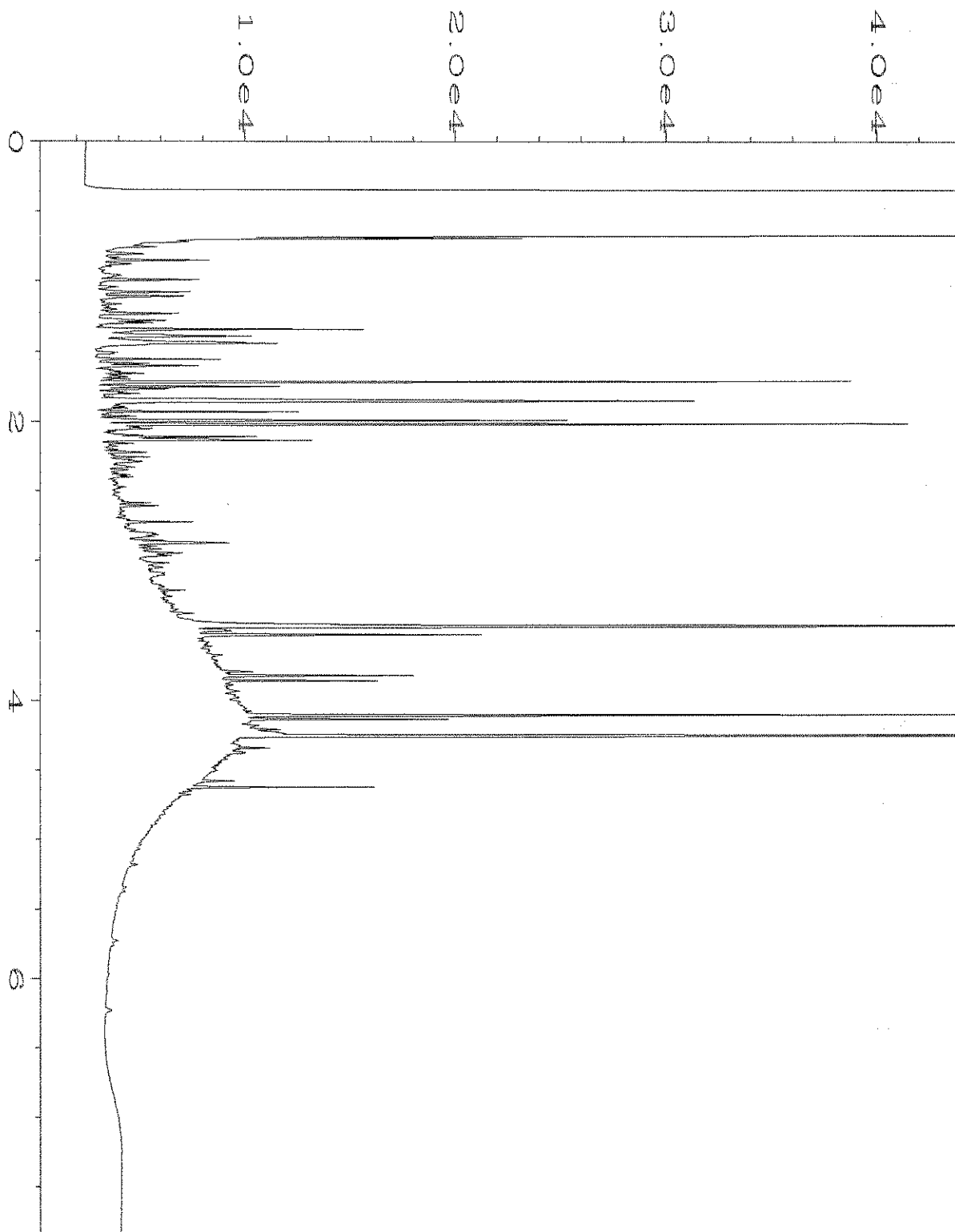




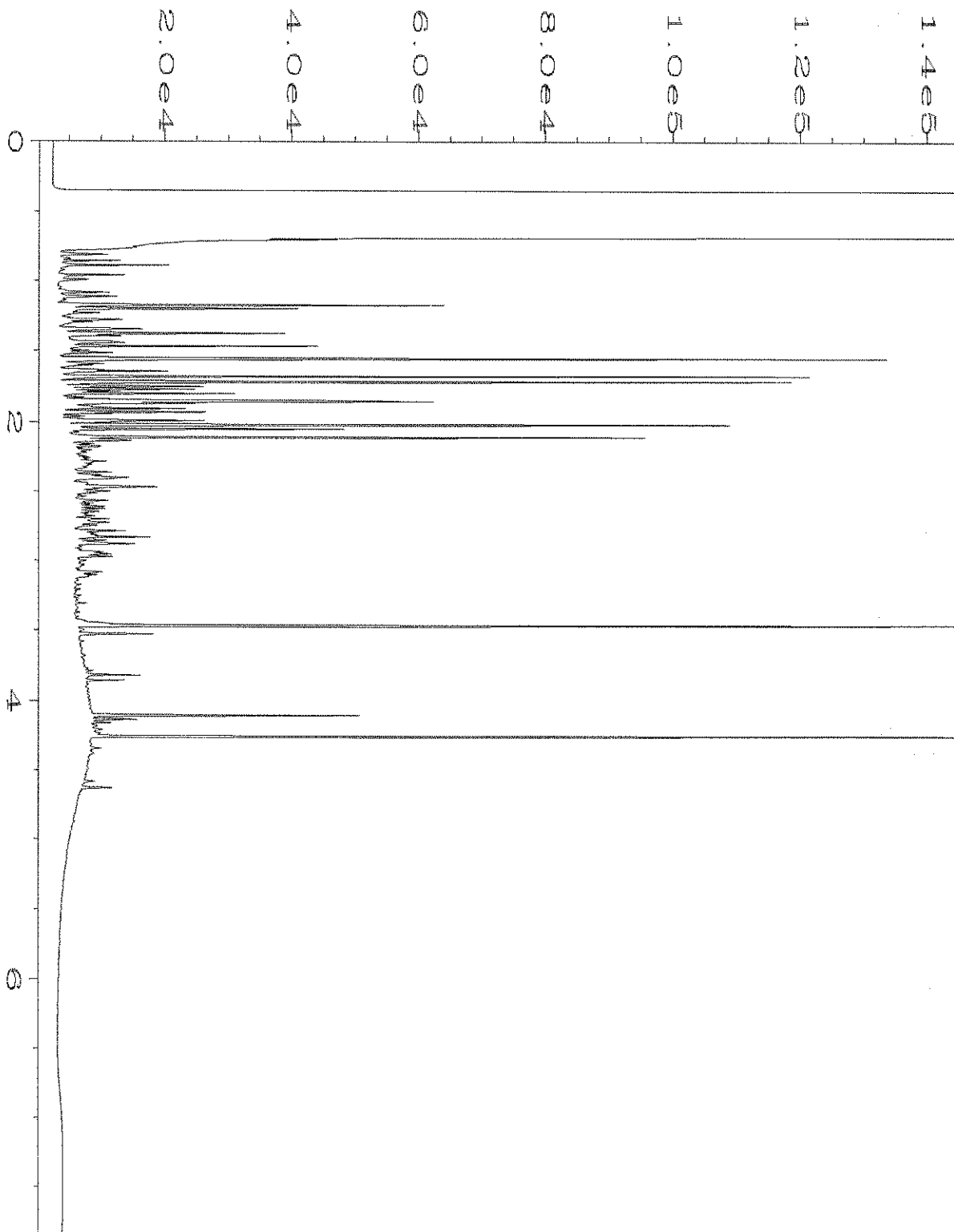
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\014F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 14
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-09	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 08:57 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:50 AM		



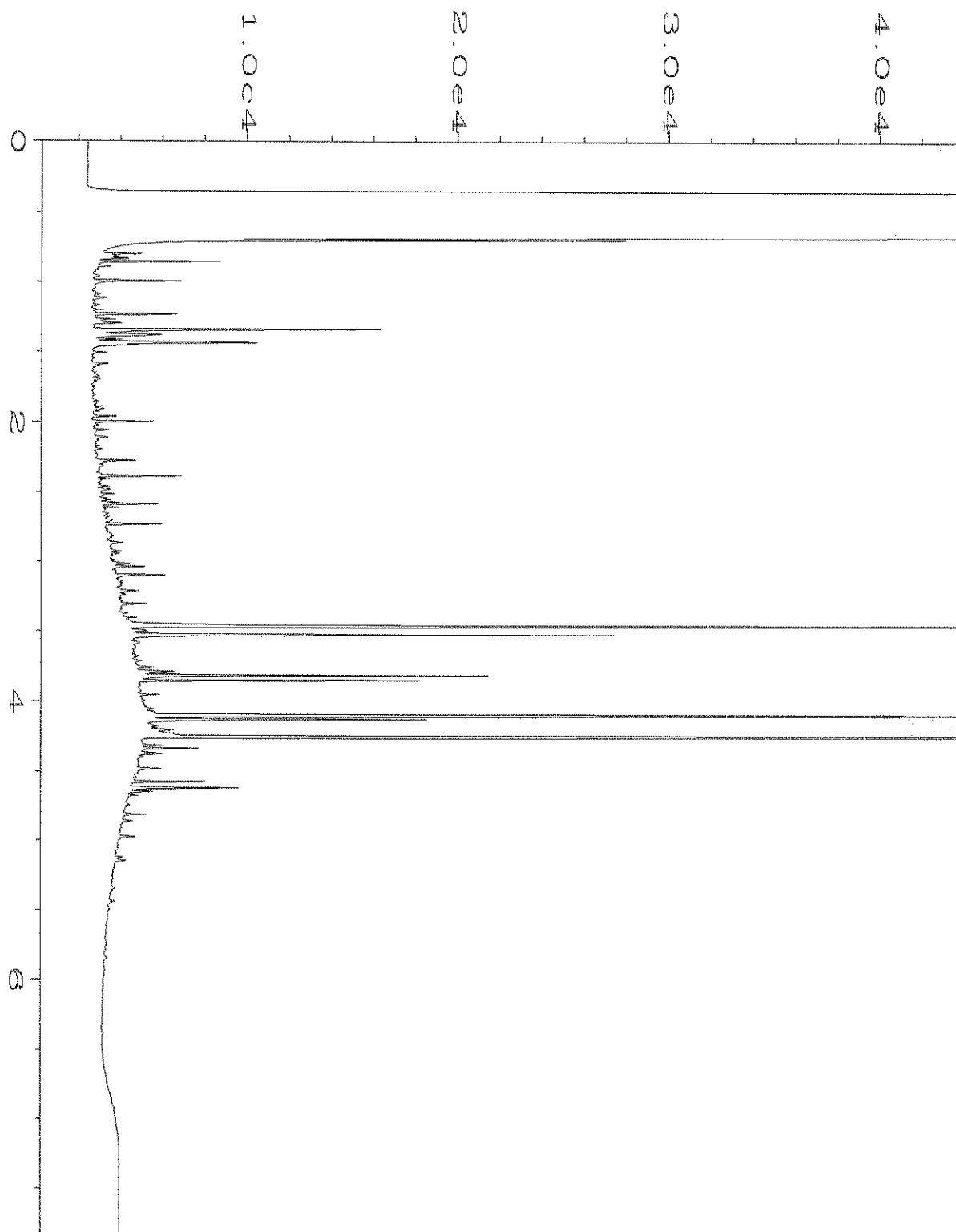
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\015F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 15
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-10	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 09:10 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:50 AM		



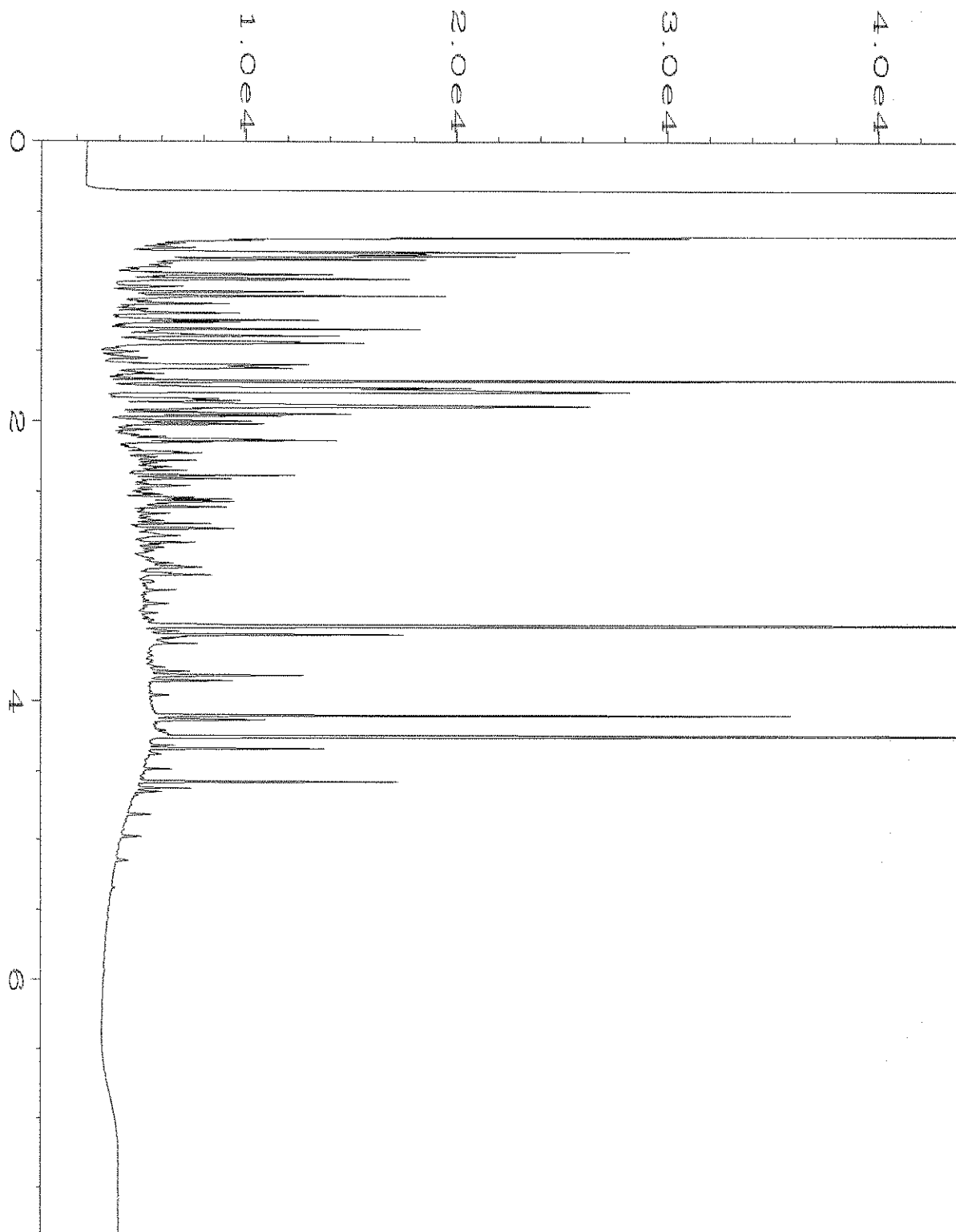
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\016F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 16
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-11	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 09:22 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:50 AM		



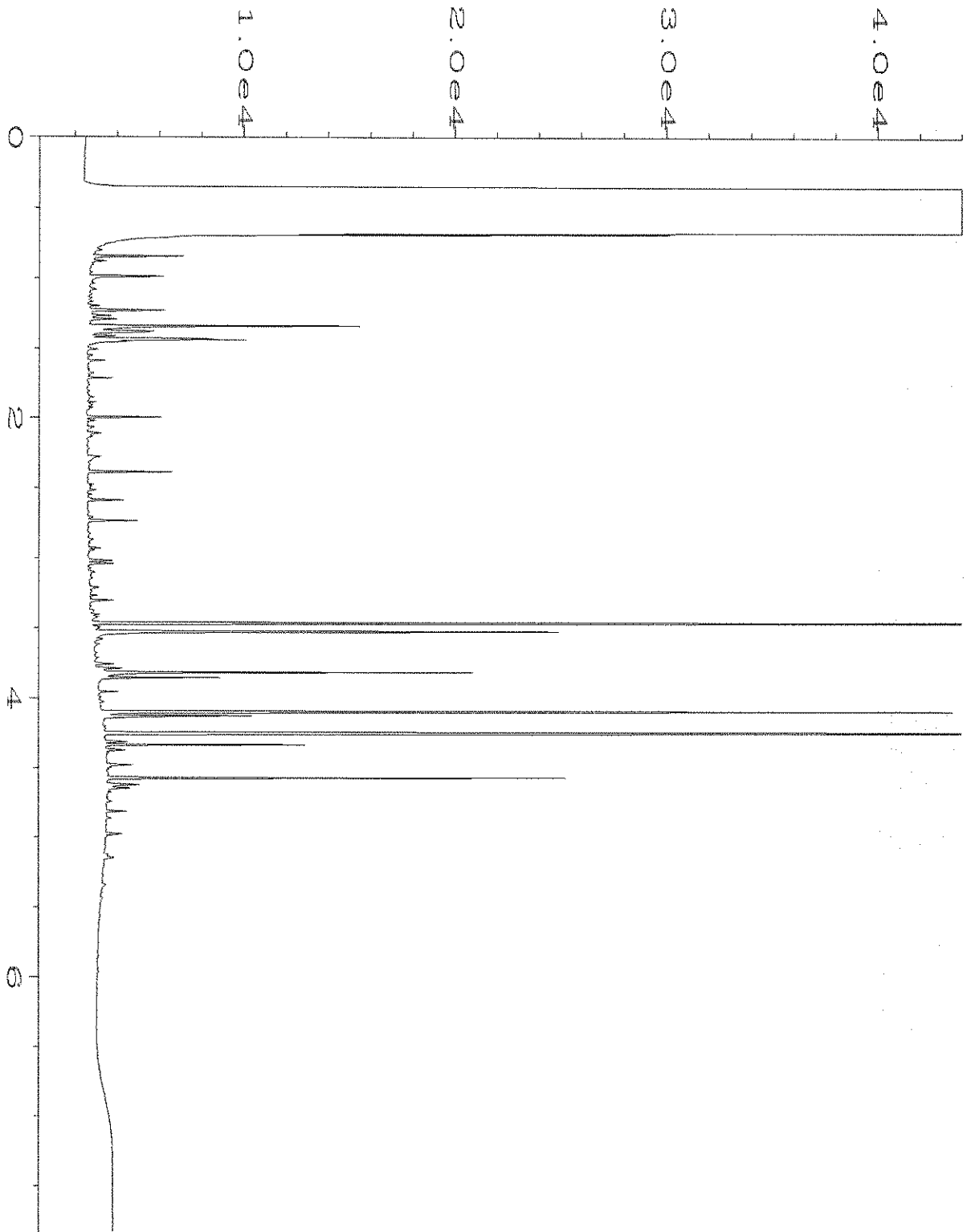
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\017F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 17
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-12	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 09:35 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:50 AM		



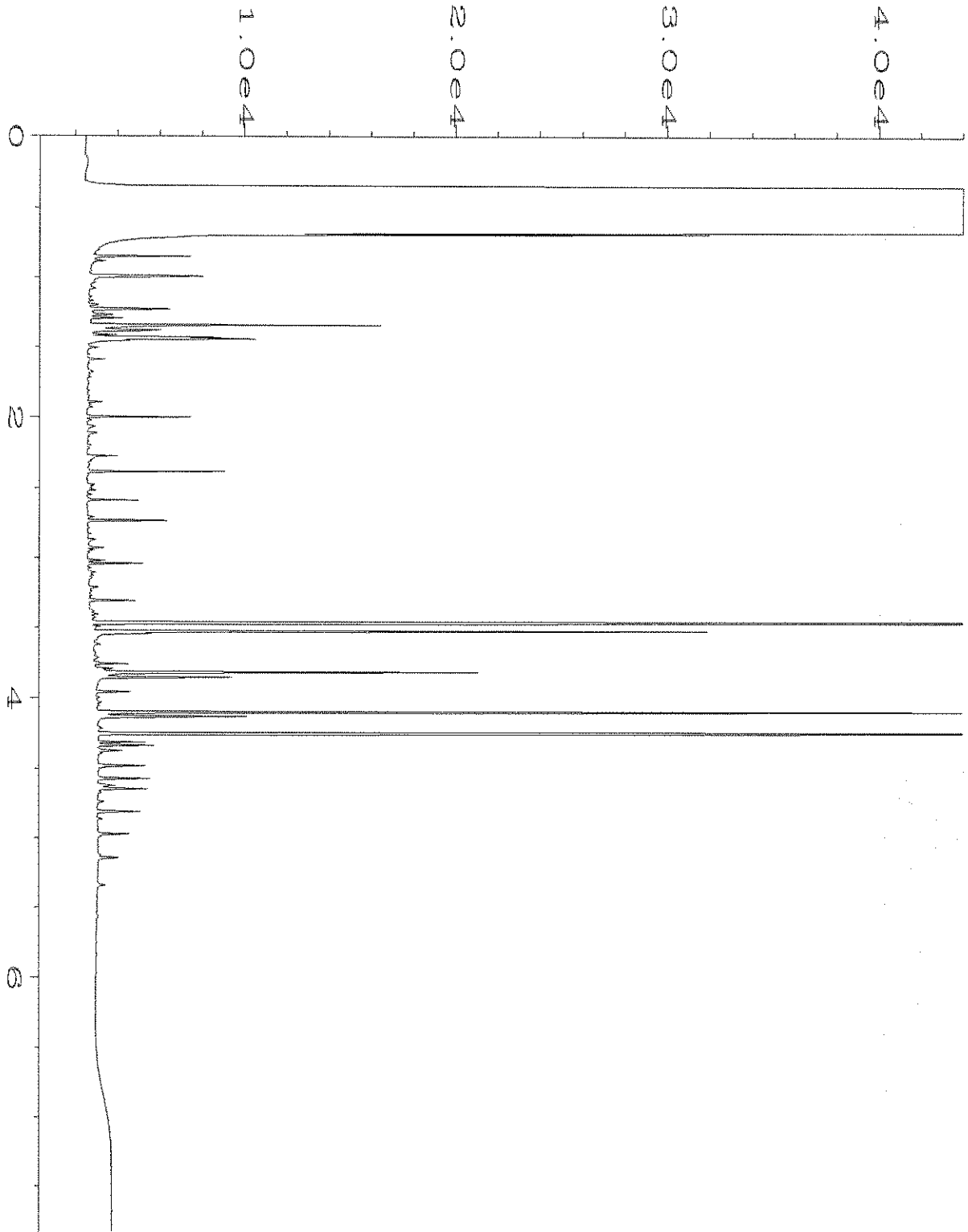
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\018F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 18
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-13	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 09:48 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:51 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-21-20\019F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 19
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-14	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 10:00 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:51 AM		

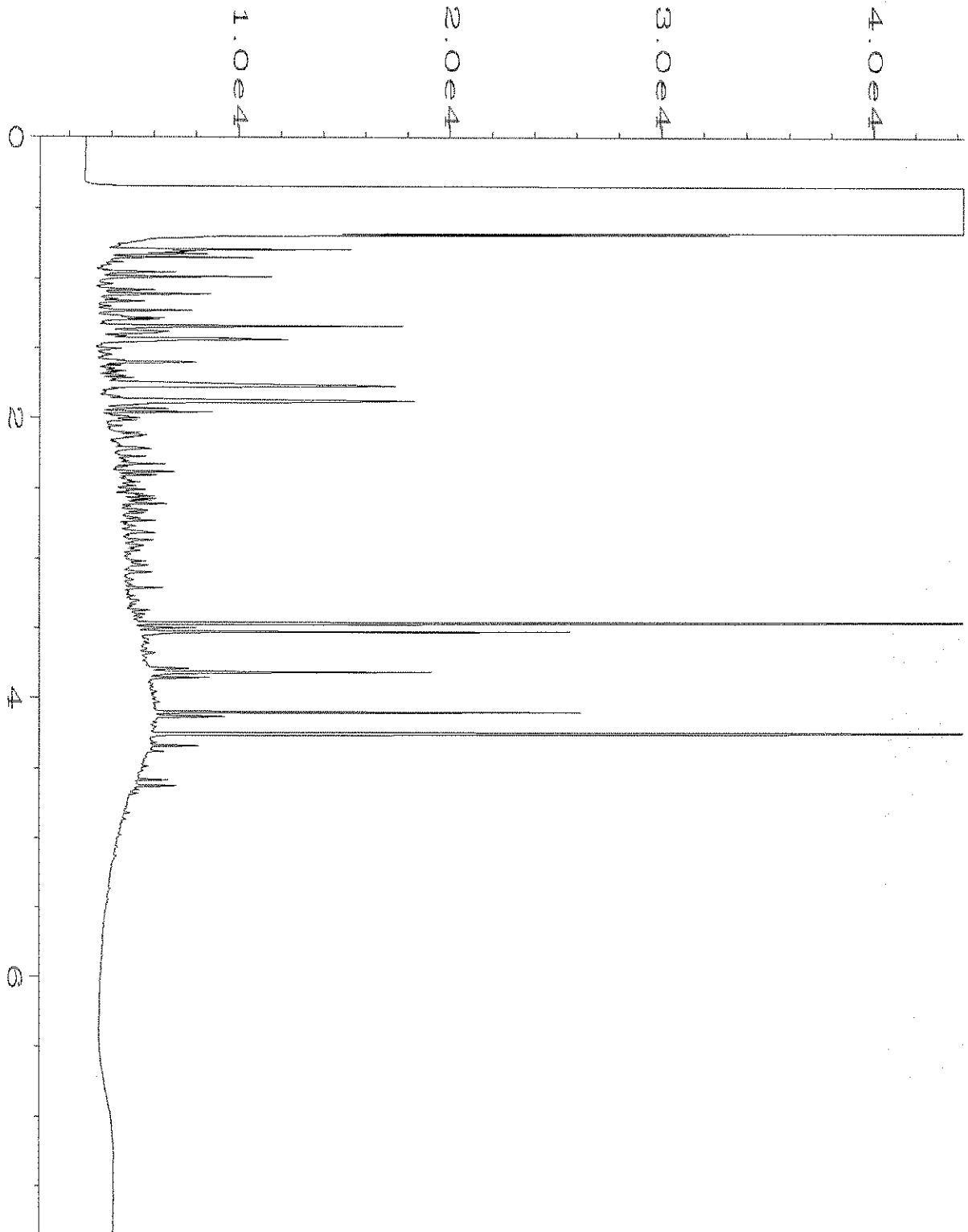


Data File Name	: C:\HPCHEM\4\DATA\08-21-20\020F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 20
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-15	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 10:13 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:51 AM		

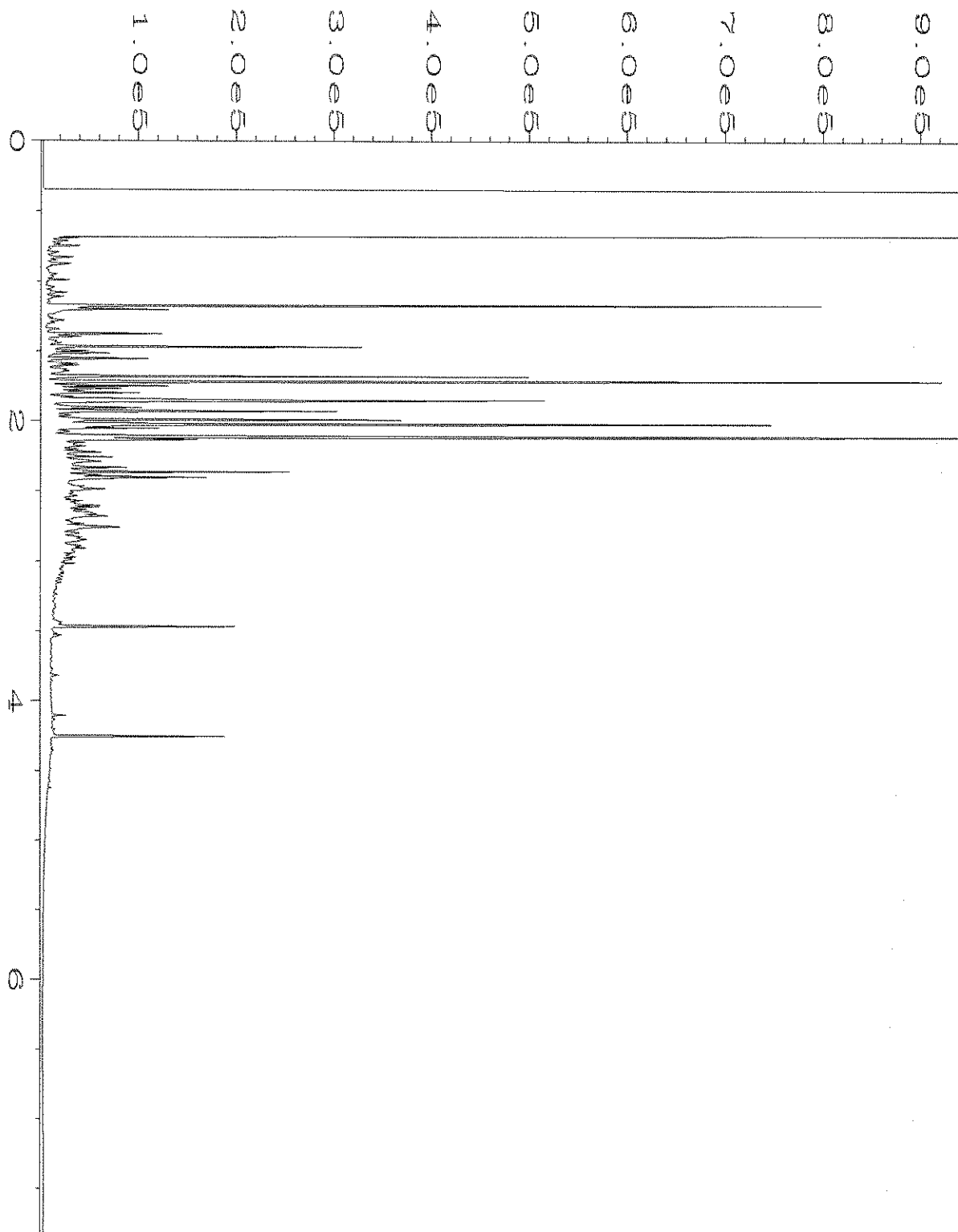


Data File Name	: C:\HPCHEM\4\DATA\08-21-20\021F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 21
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-16	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 10:25 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:51 AM		

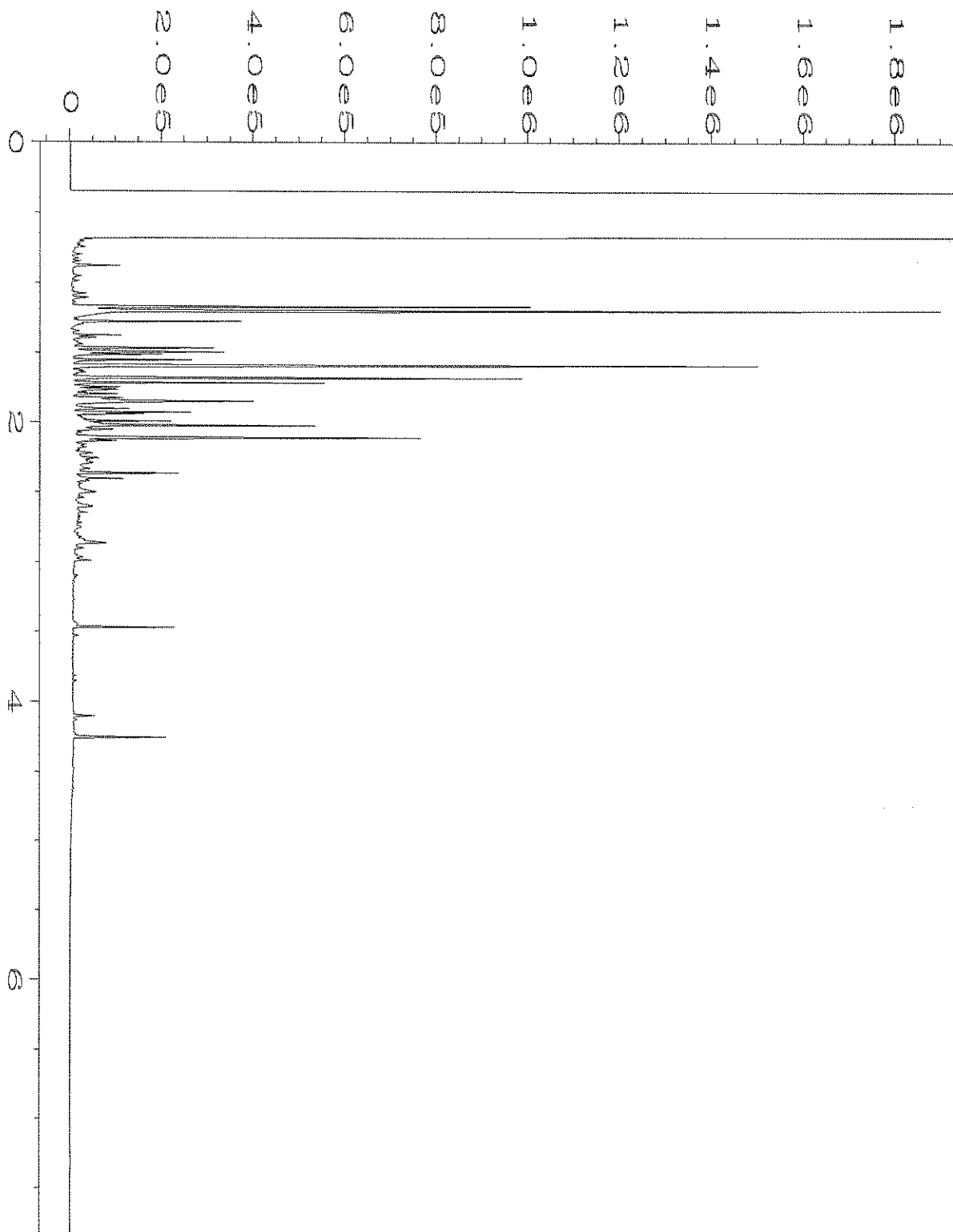




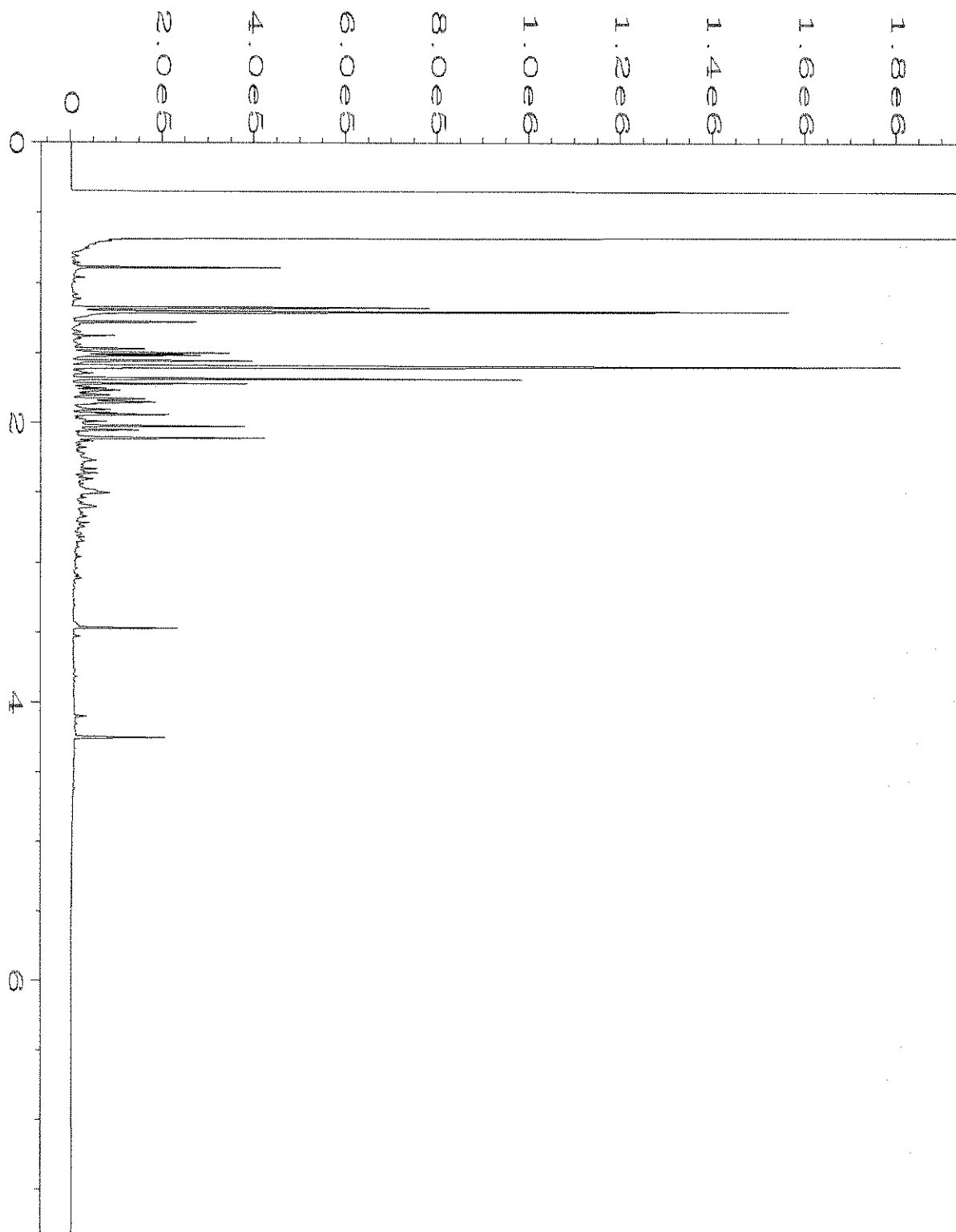
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\022F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 22
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-17	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 02:20 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:51 AM		



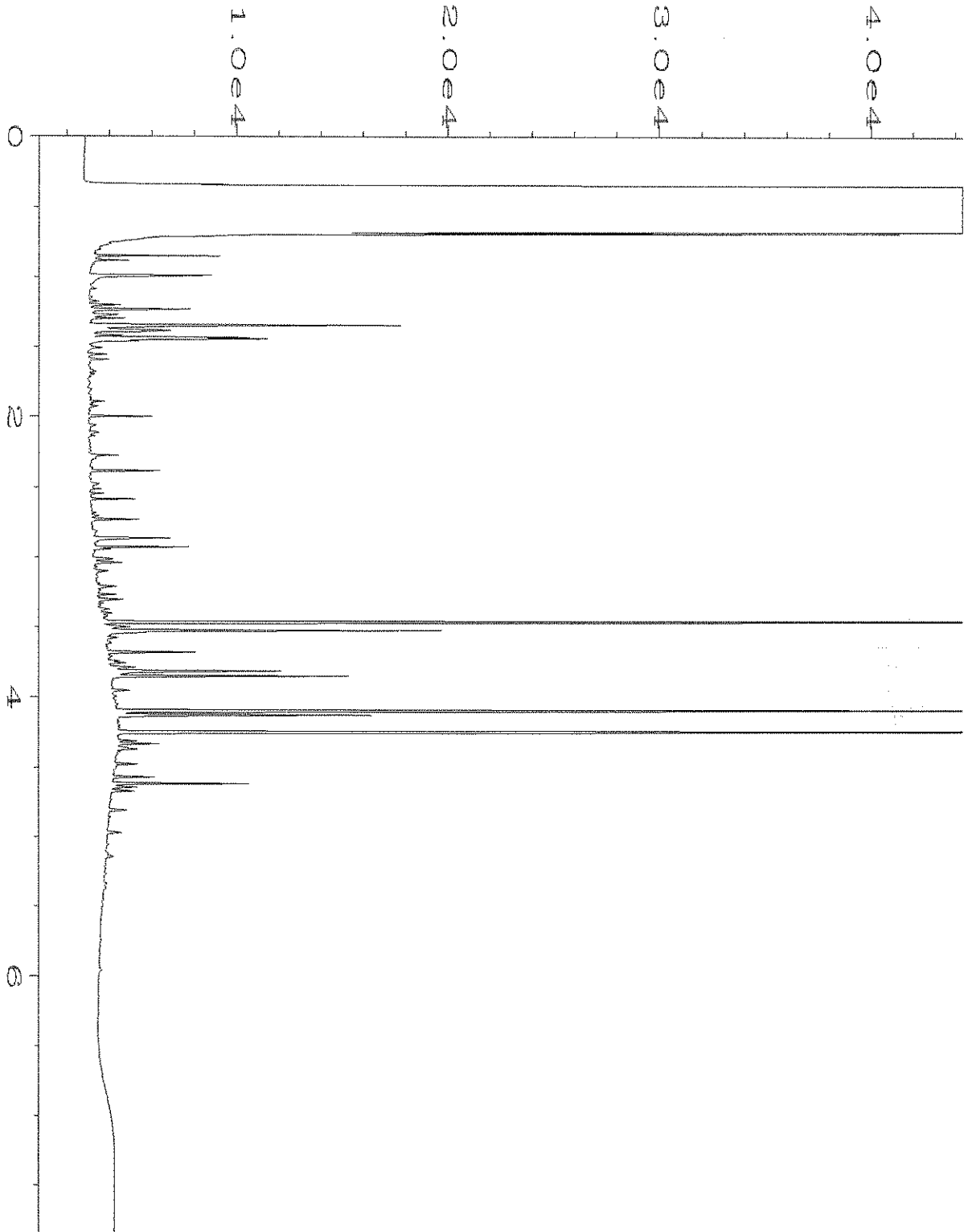
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\023F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 23
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-18	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 02:30 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:51 AM		



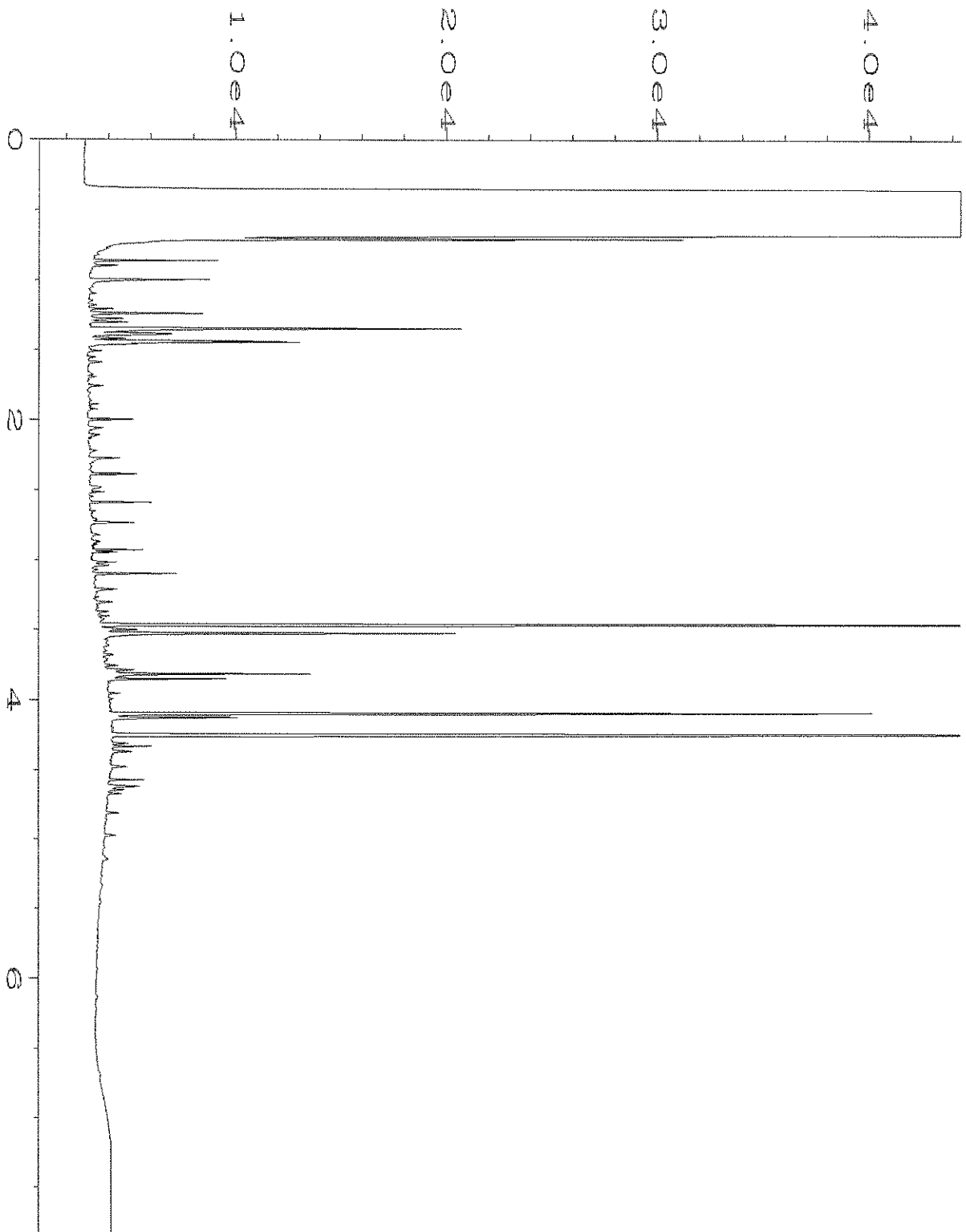
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\024F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 24
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-19	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 02:43 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:52 AM		



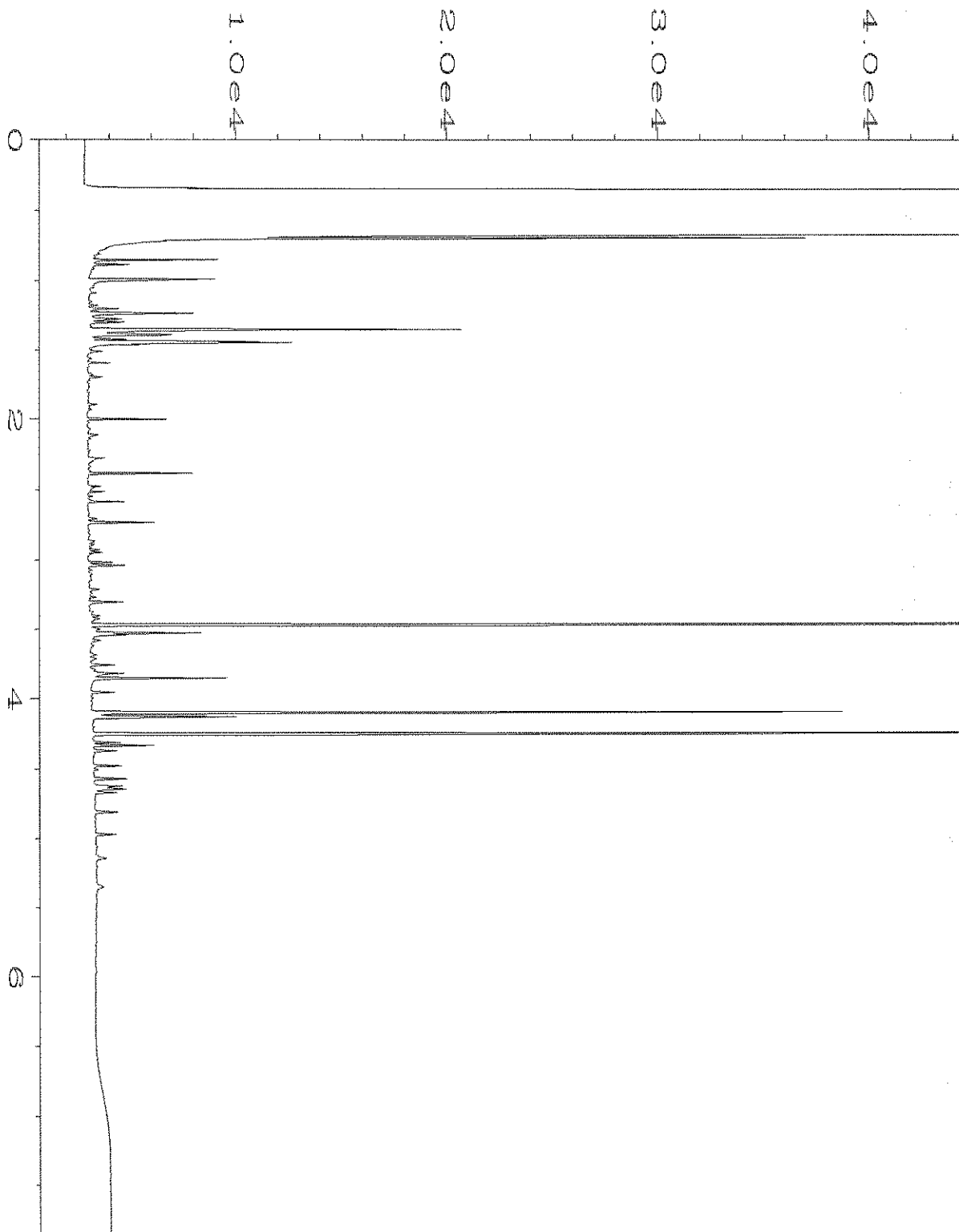
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\025F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 25
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-20	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 02:56 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:52 AM		



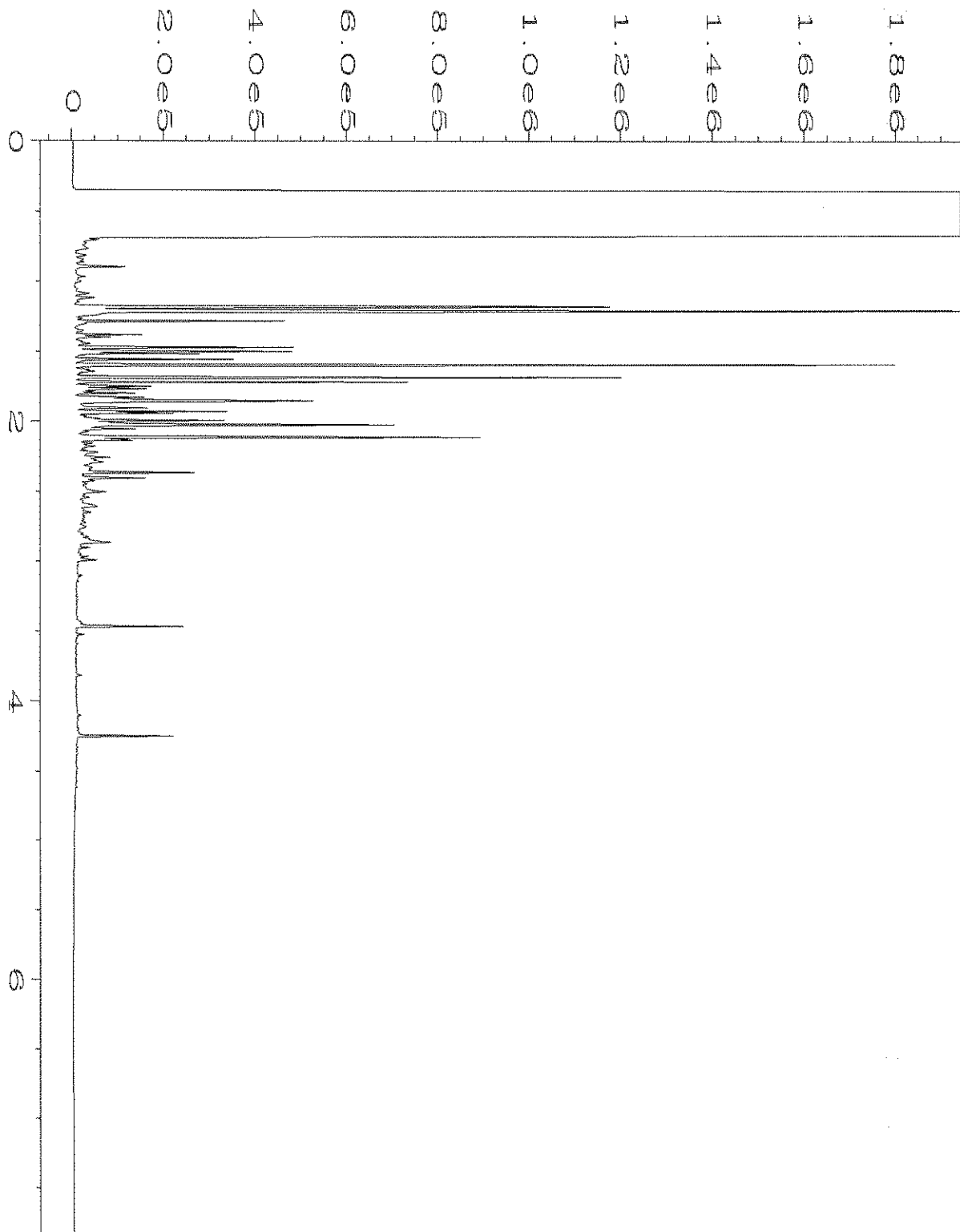
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\026F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 26
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-21	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 03:08 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:53 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-21-20\027F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 27
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-22	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 03:21 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:53 AM		

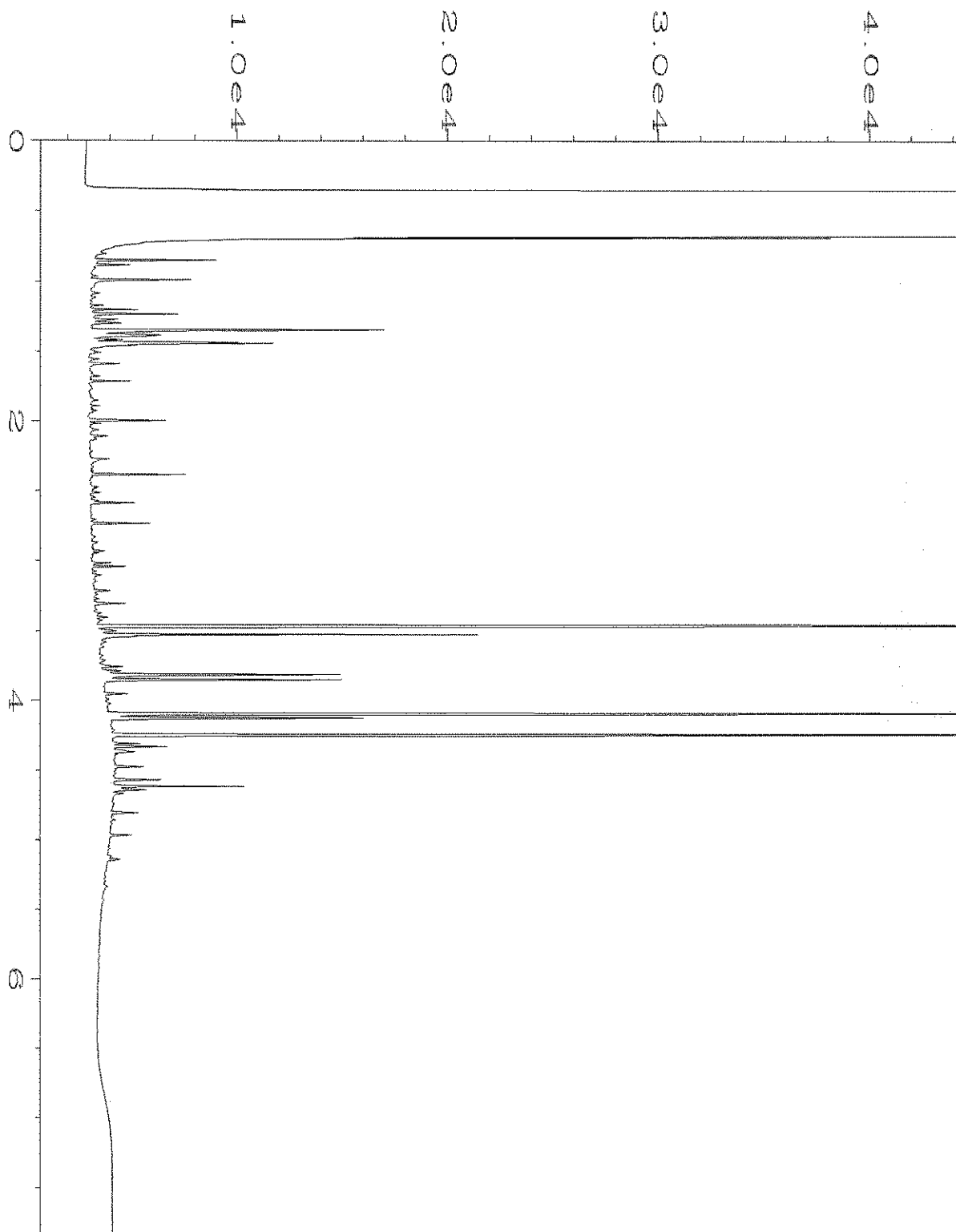


Data File Name	: C:\HPCHEM\4\DATA\08-21-20\028F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 28
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-23	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 03:34 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:53 AM		

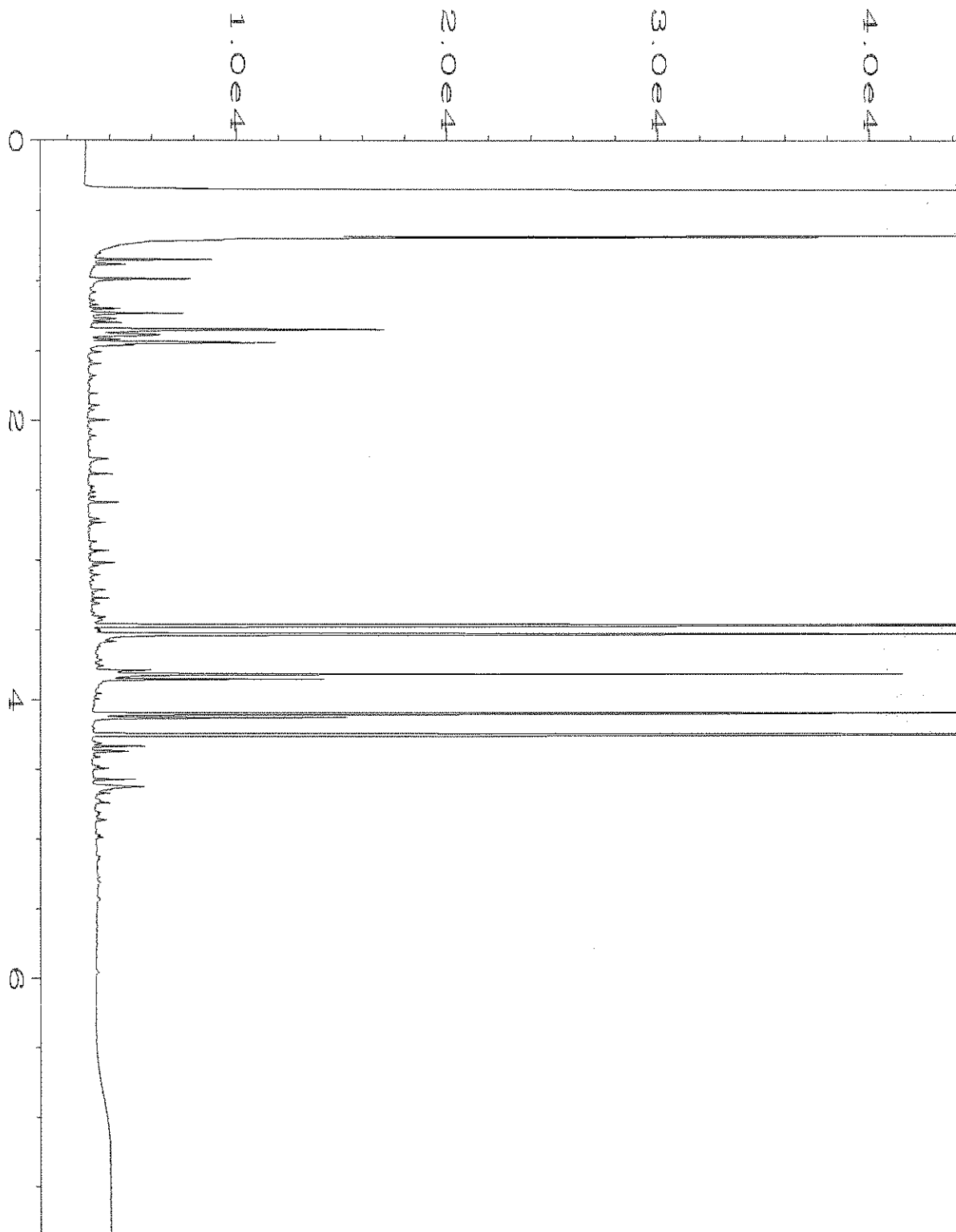


Data File Name	: C:\HPCHEM\4\DATA\08-21-20\029F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 29
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-24	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 03:46 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:53 AM		

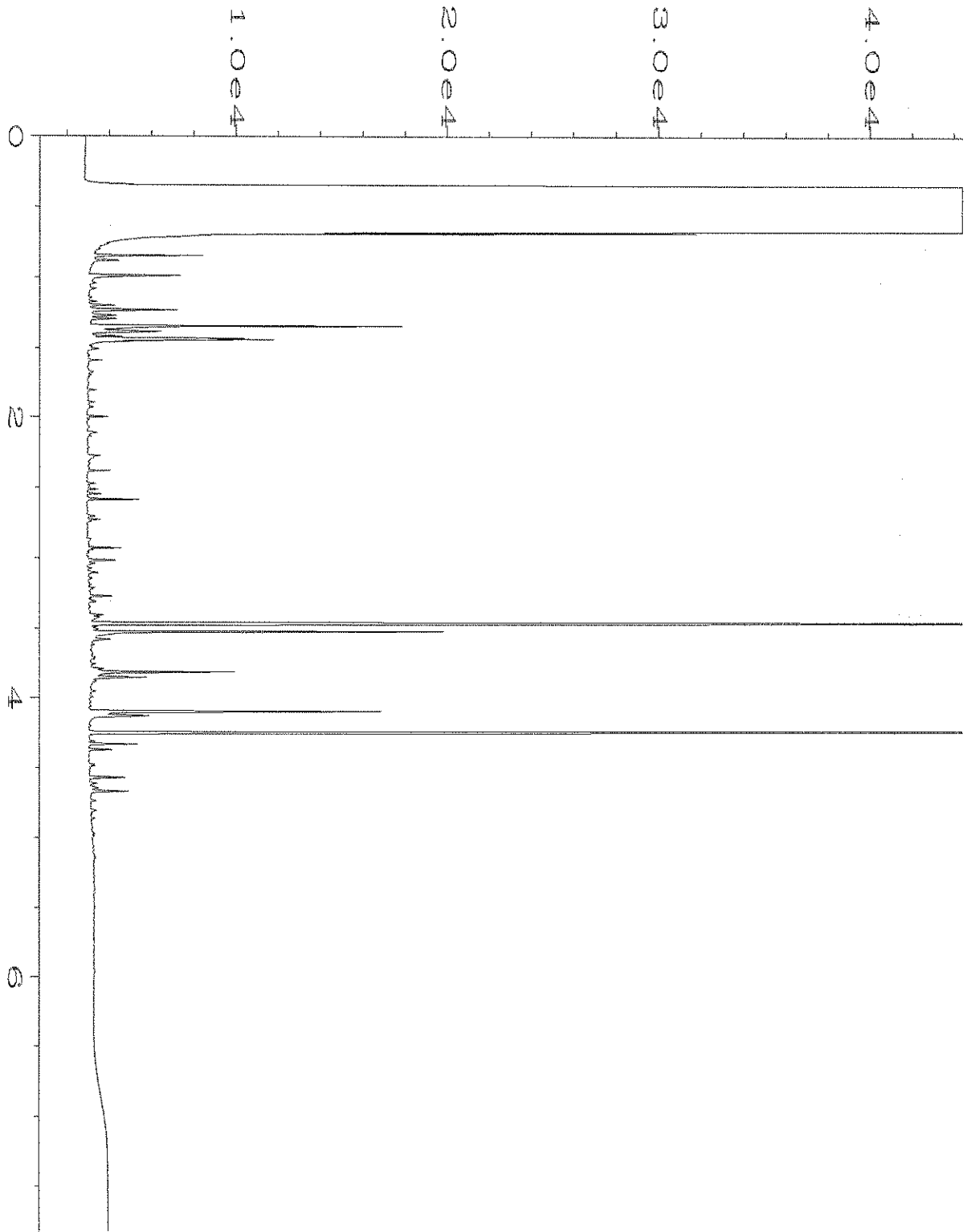




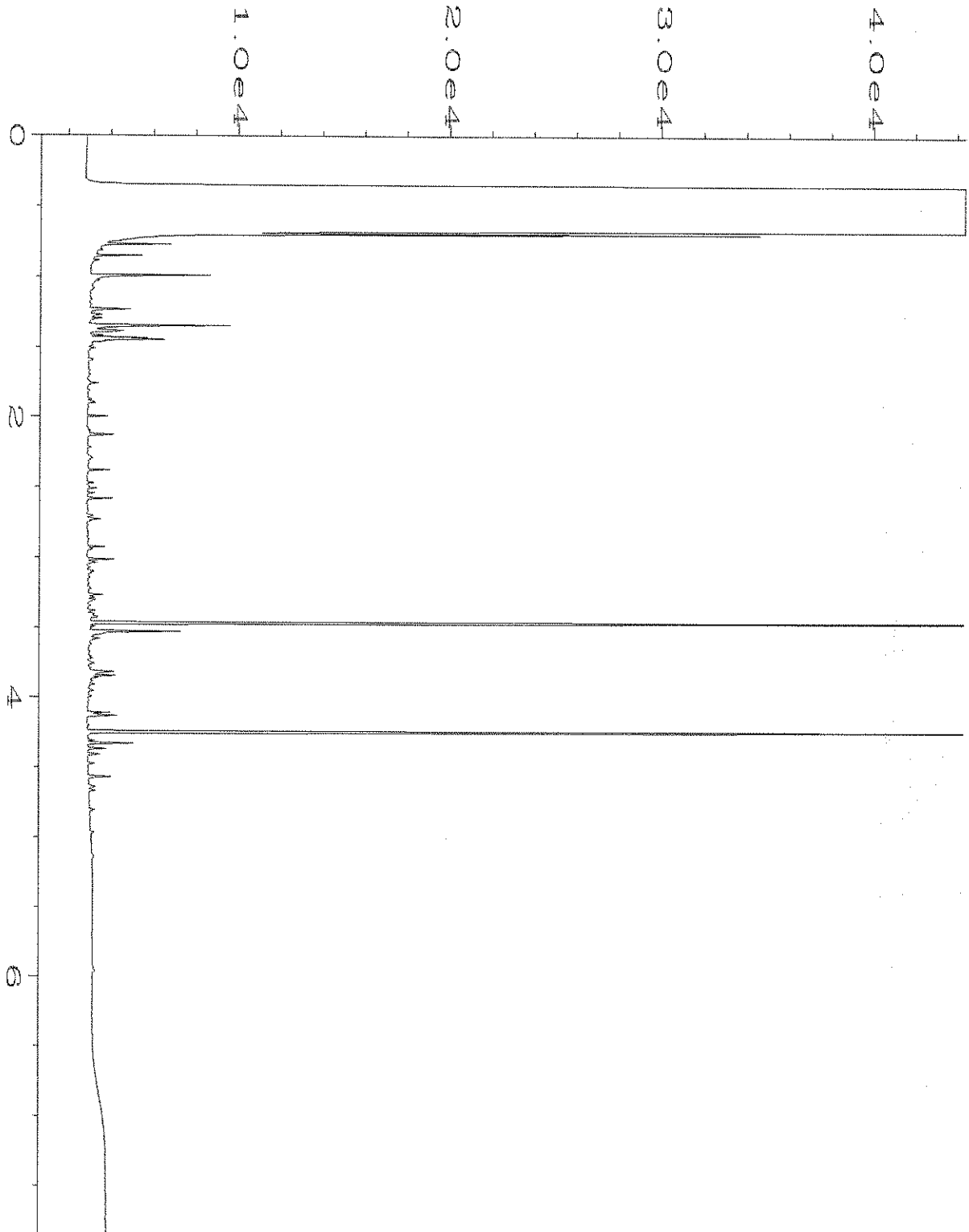
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\030F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 30
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-25	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 03:59 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:53 AM		



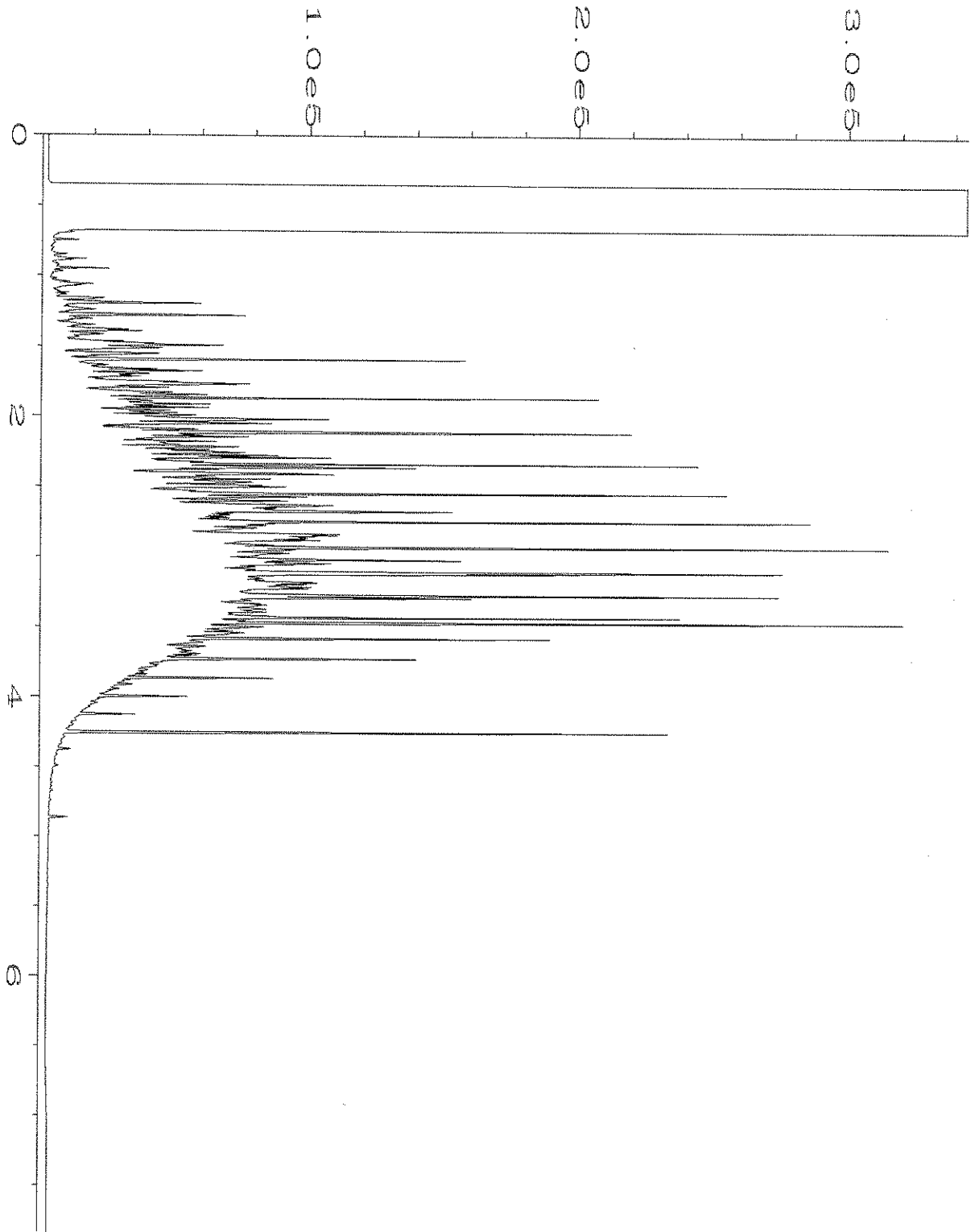
Data File Name	: C:\HPCHEM\4\DATA\08-21-20\031F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 31
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-26	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 04:12 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:54 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-21-20\032F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 32
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 008261-27	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 04:24 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:54 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-21-20\033F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 33
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 00-1893 mb	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 05:07 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:54 AM		



Data File Name	: C:\HPCHEM\4\DATA\08-21-20\005F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 60-170B	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Aug 20 02:03 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Aug 20 10:54 AM		

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SAMPLE CHAIN OF CUSTODY ME 08/18/20

Page # 1 of 3

Project To: Andrew Vonhelski / Adam Lathan

Company: Aspect Consulting

Address: 710 2nd Ave, Ste. 550

City, State, ZIP: Seattle, WA 98104

Phone: (206) 413-5711 Email: avonhelski@aspect.com

SAMPLERS (signature)	<i>Rachel</i>
PROJECT NAME	Texas Stretchland
REMARKS	180357
PO #	
INVOICE TO	AP

TURNAROUND TIME

Standard turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Archive samples  
 Other \_\_\_\_\_  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes	
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082		
MW-1-081820	01A-6	8/18/20	1430	WL	7	X	X						X	
MW-2-081720	02	8/17/20	1425	WL										
MW-4-081820	03	8/18/20	1415											
MW-6-081720	04	8/17/20	1225											
MW-7-081720	05	↓	1135											
MW-8-081820	06	8/18/20	1320											
MW-9-081820	07	↓	1215											
MW-10-081820	08	↓	1330											
MW-11-081720	09	8/17/20	1132											
MW-12-081720	10	↓	1330											

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>Rachel Comouse II</i>	Rachel Comouse II	Aspect	8/18/2020	1:00
<i>YH</i>	YH01 Horung	FBI	8/18/2016	00
Received by:		Samples received at:	4	00

008261

SAMPLE CHAIN OF CUSTODY ME 08/18/20

Page # 2 of 3

Report To: Andrew Yankovskii / Adam Carter

Company: Aspect Consulting

Address: 710 2nd Ave, Ste 550

City, State, ZIP: Seattle WA 98104

Phone: 206 413 5411 Email: ayankovskii@aspect.com

SAMPLERS (signature)	<u>[Signature]</u>	PO #	<u>180357</u>
PROJECT NAME	<u>Texaco Stevedore</u>	INVOICE TO	<u>APD</u>
REMARKS	<u>Project specific RLS? - Yes / <input checked="" type="checkbox"/> No</u>		

TURNAROUND TIME	<input checked="" type="checkbox"/> Standard turnaround <input type="checkbox"/> RUSH Rush charges authorized by: _____
SAMPLE DISPOSAL	<input type="checkbox"/> Archive samples <input type="checkbox"/> Other Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED						Notes			
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270		PCBs EPA 8082		
MW-13-081720	11A-6	8/17/20	1435	WL	7	X	X								
MW-14-081820	12	8/18/20	1220		1										
MW-16-081720	13	8/17/20	0900		1										
MW-17-081720	14	↓	0905		1										
MW-18-081820	15	8/18/20	0910		1										
MW-14-081820	16	↓	1620		1										
MW-20-081720	17	8/17/20	1030		1										
MW-21-081720	18	↓	1238		1										
MW-22-081720	19	↓	1340		1										
MW-23-081820	20	8/18/20	1115		1										

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
<u>[Signature]</u>		Rachel Cornwell		Aspect		8/18/20	1600
Received by: <u>WV</u>		Khai Hoang		FBI		8/18/20	1600
Relinquished by:							
Received by:							
Relinquished by:							
Received by:							

Samples received at 4:00

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SAMPLE CHAIN OF CUSTODY

ME 08/18/20

Page # 3 of 3

Report To: Andrew Yoshitski / Aaron Lathan

Company: Aspect Geosystems

Address: 710 2nd Ave, Ste 550

City, State, ZIP: Seattle, WA 98104

Phone: (206) 413-5411 Email: ayoshitski@aspect.com

SAMPLERS (signature)	<u>Rachel Lathan</u>
PROJECT NAME	<u>Toxic Shutdown</u>
REMARKS	
PO #	<u>180357</u>
INVOICE TO	<u>APD</u>

TURNAROUND TIME  
 Standard turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL  
 Archive samples  
 Other \_\_\_\_\_  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes	
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082		
MW-24-081820	21A-4	8/18/20	0915	LIL	7	X	X					X		
MW-25-081820	22	↓	0900											
MW-26-081820	23		1030											
DUP-01-081720	24	8/17/20	—	↑										
DUP-02-081820	25	8/18/20	—	↑										
RB-01-081720	26	8/17/20	1450	AQ										
RB-02-081820	27A-G	8/18/20	1500	AQ										
Trip Blank	28A-D	—	—	AQ										

Friedman & Bryya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
<u>Rachel Cornwell</u>		Rachel Cornwell		Aspect		8/18/20	1600
Received by: <u>WV</u>		Khai Hoang		FBI		8/18/20	1600
Relinquished by:							
Received by:							
Relinquished by:							
Received by:				Samples received at <u>4</u> <sup>00</sup>			



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
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www.friedmanandbruya.com

September 4, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on August 20, 2020 from the Texaco Strickland 6808 196th St SW Lynwood, WA PO 180357, F&BI 008318 project. There are 26 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Data Aspect, Adam Griffin  
ASP0904R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 20, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland 6808 196th St SW Lynwood, WA PO 180357, F&BI 008318 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
008318 -01	SVS-01-082020
008318 -02	SVS-02-082020
008318 -03	GP-01-082020
008318 -04	GP-02-082020
008318 -05	GP-03-082020
008318 -06	GP-04-082020
008318 -07	GP-DUP-082020
008318 -08	Trip Blank

Samples SVS-01-082020, SVS-02-082020, GP-01-082020, GP-02-082020, GP-03-082020, and GP-04-082020 were sent to Fremont Analytical for carbon dioxide, methane, and oxygen analyses. The report is enclosed.

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method.

The APH EC5-8 aliphatics concentration in samples GP-03-082020 and GP-DUP-082020 exceeded the calibration range of the instrument. The samples were diluted and reanalyzed. Both data sets were reported.

The sample Trip Blank was prepared at the laboratory. The presence of low level laboratory solvents were noted in the APH range. The data were qualified accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SVS-01-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-01 1/8.5
Date Analyzed:	08/28/20	Data File:	082715.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	4,100
APH EC9-12 aliphatics	6,700
APH EC9-10 aromatics	<210

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SVS-02-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-02 1/3.4
Date Analyzed:	08/28/20	Data File:	082716.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	750
APH EC9-12 aliphatics	670
APH EC9-10 aromatics	<85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-01-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-03 1/3.4
Date Analyzed:	08/28/20	Data File:	082717.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	580
APH EC9-12 aliphatics	680
APH EC9-10 aromatics	<85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-02-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-04 1/3.3
Date Analyzed:	08/28/20	Data File:	082718.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	100	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	630
APH EC9-12 aliphatics	890
APH EC9-10 aromatics	<82

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-03-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/20/20	Lab ID:	008318-05 1/8.8
Date Analyzed:	08/28/20	Data File:	082719.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	107	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	11,000 ve
APH EC9-12 aliphatics	2,200
APH EC9-10 aromatics	220

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-03-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/19/20	Lab ID:	008318-05 1/44
Date Analyzed:	09/02/20	Data File:	090213.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	94	70	130

	Concentration
Compounds:	ug/m3
APH EC5-8 aliphatics	13,000
APH EC9-12 aliphatics	3,300
APH EC9-10 aromatics	<1,100



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-04-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-06 1/3.6
Date Analyzed:	08/28/20	Data File:	082720.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	650
APH EC9-12 aliphatics	470
APH EC9-10 aromatics	<90

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-DUP-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-07 1/8.8
Date Analyzed:	08/28/20	Data File:	082721.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	12,000 ve
APH EC9-12 aliphatics	2,300
APH EC9-10 aromatics	<220

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-DUP-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/19/20	Lab ID:	008318-07 1/44
Date Analyzed:	09/02/20	Data File:	090214.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	15,000
APH EC9-12 aliphatics	3,500
APH EC9-10 aromatics	<1,100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-08 1/2.8
Date Analyzed:	08/28/20	Data File:	082722.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	390 lc
APH EC9-12 aliphatics	<140
APH EC9-10 aromatics	<70

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	Not Applicable	Lab ID:	00-1933 MB
Date Analyzed:	08/27/20	Data File:	082709.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<40
APH EC9-12 aliphatics	<50
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SVS-01-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-01 1/8.5
Date Analyzed:	08/28/20	Data File:	082715.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	17	5.4
Toluene	<160	<42
Ethylbenzene	7.0	1.6
m,p-Xylene	45	10
o-Xylene	12	2.8
Naphthalene	<2.2	<0.42

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SVS-02-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-02 1/3.4
Date Analyzed:	08/28/20	Data File:	082716.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	1.8	0.55
Toluene	<64	<17
Ethylbenzene	5.8	1.3
m,p-Xylene	23	5.4
o-Xylene	8.3	1.9
Naphthalene	<0.89	<0.17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-01-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-03 1/3.4
Date Analyzed:	08/28/20	Data File:	082717.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<1.1	<0.34
Toluene	<64	<17
Ethylbenzene	<1.5	<0.34
m,p-Xylene	<3	<0.68
o-Xylene	<1.5	<0.34
Naphthalene	<0.89	<0.17



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-02-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-04 1/3.3
Date Analyzed:	08/28/20	Data File:	082718.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<1.1	<0.33
Toluene	<62	<16
Ethylbenzene	3.1	0.71
m,p-Xylene	12	2.7
o-Xylene	4.7	1.1
Naphthalene	1.2	0.23

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-03-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/20/20	Lab ID:	008318-05 1/8.8
Date Analyzed:	08/28/20	Data File:	082719.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	5.7	1.8
Toluene	<170	<44
Ethylbenzene	80	18
m,p-Xylene	300	70
o-Xylene	82	19
Naphthalene	<2.3	<0.44

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-04-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-06 1/3.6
Date Analyzed:	08/28/20	Data File:	082720.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	88	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	1.7	0.53
Toluene	<68	<18
Ethylbenzene	5.1	1.2
m,p-Xylene	21	4.8
o-Xylene	7.3	1.7
Naphthalene	<0.94	<0.18

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-DUP-082020	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-07 1/8.8
Date Analyzed:	08/28/20	Data File:	082721.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	6.4	2.0
Toluene	<170	<44
Ethylbenzene	60	14
m,p-Xylene	230	52
o-Xylene	63	14
Naphthalene	<2.3	<0.44

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	08/20/20	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	08/27/20	Lab ID:	008318-08 1/2.8
Date Analyzed:	08/28/20	Data File:	082722.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<0.89	<0.28
Toluene	<53	<14
Ethylbenzene	<1.2	<0.28
m,p-Xylene	<2.4	<0.56
o-Xylene	<1.2	<0.28
Naphthalene	<0.73	<0.14

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland Lynwood, WA PO 180357
Date Collected:	Not Applicable	Lab ID:	00-1933 MB
Date Analyzed:	08/27/20	Data File:	082709.D
Matrix:	Air	Instrument:	GCMS12
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<19	<5
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/04/20

Date Received: 08/20/20

Project: Texaco Strickland 6808 196th St SW Lynwood, WA PO 180357, F&BI 008318

Date Extracted: 08/31/20

Date Analyzed: 08/31/20

**RESULTS FROM THE ANALYSIS OF AIR SAMPLES  
FOR HELIUM USING METHOD ASTM D1946**

Results Reported as % Helium

<u>Sample ID</u> Laboratory ID	<u>Helium</u>
SVS-01-082020 008318-01	<0.6
SVS-02-082020 008318-02	<0.6
GP-01-082020 008318-03	<0.6
GP-02-082020 008318-04	<0.6
GP-03-082020 008318-05	<0.6
GP-04-082020 008318-06	<0.6
Method Blank	<0.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/04/20

Date Received: 08/20/20

Project: Texaco Strickland 6808 196th St SW Lynwood, WA PO 180357, F&BI 008318

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 008378-01 1/2.7 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	100	86	15
APH EC9-12 aliphatics	ug/m3	580	570	2
APH EC9-10 aromatics	ug/m3	<67	<67	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	90	70-130
APH EC9-12 aliphatics	ug/m3	67	117	70-130
APH EC9-10 aromatics	ug/m3	67	124	70-130



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/04/20

Date Received: 08/20/20

Project: Texaco Strickland 6808 196th St SW Lynwood, WA PO 180357, F&BI 008318

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: 008378-01 1/2.7 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Benzene	ug/m3	<0.86	<0.86	nm
Toluene	ug/m3	<51	<51	nm
Ethylbenzene	ug/m3	<1.2	<1.2	nm
m,p-Xylene	ug/m3	<2.3	<2.3	nm
o-Xylene	ug/m3	<1.2	<1.2	nm
Naphthalene	ug/m3	<0.71	<0.71	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/m3	43	95	70-130
Toluene	ug/m3	51	93	70-130
Ethylbenzene	ug/m3	59	100	70-130
m,p-Xylene	ug/m3	120	105	70-130
o-Xylene	ug/m3	59	107	70-130
Naphthalene	ug/m3	71	96	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/04/20

Date Received: 08/20/20

Project: Texaco Strickland 6808 196th St SW Lynwood, WA PO 180357, F&BI 008318

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR HELIUM  
USING METHOD ASTM D1946**

Laboratory Code: 008226-07 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	<0.6	<0.6	nm	0-20

Laboratory Code: 008318-01 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	<0.6	<0.6	nm	0-20

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



**Friedman & Bruya**  
Michael Erdahl  
3012 16th Ave. W.  
Seattle, WA 98119

**RE: 008318**  
**Work Order Number: 2008283**

August 27, 2020

**Attention Michael Erdahl:**

Fremont Analytical, Inc. received 6 sample(s) on 8/20/2020 for the analyses presented in the following report.

***Major Gases by EPA Method 3C***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager



Date: 08/27/2020

---

**CLIENT:** Friedman & Bruya  
**Project:** 008318  
**Work Order:** 2008283

---

## Work Order Sample Summary

---

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2008283-001	SVS-01-082020	08/20/2020 9:55 AM	08/20/2020 4:30 PM
2008283-002	SVS-02-082020	08/20/2020 9:16 AM	08/20/2020 4:30 PM
2008283-003	GP-01-082020	08/20/2020 12:20 PM	08/20/2020 4:30 PM
2008283-004	GP-02-082020	08/20/2020 12:54 PM	08/20/2020 4:30 PM
2008283-005	GP-03-082020	08/20/2020 1:35 PM	08/20/2020 4:30 PM
2008283-006	GP-04-082020	08/20/2020 10:38 AM	08/20/2020 4:30 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

---

**CLIENT:** Friedman & Bruya

**Project:** 008318

---

WorkOrder Narrative:

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Major gases are reported as % ratio of the Major Gases analyzed (Carbon dioxide, Carbon Monoxide, Methane, Nitrogen, Oxygen and Hydrogen).

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS). The LCS is processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Note: The estimated BTU calculation is based off of the methane result.

---

Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



**CLIENT:** Friedman & Bruya  
**Project:** 008318

**Lab ID:** 2008283-001

**Collection Date:** 8/20/2020 9:55:00 AM

**Client Sample ID:** SVS-01-082020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R61354 Analyst: MS

Carbon Dioxide	0.121	0.0500		%	1	8/21/2020 1:48:00 PM
Methane	ND	0.0500		%	1	8/21/2020 1:48:00 PM
Oxygen	21.6	0.0500		%	1	8/21/2020 1:48:00 PM

**Lab ID:** 2008283-002

**Collection Date:** 8/20/2020 9:16:00 AM

**Client Sample ID:** SVS-02-082020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R61354 Analyst: MS

Carbon Dioxide	0.0698	0.0500		%	1	8/21/2020 2:05:00 PM
Methane	ND	0.0500		%	1	8/21/2020 2:05:00 PM
Oxygen	22.9	0.0500		%	1	8/21/2020 2:05:00 PM

**Lab ID:** 2008283-003

**Collection Date:** 8/20/2020 12:20:00 PM

**Client Sample ID:** GP-01-082020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R61354 Analyst: MS

Carbon Dioxide	24.6	0.0500		%	1	8/21/2020 2:17:00 PM
Methane	ND	0.0500		%	1	8/21/2020 2:17:00 PM
Oxygen	3.44	0.0500		%	1	8/21/2020 2:17:00 PM





**CLIENT:** Friedman & Bruya  
**Project:** 008318

**Lab ID:** 2008283-004

**Collection Date:** 8/20/2020 12:54:00 PM

**Client Sample ID:** GP-02-082020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R61354 Analyst: MS

Carbon Dioxide	20.0	0.0500		%	1	8/21/2020 2:31:00 PM
Methane	ND	0.0500		%	1	8/21/2020 2:31:00 PM
Oxygen	6.95	0.0500		%	1	8/21/2020 2:31:00 PM

**Lab ID:** 2008283-005

**Collection Date:** 8/20/2020 1:35:00 PM

**Client Sample ID:** GP-03-082020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R61354 Analyst: MS

Carbon Dioxide	22.8	0.0500		%	1	8/21/2020 3:04:00 PM
Methane	0.157	0.0500		%	1	8/21/2020 3:04:00 PM
Oxygen	1.90	0.0500		%	1	8/21/2020 3:04:00 PM

**Lab ID:** 2008283-006

**Collection Date:** 8/20/2020 10:38:00 AM

**Client Sample ID:** GP-04-082020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R61354 Analyst: MS

Carbon Dioxide	8.53	0.0500		%	1	8/21/2020 3:29:00 PM
Methane	ND	0.0500		%	1	8/21/2020 3:29:00 PM
Oxygen	15.9	0.0500		%	1	8/21/2020 3:29:00 PM

**Work Order:** 2008283  
**CLIENT:** Friedman & Bruya  
**Project:** 008318

**QC SUMMARY REPORT**  
**Major Gases by EPA Method 3C**

Sample ID: <b>LCS-R61354</b>	SampType: <b>LCS</b>	Units: %				Prep Date: <b>8/21/2020</b>	RunNo: <b>61354</b>				
Client ID: <b>LCSW</b>	Batch ID: <b>R61354</b>					Analysis Date: <b>8/21/2020</b>	SeqNo: <b>1230886</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Carbon Dioxide	100	0.0500	100.0	0	100	70	130				
Methane	99.6	0.0500	100.0	0	99.6	70	130				
Oxygen	100	0.0500	100.0	0	100	70	130				

Sample ID: <b>2008283-001AREP</b>	SampType: <b>REP</b>	Units: %				Prep Date: <b>8/21/2020</b>	RunNo: <b>61354</b>				
Client ID: <b>SVS-01-082020</b>	Batch ID: <b>R61354</b>					Analysis Date: <b>8/21/2020</b>	SeqNo: <b>1230880</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Carbon Dioxide	0.102	0.0500						0.1214	17.4	30	
Methane	ND	0.0500						0		30	
Oxygen	21.9	0.0500						21.57	1.35	30	

Client Name: <b>FB</b>	Work Order Number: <b>2008283</b>
Logged by: <b>Gabrielle Coeuille</b>	Date Received: <b>8/20/2020 4:30:00 PM</b>

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? Client

**Log In**

3. Coolers are present? Yes  No  NA
- Air samples**
4. Shipping container/cooler in good condition? Yes  No
5. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes  No  Not Present
6. Was an attempt made to cool the samples? Yes  No  NA
7. Were all items received at a temperature of >2°C to 6°C \* Yes  No  NA
8. Sample(s) in proper container(s)? Yes  No
9. Sufficient sample volume for indicated test(s)? Yes  No
10. Are samples properly preserved? Yes  No
11. Was preservative added to bottles? Yes  No  NA
12. Is there headspace in the VOA vials? Yes  No  NA
13. Did all samples containers arrive in good condition(unbroken)? Yes  No
14. Does paperwork match bottle labels? Yes  No
15. Are matrices correctly identified on Chain of Custody? Yes  No
16. Is it clear what analyses were requested? Yes  No
17. Were all holding times able to be met? Yes  No

**Special Handling (if applicable)**

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

**Item Information**

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

**SUBCONTRACT SAMPLE CHAIN OF CUSTODY**

2008283

Page # \_\_\_\_\_ of \_\_\_\_\_

Send Report To Michael Erdahl  
 Company Friedman and Bruya, Inc.  
 Address 3012 16th Ave W  
 City, State, ZIP Seattle, WA 98119  
 Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
PROJECT NAME/NO.	PO #
008318	A-338
REMARKS	
Please Email Results	

TURNAROUND TIME

Standard TAT

RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

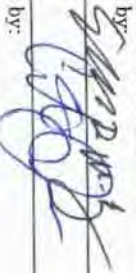
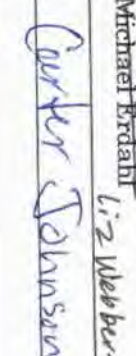
Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED			Notes
						Dioxins/Furans	EPH	VPH	
SVS-01-082020		8/20/20	955	Air	1		X		
SVS-02-082020			916		1		X		
GP-01-082020			1220		1		X		
GP-02-082020			1254		1		X		
GP-03-082020			1335		1		X		
GP-04-082020			1038		1		X		
<del>GP-05-082020</del>									
<del>Trip Blank End</del>									

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by: 		Michael Erdahl	Liz Weber Bruya	Friedman & Bruya		8/20/20	
Received by: 		Carter Johnson				8/20/20	1030
Relinquished by:							
Received by:							

008318

SAMPLE CHAIN OF CUSTODY

ME 08-20-20

Page # 1 of 1

Report To: Andrew Yonkotski / Adam Griffin

Company: Aspet Consulting

Address: 710 2nd Ave, Ste. 550

City, State, ZIP: Seattle, WA, 98104

Phone: 206 413-5411 Email: ayonkotski@aspetconsulting.com

SAMPLES (signature) <u>[Signature]</u>		PROJECT NAME & ADDRESS <u>Tenno Streetland 6808 146th St, SW, Lynnwood, WA</u>	PO # <u>180357</u>	TURNAROUND TIME
NOTES: <u>Aspet Consulting.com</u>		INVOICE TO <u>AP</u>	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH Rush charges authorized by: _____ SAMPLE DISPOSAL <input type="checkbox"/> Default: Clean after 3 days <input type="checkbox"/> Archive (Fee may apply)	

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	ANALYSIS REQUESTED			Notes
										TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	
SUS-01-082020	01	3387	255	IA / <u>SG</u>	8/20/20	-30	0950	-5	0955	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Helium <u>CO2, UH2, O2, etc</u>
SUS-02-082020	02	2434	259	IA / <u>SG</u>		-28	0912	-5	0916	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
GP-01-082020	03	2360	242	IA / <u>SG</u>		-30	1215	-5	1220	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
GP-02-082020	04	2433	105	IA / <u>SG</u>		-30	1254	-5	1254	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
GP-03-082020	05	3260	101	IA / <u>SG</u>		-30	1331	-5	1335	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
GP-04-082020	06	3540	88	IA / <u>SG</u>		-28	1032	-5	1038	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
GP-DUP-082020	07	2438	109	IA / <u>SG</u>		-30	-	-5	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	DTEXN + APH only
Trip Blank	08	2305	108	IA / SG		-	-	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044  
 FORMS\OCC\OCCOCTO-15.DOC

SIGNATURE <u>[Signature]</u>	PRINT NAME <u>David Ural</u>	COMPANY <u>Aspet Consulting</u>	DATE <u>8/20/20</u>	TIME <u>1445</u>
Relinquished by: <u>[Signature]</u>	<u>David Ural</u>	<u>Aspet Consulting</u>	<u>8/20/20</u>	<u>1445</u>
Relinquished by: <u>[Signature]</u>	<u>Khai Hoang</u>	<u>EBI</u>	<u>8/20/20</u>	<u>1445</u>
Received by:		Samples received at:	<u>2500</u>	

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

November 17, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on November 10, 2020 from the Texaco Strickland PO 180357, F&BI 011185 project. There are 10 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Aspect Data  
ASP1117R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 10, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 011185 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
011185 -01	GP-05-1.25
011185 -02	GP-05-6
011185 -03	GP-06-2.5

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/17/20

Date Received: 11/10/20

Project: Texaco Strickland PO 180357, F&BI 011185

Date Extracted: 11/13/20

Date Analyzed: 11/13/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
GP-05-1.25 011185-01	<0.02	<0.02	<0.02	<0.06	<5	89
GP-06-2.5 011185-03	<0.02	<0.02	<0.02	<0.06	<5	89
Method Blank 00-2418 MB	<0.02	<0.02	<0.02	<0.06	<5	89



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/17/20

Date Received: 11/10/20

Project: Texaco Strickland PO 180357, F&BI 011185

Date Extracted: 11/10/20

Date Analyzed: 11/10/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
GP-05-1.25 011185-01	<50	<250	80
GP-06-2.5 011185-03	<50	<250	84
Method Blank 00-2494 MB	<50	<250	83

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	GP-05-1.25	Client:	Aspect Consulting, LLC
Date Received:	11/10/20	Project:	Texaco Strickland PO 180357
Date Extracted:	11/10/20	Lab ID:	011185-01
Date Analyzed:	11/10/20	Data File:	111033.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	104	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	GP-06-2.5	Client:	Aspect Consulting, LLC
Date Received:	11/10/20	Project:	Texaco Strickland PO 180357
Date Extracted:	11/10/20	Lab ID:	011185-03
Date Analyzed:	11/10/20	Data File:	111034.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	104	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	11/10/20	Lab ID:	00-2668 mb
Date Analyzed:	11/10/20	Data File:	111009.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	104	55	145
4-Bromofluorobenzene	99	65	139

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/17/20

Date Received: 11/10/20

Project: Texaco Strickland PO 180357, F&BI 011185

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 011185-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	88	69-120
Toluene	mg/kg (ppm)	0.5	90	70-117
Ethylbenzene	mg/kg (ppm)	0.5	92	65-123
Xylenes	mg/kg (ppm)	1.5	93	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/17/20

Date Received: 11/10/20

Project: Texaco Strickland PO 180357, F&BI 011185

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 011154-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	26,000	180 b	177 b	64-133	2 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	98	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/17/20

Date Received: 11/10/20

Project: Texaco Strickland PO 180357, F&BI 011185

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 011140-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	1	<0.05	98	104	14-157	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	1	86	63-140

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

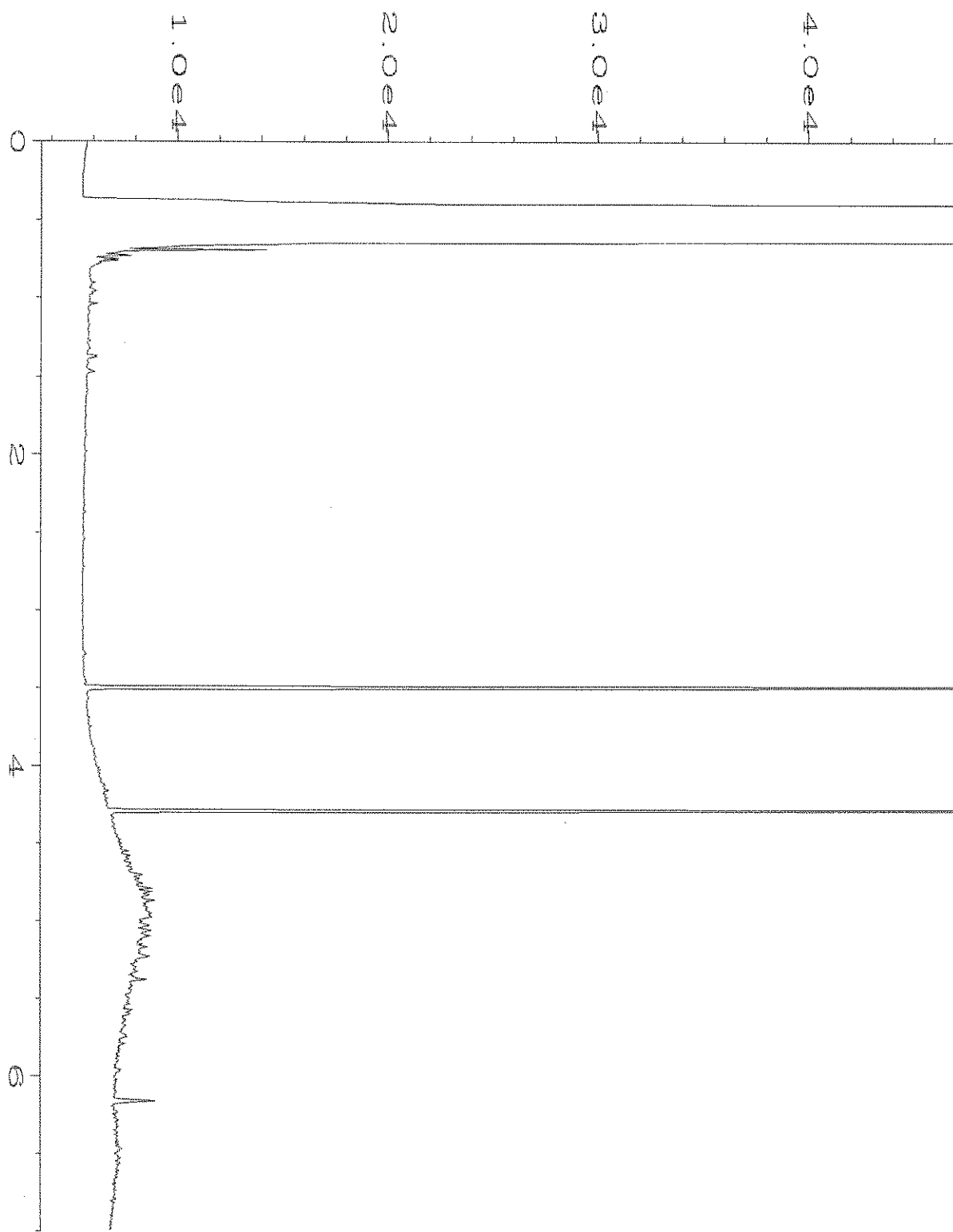
pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

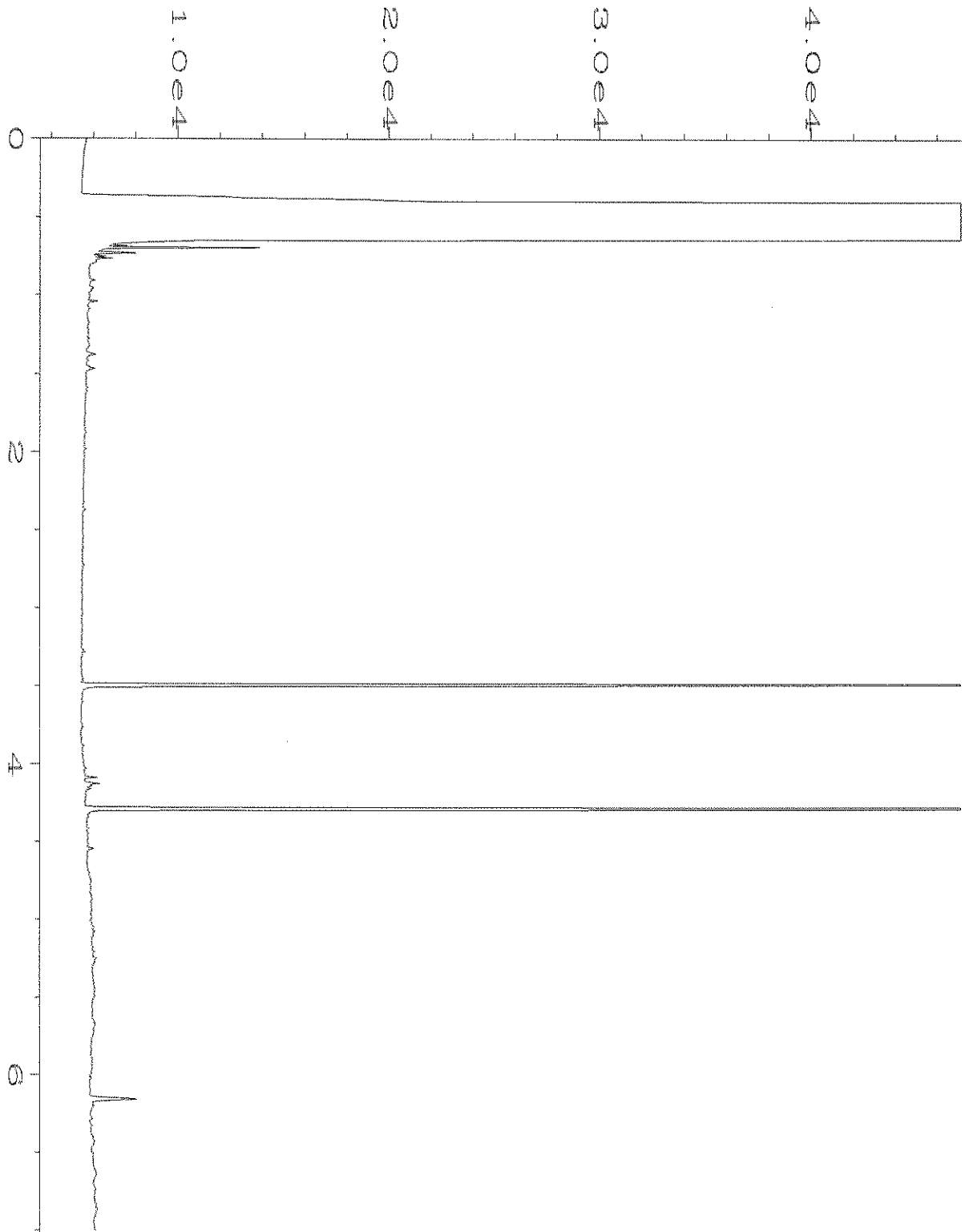
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

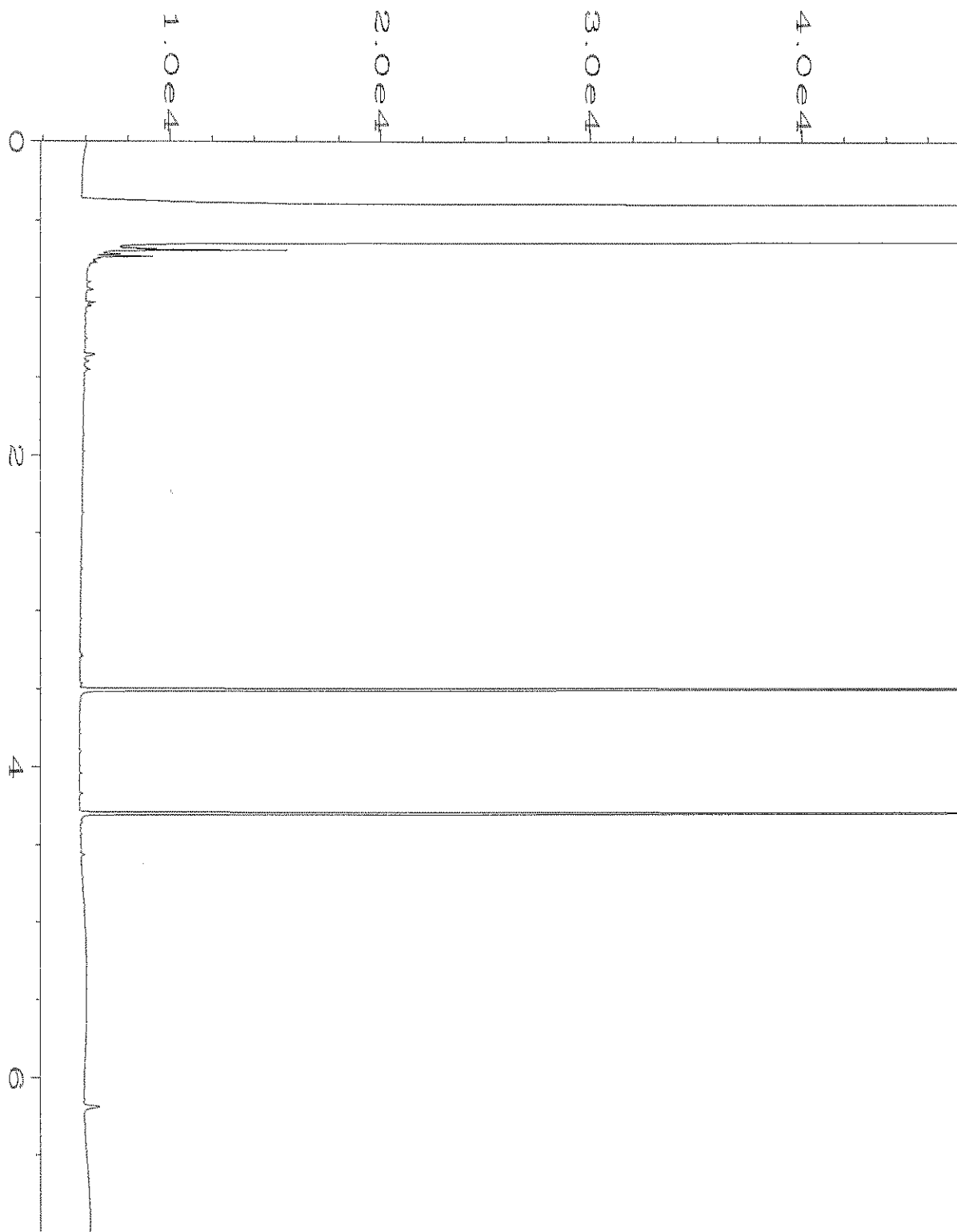




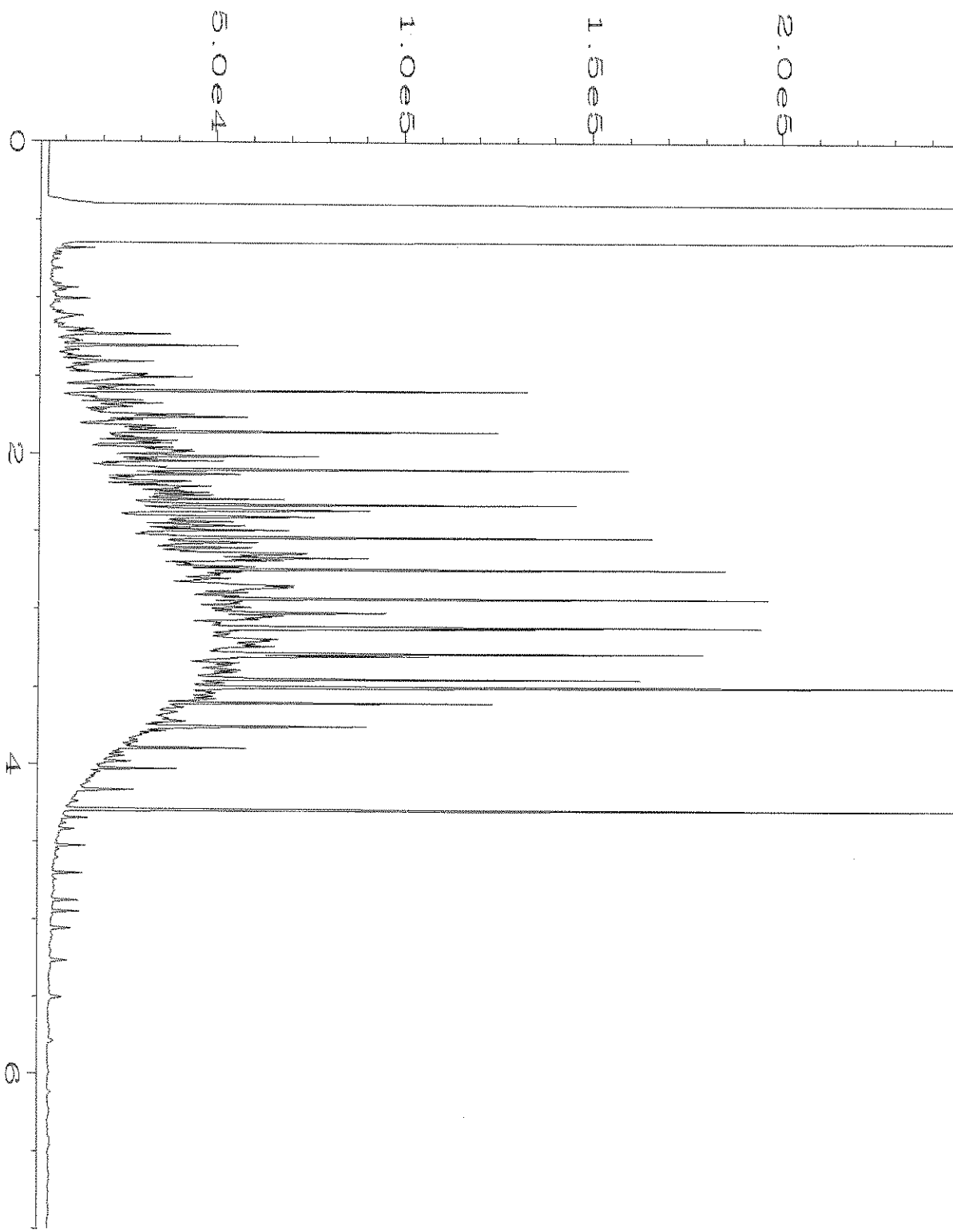
Data File Name	: C:\HPCHEM\6\DATA\11-10-20\036F0601.D	Page Number	: 1
Operator	: TL	Vial Number	: 36
Instrument	: GC6	Injection Number	: 1
Sample Name	: 011185-01	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 10 Nov 20 04:17 PM	Analysis Method	: DX.MTH
Report Created on:	11 Nov 20 09:44 AM		



Data File Name	: C:\HPCHEM\6\DATA\11-10-20\037F0601.D	Page Number	: 1
Operator	: TL	Vial Number	: 37
Instrument	: GC6	Injection Number	: 1
Sample Name	: 011185-03	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 10 Nov 20 04:28 PM	Analysis Method	: DX.MTH
Report Created on:	11 Nov 20 09:44 AM		



Data File Name	: C:\HPCHEM\6\DATA\11-10-20\015F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 15
Instrument	: GC6	Injection Number	: 1
Sample Name	: 00-2494 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 10 Nov 20 09:59 AM	Analysis Method	: DX.MTH
Report Created on:	11 Nov 20 09:44 AM		



Data File Name	: C:\HPCHEM\6\DATA\11-10-20\003F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 3
Instrument	: GC6	Injection Number	: 1
Sample Name	: 500 Dx 61-146D	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 10 Nov 20 04:50 PM	Analysis Method	: DX.MTH
Report Created on:	11 Nov 20 09:41 AM		

01185

SAMPLE CHAIN OF CUSTODY

ME 11/10-20

VS/401

Report To: Andrew Vinkofski  
 Company: Aspect Consulting  
 Address: 710 2nd Ave, Ste 550  
 City, State, ZIP: Seattle, WA 98104  
 Phone: (206) 413-5411 Email: avinko@aspectconsulting.com

SAMPLERS (signature) [Signature]  
 PROJECT NAME: TEXACO S. RICHMOND  
 PO #: 1803 ST  
 REMARKS: \*  
 INVOICE TO: AP

Page # 1 of 1  
 TURNAROUND TIME  
 Standard turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL  
 Archive samples  
 Other \_\_\_\_\_  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes	
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Napthalene	Hold			
GP-05-1.25	01 A.E	11/10/20	0928	Soil	5	X	X	X						X			
GP-05-6	02		0936	Soil	5									X			
GP-06-2.5	03		1226	Soil	5	X	X	X						X			

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119, 20229  
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Derek Urak</u>	<u>Aspect Consulting</u>	<u>11/10/20</u>	<u>1445</u>
<u>[Signature]</u>	<u>Dhan Pham</u>	<u>FE BI</u>	<u>11/10/20</u>	<u>1445</u>
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

November 24, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the additional results from the testing of material submitted on November 10, 2020 from the Texaco Strickland PO 180357, F&BI 011185 project. There are 9 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Aspect Data  
ASP1124R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 10, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 011185 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
011185 -01	GP-05-1.25
011185 -02	GP-05-6
011185 -03	GP-06-2.5

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/24/20

Date Received: 11/10/20

Project: Texaco Strickland PO 180357, F&BI 011185

Date Extracted: 11/18/20

Date Analyzed: 11/18/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
GP-05-6 011185-02	<0.02	<0.02	<0.02	<0.06	<5	82
Method Blank 00-2419 MB2	<0.02	<0.02	<0.02	<0.06	<5	81



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/24/20

Date Received: 11/10/20

Project: Texaco Strickland PO 180357, F&BI 011185

Date Extracted: 11/18/20

Date Analyzed: 11/18/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
GP-05-6 011185-02	<50	<250	90
Method Blank 00-2532 MB	<50	<250	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	GP-05-6	Client:	Aspect Consulting, LLC
Date Received:	11/10/20	Project:	Texaco Strickland PO 180357
Date Extracted:	11/19/20	Lab ID:	011185-02
Date Analyzed:	11/19/20	Data File:	111919.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	62	145
Toluene-d8	100	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	11/19/20	Lab ID:	00-2697 mb
Date Analyzed:	11/19/20	Data File:	111909.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/24/20

Date Received: 11/10/20

Project: Texaco Strickland PO 180357, F&BI 011185

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 011312-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	92	69-120
Toluene	mg/kg (ppm)	0.5	94	70-117
Ethylbenzene	mg/kg (ppm)	0.5	94	65-123
Xylenes	mg/kg (ppm)	1.5	93	66-120
Gasoline	mg/kg (ppm)	20	95	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/24/20

Date Received: 11/10/20

Project: Texaco Strickland PO 180357, F&BI 011185

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 011185-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	98	94	73-135	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	90	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/24/20

Date Received: 11/10/20

Project: Texaco Strickland PO 180357, F&BI 011185

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 011324-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	1	<0.05	86	78	14-157	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	1	91	63-140

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

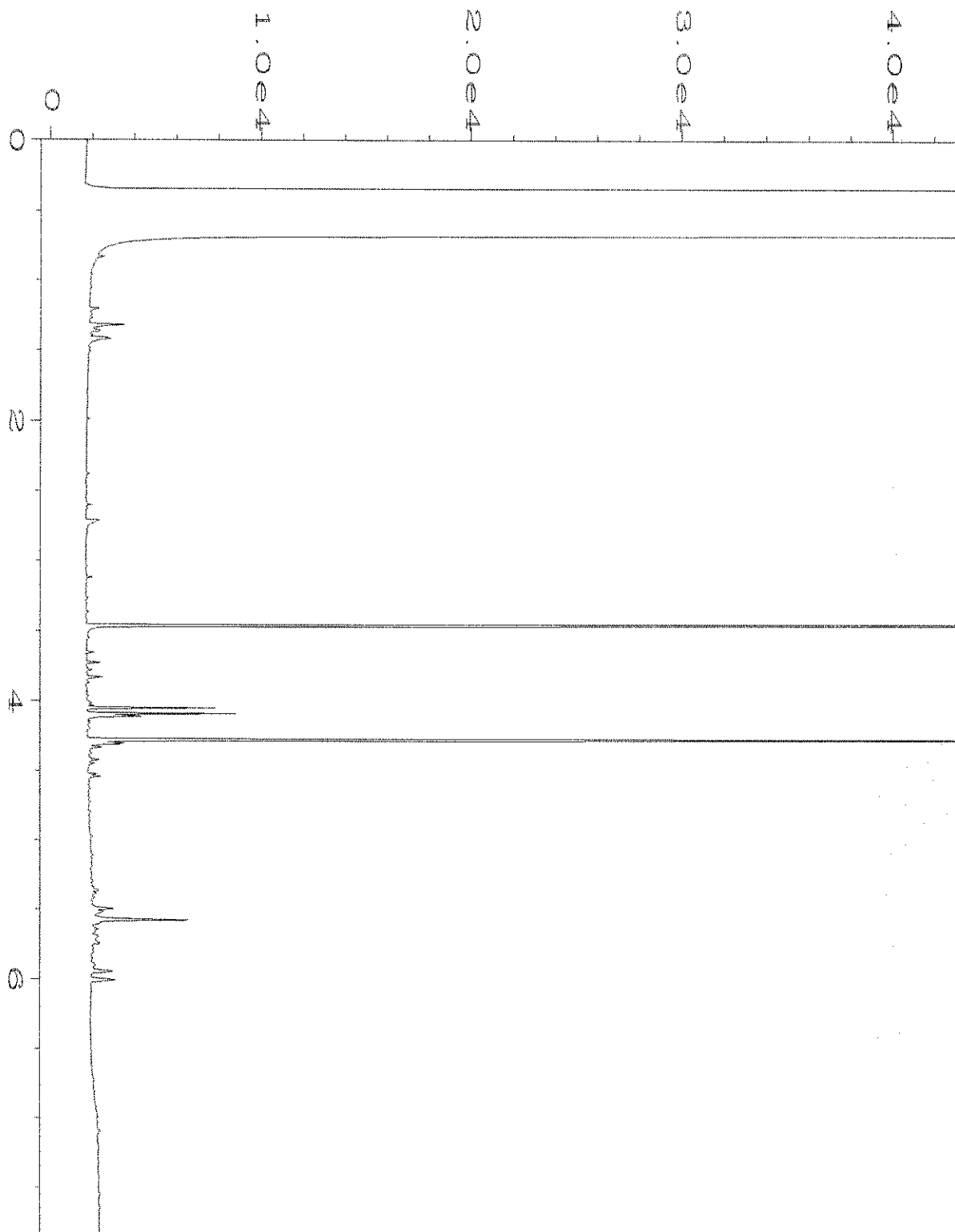
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

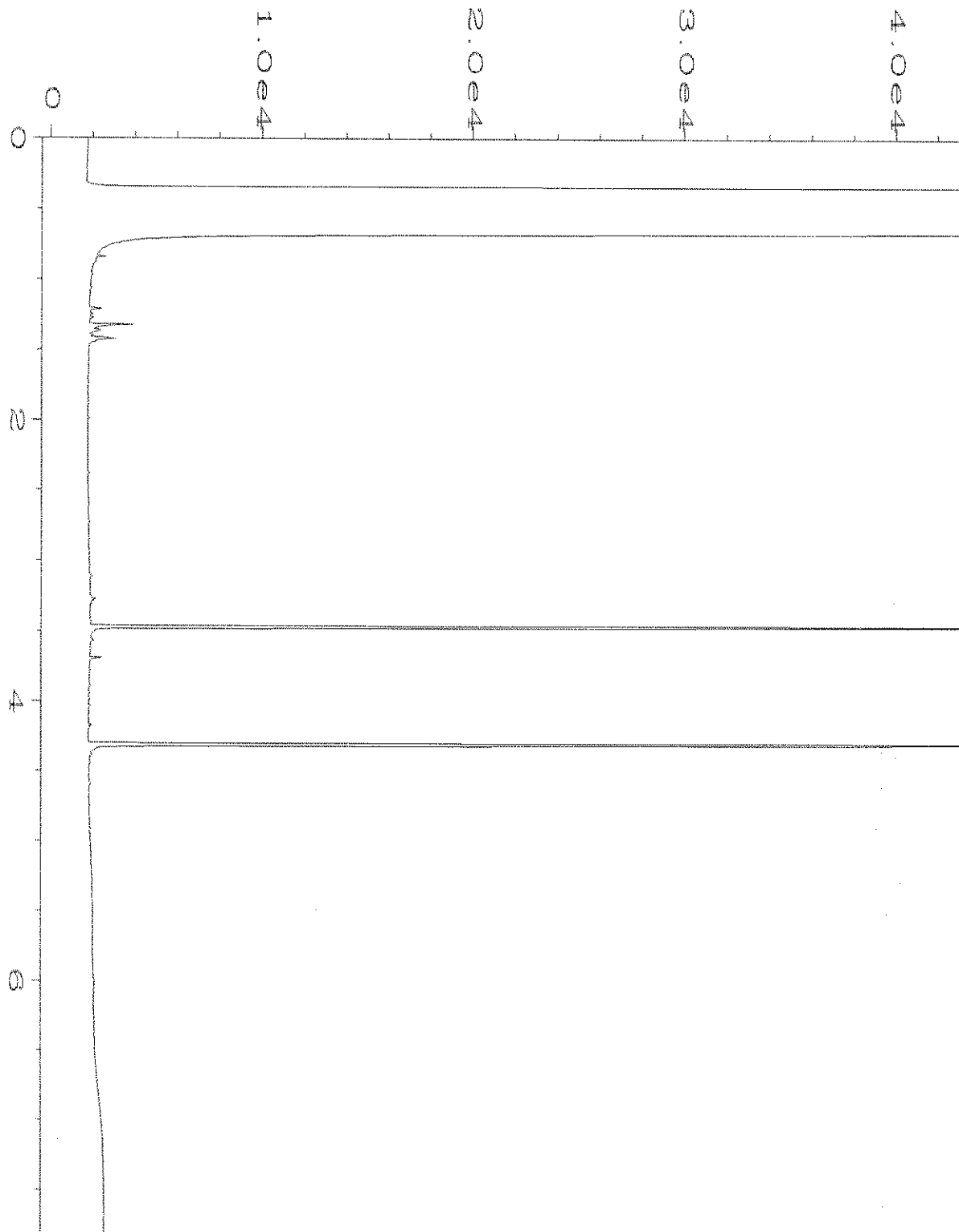
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

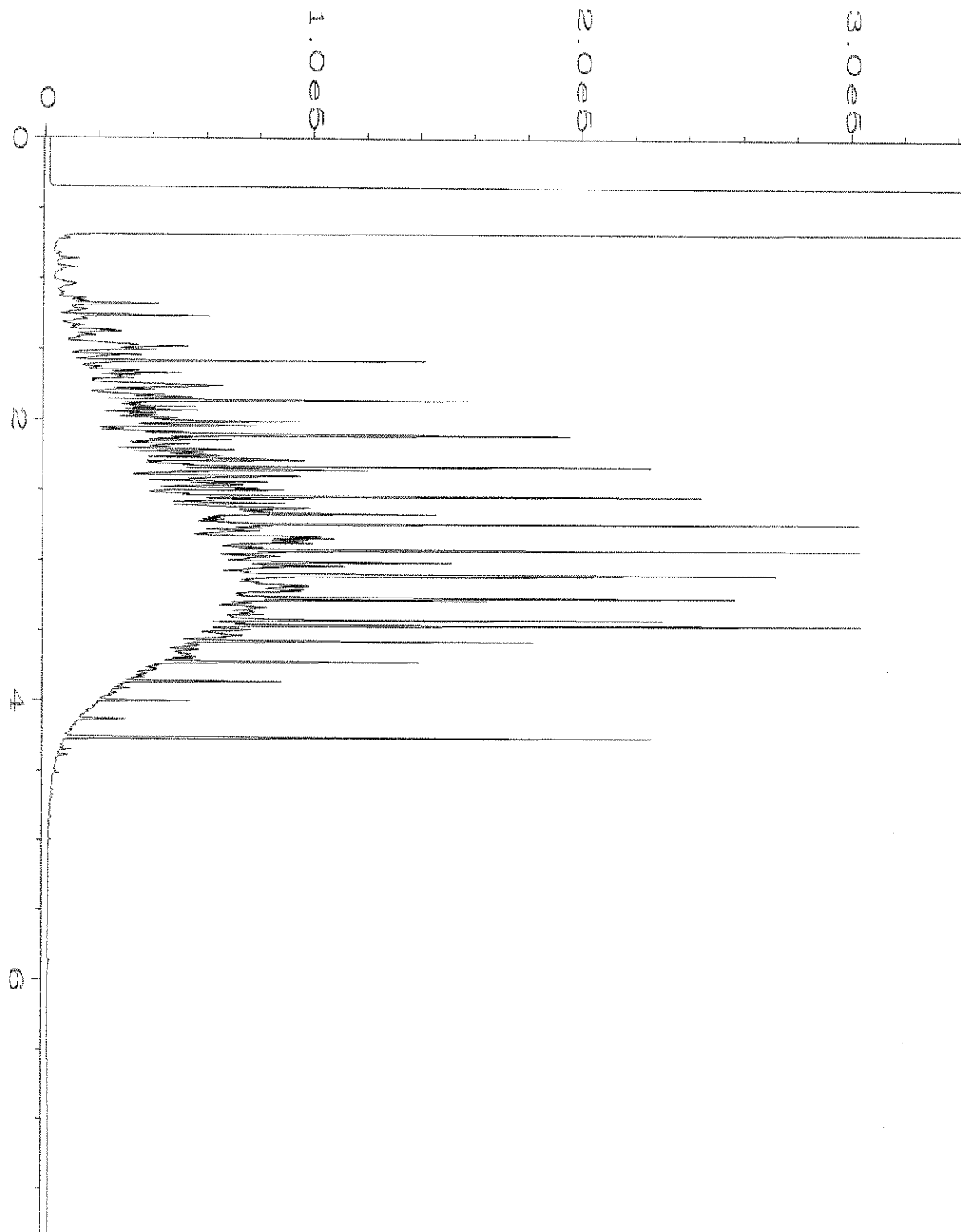


Data File Name	: C:\HPCHEM\4\DATA\11-18-20\010F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 10
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 011185-02	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 18 Nov 20 10:53 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	19 Nov 20 06:39 AM		





Data File Name	: C:\HPCHEM\4\DATA\11-18-20\006F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 6
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 00-2532 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 18 Nov 20 10:06 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	19 Nov 20 06:39 AM		



Data File Name	: C:\HPCHEM\4\DATA\11-18-20\005F0401.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 61-146C	Sequence Line	: 4
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 18 Nov 20 01:32 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	19 Nov 20 06:39 AM		

01185

SAMPLE CHAIN OF CUSTODY

ME 11/10-20

VS/401

Report To Andrew Yunkerster

Company Aspect Consulting

Address 710 2nd Ave Ste 550

City, State, ZIP Seattle, WA 98104

Phone (206) 413-5411 Email ayunkerster@aspectconsulting.com

SAMPLERS (signature) David Lusk

PROJECT NAME TEXACO S WICKLAND

REMARKS 1

PO # 180357

INVOICE TO AP

TURNAROUND TIME  
Standard turnaround  
 RUSH  
Rush charges authorized by:

SAMPLE DISPOSAL  
 Archive samples  
 Other  
Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Naphthalene	Hold	Notes
GAP-05-1.25	01 A E	11/10/20	0928	SOIL	5	X	X	X					X		
GAP-05-6	02		0930	SOIL	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> per AY
GAP-06-2.5	03		1226	SOIL	5	X	X	X					X		11/13/20 ME

Samples received at 4 °C

Friedman & Bryva, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph: (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>David Lusk</u>	<u>Aspect Consulting</u>	<u>11/10/20</u>	<u>1448</u>
<u>[Signature]</u>	<u>Dhan Prvan</u>	<u>EC BT</u>	<u>11/10/20</u>	<u>1445</u>

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

November 30, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on November 18, 2020 from the Texaco Strickland PO 180357, F&BI 011339 project. There are 46 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Aspect Data, Adam Griffin  
ASP1130R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 18, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 011339 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
011339 -01	MW-1-111820
011339 -02	MW-2-111720
011339 -03	MW-6-111620
011339 -04	MW-7-111720
011339 -05	MW-9-111620
011339 -06	MW-10-111720
011339 -07	MW-11-111720
011339 -08	MW-12-111620
011339 -09	MW-13-111720
011339 -10	MW-14-111820
011339 -11	MW-16-111620
011339 -12	MW-17-111620
011339 -13	MW-18-111620
011339 -14	MW-19-111720
011339 -15	MW-20-111720
011339 -16	MW-21-111720
011339 -17	MW-22-111620
011339 -18	MW-23-111820
011339 -19	MW-24-111720
011339 -20	MW-25-111620
011339 -21	MW-26-111620
011339 -22	CMW-1-111720
011339 -23	CMW-4-111720
011339 -24	DUP-01-111620
011339 -25	DUP-02-111720
011339 -26	RB-01-111720
011339 -27	RB-02-111820
011339 -28	Trip Blank

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

Date Extracted: 11/19/20

Date Analyzed: 11/20/20 and 11/24/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-1-111820 011339-01 1/10	31,000	105
MW-2-111720 011339-02	4,100	93
MW-6-111620 011339-03	<100	92
MW-7-111720 011339-04	<100	90
MW-9-111620 011339-05	<100	93
MW-10-111720 011339-06 1/10	12,000	107
MW-11-111720 011339-07 1/10	5,400	97
MW-12-111620 011339-08	410	101
MW-13-111720 011339-09	1,200	105
MW-14-111820 011339-10	6,400	85
MW-16-111620 011339-11	<100	90

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

Date Extracted: 11/19/20

Date Analyzed: 11/20/20 and 11/24/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-17-111620 011339-12	1,200	89
MW-18-111620 011339-13	340	93
MW-19-111720 011339-14	<100	91
MW-20-111720 011339-15	<100	90
MW-21-111720 011339-16	6,600	121
MW-22-111620 011339-17 1/10	24,000	117
MW-23-111820 011339-18 1/10	27,000	105
MW-24-111720 011339-19	<100	93
MW-25-111620 011339-20	<100	91
MW-26-111620 011339-21	<100	89
CMW-1-111720 011339-22	<100	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

Date Extracted: 11/19/20

Date Analyzed: 11/20/20 and 11/24/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
CMW-4-111720 011339-23	<100	90
DUP-01-111620 011339-24	370	91
DUP-02-111720 011339-25 1/20	13,000	72
RB-01-111720 011339-26	<100	92
RB-02-111820 011339-27	<100	92
Trip Blank 011339-28	<100	90
Method Blank 00-2424 MB	<100	91
Method Blank 00-2426 MB	<100	94



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

Date Extracted: 11/20/20

Date Analyzed: 11/20/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 41-152)
MW-1-111820 011339-01	1,800 x	810 x	107
MW-2-111720 011339-02	1,300 x	<250	103
MW-6-111620 011339-03	<50	<250	111
MW-7-111720 011339-04	<50	<250	114
MW-9-111620 011339-05	<54	<250	106
MW-10-111720 011339-06	1,400 x	<250	100
MW-11-111720 011339-07	720 x	<250	104
MW-12-111620 011339-08	230 x	<250	101
MW-13-111720 011339-09	490 x	260 x	124
MW-14-111820 011339-10	780 x	290 x	102
MW-16-111620 011339-11	<50	<250	102
MW-17-111620 011339-12	550 x	<250	128

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

Date Extracted: 11/20/20

Date Analyzed: 11/20/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 41-152)
MW-18-111620 011339-13	59 x	<250	133
MW-19-111720 011339-14	<50	<250	126
MW-20-111720 011339-15	<50	<250	119
MW-21-111720 011339-16	2,800 x	360 x	127
MW-22-111620 011339-17	3,000 x	410 x	117
MW-23-111820 011339-18	2,600 x	390 x	126
MW-24-111720 011339-19	<50	<250	123
MW-25-111620 011339-20	<50	<250	120
MW-26-111620 011339-21	<50	<250	108
CMW-1-111720 011339-22	<50	<250	109
CMW-4-111720 011339-23	<50	<250	118
DUP-01-111620 011339-24	59 x	<250	131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

Date Extracted: 11/20/20

Date Analyzed: 11/20/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 41-152)
DUP-02-111720 011339-25	1,700 x	280 x	115
RB-01-111720 011339-26	<50	<250	111
RB-02-111820 011339-27	<50	<250	129
Method Blank 00-2573 MB	<50	<250	103
Method Blank 00-2542 MB2	<50	<250	102

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-1-111820	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-01 1/50
Date Analyzed:	11/20/20	Data File:	111947.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	5,600
Toluene	740
Ethylbenzene	720
m,p-Xylene	2,200
o-Xylene	580
Naphthalene	200

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-2-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-02
Date Analyzed:	11/19/20	Data File:	111936.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	29
Toluene	7.8
Ethylbenzene	49
m,p-Xylene	20
o-Xylene	4.4
Naphthalene	150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-6-111620	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-03
Date Analyzed:	11/19/20	Data File:	111937.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	121	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-7-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-04
Date Analyzed:	11/19/20	Data File:	111938.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	116	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-9-111620	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-05
Date Analyzed:	11/19/20	Data File:	111939.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-10-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-06 1/10
Date Analyzed:	11/20/20	Data File:	111948.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	1,600 ve
Toluene	31
Ethylbenzene	630
m,p-Xylene	620
o-Xylene	<10
Naphthalene	220

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-10-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-06 1/50
Date Analyzed:	11/21/20	Data File:	112030.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	131	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	1,800

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-11-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-07 1/50
Date Analyzed:	11/20/20	Data File:	111949.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	107	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	160
Toluene	290
Ethylbenzene	220
m,p-Xylene	280
o-Xylene	120
Naphthalene	110

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-12-111620	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-08
Date Analyzed:	11/19/20	Data File:	111940.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	0.65
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-13-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-09
Date Analyzed:	11/19/20	Data File:	111941.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	1.5
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-14-111820	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-10 1/10
Date Analyzed:	11/20/20	Data File:	111950.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	118	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	1,800 ve
Toluene	19
Ethylbenzene	31
m,p-Xylene	<20
o-Xylene	<10
Naphthalene	46

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-14-111820	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-10 1/50
Date Analyzed:	11/21/20	Data File:	112031.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	50	150
Toluene-d8	107	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	2,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-16-111620	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-11
Date Analyzed:	11/19/20	Data File:	111942.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-17-111620	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-12
Date Analyzed:	11/20/20	Data File:	111943.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	115	50	150
Toluene-d8	95	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	5.7
Toluene	6.9
Ethylbenzene	<1
m,p-Xylene	16
o-Xylene	<1
Naphthalene	1.9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-18-111620	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-13
Date Analyzed:	11/20/20	Data File:	111944.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	121	50	150
Toluene-d8	94	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	61
Toluene	<1
Ethylbenzene	2.1
m,p-Xylene	9.8
o-Xylene	2.1
Naphthalene	2.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-19-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-14
Date Analyzed:	11/20/20	Data File:	111945.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-20-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-15
Date Analyzed:	11/20/20	Data File:	111946.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-21-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-16 1/10
Date Analyzed:	11/19/20	Data File:	111938.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	107	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	25
Toluene	12
Ethylbenzene	620
m,p-Xylene	43
o-Xylene	<10
Naphthalene	440

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-22-111620	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-17 1/20
Date Analyzed:	11/19/20	Data File:	111939.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	1,000
Toluene	240
Ethylbenzene	1,300
m,p-Xylene	3,500
o-Xylene	380
Naphthalene	390

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-23-111820	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-18 1/50
Date Analyzed:	11/19/20	Data File:	111940.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	5,300
Toluene	120
Ethylbenzene	640
m,p-Xylene	930
o-Xylene	<50
Naphthalene	170

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-24-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-19
Date Analyzed:	11/19/20	Data File:	111935.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	105	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-25-111620	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-20
Date Analyzed:	11/19/20	Data File:	111936.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	0.53
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-26-111620	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-21
Date Analyzed:	11/19/20	Data File:	111937.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	CMW-1-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-22
Date Analyzed:	11/19/20	Data File:	111943.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	CMW-4-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-23
Date Analyzed:	11/19/20	Data File:	111944.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	105	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DUP-01-111620	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-24
Date Analyzed:	11/21/20	Data File:	112029.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	83
Toluene	1.3
Ethylbenzene	3.3
m,p-Xylene	15
o-Xylene	2.9
Naphthalene	3.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DUP-02-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-25 1/50
Date Analyzed:	11/19/20	Data File:	111942.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	105	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	1,800
Toluene	32
Ethylbenzene	710
m,p-Xylene	690
o-Xylene	<50
Naphthalene	200

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	RB-01-111720	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-26
Date Analyzed:	11/19/20	Data File:	111932.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	106	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	RB-02-111820	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-27
Date Analyzed:	11/19/20	Data File:	111933.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	105	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	11/18/20	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	011339-28
Date Analyzed:	11/19/20	Data File:	111934.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	00-2696 mb
Date Analyzed:	11/19/20	Data File:	111908.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<0.5
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357, F&BI 011339
Date Extracted:	11/19/20	Lab ID:	00-2545 mb
Date Analyzed:	11/19/20	Data File:	111907.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	125	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 011333-05 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	97	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 011339-11 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	92	63-142	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	89	108	63-142	19

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 011340-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	
				Recovery MS	Acceptance Criteria
Benzene	ug/L (ppb)	10	<0.35	105	50-150
Toluene	ug/L (ppb)	10	<1	104	50-150
Ethylbenzene	ug/L (ppb)	10	<1	106	50-150
m,p-Xylene	ug/L (ppb)	20	<2	104	50-150
o-Xylene	ug/L (ppb)	10	<1	105	50-150
Naphthalene	ug/L (ppb)	10	<1	108	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent		Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Benzene	ug/L (ppb)	10	99	106	70-130	7
Toluene	ug/L (ppb)	10	103	107	70-130	4
Ethylbenzene	ug/L (ppb)	10	104	105	70-130	1
m,p-Xylene	ug/L (ppb)	20	102	104	70-130	2
o-Xylene	ug/L (ppb)	10	103	105	70-130	2
Naphthalene	ug/L (ppb)	10	108	107	70-130	1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/30/20

Date Received: 11/18/20

Project: Texaco Strickland PO 180357, F&BI 011339

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 011339-19 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Benzene	ug/L (ppb)	10	<0.35	99	76-125
Toluene	ug/L (ppb)	10	<1	98	76-122
Ethylbenzene	ug/L (ppb)	10	<1	99	69-135
m,p-Xylene	ug/L (ppb)	20	<2	99	69-135
o-Xylene	ug/L (ppb)	10	<1	97	60-140
Naphthalene	ug/L (ppb)	10	<1	90	44-164

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Percent	Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Benzene	ug/L (ppb)	10	102	100	69-134	2
Toluene	ug/L (ppb)	10	99	97	72-122	2
Ethylbenzene	ug/L (ppb)	10	99	98	77-124	1
m,p-Xylene	ug/L (ppb)	20	99	96	81-112	3
o-Xylene	ug/L (ppb)	10	100	96	81-121	4
Naphthalene	ug/L (ppb)	10	100	95	64-133	5

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

011339

SAMPLE CHAIN OF CUSTODY

ME 11-18-20

WS5/1503

Page # of 3

Report To Andrew Korkovskiy / Alon Gofen

Company Aspect Consultants

Address 710 2nd Ave Ste 550

City, State, ZIP Seattle WA, 98104

Phone (206) 413-5411 Email aykorkovskiy@aspect.com

SAMPLERS (signature) *[Signature]*

PROJECT NAME Texas Shiloh

PO # 180357

REMARKS APR

INVOICE TO APR

Project specific RI's? - Yes / No

ANALYSES REQUESTED

TURNAROUND TIME

Standard turnaround

RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Archive samples

Other \_\_\_\_\_

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8032	Notes
MU-1-111820	01A-G	11/18/20	0945	UG	7	X	X					X	
MU-2-111720	02	11/17/20	1500		1								
MU-6-111620	03	11/16/20	1550		1								
MU-7-111720	04	11/17/20	1120		1								
MU-9-111620	05	11/16/20	1400		1								
MU-10-111720	06	11/17/20	1345		1								
MU-11-111720	07	11/17/20	1010		1								
MU-12-111620	08	11/16/20	1415		1								
MU-13-111720	09	11/17/20	1230		1								
MU-14-111820	10	11/18/20	1140		1								

Received by: *[Signature]* PRINT NAME David Urso COMPANY Aspect Consultants DATE 11/18/20 TIME 1448

Relinquished by: *[Signature]* PRINT NAME Alon Gofen COMPANY Aspect Consultants DATE 11/18/20 TIME 1448

Received by: *[Signature]* PRINT NAME Alon Gofen COMPANY Aspect Consultants DATE 11/18/20 TIME 1448

Relinquished by: *[Signature]* PRINT NAME Alon Gofen COMPANY Aspect Consultants DATE 11/18/20 TIME 1448

Received by: \_\_\_\_\_ PRINT NAME \_\_\_\_\_ COMPANY \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

Relinquished by: \_\_\_\_\_ PRINT NAME \_\_\_\_\_ COMPANY \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

011339

SAMPLE CHAIN OF CUSTODY

ME 11-18-20

WWS 1503

Page # 2 of 3

Report To: Andrew Yorkelski & Adam Erickson

Company: Aspect Consulting

Address: 710 2nd Ave Ste 550

City, State, ZIP: Seattle, WA 98104

Phone: (206) 413-5411 Email: ayorkelski@aspectconsulting.com

SAMPLERS (signature) [Signature]

PROJECT NAME: TEXAS STRIKELAND

PO #: 180357

REMARKS: INVOICE TO APD

Project specific RI's? - Yes /  No

TURNAROUND TIME

Standard turnaround

RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Archive samples

Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes				
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082								
MWS-16-111620	11A-G	11/16/20	0850	UL	2	X	X								X					
MWS-17-111620		11/17/20	0850																	
MWS-18-111620		11/16/20	1110																	
MWS-19-111720		11/17/20	1300																	
MWS-20-111720		11/17/20	0915																	
MWS-21-111720		11/17/20	1030																	
MWS-22-111620		11/16/20	1315																	
MWS-23-111820		11/18/20	1040																	
MWS-24-111720		11/17/20	0900																	
MWS-25-111620		11/16/20	1215																	

Friedman & Bryna, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Daryl Uvalde</u>	<u>Aspect Consulting</u>	<u>11/18/20</u>	<u>1445</u>
<u>[Signature]</u>	<u>Dawn Pivan</u>	<u>FBI</u>	<u>11/18/20</u>	<u>1446</u>
Received by:		Samples received at		

011339

SAMPLE CHAIN OF CUSTODY ME 11-18-20

11/18/20 1503

Report To Andrew Yanketsko / Dawn Collier

Company Aspect Consultants

Address 710 2nd Ave Ste 550

City, State, ZIP Seattle, WA, 98104

Phone (206) 413-5711 Email ayanketsko@aspectconsulting.com

SAMPLERS (signature) [Signature]

PROJECT NAME Texas Strikland

PO # 180357

REMARKS

INVOICE TO APP

Project specific RI's? - Yes / No No

ANALYSES REQUESTED

TURNAROUND TIME

Standard turnaround  RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Archive samples

Other \_\_\_\_\_

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes		
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082			
MU-26-111620	21 A-G	11/16/20	0955	WH	7	X	X						X		
CMU-1-111720	22	11/17/20	1155		1										
CMU-4-111720	23	11/17/20	1345		1										
DUP-01-111620	24	11/16/20			1										
DUP-02-111720	25	11/17/20			1										
RB-01-111720	26	11/17/20	1455	AQ	1										
RB-02-111820	27	11/18/20	1205		1										
Trip Blank	28 A-D				4										

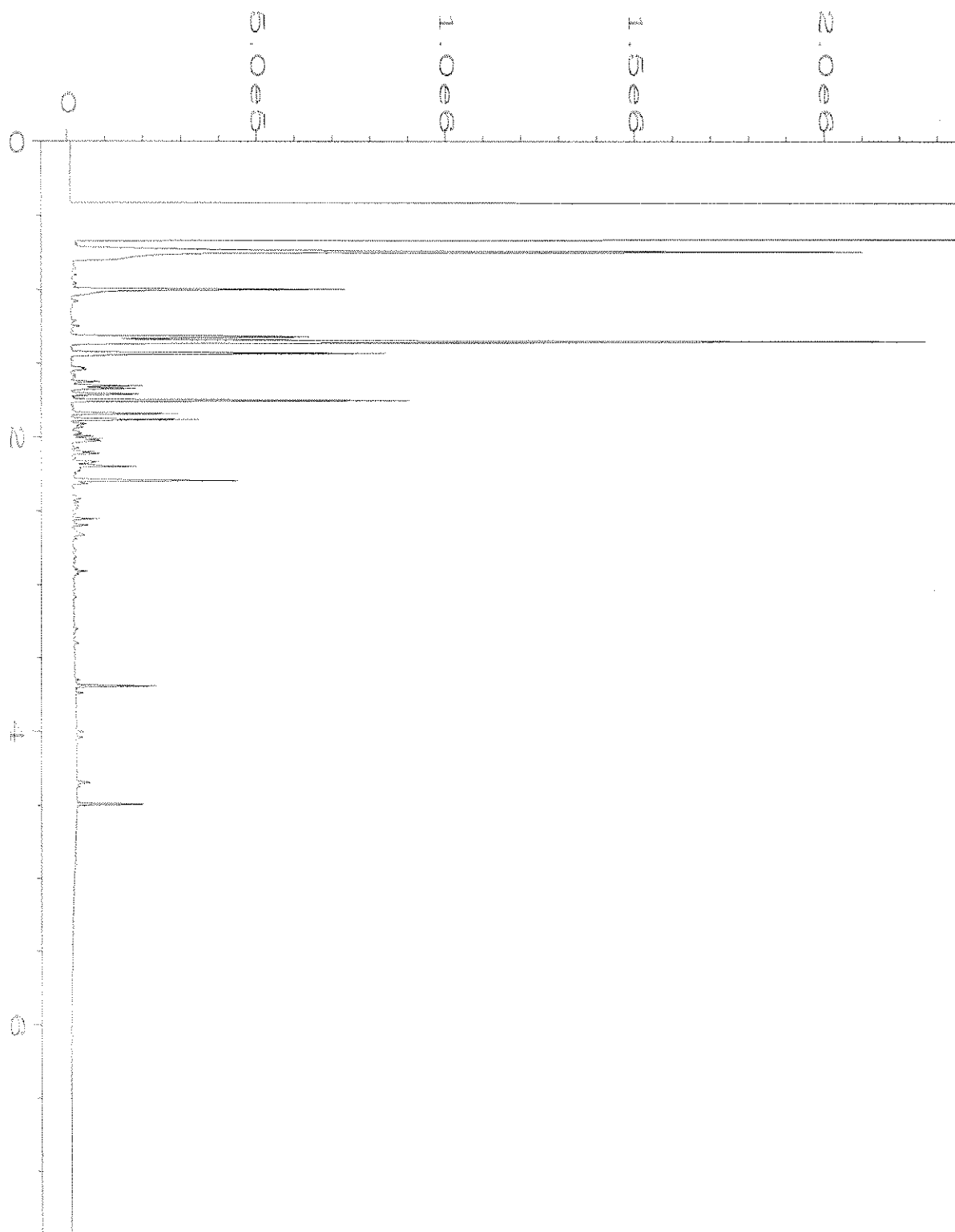
SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Dawn Urak</u>	<u>Aspect Consultants</u>	<u>11/18/20</u>	<u>1448</u>
<u>[Signature]</u>	<u>Norm Pagan</u>	<u>FCBT</u>	<u>11/18/20</u>	<u>1448</u>
Received by:		Samples received at	<u>3</u>	<u>00</u>

Friedman & Bruya, Inc.

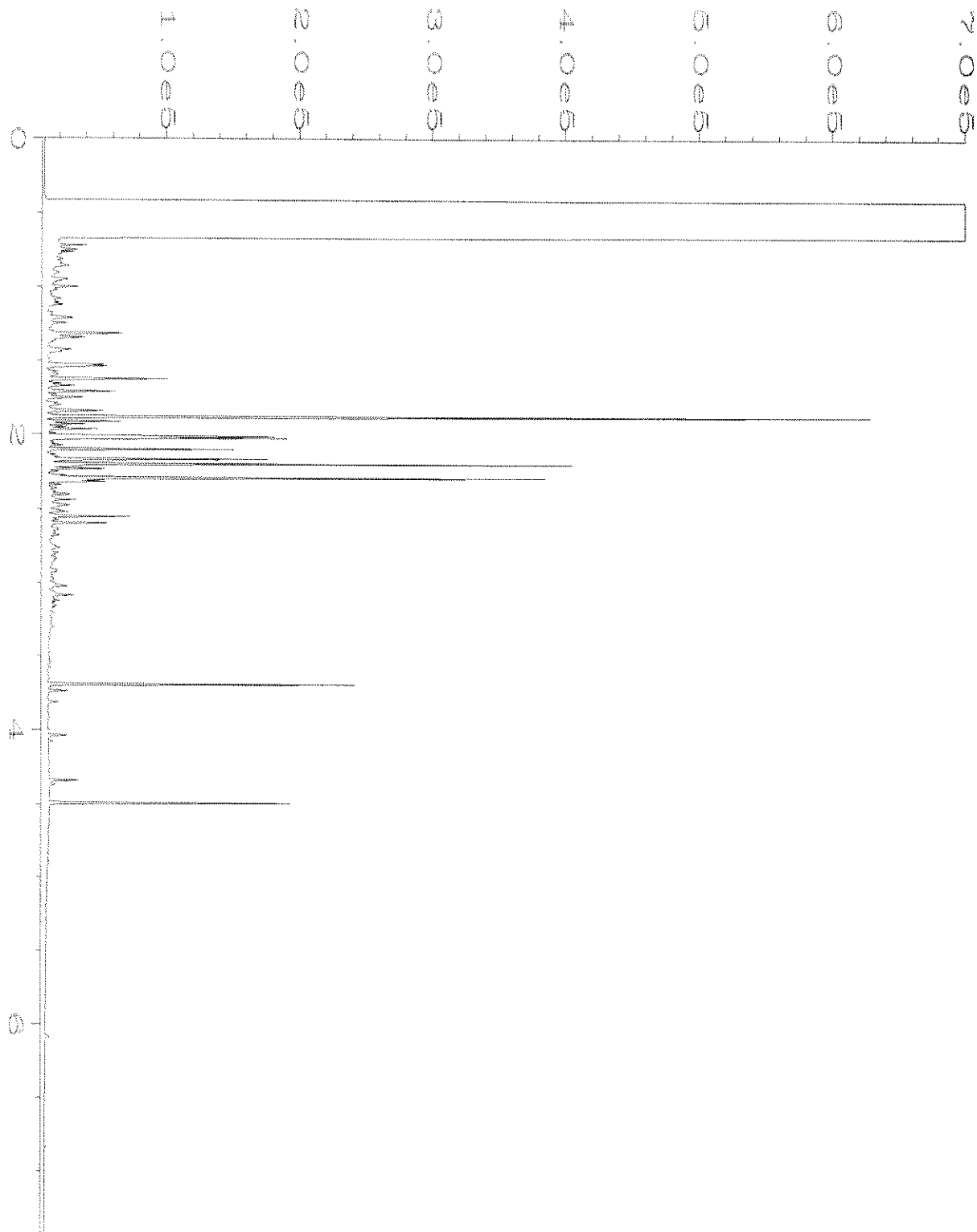
3012 16th Avenue West

Seattle, WA 98119-2029

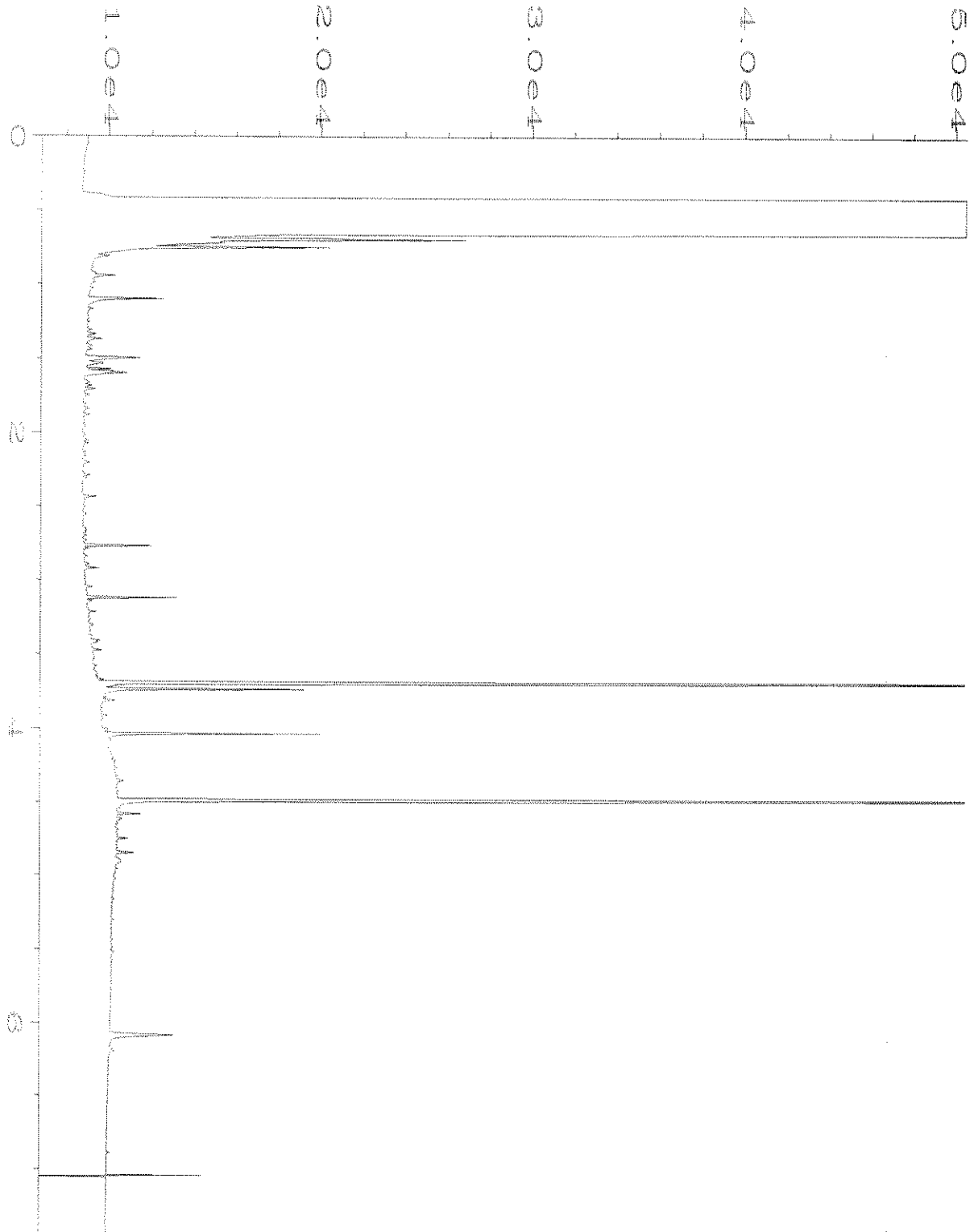
Ph. (206) 285-8282



Data File Name	: C:\HPCHEM\1\DATA\11-20-20\025F0601.D	Page Number	: 1
Operator	: TL	Vial Number	: 25
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-01	Sequence Line	: 6
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 20 Nov 20 02:51 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:11 AM		

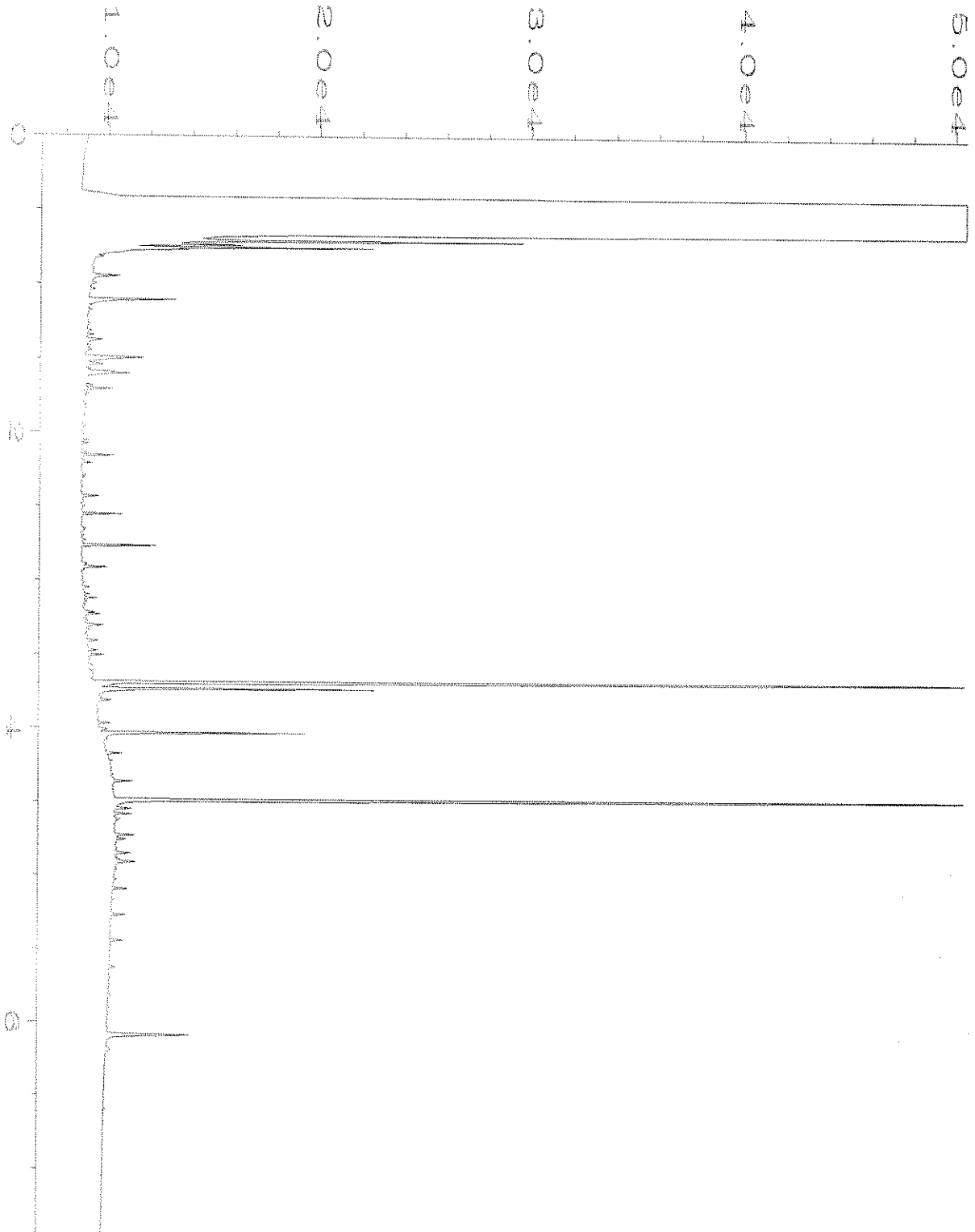


Data File Name	: C:\HPCHEM\1\DATA\11-20-20\026F0601.D	Page Number	: 1
Operator	: TL	Vial Number	: 26
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-02	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 03:02 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:11 AM		

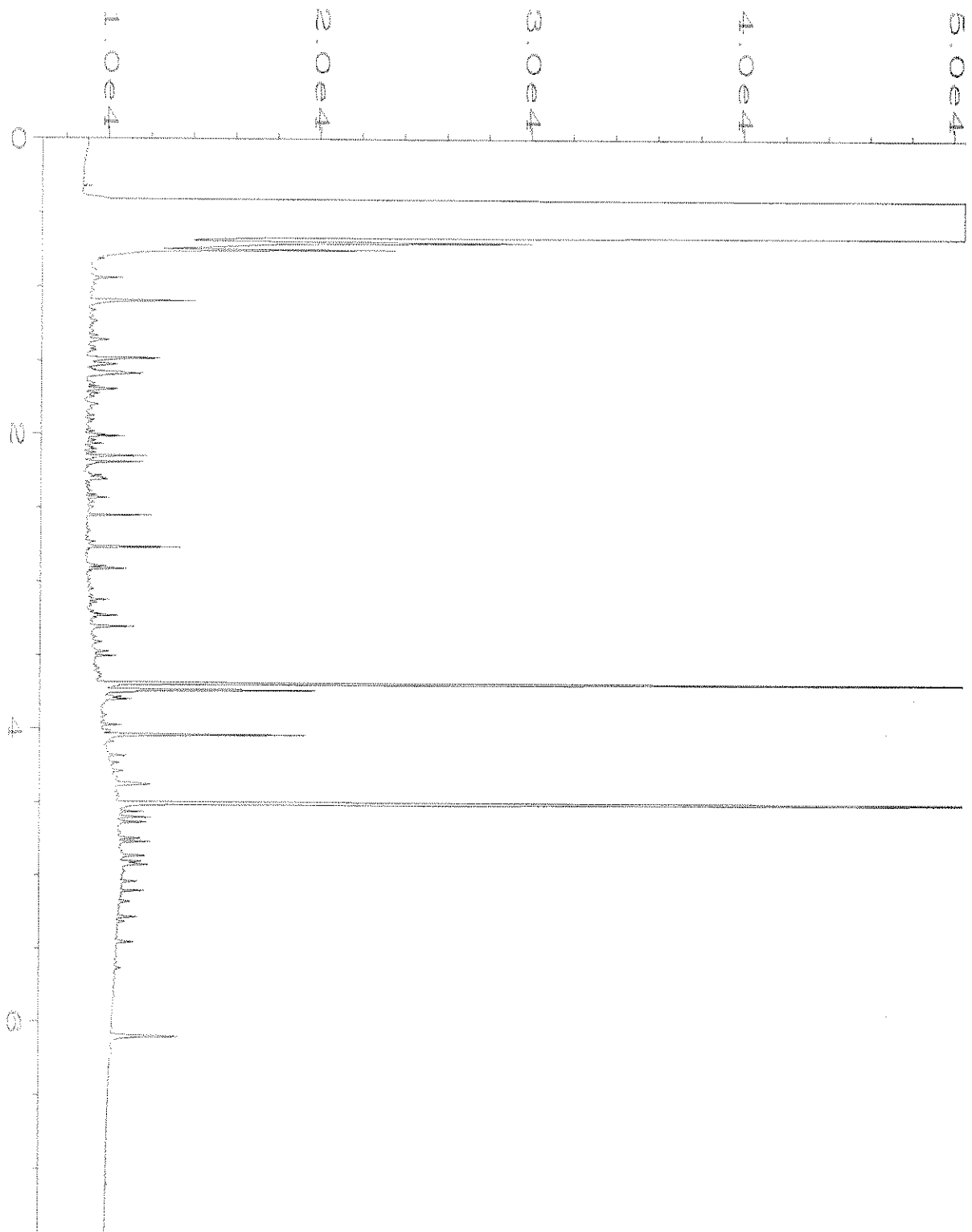


Data File Name	: C:\HPCHEM\1\DATA\11-20-20\027F0601.D	Page Number	: 1
Operator	: TL	Vial Number	: 27
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-03	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 03:14 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:11 AM		

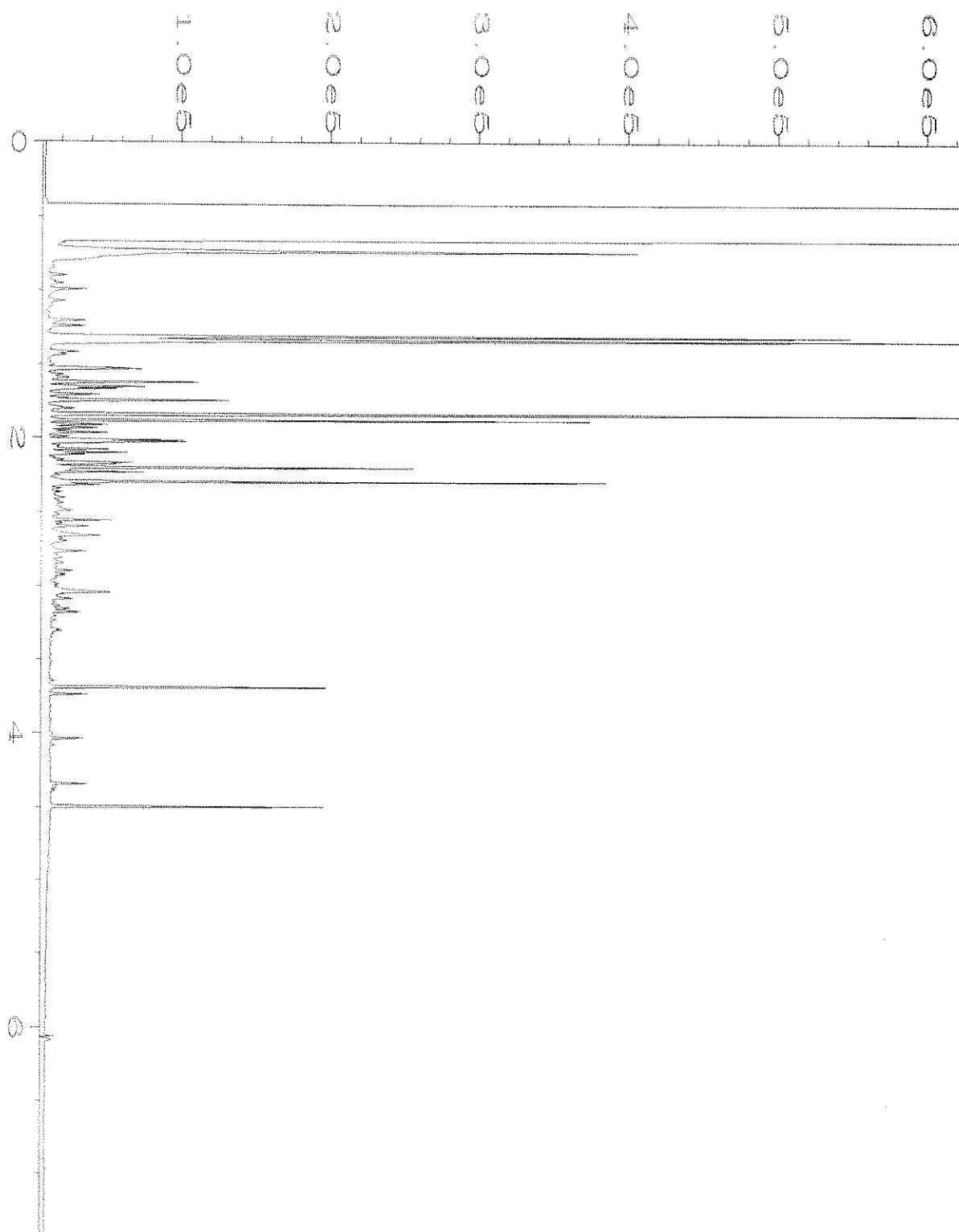




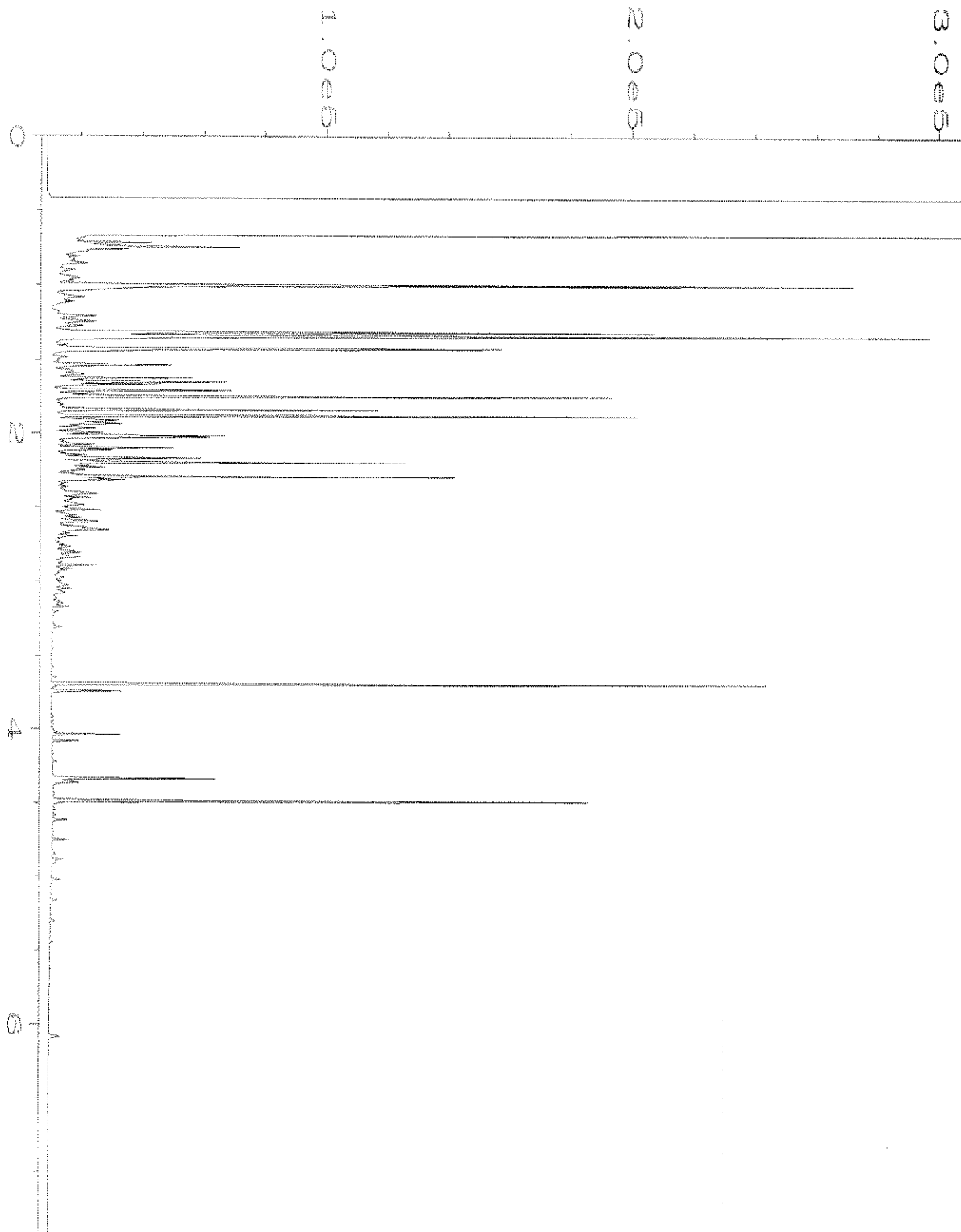
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Operator	: TL	Vial Number	: 28
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-04	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 03:25 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:12 AM		



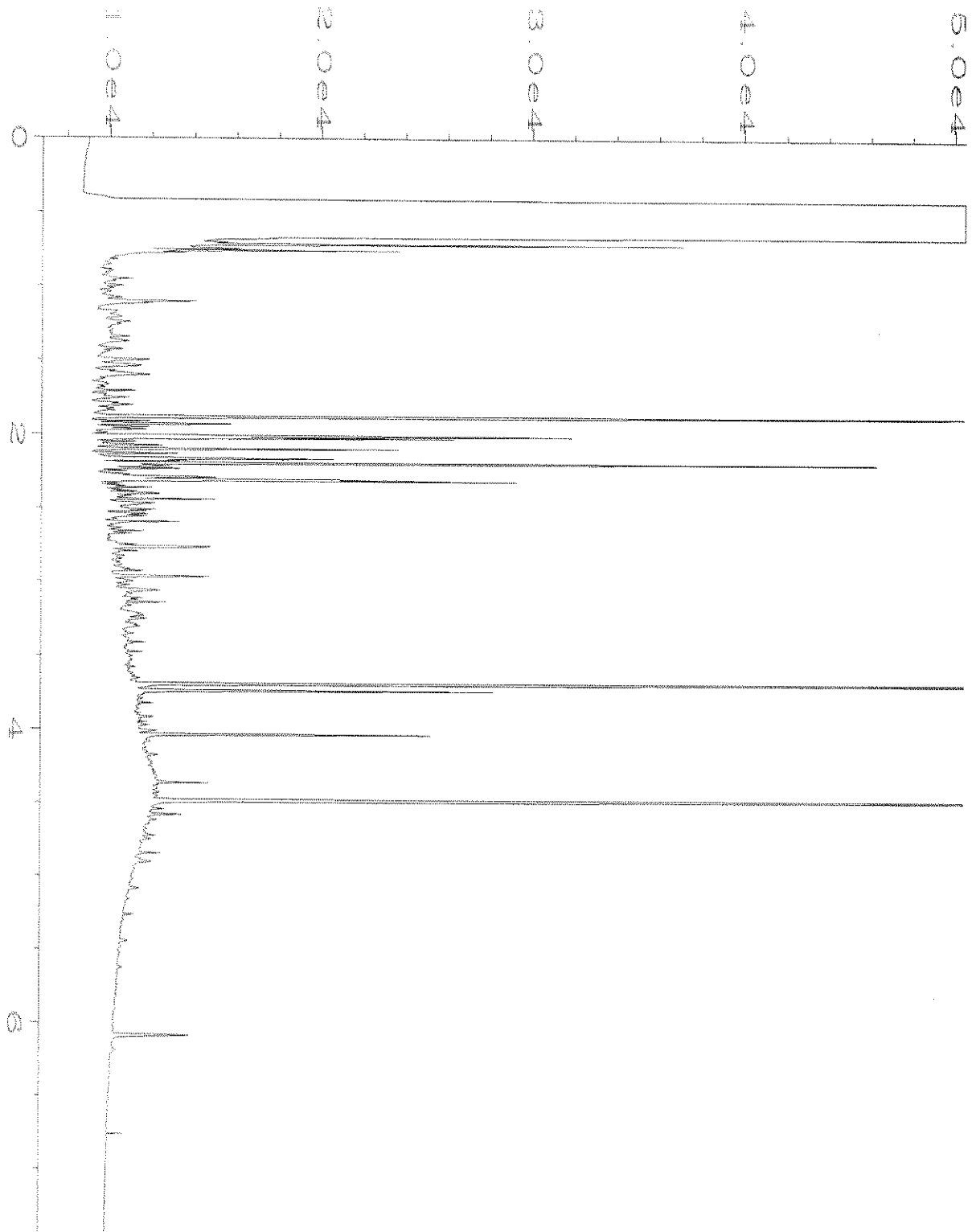
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Operator	: TL	Vial Number	: 29
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-05	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 04:10 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:12 AM		



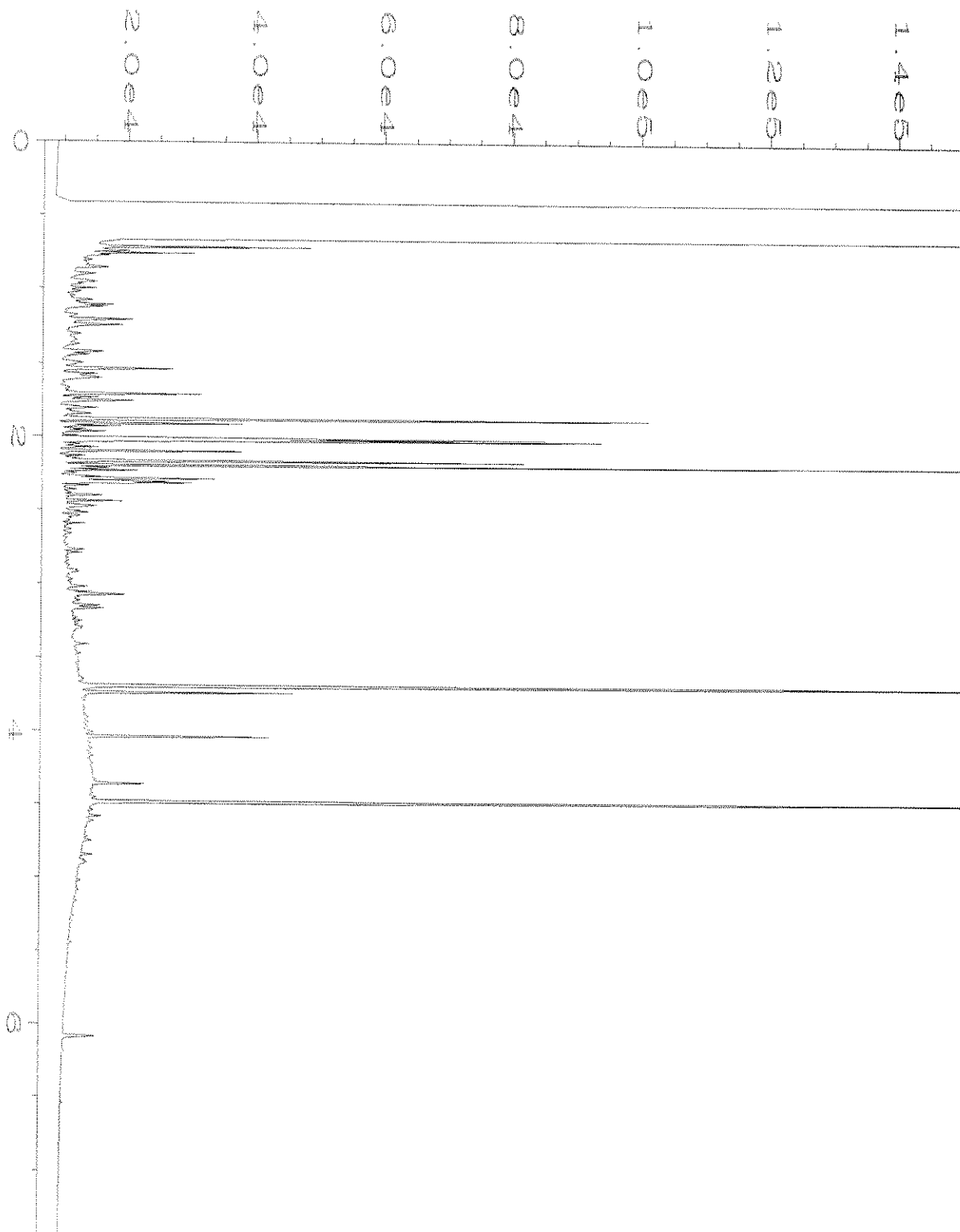
Data File Name	: C:\HPCHEM\1\DATA\11-20-20\030F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 30
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-06	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 04:19 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:12 AM		



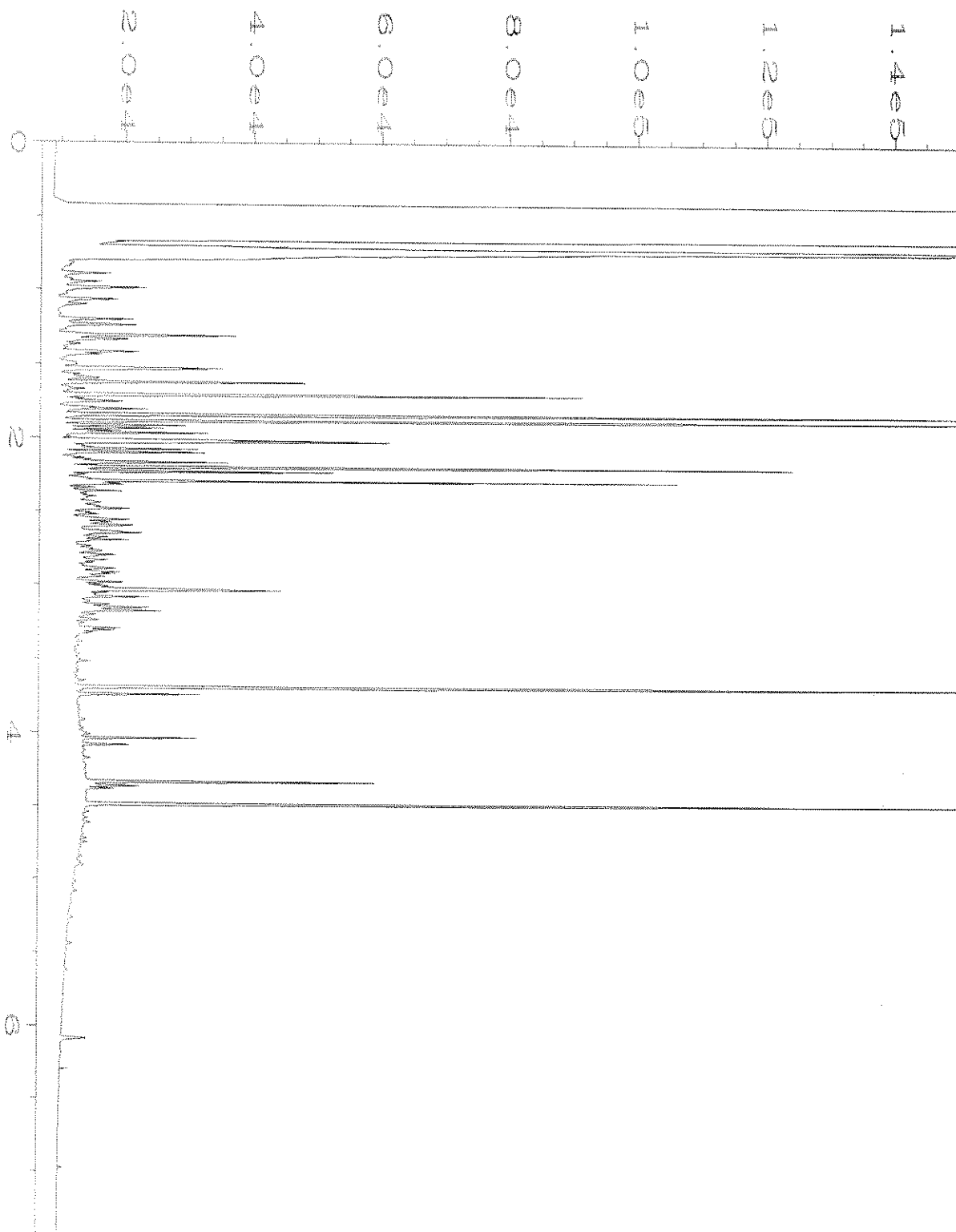
Data File Name	: C:\HPCHEM\1\DATA\11-20-20\031F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 31
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-07	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 04:30 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:12 AM		



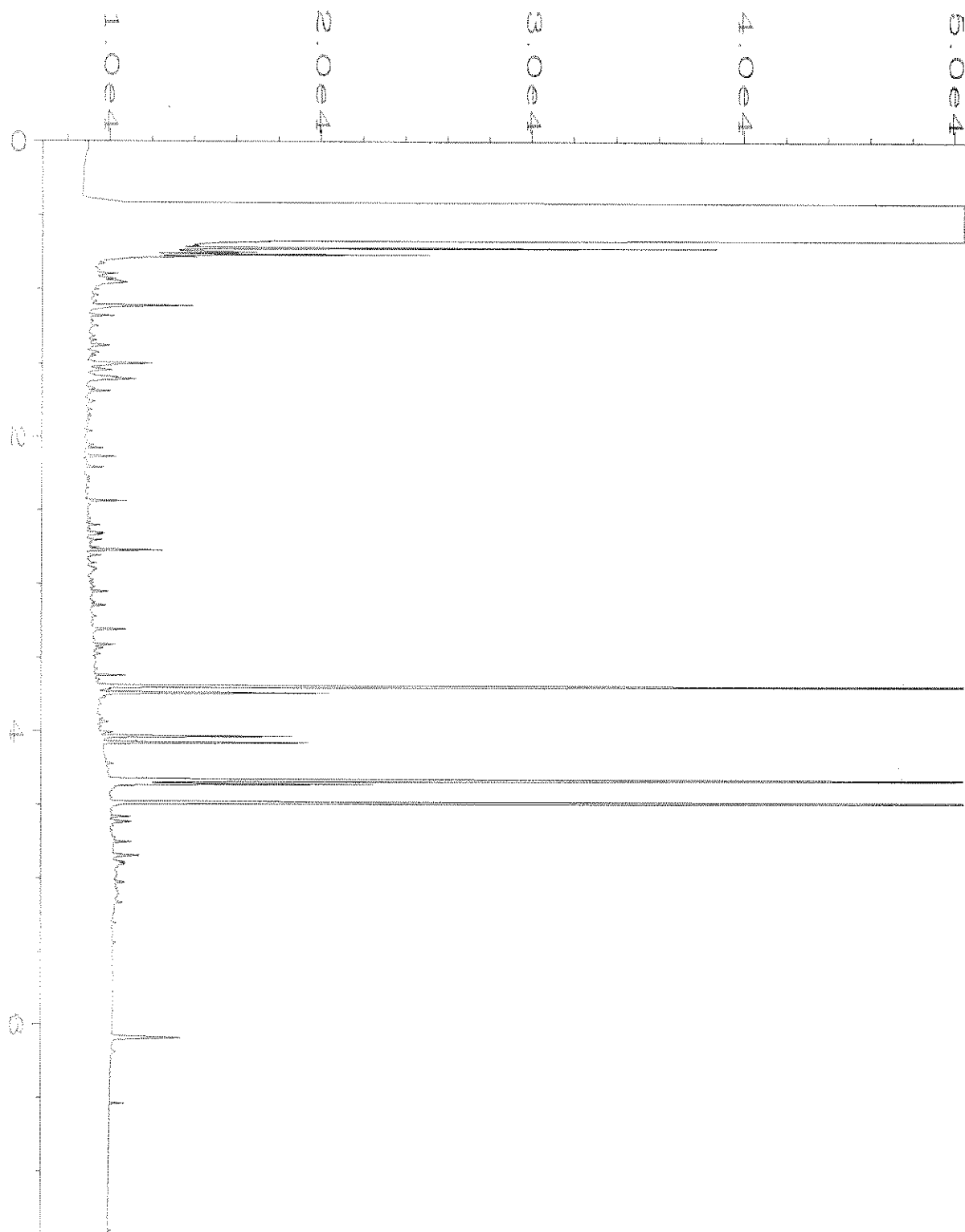
Data File Name	: C:\HPCHEM\1\DATA\11-20-20\032F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 32
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-08	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 04:41 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:12 AM		



Data File Name	: C:\HPCHEM\1\DATA\11-20-20\033F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 33
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-09	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 04:53 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:13 AM		

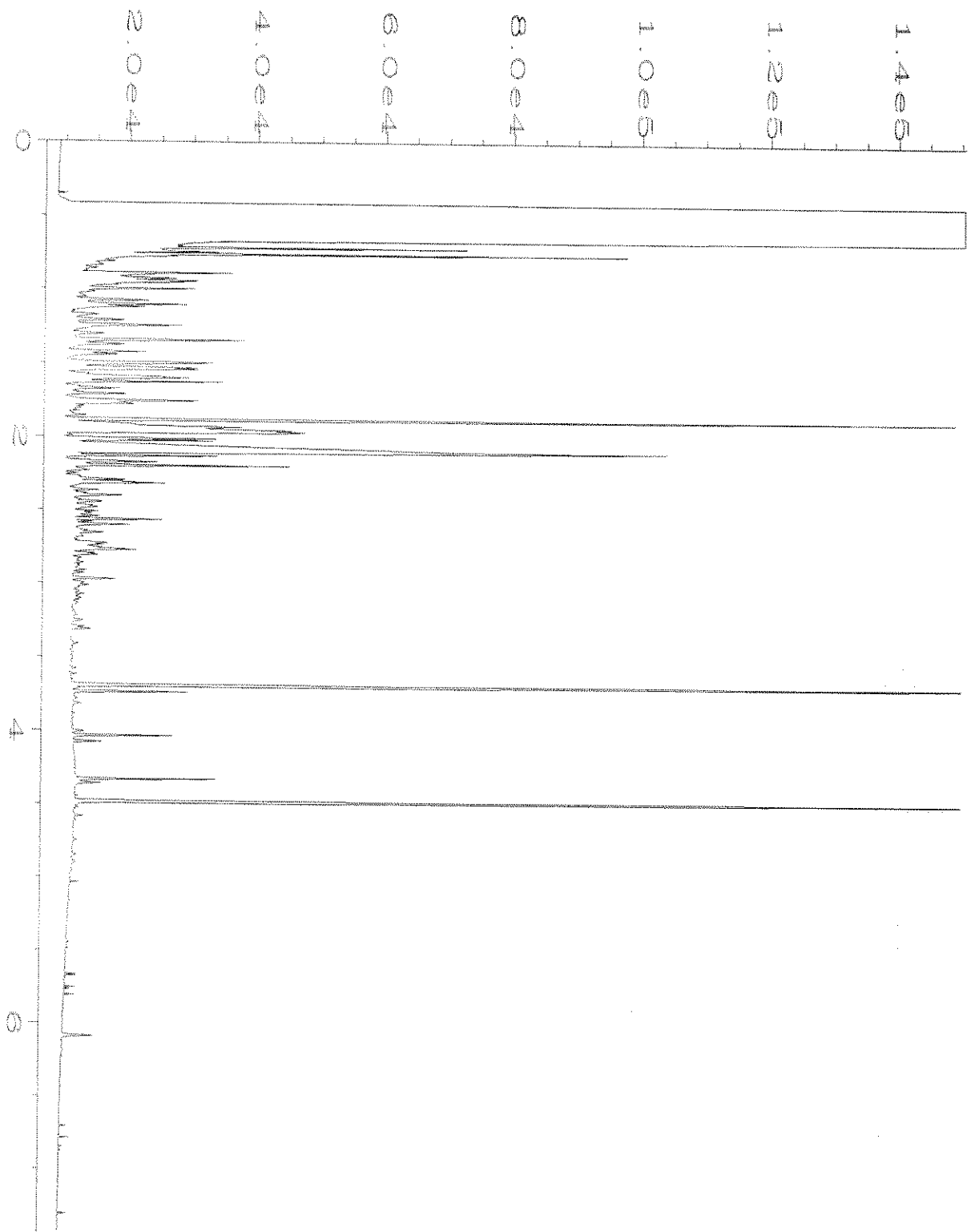


Data File Name	: C:\HPCHEM\1\DATA\11-20-20\034F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 34
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-10	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 05:04 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:13 AM		

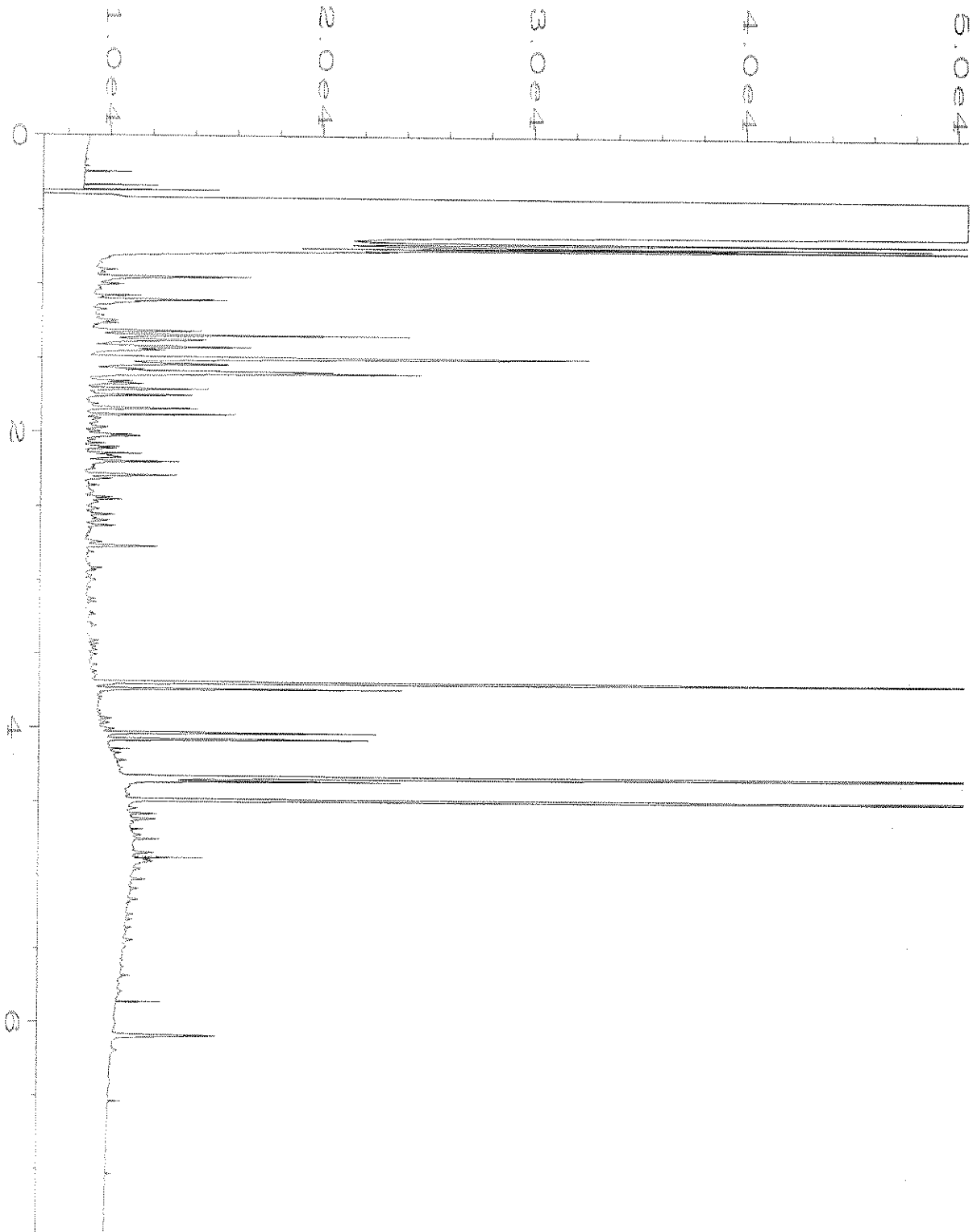


Data File Name	: C:\HPCHEM\1\DATA\11-20-20\035F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 35
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-11	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 05:16 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:13 AM		

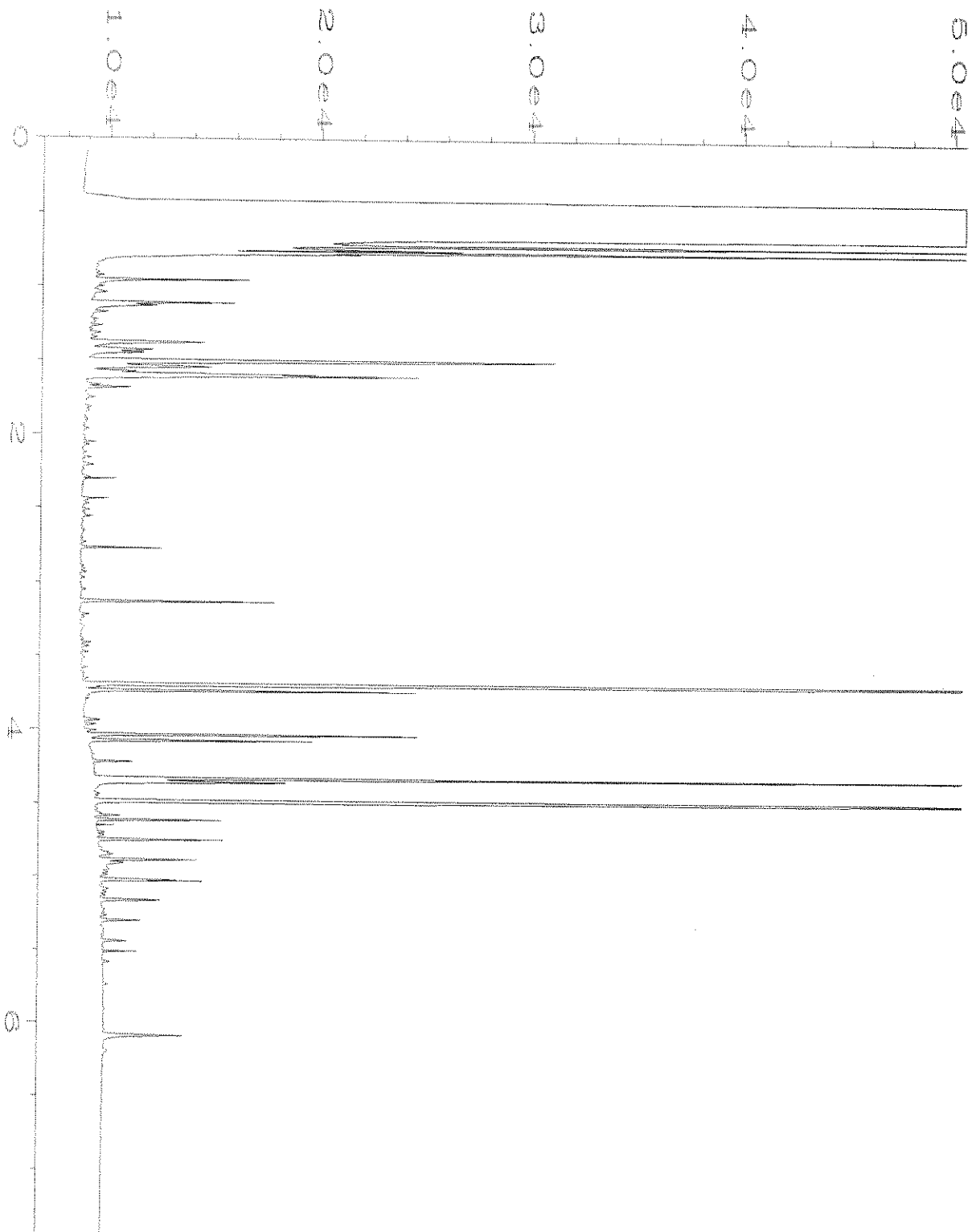




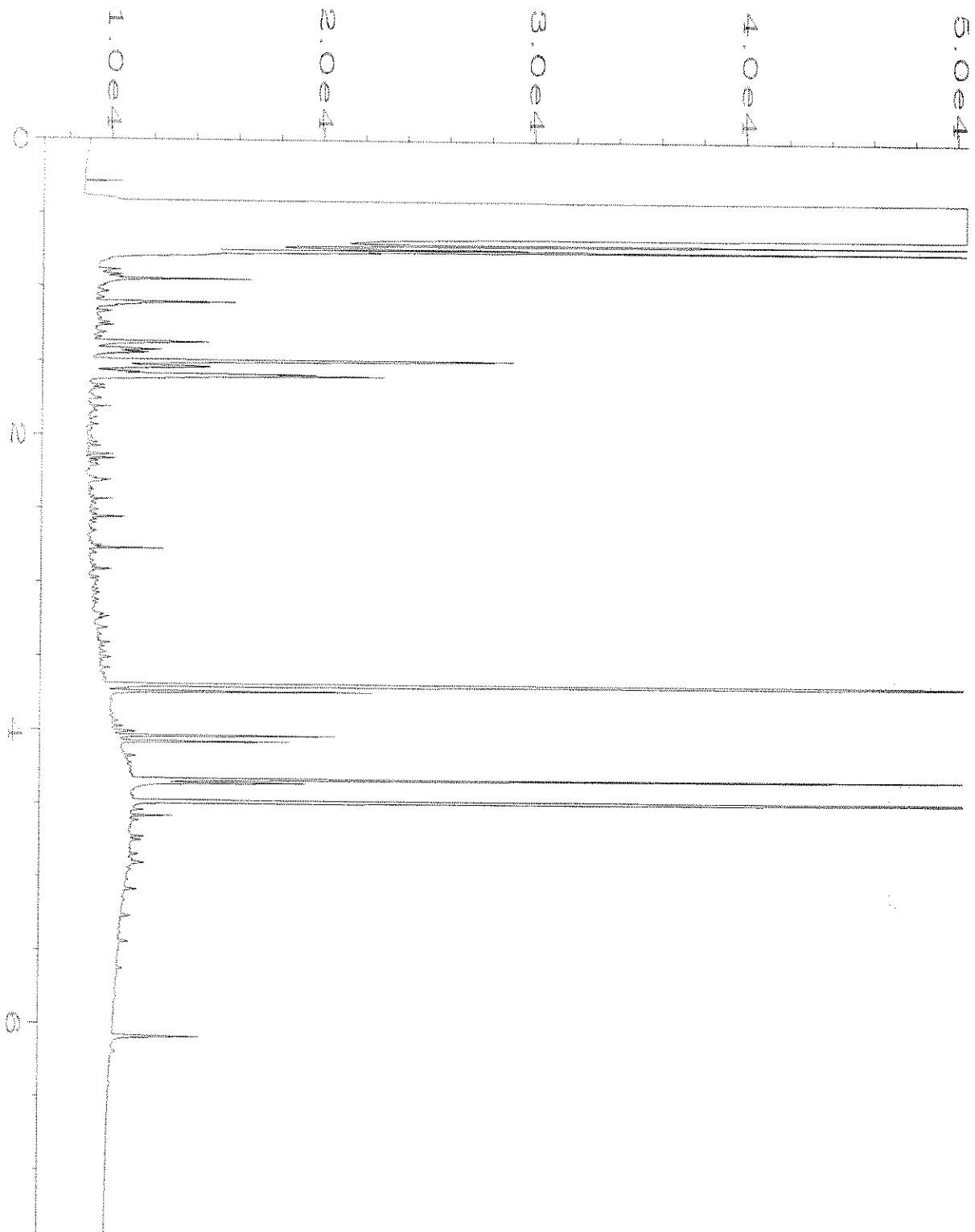
Data File Name	: C:\HPCHEM\1\DATA\11-20-20\036F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 36
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-12	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 05:27 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:13 AM		



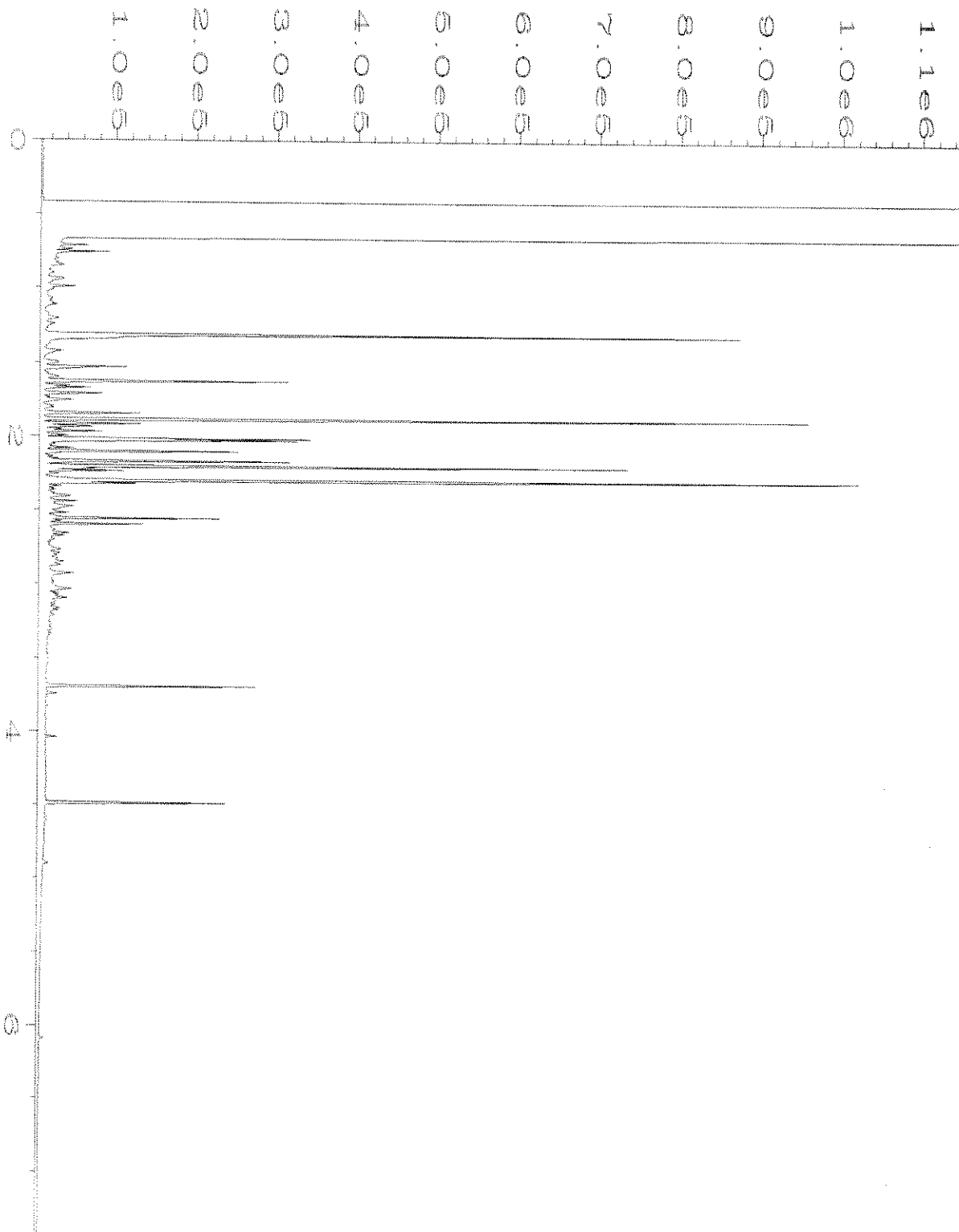
Data File Name	: C:\HPCHEM\1\DATA\11-20-20\037F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 37
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-13	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 05:39 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:13 AM		



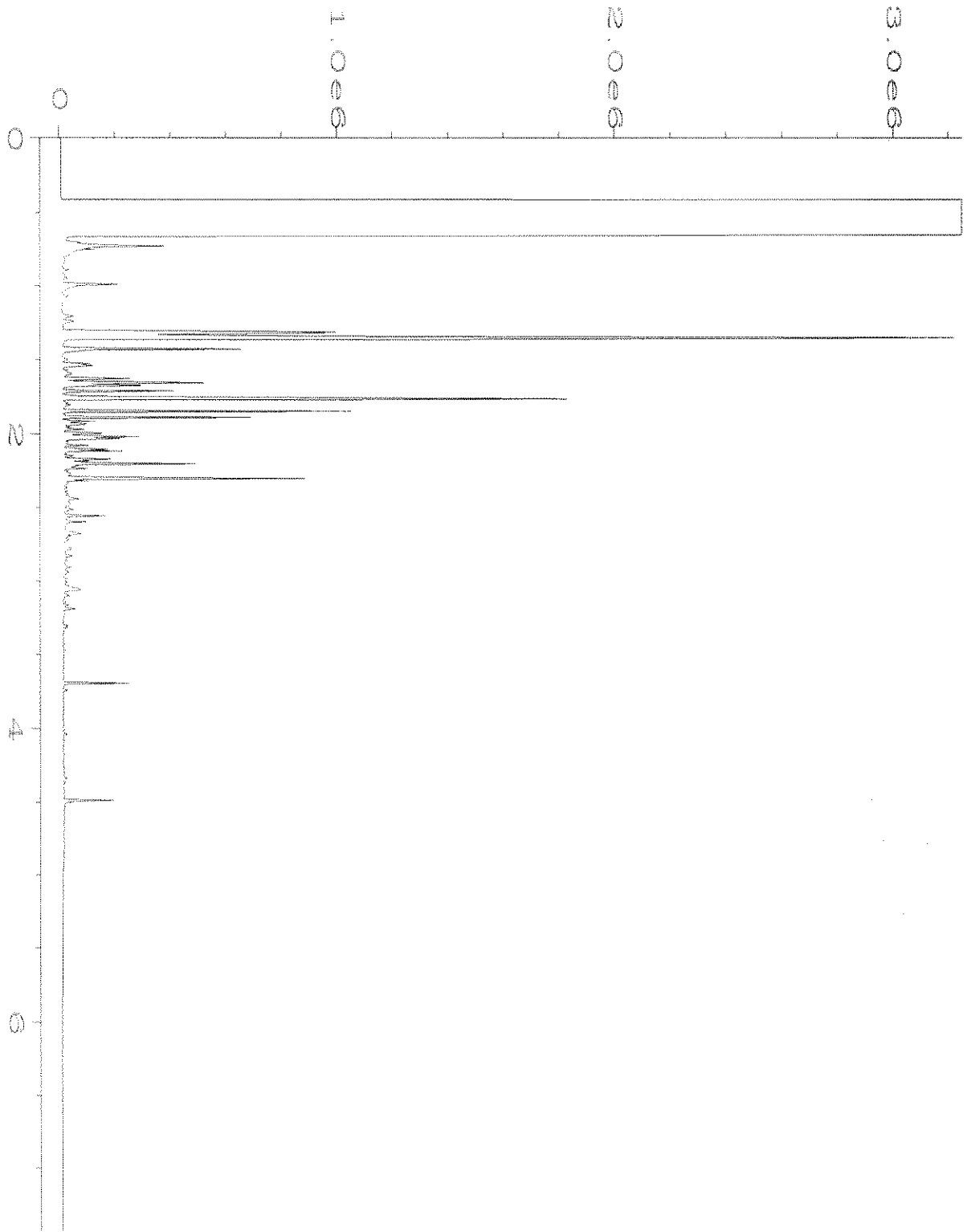
Data File Name	: C:\HPCHEM\1\DATA\11-20-20\038F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 38
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-14	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 05:50 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:13 AM		



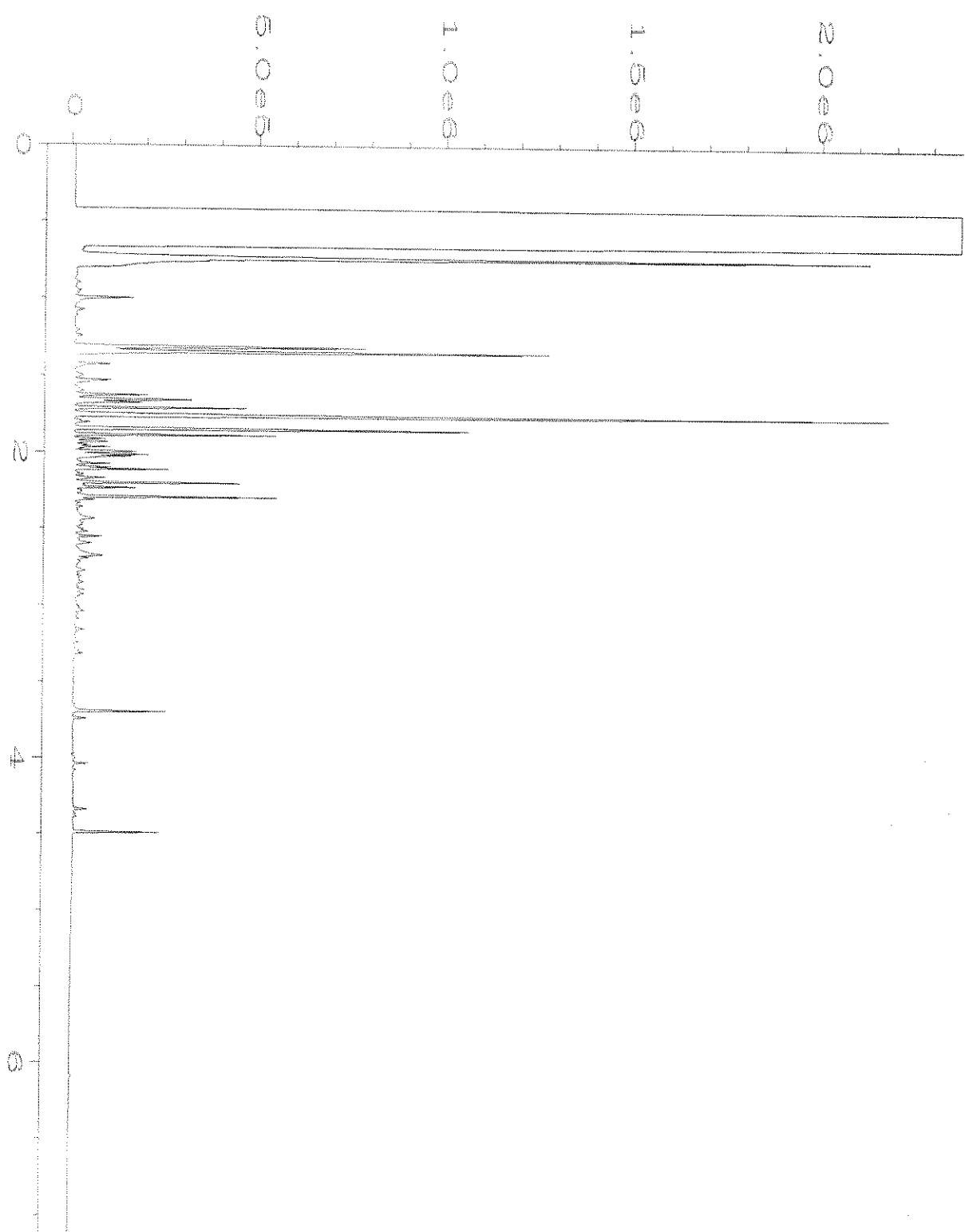
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Operator	: TL	Vial Number	: 39
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-15	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 06:02 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:14 AM		



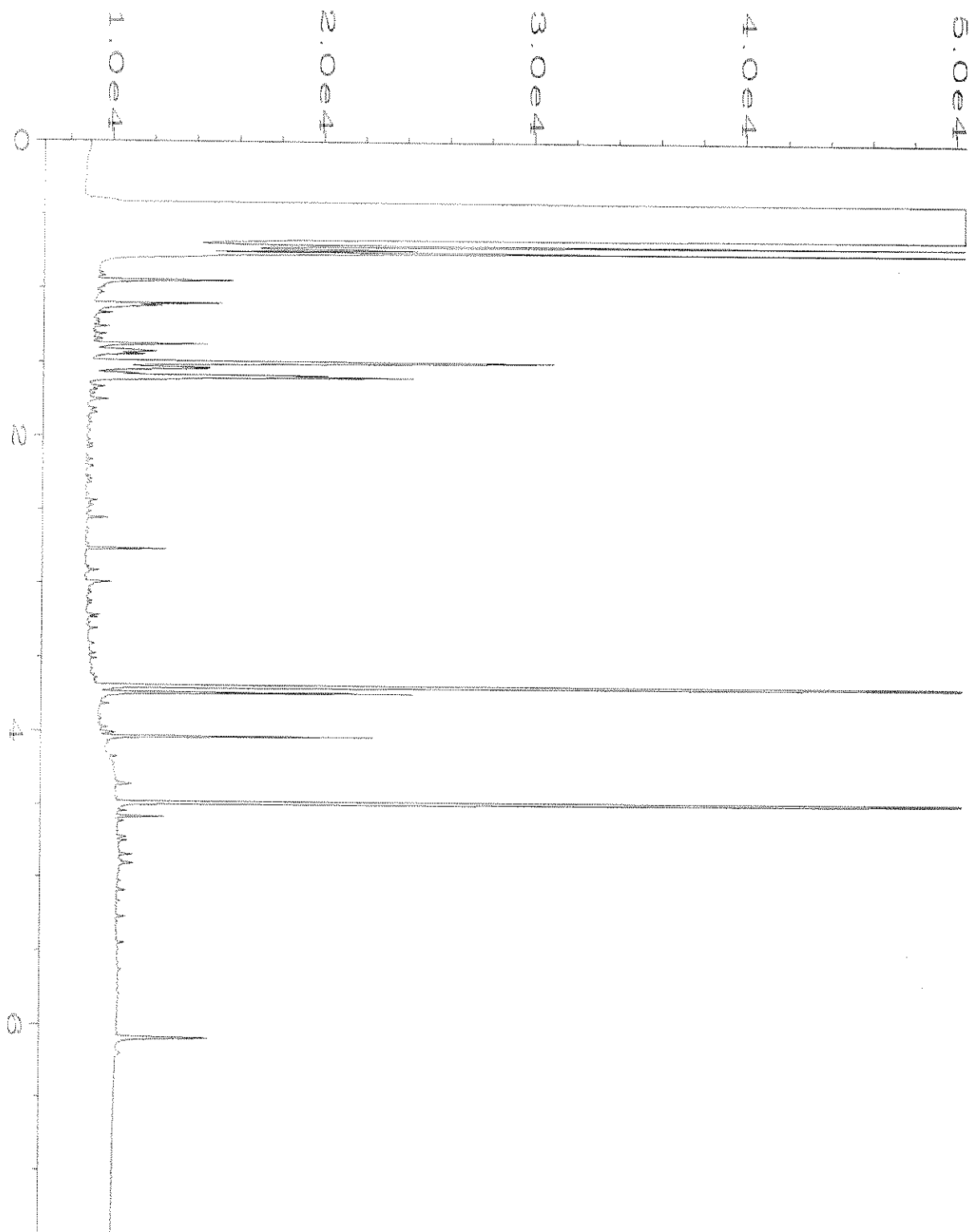
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Operator	: TL	Vial Number	: 40
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-16	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 06:13 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:14 AM		



Data File Name	: C:\HPCHEM\1\DATA\11-20-20\041F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 41
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-17	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 06:24 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:14 AM		

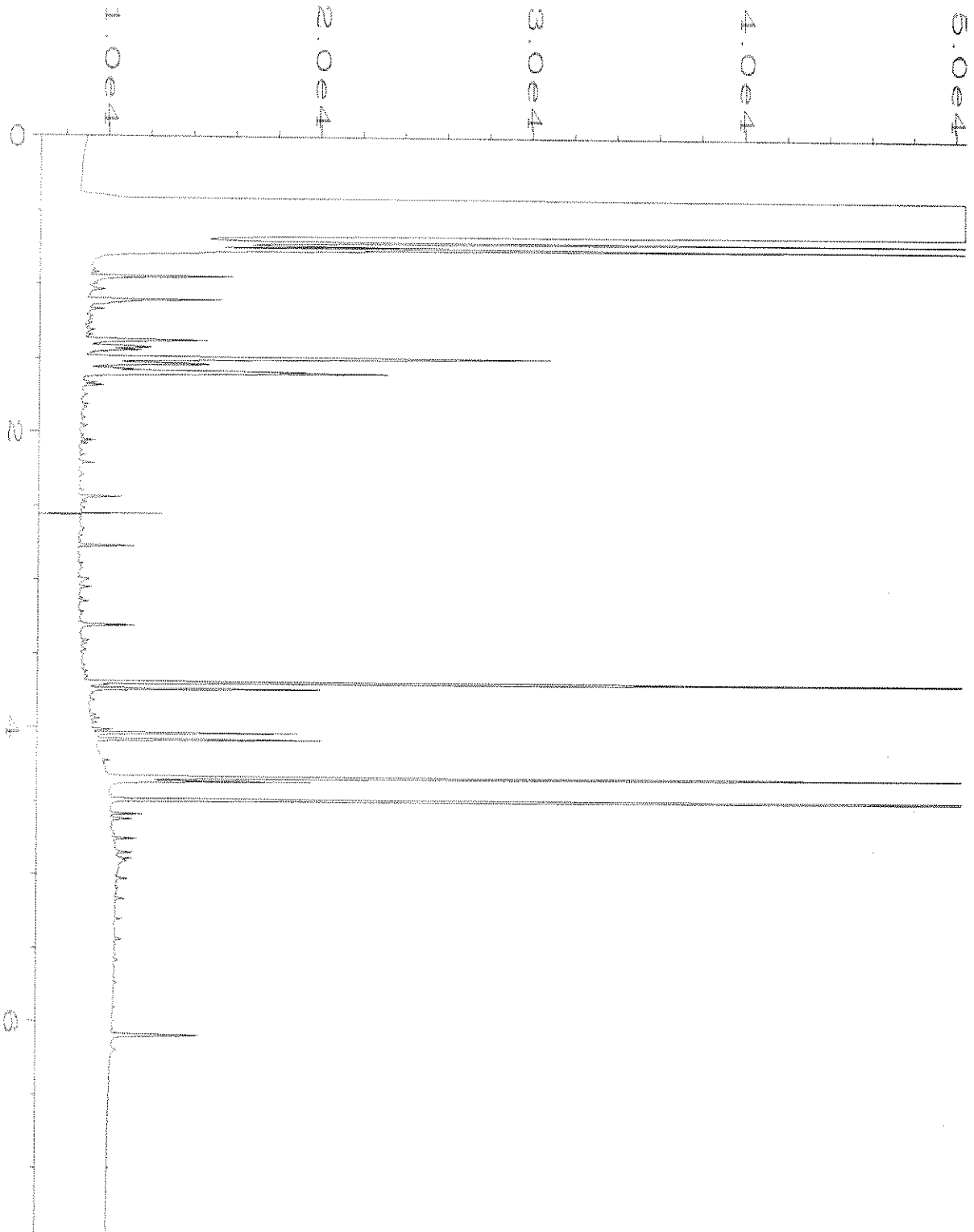


Data File Name	: C:\HPCHEM\1\DATA\11-20-20\042F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 42
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-18	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 06:36 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:15 AM		

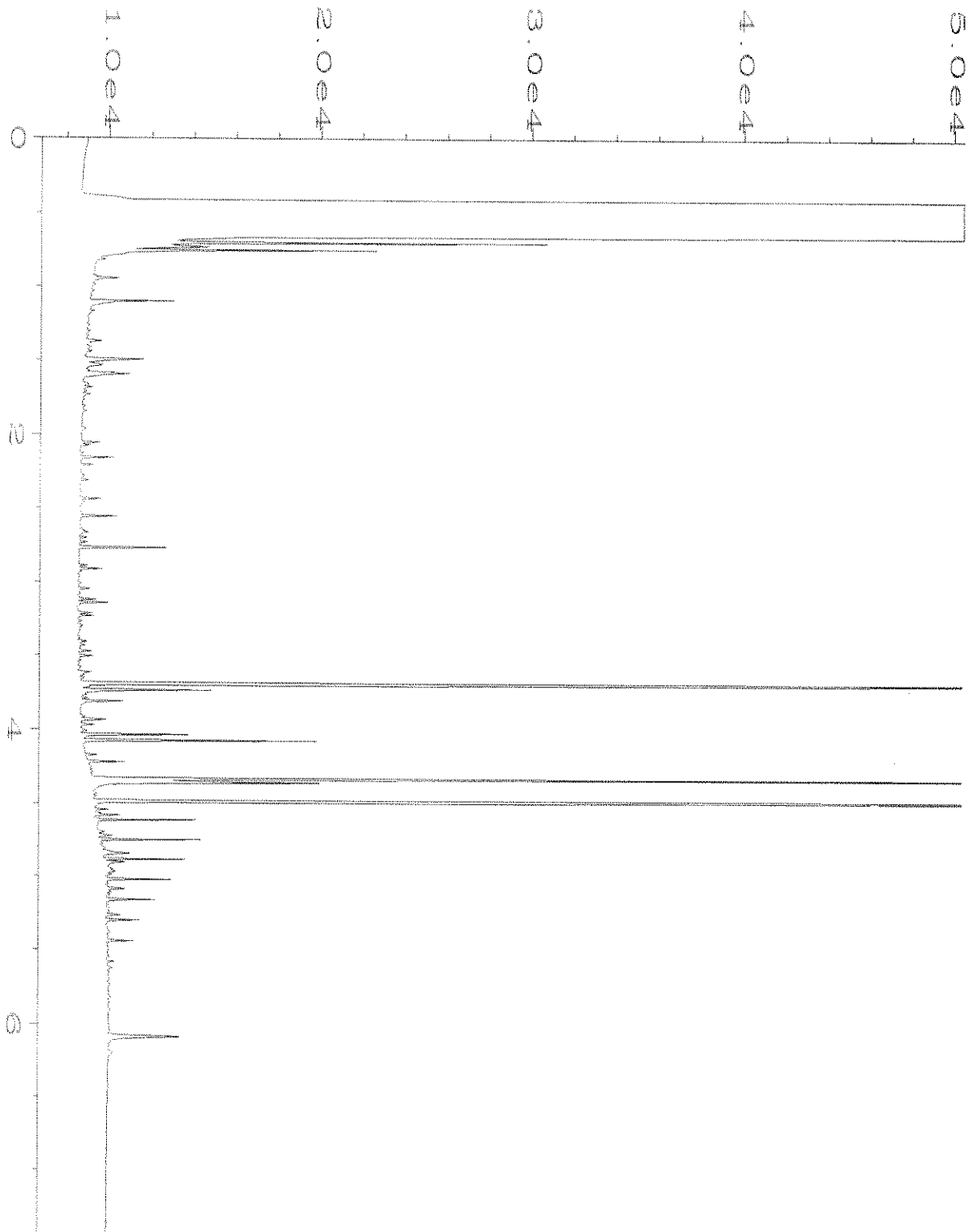


Data File Name	: C:\HPCHEM\1\DATA\11-20-20\043F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 43
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-19	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 06:47 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:15 AM		

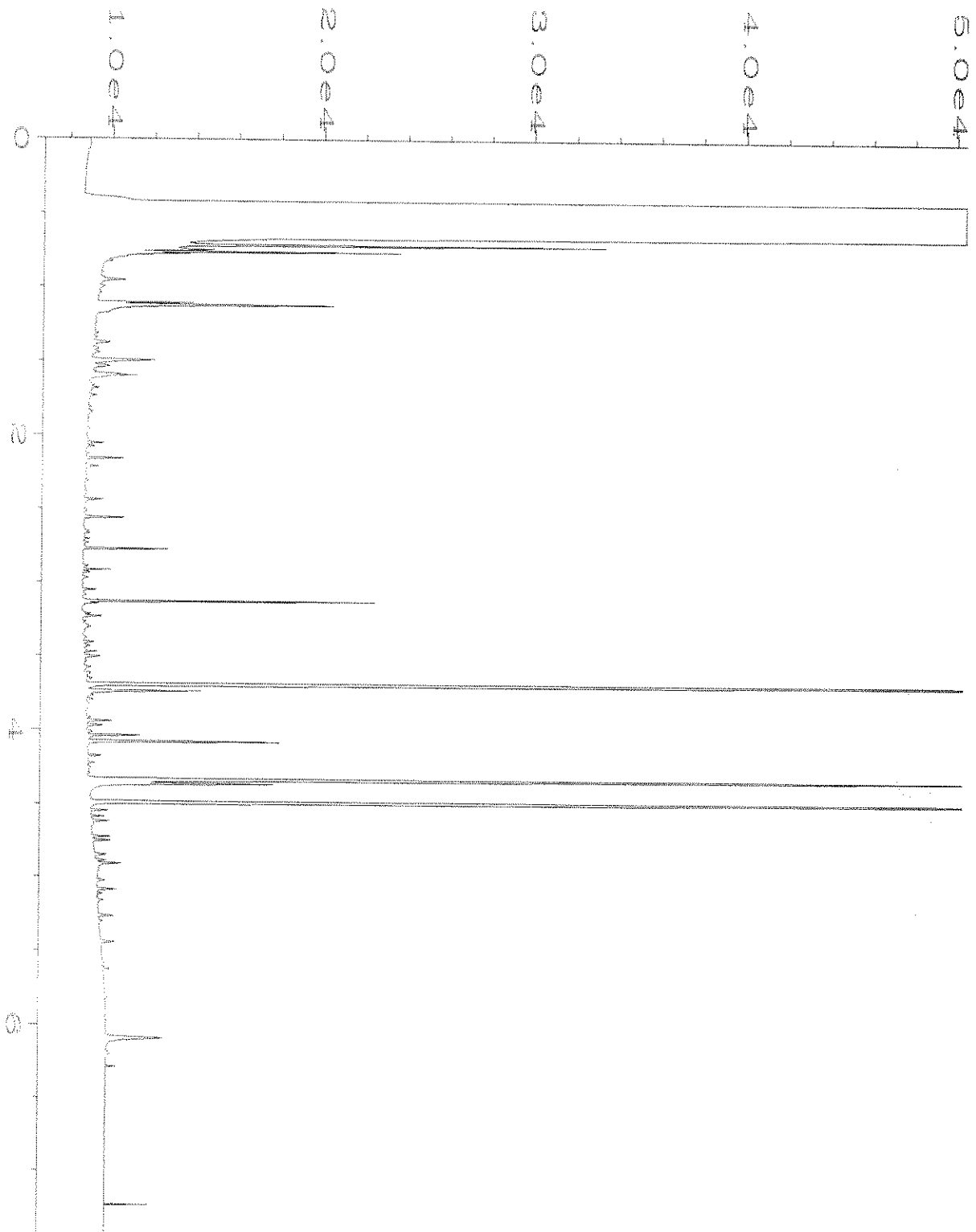




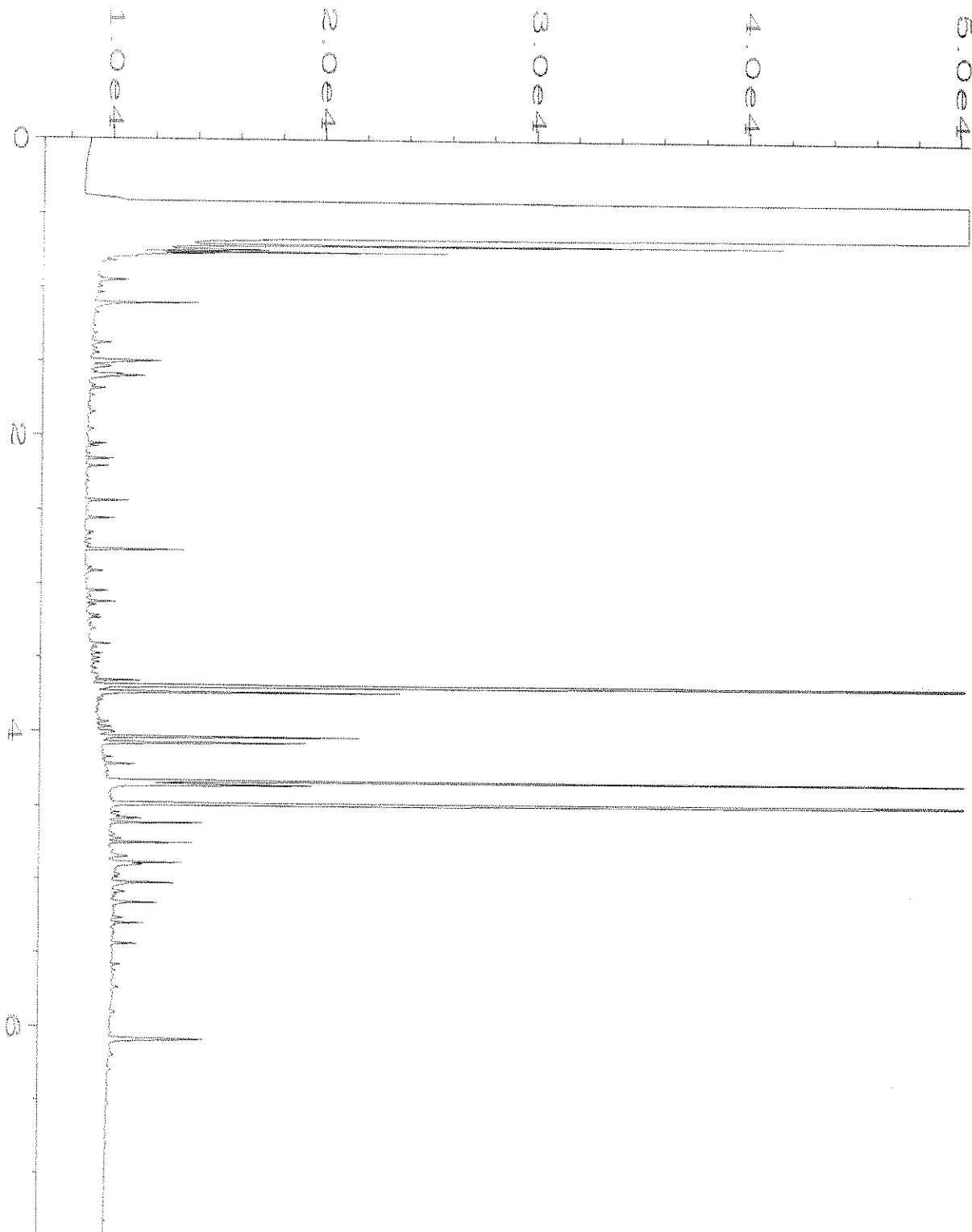
Data File Name	: C:\HPCHEM\1\DATA\11-20-20\044F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 44
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-20	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 06:59 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:15 AM		



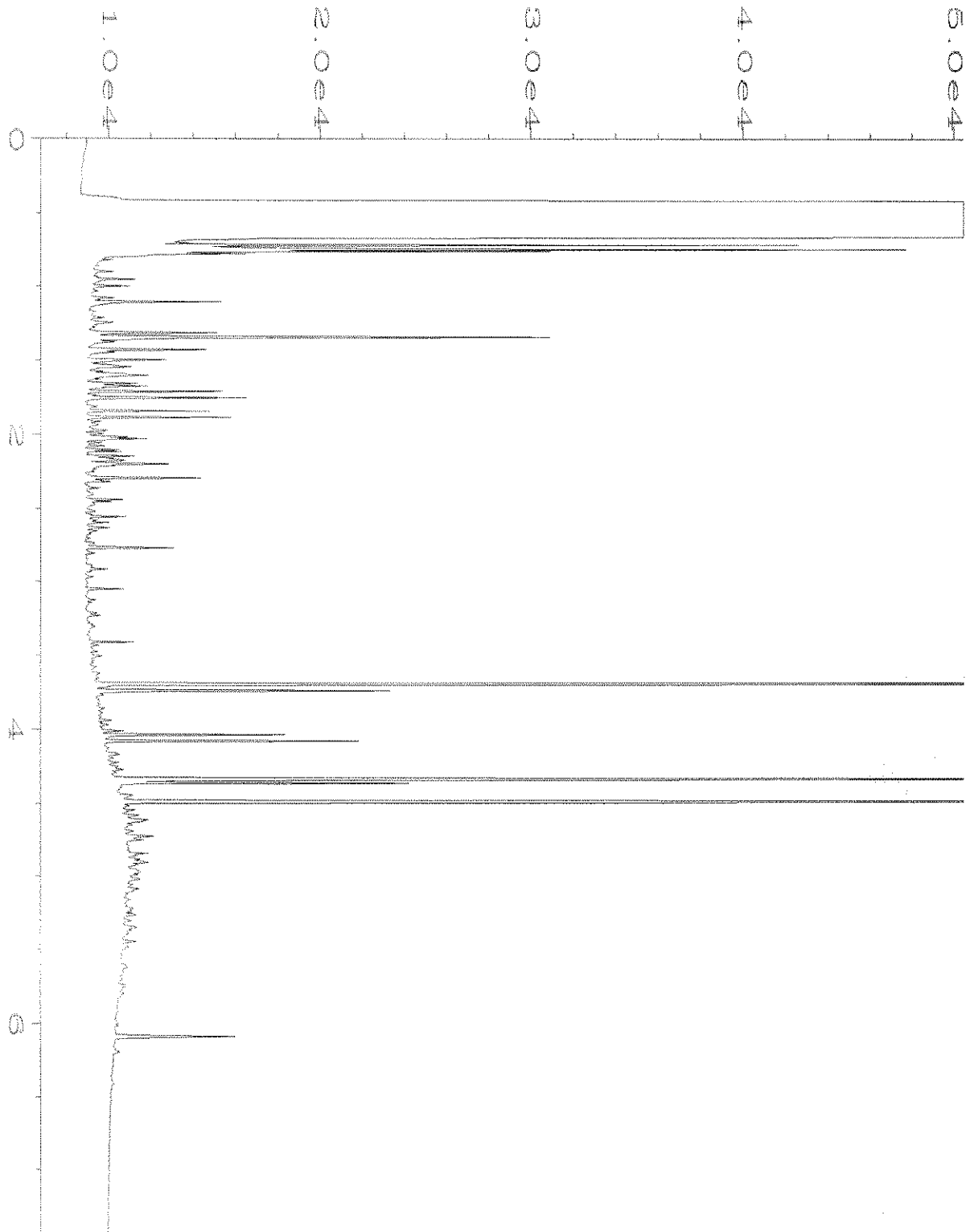
Data File Name	: C:\HPCHEM\1\DATA\11-20-20\046F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 46
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-21	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 07:22 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:16 AM		



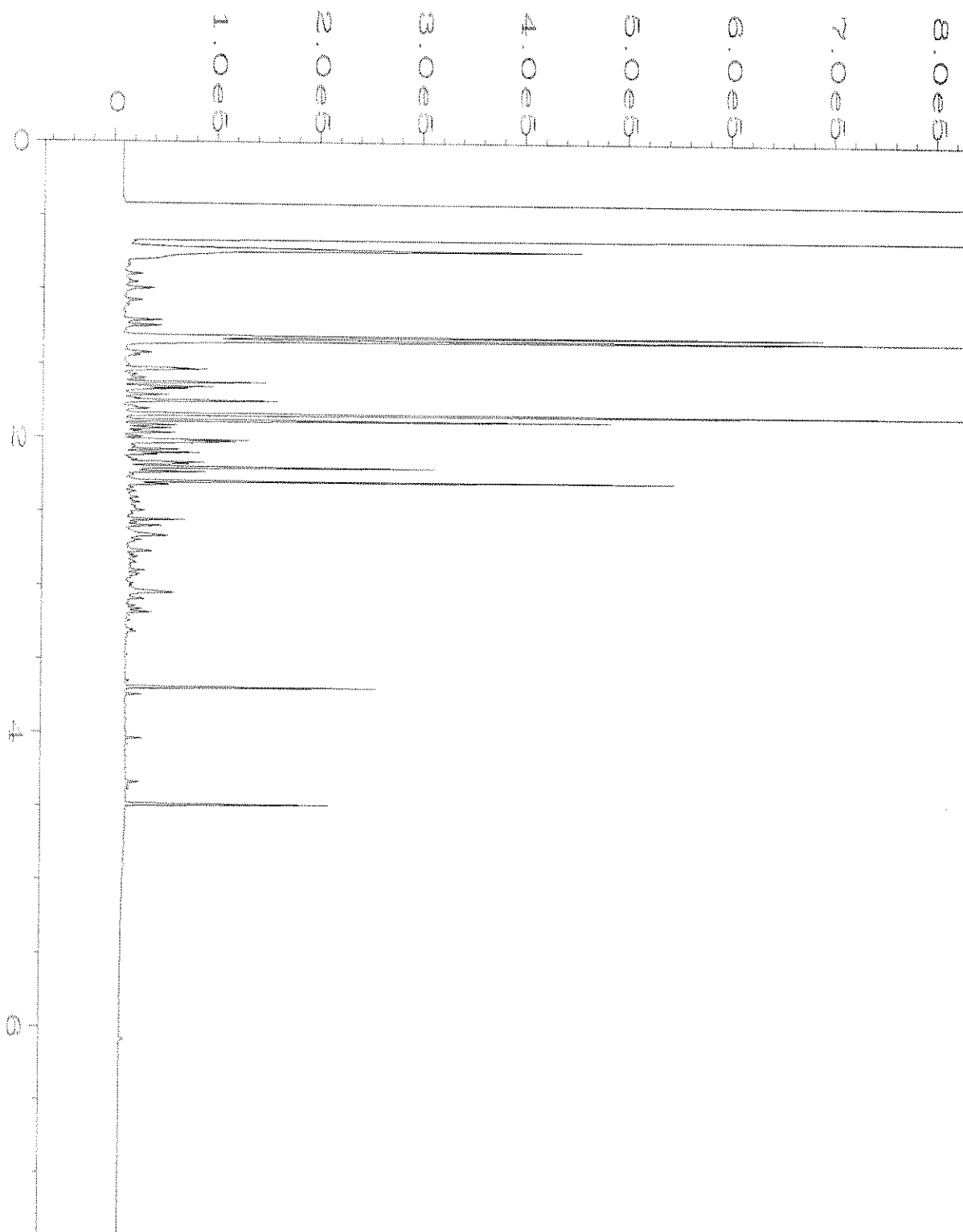
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Operator	: TL	Vial Number	: 47
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-22	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 07:33 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:16 AM		



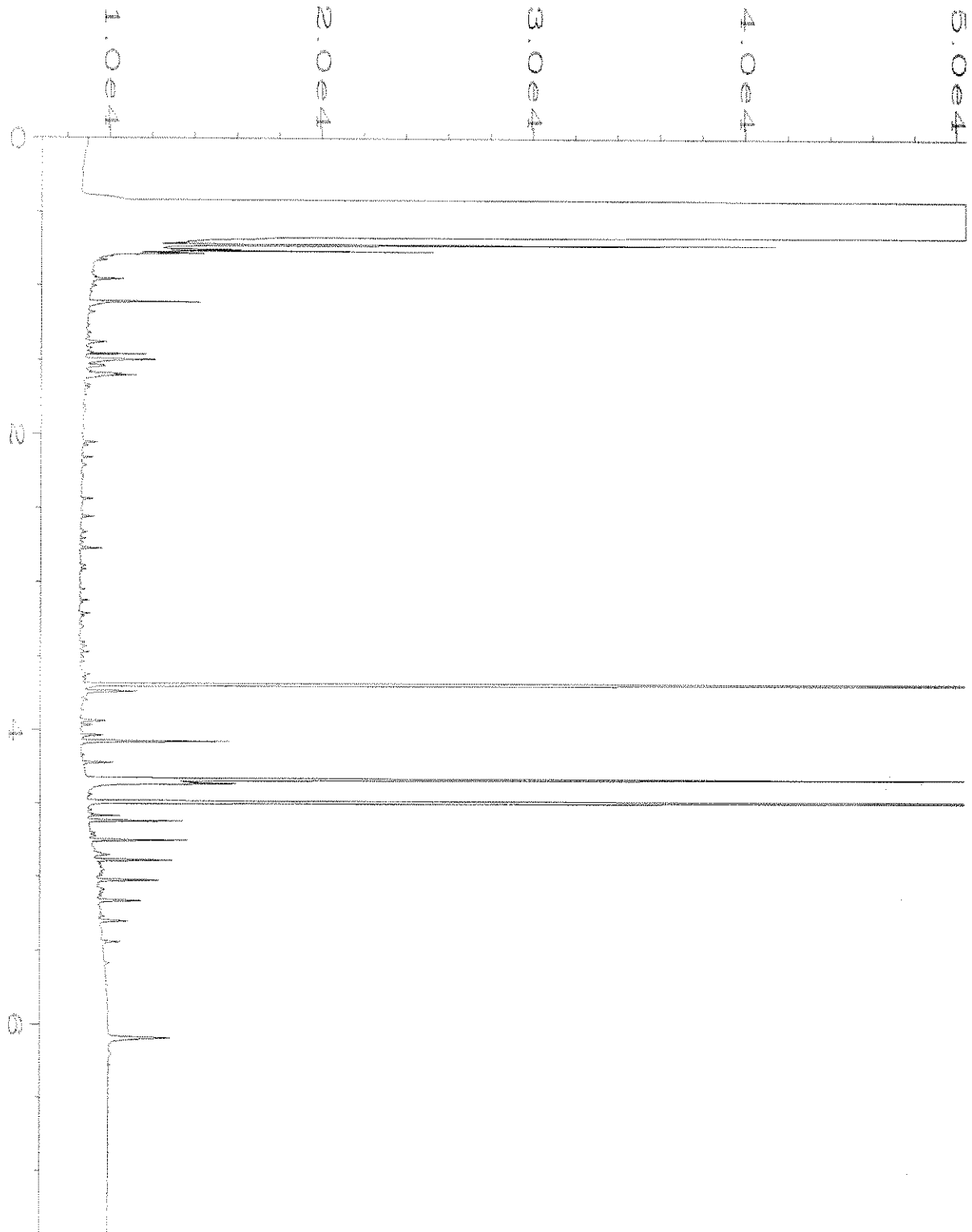
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Operator	: TL	Vial Number	: 48
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-23	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 07:45 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:17 AM		



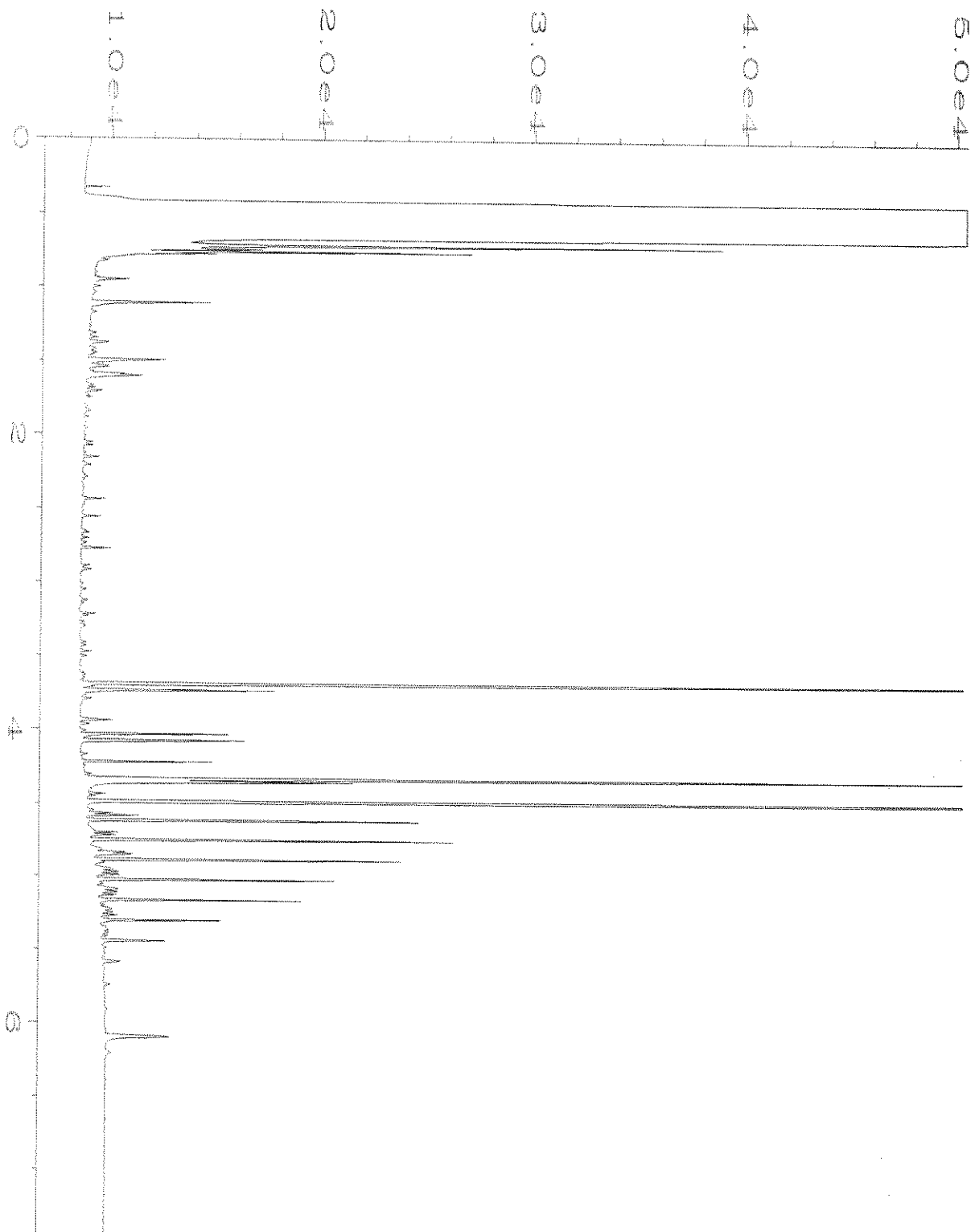
Data File Name	: C:\HPCHEM\1\DATA\11-20-20\049F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 49
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-24	Sequence Line	: 8
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 20 Nov 20 07:56 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:17 AM		



Data File Name	: C:\HPCHEM\1\DATA\11-20-20\050F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 50
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-25	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 08:08 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:17 AM		

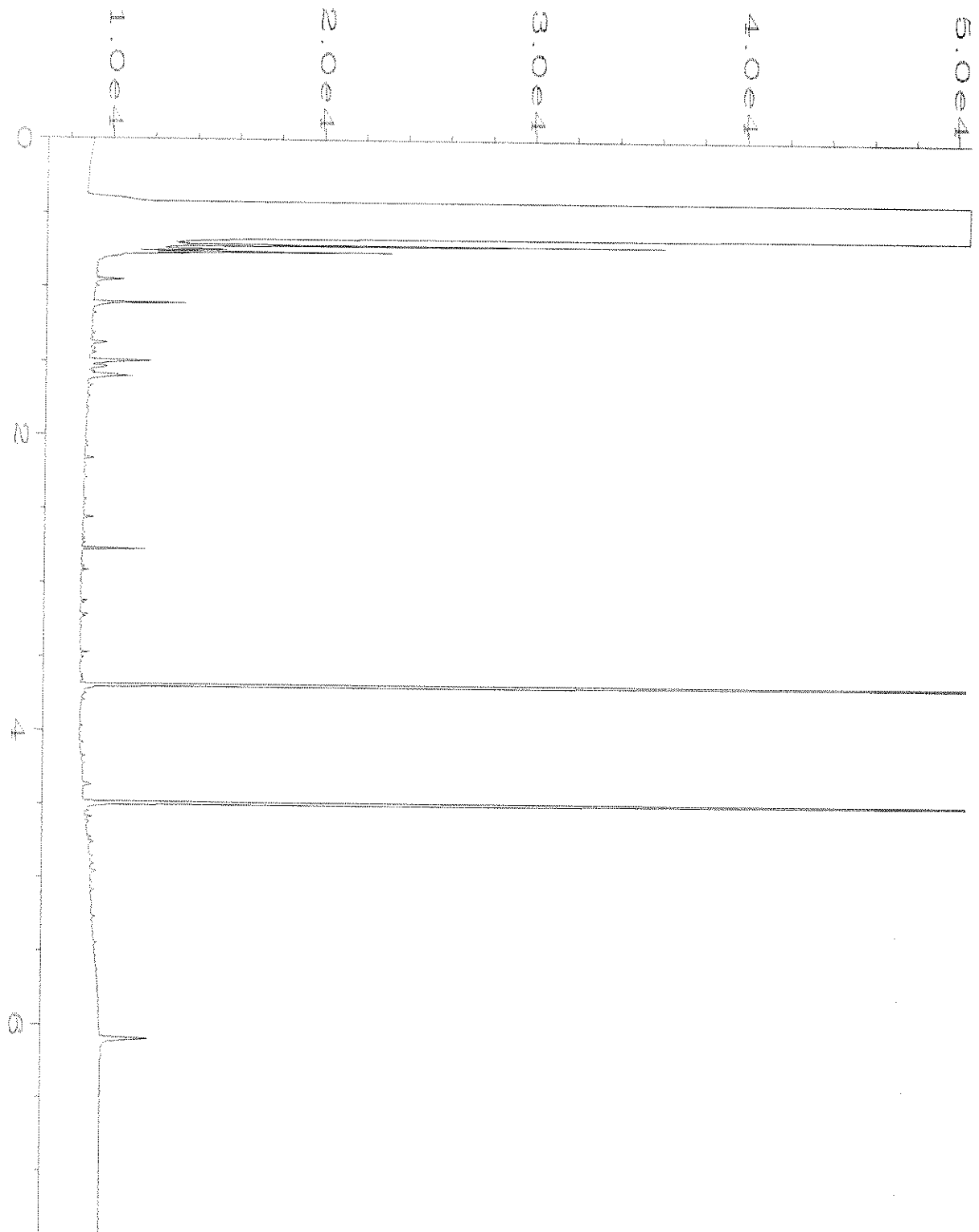


Data File Name	: C:\HPCHEM\1\DATA\11-20-20\051F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 51
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-26	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 08:42 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:18 AM		

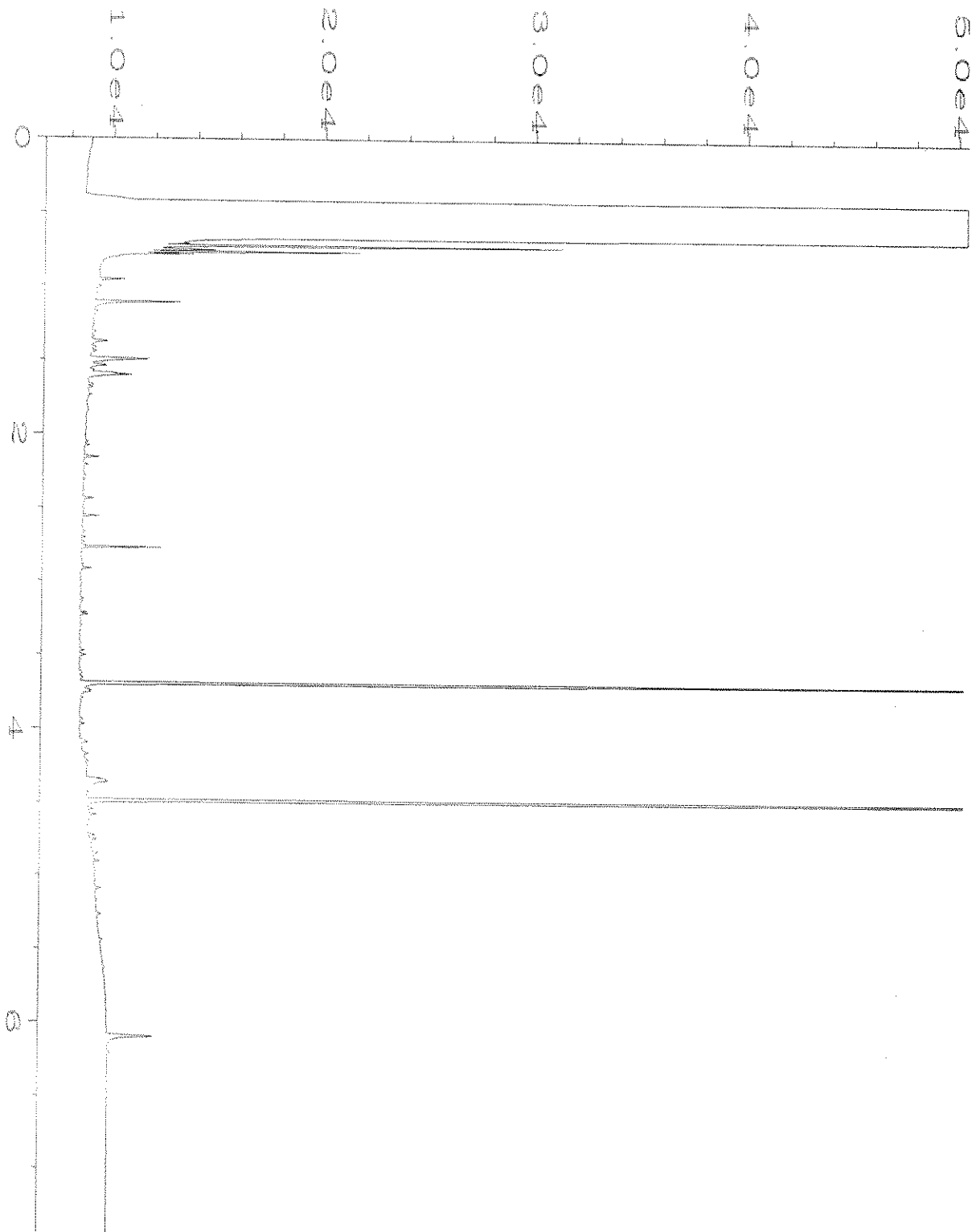


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Operator	: TL	Vial Number	: 52
Instrument	: GC1	Injection Number	: 1
Sample Name	: 011339-27	Sequence Line	: 10
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 20 Nov 20 08:53 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:18 AM		





Data File Name	: C:\HPCHEM\1\DATA\11-20-20\022F0601.D	Page Number	: 1
Operator	: TL	Vial Number	: 22
Instrument	: GC1	Injection Number	: 1
Sample Name	: 00-2573 mb	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 02:17 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:15 AM		



Data File Name	: C:\HPCHEM\1\DATA\11-20-20\045F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 45
Instrument	: GC1	Injection Number	: 1
Sample Name	: 00-2542 mb2	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 20 Nov 20 07:10 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	23 Nov 20 09:18 AM		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 9, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on November 20, 2020 from the Texaco Strickland PO 180357, F&BI 011402 project. There are 21 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Aspect Data  
ASP1209R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 20, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 011402 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
011402 -01	GP-02-112020
011402 -02	GP-03-112020
011402 -03	GP-05-112020
011402 -04	GP-06-112020
011402 -05	SV-DUP-112020
011402 -06	Trip Blank

Samples GP-02-112020, GP-03-112020, GP-05-112020 and GP-06-112020 were sent to Fremont Analytical for carbon dioxide, methane, and oxygen analyses. The report is enclosed.

The APH EC5-8 aliphatics in sample SV-DUP-112020 exceeded the calibration range of the instrument. The sample was diluted. Both data sets were reported. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-02-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-01 1/3.4
Date Analyzed:	11/25/20	Data File:	112421.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	210
APH EC9-12 aliphatics	480
APH EC9-10 aromatics	<85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-03-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-02 1/8.4
Date Analyzed:	12/03/20	Data File:	120325.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	106	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	3,700
APH EC9-12 aliphatics	1,100
APH EC9-10 aromatics	<210

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-05-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-03 1/43
Date Analyzed:	12/04/20	Data File:	120326.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	22,000
APH EC9-12 aliphatics	5,000
APH EC9-10 aromatics	<1,100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-06-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-04 1/3.4
Date Analyzed:	11/25/20	Data File:	112423.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	160
APH EC9-12 aliphatics	390
APH EC9-10 aromatics	<85



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SV-DUP-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-05 1/41
Date Analyzed:	12/04/20	Data File:	120327.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	24,000 ve
APH EC9-12 aliphatics	6,000
APH EC9-10 aromatics	<1,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SV-DUP-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-05 1/490
Date Analyzed:	11/25/20	Data File:	112428.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<20,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-06
Date Analyzed:	11/25/20	Data File:	112420.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<40
APH EC9-12 aliphatics	<50
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Collected:	Not Applicable	Lab ID:	00-2555 MB
Date Analyzed:	11/24/20	Data File:	112410.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<40
APH EC9-12 aliphatics	<50
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-02-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-01 1/3.4
Date Analyzed:	11/25/20	Data File:	112421.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<1.1	<0.34
Toluene	<64	<17
Ethylbenzene	2.2	0.51
m,p-Xylene	9.3	2.1
o-Xylene	2.7	0.63
Naphthalene	<0.89	<0.17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-03-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-02 1/8.4
Date Analyzed:	12/03/20	Data File:	120325.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<2.7	<0.84
Toluene	<160	<42
Ethylbenzene	<3.6	<0.84
m,p-Xylene	10	2.4
o-Xylene	<3.6	<0.84
Naphthalene	<2.2	<0.42

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-05-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-03 1/43
Date Analyzed:	12/04/20	Data File:	120326.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<14	<4.3
Toluene	<810	<210
Ethylbenzene	<19	<4.3
m,p-Xylene	<37	<8.6
o-Xylene	<19	<4.3
Naphthalene	<11	<2.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-06-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-04 1/3.4
Date Analyzed:	11/25/20	Data File:	112423.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	2.7	0.84
Toluene	<64	<17
Ethylbenzene	5.0	1.2
m,p-Xylene	20	4.7
o-Xylene	5.8	1.3
Naphthalene	<0.89	<0.17



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SV-DUP-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-05 1/41
Date Analyzed:	12/04/20	Data File:	120327.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<13	<4.1
Toluene	<770	<200
Ethylbenzene	<18	<4.1
m,p-Xylene	37	8.5
o-Xylene	<18	<4.1
Naphthalene	<11	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-06
Date Analyzed:	11/25/20	Data File:	112420.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<19	<5
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Collected:	Not Applicable	Lab ID:	00-2555 MB
Date Analyzed:	11/24/20	Data File:	112410.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<19	<5
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/09/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011402

Date Extracted: 11/30/20

Date Analyzed: 11/30/20

**RESULTS FROM THE ANALYSIS OF AIR SAMPLES  
FOR HELIUM USING METHOD ASTM D1946**

Results Reported as % Helium

<u>Sample ID</u> Laboratory ID	<u>Helium</u>
GP-02-112020 011402-01	<0.6
GP-03-112020 011402-02	<0.6
GP-05-112020 011402-03	<0.6
GP-06-112020 011402-04	<0.6
Method Blank	<0.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/09/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011402

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 011402-01 1/3.4 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	210	200	5
APH EC9-12 aliphatics	ug/m3	480	460	4
APH EC9-10 aromatics	ug/m3	<85	<85	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	81	70-130
APH EC9-12 aliphatics	ug/m3	67	82	70-130
APH EC9-10 aromatics	ug/m3	67	96	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/09/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011402

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: 011402-01 1/3.4 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Benzene	ug/m3	<1.1	<1.1	nm
Toluene	ug/m3	<64	<64	nm
Ethylbenzene	ug/m3	2.2	2.3	4
m,p-Xylene	ug/m3	9.3	9.8	5
o-Xylene	ug/m3	2.7	3.3	20
Naphthalene	ug/m3	<0.89	<0.89	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/m3	43	119	70-130
Toluene	ug/m3	51	84	70-130
Ethylbenzene	ug/m3	59	114	70-130
m,p-Xylene	ug/m3	120	99	70-130
o-Xylene	ug/m3	59	98	70-130
Naphthalene	ug/m3	71	82	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/09/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011402

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR HELIUM  
USING METHOD ASTM D1946**

Laboratory Code: 011402-01 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	<0.6	<0.6	nm	0-20

Laboratory Code: 011401-05 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	14 ve	19 ve	30 hr	0-20

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.





3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Friedman & Bruya**  
Michael Erdahl  
3012 16th Ave. W.  
Seattle, WA 98119

**RE: 011402**  
**Work Order Number: 2011458**

December 01, 2020

**Attention Michael Erdahl:**

Fremont Analytical, Inc. received 5 sample(s) on 11/20/2020 for the analyses presented in the following report.

***Major Gases by EPA Method 3C***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing  
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing  
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

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Original



Date: 12/01/2020

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**CLIENT:** Friedman & Bruya  
**Project:** 011402  
**Work Order:** 2011458

## Work Order Sample Summary

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Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2011458-001	GP-02-112020	11/20/2020 10:24 AM	11/20/2020 4:24 PM
2011458-002	GP-03-112020	11/20/2020 11:22 AM	11/20/2020 4:24 PM
2011458-003	GP-05-112020	11/20/2020 12:15 PM	11/20/2020 4:24 PM
2011458-004	GP-06-112020	11/20/2020 1:25 PM	11/20/2020 4:24 PM
2011458-005	SV-DUP-112020	11/20/2020 12:00 AM	11/20/2020 4:24 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

**CLIENT:** Friedman & Bruya

**Project:** 011402

---

WorkOrder Narrative:

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Major gases are reported as % ratio of the Major Gases analyzed (Carbon dioxide, Carbon Monoxide, Methane, Nitrogen, Oxygen and Hydrogen).

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS). The LCS is processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Note: The estimated BTU calculation is based off of the methane result.

### Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

### Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



**CLIENT:** Friedman & Bruya  
**Project:** 011402

**Lab ID:** 2011458-001

**Collection Date:** 11/20/2020 10:24:00 AM

**Client Sample ID:** GP-02-112020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R63578 Analyst: MS

Carbon Dioxide	27.6	0.0500		%	1	11/23/2020 6:53:00 AM
Methane	ND	0.0500		%	1	11/23/2020 6:53:00 AM
Oxygen	4.50	0.0500		%	1	11/23/2020 6:53:00 AM

**Lab ID:** 2011458-002

**Collection Date:** 11/20/2020 11:22:00 AM

**Client Sample ID:** GP-03-112020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R63578 Analyst: MS

Carbon Dioxide	30.3	0.0500		%	1	11/23/2020 7:05:00 AM
Methane	0.168	0.0500		%	1	11/23/2020 7:05:00 AM
Oxygen	1.35	0.0500		%	1	11/23/2020 7:05:00 AM

**Lab ID:** 2011458-003

**Collection Date:** 11/20/2020 12:15:00 PM

**Client Sample ID:** GP-05-112020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R63578 Analyst: MS

Carbon Dioxide	29.6	0.0500		%	1	11/23/2020 7:17:00 AM
Methane	0.515	0.0500		%	1	11/23/2020 7:17:00 AM
Oxygen	1.27	0.0500		%	1	11/23/2020 7:17:00 AM



**CLIENT:** Friedman & Bruya

**Project:** 011402

**Lab ID:** 2011458-004

**Collection Date:** 11/20/2020 1:25:00 PM

**Client Sample ID:** GP-06-112020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R63578      Analyst: MS

Carbon Dioxide	17.1	0.0500		%	1	11/23/2020 7:29:00 AM
Methane	ND	0.0500		%	1	11/23/2020 7:29:00 AM
Oxygen	8.16	0.0500		%	1	11/23/2020 7:29:00 AM

**Work Order:** 2011458  
**CLIENT:** Friedman & Bruya  
**Project:** 011402

**QC SUMMARY REPORT**  
**Major Gases by EPA Method 3C**

Sample ID: <b>LCS-R63578</b>	SampType: <b>LCS</b>	Units: %	Prep Date: <b>11/23/2020</b>	RunNo: <b>63578</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R63578</b>		Analysis Date: <b>11/23/2020</b>	SeqNo: <b>1276255</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Carbon Dioxide	100	0.0500	100.0	0	100	70	130				
Methane	99.9	0.0500	100.0	0	99.9	70	130				
Oxygen	101	0.0500	100.0	0	101	70	130				

Sample ID: <b>2011458-001AREP</b>	SampType: <b>REP</b>	Units: %	Prep Date: <b>11/23/2020</b>	RunNo: <b>63578</b>							
Client ID: <b>GP-02-112020</b>	Batch ID: <b>R63578</b>		Analysis Date: <b>11/23/2020</b>	SeqNo: <b>1276251</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Carbon Dioxide	27.9	0.0500						27.64	0.905	30	
Methane	ND	0.0500						0		30	
Oxygen	4.47	0.0500						4.505	0.725	30	

Client Name: **FB**  
 Logged by: **Carissa True**

Work Order Number: **2011458**  
 Date Received: **11/20/2020 4:24:00 PM**

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Client

### Log In

3. Coolers are present? Yes  No  NA   
Air samples  
 4. Shipping container/cooler in good condition? Yes  No   
 5. Custody Seals present on shipping container/cooler?  
 (Refer to comments for Custody Seals not intact) Yes  No  Not Present   
 6. Was an attempt made to cool the samples? Yes  No  NA   
 7. Were all items received at a temperature of >2°C to 6°C \* Yes  No  NA   
 8. Sample(s) in proper container(s)? Yes  No   
 9. Sufficient sample volume for indicated test(s)? Yes  No   
 10. Are samples properly preserved? Yes  No   
 11. Was preservative added to bottles? Yes  No  NA   
 12. Is there headspace in the VOA vials? Yes  No  NA   
 13. Did all samples containers arrive in good condition(unbroken)? Yes  No   
 14. Does paperwork match bottle labels? Yes  No   
 15. Are matrices correctly identified on Chain of Custody? Yes  No   
 16. Is it clear what analyses were requested? Yes  No   
 17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



# SUBCONTRACT SAMPLE CHAIN OF CUSTODY

201458

Page # \_\_\_\_\_ of \_\_\_\_\_

SUBCONTRACTOR  
*Fremont*

PROJECT NAME/NO.

PO #

01402

A-472

REMARKS

Please Email Results

TURNAROUND TIME

Standard TAT

RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Send Report To Michael Erdahl  
 Company Friedman and Bruya, Inc.  
 Address 3012 16th Ave W  
 City, State, ZIP Seattle, WA 98119  
 Phone # (206) 285-8282 merdah1@friedmanandbruya.com

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED							Notes			
						Dioxins/Furans	EPH	VPH	CO <sub>2</sub>	CH <sub>4</sub>	O <sub>2</sub>					
GP-02-112020		11/20/20	1024	A					✓							
GP-03-112020			1122	A					✓							
GP-05-112020			1215	A					✓							
GP-06-112020			1325	A					✓							
SV-DUP-112020				A					✓							HOLD SWAMP EPI/20

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029

Relinquished by: *[Signature]*  
 Received by: *[Signature]*

SIGNATURE  
 PRINT NAME  
 Michael Erdahl  
 Eric Duval

COMPANY  
 Friedman & Bruya

DATE  
 TIME  
 11/20/20 1355

Ph. (206) 285-8282  
 Fax (206) 283-5044

Relinquished by: *[Signature]*  
 Received by: *[Signature]*

COMPANY  
 Friedman & Bruya

DATE  
 TIME  
 11/20/20 1624

011402

SAMPLE DRAIN OF CONDENSATE

WE 11-20-20

Page # 1 of 1

Report To: Andrew York / Alton Coakley

Company: Aspect Consultants

Address: 710 2nd Ave, Ste 550

City, State, ZIP: Seattle, WA 98104

Phone: 206 413 5411 Email: ayork@aspect.com

SAMPLERS (signature)

PROJECT NAME & ADDRESS

PO #

NOTES:

INVOICE TO

APP

TURNAROUND TIME

Standard

Rush charges authorized by:

SAMPLE DISPOSAL

Default: Clean after 3 days

Archive (Fee may apply)

SAMPLE INFORMATION

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. (THg)	Field Initial Time	Final Vac. (THg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium	Notes
GP-02-112020	01	2297	204	IA / SG	11/20/20	-24	1018	-5	1024	X			X	X	+Tel/bag
GP-03-112020	02	3257	244	IA / SG		-30	1122	-5	1128						
GP-05-112020	03	3476	224	IA / SG		-30	1215	-5	1221						
GP-06-112020	04	3256	230	IA / SG		-30	1325	-5	1332						
SU-DUP-112020	05	2301	221	IA / SG		-30	-	-5	-						
Trap Blank	06	3416	240	IA / SG		-	-	-	-						
				IA / SG											Samples received at 19:00

ANALYSIS REQUESTED

CO2, CH4, O2, 30

SIGNATURE

Relinquished by:

Received by:

PRINT NAME

David York

Michael E. Calk

COMPANY

Aspect Consultants

TWR

DATE TIME

11/20/20 11:20:00

11/20/20 15:25

SIGNATURE

Relinquished by:

Received by:

PRINT NAME

David York

Michael E. Calk

COMPANY

Aspect Consultants

TWR

DATE TIME

11/20/20 11:20:00

11/20/20 15:25

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 16, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included is the amended report from the testing of material submitted on November 20, 2020 from the Texaco Strickland PO 180357, F&BI 011402 project. The benzene reporting limit for samples GP-05-112020 and SV-DUP-112020 were lowered, per your request.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Aspect Data  
ASP1209R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 9, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on November 20, 2020 from the Texaco Strickland PO 180357, F&BI 011402 project. There are 21 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Aspect Data  
ASP1209R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 20, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 011402 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
011402 -01	GP-02-112020
011402 -02	GP-03-112020
011402 -03	GP-05-112020
011402 -04	GP-06-112020
011402 -05	SV-DUP-112020
011402 -06	Trip Blank

Samples GP-02-112020, GP-03-112020, GP-05-112020 and GP-06-112020 were sent to Fremont Analytical for carbon dioxide, methane, and oxygen analyses. The report is enclosed.

The APH EC5-8 aliphatics in sample SV-DUP-112020 exceeded the calibration range of the instrument. The sample was diluted. Both data sets were reported. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-02-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-01 1/3.4
Date Analyzed:	11/25/20	Data File:	112421.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	210
APH EC9-12 aliphatics	480
APH EC9-10 aromatics	<85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-03-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-02 1/8.4
Date Analyzed:	12/03/20	Data File:	120325.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	106	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	3,700
APH EC9-12 aliphatics	1,100
APH EC9-10 aromatics	<210

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-05-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-03 1/43
Date Analyzed:	12/04/20	Data File:	120326.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	22,000
APH EC9-12 aliphatics	5,000
APH EC9-10 aromatics	<1,100



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	GP-06-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-04 1/3.4
Date Analyzed:	11/25/20	Data File:	112423.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	160
APH EC9-12 aliphatics	390
APH EC9-10 aromatics	<85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SV-DUP-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-05 1/41
Date Analyzed:	12/04/20	Data File:	120327.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	24,000 ve
APH EC9-12 aliphatics	6,000
APH EC9-10 aromatics	<1,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SV-DUP-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-05 1/490
Date Analyzed:	11/25/20	Data File:	112428.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<20,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-06
Date Analyzed:	11/25/20	Data File:	112420.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<40
APH EC9-12 aliphatics	<50
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Collected:	Not Applicable	Lab ID:	00-2555 MB
Date Analyzed:	11/24/20	Data File:	112410.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<40
APH EC9-12 aliphatics	<50
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-02-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-01 1/3.4
Date Analyzed:	11/25/20	Data File:	112421.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<1.1	<0.34
Toluene	<64	<17
Ethylbenzene	2.2	0.51
m,p-Xylene	9.3	2.1
o-Xylene	2.7	0.63
Naphthalene	<0.89	<0.17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-03-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-02 1/8.4
Date Analyzed:	12/03/20	Data File:	120325.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<2.7	<0.84
Toluene	<160	<42
Ethylbenzene	<3.6	<0.84
m,p-Xylene	10	2.4
o-Xylene	<3.6	<0.84
Naphthalene	<2.2	<0.42

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-05-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-03 1/43
Date Analyzed:	12/04/20	Data File:	120326.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	7.1	2.2
Toluene	<810	<210
Ethylbenzene	<19	<4.3
m,p-Xylene	<37	<8.6
o-Xylene	<19	<4.3
Naphthalene	<11	<2.1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	GP-06-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-04 1/3.4
Date Analyzed:	11/25/20	Data File:	112423.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	2.7	0.84
Toluene	<64	<17
Ethylbenzene	5.0	1.2
m,p-Xylene	20	4.7
o-Xylene	5.8	1.3
Naphthalene	<0.89	<0.17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SV-DUP-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-05 1/41
Date Analyzed:	12/04/20	Data File:	120327.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	5.8	1.8
Toluene	<770	<200
Ethylbenzene	<18	<4.1
m,p-Xylene	37	8.5
o-Xylene	<18	<4.1
Naphthalene	<11	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Trip Blank	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Collected:	11/20/20	Lab ID:	011402-06
Date Analyzed:	11/25/20	Data File:	112420.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<19	<5
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Collected:	Not Applicable	Lab ID:	00-2555 MB
Date Analyzed:	11/24/20	Data File:	112410.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<19	<5
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/09/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011402

Date Extracted: 11/30/20

Date Analyzed: 11/30/20

**RESULTS FROM THE ANALYSIS OF AIR SAMPLES  
FOR HELIUM USING METHOD ASTM D1946**

Results Reported as % Helium

<u>Sample ID</u> Laboratory ID	<u>Helium</u>
GP-02-112020 011402-01	<0.6
GP-03-112020 011402-02	<0.6
GP-05-112020 011402-03	<0.6
GP-06-112020 011402-04	<0.6
Method Blank	<0.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/09/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011402

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 011402-01 1/3.4 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	210	200	5
APH EC9-12 aliphatics	ug/m3	480	460	4
APH EC9-10 aromatics	ug/m3	<85	<85	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	81	70-130
APH EC9-12 aliphatics	ug/m3	67	82	70-130
APH EC9-10 aromatics	ug/m3	67	96	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/09/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011402

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: 011402-01 1/3.4 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Benzene	ug/m3	<1.1	<1.1	nm
Toluene	ug/m3	<64	<64	nm
Ethylbenzene	ug/m3	2.2	2.3	4
m,p-Xylene	ug/m3	9.3	9.8	5
o-Xylene	ug/m3	2.7	3.3	20
Naphthalene	ug/m3	<0.89	<0.89	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/m3	43	119	70-130
Toluene	ug/m3	51	84	70-130
Ethylbenzene	ug/m3	59	114	70-130
m,p-Xylene	ug/m3	120	99	70-130
o-Xylene	ug/m3	59	98	70-130
Naphthalene	ug/m3	71	82	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/09/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011402

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR HELIUM  
USING METHOD ASTM D1946**

Laboratory Code: 011402-01 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	<0.6	<0.6	nm	0-20

Laboratory Code: 011401-05 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	14 ve	19 ve	30 hr	0-20



# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Friedman & Bruya**  
Michael Erdahl  
3012 16th Ave. W.  
Seattle, WA 98119

**RE: 011402**  
**Work Order Number: 2011458**

December 01, 2020

**Attention Michael Erdahl:**

Fremont Analytical, Inc. received 5 sample(s) on 11/20/2020 for the analyses presented in the following report.

***Major Gases by EPA Method 3C***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing  
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing  
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

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Original



Date: 12/01/2020

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**CLIENT:** Friedman & Bruya  
**Project:** 011402  
**Work Order:** 2011458

## Work Order Sample Summary

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Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2011458-001	GP-02-112020	11/20/2020 10:24 AM	11/20/2020 4:24 PM
2011458-002	GP-03-112020	11/20/2020 11:22 AM	11/20/2020 4:24 PM
2011458-003	GP-05-112020	11/20/2020 12:15 PM	11/20/2020 4:24 PM
2011458-004	GP-06-112020	11/20/2020 1:25 PM	11/20/2020 4:24 PM
2011458-005	SV-DUP-112020	11/20/2020 12:00 AM	11/20/2020 4:24 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

**CLIENT:** Friedman & Bruya

**Project:** 011402

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WorkOrder Narrative:

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Major gases are reported as % ratio of the Major Gases analyzed (Carbon dioxide, Carbon Monoxide, Methane, Nitrogen, Oxygen and Hydrogen).

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS). The LCS is processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Note: The estimated BTU calculation is based off of the methane result.

### Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

### Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



**CLIENT:** Friedman & Bruya  
**Project:** 011402

**Lab ID:** 2011458-001

**Collection Date:** 11/20/2020 10:24:00 AM

**Client Sample ID:** GP-02-112020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R63578 Analyst: MS

Carbon Dioxide	27.6	0.0500		%	1	11/23/2020 6:53:00 AM
Methane	ND	0.0500		%	1	11/23/2020 6:53:00 AM
Oxygen	4.50	0.0500		%	1	11/23/2020 6:53:00 AM

**Lab ID:** 2011458-002

**Collection Date:** 11/20/2020 11:22:00 AM

**Client Sample ID:** GP-03-112020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R63578 Analyst: MS

Carbon Dioxide	30.3	0.0500		%	1	11/23/2020 7:05:00 AM
Methane	0.168	0.0500		%	1	11/23/2020 7:05:00 AM
Oxygen	1.35	0.0500		%	1	11/23/2020 7:05:00 AM

**Lab ID:** 2011458-003

**Collection Date:** 11/20/2020 12:15:00 PM

**Client Sample ID:** GP-05-112020

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**Major Gases by EPA Method 3C**

Batch ID: R63578 Analyst: MS

Carbon Dioxide	29.6	0.0500		%	1	11/23/2020 7:17:00 AM
Methane	0.515	0.0500		%	1	11/23/2020 7:17:00 AM
Oxygen	1.27	0.0500		%	1	11/23/2020 7:17:00 AM



**CLIENT:** Friedman & Bruya  
**Project:** 011402

**Lab ID:** 2011458-004

**Collection Date:** 11/20/2020 1:25:00 PM

**Client Sample ID:** GP-06-112020

**Matrix:** Air

<b>Analyses</b>	<b>Result</b>	<b>RL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
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**Major Gases by EPA Method 3C**

Batch ID: R63578      Analyst: MS

Carbon Dioxide	17.1	0.0500		%	1	11/23/2020 7:29:00 AM
Methane	ND	0.0500		%	1	11/23/2020 7:29:00 AM
Oxygen	8.16	0.0500		%	1	11/23/2020 7:29:00 AM

Work Order: 2011458  
 CLIENT: Friedman & Bruya  
 Project: 011402

**QC SUMMARY REPORT**  
**Major Gases by EPA Method 3C**

Sample ID: <b>LCS-R63578</b>	SampType: <b>LCS</b>	Units: %	Prep Date: <b>11/23/2020</b>	RunNo: <b>63578</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R63578</b>		Analysis Date: <b>11/23/2020</b>	SeqNo: <b>1276255</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Carbon Dioxide	100	0.0500	100.0	0	100	70	130				
Methane	99.9	0.0500	100.0	0	99.9	70	130				
Oxygen	101	0.0500	100.0	0	101	70	130				

Sample ID: <b>2011458-001AREP</b>	SampType: <b>REP</b>	Units: %	Prep Date: <b>11/23/2020</b>	RunNo: <b>63578</b>							
Client ID: <b>GP-02-112020</b>	Batch ID: <b>R63578</b>		Analysis Date: <b>11/23/2020</b>	SeqNo: <b>1276251</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Carbon Dioxide	27.9	0.0500						27.64	0.905	30	
Methane	ND	0.0500						0		30	
Oxygen	4.47	0.0500						4.505	0.725	30	



Client Name: **FB**  
 Logged by: **Carissa True**

Work Order Number: **2011458**  
 Date Received: **11/20/2020 4:24:00 PM**

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Client

### Log In

3. Coolers are present? Yes  No  NA   
Air samples  
 4. Shipping container/cooler in good condition? Yes  No   
 5. Custody Seals present on shipping container/cooler?  
 (Refer to comments for Custody Seals not intact) Yes  No  Not Present   
 6. Was an attempt made to cool the samples? Yes  No  NA   
 7. Were all items received at a temperature of >2°C to 6°C \* Yes  No  NA   
 8. Sample(s) in proper container(s)? Yes  No   
 9. Sufficient sample volume for indicated test(s)? Yes  No   
 10. Are samples properly preserved? Yes  No   
 11. Was preservative added to bottles? Yes  No  NA   
 12. Is there headspace in the VOA vials? Yes  No  NA   
 13. Did all samples containers arrive in good condition(unbroken)? Yes  No   
 14. Does paperwork match bottle labels? Yes  No   
 15. Are matrices correctly identified on Chain of Custody? Yes  No   
 16. Is it clear what analyses were requested? Yes  No   
 17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

**SUBCONTRACT SAMPLE CHAIN OF CUSTODY**

2011458

Page # \_\_\_\_\_ of \_\_\_\_\_

SUBCONTRACTOR  
*Fremont*

PROJECT NAME/NO.

011402

PO #

A-472

REMARKS

Please Email Results

TURNAROUND TIME

Standard TAT

RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Send Report To Michael Erdahl  
 Company Friedman and Bruya, Inc.  
 Address 3012 16th Ave W  
 City, State, ZIP Seattle, WA 98119  
 Phone # (206) 285-8282 merdah1@friedmanandbruya.com

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED				Notes
						Dioxins/Furans	EPH	VPH	<i>CO<sub>2</sub>, CH<sub>4</sub>, O<sub>2</sub></i>	
GP-02-112020		11/20/20	1024	A				<input checked="" type="checkbox"/>		
GP-03-112020		11/20/20	1122	A				<input checked="" type="checkbox"/>		
GP-05-112020		11/20/20	1215	A				<input checked="" type="checkbox"/>		
GP-06-112020		11/20/20	1325	A				<input checked="" type="checkbox"/>		
SV-DUP-112020		11/20/20		A						HOLD SWAMP EPI/20

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Michael Erdahl	Friedman & Bruya	11/20/20	1355
<i>[Signature]</i>	Claire Anderson	FB	11/20/20	1624
Received by:				

011402

SAMPLE DRAIN OF CONDENSATE

WE 11-20-20

Page # 1 of 1

Report To: Andrew York  
 Company: Aspect Consultants  
 Address: 710 2nd Ave, Ste 550  
 City, State, ZIP: Seattle, WA 98104  
 Phone: 206913 5411 Email: ayork@aspect.com

SAMPLERS (signature)	<u>David Lynch</u>
PROJECT NAME & ADDRESS	<u>Tenno Stadium</u>
PO #	<u>18357</u>
NOTES:	<u>AP</u>
INVOICE TO	<u>AP</u>
TURNAROUND TIME	
Standard	<input checked="" type="checkbox"/>
RUSH	<input type="checkbox"/>
Rush charges authorized by:	
SAMPLE DISPOSAL	<input type="checkbox"/>
Default: Clean after 3 days	<input type="checkbox"/>
Archive (Fee may apply)	<input type="checkbox"/>

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. (THg)	Field Initial Time	Final Vac. (THg)	Field Final Time	ANALYSIS REQUESTED			Notes
										TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	
G-P-02-112020	01	2297	204	IA / SG	11/20/20	-24	1018	-5	1034	X	X	X	CO2, CH4, O2, 30
G-P-03-112020	02	3257	244	IA / SG		-30	1122	-5	1128				
G-P-05-112020	03	3476	224	IA / SG		-30	1215	-5	1221				
G-P-06-112020	04	3256	230	IA / SG		-30	1335	-5	1332				
SU-DUP-112020	05	2301	221	IA / SG		-30	-	-5	-				
Trap Blank	06	3416	240	IA / SG		-	-	-	-				

19°C

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

SIGNATURE	<u>David Lynch</u>	PRINT NAME	<u>David Lynch</u>	COMPANY	<u>Aspect Consultants</u>	DATE	<u>11/20/20</u>	TIME	<u>11:28</u>
Relinquished by:			<u>Michael E. Calk</u>		<u>F. W. B.</u>		<u>11/20/20</u>		<u>5:25</u>
Received by:									
Relinquished by:									

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 1, 2020

Andrew Yonkofski, Project Manager  
Aspect Consulting, LLC  
710 2<sup>nd</sup> Ave S, Suite 550  
Seattle, WA 98104

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on November 20, 2020 from the Texaco Strickland PO 180357, F&BI 011403 project. There are 9 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Aspect Data  
ASP1201R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 20, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Texaco Strickland PO 180357, F&BI 011403 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
011403 -01	MW-27-112020

The NWTPH-Dx surrogate in sample MW-27-112020 exceeded the acceptance criteria. No material was detected in the sample, therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/01/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011403

Date Extracted: 11/25/20

Date Analyzed: 11/25/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-27-112020 011403-01	<100	97
Method Blank 00-2593 MB	<100	90

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/01/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011403

Date Extracted: 11/23/20

Date Analyzed: 11/23/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
MW-27-112020 011403-01	<50	<250	151 vo
Method Blank 00-2585 MB	<50	<250	130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-27-112020	Client:	Aspect Consulting, LLC
Date Received:	11/20/20	Project:	Texaco Strickland PO 180357
Date Extracted:	11/23/20	Lab ID:	011403-01
Date Analyzed:	11/23/20	Data File:	112316.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Texaco Strickland PO 180357
Date Extracted:	11/23/20	Lab ID:	00-2550 mb
Date Analyzed:	11/23/20	Data File:	112318.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/01/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011403

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 011391-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	360	370	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	98	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/01/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011403

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	104	61-133	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/01/20

Date Received: 11/20/20

Project: Texaco Strickland PO 180357, F&BI 011403

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 011411-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Benzene	ug/L (ppb)	10	<0.35	91	76-125
Toluene	ug/L (ppb)	10	<1	91	76-122
Ethylbenzene	ug/L (ppb)	10	<1	95	69-135
m,p-Xylene	ug/L (ppb)	20	<2	95	69-135
o-Xylene	ug/L (ppb)	10	<1	94	60-140
Naphthalene	ug/L (ppb)	10	<1	88	44-164

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Percent	Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Benzene	ug/L (ppb)	10	96	93	69-134	3
Toluene	ug/L (ppb)	10	90	91	72-122	1
Ethylbenzene	ug/L (ppb)	10	95	95	77-124	0
m,p-Xylene	ug/L (ppb)	20	94	94	81-112	0
o-Xylene	ug/L (ppb)	10	93	94	81-121	1
Naphthalene	ug/L (ppb)	10	89	92	64-133	3

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

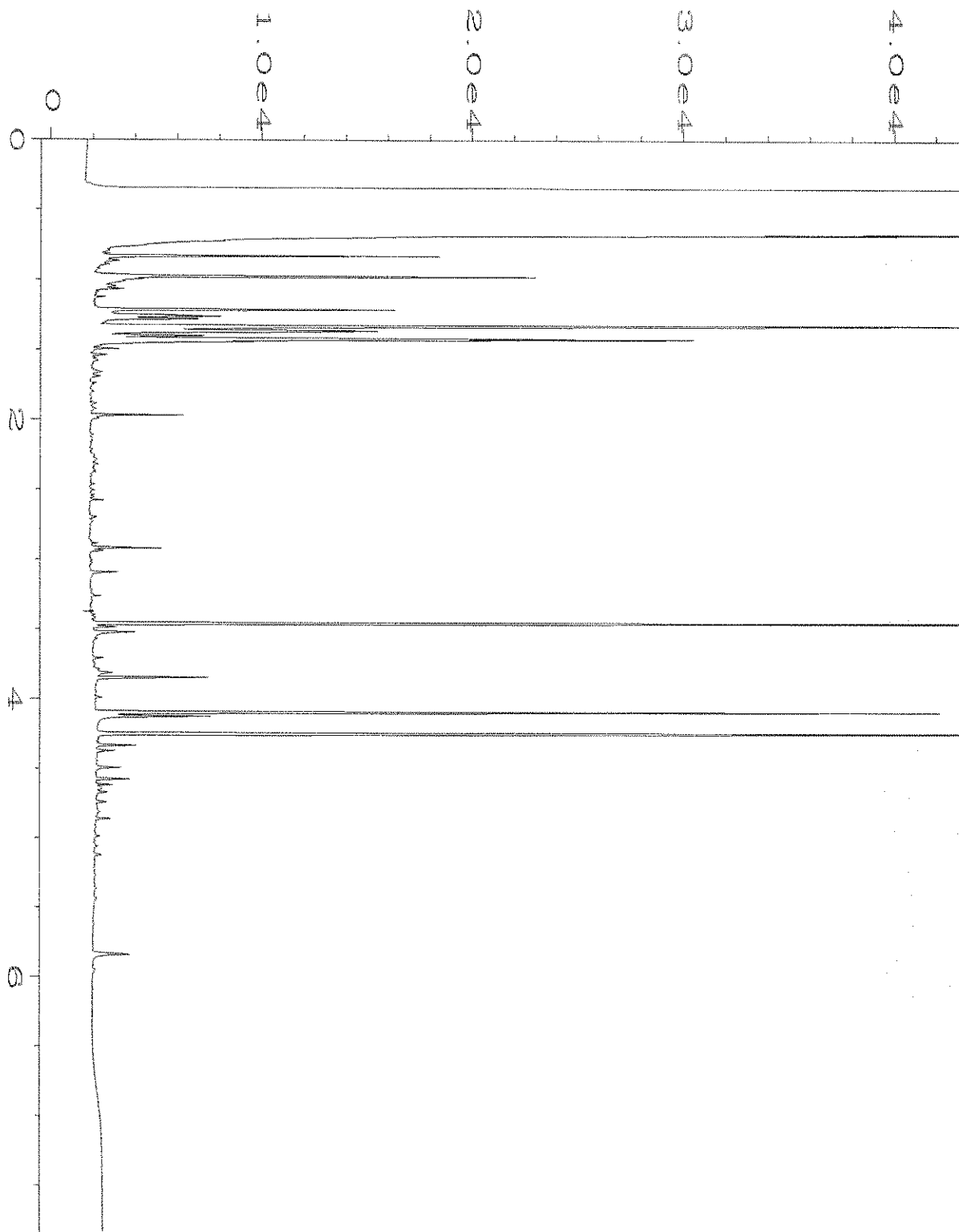
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

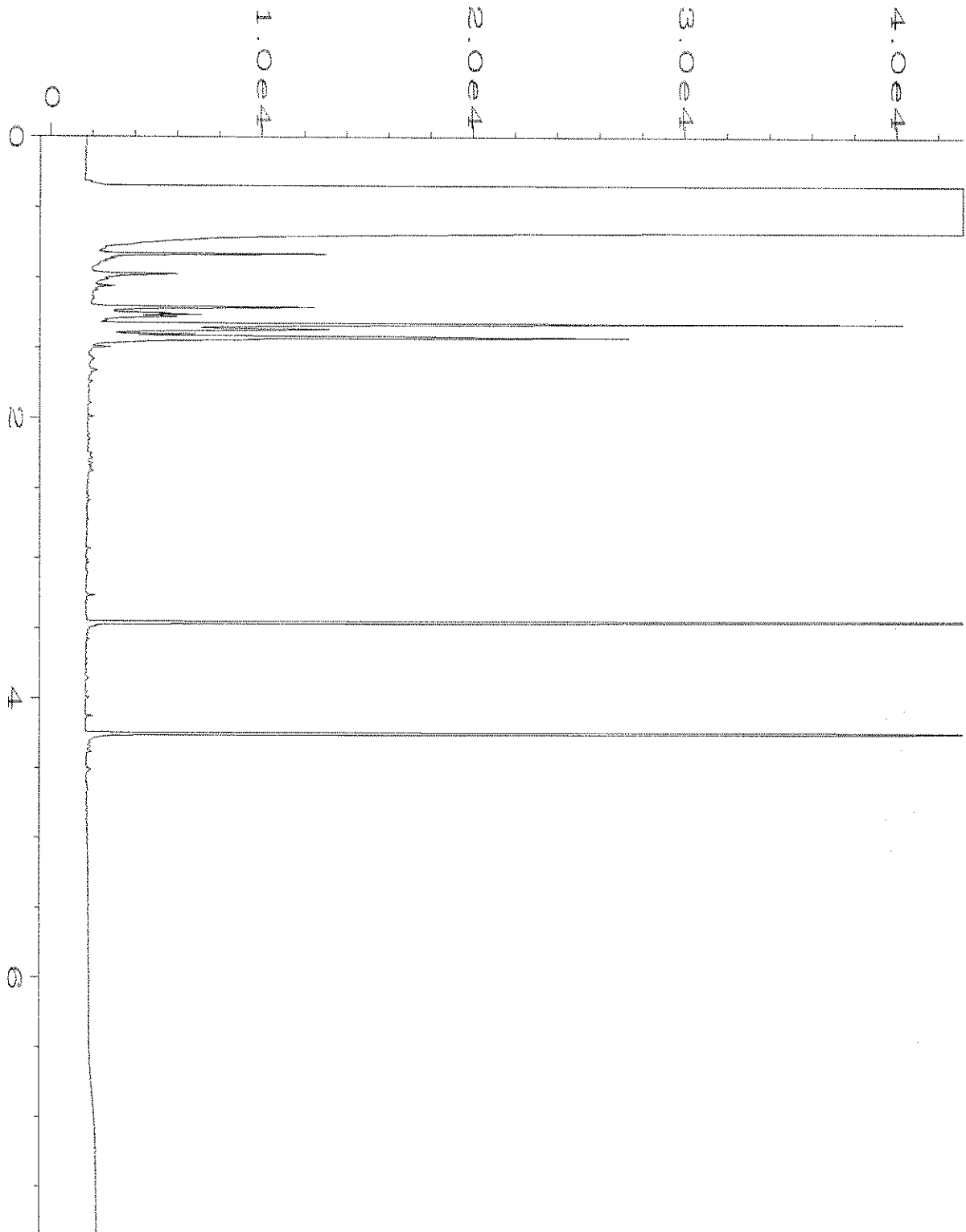
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

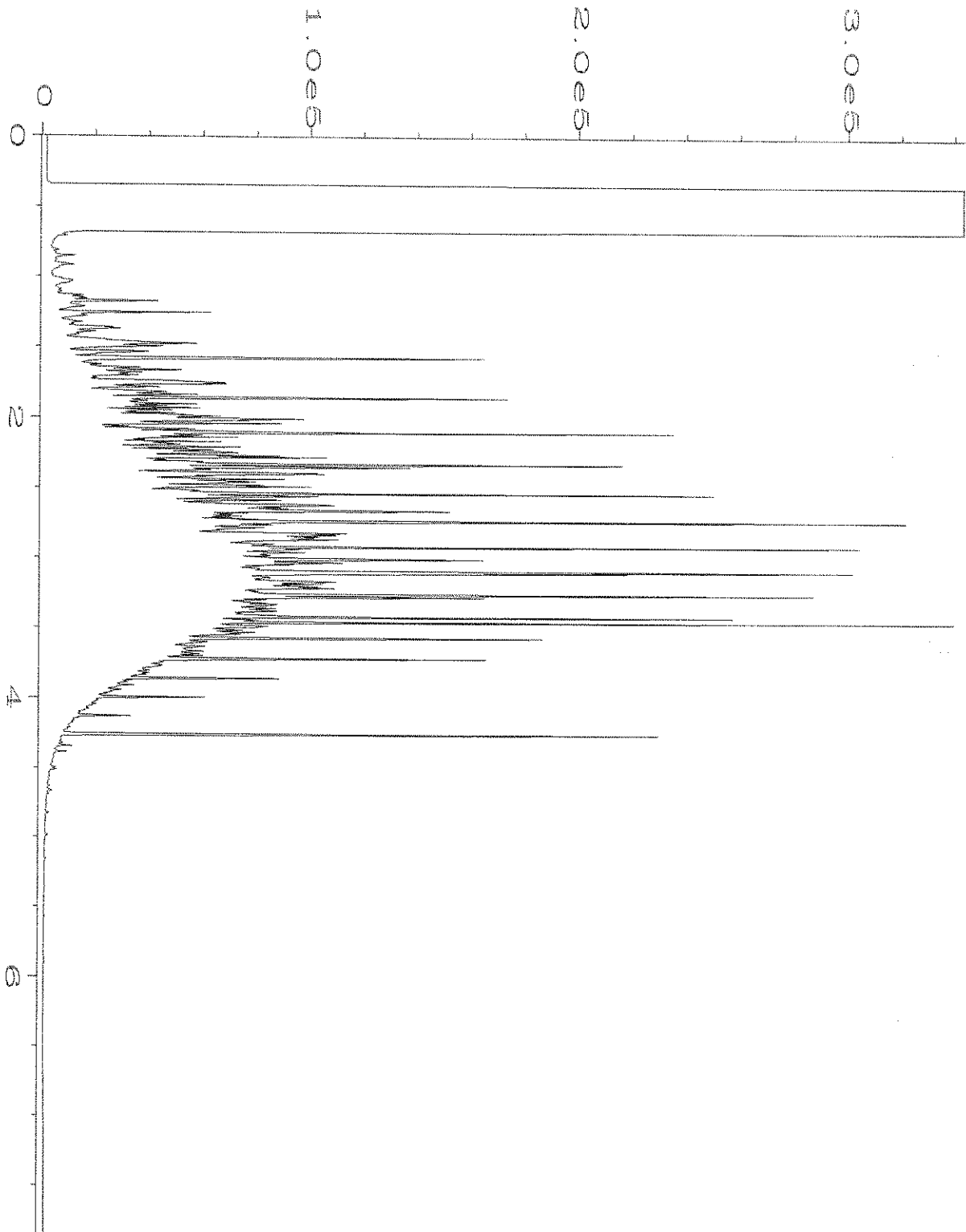
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



Data File Name	: C:\HPCHEM\4\DATA\11-23-20\040F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 40
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 011403-01	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Nov 20 06:16 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Nov 20 09:03 AM		



Data File Name	: C:\HPCHEM\4\DATA\11-23-20\032F0801.D	Page Number	: 1
Operator	: TL	Vial Number	: 32
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 00-2585 mb	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Nov 20 04:36 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Nov 20 09:01 AM		



Data File Name	: C:\HPCHEM\4\DATA\11-23-20\005F0401.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 61-146C	Sequence Line	: 4
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Nov 20 01:35 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	24 Nov 20 09:00 AM		



011403

SAMPLE CHAIN OF CUSTODY

ME 11-20-20

Page # 1 of 1

Report To: Andrew Yoshiko / Alan Carter  
 Company: Aspect Consulting  
 Address: 710 2nd Ave, Ste 550  
 City, State, ZIP: Seattle, WA, 98104  
 Phone: (206) 413-5411 Email: ayoshiko@aspectconsulting.com

SAMPLERS (signature) [Signature]  
 PROJECT NAME: TEXAS STRANDED  
 REMARKS: APD  
 PO #: 10357  
 INVOICE TO: APD

TURNAROUND TIME  
 Standard turnaround  
 RUSH  
 Rush charges-authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL  
 Archive samples  
 Other \_\_\_\_\_  
 Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes									
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082		BTEXM 8260C								
MW-27-11000	014-G	11/20/20	5:00	WL	7	X	X															

Samples received at 4:00

Received by: [Signature] SIGNATURE  
 Relinquished by: [Signature] SIGNATURE  
 Received by: [Signature] SIGNATURE  
 Relinquished by: [Signature] SIGNATURE  
 Received by: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_

PRINT NAME: David Urak  
 PRINT NAME: Michael Edell

COMPANY: Aspect  
 COMPANY: FIN

DATE: 11/20/20  
 DATE: 11/20/20

TIME: 5:00  
 TIME: 1:20

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 p. (206) 285-8282

## **APPENDIX C**

### **Data Validation Reports**



# LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Aspect Consulting LLC  
701 Second Ave., Suite 550  
Seattle, WA 98104  
ATTN: Jason Yabandeh  
[Jyabandeh@aspectconsulting.com](mailto:Jyabandeh@aspectconsulting.com)

September 13, 2019

SUBJECT: Aloha Café, Data Validation

Dear Mr. Yabandeh,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 15, 2019. Attachment 1 is a summary of the samples that were reviewed for each analysis.

## LDC Project #45754:

<u>SDG #</u>	<u>Fraction</u>
906075, 906200 906232, 906279 907276, 908023	Volatiles, TPH as Gasoline, TPH as Diesel & Motor Oil, Lead

The data validation was performed under Stage 2A guidelines. The analyses were validated using the following documents, as applicable to each method:

- Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan, February 2019
- USEPA Region 2 Standard Operating Procedure for Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SOP HW-24, Revision 4, October 2014
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review, January 2017
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review; January 2017
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink  
[CRink@lab-data.com](mailto:CRink@lab-data.com)  
Project Manager/Senior Chemist

Stage 2A / EDD

**LDC #45754 (Aspect Consulting, LLC - Seattle, WA / Aloha Cafe)**

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260 C/D)		Pb (6020B)		TPH-G (NWTPH Gx)		TPH-E (NWTPH Dx)		BTEX (8021B)																										
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
A	906075	08/15/19	09/05/19	0	1	-	-	0	1	0	1	-	-																									
B	906200	08/15/19	09/05/19	0	7	0	1	0	8	0	6	0	8																									
C	906232	08/15/19	09/05/19	0	9	0	3	0	7	0	7	-	-																									
D	906279	08/15/19	09/05/19	-	-	-	-	0	2	0	2	-	-																									
E	907276	08/15/19	09/05/19	0	4	-	-	1	4	0	4	1	4																									
F	908023	08/15/19	09/05/19	22	0	16	0	17	0	16	0	-	-																									
Total				J/CR				22	21	16	4	18	22	16	20	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	152

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Volatiles  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906075

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-04-2	906075-02	Soil	06/05/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

No field blanks were identified in this SDG.

## **VII. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VIII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **X. Field Duplicates**

No field duplicates were identified in this SDG.



## **XI. Internal Standards**

Internal standard data were not reviewed for Stage 2A validation.

## **XII. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XIII. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XIV. System Performance**

Raw data were not reviewed for Stage 2A validation.

## **XV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 906075**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 906075**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 906075**

No Sample Data Qualified in this SDG

LDC #: 45754A1a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/19

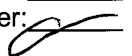
SDG #: 906075

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: 

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	Non client
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-04-2	906075-02	Soil	06/05/19
2				
3				
4				
5				
6				
7				
8				

Notes:

1	09-1316 MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Total Petroleum Hydrocarbons as Gasoline  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906075

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-04-2	906075-02	Soil	06/05/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.



**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
906075**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 906075**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 906075**

No Sample Data Qualified in this SDG

LDC #: 45754A7

# VALIDATION COMPLETENESS WORKSHEET

Date: 09/04/19

SDG #: 906075

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: [Signature]

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-04-2	906075-02	Soil	06/05/19
2				
3				
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9				
10				
11				

Notes:

1	09-1285 MB				

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Total Petroleum Hydrocarbons as Diesel & Motor Oil  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906075

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-04-2	906075-02	Soil	06/05/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Diesel and Motor Oil by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Data Qualification  
Summary - SDG 906075**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Laboratory Blank Data  
Qualification Summary - SDG 906075**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Field Blank Data  
Qualification Summary - SDG 906075**

No Sample Data Qualified in this SDG



LDC #: 45754A8  
 SDG #: 906075  
 Laboratory: Friedman & Bruya, Inc.

**VALIDATION COMPLETENESS WORKSHEET**  
 Level II

Date: 09/04/19  
 Page: 1 of 1  
 Reviewer: LT  
 2nd Reviewer: [Signature]

**METHOD:** GC TPH as Diesel <sup>and Motor Oil</sup> (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non Client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB=Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	GP-04-2	906075-02	Soil	06/05/19
2				
3				
4				
5				
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7				
8				
9				
10				
11				

Notes:

1	09-1347-MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Volatiles  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906200

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-11-1	906200-01	Soil	06/10/19
MW-11-1DL	906200-01DL	Soil	06/10/19
MW-11-6	906200-02	Soil	06/10/19
MW-11-6DL	906200-02DL	Soil	06/10/19
MW-12-15	906200-14	Soil	06/10/19
MW-13-12.5	906200-23	Soil	06/11/19
MW-14-12.5	906200-27	Soil	06/11/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Methods 8260C/8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Stage 2A validation.

## III. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Stage 2A validation.

## IV. Continuing Calibration

Continuing calibration data were not reviewed for Stage 2A validation.

## V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## VI. Field Blanks

No field blanks were identified in this SDG.

## VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
MW-11-1	Toluene-d8	255 (50-150)	All compounds	J (all detects)	A
MW-11-6	Toluene-d8 Bromofluorobenzene	741 (50-150) 428 (50-150)	All compounds	J (all detects)	A

## VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	Flag	A or P
LCS/D (061419) (MW-11-1 MW-11-6)	Naphthalene	136 (70-130)	-	J (all detects)	A

Relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
LCS/D (061419) (MW-11-1 MW-11-6)	Naphthalene	31 ( $\leq 20$ )	J (all detects)	P

## X. Field Duplicates

No field duplicates were identified in this SDG.

## XI. Internal Standards

Internal standard data were not reviewed for Stage 2A validation.

## XII. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

## XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XIV. System Performance

Raw data were not reviewed for Stage 2A validation.

## XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed not reportable as follows:

Sample	Compound	Flag	A or P
MW-11-1	Naphthalene	DNR	-
MW-11-1DL	Methyl-tert-butyl ether 1,2-Dibromoethane 1,2-Dichloroethane	DNR	-
MW-11-6	Naphthalene	DNR	-
MW-11-6DL	Methyl-tert-butyl ether 1,2-Dibromoethane 1,2-Dichloroethane	DNR	-

No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 906200**

Sample	Compound	Flag	A or P	Reason
MW-11-1	Naphthalene	DNR	-	Overall assessment of data
MW-11-1DL	Methyl-tert-butyl ether 1,2-Dibromoethane 1,2-Dichloroethane	DNR	-	Overall assessment of data
MW-11-6	Naphthalene	DNR	-	Overall assessment of data
MW-11-6DL	Methyl-tert-butyl ether 1,2-Dibromoethane 1,2-Dichloroethane	DNR	-	Overall assessment of data

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 906200**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 906200**

No Sample Data Qualified in this SDG



LDC #: 45754B1a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/19

SDG #: 906200

Level II

Page: 6 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: [Signature]

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260C/D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	A	SDG 906232
IX.	Laboratory control samples	SW	LCS/D
X.	Field duplicates	N	
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	SW	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-11-1	906200-01	Soil	06/10/19
2	MW-11-1 <del>REDL</del>	906200-01 <del>REDL</del>	Soil	06/10/19
3	MW-11-6	906200-02	Soil	06/10/19
4	MW-11-6 <del>REDL</del>	906200-02 <del>REDL</del>	Soil	06/10/19
5	MW-12-15	906200-14	Soil	06/10/19
6	MW-13-12.5	906200-23	Soil	06/11/19
7	MW-14-12.5	906200-27	Soil	06/11/19
8				

Notes:


## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

VALIDATION FINDINGS WORKSHEET  
Surrogate Spikes

METHOD: GC/MS VOA (EPA SW 846 Method 8260C/D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N  N/A Were all surrogate %R within QC limits?
- Y  N  N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1 (MD/DET)	TOL	255 (50-150)	J/A Det
				( )	
		3 (MD/DET)	TOL	741 ( )	
			BFB	428 ( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	
				( )	

(TOL) = Toluene-d8      (DCE) = 1,2-Dichloroethane-d4  
 (BFB) = Bromofluorobenzene      (DFM) = Dibromofluoromethane

LDC #: 45754Bla

**VALIDATION FINDINGS WORKSHEET**  
**Laboratory Control Samples (LCS)**

Page: 1 of 1  
 Reviewer: LG  
 2nd Reviewer: [Signature]

**METHOD:** GC/MS VOA (EPA SW 846 Method 8260C/D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A Was a LCS required?  
 N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LC5/D (061419)	MMM	136 (70-130)	( )	( )	1,3 (20)	JIP R45
			↓	( )	( )	31 ( 20 )	↓	J1051P
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

**VALIDATION FINDINGS WORKSHEET**  
**Overall Assessment of Data**

**METHOD:** GC/MS VOA (EPA SW 846 Method 8260C/D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound	Finding	Qualifications
		1	MMM	DL higher result	DNR
		2	LL, TT, L	original run lower RL	↓
		3	MMM	DL higher result	
		4	LL, TT, L	original run lower RL	

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Lead  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906200

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-11-6	906200-02	Soil	06/10/19
MW-11-6MS	906200-02MS	Soil	06/10/19
MW-11-6MSD	906200-02MSD	Soil	06/10/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for the Evaluation of Lead for the Contract Laboratory Program*, SOP HW-2b, Revision 15 (December 2012), and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Lead by Environmental Protection Agency (EPA) SW 846 Method 6020B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.



## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition.

All technical holding time requirements were met.

## **II. ICPMS Tune**

ICP-MS tune data were not reviewed for Stage 2A validation.

## **III. Instrument Calibration**

Instrument performance check data were not reviewed for Stage 2A validation.

## **IV. ICP Interference Check Sample Analysis**

Interference check sample (ICS) analysis data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

No field blanks were identified in this SDG.

## **VII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **VIII. Duplicate Sample Analysis**

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

## **IX. Serial Dilution**

Serial dilution was not performed for this SDG.

## **X. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **XI. Field Duplicates**

No field duplicates were identified in this SDG.

## **XII. Internal Standards (ICP-MS)**

Internal standard data were not reviewed for Stage 2A validation.

## **XIII. Sample Result Verification**

Raw data were not reviewed for Stage 2A validation.

## **XIV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Lead - Data Qualification Summary - SDG 906200**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Lead - Laboratory Blank Data Qualification Summary - SDG 906200**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Lead - Field Blank Data Qualification Summary - SDG 906200**

No Sample Data Qualified in this SDG

LDC #: 45754B4a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/19

SDG #: 906200

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: [Signature]

**METHOD:** Lead (EPA SW 846 Method 6020B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	ICP/MS Tune	N	
III.	Instrument Calibration	N	
IV.	ICP Interference Check Sample (ICS) Analysis	N	
V.	Laboratory Blanks	A	
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	A	(2/3)
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	N	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data	K	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-11-6	906200-02	Soil	06/10/19
2	MW-11-6MS	906200-02MS	Soil	06/10/19
3	MW-11-6MSD	906200-02MSD	Soil	06/10/19
4				
5				
6				
7				
8				
9				
10				
11				
12				

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 9, 2019

**Parameters:** Total Petroleum Hydrocarbons as Gasoline

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 906200

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-11-1	906200-01	Soil	06/10/19
MW-11-6	906200-02	Soil	06/10/19
MW-11-13	906200-03	Soil	06/10/19
B-05-16	906200-09	Soil	06/10/19
MW-12-15	906200-14	Soil	06/10/19
B-06-13	906200-19	Soil	06/11/19
MW-13-12.5	906200-23	Soil	06/11/19
MW-14-12.5	906200-27	Soil	06/11/19
B-05-16DUP	906200-09DUP	Soil	06/10/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates/Duplicate Sample Analysis**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.



## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
906200**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 906200**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 906200**

No Sample Data Qualified in this SDG

LDC #: 45754B7

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/19

SDG #: 906200

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates / DUP	N / A	(a)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-11-1	906200-01	Soil	06/10/19
2	MW-11-6	906200-02	Soil	06/10/19
3	MW-11-13	906200-03	Soil	06/10/19
4	B-05-16	906200-09	Soil	06/10/19
5	MW-12-15	906200-14	Soil	06/10/19
6	B-06-13	906200-19	Soil	06/11/19
7	MW-13-12.5	906200-23	Soil	06/11/19
8	MW-14-12.5	906200-27	Soil	06/11/19
9	B-05-16DUP	906200-09DUP	Soil	06/10/19
10				
11				

Notes:

1	09-12-98 MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Total Petroleum Hydrocarbons as Diesel & Motor Oil  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906200

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-11-6	906200-02	Soil	06/10/19
B-05-16	906200-09	Soil	06/10/19
MW-12-15	906200-14	Soil	06/10/19
B-06-13	906200-19	Soil	06/11/19
MW-13-12.5	906200-23	Soil	06/11/19
MW-14-12.5	906200-27	Soil	06/11/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Diesel and Motor Oil by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.



**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Data Qualification  
Summary - SDG 906200**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Laboratory Blank Data  
Qualification Summary - SDG 906200**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Field Blank Data  
Qualification Summary - SDG 906200**

No Sample Data Qualified in this SDG

LDC #: 45754B8  
 SDG #: 906200  
 Laboratory: Friedman & Bruya, Inc.

**VALIDATION COMPLETENESS WORKSHEET**  
 Level II

Date: 06/04/19  
 Page: ( of )  
 Reviewer: LT  
 2nd Reviewer: [Signature]

**METHOD:** GC TPH as Diesel <sup>and Motor Oil</sup> (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non Client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB=Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-11-6	906200-02	Soil	06/10/19
2	B-05-16	906200-09	Soil	06/10/19
3	MW-12-15	906200-14	Soil	06/10/19
4	B-06-13	906200-19	Soil	06/11/19
5	MW-13-12.5	906200-23	Soil	06/11/19
6	MW-14-12.5	906200-27	Soil	06/11/19
7				
8				
9				
10				
11				

Notes:

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## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 9, 2019

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 906200

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-11-1	906200-01	Soil	06/10/19
MW-11-6	906200-02	Soil	06/10/19
MW-11-13	906200-03	Soil	06/10/19
B-05-16	906200-09	Soil	06/10/19
MW-12-15	906200-14	Soil	06/10/19
B-06-13	906200-19	Soil	06/11/19
MW-13-12.5	906200-23	Soil	06/11/19
MW-14-12.5	906200-27	Soil	06/11/19
B-05-16DUP	906200-09DUP	Soil	06/10/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8021B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates/Duplicate Sample Analysis**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 906200**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 906200**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 906200**

No Sample Data Qualified in this SDG



LDC #: 45754B23  
 SDG #: 906200  
 Laboratory: Friedman & Bruya, Inc.

**VALIDATION COMPLETENESS WORKSHEET**  
 Level II

Date: 06/04/19  
 Page: 1 of 1  
 Reviewer: BT  
 2nd Reviewer: [Signature]

**METHOD:** GC Volatiles (BTEX) (EPA SW 846 Method 8021B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N, N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates DUP	N/A	(9)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB=Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-11-1	906200-01	Soil	06/10/19
2	MW-11-6	906200-02	Soil	06/10/19
3	MW-11-13	906200-03	Soil	06/10/19
4	B-05-16	906200-09	Soil	06/10/19
5	MW-12-15	906200-14	Soil	06/10/19
6	B-06-13	906200-19	Soil	06/11/19
7	MW-13-12.5	906200-23	Soil	06/11/19
8	MW-14-12.5	906200-27	Soil	06/11/19
9	B-05-16DUP	906200-09DUP	Soil	06/10/19
10				
11				

Notes:

1	09-1298 MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Volatiles  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906232

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-15-7.5	906232-01	Soil	06/12/19
MW-15-10.5	906232-02	Soil	06/12/19
MW-15-10.5DL	906232-02DL	Soil	06/12/19
MW-15-13	906232-03	Soil	06/12/19
MW-15-13DL	906232-03DL	Soil	06/12/19
MW-15-25	906232-05	Soil	06/12/19
B-07-8	906232-07	Soil	06/12/19
B-07-12.5	906232-08	Soil	06/12/19
MW-15-7.5DUP	906232-01DUP	Soil	06/12/19
MW-15-17.5	906232-04	Soil	06/12/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Methods 8260C/8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Analysis	Required Holding Time (in Days) From Sample Collection Until Analysis	Flag	A or P
MW-15-13	Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	15	14	J (all detects) UJ (all non-detects)	A

## II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Stage 2A validation.

## III. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Stage 2A validation.

## IV. Continuing Calibration

Continuing calibration data were not reviewed for Stage 2A validation.

## V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## VI. Field Blanks

No field blanks were identified in this SDG.

## VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
MW-15-10.5	Toluene-d8 Bromofluorobenzene	608 (50-150) 2673 (50-150)	All compounds	J (all detects)	A

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
MW-15-13	Toluene-d8 Bromofluorobenzene	273 (50-150) 1029 (50-150)	All compounds	J (all detects)	A

### VIII. Matrix Spike/Matrix Spike Duplicates/Duplicate Sample Analysis

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

### IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	Flag	A or P
LCS/D (061419) (MW-15-25)	m,p-Xylenes	163 (70-130)	-	NA	-
LCS/D (061419) (MW-15-10.5 MW-15-13)	Naphthalene	136 (70-130)	-	J (all detects)	P
LCS/D (061419) (MW-15-7.5 B-07-8 B-07-12.5)	Naphthalene	136 (70-130)	-	NA	-

Relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
LCS/D (061419) (MW-15-25)	Ethylbenzene m,p-Xylenes	28 ( $\leq 20$ ) 52 ( $\leq 20$ )	UJ (all non-detects) UJ (all non-detects)	P
LCS/D (061419) (MW-15-7.5 MW-15-10.5 MW-15-10.5DL MW-15-13 B-07-8 B-07-12.5)	Naphthalene	31 ( $\leq 20$ )	J (all detects) UJ (all non-detects)	P

## X. Field Duplicates

No field duplicates were identified in this SDG.

## XI. Internal Standards

Internal standard data were not reviewed for Stage 2A validation.

## XII. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

## XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XIV. System Performance

Raw data were not reviewed for Stage 2A validation.

## XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed not reportable as follows:

Sample	Compound	Flag	A or P
MW-15-10.5	Naphthalene	DNR	-
MW-15-10.5DL	Methyl-tert-butyl ether 1,2-Dibromoethane 1,2-Dichloroethane	DNR	-
MW-15-13	Naphthalene	DNR	-
MW-15-13DL	Methyl-tert-butyl ether 1,2-Dibromoethane 1,2-Dichloroethane	DNR	-

Due to technical holding time, surrogate %R, and LCS/LCSD %R and RPD, data were qualified as estimated in three samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 906232**

Sample	Compound	Flag	A or P	Reason
MW-15-13	Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	J (all detects) UJ (all non-detects)	A	Technical holding times
MW-15-25	Ethylbenzene m,p-Xylenes	UJ (all non-detects) UJ (all non-detects)	P	Laboratory control samples (RPD)
MW-15-7.5 MW-15-10.5DL B-07-8 B-07-12.5	Naphthalene	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD)
MW-15-10.5	Naphthalene	DNR	-	Overall assessment of data
MW-15-10.5DL	Methyl-tert-butyl ether 1,2-Dibromoethane 1,2-Dichloroethane	DNR	-	Overall assessment of data
MW-15-13	Naphthalene	DNR	-	Overall assessment of data
MW-15-13DL	Methyl-tert-butyl ether 1,2-Dibromoethane 1,2-Dichloroethane	DNR	-	Overall assessment of data

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 906232**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 906232**

No Sample Data Qualified in this SDG



LDC #: 45754C1a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 04/04/19

SDG #: 906232

Level II

Page: 1 of 2

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: [Signature]

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260C/D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, SA	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates <sup>DUP</sup>	N/A	(9)
IX.	Laboratory control samples	SW	LC5/D
X.	Field duplicates	N	
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	SA	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-15-7.5	906232-01	Soil	06/12/19
2	MW-15-10.5	906232-02	Soil	06/12/19
3	MW-15-10.5 <sup>REDL</sup>	906232-02 <sup>REDL</sup>	Soil	06/12/19
4	MW-15-13	906232-03	Soil	06/12/19
5	MW-15-13 <sup>REDL</sup>	906232-03 <sup>REDL</sup>	Soil	06/12/19
6	MW-15-25	906232-05	Soil	06/12/19
7	B-07-8	906232-07	Soil	06/12/19
8	B-07-12.5	906232-08	Soil	06/12/19
9	MW-15-7.5DUP	906232-01DUP	Soil	06/12/19
10	MW-15-17.5	↓ -04	↓	↓
11				
12				
13				

LDC #: 45754C1a **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 906232

Laboratory: Friedman & Bruya, Inc.

Level II

Date: 09/04/19

Page: 2 of 2

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260C/D)

Notes:


## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

**VALIDATION FINDINGS WORKSHEET**  
Technical Holding Times

All circled dates have exceeded the technical holding times.

N N/A Were all cooler temperatures within validation criteria? \_\_\_\_\_

N N/A Were air bubbles > 1/4 inch or was headspace present in the vials? \_\_\_\_\_

METHOD : GC/MS Volatiles (EPA SW 846 Method 8260C/D)							
Sample ID	Matrix	Preserved	Sampling Date	Extraction date	Analysis date	Total # of Days	Qualifier
4 (DET)*TND	S	N	06/12/19	06/27/19	06/27/19	15	JVS/A
* V, CC, EE, PPT, SSS only							

**TECHNICAL HOLDING TIME CRITERIA**

Water unpreserved:                      Aromatic within 7 days, non-aromatic within 14 days of sample collection.  
 Water preserved:                        Within 14 days of sample collection.  
 Soil:    Within 14 days of sample collection.

**VALIDATION FINDINGS WORKSHEET**  
**Surrogate Spikes**

**METHOD:** GC/MS VOA (EPA SW 846 Method 8260C/D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- ~~N~~ ~~N/A~~ Were all surrogate %R within QC limits?
- ~~N~~ ~~N/A~~ If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (I limits)	Qualifications
		2 (ND/DET)	TOL	608 (50-150)	J/A DETS
			BFB	2673 ( ↓ )	↓
				( )	
		4 (ND/DET)	TOL	273 ( ↓ )	↓
			BFB	1029 ( ↓ )	↓
				( )	
				( )	
				( )	
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(TOL) = Toluene-d8                      (DCE) = 1,2-Dichloroethane-d4  
(BFB) = Bromofluorobenzene            (DFM) = Dibromofluoromethane

### VALIDATION FINDINGS WORKSHEET Laboratory Control Samples (LCS)

**METHOD:** GC/MS VOA (EPA SW 846 Method 8260C/D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A    Was a LCS required?  
 Y  N N/A    Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
			<del>BI</del>	60 (70-130)	62 (70-130)	( )		<del>J/JS/P</del>
		LCS/D (061419)	PPP	163 ( ↓ )	( )	( )	6 (ND)	J/P Ret
			MMM	136 ( ↓ )	( )	( )	1,7,8 (ND) 2,4 (Det)	↓
			EE	( )	( )	28 (20)	6 (ND)	J/JS/P
			PPP	( )	( )	52 ( ↓ )	<del>6 (ND) 1,7,8 (ND) 2,4 (Det)</del>	↓
			MMM	( )	( )	31 ( ↓ )	1,7,8 (ND) 2,4 (Det)	↓
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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LDC #: 45754ch

### VALIDATION FINDINGS WORKSHEET Overall Assessment of Data

Page: 1 of 1  
Reviewer: LT  
2nd Reviewer: [Signature]

**METHOD:** GC/MS VOA (EPA SW 846 Method 8260C/D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Y  N  N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound	Finding	Qualifications
		2	MMM	DL higher result	DNR ↓
		3	LL, TT, L	original run lower PL	
		4	MMM	DL higher result	
		5	LL, TT, L	original run lower PL	

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Lead  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906232

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-15-10.5	906232-02	Soil	06/12/19
MW-15-13	906232-03	Soil	06/12/19
B-07-8	906232-07	Soil	06/12/19



## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for the Evaluation of Lead for the Contract Laboratory Program*, SOP HW-2b, Revision 15 (December 2012), and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Lead by Environmental Protection Agency (EPA) SW 846 Method 6020B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition.

All technical holding time requirements were met.

## **II. ICPMS Tune**

ICP-MS tune data were not reviewed for Stage 2A validation.

## **III. Instrument Calibration**

Instrument performance check data were not reviewed for Stage 2A validation.

## **IV. ICP Interference Check Sample Analysis**

Interference check sample (ICS) analysis data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

No field blanks were identified in this SDG.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Duplicate Sample Analysis**

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

## **IX. Serial Dilution**

Serial dilution was not performed for this SDG.

## **X. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **XI. Field Duplicates**

No field duplicates were identified in this SDG.

## **XII. Internal Standards (ICP-MS)**

Internal standard data were not reviewed for Stage 2A validation.

## **XIII. Sample Result Verification**

Raw data were not reviewed for Stage 2A validation.

## **XIV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Lead - Data Qualification Summary - SDG 906232**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Lead - Laboratory Blank Data Qualification Summary - SDG 906232**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Lead - Field Blank Data Qualification Summary - SDG 906232**

No Sample Data Qualified in this SDG

LDC #: 45754C4a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/19

SDG #: 906232

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: L7

2nd Reviewer: [Signature]

**METHOD:** Lead (EPA SW 846 Method 6020B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	ICP/MS Tune	N	
III.	Instrument Calibration	N	
IV.	ICP Interference Check Sample (ICS) Analysis	N	
V.	Laboratory Blanks	A	
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	A	SDG 906200
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	N	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-15-10.5	906232-02	Soil	06/12/19
2	MW-15-13	906232-03	Soil	06/12/19
3	B-07-8	906232-07	Soil	06/12/19
4				
5				
6				
7				
8				
9				
10				
11				
12				

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Total Petroleum Hydrocarbons as Gasoline  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906232

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-15-7.5	906232-01	Soil	06/12/19
MW-15-10.5	906232-02	Soil	06/12/19
MW-15-13	906232-03	Soil	06/12/19
MW-15-25	906232-05	Soil	06/12/19
B-07-8	906232-07	Soil	06/12/19
B-07-12.5	906232-08	Soil	06/12/19
MW-15-17.5	906232-04	Soil	06/12/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.



The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## II. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Stage 2A validation.

## III. Continuing Calibration

Continuing calibration data were not reviewed for Stage 2A validation.

## IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## V. Field Blanks

No field blanks were identified in this SDG.

## VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
MW-15-10.5	Bromobenzene	218 (50-150)	All compounds	J (all detects)	P
B-07-8	Bromobenzene	251 (50-150)	All compounds	J (all detects)	P

## VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## IX. Field Duplicates

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method.

Due to surrogate %R, data were qualified as estimated in two samples.

No results were rejected in this SDG.

**Aloha Café  
 Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
 906232**

Sample	Compound	Flag	A or P	Reason
MW-15-10.5 B-07-8	All compounds	J (all detects)	P	Surrogates (%R)

**Aloha Café  
 Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
 Summary - SDG 906232**

No Sample Data Qualified in this SDG

**Aloha Café  
 Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
 Summary - SDG 906232**

No Sample Data Qualified in this SDG

LDC #: 45754C7

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/19

SDG #: 906232

Level II

Page: (of )

Laboratory: Friedman & Bruya, Inc.

Reviewer: UT

2nd Reviewer: [Signature]

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Non client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-15-7.5	906232-01	Soil	06/12/19
2	MW-15-10.5	906232-02	Soil	06/12/19
3	MW-15-13	906232-03	Soil	06/12/19
4	MW-15-25	906232-05	Soil	06/12/19
5	B-07-8	906232-07	Soil	06/12/19
6	B-07-12.5	906232-08	Soil	06/12/19
7	MW-15-17.5	↓ -04	↓	↓
8				
9				
10				
11				

Notes:

1	09-1405 MB			

LDC #: 457546<sup>UT</sup>

### VALIDATION FINDINGS WORKSHEET Surrogate Recovery

METHOD:  GC  HPLC

Are surrogates required by the method? Yes  or No .

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y  N  N/A Were surrogates spiked into all samples and blanks?

Y  N  N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/Column	Surrogate Compound	%R (Limits)	Qualifications
	2 (Det)		<del>Bmp</del> L	218 ( 50-150 )	J/A <sup>P</sup> Dets
	5 (Det)		↓	251 ( ↓ )	↓
				( )	
				( )	
				( )	
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Surrogate Compound	Surrogate Compound	Surrogate Compound	Surrogate Compound
A Chlorobenzene (CBZ)	G Octacosane	M Benzo(e)Pyrene	S 1-Chloro-3-Nitrobenzene
B 4-Bromofluorobenzene (BFB)	H Ortho-Terphenyl	N Terphenyl-D14	T 3,4-Dinitrotoluene
C a,a,a-Trifluorotoluene	I Fluorobenzene (FBZ)	O Decachlorobiphenyl (DCB)	U Triphenyltin
D Bromochlorobenzene	J n-Triacontane	P 1-methylnaphthalene	V Tri-n-propyltin
E 1,4-Dichlorobutane	K Hexacosane	Q Dichlorophenyl Acetic Acid (DCAA)	W Tributyl Phosphate
F 1,4-Difluorobenzene (DFB)	<u>L</u> Bromobenzene	R 4-Nitrophenol	X Triphenyl Phosphate

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Total Petroleum Hydrocarbons as Diesel & Motor Oil  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906232

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-15-7.5	906232-01	Soil	06/12/19
MW-15-10.5	906232-02	Soil	06/12/19
MW-15-13	906232-03	Soil	06/12/19
MW-15-25	906232-05	Soil	06/12/19
B-07-8	906232-07	Soil	06/12/19
B-07-12.5	906232-08	Soil	06/12/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Diesel and Motor Oil by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.



The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Data Qualification  
Summary - SDG 906232**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Laboratory Blank Data  
Qualification Summary - SDG 906232**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Field Blank Data  
Qualification Summary - SDG 906232**

No Sample Data Qualified in this SDG

LDC #: 45754C8

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/17

SDG #: 906232

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

and Motor Oil

2nd Reviewer: [Signature]

**METHOD:** GC TPH as Diesel (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non Client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-15-7.5	906232-01	Soil	06/12/19
2	MW-15-10.5	906232-02	Soil	06/12/19
3	MW-15-13	906232-03	Soil	06/12/19
4	MW-15-25	906232-05	Soil	06/12/19
5	B-07-8	906232-07	Soil	06/12/19
6	B-07-12.5	906232-08	Soil	06/12/19
7	MW-15-17.5	↓ -04	↓	↓
8				
9				
10				
11				

Notes:


**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Total Petroleum Hydrocarbons as Gasoline  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906279

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-17-8.5	906279-02	Soil	06/14/19
MW-16-7.5	906279-07	Soil	06/14/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.



## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
906279**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 906279**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 906279**

No Sample Data Qualified in this SDG

LDC #: 45754D7

# VALIDATION COMPLETENESS WORKSHEET

Date: 09/04/19

SDG #: 906279

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: [Signature]

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non Client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-17-8.5	906279-02	Soil	06/14/19
2	MW-16-7.5	906279-07	Soil	06/14/19
3				
4				
5				
6				
7				
8				
9				
10				
11				

Notes:


**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Total Petroleum Hydrocarbons as Diesel & Motor Oil  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 906279

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-17-8.5	906279-02	Soil	06/14/19
MW-16-7.5	906279-07	Soil	06/14/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Diesel and Motor Oil by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.



## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Total Petroleum Hydrocarbons as Diesel and Motor Oil - Data Qualification**  
**Summary - SDG 906279**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Total Petroleum Hydrocarbons as Diesel and Motor Oil - Laboratory Blank Data**  
**Qualification Summary - SDG 906279**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Total Petroleum Hydrocarbons as Diesel and Motor Oil - Field Blank Data**  
**Qualification Summary - SDG 906279**

No Sample Data Qualified in this SDG

LDC #: 45754D8

# VALIDATION COMPLETENESS WORKSHEET

Date: 06/04/19

SDG #: 906279

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: [Signature]

METHOD: GC TPH as Diesel <sup>and Motor oil</sup> (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non Client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-17-8.5	906279-02	Soil	06/14/19
2	MW-16-7.5	906279-07	Soil	06/14/19
3				
4				
5				
6				
7				
8				
9				
10				
11				

Notes:


## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Volatiles  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 907276

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-18-10	907276-03	Soil	07/15/19
B-08-13.5	907276-08	Soil	07/16/19
MW-19-8.5	907276-12	Soil	07/16/19
Dup-2	907276-16	Soil	07/16/19
MW-19-8.5MS	907276-12MS	Soil	07/16/19
MW-19-8.5MSD	907276-12MSD	Soil	07/16/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

No field blanks were identified in this SDG.

## **VII. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VIII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **X. Field Duplicates**

Samples MW-19-8.5 and Dup-2 were identified as field duplicates. No results were detected in any of the samples.

## **XI. Internal Standards**

Internal standard data were not reviewed for Stage 2A validation.

## **XII. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XIII. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XIV. System Performance**

Raw data were not reviewed for Stage 2A validation.

## **XV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.



**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 907276**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 907276**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 907276**

No Sample Data Qualified in this SDG

LDC #: 45754E1a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/19

SDG #: 907276

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: 

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	(5,6)
IX.	Laboratory control samples	A	LC5
X.	Field duplicates	ND	D = 3+4
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-18-10	907276-03	Soil	07/15/19
2	B-08-13.5	907276-08	Soil	07/16/19
3	MW-19-8.5	907276-12	Soil	07/16/19
4	Dup-2	907276-16	Soil	07/16/19
5	MW-19-8.5MS	907276-12MS	Soil	07/16/19
6	MW-19-8.5MSD	907276-12MSD	Soil	07/16/19
7				
8				

Notes:


## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 9, 2019

**Parameters:** Total Petroleum Hydrocarbons as Gasoline

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 907276

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-18-10	907276-03	Soil	07/15/19
B-08-13.5	907276-08	Soil	07/16/19
MW-19-8.5	907276-12	Soil	07/16/19
Dup-2	907276-16	Soil	07/16/19
Trip Blank	907276-17	Water	07/16/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

Samples MW-19-8.5 and Dup-2 were identified as field duplicates. No results were detected in any of the samples.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
907276**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 907276**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 907276**

No Sample Data Qualified in this SDG



LDC #: 45754E7

**VALIDATION COMPLETENESS WORKSHEET**

Date: 07/01/19

SDG #: 907276

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 5
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non Client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 3+4
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-18-10	907276-03	Soil	07/15/19
2	B-08-13.5	907276-08	Soil	07/16/19
3	MW-19-8.5	907276-12	Soil	07/16/19
4	Dup-2	907276-16	Soil	07/16/19
5	Trip Blank	907276-17	Water	07/16/19
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11				

Notes:


**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Total Petroleum Hydrocarbons as Diesel & Motor Oil  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 907276

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-18-10	907276-03	Soil	07/15/19
B-08-13.5	907276-08	Soil	07/16/19
MW-19-8.5	907276-12	Soil	07/16/19
Dup-2	907276-16	Soil	07/16/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Diesel and Motor Oil by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

Samples MW-19-8.5 and Dup-2 were identified as field duplicates. No results were detected in any of the samples.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Data Qualification  
Summary - SDG 907276**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Laboratory Blank Data  
Qualification Summary - SDG 907276**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Field Blank Data  
Qualification Summary - SDG 907276**

No Sample Data Qualified in this SDG

LDC #: 45754E8

# VALIDATION COMPLETENESS WORKSHEET

Date: 09/04/19

SDG #: 907276

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC TPH as Diesel (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 3+4
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-18-10	907276-03	Soil	07/15/19
2	B-08-13.5	907276-08	Soil	07/16/19
3	MW-19-8.5	907276-12	Soil	07/16/19
4	Dup-2	907276-16	Soil	07/16/19
5				
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8				
9				
10				
11				

Notes:




## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 9, 2019  
**Parameters:** Volatiles  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 907276

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-18-10	907276-03	Soil	07/15/19
B-08-13.5	907276-08	Soil	07/16/19
MW-19-8.5	907276-12	Soil	07/16/19
Dup-2	907276-16	Soil	07/16/19
Trip Blank	907276-17	Water	07/16/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8021B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

Samples MW-19-8.5 and Dup-2 were identified as field duplicates. No results were detected in any of the samples.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 907276**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 907276**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 907276**

No Sample Data Qualified in this SDG

LDC #: 45754E23

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/19

SDG #: 907276

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: [Signature]

**METHOD:** GC Volatiles (BTEX) (EPA SW 846 Method 8021B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N, N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 5
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non Client
VIII.	Laboratory control samples	A	LC5
IX.	Field duplicates	ND	D = 3+4
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-18-10	907276-03	Soil	07/15/19
2	B-08-13.5	907276-08	Soil	07/16/19
3	MW-19-8.5	907276-12	Soil	07/16/19
4	Dup-2	907276-16	Soil	07/16/19
5	Trip Blank	907276-17	Water	07/16/19
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Notes:


## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 9, 2019

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 908023

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-16-073119	908023-01	Water	07/31/19
MW-18-073119	908023-02	Water	07/31/19
MW-14-073119	908023-03	Water	07/31/19
MW-14-073119DL	908023-03DL	Water	07/31/19
MW-13-073119	908023-04	Water	07/31/19
Dup-01-073119	908023-05	Water	07/31/19
Dup-01-073119DL	908023-05DL	Water	07/31/19
MW-17-073119	908023-06	Water	07/31/19
MW-19-073119	908023-07	Water	07/31/19
MW-7-073119	908023-08	Water	07/31/19
MW-11-073119	908023-09	Water	07/31/19
MW-11-073119DL	908023-09DL	Water	07/31/19
MW-6-073119	908023-10	Water	07/31/19
MW-12-080119	908023-11	Water	08/01/19
MW-2-080119	908023-12	Water	08/01/19
MW-10-080119	908023-13	Water	08/01/19
MW-10-080119DL	908023-13DL	Water	08/01/19
MW-9-080119	908023-14	Water	08/01/19
Rinse Blank-080119	908023-15	Water	08/01/19
MW-1-080119	908023-16	Water	08/01/19
MW-1-080119DL	908023-16DL	Water	08/01/19
Trip Blank	908023-17	Water	08/01/19
MW-12-080119MS	908023-11MS	Water	08/01/19



## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

Sample Rinse Blank-080119 was identified as a rinsate blank. No contaminants were found.

## **VII. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VIII. Matrix Spike**

Matrix spike (MS) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## X. Field Duplicates

Samples MW-14-073119 and Dup-01-073119 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	MW-14-073119	Dup-01-073119			
Vinyl chloride	2.7	2.8	4 (≤35)	-	-
Toluene	32	45	34 (≤35)	-	-
m,p-Xylenes	72	120	50 (≤35)	J (all detects)	A
o-Xylene	18	25	33 (≤35)	-	-
Naphthalene	50	77	43 (≤35)	J (all detects)	A

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	MW-14-073119	Dup-01-073119DL			
Ethylbenzene	130	170	27 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	MW-14-073119DL	Dup-01-073119DL			
Benzene	2400	3500	37 (≤35)	J (all detects)	A

## XI. Internal Standards

Internal standard data were not reviewed for Stage 2A validation.

## XII. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

## XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XIV. System Performance

Raw data were not reviewed for Stage 2A validation.

## XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed not reportable as follows:

Sample	Compound	Finding	Flag	A or P
MW-14-073119	Benzene	Results exceeded calibration range.	DNR	-
MW-14-073119DL	All compounds except Benzene	Results from undiluted analyses were more usable.	DNR	-
Dup-01-073119	Benzene Ethylbenzene	Results exceeded calibration range.	DNR	-
Dup-01-073119DL	All compounds except Benzene Ethylbenzene	Results from undiluted analyses were more usable.	DNR	-
MW-11-073119 MW-1-080119	Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	Results exceeded calibration range.	DNR	-
MW-11-073119DL MW-1-080119DL	All compounds except Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	Results from undiluted analyses were more usable.	DNR	-
MW-10-080119	Benzene Ethylbenzene m,p-Xylenes Naphthalene	Results exceeded calibration range.	DNR	-
MW-10-080119DL	All compounds except Benzene Ethylbenzene m,p-Xylenes Naphthalene	Results from undiluted analyses were more usable.	DNR	-

Due to field duplicate RPD, data were qualified as estimated in two samples.

No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 908023**

Sample	Compound	Flag	A or P	Reason
MW-14-073119 Dup-01-073119	m,p-Xylenes Naphthalene	J (all detects) J (all detects)	A	Field duplicates (RPD)
MW-14-073119DL Dup-01-073119DL	Benzene	J (all detects)	A	Field duplicates (RPD)
MW-14-073119	Benzene	DNR	-	Overall assessment of data
MW-14-073119DL	All compounds except Benzene	DNR	-	Overall assessment of data
Dup-01-073119	Benzene Ethylbenzene	DNR	-	Overall assessment of data
Dup-01-073119DL	All compounds except Benzene Ethylbenzene	DNR	-	Overall assessment of data
MW-11-073119 MW-1-080119	Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	DNR	-	Overall assessment of data
MW-11-073119DL MW-1-080119DL	All compounds except Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	DNR	-	Overall assessment of data
MW-10-080119	Benzene Ethylbenzene m,p-Xylenes Naphthalene	DNR	-	Overall assessment of data
MW-10-080119DL	All compounds except Benzene Ethylbenzene m,p-Xylenes Naphthalene	DNR	-	Overall assessment of data

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 908023**

No Sample Data Qualified in this SDG

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 22 RB = 19
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	(23) M5 only
IX.	Laboratory control samples	A	LC5/D
X.	Field duplicates	SW	D = 3+6, 4+7, 3+7
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	SW	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB=Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-16-073119	908023-01	Water	07/31/19
2	MW-18-073119	908023-02	Water	07/31/19
3	MW-14-073119	908023-03	Water	07/31/19
4	MW-14-073119 <b>RE DL</b>	908023-03 <b>RE DL</b>	Water	07/31/19
5	MW-13-073119	908023-04	Water	07/31/19
6	Dup-01-073119	908023-05	Water	07/31/19
7	Dup-01-073119 <b>RE DL</b>	908023-05 <b>RE DL</b>	Water	07/31/19
8	MW-17-073119	908023-06	Water	07/31/19
9	MW-19-073119	908023-07	Water	07/31/19
10	MW-7-073119	908023-08	Water	07/31/19
11	MW-11-073119	908023-09	Water	07/31/19
12	MW-11-073119 <b>RE DL</b>	908023-09 <b>RE DL</b>	Water	07/31/19
13	MW-6-073119	908023-10	Water	07/31/19

LDC #: 45754F1a

# VALIDATION COMPLETENESS WORKSHEET

Date: 09/04/19

SDG #: 908023

Level II

Page: 2 of 2

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

14	MW-12-080119	908023-11	Water	08/01/19
15	MW-2-080119	908023-12	Water	08/01/19
16	MW-10-080119	908023-13	Water	08/01/19
17	MW-10-080119 <i>REDL</i>	908023-13 <i>REDL</i>	Water	08/01/19
18	MW-9-080119	908023-14	Water	08/01/19
19	Rinse Blank-080119	908023-15	Water	08/01/19
20	MW-1-080119	908023-16	Water	08/01/19
21	MW-1-080119 <i>REDL</i>	908023-16 <i>REDL</i>	Water	08/01/19
22	Trip Blank	908023-17	Water	08/01/19
23	MW-12-080119MS	908023-11MS	Water	08/01/19
24				
25				
26				

Notes:

1	09-1853 MB				



## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260C)

Compound	Concentration (ug/L)		RPD ( $\leq 35$ )	Diff
	3	6		
C	2.7	2.8	4	
CC	32	45	34	
RRR	72	120	50	
SSS	18	25	33	
MMM	50	77	43	

*Jdet/A*  
*Jdet/A*

Compound	Concentration (ug/L)		RPD ( $\leq 35$ )	Diff
	3	7		
EE	130	170	27	

Compound	Concentration (ug/L)		RPD ( $\leq 35$ )	Diff
	4	7		
V	2400	3500	37	

*Jdet/A*

**VALIDATION FINDINGS WORKSHEET**  
**Overall Assessment of Data**

**METHOD:** GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound	Finding	Qualifications
		3	✓	x'd cal range	DNR ↓ ✓
		4	All except ✓	diluted	
		6	V & EE	x'd cal range	
		7	All except V & EE	diluted	
		11, 20	V, CC, EE, PRR, SSS	x'd cal range	
		12, 21	All except V, CC, EE, PRR, SSS	diluted	
		16	V, EE, PRR, MMM	x'd cal range	
		17	All except V, EE, PRR, MMM	diluted	

Comments: \_\_\_\_\_

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 9, 2019

**Parameters:** Lead

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 908023

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-16-073119	908023-01	Water	07/31/19
MW-18-073119	908023-02	Water	07/31/19
MW-14-073119	908023-03	Water	07/31/19
MW-13-073119	908023-04	Water	07/31/19
Dup-01-073119	908023-05	Water	07/31/19
MW-17-073119	908023-06	Water	07/31/19
MW-19-073119	908023-07	Water	07/31/19
MW-7-073119	908023-08	Water	07/31/19
MW-11-073119	908023-09	Water	07/31/19
MW-6-073119	908023-10	Water	07/31/19
MW-12-080119	908023-11	Water	08/01/19
MW-2-080119	908023-12	Water	08/01/19
MW-10-080119	908023-13	Water	08/01/19
MW-9-080119	908023-14	Water	08/01/19
Rinse Blank-080119	908023-15	Water	08/01/19
MW-1-080119	908023-16	Water	08/01/19
MW-16-073119MS	908023-01MS	Water	07/31/19
MW-16-073119MSD	908023-01MSD	Water	07/31/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for the Evaluation of Lead for the Contract Laboratory Program*, SOP HW-2b, Revision 15 (December 2012), and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Lead by Environmental Protection Agency (EPA) SW 846 Method 6020B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition.

All technical holding time requirements were met.

## **II. ICPMS Tune**

ICP-MS tune data were not reviewed for Stage 2A validation.

## **III. Instrument Calibration**

Instrument performance check data were not reviewed for Stage 2A validation.

## **IV. ICP Interference Check Sample Analysis**

Interference check sample (ICS) analysis data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

Sample Rinse Blank-080119 was identified as a rinsate blank. No contaminants were found.

## VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
MW-16-073119MS/MSD (MW-16-073119 MW-18-073119 MW-14-073119 MW-13-073119 Dup-01-073119 MW-17-073119 MW-19-073119 MW-7-073119 MW-11-073119 MW-6-073119 MW-12-080119 MW-2-080119 MW-10-080119 MW-9-080119 MW-1-080119)	Lead	68 (75-125)	68 (75-125)	J (all detects) UJ (all non-detects)	A

Relative percent differences (RPD) were within QC limits.

## VIII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

## IX. Serial Dilution

Serial dilution was not performed for this SDG.

## X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## XI. Field Duplicates

Samples MW-14-073119 and Dup-01-073119 were identified as field duplicates. No results were detected in any of the samples.

## XII. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Stage 2A validation.



### **XIII. Sample Result Verification**

Raw data were not reviewed for Stage 2A validation.

### **XIV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R, data were qualified as estimated in fifteen samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**Aloha Café**  
**Lead - Data Qualification Summary - SDG 908023**

Sample	Analyte	Flag	A or P	Reason
MW-16-073119 MW-18-073119 MW-14-073119 MW-13-073119 Dup-01-073119 MW-17-073119 MW-19-073119 MW-7-073119 MW-11-073119 MW-6-073119 MW-12-080119 MW-2-080119 MW-10-080119 MW-9-080119 MW-1-080119	Lead	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)

**Aloha Café**  
**Lead - Laboratory Blank Data Qualification Summary - SDG 908023**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Lead - Field Blank Data Qualification Summary - SDG 908023**

No Sample Data Qualified in this SDG

LDC #: 45754F4a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/19

SDG #: 908023

Level II

Page: 1 of 2

Laboratory: Friedman &amp; Bruya, Inc.

Reviewer: CT

2nd Reviewer: **METHOD:** Lead (EPA SW 846 Method 6020B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	ICP/MS Tune	N	
III.	Instrument Calibration	N	
IV.	ICP Interference Check Sample (ICS) Analysis	N	
V.	Laboratory Blanks	A	
VI.	Field Blanks	ND	PB = 15
VII.	Matrix Spike/Matrix Spike Duplicates	SW	(17,18)
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LC5
XI.	Field Duplicates	ND	D = 3 + 5
XII.	Internal Standard (ICP-MS)	N	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-16-073119	908023-01	Water	07/31/19
2	MW-18-073119	908023-02	Water	07/31/19
3	MW-14-073119	908023-03	Water	07/31/19
4	MW-13-073119	908023-04	Water	07/31/19
5	Dup-01-073119	908023-05	Water	07/31/19
6	MW-17-073119	908023-06	Water	07/31/19
7	MW-19-073119	908023-07	Water	07/31/19
8	MW-7-073119	908023-08	Water	07/31/19
9	MW-11-073119	908023-09	Water	07/31/19
10	MW-6-073119	908023-10	Water	07/31/19
11	MW-12-080119	908023-11	Water	08/01/19
12	MW-2-080119	908023-12	Water	08/01/19
13	MW-10-080119	908023-13	Water	08/01/19
14	MW-9-080119	908023-14	Water	08/01/19
15	Rinse Blank-080119	908023-15	Water	08/01/19

### VALIDATION FINDINGS WORKSHEET Matrix Spike/Matrix Spike Duplicates

**METHOD:** Lead (EPA SW 846 Method 6020B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a matrix spike analyzed for each matrix in this SDG?
- Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.
- Y N (N/A) Were all duplicate sample relative percent differences (RPD)  $\leq 20\%$  for water samples and  $\leq 35\%$  for soil samples?
- LEVEL IV ONLY:**
- Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	17/18	W	Lead	68 (75-125)	68 (75-125)		1-8, 10-16 (MS) 9 (MS) 1-14, 16	J/N/A (Det (M))

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 9, 2019

**Parameters:** Total Petroleum Hydrocarbons as Gasoline

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 908023

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-16-073119	908023-01	Water	07/31/19
MW-18-073119	908023-02	Water	07/31/19
MW-14-073119	908023-03	Water	07/31/19
MW-13-073119	908023-04	Water	07/31/19
Dup-01-073119	908023-05	Water	07/31/19
MW-17-073119	908023-06	Water	07/31/19
MW-19-073119	908023-07	Water	07/31/19
MW-7-073119	908023-08	Water	07/31/19
MW-11-073119	908023-09	Water	07/31/19
MW-6-073119	908023-10	Water	07/31/19
MW-12-080119	908023-11	Water	08/01/19
MW-2-080119	908023-12	Water	08/01/19
MW-10-080119	908023-13	Water	08/01/19
MW-9-080119	908023-14	Water	08/01/19
Rinse Blank-080119	908023-15	Water	08/01/19
MW-1-080119	908023-16	Water	08/01/19
Trip Blank	908023-17	Water	08/01/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

Sample Rinse Blank-080119 was identified as a rinsate blank. No contaminants were found.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.



### IX. Field Duplicates

Samples MW-14-073119 and Dup-01-073119 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	MW-14-073119	Dup-01-073119	
Gasoline range	7500	9700	26 ( $\leq 35$ )

### X. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

### XI. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

### XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
908023**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 908023**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 908023**

No Sample Data Qualified in this SDG

LDC #: 45754F7

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/04/19


SDG #: 908023

Level II

Page: 1 of 2

Laboratory: Friedman &amp; Bruya, Inc.

Reviewer: LT

2nd Reviewer: **METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	PB = 15 TB = 17
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non Client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	D = 3+5
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB = Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-16-073119	908023-01	Water	07/31/19
2	MW-18-073119	908023-02	Water	07/31/19
3	MW-14-073119	908023-03	Water	07/31/19
4	MW-13-073119	908023-04	Water	07/31/19
5	Dup-01-073119	908023-05	Water	07/31/19
6	MW-17-073119	908023-06	Water	07/31/19
7	MW-19-073119	908023-07	Water	07/31/19
8	MW-7-073119	908023-08	Water	07/31/19
9	MW-11-073119	908023-09	Water	07/31/19
10	MW-6-073119	908023-10	Water	07/31/19
11	MW-12-080119	908023-11	Water	08/01/19
12	MW-2-080119	908023-12	Water	08/01/19
13	MW-10-080119	908023-13	Water	08/01/19
14	MW-9-080119	908023-14	Water	08/01/19
15	Rinse Blank-080119	908023-15	Water	08/01/19
16	MW-1-080119	908023-16	Water	08/01/19
17	Trip Blank	908023-17	Water	08/01/19

LDC#: 45754F7

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

Page: 1 of 1  
Reviewer: [Signature]  
2nd Reviewer: [Signature]

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

Compound	Concentration (ug/L)		RPD ( $\leq 35$ )	Diff
	3	5		
Gasoline Range	7500	9700	26	

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 9, 2019

**Parameters:** Total Petroleum Hydrocarbons as Diesel & Motor Oil

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 908023

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-16-073119	908023-01	Water	07/31/19
MW-18-073119	908023-02	Water	07/31/19
MW-14-073119	908023-03	Water	07/31/19
MW-13-073119	908023-04	Water	07/31/19
Dup-01-073119	908023-05	Water	07/31/19
MW-17-073119	908023-06	Water	07/31/19
MW-19-073119	908023-07	Water	07/31/19
MW-7-073119	908023-08	Water	07/31/19
MW-11-073119	908023-09	Water	07/31/19
MW-6-073119	908023-10	Water	07/31/19
MW-12-080119	908023-11	Water	08/01/19
MW-2-080119	908023-12	Water	08/01/19
MW-10-080119	908023-13	Water	08/01/19
MW-9-080119	908023-14	Water	08/01/19
Rinse Blank-080119	908023-15	Water	08/01/19
MW-1-080119	908023-16	Water	08/01/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Semivolatile Data Validation*, SOP HW-35A, Revision 0 (June 2015), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Diesel and Motor Oil by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## II. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Stage 2A validation.

## III. Continuing Calibration

Continuing calibration data were not reviewed for Stage 2A validation.

## IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## V. Field Blanks

Sample Rinse Blank-080119 was identified as a rinsate blank. No contaminants were found.

## VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
Rinse Blank-080119	Ortho-Terphenyl	142 (47-140)	All compounds	NA	-

## VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.



### IX. Field Duplicates

Samples MW-14-073119 and Dup-01-073119 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-14-073119	Dup-01-073119		
Diesel range	1200	1100	9 (≤35)	-
Motor oil range	330	270	-	60 (≤500)

### X. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

### XI. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

### XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Data Qualification  
Summary - SDG 908023**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Laboratory Blank Data  
Qualification Summary - SDG 908023**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Diesel and Motor Oil - Field Blank Data  
Qualification Summary - SDG 908023**

No Sample Data Qualified in this SDG



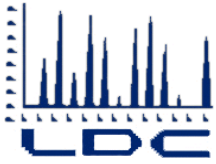
LDC#:45754F8

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

Page: 1 of 1  
Reviewer: LT  
2nd Reviewer: [Signature]

**METHOD:** GC TPH as Diesel and Motor Oil (NWTPH-Dx)

Compound	Concentration (ug/L)		RPD ( $\leq 35$ )	Diff ( $\leq 500$ )
	3	5		
Diesel Range	1200	1100	9	
Motor Oil Range	330	270		60



## LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Aspect Consulting LLC  
701 Second Ave., Suite 550  
Seattle, WA 98104  
ATTN: Jason Yabandeh  
[Jyabandeh@aspectconsulting.com](mailto:Jyabandeh@aspectconsulting.com)

October 2, 2019

SUBJECT: Aloha Café, Data Validation

Dear Mr. Yabandeh,

Enclosed is the final validation report for the fraction listed below. This SDG was received on September 3, 2019. Attachment 1 is a summary of the samples that were reviewed for analysis.

### LDC Project #45879:

<u>SDG #</u>	<u>Fraction</u>
907561	Volatiles

The data validation was performed under Stage 2A guidelines. The analyses were validated using the following documents, as applicable to each method:

- Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan, February 2019
- USEPA Region 2 Analysis Of Volatile Organic Compounds in Air Contained Canisters, SOP HW-31, Revision 6; September 2016
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review, January 2017

Please feel free to contact us if you have any questions.

Sincerely,

*Christina Rink*

Christina Rink  
[crink@lab-data.com](mailto:crink@lab-data.com)  
Project Manager/Senior Chemist

Stage 2A / EDD

LDC #45879 (Aspect Consulting, LLC - Seattle, WA / Aloha Cafe)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (TO-15)		VOA (MA -APH)																																
				A	S	A	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
Matrix:	Air/Water/Soil																																					
A	907561	09/03/19	09/24/19	8	0	11	0																															
Total	J/CR			8	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19			

Shaded cells indicate Stage 4 validation (all other cells are Stage 2A validation). These sample counts do not include MS, MSD, or DUP's. L:\Aspect Consulting\Aloha Cafe\45879ST-Air.wpd

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 24, 2019  
**Parameters:** Volatiles  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 907561

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-01-072519	907561-01	Air	07/25/19
GP-02-072519	907561-02	Air	07/25/19
GP-03-072519	907561-03	Air	07/25/19
Dup-1-072519	907561-04	Air	07/25/19
GP-04-072519	907561-05	Air	07/25/19
SVS-02-072519	907561-06	Air	07/25/19
SVS-01-072519	907561-07	Air	07/25/19
Trip Blank	907561-08	Air	07/25/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Analysis of Volatile Organic Compounds in Air Contained Canisters*, SOP HW-31, Revision 6 (September 2016), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method TO-15

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.



The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VII. Surrogates**

Surrogates were not required by the method.

## **VIII. Duplicate Sample Analysis**

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## X. Field Duplicates

Samples GP-03-072519 and Dup-1-072519 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/m <sup>3</sup> )		RPD (Limits)	Flag	A or P
	GP-03-072519	Dup-1-072519			
Benzene	3.9	3.4	14 (≤35)	-	-
Toluene	17	15	13 (≤35)	-	-
Ethylbenzene	4.9	3.9	23 (≤35)	-	-
m,p-Xylene	19	15	24 (≤35)	-	-
o-Xylene	8.1	6.5	22 (≤35)	-	-

## XI. Internal Standards

Internal standards data were not reviewed for Stage 2A validation.

## XII. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

## XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XIV. System Performance

Raw data were not reviewed for Stage 2A validation.

## XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 907561**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 907561**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 907561**

No Sample Data Qualified in this SDG

LDC #: 45879A48a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 07/24/19

SDG #: 907561

Stage 2A

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT  
2nd Reviewer: KR

**METHOD:** GC/MS Volatiles (EPA Method TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N, N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks/Canister Blanks	A/A	individually certified
VI.	Field blanks	ND	TB = 8
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D = 4 + 3
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-01-072519	907561-01	Air	07/25/19
2	GP-02-072519	907561-02	Air	07/25/19
3	GP-03-072519	907561-03	Air	07/25/19
4	Dup-1-072519	907561-04	Air	07/25/19
5	GP-04-072519	907561-05	Air	07/25/19
6	SVS-02-072519	907561-06	Air	07/25/19
7	SVS-01-072519	907561-07	Air	07/25/19
8	Trip Blank	907561-08	Air	07/25/19
9				

Notes:


## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC/MS Volatiles (EPA Method TO-15)

Compound	Concentration (ug/m3)		RPD ( $\leq 35$ )	Qual
	3	4		
V	3.9	3.4	14	
CC	17	15	13	
EE	4.9	3.9	23	
RRR	19	15	24	
SSS	8.1	6.5	22	

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 24, 2019

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 907561

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
GP-01-072519	907561-01	Air	07/25/19
GP-02-072519	907561-02	Air	07/25/19
GP-03-072519	907561-03	Air	07/25/19
GP-03-072519DL	907561-03DL	Air	07/25/19
Dup-1-072519	907561-04	Air	07/25/19
Dup-1-072519DL	907561-04DL	Air	07/25/19
GP-04-072519	907561-05	Air	07/25/19
SVS-02-072519	907561-06	Air	07/25/19
SVS-02-072519DL	907561-06DL	Air	07/25/19
SVS-01-072519	907561-07	Air	07/25/19
Trip Blank	907561-08	Air	07/25/19
GP-01-072519DUP	907561-01DUP	Air	07/25/19



## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Analysis of Volatile Organic Compounds in Air Contained Canisters*, SOP HW-31, Revision 6 (September 2016), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by MA-APH

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## I. Sample Receipt and Technical Holding Times

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

## II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Stage 2A validation.

## III. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Stage 2A validation.

## IV. Continuing Calibration

Continuing calibration data were not reviewed for Stage 2A validation.

## V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Compound	Concentration	Associated Samples
09-1852 MB	08/02/19	APH EC9-12 aliphatics	37 ug/m <sup>3</sup>	GP-01-072519 GP-02-072519 GP-03-072519 Dup-1-072519 GP-04-072519 SVS-02-072519 SVS-01-072519 Trip Blank

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated laboratory blanks.

## VI. Field Blanks

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## VII. Surrogates

Surrogates were not required by the method.

### VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

### IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

### X. Field Duplicates

Samples GP-03-072519 and Dup-1-072519 and samples GP-03-072519DL and Dup-1-072519DL were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/m <sup>3</sup> )		RPD (Limits)	Flag	A or P
	GP-03-072519DL	Dup-1-072519DL			
APH EC5-8 aliphatics	8700	9100	4 (≤35)	-	-
APH EC9-12 aliphatics	9600	11000	14 (≤35)	-	-

### XI. Internal Standards

Internal standards data were not reviewed for Stage 2A validation.

### XII. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

### XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

### XIV. System Performance

Raw data were not reviewed for Stage 2A validation.

### XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed not reportable as follows:

Sample	Compound	Reason	Flag	A or P
GP-03-072519 Dup-1-072519 SVS-02-072519	APH EC5-8 aliphatics	Results exceeded calibration range.	DNR	-
GP-03-072519 Dup-1-072519	APH EC9-12 aliphatics	Results from diluted analyses were more usable.	DNR	-
GP-03-072519DL Dup-1-072519DL	APH EC9-10 aromatics	Results from undiluted analyses were more usable.	DNR	-
SVS-02-072519DL	APH EC9-12 aliphatics APH EC9-10 aromatics	Results from undiluted analyses were more usable.	DNR	-

No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 907561**

Sample	Compound	Flag	A or P	Reason
GP-03-072519 Dup-1-072519 SVS-02-072519	APH EC5-8 aliphatics	DNR	-	Overall assessment of data
GP-03-072519 Dup-1-072519	APH EC9-12 aliphatics	DNR	-	Overall assessment of data
GP-03-072519DL Dup-1-072519DL	APH EC9-10 aromatics	DNR	-	Overall assessment of data
SVS-02-072519DL	APH EC9-12 aliphatics APH EC9-10 aromatics	DNR	-	Overall assessment of data

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 907561**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 907561**

No Sample Data Qualified in this SDG

LDC #: 45879A48b  
 SDG #: 907561  
 Laboratory: Friedman & Bruya, Inc.

**VALIDATION COMPLETENESS WORKSHEET**

Stage 2A

Date: 07/24/19

Page: 1 of 1

Reviewer: LT

2nd Reviewer: KAC

**METHOD:** GC/MS Volatiles (MA-APH)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N, N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks/Canister Blanks	SA/A	Individually certified
VI.	Field blanks	ND	TB = 11
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	DVP N / A	(12)
IX.	Laboratory control samples	A	L 95
X.	Field duplicates	SW	D = 3 + 5, 4 + 6
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	SA	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-01-072519	907561-01	Air	07/25/19
2	GP-02-072519	907561-02	Air	07/25/19
3	GP-03-072519	907561-03	Air	07/25/19
4	GP-03-072519 <del>RE DL</del>	907561-03 <del>RE DL</del>	Air	07/25/19
5	Dup-1-072519	907561-04	Air	07/25/19
6	Dup-1-072519 <del>RE DL</del>	907561-04 <del>RE DL</del>	Air	07/25/19
7	GP-04-072519	907561-05	Air	07/25/19
8	SVS-02-072519	907561-06	Air	07/25/19
9	SVS-02-072519 <del>RE DL</del>	907561-06 <del>RE DL</del>	Air	07/25/19
10	SVS-01-072519	907561-07	Air	07/25/19
11	Trip Blank	907561-08	Air	07/25/19
12	GP-01-072519 DVP	907561-01 DVP	Air	07/25/19

**VALIDATION FINDINGS WORKSHEET**

**Blanks**

**METHOD:** GC/MS VOA (MA-APH)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N N/A Was a method blank associated with every sample in this SDG?
- N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
- N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 08/02/19

Conc. units: ug/m<sup>3</sup>

Associated Samples: 1-3,5,7,8,10,11 > CRQL or ND

Compound	Blank ID	Sample Identification							
	<u>09-1852 mb</u>								
Methylene chloride									
Acetone									
<del>APH EC9-10</del>									
<u>APH EC9-12 aliphatics</u>	<u>37</u>								

Blank analysis date: \_\_\_\_\_

Conc. units: \_\_\_\_\_

Associated Samples: \_\_\_\_\_

Compound	Blank ID	Sample Identification							
Methylene chloride									
Acetone									

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".



**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates****METHOD:** GC/MS Volatiles (MA-APH)

Compound	Concentration (ug/m3)		RPD ( $\leq 35$ )	Qual
	4	6		
APH EC5-8 aliphatics	8700	9100	4	
APH EC9-12 aliphatics	9600	11000	14	

**VALIDATION FINDINGS WORKSHEET**  
**Overall Assessment of Data**

**METHOD:** GC/MS VOA (MA-APH)

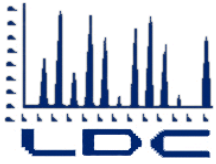
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

**N N/A** Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound	Finding	Qualifications
		3, 5, 8	APH EC5-8 aliphatics	xd cal range	DNR ↓
		3, 5	APH EC9-12 aliphatics	biased low results, DL results are more acceptable	
		β 4, 6	APH EC9-10 aromatics	diluted	
		9	APH EC9-12 aliphatics & APH EC9-10 aromatics	↓	

Comments: \_\_\_\_\_



## LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Aspect Consulting LLC  
701 Second Ave., Suite 550  
Seattle, WA 98104  
ATTN: Jason Yabandeh  
[Jyabandeh@aspectconsulting.com](mailto:Jyabandeh@aspectconsulting.com)

January 6, 2020

SUBJECT: Aloha Café, Data Validation

Dear Mr. Yabandeh,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on December 9, 2019. Attachment 1 is a summary of the samples that were reviewed for each analysis.

### LDC Project #46741:

<u>SDG #</u>	<u>Fraction</u>
911310	Volatiles, Lead, Total Petroleum Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as Diesel

The data validation was performed under Stage 2A guidelines. The analyses were validated using the following documents, as applicable to each method:

- Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan, February 2019
- USEPA Region 2 Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C, SOP HW-24, Revision 4; October 2014
- USEPA Region 2 Standard Operating Procedure for the Evaluation of Lead for the Contract Laboratory Program, SOP HW-2b, Revision 15; December 2012
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review, January 2017
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review; January 2017
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink  
[crink@lab-data.com](mailto:crink@lab-data.com)  
Project Manager/Senior Chemist



## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** January 3, 2020

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 911310

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1-112019	911310-01	Water	11/20/19
MW-2-112019	911310-02	Water	11/20/19
MW-6-112019	911310-03	Water	11/20/19
MW-7-111919	911310-04	Water	11/19/19
MW-9-112019	911310-05	Water	11/20/19
MW-10-112019	911310-06	Water	11/20/19
MW-11-111919	911310-07	Water	11/19/19
MW-12-112019	911310-08	Water	11/20/19
MW-13-112019	911310-09	Water	11/20/19
MW-14-112019	911310-10	Water	11/20/19
MW-16-111919	911310-11	Water	11/19/19
MW-17-111919	911310-12	Water	11/19/19
MW-18-111919	911310-13	Water	11/19/19
MW-18-112019DL	911310-13RE	Water	11/20/19
MW-19-112019	911310-14	Water	11/20/19
DUP-01-112019	911310-15	Water	11/20/19
Rinseblank-112019	911310-16	Water	11/20/19
Trip blank	911310-17	Water	11/20/19
MW-2-112019MS	911310-02MS	Water	11/20/19

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

Sample Trip blank was identified as a trip blank. No contaminants were found.

Sample Rinseblank-112019 was identified as a rinse blank. No contaminants were found.

## **VII. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VIII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.



## X. Field Duplicates

Samples MW-19-112019 and DUP-01-112019 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	MW-19-112019	DUP-01-112019			
Tetrachloroethene	12	15	22 (≤35)	-	-

## XI. Internal Standards

Internal standard data were not reviewed for Stage 2A validation.

## XII. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

## XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XIV. System Performance

Raw data were not reviewed for Stage 2A validation.

## XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed not reportable as follows:

Sample	Compound	Reason	Flag	A or P
MW-18-111919	Benzene	Results exceeded calibration range.	DNR	-
MW-18-112019DL	All compounds except Benzene	Results from undiluted analyses were more usable.	DNR	-

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 911310**

Sample	Compound	Flag	A or P	Reason
MW-18-111919	Benzene	DNR	-	Overall assessment of data
MW-18-112019DL	All compounds except Benzene	DNR	-	Overall assessment of data

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 911310**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 911310**

No Sample Data Qualified in this SDG

LDC #: 46741A1a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 12/28/19

SDG #: 911310

Level II

Page: 1 of 2

Laboratory: Friedman & Bruya, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	RB = 17 TB = 18
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	(19) - MS only
IX.	Laboratory control samples	A	LCS/D
X.	Field duplicates	SW	D = 16 + 15
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	SW	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-1-112019	911310-01	Water	11/20/19
2	MW-2-112019	911310-02	Water	11/20/19
3	MW-6-112019	911310-03	Water	11/20/19
4	MW-7-11 <sup>19</sup> 2019	911310-04	Water	11/20 <sup>19</sup> /19
5	MW-9-112019	911310-05	Water	11/20/19
6	MW-10-112019	911310-06	Water	11/20/19
7	MW-11-11 <sup>19</sup> 2019	911310-07	Water	11/20 <sup>19</sup> /19
8	MW-12-112019	911310-08	Water	11/20/19
9	MW-13-112019	911310-09	Water	11/20/19
10	MW-14-112019	911310-10	Water	11/20/19
11	MW-16-11 <sup>19</sup> 2019	911310-11	Water	11/20 <sup>19</sup> /19
12	MW-17-11 <sup>19</sup> 2019	911310-12	Water	11/20 <sup>19</sup> /19
13	MW-18-11 <sup>19</sup> 2019	911310-13	Water	11/20 <sup>19</sup> /19

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260C)

14	MW-18-112019 <del>RE DL</del>	911310-13 <del>RE DL</del>	Water	11/20/19
15	MW-19-112019	911310-14	Water	11/20/19
16	DUP-01-112019	911310-15	Water	11/20/19
17	Rinseblank-112019	911310-16	Water	11/20/19
18	Trip blank	911310-17	Water	11/20/19
19	MW-2-112019MS	911310-02MS	Water	11/20/19
20				
21				
22				

Notes:

1	09-2843 MB				

## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC#: 46741A1a

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

Page: 1 of 1  
Reviewer: LT  
2nd Reviewer: [Signature]

**METHOD:** GCMS VOA (EPA Method 8260C)

Compound	Concentration (ug/L)		RPD ( $\leq 35$ )
	15	16	
AA	12	15	22

LDC #: 46741A

### VALIDATION FINDINGS WORKSHEET Overall Assessment of Data

Page: 1 of 1  
Reviewer: LG  
2nd Reviewer: [Signature]

**METHOD:** GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound	Findings	Qualifications
		13	✓	X'd Cal range	DNR
		14	All-except ✓	diluted	↓

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** January 3, 2020  
**Parameters:** Lead  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 911310

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1-112019	911310-01	Water	11/20/19
MW-2-112019	911310-02	Water	11/20/19
MW-6-112019	911310-03	Water	11/20/19
MW-7-111919	911310-04	Water	11/19/19
MW-9-112019	911310-05	Water	11/20/19
MW-10-112019	911310-06	Water	11/20/19
MW-11-111919	911310-07	Water	11/19/19
MW-12-112019	911310-08	Water	11/20/19
MW-13-112019	911310-09	Water	11/20/19
MW-14-112019	911310-10	Water	11/20/19
MW-16-111919	911310-11	Water	11/19/19
MW-17-111919	911310-12	Water	11/19/19
MW-18-111919	911310-13	Water	11/19/19
MW-19-112019	911310-14	Water	11/20/19
DUP-01-112019	911310-15	Water	11/20/19
Rinseblank-112019	911310-16	Water	11/20/19
MW-1-112019MS	911310-01MS	Water	11/20/19
MW-1-112019MSD	911310-01MSD	Water	11/20/19



## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Standard Operating Procedure for the Evaluation of Lead for the Contract Laboratory Program*, SOP HW-2b, Revision 15 (December 2012), and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Lead by Environmental Protection Agency (EPA) SW 846 Method 6020B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition.

All technical holding time requirements were met.

## **II. ICPMS Tune**

ICP-MS tune data were not reviewed for Stage 2A validation.

## **III. Instrument Calibration**

Instrument performance check data were not reviewed for Stage 2A validation.

## **IV. ICP Interference Check Sample Analysis**

Interference check sample (ICS) analysis data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

Sample Rinseblank-112019 was identified as a rinse blank. No contaminants were found.

## **VII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **VIII. Duplicate Sample Analysis**

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

## **IX. Serial Dilution**

Serial dilution was not performed for this SDG.

## **X. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **XI. Field Duplicates**

Samples MW-19-112019 and DUP-01-112019 were identified as field duplicates. No results were detected in any of the samples.

## **XII. Internal Standards (ICP-MS)**

Internal standard data were not reviewed for Stage 2A validation.

## **XIII. Sample Result Verification**

Raw data were not reviewed for Stage 2A validation.

## **XIV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Lead - Data Qualification Summary - SDG 911310**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Lead - Laboratory Blank Data Qualification Summary - SDG 911310**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Lead - Field Blank Data Qualification Summary - SDG 911310**

No Sample Data Qualified in this SDG

LDC #: 46741A4a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 12/14/19

SDG #: 911310

Level II

Page: 1 of 2

Laboratory: Friedman &amp; Bruya, Inc.

Reviewer: DTM

2nd Reviewer: **METHOD:** Lead (EPA SW 846 Method 6020B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	ICP/MS Tune	N	
III.	Instrument Calibration	N	
IV.	ICP Interference Check Sample (ICS) Analysis	N	
V.	Laboratory Blanks	A	
VI.	Field Blanks	AND RB=16	
VII.	Matrix Spike/Matrix Spike Duplicates	A	
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	ND	(14,15)
XII.	Internal Standard (ICP-MS)	N	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-1-112019	911310-01	Water	11/20/19
2	MW-2-112019	911310-02	Water	11/20/19
3	MW-6-112019	911310-03	Water	11/20/19
4	MW-7-11 <sup>19</sup> 2019	911310-04	Water	11/20 <sup>19</sup> /19
5	MW-9-112019	911310-05	Water	11/20/19
6	MW-10-112019	911310-06	Water	11/20/19
7	MW-11-11 <sup>19</sup> 2019	911310-07	Water	11/20 <sup>19</sup> /19
8	MW-12-112019	911310-08	Water	11/20/19
9	MW-13-112019	911310-09	Water	11/20/19
10	MW-14-112019	911310-10	Water	11/20/19
11	MW-16-11 <sup>19</sup> 2019	911310-11	Water	11/20 <sup>19</sup> /19
12	MW-17-11 <sup>19</sup> 2019	911310-12	Water	11/20 <sup>19</sup> /19
13	MW-18-11 <sup>19</sup> 2019	911310-13	Water	11/20 <sup>19</sup> /19
14	MW-19-112019	911310-14	Water	11/20/19
15	DUP-01-112019	911310-15	Water	11/20/19

**METHOD:** Lead (EPA SW 846 Method 6020B)

16	Rinseblank	911310-16	Water	11/20/19
17	MW-1-112019MS	911310-01MS	Water	11/20/19
18	MW-1-112019MSD	911310-01MSD	Water	11/20/19
19				
20				
21				

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** January 3, 2020

**Parameters:** Total Petroleum Hydrocarbons as Gasoline

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 911310

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1-112019	911310-01	Water	11/20/19
MW-2-112019	911310-02	Water	11/20/19
MW-6-112019	911310-03	Water	11/20/19
MW-7-111919	911310-04	Water	11/19/19
MW-9-112019	911310-05	Water	11/20/19
MW-10-112019	911310-06	Water	11/20/19
MW-11-111919	911310-07	Water	11/19/19
MW-12-112019	911310-08	Water	11/20/19
MW-13-112019	911310-09	Water	11/20/19
MW-14-112019	911310-10	Water	11/20/19
MW-16-111919	911310-11	Water	11/19/19
MW-17-111919	911310-12	Water	11/19/19
MW-18-111919	911310-13	Water	11/19/19
MW-19-112019	911310-14	Water	11/20/19
DUP-01-112019	911310-15	Water	11/20/19
Rinseblank-112019	911310-16	Water	11/20/19
Trip blank	911310-17	Water	11/20/19
MW-6-112019DUP	911310-03DUP	Water	11/20/19



## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

Sample Trip blank was identified as a trip blank. No contaminants were found.

Sample Rinseblank-112019 was identified as a rinse blank. No contaminants were found.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates/Duplicate Sample Analysis**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

Samples MW-19-112019 and DUP-01-112019 were identified as field duplicates. No results were detected in any of the samples.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
911310**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 911310**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 911310**

No Sample Data Qualified in this SDG

LDC #: 46741A7

**VALIDATION COMPLETENESS WORKSHEET**

Date: 12/28/19

SDG #: 911310

Level II

Page: 1 of 2

Laboratory: Friedman &amp; Bruya, Inc.

Reviewer: LT2nd Reviewer: [Signature]**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	RB = 16 TB = 17
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	DUP N/A	(18) - DUP
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 15 + 14
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB = Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-1-112019	911310-01	Water	11/20/19
2	MW-2-112019	911310-02	Water	11/20/19
3	MW-6-112019	911310-03	Water	11/20/19
4	MW-7-11 <sup>19</sup> <del>20</del> 19	911310-04	Water	11/20 <sup>19</sup> /19
5	MW-9-112019	911310-05	Water	11/20/19
6	MW-10-112019	911310-06	Water	11/20/19
7	MW-11-11 <sup>19</sup> <del>20</del> 19	911310-07	Water	11/20 <sup>19</sup> /19
8	MW-12-112019	911310-08	Water	11/20/19
9	MW-13-112019	911310-09	Water	11/20/19
10	MW-14-112019	911310-10	Water	11/20/19
11	MW-16-11 <sup>19</sup> <del>20</del> 19	911310-11	Water	11/20 <sup>19</sup> /19
12	MW-17-11 <sup>19</sup> <del>20</del> 19	911310-12	Water	11/20 <sup>19</sup> /19
13	MW-18-11 <sup>19</sup> <del>20</del> 19	911310-13	Water	11/20 <sup>19</sup> /19
14	MW-19-112019	911310-14	Water	11/20/19
15	DUP-01-112019	911310-15	Water	11/20/19
16	Rinseblank - 1120 <sup>19</sup>	911310-16	Water	11/20/19
17	Trip blank	911310-17	Water	11/20/19

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

18	MW-6-112019DUP	911310-03DUP	Water	11/20/19
19				
20				
21				

Notes:

1	09-2735 MB						

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** January 3, 2020

**Parameters:** Total Petroleum Hydrocarbons as Diesel

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 911310

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1-112019	911310-01	Water	11/20/19
MW-2-112019	911310-02	Water	11/20/19
MW-6-112019	911310-03	Water	11/20/19
MW-7-111919	911310-04	Water	11/19/19
MW-9-112019	911310-05	Water	11/20/19
MW-10-112019	911310-06	Water	11/20/19
MW-11-111919	911310-07	Water	11/19/19
MW-12-112019	911310-08	Water	11/20/19
MW-13-112019	911310-09	Water	11/20/19
MW-14-112019	911310-10	Water	11/20/19
MW-16-111919	911310-11	Water	11/19/19
MW-17-111919	911310-12	Water	11/19/19
MW-18-111919	911310-13	Water	11/19/19
MW-19-112019	911310-14	Water	11/20/19
DUP-01-112019	911310-15	Water	11/20/19
Rinseblank-112019	911310-16	Water	11/20/19



## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Diesel by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

Sample Rinseblank-112019 was identified as a rinse blank. No contaminants were found.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **IX. Field Duplicates**

Samples MW-19-112019 and DUP-01-112019 were identified as field duplicates. No results were detected in any of the samples.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Total Petroleum Hydrocarbons as Diesel - Data Qualification Summary - SDG 911310**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Total Petroleum Hydrocarbons as Diesel - Laboratory Blank Data Qualification Summary - SDG 911310**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Total Petroleum Hydrocarbons as Diesel - Field Blank Data Qualification Summary - SDG 911310**

No Sample Data Qualified in this SDG

LDC #: 46741A8

**VALIDATION COMPLETENESS WORKSHEET**

Date: 12/28/19

SDG #: 911310

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer:                     

**METHOD:** GC TPH as Diesel (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	PB = 16
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	ND	D = 15 + 14
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

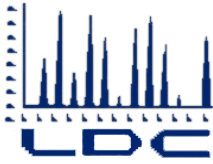
Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-1-112019	911310-01	Water	11/20/19
2	MW-2-112019	911310-02	Water	11/20/19
3	MW-6-112019	911310-03	Water	11/20/19
4	MW-7-11 <sup>19</sup> 2019	911310-04	Water	11/20 <sup>19</sup> 19
5	MW-9-112019	911310-05	Water	11/20/19
6	MW-10-112019	911310-06	Water	11/20/19
7	MW-11-11 <sup>19</sup> 2019	911310-07	Water	11/20 <sup>19</sup> 19
8	MW-12-112019	911310-08	Water	11/20/19
9	MW-13-112019	911310-09	Water	11/20/19
10	MW-14-112019	911310-10	Water	11/20/19
11	MW-16-11 <sup>19</sup> 2019	911310-11	Water	11/20 <sup>19</sup> 19
12	MW-17-11 <sup>19</sup> 2019	911310-12	Water	11/20 <sup>19</sup> 19
13	MW-18-11 <sup>19</sup> 2019	911310-13	Water	11/20 <sup>19</sup> 19
14	MW-19-112019	911310-14	Water	11/20/19
15	DUP-01-112019	911310-15	Water	11/20/19
16	Rinseblank-112019	911310-16	Water	11/20/19
17				



## LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Aspect Consulting LLC  
701 Second Ave., Suite 550  
Seattle, WA 98104  
ATTN: Jason Yabandeh  
[Jyabandeh@aspectconsulting.com](mailto:Jyabandeh@aspectconsulting.com)

December 31, 2020

SUBJECT: Aloha Café, Data Validation

Dear Mr. Yabandeh,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on December 4, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

### **LDC Project #49889:**

<b><u>SDG #</u></b>	<b><u>Fraction</u></b>
011185, 011339 011403	Volatiles, Total Petroleum Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as Extractables

The data validation was performed under Stage 2A guidelines. The analyses were validated using the following documents, as applicable to each method:

- Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan, February 2019
- USEPA Region 2 Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C, SOP HW-24, Revision 4; October 2014
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review, January 2017
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink  
[crink@lab-data.com](mailto:crink@lab-data.com)  
Project Manager/Senior Chemist





## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** December 29, 2020  
**Parameters:** Naphthalene  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 011185

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-05-1.25	011185-01	Soil	11/10/20
GP-05-6	011185-02	Soil	11/10/20
GP-06-2.5	011185-03	Soil	11/10/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Naphthalene - Data Qualification Summary - SDG 011185**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Naphthalene - Laboratory Blank Data Qualification Summary - SDG 011185**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Naphthalene - Field Blank Data Qualification Summary - SDG 011185**

No Sample Data Qualified in this SDG

**METHOD:** GC Naphthalene (EPA SW 846 Method 8260D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1-3
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB=Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	GP-05-1.25	011185-01	Soil	11/10/20
2	GP-05-6	011185-02	Soil	11/10/20
3 *	GP-06-2.5	011185-03	Soil	11/10/20
4				
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

1	00-2668 MB				
2	00-2697 MB				

\* Collection time discrepancy CDC 12:26 vs EDO 09:36

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** December 29, 2020  
**Parameters:** Total Petroleum Hydrocarbons as Gasoline  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 011185

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-05-1.25	011185-01	Soil	11/10/20
GP-05-6	011185-02	Soil	11/10/20
GP-06-2.5	011185-03	Soil	11/10/20
GP-05-1.25DUP	011185-01DUP	Soil	11/10/20



## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates/Duplicate Sample Analysis**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
011185**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 011185**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 011185**

No Sample Data Qualified in this SDG

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates <i>DUP</i>	NA	(4)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1-3
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank  
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:  
 SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	GP-05-1.25	011185-01	Soil	11/17/20
2	GP-05-6	011185-02	Soil	11/17/20
3 *	GP-06-2.5	011185-03	Soil	11/17/20
4	GP-05-1.25DUP	011185-01DUP	Soil	11/17/20
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

1	00-2418-MB				
2	00-2419-MB2				

\*Collection time discrepancy LOC 12:26 vs EDD 09:32

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** December 29, 2020  
**Parameters:** Total Petroleum Hydrocarbons as Extractables  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 011185

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-05-1.25	011185-01	Soil	11/10/20
GP-05-6	011185-02	Soil	11/10/20
GP-06-2.5	011185-03	Soil	11/10/20
GP-05-6MS	011185-02MS	Soil	11/10/20
GP-05-6MSD	011185-02MSD	Soil	11/10/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.



The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary -  
SDG 011185**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data  
Qualification Summary - SDG 011185**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification  
Summary - SDG 011185**

No Sample Data Qualified in this SDG

**METHOD:** GC <sup>TPHE</sup>TPH as Diesel (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	AA	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A-N	(4.5) Non client (4.5)
VIII.	Laboratory control samples	A	LOS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	DW weight basis = 1-3
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-05-1.25	011185-01	Soil	11/17/20
2	GP-05-6	011185-02	Soil	11/17/20
3 *	GP-06-2.5	011185-03	Soil	11/17/20
4	GP-05-6MS	011185-02MS	Soil	11/17/20
5	GP-05-6MSD	011185-02MSD	Soil	11/17/20
6				
7				
8				
9				
10				
11				
12				

Notes:

1	00-2494-MB				
2	00-2532-MB				

\*Collection time discrepancy C0C 12:26 vs E30 09:36

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** December 29, 2020  
**Parameters:** Volatiles  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 011185

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-05-1.25	011185-01	Soil	11/10/20
GP-05-6	011185-02	Soil	11/10/20
GP-06-2.5	011185-03	Soil	11/10/20
GP-05-1.25DUP	011185-01DUP	Soil	11/10/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8021B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.



## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates/Duplicate Sample Analysis**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 011185**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 011185**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 011185**

No Sample Data Qualified in this SDG

LDC #: 49889A23

**VALIDATION COMPLETENESS WORKSHEET**

Date: 12/28/20

SDG #: 011185

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: KRC

**METHOD:** GC Volatiles (BTEX) (EPA SW 846 Method 8021B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates <sup>DUP</sup>	N/A	(4)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1-3
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-05-1.25	011185-01	Soil	11/17/20
2	GP-05-6	011185-02	Soil	11/17/20
3 *	GP-06-2.5	011185-03	Soil	11/17/20
4	GP-05-1.25DUP	011185-01DUP	Soil	11/17/20
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

1	00-2418 MB				
2	00-2419 MB2				

\* collection time discrepancy COC 12:20 vs EDD 01:36

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** December 29, 2020  
**Parameters:** Volatiles  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 011339

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1-111820	011339-01	Water	11/18/20
MW-2-111720	011339-02	Water	11/17/20
MW-6-111620	011339-03	Water	11/16/20
MW-7-111720	011339-04	Water	11/17/20
MW-9-111620	011339-05	Water	11/16/20
MW-10-111720	011339-06	Water	11/17/20
MW-10-111720DL	011339-06DL	Water	11/17/20
MW-11-111720	011339-07	Water	11/17/20
MW-12-111620	011339-08	Water	11/16/20
MW-13-111720	011339-09	Water	11/17/20
MW-14-111820	011339-10	Water	11/18/20
MW-14-111820DL	011339-10DL	Water	11/18/20
MW-16-111620	011339-11	Water	11/16/20
MW-17-111620	011339-12	Water	11/16/20
MW-18-111620	011339-13	Water	11/16/20
MW-19-111720	011339-14	Water	11/17/20
MW-20-111720	011339-15	Water	11/17/20
MW-21-111720	011339-16	Water	11/17/20
MW-22-111620	011339-17	Water	11/16/20
MW-23-111820	011339-18	Water	11/18/20
MW-24-111720	011339-19	Water	11/17/20
MW-25-111620	011339-20	Water	11/16/20
MW-26-111620	011339-21	Water	11/16/20
CMW-1-111720	011339-22	Water	11/17/20
CMW-4-111720	011339-23	Water	11/17/20
DUP-01-111620	011339-24	Water	11/16/20

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
DUP-02-111720	011339-25	Water	11/17/20
RB-01-111720	011339-26	Water	11/17/20
RB-02-111820	011339-27	Water	11/18/20
Trip Blank	011339-28	Water	11/17/20
MW-24-111720MS	011339-19MS	Water	11/17/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.



## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

Samples RB-01-111720 and RB-02-111820 were identified as rinsate blanks. No contaminants were found.

## **VII. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VIII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## X. Field Duplicates

Samples MW-10-111720 and DUP-02-111720, samples MW-10-111720DL and DUP-02-111720, and samples MW-18-111620 and DUP-01-111620 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-10-111720	DUP-02-111720		
Toluene	31	32	-	1 ( $\leq 35$ )
Ethylbenzene	630	710	12 ( $\leq 35$ )	-
m,p-Xylene	620	690	11 ( $\leq 35$ )	-
Naphthalene	220	200	-	20 ( $\leq 100$ )

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-10-111720DL	DUP-02-111720		
Benzene	1800	1800	0 ( $\leq 35$ )	-

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-18-111620	DUP-01-111620		
Benzene	61	83	31 ( $\leq 35$ )	-
Toluene	1U	1.3	-	0.3 ( $\leq 2$ )
Ethylbenzene	2.1	3.3	-	1.2 ( $\leq 2$ )
m,p-Xylene	9.8	15	-	5.2 ( $\leq 4$ )
o-Xylene	2.1	2.9	-	0.8 ( $\leq 2$ )
Naphthalene	2.4	3.0	-	0.6 ( $\leq 2$ )

## XI. Internal Standards

Internal standard data were not reviewed for Stage 2A validation.

## **XII. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XIII. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XIV. System Performance**

Raw data were not reviewed for Stage 2A validation.

## **XV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed not reportable as follows:

<b>Sample</b>	<b>Compound</b>	<b>Reason</b>	<b>Flag</b>	<b>A or P</b>
MW-10-111720 MW-14-111820	Benzene	Results exceeded calibration range.	DNR	-

No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 011339**

Sample	Compound	Flag	A or P	Reason
MW-10-111720 MW-14-111820	Benzene	DNR	-	Overall assessment of data

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 011339**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 011339**

No Sample Data Qualified in this SDG

LDC #: 49889B1a **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 011339

Level II

Laboratory: Friedman & Bruya, Inc.

Date: 12/18/20

Page: 1 of 2

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	RB=28, 29 TB=30
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	(31) - Ms only
IX.	Laboratory control samples	A	LC510
X.	Field duplicates	SW	D = 15+26, 6+27, 7+27
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	SW	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB=Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-1-111820	011339-01	Water	11/18/20
2	MW-2-111720	011339-02	Water	11/17/20
3	MW-6-111620	011339-03	Water	11/16/20
4	MW-7-111720	011339-04	Water	11/17/20
5	MW-9-111620	011339-05	Water	11/16/20
6	MW-10-111720	D2 011339-06	Water	11/17/20
7	MW-10-111720 RE DL	P2 011339-06 RE DL	Water	11/17/20
8	MW-11-111720	011339-07	Water	11/17/20
9	MW-12-111620	011339-08	Water	11/16/20
10	MW-13-111720	011339-09	Water	11/17/20
11	MW-14-111820	011339-10	Water	11/18/20
12	MW-14-111820 RE DL	011339-10 RE DL	Water	11/18/20
13	MW-16-111620	011339-11	Water	11/16/20
14	MW-17-111620	011339-12	Water	11/16/20

\*x Collection time discrepancy COC 14:55 vs EOD 00:00  
 ↓  
 COC 12:15 vs ↓

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260D)

15	MW-18-111620	D <sub>1</sub>	011339-13	Water	11/16/20
16	MW-19-111720		011339-14	Water	11/17/20
17	MW-20-111720		011339-15	Water	11/17/20
18	MW-21-111720		011339-16	Water	11/17/20
19	MW-22-111620		011339-17	Water	11/16/20
20	MW-23-111820		011339-18	Water	11/18/20
21	MW-24-111720		011339-19	Water	11/17/20
22	MW-25-111620		011339-20	Water	11/16/20
23	MW-26-111620		011339-21	Water	11/16/20
24	CMW-1-111720		011339-22	Water	11/17/20
25	CMW-4-111720		011339-23	Water	11/17/20
26	DUP-01- <del>111620</del> 111620	D <sub>1</sub>	011339-24	Water	11/16/20
27	DUP-02-111720	D <sub>2</sub>	011339-25	Water	11/17/20
28*	RB-01-111720		011339-26	Water	11/17/20
29**	RB-02-111820		011339-27	Water	11/17/20
30	Trip Blank		011339-28	Water	11/17/20
31	MW-24-111720MS		011339-19MS	Water	11/17/20
32					
33					
34					

Notes:

1	00-2696 MB				
2	00-2545 ↓				

## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC/MS VOA (EPA SW846 Method 8260D)

Compound	Concentration (ug/L)		RPD (≤35)	Diff	Diff Limit
	6	27			
CC	31	32		1	(≤35)
EE	630	710	12		
RRR	620	690	11		
MMM	220	200		20	(≤100)

Compound	Concentration (ug/L)		RPD (≤35)	Diff	Diff Limit
	7	27			
V	1800	1800	0		

Compound	Concentration (ug/L)		RPD (≤35)	Diff	Diff Limit	Qual
	15	26				
V	61	83	31			
CC	1U	1.3		0.3	(≤2)	
EE	2.1	3.3		1.2	(≤2)	
RRR	9.8	15		5.2	(≤4)	<del>J/A DETS</del>
SSS	2.1	2.9		0.8	(≤2)	
MMM	2.4	3.0		0.6	(≤2)	





## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** December 29, 2020

**Parameters:** Total Petroleum Hydrocarbons as Gasoline

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 011339

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1-111820	011339-01	Water	11/18/20
MW-2-111720	011339-02	Water	11/17/20
MW-6-111620	011339-03	Water	11/16/20
MW-7-111720	011339-04	Water	11/17/20
MW-9-111620	011339-05	Water	11/16/20
MW-10-111720	011339-06	Water	11/17/20
MW-11-111720	011339-07	Water	11/17/20
MW-12-111620	011339-08	Water	11/16/20
MW-13-111720	011339-09	Water	11/17/20
MW-14-111820	011339-10	Water	11/18/20
MW-16-111620	011339-11	Water	11/16/20
MW-17-111620	011339-12	Water	11/16/20
MW-18-111620	011339-13	Water	11/16/20
MW-19-111720	011339-14	Water	11/17/20
MW-20-111720	011339-15	Water	11/17/20
MW-21-111720	011339-16	Water	11/17/20
MW-22-111620	011339-17	Water	11/16/20
MW-23-111820	011339-18	Water	11/18/20
MW-24-111720	011339-19	Water	11/17/20
MW-25-111620	011339-20	Water	11/16/20
MW-26-111620	011339-21	Water	11/16/20
CMW-1-111720	011339-22	Water	11/17/20
CMW-4-111720	011339-23	Water	11/17/20
DUP-01-111620	011339-24	Water	11/16/20
DUP-02-111720	011339-25	Water	11/17/20
RB-01-111720	011339-26	Water	11/17/20

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
RB-02-111820	011339-27	Water	11/18/20
Trip Blank	011339-28	Water	11/17/20
MW-16-111620DUP	011339-11DUP	Water	11/16/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

Sample Trip Blank was identified as a rinsate. No contaminants were found.

Samples RB-01-111720 and RB-02-111820 were identified as rinsate blanks. No contaminants were found.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates/Duplicate Sample Analysis**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## IX. Field Duplicates

Samples MW-10-111720 and DUP-02-111720 and samples MW-18-111620 and DUP-01-111620 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-10-111720	DUP-02-111720		
Gasoline range	12000	13000	8 (≤35)	-

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-18-111620	DUP-01-111620		
Gasoline range	340	370	-	30 (≤200)

## X. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

## XI. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
011339**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 011339**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 011339**

No Sample Data Qualified in this SDG



**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	RB = 24, 24 TB = 28
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates / DUP	N/A	(2a)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	D = 13+24, 6+25
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank  
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:  
 SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-1-111820	011339-01	Water	11/18/20
2	MW-2-111720	011339-02	Water	11/17/20
3	MW-6-111620	011339-03	Water	11/16/20
4	MW-7-111720	011339-04	Water	11/17/20
5	MW-9-111620	011339-05	Water	11/16/20
6	MW-10-111720	D <sub>2</sub> 011339-06	Water	11/17/20
7	MW-11-111720	011339-07	Water	11/17/20
8	MW-12-111620	011339-08	Water	11/16/20
9	MW-13-111720	011339-09	Water	11/17/20
10	MW-14-111820	011339-10	Water	11/18/20
11	MW-16-111620	011339-11	Water	11/16/20
12	MW-17-111620	011339-12	Water	11/16/20
13	MW-18-111620	D <sub>1</sub> 011339-13	Water	11/16/20
14	MW-19-111720	011339-14	Water	11/17/20
15	MW-20-111720	011339-15	Water	11/17/20
16	MW-21-111720	011339-16	Water	11/17/20
17	MW-22-111620	011339-17	Water	11/16/20

\* collection time discrepancy CAC 14:55 vs EDD 00:00  
 \*x CAC 12:05 vs ↓

LDC #: 49889B7 **VALIDATION COMPLETENESS WORKSHEET**  
 SDG #: 011339 **Level II**  
 Laboratory: Friedman & Bruya, Inc.

Date: 11/18/20  
 Page: 2 of 2  
 Reviewer: [Signature]  
 2nd Reviewer: [Signature]

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

18	MW-23-111820	011339-18	Water	11/18/20
19	MW-24-111720	011339-19	Water	11/17/20
20	MW-25-111620	011339-20	Water	11/16/20
21	MW-26-111620	011339-21	Water	11/16/20
22	CMW-1-111720	011339-22	Water	11/17/20
23	CMW-4-111720	011339-23	Water	11/17/20
24	DUP-01-111620 <span style="margin-left: 100px;">D<sub>1</sub></span>	011339-24	Water	11/16/20
25	DUP-02-111720 <span style="margin-left: 100px;">D<sub>2</sub></span>	011339-25	Water	11/17/20
26 *	RB-01-111720	011339-26	Water	11/17/20
27 **	RB-02-111820	011339-27	Water	11/17/20
28	Trip Blank	011339-28	Water	11/17/20
29	MW-16-111620DUP	011339-11DUP	Water	11/16/20
30				
31				
32				

Notes:

1	00-2424 MB					
2	00-2426 ↓					

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

Compound	Concentration (ug/L)		RPD (≤35)	Diff
	6	25		
Gasoline Range	12000	13000	8	

Compound	Concentration (ug/L)		RPD	Diff (≤200)
	13	24		
Gasoline Range	340	370		30

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** December 29, 2020

**Parameters:** Total Petroleum Hydrocarbons as Extractables

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 011339

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1-111820	011339-01	Water	11/18/20
MW-2-111720	011339-02	Water	11/17/20
MW-6-111620	011339-03	Water	11/16/20
MW-7-111720	011339-04	Water	11/17/20
MW-9-111620	011339-05	Water	11/16/20
MW-10-111720	011339-06	Water	11/17/20
MW-11-111720	011339-07	Water	11/17/20
MW-12-111620	011339-08	Water	11/16/20
MW-13-111720	011339-09	Water	11/17/20
MW-14-111820	011339-10	Water	11/18/20
MW-16-111620	011339-11	Water	11/16/20
MW-17-111620	011339-12	Water	11/16/20
MW-18-111620	011339-13	Water	11/16/20
MW-19-111720	011339-14	Water	11/17/20
MW-20-111720	011339-15	Water	11/17/20
MW-21-111720	011339-16	Water	11/17/20
MW-22-111620	011339-17	Water	11/16/20
MW-23-111820	011339-18	Water	11/18/20
MW-24-111720	011339-19	Water	11/17/20
MW-25-111620	011339-20	Water	11/16/20
MW-26-111620	011339-21	Water	11/16/20
CMW-1-111720	011339-22	Water	11/17/20
CMW-4-111720	011339-23	Water	11/17/20
DUP-01-111620	011339-24	Water	11/16/20
DUP-02-111720	011339-25	Water	11/17/20
RB-01-111720	011339-26	Water	11/17/20
RB-02-111820	011339-27	Water	11/18/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

Samples RB-01-111720 and RB-02-111820 were identified as rinsate blanks. No contaminants were found.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **IX. Field Duplicates**

Samples MW-10-111720 and DUP-02-111720 and samples MW-18-111620 and DUP-01-111620 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-10-111720	DUP-02-111720		
Diesel range (C10-C25)	1400	1700	19 (≤35)	-
Motor oil range (C25-C36)	250U	280	-	30 (≤500)

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-18-111620	DUP-01-111620		
Diesel range (C10-C25)	59	59	-	0 (≤100)

### X. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

### XI. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

### XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.



**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary -  
SDG 011339**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data  
Qualification Summary - SDG 011339**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification  
Summary - SDG 011339**

No Sample Data Qualified in this SDG

LDC #: 49889B8 **VALIDATION COMPLETENESS WORKSHEET**

SDG #: 011339

Level II

Laboratory: Friedman & Bruya, Inc.

Date: 12/18/20

Page: 1 of 2

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC TPHE as Diesel (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	PB = 26, 27
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS 10
IX.	Field duplicates	SW	D = 13 + 24, 6 + 25
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet  
 ND = No compounds detected  
 R = Rinsate  
 FB = Field blank  
 D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank  
 SB = Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-1-111820	011339-01	Water	11/18/20
2	MW-2-111720	011339-02	Water	11/17/20
3	MW-6-111620	011339-03	Water	11/16/20
4	MW-7-111720	011339-04	Water	11/17/20
5	MW-9-111620	011339-05	Water	11/16/20
6	MW-10-111720	D <sub>2</sub> 011339-06	Water	11/17/20
7	MW-11-111720	011339-07	Water	11/17/20
8	MW-12-111620	011339-08	Water	11/16/20
9	MW-13-111720	011339-09	Water	11/17/20
10	MW-14-111820	011339-10	Water	11/18/20
11	MW-16-111620	011339-11	Water	11/16/20
12	MW-17-111620	011339-12	Water	11/16/20
13	MW-18-111620	D <sub>1</sub> 011339-13	Water	11/16/20
14	MW-19-111720	011339-14	Water	11/17/20
15	MW-20-111720	011339-15	Water	11/17/20
16	MW-21-111720	011339-16	Water	11/17/20
17	MW-22-111620	011339-17	Water	11/16/20

\* Collection time discrepancy COL 1455 vs EDD 00:00  
 xx ↓ COL 12:45 vs ↓

**METHOD:** GC TPH as Diesel (NWTPH-Dx)

18	MW-23-111820		011339-18	Water	11/18/20
19	MW-24-111720		011339-19	Water	11/17/20
20	MW-25-111620		011339-20	Water	11/16/20
21	MW-26-111620		011339-21	Water	11/16/20
22	CMW-1-111720		011339-22	Water	11/17/20
23	CMW-4-111720		011339-23	Water	11/17/20
24	DUP-01-1116260	D <sub>1</sub>	011339-24	Water	11/16/20
25	DUP-02-111720	D <sub>2</sub>	011339-25	Water	11/17/20
26 *	RB-01-111720		011339-26	Water	11/17/20
27 **	RB-02-111820		011339-27	Water	11/17/20
28					
29					
30					

Notes:

1	00-2573-MB				
2	00-2542 ↓				

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC TPHE (NWTPH-Dx)

Compound	Concentration (ug/L)		RPD ( $\leq 35$ )	Diff ( $\leq 500$ )
	6	25		
Diesel Range (C10-C25)	1400	1700	19	
Motor Oil Range (C25-C36)	250U	280		30

Compound	Concentration (ug/L)		RPD ( $\leq 35$ )	Diff ( $\leq 100$ )
	13	24		
Diesel Range (C10-C25)	59	59		0

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** December 29, 2020  
**Parameters:** Volatiles  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 011403

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-27-112020	011403-01	Water	11/20/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

No field blanks were identified in this SDG.

## **VII. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VIII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **X. Field Duplicates**

No field duplicates were identified in this SDG.



## **XI. Internal Standards**

Internal standard data were not reviewed for Stage 2A validation.

## **XII. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XIII. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XIV. System Performance**

Raw data were not reviewed for Stage 2A validation.

## **XV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 011403**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 011403**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 011403**

No Sample Data Qualified in this SDG

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	SA	
VIII.	Matrix spike/Matrix spike duplicates	N	Non client
IX.	Laboratory control samples	A	LCS ID
X.	Field duplicates	N	
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank  
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:  
 SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-27-112020	011403-01	Water	11/20/20
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

1	00-2550 MB				

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** December 29, 2020  
**Parameters:** Total Petroleum Hydrocarbons as Gasoline  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 011403

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-27-112020	011403-01	Water	11/20/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.



**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
011403**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 011403**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 011403**

No Sample Data Qualified in this SDG

LDC #: 49889C7

# VALIDATION COMPLETENESS WORKSHEET

Date: 12/21/20

SDG #: 011403

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-27-112020	011403-01	Water	11/20/20
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

1	00-2593 MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** December 29, 2020  
**Parameters:** Total Petroleum Hydrocarbons as Extractables  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 011403

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-27-112020	011403-01	Water	11/20/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## II. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Stage 2A validation.

## III. Continuing Calibration

Continuing calibration data were not reviewed for Stage 2A validation.

## IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## V. Field Blanks

No field blanks were identified in this SDG.

## VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
MW-27-112020	ortho-Terphenyl	151 (47-140)	All compounds	NA	-

## VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary -  
SDG 011403**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data  
Qualification Summary - SDG 011403**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification  
Summary - SDG 011403**

No Sample Data Qualified in this SDG



**METHOD:** GC TPH as Diesel (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS10
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB=Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-27-112020	011403-01	Water	11/20/20
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

1	00-2585 MB				

**VALIDATION FINDINGS WORKSHEET**  
**Surrogate Recovery**

**METHOD:**   X   GC    HPLC

Are surrogates required by the method? Yes   x   or No   

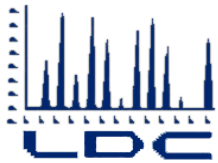
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y   x   N    N/A    Were surrogates spiked into all samples and blanks?

Y    N   x   N/A    Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/Column	Surrogate Compound	%R (Limits)	Qualifications
	1 (ND) (1X)		H	151 (47 - 140)	J/P DETS

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	1,2-Dinitrobenzene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Triphenyltin		
D	Bromochlorobenzene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin		
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate		
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		



## LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Aspect Consulting LLC  
701 Second Ave., Suite 550  
Seattle, WA 98104  
ATTN: Jason Yabandeh  
[Jyabandeh@aspectconsulting.com](mailto:Jyabandeh@aspectconsulting.com)

January 6, 2021

SUBJECT: Aloha Café, Data Validation

Dear Mr. Yabandeh,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on December 14, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

### **LDC Project #49980:**

<b><u>SDG #</u></b>	<b><u>Fraction</u></b>
011402	Volatiles, Helium, Fixed Gases

The data validation was performed under Stage 2A guidelines. The analyses were validated using the following documents, as applicable to each method:

- Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan, February 2019
- USEPA Region 2 Analysis of Volatile Organic Compounds in Air Contained Canisters, SOP HW-31, Revision 6; September 2016
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review, January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink  
[crink@lab-data.com](mailto:crink@lab-data.com)  
Project Manager/Senior Chemist



## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** January 6, 2021

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 011402

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-02-112020	011402-01	Air	11/20/20
GP-03-112020	011402-02	Air	11/20/20
GP-05-112020	011402-03	Air	11/20/20
GP-06-112020	011402-04	Air	11/20/20
SV-DUP-112020	011402-05	Air	11/20/20
Trip Blank	011402-06	Air	11/20/20
GP-02-112020DUP	011402-01DUP	Air	11/20/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Analysis of Volatile Organic Compounds in Air Contained Canisters*, SOP HW-31, Revision 6 (September 2016), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method TO-15

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VII. Surrogates**

Although surrogates were not required by the method, surrogate analysis was performed by the laboratory. Surrogate recoveries (%R) were within QC limits.

## **VIII. Duplicate Sample Analysis**

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **X. Field Duplicates**

Samples GP-05-112020 and SV-DUP-112020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:



Compound	Concentration (ug/m <sup>3</sup> )		RPD (Limits)	Difference (Limits)
	GP-05-112020	SV-DUP-112020		
m,p-Xylene	37U	37	-	0 (≤75)

#### **XI. Internal Standards**

Internal standards data were not reviewed for Stage 2A validation.

#### **XII. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

#### **XIII. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

#### **XIV. System Performance**

Raw data were not reviewed for Stage 2A validation.

#### **XV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

LDC #: 49980A48a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 01/05/21

SDG #: 011402

Stage 2A

Page: 1 of 1

Laboratory: Friedman &amp; Bruya, Inc.

Reviewer: LT

2nd Reviewer: **METHOD:** GC/MS Volatiles (EPA Method TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks/Canister Blanks	A/A	Individually certified
VI.	Field blanks	ND	TB = 6
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates/DUP	N/A	(7)
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D = 3 + 5
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-02-112020	011402-01	Air	11/20/20
2	GP-03-112020	011402-02	Air	11/20/20
3	GP-05-112020	011402-03	Air	11/20/20
4	GP-06-112020	011402-04	Air	11/20/20
5	SV-DUP-112020	011402-05	Air	11/20/20
6	Trip Blank	011402-06	Air	11/20/20
7	GP-02-112020DUP	011402-01DUP	Air	11/20/20
8				

Notes:

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## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

**VALIDATION FINDINGS WORKSHEET**  
Field Duplicates

**METHOD:** GC/MS VOA (TO-15)

Compound	Concentration (ug/m3)		RPD ( $\leq 35$ )	Diff ( $\leq 75$ )
	3	5		
RRR	37U	37		0

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** January 6, 2021

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 011402

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
GP-02-112020	011402-01	Air	11/20/20
GP-03-112020	011402-02	Air	11/20/20
GP-05-112020	011402-03	Air	11/20/20
GP-06-112020	011402-04	Air	11/20/20
SV-DUP-112020	011402-05	Air	11/20/20
SV-DUP-112020DL	011402-05DL	Air	11/20/20
Trip Blank	011402-06	Air	11/20/20
GP-02-112020DUP	011402-01DUP	Air	11/20/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Analysis of Volatile Organic Compounds in Air Contained Canisters*, SOP HW-31, Revision 6 (September 2016), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by MA-APH

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.



## **I. Sample Receipt and Technical Holding Times**

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VII. Surrogates**

Although surrogates were not required by the method, surrogate analysis was performed by the laboratory. Surrogate recoveries (%R) were within QC limits.

## **VIII. Duplicate Sample Analysis**

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## X. Field Duplicates

Samples GP-05-112020 and SV-DUP-112020 and samples GP-05-112020 and SV-DUP-112020DL were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/m <sup>3</sup> )		RPD (Limits)	Difference (Limits)
	GP-05-112020	SV-DUP-112020		
APH EC5-8 aliphatics	22000	24000	9 (≤35)	-
APH EC9-12 aliphatics	5000	6000	-	1000 (≤4300)

## XI. Internal Standards

Internal standards data were not reviewed for Stage 2A validation.

## XII. Compound Quantitation

All compound quantitations met validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
SV-DUP-112020	APH EC5-8 aliphatics	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects)	A

Raw data were not reviewed for Stage 2A validation.

## XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XIV. System Performance

Raw data were not reviewed for Stage 2A validation.

## XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed not reportable as follows:

Sample	Compound	Reason	Flag	A or P
SV-DUP-112020DL	APH EC5-8 aliphatics	Results from undiluted analyses were more usable.	DNR	-

Due to results exceeding the calibration range, data were qualified as estimated in one sample.

No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 011402**

Sample	Compound	Flag	A or P	Reason
SV-DUP-112020	APH EC5-8 aliphatics	J (all detects)	A	Compound quantitation (exceeded range)
SV-DUP-112020DL	APH EC5-8 aliphatics	DNR	-	Overall assessment of data

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

LDC #: 49980A48b

**VALIDATION COMPLETENESS WORKSHEET**

Date: 01/05/21

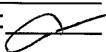
SDG #: 011402

Stage 2A

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: 

**METHOD:** GC/MS Volatiles (MA-APH)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks/Canister Blanks	A/A	Individually certified
VI.	Field blanks	ND	TB = 7
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates/DUP	N/A	(8)
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D = 3 + 5, 3 + 6
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	SW	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	SW	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-02-112020	011402-01	Air	11/20/20
2	GP-03-112020	011402-02	Air	11/20/20
3	GP-05-112020	011402-03	Air	11/20/20
4	GP-06-112020	011402-04	Air	11/20/20
5	SV-DUP-112020	011402-05	Air	11/20/20
6	SV-DUP-112020DL	011402-05DL	Air	11/20/20
7	Trip Blank	011402-06	Air	11/20/20
8	GP-02-112020DUP	011402-01DUP	Air	11/20/20

Notes:

1	00-2555 MB					

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates****METHOD:** GC/MS VOA (MA-APH)

Compound	Concentration (ug/m3)		RPD (≤35)	Diff (≤4300)
	3	5		
APH EC5-8 aliphatics	22000	24000	9	
APH EC9-12 aliphatics	5000	6000		1000







## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** January 6, 2021  
**Parameters:** Helium  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 011402

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-02-112020	011402-01	Air	11/20/20
GP-03-112020	011402-02	Air	11/20/20
GP-05-112020	011402-03	Air	11/20/20
GP-06-112020	011402-04	Air	11/20/20
GP-02-112020DUP	011402-01DUP	Air	11/20/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Helium by American Society for Testing and Materials (ASTM) D1946

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Duplicate Sample Analysis**

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VII. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were not required by the method.

## **VIII. Field Duplicates**

No field duplicates were identified in this SDG.

## **IX. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **X. Target Compound Identification**

Raw data were not reviewed for Stage 2A validation.

## **XI. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Helium - Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Helium - Laboratory Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Helium - Field Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

LDC #: 49980A50

**VALIDATION COMPLETENESS WORKSHEET**

Date: 01/05/21

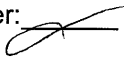
SDG #: 011402

Stage 2A

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: 

**METHOD:** GC Helium (ASTM D1946)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks/Canister Blanks	A/A	Individually certified
V.	Field blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates/DUP	N/A	(5)
VIII.	Laboratory control samples	N	
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-02-112020	011402-01	Air	11/20/20
2	GP-03-112020	011402-02	Air	11/20/20
3	GP-05-112020	011402-03	Air	11/20/20
4	GP-06-112020	011402-04	Air	11/20/20
5	GP-02-112020DUP	011402-01DUP	Air	11/20/20
6				
7				
8				
9				
10				
11				
12				

Notes:

1	MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** January 6, 2021  
**Parameters:** Fixed Gases  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc./Fremont Analytical  
**Sample Delivery Group (SDG):** 011402/2011458

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-02-112020	011402-01/2011458-001	Air	11/20/20
GP-03-112020	011402-02/2011458-002	Air	11/20/20
GP-05-112020	011402-03/2011458-003	Air	11/20/20
GP-06-112020	011402-04/2011458-004	Air	11/20/20
GP-02-112020DUP	011402-01/2011458-001DUP	Air	11/20/20



## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Fixed Gases by Method 3C

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks are not required for this method.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Duplicate Sample Analysis**

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **VIII. Field Duplicates**

No field duplicates were identified in this SDG.

## **IX. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **X. Target Compound Identification**

Raw data were not reviewed for Stage 2A validation.

## **XI. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Fixed Gases - Data Qualification Summary - SDG 011402/2011458**

No Sample Data Qualified in this SDG

**Aloha Café  
Fixed Gases - Laboratory Blank Data Qualification Summary - SDG  
011402/2011458**

No Sample Data Qualified in this SDG

**Aloha Café  
Fixed Gases - Field Blank Data Qualification Summary - SDG 011402/2011458**

No Sample Data Qualified in this SDG

LDC #: 49980A51

### VALIDATION COMPLETENESS WORKSHEET

Date: 01/05/21

SDG #: 011402/2011458

Stage 2A

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc./Fremont Analytical

Reviewer: LT

2nd Reviewer: 

**METHOD:** GC Fixed Gases (Method 3C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	N	Tedlar bags
V.	Field blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates/DUP	N/A	(5)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

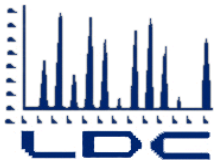
ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Sub lab ID	Lab ID	Matrix	Date
1	GP-02-112020	2011458-001	011402-01	Air	11/20/20
2	GP-03-112020	2011458-002	011402-02	Air	11/20/20
3	GP-05-112020	2011458-003	011402-03	Air	11/20/20
4	GP-06-112020	2011458-004	011402-04	Air	11/20/20
5	GP-02-112020DUP	2011458-001DUP	011402-01DUP	Air	11/20/20
6					
7					
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9					
10					
11					
12					
13					

Notes:

## LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Aspect Consulting LLC  
701 Second Ave., Suite 550  
Seattle, WA 98104  
ATTN: Jason Yabandeh  
[Jyabandeh@aspectconsulting.com](mailto:Jyabandeh@aspectconsulting.com)

January 14, 2021

SUBJECT: Revised Aloha Café, Data Validation

Dear Mr. Yabandeh,

Enclosed are the revised validation reports for the fractions listed below. This SDG was received on December 14, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

- FD evaluation updated to include Benzene results.

### LDC Project #49980\_RV1:

<u>SDG #</u>	<u>Fraction</u>
011402	Volatiles, Helium, Fixed Gases

The data validation was performed under Stage 2A guidelines. The analyses were validated using the following documents, as applicable to each method:

- Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan, February 2019
- USEPA Region 2 Analysis of Volatile Organic Compounds in Air Contained Canisters, SOP HW-31, Revision 6; September 2016
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review, January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink  
[crink@lab-data.com](mailto:crink@lab-data.com)  
Project Manager/Senior Chemist

Stage 2A EDD

**LDC #49980 (Aspect Consulting, LLC - Seattle, WA / Aloha Cafe)**

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (TO-15)		VOA (MA-APH)		Helium (D1946)		Fixed Gases (3C)																											
				A	S	A	S	A	S	A	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S		
Matrix:	Air/Water/Soil																																				
A	011402	12/14/20	01/06/21	6	0	7	0	4	0	4	0																										
Total	T/CR			6	0	7	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** January 14, 2021

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 011402

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-02-112020	011402-01	Air	11/20/20
GP-03-112020	011402-02	Air	11/20/20
GP-05-112020	011402-03	Air	11/20/20
GP-06-112020	011402-04	Air	11/20/20
SV-DUP-112020	011402-05	Air	11/20/20
Trip Blank	011402-06	Air	11/20/20
GP-02-112020DUP	011402-01DUP	Air	11/20/20



## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Analysis of Volatile Organic Compounds in Air Contained Canisters*, SOP HW-31, Revision 6 (September 2016), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method TO-15

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VII. Surrogates**

Although surrogates were not required by the method, surrogate analysis was performed by the laboratory. Surrogate recoveries (%R) were within QC limits.

## **VIII. Duplicate Sample Analysis**

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **X. Field Duplicates**

Samples GP-05-112020 and SV-DUP-112020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/m <sup>3</sup> )		RPD (Limits)	Difference (Limits)
	GP-05-112020	SV-DUP-112020		
Benzene	7.1	5.8	-	1.3 (≤28)
m,p-Xylene	37U	37	-	0 (≤74)

### **XI. Internal Standards**

Internal standards data were not reviewed for Stage 2A validation.

### **XII. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

### **XIII. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

### **XIV. System Performance**

Raw data were not reviewed for Stage 2A validation.

### **XV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 011402**


No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

LDC #: 49980A48a  
 SDG #: 011402  
 Laboratory: Friedman & Bruya, Inc.

**VALIDATION COMPLETENESS WORKSHEET**  
 Stage 2A

Date: 01/05/21  
 Page: 1 of 1  
 Reviewer: LT  
 2nd Reviewer: 

**METHOD:** GC/MS Volatiles (EPA Method TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks/Canister Blanks	A/A	Individually certified
VI.	Field blanks	ND	TB = 6
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates/DUP	N/A	(7)
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D = 3 + 5
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	A	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB=Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	GP-02-112020	011402-01	Air	11/20/20
2	GP-03-112020	011402-02	Air	11/20/20
3	GP-05-112020	011402-03	Air	11/20/20
4	GP-06-112020	011402-04	Air	11/20/20
5	SV-DUP-112020	011402-05	Air	11/20/20
6	Trip Blank	011402-06	Air	11/20/20
7	GP-02-112020DUP	011402-01DUP	Air	11/20/20
8				

Notes:

1	00-2555 MB				

## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC/MS VOA (TO-15)

Compound	Concentration (ug/m3)		RPD (≤35)	Diff	Diff Limit
	3	5			
V	7.1	5.8		1.3	(≤28)
RRR	37U	37		0	(≤74)



## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** January 6, 2021

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 011402

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
GP-02-112020	011402-01	Air	11/20/20
GP-03-112020	011402-02	Air	11/20/20
GP-05-112020	011402-03	Air	11/20/20
GP-06-112020	011402-04	Air	11/20/20
SV-DUP-112020	011402-05	Air	11/20/20
SV-DUP-112020DL	011402-05DL	Air	11/20/20
Trip Blank	011402-06	Air	11/20/20
GP-02-112020DUP	011402-01DUP	Air	11/20/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Analysis of Volatile Organic Compounds in Air Contained Canisters*, SOP HW-31, Revision 6 (September 2016), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by MA-APH

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VII. Surrogates**

Although surrogates were not required by the method, surrogate analysis was performed by the laboratory. Surrogate recoveries (%R) were within QC limits.

## **VIII. Duplicate Sample Analysis**

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## X. Field Duplicates

Samples GP-05-112020 and SV-DUP-112020 and samples GP-05-112020 and SV-DUP-112020DL were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/m <sup>3</sup> )		RPD (Limits)	Difference (Limits)
	GP-05-112020	SV-DUP-112020		
APH EC5-8 aliphatics	22000	24000	9 (≤35)	-
APH EC9-12 aliphatics	5000	6000	-	1000 (≤4300)

## XI. Internal Standards

Internal standards data were not reviewed for Stage 2A validation.

## XII. Compound Quantitation

All compound quantitations met validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
SV-DUP-112020	APH EC5-8 aliphatics	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects)	A

Raw data were not reviewed for Stage 2A validation.

## XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XIV. System Performance

Raw data were not reviewed for Stage 2A validation.

## XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed not reportable as follows:

Sample	Compound	Reason	Flag	A or P
SV-DUP-112020DL	APH EC5-8 aliphatics	Results from undiluted analyses were more usable.	DNR	-

Due to results exceeding the calibration range, data were qualified as estimated in one sample.

No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 011402**

Sample	Compound	Flag	A or P	Reason
SV-DUP-112020	APH EC5-8 aliphatics	J (all detects)	A	Compound quantitation (exceeded range)
SV-DUP-112020DL	APH EC5-8 aliphatics	DNR	-	Overall assessment of data

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

LDC #: 49980A48b

**VALIDATION COMPLETENESS WORKSHEET**

Date: 01/05/21

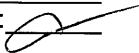
SDG #: 011402

Stage 2A

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: 

**METHOD:** GC/MS Volatiles (MA-APH)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks/Canister Blanks	A/A	Individually certified
VI.	Field blanks	ND	TB = 7
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates/DUP	N/A	(8)
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D = 3 + 5, 3 + 6
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	SW	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	SW	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-02-112020	011402-01	Air	11/20/20
2	GP-03-112020	011402-02	Air	11/20/20
3	GP-05-112020	011402-03	Air	11/20/20
4	GP-06-112020	011402-04	Air	11/20/20
5	SV-DUP-112020	011402-05	Air	11/20/20
6	SV-DUP-112020DL	011402-05DL	Air	11/20/20
7	Trip Blank	011402-06	Air	11/20/20
8	GP-02-112020DUP	011402-01DUP	Air	11/20/20

Notes:

1	00-2555 MB				



**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC/MS VOA (MA-APH)

Compound	Concentration (ug/m3)		RPD (≤35)	Diff (≤4300)
	3	5		
APH EC5-8 aliphatics	22000	24000	9	
APH EC9-12 aliphatics	5000	6000		1000





**Laboratory Data Consultants, Inc.**  
**Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** January 6, 2021  
**Parameters:** Helium  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 011402

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-02-112020	011402-01	Air	11/20/20
GP-03-112020	011402-02	Air	11/20/20
GP-05-112020	011402-03	Air	11/20/20
GP-06-112020	011402-04	Air	11/20/20
GP-02-112020DUP	011402-01DUP	Air	11/20/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Helium by American Society for Testing and Materials (ASTM) D1946

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Duplicate Sample Analysis**

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VII. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were not required by the method.

## **VIII. Field Duplicates**

No field duplicates were identified in this SDG.

## **IX. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **X. Target Compound Identification**

Raw data were not reviewed for Stage 2A validation.

## **XI. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.



**Aloha Café**  
**Helium - Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Helium - Laboratory Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Helium - Field Blank Data Qualification Summary - SDG 011402**

No Sample Data Qualified in this SDG

LDC #: 49980A50

**VALIDATION COMPLETENESS WORKSHEET**

Date: 01/05/21


SDG #: 011402

Stage 2A

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LT

2nd Reviewer: 

**METHOD:** GC Helium (ASTM D1946)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks/Canister Blanks	A/A	Individually certified
V.	Field blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates/DUP	N/A	(5)
VIII.	Laboratory control samples	N	
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	GP-02-112020	011402-01	Air	11/20/20
2	GP-03-112020	011402-02	Air	11/20/20
3	GP-05-112020	011402-03	Air	11/20/20
4	GP-06-112020	011402-04	Air	11/20/20
5	GP-02-112020DUP	011402-01DUP	Air	11/20/20
6				
7				
8				
9				
10				
11				
12				

Notes:

1	MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** January 6, 2021  
**Parameters:** Fixed Gases  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc./Fremont Analytical  
**Sample Delivery Group (SDG):** 011402/2011458

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
GP-02-112020	011402-01/2011458-001	Air	11/20/20
GP-03-112020	011402-02/2011458-002	Air	11/20/20
GP-05-112020	011402-03/2011458-003	Air	11/20/20
GP-06-112020	011402-04/2011458-004	Air	11/20/20
GP-02-112020DUP	011402-01/2011458-001DUP	Air	11/20/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Fixed Gases by Method 3C

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks are not required for this method.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Duplicate Sample Analysis**

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **VIII. Field Duplicates**

No field duplicates were identified in this SDG.

## **IX. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **X. Target Compound Identification**

Raw data were not reviewed for Stage 2A validation.

## **XI. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Fixed Gases - Data Qualification Summary - SDG 011402/2011458**

No Sample Data Qualified in this SDG

**Aloha Café  
Fixed Gases - Laboratory Blank Data Qualification Summary - SDG  
011402/2011458**

No Sample Data Qualified in this SDG

**Aloha Café  
Fixed Gases - Field Blank Data Qualification Summary - SDG 011402/2011458**

No Sample Data Qualified in this SDG

LDC #: 49980A51

**VALIDATION COMPLETENESS WORKSHEET**

Date: 01/05/21

SDG #: 011402/2011458

Stage 2A

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc./Fremont Analytical

Reviewer: LT

2nd Reviewer: 

**METHOD:** GC Fixed Gases (Method 3C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	N	Tedlar bags
V.	Field blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates/DUP	N/A	(5)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

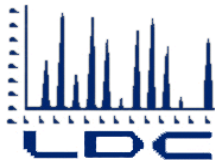
D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Sub lab ID	Lab ID	Matrix	Date
1	GP-02-112020	2011458-001	011402-01	Air	11/20/20
2	GP-03-112020	2011458-002	011402-02	Air	11/20/20
3	GP-05-112020	2011458-003	011402-03	Air	11/20/20
4	GP-06-112020	2011458-004	011402-04	Air	11/20/20
5	GP-02-112020DUP	2011458-001DUP	011402-01DUP	Air	11/20/20
6					
7					
8					
9					
10					
11					
12					
13					

Notes:



# LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Aspect Consulting LLC  
701 Second Ave., Suite 550  
Seattle, WA 98104  
ATTN: Jason Yabandeh  
[Jyabandeh@aspectconsulting.com](mailto:Jyabandeh@aspectconsulting.com)

October 15, 2020

SUBJECT: Aloha Café, Data Validation

Dear Mr. Yabandeh,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on September 8, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

## **LDC Project #49089:**

<b><u>SDG #</u></b>	<b><u>Fraction</u></b>
008318/2008283 008261	Volatiles, Total Petroleum Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as Extractables, Helium, Fixed Gases

The data validation was performed under Stage 2A guidelines. The analyses were validated using the following documents, as applicable to each method:

- Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan, February 2019
- USEPA Region 2 Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C, SOP HW-24, Revision 4; October 2014
- USEPA Region 2 Analysis of Volatile Organic Compounds in Air Contained Canisters, SOP HW-31, Revision 6; September 2016
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review, January 2017
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink  
[crink@lab-data.com](mailto:crink@lab-data.com)  
Project Manager/Senior Chemist



## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 28, 2020

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 008318

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SVS-01-082020	008318-01	Air	08/20/20
SVS-02-082020	008318-02	Air	08/20/20
GP-01-082020	008318-03	Air	08/20/20
GP-02-082020	008318-04	Air	08/20/20
GP-03-082020	008318-05	Air	08/20/20
GP-04-082020	008318-06	Air	08/20/20
GP-DUP-082020	008318-07	Air	08/20/20
Trip Blank	008318-08	Air	08/20/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Analysis of Volatile Organic Compounds in Air Contained Canisters*, SOP HW-31, Revision 6 (September 2016), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method TO-15

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VII. Surrogates**

Although surrogates were not required by the method, surrogate analysis was performed by the laboratory. Surrogate recoveries (%R) were within QC limits.

## **VIII. Duplicate Sample Analysis**

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## X. Field Duplicates

Samples GP-03-082020 and GP-DUP-082020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/m <sup>3</sup> )		RPD (Limits)	Difference (Limits)
	GP-03-082020	GP-DUP-082020		
Benzene	5.7	6.4	-	0.7 (≤5.6)
Ethylbenzene	80	60	29 (≤35)	-
m,p-Xylene	300	230	26 (≤35)	-
o-Xylene	82	63	26 (≤35)	-

## XI. Internal Standards

Internal standards data were not reviewed for Stage 2A validation.

## XII. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

## XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XIV. System Performance

Raw data were not reviewed for Stage 2A validation.

## XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 008318**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 008318**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 008318**

No Sample Data Qualified in this SDG



LDC #: 49089A48a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 08/19/20

SDG #: 008318

Stage 2A

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC/MS Volatiles (EPA Method TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N, N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks / Canister Blanks	A/A	Individually certified
VI.	Field blanks	ND	TB=8
VII.	Surrogate spikes	A/R	
VIII.	Matrix spike/Matrix spike duplicates	N	Non Client
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D=577
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	SVS-01-082020	008318-01	Air	08/20/20
2	SVS-02-082020	008318-02	Air	08/20/20
3	GP-01-082020	008318-03	Air	08/20/20
4	GP-02-082020	008318-04	Air	08/20/20
5	GP-03-082020	D 008318-05	Air	08/20/20
6	GP-04-082020	008318-06	Air	08/20/20
7	GP-DUP-082020	D 008318-07	Air	08/20/20
8	Trip Blank	008318-08	Air	08/20/20
9				
10				

Notes:

1	00-1933MB				

## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates****METHOD:** GC/MS VOA (TO-15)

Compound	Concentration (ug/m3)		RPD ( $\leq 35$ )	Diff ( $\leq 5.6$ )
	5	7		
V	5.7	6.4		0.7
EE	80	60	29	
RRR	300	230	26	
SSS	82	63	26	

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 28, 2020

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 008318

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SVS-01-082020	008318-01	Air	08/20/20
SVS-02-082020	008318-02	Air	08/20/20
GP-01-082020	008318-03	Air	08/20/20
GP-02-082020	008318-04	Air	08/20/20
GP-03-082020	008318-05	Air	08/20/20
GP-03-082020DL	008318-05DL	Air	08/20/20
GP-04-082020	008318-06	Air	08/20/20
GP-DUP-082020	008318-07	Air	08/20/20
GP-DUP-082020DL	008318-07DL	Air	08/20/20
Trip Blank	008318-08	Air	08/20/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Analysis of Volatile Organic Compounds in Air Contained Canisters*, SOP HW-31, Revision 6 (September 2016), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by MA-APH

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## I. Sample Receipt and Technical Holding Times

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

## II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Stage 2A validation.

## III. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Stage 2A validation.

## IV. Continuing Calibration

Continuing calibration data were not reviewed for Stage 2A validation.

## V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

## VI. Field Blanks

Sample Trip Blank was identified as a trip blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
Trip Blank	08/20/20	APH EC5-8 aliphatics	390 ug/m <sup>3</sup>	SVS-01-082020 SVS-02-082020 GP-01-082020 GP-02-082020 GP-03-082020 GP-03-082020DL GP-04-082020 GP-DUP-082020 GP-DUP-082020DL

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks.

## VII. Surrogates

Surrogates were not required by the method.

### VIII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

### IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

### X. Field Duplicates

Samples GP-03-082020 and GP-DUP-082020 and samples GP-03-082020DL and GP-DUP-082020DL were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/m <sup>3</sup> )		RPD (Limits)	Difference (Limits)
	GP-03-082020	GP-DUP-082020		
APH EC9-12 aliphatics	2200	2300	4 (≤35)	-
APH EC9-10 aliphatics	220	220U	-	0 (≤220)

Compound	Concentration (ug/m <sup>3</sup> )		RPD (Limits)	Difference (Limits)
	GP-03-082020DL	GP-DUP-082020DL		
APH EC5-8 aliphatics	13000	15000	14 (≤35)	-

### XI. Internal Standards

Internal standards data were not reviewed for Stage 2A validation.

### XII. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

### XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

### XIV. System Performance

Raw data were not reviewed for Stage 2A validation.



## XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed not reportable as follows:

Sample	Compound	Reason	Flag	A or P
GP-03-082020 GP-DUP-082020	APH EC5-8 aliphatics	Results exceeded calibration range.	DNR	-
GP-03-082020DL GP-DUP-082020DL	APH EC9-12 aliphatics APH EC9-10 aromatics	Results from diluted analyses were more usable.	DNR	-

No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 008318**

Sample	Compound	Flag	A or P	Reason
GP-03-082020 GP-DUP-082020	APH EC5-8 aliphatics	DNR	-	Overall assessment of data
GP-03-082020DL GP-DUP-082020DL	APH EC9-12 aliphatics APH EC9-10 aromatics	DNR	-	Overall assessment of data

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 008318**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 008318**

No Sample Data Qualified in this SDG

LDC #: 49089A48b

## VALIDATION COMPLETENESS WORKSHEET

Date: 09/19/20

SDG #: 008318

Stage 2A

Page: ( of )

Laboratory: Friedman &amp; Bruya, Inc.

Reviewer: LT

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (MA-APH)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N, N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks / <u>Canister Blanks</u>	A/A	Individually certified.
VI.	Field blanks	SW	TB=10
VII.	Surrogate spikes	A/N	
VIII.	Matrix spike/Matrix spike duplicates	N	Non client
IX.	Laboratory control samples	A	LES
X.	Field duplicates	SW	D = 5+8, 6+9
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	SW	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	SVS-01-082020	008318-01	Air	08/20/20
2	SVS-02-082020	008318-02	Air	08/20/20
3	GP-01-082020	008318-03	Air	08/20/20
4	GP-02-082020	008318-04	Air	08/20/20
5	GP-03-082020	D 008318-05	Air	08/20/20
6	GP-03-082020 <u>REDL</u>	D 008318-05 <u>REDL</u>	Air	08/20/20
7	GP-04-082020	008318-06	Air	08/20/20
8	GP-DUP-082020	D 008318-07	Air	08/20/20
9	GP-DUP-082020 <u>REDL</u>	D 008318-07 <u>REDL</u>	Air	08/20/20
10	Trip Blank	008318-08	Air	08/20/20
11				
12	1. 00-1433 MB			
13				

**VALIDATION FINDINGS WORKSHEET**

*MA-VPH*

**Field Blanks**

**METHOD:** GC/MS VOA (EPA SW-846 Method 8260B)

Yes  No  N/A  Were field blanks identified in this SDG?

Yes  No  N/A  Were target compounds detected in the field blanks?

**Blank units:** ug/m3 **Associated sample units:** ug/m3

**Sampling date:** 08/20/20

**Field blank type:** (circle one) Field Blank / Rinsate / Trip Blank / Other: TB Associated Samples: 1-9 > CRQL and TB

Compound	Blank ID	Sample Identification							
	10								
APH EC5-8 aliphatics	390								

**Blank units:** \_\_\_\_\_ **Associated sample units:** \_\_\_\_\_

**Sampling date:** \_\_\_\_\_

**Field blank type:** (circle one) Field Blank / Rinsate / Trip Blank / Other: \_\_\_\_\_ Associated Samples: \_\_\_\_\_

Compound	Blank ID	Sample Identification							
Methylene chloride									
Acetone									
Chloroform									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC/MS VOA (MA-APH)

Compound	Concentration (ug/m3)		RPD (≤35)	Diff (≤220)
	5	8		
APH EC9-12 aliphatics	2200	2300	4	
APH EC9-10 aliphatics	220	220U		0

Compound	Concentration (ug/m3)		RPD (≤35)	Diff
	6	9		
APH EC5-8 aliphatics	13000	15000	14	

**VALIDATION FINDINGS WORKSHEET**  
**Overall Assessment of Data**

**METHOD:** GC/MS Volatiles (MA-APH)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Yes  No\_\_ N/A\_\_ Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound	Finding	Qualifications
		5,8	APH EC5-8 aliphatics	exceed calibration range	DNR
		6,9	APH EC9-12 aliphatics and APH EC9-10 aliphatics	diluted	DNR

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 28, 2020

**Parameters:** Helium

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 008318/2008283

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SVS-01-082020	008318-01/2008283-001	Air	08/20/20
SVS-02-082020	008318-02/2008283-002	Air	08/20/20
GP-01-082020	008318-03/2008283-003	Air	08/20/20
GP-02-082020	008318-04/2008283-004	Air	08/20/20
GP-03-082020	008318-05/2008283-005	Air	08/20/20
GP-04-082020	008318-06/2008283-006	Air	08/20/20
SVS-01-082020DUP	008318-01/2008283-001DUP	Air	08/20/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Helium by American Society for Testing and Materials (ASTM) D1946

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.



The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Duplicate Sample Analysis**

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VII. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were not required by the method.

## **VIII. Field Duplicates**

No field duplicates were identified in this SDG.

## **IX. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **X. Target Compound Identification**

Raw data were not reviewed for Stage 2A validation.

## **XI. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Helium - Data Qualification Summary - SDG 008318/2008283**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Helium - Laboratory Blank Data Qualification Summary - SDG 008318/2008283**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Helium - Field Blank Data Qualification Summary - SDG 008318/2008283**

No Sample Data Qualified in this SDG

LDC #: 49089A50

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/19/20

SDG #: 008318 / 2008283

Stage 2A

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC Helium (ASTM D1946)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks / Canister Blanks	A/A	Individually certified
V.	Field blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates / DUP	N/A	(7)
VIII.	Laboratory control samples	N	
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Sub Lab ID	Lab ID	Matrix	Date
1	SVS-01-082020	2008283 - 001 /	008318-01	Air	08/20/20
2	SVS-02-082020	- 002 /	008318-02	Air	08/20/20
3	GP-01-082020	- 003 /	008318-03	Air	08/20/20
4	GP-02-082020	- 004 /	008318-04	Air	08/20/20
5	GP-03-082020	- 005 /	008318-05	Air	08/20/20
6	GP-04-082020	- 006 /	008318-06	Air	08/20/20
7	SVS-01-082020 DUP	↓ - 001 DUP /	↓ - 01 DUP	↓	↓
8					
9					
10					
11					
12					

Notes:

1	MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 28, 2020

**Parameters:** Fixed Gases

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc./Fremont Analytical

**Sample Delivery Group (SDG):** 008318/2008283

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
SVS-01-082020	008318-01/2008283-001	Air	08/20/20
SVS-02-082020	008318-02/2008283-002	Air	08/20/20
GP-01-082020	008318-03/2008283-003	Air	08/20/20
GP-02-082020	008318-04/2008283-004	Air	08/20/20
GP-03-082020	008318-05/2008283-005	Air	08/20/20
GP-04-082020	008318-06/2008283-006	Air	08/20/20
SVS-01-082020DUP	008318-01/2008283-001DUP	Air	08/20/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Fixed Gases by Method 3C

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.



## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks are not required for this method.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Duplicate Sample Analysis**

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **VIII. Field Duplicates**

No field duplicates were identified in this SDG.

## **IX. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **X. Target Compound Identification**

Raw data were not reviewed for Stage 2A validation.

## **XI. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Fixed Gases - Data Qualification Summary - SDG 008318/2008283**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Fixed Gases - Laboratory Blank Data Qualification Summary - SDG**  
**008318/2008283**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Fixed Gases - Field Blank Data Qualification Summary - SDG 008318/2008283**

No Sample Data Qualified in this SDG

LDC #: 49089A51

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/19/20

SDG #: 008318/2008283

Stage 2A

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc./Fremont Analytical

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC Fixed Gases (Method 3C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N/N	
IV.	Laboratory Blanks	N/N	Tedlar Bags
V.	Field blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N/A	(7)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Sub Lab ID	Lab ID	Matrix	Date
1	SVS-01-082020	2008283-001	008318-01	Air	08/20/20
2	SVS-02-082020	-002	008318-02	Air	08/20/20
3	GP-01-082020	-003	008318-03	Air	08/20/20
4	GP-02-082020	-004	008318-04	Air	08/20/20
5	GP-03-082020	-005	008318-05	Air	08/20/20
6	GP-04-082020	-006	008318-06	Air	08/20/20
7	SVS-01-082020DUP	-001 DUP	008318-01DUP	Air	08/20/20
8					
9					
10					
11					
12					

Notes:


## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 28, 2020

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 008261

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1-081820	008261-01	Water	08/18/20
MW-1-081820DL	008261-01DL	Water	08/18/20
MW-2-081720	008261-02	Water	08/17/20
MW-4-081820	008261-03	Water	08/18/20
MW-4-081820DL	008261-03DL	Water	08/18/20
MW-6-081720	008261-04	Water	08/17/20
MW-7-081720	008261-05	Water	08/17/20
MW-8-081820	008261-06	Water	08/18/20
MW-8-081820DL	008261-06DL	Water	08/18/20
MW-9-081820	008261-07	Water	08/18/20
MW-10-081820	008261-08	Water	08/18/20
MW-11-081720	008261-09	Water	08/17/20
MW-12-081720	008261-10	Water	08/17/20
MW-13-081720	008261-11	Water	08/17/20
MW-14-081820	008261-12	Water	08/18/20
MW-14-081820DL	008261-12DL	Water	08/18/20
MW-16-081720	008261-13	Water	08/17/20
MW-17-081720	008261-14	Water	08/17/20
MW-18-081820	008261-15	Water	08/18/20
MW-19-081820	008261-16	Water	08/18/20
MW-20-081720	008261-17	Water	08/17/20
MW-21-081720	008261-18	Water	08/17/20
MW-22-081720	008261-19	Water	08/17/20
MW-23-081820	008261-20	Water	08/18/20
MW-23-081820DL	008261-20DL	Water	08/18/20
MW-24-081820	008261-21	Water	08/18/20

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-25-081820	008261-22	Water	08/18/20
MW-26-081820	008261-23	Water	08/18/20
DUP-01-081720	008261-24	Water	08/17/20
DUP-02-0819820	008261-25	Water	08/19/20
RB-01-081720	008261-26	Water	08/17/20
RB-02-081820	008261-27	Water	08/18/20
Trip Blank	008261-28	Water	08/18/20
MW-6-081720MS	008261-04MS	Water	08/17/20
MW-26-081820MS	008261-23MS	Water	08/18/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

Samples RB-01-081720 and RB-02-081820 were identified as rinsate blanks. No contaminants were found.

## **VII. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VIII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.



## X. Field Duplicates

Samples MW-18-081820 and MW-22-081720 and samples DUP-01-081720 and DUP-02-0819820 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-18-081820	MW-22-081720		
Benzene	1.2	1.2	-	0 ( $\leq 0.70$ )

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	DUP-01-081720	DUP-02-0819820		
Benzene	540	500	8 ( $\leq 35$ )	-
Toluene	56	52	7 ( $\leq 35$ )	-
Ethylbenzene	630	570	10 ( $\leq 35$ )	-
m,p-Xylene	1200	1100	9 ( $\leq 35$ )	-
o-Xylene	150	140	7 ( $\leq 35$ )	-
Naphthalene	220	200	10 ( $\leq 35$ )	-

## XI. Internal Standards

Internal standard data were not reviewed for Stage 2A validation.

## XII. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

## XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XIV. System Performance

Raw data were not reviewed for Stage 2A validation.

## XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed not reportable as follows:

Sample	Compound	Reason	Flag	A or P
MW-1-081820	Benzene Toluene Ethylbenzene m,p-Xylene o-Xylene	Results exceeded calibration range.	DNR	-
MW-1-081820DL	All compounds except Benzene Toluene Ethylbenzene m,p-Xylene o-Xylene	Results from undiluted analyses were more usable.	DNR	-
MW-4-081820 MW-8-081820	Toluene	Results exceeded calibration range.	DNR	-
MW-4-081820DL MW-8-081820DL	All compounds except Toluene	Results from undiluted analyses were more usable.	DNR	-
MW-14-081820	Benzene	Results exceeded calibration range.	DNR	-
MW-14-081820DL	All compounds except Benzene	Results from undiluted analyses were more usable.	DNR	-
MW-23-081820	Benzene Toluene Ethylbenzene m,p-Xylene	Results exceeded calibration range.	DNR	-
MW-23-081820DL	All compounds except Benzene Toluene Ethylbenzene m,p-Xylene	Results from undiluted analyses were more usable.	DNR	-

No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 008261**

Sample	Compound	Flag	A or P	Reason
MW-1-081820	Benzene Toluene Ethylbenzene m,p-Xylene o-Xylene	DNR	-	Overall assessment of data
MW-1-081820DL	All compounds except Benzene Toluene Ethylbenzene m,p-Xylene o-Xylene	DNR	-	Overall assessment of data
MW-4-081820 MW-8-081820	Toluene	DNR	-	Overall assessment of data
MW-4-081820DL MW-8-081820DL	All compounds except Toluene	DNR	-	Overall assessment of data
MW-14-081820	Benzene	DNR	-	Overall assessment of data
MW-14-081820DL	All compounds except Benzene	DNR	-	Overall assessment of data
MW-23-081820	Benzene Toluene Ethylbenzene m,p-Xylene	DNR	-	Overall assessment of data
MW-23-081820DL	All compounds except Benzene Toluene Ethylbenzene m,p-Xylene	DNR	-	Overall assessment of data

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 008261**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 008261**

No Sample Data Qualified in this SDG

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	AA	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	RB = 31, 32 TB = 33
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	(34)*, (35)* MS only
IX.	Laboratory control samples	A	LC8/D
X.	Field duplicates	SW	D = 23 + 29, 19 + 30
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	SW	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB = Source blank  
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:  
 SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-1-081820	008261-01	Water	08/18/20
2	MW-1-081820 REDL	008261-01 REDL	Water	08/18/20
3	MW-2-081720	008261-02	Water	08/17/20
4	MW-4-081820	008261-03	Water	08/18/20
5	MW-4-081820 REDL	008261-03 REDL	Water	08/18/20
6	MW-6-081720	008261-04	Water	08/17/20
7	MW-7-081720	008261-05	Water	08/17/20
8	MW-8-081820	008261-06	Water	08/18/20
9	MW-8-081820 REDL	008261-06 REDL	Water	08/18/20
10	MW-9-081820	008261-07	Water	08/18/20
11	MW-10-081820	008261-08	Water	08/18/20
12	MW-11-081720	008261-09	Water	08/17/20
13	MW-12-081720	008261-10	Water	08/17/20

LDC #: 49089B1a

### VALIDATION COMPLETENESS WORKSHEET

Date: 08/19/20

SDG #: 008261

Level II

Page: 2 of 2

Laboratory: Friedman & Bruya, Inc.

Reviewer: LST

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260D)

	Client ID	Lab ID	Matrix	Date
14	MW-13-081720	008261-11	Water	08/17/20
15	MW-14-081820	008261-12	Water	08/18/20
16	MW-14-081820 <i>REDL</i>	008261-12 <i>REDL</i>	Water	08/18/20
17	MW-16-081720	008261-13	Water	08/17/20
18	MW-17-081720	008261-14	Water	08/17/20
19	MW-18-081820	<i>D2</i> 008261-15	Water	08/18/20
20	MW-19-081820	008261-16	Water	08/18/20
21	MW-20-081720	008261-17	Water	08/17/20
22	MW-21-081720	008261-18	Water	08/17/20
23	MW-22-081720	<i>D1</i> 008261-19	Water	08/17/20
24	MW-23-081820	008261-20	Water	08/18/20
25	MW-23-081820 <i>REDL</i>	008261-20 <i>REDL</i>	Water	08/18/20
26	MW-24-081820	008261-21	Water	08/18/20
27	MW-25-081820	008261-22	Water	08/18/20
28	MW-26-081820	008261-23	Water	08/18/20
29	DUP-01-081720	<i>D1</i> 008261-24	Water	08/17/20
30	DUP-02-081820	<i>D2</i> 008261-25	Water	08/18/20
31	RB-01-081720	008261-26	Water	08/17/20
32	RB-02-081820	008261-27	Water	08/18/20
33	Trip Blank	008261-28	Water	08/18/20
34	MW-6-081720MS	008261-04MS	Water	08/17/20
35	MW-26-081820MS	008261-23MS	Water	08/18/20
36				
37				
38				

Notes:

1	00-1868 MB				
2	00-1852 MB				
3	00-1853 MB				

## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC/MS VOA (EPA SW846 Method 8260D)

Compound	Concentration (ug/L)		RPD (≤35)	Diff (≤0.70)
	19	30		
V	1.2	1.2		0

Compound	Concentration (ug/L)		RPD (≤35)	Diff
	23	29		
V	540	500	8	
CC	56	52	7	
EE	630	570	10	
RRR	1200	1100	9	
SSS	150	140	7	
MMM	220	200	10	

**VALIDATION FINDINGS WORKSHEET**  
**Overall Assessment of Data**

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Yes  No  N/A  Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound	Finding	Qualifications
		1	V,CC,EE,RRR,SSS	exceed calibration range	DNR
		2	All except V,CC,EE,RRR,SSS	diluted	DNR
		4,8	CC	exceed calibration range	DNR
		5,9	All except CC	diluted	DNR
		15	V	exceed calibration range	DNR
		16	All except V	diluted	DNR
		24	V,CC,EE,RRR	exceed calibration range	DNR
		25	All except V,CC,EE,RRR	diluted	DNR

Comments: \_\_\_\_\_



## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 28, 2020

**Parameters:** Total Petroleum Hydrocarbons as Gasoline

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 008261

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1-081820	008261-01	Water	08/18/20
MW-2-081720	008261-02	Water	08/17/20
MW-4-081820	008261-03	Water	08/18/20
MW-6-081720	008261-04	Water	08/17/20
MW-7-081720	008261-05	Water	08/17/20
MW-8-081820	008261-06	Water	08/18/20
MW-9-081820	008261-07	Water	08/18/20
MW-10-081820	008261-08	Water	08/18/20
MW-11-081720	008261-09	Water	08/17/20
MW-12-081720	008261-10	Water	08/17/20
MW-13-081720	008261-11	Water	08/17/20
MW-14-081820	008261-12	Water	08/18/20
MW-16-081720	008261-13	Water	08/17/20
MW-17-081720	008261-14	Water	08/17/20
MW-18-081820	008261-15	Water	08/18/20
MW-19-081820	008261-16	Water	08/18/20
MW-20-081720	008261-17	Water	08/17/20
MW-21-081720	008261-18	Water	08/17/20
MW-22-081720	008261-19	Water	08/17/20
MW-23-081820	008261-20	Water	08/18/20
MW-24-081820	008261-21	Water	08/18/20
MW-25-081820	008261-22	Water	08/18/20
MW-26-081820	008261-23	Water	08/18/20
DUP-01-081720	008261-24	Water	08/17/20
DUP-02-081820	008261-25	Water	08/18/20
RB-01-081720	008261-26	Water	08/17/20

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
RB-02-081820	008261-27	Water	08/18/20
Trip Blank	008261-28	Water	08/18/20
MW-7-081720DUP	008261-05DUP	Water	08/17/20
MW-24-081820DUP	008261-21DUP	Water	08/18/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

Sample Trip Blank was identified as a rinsate. No contaminants were found.

Samples RB-01-081720 and RB-02-081820 were identified as rinsate blanks. No contaminants were found.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates/Duplicate Sample Analysis**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

Samples MW-18-081820 and DUP-02-081820 and samples MW-22-081720 and DUP-01-081720 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-22-081720	DUP-01-081720		
Gasoline range	14000	13000	7 (≤35)	-

### **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

### **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

### **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
008261**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 008261**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 008261**

No Sample Data Qualified in this SDG

LDC #: 49089B7  
 SDG #: 008261  
 Laboratory: Friedman & Bruya, Inc.

**VALIDATION COMPLETENESS WORKSHEET**

Level II

Date: 09/19/20  
 Page: 1 of 2  
 Reviewer: [Signature]  
 2nd Reviewer: [Signature]

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	PB = 26, 27 TB = 28
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	DUP N/A	(29) (30)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	D = 15 + 25*, 19 + 24
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

\*ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB = Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-1-081820	008261-01	Water	08/18/20
2	MW-2-081720	008261-02	Water	08/17/20
3	MW-4-081820	008261-03	Water	08/18/20
4	MW-6-081720	008261-04	Water	08/17/20
5	MW-7-081720	008261-05	Water	08/17/20
6	MW-8-081820	008261-06	Water	08/18/20
7	MW-9-081820	008261-07	Water	08/18/20
8	MW-10-081820	008261-08	Water	08/18/20
9	MW-11-081720	008261-09	Water	08/17/20
10	MW-12-081720	008261-10	Water	08/17/20
11	MW-13-081720	008261-11	Water	08/17/20
12	MW-14-081820	008261-12	Water	08/18/20
13	MW-16-081720	008261-13	Water	08/17/20
14	MW-17-081720	008261-14	Water	08/17/20
15	MW-18-081820	D <sub>1</sub> 008261-15	Water	08/18/20
16	MW-19-081820	008261-16	Water	08/18/20
17	MW-20-081720	008261-17	Water	08/17/20



**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

18	MW-21-081720		008261-18	Water	08/17/20
19	MW-22-081720	D <sub>2</sub>	008261-19	Water	08/17/20
20	MW-23-081820		008261-20	Water	08/18/20
21	MW-24-081820		008261-21	Water	08/18/20
22	MW-25-081820		008261-22	Water	08/18/20
23	MW-26-081820		008261-23	Water	08/18/20
24	DUP-01-081720	D <sub>2</sub>	008261-24	Water	08/17/20
25	DUP-02-081820	D <sub>1</sub>	008261-25	Water	08/18/20
26	RB-01-081720		008261-26	Water	08/17/20
27	RB-02-081820		008261-27	Water	08/18/20
28	Trip Blank		008261-28	Water	08/18/20
29	MW-7-081720DUP		008261-05DUP	Water	08/17/20
30	MW-24-081820DUP		008261-21DUP	Water	08/18/20
31					
32					
33					

Notes:

1	00-1800 MB				
2	00-1801 MB				

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

Compound	Concentration (ug/L)		RPD ( $\leq 35$ )	Diff
	19	24		
Gasoline Range	14000	13000	7	

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 28, 2020

**Parameters:** Total Petroleum Hydrocarbons as Extractables

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 008261

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1-081820	008261-01	Water	08/18/20
MW-2-081720	008261-02	Water	08/17/20
MW-4-081820	008261-03	Water	08/18/20
MW-6-081720	008261-04	Water	08/17/20
MW-7-081720	008261-05	Water	08/17/20
MW-8-081820	008261-06	Water	08/18/20
MW-9-081820	008261-07	Water	08/18/20
MW-10-081820	008261-08	Water	08/18/20
MW-11-081720	008261-09	Water	08/17/20
MW-12-081720	008261-10	Water	08/17/20
MW-13-081720	008261-11	Water	08/17/20
MW-14-081820	008261-12	Water	08/18/20
MW-16-081720	008261-13	Water	08/17/20
MW-17-081720	008261-14	Water	08/17/20
MW-18-081820	008261-15	Water	08/18/20
MW-19-081820	008261-16	Water	08/18/20
MW-20-081720	008261-17	Water	08/17/20
MW-21-081720	008261-18	Water	08/17/20
MW-22-081720	008261-19	Water	08/17/20
MW-23-081820	008261-20	Water	08/18/20
MW-24-081820	008261-21	Water	08/18/20
MW-25-081820	008261-22	Water	08/18/20
MW-26-081820	008261-23	Water	08/18/20
DUP-01-081720	008261-24	Water	08/17/20
DUP-02-081820	008261-25	Water	08/18/20
RB-01-081720	008261-26	Water	08/17/20
RB-02-081820	008261-27	Water	08/18/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## II. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Stage 2A validation.

## III. Continuing Calibration

Continuing calibration data were not reviewed for Stage 2A validation.

## IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## V. Field Blanks

Samples RB-01-081720 and RB-02-081820 were identified as rinsate blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
RB-01-081720	08/17/20	Diesel range (C10-C25)	67 ug/L	MW-2-081720 MW-6-081720 MW-7-081720 MW-11-081720 MW-12-081720 MW-13-081720 MW-16-081720 MW-17-081720 MW-20-081720 MW-21-081720 MW-22-081720 DUP-01-081720

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks.

## VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## IX. Field Duplicates

Samples MW-18-081820 and DUP-02-081820 and samples MW-22-081720 and DUP-01-081720 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-18-081820	DUP-02-081820		
Diesel range (C10-C25)	50U	53	-	3 (≤50)

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)
	MW-22-081720	DUP-01-081720		
Diesel range (C10-C25)	2500	3100	21 (≤35)	-

## X. Compound Quantitation

Raw data were not reviewed for Stage 2A validation.

## XI. Target Compound Identifications

Raw data were not reviewed for Stage 2A validation.

## XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary -  
SDG 008261**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data  
Qualification Summary - SDG 008261**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification  
Summary - SDG 008261**

No Sample Data Qualified in this SDG



LDC #: 49089B8

**VALIDATION COMPLETENESS WORKSHEET**

Date: 08/19/20

SDG #: 008261

Level II

Page: 1 of 2

Laboratory: Friedman &amp; Bruya, Inc.

Reviewer: LT

2nd Reviewer: [Signature]

METHOD: GC TPH as Diesel (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	SW	R = 26, 27*
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LC810
IX.	Field duplicates	SW	D = 19+24, 15+25
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

\*ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-1-081820	008261-01	Water	08/18/20
2	MW-2-081720	008261-02	Water	08/17/20
3	MW-4-081820	008261-03	Water	08/18/20
4	MW-6-081720	008261-04	Water	08/17/20
5	MW-7-081720	008261-05	Water	08/17/20
6	MW-8-081820	008261-06	Water	08/18/20
7	MW-9-081820	008261-07	Water	08/18/20
8	MW-10-081820	008261-08	Water	08/18/20
9	MW-11-081720	008261-09	Water	08/17/20
10	MW-12-081720	008261-10	Water	08/17/20
11	MW-13-081720	008261-11	Water	08/17/20
12	MW-14-081820	008261-12	Water	08/18/20
13	MW-16-081720	008261-13	Water	08/17/20
14	MW-17-081720	008261-14	Water	08/17/20
15	MW-18-081820	D <sub>2</sub> 008261-15	Water	08/18/20
16	MW-19-081820	008261-16	Water	08/18/20
17	MW-20-081720	008261-17	Water	08/17/20

**METHOD:** GC TPH as Diesel (NWTPH-Dx)

18	MW-21-081720		008261-18	Water	08/17/20
19	MW-22-081720	D <sub>1</sub>	008261-19	Water	08/17/20
20	MW-23-081820		008261-20	Water	08/18/20
21	MW-24-081820		008261-21	Water	08/18/20
22	MW-25-081820		008261-22	Water	08/18/20
23	MW-26-081820		008261-23	Water	08/18/20
24	DUP-01-081720	D <sub>1</sub>	008261-24	Water	08/17/20
25	DUP-02-081820	D <sub>2</sub>	008261-25	Water	08/18/20
26	RB-01-081720		008261-26	Water	08/17/20
27	RB-02-081820		008261-27	Water	08/18/20
28					
29					
30					

Notes:

1	00-1892 MB				
2	00-1893 MB				

**VALIDATION FINDINGS WORKSHEET**  
**Field Blanks**

**METHOD:** X GC    HPLC

N N/A Were field blanks identified in this SDG?

N N/A Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/L

Sampling date: 08/17/20

Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank  
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: RB

Associated Samples: 2,4,5,9-11,13,14,17-19,24 > CRQL and RB

Compound	Blank ID	Blank ID	Sample Identification							
	26									
Diesel Range (C10-C25)	67									

Blank units: \_\_\_\_\_ Associated sample units: \_\_\_\_\_

Sampling date: \_\_\_\_\_

Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank  
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: \_\_\_\_\_

Associated Samples: \_\_\_\_\_

Compound	Blank ID	Blank ID	Sample Identification							

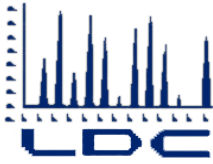
CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:  
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC TPHE (NWTPH-Dx)

Compound	Concentration (ug/L)		RPD (≤35)	Diff
	19	24		
Diesel Range (C10-C25)	2500	3100	21	

Compound	Concentration (ug/L)		RPD (≤35)	Diff (≤50)
	15	25		
Diesel Range (C10-C25)	50U	53		3



# LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Aspect Consulting LLC  
701 Second Ave., Suite 550  
Seattle, WA 98104  
ATTN: Jason Yabandeh  
[Jyabandeh@aspectconsulting.com](mailto:Jyabandeh@aspectconsulting.com)

September 4, 2020

SUBJECT: Aloha Café, Data Validation

Dear Mr. Yabandeh,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 17, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

## **LDC Project #48872:**

<b><u>SDG #</u></b>	<b><u>Fraction</u></b>
007493, 007523 008076	Volatiles, Total Petroleum Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as Extractables

The data validation was performed under Stage 2A guidelines. The analyses were validated using the following documents, as applicable to each method:

- Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan, February 2019
- USEPA Region 2 Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C, SOP HW-24, Revision 4; October 2014
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review, January 2017
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink  
[crink@lab-data.com](mailto:crink@lab-data.com)  
Project Manager/Senior Chemist



## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 3, 2020

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 007493

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-22-10	007493-02	Soil	07/28/20
MW-22-12.5	007493-03	Soil	07/28/20
MW-22-16	007493-04	Soil	07/28/20
MW-22-25	007493-05	Soil	07/28/20
MW-23-8	007493-06	Soil	07/28/20
MW-23-12.5	007493-07	Soil	07/28/20
MW-23-18	007493-09	Soil	07/28/20
MW-23-25	007493-10	Soil	07/28/20
MW-21-5	007493-11	Soil	07/28/20
MW-21-10	007493-12	Soil	07/28/20
MW-21-17.5	007493-13	Soil	07/28/20
B-11-5.5	007493-15	Soil	07/28/20
B-11-10.5	007493-16	Soil	07/28/20
B-11-15	007493-17	Soil	07/28/20
MW-26-12.5	007493-22	Soil	07/29/20
MW-27-10.5	007493-25	Soil	07/29/20
MW-24-10.5	007493-29	Soil	07/29/20
DUP-3	007493-32	Soil	07/29/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.



The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

No field blanks were identified in this SDG.

## **VII. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VIII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **X. Field Duplicates**

Samples MW-27-10.5 and DUP-3 were identified as field duplicates. No results were detected in any of the samples.

## **XI. Internal Standards**

Internal standard data were not reviewed for Stage 2A validation.

## **XII. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XIII. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XIV. System Performance**

Raw data were not reviewed for Stage 2A validation.

## **XV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 007493**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 007493**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 007493**

No Sample Data Qualified in this SDG

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	Non diam
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 16 + 18
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1-18
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB=Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-22-10	007493-02	Soil	07/28/20
2	MW-22-12.5	007493-03	Soil	07/28/20
3	MW-22-16	007493-04	Soil	07/28/20
4	MW-22-25	007493-05	Soil	07/28/20
5	MW-23-8	007493-06	Soil	07/28/20
6	MW-23-12.5	007493-07	Soil	07/28/20
7	MW-23-18	007493-09	Soil	07/28/20
8	MW-23-25	007493-10	Soil	07/28/20
9	MW-21-5	007493-11	Soil	07/28/20
10	MW-21-10	007493-12	Soil	07/28/20
11	MW-21-17.5	007493-13	Soil	07/28/20
12	B-11-5.5	007493-15	Soil	07/28/20
13	B-11-10.5	007493-16	Soil	07/28/20
14	B-11-15	007493-17	Soil	07/28/20

LDC #: 48872A1a

### VALIDATION COMPLETENESS WORKSHEET

Date: 09/02/20

SDG #: 007493

Level II

Page: 2 of 2

Laboratory: Friedman & Bruya, Inc.

Reviewer: LS

2nd Reviewer: [Signature]

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260D)

	Client ID	Lab ID	Matrix	Date
15	MW-26-12.5	007493-22	Soil	07/29/20
16	MW-27-10.5	D · 007493-25	Soil	07/29/20
17	MW-24-10.5	· 007493-29	Soil	07/29/20
18	DUP-3	D · 007493-32	Soil	07/29/20
19				
20				
21				

Notes:

1	00-1719 MB				
2	00-1688 -MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 3, 2020

**Parameters:** Total Petroleum Hydrocarbons as Gasoline

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 007493

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-22-10	007493-02	Soil	07/28/20
MW-22-12.5	007493-03	Soil	07/28/20
MW-22-16	007493-04	Soil	07/28/20
MW-22-25	007493-05	Soil	07/28/20
MW-23-8	007493-06	Soil	07/28/20
MW-23-12.5	007493-07	Soil	07/28/20
MW-23-18	007493-09	Soil	07/28/20
MW-23-25	007493-10	Soil	07/28/20
MW-21-5	007493-11	Soil	07/28/20
MW-21-10	007493-12	Soil	07/28/20
MW-21-17.5	007493-13	Soil	07/28/20
B-11-5.5	007493-15	Soil	07/28/20
B-11-10.5	007493-16	Soil	07/28/20
B-11-15	007493-17	Soil	07/28/20
MW-26-12.5	007493-22	Soil	07/29/20
MW-27-10.5	007493-25	Soil	07/29/20
MW-24-10.5	007493-29	Soil	07/29/20
DUP-3	007493-32	Soil	07/29/20
MW-22-10DUP	007493-02DUP	Soil	07/28/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.



The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates/Duplicate Sample Analysis**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

Samples MW-27-10.5 and DUP-3 were identified as field duplicates. No results were detected in any of the samples.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
007493**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 007493**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 007493**

No Sample Data Qualified in this SDG

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N/A	(19, 20) (19)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 16 + 18
X.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1-18
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB = Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-22-10	007493-02	Soil	07/28/20
2	MW-22-12.5	007493-03	Soil	07/28/20
3	MW-22-16	007493-04	Soil	07/28/20
4	MW-22-25	007493-05	Soil	07/28/20
5	MW-23-8	007493-06	Soil	07/28/20
6	MW-23-12.5	007493-07	Soil	07/28/20
7	MW-23-18	007493-09	Soil	07/28/20
8	MW-23-25	007493-10	Soil	07/28/20
9	MW-21-5	007493-11	Soil	07/28/20
10	MW-21-10	007493-12	Soil	07/28/20
11	MW-21-17.5	007493-13	Soil	07/28/20
12	B-11-5.5	007493-15	Soil	07/28/20
13	B-11-10.5	007493-16	Soil	07/28/20
14	B-11-15	007493-17	Soil	07/28/20
15	MW-26-12.5	007493-22	Soil	07/29/20
16	MW-27-10.5	D. 007493-25	Soil	07/29/20
17	MW-24-10.5	007493-29	Soil	07/29/20

LDC #: 48872A7 **VALIDATION COMPLETENESS WORKSHEET**  
 SDG #: 007493 Level II  
 Laboratory: Friedman & Bruya, Inc.

Date: 07/02/20  
 Page: 2 of 2  
 Reviewer: BT  
 2nd Reviewer: [Signature]

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

	Client ID	Lab ID	Matrix	Date
18	DUP-3	007493-32	Soil	07/29/20
19	MW-22-10MS <i>DUP</i>	007493-02MS <i>DUP</i>	Soil	07/28/20
20	MW-22-10MSD	007493-02MSD	Soil	07/28/20
21				
22				
23				

Notes:

1	00-1395 MB				
2	00-1390 MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 3, 2020

**Parameters:** Total Petroleum Hydrocarbons as Extractables

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 007493

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-22-10	007493-02	Soil	07/28/20
MW-22-12.5	007493-03	Soil	07/28/20
MW-22-16	007493-04	Soil	07/28/20
MW-22-25	007493-05	Soil	07/28/20
MW-23-8	007493-06	Soil	07/28/20
MW-23-12.5	007493-07	Soil	07/28/20
MW-23-18	007493-09	Soil	07/28/20
MW-23-25	007493-10	Soil	07/28/20
MW-21-5	007493-11	Soil	07/28/20
MW-21-10	007493-12	Soil	07/28/20
MW-21-17.5	007493-13	Soil	07/28/20
B-11-5.5	007493-15	Soil	07/28/20
B-11-10.5	007493-16	Soil	07/28/20
B-11-15	007493-17	Soil	07/28/20
MW-26-12.5	007493-22	Soil	07/29/20
MW-27-10.5	007493-25	Soil	07/29/20
MW-24-10.5	007493-29	Soil	07/29/20
DUP-3	007493-32	Soil	07/29/20
MW-22-16MS	007493-04MS	Soil	07/28/20
MW-22-16MSD	007493-04MSD	Soil	07/28/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.



The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

Samples MW-27-10.5 and DUP-3 were identified as field duplicates. No results were detected in any of the samples.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary -  
SDG 007493**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data  
Qualification Summary - SDG 007493**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification  
Summary - SDG 007493**

No Sample Data Qualified in this SDG

LDC #: 48872A8

**VALIDATION COMPLETENESS WORKSHEET**

SDG #: 007493

Level II

Laboratory: Friedman &amp; Bruya, Inc.

Date: 09/02/20

Page: 1 of 2

Reviewer: LT2nd Reviewer: [Signature]METHOD: GC TPH as Diesel (NWTPH-Dx)  
TPH E

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	(19,20)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D=16+18
X.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1-18
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-22-10	007493-02	Soil	07/28/20
2	MW-22-12.5	007493-03	Soil	07/28/20
3	MW-22-16	007493-04	Soil	07/28/20
4	MW-22-25	007493-05	Soil	07/28/20
5	MW-23-8	007493-06	Soil	07/28/20
6	MW-23-12.5	007493-07	Soil	07/28/20
7	MW-23-18	007493-09	Soil	07/28/20
8	MW-23-25	007493-10	Soil	07/28/20
9	MW-21-5	007493-11	Soil	07/28/20
10	MW-21-10	007493-12	Soil	07/28/20
11	MW-21-17.5	007493-13	Soil	07/28/20
12	B-11-5.5	007493-15	Soil	07/28/20
13	B-11-10.5	007493-16	Soil	07/28/20
14	B-11-15	007493-17	Soil	07/28/20
15	MW-26-12.5	007493-22	Soil	07/29/20
16	MW-27-10.5	D 007493-25	Soil	07/29/20
17	MW-24-10.5	007493-29	Soil	07/29/20

LDC #: 48872A8 **VALIDATION COMPLETENESS WORKSHEET**  
 SDG #: 007493 Level II  
 Laboratory: Friedman & Bruya, Inc.

Date: 08/12/20  
 Page: 2 of 2  
 Reviewer: [Signature]  
 2nd Reviewer: [Signature]

**METHOD:** GC TPH as Diesel (NWTPH-Dx)  
 TPE

	Client ID	Lab ID	Matrix	Date
18.	DUP-3 D	007493-32	Soil	07/29/20
19	MW-22-16MS	007493-04MS	Soil	07/28/20
20	MW-22-16MSD	007493-04MSD	Soil	07/28/20
21				
22				
23				

Notes:

1	00-1762 MB				
2	00-1713 MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 3, 2020

**Parameters:** Volatiles

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 007523

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-20-5'	007523-01	Soil	07/30/20
MW-20-8'	007523-02	Soil	07/30/20
MW-20-13'	007523-04	Soil	07/30/20
MW-25-8'	007523-12	Soil	07/30/20
B-10-12.5	007523-23	Soil	07/30/20
MW-21A-2.5'	007523-29	Soil	07/30/20
MW-22A-2.5'	007523-30	Soil	07/30/20
MW-22B-5'	007523-31	Soil	07/30/20
DUP-4	007523-32	Soil	07/30/20
Trip Blank	007523-34	Water	07/30/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.



The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VII. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VIII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **X. Field Duplicates**

Samples MW-20-8' and DUP-4 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/Kg)		RPD (Limits)	Difference (Limits)	Flag	A or P
	MW-20-8'	DUP-4				
Naphthalene	0.065	0.098	-	0.033 ( $\leq 0.10$ )	-	-

#### **XI. Internal Standards**

Internal standard data were not reviewed for Stage 2A validation.

#### **XII. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

#### **XIII. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

#### **XIV. System Performance**

Raw data were not reviewed for Stage 2A validation.

#### **XV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 007523**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 007523**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 007523**

No Sample Data Qualified in this SDG

LDC #: 48872B1a

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/02/20

SDG #: 007523

Level II

Page: 6 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 10
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	Non client
IX.	Laboratory control samples	A	LC5/D
X.	Field duplicates	SW	D = 2 + 9
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1-g
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-20-5'	007523-01	Soil	07/30/20
2	MW-20-8'	D 007523-02	Soil	07/30/20
3	MW-20-13'	007523-04	Soil	07/30/20
4	MW-25-8'	007523-12	Soil	07/30/20
5	B-10-12.5	007523-23	Soil	07/30/20
6	MW-21A-2.5'	007523-29	Soil	07/30/20
7	MW-22A-2.5'	007523-30	Soil	07/30/20
8	MW-22B-5'	007523-31	Soil	07/30/20
9	DUP-4	D 007523-32	Soil	07/30/20
10	Trip Blank	007523-34	Water	07/30/20
11				
12	1. 00-1718 MB			
13	2. 00-1684 MB			
14				

## TARGET COMPOUND WORKSHEET

### METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3-Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates****METHOD:** GC/MS VOA (EPA SW846 Method 8260D)

Compound	Concentration (mg/kg)		RPD ( $\leq 35$ )	Diff ( $\leq 0.10$ )
	2	9		
MMM	0.065	0.098		0.033

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 3, 2020

**Parameters:** Total Petroleum Hydrocarbons as Gasoline

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 007523

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-20-5'	007523-01	Soil	07/30/20
MW-20-8'	007523-02	Soil	07/30/20
MW-20-13'	007523-04	Soil	07/30/20
MW-25-8'	007523-12	Soil	07/30/20
B-10-12.5	007523-23	Soil	07/30/20
MW-21A-2.5'	007523-29	Soil	07/30/20
MW-22A-2.5'	007523-30	Soil	07/30/20
MW-22B-5'	007523-31	Soil	07/30/20
DUP-4	007523-32	Soil	07/30/20
Trip Blank	007523-34	Water	07/30/20



## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## II. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Stage 2A validation.

## III. Continuing Calibration

Continuing calibration data were not reviewed for Stage 2A validation.

## IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## V. Field Blanks

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## IX. Field Duplicates

Samples MW-20-8' and DUP-4 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/Kg)		RPD (Limits)	Difference (Limits)	Flag	A or P
	MW-20-8'	DUP-4				
Gasoline range	5U	9.2	-	4.2 (≤10)	-	-

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
007523**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 007523**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 007523**

No Sample Data Qualified in this SDG

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB=10
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Non client
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	D = 2 + 9
X.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1.9
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank  
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:  
 SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	MW-20-5'	007523-01	Soil	07/30/20
2	MW-20-8'	D 007523-02	Soil	07/30/20
3	MW-20-13'	007523-04	Soil	07/30/20
4	MW-25-8'	007523-12	Soil	07/30/20
5	B-10-12.5	007523-23	Soil	07/30/20
6	MW-21A-2.5'	007523-29	Soil	07/30/20
7	MW-22A-2.5'	007523-30	Soil	07/30/20
8	MW-22B-5'	007523-31	Soil	07/30/20
9	DUP-4	D 007523-32	Soil	07/30/20
10	Trip Blank	007523-34	Water	07/30/20
11				
12				
13				

Notes:

1	00-1392 MB				
2	00-1393 MB				

**VALIDATION FINDINGS WORKSHEET**  
**Field Duplicates**

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

Compound	Concentration (mg/kg)		RPD (≤35)	Diff (≤10)
	2	9		
Gasoline Range	5U	9.2		4.2

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 3, 2020

**Parameters:** Total Petroleum Hydrocarbons as Extractables

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 007523

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
MW-20-5'	007523-01	Soil	07/30/20
MW-20-8'	007523-02	Soil	07/30/20
MW-20-13'	007523-04	Soil	07/30/20
MW-25-8'	007523-12	Soil	07/30/20
B-10-12.5	007523-23	Soil	07/30/20
MW-21A-2.5'	007523-29	Soil	07/30/20
MW-22A-2.5'	007523-30	Soil	07/30/20
MW-22B-5'	007523-31	Soil	07/30/20
DUP-4	007523-32	Soil	07/30/20
MW-20-5'MS	007523-01MS	Soil	07/30/20
MW-20-5'MSD	007523-01MSD	Soil	07/30/20



## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

Samples MW-20-8' and DUP-4 were identified as field duplicates. No results were detected in any of the samples.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary -  
SDG 007523**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data  
Qualification Summary - SDG 007523**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification  
Summary - SDG 007523**

No Sample Data Qualified in this SDG

LDC #: 48872B8

**VALIDATION COMPLETENESS WORKSHEET**

Date: 09/22/20

SDG #: 007523

Level II

Page: 1 of 1

Laboratory: Friedman & Bruya, Inc.

Reviewer: LS

2nd Reviewer: [Signature]

**METHOD:** GC TPH as Diesel (NWTPH-Dx) <sup>TPHE</sup>

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	(10,11)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 2 + 9
X.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 19
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW-20-5'	007523-01	Soil	07/30/20
2	MW-20-8'	D 007523-02	Soil	07/30/20
3	MW-20-13'	007523-04	Soil	07/30/20
4	MW-25-8'	007523-12	Soil	07/30/20
5	B-10-12.5	007523-23	Soil	07/30/20
6	MW-21A-2.5'	007523-29	Soil	07/30/20
7	MW-22A-2.5'	007523-30	Soil	07/30/20
8	MW-22B-5'	007523-31	Soil	07/30/20
9	DUP-4	D 007523-32	Soil	07/30/20
10	MW-20-5'MS	007523-01MS	Soil	07/30/20
11	MW-20-5'MSD	007523-01MSD	Soil	07/30/20
12				
13				

Notes:

1	00-1754 MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 3, 2020  
**Parameters:** Volatiles  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 008076

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
B-09-2.5	008076-01	Soil	08/05/20
B-09-6	008076-03	Soil	08/05/20
Trip Blank	008076-06	Water	08/05/20
B-09-2.5MS	008076-01MS	Soil	08/05/20
B-09-2.5MSD	008076-01MSD	Soil	08/05/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019), the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-Method 8260B and 8260C*, SOP HW-24, Revision 4 (October 2014), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.



The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. GC/MS Instrument Performance Check**

Instrument performance check data were not reviewed for Stage 2A validation.

## **III. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **IV. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **V. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **VI. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VII. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VIII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **IX. Laboratory Control Samples**

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **X. Field Duplicates**

No field duplicates were identified in this SDG.

## **XI. Internal Standards**

Internal standard data were not reviewed for Stage 2A validation.

## **XII. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XIII. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XIV. System Performance**

Raw data were not reviewed for Stage 2A validation.

## **XV. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café**  
**Volatiles - Data Qualification Summary - SDG 008076**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 008076**

No Sample Data Qualified in this SDG

**Aloha Café**  
**Volatiles - Field Blank Data Qualification Summary - SDG 008076**

No Sample Data Qualified in this SDG

LDC #: 48872C1a

**VALIDATION COMPLETENESS WORKSHEET**

SDG #: 008076

Level II

Laboratory: Friedman & Bruya, Inc.

Date: 8/15/20

Page: 1 of 1

Reviewer: LT

2nd Reviewer: [Signature]

**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	(4,5)
IX.	Laboratory control samples	A	LC510
X.	Field duplicates	N	
XI.	Internal standards	N	
XII.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1.2
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

SB=Source blank  
OTHER:

	Client ID	Lab ID	Matrix	Date
1	B-09-2.5	008076-01	Soil	08/15/20
2	B-09-6	008076-03	Soil	08/15/20
3	Trip Blank	008076-06	Water	08/15/20
4	B-09-2.5MS	008076-01MS	Soil	08/15/20
5	B-09-2.5MSD	008076-01MSD	Soil	08/15/20
6				
7				
8				
9				

Notes:

1	00-1728 MB				
2	00-1729 MB				

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** Aloha Café  
**LDC Report Date:** September 3, 2020  
**Parameters:** Total Petroleum Hydrocarbons as Gasoline  
**Validation Level:** Stage 2A  
**Laboratory:** Friedman & Bruya, Inc.  
**Sample Delivery Group (SDG):** 008076

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
B-09-2.5	008076-01	Soil	08/05/20
B-09-6	008076-03	Soil	08/05/20
Trip Blank	008076-06	Water	08/05/20
B-09-2.5DUP	008076-01DUP	Soil	08/05/20

## Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.



## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

Sample Trip Blank was identified as a trip blank. No contaminants were found.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates/Duplicate Sample Analysis**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.

## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG  
008076**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification  
Summary - SDG 008076**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification  
Summary - SDG 008076**

No Sample Data Qualified in this SDG

**METHOD:** GC TPH as Gasoline (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB= 3
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates / DUP	N/A	(4,5) (4)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1,2
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable      ND = No compounds detected      D = Duplicate      SB=Source blank  
 N = Not provided/applicable      R = Rinsate      TB = Trip blank      OTHER:  
 SW = See worksheet      FB = Field blank      EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	B-09-2.5	008076-01	Soil	08/15/20
2	B-09-6	008076-03	Soil	08/15/20
3	Trip Blank	008076-06	Water	08/15/20
4	B-09-2.5MS DUP	008076-01MS DUP	Soil	08/15/20
5	B-09-2.5MSD	008076-01MSD	Soil	08/15/20
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Notes:

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2	00-1781MB				

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Aloha Café

**LDC Report Date:** September 3, 2020

**Parameters:** Total Petroleum Hydrocarbons as Extractables

**Validation Level:** Stage 2A

**Laboratory:** Friedman & Bruya, Inc.

**Sample Delivery Group (SDG):** 008076

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>
B-09-2.5	008076-01	Soil	08/05/20
B-09-6	008076-03	Soil	08/05/20
B-09-2.5MS	008076-01MS	Soil	08/05/20
B-09-2.5MSD	008076-01MSD	Soil	08/05/20

## **Introduction**

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Appendix E, CEMC Review Draft, Sampling and Analysis/Quality Assurance Project Plan (February 2019) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by NWTPH-Dx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U (Non-detected): The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- UJ (Non-detected estimated): The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R (Rejected): The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- X The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- DNR (Do Not Report): Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

## **I. Sample Receipt and Technical Holding Times**

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

## **II. Initial Calibration and Initial Calibration Verification**

Initial calibration data were not reviewed for Stage 2A validation.

## **III. Continuing Calibration**

Continuing calibration data were not reviewed for Stage 2A validation.

## **IV. Laboratory Blanks**

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

## **V. Field Blanks**

No field blanks were identified in this SDG.

## **VI. Surrogates**

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

## **VIII. Laboratory Control Samples**

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

## **IX. Field Duplicates**

No field duplicates were identified in this SDG.

## **X. Compound Quantitation**

Raw data were not reviewed for Stage 2A validation.



## **XI. Target Compound Identifications**

Raw data were not reviewed for Stage 2A validation.

## **XII. Overall Assessment of Data**

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary -  
SDG 008076**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data  
Qualification Summary - SDG 008076**

No Sample Data Qualified in this SDG

**Aloha Café  
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification  
Summary - SDG 008076**

No Sample Data Qualified in this SDG

LDC #: 48872C8  
 SDG #: 008076  
 Laboratory: Friedman & Bruya, Inc.

**VALIDATION COMPLETENESS WORKSHEET**

Level II

Date: 09/02/20

Page: 1 of 1

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

**METHOD:** GC TPH as Diesel (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	N/N	
III.	Continuing calibration	N	
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	(3,4)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	Dry weight basis = 1,2
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

SB=Source blank  
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	B-09-2.5	008076-01	Soil	08/15/20
2	B-09-6	008076-03	Soil	08/15/20
3	B-09-2.5MS	008076-01MS	Soil	08/15/20
4	B-09-2.5MSD	008076-01MSD	Soil	08/15/20
5				
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Notes:

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## **APPENDIX D**

### **Sampling and Analysis Plan / Quality Assurance Project Plan**

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D-2	QC Parameters Associated with PARCCS
D-3	Measurement Quality Objectives for Water Samples, Friedman and Bruya, Inc.
D-4	Measurement Quality Objectives for Soil Samples, Friedman and Bruya, Inc.

## List of Attachments

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D-1	Aspect Field Forms
D-2	Aspect Field General Procedures

## D.1. Introduction

This Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP) has been prepared for the of the Texaco Strickland Cleanup Site at 6808 196th Street SW in Lynnwood, Washington (herein referred to as the Site) as Appendix D of the Interim Action Work Plan (IAWP). The purpose of this SAP/QAPP is to ensure that field sample collection, handling, and laboratory analysis will generate data to meet project-specific data quality objectives (DQOs) in accordance with the Model Toxics Control Act (MTCA) requirements (WAC 173-340-350). This SAP/QAPP is comprised of two major components: a Field Sampling Plan (FSP) defining field protocols and a QAPP defining analytical protocols.

Environmental investigation activities to be performed under this SAP/QAPP are on behalf of two parties, Strickland Real Estate, LLC (Strickland) and Chevron Environmental Management Company (CEMC) according to the Agreed Order 14315. The Field Sampling Plan (Section D.2) and Quality Assurance Project Plan (Section D.3) are presented below.

## D.2. Field Sampling Plan

### D.2.1. Soil Sampling

---

Soil performance monitoring associated with the interim cleanup action will include laboratory analysis of both excavation sidewall and excavation bottom samples. The distances between soil samples will not exceed 20 feet laterally and 5 feet vertically, and closer sample spacing may be necessary. The samples will be submitted for laboratory analysis of parameters described in the QAPP.

The soldier piles of the shoring system will be used as a reference point in the excavation areas for setting up a sampling grid. For performance monitoring of the assumed excavation bottoms, Aspect will establish a systematic 20-foot sampling grid. Within each grid area, Aspect will field-screen the soil headspace vapor for volatile organic chemicals (VOCs) using a photoionization detector (PID) for evidence of contamination, and samples will be collected for laboratory analysis described in the QAPP. Analytes include gasoline- and diesel-range hydrocarbons, benzene, toluene, ethylbenzene, and total xylenes (BTEX) based on field screening observations at the planned bottom elevations, as follows:

- If there are no field screening indicators of contamination within the entire grid area, a single soil sample will be collected for analysis from the approximate center of the square area (one sample per maximum 20-foot by 20-foot square) to document the remediation levels (Table B) have been met at depth.

## ASPECT CONSULTING

- If field screening indications of contamination are observed at the planned excavation limit, the area will be immediately overexcavated by approximately 2 feet deep, and field screened.<sup>1</sup>
- This overexcavation process will be repeated until there are no field indications of contamination, or until the maximum overexcavation depth is reached, whichever occurs first. Then excavation performance bottom samples will be collected as indicated above.

Aspect will subcontract with a Washington-licensed resource protection well driller to complete monitoring well installations in accordance with requirements of Chapter 173-160 WAC.

The following subsections detail the procedures for soil sample collection, handling, identification, and sample quality assurance/quality control (QA/QC).

### ***D.2.1.1. Soil Sample Collection and Handling Procedures***

Aspect field personnel, under the direction of a licensed geologist or engineer, will oversee the excavation activities. The field representative will visually classify the soils in accordance with ASTM International (ASTM) Method D2488 and record soil descriptions, field screening results, and other relevant details (e.g., staining, debris, odors, etc.) in the field notes. If samples are collected for chemical analysis, the sample ID and depth will also be recorded in the field notes.

The performance monitoring soil samples will be discrete grab samples of soil collected from within the excavation using the excavator bucket, or, if safely accessible to a worker, by hand using a decontaminated stainless-steel spoon or disposable spoon.

#### **Headspace Vapor**

Samples will be field screened to obtain a relative estimate of its total VOC concentration. This field screening will be performed by measuring the concentration of VOCs in the headspace above the sample in a closed container using a photoionization detector (PID). The field screening will be performed by placing the soil into a sealed plastic bag (e.g., Ziploc), disaggregating the soil by hand, allowing the sample to equilibrate, and then opening the bag slightly, inserting the instrument probe, and measuring the VOC concentration in the headspace. If the ambient temperature is below 65°F, the sample will be warmed (e.g., in a heated vehicle) before the headspace measurement is made.

The PID will be calibrated daily in the field using the manufacturer's calibration standard (100 parts per million [ppm] isobutylene gas). A calibration test, referred to as a "bump test," will be performed as necessary in the field using the calibration gas to check that the PID remains properly calibrated throughout the day.

#### **Sheen Testing**

Sheen testing will be conducted by placing soil in a pan of water and observing the water surface for signs of sheen. Sheens are classified as follows:

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<sup>1</sup> Preliminary samples will be dual purposed; to document soil quality at the base of the planned excavation and to profile the stockpile as described above.



- **No Sheen:** No visible sheen on the surface of the water.
- **Slight Sheen:** Light, colorless, dull sheen. The spread is irregular and dissipates rapidly.
- **Moderate Sheen:** Light to heavy sheen, may show color/iridescence. The spread is irregular to flowing. Few remaining areas of no sheen are evident on the water surface.
- **Heavy Sheen:** Heavy sheen with color/iridescence. The spread is rapid and the entire water surface may be covered with sheen.

### **Sample Collection for Laboratory Analysis**

All performance monitoring soil samples to be submitted for gasoline-range total petroleum hydrocarbons (by Ecology Method NWTPH-Gx) and VOC analyses (by EPA Methods 8021 or 8260C) and will be collected in accordance with EPA Method 5035A. The soil aliquot for these analyses will be collected using a laboratory-supplied modified disposable plastic syringe from the bucket as required by the EPA Method 5035A and placed in pre-weighed laboratory-supplied vials.

For all other analyses, the performance monitoring soil samples will be removed from the bucket using a stainless-steel spoon and placed in a stainless-steel bowl for homogenization with the stainless-steel spoon. Gravel-sized material greater than approximately 0.5 inches will be removed from the sample during mixing. A representative aliquot of the homogenized soil will be placed into certified-clean jars supplied by the analytical laboratory.

QC soil samples (e.g., field duplicates and trip blanks) will be collected at the respective frequencies prescribed in Section D.3.5 of the QAPP.

#### ***D.2.1.2. Soil Sample Identification***

Each soil sample collected for chemical analysis will be assigned a unique sample identification number including the location ID and elevation from which the sample was collected. Location IDs will be determined using the shoring piles as reference. Samples will be named using the following conventions:

- **Bottom samples:** B – east/west pile number – north/south pile number – elevation (e.g., B-P08-P23-425)
- **Sidewall samples:** SW – pile number – elevation (e.g., SW-P08-435)

## **D.2.2. Groundwater Sampling**

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### ***D.2.2.1. Monitoring Well Installation***

Monitoring wells are planned to be installed via hollow-stem auger methods. Soil samples from borings will be collected in stainless steel split spoon samplers using an autohammer prior to the installation of the monitoring well. Soils will be logged and sampled, and an appropriate well screen interval will be selected. Once the appropriate depth has been reached, the well will be constructed in accordance with Washington Administrative Code (WAC) 173-160. As the augers are removed from the boring, the

annulus of the well will be filled with sand and bentonite, as appropriate. Wells will consist of 2-inch-diameter, Schedule 40 PVC blank casing and 0.010-inch slot (10-slot) well screen. Well screens will be 15 feet in length to accommodate seasonal groundwater fluctuations. With documented depths to water of 7 to 15 feet below grade, the well screens are planned to be set from 5 to 20 feet below grade, contingent on field observations. All wells will be completed with an appropriate protective seal and secured with locking well caps.

#### ***D.2.2.2. Monitoring Well Development***

Following installation, each monitoring well will be developed to remove fine-grained material from inside the well casing and filter pack, and to improve hydraulic communication between the well screen and the surrounding water-bearing formation. Wells containing light non-aqueous phase liquid (LNAPL) will be developed by hand using a bailer. All other wells will be developed using a 12-volt submersible pump. During development, the pump will be surged along the entire length of submerged well screen. Each well will be developed until visual turbidity is reduced to minimal levels, or until a maximum of 10 casing volumes of water has been removed. Field parameters will be recorded on a Well Development Record form. Groundwater produced during well development will be collected and stored at the Site in sealed and labeled 55-gallon drums pending profiling and disposal.

#### ***D.2.2.3. Groundwater Sampling Procedure***

Groundwater samples will be collected and handled in accordance with the procedures described below:

1. The locking well cap will be removed, and the presence of LNAPL will be evaluated in all wells after installation. The depth-to-LNAPL and/or depth-to-water will be measured from the surveyed location to the nearest 0.01 foot using an electronic oil/water interface probe. The oil/water interface probe will be decontaminated between wells.
2. Each monitoring well will be purged at a low-flow rate less than 0.5 liter per minute (Puls and Barcelona, 1996; Ecology, 2012) using a peristaltic pump and dedicated tubing (polyethylene tubing with a short length of silicon tubing through the pump head) in order to minimize drawdown. The tubing intake will be placed just below the center of the saturated section of well screen. During purging, field parameters (temperature, pH, specific electrical conductance, dissolved oxygen, and oxidation-reduction potential [ORP]) will be monitored using a Yellow Springs Instrument (YSI) water quality meter and flow-through cell, or equivalent. These field parameters will be recorded at 2- to 5-minute intervals throughout well purging until they stabilize. Stabilization is defined as three successive readings where the parameter values vary by less than 10 percent (or 0.5 milligrams per liter [mg/L] dissolved oxygen if the readings are below 1 mg/L). However, no more than three well casing volumes will be purged prior to ground water sample collection. Three turbidity measurements will also be made before collecting the sample using a Hach 2100Q turbidimeter, or equivalent.

3. Samples with a field-measured specific electrical conductance greater than 1,000 microSiemens per centimeter ( $\mu\text{S}/\text{cm}$ ) or turbidity greater than 25 nephelometric turbidity units (NTU) will be denoted as such on the chain-of-custody form, so that the laboratory can employ appropriate sample preparation techniques to avoid analytical interferences for specific analyses.
4. If the monitoring well is completely dewatered during purging, samples will be collected when sufficient recharge has occurred to allow filling of all sample containers.
5. Once purging is complete, the ground water samples will be collected using the same low-flow rate directly into laboratory-supplied sample containers. Samples for dissolved metals analyses will be filtered using an in-line 0.45 micrometer ( $\mu\text{m}$ ) filter.
6. In wells that have measurable LNAPL, samples will not be collected.
7. QC ground water samples (e.g., field duplicates and trip blanks) will be collected at the respective frequencies prescribed in Section D.3.5
8. Following sampling, the wells cap and monument cap will be secured. Each well's dedicated tubing will be retained in the monitoring well for subsequent sampling events. Any damaged or defective well caps or monuments will be noted and scheduled for replacement, if necessary.

#### ***D.2.2.4. Groundwater Sample Laboratory Analyses***

Groundwater samples will be submitted to a state-certified laboratory and analyzed for the following COCs:

- Total petroleum hydrocarbons (TPH) as gasoline-range organics (GRO) by Ecology Method NWTPH-Gx
- Total petroleum hydrocarbons (TPH) as diesel-range organics (DRO) and oil-range organics (ORO) by Ecology Method NWTPH-Dx (without Silica Gel Cleanup)
- Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by U.S. Environmental Protection Agency (EPA) Method 8260

#### ***D.2.2.5. Groundwater Sample Identification***

Each groundwater sample will be assigned a unique sample identification number that includes the well number and the six-digit date on which the sample was collected. For example, a groundwater sample collected from monitoring well MW-11 on May 30, 2021, would be identified as MW-11-053021.

## **D.2.3. Sample Custody and Field Documentation**

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### ***D.2.3.1. Sample Custody***

Upon collection, samples will be placed upright in a cooler. For soil and groundwater, ice or blue ice will be placed in each cooler to meet sample preservation requirements. Inert cushioning material will be placed in the remaining space of the cooler as needed to limit movement of the sample containers. If the sample coolers are being shipped, not hand delivered, to the laboratory, the COC form will be placed in a waterproof bag taped to the inside lid of the cooler for shipment.

After collection, samples will be maintained in the consultant's custody until formally transferred to the analytical laboratory, a shipping agency, or a lab-provided courier. For purposes of this work, custody of the samples will be defined as follows:

- In plain view of the field representatives
- Inside a cooler that is in plain view of the field representative
- Inside any locked space such as a cooler, locker, car, or truck to which the field representative has the only immediately available key(s)

A COC record provided by the laboratory will be initiated at the time of sampling for all samples collected. The record will be signed by the field representative and others who subsequently take custody of the sample. Couriers or other professional shipping representatives are not required to sign the COC form; however, shipping receipts will be collected and maintained as a part of custody documentation in project files. A copy of the COC form with appropriate signatures will be kept by the consultants' project manager.

Upon sample receipt, the laboratory will fill out a cooler receipt form to document sample delivery conditions. A designated sample custodian will accept custody of the shipped samples and will verify that the COC form matches the samples received. The laboratory will notify the project manager, as soon as possible, of any issues noted with the sample shipment or custody.

### ***D.2.3.2. Field Documentation***

While conducting field work, the field representative will document pertinent observations and events, specific to each activity, on field forms (e.g., boring log form, as-built well completion form, well development form, ground water sampling form, etc.; see Attachment D-1) and/or in a field notebook, and, when warranted, provide photographic documentation of specific sampling efforts. Field notes will include a description of the field activity, sample descriptions, and associated details such as the date, time, and field conditions. General Aspect field procedures are documented in Attachment D-2.

## D.2.4. Decontamination and Investigative-Derived Waste Management

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All non-disposable sampling equipment (stainless steel spoons and bowls) will be decontaminated before collection of each sample. The decontamination sequence consists of a scrub with a non-phosphate (Alconox or Liquinox) solution, followed by tap water (potable) rinse, and finished with thorough spraying with deionized or distilled water. A solvent rinse – methanol or hexane – may be used to remove petroleum product from sampling equipment prior to the decontamination procedure described above.

Investigation-derived waste (IDW) water generated during equipment decontamination and sampling will be containerized in labeled drums. The containerized IDW water will be disposed of appropriately at a permitted off-site disposal facility.

Soil cuttings from borings and disposable personal protective equipment (PPE) will be placed in labeled Department of Transportation (DOT)-approved drums pending the analytical results to determine appropriate disposal. Each drum will be labeled with the following information:

- Nonclassified IDW
- Content of the drum (soil, water, PPE) and its source (i.e., the exploration[s] from which the contents came)
- Date IDW was generated
- Name and telephone number of the contact person.

The drums of IDW will be temporarily consolidated on-site, profiled (in accordance with applicable waste regulations) based on available analytical data, and disposed of appropriately at a permitted off-site disposal facility. Containers of IDW will be on site less than 90 days from date of generation. Documentation for off-site disposal of IDW will be maintained in the project file.

## D.3. Quality Assurance Project Plan

This QAPP identifies QC procedures and criteria required to ensure that data collected are of known quality and acceptable to achieve project objectives. Specific protocols and criteria are also set forth in this QAPP for data quality evaluation, upon the completion of data collection, to determine the level of completeness and usability of the data. It is the responsibility of the project personnel performing or overseeing the sampling and analysis activities to adhere to the requirements of the FSP and this QAPP.

### D.3.1. Purpose of the QAPP

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As stated in the Washington State Department of Ecology's (Ecology) Guidelines for Preparation of Quality Assurance Project Plans for Environmental Studies (Ecology Publication No. 04-03-030, July 2004), specific goals of this QAPP are as follows:

- Focus project manager and project team to factors affecting data quality during the planning stage of the project

## ASPECT CONSULTING

- Facilitate communication among field, laboratory, and management staff as the project progresses
- Document the planning, implementation, and assessment procedures for QA/QC activities for the investigation
- Ensure that the DQOs are achieved
- Provide a record of the project to facilitate final report preparation

The DQOs for the project include both qualitative and quantitative objectives, which define the appropriate type of data and specify the tolerable levels of potential decision errors that will be used as a basis for establishing the quality and quantity of data needed to support the environmental assessment. To ensure that the DQOs are achieved, this QAPP details aspects of data collection including analytical methods, QA/QC procedures, and data quality reviews. This QAPP describes both quantitative and qualitative measures of data to ensure that the DQOs are achieved. DQOs dictate data collection rationale, sampling and analysis designs that are presented in the main body of the IAWP, and sample collection procedures that are presented in the FSP (Section D.2).

### **D.3.2. Project Organization and Responsibilities**

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The project organization for completion of the interim action, including identification of key personnel and their responsibilities, is described below.

The current owner of the subject property is Strickland Real Estate Holdings, LLC. Aspect has been contracted by the owner to plan and implement the interim action as part of Ecology Agreed Order No. 14315. The project contact information for the current owner is:

Strickland Real Estate Holdings, LLC  
12199 Village Center, Suite 201  
Mukilteo, WA 98275

The Project Manager and primary contact for Aspect is Mr. Adam Griffin, PE, Associate Engineer. The document control clerk is Mr. Michael Maisen. The QA/QC officer is Mr. Jason Yabandeh. The contact information for Aspect is:

Aspect Consulting, LLC  
710 Second Ave, Suite 550  
Seattle, WA 98104  
Telephone: (206) 328-7443

As a named potentially liable person in Ecology Agreed Order No. 14315, Chevron Environmental Management Company (CEMC) will review and approve the IAWP. The Project Manager for CEMC is Mr. Nate Blomgren, and the project contact information for CEMC is:

Chevron Environmental Management and Real Estate Company  
6001 Bollinger Canyon Road, C2096  
San Ramon, CA 94583

Ecology has jurisdiction over the remedial investigation and cleanup activities at the Site as stipulated in Chapter 70.105 of the Revised Code of Washington, and the MTCA. The remedial investigation is being conducted as part of Ecology's Agreed Order No. 14315. The Project Manager for Ecology is:

Mr. Dale Myers  
 Washington State Department of Ecology  
 Northwest Regional Office  
 3190 160th Avenue SE  
 Bellevue, WA 98008

Aspect will contract with Friedman and Bruya, Inc. (F&B), a state-certified laboratory. The laboratory project manager is responsible for ensuring that all laboratory analytical work for soil and water media complies with project requirements, and acting as a liaison with the project manager, field manager, and data quality manager to fulfill project needs on the analytical laboratory work. This responsibility also applies to analyses the laboratory project manager subcontracts to another laboratory. The laboratory contact information is:

Friedman & Bruya, Inc.  
 3012 16th Ave SW  
 Seattle, WA 98199

### **D.3.3. Analytical Methods and Reporting Limits**

Laboratory analytical methods for soil and ground water analyses to be performed during this environmental characterization are as follow:

<b>Chemical Group and Analyte</b>	<b>Analytical Method</b>	<b>Matrix</b>
Gasoline Range Organics	NWTPH-Gx	Soil and Groundwater
Diesel & Residual Range Organics	NWTPH-Dx	Soil and Groundwater
BTEX	EPA 8260	Soil and Groundwater
BTEX, MTBE, EDB, EDC, and Naphthalene	EPA TO-15	Soil Vapor
Aliphatic and Aromatic Hydrocarbons	MA APH	Soil Vapor

Table E-1 lists samples containers, preservation, and analytical holding times for each analysis.

#### **D.3.3.1. Method Detection Limit and Method Reporting Limit**

The method detection limit (MDL) is the minimum concentration of a compound that can be measured and reported with a 99-percent confidence that the analyte concentration is greater than zero. MDLs are established by the laboratory using prepared samples, not samples of environmental media.

The method reporting limit (RL) is defined as the lowest concentration at which a chemical can be accurately and reproducibly quantified, within specified limits of precision and accuracy, for a given environmental sample. The RL can vary from sample

to sample depending on sample size, sample dilution, matrix interferences, moisture content, and other sample-specific conditions. As a minimum requirement for organic analyses, the RL should be equivalent to or greater than the concentration of the lowest calibration standard in the initial calibration curve. The expected MDLs and RLs from F&B laboratory are summarized in Tables D-3, D-4, and D-5 for groundwater, soil, and soil vapor samples, respectively.

### **D.3.4. Data Quality Objectives**

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DQOs, including the Measurement Quality Indicators (MQIs)—precision, accuracy, representativeness, comparability, completeness, and sensitivity (namely PARCCS parameters)—and sample-specific RLs are dictated by the data quality objectives, project requirements, and intended uses of the data. For this project, the analytical data must be of sufficient technical quality to determine whether contaminants are present and, if present, whether their concentrations are greater than or less than applicable screening criteria based on protection of human health and the environment.

The quality of data generated will be assessed against the MQIs set forth in this QAPP. Specific QC parameters associated with each of the MQIs are summarized in Table D-2. Specific MQI goals and evaluation criteria (i.e., MDLs, RLs, percent recovery (%R)) for accuracy measurements, relative percent difference (RPD) for precision measurements, are defined in Tables D-3 and D-4. Definitions of these parameters and the applicable QC procedures are presented below.

#### **D.3.4.1. Precision**

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of a group of measurements compared with their average values. Analytical precision is measured through matrix spike/matrix spike duplicate (MS/MSD) samples and laboratory control samples/laboratory control sample duplicate (LCS/LCSD) when there is sufficient sample volume. A laboratory duplicate sample or just an LCS/LCSD may be used in place of an MS/MSD if there is insufficient volume.

Analytical precision is quantitatively expressed as the relative percent difference (RPD) between the LCS/LCSD, MS/MSD, or laboratory duplicate pairs and is calculated with the following formula:

$$RPD (\%) = 100 \times \frac{|S - D|}{(S + D)/2}$$

where:

S = analyte concentration in sample

D = analyte concentration in duplicate sample

Analytical precision measurements will be carried out at a minimum frequency of 1 per 20 samples for each matrix sampled, or one per laboratory analysis group. Laboratory precision will be evaluated against laboratory quantitative RPD performance criteria as defined in Tables D-3 and D-4 for specific analytical methods and sample matrices. If the



control criteria are not met, the laboratory will supply a justification of why the limits were exceeded and implement the appropriate corrective actions. The RPD will be evaluated during data review and validation. The data reviewer will note deviations from the specified limits and will comment on the effect of the deviations on reported data.

#### ***D.3.4.2. Accuracy***

Accuracy measures the closeness of the measured value to the true value. The accuracy of chemical test results is assessed by “spiking” samples with known standards (surrogates, blank spikes, or matrix spikes) and establishing the average recovery. Accuracy is quantified as the %R. The closer the %R is to 100 percent, the more accurate the data.

Surrogate recovery will be calculated as follows:

$$\text{Recovery (\%)} = \frac{MC}{SC} \times 100$$

where:

SC = spiked concentration

MC = measured concentration

MS percent recovery will be calculated as follows:

$$\text{Recovery (\%)} = \frac{MC - USC}{SC} \times 100$$

where:

SC = spiked concentration

MC = measured concentration

USC = unspiked sample concentration

Accuracy measurements on MS samples will be carried out at a minimum frequency of 1 in 20 samples per matrix analyzed. Blank spikes will also be analyzed at a minimum frequency of 1 in 20 samples (not including QC samples) per matrix analyzed. Surrogate recoveries for organic compounds will be determined for each sample analyzed for respective compounds. Laboratory accuracy will be evaluated against the performance criteria defined in Tables D-3 and D-4. If the control criteria are not met, the laboratory will supply a justification of why the limits were exceeded and implement the appropriate corrective actions. Percent recoveries will be evaluated during data review and validation, and the data reviewer will comment on the effect of the deviations on the reported data.

#### ***D.3.4.3. Representativeness***

Representativeness measures how closely the measured results reflect the actual concentration or distribution of the chemical compounds in the matrix sampled. The FSP sampling techniques and sample handling protocols (e.g., homogenizing, storage, preservation, and use of duplicates and blanks) have been developed to ensure representative samples. Only representative data will be deemed usable. Sampling

locations are described in Section 5.2 of the IAWP. The field sampling procedures are described in the FSP (Section D.2) of this SAP.

The representativeness of a data point is determined by assessing the integrity of the sample upon receipt at the laboratory (e.g., consistency of sample ID and collection date/time between container labels versus COC forms, breakage/leakage, cooler temperature, preservation, headspace for VOA containers, etc.); compliance of method required sample preparation and analysis holding times; the conditions of blanks (trip blank, rinsate blank, field blank, method/preparation blank, and calibration blank) associated with the sample; and the overall consistency of the results within a field duplicate pair.

#### ***D.3.4.4. Comparability***

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. This goal will be achieved through the use of standard techniques to collect samples, USEPA-approved standard methods to analyze samples, and consistent units to report analytical results. Data comparability also depends on data quality. Data of unknown quality cannot be compared.

#### ***D.3.4.5. Completeness***

Completeness is defined as the percentage of measurements made that are judged to be valid. Results will be considered valid if the precision, accuracy, and representativeness objectives are met and if RLs are sufficient for the intended uses of the data.

Completeness is calculated as follows:

$$\text{Completeness (\%)} = \frac{V}{P} \times 100$$

where:

V = number of valid measurements

P = number of measurements taken

Valid and invalid data (i.e., data qualified with the R flag [rejected]) will be identified during data validation. The target completeness goal for this project is 95 percent.

#### ***D.3.4.6. Sensitivity***

Sensitivity depicts the level of ability an analytical system (i.e., sample preparation and instrumental analysis) has in detecting a target component in a given sample matrix with a defined level of confidence. Factors affecting the sensitivity of an analytical system include analytical system background (e.g., laboratory artifact or method blank contamination), sample matrix (e.g., mass spectrometry ion ratio change, co-elution of peaks, or baseline elevation), and instrument instability.

### **D.3.5. Quality Control Procedures**

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Field and laboratory QC procedures are outlined below.

### ***D.3.5.1. Field Quality Control***

Beyond use of standard sampling protocols defined in the FSP, field QC procedures include maintaining the field instrumentation used. Field instruments (e.g., PID for evaluating presence of VOCs in soil samples, and the YSI meter for measuring field parameters during ground water sampling) are maintained and calibrated regularly prior to use, in accordance with manufacturer recommendations.

In addition, field QC samples will be collected and submitted for analyses to monitor the precision and accuracy associated with field procedures. Field QC samples to be collected and analyzed for this RI include field duplicates, trip blanks, and equipment rinsate blanks. The definition and sampling requirements for field QC samples are presented below.

#### **Blind Field Duplicates**

Blind field duplicate samples are used to check for sampling and analysis reproducibility; however, the field duplicate sample results include variability introduced during both field sampling and laboratory preparation and analysis, and EPA data validation guidance provides no specific evaluation criteria for field duplicate samples. Advisory evaluation criteria are set forth at 35 percent for RPD (if both results are greater than five times the RL) and two times the RLs for concentration difference (if either result is less than five times the RL) between the original and field duplicate results.

Field Duplicates will be submitted “blind” to the laboratory as discrete samples (i.e., given unique sample identifiers to keep the duplicate identity unknown to the laboratory), but will be clearly identified in the field log. Field duplicate samples will be collected at a frequency of 5 percent (1 per 20) of the field samples for each matrix and analytical method, but not less than one duplicate per sampling event per matrix.

If a given soil sample depth interval lacks sufficient volume (recovery) to supply material for a planned analysis and its field duplicate analysis, the field duplicate aliquot will be collected for that analysis from another depth interval in that same location if practical.

#### **Equipment Rinsate Blank**

Equipment rinsate blanks are collected to determine the potential of cross-contamination introduced by nondedicated equipment (e.g., bladder pump and YSI meter) that is used at multiple sample locations. Deionized water (obtained from the laboratory) is rinsed through the decontaminated sampling equipment and collected into adequate sample containers for analysis. The equipment rinsate blank is then handled in a manner identical to the primary samples collected with that piece of equipment. The blank is then processed, analyzed, and reported as a regular field sample. The rinsate blank collection frequency will be 1 per 20 samples for each matrix and analytical method, but not less than one equipment rinsate per sampling event per matrix. When dedicated equipment is used, equipment rinsate blanks will not be collected.

### ***D.3.5.2. Laboratory Quality Control***

The laboratories’ analytical procedures must meet requirements specified in the respective analytical methods or approved laboratory standard operating procedures

(SOPs), e.g., instrument performance check, initial calibration, calibration check, blanks, surrogate spikes, internal standards, and/or labeled compound spikes. Specific laboratory QC analyses required for this project will consist of the following at a minimum:

- Instrument tuning, instrument initial calibration, and calibration verification analyses as required in the analytical methods and the laboratory standard operating procedures (SOPs).
- Laboratory and/or instrument method blank measurements at a minimum frequency of 5 percent (1 per 20 samples) or in accordance with method requirements, whichever is more frequent.
- Accuracy and precision measurements as defined in Table D-2, at a minimum frequency of 5 percent (1 per 20 samples) or in accordance with method requirements, whichever is more frequent. In cases where a pair of MS/MSD or MS/laboratory duplicate analyses are not performed on a project sample, a set of LCS/LCSD analyses will be performed to provide sufficient measures for analytical precision and accuracy evaluation.

The laboratory's QA officers are responsible for ensuring that the laboratory implements the internal QC and QA procedures detailed in the laboratory's Quality Assurance Manual.

### **D.3.6. Corrective Actions**

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If routine QC audits by the laboratory result in detection of unacceptable conditions or data, actions specified in the laboratory SOPs will be taken. Specific corrective actions are outlined in each SOP used and can include the following:

- Identifying the source of the violation
- Reanalyzing samples if holding time criteria permit
- Resampling and analyzing
- Evaluating and amending sampling and analytical procedures, and/or
- Accepting but qualifying data to indicate the level of uncertainty

If unacceptable conditions occur, the laboratory will contact the project manager to discuss the issues and determine the appropriate corrective action. Corrective actions taken by the laboratory during analysis of samples for this project will be documented by the laboratory in the case narrative associated with the affected samples.

In addition, the project data quality manager will review the laboratory data generated for this investigation to ensure that project DQOs are met. If the review indicates that non-conformances in the data have resulted from field sampling or documentation procedures or laboratory analytical or documentation procedures, the impact of those non-conformances on the overall project data usability will be assessed. Appropriate actions, including re-sampling and/or re-analysis of samples may be recommended to the project manager to achieve project objectives.

## **D.3.7. Data Reduction, Quality Review, and Reporting**

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All data will undergo a QA/QC evaluation at the laboratory which will then be reviewed by the responsible data quality manager. Initial data reduction, evaluation, and reporting at the laboratory will be carried out in full compliance with the method requirement and laboratory SOPs. The laboratory internal review will include verification (for correctness and completeness) of electronic data deliverable (EDD) accompanied with each laboratory report. The responsible database manager will verify the completeness and correctness of all laboratory deliverables (i.e., laboratory report and EDDs) before releasing the deliverables for data validation.

### ***D.3.7.1. Minimum Data Reporting Requirements***

The following sections specify general and specific requirements for analytical data reporting to provide sufficient deliverables for project documentation and data quality assessment.

#### **General Requirements**

The following requirements apply to laboratory reports for all types of analyses:

- A laboratory report will include a cover page signed by the laboratory director, the laboratory QA officer, or his/her designee to certify the eligibility of the reported contents and the conformance with applicable analytical methodology.
- Definitions of abbreviations, data flags and data qualifiers used in the report.
- Cross reference of field sample names and laboratory sample identity for all samples in the SDG.
- Completed COC document signed and dated by parties of acquiring and receiving.
- Completed sample receipt document with record of cooler temperature and sample conditions upon receipt at the laboratory. Anomalies such as inadequate sample preservation, inconsistent bottle counts, and sample container breakage, and communication record and corrective actions in response to the anomalies will be documented and incorporated in the sample receipt document. The document will be initialed and dated by personnel that complete the document.
- Case narrative that addresses any anomalies or QC outliers in relation to sample receiving, sample preparation, and sample analysis on samples in the sample delivery group (SDG). The narrative will be presented separately for each analytical method and each sample matrix.
- All pages in the report are to be paginated. Any insertion of pages after the laboratory report is issued will be paginated with starting page number suffixed with letters (e.g., pages inserted between pages 134 and 135 should be paginated as 134A, 134B, etc.)
- Any resubmitted or revised report pages will be submitted to project manager with a cover page stating the reason(s) and scope of resubmission or revision, and signed by laboratory director, QA officer, or the designee.

### Specific Requirements

The following presents specific requirements for laboratory reports:

- Sample results: All soil sample results will be reported on a dry-weight basis. The report pages for sample results (namely Form 1s) will, at minimum, include sample results, RLs, unit, proper data flags, preparation, and analysis, dilution factor, and percent moisture (for solid samples).
- Method blank results.
- LCS and LCSD (if matrix spike duplicate analysis is not performed) results with laboratory acceptance criteria for %R and RPD.
- Surrogate spike results with laboratory acceptance criteria for %R.
- MS and MSD results with laboratory acceptance criteria for %R and RPD. In cases where MS/MSD analyses were not performed on a project sample, LCS/LCSD analyses should be performed and reported instead.

### D.3.8. Data Quality Verification and Validation

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Reported analytical results will be qualified by the laboratory to identify QC concerns in accordance with the specifications of the analytical methods. Additional laboratory data qualifiers may be defined and reported by the laboratory to more completely explain QC concerns regarding a particular sample result. All data qualifiers will be defined in the laboratory's narrative reports associated with each case.

Data validation will be performed on all data consistent with United States Environmental Protection Agency Stage 2A requirements. In cases where a systematic QC problem is suspected, such as unusual detections of an analyte or consistent outlying results of a QC parameter, a more detailed review will be performed on laboratory records pertinent to the concerned analysis to further evaluate the extent of the QC issue and the final data quality and usability. The actual level of validation for each data point will be entered in the electrical database submitted to the Ecology Environmental Information Management system (EIMs). Data validation will be conducted following the guidance below:

- EPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review, Office of Superfund Remediation and Technical Innovation, U.S. Environmental Protection Agency, January 2017, OLEM 9355.0-135, EPA-540-R-2017-001.
- EPA Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review, Office of Superfund Remediation and Technical Innovation, U.S. Environmental Protection Agency, January 2017, OLEM 9355.0-136, EPA-540-R-2017-002.

The data validation will examine and verify the following parameters against the method requirements and laboratory control limits specified in Tables D-3 and D-5:

- Sample management and holding times
- Laboratory and field blank results
- Detection and reporting limits

- Laboratory replicate results
- MS/MSD results
- LCS and/or standard reference material results
- Field duplicate results
- Surrogate spike recovery (organic analyses only)
- Internal standard recovery (internal calibration methods only)
- Inter-element interference check (ICP analyses only)
- Serial dilution (metals only)

Data qualifiers will be assigned based on outcome of the data validation. Data qualifiers are limited to and defined as follows:

- U—The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- J—The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ—The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- X—The numerical value of the result is accurate. However, the analyte was not positively identified at that value because the chromatographic pattern in the sample did not match that of the associated fuel standard. This qualifier is applicable only to TPH results.
- R—The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- DNR—Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.

In cases of multiple analyses (such as an undiluted and a diluted analysis) performed on one sample, the optimal result will be determined and only the determined result will be reported for the sample.

The scope and findings of the data validation will be documented and discussed in the Data Validation Report(s). The Data Validation Report(s) will be appended to the RI report.

### **D.3.9. Preventative Maintenance Procedures and Schedules**

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Preventative maintenance in the laboratory will be the responsibility of the laboratory personnel and analysts and ensured by the laboratory project manager. This maintenance includes routine care and cleaning of instruments and inspection and monitoring of carrier gases, solvents, and glassware used in analyses. Details of the maintenance procedures are addressed in the respective laboratory SOPs.

Precision and accuracy data are examined for trends and excursions beyond control limits to determine evidence of instrument malfunction. Maintenance will be performed when an instrument begins to change as indicated by the degradation of peak resolution, shift in calibration curves, decrease in sensitivity, or failure to meet one or another of the method-specific QC criteria.

Maintenance and calibration of instruments used in the field for sampling (e.g., PID for evaluating presence of VOCs in soil samples, and the YSI meter for measuring field parameters during ground water sampling) will be conducted regularly in accordance with manufacturer recommendations prior to use.

### **D.3.10. Performance and System Audits**

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The project manager has responsibility for reviewing the performance of the laboratory QA program; this review will be achieved through regular contact with the analytical laboratory's project manager. To ensure comparable data, all samples of a given matrix to be analyzed by each specified analytical method will be processed consistently by the same analytical laboratory.

### **D.3.11. Data and Records Management**

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Records will be maintained documenting all activities and data related to field sampling and chemical analyses.

#### ***D.3.11.1. Field Documentation***

Raw data received from the analytical laboratory will be reviewed, entered into a computerized database, and verified for consistency and correctness. The database will be updated based on data review and independent validation if necessary.

The following field data will be included in the database:

- Sample location coordinates
- Sample type (i.e., groundwater or soil)
- Soil or groundwater sampling depth interval

Information regarding whether concentrations represent total phase (unfiltered samples) or dissolved phase (filtered samples) will be compiled and stored in the database. Data will be submitted to Ecology's Environmental Information Management (EIM) database once data have been reviewed and validated.



### ***D.3.11.2. Analytical Data Management***

Raw data received from the analytical laboratory will be reviewed, entered into a computerized database, and verified for consistency and correctness. The database will be updated based on data review and independent validation if necessary.

The following field data will be included in the database:

- Sample location coordinates
- Sample type (i.e., groundwater or soil)
- Soil or groundwater sampling depth interval

Information regarding whether concentrations represent total phase (unfiltered samples) or dissolved phase (filtered samples) will be compiled and stored in the database. Data will be submitted to Ecology's Environmental Information Management (EIM) database once data have been reviewed and validated.

## **D.4. References**

- Puls, R.W. and M.J. Barcelona, 1996, Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures, EPA Ground Water Issue, EPA/540/S-95/504.
- U.S. Environmental Protection Agency (EPA), 2009, Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, January 13, 2009. EPA 540-R-08-005.
- U.S. Environmental Protection Agency (EPA), 2017a, Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review, Office of Superfund Remediation and Technical Innovation, U.S. Environmental Protection Agency, January 2017, OLEM 9355.0-135, EPA-540-R-2017-001.
- U.S. Environmental Protection Agency (EPA), 2017b, Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review, Office of Superfund Remediation and Technical Innovation, U.S. Environmental Protection Agency, January 2017, OLEM 9355.0-135, EPA-540-R-2017-001.
- Washington State Department of Ecology (Ecology), 2004, Collecting and Preparing Soil Samples for VOC Analysis, Implementation Memorandum Number 5, June 17, 2004.
- Washington State Department of Ecology (Ecology), 2012, Guidance for Groundwater Monitoring at Landfills and Other Facilities Regulated Under Chapters 173-304, 173-306, 173-350, and 173-351 WAC, Publication No. 12-07-072.

## **Appendix D**

### **Tables**

# Table D-1. Analytical Methods, Sample Containers, Preservation, and Holding Times

Project No. 180357, Lynnwood, Washington

Sample Matrix	Analytical Parameter	Analytical Method	Sample Container	No. Containers	Preservation Requirements	Holding Time
Soil	Gasoline Range TPH	NWTPH-Gx	Method 5035A, 40-mL vials	4	4°C ±2°C, Freeze within 48 hours to <-7°C	14 days
	Diesel and Motor Oil Range TPH	NWTPH-Dx (without Silica Gel Cleanup)	4 ounce jar	1	4°C ±2°C	14 days for extraction; 40 days for analysis
	VOCs	Method 8260	Method 5035A, 40-mL vials	4	4°C ±2°C, Freeze within 48 hours to <-7°C	14 days
	MTBE, EDC, EDB, Naphthalene	Method 8260	Method 5035A, 40-mL vials	4	4°C ±2°C, Freeze within 48 hours to <-7°C	14 days
	Lead	Method 6020	4-ounce jar	1	4°C ±2°C	6 months
Water	Gasoline Range TPH	Method NWTPH-Gx	40-mL VOA vials	3	4°C ±2°C, HCl pH < 2	14 days
	Diesel and Motor Oil Range TPH	NWTPH-Dx (without Silica Gel Cleanup)	500-mL amber glass bottle	1	4°C ±2°C	7 days for extraction, 40 days for analysis
	MTBE, EDC, EDB, Naphthalene	Method 8260	40-mL VOA vials	3	4°C ±2°C, 1 with HCl pH < 2, 2 without HCl	14 days for analysis
	Halogenated VOCs	Method 8260	40-mL VOA vials	3	4°C ±2°C, 1 with HCl pH < 2, 2 without HCl	14 days for analysis
Soil Vapor	VOCs	Method TO-15	6L SUMMA Canister	1	N/A	28 days

**Notes:**

HCl = hydrochloric acid

TPH = total petroleum hydrocarbons

VOA = volatile organic analysis

BTEX = benzene, toluene, ethylbenzene, xylenes

MTBE = methyl tert-butyl ether

## Table D-2. QC Parameters Associated with PARCCS

Project No. 180357, Lynnwood, Washington

Data Quality Indicators	QC Parameters
Precision	RPD values of:
	(1) LCS/LCS Duplicate
	(2) MS/MSD
	(3) Field Duplicates
Accuracy/Bias	Percent Recovery (%R) or Percent Difference (%D) values of:
	(1) Initial Calibration and Calibration Verification
	(2) LCS
	(3) MS
	(4) Surrogate Spikes
	Results of:
	(1) Instrument and Calibration Blank
	(2) Method (Preparation) Blank
	(3) Trip Blank
	(4) Equipment Rinsate Blank (if appropriate)
Representativeness	Results of All Blanks
	Sample Integrity (Chain-of-Custody and Sample Receipt Forms)
	Holding Times
Comparability	Sample-specific Reporting Limits
	Sample Collection Methods
	Laboratory Analytical Methods
Completeness	Data Qualifiers
	Laboratory Deliverables
	Requested/Reported Valid Results
Sensitivity	MDLs and MRLs

### Notes:

LCS = laboratory control sample

MDL = method detection limit

MRL = method reporting limit

MS/MSD = matrix spike/matrix spike duplicate

QC = Quality Control

PARCCS = Precision, Accuracy, Representativeness, Comparability, Completeness, Sensitivity

**Table D-3. Measurement Quality Objectives for Water Samples**

Friedman and Bruya, Inc

Project No. 180357, Lynnwood, Washington

Analyte Name	MDL <sup>(A)</sup>	MRL	LCS/LCS %R <sup>(A)</sup>	RPD (%)	Surrogate %R <sup>(A)</sup>
<b>Volatile Organic Compounds (VOCs) by SW8260C (µg/L)</b>					
1,1,1,2-Tetrachloroethane	0.040	0.2	80 – 128	≤40	n/a
1,1,1-Trichloroethane	0.041	0.2	79 – 124	≤40	n/a
1,1,2,2-Tetrachloroethane	0.060	0.2	80 – 120	≤40	n/a
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.043	0.2	76 – 124	≤40	n/a
1,1,2-Trichloroethane	0.129	0.2	80 – 120	≤40	n/a
1,1-Dichloroethane	0.053	0.2	80 – 120	≤40	n/a
1,1-Dichloroethene	0.054	0.2	74 – 120	≤40	n/a
1,1-Dichloropropene	0.034	0.2	80 – 120	≤40	n/a
1,2,3-Trichlorobenzene	0.110	0.5	80 -125	≤40	n/a
1,2,3-Trichloropropane	0.131	0.5	80 – 120	≤40	n/a
1,2,4-Trichlorobenzene	0.107	0.5	77 – 127	≤40	n/a
1,2,4-Trimethylbenzene	0.024	0.2	80 – 122	≤40	n/a
1,2-Dibromo 3-Chloropropane	0.366	0.5	79 – 129	≤40	n/a
1,2-Dibromoethane (Ethylene Dibromide)	0.075	0.2	80 – 120	≤40	n/a
1,2-Dichlorobenzene	0.036	0.2	80 – 120	≤40	n/a
1,2-Dichloroethane	0.072	0.2	80 – 121	≤40	n/a
1,2-Dichloropropane	0.035	0.2	80 – 120	≤40	n/a
1,3,5-Trimethyl Benzene	0.015	0.2	80 – 120	≤40	n/a
1,3-Dichlorobenzene	0.036	0.2	80 – 120	≤40	n/a
1,3-Dichloropropane	0.062	0.2	80 – 120	≤40	n/a
1,4-Dichlorobenzene	0.040	0.2	80 – 120	≤40	n/a
2,2-Dichloropropane	0.052	0.2	72 – 133	≤40	n/a
2-Butanone	0.814	5.0	73 – 123	≤40	n/a
2-Chloro Toluene	0.024	0.2	80 – 120	≤40	n/a
2-Chloroethylvinyl Ether	0.250	1.0	62 – 130	≤40	n/a
2-Hexanone	0.902	5.0	80 – 129	≤40	n/a
4-Chloro Toluene	0.016	0.2	80 – 120	≤40	n/a
4-Isopropyl Toluene	0.026	0.2	80 – 124	≤40	n/a
4-Methyl-2-Pentanone	0.974	5.0	80 – 125	≤40	n/a
Acetone	2.057	5.0	64 – 125	≤40	n/a
Acrolein	2.476	5.0	60 – 124	≤40	n/a
Acrylonitrile	0.604	1.0	76 – 123	≤40	n/a
Benzene	0.027	0.2	80 – 120	≤40	n/a
Bromobenzene	0.060	0.2	80 – 120	≤40	n/a
Bromochloromethane	0.061	0.2	80 – 120	≤40	n/a
Bromodichloromethane	0.051	0.2	80 – 122	≤40	n/a
Bromoethane	0.041	0.2	77 – 122	≤40	n/a
Bromoform	0.062	0.2	62 – 149	≤40	n/a
Bromomethane	0.252	1.0	68 – 130	≤40	n/a
Carbon Disulfide	0.037	0.2	77 – 124	≤40	n/a
Carbon Tetrachloride	0.044	0.2	71 – 139	≤40	n/a
Chlorobenzene	0.023	0.2	80 – 120	≤40	n/a

**Table D-3. Measurement Quality Objectives for Water Samples**

Friedman and Bruya, Inc

Project No. 180357, Lynnwood, Washington

Analyte Name	MDL <sup>(A)</sup>	MRL	LCS/LCS %R <sup>(A)</sup>	RPD (%)	Surrogate %R <sup>(A)</sup>
<b>Volatile Organic Compounds (VOCs) by SW8260C (µg/L)</b>					
Chloroethane	0.086	0.2	68 – 133	≤40	n/a
Chloroform	0.027	0.2	80 – 120	≤40	n/a
Chloromethane	0.095	0.5	77 – 122	≤40	n/a
cis 1,3-dichloropropene	0.061	0.2	80 – 127	≤40	n/a
cis-1,2-Dichloroethene	0.043	0.2	78 – 120	≤40	n/a
Dibromochloromethane	0.048	0.2	80 – 120	≤40	n/a
Dibromomethane	0.145	0.2	80 – 120	≤40	n/a
Dichlorodifluoromethane	0.052	0.2	68 – 133	≤40	n/a
Ethyl Benzene	0.037	0.2	80 – 120	≤40	n/a
Hexachloro-1,3-Butadiene	0.073	0.5	80 – 135	≤40	n/a
Iodomethane (Methyl Iodide)	0.227	1.0	76 – 123	≤40	n/a
iso-propyl Benzene	0.021	0.2	80 – 120	≤40	n/a
Methylene Chloride	0.485	1.0	71 – 125	≤40	n/a
Methyl-tert-butyl ether	0.073	0.5	79 – 121	≤40	n/a
Naphthalene	0.118	0.5	80 – 128	≤40	n/a
n-Butyl Benzene	0.025	0.2	80 – 125	≤40	n/a
n-Propyl Benzene	0.023	0.2	80 – 120	≤40	n/a
sec-Butyl Benzene	0.024	0.2	80 – 121	≤40	n/a
Styrene	0.045	0.2	80 – 121	≤40	n/a
tert-Butyl Benzene	0.026	0.2	80 – 121	≤40	n/a
Tetrachloroethene	0.047	0.2	80 – 120	≤40	n/a
Toluene	0.040	0.2	80 – 120	≤40	n/a
trans 1,3-Dichloropropene	0.081	0.2	79 – 132	≤40	n/a
trans-1,2-Dichloroethene	0.048	0.2	75 – 120	≤40	n/a
trans-1,4-Dichloro 2-Butene	0.324	1.0	47 – 147	≤40	n/a
Trichloroethene	0.049	0.2	80 – 120	≤40	n/a
Trichlorofluoromethane	0.037	0.2	74 – 135	≤40	n/a
Vinyl Acetate	0.069	0.2	74 – 120	≤40	n/a
Vinyl Chloride	0.069	0.2	74 – 120	≤40	n/a
m,p-xylene	0.052	0.4	80 – 120	≤40	n/a
o-Xylene	0.035	0.2	80 – 120	≤40	n/a
1,2-Dichloroethane-d4	n/a	n/a	80 – 130	≤40	80 – 120
1,2-Dichlorobenzene-d4	n/a	n/a	80 – 120	≤40	80 – 120
Toluene-d8	n/a	n/a	80 – 120	≤40	80 – 120
4-Bromofluorobenzene	n/a	n/a	80 – 120	≤40	80 – 120
<b>Gasoline Range Hydrocarbons by NWTPH-Gx (µg/L)</b>					
Gasoline Range Hydrocarbons	0.057	0.25	80 – 120	≤40	n/a
Bromobenzene	n/a	n/a	77 – 120	≤40	n/a
<b>Diesel and Motor Oil Range Hydrocarbons by NWTPH-Dx without Silica Gel Cleanup (µg/L)</b>					
Diesel Range Hydrocarbons	39	100	61-104	≤40	n/a
Oil Range Hydrocarbons	10	200	60 – 130	≤40	n/a
o-Terphenyl	n/a	n/a	50 – 150	≤40	n/a
<b>Metals</b>					
Lead	0.046	0.1	80 – 120	≤20	n/a

Notes:

(A) = Based on current laboratory control criteria. Some values may vary slightly between instruments and can be subject to change as the laboratory updates the charted values periodically.

%R = percent recovery

LCS/LCSD = laboratory control samples and laboratory control sample duplicate

MDL = method detection limit

MRL = method reporting limit

n/a = not applicable

RPD = relative percent difference

µg/L = microgram per liter

(--) = No PSL identified

## Table D-4. Measurement Quality Objectives for Soil Samples

Friedman and Bruya, Inc.

Project No. 180357, Lynnwood, Washington

Analyte Name	MDL <sup>(A)</sup>	MRL	LCS/LCS %R <sup>(A)</sup>	RPD (%)	Surrogate %R <sup>(A)</sup>
<b>Volatile Organic Compounds (VOCs) by SW8260C (mg/kg)</b>					
1,1,1,2-Tetrachloroethane	0.000233	0.001	80 – 120	≤40	n/a
1,1,1-Trichloroethane	0.000226	0.001	78 – 133	≤40	n/a
1,1,2,2-Tetrachloroethane	0.000253	0.001	71 – 120	≤40	n/a
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.000287	0.002	72 – 142	≤40	n/a
1,1,2-Trichloroethane	0.000286	0.001	77 – 120	≤40	n/a
1,1-Dichloroethane	0.000203	0.001	65 – 139	≤40	n/a
1,1-Dichloroethene	0.000336	0.001	73 – 138	≤40	n/a
1,1-Dichloropropene	0.000312	0.001	80 – 123	≤40	n/a
1,2,3-Trichlorobenzene	0.000305	0.005	76 – 122	≤40	n/a
1,2,3-Trichloropropane	0.000517	0.002	75 – 120	≤40	n/a
1,2,4-Trichlorobenzene	0.000332	0.005	75 – 130	≤40	n/a
1,2,4-Trimethylbenzene	0.00023	0.001	77 – 125	≤40	n/a
1,2-Dibromo-3-Chloropropane	0.000586	0.005	61 – 128	≤40	n/a
1,2-Dibromoethane (Ethylene Dibromide)	0.000176	0.001	79 – 120	≤40	n/a
1,2-Dichlorobenzene	0.000293	0.001	77 – 120	≤40	n/a
1,2-Dichloroethane	0.000191	0.001	77 – 120	≤40	n/a
1,2-Dichloropropane	0.000162	0.001	74 – 120	≤40	n/a
1,3,5-Trimethylbenzene	0.000254	0.001	77 – 126	≤40	n/a
1,3-Dichlorobenzene	0.000227	0.001	76 – 120	≤40	n/a
1,3-Dichloropropane	0.000209	0.001	77 – 120	≤40	n/a
1,4-Dichlorobenzene	0.000232	0.001	75 – 120	≤40	n/a
2,2-Dichloropropane	0.000292	0.001	77 – 137	≤40	n/a
2-Butanone	0.000513	0.005	64 – 120	≤40	n/a
2-Chloroethyl Vinyl Ether	0.000276	0.005	20 – 157	≤40	n/a
2-Chlorotoluene	0.0003	0.001	76 – 120	≤40	n/a
2-Hexanone	0.000439	0.005	62 – 128	≤40	n/a
4-Chlorotoluene	0.000277	0.001	75 – 121	≤40	n/a
4-Isopropyl Toluene	0.000236	0.001	78 – 131	≤40	n/a
4-Methyl-2-Pentanone	0.00042	0.005	70 – 124	≤40	n/a
Acetone	0.000482	0.005	48 – 132	≤40	n/a
Acrolein	0.003809	0.05	60 – 130	≤40	n/a
Acrylonitrile	0.001026	0.005	59 – 124	≤40	n/a
Benzene	0.000296	0.001	80 – 120	≤40	n/a
Bromobenzene	0.000153	0.001	75 – 120	≤40	n/a
Bromochloromethane	0.000323	0.001	69 – 133	≤40	n/a
Bromodichloromethane	0.000254	0.001	80 – 122	≤40	n/a
Bromoethane	0.00044	0.002	74 – 132	≤40	n/a
Bromoform	0.000297	0.001	63 – 120	≤40	n/a
Bromomethane	0.000187	0.001	40 – 172	≤40	n/a

## Table D-4. Measurement Quality Objectives for Soil Samples

Friedman and Bruya, Inc.

Project No. 180357, Lynnwood, Washington

Analyte Name	MDL <sup>(A)</sup>	MRL	LCS/LCS %R <sup>(A)</sup>	RPD (%)	Surrogate %R <sup>(A)</sup>
<b>Volatile Organic Compounds (VOCs) by SW8260C (mg/kg)</b>					
Carbon Disulfide	0.000559	0.001	72 – 146	≤40	n/a
Carbon Tetrachloride	0.000213	0.001	76 – 136	≤40	n/a
Chlorobenzene	0.000219	0.001	80 – 120	≤40	n/a
Chloroethane	0.000462	0.001	53 – 154	≤40	n/a
Chloroform	0.000234	0.001	75 – 126	≤40	n/a
Chloromethane	0.000263	0.001	65 – 129	≤40	n/a
cis-1,2-Dichloroethene	0.00024	0.001	75 – 124	≤40	n/a
cis-1,3-Dichloropropene	0.000226	0.001	80 – 124	≤40	n/a
Dibromochloromethane	0.000266	0.001	77 – 123	≤40	n/a
Dibromomethane	0.000147	0.001	80 – 120	≤40	n/a
Dichlorodifluoromethane	0.000207	0.001	67 – 142	≤40	n/a
Ethyl Benzene	0.000202	0.001	80 – 120	≤40	n/a
Hexachloro-1,3-Butadiene	0.00041	0.005	72 – 135	≤40	n/a
Iodomethane (Methyl Iodide)	0.000215	0.001	34 – 181	≤40	n/a
Isopropyl Benzene	0.000233	0.001	77 – 127	≤40	n/a
Methylene Chloride	0.000635	0.002	61 – 128	≤40	n/a
Methyl-t-butyl ether (MTBE)	0.000231	0.001	68 – 124	≤40	n/a
Naphthalene	0.000429	0.005	71 – 122	≤40	n/a
n-Butylbenzene	0.000262	0.001	75 – 134	≤40	n/a
n-Propyl Benzene	0.000272	0.001	76 – 126	≤40	n/a
s-Butylbenzene	0.00024	0.001	77 – 127	≤40	n/a
Styrene	0.000138	0.001	80 – 122	≤40	n/a
t-Butylbenzene	0.000306	0.001	77 – 125	≤40	n/a
Tetrachloroethene	0.000257	0.001	76 – 131	≤40	n/a
Toluene	0.000151	0.001	78 – 120	≤40	n/a
trans-1,2-Dichloroethene	0.000266	0.001	73 – 131	≤40	n/a
trans-1,3-Dichloropropene	0.000216	0.001	80 – 126	≤40	n/a
trans-1,4-Dichloro-2-Butene	0.000437	0.005	62 – 127	≤40	n/a
Trichloroethene	0.000212	0.001	80 – 120	≤40	n/a
Trichlorofluoromethane	0.000266	0.001	57 – 161	≤40	n/a
Vinyl Acetate	0.000381	0.005	54 – 138	≤40	n/a
Vinyl Chloride	0.000235	0.001	74 – 134	≤40	n/a
m,p-Xylene	0.000392	0.001	80 – 123	≤40	n/a
o-Xylene	0.000224	0.001	80 – 120	≤40	n/a
1,2-Dichloroethane-d4	n/a	n/a	80 – 149	≤40	80 – 122
1,2-Dichlorobenzene-d4	n/a	n/a	80 – 120	≤40	80 – 120
Toluene-d8	n/a	n/a	77 – 120	≤40	80 – 120
4-Bromofluorobenzene	n/a	n/a	80 – 120	≤40	80 – 120



## Table D-4. Measurement Quality Objectives for Soil Samples

Friedman and Bruya, Inc.

Project No. 180357, Lynnwood, Washington

Analyte Name	MDL <sup>(A)</sup>	MRL	LCS/LCS %R <sup>(A)</sup>	RPD (%)	Surrogate %R <sup>(A)</sup>
<b>Gasoline Range Hydrocarbons by NWTPH-Gx (mg/kg)</b>					
Gasoline Range Hydrocarbons	0.057	0.25	80 – 120	≤40	n/a
<i>Bromobenzene</i>	n/a	n/a	49 – 143	≤40	n/a
<b>Diesel and Motor Oil Range Hydrocarbons by NWTPH-Dx without Silica Gel Cleanup (mg/kg)</b>					
Diesel Range Hydrocarbons	1.28	5	60 – 108	≤40	n/a
Oil Range Hydrocarbons	1.57	10	60 – 130	≤40	n/a
<i>o-Terphenyl</i>	n/a	n/a	50 – 150	≤40	n/a
<b>Metals</b>					
Lead	n/a	0.1	80-120	≤20	75-125

Notes:

(A) = Based on current laboratory control criteria. Some values may vary slightly between instruments and can be subject to change as the laboratory updates the charted values periodically.

%R = Percent recovery

LCS/LCSD = Laboratory control samples and laboratory control sample duplicate

MDL = Method detection limit

mg/kg = milligram per kilogram

MRL = Method reporting limit

n/a = not applicable

RPD = Relative percent difference

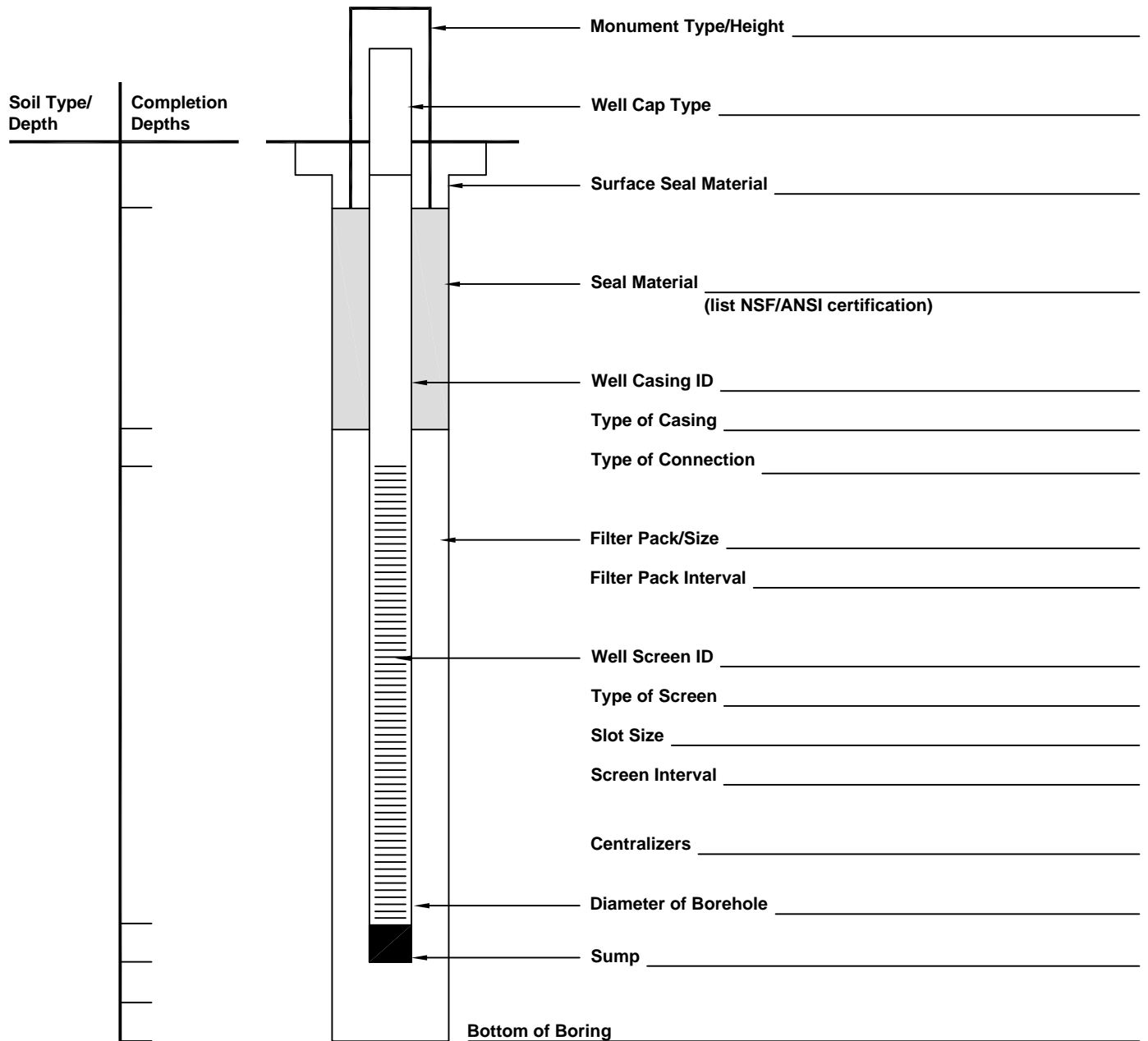
## **Attachment D-1**

### **Aspect Field Forms**

# As-Built Well Completion Diagram

Project Number:	Boring/Monitoring Well Number:	Sheet:	of:
Project:	Location:		
Elevation:	Drilling Contractor:		
Drilling Method and Equipment Used:	Logged By:		
Water Levels:	Completion Start:	Finish:	

Ecology Well ID \_\_\_\_\_



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Materials Used:	Screen:
Sand:	Bentonite:
Blank:	Monument:
Concrete:	Other:





# BORING LOG

LOCATION OF BORING				PROJECT NO.				BORING NO.							
				PROJECT NAME											
SKETCH OF LOCATION           				DRILLING METHOD:				LOGGED BY:							
				DRILLER:				SAMPLING METHOD:							
				HAMMER WEIGHT/SAMPLER DIAMETER				OBSERVATION WELL INSTALL YES ____ NO ____				START		FINISH	
				WATER LEVEL								TIME		TIME	
				TIME								DATE		DATE	
				DATE								DATE		DATE	
				DATUM				GRADE ELEV.				CASING DEPTH			
				SURFACE CONDITION											
				DESCRIPTION: Density, moisture, color, minor, MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc. DRILL ACTION											
				SIZE (%)			SAMPLE NO. SAMPLE TYPE	SAMPLE DEPTH	INCHES DRIVEN INCHES RECY'D	DEPTH IN FEET	PENETRATION RESISTANCE	USCS SUMMARY			
GRAVEL	SAND (SIZE RANGE)	FINES													
						1									
						2									
						3									
						4									
						5									
						6									
						7									
						8									
						9									
						0									
						1									
						2									
						3									
						4									
						5									
						6									
						7									
						8									
						9									
						0									

# Soil Vapor Port Sample Collection Form

Project Name: \_\_\_\_\_ Address: \_\_\_\_\_ Aspect Project No.: \_\_\_\_\_

Date: \_\_\_\_\_ Field Representative: \_\_\_\_\_

Brand and Model of Field Meters Used:

Photoionization Detector: \_\_\_\_\_

Multi-Gas Meter: \_\_\_\_\_

Helium Monitor: \_\_\_\_\_

<b>Soil Vapor Sample Name:</b>			Cannister ID:		Gauge ID:		
<b>Shut-In Vacuum Test Readings</b>			<b>Final Purge Readings</b>				
<b>START</b>	Time:	Vacuum (inches Hg):	PID (ppm)	CH <sub>4</sub> (%LEL)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	He (%)
<b>END</b>	Time:	Vacuum (inches Hg):					
<b>Sampling Readings</b>							
<b>START</b>			<b>Sample Time Interval</b>		<b>END</b>		
Helium Shroud:	Y	N	(%)	Start:	Helium Shroud:	Y	N
Canister Vacuum (inches Hg):				End:	Canister Vacuum (inches Hg):		

Notes:

<b>Soil Vapor Sample Name:</b>			Cannister ID:		Gauge ID:		
<b>Shut-In Vacuum Test Readings</b>			<b>Final Purge Readings</b>				
<b>START</b>	Time:	Vacuum (inches Hg):	PID (ppm)	CH <sub>4</sub> (%LEL)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	He (%)
<b>END</b>	Time:	Vacuum (inches Hg):					
<b>Sampling Readings</b>							
<b>START</b>			<b>Sample Time Interval</b>		<b>END</b>		
Helium Shroud:	Y	N	(%)	Start:	Helium Shroud:	Y	N
Canister Vacuum (inches Hg):				End:	Canister Vacuum (inches Hg):		

Notes:

<b>Soil Vapor Sample Name:</b>			Cannister ID:		Gauge ID:		
<b>Shut-In Vacuum Test Readings</b>			<b>Final Purge Readings</b>				
<b>START</b>	Time:	Vacuum (inches Hg):	PID (ppm)	CH <sub>4</sub> (%LEL)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	He (%)
<b>END</b>	Time:	Vacuum (inches Hg):					
<b>Sampling Readings</b>							
<b>START</b>			<b>Sample Time Interval</b>		<b>END</b>		
Helium Shroud:	Y	N	(%)	Start:	Helium Shroud:	Y	N
Canister Vacuum (inches Hg):				End:	Canister Vacuum (inches Hg):		

Notes:





## **Attachment D-2**

### **Aspect Field General Procedures**

## FIELD NOTES

Provided below are general field documentation procedures for all environmental field staff. The Project Manager should discuss additional project-specific requirements with staff. Regardless of the documentation needs of the project, all written documentation of field tasks is discoverable as evidence and should be kept neat, professional and factual.

A field logbook or field form should be completed daily for each field job at each Site visited, regardless of the scope of work. Before field notes are provided to the Project Manager, all information should be accurate, complete and neat. The field staff shall sign or initial and date each page/sheet. At a minimum, field notes should include the following, as applicable:

- The times of arrival to and departure from the Site.
- Any unique weather conditions.
- Project name and project number.
- A list of all personnel on the job Site during the day, including contractors, sub-consultants, other consultants, clients, regulators, etc.
- A description, and general times for completion, of the activities conducted (however there is no need to duplicate information that may be provided on another field form, i.e. lithology type in a boring that is logged on a boring log or volume of groundwater purged from a well).
- A description of any unanticipated Site conditions.
- A description of any problems encountered and resolutions taken, including times and reasons for work delays.
- Rationale/description for any deviations from the Proposal, Work Plan, Sampling Plan, etc.
- A summary of equipment used (make, model and condition) and calibration information, if applicable (reference calibration log, if applicable).
- A description of waste generated (amount, type, container, location, etc.).
- A description of any photographic documentation of the site conditions and field work.
- A description of the samples collected and procedures to get the samples to the analytical laboratory.

Your field notes should be scanned to a PDF file and saved in the appropriate project folder with the other field documentation from the day. When all field documentation is complete, combine into a single PDF and send the link to the file to the PM.

## *Field Procedures*

### **Gauging Water Levels**

- Decontaminate the water level meter tape and probe.
- Don the appropriate PPE as defined in the Site-specific Health and Safety Plan.
- Unlock and open the well monument and remove the well cap. Observe the well and document any damage to the monument, monument cover, or well cap in the daily field log.
- Remove any water that may have accumulated inside well monument using a hand pump (e.g. thirsty mate).
- Open the well and remove any dedicated equipment.
- Wait at least 30 minutes after opening/removing equipment to allow water levels to equilibrate to atmospheric pressure.
- Measure and record the depth to water from the marked reference point, or the north side of the well casing if no reference point is marked, to the nearest 0.01 foot.
- Record the time and water level measurement in a field logbook or on a field form. All times and water level measurements should be in one place (not on individual purge forms).

### **Low-Flow Purging and Sample Collection**

Unless directed otherwise by the Project Manager or a site-specific work plan, all monitoring wells should be purged using the standard low-flow purge techniques<sup>1</sup>. The purging equipment will vary depending on the water level in the well and the screened interval.

- If using an aboveground pump, attach and secure the dedicated tubing to the sampling pump. Lower the tubing or, if using a submersible pump, the pump slowly into the well.
- Set the water intake (end of the tubing or pump intake) at the approximate middle of the saturated screened interval, unless directed otherwise by the Project Manager.
- Slowly lower the water level probe until it is just at the water surface and record initial water level on the purge form.
- Connect the discharge end of the tubing to a flow-through cell containing the water quality meter.

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<sup>1</sup> United States Environmental Protection Agency (EPA). 1996. Low Stress (low flow) Purging and Sampling Procedures for the Collection of Ground Water Samples from Monitoring Wells. Revision 2. July 30.

# GROUNDWATER SAMPLING

- Start pumping the well by selecting the lowest pump speed. Ideally, the pump rate should equal to the recharge rate with little or no water level drawdown in the well (total drawdown should be 0.3 foot or less).
- The maximum flow rate during purging should be 0.1 to 0.5 liters (100 to 500 milliliters) per minute. Measure the pumping rate using a graduated cylinder and stopwatch. Record the pumping rate and depth to water.
- Allow the flow-through cell to be “flushed” with purged groundwater twice. Monitor field parameters (temperature, pH, ORP, specific conductance and dissolved oxygen) in 3- to 5-minute intervals during purging, maintaining a consistent time interval for a single well.
- The well is considered stabilized and ready for sample collection when the indicator parameters have stabilized for three consecutive readings, as follows<sup>2</sup>:
  - $\pm 0.1$  for pH
  - $\pm 3$ -percent for specific conductance
  - $\pm 10$ -percent for dissolved oxygen
  - $\pm 10$ mV for ORP
- If the recharge rate of the well is very low, do not purge the well dry. Lower the flow rate if the water level drops more than 0.3 foot or if air bubbles are observed in the purge stream. Do not lower the water intake. Turn off the pump and allow the well to recover before sampling.
- Once the field parameters have stabilized, disconnect the tubing from the flow-through cell in preparation for sampling. Gloves should be changed between purging and sampling.
- Samples should be collected by filling laboratory-supplied containers to the top. Samples for volatiles should be collected first - VOAs should be filled with no headspace or bubbles. For dissolved metals analysis, field filtering may be necessary prior to sample collection (check with your Project Manager).
- After samples have been collected, measure and record the final water level.
- Stop the pump and disconnect the tubing from the pump. Dedicated tubing can be left inside the well for future sampling events; secure the tubing so that it doesn't fall down the well.
- Close and lock the well.
- Once samples are collected, label each sample and record them on the COC form. Sample labels should be smudge-proof or covered with transparent tape. Place sample containers

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<sup>2</sup> In some cases, duration of purging may be appropriate to determine sampling. Contact the Project Manager if parameters do not stabilize after 1 hour of purging.

# GROUNDWATER SAMPLING

into a Ziploc bag and immediately put into an iced cooler for shipment to the laboratory. Segregate larger bottles with bubble wrap. Ice in coolers should be double-bagged to prevent leakage. Coolers should be paced to the top with bagged ice to prevent warming and bottle breakage.

## ***Documentation***

Daily field logbook or field notes

Water level summary form (or single logbook page/notes)

Groundwater Purge Form

COC copy

# SOIL LOGGING & SAMPLING

## ***Documentation***

Field documentation for soil sampling varies depending on the type of work being conducted, but should include, at a minimum:

- Daily field logbook or field notes (see Field Notes procedures)
- Boring log/test pit log (see Soil Description guidance)

## ***Field Procedures***

### **Logging and Soil Descriptions**

General soil logging procedures specific to drilling are provided here. These general procedures can also be applied to other types of soil explorations. Site-specific deviations should be discussed with the Project Manager. Soil classification will be addressed in a separate guidance.

- Visually classify the soils in general accordance with ASTM Method D 2488 and record soil descriptions in accordance with Aspect soil logging standards, field screening results, and other relevant details (e.g., staining, debris, odors, etc.) on the boring log.
- Record the total pounded/advanced length of core, the amount of soil recovery within that length, sampler type and diameter, and the blow counts and hammer weight or SPT data (if applicable), on the boring log.
- Note the location of each soil sample collected for potential chemical analysis, including the depth interval represented and the name, time of collection and number of sample containers. These can be noted on the boring log or in the field notes but do not need to be documented in multiple places.
- Document the depth to water at the time of drilling on the boring log, and make any notations about the observed conditions (odors, color, sheen, etc.) of the water on the boring log or in field notes.
- Note whether the water level was measured in an open hole or a cased hole, and if so, the depth of the casing at time of measurement.
- If applicable, document the temporary screened interval and specific depth of water intake (tubing, casing or pump intake) from which a grab groundwater sample is collected in the field notes.
- Document the total boring depth on the boring log.

### **Field Screening**

Field screening procedures may vary from site to site depending on the investigation objectives. At a minimum, field screening of soil samples – whether collected from drilling samplers, test pits/excavations or stockpiles – should consist of the following.

- Visual examination – Observe the soil visually for staining and evidence of NAPL. If NAPL is observed, note its occurrence in the context of the soil lithology:
  - Sheen – as described below

# SOIL LOGGING & SAMPLING

- Staining – Visible brown or black staining on soil. Can be visible as mottling or in bands. Typically associated with fine-grained soil.
- Coating – Visible brown or black oil coating soil grains. Typically associated with coarse-grained soil.
- Oil wetted – Visible brown or black oil wetting the soil. Oil appears as a liquid and is not held by soil grains.
- Olfactory – Observe and document any odor associated with the soil sample. Unless confident in contaminant odor identification, all odor notations should be described as contaminant-**like** (e.g. petroleum-like odor). Odors can be quantified as slight or strong, if applicable.
- Volatile organic vapor screening – Measure and record the volatile organic vapors present in the headspace of each soil sample using a photoionization detector (PID).
  - After collecting soil in laboratory-supplied containers for chemical analysis, as described below, place remaining soil into a disposable plastic bag, seal, and gently shake.
  - Let the bag sit for at least 2 minutes.
  - Open or puncture the bag (do not use the tip of the PID, as it may become clogged with plastic from the bag, and do not use the tip of a pen, as the ink may contain volatile compounds) and insert the tip of the PID into the headspace in the Ziploc bag.
  - Record the PID reading.
- Water Sheen Test – Test and observe water for the presence of sheen.
  - Place approximately 1 Tablespoon of soil into disposable container or a black-plastic gold plan that is approximately ¼ full of water. For gravel, you may need to use 4 Tablespoons of soil in a larger container that is approximately ¼ full of water.
  - Observe the water surface and sidewalls of the jar for signs of sheen, according to the nomenclature below.
  - Gently agitate the soil and record observations. Naturally-occurring sheen will dissolve or break-up upon agitation. If only naturally-occurring sheen is observed, the recorded observations should be “No Sheen”.
  - Sheen nomenclature:
    - No Sheen (NS) – no visible sheen on water surface.
    - Slight Sheen (SS) – light, colorless or dull sheen on water. Spotty to globular; spread is irregular, not rapid; areas of no sheen remain; sheen dissipates rapidly.
    - Moderate Sheen (MS) – light to heavy sheen. May have some color or iridescence, globular to stringy; spread is irregular to flowing; few remaining areas of no sheen on water surface.
    - Heavy Sheen (HS) – Heavy colorful film with iridescence. Spread is rapid; sheen flows off the sample; most of water surface covered with sheen.
    - Organic Sheen (OS) – Blocky, irregular sheen with little or no color. Where petroleum sheen is fluid looking and flowy, organic sheen is square and moves across the surface of the water very little, if at all.
  - If observed, quantify the spatial coverage (as % of total water surface), size/diameter and color of NAPL blebs.

# SOIL LOGGING & SAMPLING

The results of field screening activities should be recorded on the boring log when samples originate from a drilling sampler, on a test pit log or in the field logbook/field forms for other excavation or stockpile sampling.

## **Soil Sample Collection**

As with field screening, soil samples can be collected from drilling samplers, excavator buckets, test pit sidewalls and stockpiles using variable methods. The general procedures described below should be used when collecting soil samples from a potentially-contaminated site for chemical analysis.

- Gloves should be changed between collection of each soil sample.
- If collecting soil for VOC analysis (EPA 5035A), use the laboratory-provided, dedicated sampling syringe to collect approximately 5 grams of soil from an undisturbed soil surface and insert the soil into the 40-mL VOA vial (see Ecology Technical Memoranda #5). Quickly brush off the vial threads and seal immediately with the screw cap.
- From the same soil surface, use a freshly-gloved hand or a decontaminated stainless-steel spoon/hand shovel to collect the rest of the soil into laboratory-prepared sample jars. Fill the jars as full as possible, brush off the jar threads and seal immediately with the screw cap.
- Once sample collection is complete, label each sample and record them on the COC form. Sample labels should be smudge-proof or covered with transparent tape. Place sample containers into a Ziploc bag and immediately put into an iced cooler for shipment to the laboratory. Segregate VOA vials from sample jars. Ice in coolers should be double-bagged to prevent leakage. Coolers should be paced to the top with bagged ice to prevent warming and bottle breakage.

## **Grab Groundwater Sample Collection**

The collection of grab groundwater samples will usually be facilitated by the driller. Once groundwater is encountered and a screened interval is agreed upon, the driller will install a temporary well screen. The driller will install tubing and/or a pump and start purging water from the screen. The general grab groundwater sample collection procedures are as follows:

- Allow the pump to purge at a low-flow rate (100- to 500-mL per minute) until turbidity is reduced as much as possible (i.e., further pumping does not visibly improve groundwater quality).
- Once turbidity stabilizes, measure and record field parameters (check with the Project Manager, this step may be skipped for some projects).
- Gloves should be changed before collecting the sample.
- Fill all sample bottles by allowing the pump discharge to flow gently down the inside of the bottle with minimal turbulence. Samples for volatile analysis should be collected first. VOAs should be filled to just overflowing so that no air bubbles are entrapped inside. Other containers should be filled to nearly the top and capped thereafter.



## SOIL LOGGING & SAMPLING

- Once container filling is complete, label each sample and record them on the COC form. Sample labels should be smudge-proof or covered with transparent tape. Place sample containers into a Ziploc bag and immediately put into an iced cooler for shipment to the laboratory. Segregate larger bottles with bubble wrap. Ice in coolers should be double-bagged to prevent leakage. Coolers should be paced to the top with bagged ice to prevent warming and bottle breakage.

X:\Aspect Forms\Field Forms\Field Procedures Guidance\Procedures\_Soil Logging and Sampling.docx

**Field Guidance for Installing  
and Sampling Sub-Slab Soil Gas  
Using Vapor Monitoring Points**

# 1 Sub-Slab Soil Vapor Point Installation and Sampling Procedures

The purpose of this Field Guidance Procedure Field Guidance Procedure is to provide field personnel with an outline of the specific information needed to collect and document representative sub-slab soil gas samples. The recommended sub-slab soil gas sampling technique, as presented in this Field Guidance Procedure, is based on the assumption that soil gas samples should be representative of chemicals that may volatilize from the uppermost aquifer into the vadose zone.

## 1.1 Equipment and Materials

---

### ***Temporary Installation***

The following equipment and materials are required for temporary Vapor Pin™ installation:

- Rotary hammer drill.
- 5/8-inch diameter drill bit.
- 1½-inch diameter drill bit.
- ¾-inch diameter bottle brush.
- Wet/dry vacuum.
- Extension cord.
- Generator (if no power is available on site).
- Assembled Vapor Pin™.
- Vapor Pin™ installation/extraction tool.
- Dead blow hammer.
- VOC-free hole patch material (hydraulic cement) and putty knife, for hole repair after sampling.
- Appropriate personal protective equipment(PPE).

### ***Permanent Installation***

The following equipment and materials are necessary for permanent AMS vapor point installation:

- Rotary hammer drill with a 1-inch and a 2-inch carbide tipped bit.
- Extension cord and generator (if no power outlets are available).
- 3-inch (length) stainless steel (SS) screen assembly with locking cap (AMS GVP probe assembly or equivalent).
- Hose barb, stainless steel (1/4-inch).
- Teflon® tape.

- 100% Beeswax, to seal vapor port borehole annulus.
- Quick Set Concrete Patch, to seal vapor port borehole annulus.

### **Sample Collection**

The following equipment and materials are necessary to properly conduct sub-slab soil gas sampling (see Figure 1):

- Air pump and appropriate ¼-inch fluoropolymer and silicone #15 connection tubing, tee fittings, valves, and flow metering device for purging and sampling vapor ports.
- Sufficient number of Summa canisters with appropriate flow controllers.
- Equipment required for collection of samples using Summa canisters, including appropriate wrenches and pressure gauges.
- An accurate and reliable watch that has been properly set.
- A calculator.
- Field notebook, applicable sampling analysis plan, and Chain of Custody.
- Health-and-safety equipment and supplies (e.g., personal protective equipment [PPE]) as described in the relevant site health-and-safety plan (HSP).
- Shipping package for the Summa canisters.

Leak testing equipment and materials include:

- Syringe or vacuum pump for shut-in testing.
- Leak test shroud of sufficient size to cover soil gas vapor probe or vapor pin.
- 1-liter Tedlar® bags to collect purged vapors and test for tracer gas (helium).
- A soft gasket to seal the leak test shroud to the floor.
- Tracer gas (helium).
- Flow regulator with 1/8-inch barbed outlet and tubing to connect the helium gas cylinder to the shroud.
- MGD-2002 helium meter or equivalent.

## 1.2 Sub-Slab Soil Vapor Point Installation

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### ***Temporary Installation***

Use the following steps to install Vapor Pins™:

- Prior to beginning, clear sampling locations for utilities, verify access agreements are in place, and obtain required permits, as appropriate.
- Set up wet/dry vacuum to collect drill cuttings.
- Drill a 5/8-inch diameter hole through the slab and approximately 1-inch into the underlying soil (if present).
- Remove the drill bit, brush the hole with the bottle brush, and remove loose cuttings with the vacuum.
- Place the lower end of the Vapor Pin™ assembly into the drilled hole. Unscrew the threaded coupling from the handle of installation/extraction tool, place the small hole located in the handle of the installation/extraction tool over the Vapor Pin™ to protect the barb fitting/cap, and tap the Vapor Pin™ into place using a dead blow hammer. Make sure the installation/extraction tool is aligned parallel to the Vapor Pin™ to avoid damaging the barb fitting.

### ***Permanent Installation***

Prior to sampling, it is recommended that the sub-slab vapor point be installed at least one day in advance to allow the seal to set up properly. However, the use of quick-setting concrete will allow for same day sampling if desired.

- Prior to beginning, clear sampling locations for utilities, verify access agreements are in place, and obtain required permits, as appropriate.
- Drill a 2-inch borehole to a depth of approximately 3 inches.
- Drill a 1-inch borehole through the center of the 2-inch borehole through the floor slab of the building foundation to a depth of approximately 12 inches below the surface.
- Construct the vapor point as shown in Figure 1 and insert such that the top of the assembly is set approximately 1/8-inch below the top of the slab.
- Seal the vapor port by melting the beeswax with a small butane torch. Pour the beeswax from the rubber plug up to the bottom 1/2-inch of the 2-inch borehole.
- Allow beeswax to solidify and harden.
- Mix Quick Set concrete patch and apply from top of beeswax seal to within 1/4-inch of the top of the slab.

## 1.3 Sampling Procedure

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### **Sample Train Assembly**

Assemble sampling train. The sampling train will be set up so that the Summa canister is in-line between the vapor port and the air pump, with a valve between the canister and the pump (see Figure 1):

- Verify the Summa canister number engraved on the canister matches the number listed on the certified clean tag to insure proper decontamination of the canister was completed. Fill out the sample tag.
- Verify the canister valve is closed tightly and remove the threaded cap at the inlet of the canister.
- Attach the flow controller to the inlet of the canister; the flow controller will have a built in pressure gauge.
- Connect the tubing from vapor port to inlet of a ¼-inch tee fitting.
- Connect the Summa canister/flow controller to one outlet of the tee fitting.
- Connect air pump to the other outlet of the tee fitting, insert a ¼-inch shutoff valve between the tee fitting and the air pump.

### **Leak Testing**

Where leak testing is required, shut-in testing of the sample train will be conducted to test the sample train (excluding the vapor point) for leaks. A shroud containing tracer gas will be used to test the vapor point. The shroud consists of a plastic PVC cap or equivalent. Three holes will be drilled near the top of the shroud; one for connection of the helium gas cylinder, one for connection of the helium gas meter, and one for connection of the sample train located outside the shroud (see Figure 1).

- Before purging or sampling begins, assemble the sample train and vapor shroud. Crimp or plug the silicon tubing connection at the vapor point.
- Attach either a syringe or vacuum pump to the downstream end of the purge point valve. Draw a vacuum of at least 15 inches of mercury and shut the valve.
- The sample train should hold vacuum for 5 minutes. If the gauge vacuum decreases during this time period, check/tighten all connections and retest.
- After successful shut-in test, remove the crimp or plug and attach to the vapor point. The tubing from the tee connection above the canister will pass through the wall of the shroud to connect with the air pump outside.
- Connect the helium cylinder to the leak test shroud using tubing from the flow regulator on the cylinder, through a hole in the top of the shroud.
- Connect the helium meter to the leak test shroud.
- Use the flow regulator to slowly release helium into the leak test shroud until a concentration of 100% helium is contained within the shroud. The helium

concentration will be measured using the helium meter. Maintain helium concentrations throughout the purging and sampling period by continuously bleeding cylinder gas into the shroud as needed.

### **Sample Collection**

Prior to collecting the canister sample, the vapor port will be purged as described below. If leak testing is performed with helium, purged vapor contained in the Tedlar® bags will be field screened using the helium meter to ensure that the concentration of helium inside the bags is less than 5 percent of the shroud concentration. If leakage is detected, the vapor port seal will be enhanced and connections will be inspected and tightened. This process will be repeated until no significant leakage has been demonstrated.

- Purge the vapor port and sampling train at approximately 100-200 ml/min using the air pump to ensure the sample is representative of subsurface conditions. Capture purged vapor in 1-liter Tedlar® bags at the outlet of the air pump and release the vapor outdoors. Three-to-five tubing volumes should be removed. If the slab is greater than 6-inches thick, the borehole volume should also be purged. Use the following equation to calculate volume to be purged:

$$V = (\pi \times r_t^2 \times l_t) + (\pi \times r_h^2 \times l_h)$$

Where:

V = Volume of tubing and sampling train (cubic inches)

$\pi = 3.14$

$r_t$  = the inner radius of the tubing [inches]

$l_t$  = the length of the tubing [inches]

$r_h$  = the inner radius of the hole in the slab beneath vapor pin (inches)

$l_h$  = the length of the hole in the slab beneath vapor pin (inches)

- Convert to ml using 1-inch<sup>3</sup> = 16.387 ml to determine purge volume, then divide it by the pumping rate to determine purge time for one volume.
- If leak testing is performed with helium, purged soil gas collected in the Tedlar® bag will be field screened using the tracer gas (e.g., helium) using handheld meter to ensure that leakage is less than 5 percent of the shroud concentration.
- Begin sample collection by closing the ¼-inch shutoff valve between the Summa canister and the air pump and opening the valve on the Summa canister. Immediately record the pressure on the gauge as the “initial pressure” on the tag attached to the canister.
- After sampling begins and the apparatus is verified to be operating correctly, leave the canister to fill.
- Record all sample information in the field book and applicable field forms including the following:
  - Canister number and sample identification,
  - Weather including barometric pressure,

## **ASPECT CONSULTING**

- Purge time and purge volume, Sample start date and times,
  - Location of sample (distance from walls shown on building floorplan),
  - Initial and final pressure of canister, and
  - Notes regarding leak test, if applicable.
- Monitor canisters continuously to ensure proper operation. It is necessary to check the canister prior to completion because the accuracy of the flow regulators can vary, causing the canisters to fill faster than expected. The final pressure at the end of sampling should be approximately -5 inches mercury (Hg). If the canister has already reached this point, sampling is complete, the canister valve should be closed, and the pressure recorded as the “final pressure” on the sample tag, the field book, and applicable field forms. Sample collection will be considered complete, regardless of final pressure, after the stated sample period has elapsed.
  - Record the exact pressure of the canister and time at the end of sampling on the sample tag for that canister, in the field book, and on the applicable field forms.
  - Verify that the canister valve is closed tightly, remove the flow controller, and replace the threaded cap at the top of the canister. Discard all sample tubing.
  - Replace the vapor point cap using Teflon tape to seal the threads if permanently installed. If using temporary vapor pints, remove them from the hole using the manufacturer-supplied extraction tool. The hole in the slab must be filled with hydraulic cement, fast-cure epoxy, or similar.

## ***Post-Sample-Collection Procedures***

Pack all Summa canisters in the original shipping containers, sealed with a custody seal, and send to the lab for analysis. The official holding time for this analysis is 30 days. However, attempt to get samples to the lab as soon as possible to allow lab time to conduct re-runs, dilutions, and low-level analyses, as necessary prior to sample expiration.

## ***Analysis***

The soil gas samples should be analyzed using EPA Methods TO-15, and when necessary/possible, low-level analysis or Selective Ion Mode (SIM) analysis to obtain the lowest achievable detection and reporting limits. When leak testing is performed, samples should additionally be analyzed for helium. Other analysis will be included on a project-specific basis. Note the desired analytical methods on the Chain-of-Custody form and be sure analysis for helium is specified for leak-tested samples.

## ***Decontamination***

Temporary vapor points must be decontaminated prior to re-use. Decontamination procedures include Alconox<sup>®</sup> wash, deionized water rinse, and heated in an oven to 130C for 30 minutes.

The Summa canisters will be individually cleaned and certified to 0.02 ppbv THC for the project-specific analyte list by the contract laboratory prior to shipment. Ensure that documentation of this certification is included on a tag attached to the canister and in the paperwork that accompanies the canister shipment from the lab.

## ***Documentation***

Label all sample containers with the following information: sample identification, date and time sample was collected, the starting and ending canister pressure, the site name,



and the company name.

Include all this information in the field book plus the ending time of sample collection and transfer pertinent information to the Chain-of-Custody record. Record all field activities, environmental and building conditions, and sample documentation on the appropriate field forms and field notebook.

## 2 Related Field Guidance Documents

Related field guidance documents that may be relevant for completing field sampling are listed below.

- Field Notes
- Indoor Air Sampling
- Soil Gas Sampling Using Sorbent Tubes
- Sample Handling

## 3 References

Department of Environmental Protection, Commonwealth of Massachusetts, Indoor Air Sampling and Evaluation Guide, WSC Policy #02-430, Boston, Massachusetts, April 2002.

EPRI, Reference Handbook for Site Specific Assessment of Sub-Surface Vapor Intrusion to Indoor Air, March 2005.

New Jersey Department of Environmental Protection, Vapor Intrusion Guidance, October 2005.

New York State Department of Health, Guidance for Evaluation Soil Vapor Intrusion in the State of New York, October 2006.

USEPA, Center for Environmental Research Information, Office of Research and Development, Compendium of Methods for Determination of Toxic Organic Compounds in Ambient Air, Second Edition, Compendium Method To-14A, Determination of Volatile Organic Compounds (VOCs) in Ambient Air Using Specially Prepared Canisters with Subsequent Analysis by Gas Chromatography, January 1999.

USEPA, Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway Form Groundwater and Soils, EPA530-F-02-052, November 2002.

S:\Bremerton School District\Remedy Implementation\Soil Vapor Sampling\SS Vapor Sampling FIELD GUIDANCE PROCEDURE \_Nov2015.doc

## **APPENDIX E**

### **State Environmental Policy Act Checklist**

# SEPA ENVIRONMENTAL CHECKLIST

## ***Purpose of checklist:***

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

## ***Instructions for applicants:***

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

## ***Instructions for Lead Agencies:***

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

## ***Use of checklist for nonproject proposals:***

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

## ***A. Background*** [\[HELP\]](#)

1. Name of proposed project, if applicable: [Texaco Strickland Interim Action](#)
2. Name of applicant: [Rainier Property Management Company, LLC](#)
3. Address and phone number of applicant and contact person:

Ryan Megenity  
425.252.3626 ryan@rpmcousa.com  
12199 Village Center Place, Suite 201, Mukilteo WA, 98275

4. Date checklist prepared:  
3/8/2021

5. Agency requesting checklist:  
Washington State Department of Ecology (Ecology) Toxics Cleanup Program

6. Proposed timing or schedule (including phasing, if applicable):  
Interim Action conducted in dry season after Ecology approval of Interim Action Work Plan.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.  
No.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.  
The proposal is an Interim Action Work Plan (IAWP) to be conducted under Agreed Order No. 14315 with Ecology.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.  
No.

10. List any government approvals or permits that will be needed for your proposal, if known.  
Permitting with the City of Lynnwood is required for the proposal and is outlined in the IAWP.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The IAWP implementation will consist of a planned excavation to an average depth of 18 feet below ground surface (bgs) with the ability to overexcavate deeper to an average maximum depth of 30 feet bgs, if warranted, based on soil performance monitoring. Contaminated soil will be removed from the Site and transported to a permitted disposal facility. Demolition of the building, removal of underground storage tanks and temporary shoring on the northern and western Property extents is required for IAWP implementation. The remedial excavation will be backfilled and the Site restored to original grade.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic

map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

Project address is 6808 196th Street NW, Lynnwood WA, 98036. NW 1/4, Section 20, Township 27, Range 4. Parcel Number 27042000200600.

## **B. Environmental Elements** [\[HELP\]](#)

### **1. Earth** [\[help\]](#)

- a. General description of the site: The Site is a corner parcel at the intersection of 196th Street NW and 68th Avenue W to the east in Lynnwood. There is a single-story, unoccupied building (former service station) with an asphalt parking lot, curbs, and planter boxes.

(circle one): **Flat**, rolling, hilly, steep slopes, mountainous, other \_\_\_\_\_

- b. What is the steepest slope on the site (approximate percent slope)? <10%.

- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The geology at the Site is imported fill to depths of approximately 10 feet bgs. This fill soil is underlain by unconsolidated silt, sand, gravel, and clay characteristic of a weathered glacial till deposit.

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No.

- e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Planned net-zero export and fill soils. A planned excavation, 5,800 cubic yards will be removed from the Site, and the Site restored with the same quantity of imported virgin backfill will be used to restore the Site to approximately current grade. The imported fill source will be approved by Ecology during the IAWP implementation.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. Contractor will implement a temporary erosion and sediment control (TESC) plan to protect from erosion during construction, and to demonstrate final stabilization at project completion. Limited erosion is anticipated because all earthwork will be conducted subgrade. Erosion of any soil stockpiles will also be managed in accordance with TESC Plan, and the IAWP contractor requirements.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 10 percent of the Site will remain asphalt that is not removed during construction.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:  
Contractor will implement a temporary erosion and sediment control (TESC) plan to protect from erosion during construction, and to demonstrate final stabilization at project completion. Standard TESC includes silt fence or straw wattle perimeter, silt sock in vicinity of catch basins, stabilized truck entrance, and street sweeping.

## 2. Air [\[help\]](#)

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Construction vehicle emissions, and fugitive dust emissions can temporarily occur during construction, and it's the Contractor responsibility to comply with all local (City of Lynnwood) and state requirements.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

The Contractor is responsible for implementing measures to manage fugitive dust emissions in accordance local (City of Lynnwood) and state requirements.

## 3. Water [\[help\]](#)

- a. Surface Water: [\[help\]](#)

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

No surface water in the immediate Site vicinity.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No surface water in immediate Site vicinity.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

No fill or dredge material associated with proposal.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No surface water withdrawals or diversions.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.  
No, work not within a 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No discharge to surface water. If construction discharges are required, they will be discharged to sanitary sewer to Public Owned Treatment Works (POTW) prior to any surface water discharge.

b. Ground Water: [\[help\]](#)

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No groundwater withdrawal.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material discharged into the ground.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

During construction, the excavation will self-contain any stormwater (via direct precipitation or run-on) and be collected using excavation sumps. The perimeter of the property will be protected with straw wattles and/or silt fence and any runoff that enters a catch basin will pass through a silt sock. Contaminated soils will not come in contact with surface water that may enter the storm system.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No waste material discharged onto the ground or to surface water.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

After excavation, the Site will be restored to current grade and drainage patterns.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Standard TESC measures will be used to prevent any sedimentation of surface waters, groundwater quality will eventually improve as the results of source material excavation.

#### 4. **Plants** [\[help\]](#)

a. Check the types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other – [Purple Plum Trees](#)
- evergreen tree: fir, cedar, pine, other
- shrubs: [Evergreen](#)
- grass: [Urban Weeds](#)
- pasture
- crop or grain
- Orchards, vineyards or other permanent crops.
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

[Only the vegetation in the northwest corner and along the western property boundary will be removed.](#)

c. List threatened and endangered species known to be on or near the site.

[None.](#)

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

[None.](#)

e. List all noxious weeds and invasive species known to be on or near the site.

[None / Unknown.](#)

#### 5. **Animals** [\[help\]](#)

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

[Numerous birds, including hawks, eagles, songbirds, and other bird species.](#)

b. List any threatened and endangered species known to be on or near the site.

[None known.](#)

c. Is the site part of a migration route? If so, explain.

[No.](#)

d. Proposed measures to preserve or enhance wildlife, if any:

[None.](#)



e. List any invasive animal species known to be on or near the site.

None known.

## **6. Energy and Natural Resources** [\[help\]](#)

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

None. The completed project is a stabilized lot.

b. Would your project affect the potential use of solar energy by adjacent properties?  
If so, generally describe.

No, the project would not affect potential use of solar energy.

c. What kinds of energy conservation features are included in the plans of this proposal?  
List other proposed measures to reduce or control energy impacts, if any:

None.

## **7. Environmental Health** [\[help\]](#)

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal?  
If so, describe.

The proposal is an Interim Action Work Plan (IAWP) to be conducted under Agreed Order No. 14315 with Ecology. All potential exposure hazards and other risks will be mitigated in accordance with the Ecology-approved Final IAWP and contract documents.

- 1) Describe any known or possible contamination at the site from present or past uses.  
Contamination consists of gasoline-, diesel-, and oil- range organics, as well as benzene, toluene, ethylbenzene, xylenes, and naphthalene in soil and groundwater. The property uses include a Texaco service station (1959-1977) and a Lube Facility (1977-2006).
- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.  
The project will remove the contaminated soil and groundwater that exist at the property. Exposure to hazardous building materials is also possible during building demolition.
- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.  
Contaminated soil and groundwater will be produced. Diesel and hydraulic oil will be stored on site and used for earth work activities.
- 4) Describe special emergency services that might be required.  
None.
- 5) Proposed measures to reduce or control environmental health hazards, if any:

Licensed asbestos and lead removal contractor along with underground storage tank decommissioner, marine chemist (if needed), and environmental consultant oversight during the conduct of the IAWP.

**b. Noise**

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Traffic.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Noise from dump trucks and other excavation equipment, during business hours.

- 3) Proposed measures to reduce or control noise impacts, if any:

Contractor will meet City of Lynnwood noise control standards.

**8. Land and Shoreline Use** [\[help\]](#)

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The property is currently a vacant building (former service station). The project will temporarily affect land uses on adjacent properties and in rights-of-way during construction, but it will not permanently impact land uses of adjacent properties.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

No – project Site not used as farmland or forest land.

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

No.

- c. Describe any structures on the site.

Vacant one-story building.

- d. Will any structures be demolished? If so, what?

Yes, the vacant one-story building will be demolished, and the majority of asphalt will be removed.

- e. What is the current zoning classification of the site?

College District Mixed Use

- f. What is the current comprehensive plan designation of the site?

5508000 – Existing as commercial proposed as local commercial.

g. If applicable, what is the current shoreline master program designation of the site?

No shoreline applicable to proposal or site.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

A future commercial use could employ up to 20 people.

j. Approximately how many people would the completed project displace?

None, existing property use is vacant.

k. Proposed measures to avoid or reduce displacement impacts, if any:

No displacement proposed.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Proposal is compatible with City of Lynnwood Municipal Code and facilitates property use consistent with projected land uses.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

No impacts to agricultural or forest land.

## **9. Housing** [\[help\]](#)

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing included in proposal.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No units eliminated.

c. Proposed measures to reduce or control housing impacts, if any:

No housing impacts proposed.

## **10. Aesthetics** [\[help\]](#)

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

No structures proposed.

b. What views in the immediate vicinity would be altered or obstructed?

No views obstructed. Views may be improved by building demolition.

c. Proposed measures to reduce or control aesthetic impacts, if any:  
Temporary aesthetic impacts during construction. Completed proposal and cleanup allows for property reuse and improved aesthetic permanently.

### **11. Light and Glare** [\[help\]](#)

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

No light or glare proposed.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

### **12. Recreation** [\[help\]](#)

a. What designated and informal recreational opportunities are in the immediate vicinity?

Informal restreation includes dining, shopping, walking, and public parks are in the immediate vicinity.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No, project would not displace any recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

No, the completed project would not impact any recreational uses and no control measures proposed.

### **13. Historic and cultural preservation** [\[help\]](#)

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.

Existing building on Site is over 45 years old and is not on DAHP register.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

No known.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

A DAHP consult was completed to understand any potential impacts to cultural or historical resources. The project is located within the area of interest specified for consultation for the following tribes: Tulalip, Swinomish, Suquamish, Snoqualmie, Sauk Sittle, Samish, Muckleshoot, and Stillaguamish.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

IAWP implementation includes an Inadvertant Discovery Plan (IDP).

#### **14. Transportation** [\[help\]](#)

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The project is at the southwest corner of the intersection of 196th Street SW and 68th Avenue W.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Yes, there are bus routes along 196th Street SW.

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

None eliminated and none created.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

No.

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

The completed project will result in no change in vehicular trips per day. The completion of the project will require the temporary traffic of 300 trucks for transport of contaminated soil.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No.

- h. Proposed measures to reduce or control transportation impacts, if any:

N/A, no transportation impacts involved and no control measures planned.

**15. Public Services** [\[help\]](#)

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

**16. Utilities** [\[help\]](#)

a. Circle utilities currently available at the site:

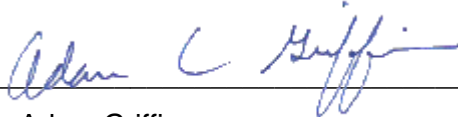
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other \_\_\_\_\_

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No utilities proposed.

**C. Signature** [\[HELP\]](#)

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:  \_\_\_\_\_

Name of signee Adam Griffin

Position and Agency/Organization Project Manager, Aspect Consulting on behalf of Strickland Real Estate Holdings LLC

Date Submitted: May 10, 2021

**D. Supplemental sheet for nonproject actions** [\[HELP\]](#)

(IT IS NOT NECESSARY to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. How would the proposal be likely to deplete energy or natural resources?

Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.



## **APPENDIX F**

### **Inadvertent Discovery Plan**



# INADVERTENT DISCOVERY PLAN PLAN AND PROCEDURES FOR THE DISCOVERY OF CULTURAL RESOURCES AND HUMAN SKELETAL REMAINS

To request ADA accommodation, including materials in a format for the visually impaired, call Ecology at 360-407-6000 or visit <https://ecology.wa.gov/accessibility>. People with impaired hearing may call Washington Relay Service at 711. People with a speech disability may call TTY at 877-833-6341.

Site Name(s):

Location:

Project Lead/Organization:

County:

*If this Inadvertent Discovery Plan (IDP) is for multiple (batched) projects, ensure the location information covers all project areas.*

## 1. INTRODUCTION

The IDP outlines procedures to perform in the event of a discovery of archaeological materials or human remains, in accordance with applicable state and federal laws. An IDP is required, as part of Agency Terms and Conditions for all grants and loans, for any project that creates disturbance above or below the ground. An IDP is not a substitute for a formal cultural resource review (Executive 05-05 or Section 106).

Once completed, **the IDP should always be kept at the project site** during all project activities. All staff, contractors, and volunteers should be familiar with its contents and know where to find it.

## 2. CULTURAL RESOURCE DISCOVERIES

A cultural resource discovery could be prehistoric or historic. Examples include (see images for further examples):

- An accumulation of shell, burned rocks, or other food related materials.
- Bones, intact or in small pieces.
- An area of charcoal or very dark stained soil with artifacts.
- Stone tools or waste flakes (for example, an arrowhead or stone chips).
- Modified or stripped trees, often cedar or aspen, or other modified natural features, such as rock drawings.
- Agricultural or logging materials that appear older than 50 years. These could include equipment, fencing, canals, spillways, chutes, derelict sawmills, tools, and many other items.
- Clusters of tin cans or bottles, or other debris that appear older than 50 years.
- Old munitions casings. **Always assume these are live and never touch or move.**
- Buried railroad tracks, decking, foundations, or other industrial materials.
- Remnants of homesteading. These could include bricks, nails, household items, toys, food containers, and other items associated with homes or farming sites.

The above list does not cover every possible cultural resource. When in doubt, assume the material is a cultural resource.

### 3. ON-SITE RESPONSIBILITIES

If any employee, contractor, or subcontractor believes that they have uncovered cultural resources or human remains at any point in the project, take the following steps to **Stop-Protect-Notify**. **If you suspect that the discovery includes human remains, also follow Sections 5 and 6.**

#### **STEP A: Stop Work.**

All work must stop immediately in the vicinity of the discovery.

#### **STEP B: Protect the Discovery.**

Leave the discovery and the surrounding area untouched and create a clear, identifiable, and wide boundary (30 feet or larger) with temporary fencing, flagging, stakes, or other clear markings. Provide protection and ensure integrity of the discovery until cleared by the Department of Archaeological and Historical Preservation (DAHP) or a licensed, professional archaeologist.

Do not permit vehicles, equipment, or unauthorized personnel to traverse the discovery site. Do not allow work to resume within the boundary until the requirements of this IDP are met.

#### **STEP C: Notify Project Archaeologist (if applicable).**

If the project has an archaeologist, notify that person. If there is a monitoring plan in place, the archaeologist will follow the outlined procedure.

#### **STEP D: Notify Project and Washington Department of Ecology (Ecology) contacts.**

##### **Project Lead Contacts**

###### Primary Contact

Name:

Phone:

Email:

###### Alternate Contact

Name:

Phone:

Email:

##### **Ecology Contacts (completed by Ecology Project Manager)**

###### Ecology Project Manager

Name:

Program:

Phone:

Email:

###### Alternate or Cultural Resource Contact

Name:

Program:

Phone:

Email:

**STEP E: Ecology will notify DAHP.**

Once notified, the Ecology Cultural Resource Contact or the Ecology Project Manager will contact DAHP to report and confirm the discovery. To avoid delay, the Project Lead/Organization will contact DAHP if they are not able to reach Ecology.

DAHP will provide the steps to assist with identification. DAHP, Ecology, and Tribal representatives may coordinate a site visit following any necessary safety protocols. DAHP may also inform the Project Lead/Organization and Ecology of additional steps to further protect the site.

**Do not continue work until DAHP has issued an approval for work to proceed in the area of, or near, the discovery.**

DAHP Contacts:

Name: Rob Whitlam, PhD  
Title: State Archaeologist  
Cell: 360-890-2615  
Email: [Rob.Whitlam@dahp.wa.gov](mailto:Rob.Whitlam@dahp.wa.gov)  
Main Office: 360-586-3065

**Human Remains/Bones:**

Name: Guy Tasa, PhD  
Title: State Anthropologist  
Cell: 360-790-1633 (24/7)  
Email: [Guy.Tasa@dahp.wa.gov](mailto:Guy.Tasa@dahp.wa.gov)

**4. TRIBAL CONTACTS**

In the event cultural resources are discovered, the following tribes will be contacted. See Section 10 for Additional Resources.

Tribe:	Tribe:
Name:	Name:
Title:	Title:
Phone:	Phone:
Email:	Email:
Tribe:	Tribe:
Name:	Name:
Title:	Title:
Phone:	Phone:
Email:	Email:

Please provide contact information for additional tribes within your project area, if needed, in Section 11.

**5. FURTHER CONTACTS (if applicable)**

If the discovery is confirmed by DAHP as a cultural or archaeological resource, or as human remains, and there is a partnering federal or state agency, Ecology or the Project Lead/Organization will ensure the partnering agency is immediately notified.

Federal Agency:

Agency:

Name:

Title:

Phone:

Email:

State Agency:

Agency

Name:

Title:

Phone:

Email:

## 6. SPECIAL PROCEDURES FOR THE DISCOVERY OF HUMAN SKELETAL MATERIAL

Any human skeletal remains, regardless of antiquity or ethnic origin, will at all times be treated with dignity and respect. Follow the steps under **Stop-Protect-Notify**. For specific instructions on how to handle a human remains discovery, see: [RCW 68.50.645: Skeletal human remains—Duty to notify—Ground disturbing activities—Coroner determination—Definitions](#).

**Suggestion:** If you are unsure whether the discovery is human bone or not, contact Guy Tasa with DAHP, for identification and next steps. Do not pick up the discovery.

Guy Tasa, PhD State Physical Anthropologist

[Guy.Tasa@dahp.wa.gov](mailto:Guy.Tasa@dahp.wa.gov)

(360) 790-1633 (Cell/Office)

For discoveries that are confirmed or suspected human remains, follow these steps:

1. Notify law enforcement and the Medical Examiner/Coroner using the contacts below. **Do not call 911** unless it is the only number available to you.

Enter contact information below (required):

- Local Medical Examiner or Coroner name and phone:
  
  - Local Law Enforcement main name and phone:
  
  - Local Non-Emergency phone number (911 if without a non-emergency number):
2. The Medical Examiner/Coroner (with assistance of law enforcement personnel) will determine if the remains are human or if the discovery site constitutes a crime scene and will notify DAHP.
  3. **DO NOT speak with the media, allow photography or disturbance of the remains, or release any information about the discovery on social media.**
  4. If the remains are determined to be non-forensic, Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection and to shield them from being photographed by others or disturbed.

Further activities:

- Per [RCW 27.44.055](#), [RCW 68.50](#), and [RCW 68.60](#), DAHP will have jurisdiction over non-forensic human remains. Ecology staff will participate in consultation. Organizations may also participate in consultation.
- Documentation of human skeletal remains and funerary objects will be agreed upon through the consultation process described in [RCW 27.44.055](#), [RCW 68.50](#), and [RCW 68.60](#).
- When consultation and documentation activities are complete, work in the discovery area may resume as described in Section 8.

If the project occurs on federal lands (such as a national forest or park or a military reservation) the provisions of the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) apply and the responsible federal agency will follow its provisions. Note that state highways that cross federal lands are on an easement and are not owned by the state.

If the project occurs on non-federal lands, the Project Lead/Organization will comply with applicable state and federal laws, and the above protocol.

## **7. DOCUMENTATION OF ARCHAEOLOGICAL MATERIALS**

Archaeological resources discovered during construction are protected by state law [RCW 27.56](#) and assumed eligible for inclusion in the National Register of Historic Places under Criterion D until a formal Determination of Eligibility is made.

The Project Lead/Organization must ensure that proper documentation and field assessment are made of all discovered cultural resources in cooperation with all parties: the federal agencies (if any), DAHP, Ecology, affected tribes, and the archaeologist.

The archaeologist will record all prehistoric and historic cultural material discovered during project construction on a standard DAHP archaeological site or isolate inventory form. They will photograph site overviews, features, and artifacts and prepare stratigraphic profiles and soil/sediment descriptions for minimal subsurface exposures. They will document discovery locations on scaled site plans and site location maps.

Cultural features, horizons, and artifacts detected in buried sediments may require the archaeologist to conduct further evaluation using hand-dug test units. They will excavate units in a controlled fashion to expose features, collect samples from undisturbed contexts, or to interpret complex stratigraphy. They may also use a test unit or trench excavation to determine if an intact occupation surface is present. They will only use test units when necessary to gather information on the nature, extent, and integrity of subsurface cultural deposits to evaluate the site's significance. They will conduct excavations using standard archaeological techniques to precisely document the location of cultural deposits, artifacts, and features.

The archaeologist will record spatial information, depth of excavation levels, natural and cultural stratigraphy, presence or absence of cultural material, and depth to sterile soil, regolith, or bedrock for each unit on a standard form. They will complete test excavation unit level forms, which will include plan maps for each excavation level and artifact counts and material types, number, and vertical provenience (depth below

surface and stratum association where applicable) for all recovered artifacts. They will draw a stratigraphic profile for at least one wall of each test excavation unit.

The archaeologist will screen sediments excavated for purposes of cultural resources investigation through 1/8-inch mesh, unless soil conditions warrant 1/4-inch mesh.

The archaeologist will analyze, catalogue, and temporarily curate all prehistoric and historic artifacts collected from the surface and from probes and excavation units. The ultimate disposition of cultural materials will be determined in consultation with the federal agencies (if any), DAHP, Ecology, and the affected tribe(s).

Within 90 days of concluding fieldwork, the archaeologist will provide a technical report describing any and all monitoring and resultant archaeological excavations to the Project Lead/Organization, who will forward the report to Ecology, the federal agencies (if any), DAHP, and the affected tribe(s) for review and comment.

If assessment activities expose human remains (burials, isolated teeth, or bones), the archaeologist and Project Lead/Organization will follow the process described in **Section 6**.

## **8. PROCEEDING WITH WORK**

The Project Lead/Organization shall work with the archaeologist, DAHP, and affected tribe(s) to determine the appropriate discovery boundary and where work can continue.

Work may continue at the discovery location only after the process outlined in this plan is followed and the Project Lead/Organization, DAHP, any affected tribe(s), Ecology, and the federal agencies (if any) determine that compliance with state and federal laws is complete.

## **9. ORGANIZATION RESPONSIBILITY**

The Project Lead/Organization is responsible for ensuring:

- This IDP has complete and accurate information.
- This IDP is immediately available to all field staff at the sites and available by request to any party.
- This IDP is implemented to address any discovery at the site.
- That all field staff, contractors, and volunteers are instructed on how to implement this IDP.

## **10. ADDITIONAL RESOURCES**

### **Informative Video**

Ecology recommends that all project staff, contractors, and volunteers view this informative video explaining the value of IDP protocol and what to do in the event of a discovery. The target audience is anyone working on the project who could unexpectedly find cultural resources or human remains while excavating or digging. The video is also posted on DAHP's inadvertent discovery language website.

[Ecology's IDP Video](https://www.youtube.com/watch?v=ioX-4cXfbDY) (<https://www.youtube.com/watch?v=ioX-4cXfbDY>)

## **Informational Resources**

[DAHP \(https://dahp.wa.gov\)](https://dahp.wa.gov)

[Washington State Archeology \(DAHP 2003\)](https://dahp.wa.gov/sites/default/files/Field%20Guide%20to%20WA%20Arch_0.pdf)

[\(https://dahp.wa.gov/sites/default/files/Field%20Guide%20to%20WA%20Arch\\_0.pdf\)](https://dahp.wa.gov/sites/default/files/Field%20Guide%20to%20WA%20Arch_0.pdf)

[Association of Washington Archaeologists \(https://www.archaeologyinwashington.com\)](https://www.archaeologyinwashington.com)

## **Potentially Interested Tribes**

[Interactive Map of Tribes by Area](https://dahp.wa.gov/archaeology/tribal-consultation-information)

[\(https://dahp.wa.gov/archaeology/tribal-consultation-information\)](https://dahp.wa.gov/archaeology/tribal-consultation-information)

[WSDOT Tribal Contact Website](https://wsdot.wa.gov/tribal/TribalContacts.htm)

[\(https://wsdot.wa.gov/tribal/TribalContacts.htm\)](https://wsdot.wa.gov/tribal/TribalContacts.htm)

## **11. ADDITIONAL INFORMATION**

Please add any additional contact information or other information needed within this IDP.



**Implement the IDP if you see...**

**Chipped stone artifacts.**

Examples are:

- Glass-like material.
- Angular material.
- “Unusual” material or shape for the area.
- Regularity of flaking.
- Variability of size.



*Stone artifacts from Oregon.*



*Stone artifacts from Washington.*



*Biface-knife, scraper, or pre-form found in NE Washington. Thought to be a well knapped object of great antiquity. Courtesy of Methow Salmon Rec. Foundation.*

## Implement the IDP if you see...

### Ground stone artifacts.

Examples are:

- Unusual or unnatural shapes or unusual stone.
- Striations or scratching.
- Etching, perforations, or pecking.
- Regularity in modifications.
- Variability of size, function, or complexity.



Above: Fishing Weight - credit [CRITFC Treaty Fishing Rights website](#).



Artifacts from unknown locations (left and right images).





**Implement the IDP if you see...**

**Bone or shell artifacts, tools, or beads.**

Examples are:

- Smooth or carved materials.
- Unusual shape.
- Pointed as if used as a tool.
- Wedge shaped like a “shoehorn”.
- Variability of size.
- Beads from shell (‘dentalium’) or tusk.



Upper Left: Bone Awls from Oregon.

Upper Center: Bone Wedge from California.

Upper Right: Plateau dentalium choker and bracelet, from Nez Perce National Historical Park, 19th century, made using Antalis pretiosa shells Credit: Nez Perce - Nez Perce National Historical Park, NEPE 8762, Public Domain.

Above: Tooth Pendants. Right: Bone Pendants. Both from Oregon and Washington.



## Implement the IDP if you see...

### Culturally modified trees, fiber, or wood artifacts.

Examples are:

- Trees with bark stripped or peeled, carvings, axe cuts, de-limbing, wood removal, and other human modifications.
- Fiber or wood artifacts in a wet environment.
- Variability of size, function, and complexity.



Left and Below: *Culturally modified tree and an old carving on an aspen (Courtesy of DAHP).*

Right, Top to Bottom: *Artifacts from Mud Bay, Olympia: Toy war club, two strand cedar rope, wet basketry.*





## Implement the IDP if you see...

### Strange, different, or interesting looking dirt, rocks, or shells.

Human activities leave traces in the ground that may or may not have artifacts associated with them. Examples are:

- “Unusual” accumulations of rock (especially fire-cracked rock).
- “Unusual” shaped accumulations of rock (such as a shape similar to a fire ring).
- Charcoal or charcoal-stained soils, burnt-looking soils, or soil that has a “layer cake” appearance.
- Accumulations of shell, bones, or artifacts. Shells may be crushed.
- Look for the “unusual” or out of place (for example, rock piles in areas with otherwise few rocks).



*Shell Midden pocket in modern fill discovered in sewer trench.*



*Underground oven. Courtesy of DAHP.*

*Shell midden with fire cracked rock.*



*Hearth excavated near Hamilton, WA.*

**Implement the IDP if you see...**

**Historic period artifacts (historic archaeology considered older than 50 years).**

Examples are:

- Agricultural or logging equipment. May include equipment, fencing, canals, spillways, chutes, derelict sawmills, tools, etc.
- Domestic items including square or wire nails, amethyst colored glass, or painted stoneware.



Left: Top to Bottom: *Willow pattern serving bowl and slip joint pocket knife discovered during Seattle Smith Cove shantytown (45-KI-1200) excavation.*

Right: *Collections of historic artifacts discovered during excavations in eastern Washington cities.*





## Implement the IDP if you see...

Historic period artifacts (historic archaeology considered older than 50 years).

Examples are:

- Railway tokens, coins, and buttons.
- Spectacles, toys, clothing, and personal items.
- Items helping to understand a culture or identity.
- Food containers and dishware.



Main Image: *Dishes, bottles, workboot found at the North Shore Japanese bath house (ofuro) site, Courtesy Bob Muckle, Archaeologist, Capilano University, B.C. This is an example of an above ground resource.*



Right, from Top to Bottom: *Coins, token, spectacles and Montgomery Ward pitchfork toy discovered during Seattle Smith Cove shantytown (45-KI-1200) excavation.*



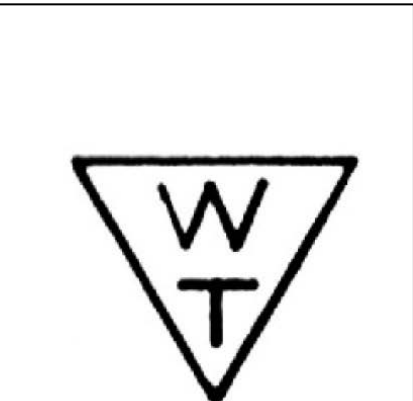
**Implement the IDP if you see...**

- Old munition casings – if you see ammunition of any type – ***always assume they are live and never touch or move!***
- Tin cans or glass bottles with an older manufacturer's technique – maker's mark, distinct colors such as turquoise, or an older method of opening the container.



Far Left: .303 British cartridge found by a WCC planting crew on Skagit River. Don't ever touch something like this!  
Left: Maker's mark on bottom of old bottle.

Right: Old beer can found in Oregon. ACME was owned by Olympia Brewery. Courtesy of Heather Simmons.



Logo employed by Whithall Tatum & Co. between 1924 to 1938 (Lockhart et al. 2016).



Can opening dates, courtesy of W.M. Schroeder.



Implement the IDP if you see...

You see historic foundations or buried structures.

Examples are:

- Foundations.
- Railroad and trolley tracks.
- Remnants of structures.



Counter Clockwise, Left to Right: *Historic structure 45KI924, in WSDOT right of way for SR99 tunnel. Remnants of Smith Cove shantytown (45-KI-1200) discovered during Ecology CSO excavation, City of Spokane historic trolley tracks uncovered during stormwater project, intact foundation of historic home that survived the Great Ellensburg Fire of July 4, 1889, uncovered beneath parking lot in Ellensburg.*



## Implement the IDP if you see...

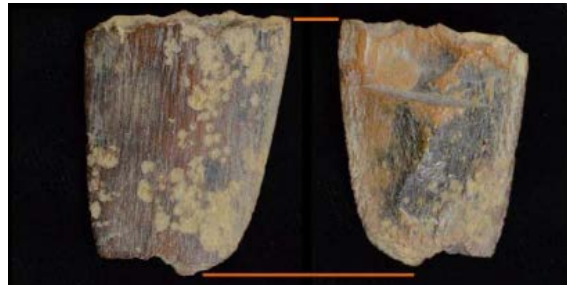
### Potential human remains.

Examples are:

- Grave headstones that appear to be older than 50 years.
- Bones or bone tools--intact or in small pieces. It can be difficult to differentiate animal from human so they must be identified by an expert.
- These are all examples of animal bones and are not human.

Center: *Bone wedge tool, courtesy of Smith Cove Shantytown excavation (45KI1200).*

*Other images (Top Right, Bottom Left, and Bottom) Center: Courtesy of DAHP.*



Directly Above: This is a real discovery at an Ecology sewer project site.

*What would you do if you found these items at a site? Who would be the first person you would call?*

*Hint: Read the plan!*

## **APPENDIX G**

### **Report Limitations and Guidelines for Use**

# REPORT LIMITATIONS AND USE GUIDELINES

## Reliance Conditions for Third Parties

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This report was prepared for the exclusive use of the Client. No other party may rely on this report or the product of our services without the express written consent of Aspect Consulting, LLC (Aspect). This limitation is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual conditions or limitations and guidelines governing their use of the report. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and recognized standards of professionals in the same locality and involving similar conditions.

## Services for Specific Purposes, Persons and Projects

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Aspect has performed the services in general accordance with the scope and limitations of our Agreement. This report has been prepared for the exclusive use of the Client and their authorized third parties, approved in writing by Aspect. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

This report is not, and should not, be construed as a warranty or guarantee regarding the presence or absence of hazardous substances or petroleum products that may affect the subject property. The report is not intended to make any representation concerning title or ownership to the subject property. If real property records were reviewed, they were reviewed for the sole purpose of determining the subject property's historical uses. All findings, conclusions, and recommendations stated in this report are based on the data and information provided to Aspect, current use of the subject property, and observations and conditions that existed on the date and time of the report.

Aspect structures its services to meet the specific needs of our clients. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and subject property. This report should not be applied for any purpose or project except the purpose described in the Agreement.

## This Report Is Project-Specific

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Aspect considered a number of unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you
- Not prepared for the specific purpose identified in the Agreement
- Not prepared for the specific real property assessed
- Completed before important changes occurred concerning the subject property, project or governmental regulatory actions

If changes are made to the project or subject property after the date of this report, Aspect should be retained to assess the impact of the changes with respect to the conclusions contained in the report.

## **Geoscience Interpretations**

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The geoscience practices (geotechnical engineering, geology, and environmental science) require interpretation of spatial information that can make them less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Use Guidelines" apply to your project or site, you should contact Aspect.

## **Discipline-Specific Reports Are Not Interchangeable**

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The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the subject property.

## **Environmental Regulations Are Not Static**

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Some hazardous substances or petroleum products may be present near the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, but are not included in current local, state or federal regulatory definitions of hazardous substances or petroleum products or do not otherwise present potential liability. Changes may occur in the standards for appropriate inquiry or regulatory definitions of hazardous substance and petroleum products; therefore, this report has a limited useful life.

## **Property Conditions Change Over Time**

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This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time (for example, Phase I ESA reports are applicable for 180 days), by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope failure or groundwater fluctuations. If more than six months have passed since issuance of our report, or if any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

## **Historical Information Provided by Others**

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Aspect has relied upon information provided by others in our description of historical conditions and in our review of regulatory databases and files. The available data does not provide definitive information with regard to all past uses, operations or incidents affecting the subject property or adjacent properties. Aspect makes no warranties or guarantees regarding the accuracy or completeness of information provided or compiled by others.