

May 12, 2017

Sonía Fernández
VCP Coordinator
Washington State Department of Ecology
Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008

**SUBJECT: REMEDIAL INVESTIGATION, CLEANUP ACTION REPORT, AND NO FURTHER ACTION DETERMINATION REQUEST
Yale Ave N Parking Garage – Concrete Cutter (CSID 11077)
Seattle, Washington**

Dear Sonía:

Floyd|Snider is providing a Remedial Investigation (RI) and Cleanup Action Report for PEMCO Mutual Insurance Company (PEMCO) in support of a No Further Action (NFA) determination. The RI and cleanup action was conducted at PEMCO's former property located at 325 Eastlake Avenue East in Seattle, Washington. The purpose of the activities was to delineate the lateral and vertical extent of residual petroleum hydrocarbon contamination beneath the property from a 1992 fuel release, and to conduct a cleanup action that included excavation of all petroleum-contaminated soil that exceeded Model Toxic Control Act (MTCA) Method A cleanup levels.

Furthermore, we would like to request that the remedial activities conducted be reviewed as actions completed under Washington State Department of Ecology's Model Remedies. We feel that the cleanup actions and site conditions meet the criteria for Model Remedy Option 1, which is the removal of all contaminated soil to MTCA Method A cleanup levels. In addition, the site meets all the following eligibility criteria established for model remedies:

- The only affected media is soil.
- Petroleum hydrocarbons consisting of gasoline, middle distillates/oils, or heavy fuels/oils were the only contaminants present in soil.
- The site meets the criteria to be exempted from completing a TEE; however, a simplified TEE was completed.
- Soil removal is the remedial action that was used for site cleanup.
- Soil vapor risk to indoor air is not a concern because all soil was removed to MTCA Method A cleanup levels.

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Confirmation sampling results in conjunction with results from previous investigations confirm that soil beneath the site is now in compliance with the cleanup standards established in Chapters 173-340-700 through 173-340-760 of the Washington Administrative Code and applicable state and federal laws. Site contaminants no longer pose a threat to human health or the environment.

Following submittal of the RI and Cleanup Action Report, and pending review and acceptance by an assigned Ecology Manger in the Voluntary Cleanup Program, Floyd|Snider, on behalf of PEMCO, would like to request a NFA determination for the site.

Sincerely yours,

FLOYD | SNIDER



Gabe Cisneros, LG
Geologist

PEMCO Eastlake

Remedial Investigation and Cleanup Action Report— 1992 Fuel Line Release

Prepared for

PEMCO Mutual Insurance Company
1300 Dexter Avenue North
Seattle, Washington 98109

May 12, 2017

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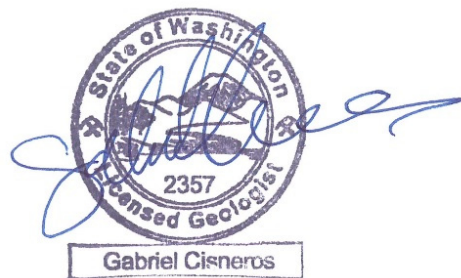
Two Union Square • 601 Union Street • Suite 600
Seattle, Washington 98101 • tel: 206.292.2078

LIMITATIONS

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**Remedial Investigation and
Cleanup Action Report—
1992 Fuel Line Release**

This document was prepared for PEMCO Mutual Insurance Company by:



Name: Gabe Cisneros, LG

Date: May 12, 2017

Table of Contents

1.0 Purpose of Report 1-1

2.0 Background 2-1

 2.1 GENERAL SITE INFORMATION..... 2-1

 2.2 SITE HISTORY..... 2-1

 2.3 SITE USE..... 2-2

3.0 Field Investigations 3-1

 3.1 PREVIOUS ENVIRONMENTAL INVESTIGATIONS..... 3-1

 3.1.1 Yale Ave N Parking Garage – Concrete Cutter (CSID 11077) 3-1

 3.1.2 PEMCO Insurance (CSID 12086)..... 3-1

 3.2 FLOYD|SNIDER INVESTIGATIONS..... 3-2

 3.2.1 Yale Ave N Parking Garage – Concrete Cutter (CSID 11077) 3-2

 3.3 INVESTIGATION FINDINGS 3-2

 3.3.1 Geology and Hydrogeology..... 3-2

 3.3.2 Soil Impacts to Groundwater 3-3

4.0 Conceptual Site Model 4-1

5.0 Proposed Cleanup Standards 5-1

 5.1 TERRESTRIAL ECOLOGICAL EVALUATION..... 5-1

6.0 Selected Cleanup Action..... 6-1

7.0 Scope of Remedial Work 7-1

 7.1 BUILDING PLANS REVIEW 7-1

 7.2 UTILITY LOCATE..... 7-1

 7.3 SOIL EXCAVATION AND OFF-SITE DISPOSAL..... 7-1

 7.4 CONFIRMATION SAMPLING 7-1

 7.5 GEOTECHNICAL EVALUATION 7-2

 7.6 EXCAVATION SAMPLING RESULTS 7-2

 7.7 BACKFILL, COMPACTION, AND REPAVING..... 7-3

8.0 Conclusions 8-1

9.0 References 9-1

List of Tables

Table 3.1	1993 Soil Gas Data – TPH and BTEX
Table 3.2	2015 Farallon Soil Analytical Data for CSID 12086 – GRO, DRO, ORO, BTEX, and Lead
Table 3.3	2015 Farallon Groundwater Analytical Data for CSID 12086 – GRO, DRO, ORO, and BTEX
Table 3.4	Soil Analytical Data for CSID 11077– GRO, DRO, ORO, BTEX, and Lead
Table 3.5	Additional Soil Analytical Data for CSID 11077 – VOCs and cPAHs

List of Figures

Figure 1.1	Vicinity Map
Figure 2.1	Extended Site Map and Soil Boring Locations
Figure 3.1	2016 Excavation Extent and Soil Analytical Data
Figure 3.2	Cross Section A-A'
Figure 3.3	Cross Section B-B'
Figure 3.4	Approximate Location of Adjacent Property Boring Logs

List of Appendices

Appendix A	Submittal of Additional Soil Investigation Data, CSID 12086
Appendix B	Laboratory Reports
Appendix C	On-Property Boring Logs
Appendix D	Adjacent Property Boring Logs
Appendix E	Simplified TEE
Appendix F	Trucking Weight Ticket

List of Acronyms and Abbreviations

Acronym/ Abbreviation	Definition
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, and xylene
CSID	Cleanup Site ID

Acronym/ Abbreviation	Definition
DRO	Diesel-range organics
Ecology	Washington State Department of Ecology
Farallon	Farallon Consulting
GRO	Gasoline-range organics
MTCA	Model Toxics Control Act
NFA	No Further Action
ORO	Oil-range organics
PEMCO	PEMCO Mutual Insurance Company
UST	Underground storage tanks
WAC	Washington Administrative Code

1.0 Purpose of Report

Floyd|Snider has prepared this Remedial Investigation and Cleanup Action Report at the request of PEMCO Mutual Insurance Company (PEMCO) in support of a No Further Action (NFA) determination. The work described in this report was completed at 325 Eastlake Avenue East in Seattle, Washington (Figure 1.1). The report first summarizes investigation activities that were conducted to delineate the lateral and vertical extent of residual petroleum hydrocarbon contamination beneath the property from the 1992 release, and then details the cleanup actions that were conducted. The 1992 release is listed as Cleanup Site ID (CSID) 11077 and Facility Site ID 92673819 under the Washington State Department of Ecology's (Ecology's) cleanup site database, and the request for a NFA determination is for the 1992 release, CSID 11077.

2.0 Background

2.1 GENERAL SITE INFORMATION

The site includes King County Parcel Nos. 6847700065 and 6847700091, which currently consist of a commercial parking lot and a parking garage, respectively. PEMCO was the owner/occupant of the building and parking lot at 325 Eastlake Avenue East from its construction until 2015, when it was sold to the current owner, UPI Eastlake & Thomas LLC (Unico). The 325 Eastlake Property is listed by Ecology as one facility, Facility Site ID 92673819, but was given three separate CSIDs due to the presence of three separate source areas:

- CSID 10168, which is associated with an ethylene glycol spill and has a cleanup unit name of “PEMCO Financial Center – Ethylene Glycol Spill”
- CSID 12086, which is associated with an underground storage tank (UST) removal in 2012 and has a cleanup unit name of “PEMCO Insurance”
- CSID 11077, which is associated with the 1992 cutting of the UST fuel lines and has a cleanup unit name of “Yale Ave N Parking Garage – Concrete Cutter”

The PEMCO Financial Center – Ethylene Glycol Spill site (CSID 10168) was given a NFA determination on January 11, 2012. The remediation activities for the USTs and dispenser removal at the PEMCO Insurance site (CSID 12086) resulted in a NFA determination on March 20, 2013; and Ecology confirmed, in an email provided in Appendix A, that the site is still in compliance with cleanup standards and the current site status of NFA remains in place following Ecology’s review of the additional subsurface data generated by Farallon Consulting (Farallon) in 2015.

This report summarizes the field investigations and cleanup action activities conducted at CSID 11077, the Yale Ave N Parking Garage – Concrete Cutter site. However, results from a subsurface investigation, conducted for CSID 12086 by Farallon as part of a property due diligence related to the sale of the property, are summarized in this report in order to provide additional hydrogeologic information and analytical data that are relevant to the Yale Ave N Parking Garage – Concrete Cutter site (CSID 11077).

2.2 SITE HISTORY

Historically, the site was developed with residential dwellings but were eventually demolished as the area was redeveloped with commercial structures. The current building, parking garage, and parking lot were constructed by 1985. As part of the original building construction, PEMCO installed two 10,000-gallon USTs, one diesel and one gasoline, in the current parking lot just to the south of Harrison Street. Fuel lines from these USTs ran west adjacent to Harrison Street and then south along Yale Avenue North to fuel dispenser pumps located within the parking garage (Figure 2.1).

In 1992, a concrete cutter conducting work for a telecommunications company inadvertently cut two fuel lines between the former USTs and the former fuel dispensers (Northwest Industrial Hygiene, Inc. 1993). The cut occurred approximately 4 feet north of the northwest corner of the parking garage along Yale Avenue North, as shown on Figure 2.1. Ecology's spill response unit was notified upon discovery of the release. In an effort to remediate the affected soil from the fuel line release, approximately 30 cubic yards of impacted soil were removed during the excavation and transported off-site for disposal. The excavation was limited by underground utilities beneath the sidewalk and Yale Avenue North to the west and the parking garage footing to the south and east. During excavation activities, free product was observed pooling around the garage foundation footing. The excavation did not proceed to the east due to the footing but approximately 50 gallons of free product was recovered by vacuum truck and absorbent pads. Soil samples were not collected during the excavation. Soil excavation continued until readings from a photoionization detector (PID) were less than 50 parts per million (ppm) or when there was a potential to undermine the building foundation. The excavation was lined with polyethylene sheeting and backfilled with clean sand.

2.3 SITE USE

Currently, the parking garage and parking lot are being used as a commercial parking area. The building is currently being remodeled and will remain vacant until remodeling activities are completed. The future site use is unknown; however, the property is zoned as commercial.

3.0 Field Investigations

3.1 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

3.1.1 Yale Ave N Parking Garage – Concrete Cutter (CSID 11077)

A soil gas investigation was conducted in early 1993 to delineate the extent of impacted soil beneath Yale Avenue North as a result of the fuel line release during the concrete cutting. Six borings (PH-01 through PH-04, PH-06, and PH-09) were advanced southwest, west, northwest, and north of the fuel line release, and soil gas samples were analyzed with a gas chromatograph (Figure 2.1). The results of the soil gas survey showed that benzene was present in soil gas vapors northwest of the release in locations PH-02 and PH-04 (Northwest Industrial Hygiene, Inc. 1993) at concentrations of 1 and 69 micrograms per liter ($\mu\text{g/L}$), respectively. All other locations were non-detect for soil gas. The high density of utilities present beneath the sidewalk and the street limited the amount of soil borings that were able to be advanced off-property to the west and northwest of the former 1992 fuel release. The soil gas results are shown on Table 3.1.

3.1.2 PEMCO Insurance (CSID 12086)

This section summarizes the adjacent site, PEMCO Insurance CSID 12086, only to provide information that is relevant to the Yale Ave N Parking Garage – Concrete Cutter site. Ecology has determined that the PEMCO Insurance site is still in compliance with cleanup standards and the current site status of NFA remains in place (Appendix A).

In 2012, the USTs and fuel dispensers were removed and a total of 196 tons of contaminated soil was excavated down to 12 feet below ground surface (bgs) and transported for off-site disposal. Confirmation samples were collected to document removal of all residual hydrocarbon contamination in soil in both the tanks and dispenser area. Groundwater was not encountered during excavation activities, nor was groundwater seen seeping into the excavation. Based on soil analytical results, all petroleum-impacted soil was removed to meet Model Toxics Control Act (MTCA) Method A cleanup levels (The Riley Group, Inc. 2012).

In April 2015, Farallon conducted a subsurface investigation as part of a property due diligence related to the sale of the 325 Eastlake Avenue East property from PEMCO to Unico (Farallon 2015). Farallon advanced a total of nine borings; seven soil borings (FB-2 through FB-6, FB-8, and FB-9) were located adjacent to the former USTs and along the fuel lines, and two locations (FB-1 and FB-7) were located between the former UST locations and the current building (Figure 2.1). Farallon reported that shallow discontinuous wet intervals were observed at depths ranging from 5 to 16 feet bgs in the majority of the borings. A wet interval also was encountered in boring FB-7 in a silty sand interbed at approximately 39.5 feet bgs. Attempts were made to collect groundwater samples from each soil boring; however, only boring FB-4 had sufficient yield to collect a reconnaissance groundwater sample from a thin, poorly graded sand interval encountered from 15 to 16 feet bgs. Ethylbenzene and xylenes were detected at concentrations less than their respective MTCA Method A cleanup levels in the reconnaissance groundwater sample collected from boring FB-4. The other analytes (diesel-range organics [DRO], oil-range

organics [ORO], gasoline-range organics [GRO], benzene, toluene, and halogenated volatile organic compounds) were reported non-detect at the laboratory practical quantitation limit. Soil and groundwater analytical data for CSID 12086 are included as Tables 3.2 and 3.3, respectively.

3.2 FLOYD|SNIDER INVESTIGATIONS

3.2.1 Yale Ave N Parking Garage – Concrete Cutter (CSID 11077)

In both August and December 2015, Floyd|Snider investigated the extent of contaminated soil in the vicinity of the 1992 fuel line release, which had never been properly characterized. Fourteen soil borings, SB1 through SB14, were advanced during both investigations using a direct-push drill rig, and soil samples were collected (Figure 3.1). Borings were advanced from the ground surface to depths of between approximately 5 and 10 feet bgs and were continuously logged according to the Unified Soil Classification System.

Soil borings logs from the Floyd|Snider borings, as well as prior work, document that the subsurface typically consists of glacially compacted stiff to hard silt with low plasticity and up to 25 percent fine sand to a depth of at least 45 feet bgs. Thin, non-continuous, silty sand lenses interbedded within the silt were commonly observed.

Soil analytical data from these investigations indicated that total petroleum hydrocarbon (TPH) impacts were only present in soil boring SB8 located next to the garage structure, but did not extend under the structure. The primary contaminants at the site are GRO and DRO, which were detected at concentrations greater than their respective MTCA Method A cleanup levels in one boring (SB8). Impacts were confined to a thin soil horizon located between 4 and 6 feet bgs. Boring locations and soil analytical data, including pertinent analytical data from the 2015 Farallon investigation, are presented in Figure 3.1, and analytical data for GRO, DRO, ORO, benzene, toluene, ethylbenzene, and xylene (BTEX), and lead are shown on Table 3.4. Table 3.5 contains results for additional parameters, in accordance with MTCA Table 830-1, that were analyzed in selected samples including petroleum additives and carcinogenic polycyclic aromatic hydrocarbons (cPAHs). A cross-section is included as Figure 3.2 that shows the vertical and lateral extent of TPH impacts in soil associated with the 1992 fuel release. Laboratory reports are included in Appendix B.

3.3 INVESTIGATION FINDINGS

3.3.1 Geology and Hydrogeology

Soil borings advanced on the property indicate that the site is underlain by 1 to 2 feet of sandy fill soil with varying amounts of silt and gravel. Native soils underlying the fill consist of stiff to very hard silt with low to high plasticity, up to 15 percent sand, and up to 10 percent gravel. The silt is interbedded with non-continuous, thin lenses of silty sand and clay. The deepest boring on the property, FB-7, shows alternating silt and sand silty sand layers beneath the silt at 35 feet bgs to the total depth explored of 45 feet bgs. Soil boring logs that were advanced on the property are provided in Appendix C.

Soil borings advanced on adjacent properties indicate that subsurface lithology consisting of sandy silt with interbeds of silty sand are present to a depth of approximately 65 feet bgs. The silt overlies silty sand, which is present between approximately 65 and 90 feet bgs. A well-graded sandy gravel was encountered beneath the silty sand at 90 feet bgs, and static water was observed at 93 feet bgs (boring log MW-1 in Appendix D). Representative cross-sections are presented in Figures 3.2 and 3.3. Well logs for adjacent properties are included in Appendix D.

Regional groundwater was not encountered in any boring at the site. The presence of water-bearing lenses at various shallow elevations suggest that the water is perched or trapped within thin discontinuous lenses of silty sand. It is Floyd|Snider's opinion based on the well logs, and experience at other sites, that the groundwater table in this area is likely to be no shallower than 60 to 80 feet bgs and no deeper than 90 to 100 feet bgs, which is the elevation of Lake Union. Groundwater flow direction for the deep aquifer is generally to the north-northwest toward Lake Union. The deep regional groundwater aquifer and the shallow petroleum impacts associated with the 1992 fuel release are shown on cross section B-B' (Figure 3.3). Soil boring and well logs, which document the presence throughout the surrounding area of discontinuous water-bearing lenses in shallow soil with a much deeper underlying groundwater aquifer, are presented in Appendix D, and Figure 3.4 shows the city blocks that contain select boring sets included in Appendix D.

3.3.2 Soil Impacts to Groundwater

GRO and DRO were detected in soil at concentrations greater than their respective MTCA Method A cleanup levels in the vicinity of soil boring SB8 between 4 and 6 feet bgs. No other borings around the vicinity of the former fuel release contained TPH concentrations exceeding cleanup levels. Soil leaching to groundwater is a potential exposure pathway that must be evaluated due to the presence of soil contamination between 4 and 6 feet bgs.

Thin, moist to wet zones exist within the upper 15 feet at the site. The thin wet zones encountered beneath the property are not used as a source of water for any purpose by any known individuals. These shallow, wet zones are random and do not produce a substantial amount of water to set a well screen and capture. In addition, based on the well logs presented in Appendix D, the regional groundwater aquifer is encountered at approximately 90 feet bgs within the vicinity of the site.

Field observations and soil analytical data indicate that petroleum impacts are not present at depths greater than 6 feet bgs. Additionally, during the 2012 UST excavation, groundwater was not encountered nor seen seeping into the excavation, which was completed at a depth of 12 feet bgs. Given that silt present beneath the site is up to 65 feet in thickness, the underlying deep aquifer encountered in the well-graded sandy gravel layer cannot be affected by the observed releases from the site. In other words, soil leaching to groundwater is not a potential exposure pathway at the site, because groundwater is encountered well below the deepest petroleum impacts detected at the site (Figure 3.3).

4.0 Conceptual Site Model

The site history indicates that the primary source of soil contamination for CSID 11077 was from a concrete cutter inadvertently cutting the fuel lines. The soil around the fuel lines was immediately excavated and product was pumped from the excavation. Soil analytical data indicate that hydrocarbon impacts were shallow and never made it to the deep aquifer present at 90 feet bgs. Soil impacts greater than MTCA Method A cleanup levels are only present between 4 and 6 feet bgs within the vicinity of SB 8.

Soil leaching to groundwater is not a concern because groundwater is well below the deepest depth of soil contamination. Farallon investigated the soil gas to indoor air pathway in their 2015 report and concluded that it is not a risk. In addition, if all contaminated soil is removed to MTCA Method A cleanup levels, then the soil gas to indoor air pathway can be eliminated. It is unlikely that surface water has been impacted by the 1992 fuel release, as the impacted soil is very limited and the closest surface water is Lake Union, approximately 0.4 miles to the north-northwest. Therefore, the only affected media at the site is soil, and the main pathway of concern is direct contact.

5.0 Proposed Cleanup Standards

Contaminants of concern (COCs) in soil are GRO and DRO. No other contaminant was detected at a concentration greater than its respective MTCA Method A cleanup level, including gasoline additives and lead. MTCA Method A cleanup levels were selected because the site has relatively few hazardous substances and the selected cleanup action is simple. Under MTCA Method A, cleanup levels are determined by the most stringent criteria specified under state and federal laws and are protective of potable groundwater. In addition, remediating a site to MTCA Method A cleanup levels will eliminate any vapor intrusion risk. MTCA Method A cleanup levels are present in the soil analytical data tables (Tables 3.4 and 3.5).

5.1 TERRESTRIAL ECOLOGICAL EVALUATION

MTCA requires that a Terrestrial Ecological Evaluation (TEE) be completed following the release of hazardous substances to soil in order to determine the potential impacts to terrestrial organisms at a site (Washington Administrative Code [WAC] 173-340-7490). A TEE can be excluded if certain criteria are met (WAC 173-340-7491). The site meets the exclusion criteria because there is less than 1.5 acres of contiguous undeveloped land within 500 feet of the site. However, a simplified TEE was conducted for the site as an extra measure and is included in Appendix E. The simplified TEE evaluation found the site does not pose a substantial potential risk to terrestrial receptors due to its commercial use and the surrounding developed land. No further terrestrial evaluation is necessary, per the simplified TEE.

6.0 Selected Cleanup Action

The selected cleanup action for the site is to remove petroleum hydrocarbon impacts in soil that exceed MTCA Method A cleanup levels via excavation activities. These activities are protective of direct contact, groundwater, and indoor air, and institutional controls are not necessary for future site use. Excavating all soil contamination to meet MTCA Method A cleanup levels will also meet the minimum requirements specified in the MTCA (WAC 173-340-360), which include:

- Protection of human health and the environment
- Compliance with cleanup standards
- Compliance with applicable state and federal laws
- Provision for compliance monitoring

Furthermore, the selected cleanup action meets the requirements for Model Remedy Option 1, which is the removal of all contaminated soil to MTCA Method A cleanup levels. The site meets all the following eligibility criteria established for model remedies:

- The only affected media is soil.
- Petroleum hydrocarbons consisting of gasoline, middle distillates/oils, or heavy fuels/oils (Table 830-1 MTCA) were the only contaminants present in soil.
- The site meets the criteria to be exempted from completing a TEE; however, a simplified TEE was completed.
- Soil removal is the remedial action that was used for site cleanup.
- Soil vapor risk to indoor air is not a concern when all soil is removed to MTCA Method A cleanup levels.

Based on the above, the remaining portion of this report summarizes the cleanup action activities that were conducted in order to achieve a permanent cleanup and to acquire a NFA determination for the Yale Ave N Parking Garage – Concrete Cutter site.

7.0 Scope of Remedial Work

Remedial work involved the removal of remaining contaminated soil adjacent to the garage structure. The follow activities occurred as part of the remedial work:

- Building plans review
- Public and private locate
- Petroleum-contaminated soil excavation and off-site disposal
- Confirmation sidewall and base sample collection
- Geotechnical evaluation
- Backfilling, compacting, and repaving

7.1 BUILDING PLANS REVIEW

A review of the building plans was conducted to understand the width and depth of the garage footing and of any other subsurface conditions that may be encountered during excavation activities.

7.2 UTILITY LOCATE

A public utility locate notification was completed in accordance with state law within 3 business days prior to the start of the investigation. Public utility locate information was provided to the contractor prior to the start of work. In addition, a private locate was performed within the property to locate conductible utilities prior to excavation activities.

7.3 SOIL EXCAVATION AND OFF-SITE DISPOSAL

Between April 13 and 14, 2016, ClearCreek Contractors of Everett, Washington, performed the excavation activities within the vicinity of soil boring SB-8 (Figure 3.1). Prior to cleanup activities, the area was flagged off to prevent public entry. After cutting and removal of surface pavement, all soil was removed by backhoe down to 8 feet bgs and placed directly into a truck. Stockpiles were not needed during excavation activities. All soil was direct-loaded, and 16.49 tons of petroleum-contaminated soil was removed and transported off-site for disposal.

Petroleum-contaminated soil was transported and offloaded at Cemex in Everett, Washington, for disposal and was managed as “contaminated soils” consistent with the Solid Waste Handling Standards (WAC 173-350). The trucking weight ticket is included as Appendix F.

7.4 CONFIRMATION SAMPLING

Confirmation samples were collected along the sidewalls and at the base of the excavation to ensure that MTCA Method A cleanup levels were met laterally and vertically in all directions. The excavation size was approximately 8.5 feet long by 10.5 feet wide by 8 feet deep. The western

edge of the excavation encountered the previous 1992 excavation backfill material and building footing. One soil sample was collected from each sidewall and at depths where previous adjacent analytical data or field observations encountered contamination, and one base sample was collected between 7.5 and 8 feet bgs (Figure 3.1 and Figure 3.2).

All soil samples were field screened for the presence of volatile hydrocarbons using a PID and sheen pan, and samples were analyzed for the following:

- GRO by NWTPH-Gx
- DRO and ORO by NWTPH-Dx
- BTEX by USEPA Method 8021

In addition, one soil sample was analyzed for volatile organic compounds and ethylene dibromide (EDB) using USEPA Method 8260 SIM and semivolatile organic compounds using USEPA 8270D. Soil samples were delivered to Freidman & Bruya, Inc. on a daily basis and were submitted with a 24-hour turnaround time. Sample labels consisted of the excavation sample number (EX-2) and corresponding depth (e.g., EX-2-4.5'-5.0').

7.5 GEOTECHNICAL EVALUATION

Given that the excavation occurred close to the garage building foundation, certain precautions were necessary to prevent damage to the concrete footing itself or loss of soil under the footing, which could lead to settlement. Due to these factors, Floyd|Snider hired a geotechnical engineering firm (PanGeo, Inc.) to provide oversight during excavation activities to observe soil conditions and provide real-time recommendations in order to be fully protective of the adjacent building. The western edge of the excavation exposed an area of extra concrete left over from the building footing construction, which appears to have prevented the 1992 excavation from over-excavating the contaminated soil to the east. The geotechnical engineer reviewed the building plans and confirmed that the extra concrete could be removed safely in order to excavate contaminated soil beneath the footing. ClearCreek Contractors removed the extra concrete and the contaminated soil beneath the footing. The location of the extra concrete from the building footing can be seen in cross-section A-A' (Figure 3.2).

7.6 EXCAVATION SAMPLING RESULTS

Analytical results for all sidewall confirmation samples confirmed that analytes in soil containing petroleum hydrocarbons exceeding respective MTCA Method A cleanup levels had been removed (refer to Table 3.4). Selected soil samples that were analyzed for additional analytes resulted in concentrations less than their respective MTCA Method A cleanup levels, as required in Ecology's Table 830-1 under MTCA (refer to Table 3.5). Previous soil samples collected during the remedial investigations and confirmation sampling results are summarized in Table 3.4, confirmation sample locations and results are shown on Figure 3.1, and additional soil analytical data are presented on Table 3.5. Laboratory analytical reports are included in Appendix B.

7.7 BACKFILL, COMPACTION, AND REPAVING

Following review of the analytical data and confirmation that all contaminated soil exceeding MTCA Method A cleanup levels had been removed, backfill and compaction activities were performed. Although there were no compaction requirements, imported Type 17 Seattle specifications were used as backfill and were vibratory compacted every 2 feet up to 2 feet below the original grade. The contractor used $\frac{3}{8}$ -minus in the upper 2 feet, and the surface was repaved with asphalt up to 3 inches in thickness.

8.0 Conclusions

In all, 16.49 tons of contaminated soil were excavated and transported off-site for disposal between April 13 and 14, 2016. The final maximum lateral dimensions of the excavation were approximately 8.5 feet long by 10.5 feet wide, and the excavation extended down to 8 feet bgs. Soil analytical results from samples collected from the excavation sidewalls and bottom, along with soil analytical data from the 2015 investigation, confirm that the remedial excavation actions performed meet the MTCA criteria under WAC 173-340-360(2)(a). Confirmation soil samples indicate that all soil containing petroleum hydrocarbon concentrations exceeding their respective MTCA Method A cleanup levels has been removed.

This Cleanup Action Report is submitted in conjunction with a Voluntary Cleanup Program application in support of a NFA determination for the site and removal from the Confirmed and Suspected Contaminated Sites List.

9.0 References

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- The Riley Group, Inc. 2012. *UST Site Assessment and Independent Cleanup Action Report – Gasoline and Diesel UST Site: ERTS Number 637141*. Letter from Richard Simpson and Paul D. Riley, The Riley Group, Inc., to Mike Mitchell and Ray Wiley, Pemco Mutual Insurance Company. 27 December.

PEMCO Eastlake

**Remedial Investigation and
Cleanup Action Report—
1992 Fuel Line Release**

Tables

Table 3.1
1993 Soil Gas Data – TPH and BTEX

Analysis Method			Hewlett-Packard Model 5890A Series II Gas Chromatograph					
Analyte			TPH	Benzene	Toluene	Ethylbenzene	Total Xylenes	
Boring ID (Sample ID)	Date	Depth	µg/L	µg/L	µg/L	µg/L	µg/L	
Soil Gas Samples	PH-01 (SG-01)	1/20/1993	10	1 U	1 U	1 U	1 U	1 U
	PH-01 (SG-02)	1/20/1993	6	2	1 U	1 U	1 U	1 U
	PH-02 (SG-03)	1/20/1993	3	1 U	1 U	1 U	1 U	1 U
	PH-02 (SG-04)	1/20/1993	6	12	1	1 U	1 U	1 U
	PH-03 (SG-05)	1/20/1993	3	1 U	1 U	1 U	1 U	1 U
	PH-03 (SG-06)	1/20/1993	6	41	1 U	7	1 U	5
	PH-04 (SG-07)	1/20/1993	3	379	69	22	1 U	3
	PH-04 (SG-08)	1/20/1993	6	272	55	11	1 U	1
	PH-06 (SG-09)	1/20/1993	3	1 U	1 U	1 U	1 U	1 U
	PH-06 (SG-10)	1/20/1993	6	1 U	1 U	1 U	1 U	1 U
	PH-06 (SG-10 Duplicate)	1/20/1993	6	1 U	1 U	1 U	1 U	1 U
	PH-09 (SG-11)	1/20/1993	3	1 U	1 U	1 U	1 U	1 U

Abbreviations:

BTEX Benzene, toluene, ethylbenzene, and xylenes

µg/L Micrograms per liter

TPH Total petroleum hydrocarbons

Qualifier:

U Analyte was not detected, concentration given is the reporting limit.

Table 3.2
2015 Farallon Soil Analytical Data for CSID 12086 – GRO, DRO, ORO, BTEX, and Lead

Analysis Method			NWTPH-Gx	NWTPH-Dx			USEPA 8021B ¹				USEPA 6010C
Analyte			GRO	DRO	ORO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead	
MTCA Method A Cleanup Level			30/100 ²	2,000	2,000	0.030	7	6	9	250	
Sample ID	Date	Depth	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
2015 Farallon Soil Boring Samples	FB1-2.5	4/22/2015	2.5	8.1 U	28 U	68	0.0010 U	0.0052 U	0.0010 U	0.0021	21
	FB1-17.5	4/22/2015	17.5	6.1 U	29 U	59 U	0.00099 U	0.0050 U	0.00099 U	0.0020	--
	FB2-2.5	4/22/2015	2.5	5.3 U	50 U	530	0.020 U	0.053 U	0.053 U	0.053 U	15
	FB2-17.5	4/22/2015	17.5	7.3 U	33 U	66 U	0.020 U	0.073 U	0.073 U	0.073 U	--
	FB3-7.5	4/22/2015	7.5	5.4 U	29 U	58 U	0.032	0.054 U	0.054 U	0.054 U	5.8 U
	FB3-16.0	4/22/2015	16.0	5.8 U	32	76	0.020 U	0.058 U	0.058 U	0.058 U	--
	FB4-2.5	4/22/2015	2.5	6.5 U	31 U	61 U	0.020 U	0.065 U	0.065 U	0.065 U	6.1 U
	FB4-16.0	4/22/2015	16.0	6 U	290	230	0.020 U	0.060 U	0.060 U	0.060 U	--
	FB5-4.5	4/22/2015	4.5	5.6 U	30 U	100	0.020 U	0.056 U	0.056 U	0.056 U	11
	FB5-17.5	4/22/2015	17.5	7.1 U	93	93	0.020 U	0.071 U	0.071 U	0.071 U	--
	FB6-7.5	4/22/2015	7.5	8.1 U	34 U	67 U	0.020 U	0.081 U	0.081 U	0.081 U	8.2
	FB6-17.5	4/22/2015	17.5	7.3 U	200	420	0.020 U	0.073 U	0.073 U	0.073 U	--
	FB8-7.0-060115	6/1/2015	7.0	5.8 U	28 U	56 U	0.020 U	0.058 U	0.058 U	0.058 U	5.6 U
	FB8-18.0-060115	6/1/2015	18.0	6.9 U	31 U	62 U	0.020 U	0.069 U	0.069 U	0.069 U	6.8
	FB9-7.0-060115	6/1/2015	7.0	6.1 U	30 U	59 U	0.020 U	0.061 U	0.061 U	0.061 U	5.9 U
FB9-18.9-060115	6/1/2015	18.9	6.5 U	32 U	64 U	0.020 U	0.065 U	0.065 U	0.065 U	6.6	

Notes:

-- Not analyzed.

BOLD Detected at a concentration that exceeds the MTCA Method A cleanup level.

1 Samples FB1-2.5 and FB1-17.5 were analyzed by USEPA 8260C.

2 Criterion is 30 mg/kg if benzene is present and 100 mg/kg if no detectable benzene is present.

Abbreviations:

BTEX Benzene, toluene, ethylbenzene, and xylenes

CSID Cleanup Site ID

DRO Diesel-range organics

GRO Gasoline-range organics

mg/kg Milligrams per kilogram

MTCA Model Toxics Control Act

ORO Oil-range organics

Qualifier:

U Analyte was not detected, concentration given is the reporting limit.

Remedial Investigation and Cleanup Action Report–
 1992 Fuel Line Release

Table 3.2

2015 Farallon Soil Analytical Data for CSID 12086 –
 GRO, DRO, ORO, BTEX, and Lead

Table 3.3
2015 Farallon Groundwater Analytical Data for CSID 12086 – GRO, DRO, ORO, and BTEX

Analysis Method		NWTPH-Gx	NWTPH-Dx		USEPA 8260C			
Analyte		GRO	DRO	ORO	Benzene	Toluene	Ethylbenzene	Total Xylenes
MTCA Method A Cleanup Level		800/1,000¹	500	500	5	1,000	700	1,000
Sample Location (Sample ID)	Date	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FB4 (FB4-042215-GW)	4/22/2015	100 U	270 U	440 U	0.20 U	1.0 U	0.21	1.62

Note:

1 Criterion is 800 µg/L if benzene is present and 1,000 µg/L if no detectable benzene is present.

Abbreviations:

- BTEX Benzene, toluene, ethylbenzene, and xylenes
- CSID Cleanup Site ID
- DRO Diesel-range organics
- GRO Gasoline-range organics
- µg/L Micrograms per liter
- MTCA Model Toxics Control Act
- ORO Oil-range organics

Qualifier:

U Analyte was not detected, concentration given is the reporting limit.

Table 3.4
Soil Analytical Data for CSID 11077 – GRO, DRO, ORO, BTEX, and Lead

Analysis Method			NWTPH-Gx	NWTPH-Dx		USEPA 8021B ¹				USEPA 6020	
Analyte			GRO	DRO	ORO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead	
MTCA Method A Cleanup Level			30/100 ²	2,000	2,000	0.030	7	6	9	250	
Sample ID	Date	Depth	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Soil Boring Samples	SB1-4.5-5	8/20/2015	4.5–5.0	2.7	50 U	690 JM	0.02 U	0.021	0.02 U	0.079	--
	SB2-4-4.5	8/20/2015	4.0–4.5	2 U	50 U	380 JM	0.02 U	0.02 U	0.02 U	0.06 U	--
	SB3-4-4.5	8/20/2015	4.0–4.5	17	370	250 U	0.03 U	0.05 U	0.05 U	0.1 U	4.92
	SB3-5.5-6	8/20/2015	5.5–6.0	2 U	50 U	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	SB4-4.5-5.0	8/20/2015	4.5–5.0	2 U	78	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	SB4-6-6.5	8/20/2015	6.0–6.5	2 U	50 U	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	SB5-4-4.5	8/20/2015	4.0–4.5	2 U	50 U	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	SB6-4-4.5	8/20/2015	4.0–4.5	2 U	50 U	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	SB7-4-4.5	8/20/2015	4.0–4.5	28	85	250 U	0.02 U	0.02 U	0.031	0.089	--
	SB8-4.5-5 ³	8/20/2015	4.5–5.0	140 J	3,100	250 U	0.03 U	0.05 U	0.05 U	0.1 U	2.2
	SB8-6-6.5 ³	8/20/2015	6.0–6.5	2 U	50 U	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	SB9-4.5-5	8/20/2015	4.5–5.0	2 U	50 U	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	SB10-4.5-5.0 ⁴	12/17/2015	4.5–5.0	20 U	50 U	250 U	--	--	--	--	--
	SB11-4.5-5.0 ⁴	12/17/2015	4.5–5.0	20 U	50 U	250 U	--	--	--	--	--
SB12-4.5-5.0 ⁴	12/17/2015	4.5–5.0	20 U	50 U	250 U	--	--	--	--	--	
SB13-4.5-5.0 ⁴	12/17/2015	4.5–5.0	20 U	50 U	250 U	--	--	--	--	--	
Confirmation Samples	EX-1-4.5'-5.0'	4/13/2016	4.5–5.0	11	88	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	EX-1-4.5'-5.0' Dup	4/13/2016	4.5–5.0	18	120	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	EX-2-4.5'-5.0'	4/13/2016	4.5–5.0	2 U	50 U	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	EX-3-7.5'-8.0'	4/13/2016	7.5–8.0	2 U	50 U	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--
	EX-4-4.5'-5.0'	4/13/2016	4.5–5.0	23	120	250 U	0.02 U	0.028	0.02 U	0.06 U	2.6
	EX-5-5.0'-5.5'	4/14/2016	5.0–5.5	3	50 U	250 U	0.02 U	0.02 U	0.02 U	0.06 U	--

Notes:

-- Not analyzed.

BOLD Detected at a concentration that exceeds the MTCA Method A cleanup level.

1 Samples SB3-4-4.5 and SB8-4.5-5 were analyzed by USEPA 8260C.

2 Criterion is 30 mg/kg if benzene is present and 100 mg/kg if no detectable benzene is present.

3 Sample SB8 was removed during 2016 excavation activities.

4 Analyzed by NWTPH-HCID.

Qualifiers:

J Analyte was detected, concentration is considered an estimate.

JM Analyte was detected, concentration is considered an estimate due to a poor match to the chromatographic standard.

U Analyte was not detected, concentration given is the reporting limit.

Abbreviations:

BTEX Benzene, toluene, ethylbenzene, and xylenes

CSID Cleanup Site ID

DRO Diesel-range organics

GRO Gasoline-range organics

mg/kg Milligrams per kilogram

MTCA Model Toxics Control Act

ORO Oil-range organics

Remedial Investigation and Cleanup Action Report–
1992 Fuel Line Release

Table 3.4

Soil Analytical Data for CSID 11077 –
GRO, DRO, ORO, BTEX, and Lead

**Table 3.5
Additional Soil Analytical Data for CSID 11077 - VOCs and cPAHs**

Location		EX-4	SB3	SB8	MTCA Method A Cleanup Level
Sample ID		EX-4-4.5'-5.0'	SB3-4'-4.5'	SB8-4.5'-5'	
Sample Date		4/13/2016	8/20/2015	8/20/2015	
Depth (ft bgs)		4.5-5.0	4.0-4.5	4.5-5.0	
Analyte	Units				
Volatile Organic Compounds by USEPA 8260C					
Benzene	mg/kg	--	0.03 U	0.03 U	0.03
Toluene	mg/kg	--	0.05 U	0.05 U	7
Ethylbenze	mg/kg	--	0.05 U	0.05 U	6
Xylene (meta & para)	mg/kg	--	0.1 U	0.1 U	9 ¹
Xylene (ortho)	mg/kg	--	0.05 U	0.05 U	9 ¹
1,2-Dichloroethane	mg/kg	0.05 U	0.005 U	0.005 U	0.005
1,2-Dibromoethane ²	mg/kg	0.0005 U	0.0005 U	0.0005 U	0.005
Methyl-Tert-Butyl Ether	mg/kg	0.05 U	0.05 U	0.05 U	11 ³
Naphthalene	mg/kg	0.05 U	0.05 U	0.05 U	0.1
n-Hexane	mg/kg	0.25 U	0.25 U	0.25 U	4,800 ³
Semivolatile Organic Compounds by USEPA 8270D					
1-Methylnaphthalene	mg/kg	--	0.026	2.9	5,600 ³
2-Methylnaphthalene	mg/kg	--	0.01 U	2.8	320 ³
Benzo(a)anthracene	mg/kg	0.01 U	0.01 U	0.01 U	1.37 ³
Benzo(a)pyrene	mg/kg	0.01 U	0.01 U	0.01 U	0.1
Benzo(b)fluoranthene	mg/kg	0.01 U	0.01 U	0.01 U	1.37 ³
Benzo(k)fluoranthene	mg/kg	0.01 U	0.01 U	0.01 U	13.7 ³
Chrysene	mg/kg	0.01 U	0.01 U	0.013	137 ³
Dibenzo(a,h)anthracene	mg/kg	0.01 U	0.01 U	0.01 U	0.137 ³
Indeno(1,2,3-cd)pyrene	mg/kg	0.01 U	0.01 U	0.01 U	1.37 ³
Naphthalene	mg/kg	--	0.01 U	0.01 U	5
cPAH TEQ (ND Zero)	mg/kg	--	0.01 U	0.00013	0.1
cPAH TEQ (ND Half)	mg/kg	--	0.0076 U	0.0076	0.1

Notes:

- Not analyzed.
- 1 Total xylenes cleanup level.
- 2 Analyzed using USEPA 8260C Direct Sparge.
- 3 MTCA Method B unrestricted land use cleanup level.

Abbreviations:

- bgs Below ground surface
- cPAH Carcinogenic polycyclic aromatic hydrocarbon
- CSID Cleanup Site ID
- ft Feet
- mg/kg Milligrams per kilogram
- MTCA Model Toxics Control Act
- ND Non-detect
- TEQ Toxic equivalent
- VOC Volatile organic compound

Qualifier:

- U Analyte was not detected, concentration given is the reporting limit.

Remedial Investigation and Cleanup Action Report –
1992 Fuel Line Release

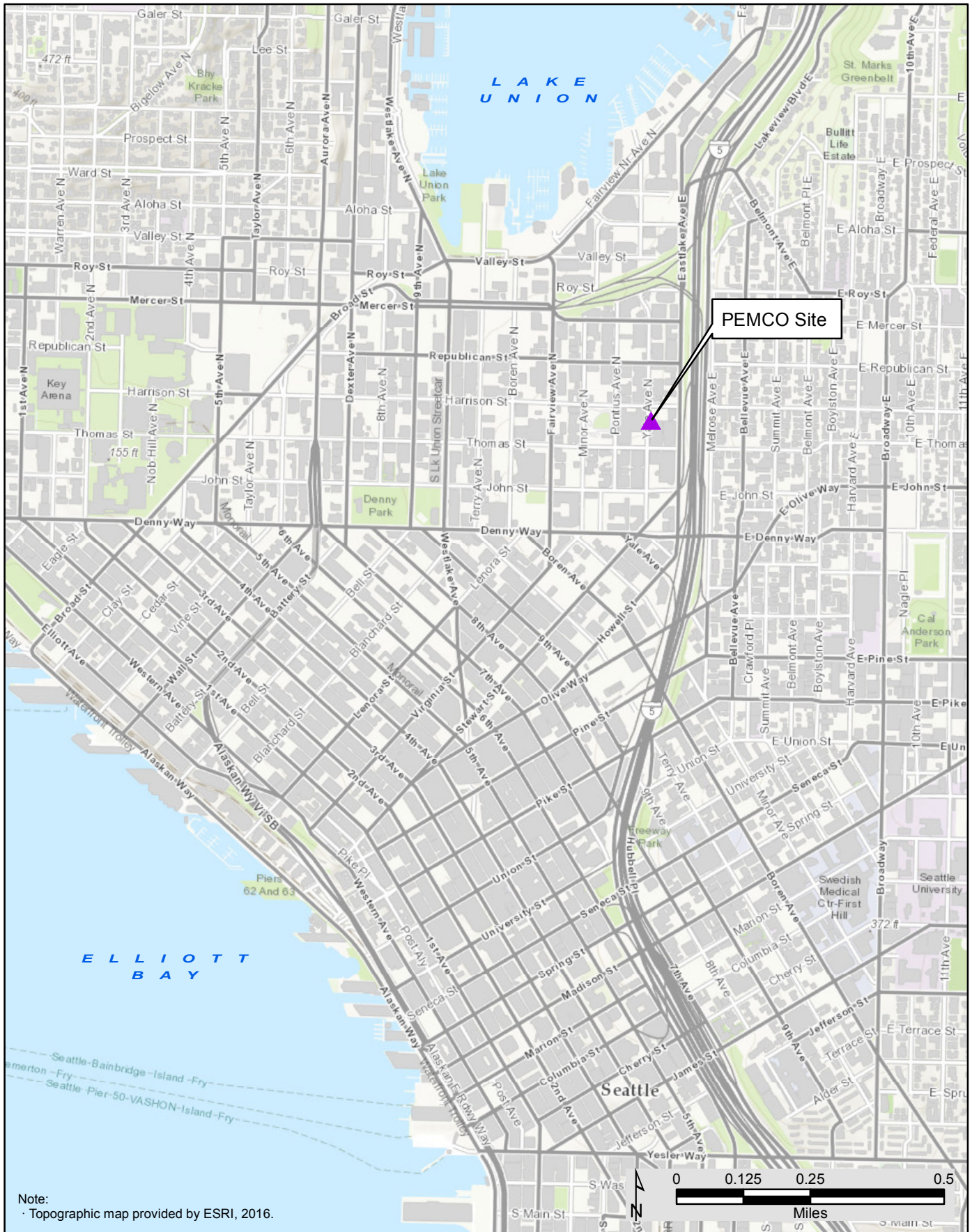
Table 3.5

Additional Soil Analytical Data for CSID 11077 -
VOCs and cPAHs

PEMCO Eastlake

**Remedial Investigation and
Cleanup Action Report—
1992 Fuel Line Release**

Figures

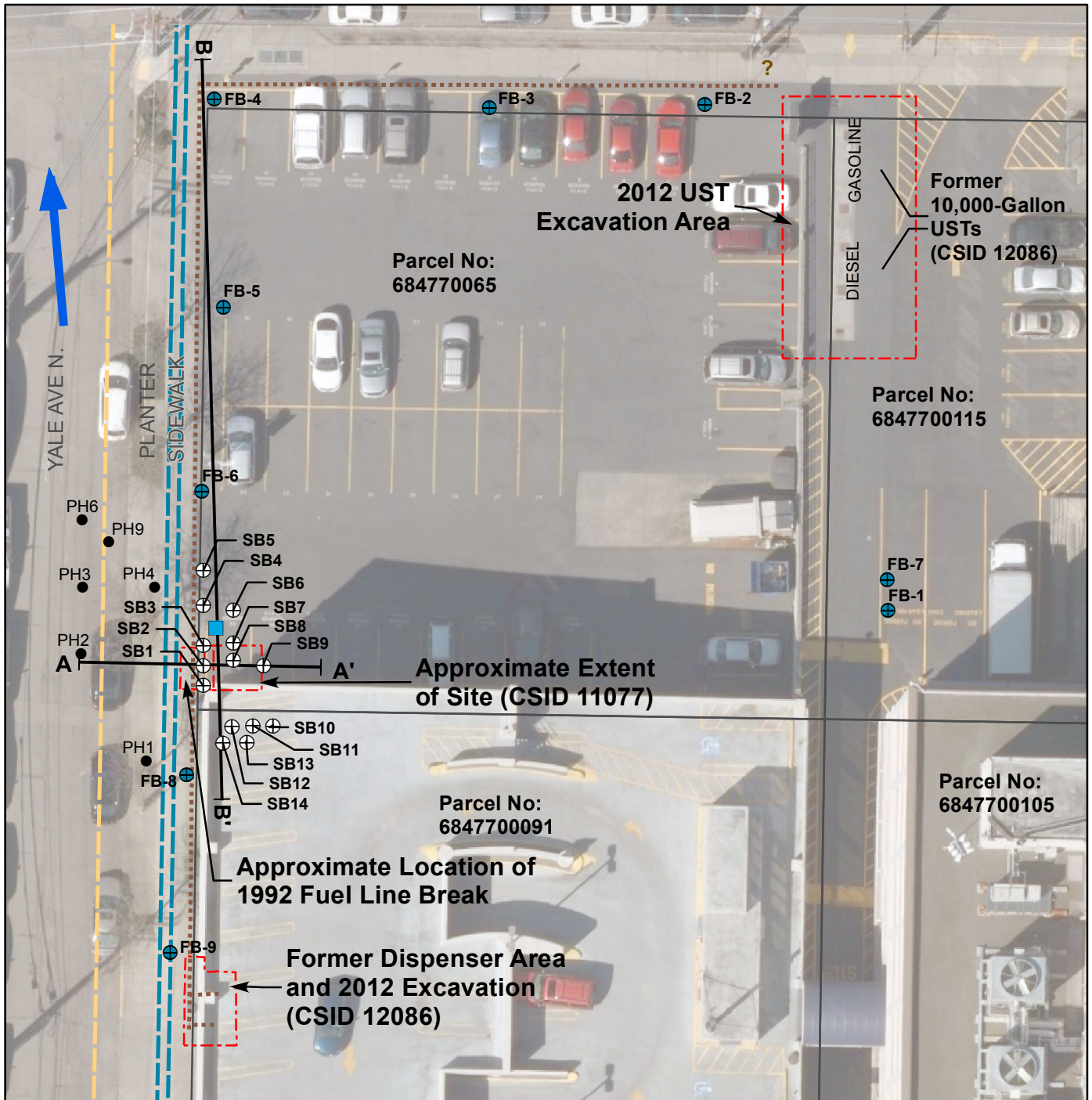


Note:
 · Topographic map provided by ESRI, 2016.

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**Remedial Investigation and
 Cleanup Action Report
 1992 Fuel Release
 PEMCO Mutual Insurance Company
 Seattle, Washington**

**Figure 1.1
 Vicinity Map**



Legend

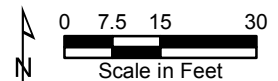
- Soil Gas Probe (Newman 1993)
- ⊕ New Borings (F|S 2015)
- Storm Drain
- ⊕ Existing (Farallon 2015)
- ▭ Approximate Extents of Remedial Excavations
- ▭ Tax Parcel Boundary
- ← Approximate Groundwater Flow Direction for the Deep Aquifer
- A'— A' Cross Section Location
- ⋯ Former Fuel Line
- Fiber Optics
- Electrical

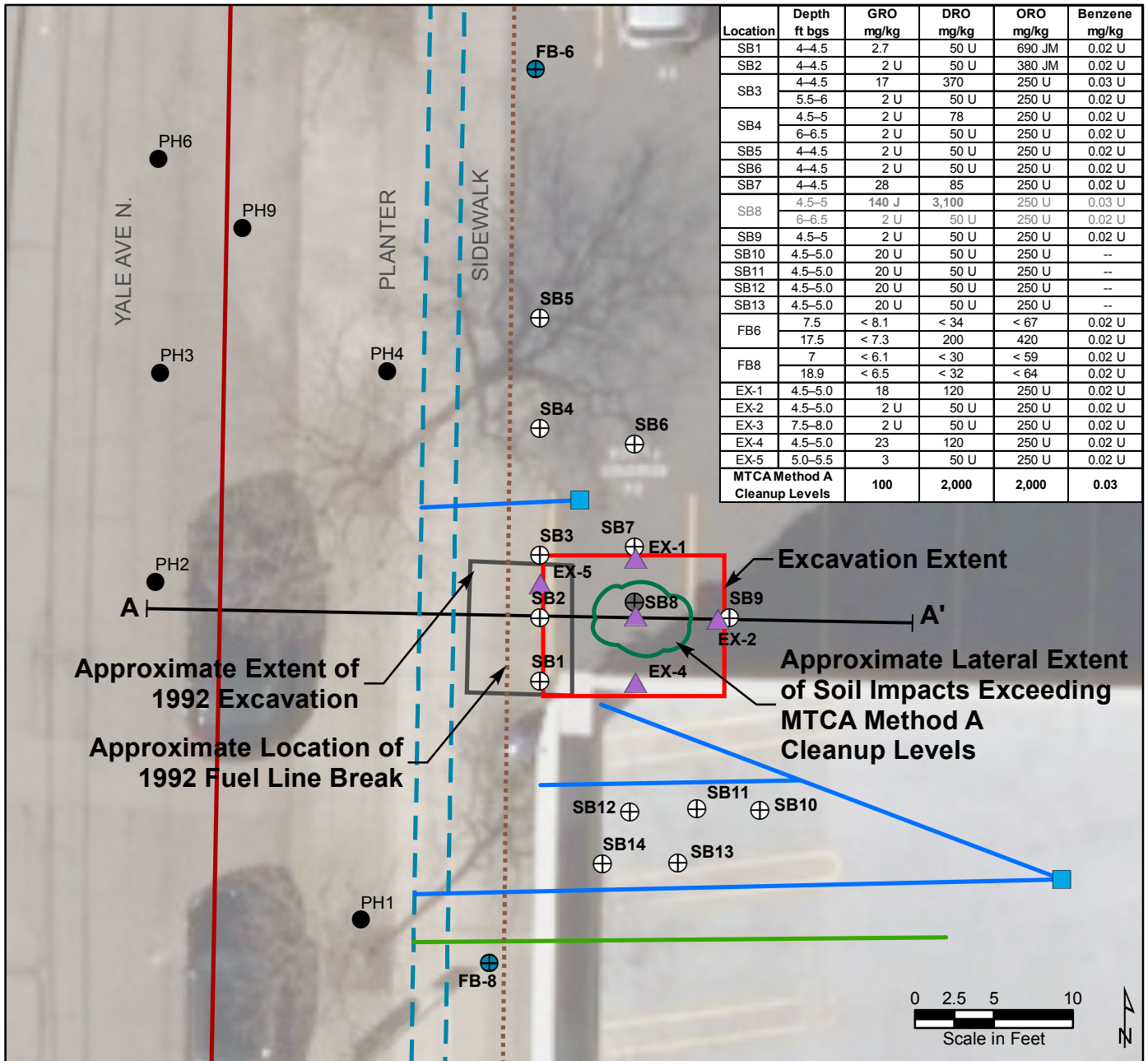
Notes:

- Floyd|Snider borings conducted for CSID 11077.
- Farallon borings conducted for CSID 12086.
- Tax parcels provided by King County Geographic Information Systems Center.
- Orthoimage provided by NearMap, 2016.

Abbreviations:

- CSID = Cleanup Site Identification
- UST = Underground storage tank





Legend

- ▲ Excavation Confirmation Sample (Floyd|Snider 2016)
- Soil Gas Probe (Newman 1993)
- ⊕ New Boring (Floyd|Snider 2015)
- ⊕ SB8: Soil Removed During 2016 Excavation
- ⊕ Existing Boring (Farallon 2015)
- Storm Drain
- ▭ 2016 Excavation Extent
- ▭ 1992 Excavation Extent
- ⋯ Former Fuel Line
- Fiber Optics
- Electrical
- Stormwater
- Sewer
- A—A' Cross Section Location

Notes:

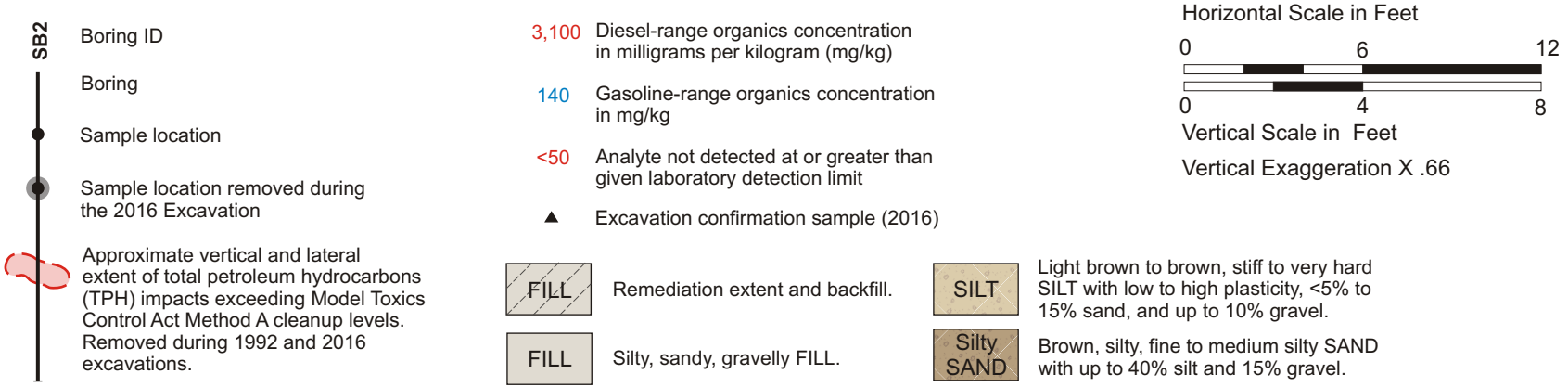
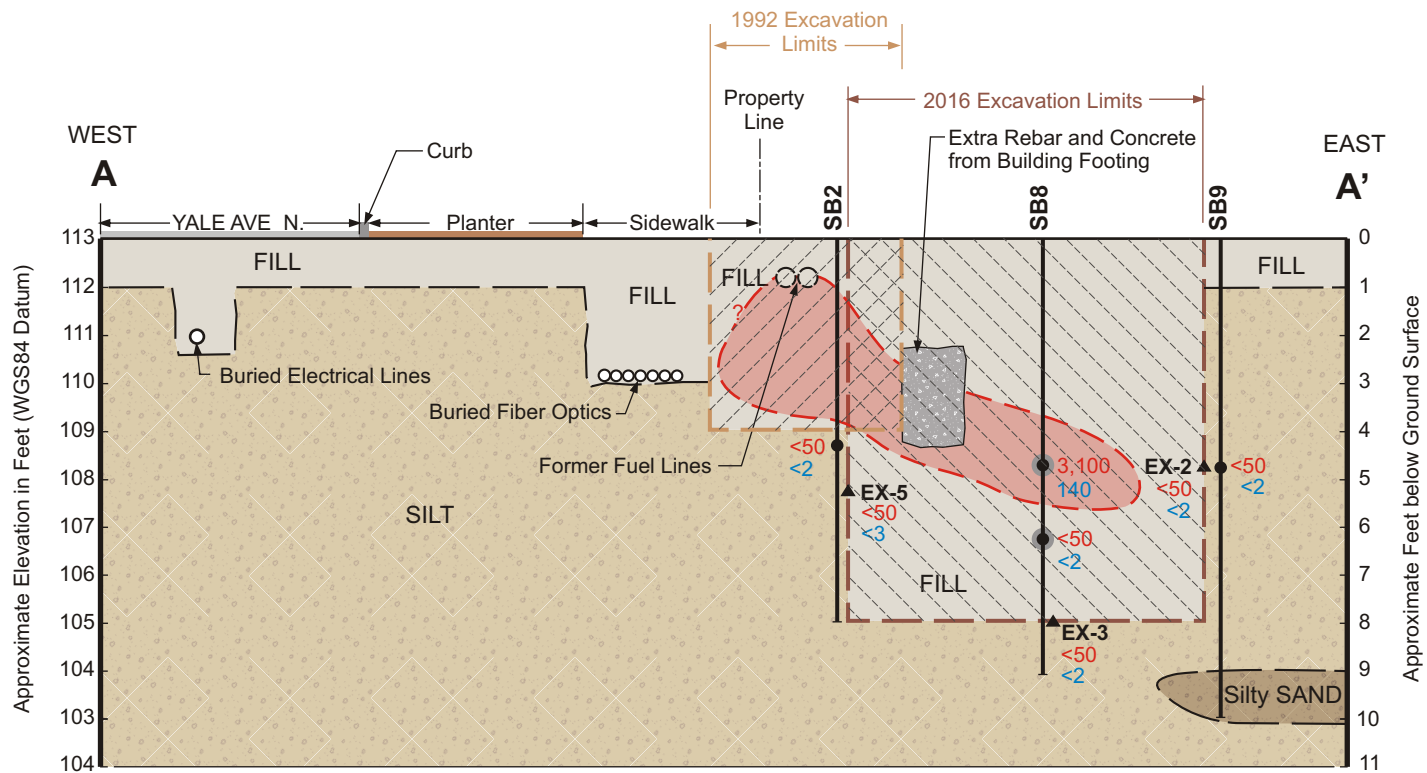
- **Bold** sample concentrations indicate a concentration greater than the MTCA Method A cleanup level for soil.
- Faded-gray font indicates that soil sample was removed during excavation activities.
- "-" indicates "not applicable"

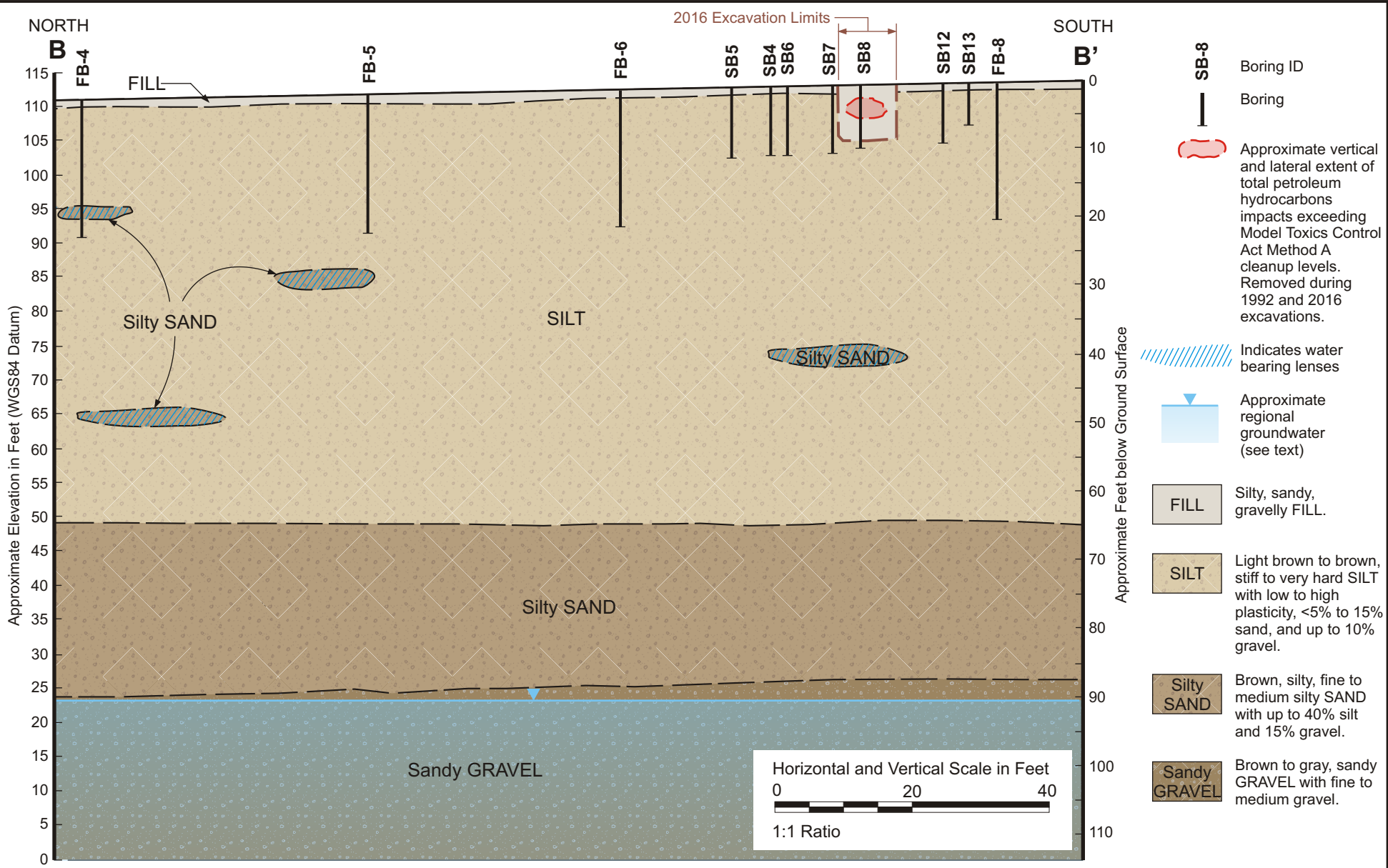
Abbreviations:

- bgs = Below ground surface
- DRO = Diesel-range organics
- ft = Feet
- GRO = Gasoline-range organics
- mg/kg = Milligrams per kilogram
- MTCA = Model Toxics Control Act
- ORO = Oil-range organics

Qualifiers:

- J = Concentration is estimated but acceptable for most uses.
- JM = Concentration is estimated due to poor match to standard, acceptable for use with qualification.
- U = Analyte is not detected at the associated reporting limit.



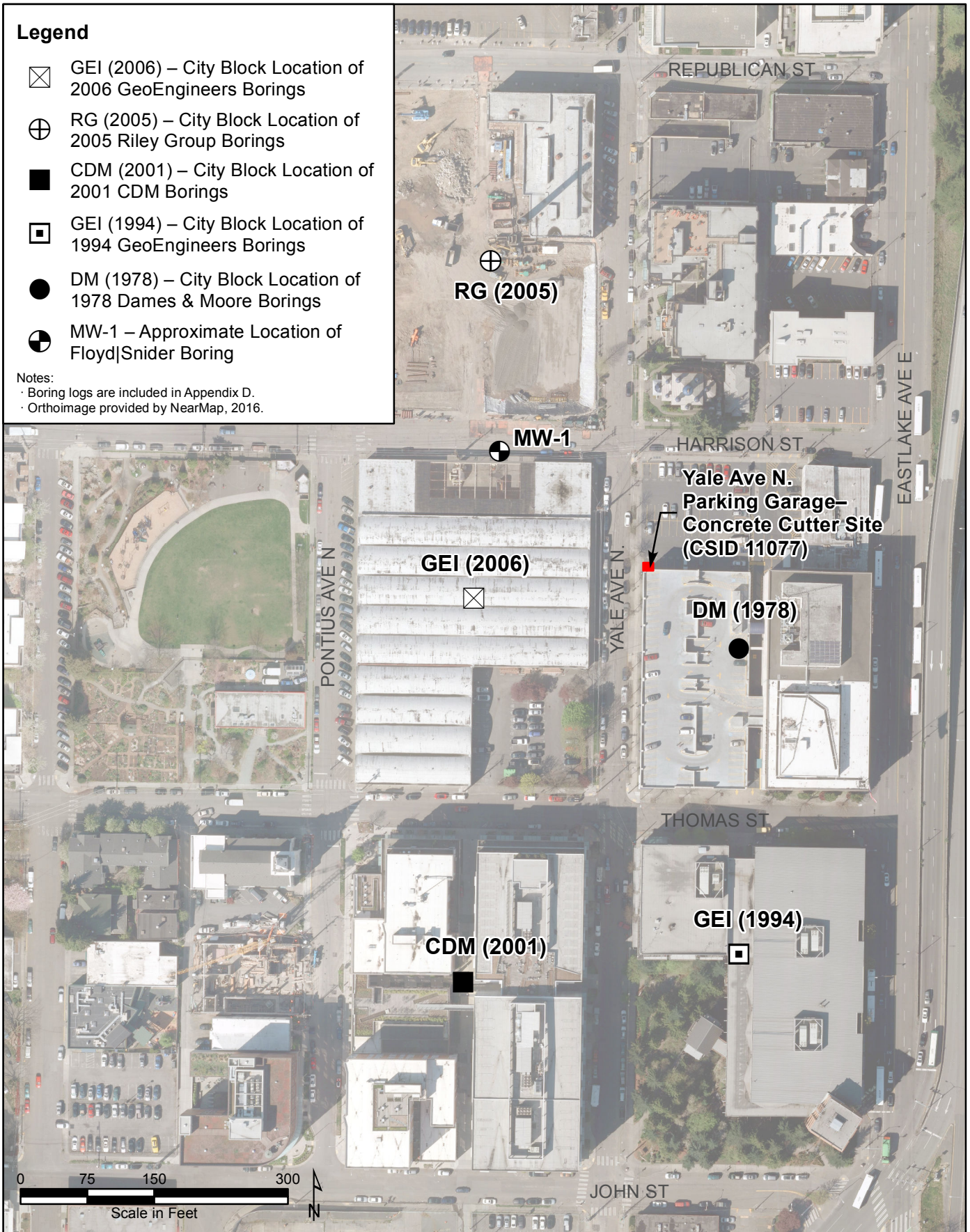


Legend

- ☒ GEI (2006) – City Block Location of 2006 GeoEngineers Borings
- ⊕ RG (2005) – City Block Location of 2005 Riley Group Borings
- CDM (2001) – City Block Location of 2001 CDM Borings
- ◻ GEI (1994) – City Block Location of 1994 GeoEngineers Borings
- DM (1978) – City Block Location of 1978 Dames & Moore Borings
- ◐ MW-1 – Approximate Location of Floyd|Snider Boring

Notes:

- Boring logs are included in Appendix D.
- Orthoimage provided by NearMap, 2016.



PEMCO Eastlake

**Remedial Investigation and
Cleanup Action Report—
1992 Fuel Line Release**

**Appendix A
Submittal of Additional Soil Investigation
Data, CSID 12086**

October 30, 2015

Ms. Donna Musa
Washington State Department of Ecology
Northwest Regional Office
3190 160th Ave Southeast
Bellevue, Washington 98008

**SUBJECT: ADDITIONAL SOIL INVESTIGATION DATA FOR LUST CSID 12086
 325 Eastlake Avenue East, Seattle, Washington (325 Eastlake Property)**

Dear Donna:

Floyd|Snider has prepared this letter at the request of PEMCO Mutual Insurance Company (PEMCO) to inform the Washington State Department of Ecology (Ecology) of additional subsurface data collection conducted on the behalf of Unico Properties LLC (Unico) at 325 Eastlake Avenue East (325 Eastlake Property) formerly owned by PEMCO and now owned by Unico. The work was conducted on the 325 Eastlake Property, which is located on the southeast corner of the intersection of Yale Avenue North and Harrison Street. The 325 Eastlake Property is listed by Ecology as one facility, Facility Site ID 92673819, but was given three separate Cleanup Site IDs (CSIDs) due to the presence of three separate source areas:

- CSID 10168, which is associated with an ethylene glycol spill and has a cleanup unit name of “PEMCO Financial Center – Ethylene Glycol Spill”
- CSID 12086, which is associated with an underground storage tank (UST) removal in 2012 and has a cleanup unit name of “PEMCO Insurance”
- CSID 11077, which is associated with the 1992 cutting of the UST fuel lines and has a cleanup unit name of “Yale Ave N Parking Garage – Concrete Cutter”

The PEMCO Financial Center – Ethylene Glycol Spill site (CSID 10168) was given a “No Further Action” (NFA) determination on January 11, 2012. The remediation activities for the PEMCO Insurance site (CSID 12086) resulted in a NFA determination on March 20, 2013. The cleanup of the Yale Ave N Parking Garage – Concrete Cutter site is underway by PEMCO. The remainder of this letter concerns additional data collected at CSID 12086, the 2012 UST removal site.

In April 2015, Farallon Consulting (Farallon) conducted a subsurface investigation as part of a property due diligence related to the sale of the 325 Eastlake Property to Unico. A copy of the Farallon investigation is provided as Attachment 1. A primary purpose of that investigation was to determine if petroleum hydrocarbons are present in soil and groundwater beneath the fuel lines that ran between the former USTs and dispensers. Seven soil borings (FB-2 through FB-6, FB-8, and FB-9) were advanced adjacent to the former USTs and along the fuel lines, and two locations (FB-1 and FB-7) were advanced between the former UST locations and the current

building (refer to Figure 3 of the Farallon report [Attachment 1]). Sixteen soil samples and one groundwater sample were submitted for analysis. Results for the groundwater sample and all soil samples, except one, show concentrations of gasoline-, diesel-, and oil-range organics, and benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds less than their Model Toxics Control Act (MTCA) Method A cleanup levels or laboratory detection limits. The one exception was in soil sample FB3-7.5, in which benzene was detected at a concentration of 0.032 milligrams per kilograms (mg/kg), which slightly exceeds the cleanup level of 0.030 mg/kg. This sample was collected at a depth of 7.5 feet below ground surface. A second sample collected at 16 feet below ground surface from this boring was analyzed and results were either non-detect or less than MTCA Method A cleanup levels for all constituents.

It is our opinion that because this single detection of benzene is, for all practical purposes, essentially at the cleanup level, the PEMCO Insurance site (CSID 12086) is still in compliance with cleanup standards and the current site status should not be changed. Even if this concentration were considered by Ecology to exceed the cleanup level, the MTCA statistical approach (Washington Administrative Code [WAC] 173-340-740(7)(e)(i-ii)) allows for no single concentration to be greater than two times the cleanup level (i.e., 0.060 mg/kg for benzene, twice the MTCA Method A cleanup level of 0.030 mg/kg for benzene) and less than 10 percent of sample concentrations can exceed the soil cleanup level. From this perspective, the single isolated benzene detection of only 0.002 mg/kg greater than the MTCA Method A cleanup level is not significant. Therefore, it is our opinion that CSID 12086 remains in compliance. To confirm that Ecology agrees that the 2013 NFA determination is not affected by this additional information, could you kindly provide written confirmation that the 2013 NFA for CSID 12086 remains valid?

Please feel free to call with any questions you may have.

Sincerely yours,
FLOYD | SNIDER



Thomas H. Colligan, LHG
Associate Principal

Encl: Attachment 1 Summary of Subsurface Investigation, PEMCO Property, Farallon Consulting, June 25, 2015

Cc: Gayle Garbush, Ecology
Sonía Fernández, Ecology
Mike Mitchell, PEMCO
Camille Ralston, Montgomery Purdue Blankinship & Austin PLLC
Riley Conkin, Farallon Consulting
Andrew Smith, UNICO Properties
Matthew Wells, Tupper Mack Wells PLLC

Attachment 1
Summary of Subsurface Investigation, PEMCO Property,
Farallon Consulting, June 25, 2015

June 25, 2015

Mr. Andrew Smith
Unico Properties LLC
1215 4th Avenue, Suite 600
Seattle, Washington 98161

BY E-MAIL ONLY

**RE: SUMMARY OF SUBSURFACE INVESTIGATION
PEMCO PROPERTY
325 EASTLAKE AVENUE EAST
SEATTLE, WASHINGTON
FARALLON PN: 463-012**

Dear Mr. Smith:

Farallon Consulting, L.L.C. (Farallon) has prepared this letter to provide a summary of the subsurface investigation conducted between April 13 and June 1, 2015 on behalf of Unico Properties LLC (Unico) at 325 Eastlake Avenue East in Seattle, Washington (herein referred to as the Site) (Figure 1). The scope of work for the subsurface investigation was described in our proposal to you dated April 7, 2015. It was based on the results of the *Phase I Environmental Site Assessment Report, 301, 325, and 327 Eastlake Avenue East and 300-330 Yale Avenue North, Seattle, Washington* dated January 16, 2015, prepared by Farallon (Phase I ESA); local knowledge of the Site vicinity; review of previous investigations; review of City permits; a Site visit; and discussions with Unico and PEMCO representatives.

The purpose of the subsurface investigation was to assess whether certain historical conditions have resulted in the release of hazardous substances at concentrations exceeding the Washington State Department of Ecology (Ecology) Model Toxics Control Act Cleanup Regulation (MTCA) cleanup levels for sites with unrestricted future land uses. The historical conditions of interest are: 1) gas and diesel product lines between underground storage tanks (USTs) formerly located on the northern end of the Site and fuel dispensers in the garage; 2) former print shops in the basement of the Site office building; and 3) an ethylene glycol spill into the sanitary sewer in 1993.

This letter includes a summary of the relevant Site background, the geology and hydrogeology of the Site vicinity, a summary of the results of the subsurface investigation conducted by Farallon, and Farallon's conclusions and recommendations.

BACKGROUND

The Site includes King County Tax Parcel Nos. 684770-0065, 684770-0091, 684770-0095, 684770-0105, and 684770-0115, and includes 2.08 acres of land developed with three



commercial buildings on the eastern portion of the Site, a parking garage on the southwestern portion of the Site, and a commercial surface parking lot on the northwestern portion of the Site (Figure 2).

- The Site building at 301 Eastlake Avenue East is 80,411 square feet in area and was built in 1973 (Building 1). Building 1 is occupied by Pemco Insurance Company.
- The Site building at 325 Eastlake Avenue East is 103,167 square feet in area and was built in 1981 (Building 2). Building 2 is occupied by Pemco Insurance Company and School Employees Credit Union.
- The Site building at 327 Eastlake Avenue East is 1,232 square feet in area and was built in 1949 (Building 3). Historical documents reviewed as a part of the Phase I ESA indicate that Building 3 was built between 1956 and 1965. Building 3 is primarily vacant, with limited storage use by Pemco Insurance Company information technologies department.
- The parking garage is 116,178 square feet in area and was constructed in 1981. The parking garage provides parking for employees and customers, and chemical storage for Pemco Insurance Company maintenance and janitorial staff.

Access to the Site is gained from Harrison Street to the north, Eastlake Avenue East to the east, Thomas Street to the south, and Yale Avenue North to the west.

Historically, the Site was developed with residences. A small auto repair shop appeared for a brief but poorly documented period of time around 1950 in the approximate location of the northeastern corner of the parking garage. The residences were demolished over time as the Site was redeveloped with commercial structures. The current commercial structures, including Buildings 1 through 3, the parking garage, and the commercial parking lot, were in place by 1985.

At the time of the site reconnaissance, adjacent properties consisted of a church, an auto repair facility, and a commercial parking lot to the north across Harrison Street; Interstate 5 and residences to the east across Eastlake Avenue East; Recreational Equipment, Incorporated (REI) to the south across Thomas Street; and a series of storage buildings for Seattle Public Schools to the west across Yale Avenue North. Historically, the north-adjacent properties were developed with residences. A church and an auto repair shop were built on the north-adjacent property prior to 1950 and currently remain in operation.



SUBSURFACE INVESTIGATION

Farallon conducted a subsurface investigation at the Site between April 13 and June 1, 2015. The subsurface investigation included soil gas sampling, soil and groundwater sampling, and a sewer line inspection. The constituents of potential concern (COPCs) identified for the subsurface investigation included:

- Volatile organic compounds (VOCs) and halogenated volatile organic compounds (HVOCs);
- Total petroleum hydrocarbons as diesel-range organics (DRO), as oil-range organics (ORO), and as gasoline-range organics (GRO);
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX); and
- Total lead.

A summary of the subsurface investigation field program is provided below.

RECONNAISSANCE SAMPLING

Borings FB-1 through FB-9 were advanced to depths ranging from 20 to 45 feet below ground surface (bgs) on the northwestern portion of the Site (Figures 2 and 3). A summary of the rationale for each boring is provided below.

- Borings FB-1 and FB-7 were advanced proximate to the northwestern corner of Building 2 to assess soil and groundwater quality, if encountered, in the inferred down-gradient area of the former print shops in Buildings 1 and 2; and
- Borings FB-2 through FB-6, FB-8, and FB-9 were advanced along the western and northern portions of the Site to assess potential releases proximate to the former gasoline and diesel product lines.

Soil samples were collected continuously during the advancement of borings FB-1 through FB-6, FB-8, and FB-9 using a direct-push drill rig. Soil samples were collected every 5 feet during the advancement of boring FB-7 using a hollow-stem auger drill rig. A Farallon Geologist observed subsurface conditions and retained soil samples from selected intervals for laboratory analysis based on field indications of potential contamination. Soil samples collected from borings FB-1 through FB-9 were collected and preserved in accordance with U.S. Environmental Protection Agency (EPA) Method 5035A. The soil samples were transferred directly into laboratory-prepared glass sample containers, placed on ice in a cooler, and delivered under standard chain-of-custody protocols to OnSite Environmental Inc. of Redmond, Washington (OnSite). The information recorded on the boring logs included soil types encountered, visual and olfactory evidence of potential contamination, and volatile organic vapor concentrations as measured using a photoionization detector. The completed boring logs are provided in Attachment A.



A reconnaissance groundwater sample was collected from boring FB-4 using a temporary 5-foot polyvinyl chloride screen interval. The reconnaissance groundwater sample was transferred directly into laboratory-prepared sample containers, placed on ice in a cooler, and delivered under standard chain-of-custody protocols to OnSite.

Laboratory Analysis

Select soil and reconnaissance groundwater samples collected from borings FB-1 through FB-6, FB-8, and FB-9 were analyzed for VOCs and HVOCs by EPA Method 8260C; DRO and ORO by Northwest Method NWTPH-Dx; GRO by Northwest Method NWTPH-Gx; BTEX by EPA Method 8021B or EPA Method 8260C; and/or total lead by EPA Method 6010C.

SOIL GAS SAMPLING

Five discrete soil gas samples were collected on April 16, 2015 proximate to the former print shop area in Building 1 identified during Phase I ESA to quantify the soil gas concentrations, and to evaluate the soil gas concentrations relative to the Draft *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* dated 2009, prepared by Ecology (Ecology Guidance), for evaluating potential soil vapor intrusion to indoor air.

The discrete soil gas samples were collected in 1-liter Summa canisters from within a temporary helium-filled shroud to prevent sample contamination from ambient conditions. The Summa canisters were submitted to Eurofins Air Toxics, Inc. in Folsom, California for laboratory analysis by Modified EPA Method TO-15.

INVESTIGATION-DERIVED WASTE

Soil cuttings, decontamination water, purge water, and other wastewater generated during the subsurface investigation were temporarily stored on the Site in labeled drums. The analytical results for the soil and groundwater samples are being used to develop a waste profile for disposal of the waste off the Site to an Ecology-approved disposal facility.

RESULTS

A summary of laboratory analytical results for soil samples collected from the Site is provided in Tables 1 and 2. A summary of the laboratory analytical results for the reconnaissance groundwater sample collected from boring FB-4 is provided in Tables 3 and 4. A summary of the analytical results for the discrete soil gas samples collected from the Site is provided in Table 5. The laboratory analytical reports for the soil, groundwater, and soil gas samples collected during the subsurface investigation are provided in Attachment B.

GEOLOGY/HYDROGEOLOGY

The general Site stratigraphy encountered in the borings advanced by Farallon predominantly comprises silt with minor interbeds of silty sand and poorly graded sand to approximately 35 feet bgs underlain by interbedded silt and silty sand to the total depth explored of 45 feet bgs in boring FB-7. The boring logs for FB-1 through FB-9 are included in Attachment A.



Shallow discontinuous wet intervals were observed at depths ranging from 5 to 16 feet bgs in the majority of the borings. A wet interval also was encountered in boring FB-7 in a silty sand interbed at approximately 39.5 feet bgs. However, only boring FB-4 had sufficient yield to collect a reconnaissance groundwater sample from a poorly graded sand interval encountered from 15 to 16 feet bgs.

SOIL

Benzene, DRO, and/or ORO were the only COPCs detected in soil samples collected from borings FB-1 through FB-6 at the Site (Figure 3). Benzene was detected at a concentration of 0.032 milligrams per kilogram (mg/kg) in one soil sample collected from boring FB-3 at 7.5 feet bgs, which exceeds the MTCA Method A cleanup level of 0.03 mg/kg (Table 1). Boring FB-3 was advanced on the northern side of the Site west of the former UST area along the alignment of the abandoned gasoline and diesel product lines extending from the former USTs (Figure 3). DRO and ORO were also detected in the deeper sample collected from 16 feet bgs in FB-3 at concentrations of 32 mg/kg and 76 mg/kg, respectively, which are less than the MTCA Method A cleanup level of 2,000 mg/kg. Other results for soil samples collected from boring FB-3 were reported non-detect at the laboratory practical quantitation limit (PQL) (Table 1). GRO and BTEX were also reported non-detect at the laboratory PQL in the remaining soil samples collected from borings FB-1 through FB-6, FB-8, and FB-9 (Figure 3; Table 1).

DRO and/or ORO were also detected at concentrations ranging from 32 to 530 mg/kg in select soil samples collected from borings FB-1, FB-2, and FB-4 through FB-6 advanced on the northwestern portion of the Site along the alignment of the abandoned gasoline and diesel product lines extending from the former USTs (Figure 3; Table 1). Specifically, DRO was detected in the deep soil samples collected from approximately 16 to 17.5 feet bgs in borings FB-4, FB-5, and FB-6; ORO was detected in the shallow soil samples collected from approximately 2.5 to 4.5 feet bgs in borings FB-1, FB-2, and FB-5; and ORO was detected in the deep soil samples collected from approximately 16 to 17.5 feet bgs in borings FB-4 and FB-5. All detections were at concentrations less than the MTCA Method A cleanup level of 2,000 mg/kg for DRO and ORO. DRO and ORO were reported non-detect at the laboratory PQL in soil samples collected from borings FB-8 and FB-9 advanced on the western side of the parking garage (Figure 3; Table 1).

Total lead concentrations ranging from 6.6 to 21 mg/kg were detected in soil samples collected from borings FB-1, FB-2, FB-5, FB-6, FB-8, and FB-9, which are less than the MTCA Method A cleanup level of 250 mg/kg for total lead in soil (Table 1). Total lead was reported non-detect at the laboratory PQL in soil samples collected from borings FB-3 and FB-4.

HVOCs were reported non-detect at the laboratory PQL in the soil samples collected from boring FB-1 advanced in the parking area northwest of Building 2 (Figure 3; Table 2).



GROUNDWATER

Only ethylbenzene and xylenes were detected in the reconnaissance groundwater sample collected from boring FB-4. Reported concentrations were less than the MTCA Method A cleanup level. DRO, ORO, GRO, benzene, toluene, and HVOCs were reported non-detect at the laboratory PQL in the reconnaissance groundwater sample collected from boring FB-4 (Figure 4; Tables 3 and 4).

SOIL GAS SAMPLING

Five discrete soil gas samples were collected proximate to the former print shop area in Building 1 to evaluate the potential release of HVOCs and/or petroleum hydrocarbon-range VOCs in the shallow subsurface, and to assess the potential for vapor intrusion into indoor air at the Site in accordance with Ecology Guidance.

Soil gas samples SS-1 through SS-5 were collected proximate to the former print shop area in Building 1 directly beneath the floor slab (Figure 5). Petroleum hydrocarbon-range VOCs, including BTEX and several HVOCs including tetrachloroethene (PCE), were detected at low concentrations ranging from 0.92 to 71 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in soil gas samples SS-1 through SS-5 (Figure 5; Table 5). PCE degradation compounds, including trichloroethene, cis 1-2 and trans 1,2 dichloroethene isomers, and vinyl chloride, were reported non-detect at the laboratory PQL (Table 5; Appendix B).

The soil gas sampling results for the analytes detected in SS-1 through SS-5 were compared to the screening levels for a residential setting and a commercial setting based on the most current published non-carcinogenic and carcinogenic exposure parameters presented in Tables 6 and 7. Because no MTCA Method A cleanup levels are available for soil gas, the results were compared to MTCA Method B screening levels for soil gas for the default residential setting and the Modified MTCA Method B screening levels for soil gas calculated for a commercial setting at the Site. The detected analytes were reported at concentrations less than the residential and commercial screening levels, and are not considered indicative of a release or source of HVOCs and/or petroleum hydrocarbon-range VOCs in the shallow subsurface beneath the former print shop area in Building 1 (Table 5).

SEWER LINE INSPECTION

Approximately 80 gallons of ethylene glycol was reportedly spilled in the large mechanical room in the basement of Building 2 in 1993. An unknown volume of the spilled material entered a floor drain and the sanitary sewer. Farallon contracted Applied Professional Services of North Bend, Washington to conduct a video camera inspection of the sewer drain line in the mechanical room of the basement of Building 2 near the backup generator on April 13, 2015. During the video inspection, no obvious cracks or breaks were observed in the section of the drain line inspected, from a clean-out approximately 6 feet upstream of the floor drain to the downstream connection of the drain line to the sanitary sewer main line.



CONCLUSIONS AND RECOMMENDATIONS

Benzene in soil was the only COPC detected at a concentration exceeding the MTCA cleanup levels at the Site. Benzene was detected at a concentration of 0.032 mg/kg in a soil sample collected from 7.5 feet bgs in boring FB-3 advanced on the northern side of the Site west of the former UST excavation area and along the alignment of the abandoned gasoline and diesel product lines extending from the former USTs (Figure 3; Table 1). DRO and ORO were also detected in a deeper soil sample collected from boring FB-3 at 16 feet bgs, but at concentrations less than the MTCA Method A cleanup level (Figure 3; Table 1). These data indicate a localized area of shallow soil contamination exceeding the MTCA Method A cleanup level proximate to boring FB-3 that is likely associated with the historical operation of the gas and diesel product lines between former USTs and the parking garage.

The low concentrations of DRO and/or ORO detected in soil samples collected from borings FB-1 through FB-6 indicate a localized area of petroleum-contaminated soil in the northwestern portion of the Site along the alignment of and likely associated with the historical operation of the former product lines. Although the DRO and ORO concentrations detected in soil do not exceed the MTCA Method A cleanup level of 2,000 mg/kg, soil with visual, olfactory, and/or detectable concentrations of petroleum hydrocarbons may require special handling and disposal in accordance with Ecology *Guidance for Remediation of Petroleum Contaminated Soils* dated 2011, if excavated during future construction and/or redevelopment of the Site. However, the low concentrations of DRO and ORO detected in soil at concentrations less than the MTCA Method A cleanup level do not present a threat to human health or the environment.

The low concentrations of several HVOCs, including PCE and petroleum hydrocarbon-range VOCs, detected in the soil gas samples collected from the former print shop area in Building 1 are well below the MTCA Method B Screening Levels for soil gas for the default residential setting (Figure 5; Table 5). These quantitative soil gas sampling results confirm that there is no potential vapor intrusion exposure pathway to indoor air in the occupied commercial space of Building 1 at the Site requiring mitigation and/or cleanup in accordance with Ecology Guidance. In addition, the low concentrations of several HVOCs and petroleum hydrocarbon-range VOCs detected in the soil gas samples collected from SS-1 through SS-5 are not considered indicative of a release or source of HVOCs and/or petroleum hydrocarbon-range VOCs in the shallow subsurface beneath the former print shop area in Building 1.

Based on the results of the subsurface investigation, Farallon recommends additional characterization to sufficiently bound and confirm the nature and extent of benzene contamination exceeding the MTCA Method A cleanup level in shallow soil proximate to boring FB-3, and evaluation of remedial alternatives for cleanup in accordance with MTCA. In addition, Farallon recommends assessing whether or not there is a release reporting requirement in accordance with the requirements of Section 300 of Chapter 173-340 of the Washington Administrative Code (WAC 173-340-300) pending completion of the additional characterization.



CLOSING

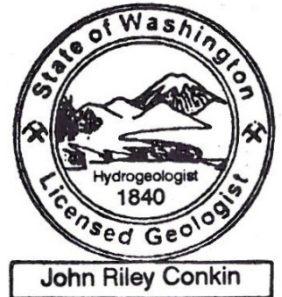
Farallon appreciates the opportunity to provide Unico with environmental consulting services. Please contact either of the undersigned at (425) 295-0800 if you have questions or comments regarding this letter.

Sincerely,

Farallon Consulting, L.L.C.

Joe Rounds
Senior Project Manager

J. Riley Conkin, L.G., L.H.G.
Principal Geologist



Attachments: Figure 1, *Site Vicinity Map*
Figure 2, *Site Plan*
Figure 3, *Soil Analytical Results*
Figure 4, *Groundwater Analytical Results*
Figure 5, *Site Plan Showing Soil Gas Sampling Locations*

Table 1, *Soil Analytical Data for Petroleum Hydrocarbons and Lead*
Table 2, *Soil Analytical Data for HVOCs*
Table 3, *Groundwater Analytical Data for TPH and BTEX*
Table 4, *Groundwater Analytical Data for HVOCs*
Table 5, *Soil Gas Analytical Results*
Table 6, *MTCA Standard Method B and Modified Method B Air Cleanup Level and Soil Gas Screening Level Calculations PCE, TCE, and Vinyl Chloride*
Table 7, *MTCA Standard Method B and Modified Method B Air Cleanup Level and Soil Gas Screening Level Calculations Benzene, Toluene, Ethylbenzene, and Xylenes*
Attachment A, Boring Logs
Attachment B, Laboratory Analytical Reports

cc: Matthew Wells, Tupper Mack Wells PLLC

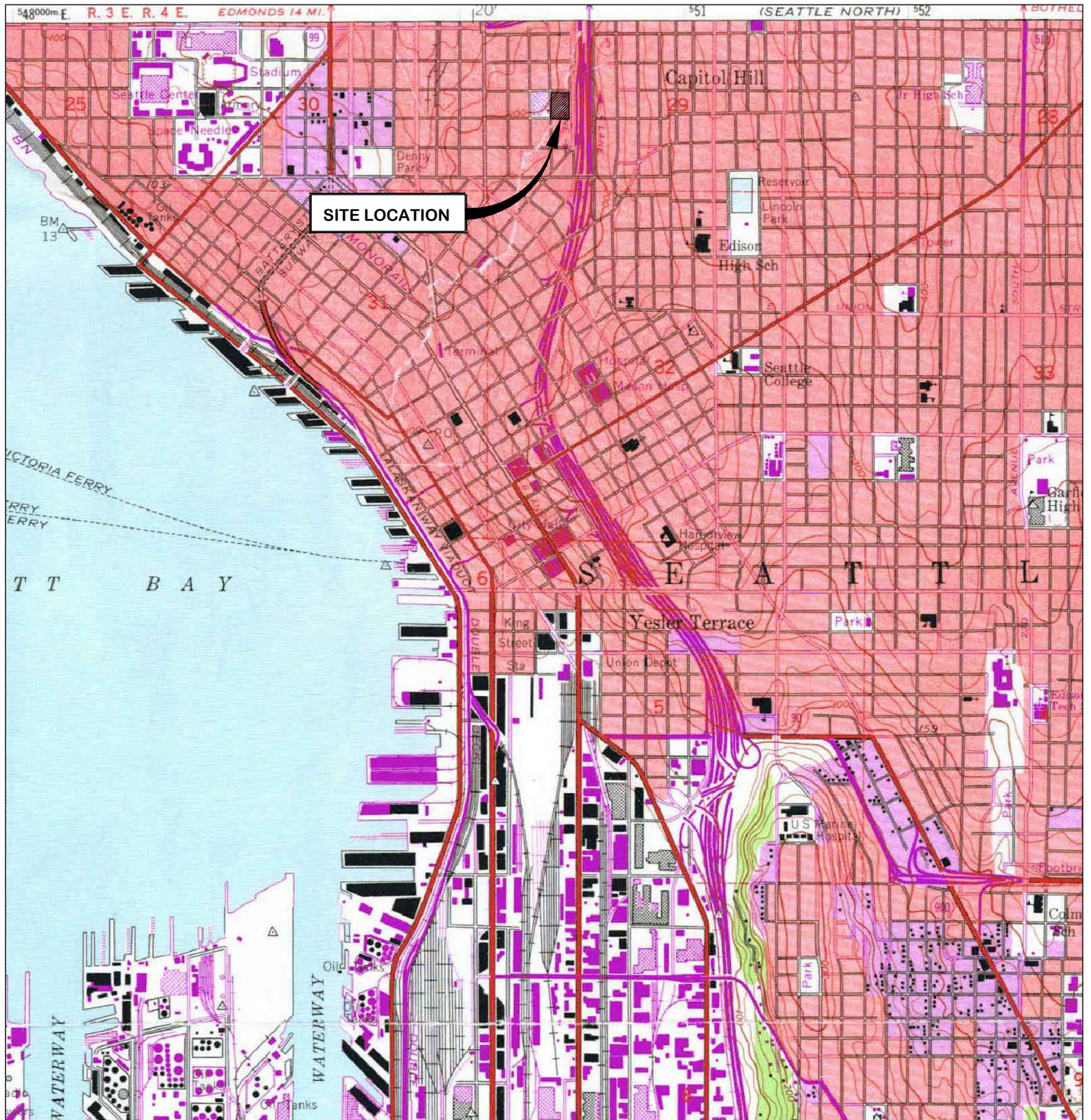
JR/JRC:bw

FIGURES

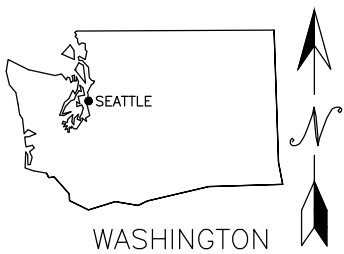
SUMMARY OF SUBSURFACE INVESTIGATION

**Pemco Property
325 Eastlake Avenue East
Seattle, Washington**

Farallon PN: 463-012



REFERENCE: 7.5 MINUTE USGS QUADRANGLE SEATTLE SOUTH, WASHINGTON. DATED 1949 AND PHOTOREVISED 1973.



Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend

California
Oakland | Sacramento | Irvine

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FIGURE 1

SITE VICINITY MAP
301, 325, AND 327 EASTLAKE AND
300-330 YALE AVENUE NORTH
SEATTLE, WASHINGTON

FARALLON PN: 463-012

Drawn By: DJR Checked By: DW Date: 5/11/2015 Disk Reference: 463-012_00



LEGEND	
	SITE BOUNDARY
FB-1 ●	BORING LOCATION (FARALLON, 2015)
	PARCEL BOUNDARY
ALL LOCATIONS APPROXIMATE	



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Portland | Bend

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Drawn By: DJR	Checked By: DW
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FIGURE 2

SITE PLAN
301, 325, AND 327 EASTLAKE AND
300-330 YALE AVENUE NORTH
SEATTLE, WASHINGTON

FARALLON PN: 463-012

Date: 5/11/2015	Disk Reference: 463-012_00
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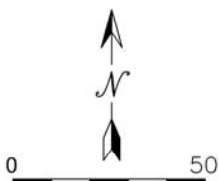
LEGEND

- PARCEL BOUNDARY
- SITE BOUNDARY
- FB-1 BORING LOCATION (FARALLON, 2015)
- CONFIRMED LOCATION OF FUEL PRODUCT LINES IN VAC TRUCK BORING
- BORING LOCATION BY VAC TRUCK - NO PRODUCT LINES ENCOUNTERED

< = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT

DRO = TPH AS DIESEL-RANGE ORGANICS
 ORO = TPH AS OIL-RANGE ORGANICS
 GRO = TPH AS GASOLINE-RANGE ORGANICS
 B = BENZENE

SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
 [7' <30/<59/<6.1/<0.020] = SOIL SAMPLE
 SAMPLE FEET BELOW GROUND SURFACE DRO/ORO/GRO/B



ALL LOCATIONS APPROXIMATE

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend

California
Oakland | Sacramento | Irvine

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FIGURE 3

SOIL ANALYTICAL RESULTS
 301, 325, AND 327 EASTLAKE AND
 300-330 YALE AVENUE NORTH
 SEATTLE, WASHINGTON

FARALLON PN: 463-012

Drawn By: DJR

Checked By: DEW

Date: 5/11/2015

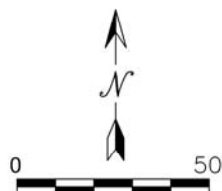
Disk Reference: 463-012_00



LEGEND

- PARCEL BOUNDARY
 - SITE BOUNDARY
 - FB-1 BORING LOCATION (FARALLON, 2015)
 - ← APPROXIMATE DIRECTION OF GROUNDWATER FLOW
- GROUNDWATER RESULTS IN MICROGRAMS PER LITER
 DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
 ORO = TPH AS OIL-RANGE ORGANICS
 GRO = TPH AS GASOLINE-RANGE ORGANICS

- < = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
- B = BENZENE
- T = TOLUENE
- E = ETHYLBENZENE
- X = TOTAL XYLENES



ALL LOCATIONS APPROXIMATE

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Issaquah | Bellingham | Seattle

Oregon
Portland | Bend

California
Oakland | Sacramento | Irvine

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FIGURE 4
 GROUNDWATER ANALYTICAL RESULTS
 301, 325, AND 327 EASTLAKE AND
 300-330 YALE AVENUE NORTH
 SEATTLE, WASHINGTON

FARALLON PN: 463-012

TABLES

SUMMARY OF SUBSURFACE INVESTIGATION

**Pemco Property
325 Eastlake Avenue East
Seattle, Washington**

Farallon PN: 463-012

Table 1
Soil Analytical Data for Petroleum Hydrocarbons and Lead
Pemco Property
Seattle, Washington
Farallon PN: 463-012

Sample Location	Sample Identification	Sample Depth (feet) ¹	Sample Date	Analytical Results (milligrams per kilogram)							
				DRO ²	ORO ²	GRO ³	Benzene ⁴	Toluene ⁴	Ethylbenzene ⁴	Total Xylenes ⁴	Total Lead ⁵
FB1	FB1-2.5	2.5	04/22/2015	< 28	68	< 8.1	< 0.0010	< 0.0052	< 0.0010	< 0.0021	21
	FB1-17.5	17.5	04/22/2015	< 29	< 59	< 6.1	< 0.00099	< 0.0050	< 0.00099	< 0.0020	--
FB2	FB2-2.5	2.5	04/22/2015	< 50	530	< 5.3	< 0.020	< 0.053	< 0.053	< 0.053	15
	FB2-17.5	17.5	04/22/2015	< 33	< 66	< 7.3	< 0.020	< 0.073	< 0.073	< 0.073	--
FB3	FB3-7.5	7.5	04/22/2015	< 29	< 58	< 5.4	0.032	< 0.054	< 0.054	< 0.054	< 5.8
	FB3-16.0	16	04/22/2015	32	76	< 5.8	< 0.020	< 0.058	< 0.058	< 0.058	--
FB4	FB4-2.5	2.5	04/22/2015	< 31	< 61	< 6.5	< 0.020	< 0.065	< 0.065	< 0.065	< 6.1
	FB4-16.0	16	04/22/2015	290	230	< 6.0	< 0.020	< 0.060	< 0.060	< 0.060	--
FB5	FB5-4.5	4.5	04/22/2015	< 30	100	< 5.6	< 0.020	< 0.056	< 0.056	< 0.056	11
	FB5-17.5	17.5	04/22/2015	93	93	< 7.1	< 0.020	< 0.071	< 0.071	< 0.071	--
FB6	FB6-7.5	7.5	04/22/2015	< 34	< 67	< 8.1	< 0.020	< 0.081	< 0.081	< 0.081	8.2
	FB6-17.5	17.5	04/22/2015	200	420	< 7.3	< 0.020	< 0.073	< 0.073	< 0.073	--
FB8	FB8-7.0-060115	7	6/1/2015	< 28	< 56	< 5.8	< 0.020	< 0.058	< 0.058	< 0.058	< 5.6
	FB8-18.0-060115	18	6/1/2015	< 31	< 62	< 6.9	< 0.020	< 0.069	< 0.069	< 0.069	6.8
FB9	FB9-7.0-060115	7	6/1/2015	< 30	< 59	< 6.1	< 0.020	< 0.061	< 0.061	< 0.061	< 5.9
	FB9-18.9-060115	18.9	6/1/2015	< 32	< 64	< 6.5	< 0.020	< 0.065	< 0.065	< 0.065	6.6
MTCA Method A Cleanup Levels for Soil⁶				2,000	2,000	30	0.03	7	6	9	250

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.
 < denotes analyte not detected at or exceeding the laboratory reporting limit listed.
 -- denotes sample was not analyzed.

¹Depth in feet below ground surface.

²Analyzed by Northwest Method NWTPH-Dx.

³Analyzed by Northwest Method NWTPH-Gx.

⁴Analyzed by EPA Methods 8021B or 8260C.

⁵Analyzed by EPA Method 6010C.

⁶Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as amended 2013.

BTEX = benzene, toluene, ethylbenzene, and xylenes

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

GRO = TPH as gasoline-range organics

ORO = TPH as oil-range organics

-- = Not Sampled

Table 2
Soil Analytical Data for HVOCs
Pemco Property
Seattle, Washington
Farallon PN: 463-012

Sample Identification	Sample Location	Sampled By	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²				
					PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
FB1	FB1-2.5	2.5	04/22/2015	2.5	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	FB1-17.5	17.5	04/22/2015	17.5	<0.00099	<0.00099	<0.00099	<0.00099	<0.00099
MTCA Cleanup Levels for Soil					0.05³	0.03³	160⁴	1,600⁴	0.67⁴

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.
 < denotes analyte not detected at or exceeding the reporting limit listed.

¹Depth in feet below ground surface.

²Analyzed by U.S. Environmental Protection Agency Method 8260C.

³Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

⁴Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx>

Farallon = Farallon Consulting, L.L.C.
 HVOCs = halogenated volatile organic compounds
 PCE = tetrachloroethene
 TCE = trichloroethene

Table 3
Groundwater Analytical Data for TPH and BTEX
Pemco Property
Seattle, Washington
Farallon PN: 463-012

Sample Location	Date	Sample Identification	Analytical Results (micrograms per liter)						
			DRO ¹	ORO ¹	GRO ²	Benzene ³	Toluene ³	Ethylbenzene ³	Total Xylenes ³
FB4	04/22/2015	FB4-042215-GW	< 270	< 440	< 100	< 0.20	< 1.0	0.21	1.62
MTCA Method A Cleanup Level for Groundwater⁴			500	500	800	5	1,000	700	1,000

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.
 < denotes analyte not detected at or exceeding the reporting limit listed.

- = depth of sample unknown.

¹Analyzed by Northwest Method NWTPH-Dx.

²Analyzed by Northwest Method NWTPH-Gx.

³Analyzed by U.S. Environmental Protection Agency Method 8260C.

⁴Washington State Model Toxics Control Act Cleanup Regulation Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

BTEX = benzene, toluene, ethylbenzene, and xylenes

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

GRO = TPH as gasoline-range organics

ORO = TPH as oil-range organics

Table 4
Groundwater Analytical Data for HVOCs
Pemco Property
Seattle, Washington
Farallon PN: 463-012

Sample Location	Date	Sample Identification	Analytical Results (micrograms per liter)				
			PCE ¹	TCE ¹	cis-1,2-Dichloroethene ¹	trans-1,2-Dichloroethene ¹	Vinyl Chloride ¹
FB4	04/22/2015	FB4-042215-GW	<0.20	<0.20	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater			5²	5²	80³	160³	0.2²

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

¹Analyzed by U.S. Environmental Protection Agency Method 8260C.

²Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Cleanup Levels for Groundwater,

Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

³Washington State Model Toxics Control Act Cleanup Regulation Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater,

<https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx>

Farallon = Farallon Consulting, L.L.C.

HVOCs = halogenated volatile organic compounds

PCE = tetrachloroethene

TCE = trichloroethene

Table 5
Soil Gas Analytical Results
Pemco Property
Seattle, Washington
Farallon PN: 463-012

Sample Location	Sample Date	Analytical Results (micrograms per cubic meter)							
		Benzene ¹	Toluene ¹	Ethylbenzene ¹	Xylenes (m, p-) ¹	Xylenes (o-) ¹	PCE ¹	TCE ¹	Vinyl Chloride ¹
SS1	4/16/2015	2.0	14	17	71	39	2.7	<1.2	<0.58
SS2	4/16/2015	0.92	1.2	1.4	4.5	2.2	2.4	<1.2	<0.59
SS3	4/16/2015	<0.69	4.6	5.3	22	12	1.4J	<1.2	<0.55
SS4	4/16/2015	3.0	9.0	6.6	20	9.5	14	<1.3	<0.60
SS5	4/16/2015	<0.75	3.5	5.2	18	9.7	1.6J	<1.3	<0.60
MTCA Method B Screening Levels for Soil Gas for Default Residential Setting²		10.8	73,333	15,333	1524	1524	320.5	12.4	9.4
Modified MTCA Method B Screening Levels for Soil Gas for Commercial Setting³		56	697,464	145,833	14,493	14,493	1,672.2	64.8	49.1

NOTES:

Results in **bold** denote concentrations exceeding applicable screening levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

¹Analyzed by Modified U.S. Environmental Protection Agency Method TO15 for 13 selected constituents. Refer to laboratory reporting for non-detect results for other five tested constituents.

²Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method B Screening Level for Shallow Soil Gas, Table B-1 of Appendix B of the Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. October 2009. Inhalation Cancer Potency Factor for PCE and TCE as revised by U.S. Environmental Protection Agency in the Integrated Risk Information System (IRIS) database in February 2012. Specifics provided in the following tables.

³Washington State Model Toxics Control Act Cleanup Regulation Method B Screening Level for Shallow Soil Gas, Table B-1 of Appendix B of the Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. October 2009. Modified Commercial Exposure Scenario. Inhalation Cancer Potency Factor for PCE and TCE as revised by U.S. Environmental Protection Agency in the Integrated Risk Information System (IRIS) database in February 2012. Specifics provided in the following tables.

J = Estimated value

PCE = tetrachloroethene

TCE = trichloroethene

Table 6
MTCA Standard Method B and Modified Method B Air Cleanup Level and Soil Gas
Screening Level Calculations PCE, TCE, and Vinyl Chloride

Pemco Property
Seattle, Washington
Farallon PN: 463-012

Equation 750-2 for Carcinogenic Compounds ¹			PCE		TCE		Vinyl Chloride	
Parameters	RISK	Units	Residential ²	Commercial ³	Residential ²	Commercial ³	Residential ²	Commercial ³
Inhalation Cancer Potency Factor	CPF1	kg-day/mg	0.00091 ²	0.00091 ²	0.0235 ²	0.0235 ²	0.031	0.031
Average Body Weight	ABW	kg	70	70	70	70	70	70
Averaging Time	AT	years	75	75	75	75	75	75
Exposure Duration	ED	years	30	25	30	25	30	25
Exposure Frequency	EF	unitless	1	0.23	1	0.23	1	0.23
Air Breathing Rate	BR	m ³ /day	20	20	20	20	20	20
Inhalation Absorption Fraction	ABS1	unitless	1	1	1	1	1	1
Unit Conversion Factor	UCF	µg/mg	1,000	1,000	1,000	1,000	1,000	1,000
MTCA Method B Air Cleanup Level¹	CUL	µg/m3	9.6	50.2	0.37	1.9	0.28	1.5
MTCA Method B Soil Gas Screening Level⁴	SL	µg/m3	320.5	1672.2	12.4	64.8	9.4	49.1

NOTES:

¹ Equation 750-2 of Section 750 of Chapter 173-340 of the Washington Administrative Code, Model Toxics Control Act Cleanup Regulation (MTCA):
CUL = (RISK*ABW*AT*UCF)/(CPF*BR*ABS*ED*EF).
² MTCA Method B cleanup level calculation default parameters for Standard Method B calculation protective of residential use.
³ MTCA Method B cleanup level calculation with modified exposure parameters adjusted for commercial exposure per Section 750 of MTCA.
⁴ Soil gas screening level for soil gas present beneath a building slab and to depths up to 15 feet below the ground surface that are not expected to result in exceedance of the air cleanup level in an overlying structure under most circumstances.
Soil Gas Screening Level = Air Cleanup Level/attenuation factor of 0.03 per Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Review Draft, October 2009 and revised on April 15, 2015. Inhalation Cancer Potency Factor for PCE and TCE as revised by U.S. Environmental Protection Agency in the Integrated Risk Information System (IRIS) database in February 2012.

kg = kilograms
m³/dav = cubic meters per dav
mg/kg-day = milligrams per kilogram per day
µg/mg = micrograms per milligram
uε/m³ = micrograms per cubic meter
PCE = tetrachloroethene
TCE = trichloroethene

Exposure Duration

Default: 30 years for residential occupant
Modified: 25 years for occupational worker

Exposure Frequency

Default: 1 = 365 days assumed occupancy at 24 hours per day = 8,760 hours/year
Modified: 250 days per year at 8 hours per day = 2,000 hours/year
Modified EF = 2,000/8,760 = 0.23

Table 7
MTCA Standard Method B and Modified Method B Air Cleanup Level and Soil Gas Screening Level Calculations
Benzene, Toluene, Ethylbenzene, and Xylenes
Pemco Property
Seattle, Washington
Farallon PN: 463-012

Equation 750-1 for Noncarcinogens ¹			m-Xylenes		o-Xylenes		Toluene		Ethylbenzene	
Parameters		Units	Residential ²	Commercial ³	Residential ²	Commercial ³	Residential ²	Commercial ³	Residential ²	Commercial ³
Reference dose	RfD	mg/kg-day	0.029	0.029	0.029	0.029	1.375	1.375	0.2875	0.2875
Average body weight	ABW	kg	16	70	16	70	16	70	16	70
Unit conversion factor	UCF	µg/mg	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Breathing rate	BR	m ³ /day	10	20	10	20	10	20	10	20
Inhalation absorption fraction	ABS	unitless	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Hazard quotient	HQ	unitless	1	1	1	1	1	1	1	1
Averaging time	AT	years	6	25	6	25	6	25	6	25
Exposure duration	ED	years	6	25	6	25	6	25	6	25
Exposure frequency	EF	unitless	1.0	0.23	1.0	0.23	1.0	0.23	1.0	0.23
MTCA Method B Air Cleanup Level ¹	CUL	µg/m ³	46	435	46	435	2,200	20,924	460	4,375
MTCA Method B Soil Gas Screening Level ⁴	SL	µg/m ³	1,524	14,493	1,524	14,493	73,333	697,464	15,333	145,833

Equation 750-2 for Carcinogens ⁵			Benzene	
Parameters		Units	Residential ²	Commercial ³
Carcinogenic Risk	RISK	unitless	1.00E-06	1.00E-06
Average body weight	ABW	kg	70	70
Averaging time	AT	years	75	75
Unit conversion factor	UCF	µg/mg	1,000	1,000
Carcinogenic potency factor	CPF	kg-day/mg	0.027	0.027
Breathing rate	BR	m ³ /day	20	20
Inhalation absorption fraction	ABS	unitless	1	1
Exposure duration	ED	years	30	25
Exposure frequency	EF	unitless	1.0	0.23
MTCA Method B Air Cleanup Level ⁵	CUL	µg/m ³	0.32	1.7
MTCA Method B Soil Gas Screening Level ⁴	SL	µg/m ³	10.8	56

Exposure Duration
Default: 30 years for residential occupant
Modified: 25 years for occupational worker

Exposure Frequency
Default: 1 = 365 days assumed occupancy at 24 hours per day = 8,760 hours/year
Modified: 250 days per year at 8 hours per day = 2,000 hours/year
Modified EF = 2,000/8,760 = **0.23**

NOTES:

¹ Equation 750-1 of Section 750 of Chapter 173-340 of the Washington Administrative Code, Model Toxics Control Act Cleanup Regulation: CUL = (RfD*ABW*UCF*HQ*AT)/(BR*ABS*ED*EF).

² MTCA Method B cleanup level calculation default parameters for Standard Method B calculation protective of residential use.

³ MTCA Method B cleanup level calculation with modified exposure parameters adjusted for commercial exposure per Section 750 of MTCA.

⁴ Soil gas screening level for soil gas present beneath a building slab and to depths up to 15 feet below the ground surface that are not expected to result in exceedance of the air cleanup level in an overlying structure under most circumstances.

Soil Gas Screening Level = Air Cleanup Level/attenuation factor of 0.03 per Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Review Draft, October 2009 and revised on April 15, 2015.

⁵ Equation 750-2 of Section 750 of Chapter 173-340 of the Washington Administrative Code, Model Toxics Control Act Cleanup Regulation: CUL = (RISK*ABW*AT*UCF)/(CPF*BR*ABS*ED*EF).

kg = kilograms
m³/day = cubic meters per day
mg/kg-day = milligrams per kilogram per day
µg/mg = micrograms per milligram
µg/m³ = micrograms per cubic meter
MTCA = Washington State Model Toxics Control Act Cleanup Regulation
HQ = Hazard Quotient

**ATTACHMENT A
BORING LOGS**

SUMMARY OF SUBSURFACE INVESTIGATION

Pemco Property
325 Eastlake Avenue East
Seattle, Washington

Farallon PN: 463-012



Log of Boring: FB1

Client: Unico Properties, LLC

Project: Pemco

Location: Seattle, WA

Farallon PN: 463-012

Logged By: Ken Scott

Date/Time Started: 4/22/15 @ 0915

Date/Time Completed: 4/22/15 @ 0950

Equipment: Geoprobe 7800

Drilling Company: ESN NW

Drilling Foreman: Brian Bowes

Drilling Method: Direct Push

Sampler Type: 5' Macrocore

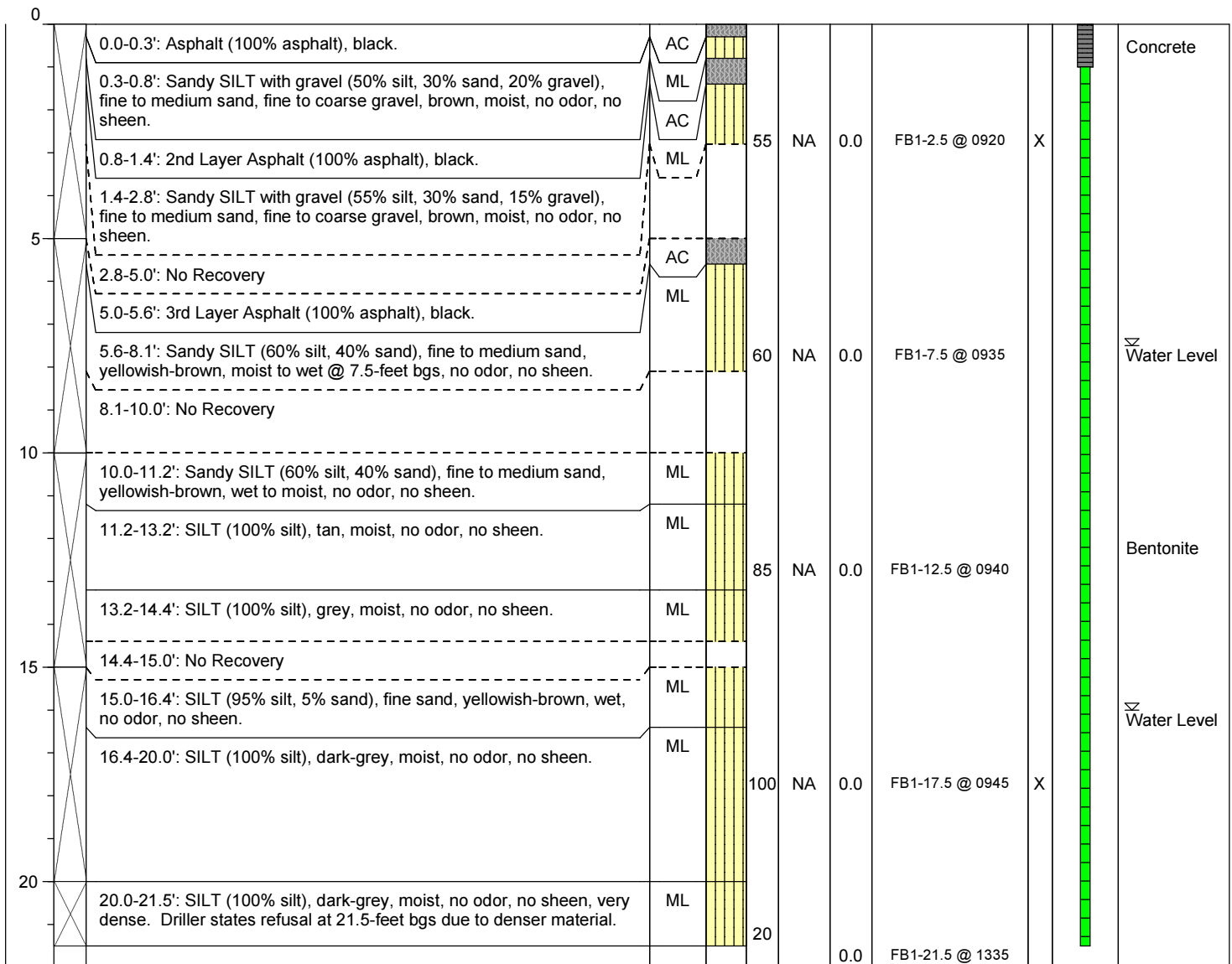
Drive Hammer (lbs.): Auto

Depth of Water ATD (ft bgs): 7.5', 16.0'

Total Boring Depth (ft bgs): 21.5'

Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Surveyed Location: X: NA
Screened Interval (ft bgs): NA	Boring Abandonment: Bentonite	Y: NA



Log of Boring: FB2

Client: Unico Properties, LLC

Project: Pemco

Location: Seattle, WA

Farallon PN: 463-012

Logged By: Ken Scott

Date/Time Started: 4/22/15 @ 0955

Date/Time Completed: 4/22/15 @ 1020

Equipment: Geoprobe 7800

Drilling Company: ESN NW

Drilling Foreman: Brian Bowes

Drilling Method: Direct Push

Sampler Type: 5' Macrocore

Drive Hammer (lbs.): Auto

Depth of Water ATD (ft bgs): 16.0'

Total Boring Depth (ft bgs): 20.0'

Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.3'	Asphalt (100% asphalt), black. Boring airknifed prior to clear for utilities, drilled boring on South edge of hole to identify lithology.	AC							Concrete
	0.3-3.1'	Sandy SILT with gravel (50% silt, 30% sand, 20% gravel), fine to medium sand, fine to coarse gravel, brown, moist, no odor, no sheen.	ML		90	NA	0.0	FB2-2.5 @ 0955	X	
	3.1-4.4'	SILT (100% silt), brown, moist, no odor, no sheen.	ML							
	4.4-5.0'	No Recovery								
	5.0-7.1'	SILT (100% silt), brown, moist, no odor, no sheen.	ML							
	7.1-10.0'	SILT (100% silt), dark grey, moist, no odor, no sheen.	ML		100	NA	0.0	FB2-7.5 @ 1000		
	10.0-15.0'	SILT (100% silt), dark grey, moist, no odor, no sheen.	ML							
	15.0-15.8'	SILT (100% silt), dark grey, moist, no odor, no sheen.	ML							
	15.8-16.4'	SILT with gravel (85% silt, 15% gravel), fine gravel, dark grey, wet, no odor, no sheen.	ML							
	16.4-20.0'	SILT (100% silt), grey, moist, no odor, no sheen.	ML		100	NA	0.0	FB2-17.5 @ 1010	X	
										Water Level

Well Construction Information

Monument Type: NA

Casing Diameter (inches): NA

Screen Slot Size (inches): NA

Screened Interval (ft bgs): NA

Filter Pack: NA

Surface Seal: Concrete

Annular Seal: NA

Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA

Top of Casing Elevation (ft): NA

Surveyed Location: X: NA

Y: NA



Log of Boring: FB3

Client: Unico Properties, LLC

Project: Pemco

Location: Seattle, WA

Farallon PN: 463-012

Logged By: Ken Scott

Date/Time Started: 4/22/15 @ 1025

Date/Time Completed: 4/22/15 @ 1100

Equipment: Geoprobe 7800

Drilling Company: ESN NW

Drilling Foreman: Brian Bowes

Drilling Method: Direct Push

Sampler Type: 5' Macrocore

Drive Hammer (lbs.): Auto

Depth of Water ATD (ft bgs): 10.0', 15.0'

Total Boring Depth (ft bgs): 20.0'

Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.3'	Asphalt (100% asphalt), black. Boring airknifed prior to clear for utilities, drilled boring on South edge of hole to identify lithology.	AC							Concrete
	0.3-3.1'	Sandy SILT with gravel (50% silt, 30% sand, 20% gravel), fine to medium sand, fine to coarse gravel, yellowish brown, moist, no odor, no sheen.	ML		100	NA	0.0	FB3-4.0 @ 1030		
	4.7-5.0'	Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine to medium sand, fine gravel, grey, moist, no odor, no sheen.	SP							
	5.0-7.8'	Silty SAND with gravel (60% sand, 25% silt, 15% gravel), fine to medium sand, fine to coarse gravel, grey, moist, slight petroleum-like odor, no sheen.	ML		100	NA	1.5	FB3-7.5 @ 1035	X	
	7.8-8.4'	SILT (95% silt, 5% sand), fine sand, grey, wet, slight odor, no sheen.	ML							
	8.4-10.0'	SILT (100% silt), tan, moist, no odor, no sheen.	ML							Water Level
	10.0-12.5'	Silty SAND with gravel (60% sand, 25% silt, 15% gravel), fine to medium sand, fine to coarse gravel, grey, wet, no odor, no sheen.	ML		100	NA	0.0	FB3-12.5 @ 1040		Bentonite
	12.5-15.0'	SILT (95% silt, 5% sand), fine sand, dark grey, moist, no odor, no sheen.	ML							
	15.0-16.0'	Silty SAND with gravel (60% sand, 25% silt, 15% gravel), fine to medium sand, fine gravel, grey, wet, septic-like odor, no sheen.	ML				0.0	FB3-16.0 @ 1050	X	Water Level
	16.0-20.0'	SILT (100% silt), grey, moist, no odor, no sheen.	ML		100	NA				
20							0.0	FB3-20.0 @ 1055		

Well Construction Information

Monument Type: NA

Casing Diameter (inches): NA

Screen Slot Size (inches): NA

Screened Interval (ft bgs): NA

Filter Pack: NA

Surface Seal: Concrete

Annular Seal: NA

Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA

Top of Casing Elevation (ft): NA

Surveyed Location: X: NA

Y: NA



Log of Boring: FB4

Client: Unico Properties, LLC

Project: Pemco

Location: Seattle, WA

Farallon PN: 463-012

Logged By: Ken Scott

Date/Time Started: 4/22/15 @ 1105

Date/Time Completed: 4/22/15 @ 1155

Equipment: Geoprobe 7800

Drilling Company: ESN NW

Drilling Foreman: Brian Bowes

Drilling Method: Direct Push

Sampler Type: 5' Macrocore

Drive Hammer (lbs.): Auto

Depth of Water ATD (ft bgs): 10.0', 15.0'

Total Boring Depth (ft bgs): 20.0'

Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.3'	Asphalt (100% asphalt), black. Boring airknifed prior to clear for utilities, drilled boring on SE edge of hole to identify lithology.	AC							Concrete
	0.3-2.5'	Sandy SILT (60% silt, 35% sand, 5% gravel), fine to medium sand, fine to coarse gravel, yellowish brown, moist, no odor, no sheen.	ML							
	2.5-2.9'	Silty SAND (70% sand, 25% silt, 5% gravel), fine to medium sand, fine gravel, yellowish brown, moist, no odor, no sheen.	SM		60	NA	0.0	FB4-2.5 @ 1110	X	
	2.9-5.0'	No Recovery								
5	5.0-5.5'	SILT (100% silt), tan, wet, no odor, no sheen.	ML							
	5.5-5.9'	2nd Layer Asphalt (100% asphalt), black.	AC							
	5.9-7.1'	SILT (95% silt, 5% sand), fine sand, yellowish brown, moist, no odor, no sheen.	ML		100	NA	1.5	FB4-7.5 @ 1115		Bentonite
	7.1-8.4'	SILT (100% silt), yellowish brown, moist, no odor, no sheen.	ML							
	8.4-10.0'	SILT (100% silt), light brown, moist, no odor, no sheen.	ML							Water Level
10	10.0-12.7'	Silty SAND with gravel (50% sand, 35% silt, 15% gravel), fine to medium sand, fine to coarse gravel, yellowish brown, wet, no odor, no sheen.	ML		100	NA	0.0	FB4-12.5 @ 1120		
	12.7-15.0'	SILT (100% silt), light brown, moist, no odor, no sheen.	ML							
15	15.0-16.0'	Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine to medium sand, fine to coarse gravel, yellowish brown, wet, no odor, no sheen.	SP				0.0	FB4-16.0 @ 1130	X	Water Level
	16.0-18.2'	SILT (100% silt), light brown, moist, no odor, no sheen.	ML		100	NA		FB4-042215-GW @1140	X	
	18.2-20.0'	SILT (100% silt), dark grey, moist, no odor, no sheen.	ML							
20							0.0	FB4-20.0 @ 1135		

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): 0.010	Annular Seal: NA	Surveyed Location: X: NA
Screened Interval (ft bgs): 15-20-feet bgs	Boring Abandonment: Bentonite	Y: NA



Log of Boring: FB5

Client: Unico Properties, LLC Project: Pemco Location: Seattle, WA	Date/Time Started: 4/22/15 @ 1200 Date/Time Completed: 4/22/15 @ 1230 Equipment: Geoprobe 7800 Drilling Company: ESN NW Drilling Foreman: Brian Bowes Drilling Method: Direct Push	Sampler Type: 5' Macrocore Drive Hammer (lbs.): Auto Depth of Water ATD (ft bgs): 5.0', 10.0', 15.0' Total Boring Depth (ft bgs): 20.0' Total Well Depth (ft bgs): NA
Farallon PN: 463-012		
Logged By: Ken Scott		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.3'	Asphalt (100% asphalt), black.	AC							Concrete
	0.3-4.5'	No Recovery, boring airknifed prior to clear for utilities.			5	NA				
5	4.5-5.0'	Sandy SILT (60% silt, 40% sand), fine sand, yellowish brown, moist, no odor, no sheen.	ML				0.0	FB5-4.5 @ 1205		Water Level
	5.0-6.5'	Silty SAND with gravel (60% silt, 35% sand, 15% gravel), fine to medium sand, fine to coarse gravel, yellowish brown, wet, no odor, no sheen.	ML							
	6.5-7.1'	SILT (100% silt), grey, wet, no odor, no sheen.	ML		100	NA	0.0	FB5-7.5 @ 1210	X	
	7.1-10.0'	SILT (90% silt, 5% sand, 5% gravel), fine sand, fine gravel, yellowish brown, moist, no odor, no sheen.	ML							Water Level
10	10.0-12.8'	SILT (90% silt, 5% sand, 5% gravel), fine sand, fine gravel, yellowish brown, wet, slight odor, no sheen.	ML							
	12.8-15.0'	SILT (100% silt), light brown, moist, no odor, no sheen.	ML		100	NA	0.0	FB5-12.5 @ 1215		Bentonite
15	15.0-18.2'	SILT (100% silt), light brown, wet, no odor, no sheen.	ML							Water Level
	18.2-20.0'	SILT (100% silt), brown, moist, no odor, no sheen.	ML		100	NA	0.0	FB5-17.5 @ 1220	X	
20										

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): 0.010	Annular Seal: NA	Surveyed Location: X: NA
Screened Interval (ft bgs): 5-10-feet bgs	Boring Abandonment: Bentonite	Y: NA



Log of Boring: FB6

Client: Unico Properties, LLC

Project: Pemco

Location: Seattle, WA

Farallon PN: 463-012

Logged By: Ken Scott

Date/Time Started: 4/22/15 @ 1245

Date/Time Completed: 4/22/15 @ 1310

Equipment: Geoprobe 7800

Drilling Company: ESN NW

Drilling Foreman: Brian Bowes

Drilling Method: Direct Push

Sampler Type: 5' Macrocore

Drive Hammer (lbs.): Auto

Depth of Water ATD (ft bgs): 10.0', 15.0'

Total Boring Depth (ft bgs): 20.0'

Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0	0.0-0.4': Asphalt (100% asphalt), black. Boring airknifed prior to clear for utilities.	AC			0	NA				Concrete
	0.4-5.0': No Recovery.									
5	5.0-7.5': SILT (95% silt, 5% sand), fine sand, yellowish brown, moist, no odor, no sheen.	ML								Bentonite
	7.5-10.0': SILT (100% silt), light brown, moist, no odor, no sheen.	ML		100	NA	0.0	FB6-7.5 @ 1250	X		
10	10.0-12.8': SILT (90% silt, 5% sand, 5% gravel), fine sand, fine gravel, yellowish brown, wet, no odor, no sheen.	ML								Water Level
	12.8-15.0': SILT (100% silt), dark grey, moist, no odor, no sheen.	ML		100	NA	0.0	FB6-12.5 @ 1255			
15	15.0-16.7': SILT with gravel (80% silt, 15% gravel, 5% sand), fine gravel, fine sand, yellowish brown, wet, no odor, no sheen.	ML								Water Level
	16.7-20.0': SILT (100% silt), dark grey, moist, no odor, no sheen.	ML		100	NA	0.0	FB6-17.5 @ 1300	X		
20										

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): 0.010	Annular Seal: NA	Surveyed Location: X: NA
Screened Interval (ft bgs): 10-15-feet bgs	Boring Abandonment: Bentonite	Y: NA



Log of Boring: FB7

Client: Unico Properties LLC
Project: Pemco Property
Location: Seattle, WA

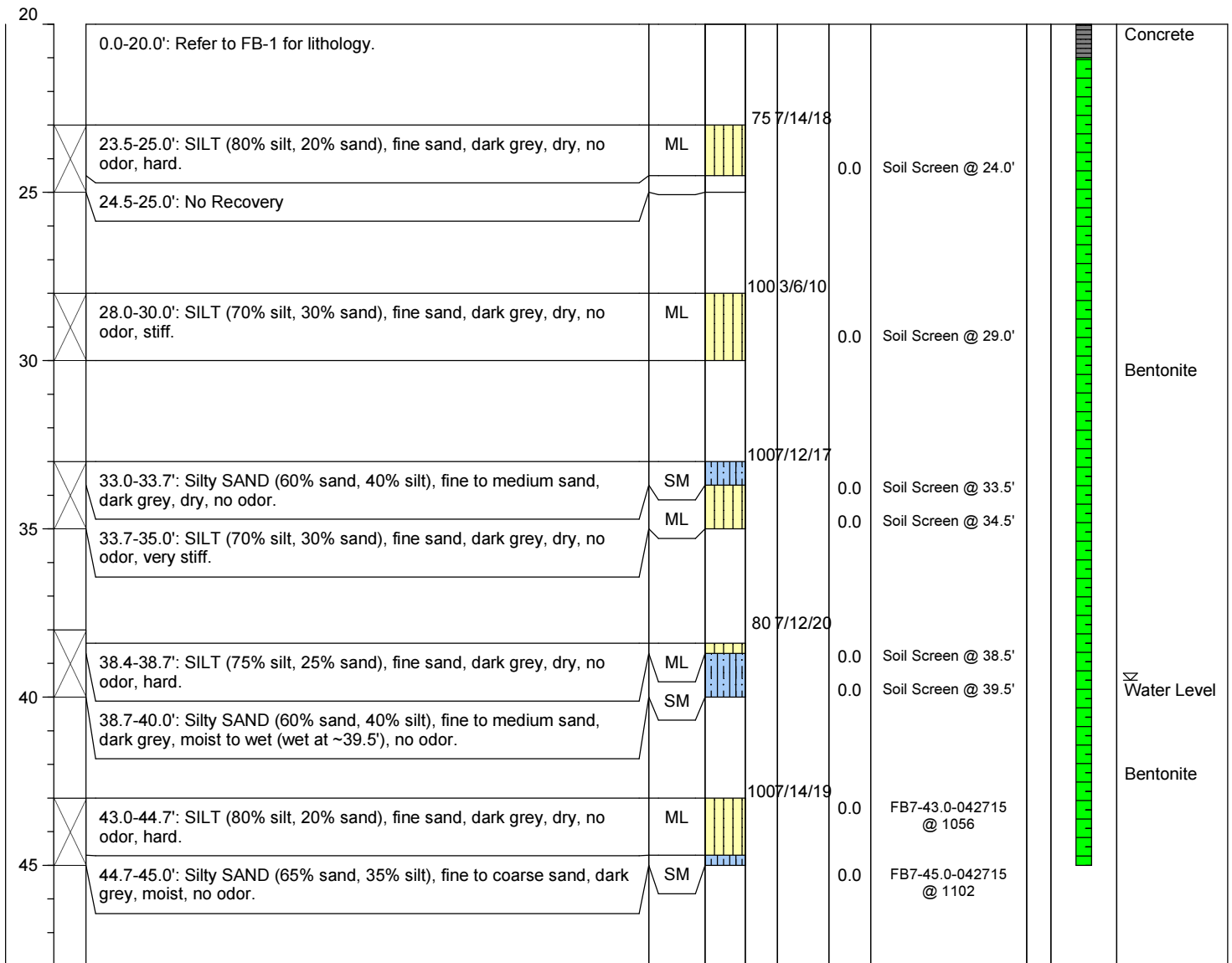
Date/Time Started: 4-27-2015 / 0917
Date/Time Completed: 4-27-2015 / 1051
Equipment: CME 85
Drilling Company: Holt Services
Drilling Foreman: John Bennett
Drilling Method: Hollow Stem Auger

Sampler Type: 2" Split Spoon
Drive Hammer (lbs.): 300 lb
Depth of Water ATD (ft bgs): 39.5'
Total Boring Depth (ft bgs): 45.0'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Jerome Chen

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Surveyed Location: X: NA
Screened Interval (ft bgs): NA	Boring Abandonment: Bentonite	Y: NA



Log of Boring: FB8

Client: Unico Properties LLC
Project: Pemco Property
Location: Seattle, WA

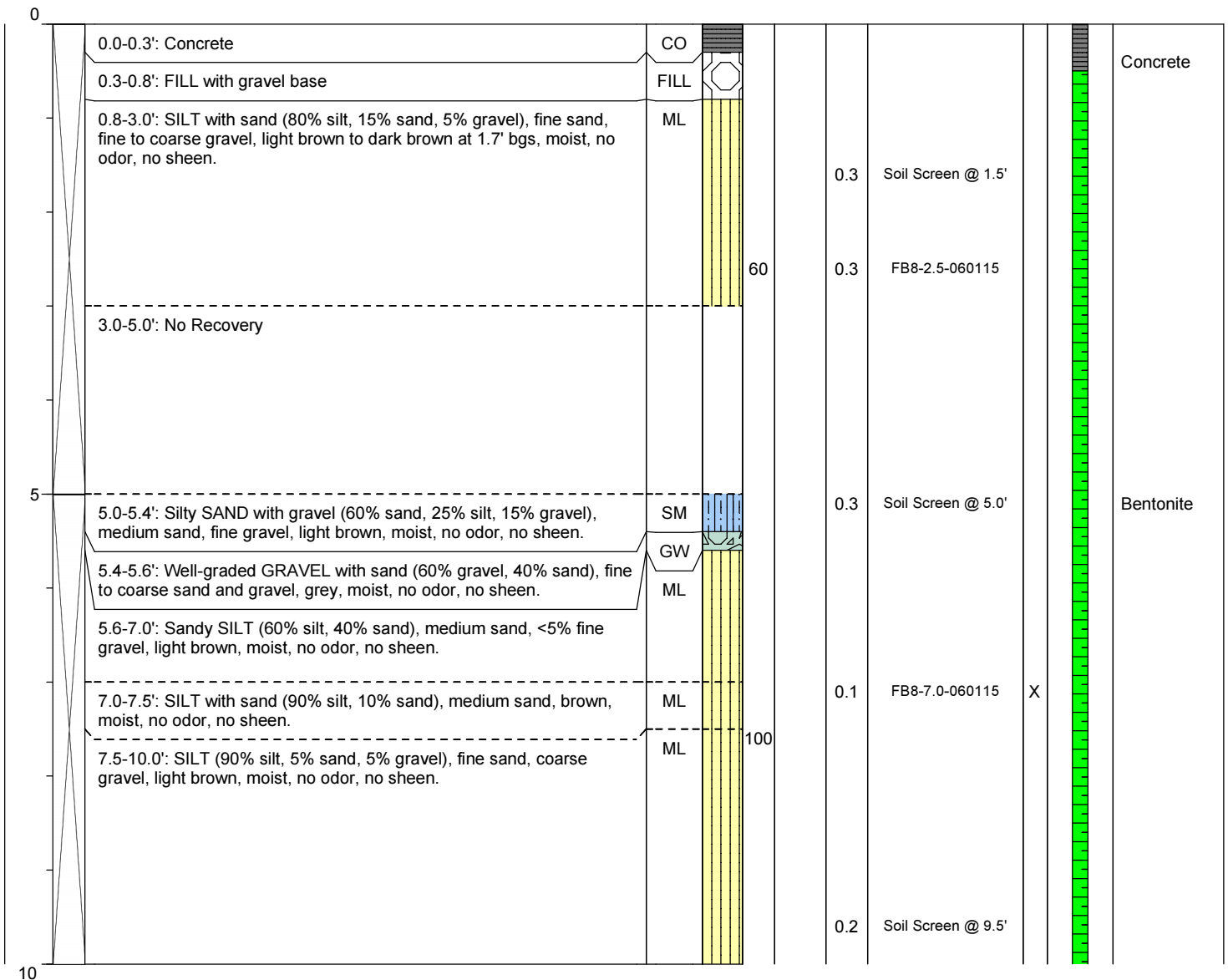
Date/Time Started: 6/1/2015 @ 0945
Date/Time Completed: 6/1/2015 @ 1055
Equipment: Geoprobe 7700DT
Drilling Company: Holt Services
Drilling Foreman: Jason Marsh
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 20.0'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Anna Sigel

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information			
Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA	
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA	
Screen Slot Size (inches): NA	Annular Seal: NA	Surveyed Location: X: NA	
Screened Interval (ft bgs): NA	Boring Abandonment: Bentonite	Y: NA	



Log of Boring: FB8

Client: Unico Properties LLC
Project: Pemco Property
Location: Seattle, WA

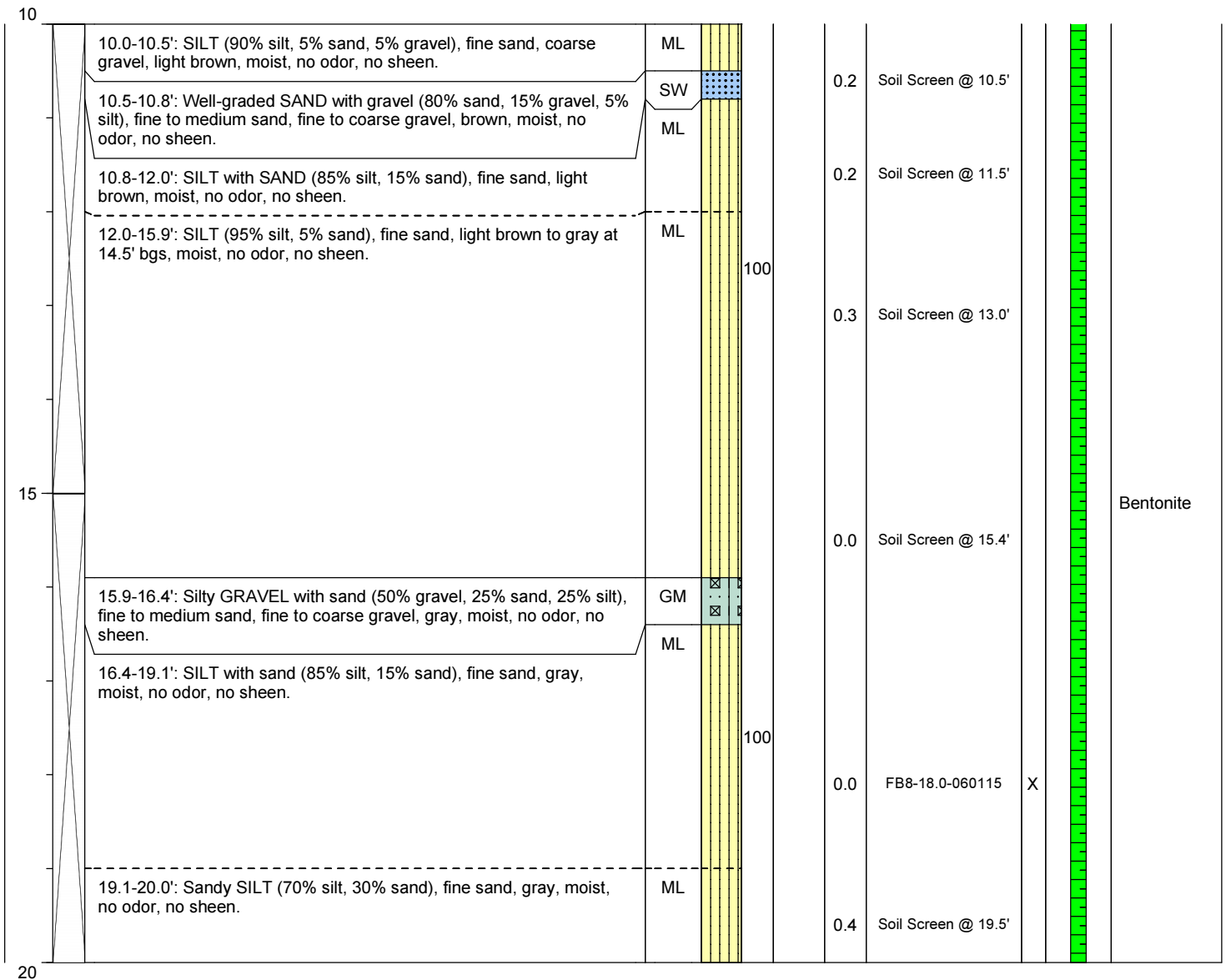
Date/Time Started: 6/1/2015 @ 0945
Date/Time Completed: 6/1/2015 @ 1055
Equipment: Geoprobe 7700DT
Drilling Company: Holt Services
Drilling Foreman: Jason Marsh
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 20.0'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Anna Sigel

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Well Construction Information

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA
 Y: NA



Log of Boring: FB9

Client: Unico Properties LLC
Project: Pemco Property
Location: Seattle, WA

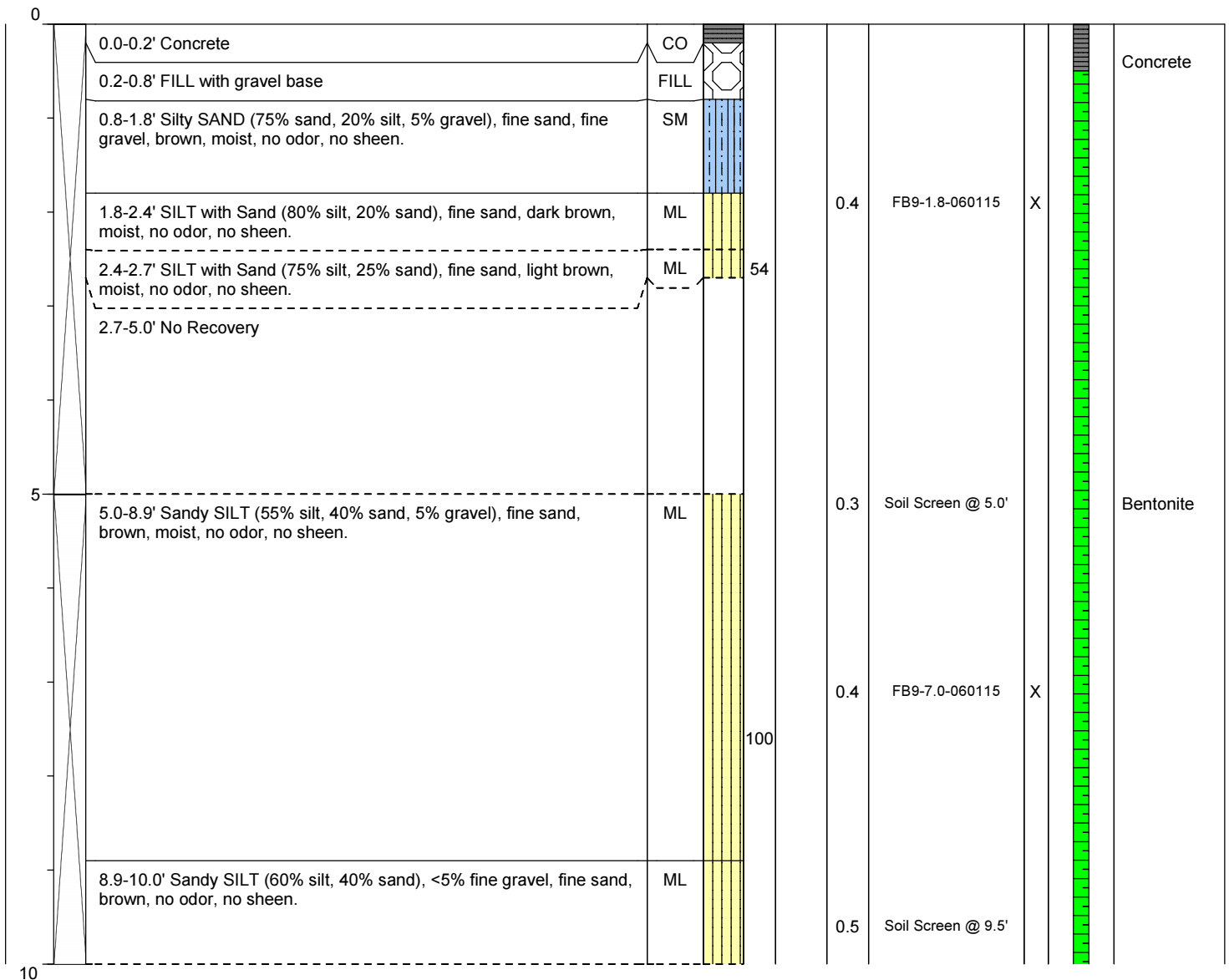
Date/Time Started: 6/1/2015 @ 1130
Date/Time Completed: 6/1/2015 @ 1215
Equipment: Geoprobe 7700DT
Drilling Company: Holt Services
Drilling Foreman: Jason Marsh
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 20.0'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Anna Sigel

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information			
Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA	
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA	
Screen Slot Size (inches): NA	Annular Seal: NA	Surveyed Location: X: NA	
Screened Interval (ft bgs): NA	Boring Abandonment: Bentonite	Y: NA	



Log of Boring: FB9

Client: Unico Properties LLC
Project: Pemco Property
Location: Seattle, WA

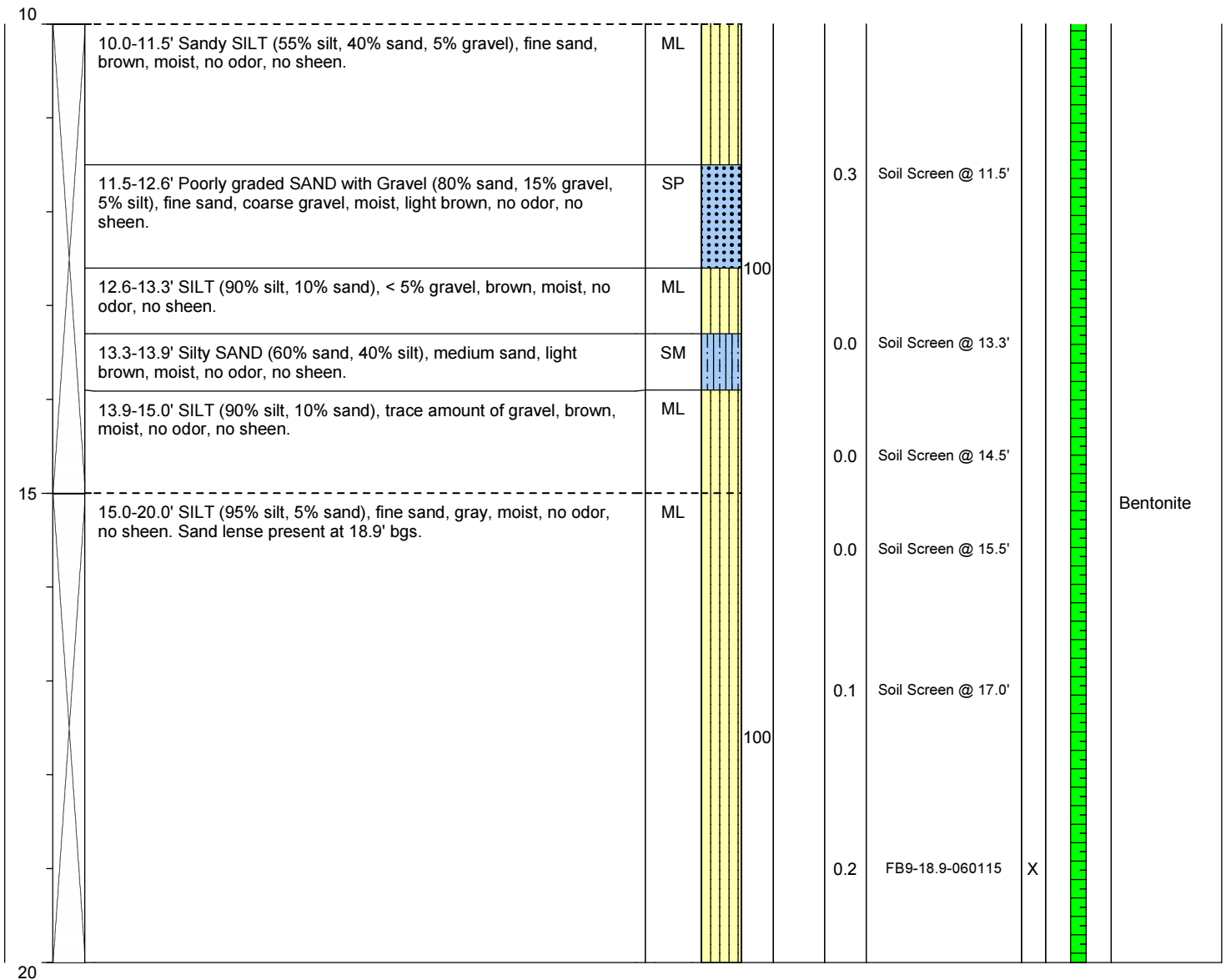
Date/Time Started: 6/1/2015 @ 1130
Date/Time Completed: 6/1/2015 @ 1215
Equipment: Geoprobe 7700DT
Drilling Company: Holt Services
Drilling Foreman: Jason Marsh
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 20.0'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Anna Sigel

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
-------------------	-----------------	------------------------	------	--------------	------------	-------------------	-----------	-----------	-----------------	----------------------------------



Well Construction Information			
Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA	
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA	
Screen Slot Size (inches): NA	Annular Seal: NA	Surveyed Location: X: NA	
Screened Interval (ft bgs): NA	Boring Abandonment: Bentonite	Y: NA	

**ATTACHMENT B
LABORATORY ANALYTICAL REPORTS**

SUMMARY OF SUBSURFACE INVESTIGATION

Pemco Property
325 Eastlake Avenue East
Seattle, Washington

Farallon PN: 463-012



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 1, 2015

Joe Rounds
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 463-012
Laboratory Reference No. 1504-206

Dear Joe:

Enclosed are the analytical results and associated quality control data for samples submitted on April 23, 2015.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal stroke extending to the right.

David Baumeister
Project Manager

Enclosures

Date of Report: May 1, 2015
Samples Submitted: April 23, 2015
Laboratory Reference: 1504-206
Project: 463-012

Case Narrative

Samples were collected on April 22, 2015 and received by the laboratory on April 23, 2015. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

NWTPH Gx/BTEX (soil) Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Volatiles EPA 8260C (soil) Analysis

Method 5035 vials were not provided, samples were therefore extracted from standard glass jars. Some loss of volatiles may have occurred.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

NWTPH-Gx/BTEX

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB1-2.5					
Laboratory ID:	04-206-01					
Gasoline	ND	8.1	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	92	68-123				
Client ID:	FB1-17.5					
Laboratory ID:	04-206-04					
Gasoline	ND	6.1	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	102	68-123				
Client ID:	FB2-2.5					
Laboratory ID:	04-206-05					
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.053	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.053	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.053	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.053	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	5.3	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	95	68-123				
Client ID:	FB2-17.5					
Laboratory ID:	04-206-08					
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.073	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.073	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.073	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.073	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	7.3	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	109	68-123				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

NWTPH-Gx/BTEX

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB3-7.5					
Laboratory ID:	04-206-10					
Benzene	0.032	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.054	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.054	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.054	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.054	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	5.4	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>94</i>	<i>68-123</i>				
Client ID:	FB3-16.0					
Laboratory ID:	04-206-12					
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.058	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.058	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.058	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.058	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	5.8	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>100</i>	<i>68-123</i>				
Client ID:	FB4-2.5					
Laboratory ID:	04-206-14					
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.065	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.065	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.065	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.065	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	6.5	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>95</i>	<i>68-123</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

NWTPH-Gx/BTEX

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB4-16.0					
Laboratory ID:	04-206-17					
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.060	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.060	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.060	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.060	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	6.0	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>94</i>	<i>68-123</i>				
Client ID:	FB5-4.5					
Laboratory ID:	04-206-20					
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.056	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.056	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.056	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.056	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	5.6	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>100</i>	<i>68-123</i>				
Client ID:	FB5-17.5					
Laboratory ID:	04-206-23					
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.071	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.071	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.071	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.071	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	7.1	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>98</i>	<i>68-123</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

NWTPH-Gx/BTEX

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB6-7.5					
Laboratory ID:	04-206-24					
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.081	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.081	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.081	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.081	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	8.1	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>106</i>	<i>68-123</i>				
Client ID:	FB6-17.5					
Laboratory ID:	04-206-26					
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.073	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.073	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.073	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.073	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	7.3	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>102</i>	<i>68-123</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

**NWTPH-Gx/BTEX
 METHOD BLANK QUALITY CONTROL**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID: MB0427S1						
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.050	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.050	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.050	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.050	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	5.0	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>89</i>	<i>68-123</i>				
Laboratory ID: MB0427S2						
Benzene	ND	0.020	EPA 8021B	4-27-15	4-27-15	
Toluene	ND	0.050	EPA 8021B	4-27-15	4-27-15	
Ethyl Benzene	ND	0.050	EPA 8021B	4-27-15	4-27-15	
m,p-Xylene	ND	0.050	EPA 8021B	4-27-15	4-27-15	
o-Xylene	ND	0.050	EPA 8021B	4-27-15	4-27-15	
Gasoline	ND	5.0	NWTPH-Gx	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>92</i>	<i>68-123</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

**NWTPH-Gx/BTEX
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	04-211-02							
	ORIG	DUP						
Benzene	ND	ND	NA	NA	NA	NA	NA	30
Toluene	ND	ND	NA	NA	NA	NA	NA	30
Ethyl Benzene	ND	ND	NA	NA	NA	NA	NA	30
m,p-Xylene	ND	ND	NA	NA	NA	NA	NA	30
o-Xylene	ND	ND	NA	NA	NA	NA	NA	30
Gasoline	ND	ND	NA	NA	NA	NA	NA	30
<i>Surrogate:</i>								
Fluorobenzene				94	96	68-123		
DUPLICATE								
Laboratory ID:	04-221-02							
	ORIG	DUP						
Benzene	ND	ND	NA	NA	NA	NA	NA	30
Toluene	ND	ND	NA	NA	NA	NA	NA	30
Ethyl Benzene	ND	ND	NA	NA	NA	NA	NA	30
m,p-Xylene	ND	ND	NA	NA	NA	NA	NA	30
o-Xylene	ND	ND	NA	NA	NA	NA	NA	30
Gasoline	ND	ND	NA	NA	NA	NA	NA	30
<i>Surrogate:</i>								
Fluorobenzene				89	86	68-123		
SPIKE BLANKS								
Laboratory ID:	SB0427S1							
	SB	SBD	SB	SBD	SB	SBD		
Benzene	0.930	0.981	1.00	1.00	93	98	75-117	5 13
Toluene	0.937	0.983	1.00	1.00	94	98	78-118	5 12
Ethyl Benzene	0.940	0.988	1.00	1.00	94	99	78-118	5 12
m,p-Xylene	0.945	0.994	1.00	1.00	95	99	78-121	5 13
o-Xylene	0.944	0.993	1.00	1.00	94	99	77-119	5 13
<i>Surrogate:</i>								
Fluorobenzene					91	96	68-123	

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

NWTPH-Gx

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB4-042215-GW					
Laboratory ID:	04-206-19					
Gasoline	ND	100	NWTPH-Gx	4-28-15	4-28-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>88</i>	<i>71-113</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

**NWTPH-Gx
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0428W1					
Gasoline	ND	100	NWTPH-Gx	4-28-15	4-28-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>88</i>	<i>71-113</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	04-209-13							
	ORIG	DUP						
Gasoline	ND	ND	NA	NA	NA	NA	NA	30
<i>Surrogate:</i>								
<i>Fluorobenzene</i>				<i>87</i>	<i>88</i>	<i>71-113</i>		

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

NWTPH-Dx

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB1-2.5					
Laboratory ID:	04-206-01					
Diesel Range Organics	ND	28	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil	68	56	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	97	50-150				
Client ID:	FB1-17.5					
Laboratory ID:	04-206-04					
Diesel Range Organics	ND	29	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil Range Organics	ND	59	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	75	50-150				
Client ID:	FB2-2.5					
Laboratory ID:	04-206-05					
Diesel Range Organics	ND	50	NWTPH-Dx	4-29-15	4-29-15	U1
Lube Oil	530	57	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	99	50-150				
Client ID:	FB2-17.5					
Laboratory ID:	04-206-08					
Diesel Range Organics	ND	33	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil Range Organics	ND	66	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	101	50-150				
Client ID:	FB3-7.5					
Laboratory ID:	04-206-10					
Diesel Range Organics	ND	29	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil Range Organics	ND	58	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	82	50-150				
Client ID:	FB3-16.0					
Laboratory ID:	04-206-12					
Diesel Fuel #2	32	31	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil	76	61	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	70	50-150				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

NWTPH-Dx

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB4-2.5					
Laboratory ID:	04-206-14					
Diesel Range Organics	ND	31	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil Range Organics	ND	61	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	79	50-150				
Client ID:	FB4-16.0					
Laboratory ID:	04-206-17					
Diesel Fuel #2	290	29	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil	230	58	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	107	50-150				
Client ID:	FB5-4.5					
Laboratory ID:	04-206-20					
Diesel Range Organics	ND	30	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil	100	60	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	77	50-150				
Client ID:	FB5-17.5					
Laboratory ID:	04-206-23					
Diesel Fuel #2	93	30	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil	93	60	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	87	50-150				
Client ID:	FB6-7.5					
Laboratory ID:	04-206-24					
Diesel Range Organics	ND	34	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil Range Organics	ND	67	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	97	50-150				
Client ID:	FB6-17.5					
Laboratory ID:	04-206-26					
Diesel Fuel #2	200	32	NWTPH-Dx	4-29-15	4-30-15	
Lube Oil	420	63	NWTPH-Dx	4-29-15	4-30-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	85	50-150				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

**NWTPH-Dx
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0429S2					
Diesel Range Organics	ND	25	NWTPH-Dx	4-29-15	4-29-15	
Lube Oil Range Organics	ND	50	NWTPH-Dx	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	106	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	04-252-01							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				103	105	50-150		
Laboratory ID:	04-252-02							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				100	89	50-150		

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

NWTPH-Dx

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB4-042215-GW					
Laboratory ID:	04-206-19					
Diesel Range Organics	ND	0.27	NWTPH-Dx	4-28-15	4-28-15	
Lube Oil Range Organics	ND	0.44	NWTPH-Dx	4-28-15	4-28-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>80</i>	<i>50-150</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

**NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0428W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	4-28-15	4-28-15	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	4-28-15	4-28-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>82</i>	<i>50-150</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	04-223-05							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				<i>86</i>	<i>75</i>	<i>50-150</i>		

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

VOLATILES EPA 8260C
 page 1 of 2

Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB1-2.5					
Laboratory ID:	04-206-01					
Dichlorodifluoromethane	ND	0.0020	EPA 8260C	4-29-15	4-29-15	
Chloromethane	ND	0.015	EPA 8260C	4-29-15	4-29-15	
Vinyl Chloride	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Bromomethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Chloroethane	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Acetone	0.0061	0.0052	EPA 8260C	4-29-15	4-29-15	H
Iodomethane	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
Carbon Disulfide	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Methylene Chloride	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Vinyl Acetate	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
2-Butanone	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
Bromochloromethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Chloroform	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Benzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Trichloroethene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Dibromomethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Bromodichloromethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
2-Chloroethyl Vinyl Ether	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Methyl Isobutyl Ketone	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
Toluene	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

VOLATILES EPA 8260C
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB1-2.5					
Laboratory ID:	04-206-01					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Tetrachloroethene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
2-Hexanone	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
Dibromochloromethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Chlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Ethylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
m,p-Xylene	ND	0.0021	EPA 8260C	4-29-15	4-29-15	
o-Xylene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Styrene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Bromoform	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Isopropylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Bromobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
n-Propylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
2-Chlorotoluene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
4-Chlorotoluene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
tert-Butylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
sec-Butylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
n-Butylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2-Dibromo-3-chloropropane	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Hexachlorobutadiene	ND	0.0052	EPA 8260C	4-29-15	4-29-15	
Naphthalene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>108</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>111</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>104</i>	<i>79-126</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

VOLATILES EPA 8260C
 page 1 of 2

Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB1-17.5					
Laboratory ID:	04-206-04					
Dichlorodifluoromethane	ND	0.0019	EPA 8260C	4-29-15	4-29-15	
Chloromethane	ND	0.014	EPA 8260C	4-29-15	4-29-15	
Vinyl Chloride	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Bromomethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Chloroethane	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Trichlorofluoromethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,1-Dichloroethene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Acetone	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Iodomethane	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Carbon Disulfide	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Methylene Chloride	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
(trans) 1,2-Dichloroethene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Methyl t-Butyl Ether	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,1-Dichloroethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Vinyl Acetate	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
2,2-Dichloropropane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
(cis) 1,2-Dichloroethene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
2-Butanone	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Bromochloromethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Chloroform	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,1,1-Trichloroethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Carbon Tetrachloride	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,1-Dichloropropene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Benzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,2-Dichloroethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Trichloroethene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,2-Dichloropropane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Dibromomethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Bromodichloromethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
(cis) 1,3-Dichloropropene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Toluene	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
(trans) 1,3-Dichloropropene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

VOLATILES EPA 8260C
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB1-17.5					
Laboratory ID:	04-206-04					
1,1,2-Trichloroethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Tetrachloroethene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,3-Dichloropropane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
2-Hexanone	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Dibromochloromethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,2-Dibromoethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Chlorobenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,1,1,2-Tetrachloroethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Ethylbenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
m,p-Xylene	ND	0.0020	EPA 8260C	4-29-15	4-29-15	
o-Xylene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Styrene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Bromoform	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Isopropylbenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Bromobenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,1,2,2-Tetrachloroethane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,2,3-Trichloropropane	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
n-Propylbenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
2-Chlorotoluene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
4-Chlorotoluene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,3,5-Trimethylbenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
tert-Butylbenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,2,4-Trimethylbenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
sec-Butylbenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,3-Dichlorobenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
p-Isopropyltoluene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,4-Dichlorobenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,2-Dichlorobenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
n-Butylbenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
1,2,4-Trichlorobenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Naphthalene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
1,2,3-Trichlorobenzene	ND	0.00099	EPA 8260C	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>105</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>105</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>102</i>	<i>79-126</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
 page 1 of 2

Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0429S1					
Dichlorodifluoromethane	ND	0.0019	EPA 8260C	4-29-15	4-29-15	
Chloromethane	ND	0.014	EPA 8260C	4-29-15	4-29-15	
Vinyl Chloride	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Bromomethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Chloroethane	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Acetone	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Iodomethane	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Carbon Disulfide	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Methylene Chloride	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Vinyl Acetate	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
2-Butanone	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Bromochloromethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Chloroform	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Benzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Trichloroethene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Dibromomethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Bromodichloromethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Toluene	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0429S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Tetrachloroethene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
2-Hexanone	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Dibromochloromethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Chlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Ethylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
m,p-Xylene	ND	0.0020	EPA 8260C	4-29-15	4-29-15	
o-Xylene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Styrene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Bromoform	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Isopropylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Bromobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
n-Propylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
2-Chlorotoluene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
4-Chlorotoluene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
tert-Butylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
sec-Butylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
n-Butylbenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	4-29-15	4-29-15	
Naphthalene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	4-29-15	4-29-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>99</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>101</i>	<i>82-129</i>				
<i>4-Bromofluorobenzene</i>	<i>96</i>	<i>79-126</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

**VOLATILES by EPA 8260C
 SB/SBD QUALITY CONTROL**

Matrix: Soil
 Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery	RPD		Flags
					Recovery	Limits	RPD	Limit		
SPIKE BLANKS										
Laboratory ID:	SB0429S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0474	0.0492	0.0500	0.0500	95	98	66-129	4	15	
Benzene	0.0485	0.0488	0.0500	0.0500	97	98	71-123	1	15	
Trichloroethene	0.0469	0.0484	0.0500	0.0500	94	97	75-115	3	15	
Toluene	0.0473	0.0492	0.0500	0.0500	95	98	75-120	4	15	
Chlorobenzene	0.0438	0.0452	0.0500	0.0500	88	90	75-121	3	15	
<i>Surrogate:</i>										
Dibromofluoromethane					95	100	76-131			
Toluene-d8					93	100	82-129			
4-Bromofluorobenzene					91	97	79-126			

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

VOLATILES EPA 8260C
 page 1 of 2

Matrix: Water
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB4-042215-GW					
Laboratory ID:	04-206-19					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Chloromethane	ND	1.0	EPA 8260C	4-27-15	4-27-15	
Vinyl Chloride	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Bromomethane	ND	0.26	EPA 8260C	4-27-15	4-27-15	
Chloroethane	ND	1.0	EPA 8260C	4-27-15	4-27-15	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Acetone	ND	5.0	EPA 8260C	4-27-15	4-27-15	
Iodomethane	ND	1.6	EPA 8260C	4-27-15	4-27-15	
Carbon Disulfide	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Methylene Chloride	ND	1.0	EPA 8260C	4-27-15	4-27-15	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Vinyl Acetate	ND	1.0	EPA 8260C	4-27-15	4-27-15	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
2-Butanone	ND	5.0	EPA 8260C	4-27-15	4-27-15	
Bromochloromethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Chloroform	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Benzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Trichloroethene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Dibromomethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Bromodichloromethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
2-Chloroethyl Vinyl Ether	ND	1.6	EPA 8260C	4-27-15	4-27-15	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-27-15	4-27-15	
Toluene	ND	1.0	EPA 8260C	4-27-15	4-27-15	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-27-15	4-27-15	

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

VOLATILES EPA 8260C
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB4-042215-GW					
Laboratory ID:	04-206-19					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Tetrachloroethene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
2-Hexanone	ND	2.0	EPA 8260C	4-27-15	4-27-15	
Dibromochloromethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Chlorobenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Ethylbenzene	0.21	0.20	EPA 8260C	4-27-15	4-27-15	
m,p-Xylene	0.98	0.40	EPA 8260C	4-27-15	4-27-15	
o-Xylene	0.64	0.20	EPA 8260C	4-27-15	4-27-15	
Styrene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Bromoform	ND	1.0	EPA 8260C	4-27-15	4-27-15	
Isopropylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Bromobenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
n-Propylbenzene	0.23	0.20	EPA 8260C	4-27-15	4-27-15	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,3,5-Trimethylbenzene	0.48	0.20	EPA 8260C	4-27-15	4-27-15	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2,4-Trimethylbenzene	1.8	0.20	EPA 8260C	4-27-15	4-27-15	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
n-Butylbenzene	0.34	0.20	EPA 8260C	4-27-15	4-27-15	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-27-15	4-27-15	
1,2,4-Trichlorobenzene	ND	0.27	EPA 8260C	4-27-15	4-27-15	
Hexachlorobutadiene	ND	0.26	EPA 8260C	4-27-15	4-27-15	
Naphthalene	ND	1.4	EPA 8260C	4-27-15	4-27-15	
1,2,3-Trichlorobenzene	ND	0.30	EPA 8260C	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>93</i>	<i>79-131</i>				
<i>Toluene-d8</i>	<i>101</i>	<i>80-120</i>				
<i>4-Bromofluorobenzene</i>	<i>95</i>	<i>80-120</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
 page 1 of 2

Matrix: Water
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0427W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Chloromethane	ND	1.0	EPA 8260C	4-27-15	4-27-15	
Vinyl Chloride	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Bromomethane	ND	0.26	EPA 8260C	4-27-15	4-27-15	
Chloroethane	ND	1.0	EPA 8260C	4-27-15	4-27-15	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Acetone	ND	5.0	EPA 8260C	4-27-15	4-27-15	
Iodomethane	ND	1.6	EPA 8260C	4-27-15	4-27-15	
Carbon Disulfide	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Methylene Chloride	ND	1.0	EPA 8260C	4-27-15	4-27-15	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Vinyl Acetate	ND	1.0	EPA 8260C	4-27-15	4-27-15	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
2-Butanone	ND	5.0	EPA 8260C	4-27-15	4-27-15	
Bromochloromethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Chloroform	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Benzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Trichloroethene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Dibromomethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Bromodichloromethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
2-Chloroethyl Vinyl Ether	ND	1.6	EPA 8260C	4-27-15	4-27-15	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-27-15	4-27-15	
Toluene	ND	1.0	EPA 8260C	4-27-15	4-27-15	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-27-15	4-27-15	

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 Project: 463-012

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0427W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Tetrachloroethene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
2-Hexanone	ND	2.0	EPA 8260C	4-27-15	4-27-15	
Dibromochloromethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Chlorobenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Ethylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
m,p-Xylene	ND	0.40	EPA 8260C	4-27-15	4-27-15	
o-Xylene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Styrene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Bromoform	ND	1.0	EPA 8260C	4-27-15	4-27-15	
Isopropylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
Bromobenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-27-15	4-27-15	
n-Propylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
n-Butylbenzene	ND	0.20	EPA 8260C	4-27-15	4-27-15	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-27-15	4-27-15	
1,2,4-Trichlorobenzene	ND	0.27	EPA 8260C	4-27-15	4-27-15	
Hexachlorobutadiene	ND	0.26	EPA 8260C	4-27-15	4-27-15	
Naphthalene	ND	1.4	EPA 8260C	4-27-15	4-27-15	
1,2,3-Trichlorobenzene	ND	0.30	EPA 8260C	4-27-15	4-27-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>100</i>	<i>79-131</i>				
<i>Toluene-d8</i>	<i>101</i>	<i>80-120</i>				
<i>4-Bromofluorobenzene</i>	<i>100</i>	<i>80-120</i>				

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

**VOLATILES by EPA 8260C
 SB/SBD QUALITY CONTROL**

Matrix: Water
 Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery	RPD		Flags
					Recovery	Limits	RPD	Limit		
SPIKE BLANKS										
Laboratory ID:	SB0427W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	10.5	9.90	10.0	10.0	105	99	64-138	6	16	
Benzene	10.1	9.43	10.0	10.0	101	94	76-125	7	14	
Trichloroethene	10.1	9.33	10.0	10.0	101	93	70-125	8	16	
Toluene	10.2	9.59	10.0	10.0	102	96	75-125	6	15	
Chlorobenzene	9.70	8.69	10.0	10.0	97	87	80-140	11	15	
<i>Surrogate:</i>										
Dibromofluoromethane					97	101	79-131			
Toluene-d8					100	103	80-120			
4-Bromofluorobenzene					97	99	80-120			

Date of Report: May 1, 2015
 Samples Submitted: April 23, 2015
 Laboratory Reference: 1504-206
 Project: 463-012

**TOTAL LEAD
 EPA 6010C**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	04-206-01					
Client ID:	FB1-2.5					
Lead	21	5.6	6010C	4-29-15	4-29-15	
Lab ID:	04-206-05					
Client ID:	FB2-2.5					
Lead	15	5.7	6010C	4-29-15	4-29-15	
Lab ID:	04-206-10					
Client ID:	FB3-7.5					
Lead	ND	5.8	6010C	4-29-15	4-29-15	
Lab ID:	04-206-14					
Client ID:	FB4-2.5					
Lead	ND	6.1	6010C	4-29-15	4-29-15	
Lab ID:	04-206-20					
Client ID:	FB5-4.5					
Lead	11	6.0	6010C	4-29-15	4-29-15	
Lab ID:	04-206-24					
Client ID:	FB6-7.5					
Lead	8.2	6.7	6010C	4-29-15	4-29-15	

Date of Report: May 1, 2015
Samples Submitted: April 23, 2015
Laboratory Reference: 1504-206
Project: 463-012

**TOTAL LEAD
EPA 6010C
METHOD BLANK QUALITY CONTROL**

Date Extracted: 4-29-15
Date Analyzed: 4-29-15

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0429SM1

Analyte	Method	Result	PQL
Lead	6010C	ND	5.0

Date of Report: May 1, 2015
Samples Submitted: April 23, 2015
Laboratory Reference: 1504-206
Project: 463-012

**TOTAL LEAD
EPA 6010C
DUPLICATE QUALITY CONTROL**

Date Extracted: 4-29-15

Date Analyzed: 4-29-15

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 04-259-03

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Lead	17.7	15.3	15	5.0	

Date of Report: May 1, 2015
Samples Submitted: April 23, 2015
Laboratory Reference: 1504-206
Project: 463-012

**TOTAL LEAD
EPA 6010C
MS/MSD QUALITY CONTROL**

Date Extracted: 4-29-15

Date Analyzed: 4-29-15

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 04-259-03

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Lead	250	253	94	249	93	2	

Date of Report: May 1, 2015
Samples Submitted: April 23, 2015
Laboratory Reference: 1504-206
Project: 463-012

% MOISTURE

Date Analyzed: 4-27&29-15

Client ID	Lab ID	% Moisture
FB1-2.5	04-206-01	11
FB1-17.5	04-206-04	15
FB2-2.5	04-206-05	13
FB2-17.5	04-206-08	24
FB3-7.5	04-206-10	13
FB3-16.0	04-206-12	18
FB4-2.5	04-206-14	18
FB4-16.0	04-206-17	14
FB5-4.5	04-206-20	17
FB5-17.5	04-206-23	17
FB6-7.5	04-206-24	26
FB6-17.5	04-206-26	21



Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference



Onsite Environmental Inc.
 Analytical Laboratory Testing Services
 14648 NE 95th Street • Redmond, WA 98052
 Phone: (425) 833-3881 • www.onsite-env.com

Chain of Custody

Laboratory Number: **04-206**

Turnaround Request (in working days)
 (Check One)

- Same Day 1 Day
 2 Days 3 Days
 Standard (7 Days)
 (TPH analysis 5 Days)

_____ (other)

Company: **FARRALLON**
 Project Number: **463-012**
 Project Name: **P2MCO**
 Project Manager: **Joe Rounds**
 Sampled by: **Ken Smith, Audrey Taylor**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix
11	FB3-12.5	4/22/15	1040	S
12	FB3-16.0		1050	S
13	FB3-20.0		1055	S
14	FB4-2.5		1110	S
15	FB4-7.5		1115	S
16	FB4-12.5		1120	S
17	FB4-16.0		1130	S
18	FB4-20.0		1135	S
19	FB4-042215-GW		1140	W
20	FB5-4.5		1205	S

Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	TOTAL LEAD	% Moisture
2		X		X														X
2																		X
2																		X
2		X		X														X
2																		X
2																		X
2																		X
2																		X
7		X	X	X														X
2		X		X														X

Signature	Company	Date	Time	Comments/Special Instructions
<i>[Signature]</i>	FARRALLON	4/22/15	1530	See comments page # 1
<i>[Signature]</i>	Onsite Env	4/23/15	1145	

Relinquished _____
 Received _____
 Relinquished _____
 Received _____
 Relinquished _____
 Received _____
 Relinquished _____
 Received _____
 Relinquished _____
 Received _____
 Relinquished _____
 Received _____

Data Package: Standard Level III Level IV
 Electronic Data Deliverables (EDDs) _____
 Chromatograms with final report _____



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 9, 2015

Joe Rounds
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 463-012
Laboratory Reference No. 1506-005

Dear Joe:

Enclosed are the analytical results and associated quality control data for samples submitted on June 1, 2015.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures

Date of Report: June 9, 2015
Samples Submitted: June 1, 2015
Laboratory Reference: 1506-005
Project: 463-012

Case Narrative

Samples were collected on June 1, 2015 and received by the laboratory on June 1, 2015. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

NWTPH Gx/BTEX Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: June 9, 2015
 Samples Submitted: June 1, 2015
 Laboratory Reference: 1506-005
 Project: 463-012

NWTPH-Gx/BTEX

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB8-7.0-060115					
Laboratory ID:	06-005-02					
Benzene	ND	0.020	EPA 8021B	6-4-15	6-4-15	
Toluene	ND	0.058	EPA 8021B	6-4-15	6-4-15	
Ethyl Benzene	ND	0.058	EPA 8021B	6-4-15	6-4-15	
m,p-Xylene	ND	0.058	EPA 8021B	6-4-15	6-4-15	
o-Xylene	ND	0.058	EPA 8021B	6-4-15	6-4-15	
Gasoline	ND	5.8	NWTPH-Gx	6-4-15	6-4-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	82	68-123				

Client ID:	FB8-18.0-060115					
Laboratory ID:	06-005-03					
Benzene	ND	0.020	EPA 8021B	6-4-15	6-4-15	
Toluene	ND	0.069	EPA 8021B	6-4-15	6-4-15	
Ethyl Benzene	ND	0.069	EPA 8021B	6-4-15	6-4-15	
m,p-Xylene	ND	0.069	EPA 8021B	6-4-15	6-4-15	
o-Xylene	ND	0.069	EPA 8021B	6-4-15	6-4-15	
Gasoline	ND	6.9	NWTPH-Gx	6-4-15	6-4-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	88	68-123				

Client ID:	FB9-7.0-060115					
Laboratory ID:	06-005-05					
Benzene	ND	0.020	EPA 8021B	6-4-15	6-4-15	
Toluene	ND	0.061	EPA 8021B	6-4-15	6-4-15	
Ethyl Benzene	ND	0.061	EPA 8021B	6-4-15	6-4-15	
m,p-Xylene	ND	0.061	EPA 8021B	6-4-15	6-4-15	
o-Xylene	ND	0.061	EPA 8021B	6-4-15	6-4-15	
Gasoline	ND	6.1	NWTPH-Gx	6-4-15	6-4-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	89	68-123				

Date of Report: June 9, 2015
 Samples Submitted: June 1, 2015
 Laboratory Reference: 1506-005
 Project: 463-012

NWTPH-Gx/BTEX

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB9-18.9-060115					
Laboratory ID:	06-005-06					
Benzene	ND	0.020	EPA 8021B	6-4-15	6-4-15	
Toluene	ND	0.065	EPA 8021B	6-4-15	6-4-15	
Ethyl Benzene	ND	0.065	EPA 8021B	6-4-15	6-4-15	
m,p-Xylene	ND	0.065	EPA 8021B	6-4-15	6-4-15	
o-Xylene	ND	0.065	EPA 8021B	6-4-15	6-4-15	
Gasoline	ND	6.5	NWTPH-Gx	6-4-15	6-4-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>94</i>	<i>68-123</i>				

Date of Report: June 9, 2015
 Samples Submitted: June 1, 2015
 Laboratory Reference: 1506-005
 Project: 463-012

**NWTPH-Gx/BTEX
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0604S2					
Benzene	ND	0.020	EPA 8021B	6-4-15	6-5-15	
Toluene	ND	0.050	EPA 8021B	6-4-15	6-5-15	
Ethyl Benzene	ND	0.050	EPA 8021B	6-4-15	6-5-15	
m,p-Xylene	ND	0.050	EPA 8021B	6-4-15	6-5-15	
o-Xylene	ND	0.050	EPA 8021B	6-4-15	6-5-15	
Gasoline	ND	5.0	NWTPH-Gx	6-4-15	6-5-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	83	68-123				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	06-029-03							
	ORIG	DUP						
Benzene	ND	ND	NA	NA	NA	NA	30	
Toluene	ND	ND	NA	NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA	NA	NA	30	
Gasoline	ND	ND	NA	NA	NA	NA	30	
<i>Surrogate:</i>								
<i>Fluorobenzene</i>				94	97	68-123		

SPIKE BLANKS

Laboratory ID:	SB0604S1								
	SB	SBD	SB	SBD	SB	SBD			
Benzene	0.828	0.826	1.00	1.00	83	83	75-117	0	13
Toluene	0.837	0.840	1.00	1.00	84	84	78-118	0	12
Ethyl Benzene	0.841	0.844	1.00	1.00	84	84	78-118	0	12
m,p-Xylene	0.852	0.853	1.00	1.00	85	85	78-121	0	13
o-Xylene	0.859	0.852	1.00	1.00	86	85	77-119	1	13
<i>Surrogate:</i>									
<i>Fluorobenzene</i>					84	84	68-123		

Date of Report: June 9, 2015
 Samples Submitted: June 1, 2015
 Laboratory Reference: 1506-005
 Project: 463-012

NWTPH-Dx

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	FB8-7.0-060115					
Laboratory ID:	06-005-02					
Diesel Range Organics	ND	28	NWTPH-Dx	6-2-15	6-2-15	
Lube Oil Range Organics	ND	56	NWTPH-Dx	6-2-15	6-2-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	97	50-150				
Client ID:	FB8-18.0-060115					
Laboratory ID:	06-005-03					
Diesel Range Organics	ND	31	NWTPH-Dx	6-2-15	6-2-15	
Lube Oil Range Organics	ND	62	NWTPH-Dx	6-2-15	6-2-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	70	50-150				
Client ID:	FB9-7.0-060115					
Laboratory ID:	06-005-05					
Diesel Range Organics	ND	30	NWTPH-Dx	6-2-15	6-2-15	
Lube Oil Range Organics	ND	59	NWTPH-Dx	6-2-15	6-2-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	86	50-150				
Client ID:	FB9-18.9-060115					
Laboratory ID:	06-005-06					
Diesel Range Organics	ND	32	NWTPH-Dx	6-2-15	6-2-15	
Lube Oil Range Organics	ND	64	NWTPH-Dx	6-2-15	6-2-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	89	50-150				

Date of Report: June 9, 2015
 Samples Submitted: June 1, 2015
 Laboratory Reference: 1506-005
 Project: 463-012

**NWTPH-Dx
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0602S1					
Diesel Range Organics	ND	25	NWTPH-Dx	6-2-15	6-2-15	
Lube Oil Range Organics	ND	50	NWTPH-Dx	6-2-15	6-2-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	72	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	06-016-01							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				76	67	50-150		

Date of Report: June 9, 2015
 Samples Submitted: June 1, 2015
 Laboratory Reference: 1506-005
 Project: 463-012

**TOTAL LEAD
 EPA 6010C**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	06-005-02					
Client ID:	FB8-7.0-060115					
Lead	ND	5.6	6010C	6-9-15	6-9-15	
Lab ID:	06-005-03					
Client ID:	FB8-18.0-060115					
Lead	6.8	6.2	6010C	6-9-15	6-9-15	
Lab ID:	06-005-05					
Client ID:	FB9-7.0-060115					
Lead	ND	5.9	6010C	6-9-15	6-9-15	
Lab ID:	06-005-06					
Client ID:	FB9-18.9-060115					
Lead	6.6	6.4	6010C	6-9-15	6-9-15	

Date of Report: June 9, 2015
Samples Submitted: June 1, 2015
Laboratory Reference: 1506-005
Project: 463-012

**TOTAL LEAD
EPA 6010C
METHOD BLANK QUALITY CONTROL**

Date Extracted: 6-9-15
Date Analyzed: 6-9-15

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0609SM1

Analyte	Method	Result	PQL
Lead	6010C	ND	5.0

Date of Report: June 9, 2015
Samples Submitted: June 1, 2015
Laboratory Reference: 1506-005
Project: 463-012

**TOTAL LEAD
EPA 6010C
DUPLICATE QUALITY CONTROL**

Date Extracted: 6-9-15

Date Analyzed: 6-9-15

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 06-005-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Lead	ND	ND	NA	5.0	

Date of Report: June 9, 2015
Samples Submitted: June 1, 2015
Laboratory Reference: 1506-005
Project: 463-012

**TOTAL LEAD
EPA 6010C
MS/MSD QUALITY CONTROL**

Date Extracted: 6-9-15

Date Analyzed: 6-9-15

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 06-005-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Lead	250	223	89	223	89	0	

Date of Report: June 9, 2015
Samples Submitted: June 1, 2015
Laboratory Reference: 1506-005
Project: 463-012

% MOISTURE

Date Analyzed: 6-3-15

Client ID	Lab ID	% Moisture
FB8-7.0-060115	06-005-02	11
FB8-18.0-060115	06-005-03	19
FB9-7.0-060115	06-005-05	16
FB9-18.9-060115	06-005-06	22



Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference



OnSite Environmental Inc.
 Analytical Laboratory Testing Services
 14648 NE 95th Street • Redmond, WA 98052
 Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Turnaround Request
 (in working days)

(Check One)

- Same Day 1 Day
 2 Days 3 Days
 Standard (7 Days)
 (TPH analysis 5 Days)

(other)

Laboratory Number:

06-005

Company: **FRAXALON**
 Project Number: **463-012**
 Project Name: **PEWCO**
 Project Manager: **JOE ROUNDS**
 Sampled by: **ANWA SIGER**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix
1	FB8-2.5-06D115	6/1/15	9:55	SOIL 2
2	FB8-7.0-060115		10:05	
3	FB8-18.0-060115		10:25	
4	FB9-1.8-060115		11:40	
5	FB9-7.0-060115		11:50	
6	FB9-18.9-060115		12:10	

Number of Containers	
NWTPH-HCID	
NWTPH-Gx/BTEX	
NWTPH-Gx	1
NWTPH-Dx	
Volatiles 8260C	
Halogenated Volatiles 8260C	
Semivolatiles 8270D/SIM (with low-level PAHs)	
PAHs 8270D/SIM (low-level)	
PCBs 8082A	
Organochlorine Pesticides 8081B	
Organophosphorus Pesticides 8270D/SIM	
Chlorinated Acid Herbicides 8151A	
Total RCRA Metals	
Total MTCA Metals	
TCLP Metals	
HEM (oil and grease) 1664A	
BTEX EPA 8021B	
TOTAL LEAD 6010G	
% Moisture	

Signature	Company	Date	Time	Comments/Special Instructions
	FRAXALON	6/1/15	14:20	HOLD SAMPLES FOR FB8-2.5-060115 & FB9-1.8-060115
	FRAXALON	6/1/15	14:20	

Relinquished	Received	Relinquished	Received	Reviewed/Date

5/5/2015

Mr. Joe Rounds
Farallon Consulting, LLC
975 Fifth Avenue NW

Issaquah WA 98027-3333

Project Name: PEMCO

Project #: 463-012

Workorder #: 1504358

Dear Mr. Joe Rounds

The following report includes the data for the above referenced project for sample(s) received on 4/21/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

WORK ORDER #: 1504358

Work Order Summary

CLIENT:	Mr. Joe Rounds Farallon Consulting, LLC 975 Fifth Avenue NW Issaquah, WA 98027-3333	BILL TO:	Mr. Joe Rounds Farallon Consulting, LLC 975 Fifth Avenue NW Issaquah, WA 98027-3333
PHONE:	425-427-0061	P.O. #	
FAX:	425-427-0067	PROJECT #	463-012 PEMCO
DATE RECEIVED:	04/21/2015	CONTACT:	Kelly Buettner
DATE COMPLETED:	05/04/2015		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SS1-35680-041615	Modified TO-15	3.1 "Hg	15.3 psi
02A	SS2-3059-041615	Modified TO-15	3.5 "Hg	15.2 psi
03A	SS3-35605-041615	Modified TO-15	2.2 "Hg	14.7 psi
04A	SS4-34124-041615	Modified TO-15	4.3 "Hg	15 psi
05A	SS5-37339-041615	Modified TO-15	4.3 "Hg	15 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA
08BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 05/05/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15
Farallon Consulting, LLC
Workorder# 1504358

Five 1 Liter Summa Canister (100% Certified) samples were received on April 21, 2015. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=30% RSD with 4 compounds allowed out to < 40% RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
- J - Estimated value.
- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
- UJ- Non-detected compound associated with low bias in the CCV
- N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS1-35680-041615

Lab ID#: 1504358-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.23	0.96	1.1	4.7
Freon 11	0.23	0.31	1.3	1.7
Ethanol	1.1	49	2.1	92
Acetone	1.1	14 J0	2.7	34 J0
2-Propanol	1.1	5.9	2.8	14
Methylene Chloride	0.45	0.48	1.6	1.6
Hexane	0.23	0.68	0.80	2.4
2-Butanone (Methyl Ethyl Ketone)	1.1	2.3	3.3	6.7
Cyclohexane	0.23	19	0.78	64
Benzene	0.23	0.63	0.72	2.0
Heptane	0.23	2.4	0.93	9.9
4-Methyl-2-pentanone	0.23	3.5	0.93	14
Toluene	0.23	3.8	0.86	14
Tetrachloroethene	0.23	0.40	1.5	2.7
Chlorobenzene	0.23	0.81	1.0	3.7
Ethyl Benzene	0.23	3.9	0.98	17
m,p-Xylene	0.23	16	0.98	71
o-Xylene	0.23	9.1	0.98	39
Cumene	0.23	1.5	1.1	7.4
Propylbenzene	0.23	2.0	1.1	10
4-Ethyltoluene	0.23	11	1.1	56
1,3,5-Trimethylbenzene	0.23	5.1	1.1	25
1,2,4-Trimethylbenzene	0.23	16	1.1	78

Client Sample ID: SS2-3059-041615

Lab ID#: 1504358-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.23	0.84	1.1	4.2
Freon 11	0.23	0.28	1.3	1.6
Ethanol	1.2	8.8	2.2	16
Acetone	1.2	32 J0	2.7	77 J0
2-Propanol	1.2	3.6	2.8	8.9

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS2-3059-041615

Lab ID#: 1504358-02A

2-Butanone (Methyl Ethyl Ketone)	1.2	6.5	3.4	19
Cyclohexane	0.23	1.1	0.79	3.8
Benzene	0.23	0.29	0.73	0.92
4-Methyl-2-pentanone	0.23	0.82	0.94	3.4
Toluene	0.23	0.31	0.87	1.2
Tetrachloroethene	0.23	0.35	1.6	2.4
Ethyl Benzene	0.23	0.33	1.0	1.4
m,p-Xylene	0.23	1.0	1.0	4.5
o-Xylene	0.23	0.50	1.0	2.2
4-Ethyltoluene	0.23	0.83	1.1	4.1
1,3,5-Trimethylbenzene	0.23	0.40	1.1	2.0
1,2,4-Trimethylbenzene	0.23	1.2	1.1	6.0

Client Sample ID: SS3-35605-041615

Lab ID#: 1504358-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.22	0.70	1.1	3.5
Freon 11	0.22	0.28	1.2	1.6
Ethanol	1.1	25	2.0	47
Acetone	1.1	8.9 J0	2.6	21 J0
2-Propanol	1.1	1.9	2.6	4.7
Carbon Disulfide	1.1	4.8	3.4	15
Methylene Chloride	0.43	0.89	1.5	3.1
Cyclohexane	0.22	3.1	0.74	11
Heptane	0.22	0.43	0.88	1.7
1,4-Dioxane	0.22	0.21 J	0.78	0.76 J
4-Methyl-2-pentanone	0.22	0.43	0.88	1.8
Toluene	0.22	1.2	0.81	4.6
Tetrachloroethene	0.22	0.20 J	1.5	1.4 J
Ethyl Benzene	0.22	1.2	0.94	5.3
m,p-Xylene	0.22	5.2	0.94	22
o-Xylene	0.22	2.7	0.94	12
Cumene	0.22	0.51	1.1	2.5
Propylbenzene	0.22	0.75	1.1	3.7

Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS3-35605-041615

Lab ID#: 1504358-03A

4-Ethyltoluene	0.22	4.7	1.1	23
1,3,5-Trimethylbenzene	0.22	2.2	1.1	11
1,2,4-Trimethylbenzene	0.22	6.8	1.1	33

Client Sample ID: SS4-34124-041615

Lab ID#: 1504358-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.24	0.74	1.2	3.6
Freon 11	0.24	0.28	1.3	1.6
Ethanol	1.2	15	2.2	29
Acetone	1.2	16 J0	2.8	38 J0
2-Propanol	1.2	4.2	2.9	10
Hexane	0.24	0.59	0.83	2.1
2-Butanone (Methyl Ethyl Ketone)	1.2	1.6	3.5	4.8
Cyclohexane	0.24	3.5	0.81	12
Benzene	0.24	0.94	0.75	3.0
Heptane	0.24	0.76	0.97	3.1
4-Methyl-2-pentanone	0.24	0.64	0.97	2.6
Toluene	0.24	2.4	0.89	9.0
Tetrachloroethene	0.24	2.1	1.6	14
Chlorobenzene	0.24	0.66	1.1	3.0
Ethyl Benzene	0.24	1.5	1.0	6.6
m,p-Xylene	0.24	4.6	1.0	20
o-Xylene	0.24	2.2	1.0	9.5
Cumene	0.24	0.39	1.2	1.9
Propylbenzene	0.24	0.55	1.2	2.7
4-Ethyltoluene	0.24	2.6	1.2	13
1,3,5-Trimethylbenzene	0.24	0.91	1.2	4.5
1,2,4-Trimethylbenzene	0.24	2.4	1.2	12

Client Sample ID: SS5-37339-041615

Lab ID#: 1504358-05A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS5-37339-041615

Lab ID#: 1504358-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.24	0.62	1.2	3.1
Freon 11	0.24	0.28	1.3	1.6
Ethanol	1.2	18	2.2	33
Acetone	1.2	7.0 J0	2.8	17 J0
2-Propanol	1.2	4.4	2.9	11
Carbon Disulfide	1.2	2.0	3.7	6.1
Cyclohexane	0.24	3.2	0.81	11
Heptane	0.24	0.40	0.97	1.6
4-Methyl-2-pentanone	0.24	0.51	0.97	2.1
Toluene	0.24	0.93	0.89	3.5
Tetrachloroethene	0.24	0.23 J	1.6	1.6 J
Ethyl Benzene	0.24	1.2	1.0	5.2
m,p-Xylene	0.24	4.2	1.0	18
o-Xylene	0.24	2.2	1.0	9.7
Cumene	0.24	0.50	1.2	2.5
Propylbenzene	0.24	0.71	1.2	3.5
4-Ethyltoluene	0.24	3.7	1.2	18
1,3,5-Trimethylbenzene	0.24	1.6	1.2	8.1
1,2,4-Trimethylbenzene	0.24	5.2	1.2	25



Air Toxics

Client Sample ID: SS1-35680-041615

Lab ID#: 1504358-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042319	Date of Collection:	4/16/15 9:31:00 AM
Dil. Factor:	2.27	Date of Analysis:	4/23/15 10:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.23	0.96	1.1	4.7
Freon 114	0.23	Not Detected	1.6	Not Detected
Chloromethane	1.1	Not Detected	2.3	Not Detected
Vinyl Chloride	0.23	Not Detected	0.58	Not Detected
1,3-Butadiene	0.23	Not Detected	0.50	Not Detected
Bromomethane	1.1	Not Detected	4.4	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
Freon 11	0.23	0.31	1.3	1.7
Ethanol	1.1	49	2.1	92
Freon 113	0.23	Not Detected	1.7	Not Detected
1,1-Dichloroethene	0.23	Not Detected	0.90	Not Detected
Acetone	1.1	14 J0	2.7	34 J0
2-Propanol	1.1	5.9	2.8	14
Carbon Disulfide	1.1	Not Detected	3.5	Not Detected
3-Chloropropene	1.1	Not Detected	3.6	Not Detected
Methylene Chloride	0.45	0.48	1.6	1.6
Methyl tert-butyl ether	0.23	Not Detected	0.82	Not Detected
trans-1,2-Dichloroethene	0.23	Not Detected	0.90	Not Detected
Hexane	0.23	0.68	0.80	2.4
1,1-Dichloroethane	0.23	Not Detected	0.92	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	2.3	3.3	6.7
cis-1,2-Dichloroethene	0.23	Not Detected	0.90	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.3	Not Detected
Chloroform	0.23	Not Detected	1.1	Not Detected
1,1,1-Trichloroethane	0.23	Not Detected	1.2	Not Detected
Cyclohexane	0.23	19	0.78	64
Carbon Tetrachloride	0.23	Not Detected	1.4	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.3	Not Detected
Benzene	0.23	0.63	0.72	2.0
1,2-Dichloroethane	0.23	Not Detected	0.92	Not Detected
Heptane	0.23	2.4	0.93	9.9
Trichloroethene	0.23	Not Detected	1.2	Not Detected
1,2-Dichloropropane	0.23	Not Detected	1.0	Not Detected
1,4-Dioxane	0.23	Not Detected	0.82	Not Detected
Bromodichloromethane	0.23	Not Detected	1.5	Not Detected
cis-1,3-Dichloropropene	0.23	Not Detected	1.0	Not Detected
4-Methyl-2-pentanone	0.23	3.5	0.93	14
Toluene	0.23	3.8	0.86	14
trans-1,3-Dichloropropene	0.23	Not Detected	1.0	Not Detected
1,1,2-Trichloroethane	0.23	Not Detected	1.2	Not Detected
Tetrachloroethene	0.23	0.40	1.5	2.7
2-Hexanone	1.1	Not Detected	4.6	Not Detected

Client Sample ID: SS1-35680-041615

Lab ID#: 1504358-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042319	Date of Collection: 4/16/15 9:31:00 AM
Dil. Factor:	2.27	Date of Analysis: 4/23/15 10:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.23	Not Detected	1.9	Not Detected
1,2-Dibromoethane (EDB)	0.23	Not Detected	1.7	Not Detected
Chlorobenzene	0.23	0.81	1.0	3.7
Ethyl Benzene	0.23	3.9	0.98	17
m,p-Xylene	0.23	16	0.98	71
o-Xylene	0.23	9.1	0.98	39
Styrene	0.23	Not Detected	0.97	Not Detected
Bromoform	0.23	Not Detected	2.3	Not Detected
Cumene	0.23	1.5	1.1	7.4
1,1,2,2-Tetrachloroethane	0.23	Not Detected	1.6	Not Detected
Propylbenzene	0.23	2.0	1.1	10
4-Ethyltoluene	0.23	11	1.1	56
1,3,5-Trimethylbenzene	0.23	5.1	1.1	25
1,2,4-Trimethylbenzene	0.23	16	1.1	78
1,3-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
1,4-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
alpha-Chlorotoluene	0.23	Not Detected	1.2	Not Detected
1,2-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
1,2,4-Trichlorobenzene	1.1	Not Detected	8.4	Not Detected
Hexachlorobutadiene	1.1	Not Detected	12	Not Detected

J0 = Estimated value due to bias in the CCV.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: SS2-3059-041615

Lab ID#: 1504358-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042320	Date of Collection:	4/16/15 10:12:00 AM
Dil. Factor:	2.30	Date of Analysis:	4/23/15 10:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.23	0.84	1.1	4.2
Freon 114	0.23	Not Detected	1.6	Not Detected
Chloromethane	1.2	Not Detected	2.4	Not Detected
Vinyl Chloride	0.23	Not Detected	0.59	Not Detected
1,3-Butadiene	0.23	Not Detected	0.51	Not Detected
Bromomethane	1.2	Not Detected	4.5	Not Detected
Chloroethane	1.2	Not Detected	3.0	Not Detected
Freon 11	0.23	0.28	1.3	1.6
Ethanol	1.2	8.8	2.2	16
Freon 113	0.23	Not Detected	1.8	Not Detected
1,1-Dichloroethene	0.23	Not Detected	0.91	Not Detected
Acetone	1.2	32 J0	2.7	77 J0
2-Propanol	1.2	3.6	2.8	8.9
Carbon Disulfide	1.2	Not Detected	3.6	Not Detected
3-Chloropropene	1.2	Not Detected	3.6	Not Detected
Methylene Chloride	0.46	Not Detected	1.6	Not Detected
Methyl tert-butyl ether	0.23	Not Detected	0.83	Not Detected
trans-1,2-Dichloroethene	0.23	Not Detected	0.91	Not Detected
Hexane	0.23	Not Detected	0.81	Not Detected
1,1-Dichloroethane	0.23	Not Detected	0.93	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	6.5	3.4	19
cis-1,2-Dichloroethene	0.23	Not Detected	0.91	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	0.23	Not Detected	1.1	Not Detected
1,1,1-Trichloroethane	0.23	Not Detected	1.2	Not Detected
Cyclohexane	0.23	1.1	0.79	3.8
Carbon Tetrachloride	0.23	Not Detected	1.4	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.4	Not Detected
Benzene	0.23	0.29	0.73	0.92
1,2-Dichloroethane	0.23	Not Detected	0.93	Not Detected
Heptane	0.23	Not Detected	0.94	Not Detected
Trichloroethene	0.23	Not Detected	1.2	Not Detected
1,2-Dichloropropane	0.23	Not Detected	1.1	Not Detected
1,4-Dioxane	0.23	Not Detected	0.83	Not Detected
Bromodichloromethane	0.23	Not Detected	1.5	Not Detected
cis-1,3-Dichloropropene	0.23	Not Detected	1.0	Not Detected
4-Methyl-2-pentanone	0.23	0.82	0.94	3.4
Toluene	0.23	0.31	0.87	1.2
trans-1,3-Dichloropropene	0.23	Not Detected	1.0	Not Detected
1,1,2-Trichloroethane	0.23	Not Detected	1.2	Not Detected
Tetrachloroethene	0.23	0.35	1.6	2.4
2-Hexanone	1.2	Not Detected	4.7	Not Detected

Client Sample ID: SS2-3059-041615

Lab ID#: 1504358-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042320	Date of Collection: 4/16/15 10:12:00 AM
Dil. Factor:	2.30	Date of Analysis: 4/23/15 10:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.23	Not Detected	2.0	Not Detected
1,2-Dibromoethane (EDB)	0.23	Not Detected	1.8	Not Detected
Chlorobenzene	0.23	Not Detected	1.0	Not Detected
Ethyl Benzene	0.23	0.33	1.0	1.4
m,p-Xylene	0.23	1.0	1.0	4.5
o-Xylene	0.23	0.50	1.0	2.2
Styrene	0.23	Not Detected	0.98	Not Detected
Bromoform	0.23	Not Detected	2.4	Not Detected
Cumene	0.23	Not Detected	1.1	Not Detected
1,1,2,2-Tetrachloroethane	0.23	Not Detected	1.6	Not Detected
Propylbenzene	0.23	Not Detected	1.1	Not Detected
4-Ethyltoluene	0.23	0.83	1.1	4.1
1,3,5-Trimethylbenzene	0.23	0.40	1.1	2.0
1,2,4-Trimethylbenzene	0.23	1.2	1.1	6.0
1,3-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
1,4-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
alpha-Chlorotoluene	0.23	Not Detected	1.2	Not Detected
1,2-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
1,2,4-Trichlorobenzene	1.2	Not Detected	8.5	Not Detected
Hexachlorobutadiene	1.2	Not Detected	12	Not Detected

J0 = Estimated value due to bias in the CCV.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: SS3-35605-041615

Lab ID#: 1504358-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042321	Date of Collection:	4/16/15 10:50:00 AM
Dil. Factor:	2.16	Date of Analysis:	4/24/15 05:17 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.22	0.70	1.1	3.5
Freon 114	0.22	Not Detected	1.5	Not Detected
Chloromethane	1.1	Not Detected	2.2	Not Detected
Vinyl Chloride	0.22	Not Detected	0.55	Not Detected
1,3-Butadiene	0.22	Not Detected	0.48	Not Detected
Bromomethane	1.1	Not Detected	4.2	Not Detected
Chloroethane	1.1	Not Detected	2.8	Not Detected
Freon 11	0.22	0.28	1.2	1.6
Ethanol	1.1	25	2.0	47
Freon 113	0.22	Not Detected	1.6	Not Detected
1,1-Dichloroethene	0.22	Not Detected	0.86	Not Detected
Acetone	1.1	8.9 J0	2.6	21 J0
2-Propanol	1.1	1.9	2.6	4.7
Carbon Disulfide	1.1	4.8	3.4	15
3-Chloropropene	1.1	Not Detected	3.4	Not Detected
Methylene Chloride	0.43	0.89	1.5	3.1
Methyl tert-butyl ether	0.22	Not Detected	0.78	Not Detected
trans-1,2-Dichloroethene	0.22	Not Detected	0.86	Not Detected
Hexane	0.22	Not Detected	0.76	Not Detected
1,1-Dichloroethane	0.22	Not Detected	0.87	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	Not Detected	3.2	Not Detected
cis-1,2-Dichloroethene	0.22	Not Detected	0.86	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.2	Not Detected
Chloroform	0.22	Not Detected	1.0	Not Detected
1,1,1-Trichloroethane	0.22	Not Detected	1.2	Not Detected
Cyclohexane	0.22	3.1	0.74	11
Carbon Tetrachloride	0.22	Not Detected	1.4	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.0	Not Detected
Benzene	0.22	Not Detected	0.69	Not Detected
1,2-Dichloroethane	0.22	Not Detected	0.87	Not Detected
Heptane	0.22	0.43	0.88	1.7
Trichloroethene	0.22	Not Detected	1.2	Not Detected
1,2-Dichloropropane	0.22	Not Detected	1.0	Not Detected
1,4-Dioxane	0.22	0.21 J	0.78	0.76 J
Bromodichloromethane	0.22	Not Detected	1.4	Not Detected
cis-1,3-Dichloropropene	0.22	Not Detected	0.98	Not Detected
4-Methyl-2-pentanone	0.22	0.43	0.88	1.8
Toluene	0.22	1.2	0.81	4.6
trans-1,3-Dichloropropene	0.22	Not Detected	0.98	Not Detected
1,1,2-Trichloroethane	0.22	Not Detected	1.2	Not Detected
Tetrachloroethene	0.22	0.20 J	1.5	1.4 J
2-Hexanone	1.1	Not Detected	4.4	Not Detected



Client Sample ID: SS3-35605-041615

Lab ID#: 1504358-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042321	Date of Collection: 4/16/15 10:50:00 AM
Dil. Factor:	2.16	Date of Analysis: 4/24/15 05:17 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.22	Not Detected	1.8	Not Detected
1,2-Dibromoethane (EDB)	0.22	Not Detected	1.6	Not Detected
Chlorobenzene	0.22	Not Detected	0.99	Not Detected
Ethyl Benzene	0.22	1.2	0.94	5.3
m,p-Xylene	0.22	5.2	0.94	22
o-Xylene	0.22	2.7	0.94	12
Styrene	0.22	Not Detected	0.92	Not Detected
Bromoform	0.22	Not Detected	2.2	Not Detected
Cumene	0.22	0.51	1.1	2.5
1,1,2,2-Tetrachloroethane	0.22	Not Detected	1.5	Not Detected
Propylbenzene	0.22	0.75	1.1	3.7
4-Ethyltoluene	0.22	4.7	1.1	23
1,3,5-Trimethylbenzene	0.22	2.2	1.1	11
1,2,4-Trimethylbenzene	0.22	6.8	1.1	33
1,3-Dichlorobenzene	0.22	Not Detected	1.3	Not Detected
1,4-Dichlorobenzene	0.22	Not Detected	1.3	Not Detected
alpha-Chlorotoluene	0.22	Not Detected	1.1	Not Detected
1,2-Dichlorobenzene	0.22	Not Detected	1.3	Not Detected
1,2,4-Trichlorobenzene	1.1	Not Detected	8.0	Not Detected
Hexachlorobutadiene	1.1	Not Detected	12	Not Detected

J0 = Estimated value due to bias in the CCV.

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: SS4-34124-041615

Lab ID#: 1504358-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042322	Date of Collection:	4/16/15 11:30:00 AM
Dil. Factor:	2.36	Date of Analysis:	4/24/15 06:00 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.24	0.74	1.2	3.6
Freon 114	0.24	Not Detected	1.6	Not Detected
Chloromethane	1.2	Not Detected	2.4	Not Detected
Vinyl Chloride	0.24	Not Detected	0.60	Not Detected
1,3-Butadiene	0.24	Not Detected	0.52	Not Detected
Bromomethane	1.2	Not Detected	4.6	Not Detected
Chloroethane	1.2	Not Detected	3.1	Not Detected
Freon 11	0.24	0.28	1.3	1.6
Ethanol	1.2	15	2.2	29
Freon 113	0.24	Not Detected	1.8	Not Detected
1,1-Dichloroethene	0.24	Not Detected	0.94	Not Detected
Acetone	1.2	16 J0	2.8	38 J0
2-Propanol	1.2	4.2	2.9	10
Carbon Disulfide	1.2	Not Detected	3.7	Not Detected
3-Chloropropene	1.2	Not Detected	3.7	Not Detected
Methylene Chloride	0.47	Not Detected	1.6	Not Detected
Methyl tert-butyl ether	0.24	Not Detected	0.85	Not Detected
trans-1,2-Dichloroethene	0.24	Not Detected	0.94	Not Detected
Hexane	0.24	0.59	0.83	2.1
1,1-Dichloroethane	0.24	Not Detected	0.96	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	1.6	3.5	4.8
cis-1,2-Dichloroethene	0.24	Not Detected	0.94	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	0.24	Not Detected	1.2	Not Detected
1,1,1-Trichloroethane	0.24	Not Detected	1.3	Not Detected
Cyclohexane	0.24	3.5	0.81	12
Carbon Tetrachloride	0.24	Not Detected	1.5	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.5	Not Detected
Benzene	0.24	0.94	0.75	3.0
1,2-Dichloroethane	0.24	Not Detected	0.96	Not Detected
Heptane	0.24	0.76	0.97	3.1
Trichloroethene	0.24	Not Detected	1.3	Not Detected
1,2-Dichloropropane	0.24	Not Detected	1.1	Not Detected
1,4-Dioxane	0.24	Not Detected	0.85	Not Detected
Bromodichloromethane	0.24	Not Detected	1.6	Not Detected
cis-1,3-Dichloropropene	0.24	Not Detected	1.1	Not Detected
4-Methyl-2-pentanone	0.24	0.64	0.97	2.6
Toluene	0.24	2.4	0.89	9.0
trans-1,3-Dichloropropene	0.24	Not Detected	1.1	Not Detected
1,1,2-Trichloroethane	0.24	Not Detected	1.3	Not Detected
Tetrachloroethene	0.24	2.1	1.6	14
2-Hexanone	1.2	Not Detected	4.8	Not Detected



Client Sample ID: SS4-34124-041615

Lab ID#: 1504358-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042322	Date of Collection: 4/16/15 11:30:00 AM
Dil. Factor:	2.36	Date of Analysis: 4/24/15 06:00 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.24	Not Detected	2.0	Not Detected
1,2-Dibromoethane (EDB)	0.24	Not Detected	1.8	Not Detected
Chlorobenzene	0.24	0.66	1.1	3.0
Ethyl Benzene	0.24	1.5	1.0	6.6
m,p-Xylene	0.24	4.6	1.0	20
o-Xylene	0.24	2.2	1.0	9.5
Styrene	0.24	Not Detected	1.0	Not Detected
Bromoform	0.24	Not Detected	2.4	Not Detected
Cumene	0.24	0.39	1.2	1.9
1,1,2,2-Tetrachloroethane	0.24	Not Detected	1.6	Not Detected
Propylbenzene	0.24	0.55	1.2	2.7
4-Ethyltoluene	0.24	2.6	1.2	13
1,3,5-Trimethylbenzene	0.24	0.91	1.2	4.5
1,2,4-Trimethylbenzene	0.24	2.4	1.2	12
1,3-Dichlorobenzene	0.24	Not Detected	1.4	Not Detected
1,4-Dichlorobenzene	0.24	Not Detected	1.4	Not Detected
alpha-Chlorotoluene	0.24	Not Detected	1.2	Not Detected
1,2-Dichlorobenzene	0.24	Not Detected	1.4	Not Detected
1,2,4-Trichlorobenzene	1.2	Not Detected	8.8	Not Detected
Hexachlorobutadiene	1.2	Not Detected	12	Not Detected

J0 = Estimated value due to bias in the CCV.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: SS5-37339-041615

Lab ID#: 1504358-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042408	Date of Collection:	4/16/15 12:51:00 PM
Dil. Factor:	2.36	Date of Analysis:	4/24/15 11:37 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.24	0.62	1.2	3.1
Freon 114	0.24	Not Detected	1.6	Not Detected
Chloromethane	1.2	Not Detected	2.4	Not Detected
Vinyl Chloride	0.24	Not Detected	0.60	Not Detected
1,3-Butadiene	0.24	Not Detected	0.52	Not Detected
Bromomethane	1.2	Not Detected	4.6	Not Detected
Chloroethane	1.2	Not Detected	3.1	Not Detected
Freon 11	0.24	0.28	1.3	1.6
Ethanol	1.2	18	2.2	33
Freon 113	0.24	Not Detected	1.8	Not Detected
1,1-Dichloroethene	0.24	Not Detected	0.94	Not Detected
Acetone	1.2	7.0 J0	2.8	17 J0
2-Propanol	1.2	4.4	2.9	11
Carbon Disulfide	1.2	2.0	3.7	6.1
3-Chloropropene	1.2	Not Detected	3.7	Not Detected
Methylene Chloride	0.47	Not Detected	1.6	Not Detected
Methyl tert-butyl ether	0.24	Not Detected	0.85	Not Detected
trans-1,2-Dichloroethene	0.24	Not Detected	0.94	Not Detected
Hexane	0.24	Not Detected	0.83	Not Detected
1,1-Dichloroethane	0.24	Not Detected	0.96	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	Not Detected	3.5	Not Detected
cis-1,2-Dichloroethene	0.24	Not Detected	0.94	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	0.24	Not Detected	1.2	Not Detected
1,1,1-Trichloroethane	0.24	Not Detected	1.3	Not Detected
Cyclohexane	0.24	3.2	0.81	11
Carbon Tetrachloride	0.24	Not Detected	1.5	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.5	Not Detected
Benzene	0.24	Not Detected	0.75	Not Detected
1,2-Dichloroethane	0.24	Not Detected	0.96	Not Detected
Heptane	0.24	0.40	0.97	1.6
Trichloroethene	0.24	Not Detected	1.3	Not Detected
1,2-Dichloropropane	0.24	Not Detected	1.1	Not Detected
1,4-Dioxane	0.24	Not Detected	0.85	Not Detected
Bromodichloromethane	0.24	Not Detected	1.6	Not Detected
cis-1,3-Dichloropropene	0.24	Not Detected	1.1	Not Detected
4-Methyl-2-pentanone	0.24	0.51	0.97	2.1
Toluene	0.24	0.93	0.89	3.5
trans-1,3-Dichloropropene	0.24	Not Detected	1.1	Not Detected
1,1,2-Trichloroethane	0.24	Not Detected	1.3	Not Detected
Tetrachloroethene	0.24	0.23 J	1.6	1.6 J
2-Hexanone	1.2	Not Detected	4.8	Not Detected



Client Sample ID: SS5-37339-041615

Lab ID#: 1504358-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042408	Date of Collection: 4/16/15 12:51:00 PM
Dil. Factor:	2.36	Date of Analysis: 4/24/15 11:37 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.24	Not Detected	2.0	Not Detected
1,2-Dibromoethane (EDB)	0.24	Not Detected	1.8	Not Detected
Chlorobenzene	0.24	Not Detected	1.1	Not Detected
Ethyl Benzene	0.24	1.2	1.0	5.2
m,p-Xylene	0.24	4.2	1.0	18
o-Xylene	0.24	2.2	1.0	9.7
Styrene	0.24	Not Detected	1.0	Not Detected
Bromoform	0.24	Not Detected	2.4	Not Detected
Cumene	0.24	0.50	1.2	2.5
1,1,2,2-Tetrachloroethane	0.24	Not Detected	1.6	Not Detected
Propylbenzene	0.24	0.71	1.2	3.5
4-Ethyltoluene	0.24	3.7	1.2	18
1,3,5-Trimethylbenzene	0.24	1.6	1.2	8.1
1,2,4-Trimethylbenzene	0.24	5.2	1.2	25
1,3-Dichlorobenzene	0.24	Not Detected	1.4	Not Detected
1,4-Dichlorobenzene	0.24	Not Detected	1.4	Not Detected
alpha-Chlorotoluene	0.24	Not Detected	1.2	Not Detected
1,2-Dichlorobenzene	0.24	Not Detected	1.4	Not Detected
1,2,4-Trichlorobenzene	1.2	Not Detected	8.8	Not Detected
Hexachlorobutadiene	1.2	Not Detected	12	Not Detected

J0 = Estimated value due to bias in the CCV.

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1504358-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042308	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/23/15 11:44 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected UJ	1.2	Not Detected UJ
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected



Client Sample ID: Lab Blank

Lab ID#: 1504358-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042308	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/23/15 11:44 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
1,1,2,2-Tetrachloroethane	0.10	Not Detected	0.69	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

UJ = Analyte associated with low bias in the CCV and/or LCS.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1504358-06B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042407	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/24/15 10:48 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected UJ	1.2	Not Detected UJ
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected



Client Sample ID: Lab Blank

Lab ID#: 1504358-06B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042407	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/24/15 10:48 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
1,1,2,2-Tetrachloroethane	0.10	Not Detected	0.69	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

UJ = Analyte associated with low bias in the CCV and/or LCS.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1504358-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/23/15 07:00 AM

Compound	%Recovery
Freon 12	94
Freon 114	96
Chloromethane	85
Vinyl Chloride	87
1,3-Butadiene	87
Bromomethane	83
Chloroethane	78
Freon 11	88
Ethanol	71
Freon 113	83
1,1-Dichloroethene	81
Acetone	66 Q
2-Propanol	82
Carbon Disulfide	92
3-Chloropropene	80
Methylene Chloride	80
Methyl tert-butyl ether	87
trans-1,2-Dichloroethene	87
Hexane	89
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	81
cis-1,2-Dichloroethene	92
Tetrahydrofuran	84
Chloroform	89
1,1,1-Trichloroethane	91
Cyclohexane	84
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	85
Benzene	88
1,2-Dichloroethane	99
Heptane	93
Trichloroethene	93
1,2-Dichloropropane	82
1,4-Dioxane	91
Bromodichloromethane	94
cis-1,3-Dichloropropene	85
4-Methyl-2-pentanone	88
Toluene	87
trans-1,3-Dichloropropene	84
1,1,2-Trichloroethane	88
Tetrachloroethene	96
2-Hexanone	87



Client Sample ID: CCV

Lab ID#: 1504358-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/23/15 07:00 AM

Compound	%Recovery
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	96
Chlorobenzene	84
Ethyl Benzene	91
m,p-Xylene	90
o-Xylene	91
Styrene	98
Bromoform	94
Cumene	96
1,1,2,2-Tetrachloroethane	81
Propylbenzene	91
4-Ethyltoluene	100
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	94
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	93
alpha-Chlorotoluene	85
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	77
Hexachlorobutadiene	81

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1504358-07B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/24/15 06:56 AM

Compound	%Recovery
Freon 12	93
Freon 114	96
Chloromethane	85
Vinyl Chloride	85
1,3-Butadiene	85
Bromomethane	82
Chloroethane	77
Freon 11	85
Ethanol	72
Freon 113	82
1,1-Dichloroethene	84
Acetone	65 Q
2-Propanol	81
Carbon Disulfide	75
3-Chloropropene	81
Methylene Chloride	77
Methyl tert-butyl ether	91
trans-1,2-Dichloroethene	87
Hexane	93
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	84
cis-1,2-Dichloroethene	89
Tetrahydrofuran	82
Chloroform	90
1,1,1-Trichloroethane	95
Cyclohexane	88
Carbon Tetrachloride	97
2,2,4-Trimethylpentane	87
Benzene	86
1,2-Dichloroethane	99
Heptane	95
Trichloroethene	98
1,2-Dichloropropane	81
1,4-Dioxane	88
Bromodichloromethane	91
cis-1,3-Dichloropropene	85
4-Methyl-2-pentanone	86
Toluene	89
trans-1,3-Dichloropropene	90
1,1,2-Trichloroethane	85
Tetrachloroethene	100
2-Hexanone	90



Client Sample ID: CCV

Lab ID#: 1504358-07B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/24/15 06:56 AM

Compound	%Recovery
Dibromochloromethane	99
1,2-Dibromoethane (EDB)	97
Chlorobenzene	88
Ethyl Benzene	92
m,p-Xylene	96
o-Xylene	96
Styrene	102
Bromoform	96
Cumene	101
1,1,2,2-Tetrachloroethane	84
Propylbenzene	94
4-Ethyltoluene	109
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	97
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	91
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	94
Hexachlorobutadiene	90

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1504358-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/23/15 07:44 AM

Compound	%Recovery	Method Limits
Freon 12	105	70-130
Freon 114	113	70-130
Chloromethane	99	70-130
Vinyl Chloride	99	70-130
1,3-Butadiene	95	70-130
Bromomethane	92	70-130
Chloroethane	92	70-130
Freon 11	101	70-130
Ethanol	84	70-130
Freon 113	94	70-130
1,1-Dichloroethene	89	70-130
Acetone	76	70-130
2-Propanol	98	70-130
Carbon Disulfide	75	70-130
3-Chloropropene	88	70-130
Methylene Chloride	88	70-130
Methyl tert-butyl ether	91	70-130
trans-1,2-Dichloroethene	84	70-130
Hexane	100	70-130
1,1-Dichloroethane	97	70-130
2-Butanone (Methyl Ethyl Ketone)	93	70-130
cis-1,2-Dichloroethene	109	70-130
Tetrahydrofuran	93	70-130
Chloroform	101	70-130
1,1,1-Trichloroethane	107	70-130
Cyclohexane	97	70-130
Carbon Tetrachloride	107	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	99	70-130
1,2-Dichloroethane	112	70-130
Heptane	102	70-130
Trichloroethene	108	70-130
1,2-Dichloropropane	94	70-130
1,4-Dioxane	105	70-130
Bromodichloromethane	110	70-130
cis-1,3-Dichloropropene	88	70-130
4-Methyl-2-pentanone	100	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	96	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	110	70-130
2-Hexanone	102	70-130

Client Sample ID: LCS

Lab ID#: 1504358-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/23/15 07:44 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	114	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	97	70-130
Ethyl Benzene	104	70-130
m,p-Xylene	105	70-130
o-Xylene	106	70-130
Styrene	115	70-130
Bromoform	107	70-130
Cumene	109	70-130
1,1,2,2-Tetrachloroethane	94	70-130
Propylbenzene	105	70-130
4-Ethyltoluene	117	70-130
1,3,5-Trimethylbenzene	116	70-130
1,2,4-Trimethylbenzene	106	70-130
1,3-Dichlorobenzene	109	70-130
1,4-Dichlorobenzene	106	70-130
alpha-Chlorotoluene	112	70-130
1,2-Dichlorobenzene	106	70-130
1,2,4-Trichlorobenzene	107	70-130
Hexachlorobutadiene	87	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1504358-08AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/23/15 08:33 AM

Compound	%Recovery	Method Limits
Freon 12	106	70-130
Freon 114	115	70-130
Chloromethane	98	70-130
Vinyl Chloride	100	70-130
1,3-Butadiene	96	70-130
Bromomethane	93	70-130
Chloroethane	88	70-130
Freon 11	101	70-130
Ethanol	88	70-130
Freon 113	92	70-130
1,1-Dichloroethene	94	70-130
Acetone	72	70-130
2-Propanol	102	70-130
Carbon Disulfide	75	70-130
3-Chloropropene	88	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	95	70-130
trans-1,2-Dichloroethene	86	70-130
Hexane	102	70-130
1,1-Dichloroethane	100	70-130
2-Butanone (Methyl Ethyl Ketone)	91	70-130
cis-1,2-Dichloroethene	113	70-130
Tetrahydrofuran	96	70-130
Chloroform	102	70-130
1,1,1-Trichloroethane	108	70-130
Cyclohexane	97	70-130
Carbon Tetrachloride	110	70-130
2,2,4-Trimethylpentane	94	70-130
Benzene	95	70-130
1,2-Dichloroethane	111	70-130
Heptane	100	70-130
Trichloroethene	107	70-130
1,2-Dichloropropane	91	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	106	70-130
cis-1,3-Dichloropropene	87	70-130
4-Methyl-2-pentanone	99	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	97	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	106	70-130
2-Hexanone	102	70-130

Client Sample ID: LCSD

Lab ID#: 1504358-08AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/23/15 08:33 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	109	70-130
Chlorobenzene	95	70-130
Ethyl Benzene	102	70-130
m,p-Xylene	104	70-130
o-Xylene	107	70-130
Styrene	116	70-130
Bromoform	109	70-130
Cumene	110	70-130
1,1,2,2-Tetrachloroethane	94	70-130
Propylbenzene	106	70-130
4-Ethyltoluene	116	70-130
1,3,5-Trimethylbenzene	114	70-130
1,2,4-Trimethylbenzene	106	70-130
1,3-Dichlorobenzene	109	70-130
1,4-Dichlorobenzene	106	70-130
alpha-Chlorotoluene	110	70-130
1,2-Dichlorobenzene	107	70-130
1,2,4-Trichlorobenzene	101	70-130
Hexachlorobutadiene	88	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1504358-08B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/24/15 07:38 AM

Compound	%Recovery	Method Limits
Freon 12	103	70-130
Freon 114	112	70-130
Chloromethane	91	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	92	70-130
Bromomethane	89	70-130
Chloroethane	86	70-130
Freon 11	99	70-130
Ethanol	84	70-130
Freon 113	92	70-130
1,1-Dichloroethene	92	70-130
Acetone	71	70-130
2-Propanol	99	70-130
Carbon Disulfide	72	70-130
3-Chloropropene	86	70-130
Methylene Chloride	84	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	85	70-130
Hexane	103	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	94	70-130
cis-1,2-Dichloroethene	109	70-130
Tetrahydrofuran	93	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	104	70-130
Cyclohexane	96	70-130
Carbon Tetrachloride	105	70-130
2,2,4-Trimethylpentane	92	70-130
Benzene	92	70-130
1,2-Dichloroethane	106	70-130
Heptane	101	70-130
Trichloroethene	103	70-130
1,2-Dichloropropane	86	70-130
1,4-Dioxane	99	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	84	70-130
4-Methyl-2-pentanone	94	70-130
Toluene	95	70-130
trans-1,3-Dichloropropene	98	70-130
1,1,2-Trichloroethane	94	70-130
Tetrachloroethene	104	70-130
2-Hexanone	100	70-130

Client Sample ID: LCS

Lab ID#: 1504358-08B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/24/15 07:38 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	110	70-130
1,2-Dibromoethane (EDB)	107	70-130
Chlorobenzene	94	70-130
Ethyl Benzene	100	70-130
m,p-Xylene	103	70-130
o-Xylene	107	70-130
Styrene	114	70-130
Bromoform	108	70-130
Cumene	108	70-130
1,1,2,2-Tetrachloroethane	92	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	114	70-130
1,3,5-Trimethylbenzene	114	70-130
1,2,4-Trimethylbenzene	105	70-130
1,3-Dichlorobenzene	110	70-130
1,4-Dichlorobenzene	106	70-130
alpha-Chlorotoluene	113	70-130
1,2-Dichlorobenzene	108	70-130
1,2,4-Trichlorobenzene	115	70-130
Hexachlorobutadiene	97	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1504358-08BB

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/24/15 08:27 AM

Compound	%Recovery	Method Limits
Freon 12	106	70-130
Freon 114	111	70-130
Chloromethane	91	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	93	70-130
Bromomethane	90	70-130
Chloroethane	86	70-130
Freon 11	100	70-130
Ethanol	87	70-130
Freon 113	91	70-130
1,1-Dichloroethene	94	70-130
Acetone	76	70-130
2-Propanol	98	70-130
Carbon Disulfide	73	70-130
3-Chloropropene	87	70-130
Methylene Chloride	87	70-130
Methyl tert-butyl ether	96	70-130
trans-1,2-Dichloroethene	86	70-130
Hexane	106	70-130
1,1-Dichloroethane	98	70-130
2-Butanone (Methyl Ethyl Ketone)	93	70-130
cis-1,2-Dichloroethene	110	70-130
Tetrahydrofuran	96	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	109	70-130
Cyclohexane	98	70-130
Carbon Tetrachloride	107	70-130
2,2,4-Trimethylpentane	93	70-130
Benzene	94	70-130
1,2-Dichloroethane	111	70-130
Heptane	101	70-130
Trichloroethene	105	70-130
1,2-Dichloropropane	88	70-130
1,4-Dioxane	101	70-130
Bromodichloromethane	105	70-130
cis-1,3-Dichloropropene	87	70-130
4-Methyl-2-pentanone	94	70-130
Toluene	96	70-130
trans-1,3-Dichloropropene	96	70-130
1,1,2-Trichloroethane	94	70-130
Tetrachloroethene	104	70-130
2-Hexanone	101	70-130

Client Sample ID: LCSD

Lab ID#: 1504358-08BB

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e042404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/24/15 08:27 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	108	70-130
1,2-Dibromoethane (EDB)	105	70-130
Chlorobenzene	93	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	102	70-130
o-Xylene	105	70-130
Styrene	112	70-130
Bromoform	104	70-130
Cumene	106	70-130
1,1,2,2-Tetrachloroethane	91	70-130
Propylbenzene	102	70-130
4-Ethyltoluene	115	70-130
1,3,5-Trimethylbenzene	110	70-130
1,2,4-Trimethylbenzene	104	70-130
1,3-Dichlorobenzene	106	70-130
1,4-Dichlorobenzene	105	70-130
alpha-Chlorotoluene	110	70-130
1,2-Dichlorobenzene	106	70-130
1,2,4-Trichlorobenzene	108	70-130
Hexachlorobutadiene	92	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130

Gabe Cisneros

From: Musa, Donna K. (ECY) <DMUS461@ECY.WA.GOV>
Sent: Friday, December 04, 2015 12:50 PM
To: Gabe Cisneros
Subject: Submittal of Additional Soil Investigation Data, CSID 12086

Hi Gabe,

Ecology has reviewed the October 30, 2015 Floyd Snider "Additional Soil Investigation Data for LUST CSID 12086" and it's supporting documentation. We agree that the cleanup site (CSID 12086) is still in compliance with cleanup standards and the current site status of NFA will remain in place. Ecology agrees that the statistical approach outlined on page 2 of your letter can be applied in this situation.

I will update our records to include receipt of the above report and this email, and upload them to our online document repository.

Please let me know if you have any questions.

Respectfully,

Donna Musa
Initial Investigation / Site Hazard Assessment Coordinator
Regional Facility Site / ISIS Database Coordinator
NWRO Toxics Cleanup Program, WA Dept of Ecology
3190 160th Ave SE, Bellevue WA 98008
Phone: 425-649-7136
Fax: 425-649-7098
donna.musa@ecy.wa.gov

PEMCO Eastlake

**Remedial Investigation and
Cleanup Action Report—
1992 Fuel Line Release**

**Appendix B
Laboratory Reports**

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 3, 2015

Gabriel Cisneros, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Mr. Cisneros:

Included are the results from the testing of material submitted on August 20, 2015 from the Pemco, F&BI 508368 project. There are 28 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
FDS0903R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 20, 2015 by Friedman & Bruya, Inc. from the Floyd-Snider Pemco, F&BI 508368 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Floyd-Snider</u>
508368 -01	SB1-4.5-5
508368 -02	SB2-4-4.5
508368 -03	SB3-4.4.5
508368 -04	SB3-5.5-6.0
508368 -05	SB4-4.5-5.0
508368 -06	SB4-6-6.5
508368 -07	SB5-4-4.5
508368 -08	SB6-4-4.5
508368 -09	SB7-4-4.5
508368 -10	SB8-4.5-5
508368 -11	SB8-6-6.5
508368 -12	SB9-4.5-5
508368 -13	Trip Blank

Samples SB-3-4-4.5 and SB8-4.5-5 were sent to Fremont Analytical for EPH and VPH analyses. The report is enclosed.

Hexane failed below the acceptance criteria in the 8260C matrix spike sample. The laboratory control samples 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: 09/03/15
Date Received: 08/20/15
Project: Pemco, F&BI 508368
Date Extracted: 08/24/15
Date Analyzed: 08/24/15 and 08/25/15

**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)
SB3-4.4.5 508368-03	17	94
SB8-4.5-5 508368-10	140	ip
Method Blank 05-1643 MB	<2	108

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15
 Date Received: 08/20/15
 Project: Pemco, F&BI 508368
 Date Extracted: 08/24/15 and 09/02/15
 Date Analyzed: 08/24/15 and 09/02/15

**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)
SB1-4.5-5 508368-01	<0.02	0.021	<0.02	0.079	2.7	95
SB2-4-4.5 508368-02	<0.02	<0.02	<0.02	<0.06	<2	95
SB3-5.5-6.0 508368-04	<0.02	<0.02	<0.02	<0.06	<2	93
SB4-4.5-5.0 508368-05	<0.02	<0.02	<0.02	<0.06	<2	96
SB4-6-6.5 508368-06	<0.02	<0.02	<0.02	<0.06	<2	74
SB5-4-4.5 508368-07	<0.02	<0.02	<0.02	<0.06	<2	72
SB6-4-4.5 508368-08	<0.02	<0.02	<0.02	<0.06	<2	90
SB7-4-4.5 508368-09	<0.02	<0.02	0.031	0.089	28	93
SB8-6-6.5 508368-11	<0.02	<0.02	<0.02	<0.06	<2	95

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15
Date Received: 08/20/15
Project: Pemco, F&BI 508368
Date Extracted: 08/24/15 and 09/02/15
Date Analyzed: 08/24/15 and 09/02/15

**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)
SB9-4.5-5 508368-12	<0.02	<0.02	<0.02	<0.06	<2	92
Method Blank 05-1643 MB	<0.02	<0.02	<0.02	<0.06	<2	106
Method Blank 05-1752 MB	<0.02	<0.02	<0.02	<0.06	<2	74

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15
 Date Received: 08/20/15
 Project: Pemco, F&BI 508368
 Date Extracted: 08/24/15 and 08/31/15
 Date Analyzed: 08/24/15 and 08/31/15

**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 ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 48-168)
SB1-4.5-5 508368-01	<50	690	104
SB2-4-4.5 508368-02	<50	380	110
SB3-4.4.5 508368-03	370	<250	109
SB3-5.5-6.0 508368-04	<50	<250	109
SB4-4.5-5.0 508368-05	78	<250	110
SB4-6-6.5 508368-06	<50	<250	105
SB5-4-4.5 508368-07	<50	<250	100
SB6-4-4.5 508368-08	<50	<250	109
SB7-4-4.5 508368-09	85	<250	99
SB8-4.5-5 508368-10	3,100	<250	116

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15
Date Received: 08/20/15
Project: Pemco, F&BI 508368
Date Extracted: 08/24/15 and 08/31/15
Date Analyzed: 08/24/15 and 08/31/15

**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 ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 48-168)
SB8-6-6.5 508368-11	<50	<250	110
SB9-4.5-5 508368-12	<50	<250	113
Method Blank 05-1724 MB	<50	<250	110
Method Blank 05-1791 MB	<50	<250	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020

Client ID:	SB3-4.4.5	Client:	Floyd-Snider
Date Received:	08/20/15	Project:	Pemco, F&BI 508368
Date Extracted:	08/25/15	Lab ID:	508368-03
Date Analyzed:	08/26/15	Data File:	508368-03.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	94	Limit:	Limit:
		60	125

Analyte:	Concentration
	mg/kg (ppm)
Lead	4.92

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020

Client ID:	SB8-4.5-5	Client:	Floyd-Snider
Date Received:	08/20/15	Project:	Pemco, F&BI 508368
Date Extracted:	08/25/15	Lab ID:	508368-10
Date Analyzed:	08/26/15	Data File:	508368-10.024
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	94	Limit:	Limit:
		60	125

Analyte:	Concentration
	mg/kg (ppm)
Lead	2.20

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	Pemco, F&BI 508368
Date Extracted:	08/25/15	Lab ID:	I5-471 mb
Date Analyzed:	08/26/15	Data File:	I5-471 mb.017
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	99	Limit:	Limit:
		60	125

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:	SB3-4.4.5	Client:	Floyd-Snider
Date Received:	08/20/15	Project:	Pemco, F&BI 508368
Date Extracted:	08/24/15	Lab ID:	508368-03
Date Analyzed:	08/24/15	Data File:	082416.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	118	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	SB8-4.5-5	Client:	Floyd-Snider
Date Received:	08/20/15	Project:	Pemco, F&BI 508368
Date Extracted:	08/24/15	Lab ID:	508368-10
Date Analyzed:	08/24/15	Data File:	082418.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	116	50	150
Toluene-d8	95	50	150
4-Bromofluorobenzene	88 J	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Pemco, F&BI 508368
Date Extracted:	08/24/15	Lab ID:	05-1687 mb
Date Analyzed:	08/24/15	Data File:	082408.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB3-4.4.5	Client:	Floyd-Snider
Date Received:	08/20/15	Project:	Pemco, F&BI 508368
Date Extracted:	08/24/15	Lab ID:	508368-03
Date Analyzed:	08/24/15	Data File:	082434.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	97	81	119

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
1,2-Dichloroethane (EDC)	<0.05
Hexane	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB8-4.5-5	Client:	Floyd-Snider
Date Received:	08/20/15	Project:	Pemco, F&BI 508368
Date Extracted:	08/24/15	Lab ID:	508368-10
Date Analyzed:	08/24/15	Data File:	082435.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	89	113
Toluene-d8	98	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
1,2-Dichloroethane (EDC)	<0.05
Hexane	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Pemco, F&BI 508368
Date Extracted:	08/24/15	Lab ID:	05-1689 mb
Date Analyzed:	08/24/15	Data File:	082425.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Methyl t-butyl ether (MTBE)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
1,2-Dichloroethane (EDC)	<0.05
Hexane	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB3-4.4.5	Client:	Floyd-Snider
Date Received:	08/20/15	Project:	Pemco, F&BI 508368
Date Extracted:	08/24/15	Lab ID:	508368-03 1/5
Date Analyzed:	08/24/15	Data File:	082414.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	113	31	163
Benzo(a)anthracene-d12	118	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	0.026
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB8-4.5-5	Client:	Floyd-Snider
Date Received:	08/20/15	Project:	Pemco, F&BI 508368
Date Extracted:	08/24/15	Lab ID:	508368-10 1/5
Date Analyzed:	08/24/15	Data File:	082415.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	101	31	163
Benzo(a)anthracene-d12	122	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	2.4 ve
1-Methylnaphthalene	2.2 ve
Benz(a)anthracene	<0.01
Chrysene	0.013
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB8-4.5-5	Client:	Floyd-Snider
Date Received:	08/20/15	Project:	Pemco, F&BI 508368
Date Extracted:	08/24/15	Lab ID:	508368-10 1/50
Date Analyzed:	08/25/15	Data File:	082506.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	116 d	31	163
Benzo(a)anthracene-d12	118 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
2-Methylnaphthalene	2.8
1-Methylnaphthalene	2.9
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Pemco, F&BI 508368
Date Extracted:	08/24/15	Lab ID:	05-1722 mb 1/5
Date Analyzed:	08/24/15	Data File:	082405.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	102	31	163
Benzo(a)anthracene-d12	112	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15

Date Received: 08/20/15

Project: Pemco, F&BI 508368

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

Laboratory Code: 508400-01 (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)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	82	69-120
Toluene	mg/kg (ppm)	0.5	83	70-117
Ethylbenzene	mg/kg (ppm)	0.5	81	65-123
Xylenes	mg/kg (ppm)	1.5	82	66-120
Gasoline	mg/kg (ppm)	20	85	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15

Date Received: 08/20/15

Project: Pemco, F&BI 508368

**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: 508368-06 (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)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	85	69-120
Toluene	mg/kg (ppm)	0.5	96	70-117
Ethylbenzene	mg/kg (ppm)	0.5	98	65-123
Xylenes	mg/kg (ppm)	1.5	94	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15

Date Received: 08/20/15

Project: Pemco, F&BI 508368

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: 508368-01 (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	440	119	122	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	122	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15

Date Received: 08/20/15

Project: Pemco, F&BI 508368

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: 508557-01 (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	1,300	116	120	64-133	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	124	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15

Date Received: 08/20/15

Project: Pemco, F&BI 508368

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

Laboratory Code: 508397-68 (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	16.8	103	102	59-148	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	106	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15

Date Received: 08/20/15

Project: Pemco, F&BI 508368

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

Laboratory Code: 508308-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
1,2-Dibromoethane (EDB)	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)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	95	97	70-130	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15

Date Received: 08/20/15

Project: Pemco, F&BI 508368

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

Laboratory Code: 508382-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Hexane	mg/kg (ppm)	2.5	<0.25	9 vo	10	10-95	11
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	61	61	17-134	0
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	55	58	22-124	5
Benzene	mg/kg (ppm)	2.5	<0.03	51	52	26-114	2
Toluene	mg/kg (ppm)	2.5	<0.05	49	52	34-112	6
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	46	51	34-115	10
m,p-Xylene	mg/kg (ppm)	5	<0.1	45	50	25-125	11
o-Xylene	mg/kg (ppm)	2.5	0.044	47	53	27-126	12

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Hexane	mg/kg (ppm)	2.5	91	55-107
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	101	72-122
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	96	73-111
Benzene	mg/kg (ppm)	2.5	96	72-106
Toluene	mg/kg (ppm)	2.5	96	74-111
Ethylbenzene	mg/kg (ppm)	2.5	100	75-112
m,p-Xylene	mg/kg (ppm)	5	100	77-115
o-Xylene	mg/kg (ppm)	2.5	103	76-115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/03/15

Date Received: 08/20/15

Project: Pemco, F&BI 508368

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL
SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM**

Laboratory Code: 508386-01 1/25 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	0.59	200 b	44-129
2-Methylnaphthalene	mg/kg (ppm)	0.17	2.5	176 b	45-135
1-Methylnaphthalene	mg/kg (ppm)	0.17	0.71	105 b	40-141
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.05	100	23-144
Chrysene	mg/kg (ppm)	0.17	<0.05	91	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.05	82	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.05	81	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.05	84	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.05	91	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.05	92	31-146

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	82	84	58-121	2
2-Methylnaphthalene	mg/kg (ppm)	0.17	82	84	58-123	2
1-Methylnaphthalene	mg/kg (ppm)	0.17	82	83	60-124	1
Benz(a)anthracene	mg/kg (ppm)	0.17	96	97	51-115	1
Chrysene	mg/kg (ppm)	0.17	95	95	55-129	0
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	83	87	56-123	5
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	81	79	54-131	2
Benzo(a)pyrene	mg/kg (ppm)	0.17	79	80	51-118	1
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	96	97	49-148	1
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	95	94	50-141	1

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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

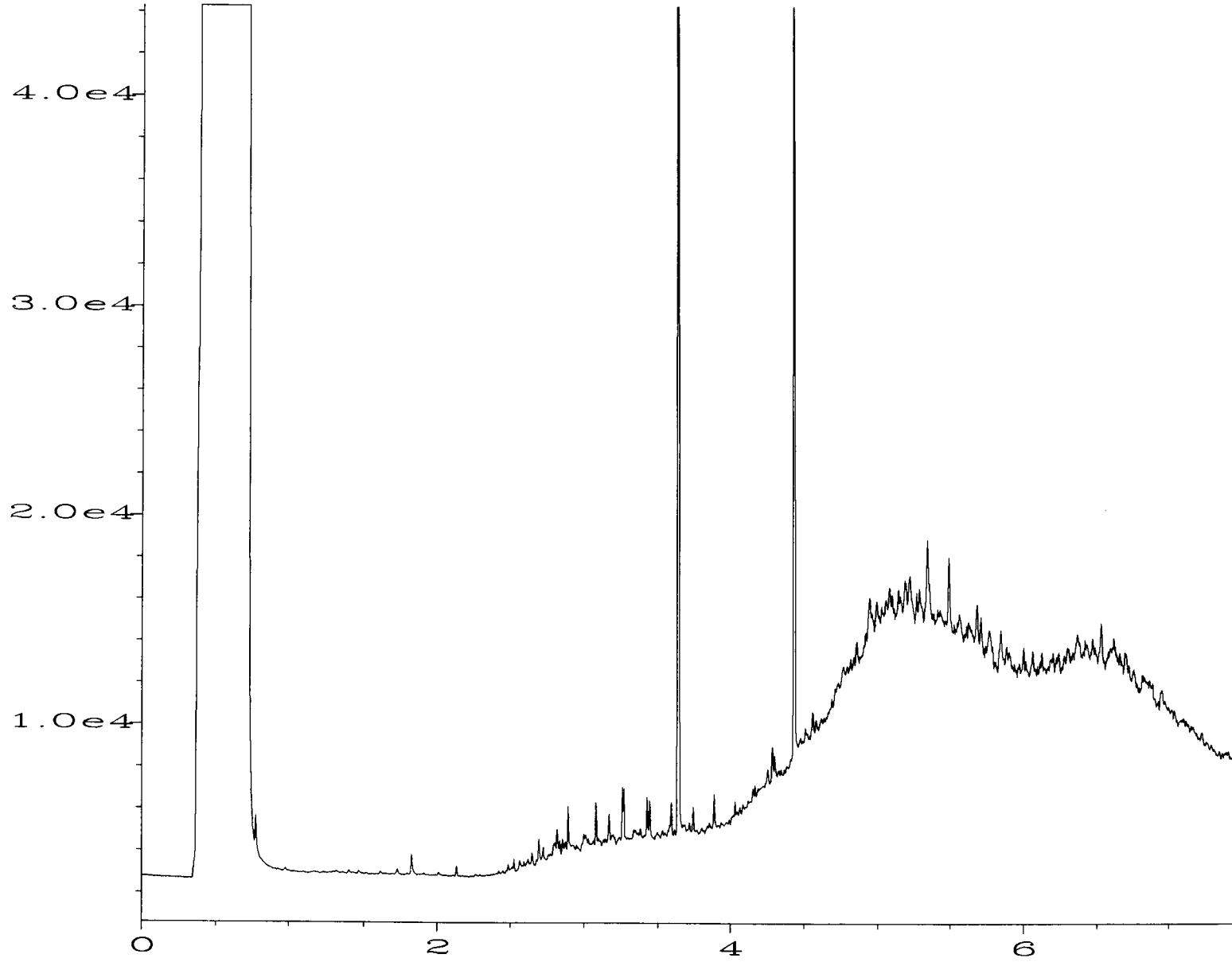
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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.

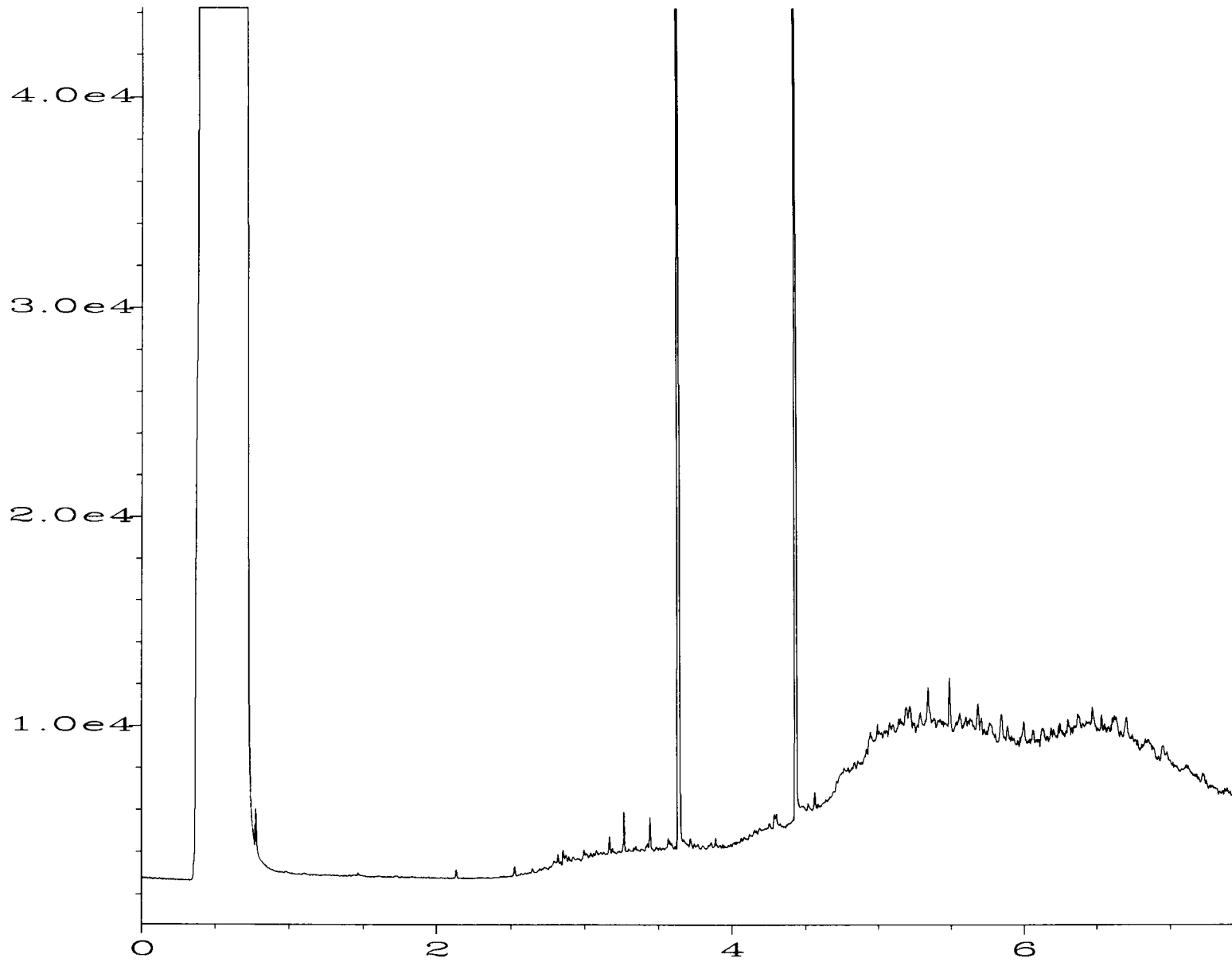
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

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

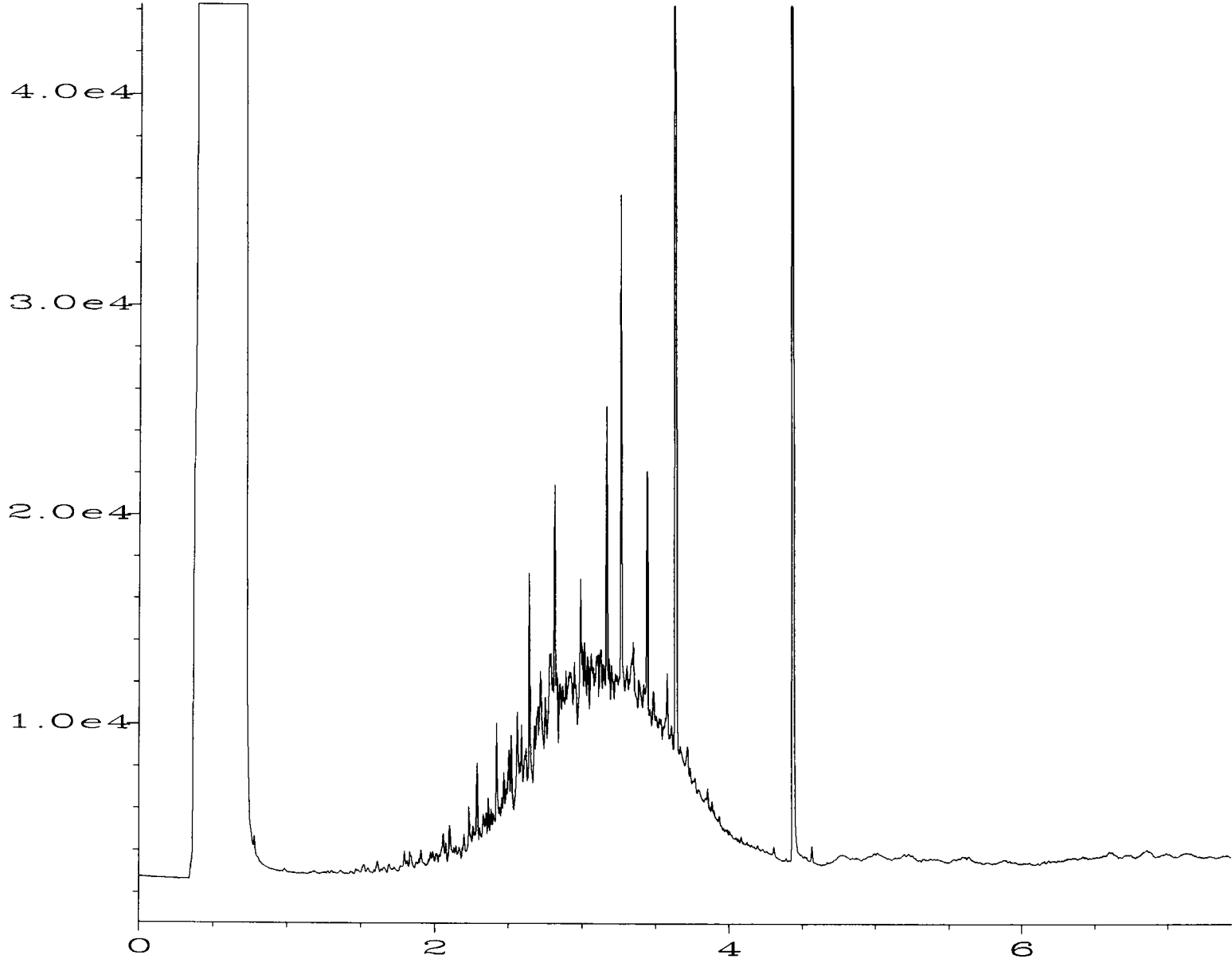
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



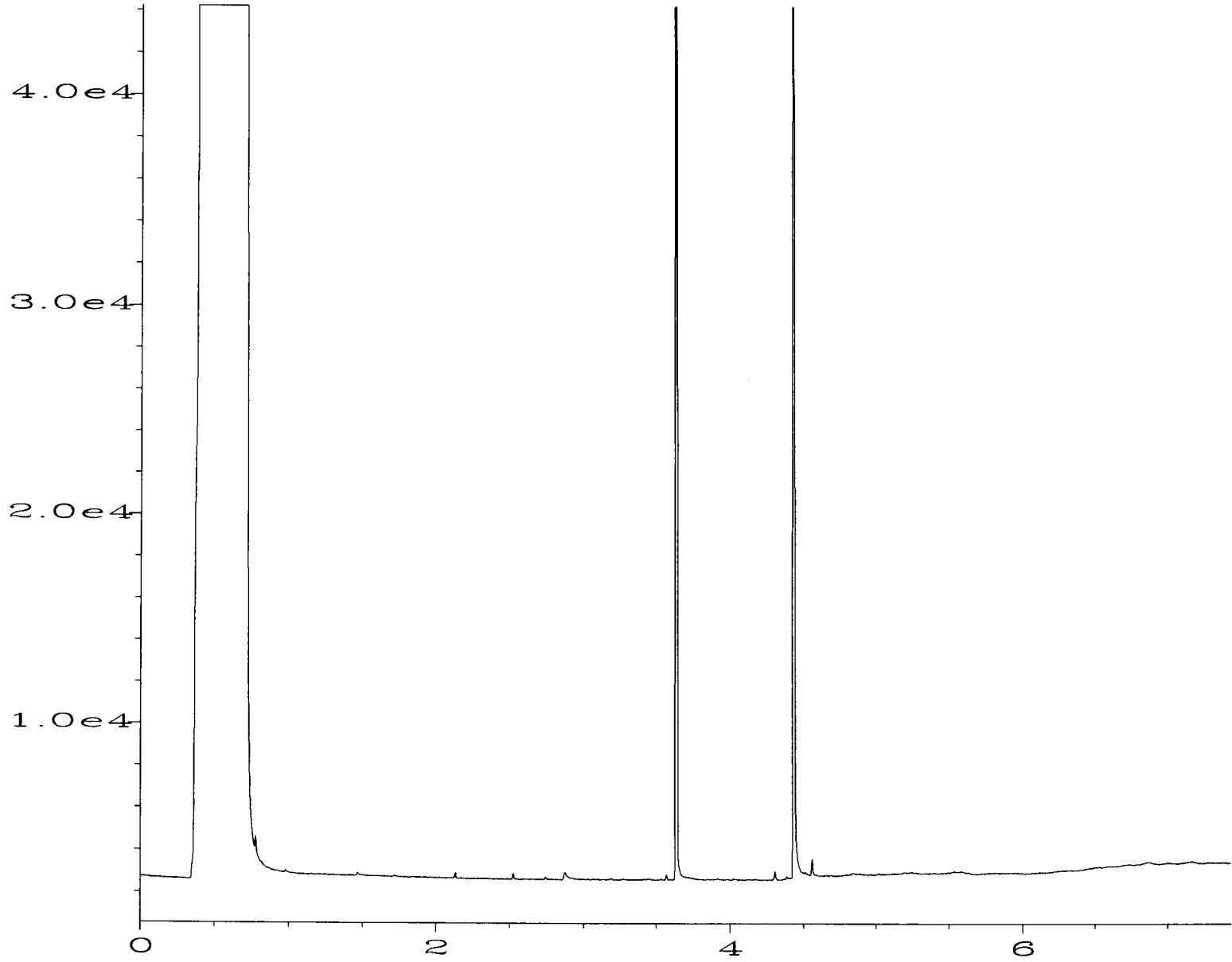
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Operator : mwdl Page Number : 1
Instrument : GC#4 Vial Number : 22
Sample Name : 508368-01 Injection Number : 1
Run Time Bar Code : 24 Aug 15 12:59 PM Sequence Line : 3
Acquired on : 25 Aug 15 09:16 AM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:16 AM Analysis Method : END.MTH



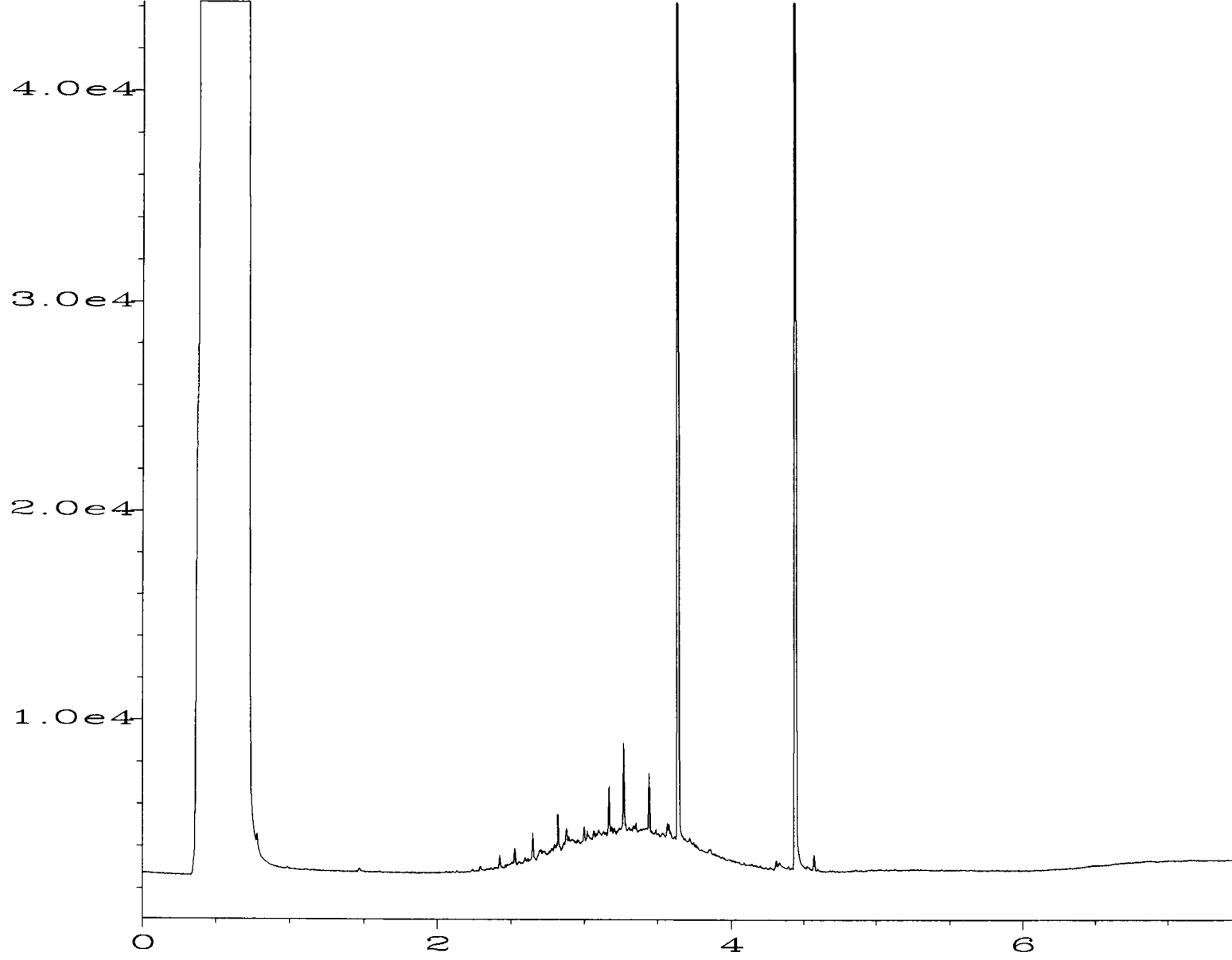
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Operator : mwdl Page Number : 1
Instrument : GC#4 Vial Number : 23
Sample Name : 508368-02 Injection Number : 1
Run Time Bar Code : 24 Aug 15 01:11 PM Sequence Line : 3
Acquired on : 25 Aug 15 09:16 AM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:16 AM Analysis Method : END.MTH



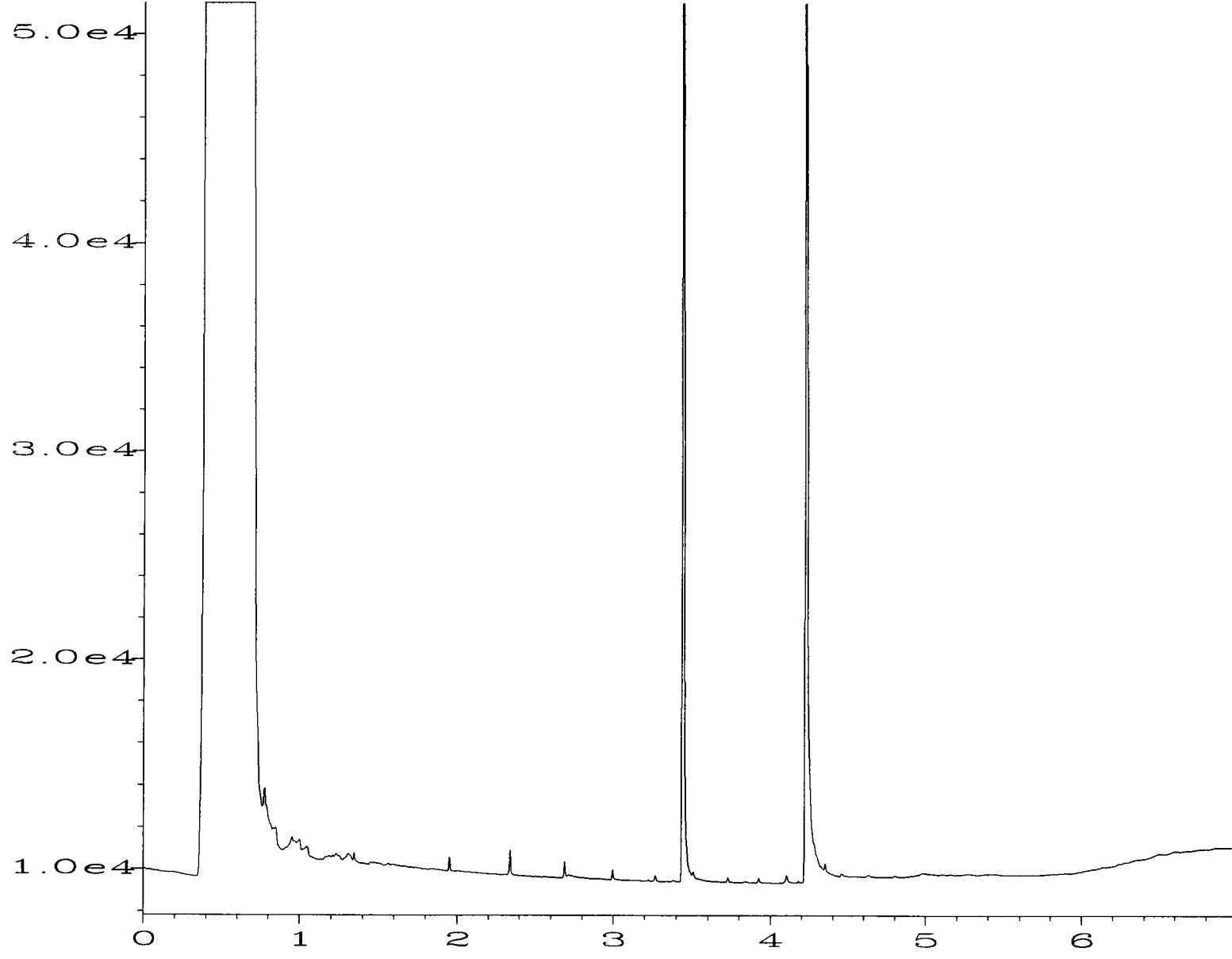
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Operator : mwdl Page Number : 1
Instrument : GC#4 Vial Number : 24
Sample Name : 508368-03 Injection Number : 1
Run Time Bar Code : 24 Aug 15 01:22 PM Sequence Line : 3
Acquired on : 25 Aug 15 09:17 AM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:17 AM Analysis Method : END.MTH



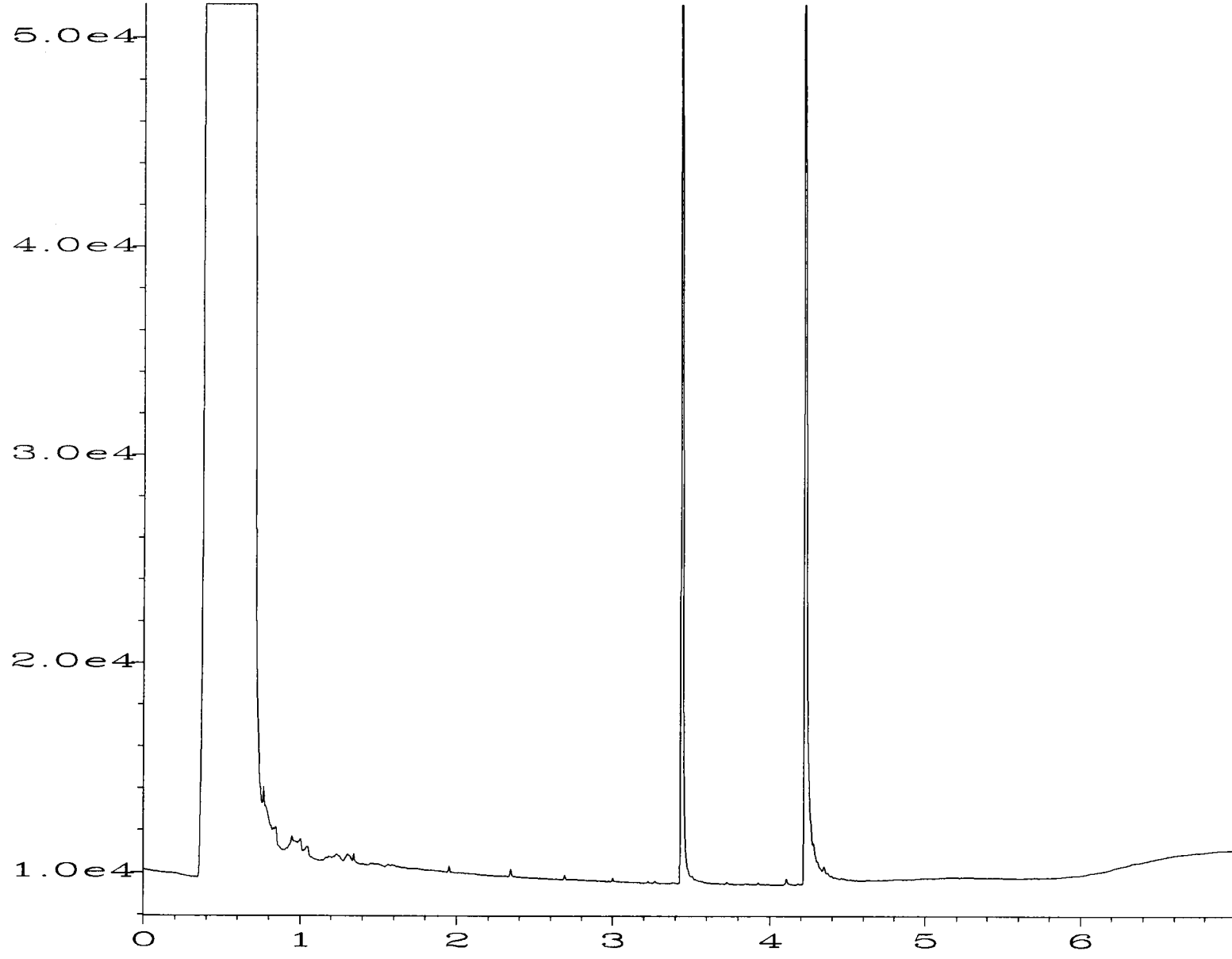
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Operator : mwdl Page Number : 1
Instrument : GC#4 Vial Number : 25
Sample Name : 508368-04 Injection Number : 1
Run Time Bar Code : 24 Aug 15 01:34 PM Sequence Line : 3
Acquired on : 25 Aug 15 09:17 AM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:17 AM Analysis Method : END.MTH



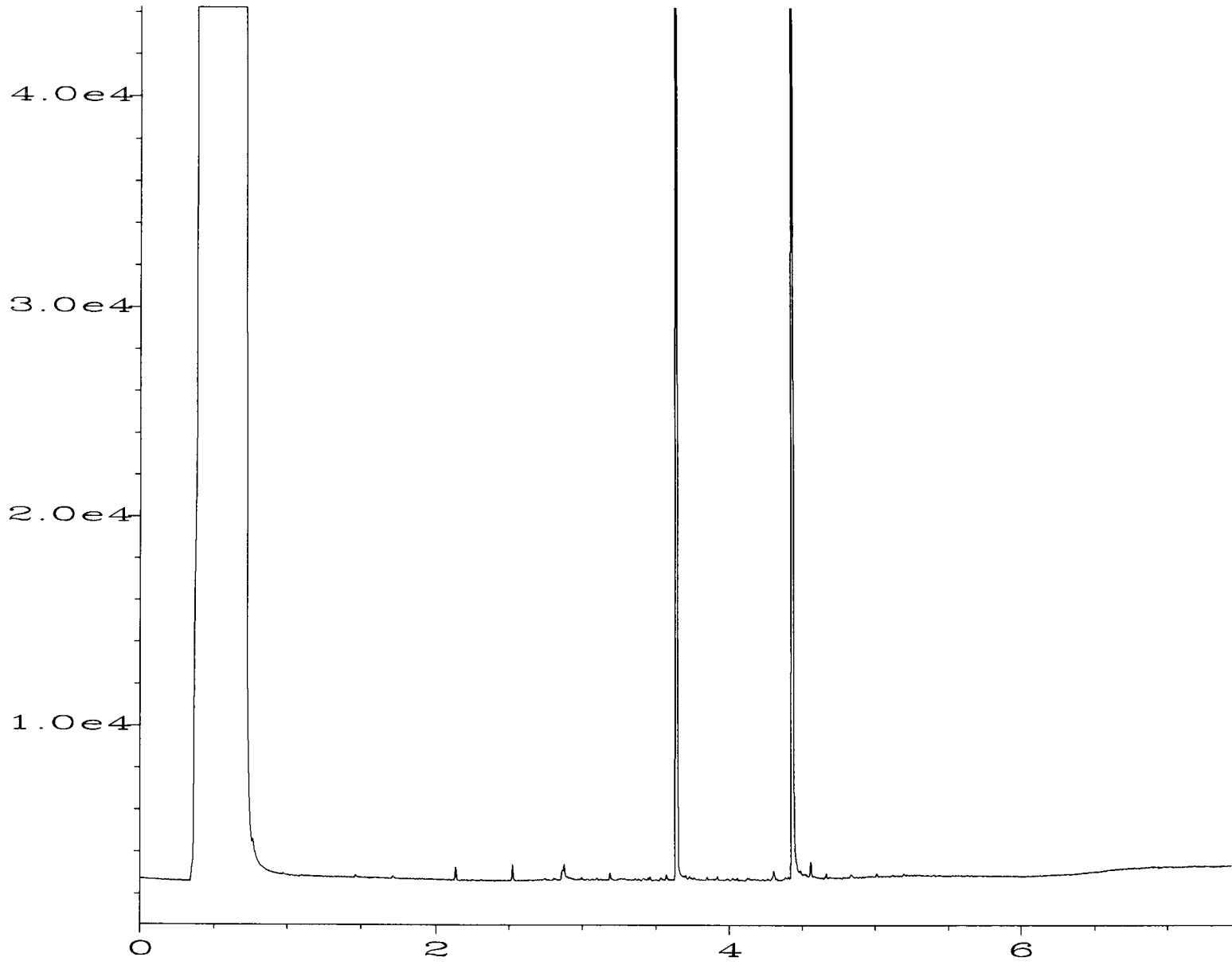
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Operator : mwdl Page Number : 1
Instrument : GC#4 Vial Number : 26
Sample Name : 508368-05 Injection Number : 1
Run Time Bar Code : Sequence Line : 3
Acquired on : 24 Aug 15 01:46 PM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:17 AM Analysis Method : END.MTH



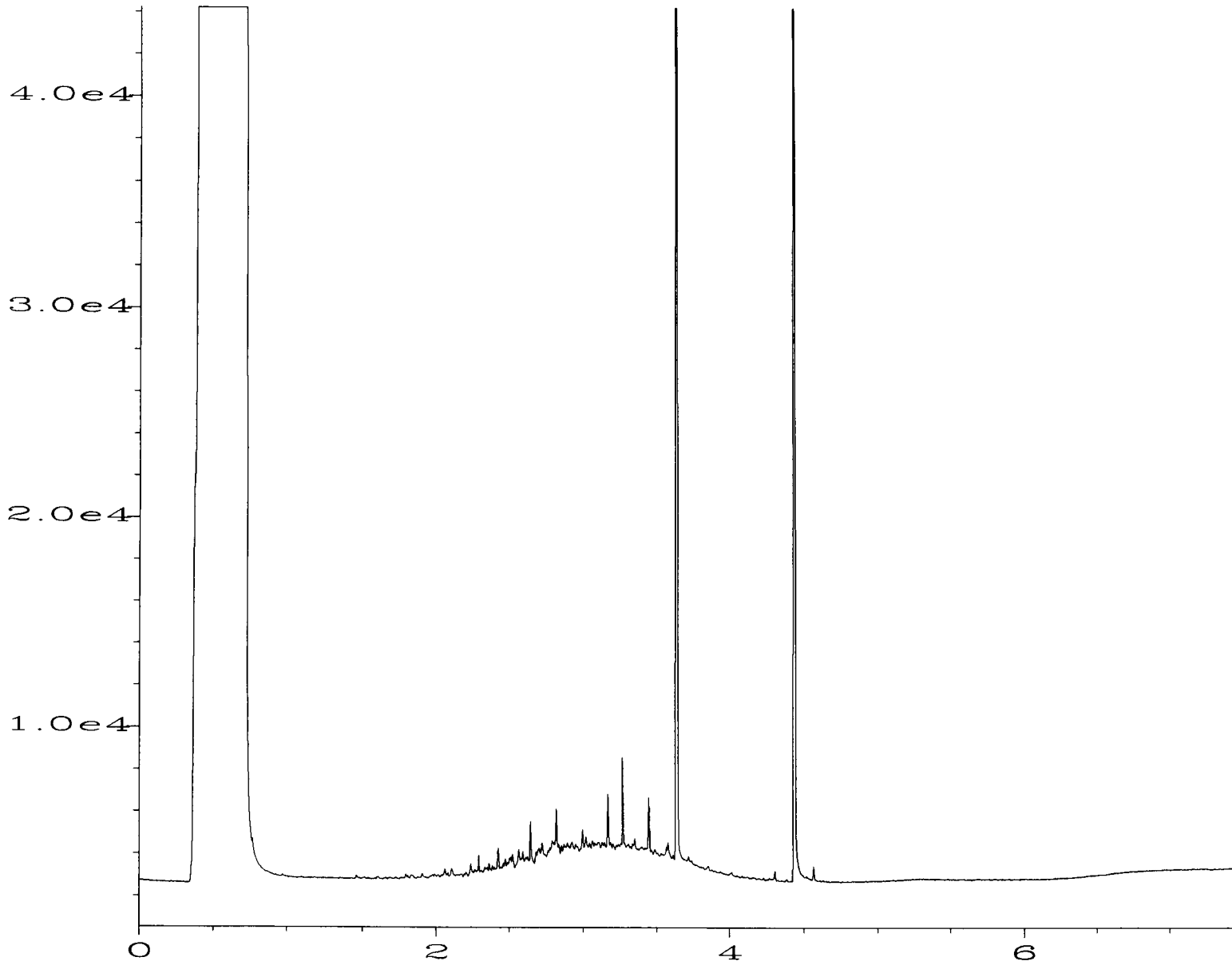
Data File Name : C:\HPCHEM\6\DATA\08-31-15\016F0501.D
Operator : mwdl Page Number : 1
Instrument : GC #6 Vial Number : 16
Sample Name : 508368-06 Injection Number : 1
Run Time Bar Code : 31 Aug 15 05:46 PM Sequence Line : 5
Acquired on : 01 Sep 15 08:47 AM Instrument Method: DX.MTH
Report Created on: 01 Sep 15 08:47 AM Analysis Method : END.MTH



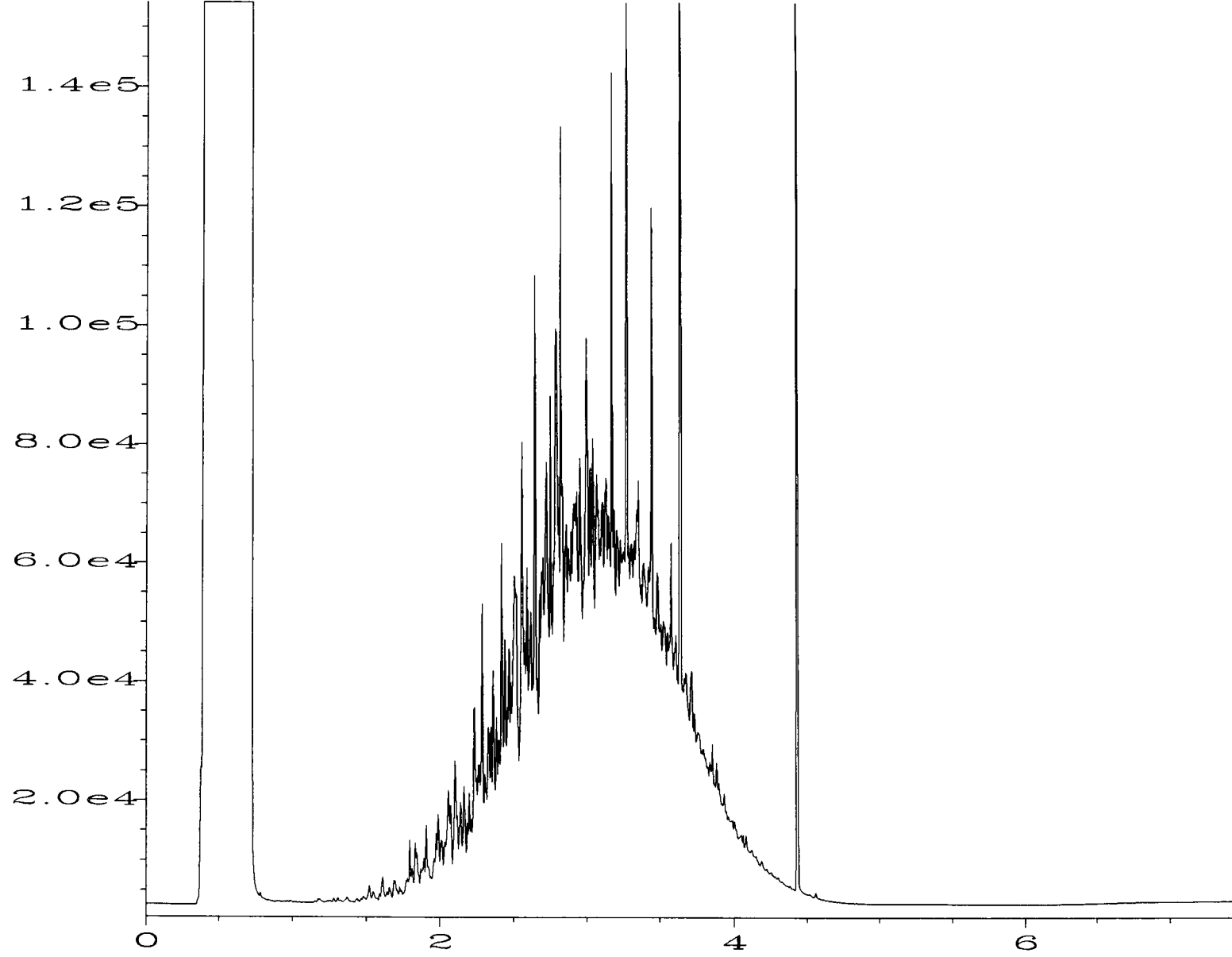
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Operator : mwdl Page Number : 1
Instrument : GC #6 Vial Number : 17
Sample Name : 508368-07 Injection Number : 1
Run Time Bar Code : 31 Aug 15 05:57 PM Sequence Line : 5
Acquired on : 01 Sep 15 08:47 AM Instrument Method: DX.MTH
Report Created on: 01 Sep 15 08:47 AM Analysis Method : END.MTH



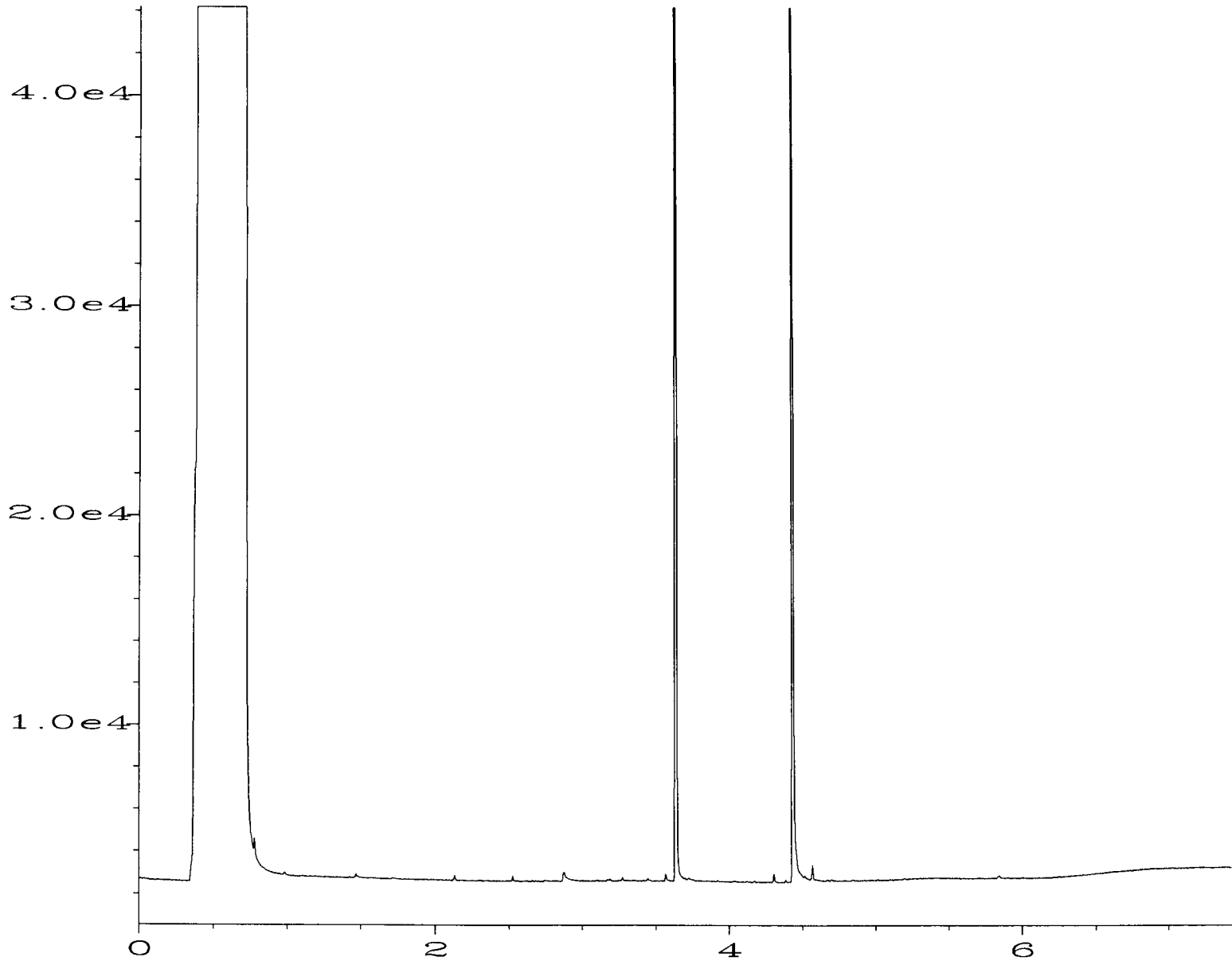
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Operator : mwdl Page Number : 1
Instrument : GC#4 Vial Number : 27
Sample Name : 508368-08 Injection Number : 1
Run Time Bar Code : 24 Aug 15 01:58 PM Sequence Line : 3
Acquired on : 25 Aug 15 09:17 AM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:17 AM Analysis Method : END.MTH



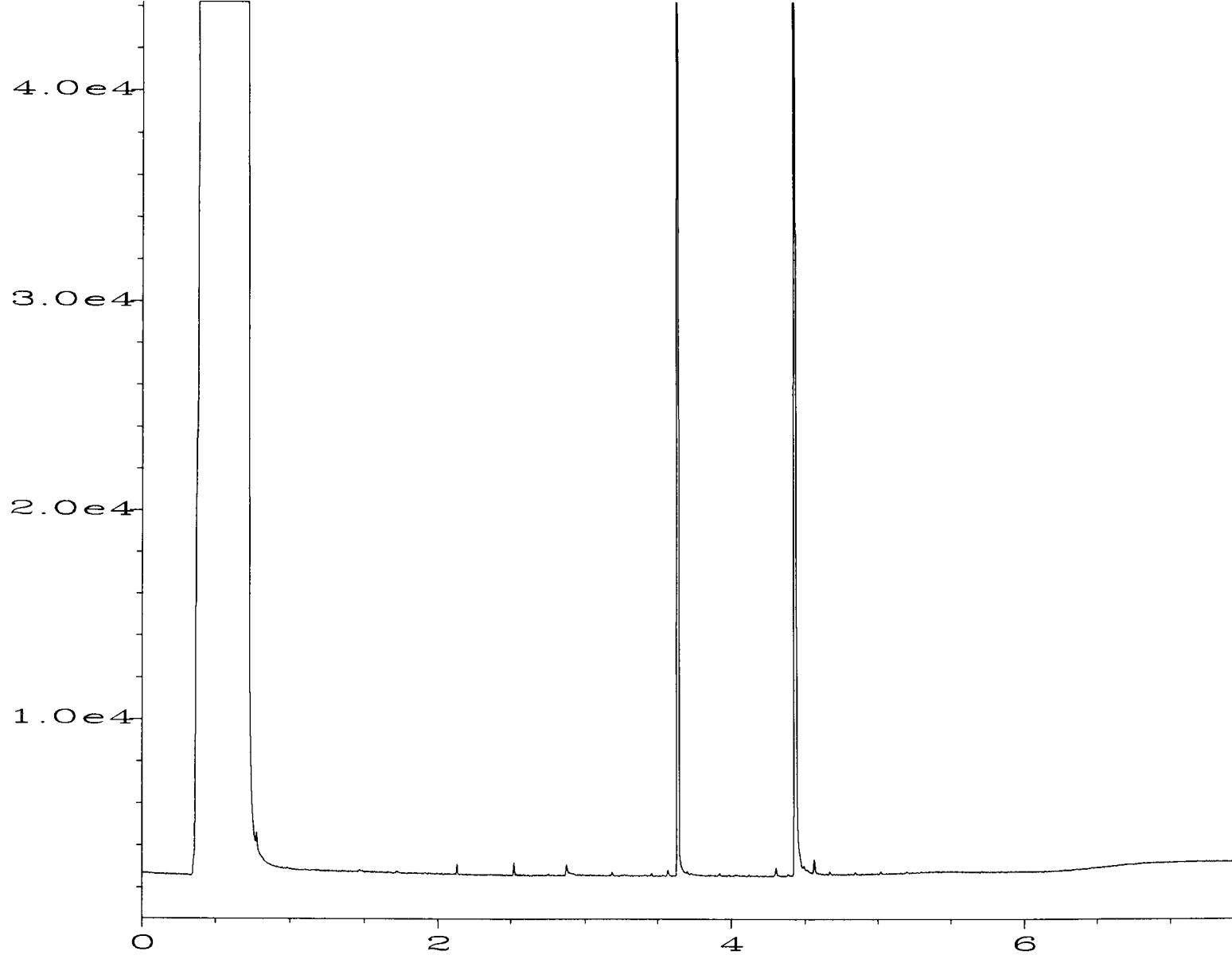
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Operator : mwdl Page Number : 1
Instrument : GC#4 Vial Number : 28
Sample Name : 508368-09 Injection Number : 1
Run Time Bar Code : 24 Aug 15 02:10 PM Sequence Line : 3
Acquired on : 25 Aug 15 09:17 AM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:17 AM Analysis Method : END.MTH



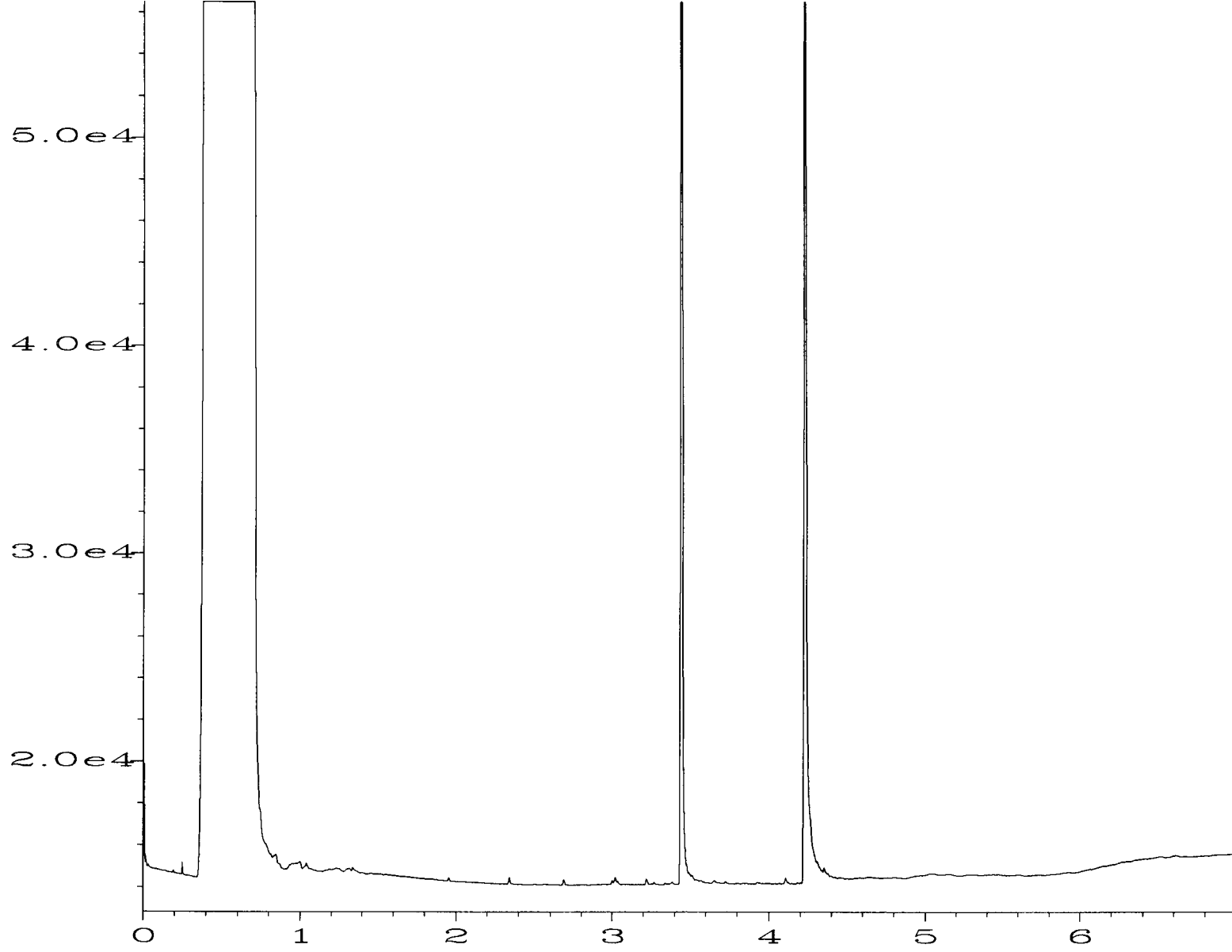
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Operator : mwdl Page Number : 1
Instrument : GC#4 Vial Number : 29
Sample Name : 508368-10 Injection Number : 1
Run Time Bar Code : 24 Aug 15 02:22 PM Sequence Line : 3
Acquired on : 25 Aug 15 09:17 AM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:17 AM Analysis Method : END.MTH



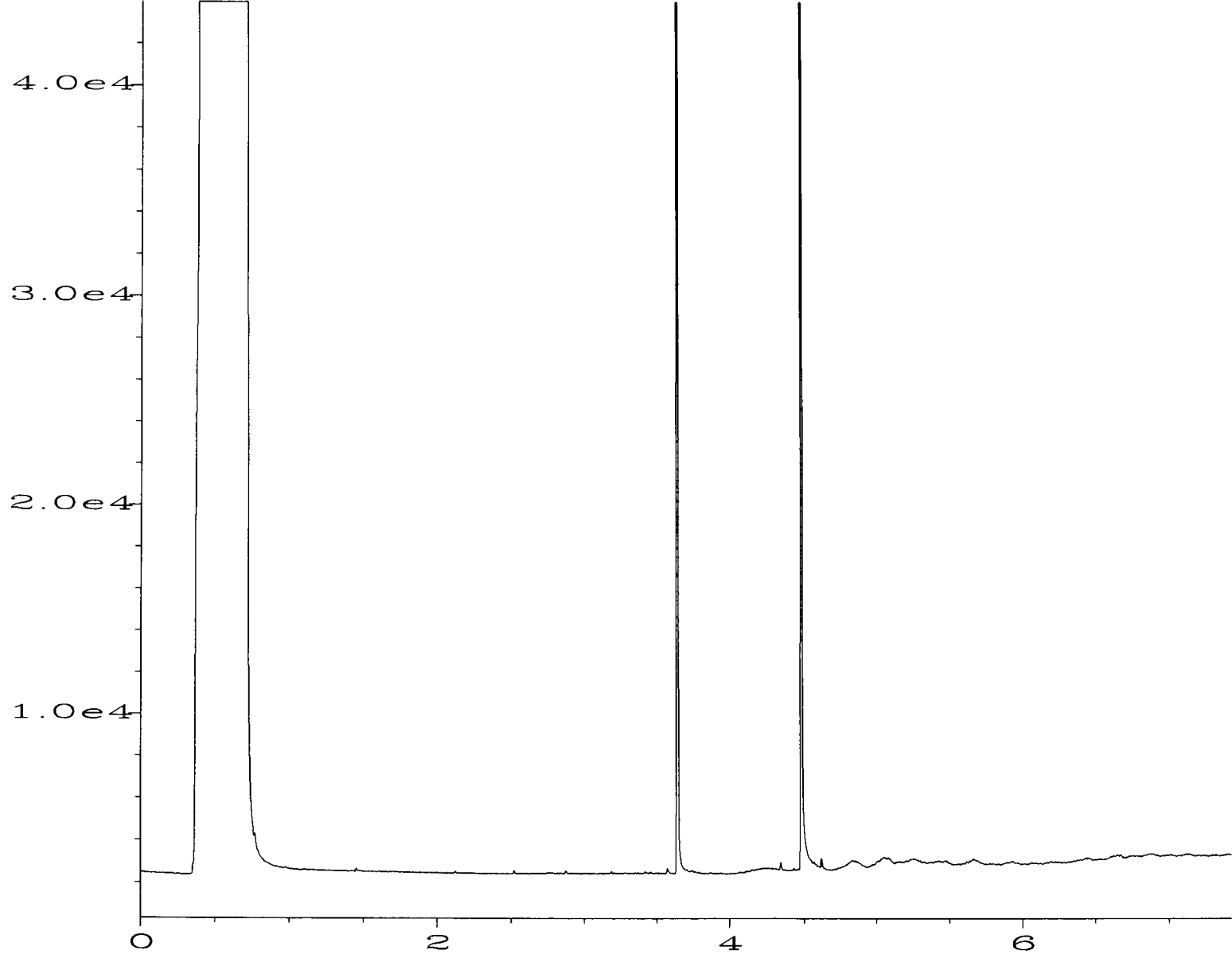
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Operator : mwdl Page Number : 1
Instrument : GC#4 Vial Number : 30
Sample Name : 508368-11 Injection Number : 1
Run Time Bar Code : 24 Aug 15 02:33 PM Sequence Line : 3
Acquired on : 25 Aug 15 09:17 AM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:17 AM Analysis Method : END.MTH



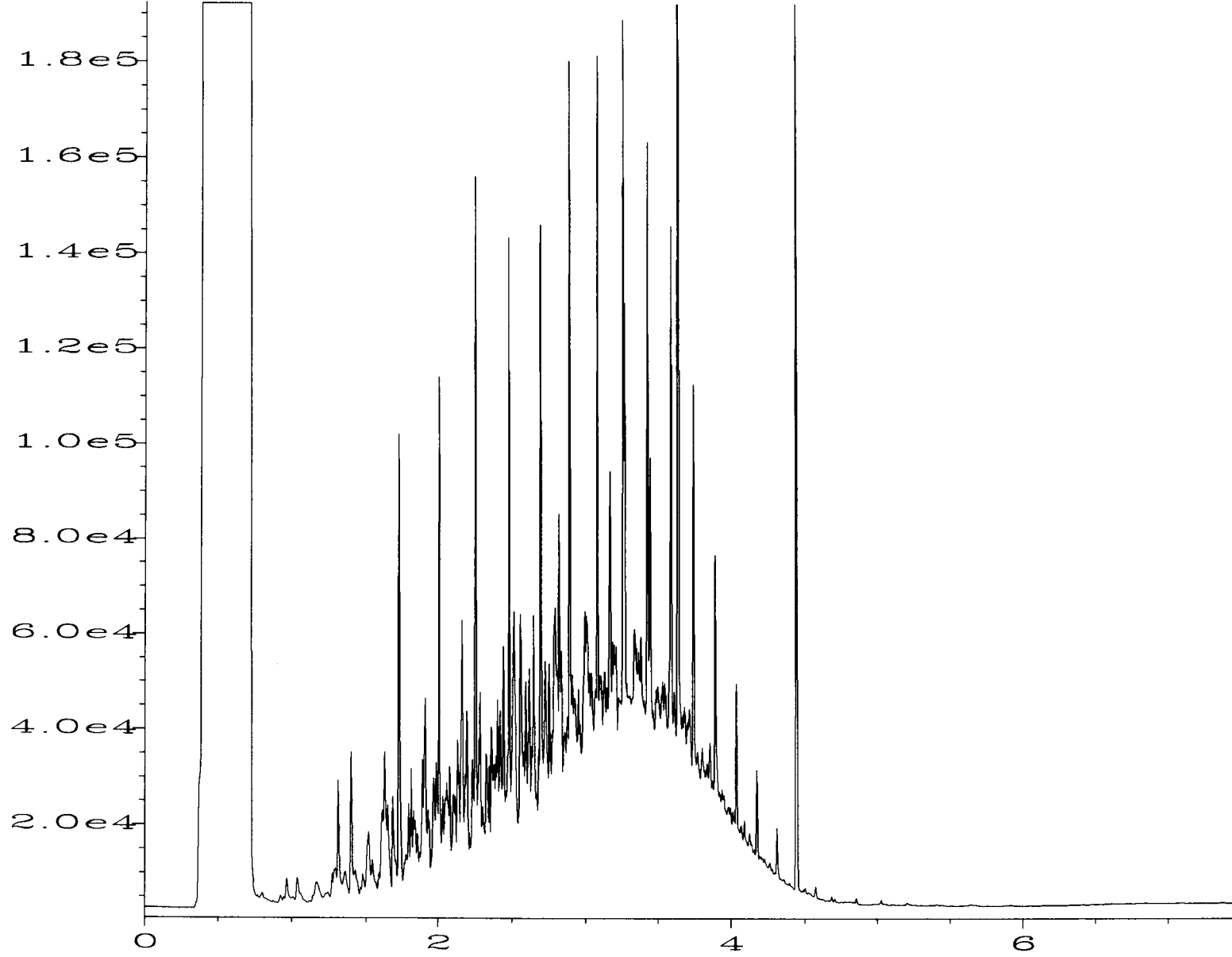
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Instrument : GC#4 Vial Number : 31
Sample Name : 508368-12 Injection Number : 1
Run Time Bar Code : 24 Aug 15 02:45 PM Sequence Line : 3
Acquired on : 25 Aug 15 09:17 AM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:17 AM Analysis Method : END.MTH



Data File Name : C:\HPCHEM\6\DATA\08-31-15\006F0301.D
Operator : mwdl Page Number : 1
Instrument : GC #6 Vial Number : 6
Sample Name : 05-1791 mb Injection Number : 1
Run Time Bar Code : 31 Aug 15 03:37 PM Sequence Line : 3
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Report Created on: 01 Sep 15 08:47 AM Analysis Method : END.MTH

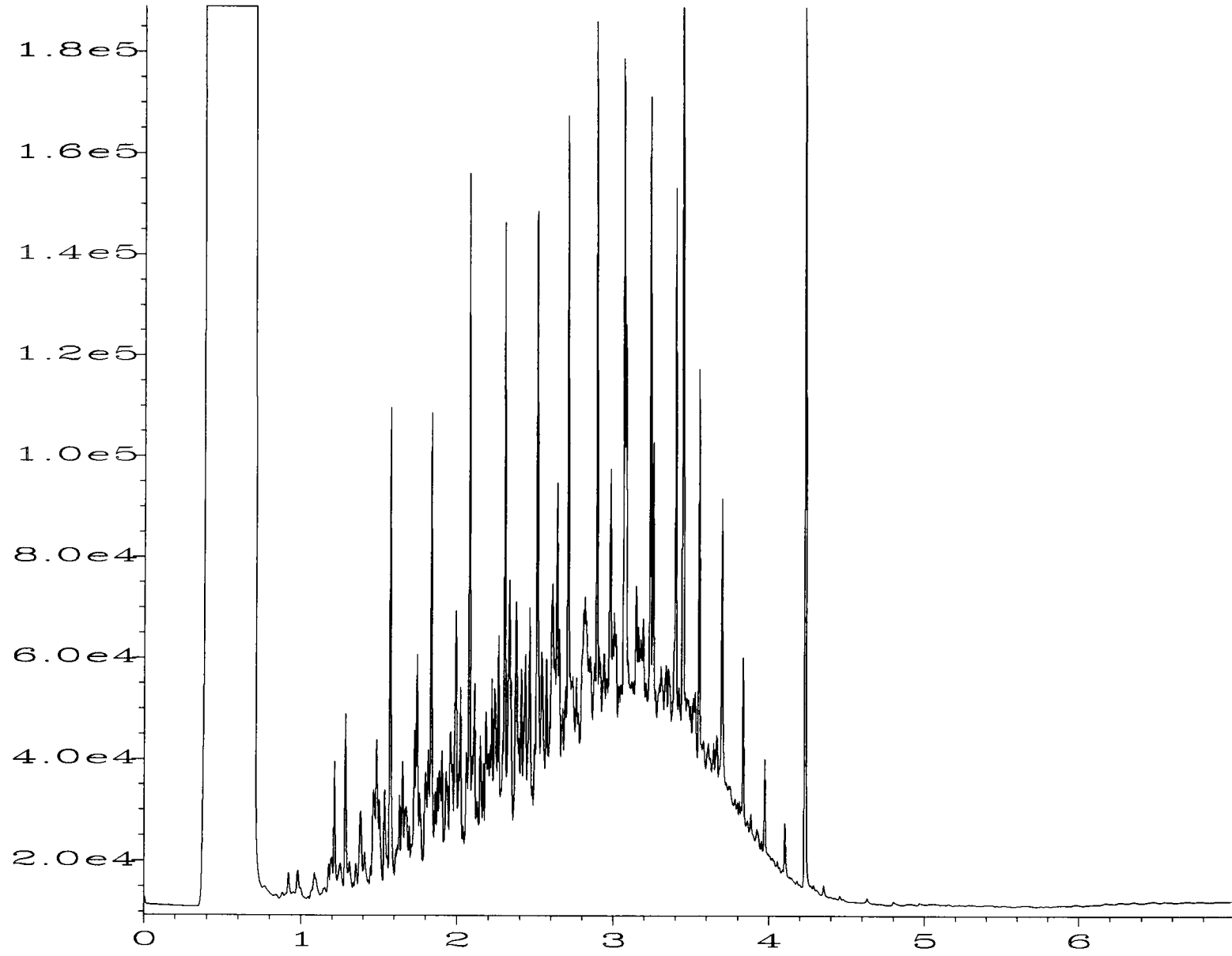


Data File Name : C:\HPCHEM\4\DATA\08-24-15\018F0301.D
Operator : mwdl Page Number : 1
Instrument : GC#4 Vial Number : 18
Sample Name : 05-1724 mb Injection Number : 1
Run Time Bar Code : 24 Aug 15 12:14 PM Sequence Line : 3
Acquired on : 25 Aug 15 09:18 AM Instrument Method: DX.MTH
Report Created on: 25 Aug 15 09:18 AM Analysis Method : END.MTH



Data File Name : C:\HPCHEM\4\DATA\08-24-15\003F0201.D
Operator : mwdl
Instrument : GC#4
Sample Name : 500 Dx 44-94C
Run Time Bar Code : 24 Aug 15 08:56 AM
Acquired on : 25 Aug 15 09:18 AM
Report Created on: 25 Aug 15 09:18 AM

Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 2
Instrument Method: DX.MTH
Analysis Method : END.MTH



Data File Name : C:\HPCHEM\6\DATA\08-31-15\003F0201.D
Operator : mwdl Page Number : 1
Instrument : GC #6 Vial Number : 3
Sample Name : 500 Dx 44-94C Injection Number : 1
Run Time Bar Code : Sequence Line : 2
Acquired on : 31 Aug 15 09:20 AM Instrument Method: DX.MTH
Report Created on: 01 Sep 15 08:48 AM Analysis Method : END.MTH



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: 508368

Lab ID: 1508281

September 01, 2015

Attention Michael Erdahl:

Fremont Analytical, Inc. received 2 sample(s) on 8/25/2015 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH

Sample Moisture (Percent Moisture)

Volatile Petroleum Hydrocarbons by NWVPH

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,

A handwritten signature in black ink, appearing to read "Mike Ridgeway".

Mike Ridgeway
President



Date: 09/02/2015

CLIENT: Friedman & Bruya
Project: 508368
Lab Order: 1508281

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1508281-001	SB3-4-4.5	08/20/2015 9:40 AM	08/25/2015 4:15 PM
1508281-002	SB8-4.5-5	08/20/2015 12:33 PM	08/25/2015 4:15 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Friedman & Bruya**Project:** 508368

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD 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.

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 LOQ
- 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

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- 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
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

WO#: 1508281
Date Reported: 9/1/2015

Client: Friedman & Bruya

Collection Date: 8/20/2015 9:40:00 AM

Project: 508368

Lab ID: 1508281-001

Matrix: Soil

Client Sample ID: SB3-4-4.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 11689 Analyst: EC

Aliphatic Hydrocarbon (C8-C10)	7.33	5.66		mg/Kg-dry	1	8/26/2015 11:06:00 PM
Aliphatic Hydrocarbon (C10-C12)	22.0	5.66		mg/Kg-dry	1	8/26/2015 11:06:00 PM
Aliphatic Hydrocarbon (C12-C16)	107	5.66		mg/Kg-dry	1	8/26/2015 11:06:00 PM
Aliphatic Hydrocarbon (C16-C21)	85.9	5.66		mg/Kg-dry	1	8/26/2015 11:06:00 PM
Aliphatic Hydrocarbon (C21-C34)	18.4	5.66		mg/Kg-dry	1	8/26/2015 11:06:00 PM
Aromatic Hydrocarbon (C8-C10)	ND	5.66		mg/Kg-dry	1	8/27/2015 8:44:00 AM
Aromatic Hydrocarbon (C10-C12)	ND	5.66		mg/Kg-dry	1	8/27/2015 8:44:00 AM
Aromatic Hydrocarbon (C12-C16)	18.3	5.66		mg/Kg-dry	1	8/27/2015 8:44:00 AM
Aromatic Hydrocarbon (C16-C21)	52.4	5.66		mg/Kg-dry	1	8/27/2015 8:44:00 AM
Aromatic Hydrocarbon (C21-C34)	12.3	5.66		mg/Kg-dry	1	8/27/2015 8:44:00 AM
Surr: 1-Chlorooctadecane	89.0	65-140		%REC	1	8/26/2015 11:06:00 PM
Surr: o-Terphenyl	85.4	65-140		%REC	1	8/27/2015 8:44:00 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 11702 Analyst: BC

Aliphatic Hydrocarbon (C5-C6)	ND	1.41		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Aliphatic Hydrocarbon (C6-C8)	2.30	1.41		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Aliphatic Hydrocarbon (C8-C10)	ND	1.41		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Aliphatic Hydrocarbon (C10-C12)	12.3	1.41		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Aromatic Hydrocarbon (C8-C10)	7.19	1.41		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Aromatic Hydrocarbon (C10-C12)	28.6	1.41		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Aromatic Hydrocarbon (C12-C13)	152	14.1	D	mg/Kg-dry	10	9/1/2015 3:15:00 AM
Benzene	ND	0.354		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Toluene	ND	0.354		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Ethylbenzene	ND	0.354		mg/Kg-dry	1	8/26/2015 10:09:00 PM
m,p-Xylene	ND	0.354		mg/Kg-dry	1	8/26/2015 10:09:00 PM
o-Xylene	ND	0.354		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Naphthalene	0.457	0.354		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.354		mg/Kg-dry	1	8/26/2015 10:09:00 PM
Surr: 1,4-Difluorobenzene	74.8	65-140		%REC	1	8/26/2015 10:09:00 PM
Surr: Bromofluorobenzene	89.4	65-140		%REC	1	8/26/2015 10:09:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R24599 Analyst: CG

Percent Moisture	13.2	0.500		wt%	1	8/31/2015 11:03:46 AM
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Analytical Report

WO#: 1508281

Date Reported: 9/1/2015

Client: Friedman & Bruya

Collection Date: 8/20/2015 12:33:00 PM

Project: 508368

Lab ID: 1508281-002

Matrix: Soil

Client Sample ID: SB8-4.5-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 11689

Analyst: EC

Aliphatic Hydrocarbon (C8-C10)	48.5	5.58		mg/Kg-dry	1	8/27/2015 12:36:00 AM
Aliphatic Hydrocarbon (C10-C12)	153	5.58		mg/Kg-dry	1	8/27/2015 12:36:00 AM
Aliphatic Hydrocarbon (C12-C16)	534	55.8	D	mg/Kg-dry	10	8/27/2015 1:21:00 AM
Aliphatic Hydrocarbon (C16-C21)	547	55.8	D	mg/Kg-dry	10	8/27/2015 1:21:00 AM
Aliphatic Hydrocarbon (C21-C34)	144	5.58		mg/Kg-dry	1	8/27/2015 12:36:00 AM
Aromatic Hydrocarbon (C8-C10)	ND	5.58		mg/Kg-dry	1	8/27/2015 10:14:00 AM
Aromatic Hydrocarbon (C10-C12)	37.2	5.58		mg/Kg-dry	1	8/27/2015 10:14:00 AM
Aromatic Hydrocarbon (C12-C16)	311	55.8	D	mg/Kg-dry	10	8/27/2015 10:59:00 AM
Aromatic Hydrocarbon (C16-C21)	470	55.8	D	mg/Kg-dry	10	8/27/2015 10:59:00 AM
Aromatic Hydrocarbon (C21-C34)	174	5.58		mg/Kg-dry	1	8/27/2015 10:14:00 AM
Surr: 1-Chlorooctadecane	89.1	65-140		%REC	1	8/27/2015 12:36:00 AM
Surr: o-Terphenyl	88.0	65-140		%REC	1	8/27/2015 10:14:00 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 11702

Analyst: BC

Aliphatic Hydrocarbon (C5-C6)	ND	1.47		mg/Kg-dry	1	8/26/2015 11:17:00 PM
Aliphatic Hydrocarbon (C6-C8)	3.84	1.47		mg/Kg-dry	1	8/26/2015 11:17:00 PM
Aliphatic Hydrocarbon (C8-C10)	9.62	1.47		mg/Kg-dry	1	8/26/2015 11:17:00 PM
Aliphatic Hydrocarbon (C10-C12)	62.9	14.7	D	mg/Kg-dry	10	9/1/2015 3:50:00 AM
Aromatic Hydrocarbon (C8-C10)	22.1	1.47		mg/Kg-dry	1	8/26/2015 11:17:00 PM
Aromatic Hydrocarbon (C10-C12)	83.0	14.7	D	mg/Kg-dry	10	9/1/2015 3:50:00 AM
Aromatic Hydrocarbon (C12-C13)	189	14.7	D	mg/Kg-dry	10	9/1/2015 3:50:00 AM
Benzene	ND	0.368		mg/Kg-dry	1	8/26/2015 11:17:00 PM
Toluene	ND	0.368		mg/Kg-dry	1	8/26/2015 11:17:00 PM
Ethylbenzene	ND	0.368		mg/Kg-dry	1	8/26/2015 11:17:00 PM
m,p-Xylene	ND	0.368		mg/Kg-dry	1	8/26/2015 11:17:00 PM
o-Xylene	ND	0.368		mg/Kg-dry	1	8/26/2015 11:17:00 PM
Naphthalene	2.15	0.368		mg/Kg-dry	1	8/26/2015 11:17:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.368		mg/Kg-dry	1	8/26/2015 11:17:00 PM
Surr: 1,4-Difluorobenzene	87.0	65-140		%REC	1	8/26/2015 11:17:00 PM
Surr: Bromofluorobenzene	106	65-140		%REC	1	8/26/2015 11:17:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R24599

Analyst: CG

Percent Moisture	14.3	0.500		wt%	1	8/31/2015 11:03:46 AM
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Work Order: 1508281
 CLIENT: Friedman & Bruya
 Project: 508368

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-11689	SampType: MBLK	Units: mg/Kg	Prep Date: 8/25/2015	RunNo: 24531							
Client ID: MBLKS	Batch ID: 11689		Analysis Date: 8/26/2015	SeqNo: 462515							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	5.00									
Aliphatic Hydrocarbon (C10-C12)	ND	5.00									
Aliphatic Hydrocarbon (C12-C16)	ND	5.00									
Aliphatic Hydrocarbon (C16-C21)	ND	5.00									
Aliphatic Hydrocarbon (C21-C34)	ND	5.00									
Surr: 1-Chlorooctadecane	2.97		4.000		74.2	65	140				

Sample ID: LCS-11689	SampType: LCS	Units: mg/Kg	Prep Date: 8/25/2015	RunNo: 24531							
Client ID: LCSS	Batch ID: 11689		Analysis Date: 8/26/2015	SeqNo: 462514							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	19.8	5.00	20.00	0	98.8	70	130				
Aliphatic Hydrocarbon (C10-C12)	11.5	5.00	10.00	0	115	70	130				
Aliphatic Hydrocarbon (C12-C16)	10.0	5.00	10.00	0	100	70	130				
Aliphatic Hydrocarbon (C16-C21)	11.4	5.00	10.00	0	114	70	130				
Aliphatic Hydrocarbon (C21-C34)	10.7	5.00	10.00	0	107	70	130				
Surr: 1-Chlorooctadecane	3.39		4.000		84.7	65	140				

Sample ID: LCSD-11689	SampType: LCSD	Units: mg/Kg	Prep Date: 8/25/2015	RunNo: 24531							
Client ID: LCSS02	Batch ID: 11689		Analysis Date: 8/26/2015	SeqNo: 462513							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	21.5	5.00	20.00	0	107	70	130	19.76	8.32	20	
Aliphatic Hydrocarbon (C10-C12)	10.7	5.00	10.00	0	107	70	130	11.50	7.52	20	
Aliphatic Hydrocarbon (C12-C16)	10.1	5.00	10.00	0	101	70	130	10.01	1.34	20	
Aliphatic Hydrocarbon (C16-C21)	10.4	5.00	10.00	0	104	70	130	11.43	9.53	20	
Aliphatic Hydrocarbon (C21-C34)	10.8	5.00	10.00	0	108	70	130	10.66	0.853	20	
Surr: 1-Chlorooctadecane	3.36		4.000		84.0	65	140		0		

Work Order: 1508281
 CLIENT: Friedman & Bruya
 Project: 508368

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-11689	SampType: MBLK	Units: mg/Kg	Prep Date: 8/25/2015	RunNo: 24531							
Client ID: MBLKS	Batch ID: 11689		Analysis Date: 8/27/2015	SeqNo: 462532							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C8-C10)	ND	5.00									
Aromatic Hydrocarbon (C10-C12)	ND	5.00									
Aromatic Hydrocarbon (C12-C16)	ND	5.00									
Aromatic Hydrocarbon (C16-C21)	ND	5.00									
Aromatic Hydrocarbon (C21-C34)	ND	5.00									
Surr: o-Terphenyl	3.39		4.000		84.9	65	140				

Sample ID: LCS-11689	SampType: LCS	Units: mg/Kg	Prep Date: 8/25/2015	RunNo: 24531							
Client ID: LCSS	Batch ID: 11689		Analysis Date: 8/27/2015	SeqNo: 462531							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C8-C10)	9.73	5.00	10.00	0	97.3	70	130				
Aromatic Hydrocarbon (C10-C12)	9.97	5.00	10.00	0	99.7	70	130				
Aromatic Hydrocarbon (C12-C16)	11.3	5.00	10.00	0	113	70	130				
Aromatic Hydrocarbon (C16-C21)	10.3	5.00	10.00	0	103	70	130				
Aromatic Hydrocarbon (C21-C34)	9.89	5.00	10.00	0	98.9	70	130				
Surr: o-Terphenyl	3.03		4.000		75.6	65	140				

Sample ID: LCSD-11689	SampType: LCSD	Units: mg/Kg	Prep Date: 8/25/2015	RunNo: 24531							
Client ID: LCSS02	Batch ID: 11689		Analysis Date: 8/27/2015	SeqNo: 462530							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C8-C10)	9.93	5.00	10.00	0	99.3	70	130	9.727	2.09	20	
Aromatic Hydrocarbon (C10-C12)	10.0	5.00	10.00	0	100	70	130	9.968	0.341	20	
Aromatic Hydrocarbon (C12-C16)	11.2	5.00	10.00	0	112	70	130	11.27	0.260	20	
Aromatic Hydrocarbon (C16-C21)	10.8	5.00	10.00	0	108	70	130	10.34	4.48	20	
Aromatic Hydrocarbon (C21-C34)	10.7	5.00	10.00	0	107	70	130	9.895	7.66	20	
Surr: o-Terphenyl	3.42		4.000		85.6	65	140		0		

Work Order: 1508281
 CLIENT: Friedman & Bruya
 Project: 508368

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCS-11702	SampType: LCS	Units: mg/Kg			Prep Date: 8/26/2015	RunNo: 24571					
Client ID: LCSS	Batch ID: 11702				Analysis Date: 8/26/2015	SeqNo: 463133					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	25.1	2.00	30.00	0	83.8	70	130				
Aliphatic Hydrocarbon (C6-C8)	11.2	2.00	10.00	0	112	70	130				
Aliphatic Hydrocarbon (C8-C10)	8.33	2.00	10.00	0	83.3	70	130				
Aliphatic Hydrocarbon (C10-C12)	9.66	2.00	10.00	0	96.6	70	130				
Aromatic Hydrocarbon (C8-C10)	39.5	2.00	40.00	0	98.7	70	130				
Aromatic Hydrocarbon (C10-C12)	10.5	2.00	10.00	0	105	70	130				
Aromatic Hydrocarbon (C12-C13)	10.0	2.00	10.00	0	100	70	130				
Benzene	7.81	0.500	10.00	0	78.1	70	130				
Toluene	7.86	0.500	10.00	0	78.6	70	130				
Ethylbenzene	8.28	0.500	10.00	0	82.8	70	130				
m,p-Xylene	17.1	0.500	20.00	0	85.3	70	130				
o-Xylene	9.44	0.500	10.00	0	94.4	70	130				
Naphthalene	8.68	0.500	10.00	0	86.8	70	130				
Methyl tert-butyl ether (MTBE)	7.86	0.500	10.00	0	78.6	70	130				
Surr: 1,4-Difluorobenzene	2.03		2.500		81.2	65	140				
Surr: Bromofluorobenzene	2.49		2.500		99.5	65	140				

Sample ID: MB-11702	SampType: MBLK	Units: mg/Kg			Prep Date: 8/26/2015	RunNo: 24571					
Client ID: MBLKS	Batch ID: 11702				Analysis Date: 8/26/2015	SeqNo: 463134					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	ND	2.00		0	0						
Aliphatic Hydrocarbon (C6-C8)	ND	2.00		0	0						
Aliphatic Hydrocarbon (C8-C10)	ND	2.00		0	0						
Aliphatic Hydrocarbon (C10-C12)	ND	2.00		0	0						
Aromatic Hydrocarbon (C8-C10)	ND	2.00		0	0						
Aromatic Hydrocarbon (C10-C12)	ND	2.00		0	0						
Aromatic Hydrocarbon (C12-C13)	ND	2.00		0	0						
Benzene	ND	0.500		0	0						
Toluene	ND	0.500		0	0						
Ethylbenzene	ND	0.500		0	0						

Work Order: 1508281
 CLIENT: Friedman & Bruya
 Project: 508368

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: MB-11702	SampType: MBLK	Units: mg/Kg		Prep Date: 8/26/2015	RunNo: 24571						
Client ID: MBLKS	Batch ID: 11702			Analysis Date: 8/26/2015	SeqNo: 463134						
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	ND	0.500		0	0						
o-Xylene	ND	0.500		0	0						
Naphthalene	ND	0.500		0	0						
Methyl tert-butyl ether (MTBE)	ND	0.500		0	0						
Surr: 1,4-Difluorobenzene	2.62		2.500		105	65	140				
Surr: Bromofluorobenzene	2.12		2.500		84.6	65	140				

Sample ID: 1508281-001BDUP	SampType: DUP	Units: mg/Kg-dry		Prep Date: 8/26/2015	RunNo: 24571						
Client ID: SB3-4-4.5	Batch ID: 11702			Analysis Date: 8/26/2015	SeqNo: 463129						
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	ND	1.41		0	0			0		25	
Aliphatic Hydrocarbon (C6-C8)	1.92	1.41		0	0			2.297	17.7	25	
Aliphatic Hydrocarbon (C8-C10)	2.12	1.41		0	0			0.7858	91.7	25	
Aliphatic Hydrocarbon (C10-C12)	14.0	1.41		0	0			12.33	12.4	25	
Aromatic Hydrocarbon (C8-C10)	6.39	1.41		0	0			7.186	11.7	25	
Aromatic Hydrocarbon (C10-C12)	29.4	1.41		0	0			28.63	2.65	25	
Aromatic Hydrocarbon (C12-C13)	80.1	1.41		0	0			72.88	9.43	25	E
Benzene	ND	0.354		0	0			0		25	
Toluene	ND	0.354		0	0			0		25	
Ethylbenzene	ND	0.354		0	0			0		25	
m,p-Xylene	ND	0.354		0	0			0		25	
o-Xylene	ND	0.354		0	0			0		25	
Naphthalene	0.897	0.354		0	0			0.4568	65.1	25	R
Methyl tert-butyl ether (MTBE)	ND	0.354		0	0			0		25	
Surr: 1,4-Difluorobenzene	1.22		1.769		68.9	65	140		0		
Surr: Bromofluorobenzene	1.51		1.769		85.5	65	140		0	0	

NOTES:

R - High RPD due to low analyte concentration. In this range, high RPD's may be expected.

Work Order: 1508281
CLIENT: Friedman & Bruya
Project: 508368

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: 1508281-002BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 8/26/2015	RunNo: 24571
Client ID: SB8-4.5-5	Batch ID: 11702		Analysis Date: 8/26/2015	SeqNo: 463130

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	30.7	1.47	22.06	0	139	70	130				S
Aliphatic Hydrocarbon (C6-C8)	18.1	1.47	7.352	3.840	194	70	130				S
Aliphatic Hydrocarbon (C8-C10)	9.06	1.47	7.352	9.620	-7.60	70	130				S
Aliphatic Hydrocarbon (C10-C12)	44.3	1.47	7.352	42.26	27.8	70	130				SE
Aromatic Hydrocarbon (C8-C10)	56.5	1.47	29.41	22.09	117	70	130				
Aromatic Hydrocarbon (C10-C12)	72.9	1.47	7.352	70.02	38.7	70	130				SE
Aromatic Hydrocarbon (C12-C13)	94.6	1.47	7.352	108.7	-192	70	130				SE
Benzene	6.61	0.368	7.352	0	90.0	70	130				
Toluene	6.92	0.368	7.352	0.09312	92.9	70	130				
Ethylbenzene	7.59	0.368	7.352	0	103	70	130				
m,p-Xylene	14.6	0.368	14.70	0	99.6	70	130				
o-Xylene	7.96	0.368	7.352	0.2735	104	70	130				
Naphthalene	10.2	0.368	7.352	2.153	109	70	130				
Methyl tert-butyl ether (MTBE)	5.69	0.368	7.352	0	77.3	70	130				
Surr: 1,4-Difluorobenzene	1.92		1.838		104	65	140				
Surr: Bromofluorobenzene	1.98		1.838		108	65	140				

NOTES:

S - Outlying QC recoveries were associated with this sample. The method is in control as indicated by the LCS.



Date: 9/1/2015

Work Order: 1508281
 CLIENT: Friedman & Bruya
 Project: 508368

QC SUMMARY REPORT
Sample Moisture (Percent Moisture)

Sample ID: 1508281-001ADUP	SampType: DUP	Units: wt%	Prep Date: 8/31/2015	RunNo: 24599							
Client ID: SB3-4-4.5	Batch ID: R24599	Analysis Date: 8/31/2015	SeqNo: 463603								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	13.4	0.500						13.18	1.74	20	

Sample ID: 1508298-009ADUP	SampType: DUP	Units: wt%	Prep Date: 8/31/2015	RunNo: 24599							
Client ID: BATCH	Batch ID: R24599	Analysis Date: 8/31/2015	SeqNo: 463614								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	24.2	0.500						23.59	2.66	20	

Sample ID: 1508312-001ADUP	SampType: DUP	Units: wt%	Prep Date: 8/31/2015	RunNo: 24599							
Client ID: BATCH	Batch ID: R24599	Analysis Date: 8/31/2015	SeqNo: 463627								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	3.12	0.500						3.039	2.62	20	

Client Name: **FB**
 Logged by: **Erica Silva**

Work Order Number: **1508281**
 Date Received: **8/25/2015 4:15:00 PM**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Coolers are present? Yes No NA
 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 Required
 6. Was an attempt made to cool the samples? Yes No NA
 7. Were all items received at a temperature of >0°C to 10.0°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

Item #	Temp °C
Cooler	5.8
Sample	4.9

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

1508281

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 Fax # (206) 283-5044

SUBCONTRACTOR <i>[Signature]</i>	
PROJECT NAME/NO. 508368	PO # D-632
REMARKS Please Email Results	

Page # _____ of _____

TURNAROUND TIME

Standard (2 Weeks)
 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	Dioxins and Furans by 8290	EPH	VPH	Nitrate	Sulfate	Alkalinity							Notes
583-4-4-S		8/20	9:40	S	2		✓	✓										
588-4.5-S		8/20	12:33	S	2		✓	✓										

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: <i>[Signature]</i>	Michael Erdahl	Friedman & Bruya	8/25	1540
Received by: <i>[Signature]</i>	Samantha Berman	FBI	08/25/15	4:15PM
Relinquished by:				
Received by:				

508368

SAMPLE CHAIN OF CUSTODY

ME 08-20-15

C13/01/VS3
Page # 1 of 2

Send Report To Gabriel Cisneros

Company Floyd Snider

Address 601 Union Street, Suite 600

City, State, ZIP Seattle, WA 98101

Phone # 206-292-2078 Fax # _____

SAMPLERS (signature) [Signature]

PROJECT NAME/NO. Pemco PO# _____

REMARKS 8260 short list to include, BTEX, MTBE, hexane, PEOC, 8270 to include Naph, 1-methyl Naph, 2-methyl Naph & cPAHS. Run archive samples if SB4-4.5-5 has detections above cleanup levels

TURNAROUND TIME
 Standard (2 Weeks)
 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	Sample Type	# of containers	ANALYSES REQUESTED										Archive	Notes	
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	Short List VOCs by 8260	SVOCs by 8270	HPS	Co20	Total Lead	VPH/EPH	FDB by 8011			Naph, cPAHS, 1-methyl Naph, 2-methyl Naph by 8230
SB1-4-4.5 SB1-4.5-5	01A-E	8/20	0850	Soil	5	/	/	/										
SB2-4-4.5	02T		0910		5	/	/	/										
SB3-4-4.5	03A-E		0940		8	/	/	/	/	/	/	/	/	/	/	/		
SB3-5.5-6.0	04A-D		0950		4	/	/	/										
SB4-4.5-5.0	05A-E		1005		5	/	/	/										
SB4-6-6.5	06A-D		1015		4	⊘	⊘	⊘										Archive Run only if SB4-4.5-5 has TA data
SB5-4-4.5	07A-E		1045		5	⊘	⊘	⊘										
SB6-4-4.5	08T		1115		5	/	/	/										
SB7-4-4.5	09T		1140		5	/	/	/										
SB8-4.5-5	10A-E	↓	1238	↓	8	/	/	/	/	/	/	/	/	/	/	/		Sample received at 3 °C

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: <u>[Signature]</u>	Gabriel Cisneros	Floyd Snider	8/20/15	1430
Received by: <u>[Signature]</u>	DOVO	F&B	"	14:30
Relinquished by: _____				
Received by: _____				

508368

SAMPLE CHAIN OF CUSTODY

ME 08-20-15

083/VI/V83
2 of 2

Send Report To Gabriel Cisneros

Company Floyd/Snider

Address 601 Union Street Suite 600

City, State, ZIP Seattle, WA 98101

Phone # 206-292-2078 Fax # _____

SAMPLERS (signature) [Signature]

PROJECT NAME/NO. Pemco

PO# _____

REMARKS 8260 Short List to include BTEX, MTBE, hexane, & EDC/EDP. 8270 to include Naphth, c PAHs, 1-methylnaphth & 2-methylnaphth.

Page # _____ of _____

TURNAROUND TIME

Standard (2 Weeks)

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	Sample Type	# of containers	ANALYSES REQUESTED										Notes		
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	Short List VOCs by 8260	SVOCs by 8270	HFS	Total Lead 6020	VPH/EPH	Naph, cPAHs, 2-methylnaph	1-methylnaph 8270			
SB8-6-6-5	11A-E	8/20/15	1250	Soil	4	/	/	/										
SB9-4-5-5	12T	8/20/15	1315	Soil	4	/	/	/										
TRIP BLANK	13A-B																	Added in Lab
[Signature]																		
8/20/15																		
Samples received at <u>3</u> °C																		

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: <u>[Signature]</u>	Gabriel Cisneros	Floyd/Snider	8/20/15	1430
Received by: <u>[Signature]</u>	D D W	FCBZ	"	14:30
Relinquished by: _____				
Received by: _____				

DRAFT

Date of Report: 12/21/15
Date Received: 12/17/15
Project: Pemco, F&BI 512302
Date Extracted: 12/18/15
Date Analyzed: 12/18/15

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)**

**THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE
WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION
WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT**

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
SB-10-4.5-5.0 512302-01	ND	ND	ND	93
SB-11-4.5-5.0 512302-02	ND	ND	ND	92
SB-12-4.5-5.0 512302-03	ND	ND	ND	90
SB-13-4.5-5.0 512302-04	ND	ND	ND	89
Method Blank 05-2577 MB	ND	ND	ND	102

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

512302

SAMPLE CHAIN OF CUSTODY

ME 12-17-15

DOI / VS1 / VI

Send Report To Gabriel Cisneros
 Company Floyd/Snyder
 Address 601 Union Street Ste 600
 City, State, ZIP Seattle, WA 9801
 Phone # 206-292-2078 Fax # _____

SAMPLERS (signature) _____
 PROJECT NAME/NO. Pemco PO# _____
 REMARKS Run HCl first. If there are any detections then run appropriate analysis & Method

Page # _____ of _____
 TURNAROUND TIME
 Standard (2 Weeks)
 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	Sample Type	# of containers	ANALYSES REQUESTED							Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	HCl	
SB-10-4.5-5.0	01A-B	12/17	0840	Soil	54	/	/	/					
SB-11-4.5-5.0	02T	↓	0915	Soil	4	/	/	/					
SB-12-4.5-5.0	03		1605	Soil	4	/	/	/					
SB-13 4.5-5.0	04		1030	Soil	4	/	/	/					
Trip blank	05A-B			Water									added in lab
Signature													
Samples received at <u>3</u> °C													

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: <u>[Signature]</u>	Gabriel Cisneros	Floyd/Snyder	12/17/15	12:10
Received by: <u>[Signature]</u>	DD VO	FoBe	12-17-15	12:10
Relinquished by:				
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

December 22, 2015

Gabriel Cisneros, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Mr. Cisneros:

Included are the results from the testing of material submitted on December 17, 2015 from the Pemco, F&BI 512302 project. There are 3 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
FDS1222R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 17, 2015 by Friedman & Bruya, Inc. from the Floyd-Snider Pemco, F&BI 512302 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Floyd-Snider</u>
512302 -01	SB-10-4.5-5.0
512302 -02	SB-11-4.5-5.0
512302 -03	SB-12-4.5-5.0
512302 -04	SB-13-4.5-5.0

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/15
Date Received: 12/17/15
Project: Pemco, F&BI 512302
Date Extracted: 12/18/15
Date Analyzed: 12/18/15

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)**

**THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE
WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION
WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT**

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
SB-10-4.5-5.0 512302-01	ND	ND	ND	93
SB-11-4.5-5.0 512302-02	ND	ND	ND	92
SB-12-4.5-5.0 512302-03	ND	ND	ND	90
SB-13-4.5-5.0 512302-04	ND	ND	ND	89
Method Blank 05-2577 MB	ND	ND	ND	102

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

512302

SAMPLE CHAIN OF CUSTODY

ME 12-17-15

DOI / VS1/11

Send Report To Gabriel Cisneros

Company Floyd Snider

Address Coal Union Street Ste 600

City, State, ZIP Seattle, WA 98101

Phone # 206-292-2078 Fax # _____

SAMPLERS (signature)

PROJECT NAME/NO.

PO#

Remco

REMARKS Run acid first. If there are any detections then run appropriate analysis & Method

Page #

of

TURNAROUND TIME

Standard (2 Weeks)

RUSH

Rush charges authorized by _____

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED							Notes	
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	ICID		
SB-10-4.5-5.0	01A-E	12/12	0840	Soil	5	/	/	/	/	/	/	/		
SB-11-4.5-5.0	02T		0915	Soil	4	/	/	/	/	/	/	/		
SB-12-4.5-5.0	03		1605	Soil	4	/	/	/	/	/	/	/		
SB-13 4.5-5.0	04		1630	Soil	4	/	/	/	/	/	/	/		
Trip blank	05x8			Water										

Samples received at 3 °C

added in lab

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by: [Signature]

Gabriel Cisneros

Received by: [Signature]

DD VO

Floyd Snider

12/15

12:10

Relinquished by: [Signature]

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

April 14, 2016

Gabriel Cisneros, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Mr. Cisneros:

Included are the results from the testing of material submitted on April 14, 2016 from the Pemco, F&BI 604249 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
FDS0414R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 14, 2016 by Friedman & Bruya, Inc. from the Floyd-Snider Pemco, F&BI 604249 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID
604249 -01

Floyd-Snider
EX-5-5.0-5.5'

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/16
Date Received: 04/14/16
Project: Pemco, F&BI 604249
Date Extracted: 04/14/16
Date Analyzed: 04/14/16

**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)
EX-5-5.0-5.5' 604249-01	<0.02	<0.02	<0.02	<0.06	3.0	88
Method Blank 06-733 MB2	<0.02	<0.02	<0.02	<0.06	<2	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/16
Date Received: 04/14/16
Project: Pemco, F&BI 604249
Date Extracted: 04/14/16
Date Analyzed: 04/14/16

**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 ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 56-165)
EX-5-5.0-5.5' 604249-01	<50	<250	90
Method Blank 06-750 MB2	<50	<250	93

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/16

Date Received: 04/14/16

Project: Pemco, F&BI 604249

**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: 604212-04 (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)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	83	69-120
Toluene	mg/kg (ppm)	0.5	86	70-117
Ethylbenzene	mg/kg (ppm)	0.5	87	65-123
Xylenes	mg/kg (ppm)	1.5	86	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/14/16

Date Received: 04/14/16

Project: Pemco, F&BI 604249

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: 604231-04 (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	101	104	63-146	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	109	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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.
- 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, 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

April 18, 2016

Gabriel Cisneros, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Mr. Cisneros:

Included are the results from the testing of material submitted on April 13, 2016 from the Pemco, F&BI 604231 project. There are 18 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
FDS0418R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 13, 2016 by Friedman & Bruya, Inc. from the Floyd-Snider Pemco, F&BI 604231 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Floyd-Snider</u>
604231 -01	EX-1-4.5'-5.0'
604231 -02	EX-1-4.5'-5.0' Dup
604231 -03	EX-2-4.5'-5.0'
604231 -04	EX-3-7.5'-8.0'
604231 -05	EX-4-4.5'-5.0'

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/16
 Date Received: 04/13/16
 Project: Pemco, F&BI 604231
 Date Extracted: 04/13/16
 Date Analyzed: 04/13/16

**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)
EX-1-4.5'-5.0' 604231-01	<0.02	<0.02	<0.02	<0.06	11	83
EX-1-4.5'-5.0' Dup 604231-02	<0.02	<0.02	<0.02	<0.06	18	88
EX-2-4.5'-5.0' 604231-03	<0.02	<0.02	<0.02	<0.06	<2	85
EX-3-7.5'-8.0' 604231-04	<0.02	<0.02	<0.02	<0.06	<2	84
EX-4-4.5'-5.0' 604231-05	<0.02	<0.02	0.028	<0.06	23	86
Method Blank 06-735 MB	<0.02	<0.02	<0.02	<0.06	<2	89

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/16
Date Received: 04/13/16
Project: Pemco, F&BI 604231
Date Extracted: 04/13/16
Date Analyzed: 04/13/16

**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 ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 56-165)
EX-1-4.5'-5.0' 604231-01	88	<250	87
EX-1-4.5'-5.0' Dup 604231-02	120	<250	80
EX-2-4.5'-5.0' 604231-03	<50	<250	87
EX-3-7.5'-8.0' 604231-04	<50	<250	90
EX-4-4.5'-5.0' 604231-05	120	<250	89
Method Blank 06-750 MB	<50	<250	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	EX-4-4.5'-5.0'	Client:	Floyd-Snider
Date Received:	04/13/16	Project:	Pemco, F&BI 604231
Date Extracted:	04/14/16	Lab ID:	604231-05
Date Analyzed:	04/14/16	Data File:	604231-05.041
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

Lead	2.60
------	------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	Pemco, F&BI 604231
Date Extracted:	04/14/16	Lab ID:	I6-208 mb2
Date Analyzed:	04/14/16	Data File:	I6-208 mb2.040
Matrix:	Soil	Instrument:	ICPMS1
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

Client Sample ID:	EX-4-4.5'-5.0'	Client:	Floyd-Snider
Date Received:	04/13/16	Project:	Pemco, F&BI 604231
Date Extracted:	04/14/16	Lab ID:	604231-05
Date Analyzed:	04/14/16	Data File:	041413.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<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:	Floyd-Snider
Date Received:	Not Applicable	Project:	Pemco, F&BI 604231
Date Extracted:	04/13/16	Lab ID:	06-0719 mb2
Date Analyzed:	04/14/16	Data File:	041405.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	EX-4-4.5'-5.0'	Client:	Floyd-Snider
Date Received:	04/13/16	Project:	Pemco, F&BI 604231
Date Extracted:	04/15/16	Lab ID:	604231-05
Date Analyzed:	04/15/16	Data File:	041526.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Pemco, F&BI 604231
Date Extracted:	04/15/16	Lab ID:	06-0724 mb
Date Analyzed:	04/15/16	Data File:	041525.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

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)
1,2-Dibromoethane (EDB)	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	EX-4-4.5'-5.0'	Client:	Floyd-Snider
Date Received:	04/13/16	Project:	Pemco, F&BI 604231
Date Extracted:	04/14/16	Lab ID:	604231-05 1/5
Date Analyzed:	04/14/16	Data File:	041407.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	31	163
Benzo(a)anthracene-d12	98	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Pemco, F&BI 604231
Date Extracted:	04/14/16	Lab ID:	06-747 mb2 1/5
Date Analyzed:	04/14/16	Data File:	041403.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	85	31	163
Benzo(a)anthracene-d12	91	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/16

Date Received: 04/13/16

Project: Pemco, F&BI 604231

**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: 604231-04 (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)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	79	66-121
Toluene	mg/kg (ppm)	0.5	77	72-128
Ethylbenzene	mg/kg (ppm)	0.5	81	69-132
Xylenes	mg/kg (ppm)	1.5	80	69-131
Gasoline	mg/kg (ppm)	20	95	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/16

Date Received: 04/13/16

Project: Pemco, F&BI 604231

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: 604231-04 (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	101	104	63-146	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	109	79-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/16

Date Received: 04/13/16

Project: Pemco, F&BI 604231

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

Laboratory Code: 604144-01 (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	50.0	84 b	73 b	75-125	14 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	103	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/16

Date Received: 04/13/16

Project: Pemco, F&BI 604231

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

Laboratory Code: 604212-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Hexane	mg/kg (ppm)	2.5	<0.25	60	62	10-137	3
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	91	94	21-145	3
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	105	107	12-160	2
Naphthalene	mg/kg (ppm)	2.5	<0.05	83	86	14-157	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Hexane	mg/kg (ppm)	2.5	88	43-142
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	106	60-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	119	56-135
Naphthalene	mg/kg (ppm)	2.5	96	63-140

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/16

Date Received: 04/13/16

Project: Pemco, F&BI 604231

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

Laboratory Code: 604231-05 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
1,2-Dibromoethane (EDB)	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)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	106	108	70-130	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/16

Date Received: 04/13/16

Project: Pemco, F&BI 604231

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL
SAMPLES FOR PAHS BY EPA METHOD 8270D SIM**

Laboratory Code: 604212-09 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Benz(a)anthracene	mg/kg (ppm)	0.17	0.017	86	23-144
Chrysene	mg/kg (ppm)	0.17	0.020	84	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.019	86	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	86	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	0.017	83	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	0.013	102	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	103	31-146

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	mg/kg (ppm)	0.17	89	92	51-115	3
Chrysene	mg/kg (ppm)	0.17	94	94	55-129	0
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	89	86	56-123	3
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	89	92	54-131	3
Benzo(a)pyrene	mg/kg (ppm)	0.17	84	82	51-118	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	99	101	49-148	2
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	101	102	50-141	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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

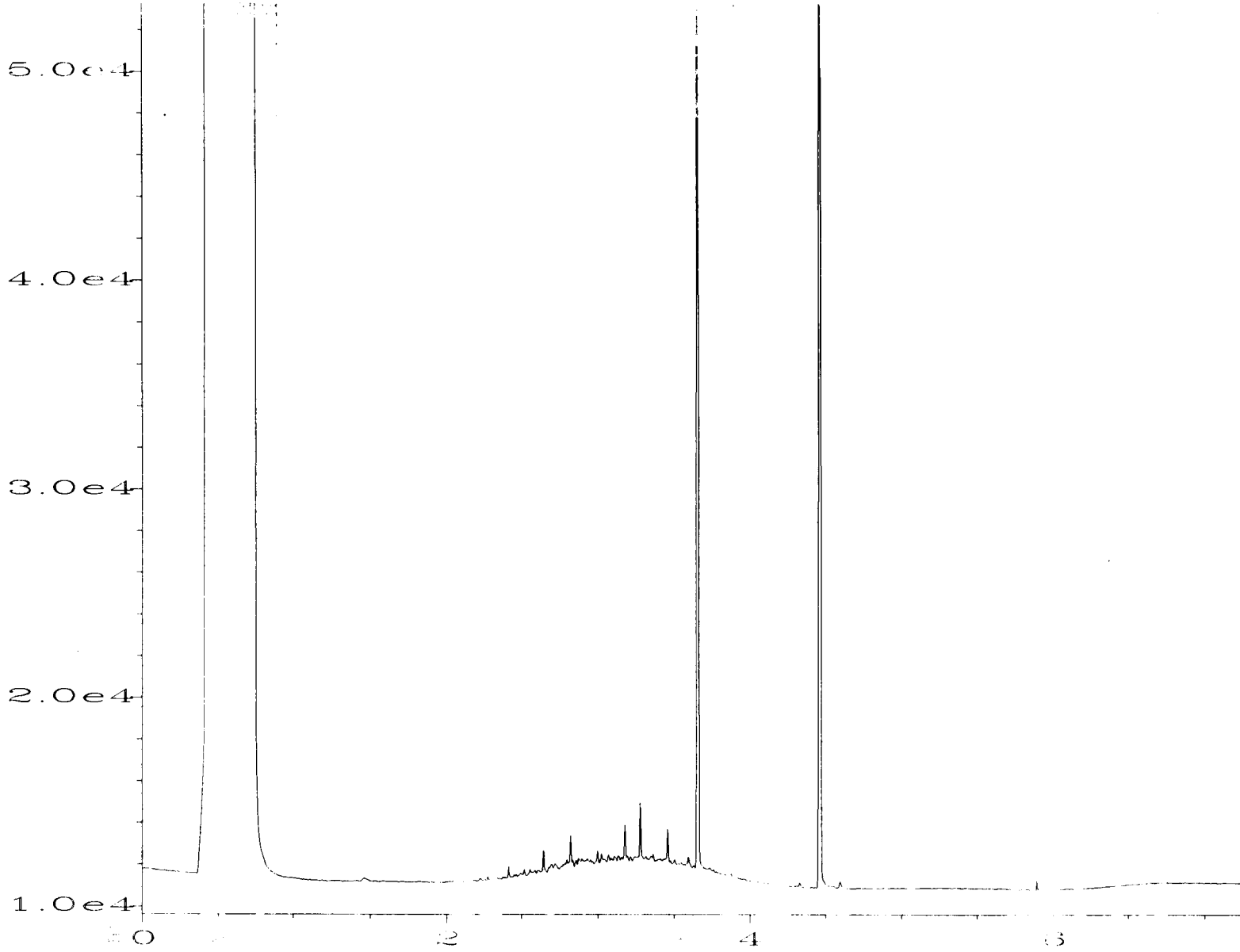
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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 :
 Operator :
 Instrument :
 Sample Name :
 Run Time Bar Code :

Report Created on:

Data File Name :
 Operator :
 Instrument :
 Sample Name :
 Run Time Bar Code :

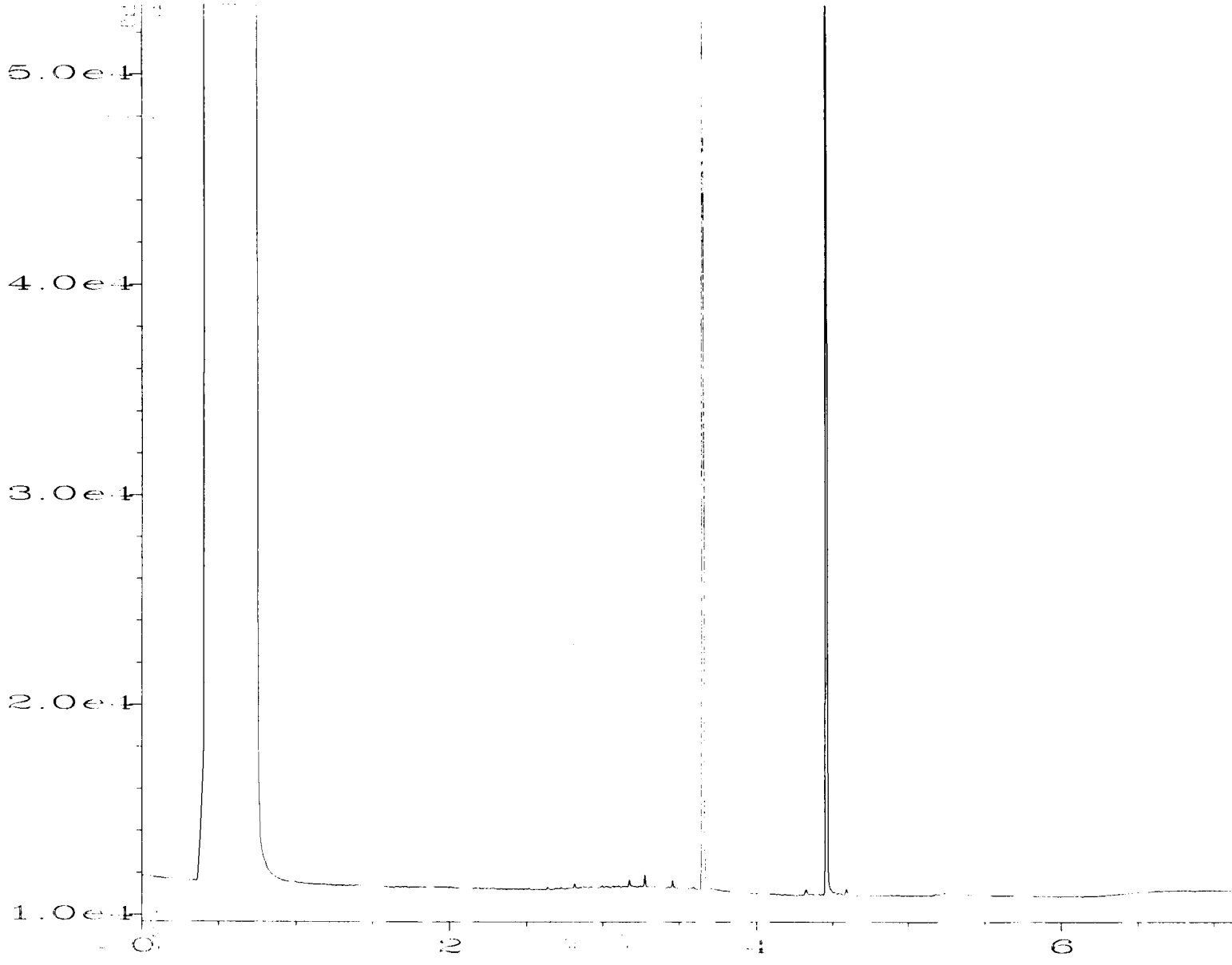
Report Created on:

Data File Name :
 Operator :
 Instrument :
 Sample Name :
 Run Time Bar Code :

Report Created on:

Data File Name : C:\HPCHEM\1\DATA\04-13-16\037F0701.D
 Operator : mwdl
 Instrument : GC1
 Sample Name : 604231-01
 Run Time Bar Code : 13 Apr 16 04:39 PM
 Acquired on : 14 Apr 16 09:41 AM
 Page Number : 1
 Vial Number : 37
 Injection Number : 1
 Sequence Line : 7
 Instrument Method: DX.MTH
 Analysis Method : DX.MTH

Operator :
Date :
Time :
Sample Name :
Injection Number :
Sequence Line :
Instrument Method :
Analysis Method :

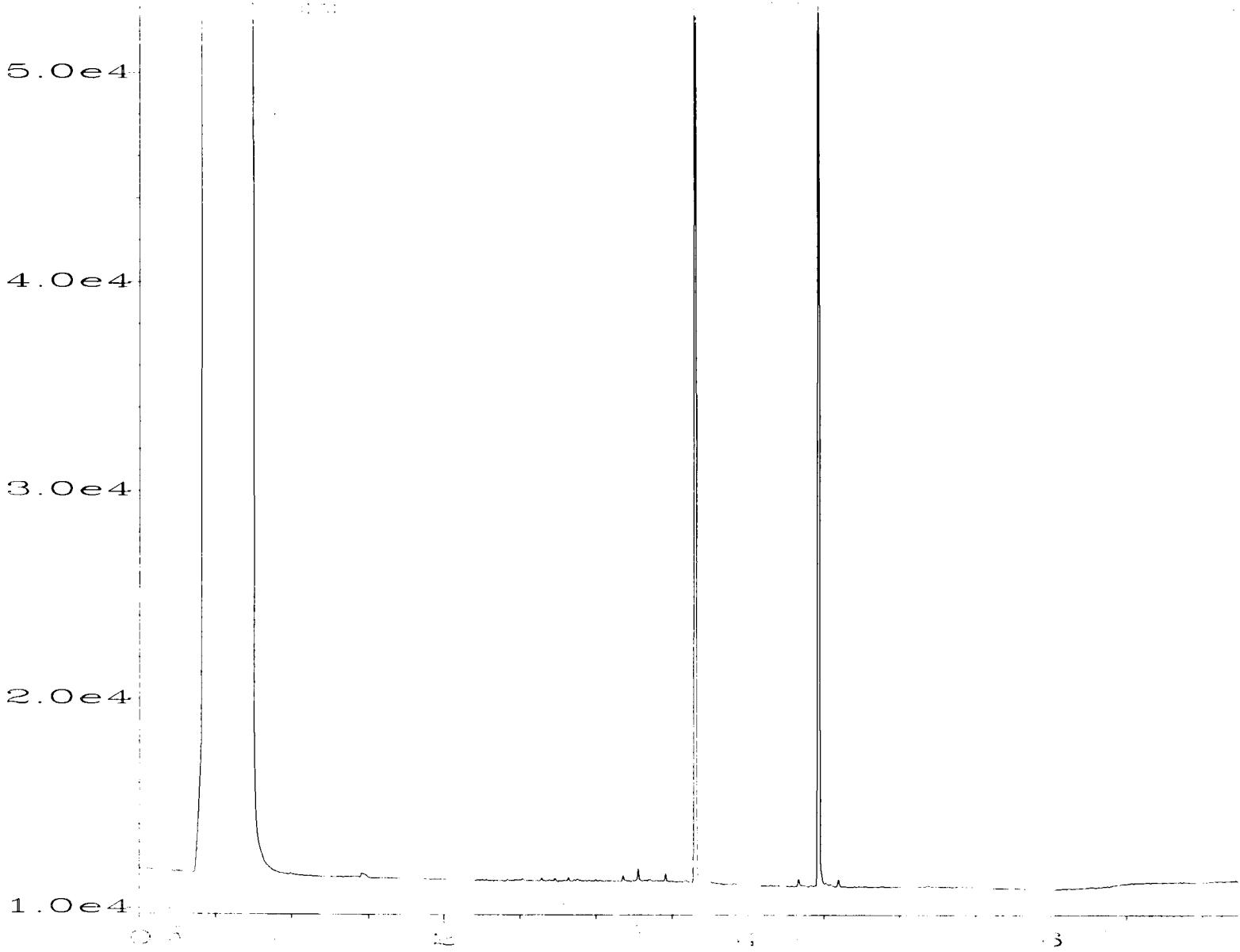


Sample Name :
Injection Number :
Sequence Line :
Instrument Method :
Analysis Method :

Operator :
Date :
Time :
Sample Name :
Injection Number :
Sequence Line :
Instrument Method :
Analysis Method :

Data File Name : C:\HPCHEM\1\DATA\04-13-16\039F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 604231-03
Run Time Bar Code : 13 Apr 16 05:01 PM
Acquired on : 14 Apr 16 09:42 AM
Report Created on : 14 Apr 16 09:42 AM
Page Number : 1
Vial Number : 39
Injection Number : 1
Sequence Line : 7
Instrument Method : DX.MTH
Analysis Method : DX.MTH

Sample Name
Run Time
Injection Number



Sample Name
Run Time
Injection Number

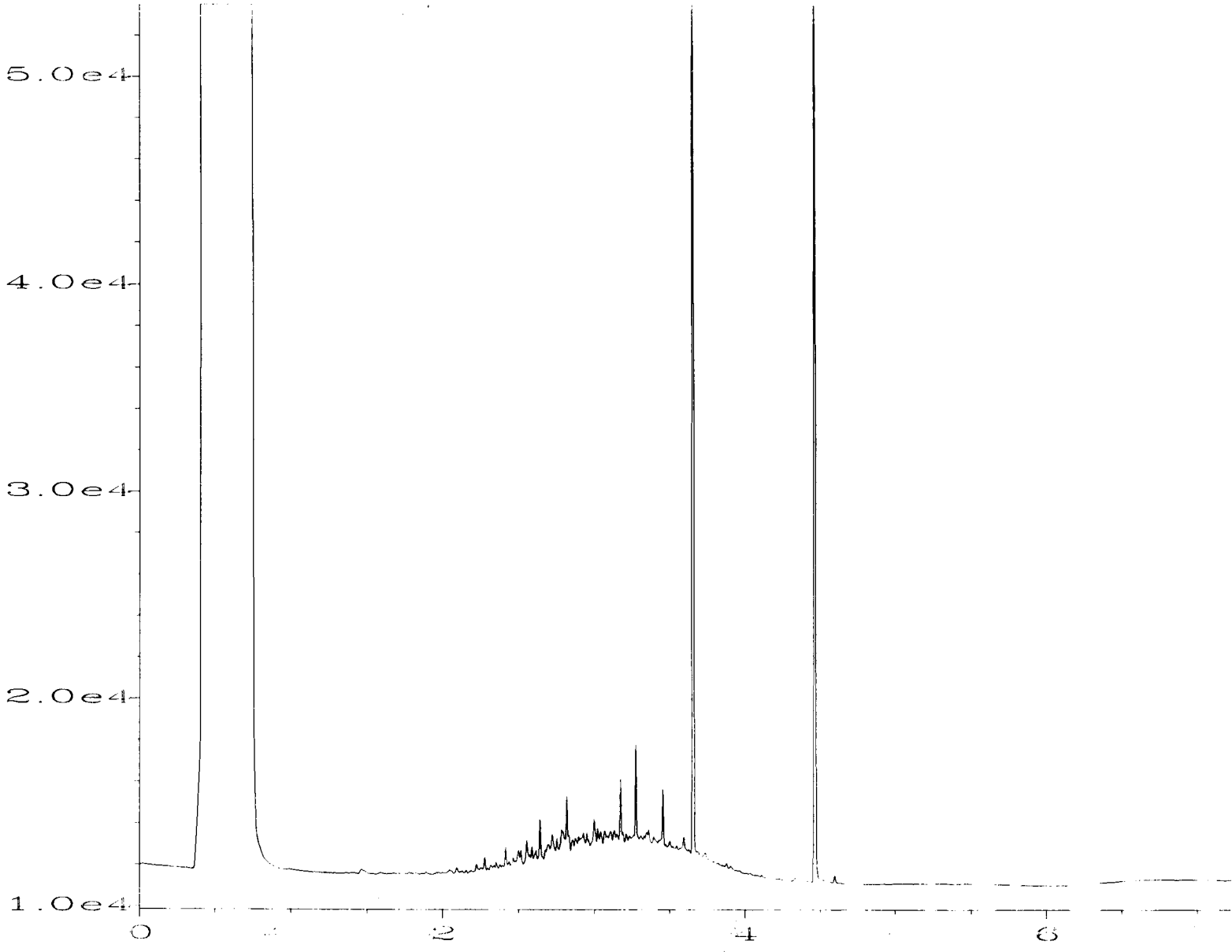
Sample Name
Run Time
Injection Number

Sample Name
Run Time
Injection Number

Data File Name : C:\HPCHEM\1\DATA\04-13-16\040F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 604231-04
Run Time Bar Code :
Acquired on : 13 Apr 16 05:12 PM
Report Created on: 14 Apr 16 09:42 AM
Page Number : 1
Vial Number : 40
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH

Sample Name
Run Time
Acquired on
Report Operator

MTH
MTH

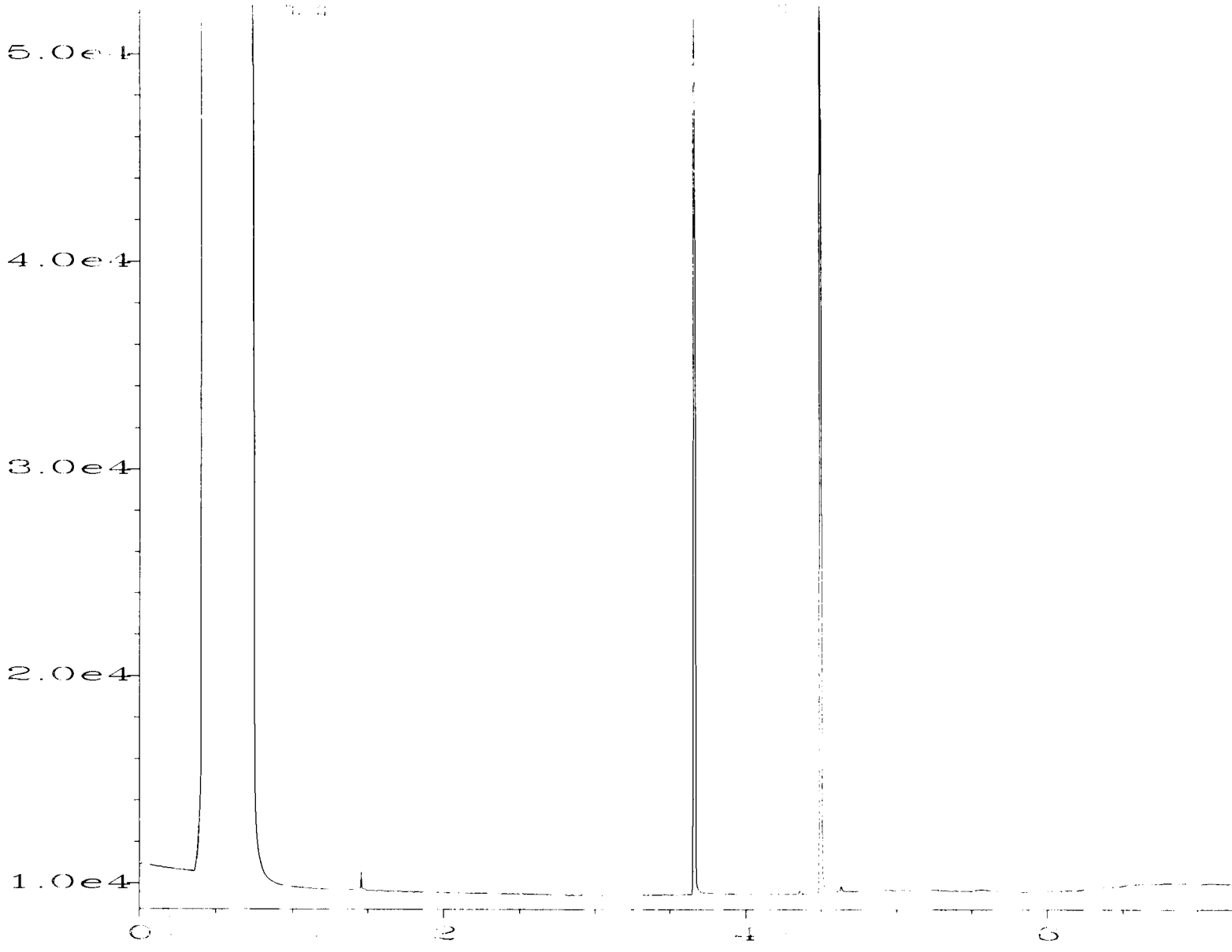


Data File Name
Operator
Instrument
Sample Name
Run Time Bar Code
Acquired on
Report Operator

Data File Name
Operator
Instrument
Sample Name
Run Time Bar Code
Acquired on
Report Operator

Data File Name
Operator
Instrument
Sample Name
Run Time Bar Code
Acquired on
Report Operator

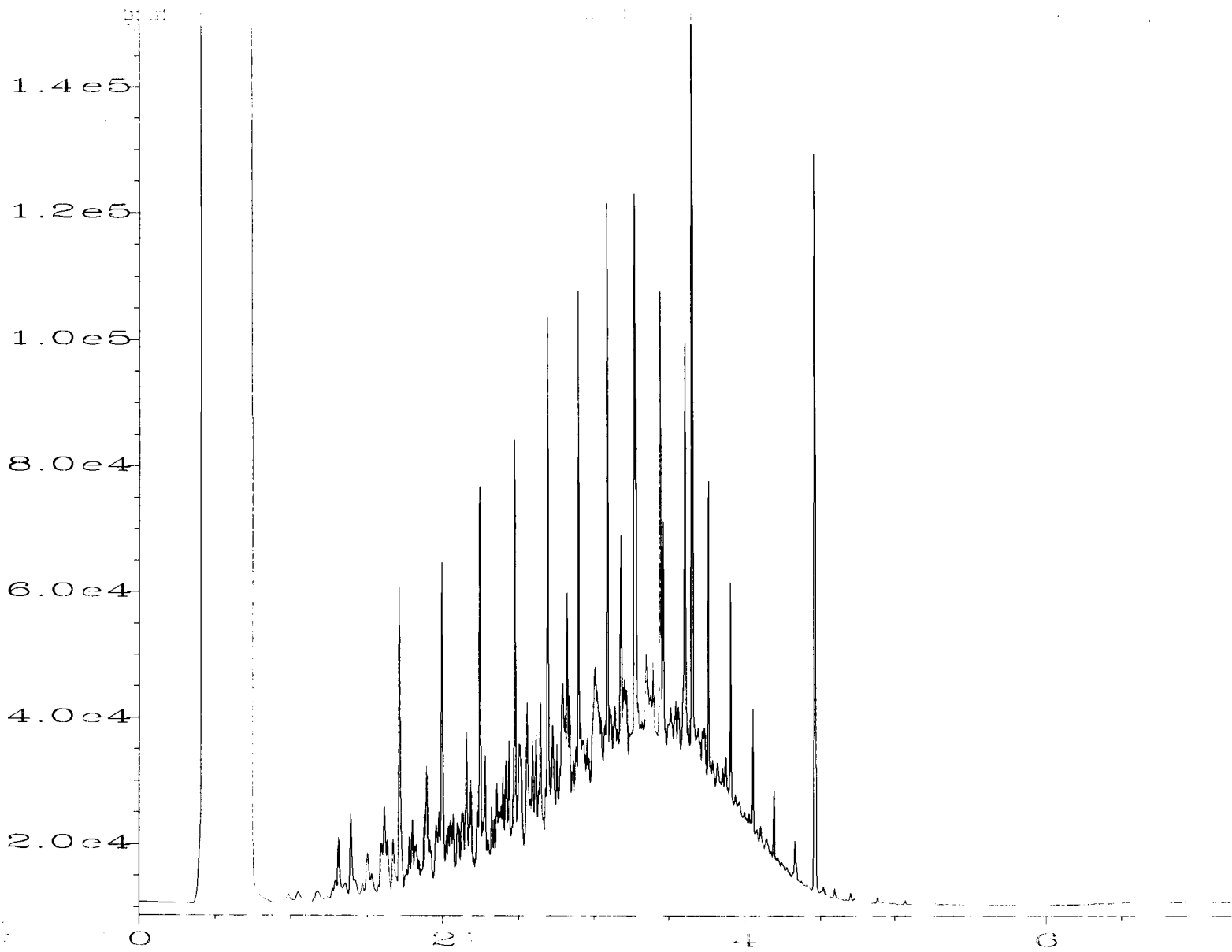
Data File Name : C:\HPCHEM\1\DATA\04-13-16\041F0701.D
Operator : mwdl
Instrument : GC1
Sample Name : 604231-05
Run Time Bar Code : 13 Apr 16 05:23 PM
Acquired on : 14 Apr 16 09:42 AM
Report Created on: 14 Apr 16 09:42 AM
Page Number : 1
Vial Number : 41
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name : C:\HPCHEM\1\DATA\04-13-16\033F0701.D
 Operator : mwdl
 Instrument : GC1
 Sample Name : 06-750 mb
 Run Time Bar Code : 13 Apr 16 03:57 PM
 Acquired on : 14 Apr 16 09:42 AM
 Report Created on: 14 Apr 16 09:42 AM

Page Number : 1
 Vial Number : 33
 Injection Number : 1
 Sequence Line : 7
 Instrument Method: DX.MTH
 Analysis Method : DX.MTH

Sample Name :
Operator :
Date Acquired :
Injection Number :
Vial Number :
Sequence Line :
Instrument Method :
Analysis Method :



Data File Name : C:\HPCHEM\1\DATA\04-13-16\003F0201.D
Operator : mwdl
Instrument : GC1
Sample Name : 500 Dx 45-182D
Run Time Bar Code : 13 Apr 16 06:41 AM
Acquired on : 14 Apr 16 09:43 AM
Report Created on :
Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 2
Instrument Method : DX.MTM
Analysis Method : DX.MTM

604231

SAMPLE CHAIN OF CUSTODY

ME 4/13/16 VSI/A02
Page # 1 of 1

Send Report To Gabe Cisneros
Company Floyd/Snyder
Address 601 Union St Ste. 600
City, State, ZIP Seattle, WA 98101
Phone # 206-292-2078 Fax # _____

SAMPLERS (signature)	
PROJECT NAME/NO. <u>Pemco</u>	PO#
REMARKS <u>8260 VOCs include: MTBE, Naphthalene, n-hexane, & EDC</u>	

TURNAROUND TIME <input type="checkbox"/> Standard (2 Weeks) <input checked="" type="checkbox"/> RUSH <u>ASAP</u> Rush charges authorized by _____	
SAMPLE DISPOSAL <input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Return samples <input type="checkbox"/> Will call with instructions	

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED										Notes			
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Total Lead by 6020	EDB by 8260 SIM	CPAHs 8270					
EX-1-4.5'-5.0'	01A	4/13/16	1240	Soil	5	X	X	X											
EX-1-4.5'-5.0' D ₁₀₂	02		1245	↓	5	X	X	X	X	X									No VOCs by 8260
EX-2-4.5'-5.0'	03		1310	↓	5	X	X	X*	X			X	X	X					* cancel
EX-3-7.5'-8.0'	04		1330	↓	5	X	X	X											
EX-4-4.5'-5.0'	05		1410	↓	5	X	X	X*				*	*	*					* - analyze per GR 4/11/16 as

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
	Gabriel Cisneros	Floyd/Snyder	4/13/16	1430
	James Bruya	F&B	4/13	1430
Received by:				
Samples received at <u>2</u> °C				

PEMCO Eastlake

**Remedial Investigation and
Cleanup Action Report—
1992 Fuel Line Release**

**Appendix C
On-Property Boring Logs**

Coordinate System:
Ground Surface Elevation: MA
Latitude/Northing:
Longitude/Easting:
Boring Location:

Drill Date: 8/20/15
Logged By: G. Cisneros
Drilled By: CDI
Drill Type: GP-Fullsize
Sample Method: Cont.
Boring Diameter: 2"
Boring Depth (ft bgs): 5.5'
Groundwater ATD (ft bgs): N/A

Client: Perco
Project: Yale & Hamison
Task:
Address: 325 Eastlake Ave E
Seattle, WA

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSITUENT, odor, staining, sheen, debris, etc.)
				0	AS	Asphalt top 3 inches
1.1				1	SP FILL	Brown, m. dense, fine toned. SAND; no odor no sheen (FILL); moist
2.5				2		
2.7				3		SAT, no odor; no sheen
2.8	SB-4.5-5.5 C0750	Regular Analysis		4	ML	Plastic linear at 4' bgs Gray, very dense, sandy SILT with 5% rounded gravel. No odor; no sheen; Dry to moist
8.3				5		Refusal @ 5.5' ? Concrete. or Buildng foundation
				6		
				7		
				8		
				9		
				10		

Notes:
FT BGS = feet below ground surface
ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact
USCS = Unified Soil Classification System
▼ = denotes groundwater table

Coordinate System:
Ground Surface Elevation:
Latitude/Northing:
Longitude/Easting:
Boring Location:

Drill Date: 8/20/15
Logged By: G. C. SHERMAN
Drilled By: COT
Drill Type: GP
Sample Method: Cont.
Boring Diameter: 2"
Boring Depth (ft bgs): 5'
Groundwater ATD (ft bgs): N/A

Client: Penco - Eastlake
Project: Fuel Line release
Task:
Address: 325 Eastlake Ave
Seattle, WA

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSISTUENT, odor, staining, sheen, debris, etc.)
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				0	AS	Asphalt top 3 inches
1.7				1	SP FILL	Brown, m. dense, fine to medium SAND; no odor; no sheen; moist
1.7				2		
2.1				3	FILL	SAND; NO Odor; NO sheen.
3.3	SB-2-4-4.5 @ 09/10			4		- Plastic liner @ 4'
				5	ML TILL	Gray, very hard, sandy gravelly SILT with 30% fine to coarse sand and 10% small gravel; no odor; no sheen; moist to Dry. Refusal @ 5' bgs Concrete or Building Foundation?
				6		
				7		
				8		
				9		
				10		

Notes:
FT BGS = feet below ground surface
ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact
USCS = Unified Soil Classification System
x = denotes groundwater table

Drill Date: 8/20/15
 Logged By: G. Cisneros
 Drilled By: CD-2
 Drill Type: GP
 Sample Method: Cut
 Boring Diameter: 2"
 Boring Depth (ft bgs): 10'
 Groundwater ATD (ft bgs): N/A

Client: Penco-Eastlake
 Project: Fuel Line Leak
 Task:
 Address: 325 Eastlake Ave East
 Seattle, WA

Coordinate System:
 Ground Surface Elevation:
 Latitude/Northing:
 Longitude/Easting:
 Boring Location:

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSTITUENT, odor, staining, sheen, debris, etc.)
				0	AS	Asphalt top 3 inches
5.2				0-1	FILL	Brown sandy gravelly FILL
6.1				1-2		Brown, stiff, sandy SILT with low plasticity and 10% fine gravel; no odor; no sheen; moist
7.1				2-3		MOIST
9.6				3-4	ML	SAA
99.3	SB3-4-4.5	0940		4-5		- Olive gray, stiff, fine sandy SILT with low plasticity, 10% gravel, and 15% fine sand; moderate odor, slight sheen; moist
29.1	SB3-5.5-6	0950		5-6		- Brown, stiff, sandy SILT with low plasticity, 10% fine gravel & 10% sand; slight odor; no sheen; moist
6.3				6-7		SAA; no odor; no sheen; moist
5.6				7-8		
4.1				8-9	ML	SAA; no odor; no sheen; moist
				9-10		

Notes:

FT BGS = feet below ground surface
 ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact
 USCS = Unified Soil Classification System
 ▼ = denotes groundwater table

Coordinate System:
Ground Surface Elevation:
Latitude/Northing: *N/A*
Longitude/Easting:
Boring Location:

Drill Date: 8/20
Logged By: GL
Drilled By: ~~GP~~ CDI
Drill Type: GP
Sample Method: Cont
Boring Diameter: 2"
Boring Depth (ft bgs): 10'
Groundwater ATD (ft bgs): *N/A*

Client: Remco-Eastlake
Project: 1992 Fuel Line
Task: Soil Investigation
Address: 325 Eastlake Ave
Seattle, WA

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSTITUENT, odor, staining, sheen, debris, etc.)
				0	AS	Asphalt top 3 inches
2.1				1	FILL	Dark brown, silty, gravelly SAND FILL; no odor; no sheen; moist
4.1				2	ML	Brown, stiff to hard, sandy SILT with low plasticity, 15% fine sand and 5% gravel; no odor; no sheen; moist
4.2				3		
4.8				4		SAA; no odor; no sheen
4.6				5		Olive gray staining at 4.5 feet, hard, sandy SILT with 20% sand & 10% gravel; no odor; no sheen; moist
4.1				6		← Brown, hard SILT w/ 10% sand and 5% small gravel; no odor; no sheen moist
1.9				7		
1.6				8	ML	SAA; no odor; no sheen
1.4				9		SAA; v. hard SILT; no odor; no sheen
				10		

Notes:
FT BGS = feet below ground surface
ppm = parts per million

-- Dashed contact line in soil description indicates a gradational contact
USCS = Unified Soil Classification System
▼ = denotes groundwater table

Coordinate System:

Ground Surface Elevation: **N/A**

Latitude/Northing:

Longitude/Easting:

Boring Location:

Drill Date: **8/20/15**

Logged By: **GC**

Drilled By: **COI**

Drill Type: **GP**

Sample Method: **cont**

Boring Diameter: **2"**

Boring Depth (ft bgs): **10'**

Groundwater ATD (ft bgs): **N/A**

Client: **Renco-**

Project: **1992 Fuel Line**

Task: **release investigation**

Address: **325 Eastlake Ave E
Seattle, WA**

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSTITUENT, odor, staining, sheen, debris, etc.)
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				0	AS	Asphalt Top 3"
2.3				1	FICL	Dark brown, silty, sandy gravelly FILL
3.6				2	ML	Brown, stiff, sandy SILT with low plasticity, 15% fine sand and 10% gravel; no odor no sheen; moist
4.5				3		SAA; no odor; no sheen; moist
4.9				4		SAA; hard SILT; no odor; no sheen
2.3	SBS-4-4.5 S101P P1045			5		
2.6				6		SAA; hard SILT with 10% sand & 5% gravel; no odor; no sheen.
3.1				7		
2.8				8		SAA; No odor; no sheen
3.2				9		SAA; no odor; no sheen.
				10		

Notes:

FT BGS = feet below ground surface

ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact

USCS = Unified Soil Classification System

∇ = denotes groundwater table

Coordinate System:
Ground Surface Elevation: N/A
Latitude/Northing:
Longitude/Easting:
Boring Location:

Drill Date: 8/20/15
Logged By: G. Cisneros
Drilled By: COI
Drill Type: GP
Sample Method: Cont
Boring Diameter: 2"
Boring Depth (ft bgs): 10'
Groundwater ATD (ft bgs): N/A

Client: Pemco
Project: 1992 Fuel Line
Task: Release Soil Investigation
Address: 325 Eastlake Ave E
Seattle, WA

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSISTUENT, odor, staining, sheen, debris, etc.)
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				0	AS	
2.3				1	FILL	Dark brown, silty, sandy, gravelly FILL - Redbrick @ 1.5'
4.5				2		Light brown, stiff, sandy SILT w/ low plasticity and 15% sand; no odor; no sheen; moist
4.2				3		
4.1				4		SAA; no odor; no sheen
6.1	SB6-4-4.5 @ 1.40			5		SAA; no odor; no sheen
3.2				6		Light brown to brown, hard SILT with low to moderate plasticity and 10% fine sand; no odor; no sheen; moist
2.1				7		SAA; no odor; no sheen; moist
1.8				8		SAA; No odor; no sheen.
1.8				9		SAA; hard, sandy SILT; no odor; no sheen; moist
				10		

Notes:

FT BGS = feet below ground surface
ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact
USCS = Unified Soil Classification System
▼ = denotes groundwater table

Drill Date: 8/20/15
 Logged By: G. Cisneros
 Drilled By: CDI
 Drill Type: GP
 Sample Method: cont
 Boring Diameter: 7"
 Boring Depth (ft bgs): 10'
 Groundwater ATD (ft bgs): N/A

Client: Penco
 Project: 1992 Fuel Line Release
 Task: Soil Investigation
 Address: 325 Eastlake Ave E
 Seattle, WA

Coordinate System:
 Ground Surface Elevation: N/A
 Latitude/Northing:
 Longitude/Easting:
 Boring Location:

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSTITUENT, odor, staining, sheen, debris, etc.)
				0	AS	Asphalt Top 3"
11.3				0-1	FILL	Brown, silty, sandy, gravelly FILL
3.6				1-2	ML	Light brown to brown, stiff SILT with low plasticity, 10% fine sand & 5% gravel; no odor no sheen.
4.3				2-3		SAA; no odor; no sheen, moist
4.4				3-4		SAA; no odor; no sheen.
7.3	SB7-4-4.5 @ 115	SB7-4-4.5 @ 115		4-5		Olive gray to brown, hard, sandy SILT with low plasticity, 15% sand, and 5% gravel; no odor; no sheen; moist to wet.
7.3				5-6		SAA; no odor; no sheen; moist
3.7				6-7		Brown @ 6', hard SILT with low plasticity, 10% fine sand & 5% gravel; no odor, no sheen; moist
4.4				7-8		
4.1				8-9		SAA; no odor; no sheen.
				9-10		

Notes:
 FT BGS = feet below ground surface
 ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact
 USCS = Unified Soil Classification System
 ▼ = denotes groundwater table

Drill Date: 8/20
 Logged By: G. Cisneros
 Drilled By: COI
 Drill Type: GP
 Sample Method: Cont
 Boring Diameter: 2"
 Boring Depth (ft bgs): 9'
 Groundwater ATD (ft bgs): N/A

Client: Penco
 Project: 1992 Fuel Line Release
 Task: Soil Investigation
 Address: 325 Eastlake Ave E
 Seattle, WA

Coordinate System:
 Ground Surface Elevation: N/A
 Latitude/Northing: N/A
 Longitude/Easting:
 Boring Location:

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSTITUENT, odor, staining, sheen, debris, etc.)
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				0	AS	Asphalt Top 3"
11.1				1	FILL	Brown, silty, sandy, Gravelly FILL
				1.5	concrete	concrete between 1 & 2.5' bgs.
				2	SP	Fill
				2	concrete	
3.8				3	FILL	Regravel & sand fill.
				3	SP / GP	2 inches of regravel 2.5' to 2.7' over a gravelly sand FILL.
4.5				4	SP	Brown, m. dense, Fine to medium SAND no odor, no sheen
5.57	collected	588-4.5-5		5		Gray, m. dense, Fine to med. SAND; strong odor, moderate sheen; moist
12.1				5	ML	olive gray, hard SILT w/ low plasticity and 50% fine sand; slight odor; no sheen
10.9	588-6-6.5			6		Brown, hard SILT; no odor; no sheen moist
7.8				7		SAA; no odor; no sheen
				8		
				9		SAT; no odor; no sheen
				10		

Notes:

FT BGS = feet below ground surface
 ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact
 USCS = Unified Soil Classification System
 ▼ = denotes groundwater table

Drill Date: 8/20/15
 Logged By: G. Cisneros
 Drilled By: COZ
 Drill Type: GP
 Sample Method: Cut
 Boring Diameter: 2"
 Boring Depth (ft bgs): 10'
 Groundwater ATD (ft bgs): 9.25

Client: Renco-Eastlake
 Project: 1912 Fuelline
 Task: Leak
 Address: 325 Eastlake Ave E.
 Seattle, WA

Coordinate System:
 Ground Surface Elevation: N/A
 Latitude/Northing:
 Longitude/Easting:
 Boring Location: SW corner of
 Parking lot.

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSITIUENT, odor, staining, sheen, debris, etc.)
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				0	AS	Asphalt top 3"
13.1				1	FIL	Brown to dark brown, silty, sandy, gravel FILL
7.1				2	ML	Light brown to brown, stiff SILT with low plasticity and 10% sand; no odor; no sheen; moist
7.3				3		SMA; no odor; no sheen; moist
7.1				4		SAA; no odor; no sheen moist
7.8				5		SAA; no odor; no sheen; moist
6.3				6		SAA; no odor; no sheen; moist
8.1				7	ML	Brown, v. hard SILT w/ 15% sand and 10% gravel; no odor; no sheen moist.
5.9				8		
8.0				9	SP-SM	Brown, m. dense, fine to medium Sand with 10% silt & 5% gravel; no odor; no sheen; Wet.

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Drill Date: 12/17/15
 Logged By: GC
 Drilled By: Cascade Kyle
 Drill Type: Geoprobe Limited
 Sample Method: Cont. Liner, 3ft
 Boring Diameter: 2"
 Boring Depth (ft bgs): 9'
 Groundwater ATD (ft bgs): N/A

Boring ID: SB-10

Client: Remco
 Project:
 Task:
 Address: 325 Eastlake Ave E
 Seattle, WA

Coordinate System:
 Ground Surface Elevation:
 Latitude/Northing:
 Longitude/Easting:
 Boring Location: NE corner path

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSTITUENT, odor, staining, sheen, debris, etc.)
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				0	Remc.	concrete top 6 inches
				1	Fill	
2.0				1		Olive gray, stiff, gravelly, sandy silt w/ low plasticity; no odor, no sheen.
				2	ML	
1.8				2		SAA; no odor; no sheen; moist
				3		
1.6				3		Olive gray, stiff, sandy silt with low plasticity; no odor, no sheen; moist.
				4		
1.7				4		
	SB-10-45-5.0 © 0840			5	ML	
1.3				5		SAA; no odor, no sheen; moist
				6		
1.4				6		SAA; no odor, no sheen; moist
				7	ML	
				8		
				9		
				10		

Notes:

FT BGS = feet below ground surface
 ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact
 USCS = Unified Soil Classification System
 x = denotes groundwater table

Coordinate System:
Ground Surface Elevation:
Latitude/Northing:
Longitude/Easting:
Boring Location: SB-11

Drill Date: 12/17
Logged By: G.C.
Drilled By: CD2 Kyle
Drill Type: Geopipe Bobcat
Sample Method: Direct Push
Boring Diameter: 2"
Boring Depth (ft bgs): 9 feet
Groundwater ATD (ft bgs): N/A

Client: Renco
Project:
Task:
Address: 325 Eastlake Ave E
Seattle, WA

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSTITUENT, odor, staining, sheen, debris, etc.)
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				0	Conc.	Concrete top
1.6				1	SW	Brown, gravelly, ^{fine} med to coarse SAND w/ silt; (FILL) no odor, no sheen
2.0				2	ML	Olive, stiff, sandy SILT w/ low plasticity & 5% gravel; no odor; no sheen; moist
1.9				3		
1.9				4		SAA, no odor; no sheen; moist
1.8				5	ML	
1.8				6		SAA, no odor; no sheen; moist
1.7				7		SAA, no odor; no sheen; moist
1.6				8		
				9		
				10		

Notes:
FT BGS = feet below ground surface
ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact
USCS = Unified Soil Classification System
x = denotes groundwater table

Coordinate System:
Ground Surface Elevation:
Latitude/Northing:
Longitude/Easting:
Boring Location:

Drill Date: 12/17
Logged By: GC
Drilled By: CDI
Drill Type: Direct Push Bobcat
Sample Method: 3-ft liners
Boring Diameter: 2"
Boring Depth (ft bgs): 9'
Groundwater ATD (ft bgs): N/A

Client: Renco
Project:
Task:
Address: 325 Eastlake Ave E
Seattle, WA

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSTITUENT, odor, staining, sheen, debris, etc.)
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				0	Co.	Concrete top 6 inches
1.7				1	SW	Brown, gravelly sandy fill; no odor; no sheen; moist.
1.8				2	Co.	concrete @ 1.75'. Moved 6 inches to the east
1.8				3	ML	Olive brown, stiff, sandy silt with low plasticity & <5% gravel; no odor; no sheen; moist.
2.3				4		SAA; no odor; no sheen; moist
1.8	SB-12-45-50 @ 1005			5	ML	SAA; no odor; no sheen; moist
1.9				6		SAA; no odor; no sheen; moist
1.7				7		SAA; no odor; no sheen; moist
1.7				8	ML	SAA; no odor; no sheen; moist
1.6				9		
				10		

Notes:

FT BGS = feet below ground surface
ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact
USCS = Unified Soil Classification System
☒ = denotes groundwater table

Drill Date: 12/18/15
Logged By: G. Cisneros
Drilled By: COZ F&E

Client: Penco
Project:
Task:
Address: 325 Eastlake Ave E, Seattle

Coordinate System:
Ground Surface Elevation:
Latitude/Northing:
Longitude/Easting:
Boring Location:

Drill Type: Bobcat Geoprobe
Sample Method: Cont. 3' samples
Boring Diameter: 2 1/2"
Boring Depth (ft bgs): 5.5'
Groundwater ATD (ft bgs): N/A

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSTITUENT, odor, staining, sheen, debris, etc.)
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				0	Conc.	Concrete top 6 inches
2.1				1	SW	Brown, gravelly, fine to coarse SAND FILL no odor; no sheen;
2.6				2	ML	Brown to dark brown, stiff SILT with some ORGANICS; no odor; no sheen; moist
2.0				3		SAA; no odor; no sheen; moist
1.7				4	ML	SAA; no odor; no sheen; moist
3.8				5		SAA; no odor; no sheen; moist
1.9	SB-13-4.5-5.0 @ 1030			5.5	SW FILL	Refusal @ 5.5 feet bgs
				6		
				7		
				8		
				9		
				10		

Notes:
FT BGS = feet below ground surface
ppm = parts per million

-- Dashed contact line in soil description indicates a gradational contact
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Boring ID: SB-14

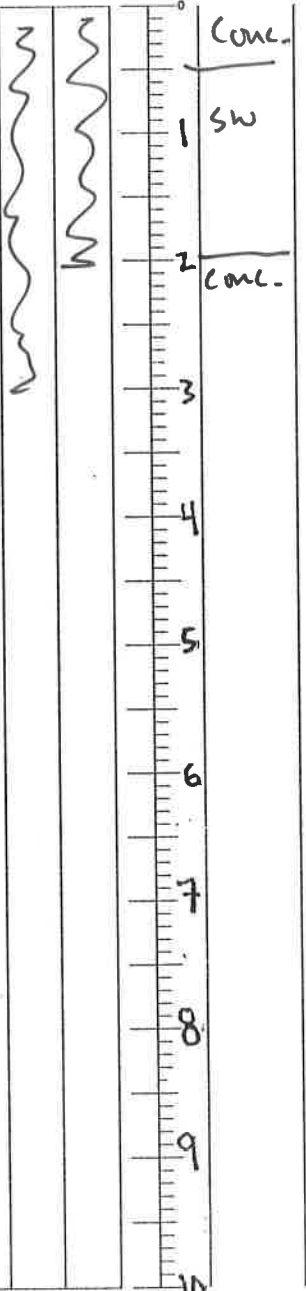
Coordinate System:
Ground Surface Elevation:
Latitude/Northing:
Longitude/Easting:
Boring Location:

Drill Date: 12/17/15
Logged By: G. Cisneros
Drilled By: Cascade
Drill Type: Geoprobe Bobcat
Sample Method: 3" liners cut.
Boring Diameter: 2"
Boring Depth (ft bgs): 2'
Groundwater ATD (ft bgs): N/A

Client: Pemco
Project:
Task:
Address: 325 Eastlake Ave E
Seattle, WA

Remarks:

PID (ppm)	SAMPLE INTERVAL	SAMPLE ID	DRIVEN / RECOVERED	DEPTH FT BGS	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS (color, texture, moisture, MAJOR CONSISTUENT, odor, staining, sheen, debris, etc.)
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1.8				0 1 2 3 4 5 6 7 8 9 10	conc. SW conc.	<p>Concrete top 6 inches</p> <p>Brown, gravelly, fine to coarse SAND w/ 5% silt; no odor; no sheen.</p> <p>Refusal @ 2'. Footings / Conc.</p>
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Notes:

FT BGS = feet below ground surface
ppm = parts per million

--- Dashed contact line in soil description indicates a gradational contact
USCS = Unified Soil Classification System
∇ = denotes groundwater table



Log of Boring: FB1

Client: Unico Properties, LLC
Project: Pemco
Location: Seattle, WA

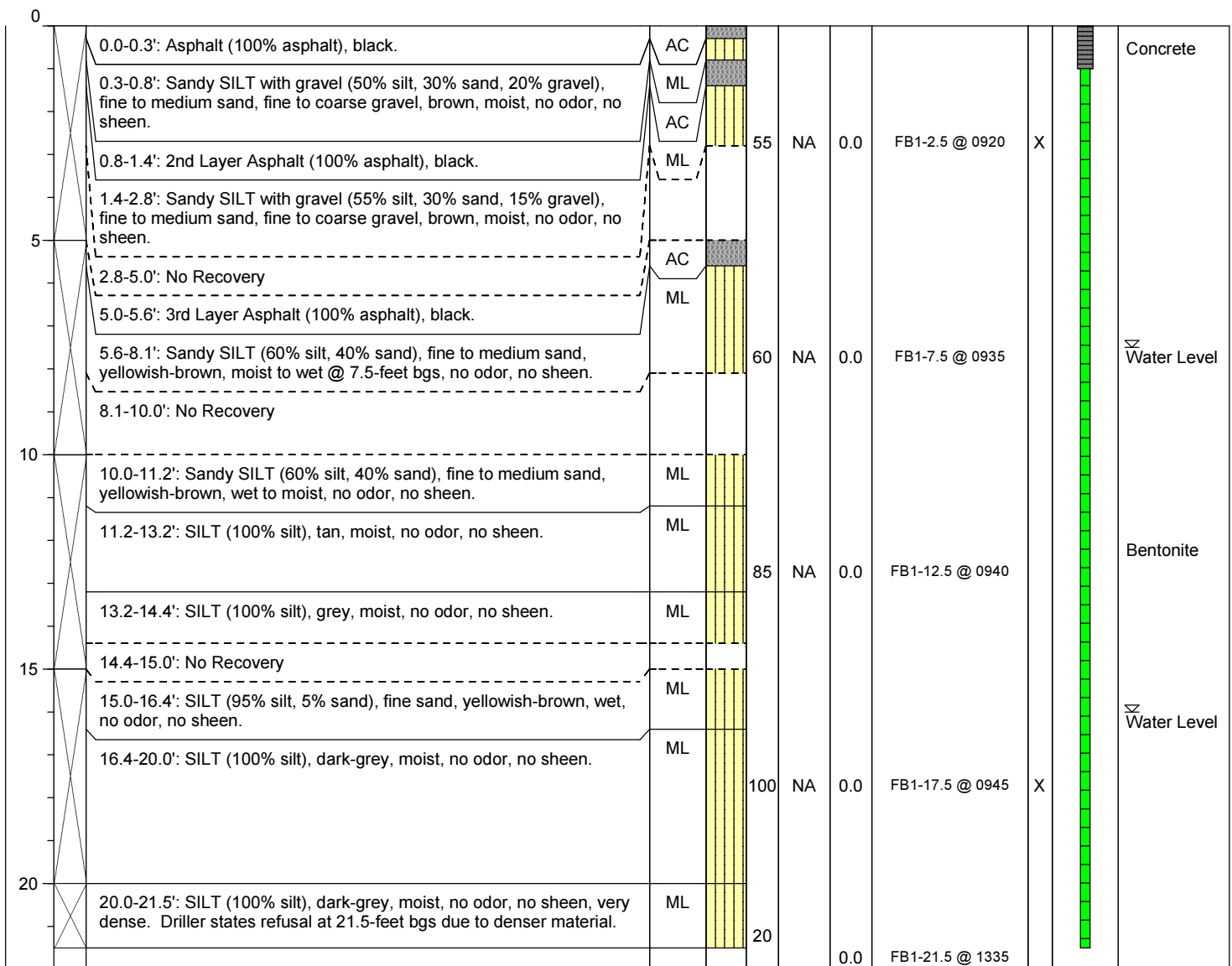
Date/Time Started: 4/22/15 @ 0915
Date/Time Completed: 4/22/15 @ 0950
Equipment: Geoprobe 7800
Drilling Company: ESN NW
Drilling Foreman: Brian Bowes
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): 7.5', 16.0'
Total Boring Depth (ft bgs): 21.5'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Ken Scott

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Surveyed Location: X: NA
Screened Interval (ft bgs): NA	Boring Abandonment: Bentonite	Y: NA



Log of Boring: FB2

Client: Unico Properties, LLC

Project: Pemco

Location: Seattle, WA

Farallon PN: 463-012

Logged By: Ken Scott

Date/Time Started: 4/22/15 @ 0955

Date/Time Completed: 4/22/15 @ 1020

Equipment: Geoprobe 7800

Drilling Company: ESN NW

Drilling Foreman: Brian Bowes

Drilling Method: Direct Push

Sampler Type: 5' Macrocore

Drive Hammer (lbs.): Auto

Depth of Water ATD (ft bgs): 16.0'

Total Boring Depth (ft bgs): 20.0'

Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.3'	Asphalt (100% asphalt), black. Boring airknifed prior to clear for utilities, drilled boring on South edge of hole to identify lithology.	AC							Concrete
	0.3-3.1'	Sandy SILT with gravel (50% silt, 30% sand, 20% gravel), fine to medium sand, fine to coarse gravel, brown, moist, no odor, no sheen.	ML		90	NA	0.0	FB2-2.5 @ 0955	X	
	3.1-4.4'	SILT (100% silt), brown, moist, no odor, no sheen.	ML							
	4.4-5.0'	No Recovery								
	5.0-7.1'	SILT (100% silt), brown, moist, no odor, no sheen.	ML							
	7.1-10.0'	SILT (100% silt), dark grey, moist, no odor, no sheen.	ML		100	NA	0.0	FB2-7.5 @ 1000		
	10.0-15.0'	SILT (100% silt), dark grey, moist, no odor, no sheen.	ML							
	15.0-15.8'	SILT (100% silt), dark grey, moist, no odor, no sheen.	ML							
	15.8-16.4'	SILT with gravel (85% silt, 15% gravel), fine gravel, dark grey, wet, no odor, no sheen.	ML							
	16.4-20.0'	SILT (100% silt), grey, moist, no odor, no sheen.	ML		100	NA	0.0	FB2-17.5 @ 1010	X	
										Water Level

Well Construction Information

Monument Type: NA

Casing Diameter (inches): NA

Screen Slot Size (inches): NA

Screened Interval (ft bgs): NA

Filter Pack: NA

Surface Seal: Concrete

Annular Seal: NA

Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA

Top of Casing Elevation (ft): NA

Surveyed Location: X: NA

Y: NA



Log of Boring: FB3

Client: Unico Properties, LLC

Project: Pemco

Location: Seattle, WA

Farallon PN: 463-012

Logged By: Ken Scott

Date/Time Started: 4/22/15 @ 1025

Date/Time Completed: 4/22/15 @ 1100

Equipment: Geoprobe 7800

Drilling Company: ESN NW

Drilling Foreman: Brian Bowes

Drilling Method: Direct Push

Sampler Type: 5' Macrocore

Drive Hammer (lbs.): Auto

Depth of Water ATD (ft bgs): 10.0', 15.0'

Total Boring Depth (ft bgs): 20.0'

Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.3'	Asphalt (100% asphalt), black. Boring airknifed prior to clear for utilities, drilled boring on South edge of hole to identify lithology.	AC							Concrete
	0.3-3.1'	Sandy SILT with gravel (50% silt, 30% sand, 20% gravel), fine to medium sand, fine to coarse gravel, yellowish brown, moist, no odor, no sheen.	ML		100	NA	0.0	FB3-4.0 @ 1030		
	4.7-5.0'	Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine to medium sand, fine gravel, grey, moist, no odor, no sheen.	SP							
	5.0-7.8'	Silty SAND with gravel (60% sand, 25% silt, 15% gravel), fine to medium sand, fine to coarse gravel, grey, moist, slight petroleum-like odor, no sheen.	ML		100	NA	1.5	FB3-7.5 @ 1035	X	
	7.8-8.4'	SILT (95% silt, 5% sand), fine sand, grey, wet, slight odor, no sheen.	ML							Water Level
	8.4-10.0'	SILT (100% silt), tan, moist, no odor, no sheen.	ML							
	10.0-12.5'	Silty SAND with gravel (60% sand, 25% silt, 15% gravel), fine to medium sand, fine to coarse gravel, grey, wet, no odor, no sheen.	ML		100	NA	0.0	FB3-12.5 @ 1040		Bentonite
	12.5-15.0'	SILT (95% silt, 5% sand), fine sand, dark grey, moist, no odor, no sheen.	ML							
	15.0-16.0'	Silty SAND with gravel (60% sand, 25% silt, 15% gravel), fine to medium sand, fine gravel, grey, wet, septic-like odor, no sheen.	ML				0.0	FB3-16.0 @ 1050	X	Water Level
	16.0-20.0'	SILT (100% silt), grey, moist, no odor, no sheen.	ML		100	NA				
20							0.0	FB3-20.0 @ 1055		

Well Construction Information

Monument Type: NA

Casing Diameter (inches): NA

Screen Slot Size (inches): NA

Screened Interval (ft bgs): NA

Filter Pack: NA

Surface Seal: Concrete

Annular Seal: NA

Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA

Top of Casing Elevation (ft): NA

Surveyed Location: X: NA

Y: NA



Log of Boring: FB4

Client: Unico Properties, LLC

Project: Pemco

Location: Seattle, WA

Farallon PN: 463-012

Logged By: Ken Scott

Date/Time Started: 4/22/15 @ 1105

Date/Time Completed: 4/22/15 @ 1155

Equipment: Geoprobe 7800

Drilling Company: ESN NW

Drilling Foreman: Brian Bowes

Drilling Method: Direct Push

Sampler Type: 5' Macrocore

Drive Hammer (lbs.): Auto

Depth of Water ATD (ft bgs): 10.0', 15.0'

Total Boring Depth (ft bgs): 20.0'

Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.3'	Asphalt (100% asphalt), black. Boring airknifed prior to clear for utilities, drilled boring on SE edge of hole to identify lithology.	AC							Concrete
	0.3-2.5'	Sandy SILT (60% silt, 35% sand, 5% gravel), fine to medium sand, fine to coarse gravel, yellowish brown, moist, no odor, no sheen.	ML							
	2.5-2.9'	Silty SAND (70% sand, 25% silt, 5% gravel), fine to medium sand, fine gravel, yellowish brown, moist, no odor, no sheen.	SM		60	NA	0.0	FB4-2.5 @ 1110	X	
	2.9-5.0'	No Recovery								
5	5.0-5.5'	SILT (100% silt), tan, wet, no odor, no sheen.	ML							
	5.5-5.9'	2nd Layer Asphalt (100% asphalt), black.	AC							
	5.9-7.1'	SILT (95% silt, 5% sand), fine sand, yellowish brown, moist, no odor, no sheen.	ML		100	NA	1.5	FB4-7.5 @ 1115		Bentonite
	7.1-8.4'	SILT (100% silt), yellowish brown, moist, no odor, no sheen.	ML							
	8.4-10.0'	SILT (100% silt), light brown, moist, no odor, no sheen.	ML							Water Level
10	10.0-12.7'	Silty SAND with gravel (50% sand, 35% silt, 15% gravel), fine to medium sand, fine to coarse gravel, yellowish brown, wet, no odor, no sheen.	ML		100	NA	0.0	FB4-12.5 @ 1120		
	12.7-15.0'	SILT (100% silt), light brown, moist, no odor, no sheen.	ML							
15	15.0-16.0'	Poorly graded SAND (90% sand, 5% silt, 5% gravel), fine to medium sand, fine to coarse gravel, yellowish brown, wet, no odor, no sheen.	SP				0.0	FB4-16.0 @ 1130	X	Water Level
	16.0-18.2'	SILT (100% silt), light brown, moist, no odor, no sheen.	ML		100	NA		FB4-042215-GW @1140	X	
	18.2-20.0'	SILT (100% silt), dark grey, moist, no odor, no sheen.	ML							
20							0.0	FB4-20.0 @ 1135		

Well Construction Information

Monument Type: NA

Casing Diameter (inches): NA

Screen Slot Size (inches): 0.010

Screened Interval (ft bgs): 15-20-feet bgs

Filter Pack: NA

Surface Seal: Concrete

Annular Seal: NA

Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA

Top of Casing Elevation (ft): NA

Surveyed Location: X: NA

Y: NA



Log of Boring: FB5

Client: Unico Properties, LLC Project: Pemco Location: Seattle, WA	Date/Time Started: 4/22/15 @ 1200 Date/Time Completed: 4/22/15 @ 1230 Equipment: Geoprobe 7800 Drilling Company: ESN NW Drilling Foreman: Brian Bowes Drilling Method: Direct Push	Sampler Type: 5' Macrocore Drive Hammer (lbs.): Auto Depth of Water ATD (ft bgs): 5.0', 10.0', 15.0' Total Boring Depth (ft bgs): 20.0' Total Well Depth (ft bgs): NA
Farallon PN: 463-012 Logged By: Ken Scott		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.3'	Asphalt (100% asphalt), black.	AC							Concrete
	0.3-4.5'	No Recovery, boring airknifed prior to clear for utilities.			5	NA				
5	4.5-5.0'	Sandy SILT (60% silt, 40% sand), fine sand, yellowish brown, moist, no odor, no sheen.	ML				0.0	FB5-4.5 @ 1205		Water Level
	5.0-6.5'	Silty SAND with gravel (60% silt, 35% sand, 15% gravel), fine to medium sand, fine to coarse gravel, yellowish brown, wet, no odor, no sheen.	ML							
	6.5-7.1'	SILT (100% silt), grey, wet, no odor, no sheen.	ML		100	NA	0.0	FB5-7.5 @ 1210	X	
	7.1-10.0'	SILT (90% silt, 5% sand, 5% gravel), fine sand, fine gravel, yellowish brown, moist, no odor, no sheen.	ML							Water Level
10	10.0-12.8'	SILT (90% silt, 5% sand, 5% gravel), fine sand, fine gravel, yellowish brown, wet, slight odor, no sheen.	ML							
	12.8-15.0'	SILT (100% silt), light brown, moist, no odor, no sheen.	ML		100	NA	0.0	FB5-12.5 @ 1215		Bentonite
15	15.0-18.2'	SILT (100% silt), light brown, wet, no odor, no sheen.	ML							Water Level
	18.2-20.0'	SILT (100% silt), brown, moist, no odor, no sheen.	ML		100	NA	0.0	FB5-17.5 @ 1220	X	
20										

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): 0.010	Annular Seal: NA	Surveyed Location: X: NA
Screened Interval (ft bgs): 5-10-feet bgs	Boring Abandonment: Bentonite	Y: NA



Log of Boring: FB6

Client: Unico Properties, LLC

Project: Pemco

Location: Seattle, WA

Farallon PN: 463-012

Logged By: Ken Scott

Date/Time Started: 4/22/15 @ 1245

Date/Time Completed: 4/22/15 @ 1310

Equipment: Geoprobe 7800

Drilling Company: ESN NW

Drilling Foreman: Brian Bowes

Drilling Method: Direct Push

Sampler Type: 5' Macrocore

Drive Hammer (lbs.): Auto

Depth of Water ATD (ft bgs): 10.0', 15.0'

Total Boring Depth (ft bgs): 20.0'

Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.4'	Asphalt (100% asphalt), black. Boring airknifed prior to clear for utilities.	AC							Concrete
	0.4-5.0'	No Recovery.								
5	5.0-7.5'	SILT (95% silt, 5% sand), fine sand, yellowish brown, moist, no odor, no sheen.	ML							Bentonite
	7.5-10.0'	SILT (100% silt), light brown, moist, no odor, no sheen.	ML		100	NA	0.0	FB6-7.5 @ 1250	X	
10	10.0-12.8'	SILT (90% silt, 5% sand, 5% gravel), fine sand, fine gravel, yellowish brown, wet, no odor, no sheen.	ML							Water Level
	12.8-15.0'	SILT (100% silt), dark grey, moist, no odor, no sheen.	ML		100	NA	0.0	FB6-12.5 @ 1255		
15	15.0-16.7'	SILT with gravel (80% silt, 15% gravel, 5% sand), fine gravel, fine sand, yellowish brown, wet, no odor, no sheen.	ML							Water Level
	16.7-20.0'	SILT (100% silt), dark grey, moist, no odor, no sheen.	ML		100	NA	0.0	FB6-17.5 @ 1300	X	
20										

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): 0.010	Annular Seal: NA	Surveyed Location: X: NA
Screened Interval (ft bgs): 10-15-feet bgs	Boring Abandonment: Bentonite	Y: NA



Log of Boring: FB7

Client: Unico Properties LLC
Project: Pemco Property
Location: Seattle, WA

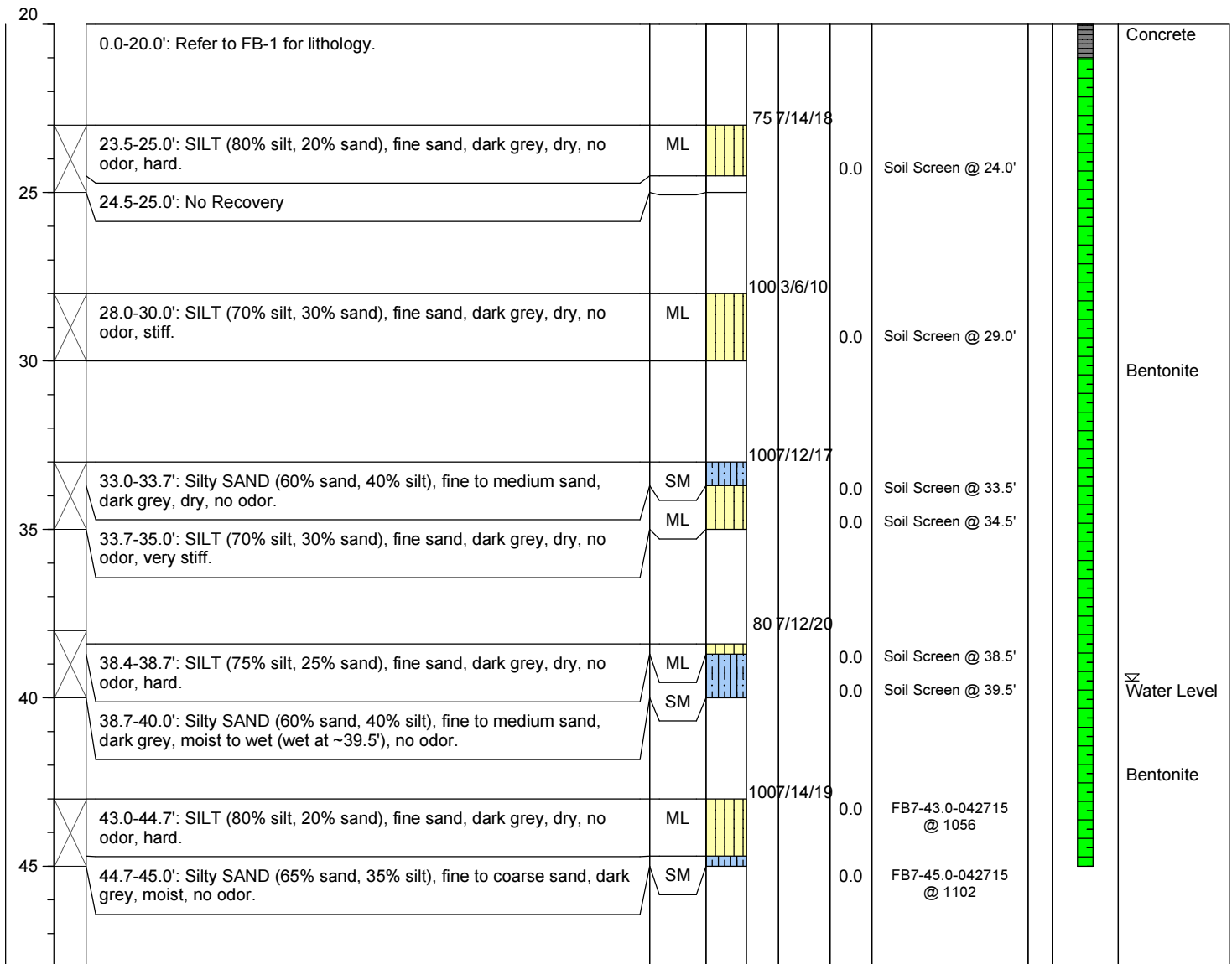
Date/Time Started: 4-27-2015 / 0917
Date/Time Completed: 4-27-2015 / 1051
Equipment: CME 85
Drilling Company: Holt Services
Drilling Foreman: John Bennett
Drilling Method: Hollow Stem Auger

Sampler Type: 2" Split Spoon
Drive Hammer (lbs.): 300 lb
Depth of Water ATD (ft bgs): 39.5'
Total Boring Depth (ft bgs): 45.0'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Jerome Chen

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Surveyed Location: X: NA
Screened Interval (ft bgs): NA	Boring Abandonment: Bentonite	Y: NA



Log of Boring: FB8

Client: Unico Properties LLC
Project: Pemco Property
Location: Seattle, WA

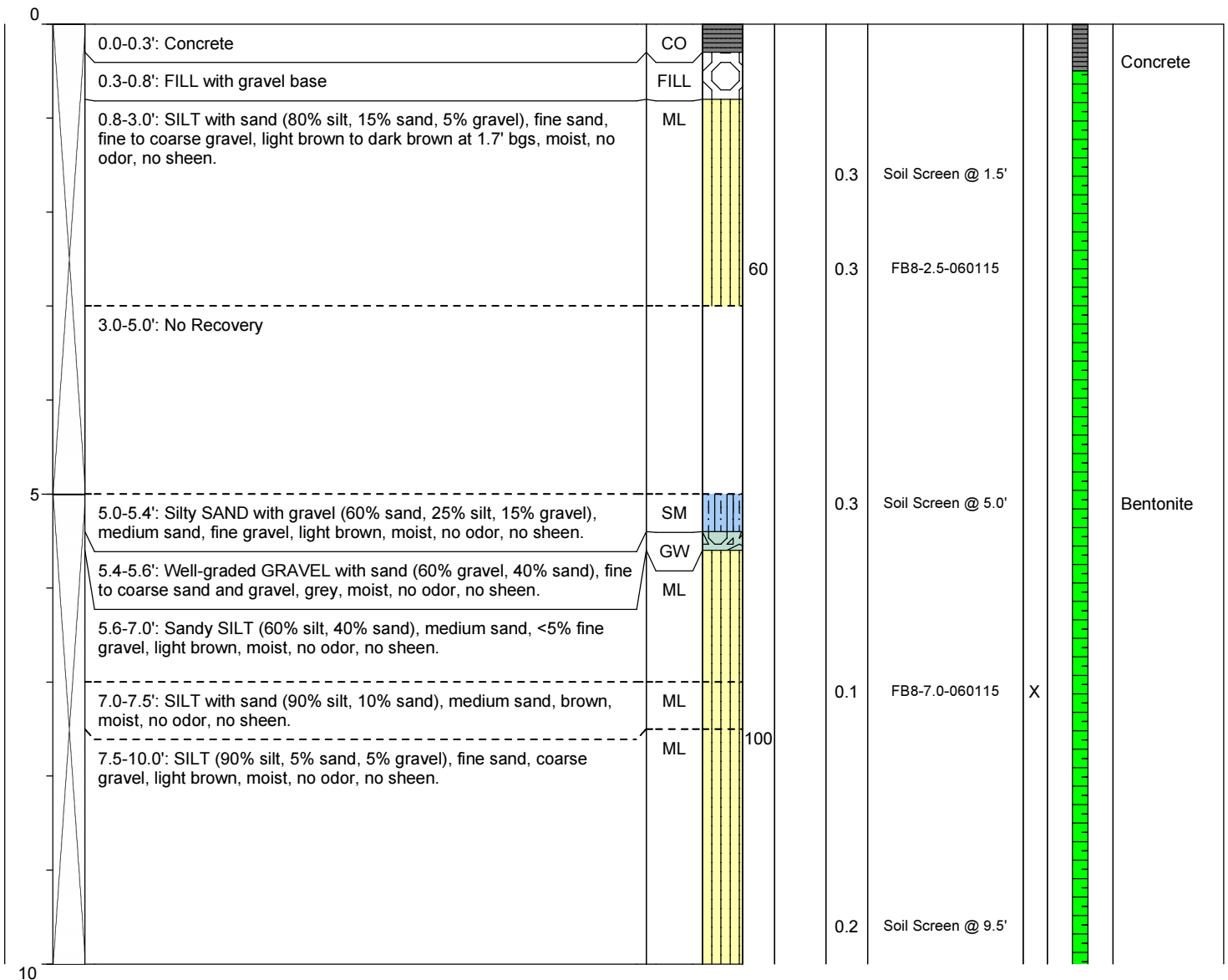
Date/Time Started: 6/1/2015 @ 0945
Date/Time Completed: 6/1/2015 @ 1055
Equipment: Geoprobe 7700DT
Drilling Company: Holt Services
Drilling Foreman: Jason Marsh
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 20.0'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Anna Sigel

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information			
Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA	
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA	
Screen Slot Size (inches): NA	Annular Seal: NA	Surveyed Location: X: NA	
Screened Interval (ft bgs): NA	Boring Abandonment: Bentonite	Y: NA	



Log of Boring: FB8

Client: Unico Properties LLC
Project: Pemco Property
Location: Seattle, WA

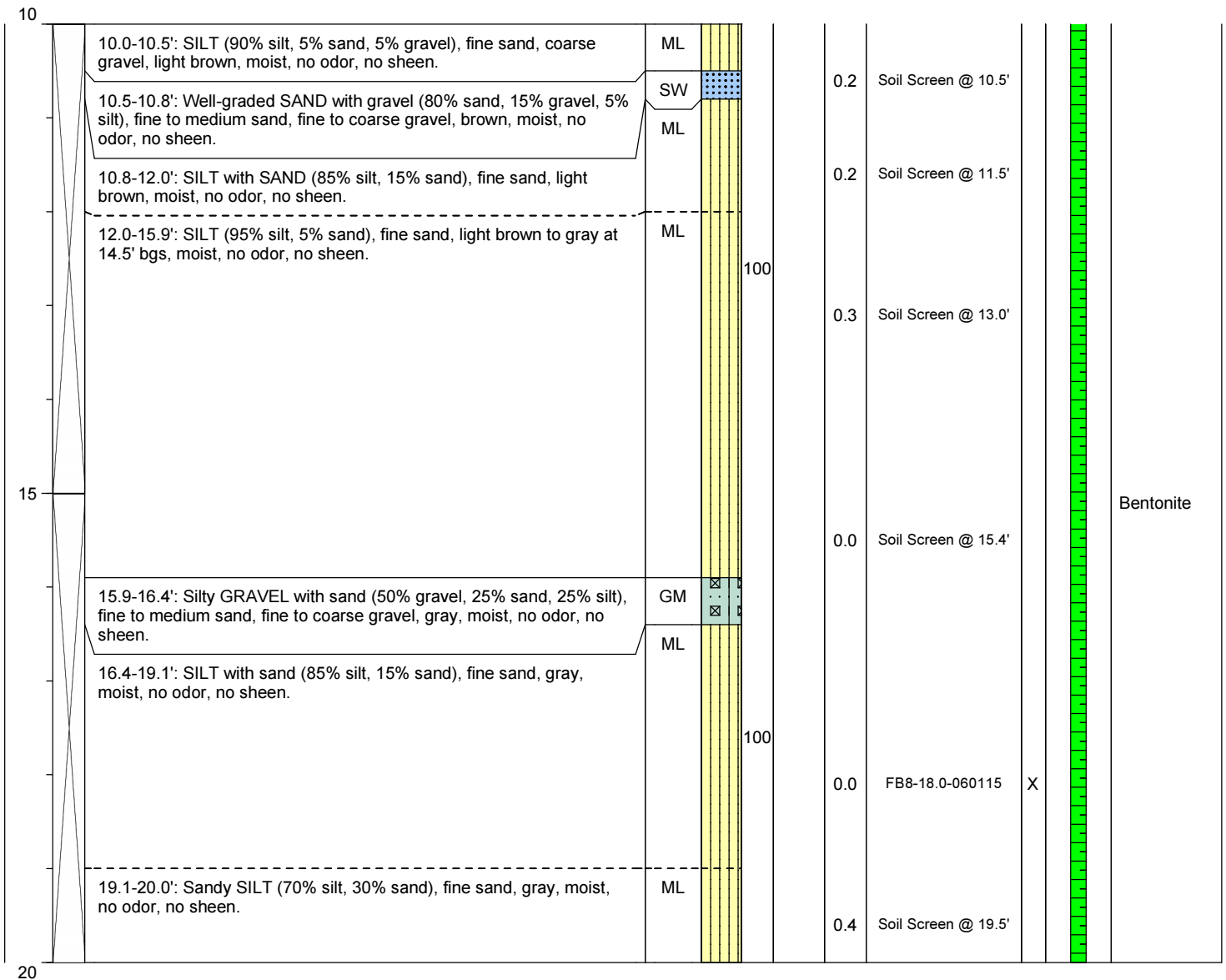
Date/Time Started: 6/1/2015 @ 0945
Date/Time Completed: 6/1/2015 @ 1055
Equipment: Geoprobe 7700DT
Drilling Company: Holt Services
Drilling Foreman: Jason Marsh
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 20.0'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Anna Sigel

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Well Construction Information

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA
 Y: NA



Log of Boring: FB9

Client: Unico Properties LLC
Project: Pemco Property
Location: Seattle, WA

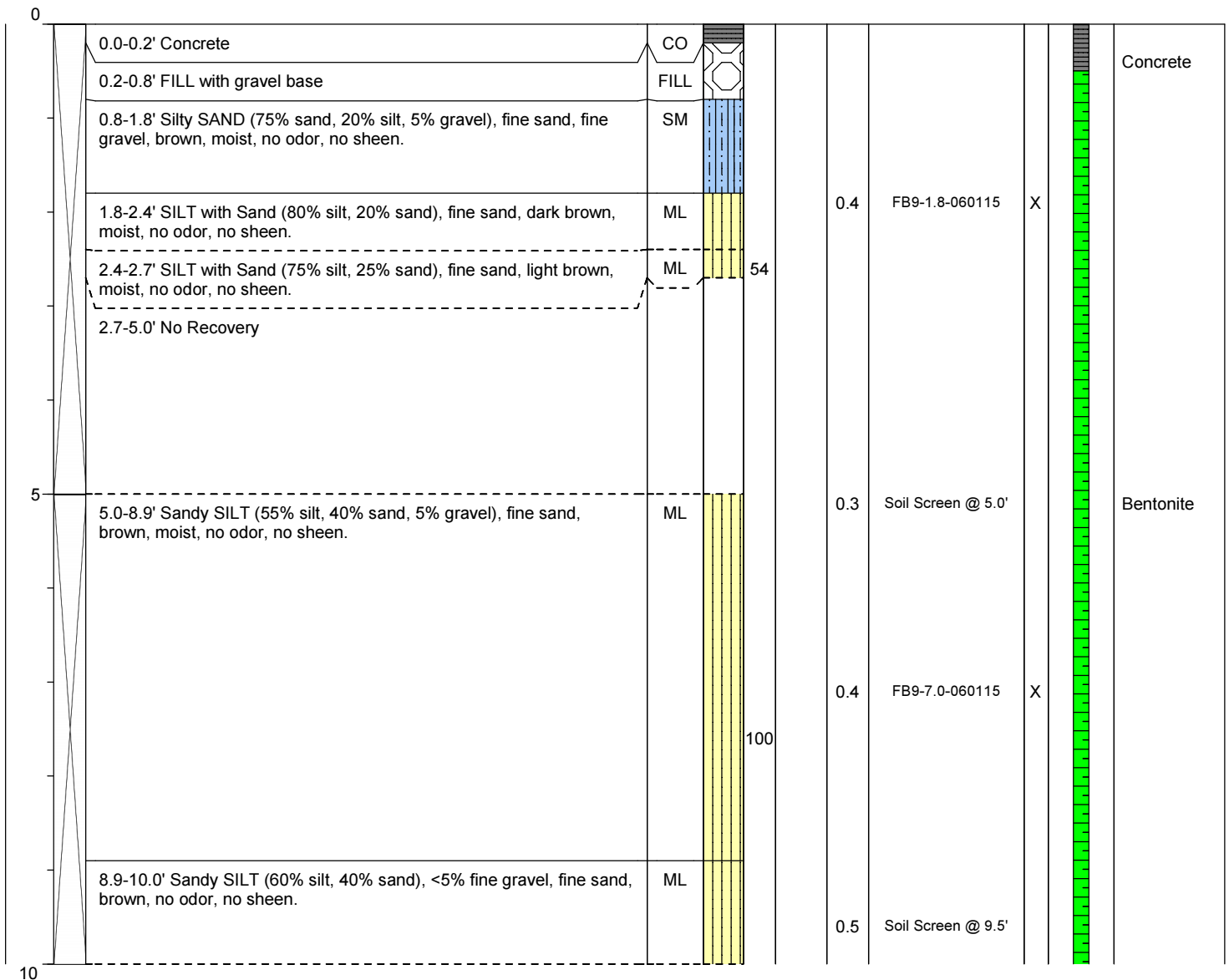
Date/Time Started: 6/1/2015 @ 1130
Date/Time Completed: 6/1/2015 @ 1215
Equipment: Geoprobe 7700DT
Drilling Company: Holt Services
Drilling Foreman: Jason Marsh
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 20.0'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Anna Sigel

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Surveyed Location: X: NA
Screened Interval (ft bgs): NA	Boring Abandonment: Bentonite	Y: NA



Log of Boring: FB9

Client: Unico Properties LLC
Project: Pemco Property
Location: Seattle, WA

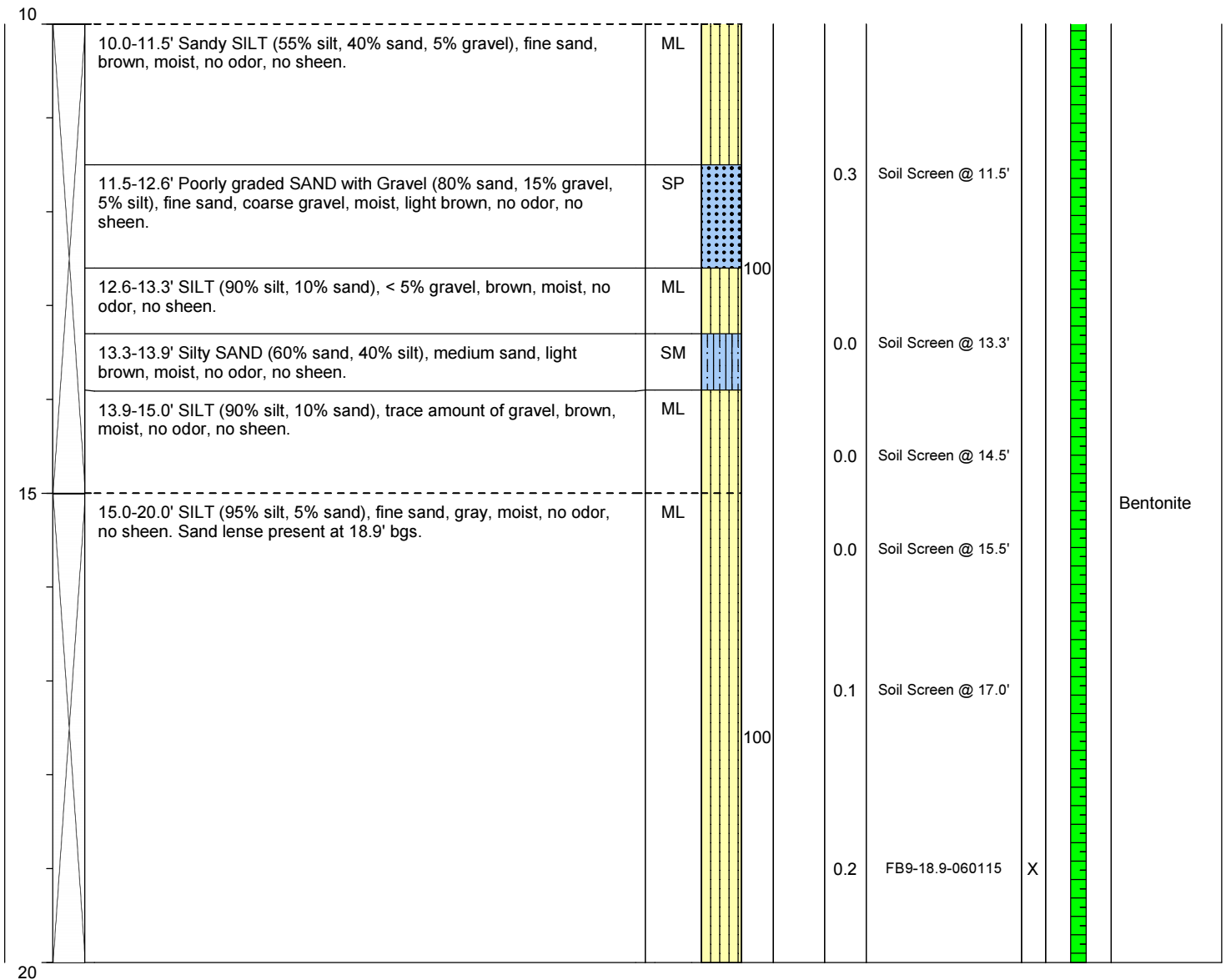
Date/Time Started: 6/1/2015 @ 1130
Date/Time Completed: 6/1/2015 @ 1215
Equipment: Geoprobe 7700DT
Drilling Company: Holt Services
Drilling Foreman: Jason Marsh
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 20.0'
Total Well Depth (ft bgs): NA

Farallon PN: 463-012

Logged By: Anna Sigel

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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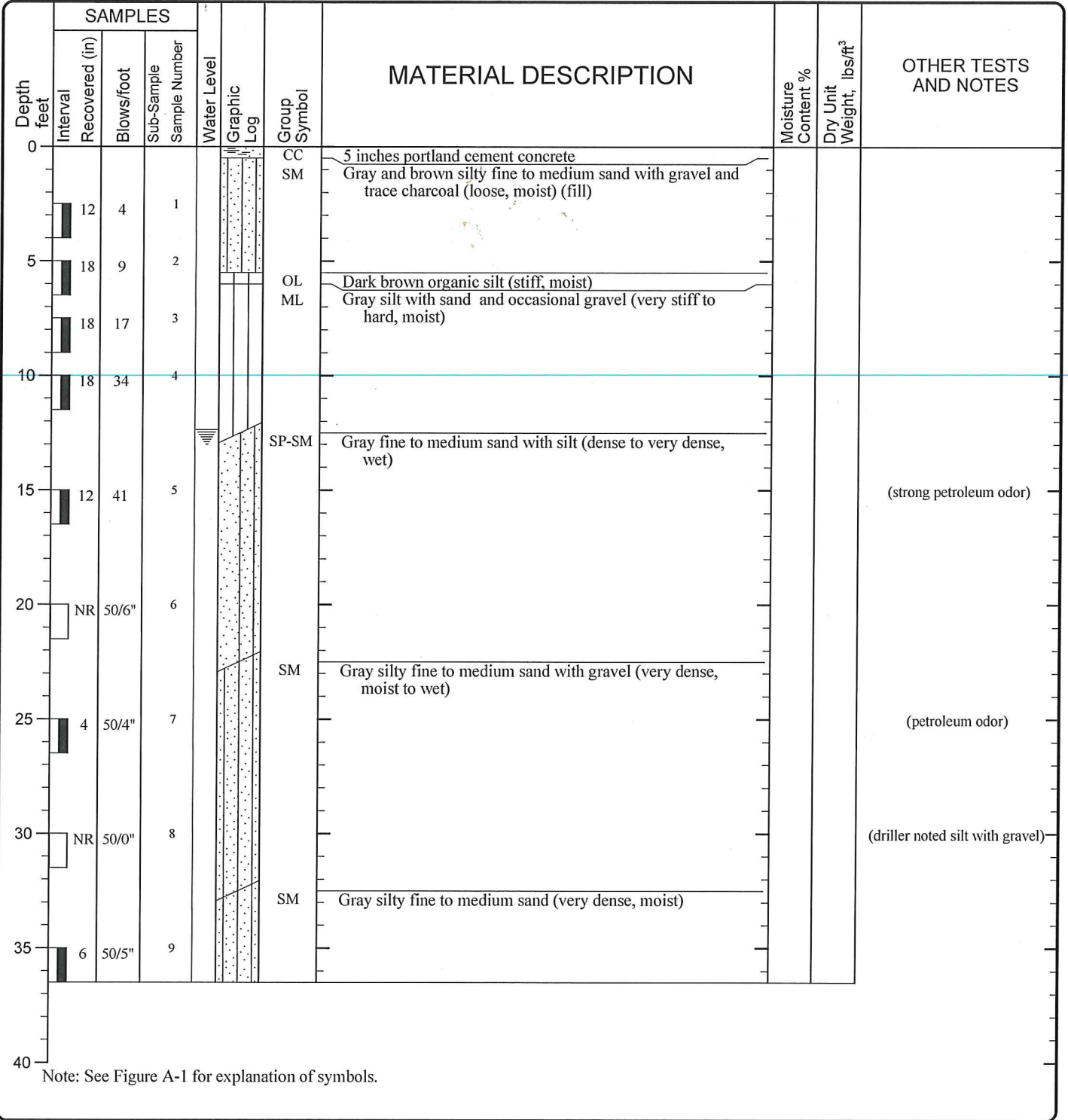
Well Construction Information			
Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA	
Casing Diameter (inches): NA	Surface Seal: Concrete	Top of Casing Elevation (ft): NA	
Screen Slot Size (inches): NA	Annular Seal: NA	Surveyed Location: X: NA	
Screened Interval (ft bgs): NA	Boring Abandonment: Bentonite	Y: NA	

PEMCO Eastlake

**Remedial Investigation and
Cleanup Action Report—
1992 Fuel Line Release**

**Appendix D
Adjacent Property Boring Logs**

Date(s) Drilled	12/30/5	Logged By	TB2	Checked By	MWS
Drilling Contractor	Boretac	Drilling Method	Hollow-stem Auger	Sampling Methods	SPT
Auger/Bit Data	3-1/4 inch ID	Hammer Data	140 (lb) hammer/ 30 (in) drop rope and cathead	Drilling Equipment	Track Rig
Total Depth (ft)	36.5	Surface Elevation (ft)	110	Groundwater Level (ft. bgs)	13
Vertical Datum		Datum/ System		Easting(x): Northing(y):	



V6 GTBORING P:\7087008\00\FINAL\S1708700800.GPJ GEI\6.1.GDT 1/17/06

LOG OF BORING GEI-1



Project: Florist Block
 Project Location: Seattle, Washington
 Project Number: 7087-008-00

Date(s) Drilled	12/30/5	Logged By	TB2	Checked By	MWS
Drilling Contractor	Boretac	Drilling Method	Hollow-stem Auger	Sampling Methods	SPT
Auger/Bit Data	3-1/4 inch ID	Hammer Data	140 (lb) hammer/ 30 (in) drop rope and cathead	Drilling Equipment	Track Rig
Total Depth (ft)	36.5	Surface Elevation (ft)	110	Groundwater Level (ft. bgs)	23.5
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES			Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft ³	OTHER TESTS AND NOTES
	Interval	Recovered (in)	Blows/foot							
0						CC	6.5 inches portland cement concrete			
						SM	Brown silty fine to medium sand (medium dense, moist) (fill)			
5	12	17	1							
	18	11	2			OL	Dark brown organic silt (stiff, moist)	41		
	10	15	3			CL	Gray clay (stiff, moist)			
						ML	Gray silt with sand and occasional gravel (very stiff, moist)	26		AL
10	18	19	4					20		%F = 59
15	NR	50/3"	5				Becomes hard			
						SM	Gray silty fine sand with occasional gravel (dense to very dense, moist)			
20	12	50/5"	6					13		%F = 36
25	18	36	7			SP-SM	Gray fine to medium sand with silt (dense, wet)			
						ML	Gray silt with trace sand and organic matter (hard, moist)			
30	18	37	8							
35	18	49	9			SP-SM	Gray fine to medium sand with silt (very dense, moist)			
40										

Note: See Figure A-1 for explanation of symbols.

V6_GTBORING P:\70870800\FINALS\70870800.GPJ GEIV6 1.GDT 1/17/06

LOG OF BORING GEI-2



Project: Florist Block
 Project Location: Seattle, Washington
 Project Number: 7087-008-00

- Figure A-3
 Sheet 1 of 1

Date(s) Drilled	12/30/5	Logged By	TB2	Checked By	MWS
Drilling Contractor	Boretac	Drilling Method	Hollow-stem Auger	Sampling Methods	SPT
Auger/Bit Data	3-1/4 inch ID	Hammer Data	140 (lb) hammer/ 30 (in) drop rope and cathead	Drilling Equipment	Track Rig
Total Depth (ft)	36.5	Surface Elevation (ft)	115	Groundwater Level (ft. bgs)	20
Vertical Datum		Datum/System		Easting(x):	Nothing(y):

Depth feet	SAMPLES			Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft ³	OTHER TESTS AND NOTES
	Interval	Recovered (in)	Blows/foot							
0						CC	5 inches portland cement concrete			
1.8	18	53	1			ML	Brown silt with sand and occasional gravel (hard, moist) (till-like)			
3.6	18	46	2			ML	Brown silt with trace sand (hard, moist)			(disturbed bedding)
5.4	18	13	3			CL	Gray clay with trace sand and organic matter (stiff to very stiff, moist)	31		AL (horizontal bedding)
7.2	18	22	4							
9.0	18	46	5			SM	Gray silty fine sand (dense, wet)			
10.8	5	46	5							
12.6	18	34	6			ML	Gray silt with trace sand (hard, moist)			
14.4	18	34	6							
16.2	1	50/3"	7							
18.0	NR	50/3"	8							(driller noted hard silt)
19.8										
21.6										
23.4										
25.2										
27.0										
28.8										
30.6										
32.4										
34.2										
36.0										

Note: See Figure A-1 for explanation of symbols.

V6_GTBORING P:\7087008\00\FINALS\708700800.GPJ GEI\6_1.GDT 1/17/06

LOG OF BORING GEI-3



Project: Florist Block
 Project Location: Seattle, Washington
 Project Number: 7087-008-00

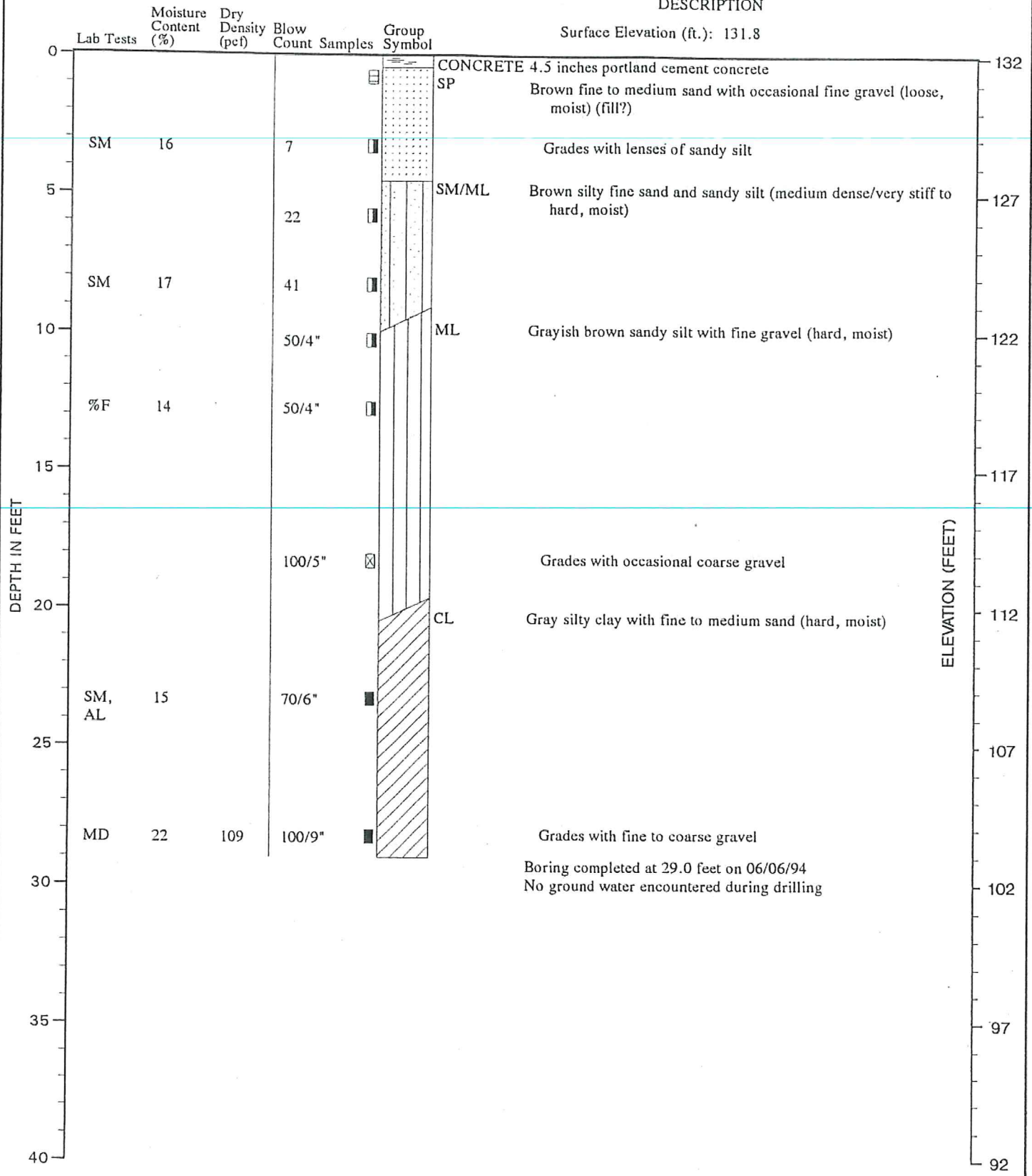
Figure A-4
 Sheet 1 of 1

TEST DATA

BORING B-1

DESCRIPTION

Surface Elevation (ft.): 131.8



Note: See Figure A-2 for explanation of symbols

:MTW:KME:CMS 10/28/94

1015-006-R27

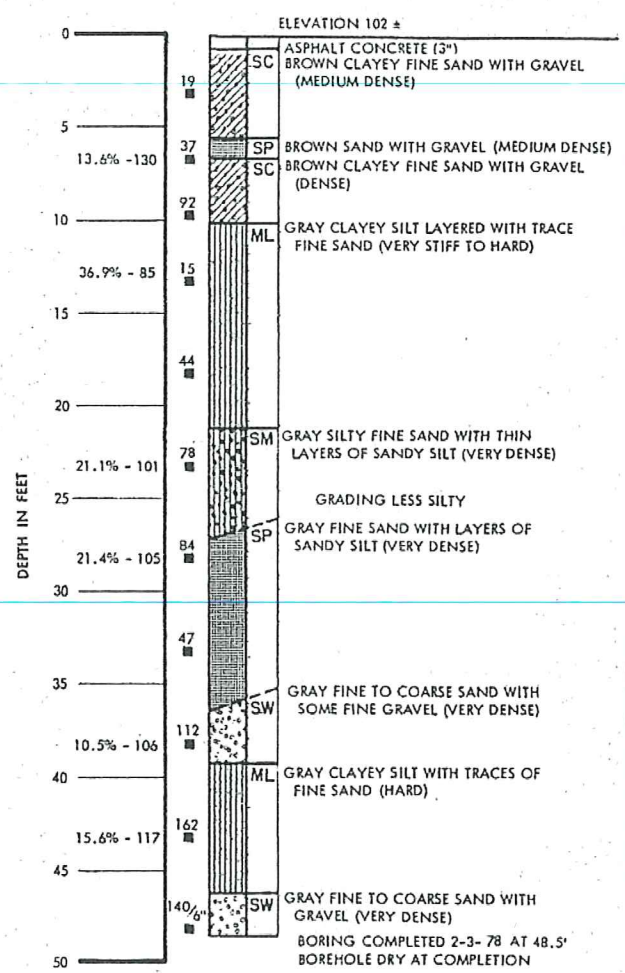
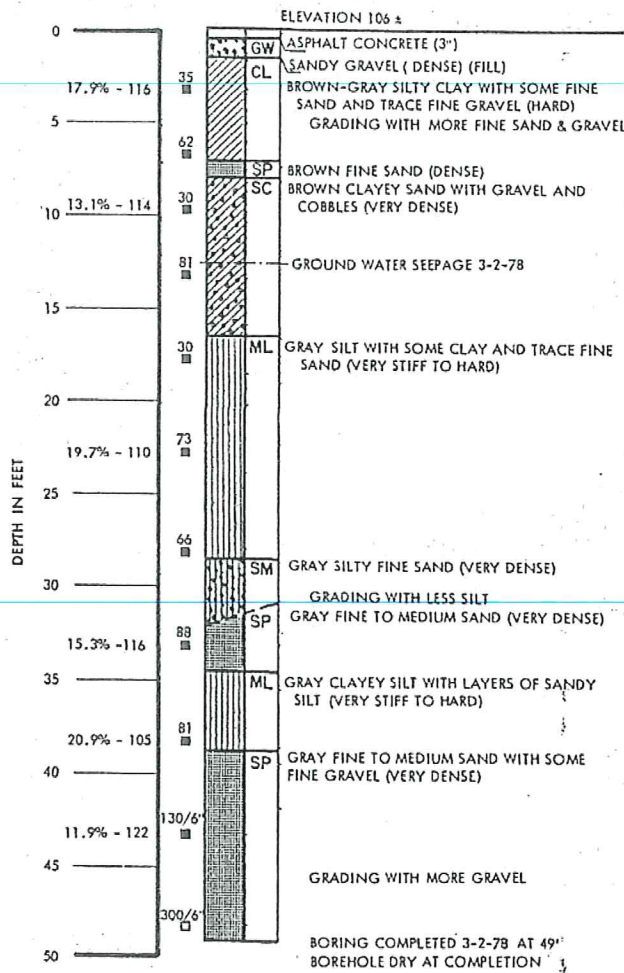


LOG OF BORING

FIGURE A-3

BORING 1

BORING 2

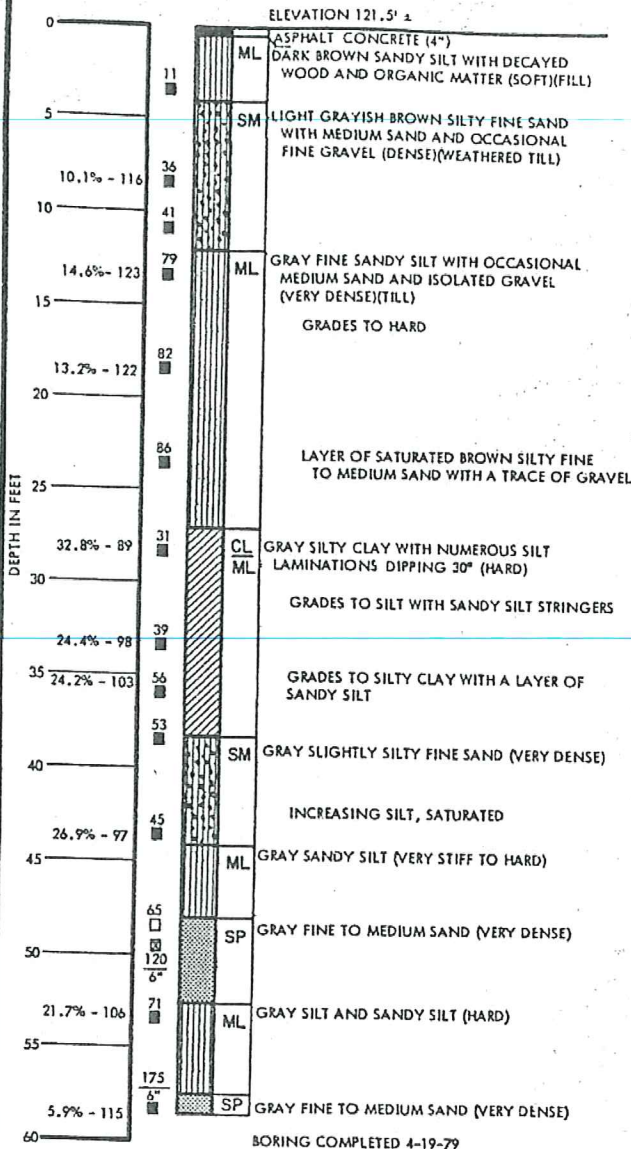


DATE _____
 BY _____
 CHECKED BY _____

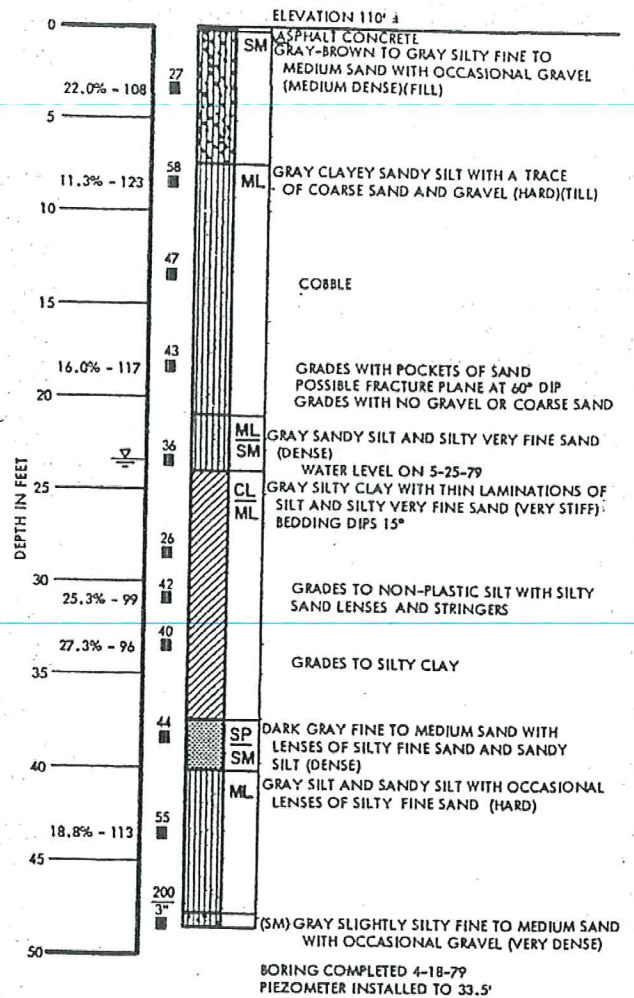
- KEY:**
- MOISTURE CONTENT
 - DRY DENSITY IN PCF
 - 17.9% - 116
 - 35
 - INDICATES DEPTH AT WHICH UNDISTURBED SAMPLE WAS EXTRACTED
 - INDICATES DEPTH AT WHICH DISTURBED SAMPLE WAS EXTRACTED.
 - INDICATES SAMPLING ATTEMPT WITH NO RECOVERY.
- NOTES:**
1. THE DISCUSSION IN THE TEXT OF THIS REPORT IS NECESSARY FOR A PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIALS.
 2. ELEVATION REFER TO CITY OF SEATTLE DATUM

LOG OF BORINGS

BORING 7



BORING 8



KEY:

- ☐ BLOWS REQUIRED TO DRIVE SAMPLER ONE FOOT WEIGHT=300 LBS., STROKE=30 INCHES.
- INDICATES DEPTH AT WHICH UNDISTURBED SAMPLE WAS EXTRACTED
- ▣ INDICATES DEPTH AT WHICH DISTURBED SAMPLE WAS EXTRACTED.
- INDICATES SAMPLING ATTEMPT WITH NO RECOVERY.

NOTE:

1. THE DISCUSSION IN THE TEXT OF THIS REPORT IS NECESSARY FOR A PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIALS.

LOG OF BORINGS

Boring Log CDM-1

Other Tests	Sample No.	Moisture Content (%)	Dry Density (pcf)	PTD (ppm) / reading; background	Penetration Resistance (blows / 5 in.)	Depth (feet)	Recovery (%)	RCD (%)	Sample	USCS	Symbol	DESCRIPTION	Elev. (feet)
												3-inch-thick asphalt surface.	
MC	1	12.3			7 18 23	5				SM		FILL Grayish Brown SILTY SAND (SM) Moist, dense, fine to medium sand with fine to coarse gravel, hydrocarbon odor noted. Cobble in hole.	105
MC	2	13.3			9 16 18	10				ML		NATIVE Gray SANDY SILT (ML) Moist, hard, fine sand seams.	100
MC	3	21.1			5 8 11	15						Becomes very stiff.	95
MC	4	23.1			9 10 11	20				SP		Gray SAND (SP) Wet, medium dense, fine sand, possible wood fragment in shoe of sampler.	90
						25						Boring terminated at 20 feet (bgs) on 02/07/2001. Groundwater encountered at 17.5 feet (bgs) while drilling. Boring backfilled with bentonite chips and sealed with jet set/concrete.	85
						30							80
													75

NEIS SOIL ROCK LOG NEWRICH.GPJ CDM BLLV.GDT 5/25/01 REV.

Northing/Easting: 175.2555 / 227.4126
 Surface Elevation: 109.6'
 Logged By: PJS

Driller/Drill Rig: Holt Drilling/Mobile B-59
 Equipment/Hammer: SPT/140 lb
 Date Completed: 2-7-01

Harbor Properties
 New Richmond Laundry / Pemco Building Site
 Seattle, Washington

Boring Log CDM-5

Other Tests	Sample No.	Moisture Content (%)	Dry Density (pcf)	PI (ppt) = liquid-background	Penetration Resistance (blows / 6 in.)	Depth (feet)	Recovery (%)	RDD (%)	Sample	USCS	Symbol	DESCRIPTION	Elev. (feet)
												3-inch-thick asphalt parking lot. FILL	110
MC	1	12.6			22	5				SM		Brown SILTY SAND (SM) Moist, loose, fine to coarse sand, some intermixed silt.	105
	2				31 23 13	10						Become dense with trace fine gravel.	
MC	3	13.7			30	15						NATIVE Gray SILT (ML) Moist, stiff, with occasional fine sand interbeds.	100
MC	4	34.8			14 8	20				ML		Becomes medium stiff with some laminations and fractures.	95
	5				3 10	25							90
	6				3	30							85
												Boring terminated at 29 feet (bgs) on 03/21/2001. No groundwater encountered. Boring backfilled with bentonite chips.	80

NEIS_SOIL_ROCK_LOG_NEWRICH.GPJ_CDM_BILLY.GDT_5/25/01_REV.

Northing/Easting: 192.0244 / 464.4597
 Surface Elevation: 111.4'
 Logged By: AJS

Driller/Drill Rig: Holt Drilling/Mobile B-59
 Equipment/Hammer: SPT/140 lb
 Date Completed: 3-21-01

Harbor Properties
 New Richmond Laundry / Pemco Building Site
 Seattle, Washington

Boring Log CDM-5a

DESCRIPTION

Other Tests	Sample No.	Moisture Content (%)	Dry Density (pcf)	PIP (ppm) [reading/background]	Penetration Resistance (blows / 6 in.)	Depth (feet)	Sample	USCS	Symbol	Elev. (feet)
	7	17.1				5				110
						10				105
						15				100
						20				95
						25				90
						30				85
						31				80
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						200				

(See Figure A-6, Boring Log CDM-5 dated 03/21/01 for soil description).



ML

Dark Gray SANDY SILT (ML)

Location: See Site Plan Drill Rig: Mobile B-59
 Surface Elevation: 111.4' Equipment/Hammer: SPT/D&M/140 lb
 Logged By: RPB Date Completed: 8-9-03

**DM blowcounts performed with SPT hammer and drop

Harbor Properties
 New Richmond Laundry / Pemco Building Site
 Seattle, Washington

Boring Log CDM-5a Figure: A-3
 Project No: 19913-39707 1 of 2



Boring Log CDM-6

Other Tests	Sample No.	Moisture Content (%)	Dry Density (pcf)	PIU (psf) = reading-background	Penetration Resistance (blows / 6 in.)	Depth (feet)	Recovery (%)	ROD (%)	Sample	USCS	Symbol	DESCRIPTION	Elev. (feet)
												3-inch-thick asphalt parking lot. FILL	110
	1				1 1 1	5				SM		Brown to Black SILTY SAND (SM) Moist, very loose, fine to coarse sand, with trace fine gravel, strong hydrocarbon odor.	105
	2				4 4 9	10						Become medium dense.	100
	3				1 2 4	15				ML		NATIVE Gray SILT (ML) Moist, medium stiff, some oxidation.	95
	4				1 4 6	20				SM		Becomes stiff. Gray SILTY SAND (SM) Moist, medium dense, fine sand.	90
	5				7 4 11	25				ML		Gray SILT (ML) Moist, very stiff.	85
	6				5 8 14	30				SM		Gray SILTY SAND (SM) Wet, medium dense, fine to medium sand.	80
												Boring terminated at 29 feet (bgs) on 03/21/2001. Groundwater encountered at 28.5 feet bgs. Boring backfilled with bentonite chips.	

NEIS SOIL ROCK LOG NEWRICH.GPJ CDM_BLLV_GDT_5/25/01 REV.

Northing/Easting: 180.5764 / 375.2158
 Surface Elevation: 111.5'
 Logged By: AJS

Driller/Drill Rig: Holt Drilling/Mobile B-59
 Equipment/Hammer: SPT/140 lb
 Date Completed: 3-21-01

Harbor Properties
 New Richmond Laundry / Pemco Building Site
 Seattle, Washington

BORING LOG NEW RICHMOND NEWRICH.GPJ CDM BLLV.GDT 9/17/03 REV.

Other Tests	Sample N	Moisture Content (%)	Dry Densi	PIU (ppm) (reading back)	Penetration Resistance (blows / 6')	Depth (feet)	Sample	USCS	Symbol	DESCRIPTION	Elev. (feet)
						5					110
						10					105
						15				(See Figure A-7, Boring Log CDM-6 dated 03/21/01 for soil description).	100
						20					95
						25					90
						30					85
	7				17 38 39					Brown, SANDY SILT (ML), moist, hard.	80

Location: See Site Plan Drill Rig: Mobile B-59
 Surface Elevation: 111.5 Equipment/Hammer: SPT/D&M/140 lb
 Logged By: RPB Date Completed: 8-8-03

**DM blowcounts performed with SPT hammer and drop

CDM

Harbor Properties
 New Richmond Laundry / Pemco Building Site
 Seattle, Washington

Boring Log CDM-6a Figure: A-4
 Project No: 19913-39707 1 of 2


Boring Log CDM-6a

Other Tests	Sample No.	Moisture Content (%)	Dry Density (p)	PI (ppm) (reading/100gram)	Penetration Resistance (blows / 6 in.)	Depth (feet)	Sample	USCS	Symbol	DESCRIPTION	Elev. (feet)
								ML			75
	8				6 19 22	40	ML			Yellow Red SANDY SILT (ML) Wet, hard, low plasticity, stratified with dark gray silty sand and sandy silt.	
								SM		Dark Gray SILTY SAND (SM) Wet, dense, graded coarse to fine sand.	70
	9				2 8 14	45	CL-ML			Stratified with brown silt. Dark Gray SILTY CLAY-CLAYEY SILT (CL-ML) Moist, very stiff, low plasticity.	65
	10				17 43 50/5"	50	SM			Dark gray SILTY SAND (SM) Wet, very dense, fine to medium sand. Stratified with dark gray sandy silt Trace coarse gravel.	60
	11				8 16 43	55	SP			Dark Gray SAND (SP) Wet, very dense, fine to medium sand, trace silt, stratified with dark gray clayey silt.	
								SP		Gray GRAVELLY SAND (SP) Wet, very dense, graded coarse to fine sand.	55
	12				29 26 43	60				Becomes wet.	50
	13				12 16 18	65	CL			Dark Gray SILTY CLAY (CL) Moist, hard, low plasticity.	
										Boring terminated at 65.5 feet (bgs) on 08/08/2003. Groundwater encountered at 39 feet bgs. Boring backfilled with bentonite chips.	45

BORING LOG NEW RICHMOND NEW RICH LGPJ CDM BLLV.GOT 9/17/03 REV.

Location: See Site Plan Drill Rig: Mobile B-59
 Surface Elevation: 111.5' Equipment/Hammer: SPT/D&M/140 lb
 Logged By: RPB Date Completed: 8-8-03

**DM blowcounts performed with SPT hammer and drop



Harbor Properties
 New Richmond Laundry / Pemco Building Site
 Seattle, Washington

Boring Log CDM-6a Figure: A-4
 Project No: 19913-39707 2 of 2

Boring No. B-3

Logged by : PL
Date: 4/13/05

Approximate Elev.: 109.6'

Soil Description	Consistency/ Relative Density	Depth (feet)	sample	(N) Blows /ft	Moisture Content (%)	
4" concrete sidewalk. Dark brown silty SAND with trace wood debris, moist, loose, (Fill).	Loose	5	I	5	18.9	
Brown silty SAND with some gravel to silty gravelly SAND, moist to wet, very dense, (SM).	Very Dense	10	I	50/6"	8.7	
		15	I	50/5"	12.6	▼ (4/13/05)
Gray SILT with trace sand, low plasticity, moist to wet, very hard, (ML).	Very Hard	20	I	50/6"	23.6	
Brown silty SAND, fine to medium sand, moist to wet, very dense, (SM).	Very Dense	25	I	50/6"	26.5	
			I	50/6"	18.8	



The Riley Group, Inc.
17522 BOTHELL WAY NE, SUITE A
BOTHELL, WASHINGTON 98011

Tomlinson North Block 10

Test Boring Log B-3

Figure A-6

Site Address: SEC Republican Street & Pontius Avenue N., Seattle, WA

Boring No. B-3 (cont.)

Logged by : PL

Date: 4/13/05

Approximate Elev.: 109.6'

Soil Description	Consistency/ Relative Density	Depth (feet)	Sample	(N) Blows /ft	Moisture Content (%)
Gray SILT with trace sand, low plasticity, moist, very hard, (ML).	Very Hard	35	I	50/6"	18.9
Gray silty SAND with trace gravel to gravelly SAND with some silt, damp to moist, very dense, (SM).	Very Dense	40	I	50/5"	5.1
		45	I	50/5"	7.1
		50	I	50/4"	4.1
Terminated at 49.0'. Minor perched groundwater seepage encountered at 14.0'.		55			

Tomlinson North Block 10



The Riley Group, Inc.
17522 BOTHELL WAY NE, SUITE A
BOTHELL, WASHINGTON 98011

Test Boring Log B-3

Figure A-7

Site Address: SEC Republican Street & Pontius Avenue N., Seattle, WA

PROJECT:
Vulcan- Block 11

LOGGED BY:
K. Anderson

LOCATION:

COORDINATE SYSTEM:

WELL ID: **MW-01**

ECOLOGY WELL ID:
BJW-390

DRILLED BY:
Holcene- Roddy Gilseth

NORTHING:

EASTING:

DRILLING EQUIPMENT:
Truck mounted hollow stem auger

GROUND SURFACE ELEV.::

TOC ELEVATION:

DRILLING METHOD:
8" diameter auger

TOTAL DEPTH (ft bgs):
101

DEPTH TO WATER (ft bgs):
93'

SAMPLING METHOD:
1.5" x 18" split spoon

BORING DIAMETER:
9"

DRILL DATE:
11/1/2013

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	# of Blows	PPID (ppm)	Sample ID	Well Construction
0		Gray SILTY SAND .					
5	SM						
10	ML	Plastic SILT , moist.			66.8		
10		At 10 ft bgs, driller noted gasoline odor.					
10	SM						
15	ML	Gray sandy lense w/ abundant gravel below.					
15	ML						
20	CL	Gray CLAY ; very hard, damp.					
20		Gray, fine SAND ; moist, no odor.					
20	SP	From 20 to 26 ft bgs, sand coarsens, with layers of mottled sand and medium grained lenses. Gasoline odor faint at 21 ft bgs.			112		
25							
30	ML	Gray SILT very firm, no odor, no gravel.			45		
30		Gray SILT to CLAY-SILT ; damp. Silty sand at bottom of core. No odor.	9	11	4.3	MW-01-30.5' @1005	
30			22	4.3	1.4		
35	SM	Gray fine SILTY SAND ; damp, no odor.			0.5	MW-01-35.5' @1015	
35		Brown, well-graded SAND w/ fine gravel; dry.	13	34	0.2		
35			34	0.2	0.2		
40	SW	Brown, well-graded SAND w/ gravel; trace silt; no odor.			0.2	MW-01-40.5' @1025	
40			18	50/5"	0.4		
45		At 45 ft bgs, less gravel. No odor.			0.1	MW-01-45.25' @1030	
45			50/6"	0.1			
50	SW-SM	At 50 ft bgs, increased gravel and silt; moist, no odor.			0.1	MW-01-50' @1035	
50			50/3"	0.1			
55							
60	CL	At 60 ft bgs, soil appears to be interbedded lenses of dark-brown, dry-brittle CLAY and blue-gray, poorly-graded, fine SAND with silt and gravel; dry to damp.			0	MW-01-60.25' @1055	
60		From 60 to 70 ft bgs, drilling difficult due to hard, silty material.	50/1"	0			
65	SP-SM						
70		Blue-gray, well-graded SAND w/ silt and well-graded gravel; dry to damp; no odor.			0	MW-01-70.5' @1130	
70			42	50/6"	0.4		
75							
80		(Same as above: Blue-gray, well-graded SAND w/ silt and well-graded gravel; dry to damp; no odor.)			0	MW-01-80.5' @1155	
80			36	50/3"	0		
85	SW-SM						
90		At 90 ft bgs, gravel becomes more fine. Soil becomes slightly more moist. No odor.			0	MW-01-90.25' @1225	
90			50/5"	0			
95							
100		At 100 ft bgs, wet. Bottom of boring = 101 ft bgs.					
100			48	50/4"		MW-01-100.5' @1300	
105							

ABBREVIATIONS:
ft bgs = feet below ground surface USCS = Unified Soil Classification System
ppm = parts per million ▼ = denotes groundwater table

NOTES: Augered to 30' bgs to collect first sample. Lithology taken from adjacent boring FS-46 and observed drill cuttings.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

25-4E-30R
RE06295

Construction/Decommission

431350

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Troy Laundry

Site Address 307 Fairview Ave. N.

City Seattle

County 17-King

Consulting Firm Sound Earth Strategies, Inc.

Location 1/4 SE 1/4 SE Sec 30 Twn 25N R 4E or EW W

Unique Ecology Well ID

Tag No. BHJ-562

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) James Goble

Driller/Trainee Signature

Driller/Trainee License No. 3131

Tax Parcel No. 1986200480

Cased or Uncased Diameter 8"

Static Level 80'

Work/Decommission Start Date 10/7/11

Work/Decommission End Date 10/10/11

If trainee, licensed driller's

Signature and License No. _____

Construction/Design

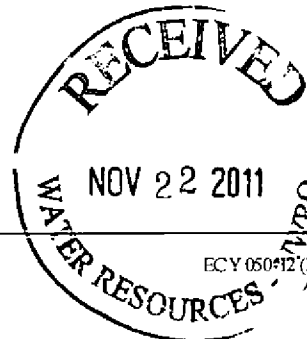
Well Data W11-582

Formation Description

	Concrete Surface Seal Depth	<u>4'</u> FT	0 - <u>14'</u> FT
	Blank Casing (dia x dep)	<u>2" x 105'</u>	Fine to med sand & gravel w/ some silty sand (brown)
	Material	<u>PVC</u>	
	Backfill	<u>99'</u> FT	0 <u>14 - 80'</u> FT
	Type	<u>Best chips</u>	Very dense brown till w/ med. to large gravels
	Seal	<u>N/A</u>	0 <u>80 - 110'</u> FT
	Material	<u>N/A</u>	Fine to very fine brown sand & gravel
	Gravel Pack	<u>7'</u> FT	
	Material	<u>3/12 SAND</u>	
	Screen (dia x dep)	<u>2" x 5'</u>	
	Slot Size	<u>010</u>	
	Material	<u>P.V.C.</u>	
Well Depth	<u>110'</u> FT		
Backfill	<u>N/A</u>		
Material	<u>N/A</u>		
Total Hole Depth	<u>110'</u> FT		

Scale 1" = _____

Page _____ of _____



ECY 050*12 (Rev 201)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

15-4E-30R
RE06295

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

431351

Type of Well

Resource Protection

Geotechnical Soil Boring

Consulting Firm Sound Earth Strategies, Inc.

Property Owner Troy Laundry

Site Address 307 Fairview Ave. N.

City Seattle County 17-King

Unique Ecology Well ID Tag No. BHT-563

Location 1/4 SE 1/4 SE Sec 30 Twn 25N R 4E or EWM WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Lat/Long (s,t,r Lat Deg _____ Lat Min/Sec _____ still Required) Long Deg _____ Long Min/Sec _____

Materials used and the information reported above are true to my best knowledge and belief

Tax Parcel No. 1986200480

Driller Trainee Name (Print) James Goble

Cased or Uncased Diameter 8" Static Level 80'

Driller/Trainee Signature _____

Work/Decommission Start Date 10/11/11

Driller/Trainee License No. 3131

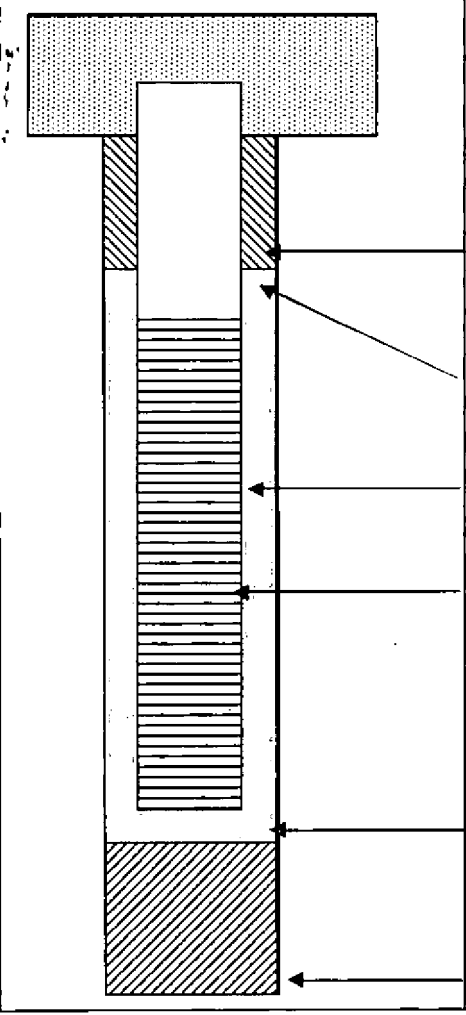
Work/Decommission End Date 10/12/11

If trainee, licensed driller's Signature and License No. _____

Construction/Design

Well Data W11-582

Formation Description



Concrete Surface Seal Depth	<u>4'</u>	FT
Blank Casing (dia x dep)	<u>2' x 105'</u>	FT
Material	<u>P.V.C.</u>	
Backfill	<u>99'</u>	FT
Type	<u>But Chips</u>	
Seal	<u>N/A</u>	
Material	<u>N/A</u>	
Gravel Pack	<u>7'</u>	FT
Material	<u>2/12 SAND</u>	
Screen (dia x dep)	<u>2' x 5'</u>	
Slot Size	<u>010</u>	
Material	<u>P.V.C.</u>	
Well Depth	<u>110</u>	FT
Backfill	<u>N/A</u>	
Material	<u>N/A</u>	
Total Hole Depth	<u>110'</u>	FT

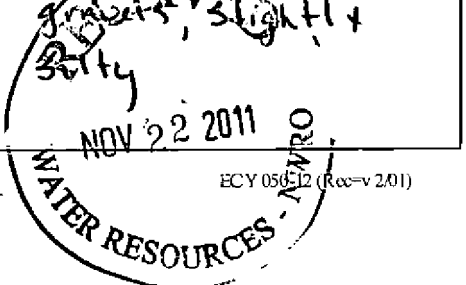
0 - 16' FT
Fine to med brown sand w/ small gravels & some small lobbles

16' - 80' FT
Brown till very gravelly, very dense w/ some small lobbles

80' to 110' FT
Dark Brown sand fine to med. w/ small to med gravels, slightly silty

Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

4168578



MONITOR WELL REPORT

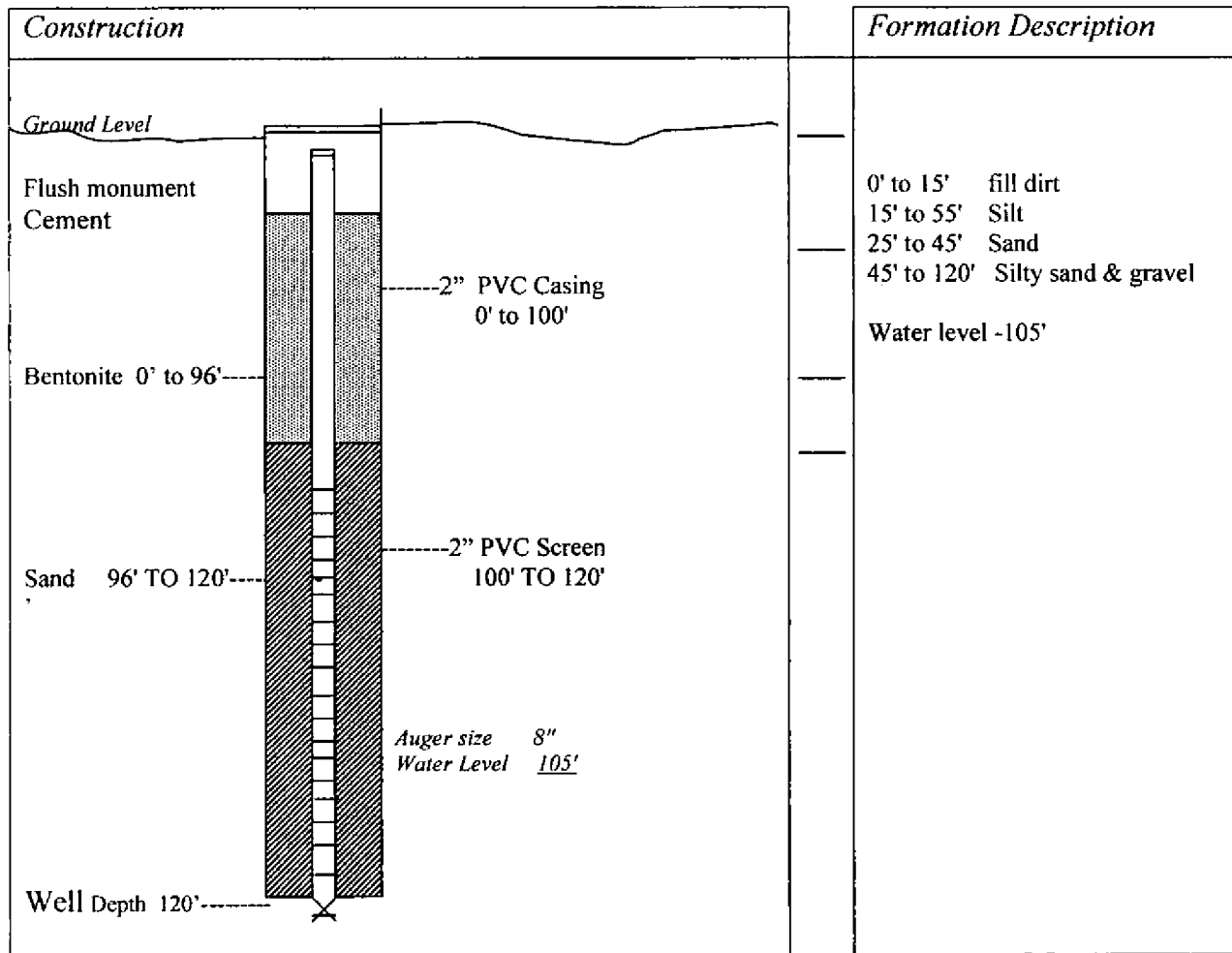
Construction

Notice of Intent # RE 07736

CONSULTING FIRM Geo Engineers
DRILLING COMPANY Geologic Drill Explorations
DRILLER Wade Betlaf
LICENCE # 2922
SIGNATURE : Wade Betlaf

PROPERTY OWNER 9th & Stewart, LLD
SITE ADDRESS 807 Stewart
Seattle, WA
LOCATION: NE,NE,SEC 31,T25N,R4E
COUNTY King County
WORK/DECOM DATE 10/29/12
DATE COMPLETED 11/1/12

Unique ID # BHN -362



NOV 1 2012
NWRC

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

468579



MONITOR WELL REPORT

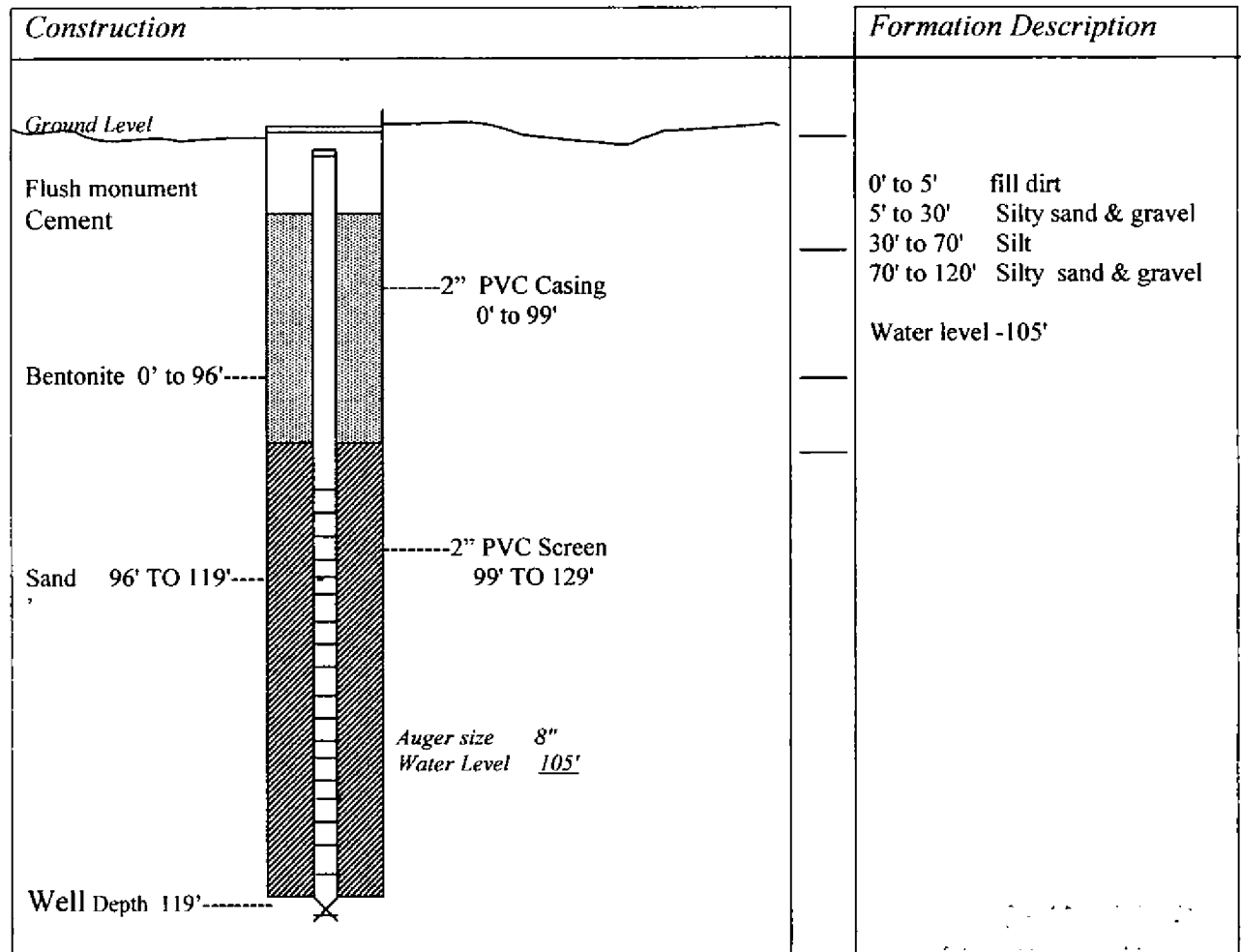
Construction

Notice of Intent # RE 07736

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NOV 1 2012
KING COUNTY
DEPARTMENT OF ECOLOGY
NORTH WAVE

PEMCO Eastlake

**Remedial Investigation and
Cleanup Action Report—
1992 Fuel Line Release**

**Appendix E
Simplified TEE**

Simplified Terrestrial Ecological Evaluation

Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest ½ acre (1/4 acre if the area is less than 0.5 acre).																					
1) From the table below, find the number of points corresponding to the area and enter this number in the field to the right.	4																				
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;"><u>Area (acres)</u></th> <th style="text-align: left;"><u>Points</u></th> </tr> </thead> <tbody> <tr><td>0.25 or less</td><td>4</td></tr> <tr><td>0.5</td><td>5</td></tr> <tr><td>1.0</td><td>6</td></tr> <tr><td>1.5</td><td>7</td></tr> <tr><td>2.0</td><td>8</td></tr> <tr><td>2.5</td><td>9</td></tr> <tr><td>3.0</td><td>10</td></tr> <tr><td>3.5</td><td>11</td></tr> <tr><td>4.0 or more</td><td>12</td></tr> </tbody> </table>	<u>Area (acres)</u>	<u>Points</u>	0.25 or less	4	0.5	5	1.0	6	1.5	7	2.0	8	2.5	9	3.0	10	3.5	11	4.0 or more	12	
<u>Area (acres)</u>	<u>Points</u>																				
0.25 or less	4																				
0.5	5																				
1.0	6																				
1.5	7																				
2.0	8																				
2.5	9																				
3.0	10																				
3.5	11																				
4.0 or more	12																				
2) Is this an industrial or commercial property? If yes, enter a score of 3. If no, enter a score of 1.	3																				
3) Enter a score in the box to the right for the habitat quality of the site, using the following rating system. High=1, Intermediate=2, Low=3	3																				
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2.	2																				
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.	4																				
6) Add the numbers in the boxes on lines 2-5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified evaluation may be ended.	12																				

PEMCO Eastlake

**Remedial Investigation and
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**Appendix F
Trucking Weight Ticket**



Weighed At: Soil Remediation

1876086604

CEMEX 6300 Glenwood Ave
Everett, WA 98213

Location: 1876

Order: 41059861 Dispatch: 0 Date: 04/13/2016

Ship To: 3063871 - CLEARCREEK CONTRACTORS INC
P: FLOYD SNYDER -PEMCO
76 325 EASTLAKE AVE EAST
SEATTLE WA 98109

Instruct: CLASS 3 TO EVERETT SOIL REMEDIATION

Job #: FLOYD SNYDER -PE PO: 215136
Product: 1192508 - CLASS 3 SOIL DUMPED BY TON

Carrier: -
Vehicle: 2212771 - CC443 CLEARCREEK CONTRACTORS
Tractor / Trailer1 / Trailer 2

Qty:		-- DRIVER ON AT TARE & GROSS --			
		lb	ton	tns	
16.49 ton		60 500	30 25	27.44	
CEMEX		27 520	13 76	12.48	
Deputy Weighmaster:		32 980	16.49	14.96	
Greggory W Smith					
Scale:	1				
In:	2:32 pm				Today Loads: 1
Out:	2:41 pm				Today Qty: -16.49 ton
					0.00

CEMEX'S STANDARD TERMS AND
CONDITIONS INCORPORATED HEREIN

0.00

Signature of Receiving Agent

Driver

METRIC CONVERSION FORMULA: 1 METRIC TON = 2204.62 LBS
SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION