

Rebecca Digiustino
Oregon DEQ
(via email)

Tuesday, April 09, 2024

RE: LUST #26-89-0067 and #26-23-0326
Belmont Auto Services
3840 SE Belmont St
Portland, Oregon 97214

Dear Ms. Digiustino:

Point Source Solutions conducted a groundwater sampling event at the above referenced site in August 2022. The work was conducted as a pre-purchase evaluation for the current owner of the site. The investigation concluded that a significant reduction in concentrations of gasoline-range petroleum hydrocarbons and VOCs had occurred between the last sampling event (February 2011) and the August 2022 sampling event. Details of the investigation as well as a summary of the history of the site are included in the attached Groundwater Monitoring Report.

In May 2023, Full Cycle Environmental conducted piping and dispenser upgrades at the site. Petroleum impacted soils were identified during these upgrades and were reported to DEQ. DEQ assigned LUST ID# 26-23-0326 to the reported release. Full Cycle Environmental completed the upgrades and backfilled all excavations, making the site fully operational. The site owner then contacted Point Source seeking assistance with addressing the information reported by Full Cycle Environmental. No written report was provided by Full Cycle Environmental, although they did provide a summary table of soil sample analytical results and a sketch of the associated sample locations at the request of Point Source (attached).

At the recommendation of Point Source, the site owner submitted a DEQ Cost Recovery Agreement.

Point Source is seeking an opinion from DEQ as to whether DEQ will consider the most recent data as supportive of previously identified conditions (as outlined in the attached original NFA Letter), or whether the data will be considered evidence of a new release.

Sincerely,



Jeff Jackman

Point Source Solutions
5317 NE St Johns Rd, Suite D
Vancouver, WA 98661
Phone: 503.236.5885

Attachments:

DEQ Letter (LUST #26-89-0067)

DEQ Letter (LUST #26-23-0326)

Groundwater Monitoring Report, Point Source Solutions (September 2, 2023)

Analytical Results Table, Full Cycle Environmental (May 2023)

Sample Location Sketch, Full Cycle Environmental (May 2023)



Oregon

Theodore R. Kulongoski, Governor

Department of Environmental Quality

Northwest Region Portland Office

2020 SW 4th Avenue, Suite 400

Portland, OR 97201-4987

(503) 229-5263

FAX (503) 229-6945

TTY (503) 229-5471

June 24, 2004

SCOTT HOOTON
REMEDICATION MANAGEMENT
295 41ST STREET
BUILDING 13, SUITE N
RENTON, WA 98055

Re: Arco Station No. 4068
DEQ File No. 26-89-0067
Facility ID No. 3975

Dear Mr. Hooton:

The Department of Environmental Quality (DEQ) has completed its review of the information submitted to date regarding the underground storage tank cleanup project located at 3840 SE Belmont in Portland, Oregon. Based on information included in the file, the DEQ had determined the investigation into petroleum contamination from this site appears to have met the requirements of the Oregon Administrative Rules (OAR) 340-122-205 through 340-122-360. The determination is based on the commercial/industrial use scenario of the risk-based decision making (RBDM) process.

This determination is a result of our evaluation and judgment based on the regulations and facts as we now understand them, including:

1. The site is an active ARCO service station located at the corner of SE 39th and SE Belmont Street. The site is adjacent to residential dwellings on the west and commercial buildings to the north, east and south. The facility consists of four gasoline and one used oil USTs, two dispenser islands, an office, and two service bays. Asphalt and concrete cover the entire site. The site is zoned Neighborhood Commercial 2 (CN2).
2. In August 1989, five underground storage tanks (USTs) located at the west portion of the facility, were decommissioned by EMCON. The tank cavities were over-excavated to accommodate four new 10,000 gallon double-walled reinforced fiberglass tanks. Two additional 550 gallon USTs, one heating oil and one used oil, located south were also decommissioned. A new 550 gallon double-walled, reinforced-fiberglass used oil tank was installed. Dispenser product and vent lines were excavated and removed in the decommissioning. Stray pipelines and three additional 800 gallon unknown USTs were uncovered in the northeast corner of the site. According to ARCO, the USTs were taken out of service prior to 1973.
3. Two pockets of hydrocarbon-impacted soil above regulatory standards were left at the site. One pocket was in the northeast corner of the site where three abandoned tanks were discovered during the decommissioning of the dispenser islands and associated piping.

The other pocket was adjacent to the southwestern corner of the facility in the west UST complex. Hydrocarbon impacted soils were removed to the maximum extent practical without undermining the structural integrity of the roadways at SE 39th and SE Belmont Street. Hydrocarbon-impacted groundwater was also encountered under the west UST complex. A single groundwater monitoring well (MW-1) was installed in the northeast portion of the site.

4. In 1992, additional monitoring wells (MW-2 through MW-6) were installed. Quarterly groundwater monitoring was initiated, with analysis for benzene, toluene, ethylbenzene, and total xylenes (BTEX) only. The monitoring well MW-1 was excluded since it was not located hydraulically down-gradient from the UST basin. Quarterly site monitoring was performed and reported from February 1992 to August 1999 by the IT Group.
5. In March 1993, a groundwater extraction and treatment system was installed at the site. A submersible pump was placed at the depth of approximately 12 feet below ground surface in an observation well in the northeast corner, and a dispersion aeration tank for treatment. A total of approximately 220,000 gallons of treated groundwater was discharged to the city of Portland combined sewer system by a temporary discharge permit. The groundwater extraction and treatment system operated from March through April 1993, and again from February 1994 to August 1995.
6. In 1996, EMCON installed an oxygen-releasing compound (ORC) sock in two monitoring wells, MW-2 and MW-4, and in the observation well previously used for groundwater recovery. The ORC socks were removed from MW-2 and MW-4 in July 1997. An ORC sock was later installed in MW-4 in June 1998 and replaced in 1999. The ORC in the UST observation well has been maintained since initial installation in 1996.
7. A beneficial water use determination indicated there is no known beneficial use of the shallow groundwater within the locality of the facility.
8. Analysis of BTEX constituents was performed during the evaluation of soil contamination prior to tank removal in June 1989. The maximum concentration of a constituent of potential concern (COPC) identified in soil was benzene at 1.22 mg/kg. Based on a conceptual site model and risk assessment by URS in June 2003, benzene was retained as a contaminant of concern for the soil vapor intrusion into buildings for the residential and occupational scenarios for the pocket of contamination left in-place. Natural attenuation may have further reduced the benzene concentration.

9. In 1992, benzene concentrations in groundwater exceeded risk-based concentrations (RBCs) for the excavation worker exposure pathway in MW-4 and MW-6, and for the vapor intrusion into buildings for the residential scenario in MW-2, MW-4, and MW-6. However, since 1995, the RBC value for the excavation worker has not been exceeded in any monitoring wells. In November 1998, the observed benzene concentration in monitoring well MW-4, which historically has exhibited the highest benzene concentration, was 180 ppb.
10. In August and October 2003, in response to a letter from the DEQ, a final round of groundwater monitoring was conducted. Groundwater samples were analyzed for volatile organic compounds, methyl ter-butyl ether (MTBE), ethanol and lead. The highest benzene concentration detected was in the monitoring well MW-4, at a value of 63 ppb. Total lead was detected at concentrations ranging from 2.43 ppb in MW-5 to 943 ppb in MW-7.
11. The exposure pathways identified in the risk assessment include soil and groundwater ingestion, dermal contact, and inhalation by construction and excavation workers; outdoor and indoor volatilization from soil and groundwater and exposure of occupational and excavation workers. The concentrations of residual contaminants in groundwater underlying the site are below the relevant RBCs for any of the exposure pathways.

The no further action determination has been made subject to the following condition:

1. ***No use shall be made of the groundwater at the property, by extraction through wells or by other means that involves consumption or non-consumptive use of the groundwater. This prohibition shall not apply to extraction of groundwater associated with temporary dewatering activities related to the installation of sewers or utilities at the property. Should groundwater use be proposed, a risk assessment must be conducted and submitted to DEQ for review and approval prior to the extraction of any groundwater.***
2. ***At such time as land use changes are planned whether by remodeling, replacement or any other manner, soil samples must be collected and analyzed, and a current risk assessment made, to ensure the adequate protection of human health related to the new uses of the property. Results of soil sample collection and analysis, and the risk assessment, must be provided to DEQ for review and approval before the new use of the property occurs.***

Scott Hooton
June 24, 2004
Page 4

This determination will not apply if new or undisclosed facts show that the cleanup does not comply with the referenced rules. The determination also does not apply to any conditions at the site other than the gasoline release specifically addressed during this site investigation.

Please note that pursuant to OAR 340-122-360(2), a copy of your report must be retained until ten (10) years after the first transfer of the property. We recommend that a copy of this information be kept with the permanent facility records.

On behalf of the DEQ, I thank you for your efforts and cooperation in completion of this cleanup project. Please feel free to contact me at (503) 229-5858 should you have any questions.

Respectfully,



Bijan N. Pour
UST Cleanup Specialist
Northwest Region Tanks Program

cc: Shawn Williams
URS
111 SW Columbia, Suite 900
Portland, OR 97201-5814



Oregon

Tina Kotek, Governor

Department of Environmental Quality

Northwest Region
700 NE Multnomah Street, Suite 600
Portland, OR 97232
(503) 229-5263
FAX (503) 229-6945
TTY 711

May 18, 2023

Rami R. Akroush
Belmont ARCO Inc.
3840 SE Belmont Street
Portland, OR 97214

RE: Cleanup Needed for Petroleum Leak
Belmont ARCO, Inc.
3840 SE Belmont Street, Portland, OR
DEQ File No.: 26-23-0326

Dear Rami R. Akroush,

The Oregon Department of Environmental Quality (DEQ) was notified on May 18, 2023 of a petroleum leak associated with an underground storage tank system at 3840 SE Belmont Street, Portland, Oregon. This leak appears to have contaminated soil and/or groundwater with petroleum products.

We understand that you have current or past ownership or operational responsibility for the property and the underground storage tank system. Oregon law considers you a responsible party for environmental cleanup, and you are required to clean up this contamination to a level that protects human health and the environment. If you believe you are not a responsible party for this petroleum leak, please contact us immediately so that we can review the ownership and facility operation records for the property.

If you choose to hire and rely upon a qualified contractor or consultant, DEQ recommends that you still become familiar with Oregon's environmental cleanup requirements. A copy of the Underground Storage Tank Cleanup Manual and other guidance documents can be obtained by calling our toll-free number at 1-800-742-7878 or by visiting the following web sites:

<https://www.oregon.gov/deq/FilterDocs/USTCleanupManual.pdf>
<https://www.oregon.gov/deq/tanks/Pages/Cleanup-Guidance.aspx>

We are committed to helping you achieve a cost-effective environmental cleanup of the release from this underground storage tank system. When the cleanup of this petroleum release meets Oregon standards, DEQ will be able to close the file by issuing a "No Further Action" letter to you.

You will need DEQ oversight for your work to help you make sure that your environmental cleanup meets minimum regulatory and technical standards. Oregon law requires DEQ to invoice responsible parties for staff time spent on oversight of cleanup projects. DEQ tracks and bills for this time monthly, beginning with the reporting of the release and continuing through project oversight and final site closure. Staff time may include reviewing reports, preparing correspondence, answering technical questions, meeting with you or your contractor, site inspections, and enforcement actions.

Please complete, sign, and submit the enclosed Cost Recovery Agreement if you would like to expedite assignment of a DEQ project manager to your project. Even if you do not sign the agreement, you are still responsible for investigation and/or cleanup of the contamination, as well as for DEQ oversight costs. Note that DEQ staff workloads are heavy and there may be a delay in assigning your cleanup project to a project manager.

Please also complete and return the enclosed 20-day Report within twenty (20) days from the date of this letter, as required under Oregon Administrative Rule (OAR) 340-122-0225(3). You also have additional reporting obligations, as listed in the attachment, including due dates for various documents that you will need to provide to DEQ.

We realize that environmental cleanups are expensive and that our requirements can be difficult to understand, so please do not hesitate to contact the DEQ with any questions you may have. Please reference the DEQ file number and site name listed above in all inquiries and reports. If you have any questions, please contact our Program Coordinator, Rebecca Digiustino, at (503) 926-2257.

Sincerely,



Kevin Parrett, Manager
DEQ NWR Cleanup and Tanks

Enclosures

Belmont Arco LLC
2430 NE 163rd Ave
Portland, OR 97230

Friday, September 02, 2022

RE: Monitoring Well Sampling
Belmont Auto Services
3840 SE Belmont St
Portland, Oregon 97214

Point Source Report OR220822-1

Dear Belmont Arco,

At your request, Point Source Solutions (Point Source) has conducted groundwater monitoring of existing monitoring wells associated with the ARCO gas station located at 3840 Belmont Street in Portland, Oregon (Site).

The Site is identified on a Site Location Map (**Figure 1**), Site Plan (**Figure 2**), and Well Location Diagram (**Figure 3**), all of which are located in the Figures section attached to this report.

BACKGROUND

The following are excerpts from a Phase I Environmental Site Assessment (ESA) and Focused Phase II ESA prepared by BB&A Environmental for the Site (March 4, 2011, BB&A Project No. BAS01PH1/PH2.101):

In 1989, during UST system upgrades and excavation work, three (3) 800-gallon USTs and associated product piping were discovered beneath the northeast corner of the subject property. These USTs were reportedly taken out of service prior to 1973. Petroleum-contaminated soil (PCS) in this area was excavated to the maximum extent practical without threat of undermining the adjacent right-of-ways of Belmont Street and Cesar Chavez Boulevard. Residual PCS was left in place at the northeast corner of the subject property adjacent to the right-of-ways. In 1991, monitoring well W-1 was installed within this former excavation.

In 1989, five (5) steel, single-walled USTs were removed from the UST cavity on the west-central portion of the property. The UST cavity was over-excavated to remove detected PCS, as well as accommodate the four (4) current-day 10,000-gallon USTs. At that time a pocket of residual PCS was left in place at the southwest corner of the newly expanded UST cavity.

In 1992, monitoring wells W-2, W-3, and W-4 were advanced west, south, and north of the UST cavity. At this same time monitoring well W-5 was installed downgradient of the northeast excavation, and W-6 was installed downgradient of the UST cavity.

In 1993, based on detected dissolved gasoline contamination detected in groundwater from on-site monitoring wells, a groundwater extraction and treatment system was installed on-site. A total of approximately 220,000 gallons of groundwater was extracted, treated and discharged to the sewer between 1993 and 1995.

As part of a Conceptual Site Model (CSM), a beneficial use survey was conducted, and the results indicated that there is no known beneficial use of shallow groundwater within the locality of the facility.

In 2003, monitoring well W-7 was installed north of the eastern product dispenser, and south of residual PCS at the northeast corner of the property. Also in 2003, at the request of DEQ, groundwater samples were collected from each of the seven (7) monitoring wells and analyzed for total lead, gasoline-range TPH, and the gasoline-related VOCs. Comparison of 1992 and 2003 groundwater analytical results shows a significant and steady decline in contaminant concentrations. The 2003 groundwater analytical results were compared to RBCs developed by the DEQ, the results of which identified contaminants in groundwater exceeding RBCs for Occupational and Residential Ingestion and Inhalation from Tap Water. No other RBCs were exceeded, including Vapor Intrusion into Buildings (Residential or Occupational), Groundwater in an Excavation, and Volatilization to Outdoor Air (Residential or Occupational).

The DEQ determined that sufficient investigation, cleanup and reporting was completed, and issued a no further action (NFA) determination for the subject property. The NFA determination letter was issued by the DEQ, however, the following restrictions were placed on the subject property:

'Groundwater beneath the property shall not be used for consumption or non-consumptive purposes unless a risk assessment has been conducted and approved by the DEQ...'

On February 8, 2011, groundwater samples were collected from monitoring wells W-1 through W-5, and W-7. Groundwater samples were analyzed for gasoline-range TPH and gasoline-related VOCs. The analytical results did not detect any contaminants in groundwater from monitoring wells W-1, W-2, W-3, and W-5. In groundwater from monitoring well W-7, n-propylbenzene was the only contaminant detected (0.64 ppb). Contaminants detected in groundwater from monitoring well W-4 included: gasoline-range TPH at 9,900 ppb, benzene at 7.77 ppb, toluene at 2.74 ppb, ethylbenzene at 36 ppb, total xylenes at 4.62 ppb, MTBE at 2.41 ppb, naphthalene at 6.52 ppb, 1,2,4-trimethylbenzene at 2.23 ppb, 1,3,5-trimethylbenzene at 0.56 ppb, and isopropylbenzene at 260 ppb. The detected contaminant concentrations in W-4 represent the highest detected contaminant concentrations in groundwater at the subject site. None of the detected contaminants exceed potentially applicable RBCs developed by the DEQ for Vapor Intrusion into Buildings or Volatilization to Outdoor for Residential or Occupational scenarios, nor RBCs for Groundwater in an Excavation.

Based on a review of historical groundwater data, and the results of the recent groundwater sampling event, contaminant concentrations in groundwater have shown a steady decrease in concentration since groundwater monitoring began in 1992. Further, groundwater monitoring results suggest that corrective actions (including PCS-removal excavations and the former groundwater treatment system), and natural attenuation have successfully reduced contaminant concentrations in groundwater at the site, and that no new releases have occurred from the UST system.

In August 2022, Point Source was engaged to sample W-1 through W-7 to evaluate groundwater quality as a component of a pending financial transaction associated with the Site.

GROUNDWATER SAMPLING EVENT – AUGUST 2022

On August 22, 2022, Point Source mobilized to the Site to sample the wells. Before each well was sampled, well condition was evaluated, and measurements were taken of the total well depth and static water level. The wells were found to all be in serviceable condition allowing sampling from each of them to proceed. It was noted that the J-plug associated with well W-4 had absorbent socks with oily residue and petroleum odor attached to it on a string inside of the well.

Prior to purging, the static water level elevation was measured from the top of casing (TOC) as a reference point in each well using an electronic water level meter. The wells were purged and sampled using a peristaltic pump with dedicated polyethylene tubing. Well purging was considered complete when:

- 1) temperature and conductivity stabilized within 3% in three consecutive readings;
- 2) dissolved oxygen and turbidity stabilized within 10% in three consecutive readings; and
- 3) pH and oxidation-reduction potential stabilized within 10 mV within three consecutive readings.

Parameter readings were taken every three minutes using a Horiba U-50 Multi-parameter Water Quality Checker connected to a flow-through cell apparatus. The peristaltic pump was operated at a reduced flow during purging and sample collection, at approximately 175 ml/min.

The samples were collected in laboratory-supplied glassware, labeled and placed in a cooler with ice and subsequently transported under chain-of-custody to Friedman and Bruya Environmental Chemists of Seattle, WA for analysis by NWTPH-Gx (gasoline-range petroleum hydrocarbons), NWTPH-Dx (diesel and oil-range petroleum hydrocarbons), EPA Method 8260C (VOCs), EPA Method 8270-SIM (PAHs) and EPA Method 6020B (total lead).

DATA ANALYSIS & INTERPRETATION

Analysis and interpretation of the data generated during the field activities for the sampling events are presented in the following sections.

Groundwater Sampling Results

A summary of sampling information and laboratory analytical results for the February 2011 sampling event and the August 2022 sampling event are provided in **Table 1** below.

TABLE 1 - GROUNDWATER SAMPLE RESULTS						
LABORATORY ANALYTICAL RESULTS UG/L						
SAMPLE	DATE	STATIC H2O LEVEL TOC	NWTPH-DX/GX	VOCs	PAHs	Total Lead
FEBRUARY 2011 GROUNDWATER SAMPLING EVENT (BB&A)						
W-1	2/8/2011	6.28'	Gx – ND	ND	NA	NA
W-2	2/8/2011	6.46'	Gx – ND	ND	NA	NA
W-3	2/8/2011	6.82'	Gx – ND	ND	NA	NA
W-4	2/8/2011	6.09'	Gx – 9,900	Benzene – 7.77 Toluene – 2.74 Ethylbenzene – 36.0 Xylenes – 4.62 MTBE – 2.41 Naphthalene – 6.52 124-TMB – 2.23 135 TMB – 0.56 Isopropylbenzene – 260	NA	NA
W-5	2/8/2011	6.03'	Gx – ND	NA	NA	NA
W-6	2/8/2011	NS	NS	NS	NS	NS
W-7	2/8/2011	NS	Gx – ND	NA	NA	NA

TABLE 1 - GROUNDWATER SAMPLE RESULTS						
LABORATORY ANALYTICAL RESULTS UG/L						
SAMPLE	DATE	STATIC H2O LEVEL TOC	NWTPH-DX/GX	VOCs	PAHs	Total Lead
AUGUST 2022 GROUNDWATER SAMPLING EVENT (PSS)						
W-1	8/22/2022	7.28'	Gx - ND Diesel - 62.0* Oil - ND	Chloroform – 2.3	ND	ND
W-2	8/22/2022	8.95'	Gx - ND Diesel - 480.0* Oil - 320.0*	ND	Acenaphthene – 0.023	ND
W-3	8/22/2022	9.36'	Gx - ND Diesel - 83.0* Oil - ND	ND	ND	ND
W-4	8/22/2022	8.13'	Gx – 2,900.0 Diesel – 5,800.0* Oil - 340.0*	Isopropylbenzene – 5.3	Acenaphthene - 0.99 Fluorene - 0.99 Pyrene - 0.2 Benz[a]anthracene - 0.058 Benzo(a)pyrene - 0.028 Benzo(b)fluoranthene - 0.037	Lead - 5.1
W-5	8/22/2022	6.53'	Gx - ND Diesel - 130.0* Oil - ND	ND	ND	ND
W-6	8/22/2022	7.74'	Gx - 220.0 Diesel - 350.0* Oil - ND	ND	Acenaphthene - 0.047	ND
W-7	8/22/2022	7.58'	Gx - ND Diesel - 60.0* Oil - ND	ND	Pyrene - 0.029	ND
ODEQ Groundwater Ingestion & Inhalation RBC – Occupational Receptors			Gx – 450.0 Diesel – 430.0 Lube Oil – 430.0	Benzene – 2.1 Toluene – 2.74 Ethylbenzene – 36.0 Xylenes – 4.62 MTBE – 2.41 Naphthalene – 6.52 124-TMB – 2.23 135 TMB – 0.56 Chloroform – 0.98 Isopropylbenzene – 2,000.0	Acenaphthene – 2,500.0 Fluorene – 280.0 Pyrene – No Value Benz[a]anthracene – 0.38 Benzo(a)pyrene – 0.47 Benzo(b)fluoranthene – No Value	Lead – 15.0

Notes:

- ND = Not detected above laboratory reporting limits
- NS = Not sampled/measured
- NA = Not analyzed
- **BOLD** = Analyte detected above ODEQ Groundwater Ingestion & Inhalation RBC – Occupational Receptors
- * = Analyte qualified with “x” qualifier, meaning the sample chromatographic pattern does not resemble the fuel standard used for quantitation.
- Various VOCs detected but not listed on ODEQ’s Risk-Based Concentrations for Individual Chemicals Table (2018 revision) have been excluded.

A copy of the laboratory analytical report from the sampling event is provided in **Appendix A**.

Quality Assurance/Quality Control Review

Laboratory QA/QC measures were performed through data validation of available analytical data generated as part of these sampling events. Data validation considered the following:

- Method Detection and/or Reporting Limits
- Laboratory Matrix Blanks
- Sample Holding Times
- Surrogate and Matrix Spike Recoveries, and
- Laboratory Duplicate Analysis Results

Friedman and Bruya reported an “x” qualifier for all diesel and oil-range petroleum hydrocarbons detected in all of the seven water samples. The “x” qualifier notes that “the sample chromatographic pattern does not resemble the fuel standard used for quantitation. Friedman and Bruya did not report any other qualifiers that would indicate problems with the sample results. According to the lab report, all analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Exceptions are qualified in the analytical report. In cases where there is insufficient sample material provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

SUMMARY OF FINDINGS

The following is a summary of findings derived from this sampling event:

- A significant reduction in concentrations of gasoline-range petroleum hydrocarbons and VOCs has occurred between February 2011 sampling event and this most recent August 2022 sampling event.
- Chloroform was detected at a concentration of 2.3 ug/l in MW-4. This concentration exceeds the ingestion and inhalation RBC for occupational receptors, however DEQ has already determined that this pathway is not applicable to the Site.
- Lead was detected at a concentration of 5.1 ug/l in MW-4. This concentration is below the most stringent DEQ RBC. The February 2011 sampling event did not include analysis for lead.
- Diesel-range and oil-range petroleum hydrocarbons were detected in all seven wells. The concentrations in MW-2 and MW-4 exceed the ingestion and inhalation RBC for occupational receptors, however DEQ has already determined that this pathway is not applicable to the Site. The February 2011 sampling event did not include analysis for these heavier hydrocarbons.
- PAHs were detected in MW-2, MW-4, and MW-7. All detected concentrations are below the most stringent DEQ RBCs. The February 2011 sampling event did not include analysis for PAHs.
- None of the concentrations of the contaminants of interest detected during this sampling event exceed their respective vapor intrusion RBCs (the most stringent RBCs applicable to the Site).

No further investigation is recommended at this time provided that the Property owner continues to satisfy the conditions outlined in the ODEQ conditional NFA determination letter (see Appendix B).

Point Source appreciates the opportunity to provide these services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact Jeff Jackman or Gil Cobb at 503.236.5885.



Prepared by:
Kyle Fisher, Project Manager

Point Source Solutions, LLC
5317 NE St Johns Rd, Suite D
Vancouver, WA 98661
Phone: 503.236.5885

www.pointsourcesolutions.com



Reviewed By:
Johnny Ramus, Registered Geologist (Oregon #G2727)



Expires: 6/1/2023

Attachments:

Figure 1 - Site Location Map

Figure 2 – Site Plan

Figure 3 – Well Location Diagram

Appendix A – Laboratory Analytical Results

Appendix B – Oregon DEQ Conditional NFA Determination Letter

FIGURES

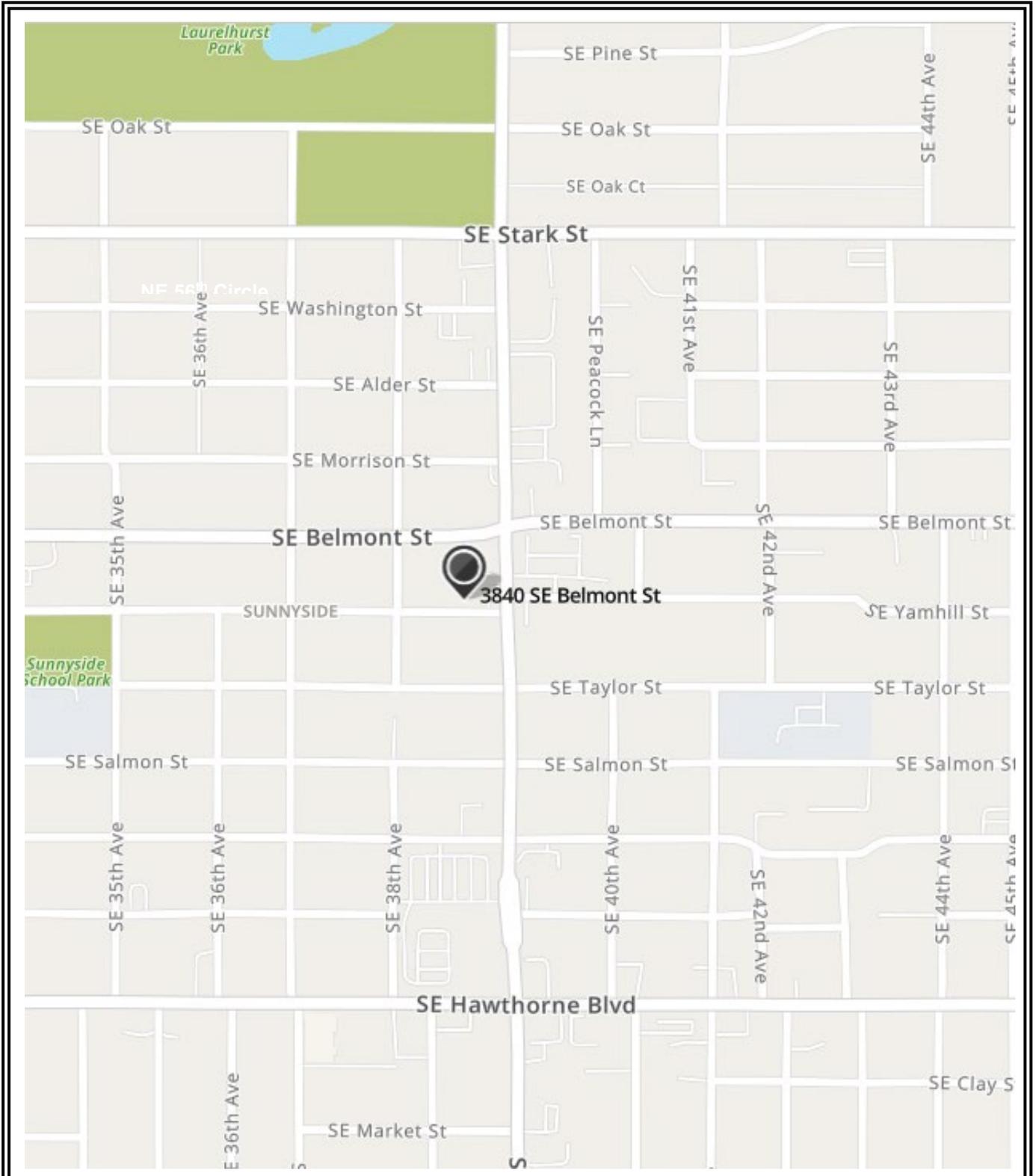


FIGURE 1: SITE LOCATION MAP

Map from Mapquest



**Site Name: Belmont Auto Services
3840 SE Belmont St
Portland, OR 97214**

Project Number: OR220822-1



FIGURE 2: SITE PLAN

From Google Earth 2021



**Site Name: Belmont Auto Services
3840 SE Belmont St
Portland, Oregon 97214**

Project Number: OR220822-1

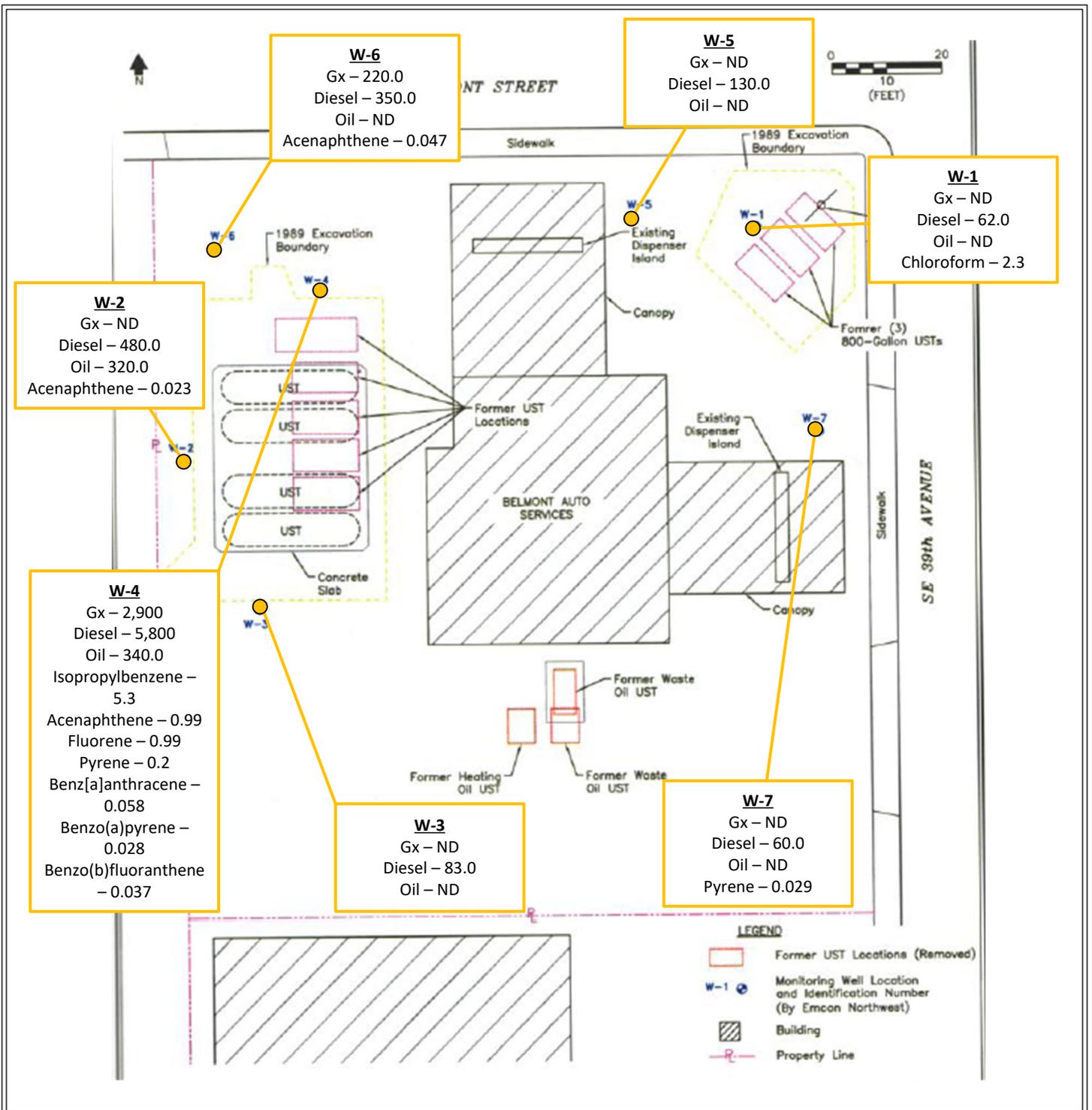


FIGURE 3 – WELL LOCATION DIAGRAM

Image From BB&A
(2011)



Notes:

- Water Sample results in ug/L

● Water Sample Location



Site Name: Belmont Auto Services
3840 SE Belmont St
Portland, Oregon 97214

Project Number: OR220822-1

APPENDICES

APPENDIX A

LABORATORY ANALYTICAL REPORT

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

September 1, 2022

Jeff Jackman, Project Manager
Point Source Solutions
5317 NE St Johns Rd, Suite D
Vancouver, WA 98661

Dear Mr Jackman:

Included are the results from the testing of material submitted on August 23, 2022 from the 3840 SE Belmont, F&BI 208330 project. There are 34 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures

c: Gil Cobb, Johnny Ramus, Jeff Jackman, Kyle Fisher
PSS0901R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 23, 2022 by Friedman & Bruya, Inc. from the Point Source Solutions 3840 SE Belmont, F&BI 208330 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Point Source Solutions</u>
208330 -01	W-1
208330 -02	W-2
208330 -03	W-3
208330 -04	W-4
208330 -05	W-5
208330 -06	W-6
208330 -07	W-7

Methylene chloride was detected in the 8260D analysis of sample W-2. The data were flagged as due to laboratory contamination.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/22
Date Received: 08/23/22
Project: 3840 SE Belmont, F&BI 208330
Date Extracted: 08/30/22
Date Analyzed: 08/30/22

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
USING METHOD NWTPH-G_x**
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
W-1 208330-01	<100	103
W-2 208330-02	<100	106
W-3 208330-03	<100	107
W-4 208330-04 1/5	2,900	91
W-5 208330-05	<100	99
W-6 208330-06	220	126
W-7 208330-07	<100	105
Method Blank 02-1754 MB	<100	110

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/22
Date Received: 08/23/22
Project: 3840 SE Belmont, F&BI 208330
Date Extracted: 08/23/22
Date Analyzed: 08/23/22

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND MOTOR OIL
USING METHOD NWTPH-Dx**
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 41-152)
W-1 208330-01	62 x	<250	127
W-2 208330-02	480 x	320 x	139
W-3 208330-03	83 x	<250	148
W-4 208330-04	5,800 x	340 x	144
W-5 208330-05	130 x	<250	140
W-6 208330-06	350 x	<250	124
W-7 208330-07	60 x	<250	134
Method Blank 02-2025 MB	<50	<250	96

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	W-1	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/25/22	Lab ID:	208330-01
Date Analyzed:	08/25/22	Data File:	208330-01.147
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	W-2	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/25/22	Lab ID:	208330-02
Date Analyzed:	08/25/22	Data File:	208330-02.150
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	W-3	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/25/22	Lab ID:	208330-03
Date Analyzed:	08/25/22	Data File:	208330-03.151
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	W-4	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/25/22	Lab ID:	208330-04
Date Analyzed:	08/25/22	Data File:	208330-04.152
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	5.10
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	W-5	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/25/22	Lab ID:	208330-05
Date Analyzed:	08/25/22	Data File:	208330-05.159
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	W-6	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/25/22	Lab ID:	208330-06
Date Analyzed:	08/25/22	Data File:	208330-06.160
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	W-7	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/25/22	Lab ID:	208330-07
Date Analyzed:	08/25/22	Data File:	208330-07.161
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Point Source Solutions
Date Received:	NA	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/25/22	Lab ID:	I2-584 mb
Date Analyzed:	08/25/22	Data File:	I2-584 mb.116
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Lead	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	W-1	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/30/22	Lab ID:	208330-01
Date Analyzed:	08/30/22	Data File:	083023.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	98	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	17	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	2.3	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID: W-2	Client: Point Source Solutions
Date Received: 08/23/22	Project: 3840 SE Belmont, F&BI 208330
Date Extracted: 08/30/22	Lab ID: 208330-02
Date Analyzed: 08/30/22	Data File: 083024.D
Matrix: Water	Instrument: GCMS11
Units: ug/L (ppb)	Operator: LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	99	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.8 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	W-3	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/30/22	Lab ID:	208330-03
Date Analyzed:	08/30/22	Data File:	083025.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	101	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID: W-4	Client: Point Source Solutions
Date Received: 08/23/22	Project: 3840 SE Belmont, F&BI 208330
Date Extracted: 08/30/22	Lab ID: 208330-04
Date Analyzed: 08/30/22	Data File: 083029.D
Matrix: Water	Instrument: GCMS11
Units: ug/L (ppb)	Operator: LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	5.3
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	5.1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	2.3
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	W-5	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/30/22	Lab ID:	208330-05
Date Analyzed:	08/30/22	Data File:	083026.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	78	126
Toluene-d8	103	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID: W-6	Client: Point Source Solutions
Date Received: 08/23/22	Project: 3840 SE Belmont, F&BI 208330
Date Extracted: 08/30/22	Lab ID: 208330-06
Date Analyzed: 08/30/22	Data File: 083028.D
Matrix: Water	Instrument: GCMS11
Units: ug/L (ppb)	Operator: LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	97	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	W-7	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/30/22	Lab ID:	208330-07
Date Analyzed:	08/30/22	Data File:	083027.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	103	84	115
4-Bromofluorobenzene	105	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Point Source Solutions
Date Received:	Not Applicable	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/30/22	Lab ID:	02-1959 mb
Date Analyzed:	08/30/22	Data File:	083007.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	W-1	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/24/22	Lab ID:	208330-01
Date Analyzed:	08/24/22	Data File:	082408.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	87	11	173
2-Fluorobiphenyl	90	44	108
2,4,6-Tribromophenol	98	10	140
Terphenyl-d14	106	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	W-2	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/24/22	Lab ID:	208330-02
Date Analyzed:	08/24/22	Data File:	082409.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	72	11	173
2-Fluorobiphenyl	79	44	108
2,4,6-Tribromophenol	104	10	140
Terphenyl-d14	103	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	0.023
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	W-3	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/24/22	Lab ID:	208330-03
Date Analyzed:	08/24/22	Data File:	082410.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	86	11	173
2-Fluorobiphenyl	87	44	108
2,4,6-Tribromophenol	96	10	140
Terphenyl-d14	113	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	W-4	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/24/22	Lab ID:	208330-04
Date Analyzed:	08/24/22	Data File:	082415.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	87	11	173
2-Fluorobiphenyl	76	44	108
2,4,6-Tribromophenol	112	10	140
Terphenyl-d14	105	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	170 ve
Acenaphthylene	<0.02
Acenaphthene	0.78
Fluorene	0.99
Phenanthrene	0.87
Anthracene	0.18
Fluoranthene	0.14
Pyrene	0.20
Benz(a)anthracene	0.058
Chrysene	0.051
Benzo(a)pyrene	0.028
Benzo(b)fluoranthene	0.037
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	W-4	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/24/22	Lab ID:	208330-04 1/10
Date Analyzed:	08/24/22	Data File:	082414.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	94 d	11	173
2-Fluorobiphenyl	78 d	44	108
2,4,6-Tribromophenol	95 d	10	140
Terphenyl-d14	100 d	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
2-Methylnaphthalene	<2
1-Methylnaphthalene	190
Acenaphthylene	<0.2
Acenaphthene	0.99
Fluorene	0.88
Phenanthrene	0.88
Anthracene	<0.2
Fluoranthene	<0.2
Pyrene	<0.2
Benz(a)anthracene	<0.2
Chrysene	<0.2
Benzo(a)pyrene	<0.2
Benzo(b)fluoranthene	<0.2
Benzo(k)fluoranthene	<0.2
Indeno(1,2,3-cd)pyrene	<0.2
Dibenz(a,h)anthracene	<0.2
Benzo(g,h,i)perylene	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	W-5	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/24/22	Lab ID:	208330-05
Date Analyzed:	08/24/22	Data File:	082411.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	88	11	173
2-Fluorobiphenyl	97	44	108
2,4,6-Tribromophenol	108	10	140
Terphenyl-d14	102	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	W-6	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/24/22	Lab ID:	208330-06
Date Analyzed:	08/24/22	Data File:	082412.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	90	11	173
2-Fluorobiphenyl	91	44	108
2,4,6-Tribromophenol	103	10	140
Terphenyl-d14	100	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	0.047
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	W-7	Client:	Point Source Solutions
Date Received:	08/23/22	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/24/22	Lab ID:	208330-07
Date Analyzed:	08/24/22	Data File:	082413.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	88	11	173
2-Fluorobiphenyl	89	44	108
2,4,6-Tribromophenol	106	10	140
Terphenyl-d14	109	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	0.028
Pyrene	0.029
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Point Source Solutions
Date Received:	Not Applicable	Project:	3840 SE Belmont, F&BI 208330
Date Extracted:	08/24/22	Lab ID:	02-2030 mb
Date Analyzed:	08/24/22	Data File:	082408.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	80	15	144
2-Fluorobiphenyl	82	25	128
2,4,6-Tribromophenol	82	10	142
Terphenyl-d14	105	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/22

Date Received: 08/23/22

Project: 3840 SE Belmont, F&BI 208330

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

Laboratory Code: 208373-02 Matrix Spike

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	<100	92	93	53-117	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	97	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/22

Date Received: 08/23/22

Project: 3840 SE Belmont, F&BI 208330

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-D_x**

Laboratory Code: 208312-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	53	118	130	50-150	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	116	63-142

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/22

Date Received: 08/23/22

Project: 3840 SE Belmont, F&BI 208330

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

Laboratory Code: 208330-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	<1	92	104	75-125	12

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	99	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/22

Date Received: 08/23/22

Project: 3840 SE Belmont, F&BI 208330

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	117	122	46-206	4
Chloromethane	ug/L (ppb)	10	109	112	70-142	3
Vinyl chloride	ug/L (ppb)	10	112	118	70-130	5
Bromomethane	ug/L (ppb)	10	117	120	56-197	3
Chloroethane	ug/L (ppb)	10	117	120	70-130	3
Trichlorofluoromethane	ug/L (ppb)	10	107	109	70-130	2
Acetone	ug/L (ppb)	50	105	104	10-140	1
1,1-Dichloroethene	ug/L (ppb)	10	103	105	70-130	2
Hexane	ug/L (ppb)	10	95	98	54-136	3
Methylene chloride	ug/L (ppb)	10	114	120	43-134	5
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	106	107	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	110	113	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	105	104	70-130	1
2,2-Dichloropropane	ug/L (ppb)	10	117	123	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	105	107	70-130	2
Chloroform	ug/L (ppb)	10	101	102	70-130	1
2-Butanone (MEK)	ug/L (ppb)	50	112	109	17-154	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	106	106	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	104	106	70-130	2
1,1-Dichloropropene	ug/L (ppb)	10	102	102	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	108	111	70-130	3
Benzene	ug/L (ppb)	10	107	108	70-130	1
Trichloroethene	ug/L (ppb)	10	110	109	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	105	105	70-130	0
Bromodichloromethane	ug/L (ppb)	10	105	107	70-130	2
Dibromomethane	ug/L (ppb)	10	109	112	70-130	3
4-Methyl-2-pentanone	ug/L (ppb)	50	113	112	68-130	1
cis-1,3-Dichloropropene	ug/L (ppb)	10	114	115	69-131	1
Toluene	ug/L (ppb)	10	111	109	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	111	108	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	109	106	70-130	3
2-Hexanone	ug/L (ppb)	50	109	103	45-138	6
1,3-Dichloropropane	ug/L (ppb)	10	105	104	70-130	1
Tetrachloroethene	ug/L (ppb)	10	107	105	70-130	2
Dibromochloromethane	ug/L (ppb)	10	105	106	60-148	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	109	107	70-130	2
Chlorobenzene	ug/L (ppb)	10	103	103	70-130	0
Ethylbenzene	ug/L (ppb)	10	108	106	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	103	101	70-130	2
m,p-Xylene	ug/L (ppb)	20	107	105	70-130	2
o-Xylene	ug/L (ppb)	10	105	104	70-130	1
Styrene	ug/L (ppb)	10	101	101	70-130	0
Isopropylbenzene	ug/L (ppb)	10	103	102	70-130	1
Bromoform	ug/L (ppb)	10	118	115	69-138	3
n-Propylbenzene	ug/L (ppb)	10	102	104	70-130	2
Bromobenzene	ug/L (ppb)	10	103	105	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	99	101	70-130	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	107	108	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	104	101	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	101	101	70-130	0
4-Chlorotoluene	ug/L (ppb)	10	100	104	70-130	4
tert-Butylbenzene	ug/L (ppb)	10	101	105	70-130	4
1,2,4-Trimethylbenzene	ug/L (ppb)	10	100	101	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	101	105	70-130	4
p-Isopropyltoluene	ug/L (ppb)	10	99	103	70-130	4
1,3-Dichlorobenzene	ug/L (ppb)	10	101	104	70-130	3
1,4-Dichlorobenzene	ug/L (ppb)	10	99	103	70-130	4
1,2-Dichlorobenzene	ug/L (ppb)	10	98	102	70-130	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	107	108	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	94	97	70-130	3
Hexachlorobutadiene	ug/L (ppb)	10	92	99	70-130	7
Naphthalene	ug/L (ppb)	10	94	97	70-130	3
1,2,3-Trichlorobenzene	ug/L (ppb)	10	95	98	70-130	3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/01/22

Date Received: 08/23/22

Project: 3840 SE Belmont, F&BI 208330

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: 208312-01 1/2 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery		Acceptance Criteria	RPD (Limit 20)
				MS	MSD		
Naphthalene	ug/L (ppb)	5	<0.4	73	73	46-95	0
2-Methylnaphthalene	ug/L (ppb)	5	<0.4	76	76	50-150	0
1-Methylnaphthalene	ug/L (ppb)	5	<0.4	77	77	50-150	0
Acenaphthylene	ug/L (ppb)	5	<0.04	88	88	50-150	0
Acenaphthene	ug/L (ppb)	5	<0.04	87	87	50-150	0
Fluorene	ug/L (ppb)	5	<0.04	90	90	50-150	0
Phenanthrene	ug/L (ppb)	5	<0.04	92	92	50-150	0
Anthracene	ug/L (ppb)	5	<0.04	93	93	50-150	0
Fluoranthene	ug/L (ppb)	5	<0.04	102	102	50-150	0
Pyrene	ug/L (ppb)	5	<0.04	96	96	50-150	0
Benz(a)anthracene	ug/L (ppb)	5	<0.04	102	102	50-150	0
Chrysene	ug/L (ppb)	5	<0.04	100	100	50-150	0
Benzo(a)pyrene	ug/L (ppb)	5	<0.04	101	101	50-150	0
Benzo(b)fluoranthene	ug/L (ppb)	5	<0.04	105	105	50-150	0
Benzo(k)fluoranthene	ug/L (ppb)	5	<0.04	103	103	50-150	0
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	<0.04	97	97	50-150	0
Dibenz(a,h)anthracene	ug/L (ppb)	5	<0.04	100	100	50-150	0
Benzo(g,h,i)perylene	ug/L (ppb)	5	<0.08	98	98	50-150	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery	
			LCS	Acceptance Criteria
Naphthalene	ug/L (ppb)	5	73	50-104
2-Methylnaphthalene	ug/L (ppb)	5	76	54-109
1-Methylnaphthalene	ug/L (ppb)	5	77	55-108
Acenaphthylene	ug/L (ppb)	5	88	60-114
Acenaphthene	ug/L (ppb)	5	87	57-110
Fluorene	ug/L (ppb)	5	90	61-115
Phenanthrene	ug/L (ppb)	5	92	63-113
Anthracene	ug/L (ppb)	5	93	65-117
Fluoranthene	ug/L (ppb)	5	102	68-121
Pyrene	ug/L (ppb)	5	96	66-125
Benz(a)anthracene	ug/L (ppb)	5	102	70-130
Chrysene	ug/L (ppb)	5	100	67-119
Benzo(a)pyrene	ug/L (ppb)	5	101	68-126
Benzo(b)fluoranthene	ug/L (ppb)	5	105	62-130
Benzo(k)fluoranthene	ug/L (ppb)	5	103	67-125
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	97	63-131
Dibenz(a,h)anthracene	ug/L (ppb)	5	100	62-133
Benzo(g,h,i)perylene	ug/L (ppb)	5	98	57-133

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

208330

SAMPLE CHAIN OF CUSTODY

WE

8/23/22

1 of 1 ATC

Report To: Self Jquerman

Company: Point Source Solutions

Address: 5317 NE St. Johns Rd

City, State, ZIP: Nonotux, WA 98661

Phone: _____ Email: _____

SAMPLES (signature) - [Signature]

PROJECT NAME: 3840 SE Belmont

REMARKS: _____

PO # _____

INVOICE TO _____

Project specific RIs? - Yes / No

Page # _____ of _____

TURNAROUND TIME: 603

Standard turnaround

RUSH WJ3

Rush charges authorized by: _____

SAMPLE DISPOSAL

Archive samples

Other _____

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED						Notes	
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270		PCBs EPA 8082
W-1	01A-F	8/22/22	13:00	W	6	X	X		X	X	X		
W-2	02		9:03										
W-3	03		9:50										
W-4	04		15:05										
W-5	05		12:00										
W-6	06		10:57										
W-7	07		14:00										
Samples received at <u>1</u> °C													

Friedman & Bruya, Inc.
Ph. (206) 285-8282

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>[Signature]</u>	Kyle Fisher		PSS		8/22/22	15:48
Received by: <u>[Signature]</u>	<u>[Signature]</u>	Tess Clader		SSES		8/22/22	15:54
Relinquished by: _____	_____	_____	_____	_____	_____	_____	_____
Received by: <u>[Signature]</u>	<u>[Signature]</u>	Eric Deane		FB		8/23/22	14:00

APPENDIX B

OREGON DEQ CONDITONAL NFA DETERMINATION LETTER



Oregon

Theodore R. Kulongoski, Governor

Department of Environmental Quality

Northwest Region Portland Office

2020 SW 4th Avenue, Suite 400

Portland, OR 97201-4987

(503) 229-5263

FAX (503) 229-6945

TTY (503) 229-5471

June 24, 2004

SCOTT HOOTON
REMEDICATION MANAGEMENT
295 41ST STREET
BUILDING 13, SUITE N
RENTON, WA 98055

Re: Arco Station No. 4068
DEQ File No. 26-89-0067
Facility ID No. 3975

Dear Mr. Hooton:

The Department of Environmental Quality (DEQ) has completed its review of the information submitted to date regarding the underground storage tank cleanup project located at 3840 SE Belmont in Portland, Oregon. Based on information included in the file, the DEQ had determined the investigation into petroleum contamination from this site appears to have met the requirements of the Oregon Administrative Rules (OAR) 340-122-205 through 340-122-360. The determination is based on the commercial/industrial use scenario of the risk-based decision making (RBDM) process.

This determination is a result of our evaluation and judgment based on the regulations and facts as we now understand them, including:

1. The site is an active ARCO service station located at the corner of SE 39th and SE Belmont Street. The site is adjacent to residential dwellings on the west and commercial buildings to the north, east and south. The facility consists of four gasoline and one used oil USTs, two dispenser islands, an office, and two service bays. Asphalt and concrete cover the entire site. The site is zoned Neighborhood Commercial 2 (CN2).
2. In August 1989, five underground storage tanks (USTs) located at the west portion of the facility, were decommissioned by EMCON. The tank cavities were over-excavated to accommodate four new 10,000 gallon double-walled reinforced fiberglass tanks. Two additional 550 gallon USTs, one heating oil and one used oil, located south were also decommissioned. A new 550 gallon double-walled, reinforced-fiberglass used oil tank was installed. Dispenser product and vent lines were excavated and removed in the decommissioning. Stray pipelines and three additional 800 gallon unknown USTs were uncovered in the northeast corner of the site. According to ARCO, the USTs were taken out of service prior to 1973.
3. Two pockets of hydrocarbon-impacted soil above regulatory standards were left at the site. One pocket was in the northeast corner of the site where three abandoned tanks were discovered during the decommissioning of the dispenser islands and associated piping.

The other pocket was adjacent to the southwestern corner of the facility in the west UST complex. Hydrocarbon impacted soils were removed to the maximum extent practical without undermining the structural integrity of the roadways at SE 39th and SE Belmont Street. Hydrocarbon-impacted groundwater was also encountered under the west UST complex. A single groundwater monitoring well (MW-1) was installed in the northeast portion of the site.

4. In 1992, additional monitoring wells (MW-2 through MW-6) were installed. Quarterly groundwater monitoring was initiated, with analysis for benzene, toluene, ethylbenzene, and total xylenes (BTEX) only. The monitoring well MW-1 was excluded since it was not located hydraulically down-gradient from the UST basin. Quarterly site monitoring was performed and reported from February 1992 to August 1999 by the IT Group.
5. In March 1993, a groundwater extraction and treatment system was installed at the site. A submersible pump was placed at the depth of approximately 12 feet below ground surface in an observation well in the northeast corner, and a dispersion aeration tank for treatment. A total of approximately 220,000 gallons of treated groundwater was discharged to the city of Portland combined sewer system by a temporary discharge permit. The groundwater extraction and treatment system operated from March through April 1993, and again from February 1994 to August 1995.
6. In 1996, EMCON installed an oxygen-releasing compound (ORC) sock in two monitoring wells, MW-2 and MW-4, and in the observation well previously used for groundwater recovery. The ORC socks were removed from MW-2 and MW-4 in July 1997. An ORC sock was later installed in MW-4 in June 1998 and replaced in 1999. The ORC in the UST observation well has been maintained since initial installation in 1996.
7. A beneficial water use determination indicated there is no known beneficial use of the shallow groundwater within the locality of the facility.
8. Analysis of BTEX constituents was performed during the evaluation of soil contamination prior to tank removal in June 1989. The maximum concentration of a constituent of potential concern (COPC) identified in soil was benzene at 1.22 mg/kg. Based on a conceptual site model and risk assessment by URS in June 2003, benzene was retained as a contaminant of concern for the soil vapor intrusion into buildings for the residential and occupational scenarios for the pocket of contamination left in-place. Natural attenuation may have further reduced the benzene concentration.

9. In 1992, benzene concentrations in groundwater exceeded risk-based concentrations (RBCs) for the excavation worker exposure pathway in MW-4 and MW-6, and for the vapor intrusion into buildings for the residential scenario in MW-2, MW-4, and MW-6. However, since 1995, the RBC value for the excavation worker has not been exceeded in any monitoring wells. In November 1998, the observed benzene concentration in monitoring well MW-4, which historically has exhibited the highest benzene concentration, was 180 ppb.
10. In August and October 2003, in response to a letter from the DEQ, a final round of groundwater monitoring was conducted. Groundwater samples were analyzed for volatile organic compounds, methyl ter-butyl ether (MTBE), ethanol and lead. The highest benzene concentration detected was in the monitoring well MW-4, at a value of 63 ppb. Total lead was detected at concentrations ranging from 2.43 ppb in MW-5 to 943 ppb in MW-7.
11. The exposure pathways identified in the risk assessment include soil and groundwater ingestion, dermal contact, and inhalation by construction and excavation workers; outdoor and indoor volatilization from soil and groundwater and exposure of occupational and excavation workers. The concentrations of residual contaminants in groundwater underlying the site are below the relevant RBCs for any of the exposure pathways.

The no further action determination has been made subject to the following condition:

1. ***No use shall be made of the groundwater at the property, by extraction through wells or by other means that involves consumption or non-consumptive use of the groundwater. This prohibition shall not apply to extraction of groundwater associated with temporary dewatering activities related to the installation of sewers or utilities at the property. Should groundwater use be proposed, a risk assessment must be conducted and submitted to DEQ for review and approval prior to the extraction of any groundwater.***
2. ***At such time as land use changes are planned whether by remodeling, replacement or any other manner, soil samples must be collected and analyzed, and a current risk assessment made, to ensure the adequate protection of human health related to the new uses of the property. Results of soil sample collection and analysis, and the risk assessment, must be provided to DEQ for review and approval before the new use of the property occurs.***

Scott Hooton
June 24, 2004
Page 4

This determination will not apply if new or undisclosed facts show that the cleanup does not comply with the referenced rules. The determination also does not apply to any conditions at the site other than the gasoline release specifically addressed during this site investigation.

Please note that pursuant to OAR 340-122-360(2), a copy of your report must be retained until ten (10) years after the first transfer of the property. We recommend that a copy of this information be kept with the permanent facility records.

On behalf of the DEQ, I thank you for your efforts and cooperation in completion of this cleanup project. Please feel free to contact me at (503) 229-5858 should you have any questions.

Respectfully,



Bijan N. Pour
UST Cleanup Specialist
Northwest Region Tanks Program

cc: Shawn Williams
URS
111 SW Columbia, Suite 900
Portland, OR 97201-5814

Locaton	HCID	Diesel	Oil	Gas
D1/2	ND	-	-	-
D3/4	D	ND	6140	647
D5/6	D	237	ND	1890
D7/8	D	26	96	901
D9/10	ND	-	-	-
D11/12	D	36	ND	428
D13/14	D	ND	ND	305
D15/16	D	640	ND	ND

